

ARJOHUNTLEIGH

GETINGE GROUP

MINUET 2

INSTRUCTIONS FOR USE



CE

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Warnings, Cautions and Notes

WARNINGS given in this manual identify possible hazards in procedures or conditions, which if not correctly followed, could result in death, injury or other serious adverse reactions.

Cautions given in this manual identify possible hazards in procedures or conditions, which if not correctly followed, could result in equipment damage or failure.

Notes given in this manual (indicated by ) are used to explain or amplify a procedure or condition.

★ Indicates an optional item.

General Warnings and Cautions

WARNING

Keep these instructions in a safe place – you may need to refer to them later on.

These instructions are mandatory for the safe and effective use of this product, including the safety of patients and carers.

Read and understand these instructions before assembling or operating the bed. You must be trained in the proper use of this product, its functions and controls, and any accessories. The bed must be installed and operated in accordance with information in these instructions.

Unauthorised modifications or repairs to this product may affect its safety and will invalidate any warranty. ArjoHuntleigh accepts no liability for any incident, accident or reduction in performance which may occur as a result of such repairs or modifications.

Do not smoke or use naked flames near this equipment and do not expose it to extremes of temperature.

Do not use accessories that have not been designed and approved for use with the bed. Do not connect the bed to other equipment unless specified in these instructions.

This product contains small parts that may present a choking hazard to children if inhaled or swallowed.

Keep pets and children away from the bed unless they are supervised by an adult.

Electrical equipment can be hazardous if misused.

Do not use electrically powered beds in the presence of flammable gases such as anaesthetic agents.

Ensure that the bed is assembled and installed in accordance with the instructions given in this manual.

Do not use this bed for transporting patients.

Always use a mattress of the correct size and type. Suitable pressure reducing and pressure relieving mattresses are available from ArjoHuntleigh.

Before operating the bed, make sure that the patient is safely positioned to avoid entrapment or imbalance.

When operating the bed, make sure its movement is not restricted by obstacles such as bedside furniture.

To reduce the risk of injury due to falls, lower the bed to minimum height whenever the patient is left unattended.

Make sure the control handset cable is positioned to avoid a strangulation risk.

WARNING

Do not allow the mains cable to trail on the floor in such a way that it may cause a trip hazard.

Do not leave the Minuet 2 bed and accessories for extended periods of time in humid or wet areas.

Take care to ensure that the mains cable is not damaged by the bed or other objects being moved over it.

When routing cables from other equipment take care to prevent squeezing cables between parts of the bed.

This product complies with the requirements of applicable standards for electromagnetic compatibility (EMC). However, medical electrical equipment requires special precautions regarding EMC and should be installed and used in accordance with the information in Chapter 11 of these instructions.

Wireless communications equipment such as wireless computer network devices, mobile phones, cordless telephones and their base stations, walkie-talkies, etc. may affect this product. The bed should be kept at least 2.3 metres away from such equipment to minimise the possibility of interference.

Do not leave the patient in the tilt position unattended.

1. Introduction

Product description

The ArjoHuntleigh Minuet[®] 2 is a bed with electrically operated functions, intended for use in the care of elderly or disabled persons.

It is designed to be dismantled into sections for ease of transportation, but can be easily assembled with a minimum of tools.

There are two basic models in the *Minuet 2* range:

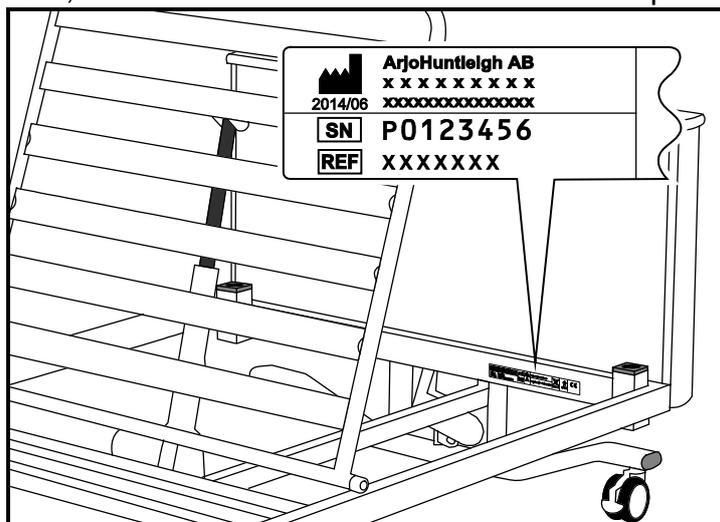
Model 160 Four section bed with electrically adjustable height, backrest and leg elevation.

Model 161 Model 160 with the addition of head down and foot down tilt.

WARNING

The tilt function on model 161 does not meet the requirements of the Trendelenburg position. The bed cannot be used in applications that need the patient to be put in the Trendelenburg position.

The model number **REF** and serial number **SN** can be found on the specification label, located at the head end of the mattress platform.



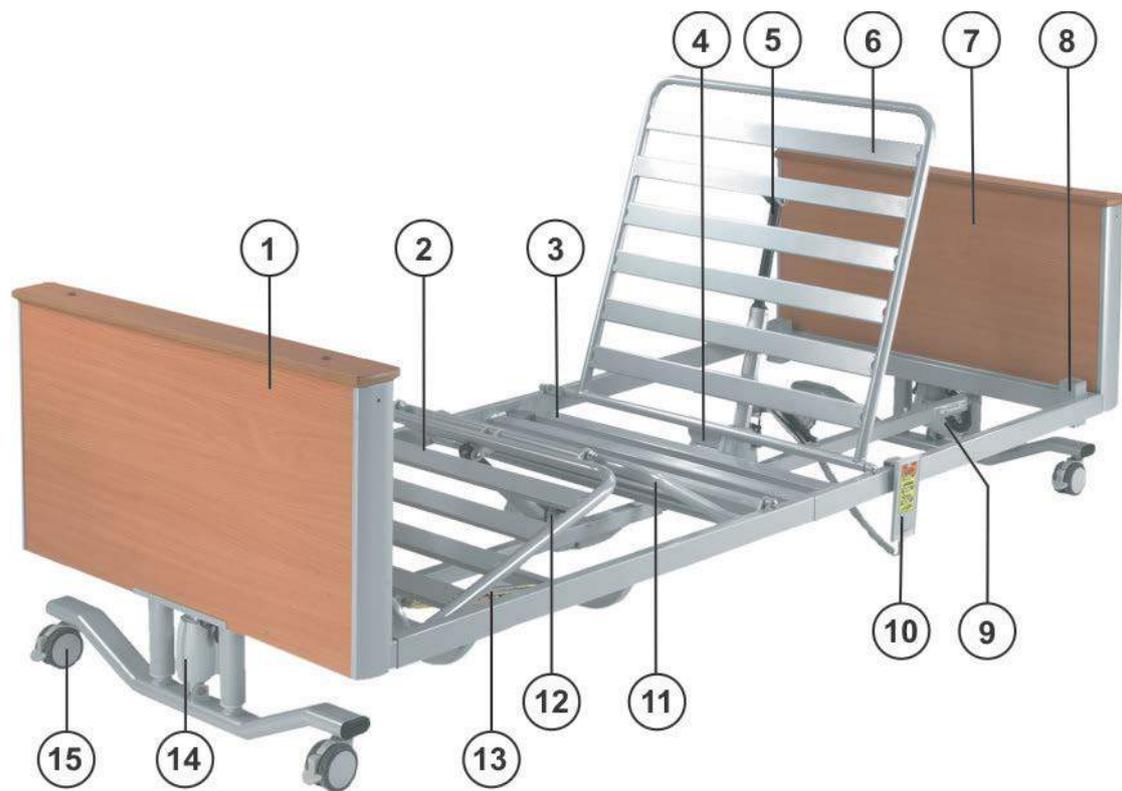
Specification label

Features

- Push-button control for all electrical functions
- Electrically operated adjustment of height, backrest angle and leg elevation
- Manual adjustment of kneebreak angle
- Extending mattress platform
- Castors with integral brakes
- Backup battery to allow operation during power failure

A range of accessories is available, including safety sides and lifting poles. The fitting and use of these items is described in Chapter 5.

Product overview



- | | |
|------------------------------------|-------------------------------|
| 1. Foot end section | 9. Head end actuator |
| 2. Calf (lower leg) section | 10. Control handset |
| 3. Seat section | 11. Thigh (upper leg) section |
| 4. Control box / backup battery | 12. Leg section actuator |
| 5. Backrest actuator | 13. Leg section ratchet |
| 6. Backrest section | 14. Foot end actuator |
| 7. Head end section | 15. Castor with brake lever |
| 8. Lifting pole / accessory socket | |

2. Applications

WARNING

To ensure the patient can use the bed safely, their age, size and condition should be assessed by a clinically qualified person.

Intended use

Model 160 is suitable for use in the following areas:

- Long term medical care where medical supervision is required and monitoring is provided if necessary, e.g. nursing homes and geriatric facilities.
- A domestic area, i.e. home healthcare.

Model 161 is suitable for use in the following area:

- Long term medical care where medical supervision is required and monitoring is provided if necessary, e.g. nursing homes and geriatric facilities.

Indications

The bed is appropriate for situations where assistance is required in positioning the patient, or in reducing lifting and manual handling stresses on the carer.

The profiling mattress platform allows the patient to be supported in an upright sitting position. The enhanced support this provides helps to reduce shear and interface pressure on the patient.

The head down Tilt option can be used to increase blood flow. The bed cannot be used in applications that need the patient to be put in the Trendelenburg position. The Maximum tilt angle of the *Minuet* bed frame is 10°.

Foot down tilt option can be used to improve patient comfort.

The variable height feature allows the bed to be raised to provide easy access to the patient for the carer. The bed can then be lowered to make it easier for the patient to get into or out of the bed.

Contra- indications

The bed is intended for use by adults and children over the age of twelve years.

Model 160 is not suitable for use in the following situations:

- Intensive/critical care provided in a hospital where 24-hour medical supervision and constant monitoring is required, e.g. ITU, ICU and CCU.
- Acute care provided in a hospital or other medical facility where medical supervision and monitoring is required, e.g. general medical and surgical wards.
- Outpatient care.

Model 161 is not suitable for use in the following situations:

- Intensive/critical care provided in a hospital where 24-hour medical supervision and constant monitoring is required, e.g. ITU, ICU and CCU.
- Acute care provided in a hospital or other medical facility where medical supervision and monitoring is required, e.g. general medical and surgical wards.
- A domestic area, i.e. home healthcare.
- Outpatient care.
- The use of head down Tilt or foot down Tilt may be contraindicated for certain medical conditions. The tilt facility shall only be used under the guidance of a clinically qualified person after assessment of the patients condition.

This bed is not suitable for patients weighing less than 40kg.



The maximum recommended patient weight is 145kg.



The safe working load of the bed is 180kg.

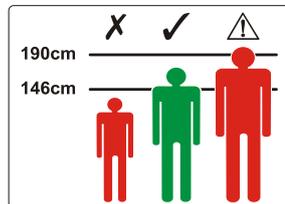
The safe working load is calculated as follows (in accordance with EN 60601-2-52):

Maximum patient weight	145kg
Mattress	20kg
Accessories (including attached loads)	15kg
TOTAL	180kg



WARNING

If the combined weight of the mattress and accessories exceeds 35kg, the maximum patient weight must be reduced accordingly.



The recommended patient height is between 146cm and 190cm.

At the discretion of the carer, patients taller than 190cm may be accommodated by extending the bed - refer to "Extending the bed" in Chapter 4. Ensure that the patient's height does not exceed the "extended length" shown in Chapter 10 Technical Data.

3. Assembly and Installation

WARNING

The bed sub-assemblies are heavy. Take appropriate precautions to prevent injury when moving or lifting them.

Before commencing assembly, make sure the brakes are applied on all four bed castors.

The assembled bed should be positioned so that the mains plug can be reached easily if it needs to be disconnected from the electricity supply.

Read these instructions and understand them before you begin to assemble the bed.

Work on a suitable surface (e.g. carpet) to prevent damage to the bed components.

Make sure you have sufficient space before commencing assembly – the work area must be large enough to turn the bed upright once it is fully assembled.

WARNING

Always use the 5mm Allen (hexagon) key supplied when fitting the socket head screws. Using other tools may result in the screws not being fully tightened.



The foot end and head end panels are almost identical. The foot end panel can be identified by the “ArjoHuntleigh” and “Minuet 2” badges attached to it.

The various parts of the bed are moved by electrical devices called *actuators*. Actuators are positioned at either end of the bed and control bed height. Two actuators are fitted underneath the mattress platform and control the backrest and leg sections.

The actuators, control handset and mains cable, are connected to a *control box*, which is fixed onto the backrest actuator together with the backup battery.

Caution

Before the first use, or if the bed has been unused for more than three months, connect the bed to the electricity supply for at least 24 hours to fully recharge the battery.

The bed should be connected to the electricity supply at all times during normal use to keep the backup battery fully charged.

Failure to follow these guidelines may reduce the life of the battery.

Mattresses

WARNING

Always use a mattress of the correct size and type. Incompatible mattresses can create hazards.

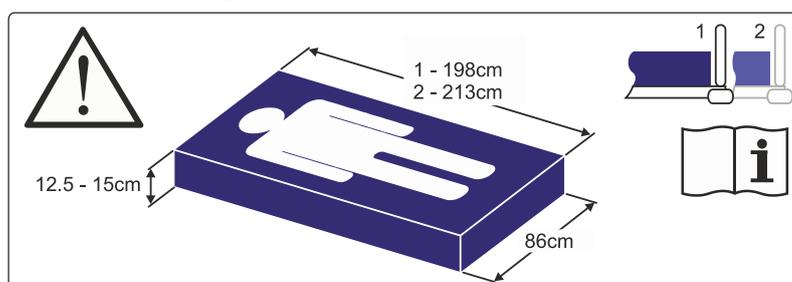
Entrapment hazards may exist when using a very soft mattress, even if it is the correct size.

Read the instructions for use supplied with the mattress.

Where the maximum patient weight specified for the mattress is different to that specified for the bed, the lower value applies.

To ensure compliance with EN 60601-2-52, an approved ArjoHuntleigh mattress should be used. Compliance with this standard when using other mattresses must be validated by the user.

A label on the mattress platform indicates the supported mattress height when used without safety sides or standard height safety sides:



Mattress size label

If fitted, a label on the safety side will indicate if a different mattress height can be used safely:

Product Code	Safety Side Type	Mattress Thickness
CM-ACC00-1.52	Full Length Standard Height Wooden Safety Sides (Grey/Beech)	150mm
CM-ACC00-3.52	Full Length Standard Height Wooden Safety Sides (Brown/Beech)	150mm
CM-ACC01-1.52	Full Length Standard Height Wooden Safety Sides (Grey/Cherry)	150mm
CM-ACC00-1.14	Full Length Extra Height Wooden Safety Sides (Grey/Beech)	172mm
CM-ACC00-3.14	Full Length Extra Height Wooden Safety Sides (Brown/Beech)	172mm
CM-ACC01-1.14	Full Length Extra Height Wooden Safety Sides (Grey/Cherry)	172mm
CM-ACC01-3.14	Full Length Extra Height Wooden Safety Sides (Brown/Cherry)	172mm
CM-ACC02-1.52	Height Extension for Full Length Standard Height Wooden Safety Sides (grey). Use with overlay between 110-115mm thick	150mm
CM-ACC02-3.52	Height Extension for Full Length Standard Height Wooden Safety Sides (brown). Use with overlay between 110-115mm thick	150mm
CM-ACC04-1.52	Full Length Standard Height Steel Safety Sides	150mm
CM-ACC06-1.52	Steel 3/4 Length Standard Height Folding Safety Sides	150mm
CM-ACC07-1.52	Steel Extra Height Folding Safety Sides	172mm
CM-ACC22-1.52	Egress Assist Rail Standard Height (Grey)	150mm
CM-ACC23-1.52	Egress Assist Rail Extra Height (Grey)	172mm

Mattresses and safety sides ★

When choosing bed and mattress combinations, it is important to consider the use of safety sides (where fitted) based on clinical assessment of each individual patient and in line with local policy.

