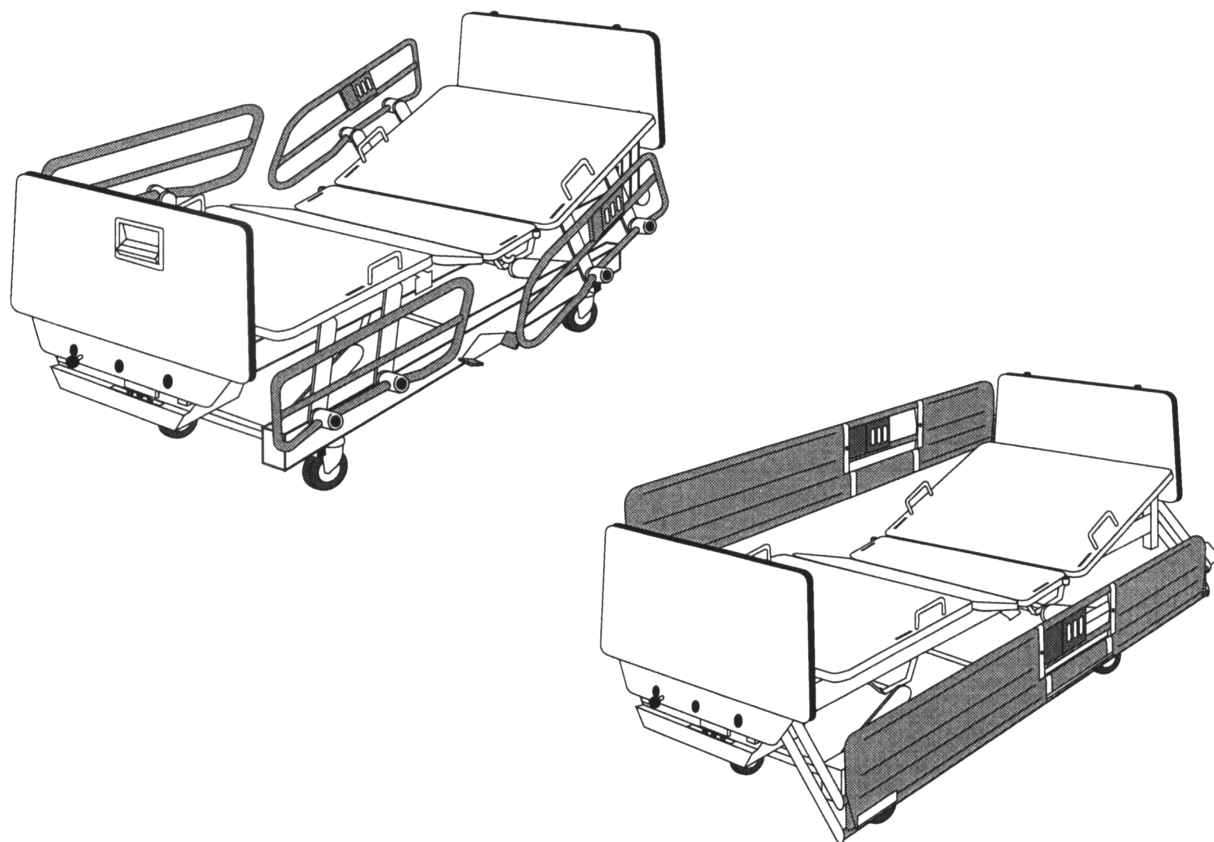


User and Maintenance Guide

ELECTRIC HOSPITAL BED (SERIES FL13E)

Product Numbers for the United States: 325-010-000
325-020-000



Technical Assistance and Parts

1 800 428-5025 (Service in English in Canada)

1 800 361-2040 (Service in French in Canada)

1 800 327-0770 (In the United States)

E-Mail (Service in Canada): service@bertec.strykercorp.com

Manufactured by Stryker Bertec Medical Inc

May 2000
7200-008 R5.0
Printed in Canada

CHAPTER 1 PREPARATION PRIOR TO USE

TECHNICAL SUPPORT	1 - 3
SYMBOLS AND TERMS	1 - 4
WARNINGS	1 - 5
TECHNICAL SPECIFICATIONS	1 - 6
OPERATION	1 - 9

CHAPTER 2 USER GUIDE

BED ELEVATION AND ELEVATION OF SECTIONS OF SLEEPING SURFACE ...	2 - 3
TRENDELENBURG AND REVERSE TRENDELENBURG POSITIONS	2 - 4
SLEEPING SURFACE FOOT SECTION ANGLE	2 - 5
MOVING THE BED	2 - 6
REMOVAL OF HEADBOARD AND FOOTBOARD	2 - 7
OPTIONS	2 - 8
Half-length safety side-rails	2 - 8
Full-length safety side-rails	2 - 9
Safety nets	2 - 10
Nursing control centre	2 - 11
Fixed patient control	2 - 11
Contour positioning	2 - 11
Nurse call	2 - 12
Instant CPR release	2 - 12
Immobilizer legs	2 - 13
ACCESSORIES	2 - 14
Emergency crank handle	2 - 14
Movable patient control	2 - 14
I.V. Rod	2 - 15
Trapeze mounting	2 - 15

CHAPTER 3 MAINTENANCE GUIDE

CLEANING AND MAINTENANCE	3 - 3
OPERATING PROBLEMS	3 - 7
WARRANTY ON PARTS AND LABOUR	3 - 11
PARTS ORDERING	3 - 12

CHAPTER 4 PARTS REPLACEMENT

SLEEPING SURFACE SECTIONS	4 - 3
HALF-LENGTH SAFETY SIDE-RAIL	4 - 4
FULL-LENGTH SAFETY SIDE-RAIL	4 - 5
MOTOR	4 - 7
HEAD SECTION TRANSLATING SCREW	4 - 10
THIGH SECTION TRANSLATING SCREW	4 - 13
INSTANT CPR RELEASE CONTROL CABLE	4 - 16
MICRO-SWITCHES	4 - 18

APPENDICES

CONNECTION DIAGRAM	A - 3
--------------------------	-------

CHAPTER 1 PREPARATION PRIOR TO USE

- 1-3 **Technical Support**
INFORMATION
THANK YOU FOR CHOOSING A BERTEC PRODUCT
- 1-4 **Symbols and Terms**
DEFINITIONS OF SYMBOLS AND TERMS USED IN THIS GUIDE
- 1-5 **Warnings**
MANOEUVRES TO AVOID
RECOMMANDATIONS
- 1-6 **Technical Specifications**
RECOMMENDED USE
MODEL IDENTIFICATION
DESCRIPTION OF MATERIAL
PARTS
STANDARD EQUIPMENT, OPTIONS AND ACCESSORIES
BED POSITIONS
- 1-9 **Operation**
SWITCHING ON POWER
CHECKLIST

This guide contains all necessary information on the safety, maintenance and use of your hospital bed. Hospital staff should be able to refer to it at all times when using and maintaining material.



This guide is an integral part of the product. It is essential that the guide be handed over to the new user should the product be sold or transferred.



DANGER

Improper use of this material can lead to possible accidents. Read this guide attentively before using product. The guide contains important information regarding user safety.

INFORMATION

If you have questions concerning product utilization, please contact our Customer Service representative:

In the United States:

Stryker Medical/Bertec Médical

1 800 327-0770

6300 Sprinkle Road

Kalamazoo, MI 49001-9799

In Canada:

Stryker Medical/Bertec Médical

1 800 428-5025

70, 5e avenue, C.P. 128

L'Islet (Québec) Canada G0R 2C0

THANK YOU FOR CHOOSING A BERTEC PRODUCT

You have just acquired carefully devised equipment developed with your best interests in mind. It has been designed to facilitate your work task and provide users with maximum comfort, safety and well-being.

This product is built to last a long time. It is important that you check it over periodically and, above all, that you make adequate use of it.

Stryker Medical/Bertec Médical afford special attention to product improvement and reserve the right to change specifications without notice.

Symbols and Terms

DEFINITIONS OF SYMBOLS AND TERMS USED IN THIS GUIDE



DANGER

Non-compliance with these instructions could cause injury to patient or care givers: their safety might be in jeopardy.



Refers to operating procedures or care which must be taken to avoid damage to material.



Additional information to improve operating efficiency or to highlight important information.



Instructions on how to raise or lower mobile parts.



Rotation clockwise.



Rotation counterclockwise.

Warnings



DANGER

Never stand between the headboard and head section when the latter is in the up position.

MANOEUVRES TO AVOID



Never attempt to stride over safety side-rail when in fully raised position.

Lower bed frame, if necessary, to facilitate access to bed.



Never attempt to move bed by holding on to safety side-rails.

Move bed by holding on to headboard or footboard.



Never use safety side-rail as a step when in lowered position.

RECOMMENDATIONS



Always ensure that safety side-rails are locked in place when in fully raised position.



Always leave headboard and footboard in place during normal use.

They may be removed in case of an emergency.



Unlock casters or central locking system located at the base of bed before moving it.



Always retract safety-side rails under bed after lowering them.

TO ENSURE SAFETY OF CONFUSED OR AGITATED PATIENTS



Deactivate position commands on patient control.

Use the lockout command located on the nursing control at the foot of bed.



Use removable protective barriers on a bed equipped with half-length safety side-rails.

Warning: In no way do these barriers replace restraining devices.

Side-rails are designed to prevent patients from rolling or falling off bed; they are not designed to restrain a confused or agitated person confined to bed.

Technical Specifications

RECOMMENDED USE

This bed is designed for use in hospitals and residential and extended care centres.

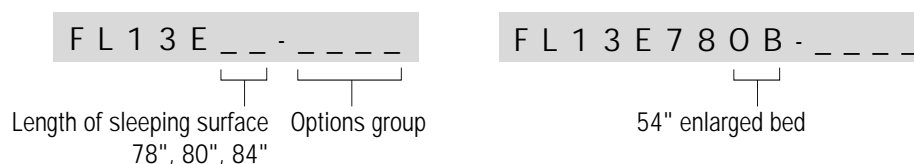
It is recommended in general health care use.



DANGER

Use of electric hospital beds by patients in psychiatric wards should be avoided.

MODEL IDENTIFICATION

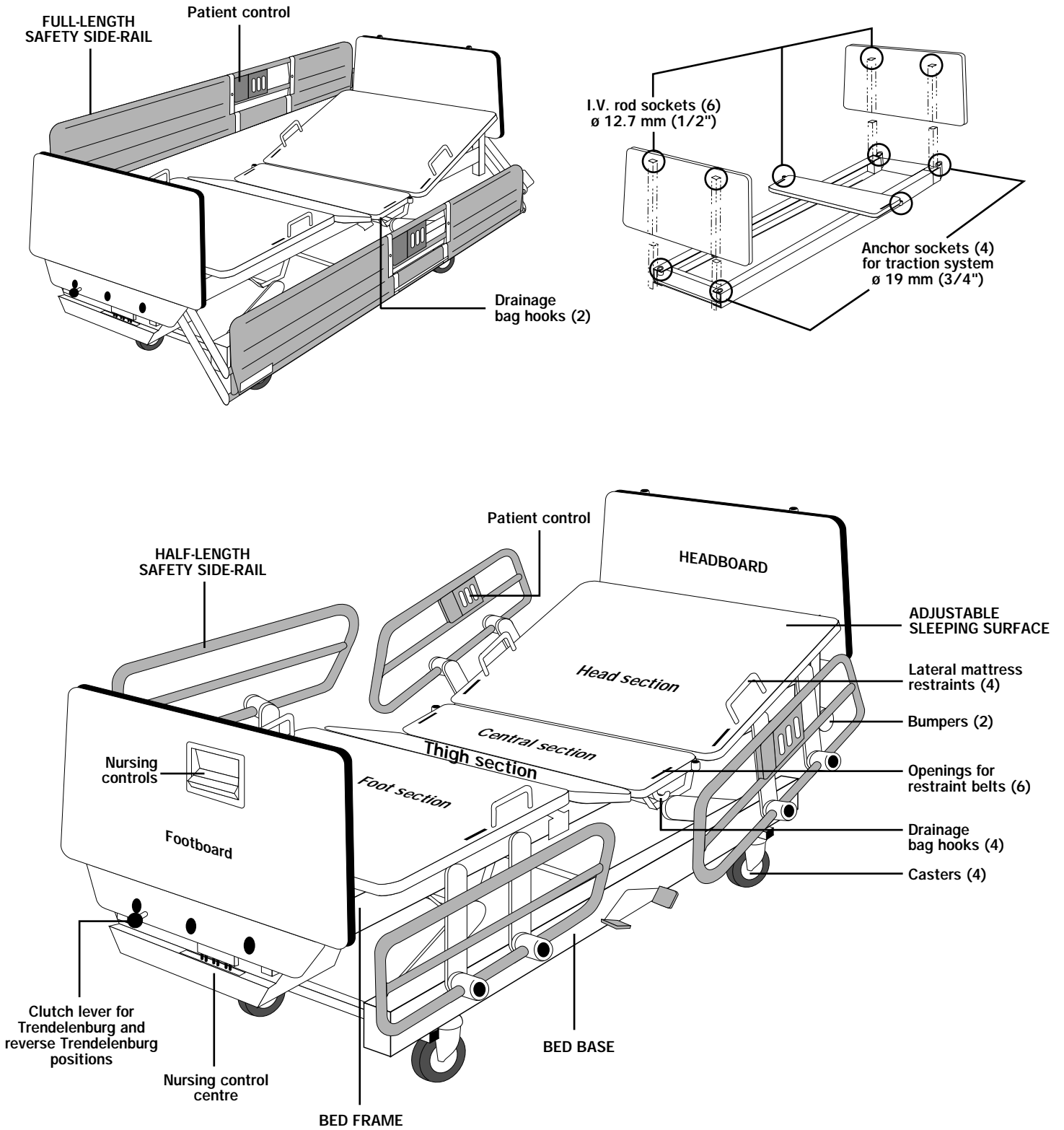


DESCRIPTION OF MATERIAL

MODEL	FL13E78	FL13E78OB	FL13E80	FL13E84
Nominal Length	78"	78"	80"	84"
Commands	Electric	Electric	Electric	Electric
SLEEPING SURFACE				
Minimum height	39.0 cm (15 3/8")	39.0 cm (15 3/8")	39.0 cm (15 3/8")	39.0 cm (15 3/8")
Maximum height	76.8 cm (30 1/4")	76.8 cm (30 1/4")	76.8 cm (30 1/4")	76.8 cm (30 1/4")
Width	91.4 cm (36")	137.2 cm (54")	91.4 cm (36")	91.4 cm (36")
Length	199.4 cm (78 1/2")	199.4 cm (78 1/2")	203.2 cm (80")	213.4 cm (84")
OVERALL BED SIZE				
Length*	222.3 cm (87 1/2")	222.3 cm (87 1/2")	226.0 cm (89")	236.2 cm (93")
Width*	94.1 cm (37 1/16")	140.3 cm (55 1/4")	94.1 cm (37 1/16")	94.1 cm (37 1/16")
Activation	3 motors	3 motors	3 motors	3 motors
Load Capacity	249.5 kg (550 lb.)	249.5 kg (550 lb.)	249.5 kg (550 lb.)	249.5 kg (550 lb.)
ANGLE				
Thigh section	30°	30°	30°	30°
Head section	60°	60°	60°	60°
Trendelenburg	14°	14°	14°	14°
Reverse Trendelenburg	14°	14°	14°	14°
Total Weight*	189 kg (420 lb.)	247 kg (545 lb.)	192 kg (425 lb.)	194 kg (430 lb.)

* Measured with half-length safety side-rails on model FL13E78OB and full-length safety side-rails on all other models.

PARTS



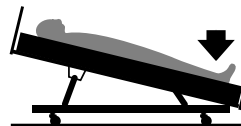
STANDARD EQUIPMENT, OPTIONS ET ACCESSORIES

STANDARD EQUIPMENT	Quantity	OPTIONS
Wall bumpers at head of bed	2	Half-length safety side-rails
Lateral mattress restraints	4	Full-length safety side-rails
Foot end mattress restraint	1	Nursing control centre
Drainage bag hooks	2 or 4	Patient controls
Openings for restraint belts	6	Contour positioning
Anchor for trapeze mounting	1	Nurse call
Trendelenburg position clutch lever	1	Connector for call cord
Anchor sockets for traction system	4	Instant CPR release
I.V. rod sockets	6	Central locking system
Safety nets (full-length safety side-rails)	2	Immobilizer legs
		Telescopic bumpers
		ACCESSORIES
		I.V. rods
		Emergency crank handle
		Trapeze mounting

BED POSITIONS



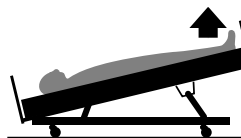
HEAD SECTION ELEVATION



REVERSE TRENDELENBURG POSITION



THIGH SECTION ELEVATION



TRENDELENBURG POSITION



CONTOUR POSITIONING (OPTIONAL)



VASCULAR POSITION



CARDIAC CHAIR POSITION

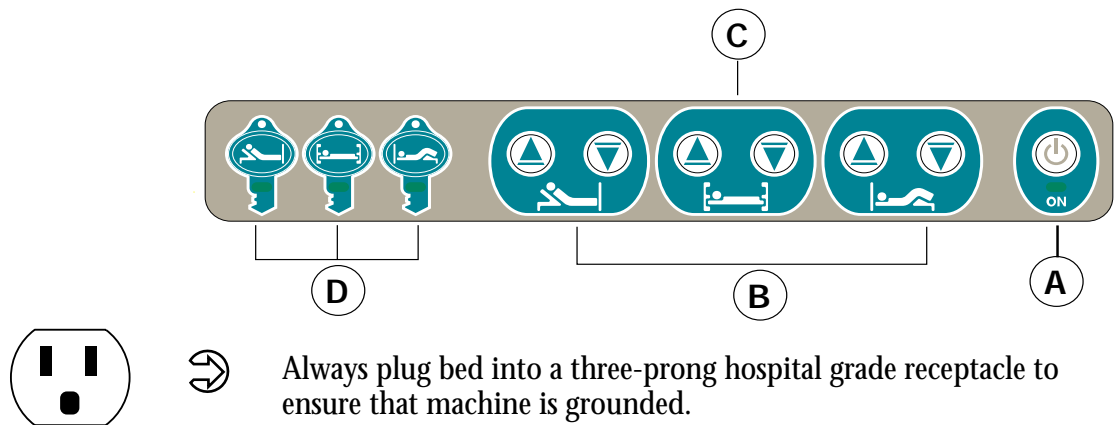
Operation

Hospital beds must be properly installed and their operation checked before they are put in service.

