

Owner's Manual

EchoBeds[®]

MEDICAL POSITIONING

Owner _____

Model _____

Serial Number _____

Date _____

Table of Contents

- I. EchoBed® / EchoBed® Dual
 - EchoBed® / EchoBed® Dual Set-Up I - 1
 - Safety Features I - 3
 - Patient Positioning I - 4
 - Sonographer Positioning I - 7
 - Operation and Annual Maintenance I - 9
 - 1. Hand wand I - 10
 - 2. Drop section I - 12
 - 3. Drop Section Exntension I - 16
 - 4. Non-pinch flap I - 17
 - 5. Caster use I - 18
 - 6. Maintenance I - 20
 - Operation - All Ways Echo Bed I - 23
 - Cleaning Instructions I - 26
 - Troubleshooting Guide I - 28
 - Warranty I - 30

- II. Parts Lists and Diagrams II - 1

- III. Accessories
 - Collapsible Safety Rail Operation III - 1
 - Paper Roll Holder Instalation III - 2
 - Pediatric / Geriatric Adaptor Use III - 3

- IV. Specification Sheets IV - 1

PREVENTATIVE MAINTENANCE

The following Preventative Maintenance should be performed annually:

- Visually inspect all mechanical assemblies and moving parts on the product insuring smooth, steady operation
- Visually inspect all fasteners (bolts, nuts, screws, etc.) to insure all are fully installed. Tighten as necessary.
- Visually inspect all electrical cables and wires for signs of abrasion or other damage. If damaged, replace.
- Visually inspect all electrical connections to insure they are fully and properly connected. Reconnect as necessary.
- Visually inspect the hand wand or foot control. If damaged, replace.
- Operate all drop section latch mechanisms to insure proper engagement of latch into receiver. Adjust if necessary.
- Operate all motors to insure full extension, retraction and correct operation. The motors are permanently lubricated and require no maintenance.
- Operate all accessories to insure proper attachment and operation. Tighten, adjust or replace if necessary.

MEDICAL POSITIONING, INC.

1717 Washington Street
Kansas City, MO 64108

ECHOBED AND STRESS ECHO BED EXAMINATION TABLES

	Stress EchoBed	EchoBed
Maximum Distributed Load:	1,000 Lbs.	1,000 Lbs.
Voltage:	120 VAC	120 VAC
Amperage:	2.6 A	1.6 A
Leakage Current:	<100 uA	<100uA
Cycle:	60 Hz	60 Hz
Duty Cycle:	10%	10%

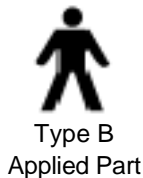
UL 60601-1 CLASSIFICATIONS:

- Class 1 Equipment
- Type B Applied part
- Degree Of Protection Against Ingress Of Water / IPX0
- Equipment Not Suitable For Use In Flammable Anesthetic Mixture

All electrical circuitry is isolated from chassis.

Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked "Hospital Only" or Hospital Grade".

The power cord is to be used for mains disconnection.



MEDICAL EQUIPMENT WITH RESPECT TO ELECTRICAL SHOCK,
FIRE AND MECHANICAL HAZARDS ONLY IN ACCORDANCE
WITH UL 2601-1 AND CAN/CSA C22.2 NO. 601.1

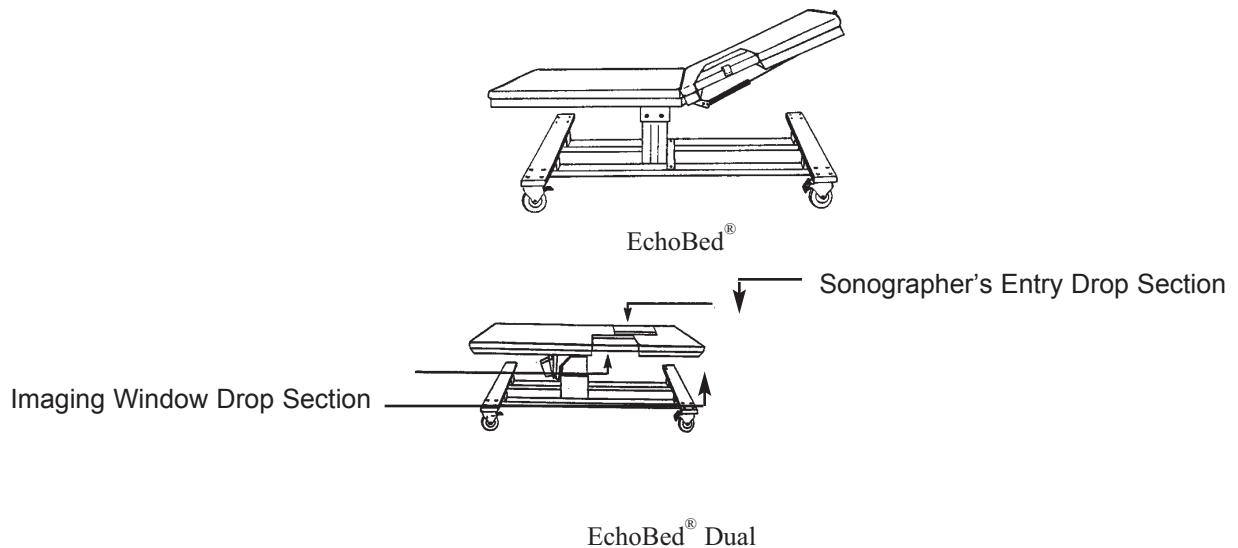
Grounding reliability can only be achieved when the equipment is
connected to an equivalent receptacle marked "Hospital Only" or
Hospital Grade"

Transportation and storage:
Temperature range within -40 to +70 degrees C
Relative humidity range within 10% to 100%
Atmospheric pressure range within 500 to 1060 hPa

EchoBed[®] / EchoBed[®] Dual Set Up

Introduction

Your EchoBed[®] / EchoBed[®] Dual has been tested to insure perfect operation on day one. Please closely inspect your EchoBed[®] / EchoBed[®] Dual when you receive it to insure no damage has occurred during shipment. Because the EchoBed[®] / EchoBed[®] Dual is a complex piece of equipment you are offered the following precautions.