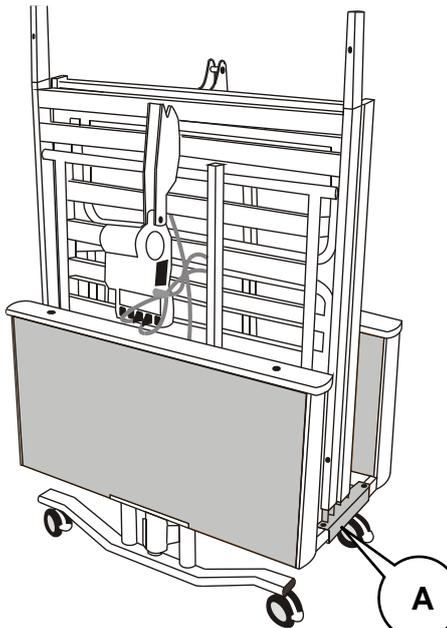
When assessing the suitability of a mattress for use with safety sides, the following factors should be considered:

- If the bed is fitted with standard safety sides, a foam mattress up to 150mm thick can be used.
- If the bed is fitted with extra-height safety sides, a foam mattress up to 172mm thick can be used.
- Specialist powered air / foam replacement mattresses will typically envelop the patient when loaded and can generally be deeper than a foam mattress without compromising safety. Other makes of specialist mattress replacement must be assessed individually prior to use to verify sufficient clearance is maintained.
- Only use a mattress overlay when combined with Full Length Standard Height Wooden Safety Sides (CM-ACC00-1.52, CM-ACC00-3.52 or CM-ACC01-1.52) and Safety Side Height Extensions CM-ACC02-1.52 or CM-ACC02-3.52(see page 29). With this combination the bed can be fitted with a mattress up to 150mm and an overlay between 110mm and 115mm.
- To ensure compliance with EN 60601-2-52, an approved ArjoHuntleigh mattress should be used. Compliance with this standard when using other mattresses must be validated by the user.

For more information on suitable mattresses and mattress replacements, contact your local ArjoHuntleigh office or approved distributor. A list of ArjoHuntleigh offices can be found at the back of this manual.

Assembling the bed

1

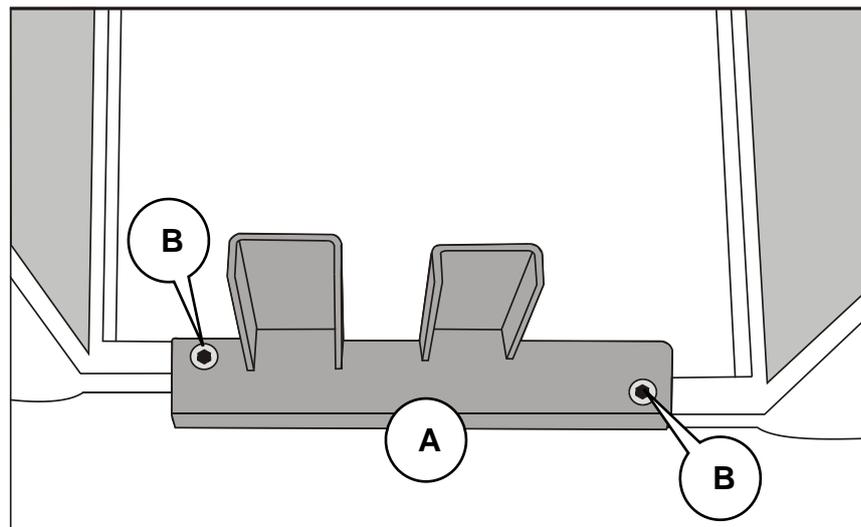


The bed is supplied in four main sections, fixed together on two transit brackets (A) for ease of transportation.

Remove the cardboard packing block and plastic tie between the mattress platform sections.

Lift the two mattress platform sections off the transit brackets and lay them on the floor. The foot end mattress platform section must be lifted off the transit brackets before the head end section.

2



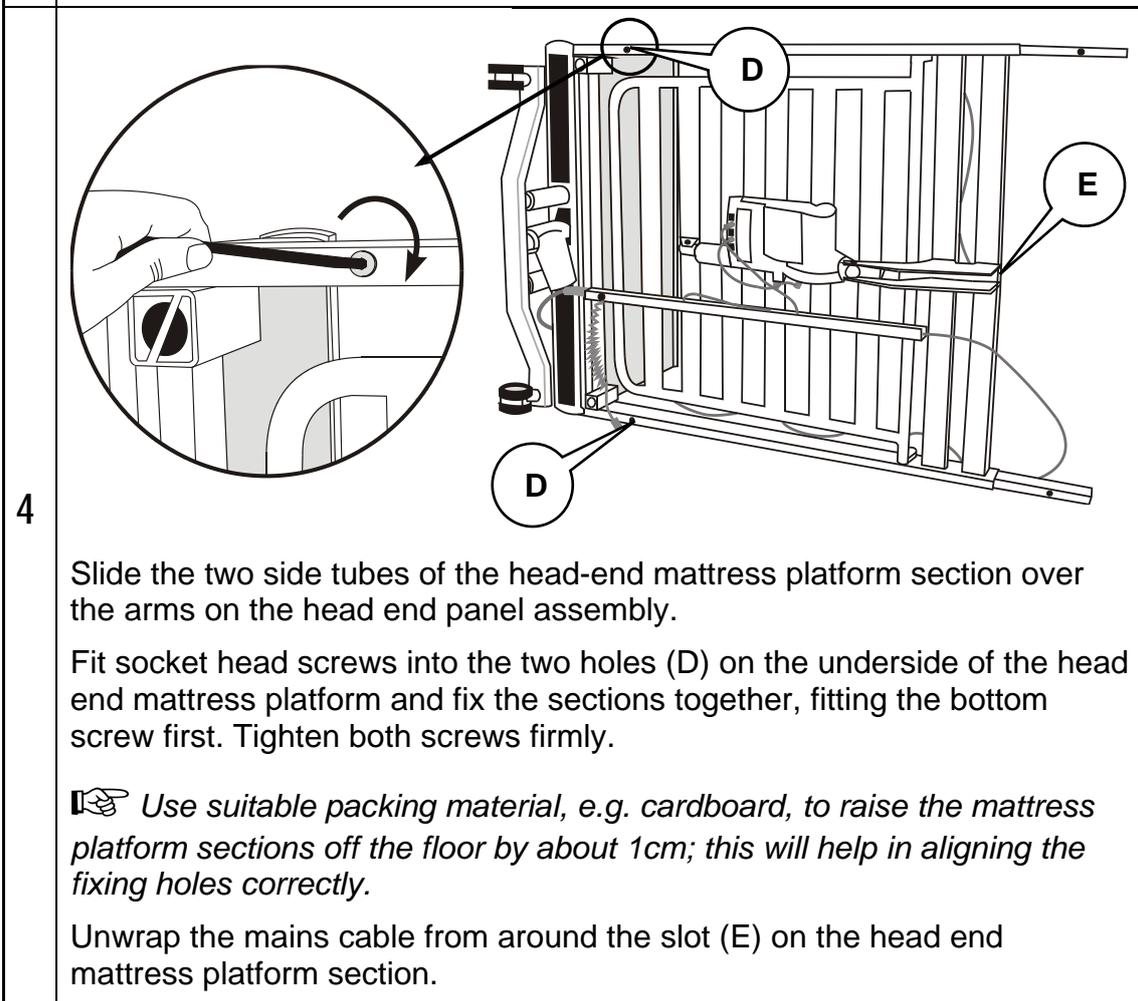
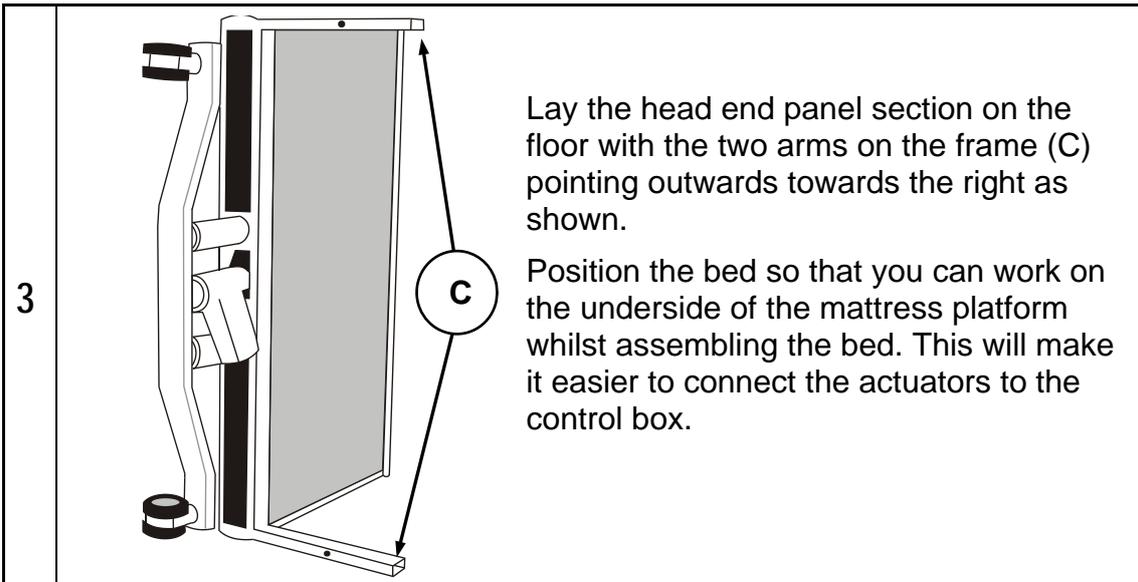
Remove the two socket head screws (B) from one of the transit brackets (A). Remove the second transit bracket, taking care not to allow the end panel sections to fall. Keep the four socket head screws safe.

Two other socket head screws are fitted to holes in the mattress platform sections – remove these before starting assembly. The six socket head screws will be used in assembling the bed.

Store the two transit brackets and packaging in a safe place.

WARNING

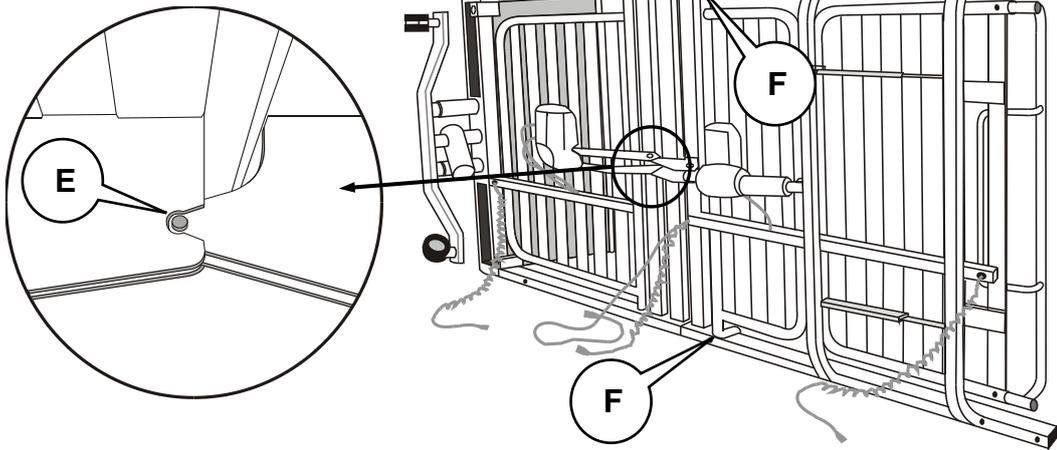
Do not allow the end panel sections to fall when the transit brackets are removed.



WARNING

Take care not to pinch hands or fingers, or trap any cables, when sliding the bed sections together.

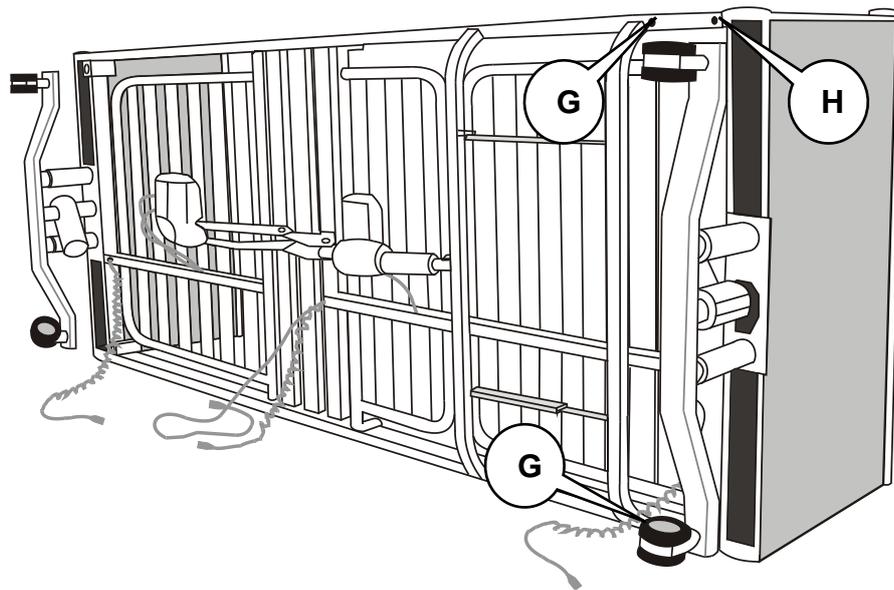
5



Assemble the foot end mattress platform to the head end mattress platform by sliding the two parts together. Make sure the slot in the head end section (E) locates over the bar in the foot end section.

Fit socket head screws into the two holes (F) on the underside of the foot end mattress platform to fix the sections together, fitting the bottom screw first. Tighten both screws firmly.

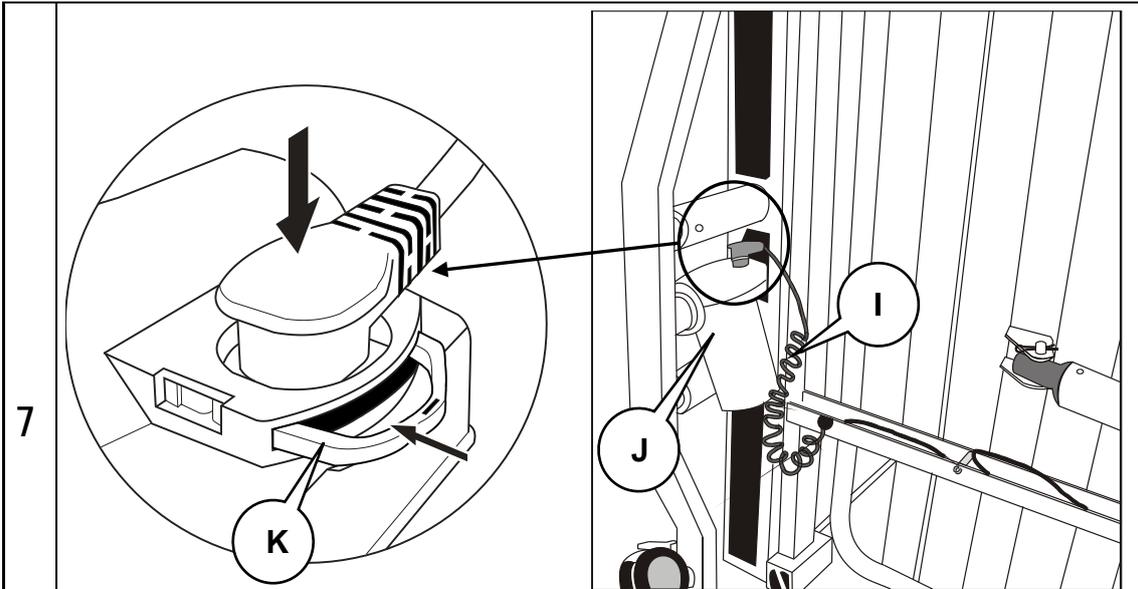
6



Assemble the foot end panel to the bed, lining up the fixing holes in the arms with the fixing holes (G) in the foot end mattress platform section.