It is imperative that a visual inspection of material be conducted and bed operation checked to ensure that no damage occurred during shipping.

SWITCHING ON POWER

1. Plug the bed into a 120V-60 Hz electric receptacle.
2. Place main switch (A) in the "ON" position.



CHECKLIST

BED MOBILITY

- Lock casters to make sure that they are working properly.

Refer to Moving the Bed section, page 2-6.

SLEEPING SURFACE POSITIONS

- Raise and lower the head and thigh sections (B). Make sure they operate smoothly and return to a horizontal position.

Refer to Bed Elevation and Elevation of Sections of Sleeping Surface section, page 2-3.

HEIGHT OF SLEEPING SECTION

- Raise bed to its highest position and lower it to its intermediate position. Movement should be smooth.

Refer to Bed Elevation and Elevation of Sections of Sleeping Surface section, page 2-3.

TRENDELENBURG POSITIONS

- Make sure that the mechanism setting Trendelenburg positions is operating correctly.

Refer to Trendelenburg and Reverse Trendelenburg Positions section, page 2-4.

LOCKING SAFETY SIDE-RAILS

- **Make sure that safety side-rails are latched and locked in fully raised position.**

Refer to Half-Length Safety Side-Rails section (page 2-8) or Full-Length Safety Side-Rails section (page 2-9).

UNLOCKING SAFETY SIDE-RAILS

- **Make sure that latching mechanism levers work correctly and return to their proper position after unlatching.**

Refer to Half-Length Safety Side-Rails section (page 2-8) or Full-Length Safety Side-Rails section (page 2-9).

PATIENT CONTROLS (optional)

- **Place selective lock-out commands (D) in “On” position and make sure patient controls operate properly.**

Refer to Fixed Patient Control section (page 2-11) or Movable Patient Control section (page 2-14).

INSTANT CPR RELEASE (optional)

- **If your bed is equipped with this release, make sure that it operates properly and mechanism resets automatically.**

Refer to Instant CPR Release section, page 2-12.

CHAPTER 2 USER GUIDE

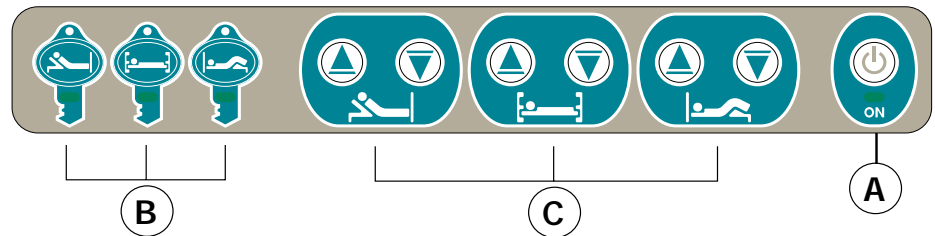
- 2-3 Bed Elevation and Elevation of Sections of Sleeping Surface
 - NURSING CONTROL CENTRE
- 2-4 Trendelenburg and Reverse Trendelenburg Positions
 - TRENDELENBURG POSITION
 - REVERSE TRENDELENBURG POSITION
- 2-5 Sleeping Surface Foot Section Angle
- 2-6 Moving the Bed
 - UNIVERSAL BASE WITH CENTRAL LOCKING SYSTEM
 - BASE WITH TOTAL BRAKING CASTERS SYSTEM
 - BASE WITH DIRECTIONAL STEERING AND TOTAL BRAKING CASTERS SYSTEM
- 2-7 Removal of Headboard and Footboard
- 2-8 Options
 - HALF-LENGTH SAFETY SIDE-RAILS
 - FULL-LENGTH SAFETY SIDE-RAILS
 - SAFETY NETS
 - NURSING CONTROL CENTRE
 - FIXED PATIENT CONTROL
 - CONTOUR POSITIONING
 - NURSE CALL
 - INSTANT CPR RELEASE
 - IMMOBILIZER LEGS
- 2-14 Accessories
 - EMERGENCY CRANK HANDLE
 - MOVABLE PATIENT CONTROL
 - I.V. ROD
 - TRAPEZE MOUNTING

Bed Elevation and Elevation of Sections of Sleeping Surface

NURSING CONTROL CENTRE

The nursing control centre at the foot of the bed allows care giver to:

- completely deactivate bed (A);
- turn patient controls on or off (B);
- set height of sleeping surface and position of head and thigh sections (C).



➡ When the main switch (A) is turned off, all patient control commands automatically reset to the “OFF” position.



TO RAISE OR LOWER SLEEPING SURFACE

Three pictograms identify elevation controls:



HEAD SECTION POSITION



ELEVATION OF SLEEPING SURFACE



THIGH SECTION POSITION

- Press arrow for desired elevation of bed or movement of either section of sleeping surface.

➡ An emergency crank handle (optional) may be used to set sleeping surface positions in case of power failure.

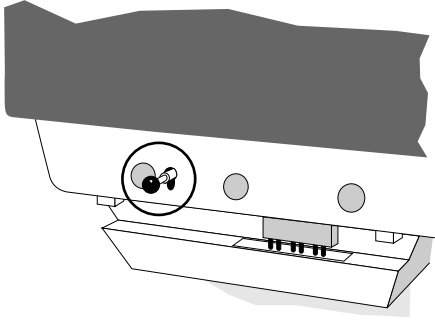
Refer to Emergency Crank Handle section, page 2-14.

➡ A thermal protection switch automatically cuts power to motors in case of excessive use.

In order to maintain them in good working order, motors are equipped with a thermal protection switch that automatically cuts power in case of excessive use.

Should a motor stop running under these circumstances, it will run again after you let it cool off.

Trendelenburg and Reverse Trendelenburg Positions

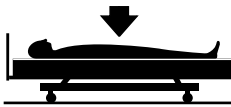


Trendelenburg and Reverse Trendelenburg Positions are achieved through use of a clutch lever in conjunction with bed elevation commands. The head of the bed will be in a lowered position (Trendelenburg) or raised position (Reverse Trendelenburg).

Sleeping surface incline can reach an angle of 14°.

If bed angle is less than the 14° maximum, sleeping surface may be raised or lowered to maximum range while preserving bed angle.

TRENDELENBURG POSITION



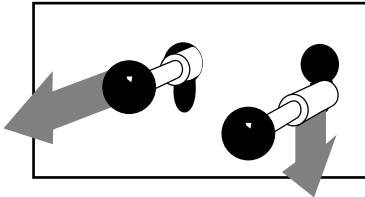
Angle indicators are located on both sides of the bed. To set angle, lower sleeping surface to minimum height before pulling clutch lever out.

1.

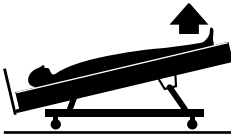


Lower bed.

2.



Pull lever towards you and slightly down.
A stricture in the slot will maintain lever position.

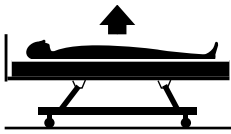


3.



Raise bed.

REVERSE TRENDELENBURG POSITION



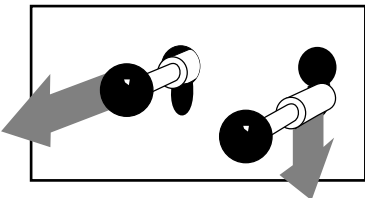
Angle indicators are located on both sides of the bed. To set angle, lower sleeping surface to minimum height before pulling clutch lever out.

1.

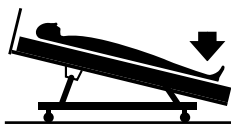


Raise bed.

2.



Pull lever towards you and slightly down.
A stricture in the slot will maintain lever position.



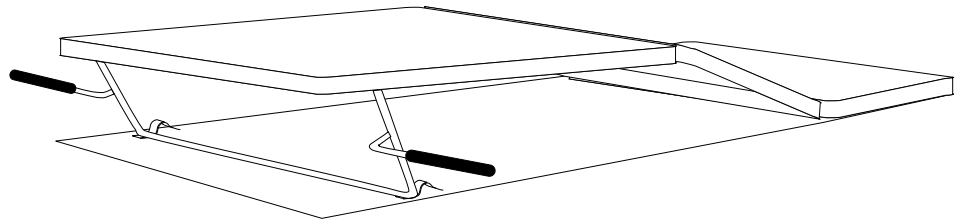
3.



Lower bed.

Sleeping Surface Foot Section Angle

A rod located under the foot section of the sleeping section allows this section to be set in horizontal position.



To change the angle of the foot section, it is recommended that the care giver stand at an end corner facing the head of bed.



DANGER

Precautions must be taken before lifting foot section.

The following steps must be followed when lifting the foot section, considering the weight of the mattress resting on it.

1. Stand as close as possible to the corner of the bed.
2. Keep back straight.
3. Use arm strength only, or bend knees and straighten legs to lift mattress.



RAISING THE FOOT SECTION

1. Hold on to mattress end firmly.
2. Lift foot section and place rod in safety catches attached to bed frame.

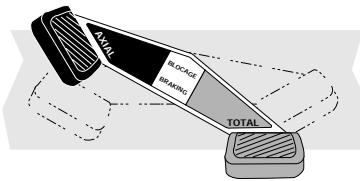


It is always possible to change the angle of the thigh section at a later time, no matter what position the foot section is in.

Moving the Bed

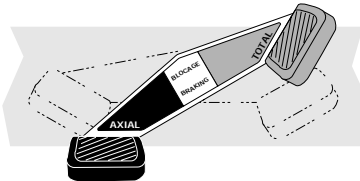
BASE WITH CENTRAL LOCKING SYSTEM

To move a bed equipped with a central locking system, use brake pedal located on bed base.



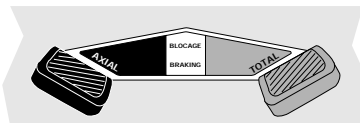
To completely immobilize bed

- Depress and engage the "TOTAL" red side of the brake pedal. Casters will no longer pivot or roll.



To move bed in a straight line

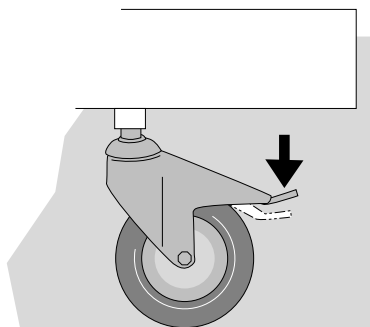
- Depress and engage the green "AXIAL" side of the brake pedal. One caster will no longer pivot, but all casters will roll.



For full bed mobility

- Bring pedal to horizontal position to free all 4 casters.

BASE WITH TOTAL BRAKING CASTERS SYSTEM

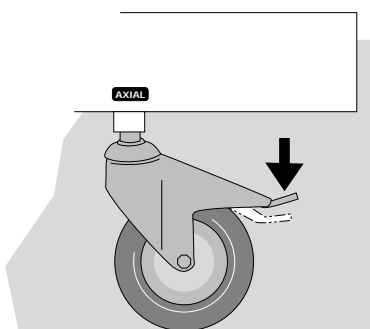


To immobilize bed

- Individually lock head end and foot end casters (identified by the word "ON" on certain models of casters).

Casters will no longer roll and prevent all bed movement.

BASE WITH DIRECTIONAL STEERING AND TOTAL BRAKING CASTERS SYSTEM



To move bed in a straight line

- Engage the caster equipped with a directional brake (identified on bed base by an "AXIAL" sticker).

Caster will no longer pivot, but will roll.



DANGER

Always lock casters once the bed has reached its destination.

Removal of Headboard and Footboard

TO REMOVE BOARDS

- Lift boards to remove their braces from bed uprights.

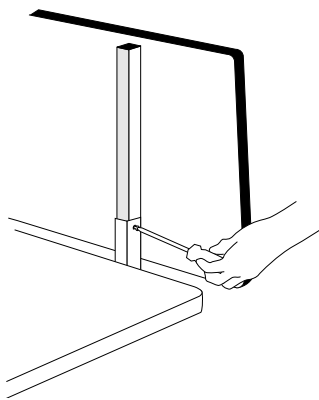
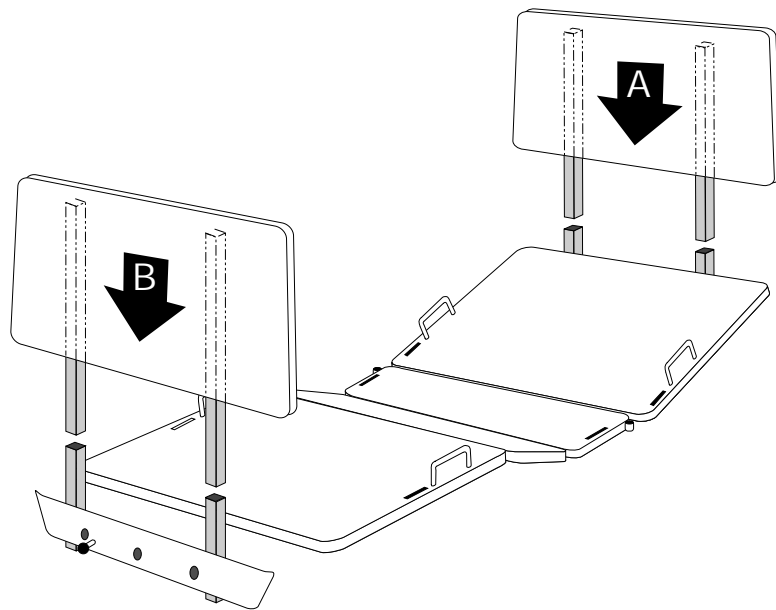
TO REPLACE BOARDS

Headboard

The headboard brace must face the outside of the bed (A).

Footboard

The footboard brace must face the inside of the bed (B).



PERMANENT INSTALLATION

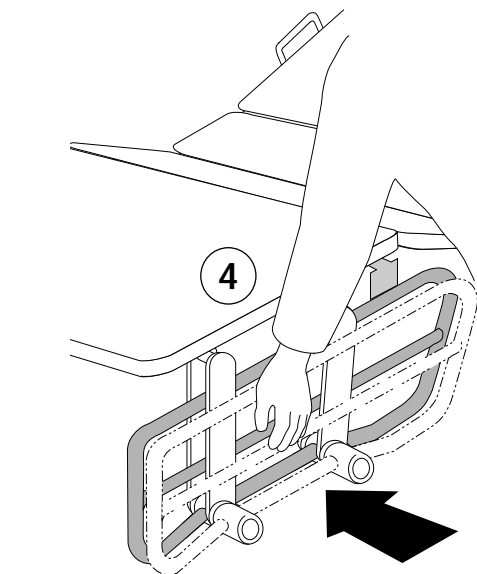
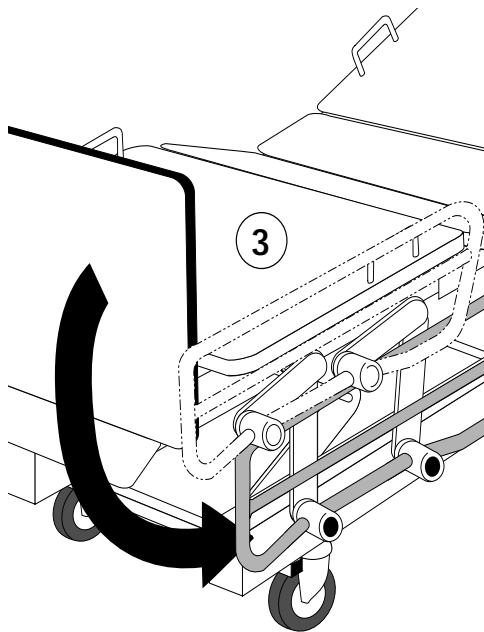
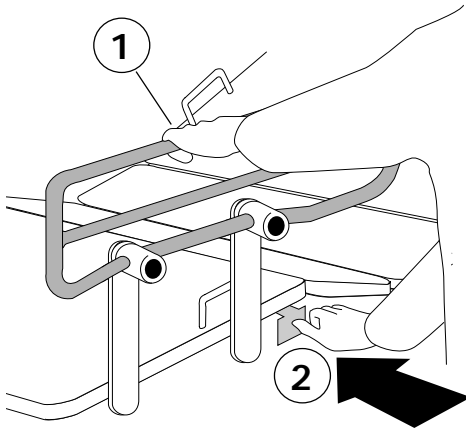
- If required, permanently install boards by inserting a #8 x 3/8" metal screw in the hole located on the side of the bed upright.
- ↻ The screw must be taken out to remove board at a later date.
- ↻ Do not permanently install boards on a bed used by a patient requiring resuscitation or any other emergency treatment.

Options

HALF-LENGTH SAFETY SIDE-RAILS

A locking system securely maintains half-length safety side-rails in the high position.

A lever on the latching mechanism releases side-rail.



TO LOWER A SIDE-RAIL

1. Grasp the upper rail of the side-rail.
2. Depress the latch lever.
3. Rotate the side-rail:
 - towards the foot of the bed for side-rails located at foot end;
 - towards the head of the bed for side-rails located at head end.A sticker indicates which direction to rotate each safety side-rail.
4. Once the side-rail is in low position, push to its retracted position under the sleeping surface.



TO RAISE A SIDE-RAIL TO THE HIGH POSITION

- Grasp the upper rail of the side-rail.
- Pull it from its retracted position towards you.
- Rotate towards the outside of the bed. It will automatically latch in the high position.



DANGER

Make sure that side-rail is locked in its raised position.



Never hit sides of bed on walls or furniture, particularly during transportation.

Wall bumpers located at the head of the bed will not prevent damage to side-rails caused by blows to side of bed.