To Avoid Injury or Damage

To reduce the risk of electrical shock, do not remove secured covers. Refer servicing to qualified personnel.

Lock all casters before using equipment.

Place hand wand on hook or holder when not in use. Keep cable clear of moving parts.

Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked "hospital only" or "hospital grade".

Protect vinyl upholstery from sharp objects and abrasion to avoid damage.

Refer to instructions located in this manual for vinyl cleaning recommendations.

Do not use abrasives to clean painted surfaces.

(continued)

In This Section

Your EchoBed®/EchoBed® Dual has been shipped to you in “plug and play” condition. In this section you will learn how to program the handwand and perform an initial test of your EchoBed®/EchoBed® Dual to insure that each function is in correct working order. After reviewing this manual you are ready to begin using your EchoBed®/EchoBed® Dual.

System Test Procedure

The hand wand is a low voltage, DC operated device. The cable begins at the hand wand and plugs into the control box.

<u>Step</u>	<u>Action</u>
1	After removing padding and packaging materials, locate primary power supply cord and attach to suitable grounded 120 VAC outlet.
2	To test actuator functions, locate the hand control wand and depress each function button <i>one at a time</i> . (Depressing multiple buttons simultaneously may prevent motors from operating.)

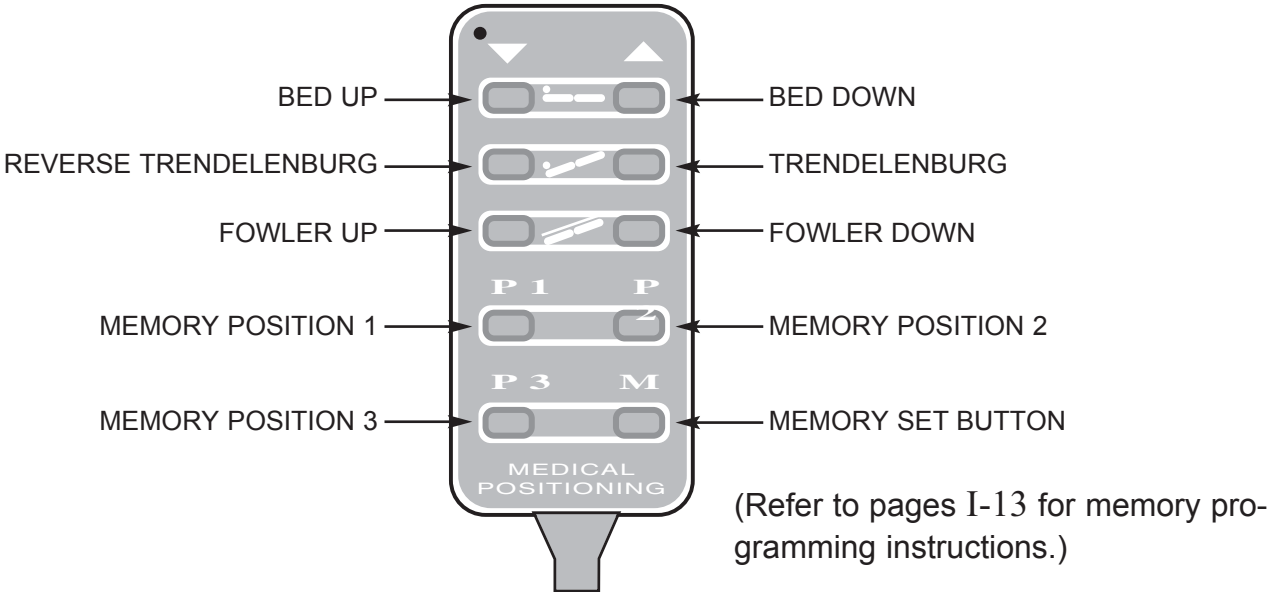


Figure 1
I - 2

System Test Procedure

<u>Step</u>	<u>Action</u>
3	If any function does not operate, perform the test procedures listed in the “ Troubleshooting Guide ” located in this manual.

Safety Features

In This Section

This section lists the safety features built into your EchoBed[®]/EchoBed[®] Dual.

Safety Features

The EchoBed[®] is equipped with multiple automated safety features to prevent danger or damage during use. The entire system is loop-grounded to UL 60601-1 hospital standards.

The actuator assemblies are current overload protected. If overloaded, the actuators will stop and reset automatically.

When equipped with a supine ergometer, electrical current is routed through a UL 60601-1 approved multiple outlet power strip which utilizes a safety ground-fault circuit breaker.

The sealed hand-held wand operates the actuators by directing small amounts of low voltage D.C. current to the control box. All of the actuator drives are equipped with internal limit switches which automatically prevent over-extension.

The EchoBed[®] is equipped with Single pedal braking and steering casters which can be engaged with the stainless steel lever located at the center of the base frame.

When equipped with Trendelenburg, a level indicator is located on the sides of the bed surface to allow quick repositioning to level after Trendelenburg procedures.

Patient Positioning

Introduction

Medical Positioning, Inc. is the only provider of the patented drop section which allows a sonographer to:

- ♦ Place the patient in a full left lateral decubitus position
- ♦ Improve image clarity
- ♦ Reduce image acquisition time
- ♦ Provide uninhibited access to the apical window
- ♦ Expand intercostal spaces (with SafeTwedge™)
- ♦ Reduce foreshortening of apical images

The American Society of Echocardiography provides supporting commentary in the “Recommendations for Quantitation of Two Dimensional Echocardiograms” on the value of the drop section as well as the optimum patient position for performing an echocardiogram.