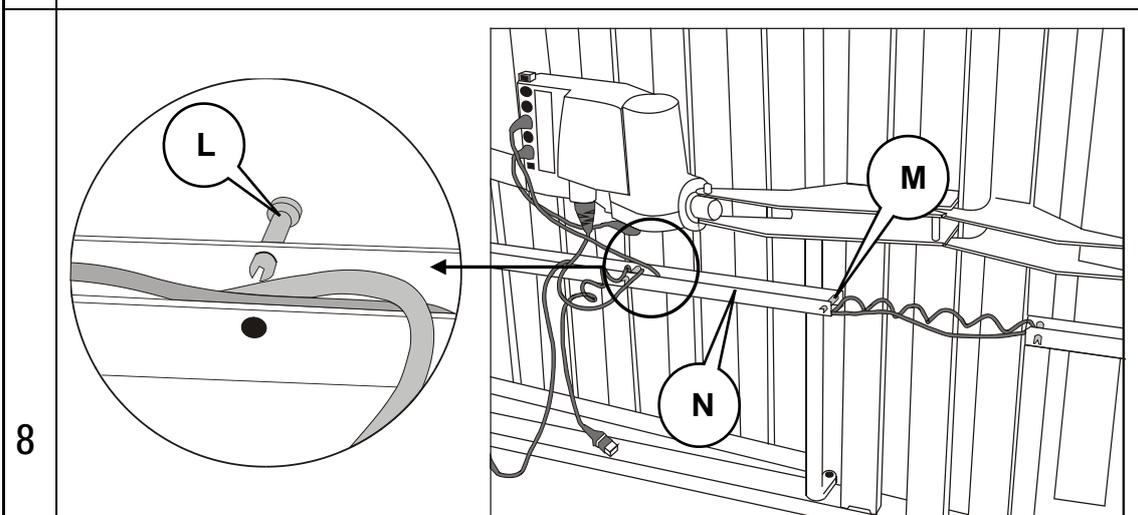
Fit two socket head screws into the holes to fix the two sections together, fitting the bottom screw first. Tighten both screws firmly.

 *The foot end mattress platform section has two sets of fixing holes. Use the ones closest to the crossbar as shown. The other holes (H) are used if it is necessary to extend the bed.*



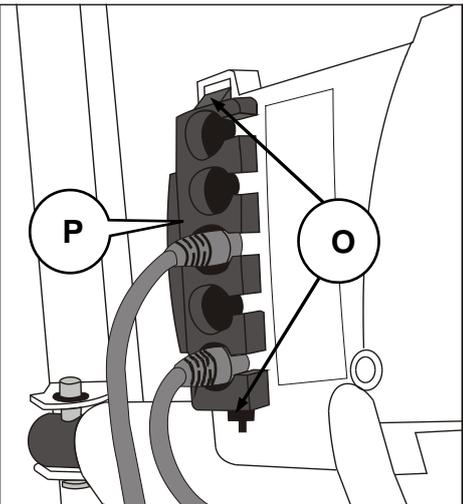
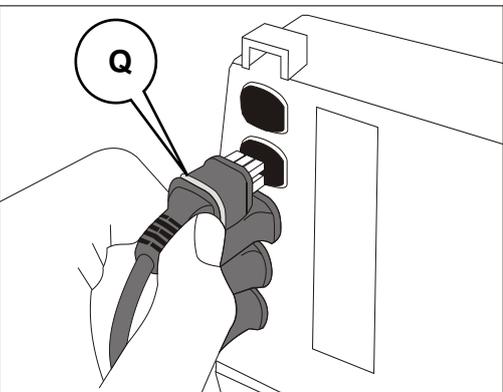
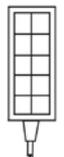
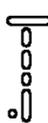
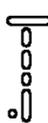
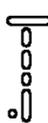
Plug the curly cable (I) into the head end height actuator (J). Make sure the plug is fully inserted in the socket. Push in the cable retaining clip (K) until it “clicks” into place.

Repeat this procedure for the foot end height actuator.

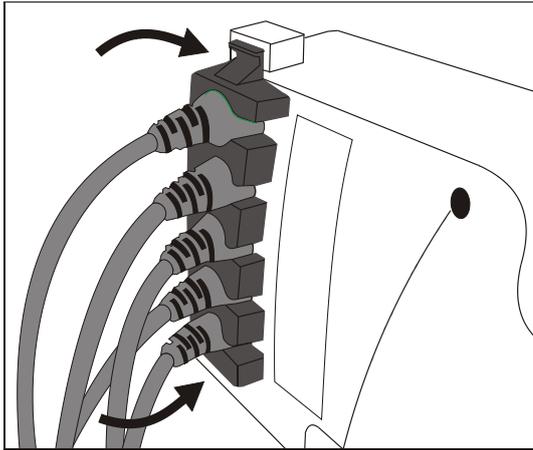


Squeeze together the split ends of the retaining pins (L) and (M), and partially push them out of the head end cable channel (N) as shown, *above left*. Do not allow the cables to spring out of the channel.

Carefully straighten out the cable(s) from the foot end section, and position them in the head end cable channel alongside the other cables. Refit the two retaining pins to hold all the cables in place within the head end cable channel.

9		<p>Insert a small flat-bladed screwdriver into the two slots (O) and prise open the clips holding the retaining strip (P) onto the control box.</p> <p>Pull off the retaining strip and keep it safe.</p> <p>Do not unplug the cables connected to the control box sockets marked 1 and 3.</p>										
10		<p>Plug the cable labelled 2 into the control box socket marked 2.</p> <p>Plug the cable labelled 4 into the control box socket marked 4.</p> <p>Make sure all the actuator plugs are pushed fully into their sockets and that the sealing rings (Q) are not visible.</p>										
11		<p>Plug the control handset into the control box socket marked with the symbol shown on the left.</p> <p>Make sure the handset plug is pushed fully into the socket and that the sealing ring is not visible.</p> <p>The label on the control box indicates the function of each socket:</p> <table border="1" data-bbox="542 1489 1236 1713"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	1	2	3	4						
1	2	3	4									
												

12



Thread the cables from the actuators and control handset through the holes in the retaining strip.

Push the retaining strip over the connector plugs, until the two lugs on the retaining strip “click” into position in the two holes in the control box.

The retaining strip will also help to secure the backup battery in position.

13

- Check that all six socket head screws holding the bed sections together are fully tightened.
- Carefully turn the bed upright onto its castors.
- Remove the plastic ties used to secure the backrest and leg sections to the bed frame during transit.
- Connect the mains plug to a suitable outlet socket.
- Install the mattress retainers on the backrest and leg sections - refer to Chapter 5 for fitting instructions.
- *Refer to Chapter 4.* Check that all the bed's electrical functions operate satisfactorily over their full range of movement. Make sure that no cables become stretched or trapped in the bed mechanism during operation.
- Install a suitable, compatible mattress on the bed.

The bed is now ready for use. Read the following chapters for guidance on using the bed and fitting the optional accessories.

4. Operation

Control handset

The handset gives the user control over backrest angle, leg elevation, bed height and tilt angle (model 161 only). The Auto-Contour function allows easy simultaneous adjustment of leg elevation and backrest angle.

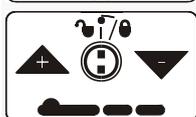


When Auto-Contour is used to flatten the mattress platform, the leg sections remain raised until the backrest has partly lowered. This helps to prevent the patient slipping down the bed.

To operate a function, press and hold the appropriate button until the desired position is obtained.



Auto Contour – adjusts the backrest and leg sections to achieve a comfortable sitting position.



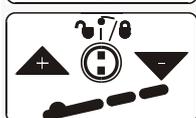
Bed Height – adjusts the height of the mattress platform above the floor.



Backrest – adjusts the angle of the backrest section.



Leg Elevation – adjusts the height of the calf section above the mattress platform.



Tilt (model 161 only) – allows the use of head down or foot down tilt.

WARNING

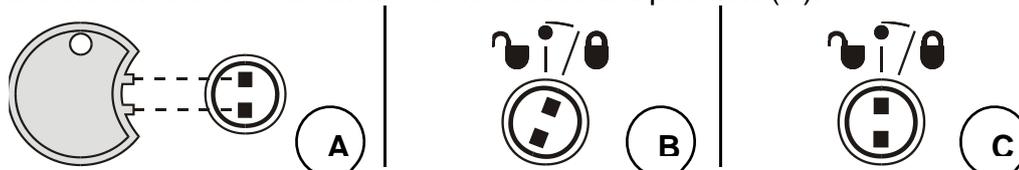
The bed cannot be used in applications that need the patient to be put in the Trendelenburg position. The Maximum tilt angle of the *Minuet* bed frame is 10°.

The lockable handset has the facility to selectively disable bed functions to prevent use by the patient.

Between each pair of pushbuttons is a small rotary lockout switch.

To disable a function: fit the plastic key into the two holes in the lockout switch (A) and turn the switch clockwise to the Locked position (B).

To enable a function: fit the plastic key into the two holes in the lockout switch and turn the switch anti-clockwise to the Unlocked position (C).



Caution

To enable/disable a function the plastic key must be used. Only use the plastic key supplied. Using other tools may damage the switch.

Brakes and castors

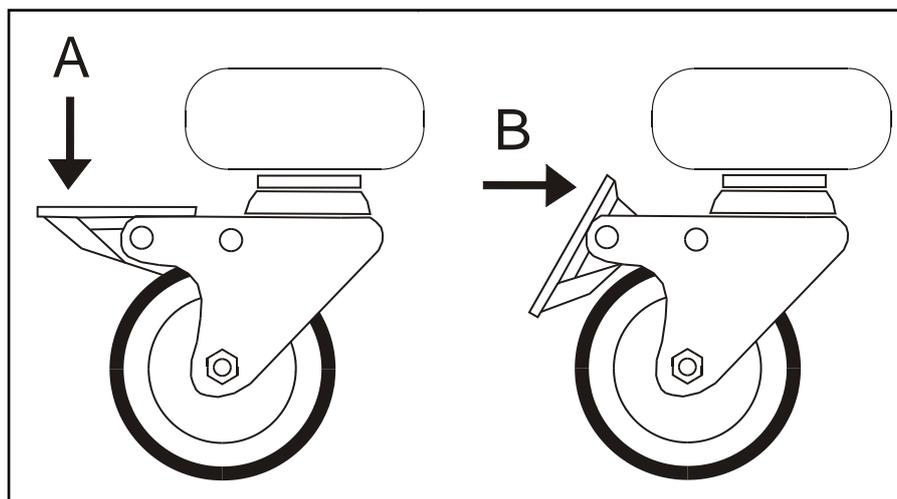
Each of the four castors is fitted with a separate brake.

WARNING

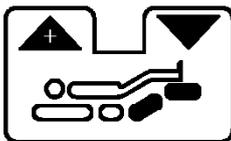
To prevent the bed from moving, apply the brakes on all four castors whenever the patient is moved to or from the bed.

To apply the brake Press down on the brake operating lever (A) until it locks in the “down” position.

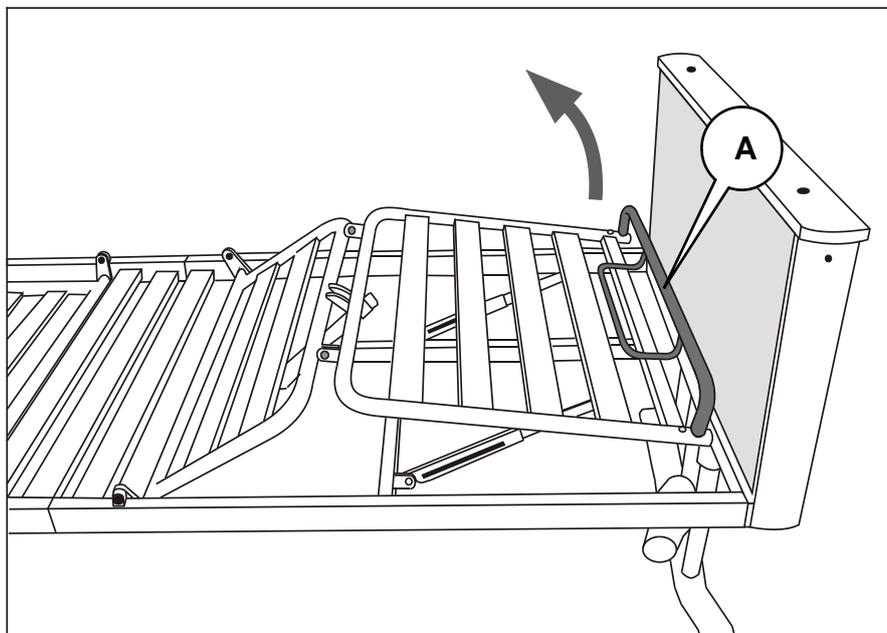
To release the brake Push the upper end of the brake operating lever horizontally (B) until it springs back into the “up” position.



Kneebreak angle



Use the control handset to raise the thigh section to the desired height.

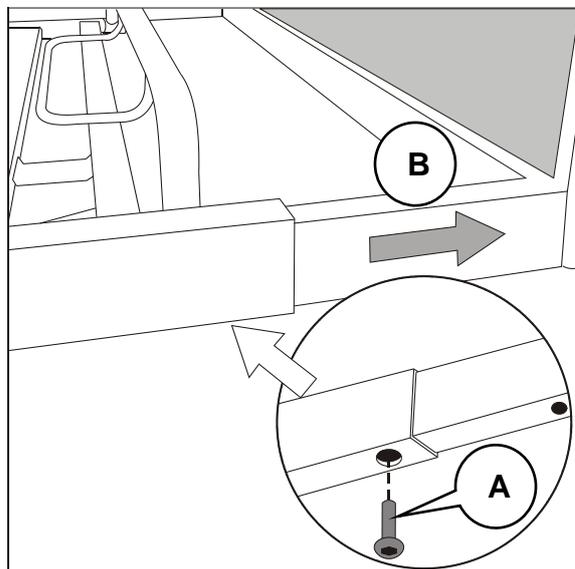


Lift the mattress retaining bar (A) upwards to release the ratchet mechanism; then lower it to the required angle.

Slightly lift the mattress retaining bar again to re-engage the ratchet mechanism.

Extending the bed

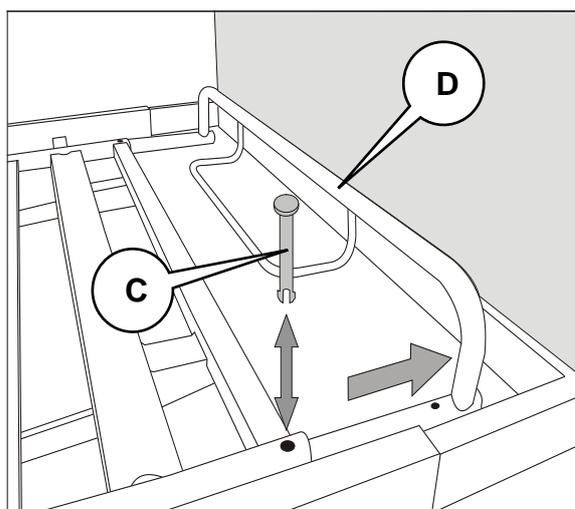
To accommodate taller patients, the mattress platform can be extended by 13cm (5 ins.) as follows.



Remove the two socket head screws (A) securing the foot end panel to the bed.

Pull the foot end panel out from the bed (B) and line up the end fixing holes below the mattress platform with the fixing holes below the foot end panel section.