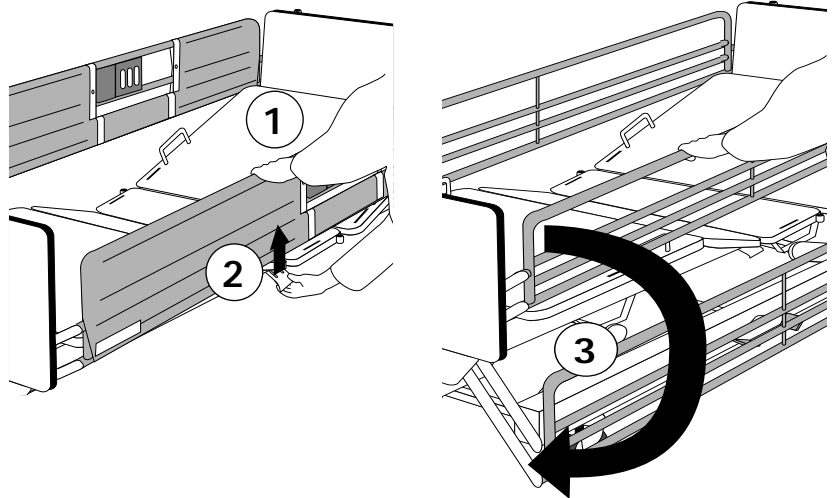
FULL-LENGTH SAFETY SIDE-RAILS

A locking system securely maintains half-length safety side-rails in the high position. A lever placed at the centre of the bed frame (under the sleeping surface) releases side-rail.



TO LOWER A SIDE-RAIL

1. Grasp the upper rail of the side-rail at its centre.
2. Use your other hand to pull the latch level. Lift side-rail slightly to release latching mechanism.
3. Pivot side-rail until it reaches its low position. Side-rail will automatically retract to storage position under sleeping surface.



TO RAISE A SIDE-RAIL TO THE HIGH POSITION

- Grasp the upper rail of the side-rail at its centre and lift until it locks into position.



DANGER

Make sure that side-rail is locked in raised position at both ends of bed.

- To ensure that side-rail is locked in position, push on the side-rail at the head end of bed and then at the foot end.



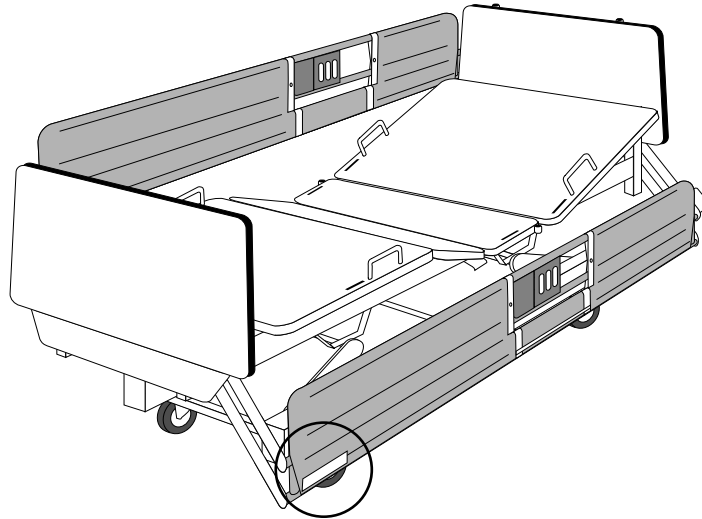
Never hit sides of bed on walls or furniture, particularly during transportation.

Wall bumpers located at the head of the bed will not prevent damage to side-rails caused by blows to side of bed.

SAFETY NETS

FULL-LENGTH SAFETY SIDE-RAILS

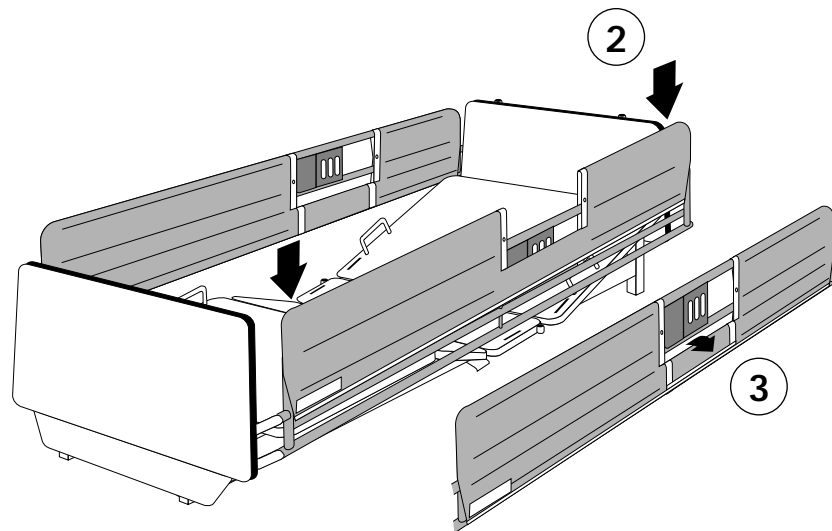
Removable safety nets may be installed on full-length safety side-rails.



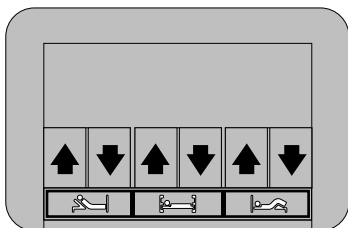
- Labels identifying the right and left safety net should be visible outside the bed, at the foot end.

TO INSTALL SAFETY NETS

1. Raise the safety side-rail to the high position.
2. Slide the safety net from top to bottom onto the side-rail and zip zipper underneath.
3. Fold centre flap of the net around side-rail bars and zip in place. Snap the two sides of the safety net together.



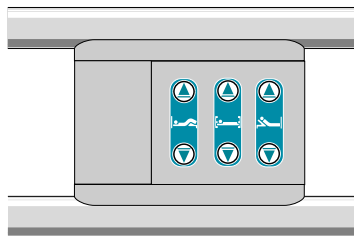
NURSING CONTROL CENTRE



An optional electric control located on the footboard allows care givers to adjust height of sleeping surface and modify angles of head and thigh sections.

This control activates the nursing control centre's bed elevation commands when the footboard is in place. When the footboard is removed, use commands on the nursing control centre located on bed frame.

FIXED PATIENT CONTROL

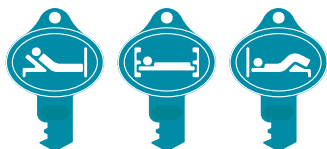


FIXED CONTROL ON HALF-LENGTH SAFETY SIDE-RAIL

Optional patient controls installed on safety side-rails allow patient or care giver to adjust sleeping surface from the head of bed.

↑↓ TO RAISE OR LOWER SLEEPING SURFACE

- Press the arrow corresponding to desired adjustment of sleeping surface or each section.



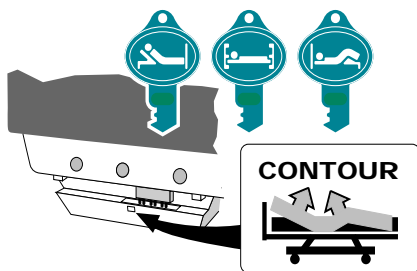
➞ The patient selective lock-out on the nursing control centre located at the foot of the bed must be in the "ON" position for each patient option on patient control.

MOVABLE CONTROL ON HALF-LENGTH SAFETY SIDE-RAIL

Refer to Accessories section, page 2-14.

➞ This control requires a permanent support device offered as an option. The support device must be installed when bed is acquired or following the purchase, at a later date, of a half-length safety side-rail for installation at the head of bed.

CONTOUR POSITIONING



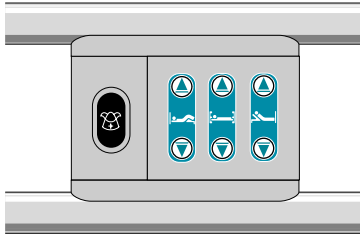
Contour positioning automatically controls the angle of the thigh section in relation to the angle of the head section.

TO ACTIVATE THE CONTOUR POSITIONING MECHANISM

- Set the patient control foot section switch located at the foot of the bed to the "ON" position.

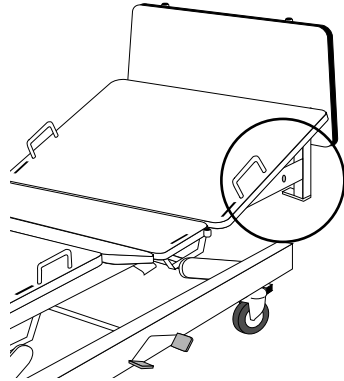
➞ The contour positioning mechanism is identified by a sticker located near controls on beds equipped with this option.

NURSE CALL



NURSE CALL

A call button on the safety side-rail allows a patient to summon a nurse from the monitoring station.



NURSE CALL WITH CONNECTOR FOR CALL CORD

With this option, a call cord can be connected to the bed side and placed within reach of a patient who is not in bed. A call button on the safety side-rail allows a patient to summon a nurse from the monitoring station.

INSTANT CPR RELEASE

This emergency feature is installed under the head section to allow for an immediate return of head section to a horizontal position if CPR must be initiated.

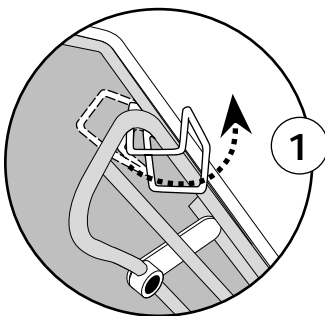
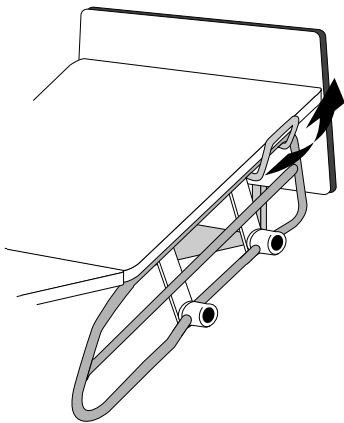
The mechanism is located on each side of the bed.



CAUTION

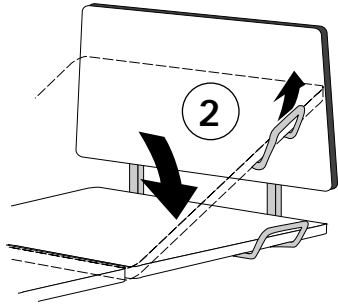
Use in emergency situations only.

If the safety side-rail is in low position, push the rail under the head section before using the CPR.



TO IMMEDIATELY LOWER HEAD SECTION

1. Grasp the handle located at the corner of the head section under the sleeping surface. Pull handle upwards and completely out.



2. Support the head section to avoid an abrupt drop to a horizontal position.



The thigh section of the sleeping surface will automatically descend to a horizontal position.



Afterwards, the CPR release will reset automatically.

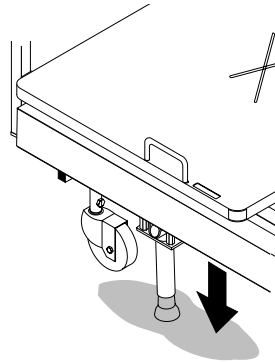
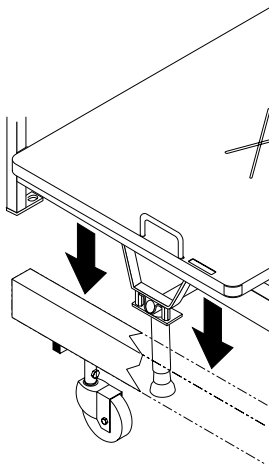


If a power failure occurs before the CPR release resets, the motor controlling head section angles will automatically turn on when power is restored to reset the release.

IMMOBILIZER LEGS

To obtain complete immobility and stability in an emergency situation:

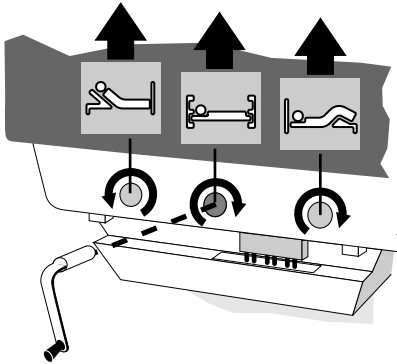
- Lower bed to lowest possible position to clear casters from floor level and ensure that the bed is supported by the immobilizer legs.



Care should be taken to make sure that casters clear floor level before beginning any type of operation.

EMERGENCY CRANK HANDLE

An emergency crank handle allows care giver to adjust sleeping surface positions in the event of a power failure. It can be stored on the right side of bed frame near the foot of bed.



TO USE EMERGENCY CRANK HANDLE

- Insert crank handle into the appropriate aperture located at the foot of bed:

Bed elevation: Centre aperture

Angle of head section: Left aperture

Angle of thigh section: Right aperture



Exert pressure on crank handle while turning to compress spring located on adaptor.



TO RAISE BED OR THIGH SECTION



Turn crank handle clockwise.



TO RAISE HEAD SECTION



Turn crank handle counterclockwise.



CAUTION

After adjusting sleeping surface to desired position, remove crank handle and store in bed frame.

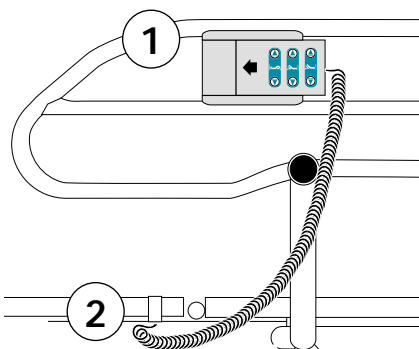
MOVABLE PATIENT CONTROL

Optional patient controls installed on safety side-rails allow patient or care giver to adjust sleeping surface from the head of bed.



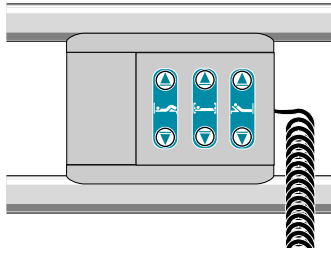
This control may only be used if the optional support device is among bed options in place.

CONTROL ON HALF-LENGTH OR FULL-LENGTH SAFETY SIDE-RAILS



TO INSTALL CONTROL

1. Slide the control onto the support device located on the safety side-rail.
2. Plug in control making sure wire hangs along the exterior side of the safety side rail: locate the receptacle under the central section of the sleeping surface, align prongs with holes and screw plug onto socket.

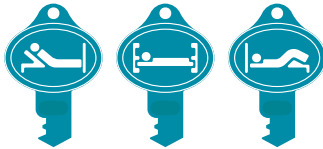


TO RAISE OR LOWER SLEEPING SURFACE

- Press arrow corresponding to adjustment desired for each section or entire sleeping surface.

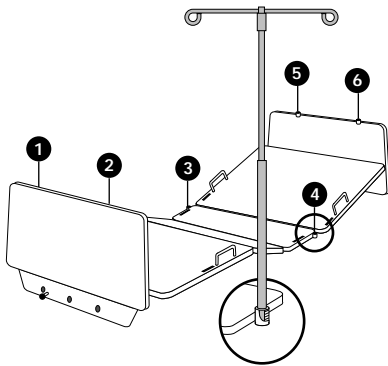
FIXED CONTROL ON HALF-LENGTH SAFETY SIDE-RAIL

Refer to Options section, page 2-11.



The patient selective lock-out on the nursing control centre located at the foot of the bed must be in the “ON” position for each patient option on patient control.

I.V. ROD



Insert rod into one of six rod sockets found on headboard, footboard or central section of sleeping surface.

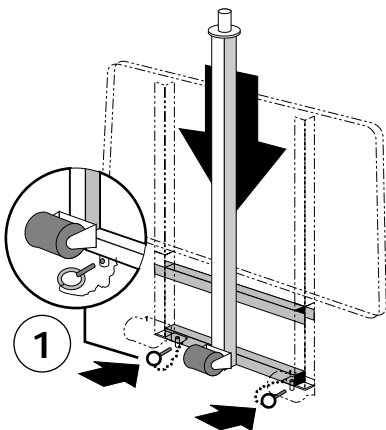
Four sockets located on the bed frame and used with a traction system (ø 19 mm or 3/4") may also be employed.

TRAPEZE MOUNTING

The trapeze mounting acts as a fulcrum for a patient raising himself up using arm pull.

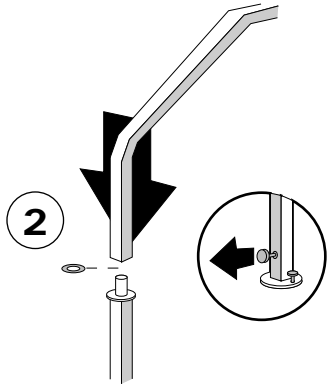
The mounting features a lower fixed section, an upper movable section and a trapeze.

In use, the upper section is centered over the patient. The mounting may be stored to one or the other side of bed between uses.

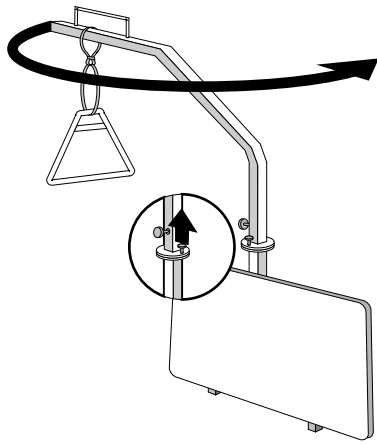


INSTALLATION OF MOUNTING

1. Insert fixed section.
IMPORTANT: slide the 2 stop pins into tenons.



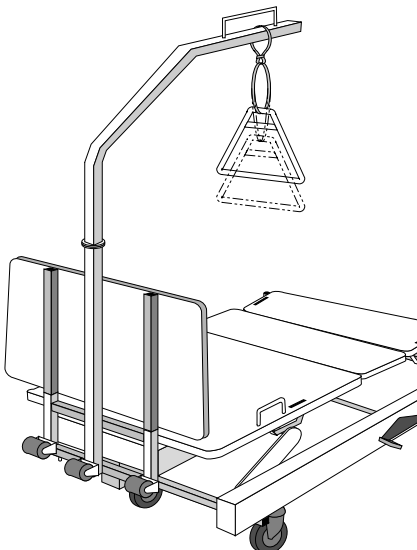
2. Place nylon washer on fixed section and insert movable section into fixed section by pulling on horizontal plunger blocking part in place.