It is recommended that for obtaining optimum apical views, the patients be positioned in steep lateral recumbency for examination. Once this position has been achieved, it should be maintained with a wedge or pillow...(When) the patient is in a steep left lateral position, it is frequently difficult to transect the true apex unless there is a mattress with a scoop or excavation at the point where the apex impulse is generally located...Lack of specialized examining tables makes quantitative measurements more difficult in the critical care setting where modifying the bed is not practical. ¹

With your imaging surface from Medical Positioning, Inc., you are well-equipped to start improving the quality of your images.

In This Section

You will learn how to correctly position patients on your imaging surface to optimize the results of your echo studies. **Before you begin, be sure the casters are in the locked position- refer to “Caster Use” section for detailed instructions.**

Patient Positioning Procedure

<u>Step</u>	<u>Action</u>
1	Place a SafeTwedge™ flush with the head end of the bed (where the drop section is located). The SafeTwedge™ should be evenly centered between the sides of the bed.
2	With the drop section closed, ask the patient to lie on their back on the imaging surface.

(continued)

¹Nelson B. Schiller, MD, et al. “Recommendations for Quantitation of the Left Ventricle by Two-Dimensional Echocardiograms,” *Journal of the American Society of Echocardiography*, 1989, Vol. 2, pp. 358-367.

Patient Positioning Procedure (cont.)

<u>Step</u>	<u>Action</u>
3	Explain to the patient that you will be opening the drop section. While the patient will not feel anything, <i>do not surprise the patient by opening the drop section without warning.</i>
4	Adjust the patient so that he or she is in the middle of the bed (side to side) and so that the patient's armpit or axilla is aligned with the top edge of the drop section. (See Figure 2)

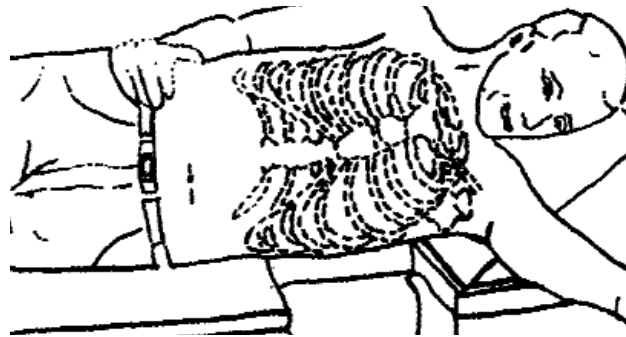


Figure 2

If there is any question about proper positioning, roll the patient up onto their left side, open the Imaging Window Drop Section either remotely or manually (for instructions on how to operate the drop section, refer to pages II-14 to II-17) and locate the patient's imaging windows. Make any adjustments required to patient position.

*If you are beginning a procedure such as a treadmill exercise echo where the patient will be off and then back on the bed, you should alert the patient to his / her current position and explain to the patient he / she must assume the same position post exercise. Some sonographers use tape on the bed to mark the hip location and tell the patient to return to that marked position following exercise. This technique can be useful, but **BE CAREFUL, image windows frequently shift with exercise.***

(continued)

Patient Positioning Procedure (cont.)

<u>Step</u>	<u>Action</u>
5	<p>When imaging (both resting and stress) it is helpful to ask the patient to place their left hand behind their head. This keeps their arm clear of the imaging window.</p> <p>When using this product with small children, senior citizens or well-endowed women, a Pediatric / Geriatric Adapter (available from Medical Positioning, Inc.) may be helpful.</p>
6	<p>Parasternal views can be obtained with the drop section either open or closed. When obtaining apical images, always open the drop section. At the completion of the study, but before the patient gets up to leave the exam surface, be sure to securely close the drop section.</p>

Sonographer Positioning

Introduction

The EchoBed® Dual is designed to both improve images and maximize sonographer ergonomics. The two drop sections built into the bed are identified as the Imaging Window Drop Section and the Sonographer's Entry Drop Section. The Sonographer's Entry Drop Section on the right of the patient provides a place for the right sided sonographer to sit, close to the patient while maintaining an upright position during imaging.

Once you have properly positioned the patient on his or her left side over the Imaging Window Drop Section (see Patient Positioning for instructions) you are ready to place yourself in the proper position, open the Imaging Window Drop Section and begin imaging the patient.

In This Section

You will learn how to correctly position yourself on your EchoBed® Dual in order to insure maximum comfort and continued upright posture while you are imaging your patients.

Sonographer Positioning Procedure

Before you begin this procedure, please familiarize yourself with the "Patient Positioning Procedure" and the "Operation Section". In preparation for an echocardiography study, and before you work with any patient, lower the Sonographer's Entry Drop Section and seat yourself on the table, facing the head of the bed and perpendicular to where the patient will be located. Place your ultrasound unit in close proximity to where you are seated to minimize the reach from the table to the ultrasound unit. For maximum comfort, it is important that you be able to maintain an upright position while you are operating both the controls on your ultrasound unit and the transducer. With your equipment in the proper place, you are ready to begin working with a patient.

(continued)

Sonographer Positioning Procedure (cont.)

<u>Step</u>	<u>Action</u>
1	Prior to beginning an echo procedure, familiarize the patient with the EchoBed [®] Dual. Explain to him/her that you will be opening the drop sections, that their opening will be slightly noisy, but the patient will be both comfortable and secure throughout the procedure.
2	Insure the patient is in the correct left lateral decubitus position. Tell the patient that you will be opening the Sonographer's Entry Drop Section. While the patient will not feel anything, <i>do not surprise the patient by opening the drop section without warning.</i> Open the Sonographer's Entry Drop Section and enter the cut-out area of the table. Seat yourself on the table, facing the head of the bed and perpendicular to the patient.
3	Tell the patient that you will be opening the Imaging Window Drop Section. Again, the patient will not feel anything, however, <i>do not surprise the patient by opening the drop section without warning.</i> Lower the Imaging Window Drop Section by activating the remote release as described in the "Remote Drop Section Operation" on page III-18.
4	You are now ready to begin imaging the patient.