Refit the socket head screws (A) to secure the foot end panel in the extended position. Make sure both screws are fully tightened.



Squeeze the split ends of the two retaining pins (C) and push them up and out of the holes.

Pull the mattress retaining bar (D) towards the foot end of the bed.

Line up the second pair of fixing holes in the mattress retaining bar with the holes in the leg section.

Refit the two retaining pins by pushing them down through the leg section and mattress retaining bar.

WARNING

Install a suitable foam mattress extension (squab) at the head end when the bed is extended.

5. Accessories – Fitting and Operation

Various accessories can be added to *Minuet 2* beds to assist both patient and carer. This chapter describes how to fit and use these accessories correctly.

Accessories currently available are shown in the table below.

Product Code	Description
CM-ACC00-1.52	Full Length Standard Height Wooden Safety Sides (Grey/Beech)
CM-ACC00-3.52	Full Length Standard Height Wooden Safety Sides (Brown/Beech)
CM-ACC01-1.52	Full Length Standard Height Wooden Safety Sides (Grey/Cherry)
CM-ACC00-1.14	Full Length Extra Height Wooden Safety Sides (Grey/Beech)
CM-ACC00-3.14	Full Length Extra Height Wooden Safety Sides (Brown/Beech)
CM-ACC01-1.14	Full Length Extra Height Wooden Safety Sides (Grey/Cherry)
CM-ACC01-3.14	Full Length Extra Height Wooden Safety Sides (Brown/Cherry)
CM-ACC02-1.52	Height Extension for Full Length Standard Height Wooden Safety Sides (grey)
CM-ACC02-3.52	Height Extension for Full Length Standard Height Wooden Safety Sides (brown)
CM-ACC03	Pads for Full Length Safety Sides
CM-ACC04-1.52	Full Length Standard Height Steel Safety Sides
CM-ACC06-1.52	Steel 3/4 Length Standard Height Folding Safety Sides
CM-ACC07-1.52	Steel Extra Height Folding Safety Sides
CM-ACC09	Lifting Pole with strap and handle
CM-ACC11	Mobility Support Handle (to fit left side of bed)
CM-ACC12	Mobility Support Handle (to fit right side of bed)
CM-ACC13	Flexible Handset Holder
CM-ACC14	IV Pole
CM-ACC15	Mattress Pump Bracket
CM-ACC17	Urine Bag Holder
CM-ACC22-1.52	Egress Assist Rail Standard Height (Grey)
CM-ACC23-1.52	Egress Assist Rail Extra Height (Grey)
CM-ACC24	Mattress Retainers (supplied with the bed)
CM-ACC26	Full Length Safety Side pads with top cushion



ArjoHuntleigh reserves the right to change accessory details and availability without notification. Some accessories may not be available in all countries.

Safety sides – all models, full length and folding

WARNING



Only use ArjoHuntleigh safety sides that are designed and specified for use with this bed. Incompatible safety sides can cause a hazard.

Safety sides should be fitted either by a properly trained person or, due to the size and shape of these items, by two people if they are unfamiliar with the installation procedure.

Safety sides must always be used with a suitable mattress of the correct size; refer to page 12 for more information.

- The maximum recommended mattress thickness for use with standard height safety sides is 150mm.
- Extra-height safety sides can be used with mattresses or mattress combinations up to 172mm thick.
- Safety Side Height Extension and Full Length Standard Height Wooden Safety Sides can be used with a mattress and mattress overlay up to 265mm thick.

The clinically qualified person responsible should consider the size, age and condition of the patient before allowing the use of safety sides.

Safety sides are not intended to restrain patients who make a deliberate attempt to leave the bed.

Always run the cable from the control handset between the safety side and the frame of the bed.

Do not use the safety sides or safety side height extensions to move or lift the bed.

When using a powered air mattress system, the air supply tube for the mattress should be positioned between the safety side and the frame of the bed.



Safety side contact points are identified by this symbol. Take care to keep hands and fingers away from these areas.

Full-length safety sides

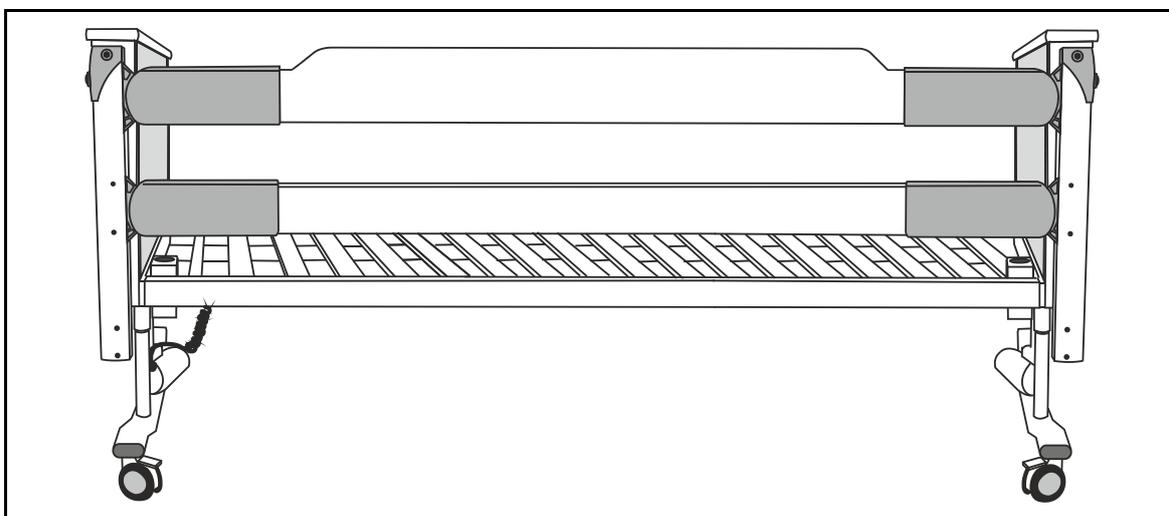
WARNING

Always use the 4mm and 5mm Allen (hexagon) keys supplied when fitting the socket head screws. Using other tools may result in the screws not being fully tightened.

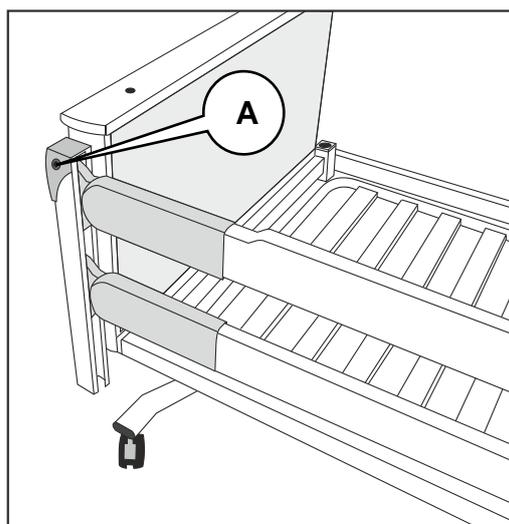


These instructions illustrate the fitting of wooden extra height safety sides model CM-ACC00-1.14. The other models of full-length safety sides are fitted and used in the same way. Extra height safety sides should be used when the mattress thickness is between 150mm and 172mm (Refer to page 12).

Full-length safety sides are supplied as identical pairs. They can be attached to either side of the bed.



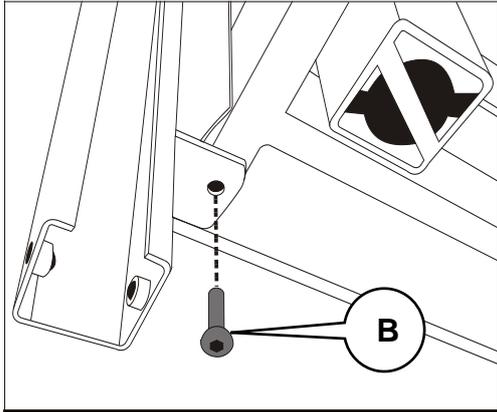
Installation



Position the safety side on the bed.

Line up the fixing holes on the edges of the bed end panels with the top fixing holes in the safety side end pillars.

Attach the safety side to the end panels with the two M6 x 80mm socket head screws (A), but do not tighten them fully at this stage.

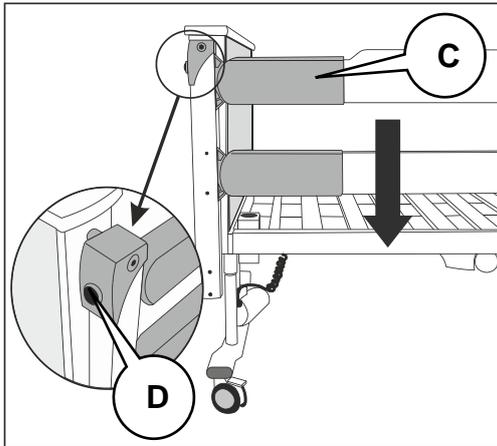


Secure the safety side fixing bracket to the underside of each end panel, using two M8 x 16mm socket head screws (B). Make sure both these screws are fully tightened.

Fully tighten the two top fixing screws (A).

Repeat this procedure to fit the other safety side on the opposite side of the bed.

Operation



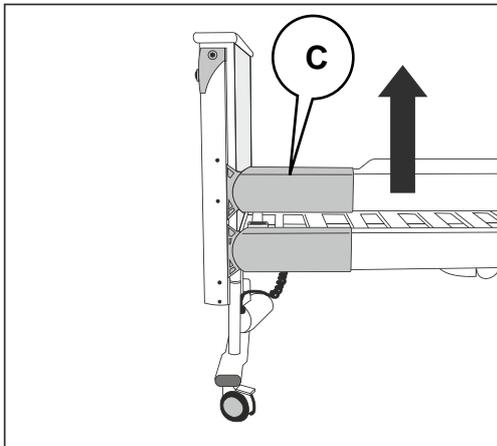
To lower the safety side:

Hold the plastic moulding (C) at the foot end of the bed and lift the rail slightly.

Press and hold the release button (D) on the safety side end pillar.

Lower the safety side to its bottom position.

Repeat this procedure at the head end of the bed.



To raise the safety side:

Hold the plastic moulding (C) at the foot end of the bed and pull the top rail upwards until the safety side locks automatically in the raised position.

Repeat this procedure at the head end of the bed.

WARNING

Always hold the plastic moulding at one end of the top rail when raising or lowering the safety side. Do not allow the safety side to drop as this may damage the safety side.

Accessory weights – full-length safety sides (per side)

CM-ACC00.14	11.0kg
CM-ACC00.52	10.0kg
CM-ACC04.52	12.0kg

Safety side height extensions

These instructions illustrate the fitting of safety side height extensions CM-ACC02-1.52 and CM-ACC02-3.52 for full length standard height wooden safety sides (CM-ACC00-1.52, CM-ACC00-3.52, and CM-ACC01-1.52).



Safety side height extensions should be used with the recommended thickness of mattress (see page 12). Clamp-on extensions can be added to the full-length safety sides to increase their height by 140mm and allow use of a mattress overlay of a thickness from 110 to 115mm.

CM-ACC02-1.52 and CM-ACC02-3.52 are for use with full length standard height wooden safety sides CM-ACC00-1.52, CM-ACC00-3.52 or CM-ACC01-1.52.

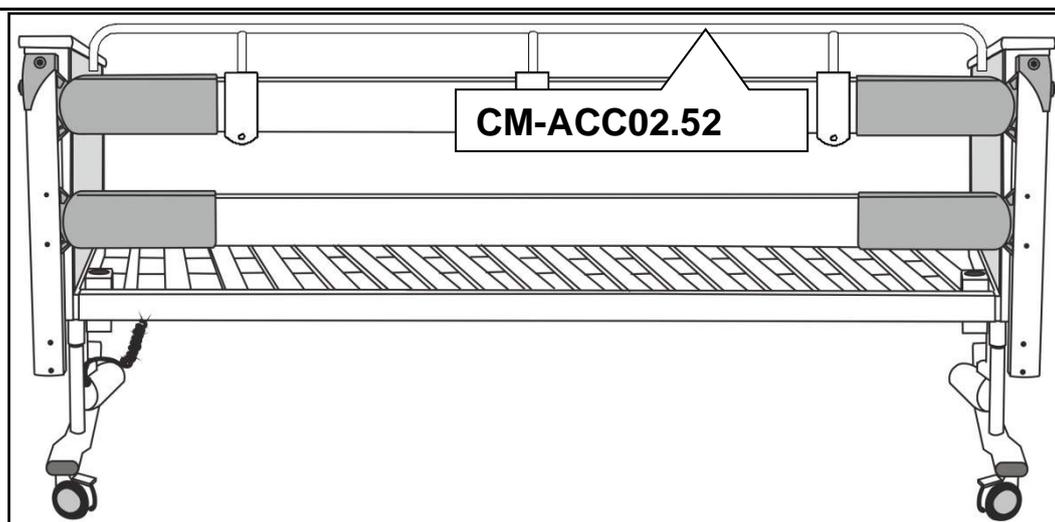
The safety side height extensions are supplied as identical pairs. They can be used on either side of the bed.

WARNING

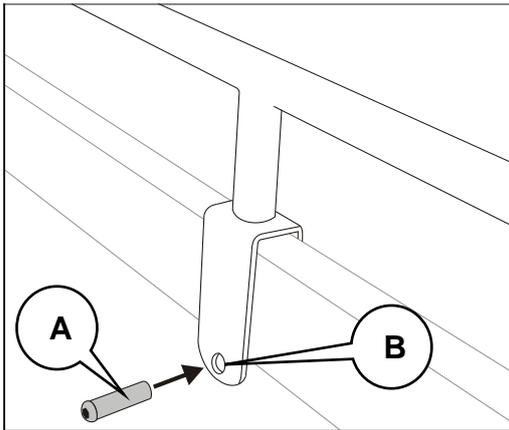
Only use safety side height extensions with the safety sides for which they are designed.

Always use the correct M8 size hex wrench (Allen key) supplied when fitting the socket head screws. Using other tools may result in the screws not being fully tightened.

Before use, make sure that the accessory is tightly fitted to the safety side and does not move forward.

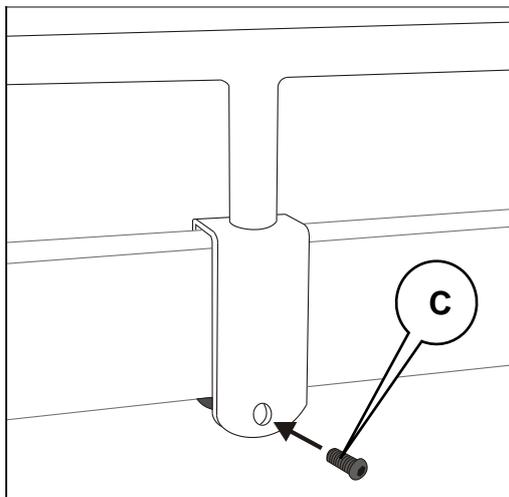


Installation



Raise the safety side and position the height extension on the safety side with the fixing clamps over the top rail.

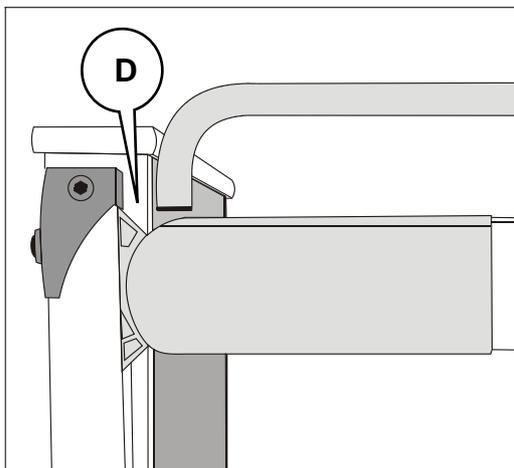
Push the fixing pin (A) through the larger of the two holes in the fixing clamp (B), so that the fixing pin passes under the safety side top rail.