PIVOT ADJUSTMENT

The vertical plunger located on mounting locks it in place.

- Pull on plunger and pivot mounting until plunger blocks movement.



TRAPEZE HEIGHT ADJUSTMENT

Adjust trapeze height by lengthening or shortening its strap.

- ⚠ Make sure trapeze straps are secure before completing adjustment.

- ⚠ **CAUTION**
Do not exert more than 175 lb. of traction on trapeze.
Do not use trapeze as a patient lift.

- ↻ The trapeze may be stored to the side between uses.

CHAPTER 3 MAINTENANCE GUIDE

3-3 Cleaning and Maintenance

- CLEANING
- MAINTENANCE
- BOLTING
- LUBRICATION
- ROUTINE INSPECTION

3-7 Operating Problems

- CHECK LIST
- ADJUSTMENTS

3-11 Warranty on Parts and Labour

- DURATION AND STIPULATIONS

3-12 Parts Ordering



- PARTS ORDERING PROCEDURE

Cleaning and Maintenance

CLEANING

Surfaces should be cleaned regularly.

Use a soft terry cloth and a quaternary ammonium compound diluted in water.

-  Wipe cleaned surfaces dry to avoid any buildup of cleaning solution.
-  Do not clean sliding parts inside base of bed. They need a film of grease to ensure proper operation.

MAINTENANCE

BOLTING

Inspect all nuts and bolts once a year to ensure proper operation of mobile parts and solidity of fixed parts.

1. Properly retighten all nuts and bolts on fixed parts.
2. Tighten nuts and bolts of mobile parts just enough to eliminate excessive free play.

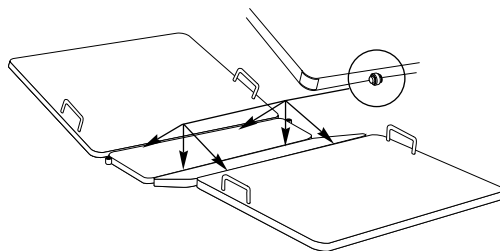
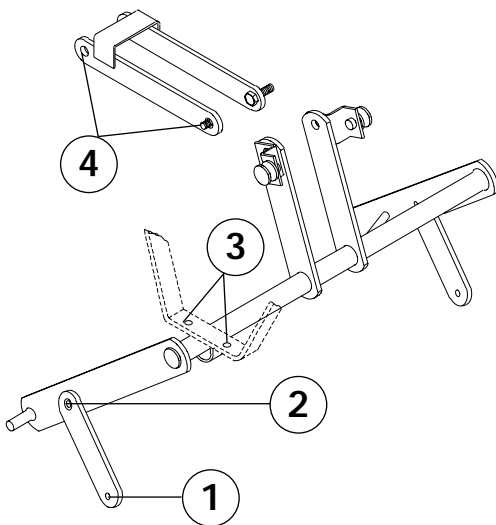
HI-LO LEVERS

Check for tightness of following parts on levers.

1. Stabilizer screws
2. Stabilizer screws
3. Hi-Lo lever clamp bolts
4. Hi-Lo harness bolts

SLEEPING SURFACE

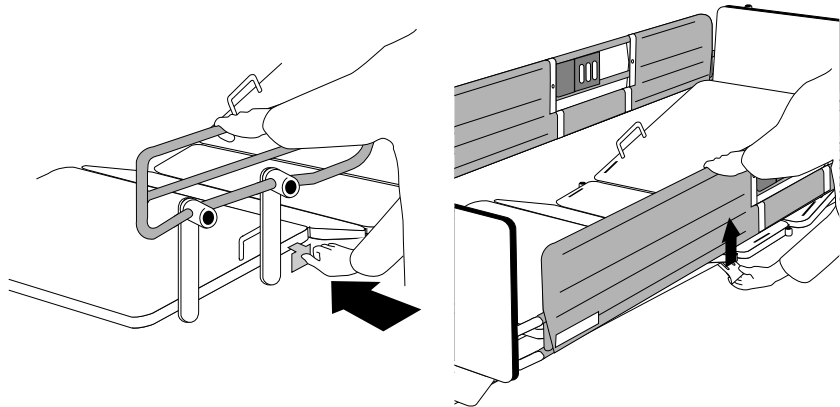
Check tightness of hinges connecting sleeping surface sections.



SAFETY SIDE-RAILS

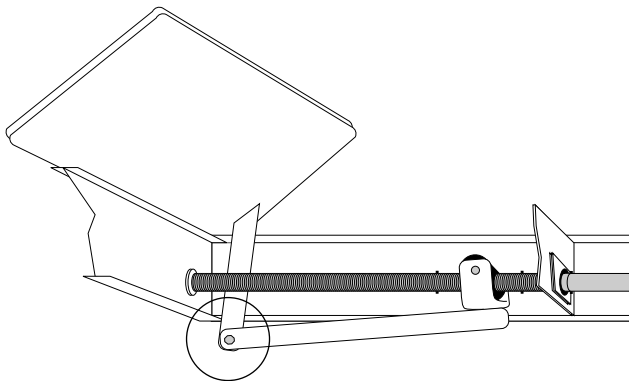
Check locking system on each safety side-rail.

1. In locked position, the side-rail must remain totally immobile and offer solid support.
2. The side-rail must drop only when lever is used to release and lower it.

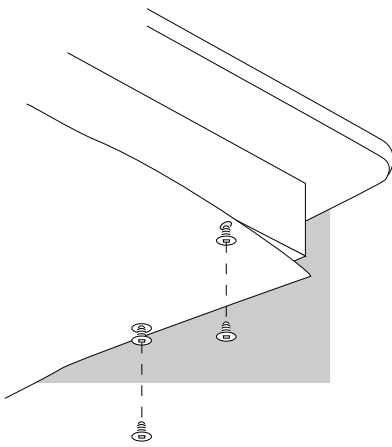


ACME NUT FORKS

Check tightness of shoulder screws and bolts connecting ACME nut forks to sleeping surface head and foot section levers.



LUBRICATION



Lubrication must be done on a yearly basis.

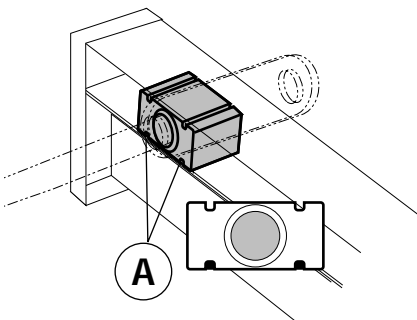
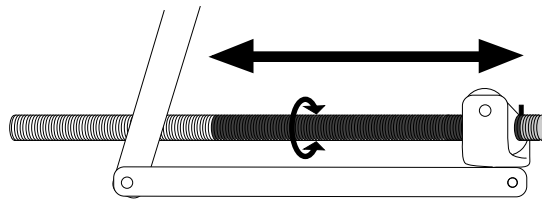
No dismounting is required to lubricate mechanisms. Simply remove protective cover for access to underside of bed.

Lubricate all mobile parts of bed as needed: pivot points, sliding contact surfaces, etc.

➞ Use a synthetic teflon lubricant available at Bertec Médical's Parts Department.

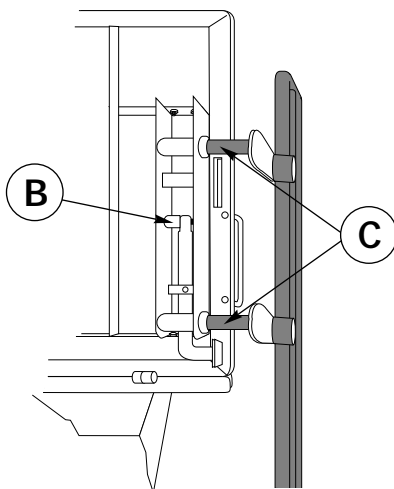
TRANSLATING SCREWS

1. Wipe all translating screws with a clean dry cloth.
2. Grease the thread the ACME nut moves over, as needed. Activate mechanism to spread grease over entire thread.



NYLON SLIDERS

Fill holes (A) on lower side of nylon sliders to ensure an extra supply of grease.

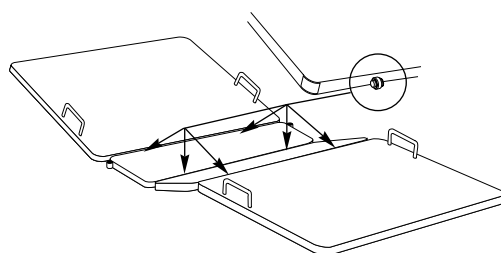


HALF-LENGTH SAFETY SIDE-RAILS

Lightly lubricate the plunger (B) and shafts (C).

SLEEPING SURFACE

Lightly lubricate hinges connecting sleeping surface sections.



ROUTINE INSPECTION

ELECTRIC CONTROL COMMANDS

REPLACE CONTROLS THAT APPEAR DAMAGED THROUGH USE.

Replace any printed circuit showing signs of corrosion or grime.

CASTERS

Check mechanism operation periodically.

Check proper operation of locking system, casters and transmission bars. Inspect for premature wear. Remove accumulated grime.

Clean caster, adjust brake and transmission bars or replace caster if it shows signs of wear or excessive use.

SAFETY SIDE-RAILS

Check side-rail operation periodically.

Adjust side-rails so they pivot easily and latch in position immediately.

Operating Problems

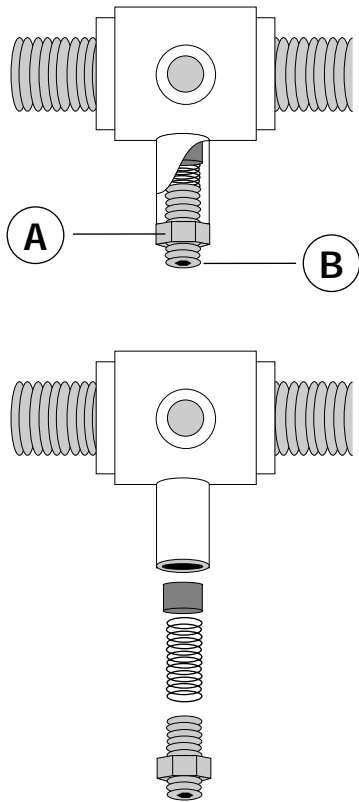
CHECKLIST

PROBLEM	POSSIBLE CAUSE	SOLUTION
Bed control commands do not work.	The wall receptacle to which the bed is connected is defective.	Check wall receptacle electrical connections.
	The bed is unplugged.	Plug in bed.
	The electric cord is severed.	Unplug bed and call a qualified technician.
	The electric cord is not connected or is improperly connected to the PC board.	Unplug bed and call a qualified technician.
	The PC board or nursing control centre membrane is defective.	Unplug bed and have a qualified technician replace the part.
The bed fails to respond or responds incorrectly to nursing control commands activated at foot of bed.	The control command membrane is defective.	Unplug bed and have a qualified technician replace the part.
	The connection between the membrane and PC board is faulty.	Unplug bed and have a qualified technician repair the connection.
	The motors are not connected or are improperly connected to the PC board.	Unplug bed and have a qualified technician repair the connection. Check wiring against connection diagram found in appendix.
	The PC board is defective.	Unplug bed and have a qualified technician replace the part.
	The instant CPR release mechanism is improperly reset or is defective.	Have a qualified technician carry out repairs.
Patient control commands work improperly or not at all.	One or more motors are defective.	Unplug bed and have a qualified technician replace the part.
	Patient selective lock-out commands are in the "OFF" position.	Place patient selective lock-out commands located at the foot of the bed in the "ON" position.
	The patient control is not connected to the bed.	Plug patient control into outlet located under the central section of the sleeping surface.
	The patient control connection to the PC board is faulty.	Have a qualified technician rewire connections.
Bed runs by itself.	The patient control or PC board is defective.	Have a qualified technician replace parts.
	Control commands or PC board are defective.	Unplug bed and have a qualified technician replace parts.
A running motor stops suddenly.	The automatic thermal protection switch has turned motor off after intensive use.	Let motor cool off.

Operating Problems

PROBLEM	POSSIBLE CAUSE	SOLUTION
The head section fails to lock automatically and the foot section does not return to a horizontal position following the use of the instant CPR release.	Micro-switches detecting sleeping surface movement are defective or connections are faulty.	Call a qualified technician.
	The PC board is defective.	Have a qualified technician replace the part.
Contour positioning operates incorrectly. Head and foot sections of sleeping surface are out of synchronization.	The contour positioning mechanism is not activated.	Set patient control command foot section switch to the "ON" position. Refer to Contour Positioning section, page 2-10, for further information.
	Micro-switches detecting relative positions of sleeping surface sections are defective or improperly connected.	Unplug bed and call a qualified technician.
	The PC board is defective.	Unplug bed and have a qualified technician replace the part.
Brakes do not work when locking system is locked. The directional steering caster is inoperative when unlocked.	Mechanisms are dirty or improperly adjusted.	Clean caster and adjust brake and transmission bars.
	One or more casters are damaged.	Replace casters showing signs of wear or excessive use.
Safety side-rails jam, do not lock in high position or are difficult to latch.	Mechanisms are improperly adjusted.	Check bolting and adjust side-rails for smooth operation.
When using the central motor to raise or lower bed, only the foot of bed responds; the head does not.	Slip clutch is improperly adjusted.	Adjust the clutch. Refer to instructions on adjustment, page 3-9.
Trendelenburg and reverse Trendelenburg positions are difficult to obtain.	The clutch rod nuts are improperly adjusted.	Adjust clutch rod nuts. Refer to instructions on adjustment, page 3-10.

ADJUSTMENTS

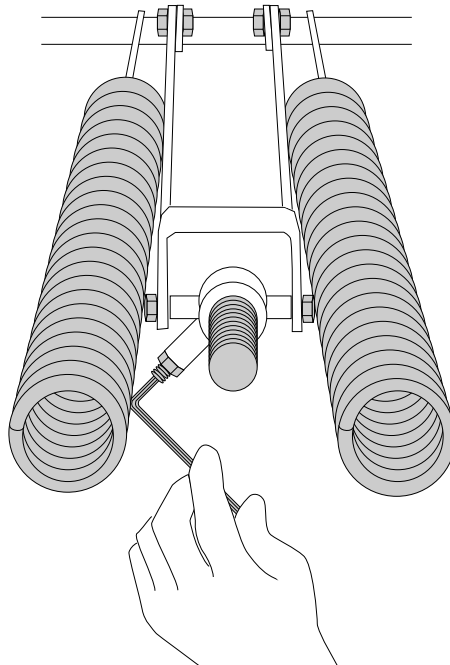


PROBLEM ENCOUNTERED

When using central motor to raise or lower bed, only the foot of bed responds; the head does not.

Solution: adjust the slip clutch.

1. Remove the protective cover under the sleeping surface head section. Locate the slip clutch on the Hi-Lo screw.
2. Loosen jam nut (A).
3. Use a 3/16 Allen key and tighten nut (B) one quarter of a turn.
4. Check to see how mechanism works and retighten nut (B) if necessary.
5. Tighten jam nut (A).

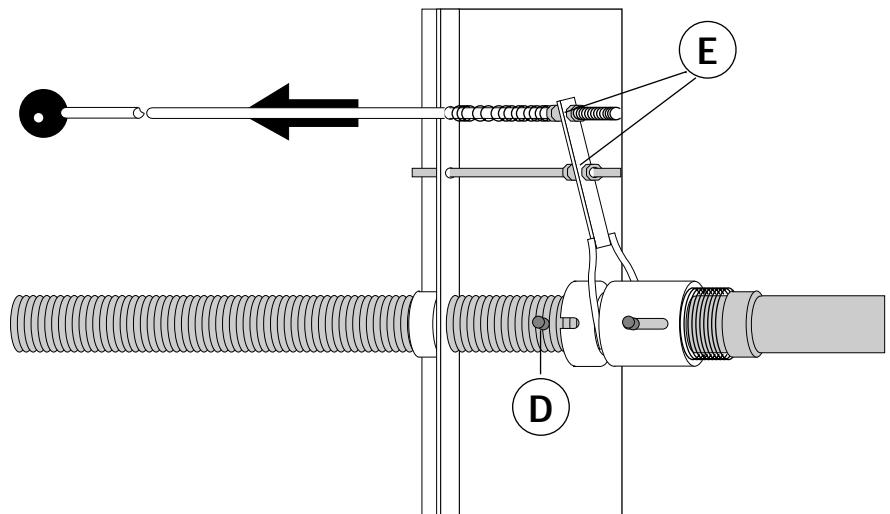
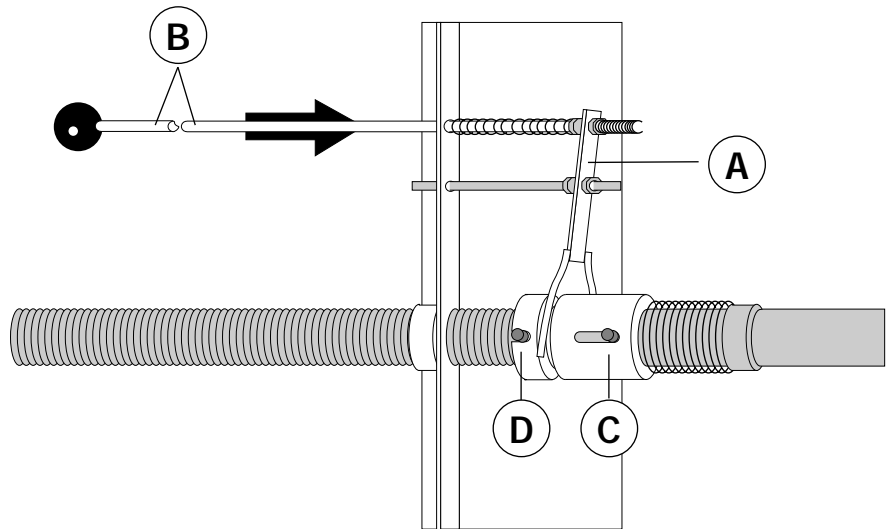


PROBLEM ENCOUNTERED:

Trendelenburg and reverse Trendelenburg positions obtained with difficulty.