Operation

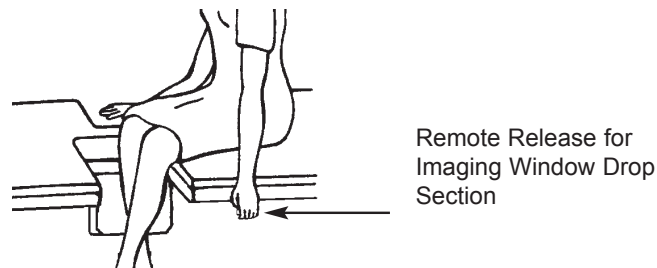
Introduction

The EchoBed[®]/EchoBed[®] Dual is shipped assembled and ready for use. Each function has been pre-tested to insure perfect working order on day one. Your control wand and EchoBed[®] may not be equipped with all of the described functions. A “**Troubleshooting Guide**” is included to instruct you in the event of a malfunction.

The EchoBed[®] is designed for the sonographer that sits on the left side of the patient. This model is equipped with a single drop section, the Imaging Window Drop Section.

The EchoBed[®] Dual is designed for the sonographer that sits on the right side of the patient and reaches over the patient to scan. The EchoBed[®] Dual is equipped with two drop sections: 1) An Imaging Window Drop Section and 2) the Sonographer’s Entry Drop Section.

The Sonographer's Entry Drop Section on the right of the patient provides a place for the sonographer to sit, facing the head of the bed and perpendicular to the patient.



This position, close to the patient, provides several advantages for the right sided sonographer. First, the sonographer’s drop section allows increased control of patient location and greater access to the intercostal imaging areas. In addition, it allows the sonographer to maintain a more upright position and should reduce stress to the shoulder, back and wrist of the sonographer.

In This Section

You will be provided with a basic understanding of the operation of the EchoBed[®]. You will be instructed on the proper use of the EchoBed[®]; including

- using the hand wand
- operating the drop section & remote drop section
- sonographers drop section extension
- care of the non-pinch flap
- caster use
- annual maintenance

Hand Wand Procedure - Memory Positioning Instructions

Your handwand will contain appropriate functions for the bed shipped.

- 1 Initialize all of the actuators by running each actuator (one at a time) to its fully retracted position. This would be; lower the height actuator all the way down, position the lateral tilt actuator to level and place the bed in reverse Trendelenburg position (the Trendelenburg actuator is fully retracted in this position).
- 2 Using the buttons on the hand wand, utilizing as many of the actuator motors as necessary but running only one actuator at a time, place the bed in the desired position for the first memory selection. When you are satisfied with the position attained, press and hold-down the [P 1] and [M] buttons at the same time. An audible tone will be produced by the actuator control box when the memory position is stored.

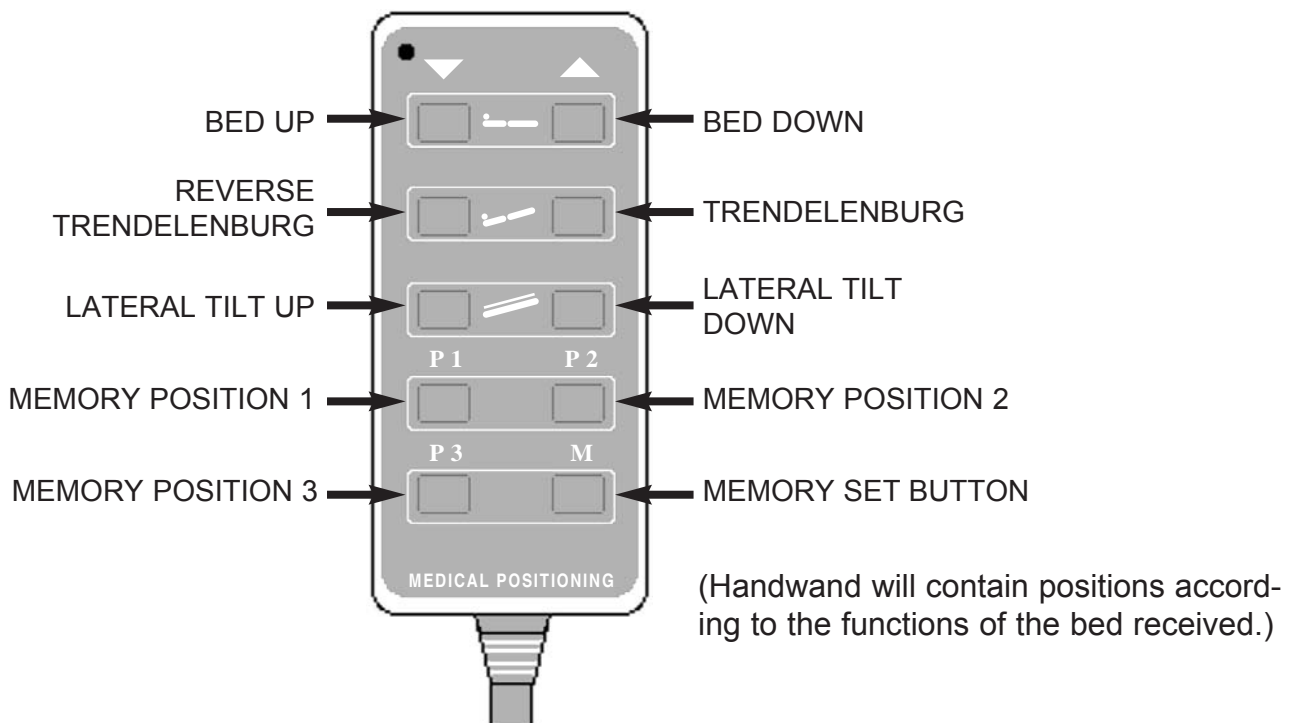


Figure 3

Hand Wand Procedure - Memory Positioning Instructions (cont.)