Secure the fixing pin in position by fitting an M8 socket head screw (C) through the smaller hole on the other side of the fixing clamp.

Do not tighten the screw fully at this stage.

Repeat this procedure for both fixing clamps.



Slide the height extension assembly along the safety side top rail until the distance (D) between the height extension and the bed end panel is the same at both ends of the bed.

Fully tighten the two socket head screws (C) to secure the height extension in position.

Repeat this procedure to install the other height extension on the opposite side of the bed.

Accessory weights – safety side height extensions

CM-ACC02-1.52

3kg each

CM-ACC02-3.52

3kg each

Folding steel safety sides

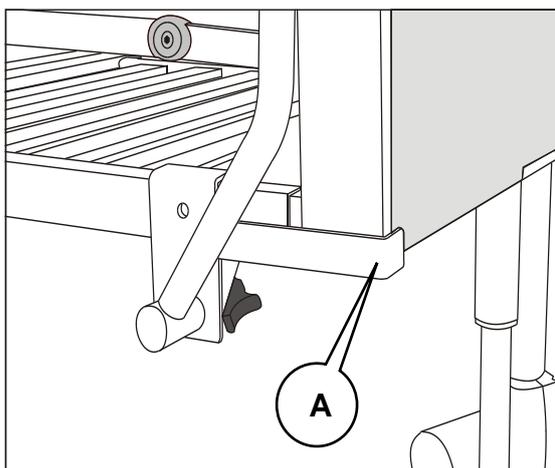


These instructions illustrate the fitting of safety sides model CM-ACC06.52. Extra height folding safety sides CM-ACC07.52 are fitted and used in the same way. Extra height safety sides should be used when the mattress thickness is between 150mm and 172mm (Refer to page 12).

The folding safety sides are supplied as a pair to fit the right and left hand sides of the bed, as viewed from the head end. These illustrations show the left-hand safety side.



Installation

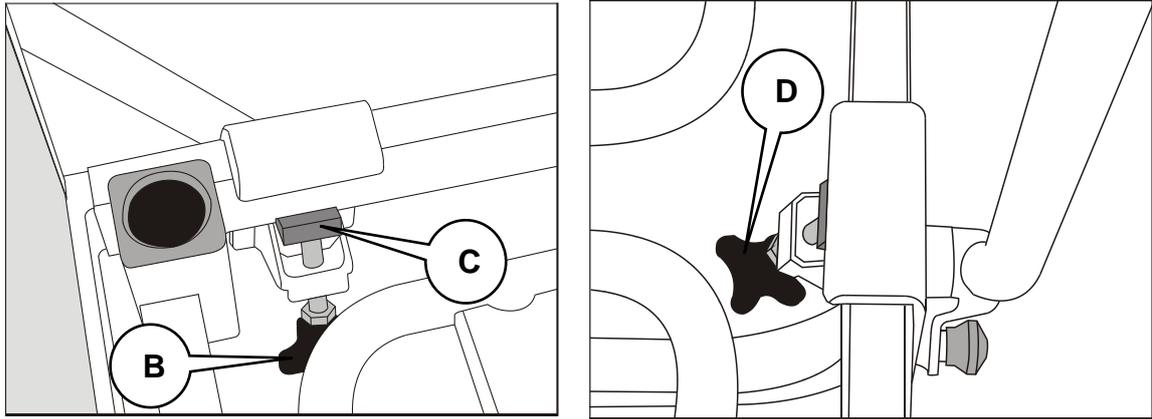


Position the safety side assembly on the side frame of the bed, with the two fixing brackets hooked over the top of the bed frame.

The spacer bar (A) must fit behind the edge of the head end panel as shown; this will ensure the safety side is correctly positioned on the bed.



Position the safety side initially with it tilted towards the middle of the bed. When both brackets are correctly located on the bed frame, rotate the complete safety side assembly back to the vertical.



Tighten the screw clamp on the head end bracket (B), ensuring that the groove in the clamp block (C) fits tightly against the lower edge of the bed frame.

Secure the foot end clamp (D) in the same way.

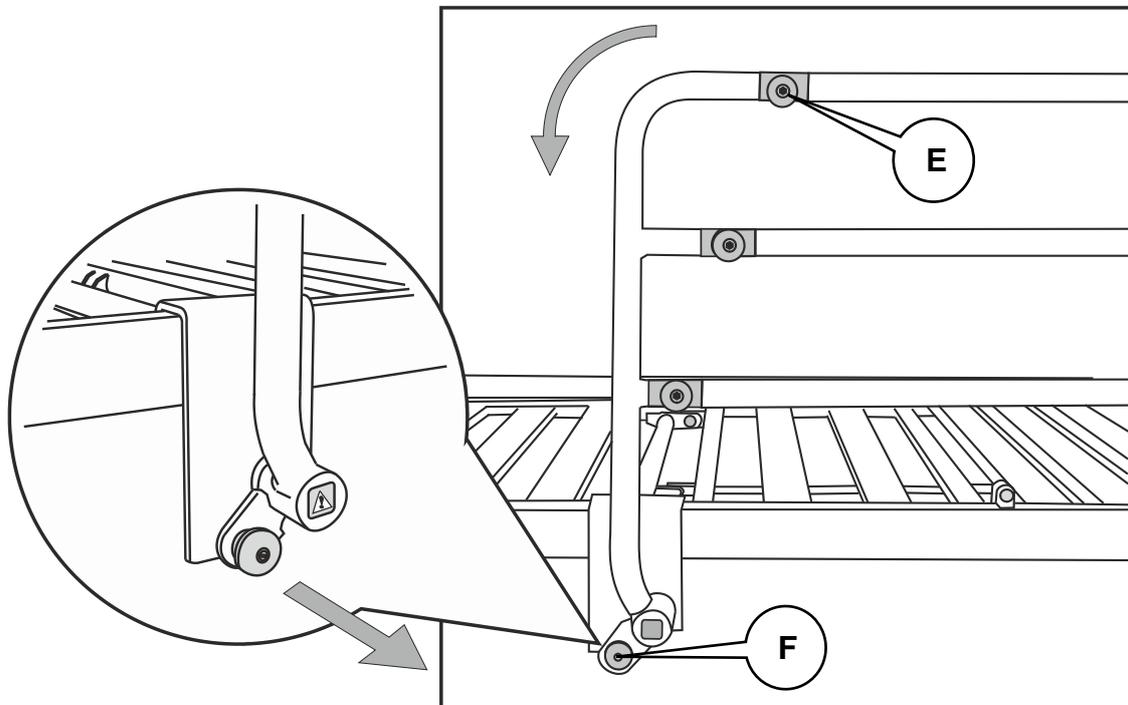
WARNING

Make sure the screw clamps are fully tightened.

Repeat this procedure to fit the other folding safety side on the opposite side of the bed.

Check that both safety sides are firmly secured before allowing a patient to use the bed.

Operation



To lower the safety side:

Hold the top rail at the foot end of the bed, keeping your hand clear of the hinge point (E).

Pull out and hold the red release knob (F). This is located on the safety side bracket at the foot end of the bed.

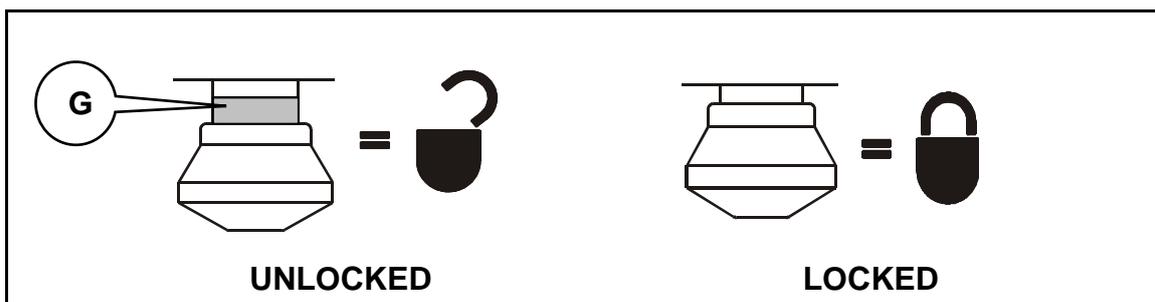
Lower the safety side towards the foot end of the bed. Let go of the release knob.

To raise the safety side:

Hold the top rail at the foot end of the bed, keeping your hand clear of the hinge point (E).

Pull the rail upwards until the safety side locks in the raised position.

The safety side release knob contains a yellow band (G). If the yellow band is visible it means that the safety side is NOT securely locked in the upright position.



WARNING

Make sure the release knob is locked in place.

The yellow warning band on the release knob MUST NOT be visible when the safety side is in the fully raised and locked position.

Accessory weight – folding safety sides (per side)

CM-ACC06.52	7.7kg
CM-ACC07.52	9kg

Pads for full length safety sides CM-ACC03 & CM-ACC26

These washable pads may be used with any of the full-length safety sides. They may also be used when height extensions are fitted to the safety sides.

The pads are easy to fit, and can be removed from the bed quickly if the safety sides need to be lowered in an emergency.

Model CM-ACC26 provides additional protective padding along the top rail.

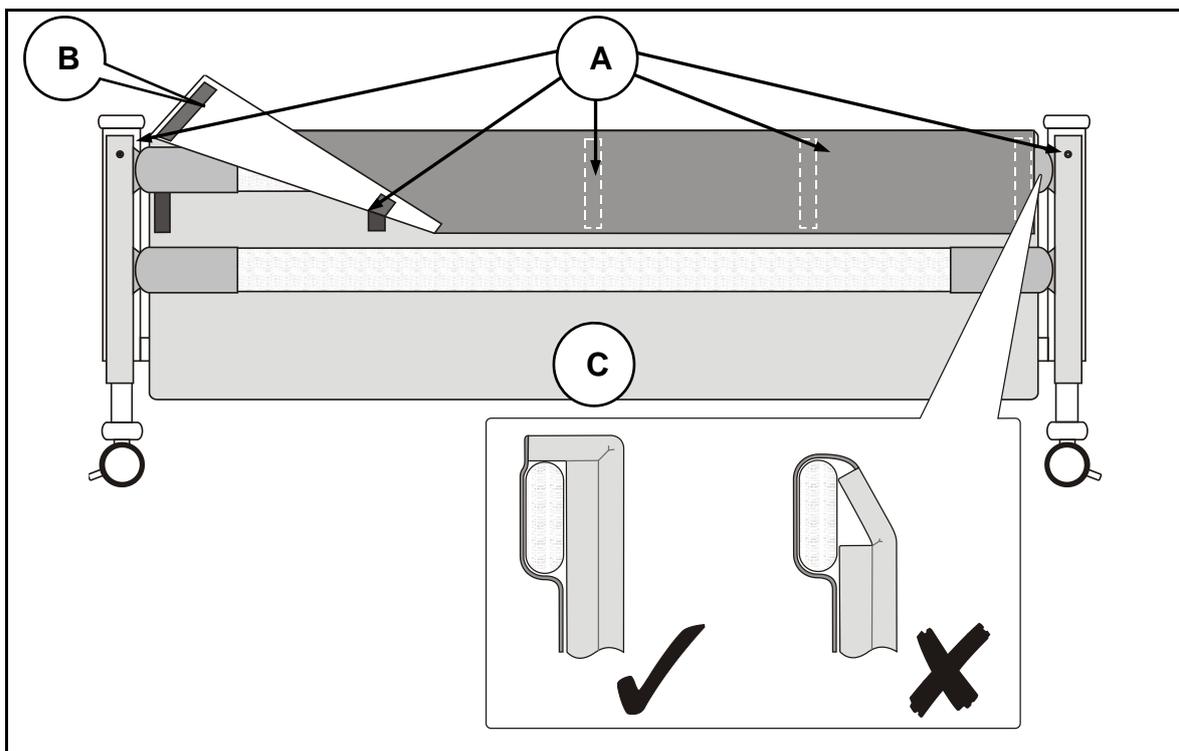
Installation

Raise the safety side to its full locked height at both ends of the bed. Pull apart the five Velcro® strips (A) to release the flap (B).

Position the safety side pad (C) on the bed. It should be fitted between the mattress and the safety side, with the flap on the outside of the safety side top rail (or the outside of the height extension rail, if fitted).

CM-ACC26 only: make sure the padded section of the flap lies over the top rail as shown (D).

Fasten the five Velcro® strips to secure the pad to the safety side.



The diagram shows the safety side pads fitted to full length wooden safety sides. Use a similar method when fitting the pads to full length steel safety sides CM-ACC04.

Cleaning

Refer to the instruction label attached to the product.

Accessory Weight – pads for full length safety sides (per pair)

CM-ACC03 & CM-ACC26 3.9kg

Lifting poles CM-ACC09



The lifting pole is used to assist a patient in moving or turning whilst lying on the bed.

Model CM-ACC09 is fixed in one position above the centre of the bed.

The lifting pole is supplied with an adjustable strap and handle.

WARNING

Do not overload the lifting pole. The maximum weight it can safely support is 75kg.

Do not hang other objects on the lifting pole, strap or handle.

The bed should not be occupied while the lifting pole is being fitted.

Do not use the lifting pole to push or pull the bed.

The operational life of the strap and handle is two years when used and maintained in accordance with the manufacturer's instructions. After this time, the complete unit should be replaced.

Inspect the strap and handle regularly. If any sign of wear or damage is found, remove it from use immediately and replace the complete unit.

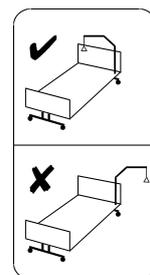
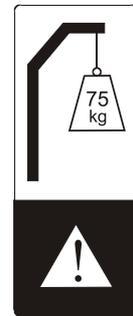
Only use the recommended strap and handle assembly - Avitana type 04120.

Do not adjust the strap while a patient is holding the handle as this may damage the mechanism. After adjusting the strap, make sure it locks with an audible "click".

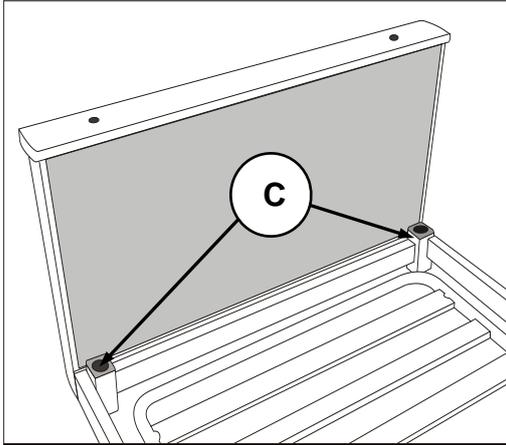
Do not twist the strap through more than 180° as this may cause premature wear.

The lifting pole must be correctly positioned so that the handle hangs over the middle of the bed. Do not allow the lifting strap and handle to hang outside the perimeter of the bed.

Ensure that the lifting pole and handle are positioned to suit the size and medical needs of the patient.

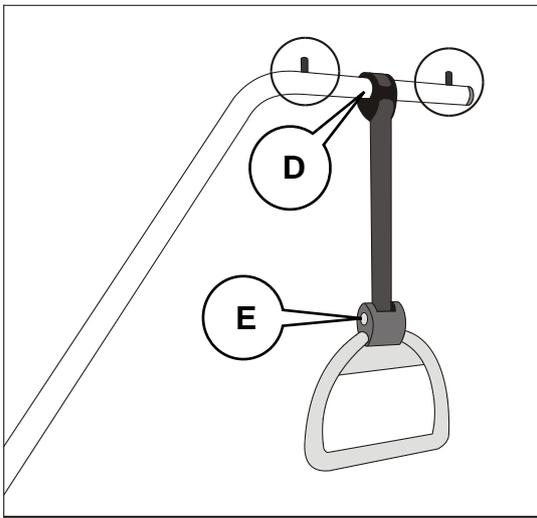


Installation



Insert the lifting pole vertically downwards into one of the two accessory sockets (C) at the head end of the bed. Twist the pole until you feel it drop slightly in the socket.