Solution: adjust clutch rod nuts.

1. In the middle of the bed, locate fork (A) connecting clutch rod (B) to clutch coupling (C).



2. Adjust position of nuts (E) to allow fork to move freely, as fork must push back clutch coupling to free spring pin (D).

Warranty on Parts and Labour

DURATION AND STIPULATIONS

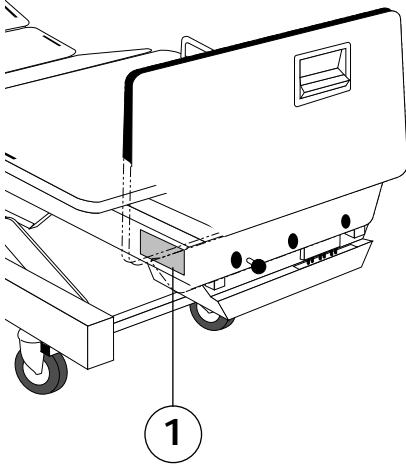
All Bertec products are guaranteed against material or manufacturing defects, improper operation of mechanisms or breakage during normal use of material.

For Questions regarding Warranty please contact our technical support at :

Stryker Medical/Bertec Médical
1 800 428-5025
70, 5e avenue, C.P. 128
L'Islet (Québec) Canada G0R 2C0

PARTS ORDERING PROCEDURE

Some parts may need to be replaced following an accident or repeated misuse. To properly identify and order parts to be replaced, please observe the following procedure:



1. Once you have established the nature of the problem, note equipment model and serial number appearing on the side of the bed frame at the foot end.
2. BE SURE TO WRITE DOWN THE EXACT NUMBERS. Also make sure that your equipment is a genuine Bertec product; at first glance, many manufacturers' products may be mistaken for Bertec's. The Bertec Médical name is indicated on the serial number and product number plates.



BERTEC M E D I C A L Division de Stryker Corporation		FABRIQUÉ PAR / MANUFACTURED BY BERTEC MEDICAL INC. 70, 5e Avenue, C.P. 128 L'Islet (Québec), Canada, G0R 2C0		Service en français: 1-800-361-2040 English service: 1-800-428-5025 Télécopieur / Fax: 1-418-247-7925	
MODÈLE DE LIT BED MODEL FABRIQUÉ MANUFACTURED MANUEL DE PIÈCES PARTS MANUAL NUMÉROS DE BREVETS PATENT NUMBERS	FL13EXX-XXXX LN XXXX 72 XXXX XX XXXX XXXX XX XXXX XXXX XX XXXX XXXX XX	NORMES STANDARDS C 22.2 NO 125 UL 544 NO DE DOSSIER FILE NO. LR87858		CATÉGORIE DE RISQUE RISK CATEGORY 2G	
DANGER : RISQUE D'EXPLOSION NE PAS EMPLOYER EN PRÉSENCE D'ANESTHÉSIIQUES AVERTISSEMENT COUPER L'ALIMENTATION AVANT L'ENTRETIEN OU LA RÉPARATION		INFLAMMABLE AND DANGER : NOT FOR USE IN THE PRESENCE OF FLAMMABLE ANAESTHETICS WARNING DISCONNECT SUPPLY BEFORE SERVICING		120 Volts, 60Hz, 7A Sans prise auxiliaire optionnelle Without optional receptacle	
		120 Volts, 60Hz, 12A Avec prise auxiliaire optionnelle With optional receptacle		71-0187	

3. Refer to this guide or the guide for the specific Bertec product should your establishment own several Bertec products. Similar models may have slightly different components.

IT IS VERY IMPORTANT THAT YOU REFER TO THE LIST OF COMPONENTS OF THE MODEL TO BE REPAIRED.

4. Refer to diagrams and parts lists in appendix to identify the defective component. WRITE DOWN THE NAME OF THE PART AND ITS ORDER NUMBER. If possible, note down the problem encountered when using the equipment.
5. WRITE DOWN MODEL NUMBER indicated on the equipment. It is composed of both letters and numbers, as in the following example:

FL13E78-0124

6. Contact our Customer Service department:

Stryker Medical/Bertec Médical

In the United States: In Canada:

Toll Free: 1 800 327-0770	1 800 428-5025
6300 Sprinkle Road	70, 5e avenue, c.p. 128
Kalamazoo, MI 49001-9799	L'Islet (Québec) Canada G0R 2C0

7. Give all information established previously:

Model number
Serial and production numbers
Part's name and order number
Problem encountered

ERROR WHEN ORDERING

We will do our best to help you identify the part to be replaced. However, if an error occurs when ordering, the user remains the main person responsible for identifying parts to change, unless our customer service representative has been requested for an on-site diagnosis of the malfunction.

Once the two-year warranty period has expired, replacement parts and labour are no longer free of charge.

CHAPTER 4 PARTS REPLACEMENT

4-3 Sleeping Surface Sections

4-4 Half-Length Safety Side-Rail

REPLACING THE ENTIRE SIDE-RAIL MECHANISM

REPLACING THE UPPER SECTION OF THE SIDE-RAIL ONLY

4-5 Full-Length Safety Side-Rail

REPLACING THE ENTIRE SIDE-RAIL MECHANISM

REPLACING THE UPPER SECTION OF THE SIDE-RAIL ONLY

REPLACING THE LEVER OR RELEASE ROD

4-7 Motor

4-10 Head Section Translating Screw

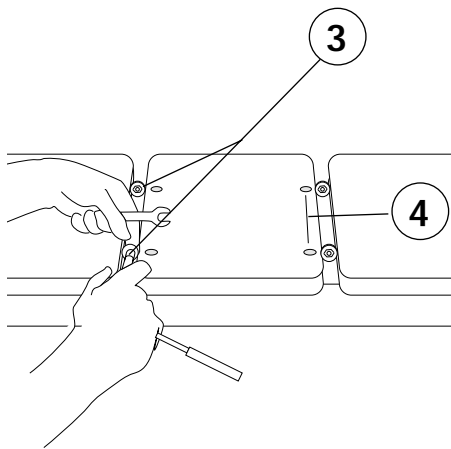
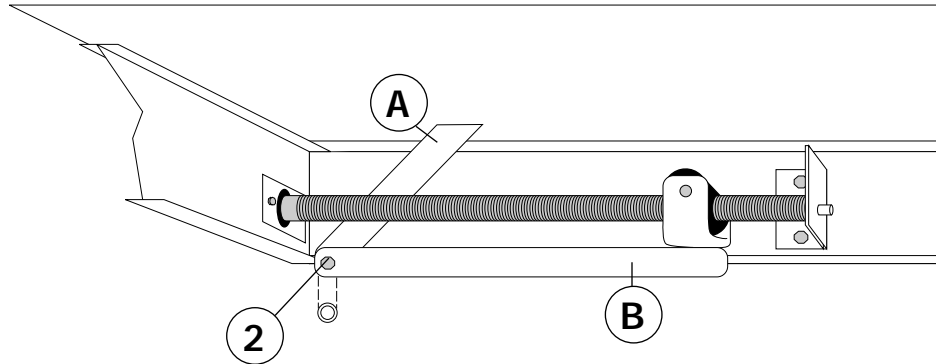
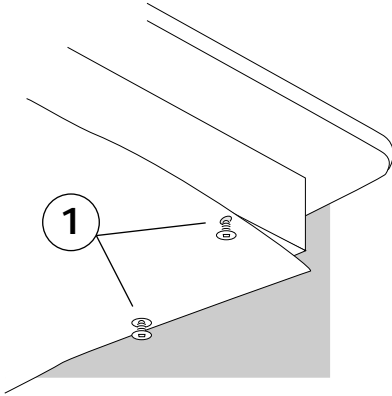
4-13 Thigh Section Translating Screw

4-16 Instant CPR Release Control Cable

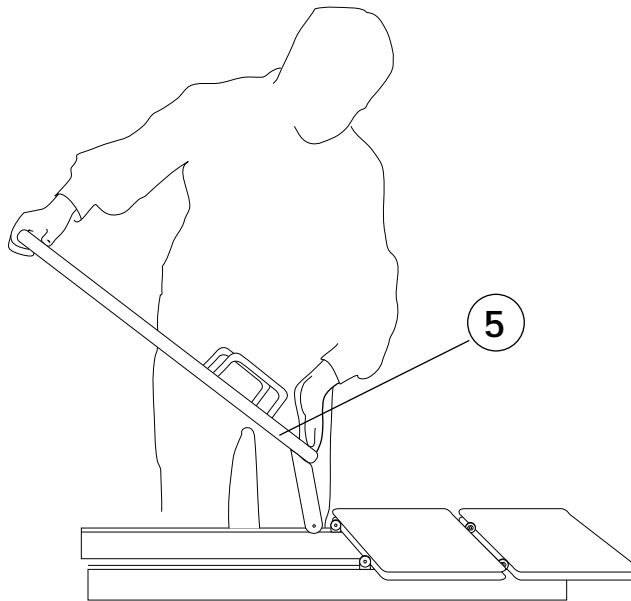
4-18 Micro-Switches

Sleeping Surface Sections

1. Adjust sleeping surface to horizontal position and remove protective cover, if need be, from under section to be replaced.
2. On section to be replaced, unbolt lever (A) from ACME nut fork (B). Keep nylon washers.



3. Remove bolts connecting section to be replaced to the other sections of the sleeping surface.
4. To detach the central section, remove the 4 hexagon head bolts holding section to bed frame.

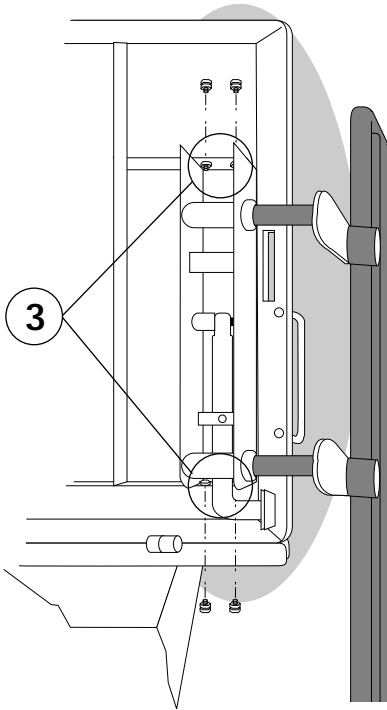


5. Remove section from sleeping surface. Replace with spare section. Replace and tighten head bolts serving as a hinge (3). Replace and tighten central section bolts (4).
6. Replace nylon washers and bolt section lever back onto ACME nut fork (2). Replace protective cover.

Half-Length Safety Side-Rail

Side-rails are not interchangeable. Make sure you have a spare part on hand that is identical to the one to be replaced.

- ↻ If the side-rail to be changed is equipped with a fixed patient control, you will have to replace the whole mechanism attaching side-rail to sleeping surface.



REPLACING THE ENTIRE SIDE-RAIL MECHANISM

1. Raise section of sleeping surface high enough to gain access to the underside of the sleeping surface.

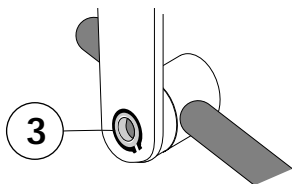
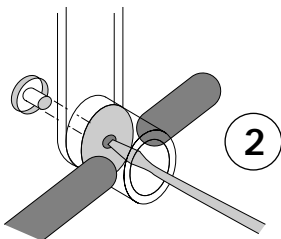
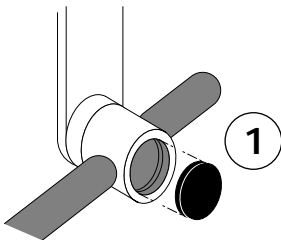
To change a foot end safety side-rail, tilt foot and thigh sections over, as indicated in steps 4 and 5 in Motor section, page 4-7.

2. If the side-rail is equipped with PATIENT CONTROLS:

Movable control: Unscrew ring and disconnect the patient control wire connecting side-rail to bed frame.

Fixed control: Find the receptacle located under the sleeping surface central section and disconnect the electric wire attached to the fixed patient control. Remove protective cover on headboard and withdraw wire.

3. Remove the 4 machine screws attaching entire side-rail mechanism to sleeping surface.
4. Place new side-rail in position and tighten down with 4 machine screws.
5. Movable control: Reconnect patient control electric wire.
Fixed control: Feed patient control wire under sleeping surface. Reconnect to outlet. Replace protective cover.
6. Adjust sleeping surface to horizontal position.

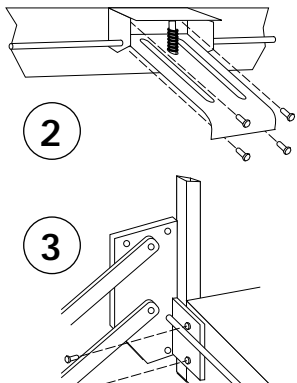


REPLACING THE UPPER SECTION OF SIDE-RAIL ONLY

Side-rail without fixed patient control only

1. Use a screwdriver to remove plastic caps sealing the 2 axles, or pierce in middle, break and remove with a sharp tool.
2. Use a hammer and blunt-ended tool to push protection caps out of other end of axles.
3. Remove retaining rings using a pair of pliers.
4. Remove the upper section and replace with new part, repeating above instructions in reverse order.

Full-Length Safety Side-Rail

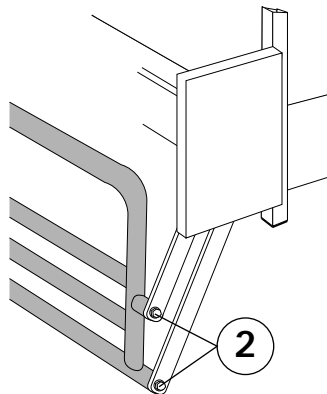
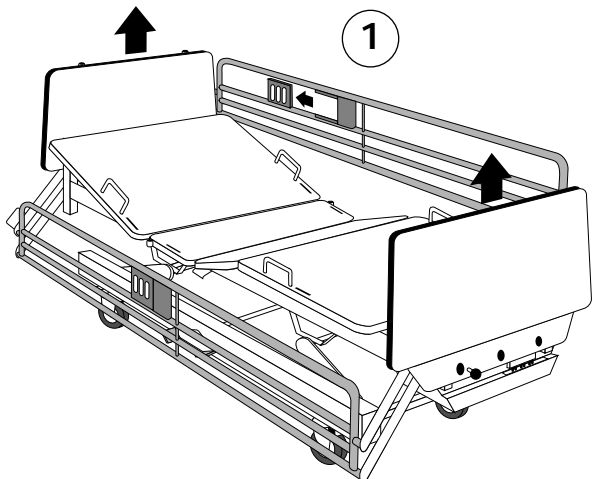


REPLACING THE ENTIRE SIDE-RAIL

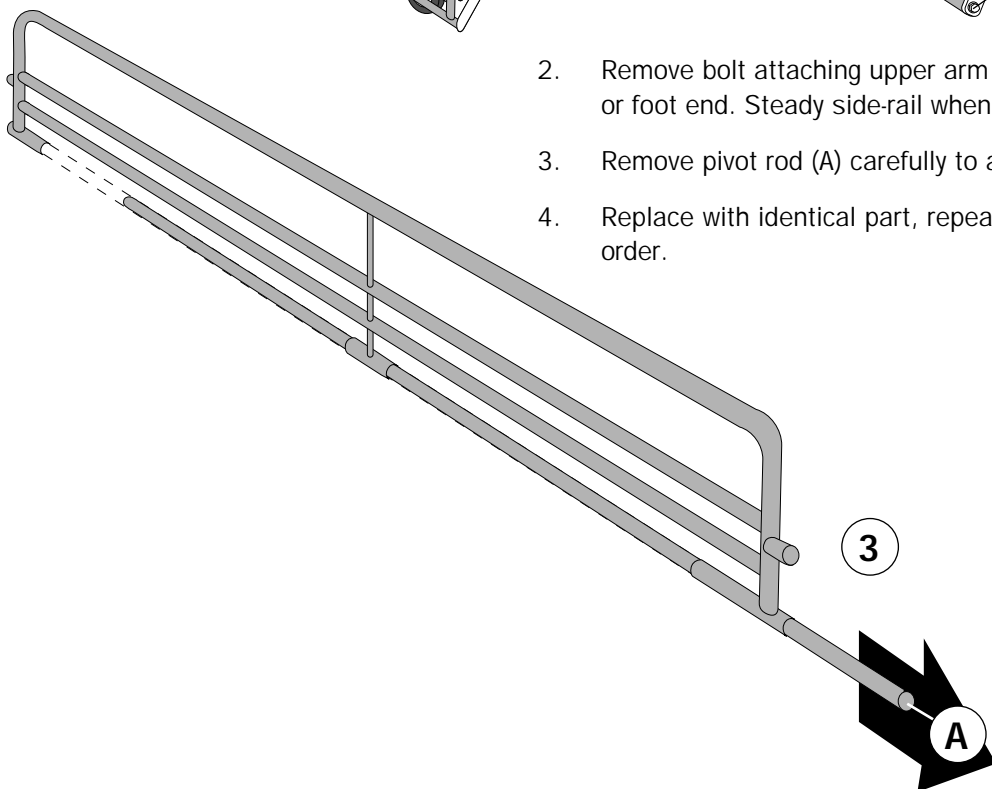
1. Remove headboard, footboard and head section of sleeping surface.
2. Loosen and remove the 4 screws holding latch lever case to bed frame.
3. Remove the 2 screws attaching supports to each extremity of bed frame.
4. Replace rail by an identical part.

REPLACING THE UPPER SECTION OF THE SIDE-RAIL ONLY

1. Remove headboard and footboard. Remove the safety nets; if the side-rail is equipped with a patient control, remove it.