<u>Step</u>	<u>Action</u>
3	Repeat step 2 for memory positions 2 and 3, using the [P 2] button for memory position 2 and the [P 3] button for memory position 3.

<u>Step</u>	<u>Action</u>
4	To change any of the stored memory positions, repeat steps 1 and 2 for the position you wish to change. It is not necessary to reprogram all of the positions in order to change only one or two of them.

The hand wand attaches to the bed in one of the two (2) following ways: Beds without safety rails - The hand wand has a Velcro strip on the back and the bed has Velcro on the side. (See Figure 4)

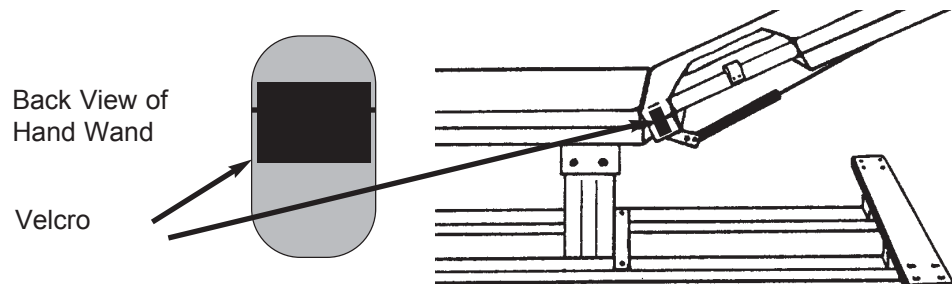


Figure 4

Beds with safety rails - The hand wand has a hook installed on the back which is designed to hang on the safety rail. (See Figure 5)

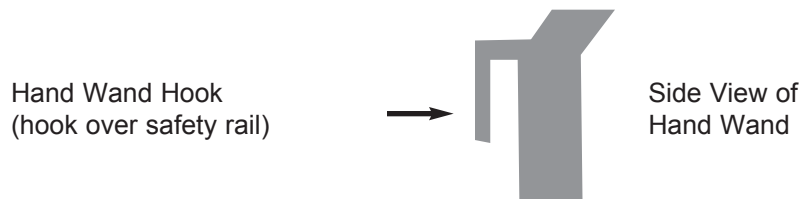


Figure 5

Drop Section (Imaging Window Only)

The drop section is designed to be opened or closed easily with one hand. *Do not place other hand within the drop section area during operation.*

- | <u>Step</u> | <u>Action</u> |
|-------------|---|
| 1 | To open the drop section, locate the metal handle mounted on the bottom of the drop section at the front edge. (See Figure 6) |

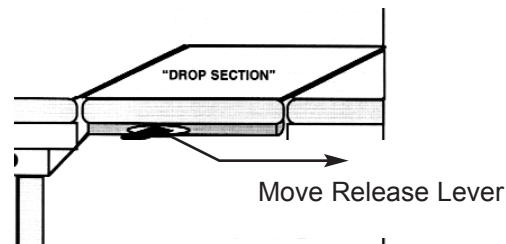


Figure 6

- | | |
|---|---|
| 2 | Pulling the handle outward, from under the drop section, will release the latch mechanism and allow the drop section to swing open. <i>Do not abruptly yank or jerk on handle, it is designed to work with a smooth, steady pull.</i> |
| 3 | To close the drop section, grasp the pull tab (fabric loop) located on the front edge of the drop section and lift the drop section smoothly until it is securely in the full, upright and locked position. (See Figure 7) |

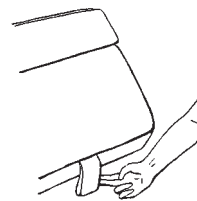


Figure 7

- | | |
|---|--|
| 4 | It is not necessary to "slam" the drop section closed. <i>Slamming the drop section closed will startle the patient and may result in damage to the mechanism.</i> After closing, always lift up on the drop section to assure that it is totally locked before patient entry or exit. |
|---|--|

Dual Drop Sections

The Imaging Window Drop Section and the Sonographer's Dual Entry Drop Section are designed to be opened or closed easily with one hand. The Imaging Window Drop Section may also be opened remotely by using the remote release handle conveniently located adjacent to the Sonographer's Dual Entry Drop Section. The Sonographer's Dual Entry Drop Section also functions as a back support for the patient. Follow Steps 1 and 2 for manual operation of either drop section, proceed to Step 3 for remote operation of the Imaging Window Drop Section and proceed to the "Dual Drop Section Patient Support" section for instructions on positioning the Drop Section in upright positions. ***Do not place hands within the drop section area during operation.***

- | <u>Step</u> | <u>Action</u> |
|-------------|---|
| 1 | To open the drop section, locate the handle mounted on the bottom of the drop section at the front edge. (See Figure 8) |

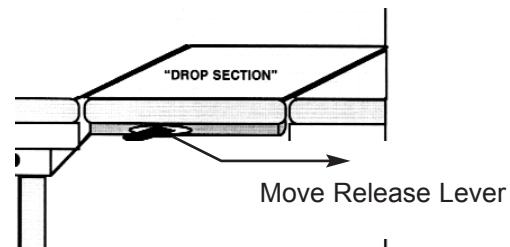


Figure 8

- | | |
|---|---|
| 2 | Pulling the handle outward, from under the drop section, will release the latch mechanism and allow the drop section to swing open. <i>Do not abruptly yank or jerk on handle, it is designed to work with a smooth, steady pull.</i> |
|---|---|

To close either drop section, proceed to Step 4.

Remote Drop Section Operation

Begin here for instructions on how to operate the remote release for the Imaging Window Drop Section.