Make sure the lifting pole cannot rotate in the socket and that the horizontal part of the pole is positioned above the centre of the bed.



Fit the loop of the lifting strap (D) over the horizontal part of the pole. Make sure the loop lies between the two pegs (circled) on the lifting pole.

To adjust the height of the handle above the bed, press and hold the button (E) on the side of the handle. Pull the handle down to lengthen the strap, or allow the strap to retract back into the handle to shorten it. Release the button.

Cleaning

WARNING

Remove the strap and handle from the lifting pole before cleaning.

Only use approved disinfectants and cleaning methods. Other products may cause degradation and possibly premature failure of the equipment.

Use all cleaners and disinfectants with care. Obey the manufacturer's instructions for use.

Do not disinfect the strap and handle in a pressure chamber, autoclave or steam cleaner as this may damage the product.

Before cleaning the handle, extend the strap fully and leave it extended until the handle is completely dry.

Lifting pole: refer to the instructions in Chapter 7.

Strap and handle: follow the cleaning and disinfecting procedures recommended by the manufacturer (i.e. Avitana) – refer to the separate instruction leaflet supplied with the handle assembly.

Accessory weights – lifting poles with strap and handle

CM-ACC09

6.7kg

Mobility support handle CM-ACC11 & CM-ACC12

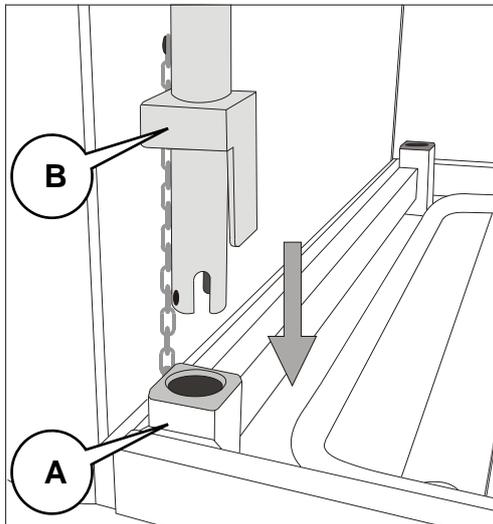


The mobility support handle is used to assist the patient in getting on or off the bed. It is fitted in the accessory socket at the head end of the bed.

Two types are available: CM-ACC11 fits on the left side of the bed (when viewed from the head end) and CM-ACC12 fits on the right side of the bed.

The picture on the left shows CM-ACC12.

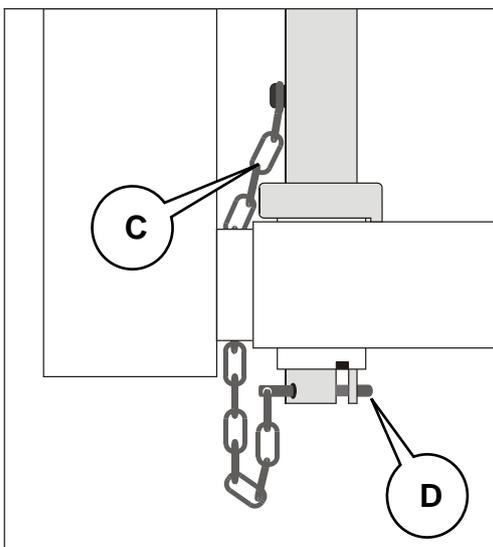
Installation



Insert the vertical pole of the mobility support handle into the accessory socket (A) on the appropriate side of the bed.

Make sure the mobility support handle cannot rotate in the socket.

When correctly installed, the square base of the pole (B) should fit snugly over the top of the accessory socket.



Ensure that the mobility support handle is angled away from the bed.

Pass the chain (C) behind the accessory socket and fit the retaining pin (D) through the two holes at the base of the vertical pole.

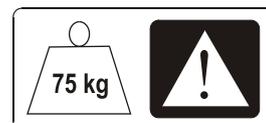
Ensure that the mobility support handle cannot be lifted out of the socket when the retaining pin is fitted.



Read the important safety information on the next page.

WARNING

Do not overload the mobility support handle. The maximum weight it can safely support is 75kg.



Do not hang other objects on the mobility support handle.

Always fit the mobility support handle on the correct side of the bed.

Do not apply polish or other liquids to the handle as this may make it more difficult to grip.

Accessory weight – mobility support handle

CM-ACC11 and CM-ACC12 4.0kg

Flexible handset holder CM-ACC13



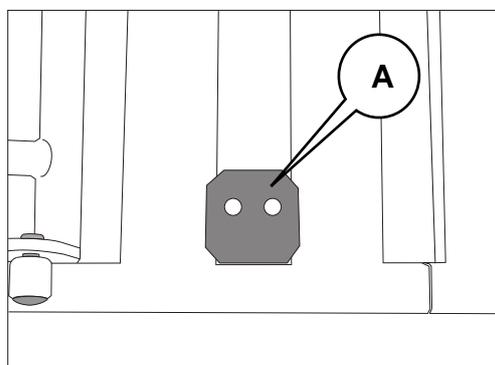
The flexible handset holder is designed to position the control handset within easy reach of the patient. It also allows the controls to be operated by a patient with limited gripping ability.

The flexible handset holder is fixed to the bed frame with a two-piece clamp and may be fitted to either side of the bed. These instructions show the accessory fitted to the right hand side of the bed, when viewed from the head end.

WARNING

Always use the correct 4mm Allen (hexagon key) when fitting the socket head screws. Using other tools may result in the screws not being fully tightened.

Installation

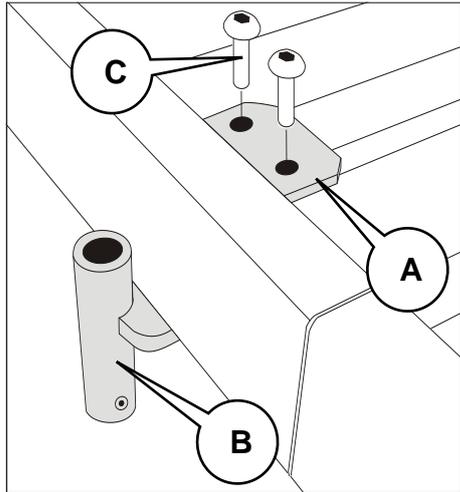


Choose which side of the bed the handset holder is to be installed.

Position the clamp plate (A) on top of the bed frame, placing it between the two central seat section bars as shown.



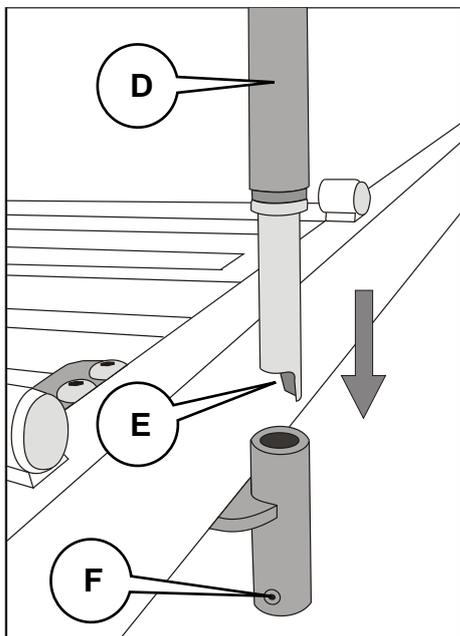
The clamp plate is not symmetrical. Ensure the screw holes are correctly positioned as shown.



Position the lower clamp section below the bed frame, with the clamp tube (B) on the outside of the bed as shown.

Fit two M6 socket head screws (C) down through the clamp plate (A) into the threaded holes in the lower clamp section (B). Make sure the screws are fully tightened.

Check that both sections of the clamp fit tightly against the side frame of the bed to prevent the clamp moving in use.



Fit the handset holder pole (D) into the clamp tube (B). Make sure the notch (E) locates on the pin (F) at the bottom of the clamp tube.

Slide the control handset down into the holster with the pushbuttons facing outwards. The clip on the back of the handset will help to retain it in the holster.

Adjust the flexible arm to position the handset in the most comfortable and convenient position for the patient.

Caution

Do not allow the control handset cable to become trapped in the bed mechanism when the bed is operated.

WARNING

This accessory must only be fitted to the bed in the way described above.

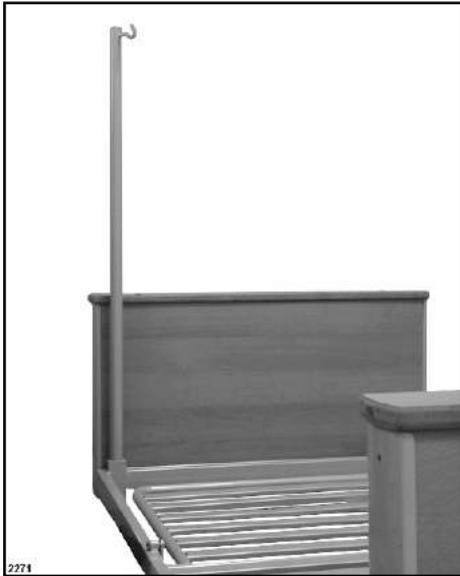
Do not use this accessory for any purpose other than storing the control handset.

Accessory weight – flexible handset holder

CM-ACC13

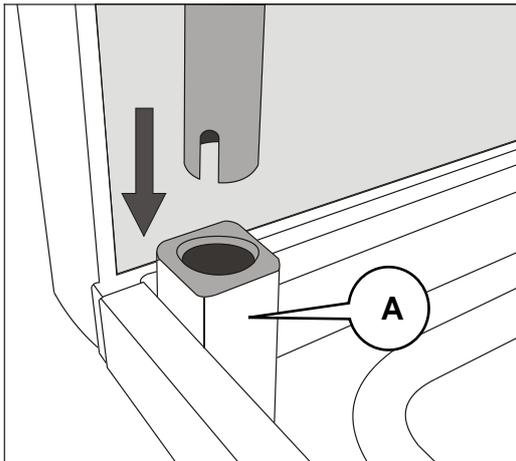
1.1kg

IV pole CM-ACC14



The IV pole has a single fixed hook. It can be used to support drips, pumps and other IV equipment.

Installation



Insert the IV pole vertically downwards into one of the two accessory sockets (A) at the head end of the bed. Twist the pole until you feel it drop slightly in the socket.

Make sure the IV pole cannot rotate in the socket.

WARNING

Do not overload the IV pole hook.

The maximum weight it can safely support is 5kg.

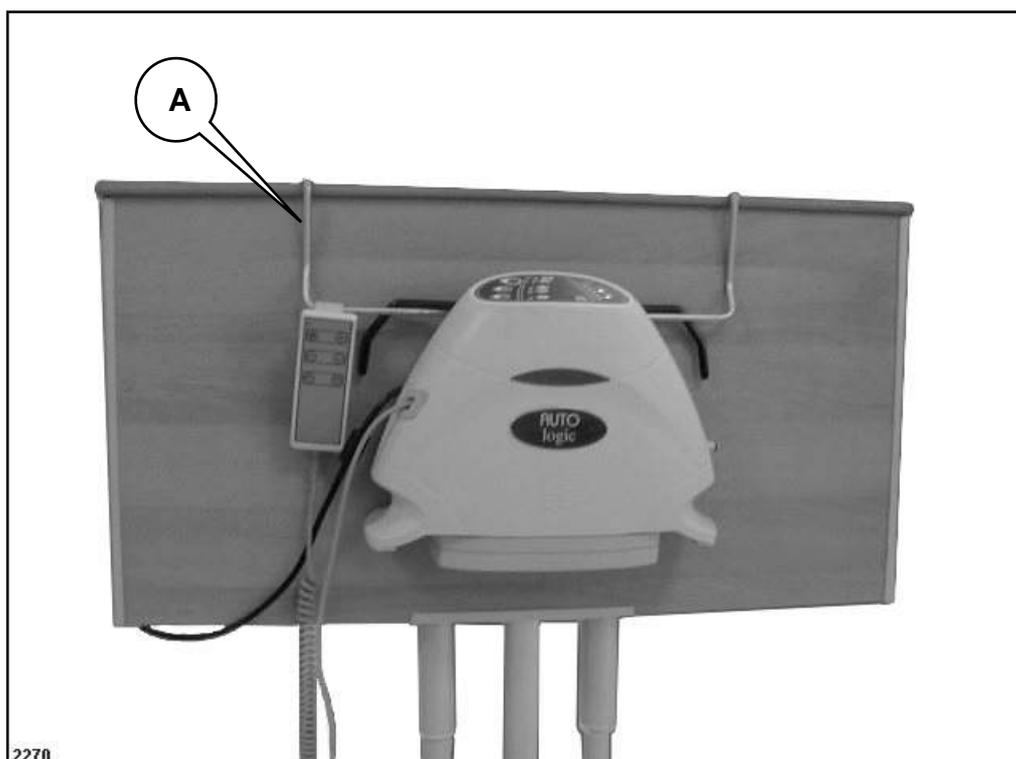


Accessory weight – IV pole

CM-ACC14

2.0kg

Mattress pump bracket CM-ACC15



The pump bracket is designed to support the pump from any compatible ArjoHuntleigh air mattress system.

Installation

Hang the bracket (A) over the foot end panel with the pump holder on the outside of the bed.

Operation

Install the mattress pump on the pump bracket.

Refer to the instructions for use provided with the air mattress system for guidance on how to operate the pump.

Accessory weight – mattress pump bracket

CM-ACC15

0.5kg

Egress assist rail

WARNING

The clinically qualified person responsible should consider the size, age and condition of the patient before allowing the use of egress assist rails.

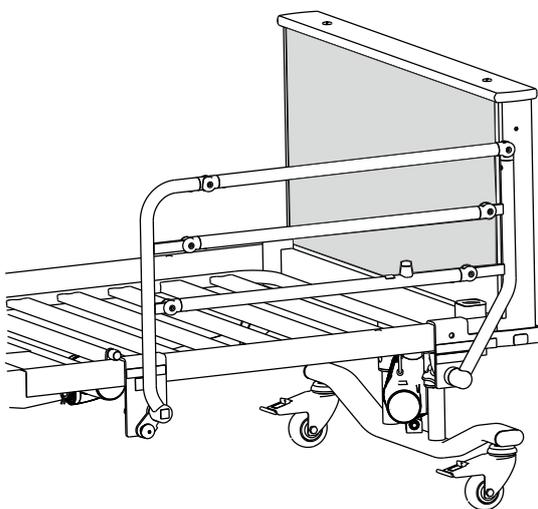
Do not use the egress assist rails like safety side panels due to the short length of the accessory.



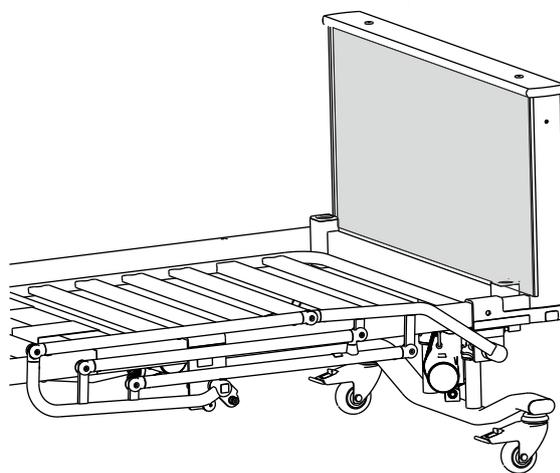
These instructions illustrate the fitting of egress assist rails model CM-ACC22-1.52. Extra height egress assist rails CM-ACC23-1.52 are fitted and used in the same way. Extra height egress assist rails should be used when the mattress thickness is between 150mm and 172mm (Refer to page 12).

Egress assist rails are supplied as a matching pair to suit the right and left hand sides of the bed; these instructions show an egress assist rail on the patient's left-hand side.