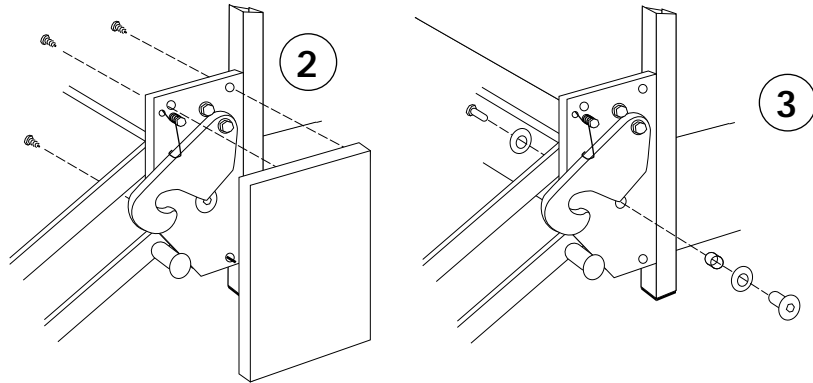


2. Remove bolt attaching upper arm to side-rail, from either the head or foot end. Steady side-rail when removing the last screws.
3. Remove pivot rod (A) carefully to avoid damage to its finish.
4. Replace with identical part, repeating above instructions in reverse order.

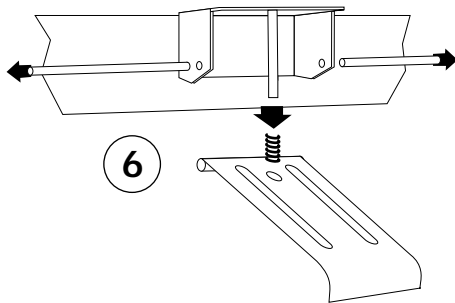
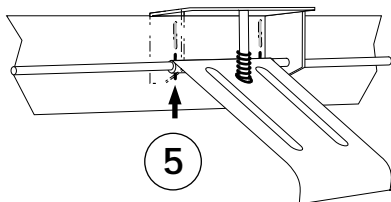
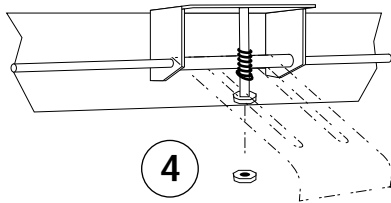


REPLACING THE LEVER OR RELEASE ROD

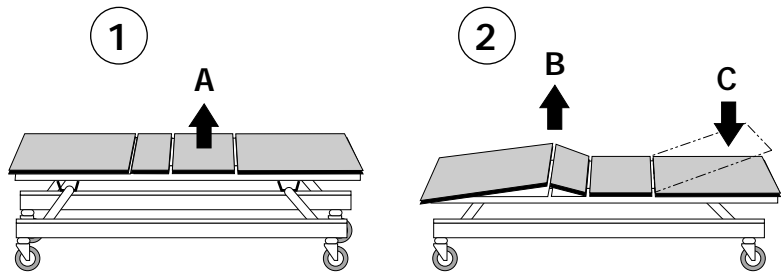
1. Remove foot plate located below footboard.
2. Remove the 4 screws and plastic cover installed on each side-rail support.



3. Use an Allen key to remove the counterset screw holding each lower arm in position on side-rail. Keep washers and bushings.
4. Remove the setting bolt from under lever.
5. Pull upwards and remove the 2 spring pins attaching lever to release rods.
6. Pull each rod toward each end of bed to remove from case and release lever. Keep release spring and nylon washer.
7. Replace lever or rods and repeat above instructions in reverse order to reassemble.



1. Lock casters and raise bed to maximum elevation (A).



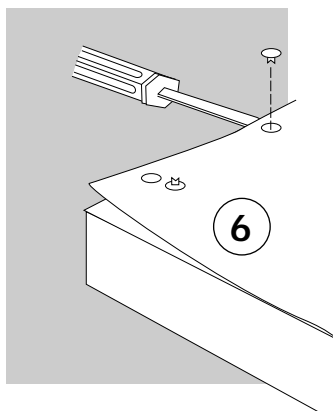
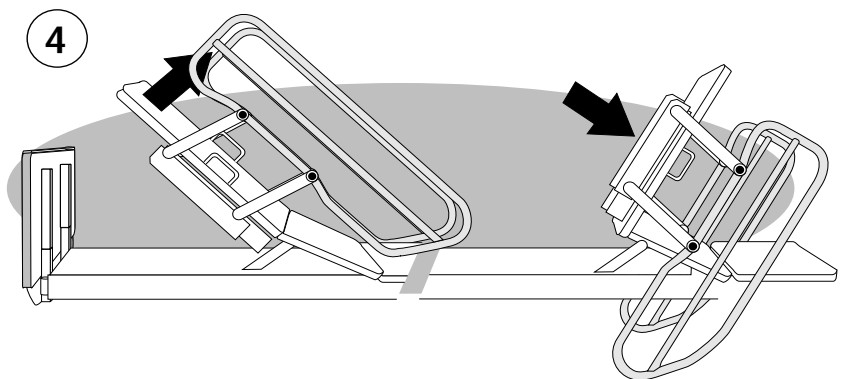
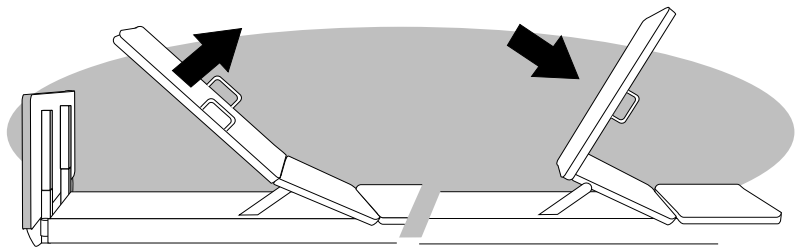
2. Raise thigh section to maximum height (B) and lower head section to horizontal position (C).

↻ If motor to be changed is out of order, turn screw by hand to bring sleeping surface to proper position or use emergency crank handle.

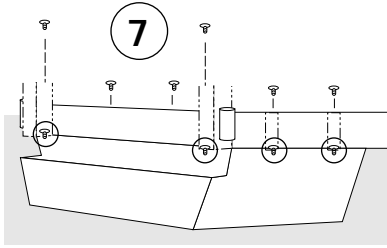
3. **BED EQUIPPED WITH FULL-LENGTH SAFETY SIDE-RAILS:** lower to lowest position.

BED EQUIPPED WITH HALF-LENGTH SAFETY SIDE-RAILS: lower side-rails located at head of bed and **RAISE SIDE-RAILS LOCATED AT FOOT.**

4. Lift and tilt over foot section. **SECURE SLEEPING SURFACE IN THIS POSITION.**



5. Disconnect bed electric cord from wall receptacle.
6. Insert the tip of a screwdriver between the bed frame and protective cover to pop nylon fasteners holding cover down.



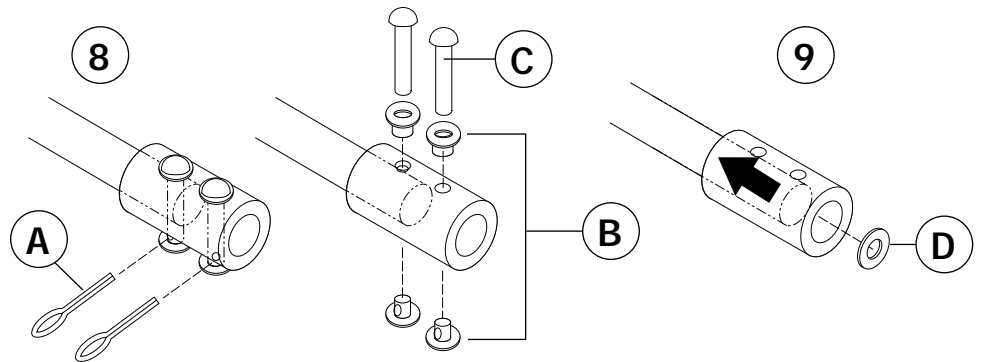
- Remove the 6 screws holding motor box in place. Disconnect motor from PC board.



CAUTION

Never handle PC board wiring without previously disconnecting bed electric cord.

- Straighten and extract cotter pins (A) blocking rod end pins (C) which are inserted in supple coupling connected to motor to replace. Remove clevis pins (C) and nylon bushings (B).



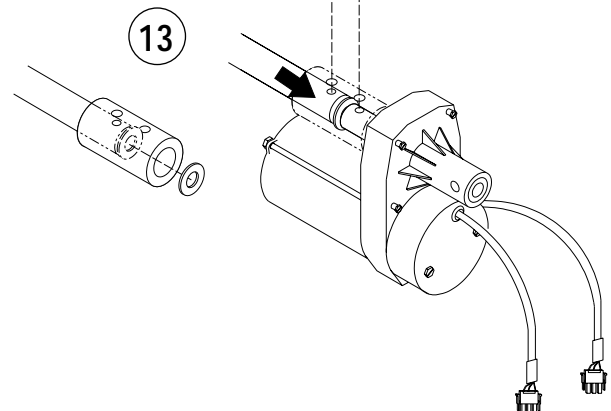
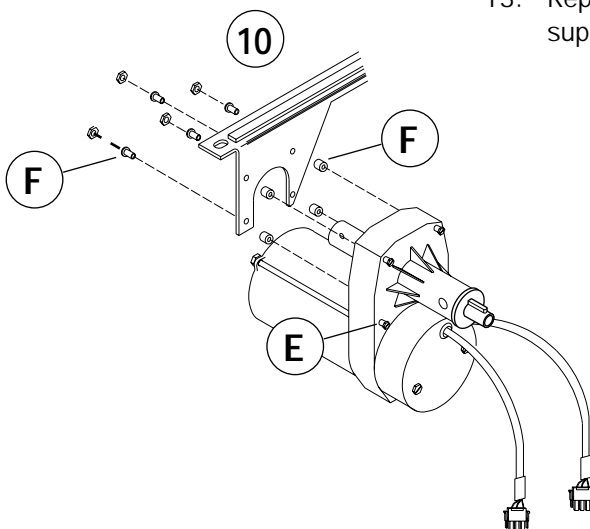
- Push back supple coupling on translating screw to free motor. Use a hammer if necessary. Keep nylon washer located between motor and translating screw (D).

- Loosen the 4 machine screws (E) fastening motor to transversal motor support about 1/2" (12 mm). Keep nylon bushings (F).

- Remove motor from space in frame.

- Install new motor in space and reinstall nylon bushings (F).

- Replace nylon washer between translating screw and motor, slide supple coupling back in place and align holes to insert clevis pins.



14. Connect motor to PC board and replace motor box using 6 screws.
 - IF BED IS EQUIPPED WITH A NURSING CONTROL ON FOOTBOARD: make sure when replacing motor box that push rods activating the nurse control membrane are aligned with membrane dome switches.
15. Plug in bed electric cord to receptacle.
16. BEFORE COUPLING MOTOR TO SUPPLE COUPLING, run motor to end of stroke:

Foot section motor:

Start motor by pressing button controlling THIGH SECTION UP until motor stops of its own accord.

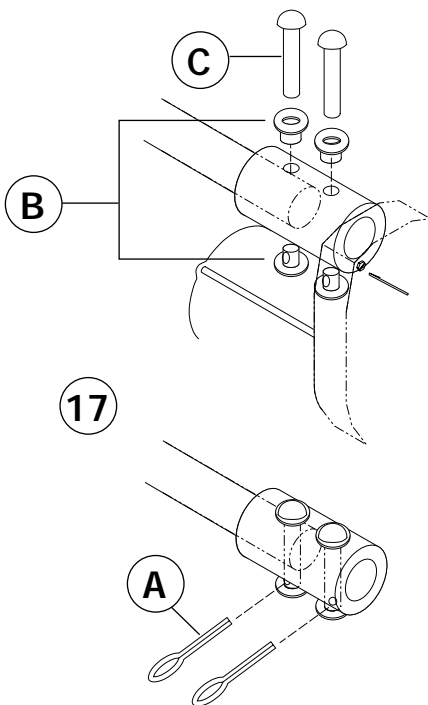
Bed motor (central motor):

Start motor by pressing button controlling BED ELEVATION UP until motor stops of its own accord.

Head section motor:

Start motor by pressing button controlling HEAD SECTION DOWN until motor stops of its own accord.

Note: If steps 1 and 2 are carried out as indicated, motors controlling elevation of bed and sections should all be at end of stroke.



17. Insert nylon bushings (B) and clevis pins (C). Install cotter pins (A).
18. Unfasten foot section and tilt back on bed frame.
19. MAKE SURE MOTOR AND SLEEPING SURFACE ATTAIN HIGHEST AND LOWEST POSITIONS WITH PERFECT SYNCHRONIZATION and that sleeping surface is completely horizontal.
 - IF SUCH IS NOT THE CASE:
 - a. Run motor to end of stroke in lowest position and uncouple by removing cotter pins, clevis pins and nylon bushings.
 - b. Use a pair of pliers to turn translating screw to the point where sleeping section is completely horizontal when bed is in lowest position. Couple motor.
20. Replace foot plate at foot of bed frame.

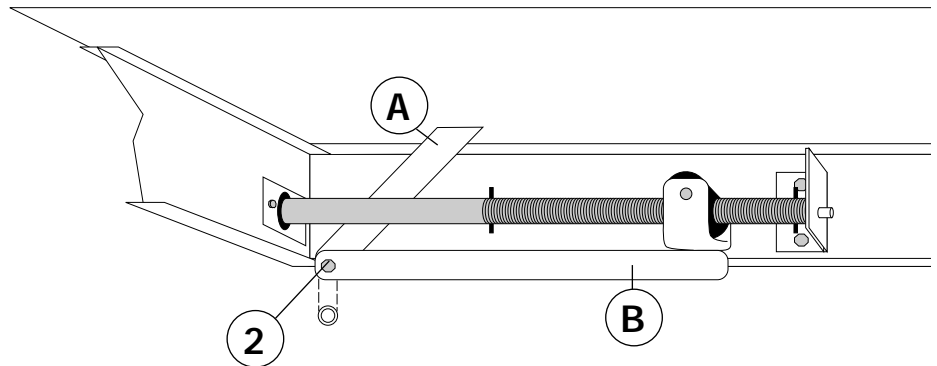
Head Section Translating Screw



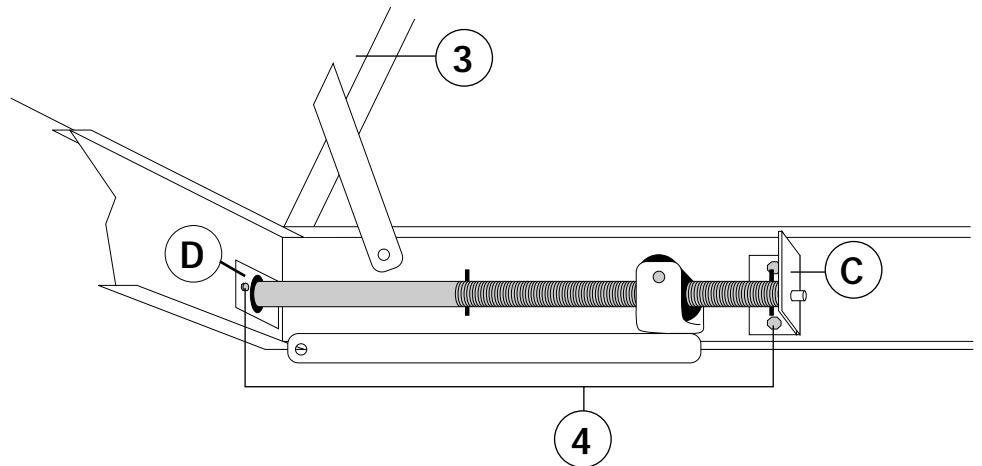
We recommend changing the ACME nut when replacing a translating screw.

■ Uncouple translating screw from motor. Follow steps 1 through 9 in Motor section of this chapter.

1. Remove headboard and unscrew protective plate under bed, if need be.
2. Unbolt head section lever (A) from ACME nut fork (B). Keep nylon washers.

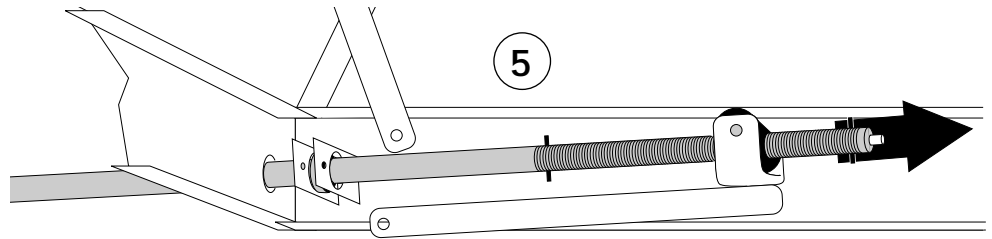


3. Once thigh and foot sections of sleeping surface have been manually lowered to a horizontal position, raise head section and fasten in place using a binder or a piece of rope.

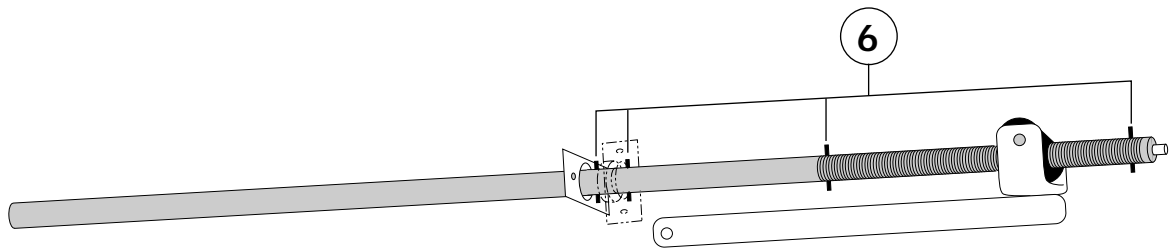


4. Remove head screw bracket (C) and bearing plates (D) holding bearing in place.

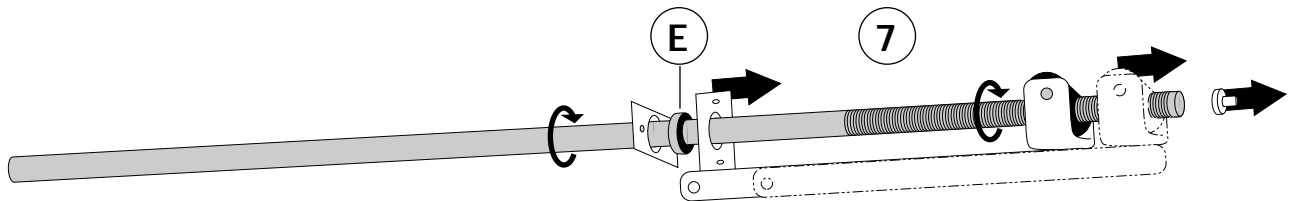
5. Remove translating screw by pulling it towards the head end of bed.