- | <u>Step</u> | <u>Action</u> |
|-------------|---|
| 3 | To use the remote release, position the patient in left lateral decubitus position, pull out on the lever handle far enough to allow the Imaging Window Drop Section to open. You can accomplish this step while seated. (See Figure 9) |

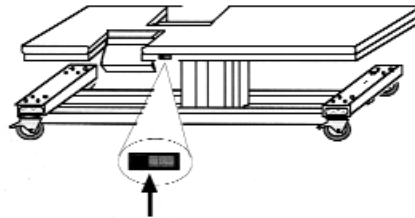


Figure 9

- | | |
|---|---|
| 4 | To close either of the drop sections, grasp the pull-tab (fabric loop), located on the front of the each Drop Section and lift the Drop Section smoothly until it is securely in the full, upright and locked position. (See Figure 10) |
|---|---|

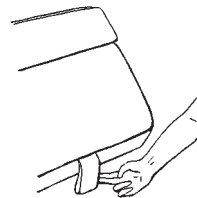


Figure 10

- | | |
|---|---|
| 5 | It is not necessary to “slam” the drop section closed. Slamming the Imaging Drop Section closed will startle the patient and may result in damage to the mechanism. Slamming the Sonographers Drop Section will cause it to over travel the latches. After closing the Imaging Drop Section, always lift up to assure that it is totally locked before patient or personal entry or exit. |
| 6 | The drop section latches are adjustable. In order for the Imaging Window Drop Section and the Sonographer’s Entry Dual Drop Section to continue to operate correctly, you must inspect annually. |

Dual Drop Section Patient Support

The Sonographer's Dual Entry Drop Section may be lowered (as previously described), enabling correct posture for the right handed Sonographer or raised to provide support and proper positioning for the patient. When raised the Drop Section may be locked into one of two different positions. To raise and return to level, please perform the following:

<u>Step</u>	<u>Action</u>
1	Lift the Drop Section until it engages in the first locked position. If a steeper angle is desired, momentarily pull out on the Drop Section mechanism release handle at the front edge of the drop section (the same handle you use to lower the drop section) and pull the Drop Section until it engages the second locked position.
2	To lower the Drop Section back to level, pull out on the Drop Section mechanism release handle at the front edge of the drop section (the same handle) and let the Drop Section down until it engages the mechanism receivers.

Sonographers Drop Section Extension

The Sonographer Drop Section Extension is designed to increase the usable sitting area and comfort for the sonographer. This addition improves posture and body position for the right handed scanning sonographer. The extension is removable and mounts into a support bracket (The extension is shipped with the dual drop section bed but packaged separately)

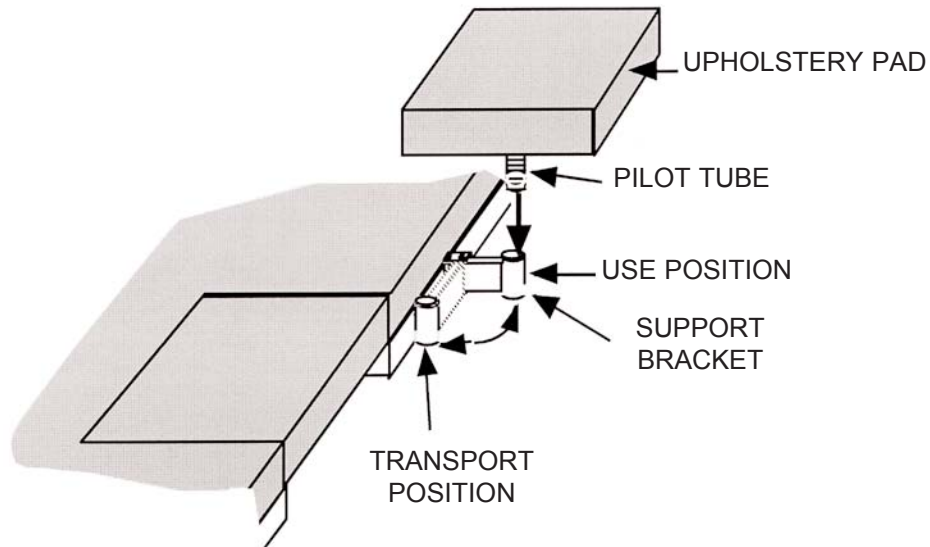


Figure 11

The Sonographer Extension Support Bracket is mounted to the side of the bed a few inches away from the Sonographers Drop Section. It has been placed in the Shipping/Storage position.

- | <u>Step</u> | <u>Action</u> |
|-------------|---|
| 1 | Rotate the Support Bracket to the Use Position (Straight out of the bed side) (See Figure 11) |
| 2 | Insert the Pilot Tube into the Support Tube as shown. |

Non-Pinch Closure

The Non-Pinch Closure Flaps, located at the back edge of both the Imaging Window Drop Section, and the Sonographer's Entry Drop Section prevent the patient from being pinched when either drop section is closed after imaging.

Examine the Non-Pinch Closure Flap with the drop section open and closed. The flap attaches to the bed surface with hook and loop tape that has been permanently attached to the surface.

The drop section should not be operated without the non-pinch closure flap in place.

The flap is attached to the bed with Velcro tape and can easily be adjusted whenever necessary. (See Figure 12)

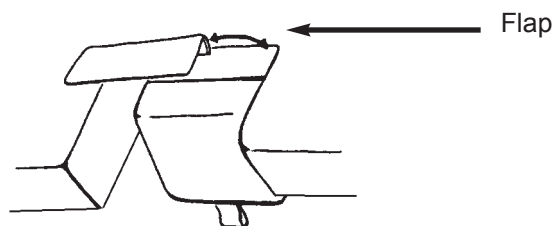


Figure 12

Occasionally the flap may become bent or creased. When that occurs, remove the flap from the bed surface by separating the Velcro tapes. Next, return the flap back to original shape by bending it farther in the opposite direction of the bend or crease and allowing it to spring back to flat.

Should the flap require replacement, you may order one through Medical Positioning, Inc. at 1-800-593-ECHO (3246).