Once installed, this accessory can be placed in two positions. In the raised position, it can be used to aid a patient in rising from the bed. When lowered, it provides additional security for patients in cases where the use of longer side rails is not desirable.



Egress assist rail - raised

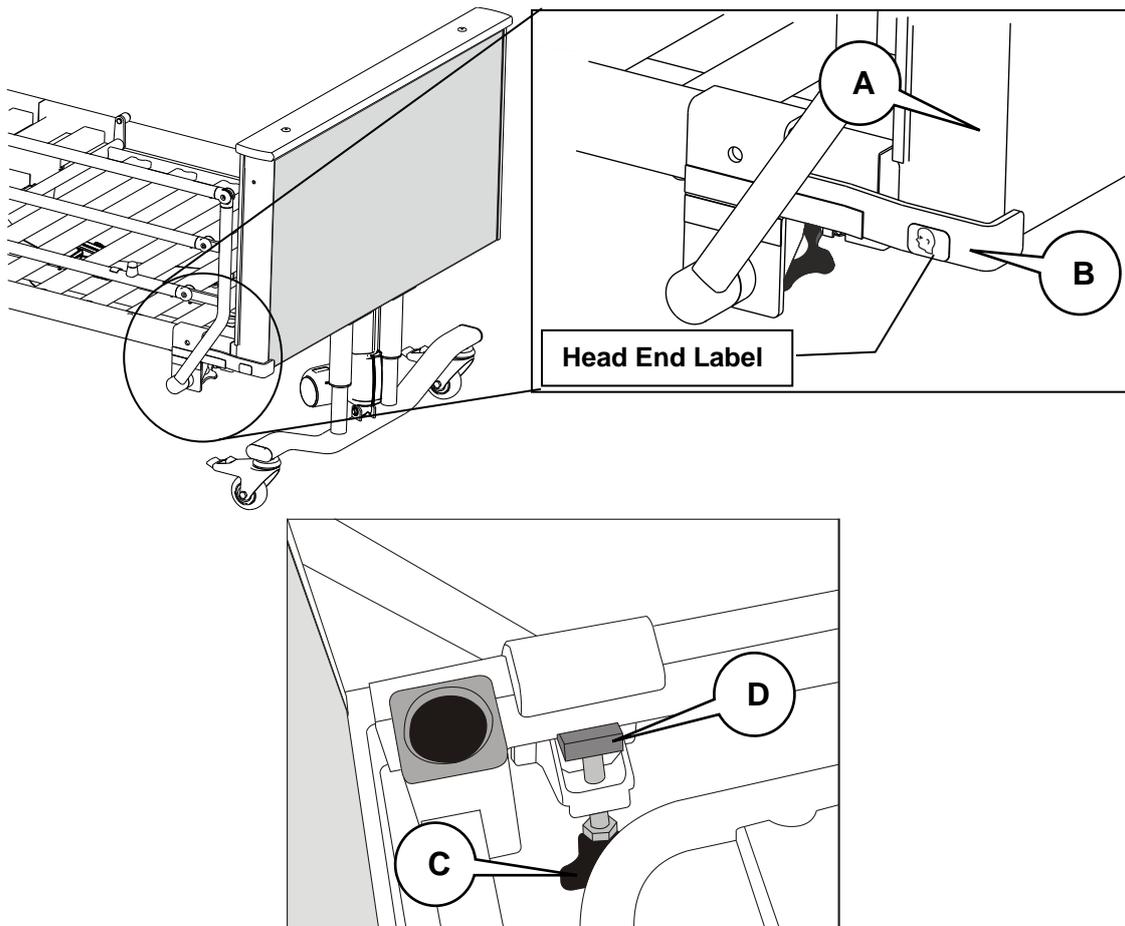


Egress assist rail - lowered



*The egress assist rail is not compatible with these accessories:
Full length side rails CM-ACC00-1, CM-ACC01-1, CM-ACC04-1,
Folding side rails CM-ACC06-1 and CM-ACC07-1.*

Installation



The bed should be unoccupied; if this is not possible, take care not to disturb the patient during installation.

Make sure the mattress platform is flat and level. It is not necessary to remove the mattress.

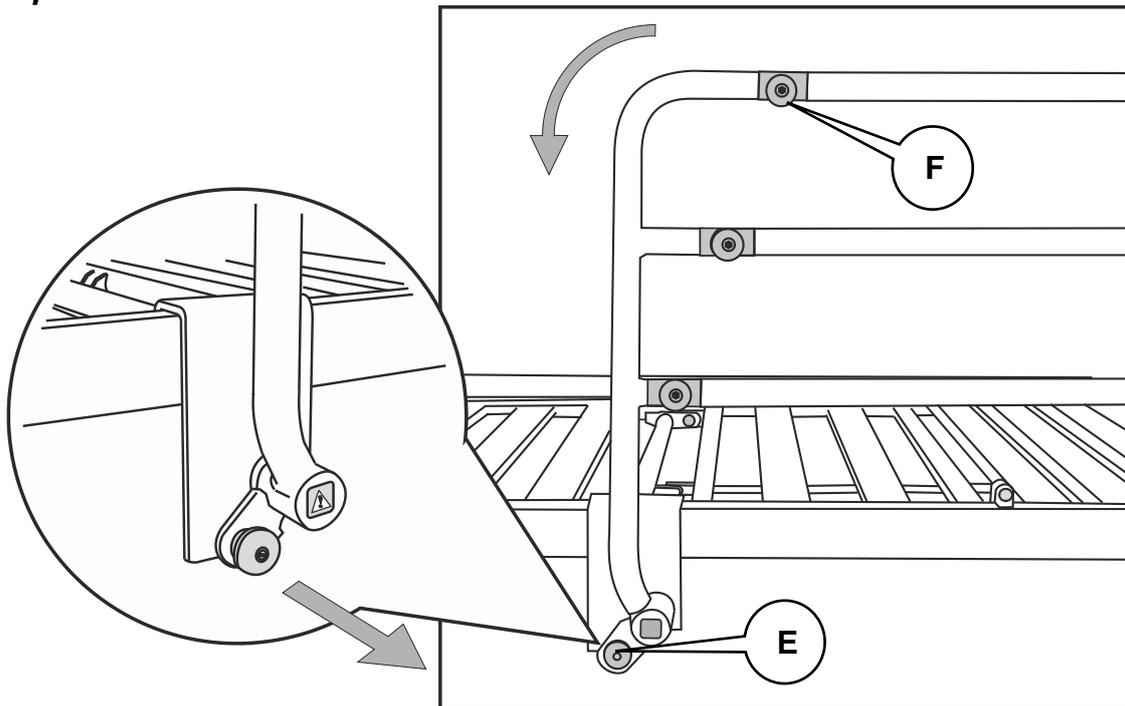
Fully undo the fixing clamp screw (C). Position the Egress Assist Rail, in its lowered position, on the side frame of the bed. Hook the fixing bracket over the top of the bed frame.

The spacer bar (B) must fit behind the edge of the head end panel (A) as shown. This will make sure the Egress Assist Rail is correctly positioned on the bed.

Tighten the fixing clamp screw (C) and make sure the groove in the clamp block (D) sits against the inner bottom edge of the bed frame.

Repeat this procedure to attach the other Egress Assist Rail on the opposite side of the bed. Make sure both fixing clamp screws are fully tightened.

Operation



To lower the egress assist rail

Hold the rail on the bend (F). Pull out and hold the release knob (E). Rotate the Egress Assist Rail towards the foot end of the bed.

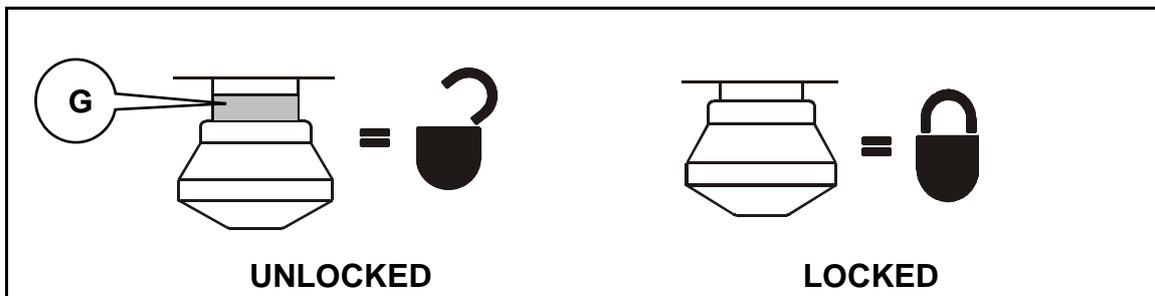
To raise the egress assist rail

Hold the rail on the bend (F). Pull out and hold the release knob (E). Rotate the Egress Assist Rail towards the head end of the bed until it locks in position.

WARNING

Take care not to trap the patient's limbs when adjusting the Egress Assist Rails.

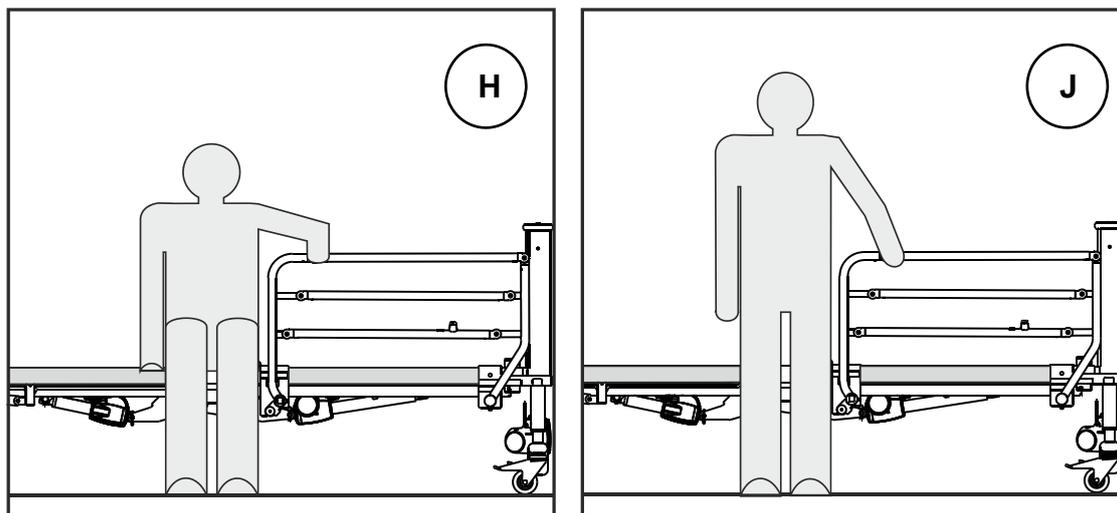
When the Egress Assist Rail is in the raised position, a yellow band (G) behind the operating knob must NOT be visible when viewed from above:



WARNING

The locking bolt must not be visible when the egress assist rail is in the raised position.

Using the egress assist rail



Adjust the bed height so that the patient can sit on the edge of the mattress with both feet on the floor. Ensure the Egress Assist Rail is locked in the raised position.

The patient can hold the rail (H) and use it to help them into a standing position (J).

WARNING

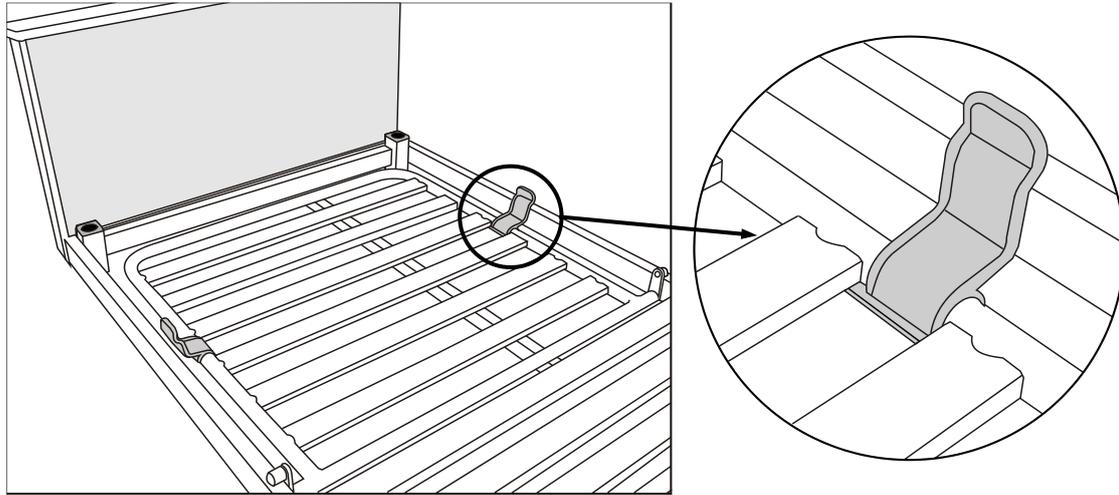
Do not use the Egress Assist Rails to lift or move the bed.
Do not apply polish or other liquids to the rail as this may make it more difficult to grip.

Accessory weight – egress assist rail

CM-ACC22-1.52	6kg each
CM-ACC23-1.52	7.3kg each

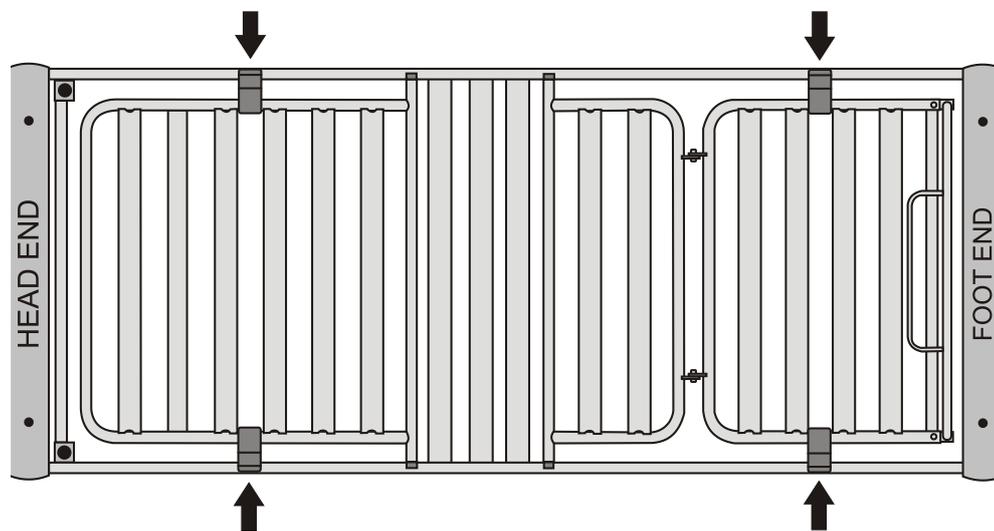
Mattress retainers CM-ACC24

This accessory comprises four plastic mouldings that are attached to the backrest and leg sections to prevent sideways movement of the mattress.



Installation

Clip the mattress retainers onto either side of the backrest and leg sections. They should be positioned on the side frame, between the mattress platform bars, with the flaps angled towards the outside of the bed. The diagram shows the correct positions for the mattress retainers.