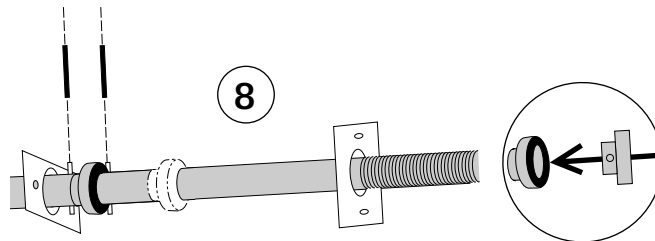
6. Eject the 4 spring pins inserted in the translating screw.



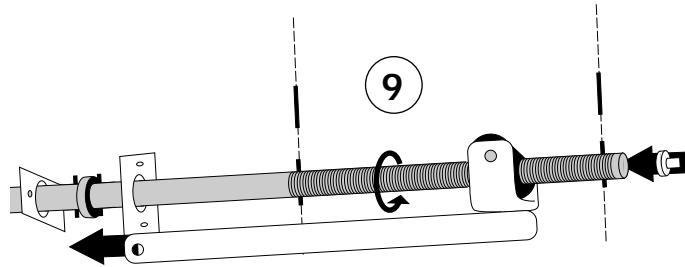
7. Unscrew translating screw manually to remove ACME nut. Pull off bearing plates and bearing (E).



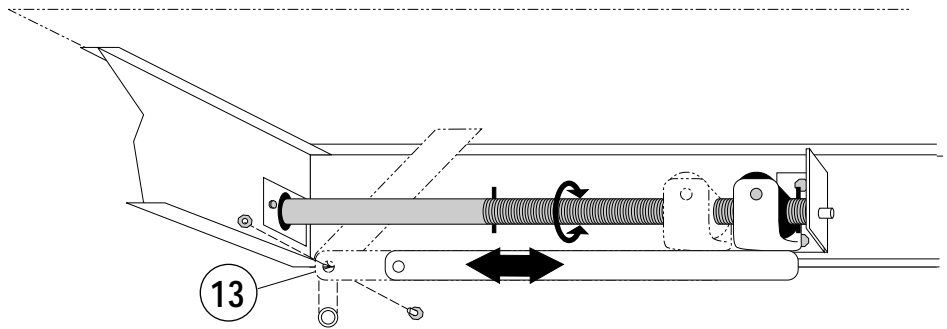
8. Slide bearing on new translating screw, starting at the threaded end. The side which locks must face the foot end of the bed (see circled diagram). Insert 2 spring pins to keep bearing in place. Insert one bearing plate on each end of the translating screw.



9. Screw ACME nut on translating screw while directing fork lever towards bearing plate.

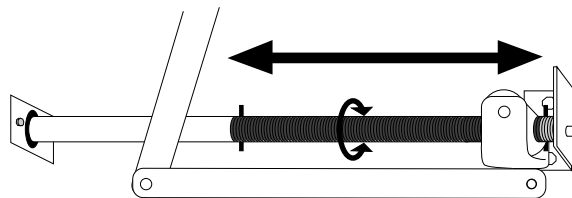


10. Slide new screw into opening on frame and bolt head screw bracket (C) and bearing plates (D) in place (refer to step 4).
11. Return head section of sleeping surface to horizontal position.
12. Tighten or loosen translating screw to align end of ACME nut fork with end of head section lever.



13. Insert nylon washers between both parts and bolt parts together with light pressure only.

- Follow steps 13 to 20 in the Motor section to finish installation.
- Grease the threaded section the ACME nut moves over. Activate mechanism to spread grease over entire thread.



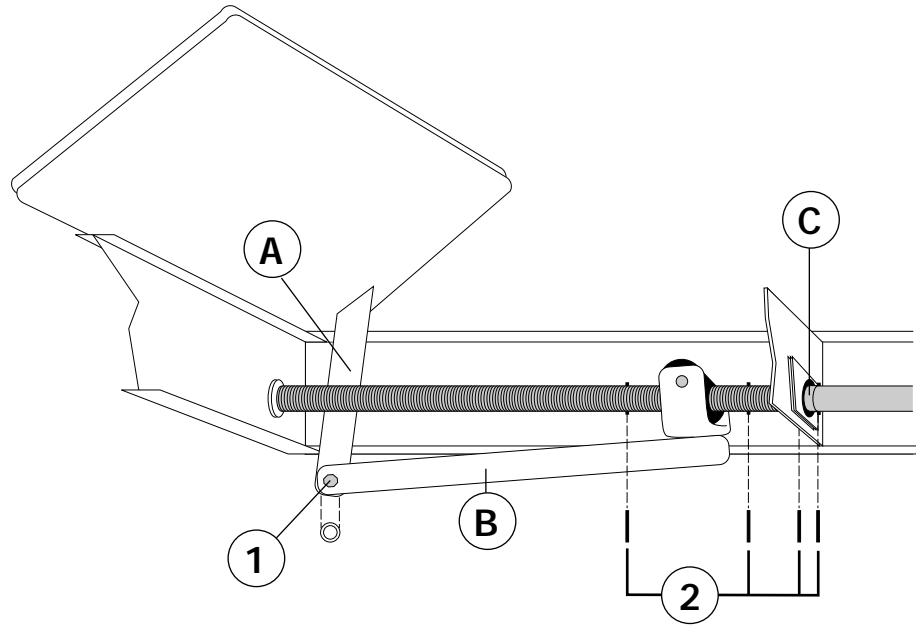
- ☞ Use a synthetic teflon lubricant available at Bertec Medical's Parts Department.

Thigh Section Translating Screw

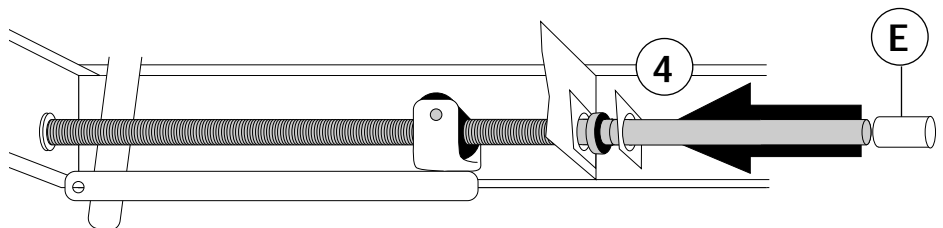
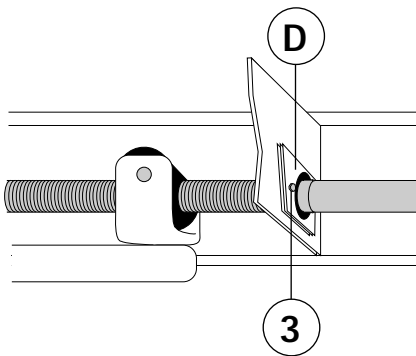
↻ We recommend changing the ACME nut when replacing a translating screw.

■ Uncouple translating screw from motor. Follow steps 1 through 9 in Motor section of this chapter.

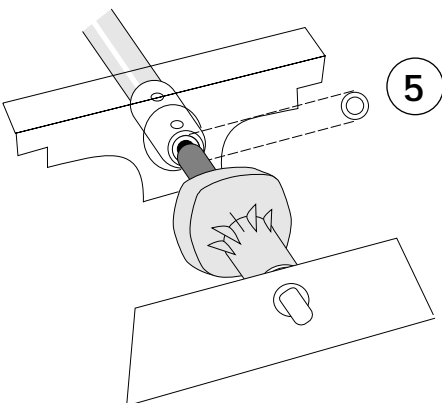
1. Remove protective plate under bed, if need be, and unbolt thigh section lever (A) from ACME nut fork (B). Keep nylon washers.



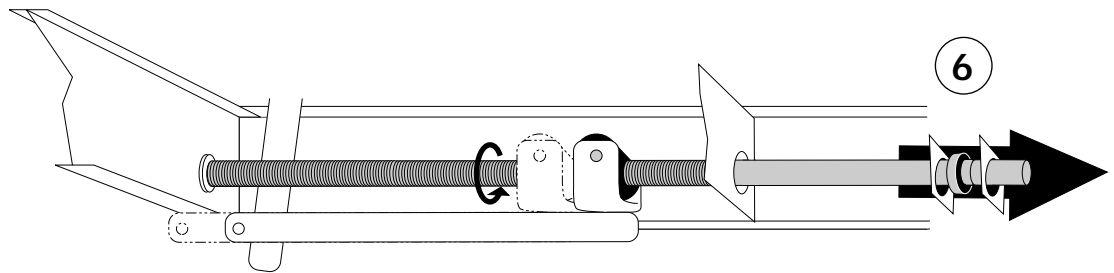
2. Eject the 4 spring pins which block bearing (C) and ACME nut.
3. Unbolt bearing plates (D).



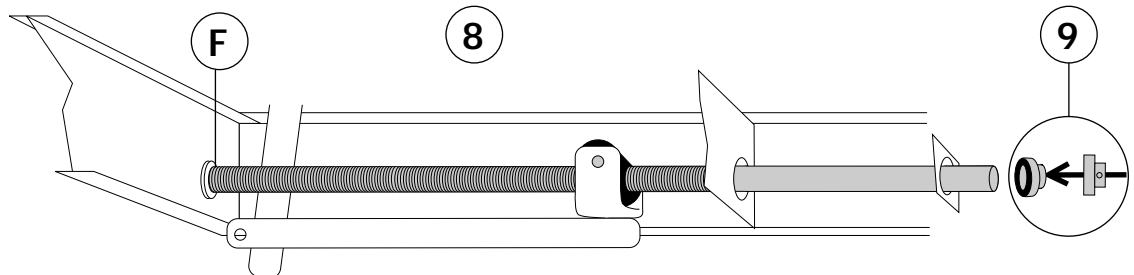
4. Push translating screw towards head end of bed so its non-threaded end can be taken out of nylon coupling (E).
5. Pull motor from socket. Keep nylon washer placed between motor and translating screw.



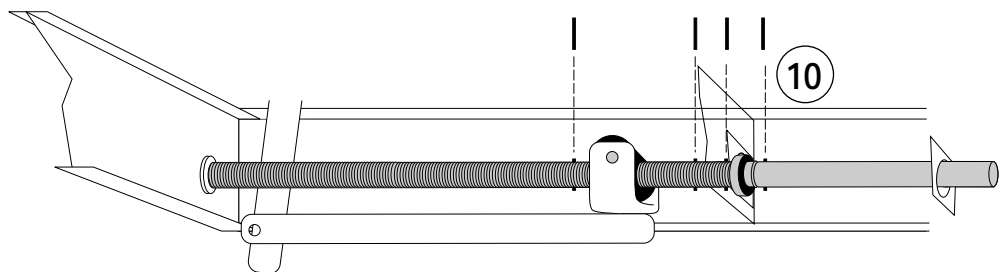
- Slide bearing plates off and remove bearing from translating screw.



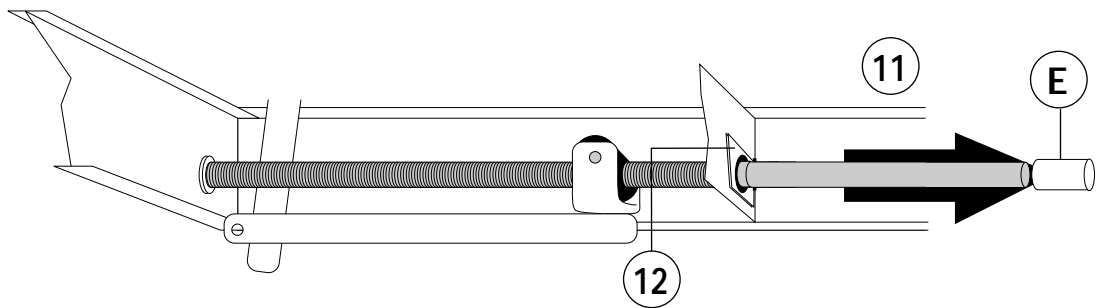
- Pull translating screw towards foot end of bed while unscrewing ACME nut. Pull nut out in a straight line through opening in bed frame.
- Insert new translating screw through opening at foot end of bed. Screw on ACME nut starting at threaded end of translating screw and position screw in its place on nylon bearing (F).
- Slide the first bearing plate and bearing on new translating screw, starting at the non-threaded end. The side which locks must face the foot end of the bed (see circled diagram).



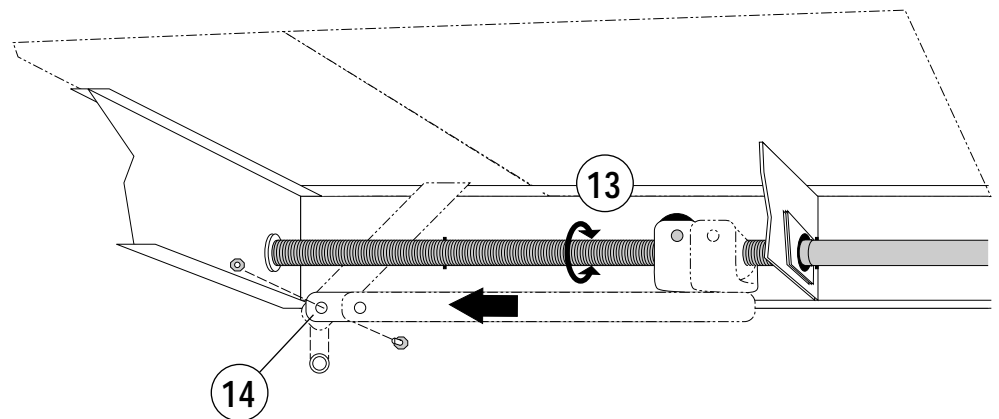
- Use 4 spring pins to hold bearing in place on translating screw. Insert second bearing plate on same non-threaded end of translating screw.



11. Pull translating screw towards motor and insert it in nylon coupling.

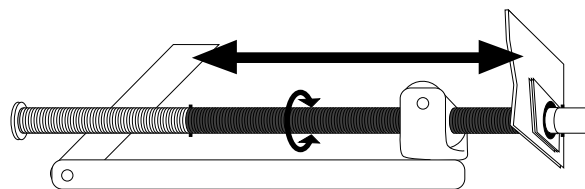


12. Bolt bearing plates to bed frame.
13. Return head and thigh sections of sleeping surface to horizontal position. Tighten or loosen translating screw to align end of ACME nut fork with end of thigh section lever.



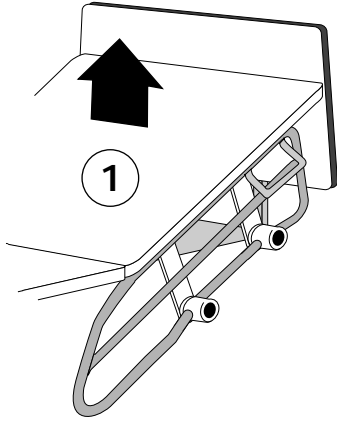
14. Insert nylon washers between both parts and bolt parts together with light pressure only.

- Follow steps 13 to 20 in the Motor section to finish installation.
- Grease the threaded section the ACME nut moves over. Activate mechanism to spread grease over entire thread.

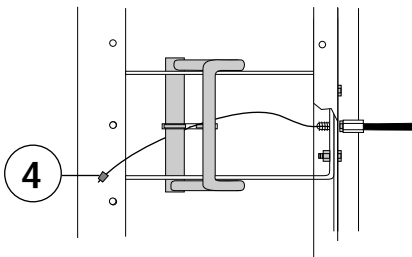
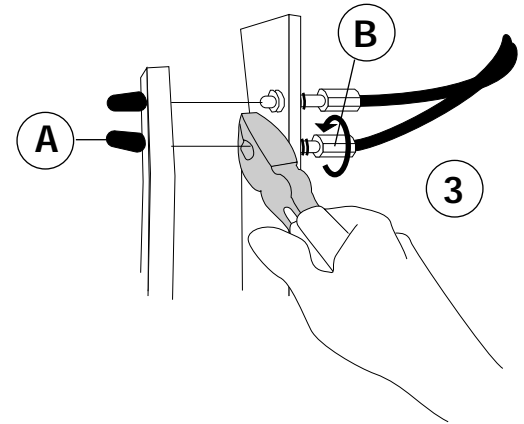
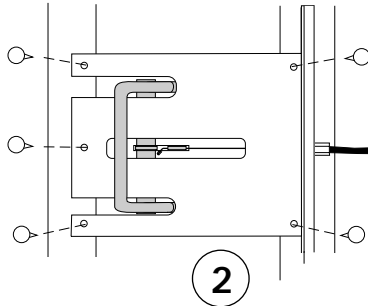


- ↻ Use a synthetic teflon lubricant available at Bertec Médical's Parts Department.

Instant CPR Release Control Cable

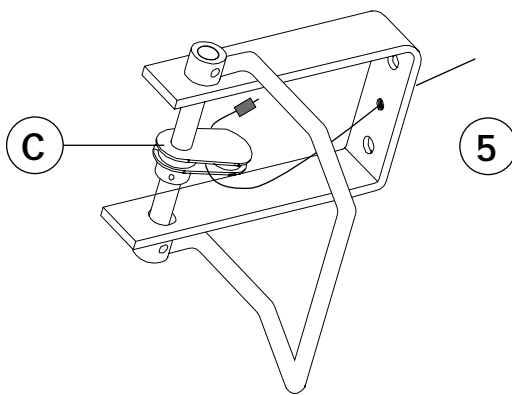


1. Raise head section of sleeping surface to maximum height.
2. Remove the 4 screws and control handle cover fastened to sleeping surface.