Caster Use Procedure (for beds with individual locking casters)

The casters installed on your EchoBed® are total locking casters. When in the locked position, the caster is prevented from both rolling and swiveling. *Before beginning any procedure involving a patient, insure the casters are in the locked position.*

<u>Step</u>	<u>Action</u>
1	To lock the caster, step down on the outermost edge of the black locking tab located at the top of the caster wheel. (See Figure 13)

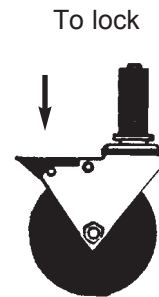


Figure 13

2	To unlock the caster step down on the top, innermost edge of the locking tab or lift up on the outermost edge of the tab.(See Figure 14)
---	--

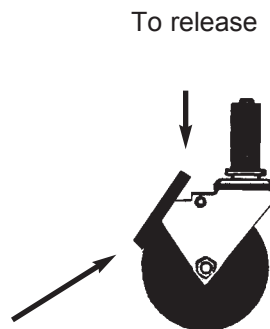


Figure 14

Caster Use Procedure - (for models with single pedal braking)

The casters installed on your EchoBed[®]/EchoBed[®] Dual are controlled by one single pedal located in the center of the base frame. When in the locked position, the caster is prevented from both rolling and swiveling. *Before beginning any procedure involving a patient, insure the casters are in the locked position.*

- | <u>Step</u> | <u>Action</u> |
|-------------|--|
| 1 | To lock casters, press down in the lock position. This will simultaneously lock all four casters in both the swivel and roll modes.(See Figure 15) |

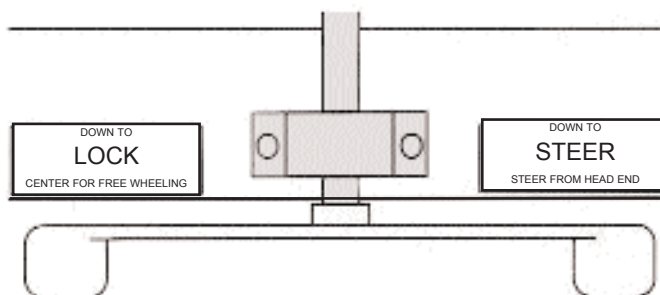


Figure 15

- | | |
|---|---|
| 2 | To allow all 4 casters to swivel and roll, allow foot pedal to be in the center (horizontal) position.(See Figure 15) |
| 3 | To steer the bed, press down in the steer position and this will simultaneously lock the swivel of the foot-end casters while allowing the head end casters to swivel for steering. (See Figure 15) |

Remote Release Maintenance

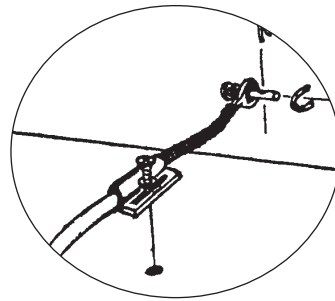
The EchoBed[®] Dual has a remote release drop section for right-handed scanners. The remote release mechanism may require minor adjusting after use. If you find that the remote release is not working as it should, please proceed with these instructions.

Tool Required

Phillips Head Screwdriver

Procedure

This procedure is performed with the drop section *closed*. Located under the imaging window drop section is the control cable for the remote release handle. (See Figure 16) The cable is equipped with an adjustable mounting tab. Should it be necessary, adjustment is performed in the following manner.



View of Remote Release Cable Installation

Figure 16

(continued)

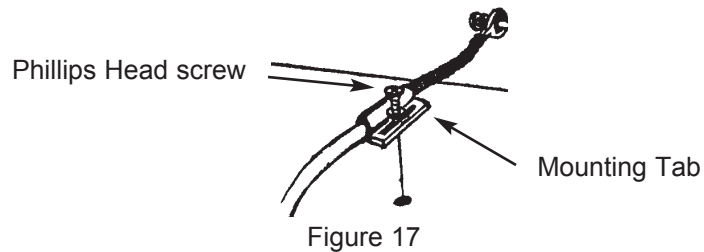
Remote Release Maintenance Procedure (cont.)

The following may help you determine whether you need to tighten the cable or loosen the cable.

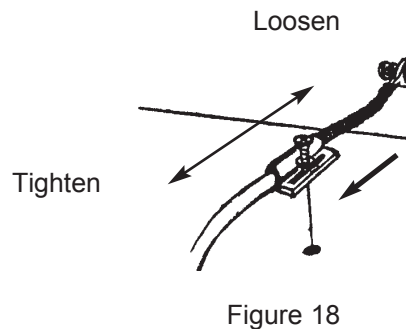
Tighten the cable: When opening the imaging window using the remote release, the drop section does not respond properly. In this event, follow steps 1, 2, and 4.

Loosen the cable: When closing the drop section after use, one or both sides of the drop section do not fully engage or latch securely. In this event, follow steps 1, 3, and 4.

<u>Step</u>	<u>Action</u>
1	Locate and loosen the Phillips Head screw that holds the mounting tab in place. (See Figure 17)



2	To tighten the cable, (take up the slack in the cable) slide the mounting tab towards the center of the bed. (See Figure 18)
---	--



(continued)

Remote Release Maintenance Procedure (cont.)

Be careful when tightening the cable, (moving the mounting tab). Only tighten enough to take-up slack in the cable. Taking up too much slack in the cable may prevent the drop section latch from fully engaging.

<u>Step</u>	<u>Action</u>
3	To loosen the cable, (increase slack to allow more secure closure) slide the mounting tab away from the center of the bed. (See Figure 19)

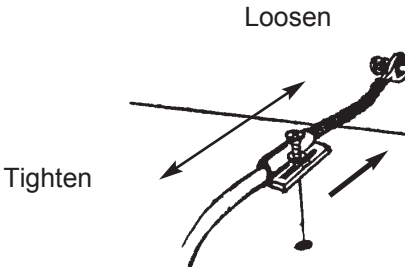


Figure 19

4	Re-tighten the Phillips head screw in the mounting tab to lock-in the adjustment.
---	---

All Ways™ EchoBed® (3 Drop Sections)

In addition to single and dual drop section operation previously described, the All Ways™ EchoBed® incorporates a third drop section and a pivotal device allowing both right and left handed sonographers to use the bed with little or no repositioning of the ultrasound equipment.