Mattress retainer positions

WARNING

To avoid trapping your fingers, keep your hands away from the mattress retainers when lowering the backrest or leg sections

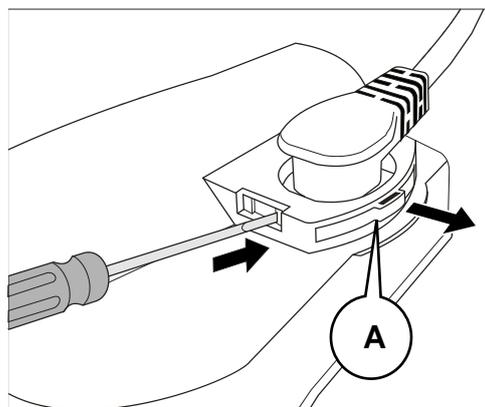
Accessory weight – mattress retainers (set of four)

CM-ACC24

0.2kg

6. Dismantling the Bed

1	<p>Remove the mattress and all accessories fitted to the bed, such as safety sides, lifting pole, etc.</p> <p>Use the control handset to lower the bed to minimum height with the mattress platform horizontal. Lower the backrest and leg sections to their flat positions.</p> <p>Disconnect the bed from the electrical supply.</p> <p>Apply the brakes on all four castors.</p> <p>Fit plastic ties to secure the movable backrest and leg sections to the bed frame.</p> <p>Turn the bed onto its left side (as viewed from the head end).</p>
2	<p>Use a small flat-bladed screwdriver to prise open the two clips holding the retaining strip onto the control box.</p> <p>Remove the retaining strip and put to one side.</p>
3	<p>Unplug the control handset from the control box and put to one side.</p> <p>Unplug the actuator cable from the control box socket marked 4.</p> <p>Unplug the actuator cable from the control box socket marked 2.</p>
4	<p>Partially pull out the retaining pin from the cable channel below the head end mattress platform, adjacent to the backrest actuator.</p> <p>Identify the cables for the foot end height actuator (labelled 4) and leg section actuator (labelled 2). Carefully pull these cables out of the cable channel. Refit the retaining pin.</p> <p>Refit the retaining strip to the control box for safe storage.</p>
5	<p>Release the cable retaining clip on the head end height actuator by pushing a small screwdriver into the slot on the side of the socket and pulling out the clip (A). Disconnect the cable from the actuator.</p> <p>Repeat this procedure for the foot end height actuator.</p>
6	<p>Use a 5mm Allen (hexagon) key to remove the two socket head fixing screws securing the foot end panel section to the bed.</p> <p>Pull the foot end panel section away from the bed and lay it on the floor.</p>



7	<p>Remove the two socket head fixing screws securing the foot end mattress platform section to the bed.</p> <p>Pull the foot end mattress platform section away from the bed, taking care not to trap or pinch the actuator cables, and lay it on the floor.</p>	
8	<p>Remove the two socket head fixing screws securing the head end mattress platform section to the head end panel section.</p> <p>Pull the two sections apart, taking care not to trap or pinch the actuator cables, and lay both sections on the floor.</p> <p>Coil up all the actuator cables neatly and secure with suitable plastic ties.</p> <p>Coil the mains cable around the control box and the slot in the head end mattress platform section.</p>	
9	<p>Lie the head end panel section (B) on its side.</p> <p>Position the foot end panel (C) section, also on its side, so that both fixing arms overlap as shown in the diagram.</p> <p>Fit the transit brackets (D) down over the fixing arms. Both transit brackets must be fitted with their open sides pointing towards the floor.</p> <p>Line up the holes in each transit bracket with the holes in the end panel section fixing arms.</p>	<p>The diagram shows a side view of the bed's end panel assembly. Two vertical panels, labeled B (head end) and C (foot end), are shown overlapping. Two transit brackets, labeled D, are being fitted over the overlapping fixing arms. Arrows point downwards from the brackets, indicating they should be pushed down onto the arms. The entire assembly is shown resting on a floor surface.</p>
10	<p>Use four M8 socket head screws to secure the both end panel sections onto the transit brackets. Fasten the screws finger tight at first, then tighten them fully using a 5mm Allen (hexagon) key once all four screws are in place.</p>	

<p>11</p>	<p>Stand the end panel sections, assembled onto the transit brackets, upright on their castors.</p> <p>Slide the head end mattress platform section (E) down onto the short uprights (F) on the transit brackets.</p> <p>Slide the foot end mattress platform section (G) down on to the tall uprights (H) on the transit brackets.</p>	<p>The diagram illustrates the assembly process. At the top, a cardboard packing block (J) is shown being placed between two mattress platform sections, E and G. A plastic cable tie (K) is used to secure the packing block and the mattress sections together. Below, the two mattress sections are shown being lowered onto the transit brackets. The head end section (E) is lowered onto the short uprights (F), and the foot end section (G) is lowered onto the tall uprights (H). The transit brackets are mounted on castors. Arrows indicate the downward movement of sections G and E.</p>
<p>12</p>	<p>Place the cardboard packing block (J) between the two mattress platform sections.</p> <p>Fasten a plastic cable tie (K) around the packing block and mattress platform sections to hold them together.</p> <p>Check that no cables are trapped between the bed sections and/or the transit brackets.</p>	
<p>13</p>	<p>Refit the remaining two M8 socket head screws into the threaded holes in the head end mattress platform section for safe storage.</p> <p>Wrap the control handset and all accessories in suitable protective packaging. The bed is now ready to be transported.</p>	

7. Cleaning

WARNING

Disconnect the bed from the electricity supply before cleaning.

The bed should be cleaned and disinfected before it is used by a new patient.



These instructions also apply to accessories but not to lifting straps and handles, mattresses or safety side pads.

Cleaning

Wearing suitable protective clothing, clean all surfaces with a disposable cloth soaked in a neutral detergent and hand hot water.

Start by cleaning the upper parts of the bed and clean along all horizontal surfaces. Work methodically towards the lower sections of the bed and clean the castors last.

Take extra care with areas that may trap dust or dirt.

Rinse with clean water and dry with disposable paper towels.

Allow the cleaned parts to dry completely before returning the equipment to use.

Disinfecting

After cleaning the bed, wipe all surfaces with sodium dichloroisocyanurate (NaDCC) at a concentration of 1,000 parts per million (0.1%) of available chlorine.

In the case of pooling body fluids, e.g. blood, increase the concentration of NaDCC to 10,000 parts per million (1%) of available chlorine.

Caution

Do not use abrasive compounds or pads as these may damage the finish.

Do not use phenol-based disinfectant solutions.

Avoid splashing the actuators, control box and control handset.

8. Care and Preventive Maintenance

Preventive maintenance

This product is subject to wear and tear during use. To ensure that it continues to perform within its original specification, preventive maintenance procedures should be carried out at the intervals shown.

WARNING

This list indicates the minimum level of preventive maintenance recommended by the manufacturer. More frequent inspections should be carried out when the product is subjected to heavy use or aggressive environments, or where required by local regulations.

Failure to carry out these checks, or continuing to use the product if a fault is found, may compromise the safety of both the patient and carer/user. Preventive maintenance can help to prevent accidents.

Disconnect the bed from the electricity supply before starting any maintenance activity. To isolate the bed from the electricity supply, disconnect the electrical power cable from the socket outlet. The bed will still operate on battery power if handset buttons are pressed. A description of how to completely disconnecting all electrical power can be found in the Service Manual.

<i>Actions to be done by carer/user</i>	<i>Daily</i>	<i>Weekly</i>
Cleaning and disinfection	✓	
Examine lifting pole strap and handle	✓	
Check patient handset and cable		✓
Visually check castors		✓
Visually check mains cable and plug		✓
Inspect mattress and safety side pads for tears, splits, staining, etc.		✓
Check operation of safety sides		✓
Check the screw clamps are fully tightened when using CM-ACC06.52 and CM-ACC07.52 (safety sides).		✓
Check the screw clamps are fully tightened when using CM-ACC22.52 and CM-ACC23.52 (egress assist rails).		✓

If the result of any of these tests is unsatisfactory, contact ArjoHuntleigh or an approved service agent.

WARNING

The procedures below must be carried out by suitably trained and qualified personnel. Failure to do so may result in injury or an unsafe product.

<i>Actions to be done by qualified personnel</i>	<i>Yearly</i>
Carry out a full test of all electrical bed positioning functions (backrest, height, etc.)	✓
Check that the bed operates correctly when using battery power—see below	✓
Check operation of castors, paying special attention to brake function	✓
Examine the mains cable and plug - replace the complete assembly if damaged. Do not use a rewirable plug	✓
Examine all accessible flexible cables for damage and deterioration	✓
Check all nuts, bolts and other fasteners are present and correctly tightened	✓
Check all bed accessories, paying particular attention to fasteners and moving parts	✓

Battery test

Check the condition of the backup battery by carrying out the following test:

1. Make sure that the bed has been connected to the electricity supply for at least 24 hours. Use the control handset to lower the bed to minimum height.
2. Disconnect the bed from the electricity supply.
3. Place a suitable mattress on the bed and apply a load of 80kg (i.e. a person who weighs 12 stones) to the mattress platform.
4. Use the control handset to raise and lower the mattress platform, from minimum to maximum height and back again.
5. If the bed does not operate satisfactorily in Step 4, perform Steps 1 to 4 again.

If the bed continues to operate unsatisfactorily, it may indicate that the backup battery needs replacing.

Troubleshooting guide

If the equipment fails to operate correctly, the table below suggests some simple checks and corrective actions. If these steps fail to resolve the problem, contact ArjoHuntleigh or an approved service agent.

Symptom	Possible Cause	Action
None of the actuators work	Mains cable disconnected	Check the mains cable is plugged in and the electricity supply is OK
	Fuse blown	Check fuse in mains plug (where fitted)
	Control handset disconnected	Check handset is plugged into the control box
One actuator does not work	Actuator cable disconnected	Check actuator cable is plugged into both the actuator and control box
Castor does not rotate or swivel	Brake applied	Release brake

9. Warranty and Service

ArjoHuntleigh standard terms and conditions apply to all sales. A copy is available on request. These contain full details of warranty terms and do not limit the statutory rights of the consumer.

If you experience difficulties operating this equipment or it fails to perform as expected, and for all service and maintenance, please contact your local ArjoHuntleigh office or authorised distributor. A list of ArjoHuntleigh offices can be found at the back of these instructions.

A full technical description of the *Minuet 2* can be found in the Service Manual, part number 746-397, available from your local ArjoHuntleigh sales office.

ArjoHuntleigh will make available on request service manuals, component parts lists and other information necessary for ArjoHuntleigh trained personnel to repair the system.

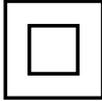
Product lifetime

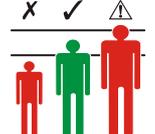
The lifetime of this product is typically ten (10) years. This also applies to accessories (except lifting strap and handle assemblies, which should be replaced after two years).

“Lifetime” is defined as the period during which the product will maintain the specified performance and safety, provided it has been maintained and operated in conditions of normal use in accordance with the requirements in these instructions.

10. Technical Data

General	
Safe working load (SWL)	180kg (396 lbs.)
Maximum patient weight	145kg (319 lbs.)
Operating conditions	
Temperature	5°C to 40°C (41°F to 104°F)
Relative humidity	20% to 90% non-condensing
Atmospheric pressure	800 to 1060hPa
Audible noise	52dB typical
Safety standards	Complies with EN 60601-2-52
Product weight (without mattress or accessories)	
Head and foot end panel sections	22.8kg (50 lbs.) each
Head end mattress platform section	23.5kg (52 lbs.)
Foot end mattress platform section	19.8kg (44 lbs.)
Total	88.9kg (196 lbs.)
Dimensions	<i>All dimensions are subject to normal manufacturing tolerances</i>
Overall length	225cm (88.6 ins.)
Extended	239cm (94.0 ins.)
Overall width	94cm (37.0 ins.)
With safety sides fitted	105cm (41.3 ins.)
Height of mattress platform	25 to 66cm (9.8 to 26 ins.)
Mattress platform angles (max.)	
Mattress Size	198 x 86 x 12.5cm (78 x 33.8 x 5 ins.)

Electrical data	
Power input	1A max. 230V a.c. 50Hz
Duty rating	Intermittent 10% (2 min. on, 18 min. off)
Electric shock protection	Class II  Type B 
EMC	Complies with EN 60601-1-2
Backup battery	12V, 1.2Ah sealed rechargeable lead/acid gel
Typical lifetime	4 years max.
Backup duration	6 full lift / lower cycles with SWL
Liquid ingress protection	IP24 (2-Protection against solid particle ingress larger than 12.5mm – fingers or similar objects. 4-Protection against liquid ingress – water splashing against the enclosure from any direction shall have no harmful effect).
Environmental protection	
	This product is marked with the crossed out wheellie bin symbol to indicate that it is covered by EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE). This symbol indicates that all electrical and electronic products must be taken to a dedicated collection point at end of their working life. Contact ArjoHuntleigh or your local authority for advice on proper disposal.
Transportation and storage	
Handle with care. Do not drop. Avoid shock or violent impact. This equipment should be stored in a clean, dry and well-ventilated area which meets the following conditions:	
Temperature	-10°C to 50°C (-14°F to 122°F)
Relative humidity	20% to 90% non-condensing
Air pressure	800 to 1060hPa
Caution	
If the bed is stored for a long time, every three months it should be connected to the electricity supply for 24 hours to recharge the backup battery. Failure to do this may reduce the life of the battery.	

Symbols	
	Caution - refer to instructions for use
	Class II equipment
	Type B applied part. Includes all parts of the medical bed that are within reach of the patient, even if they are underneath the mattress support surface.
	Serial number
	Model number
	Date of manufacture / name of manufacturer
	Complies with the European Medical Devices Directive 93/42/EEC
	Safe working load (SWL)
	Maximum recommended patient weight
	Recommended mattress size displayed on bed
	Recommended mattress size displayed on accessory
	Refer to instructions for use
	(On detachable safety sides) Ensure that the safety sides are compatible with the bed before installing them
	Waste Electrical and Electronic Equipment (WEEE) – do not dispose of this equipment in general household or commercial waste
	Compliant with IEC 60601-2-52 standard
	Recommended patient height

11. Electromagnetic Compatibility (EMC)

Caution

The use of non-approved accessories may result in increased emissions or reduced immunity of the equipment. A list of approved accessories is provided in Chapter 5 of this manual.

When this equipment is used adjacent to other electronic devices, the user should observe the equipment to verify normal operation.

Guidance and manufacturer's declaration – electromagnetic emissions

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

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The bed 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.
RF emissions CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration – electromagnetic immunity			
The bed is intended for use in the electromagnetic environment specified below. The customer or the user of the bed should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6kV contact ± 8kV air	± 6kV contact ± 8kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical fast transient/burst IEC 61000-4-4	± 2kV for power supply lines ± 1kV for input/output lines	± 2kV Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1kV line to line ± 2kV line to earth	± 1kV ± 2kV	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	70% U_T (30% dip in U_T) for 25 cycles 40% U_T (60% dip in U_T) for 5 cycles <5% U_T (>95% dip in U_T) for 0.5 cycle <5% U_T (>95% dip in U_T) for 5 sec	70% of input voltage for 500ms 40% of input voltage for 100ms <5% of input voltage for 10ms <5% of input voltage for 5000ms	Mains power quality should be that of a typical commercial or hospital environment. If the user of the bed requires continued operation during power mains interruptions, it is recommended that the bed be powered from an uninterruptible power supply or battery.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to the application of the test level			

Guidance and manufacturer's declaration – electromagnetic immunity

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

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3V rms 150kHz to 80MHz</p> <p>3V/m 80MHz to 2.5GHz</p>	<p>3V</p> <p>3V/m</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the bed, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>$d = 1.2\sqrt{P}$</p> <p>$d = 1.2\sqrt{P}$ 80 MHz to 800MHz</p> <p>$d = 2.3\sqrt{P}$ 800MHz to 2.5GHz</p> <p>Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol: </p>

NOTE 1 At 80MHz and 800MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a 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 the bed is used exceeds the applicable RF compliance level above, the bed should be observed to verify normal operation. If abnormal performance is observed additional measures may be necessary, such as reorienting or relocating the bed.

b Over the frequency range 150kHz to 80MHz, field strengths should be less than 3V/m.

Recommended separation distances between portable and mobile RF communications equipment and the bed

The bed is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the bed can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the bed as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150kHz to 80MHz	80MHz to 800MHz	800MHz to 2.5GHz
	$d = 1.2\sqrt{P}$	$d = 1.2\sqrt{P}$	$d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the power of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80MHz and 800MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.