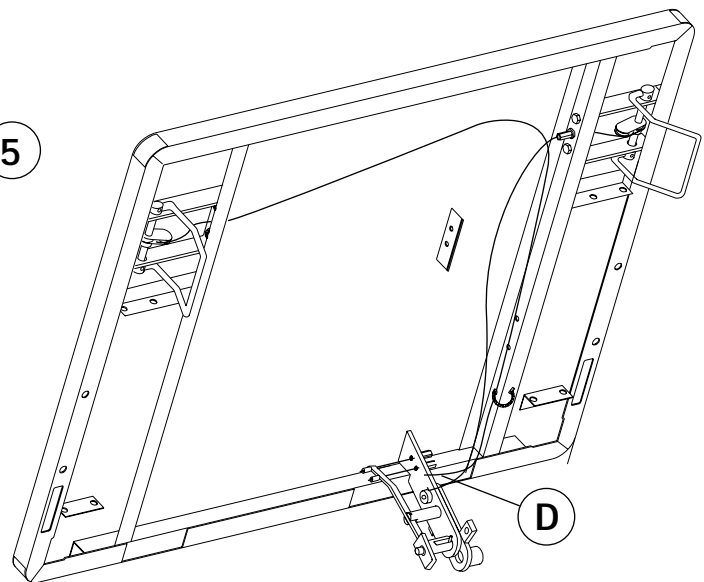


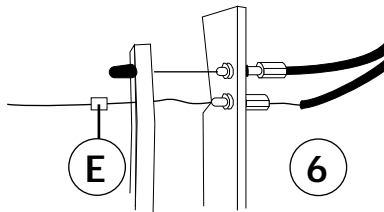
3. Cut cable where it attaches to mechanism. Keep plastic cap covering end of cable (A). Screw in cable adjustment screw far as possible (B).
4. Remove cable from sheath by pulling on its copper retaining ring.
5. Install new cable: the longest cable is installed on the left and the shortest on the right. Insert cable through same opening on drive pulley (C). Slide in sheath until it reaches the control handle (D).

- Make sure the copper retaining ring on cable is inserted between the 2 drive pulley disks (C).

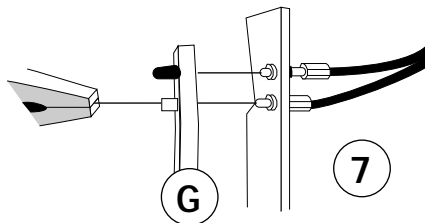
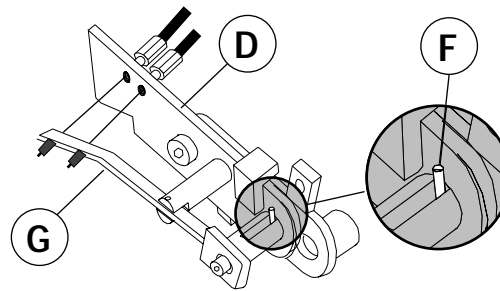


5





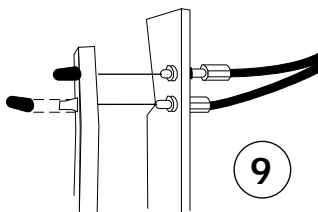
6. Slide a new copper retaining ring (E) on end on new cable. Be careful not to touch release lever (G): the locking finger pin (F) must rest against release mechanism wall (D).



7. Tighten cable by pulling on it with a pair of pliers. Then squeeze copper retaining ring tightly and as close to release mechanism handle as possible.

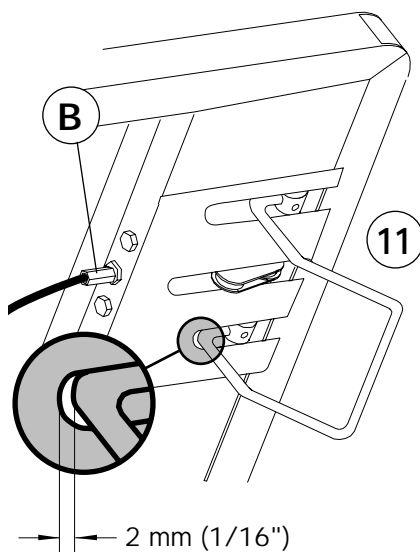
TAKE CARE TO NOT TOUCH RELEASE LEVER (G).
DO NOT USE LEVER UNTIL CABLE HAS BEEN SOLDERED.

8. Cut cable 4 mm (1/8") from end of retaining ring and solder:
 - a. Use cleaning paste on retaining ring and end of cable.
 - b. Heat retaining ring with soldering iron and drip about 2" of solder on cable. Wait until solder melts on cable.



9. Replace plastic cap.
10. Replace control handle cover. CONTROL HANDLE COVER MUST BE FASTENED IN PLACE BEFORE CONTINUING CABLE INSTALLATION.
11. Check how mechanism works: try control handle 5 or 6 times. THERE MUST BE ABOUT 1/16" FREE PLAY BETWEEN HANDLE AND COVER AS ILLUSTRATED.

Adjust cable tension by unscrewing cable adjustment screws (B) located at each end of plastic sheath:



- a. Without touching control handle slowly unscrew one cable adjustment screw to obtain illustrated position.

Make sure that the adjustment does not change the position of the locking finger pin (F) which must remain resting against release mechanism wall (D). If it is not resting against release mechanism wall, tighten cable adjustment screw, pull control handle once and begin cable adjustment again.

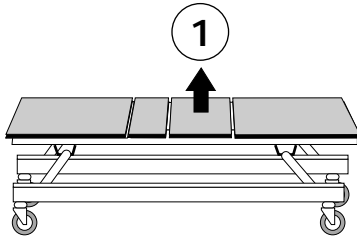
- b. Tighten lock nut.

12. Replace protective cover on bed frame.
13. Try mechanism 3 or 4 times, while applying pressure to the upper right hand corner of sleeping surface.

Micro-Switches

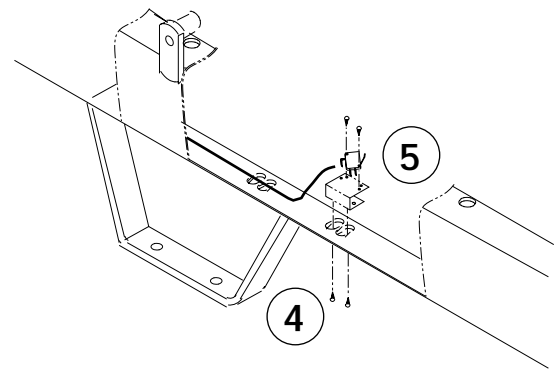
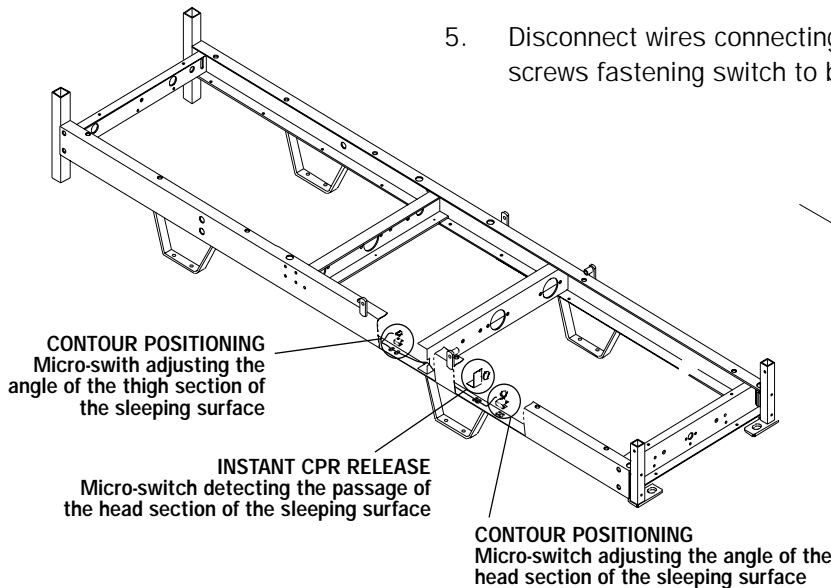
The contour positioning option adjusts sleeping section angles by means of micro-switches located on the interior side of the bed frame.

The instant CPR release, which immediately returns the head section to a horizontal position, triggers micro-switches located on the interior side of the bed frame and under the head section of the sleeping surface.

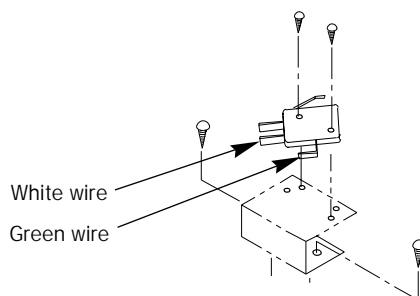


TO REPLACE A MICRO-SWITCH LOCATED ON THE BED FRAME

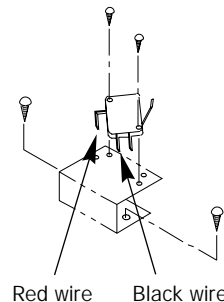
1. Adjust all sleeping surfaces to horizontal position and raise bed to highest elevation.
2. Unplug bed from wall receptacle.
3. Unscrew protective covers from underside of bed frame.
4. Identify the micro-switch to be replaced and remove screws holding its support to underside of bed frame.
5. Disconnect wires connecting micro-switch to its bracket and remove screws fastening switch to bracket.



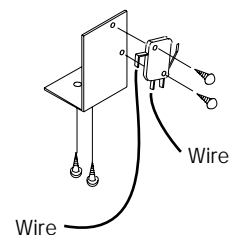
6. Set replacement micro-switch on the bracket in exactly the same position as the defective part removed.



Contour positioning
Thigh section

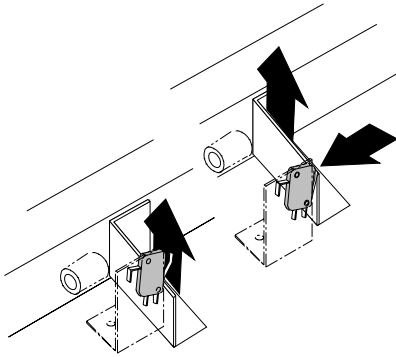


Contour positioning
Head section

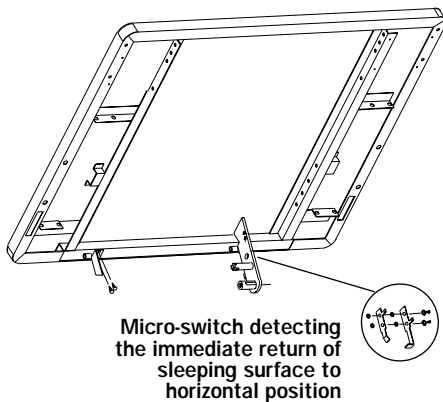


Instant CPR release

7. Reconnect wires to the correct terminal blades on micro-switch.
 - Make sure that the connectors are solidly attached. If necessary, use a pair of pliers to pinch connectors.

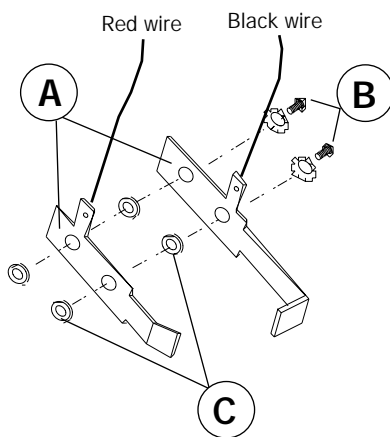
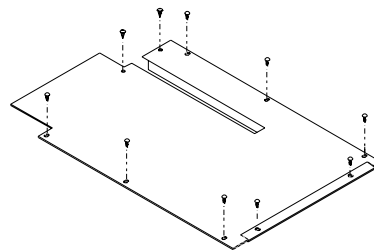


8. Screw bracket back on bed frame, making sure to adjust its position in relation to the angle detection arm; the micro-switch must be triggered when the arm passes over it.
9. Plug bed into wall receptacle and check mechanism operation carefully.
10. Replace protective covers on underside of bed frame.



TO REPLACE A MICRO-SWITCH LOCATED UNDER THE HEAD SECTION OF THE SLEEPING SURFACE

1. Adjust head section to highest position.
2. Unplug bed from wall receptacle.
3. Insert the tip of a screwdriver between the frame at head end of bed and the protective cover to pop nylon fasteners holding cover down.



4. Disconnect wires connected to detection blades (A).
 5. Unscrew 2 nylon screws (B) holding blades (A) in place.
 6. Replace defective components.
 7. Fasten new assembly in place with nylon screws. Make sure to insulate each blade with a nylon flat washer (C).
- It is normal that the longer end of the blade be pressed back by the plunger which prevents it from returning to the cavity of the zinc-plated part.
8. Reconnect wires to correct terminal blades.
 - Make sure that the connectors are solidly attached. If necessary, use a pair of pliers to pinch connectors.
 9. Replace protective cover on bed frame.
 10. Plug bed into wall receptacle and check mechanism operation carefully.

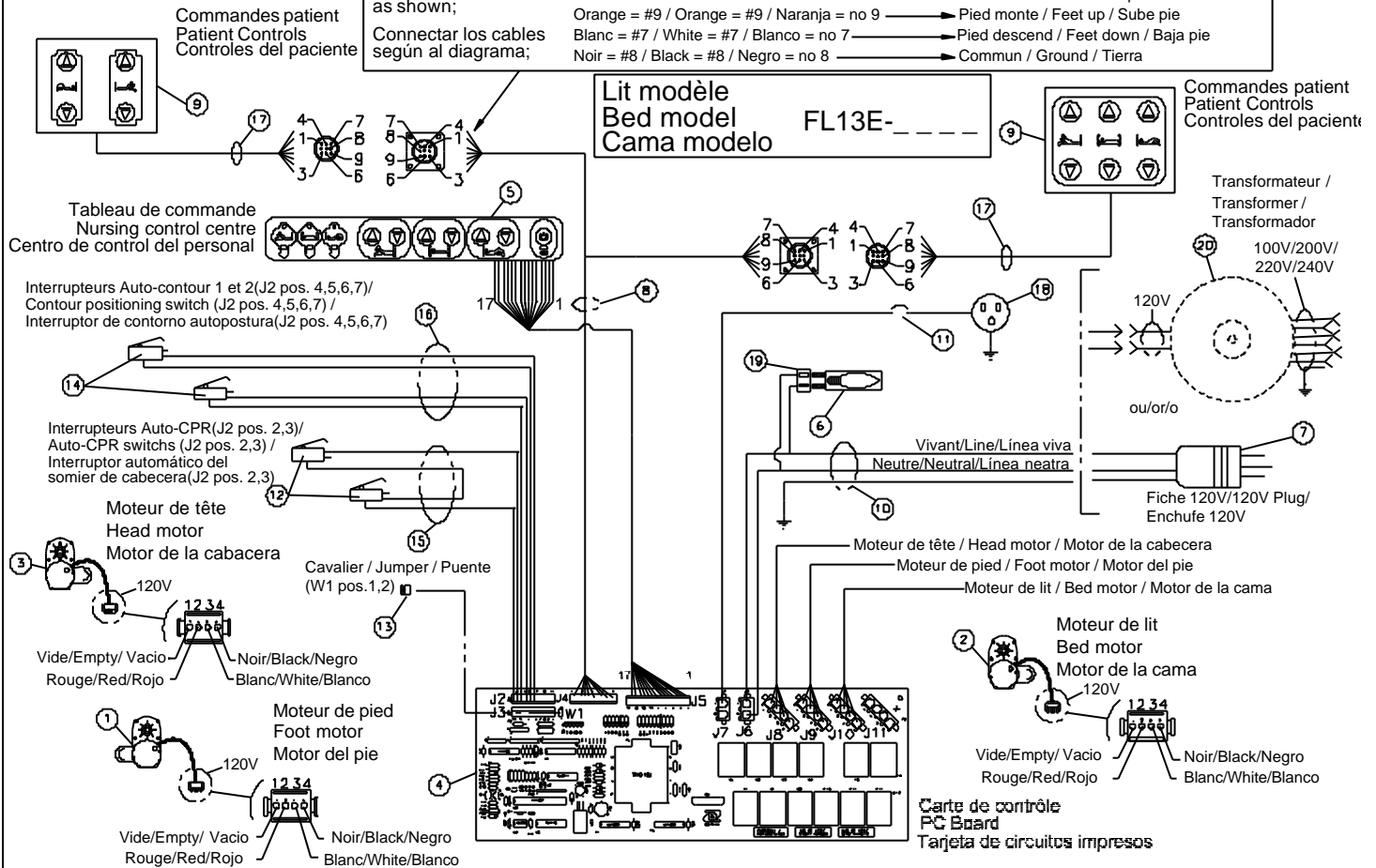
APPENDICES

A - 3 Connection Diagram

**SCHEMA DE BRANCHEMENT
CONNECTION DIAGRAM
DIAGRAMA DE CONEXIÓN**

Assembler les fils dans les connecteurs comme ceci;
Assemble wires as shown;
Connectar los cables según al diagrama;

Rouge = #1 / Red = #1 / Rojo = no 1 → Tête descend / Head down / Baja cabecera
Brun = #3 / Brown = #3 / Marron = no 3 → Tête monte / Head up / Sube cabecera
Vert = #4 / Green = #4 / Verde = no 4 → Centre descend / Centre down / Baja centro
Bleu = #6 / Blue = #6 / Azul = no 6 → Centre monte / Centre up / Sube centro
Orange = #9 / Orange = #9 / Naranja = no 9 → Pied monte / Feet up / Sube pie
Blanc = #7 / White = #7 / Blanco = no 7 → Pied descend / Feet down / Baja pie
Noir = #8 / Black = #8 / Negro = no 8 → Commun / Ground / Tierra



No.	Qté	No.	Qté
01	1	11	1
02	1	12	2
03	1	13	1
04	1	14	2
05	1	15	1
06	1	16	1
07	1	17	2
08	1	18	1
09	2	19	1
10	1	20	1