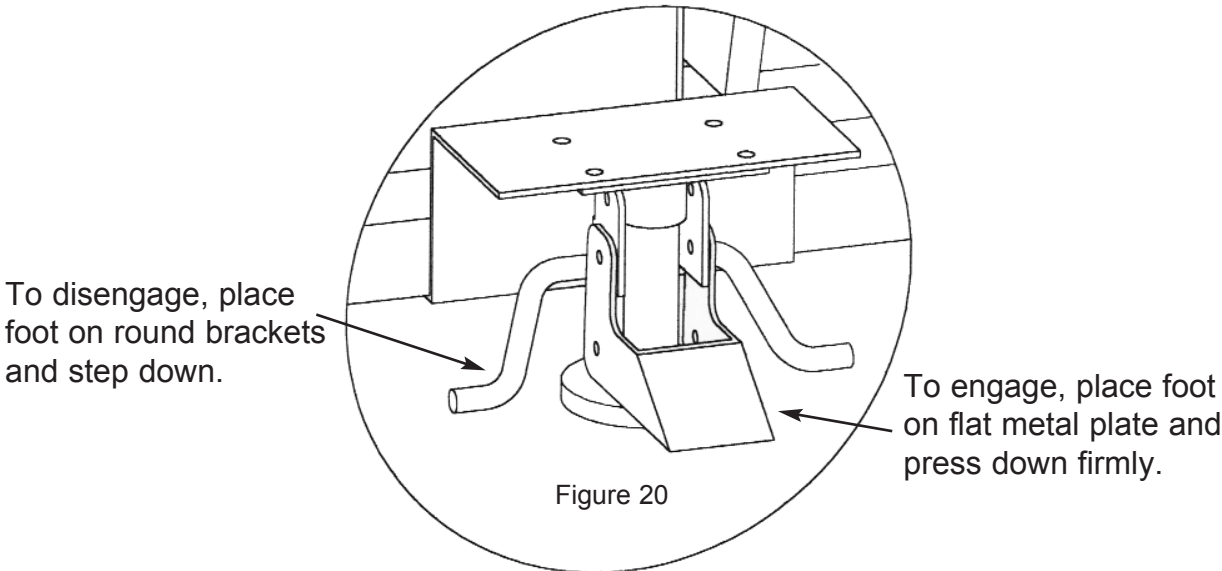
In This Section

You will be instructed on how to engage and disengage the pivotal mechanism and available bed/sonographer position options.

Pivotal Mechanism

The pivotal mechanism is located next to the pedestal column of the bed.

<u>Step</u>	<u>Action</u>
1	Before engaging the mechanism, place the bed and the ultrasound equipment in position for either left or right handed sonography.
2	When positioned, engage by placing your foot on the flat metal plate in the center of the pivotal mechanism and step down firmly. (See Figure 20)
3	To disengage, place your foot on either of the round brackets projecting from the sides of the center, flat plate and step down.



All Ways™ EchoBed® Use

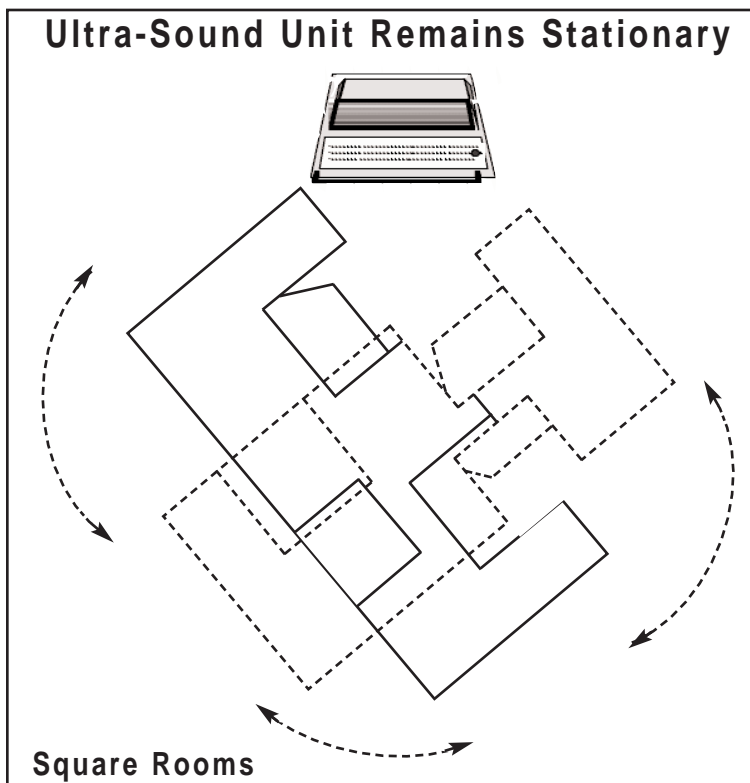
The patented 3 drop section and pivotal mechanism design of the All Ways EchoBed® allows utilization of ultrasound equipment and examination rooms by both left and right handed sonographers with a minimum of equipment repositioning. See below for recommended techniques.

Bed Rotation

This technique allows you to leave the ultra-sound equipment in a singular position and rotate the bed to achieve sonographer access.

When the bed has been positioned for right or left handed orientation and you desire to change to the opposite orientation:

<u>Step</u>	<u>Action</u>
1	Engage the pivotal mechanism as described in the previous section.



- 2 Unlock the brakes on ALL 4 CASTERS.
- 3 Rotate the end of the bed closest to the ultrasound machine away from the ultrasound machine. The bed will rotate around the pivotal mechanism until the opposite end of the bed arrives next to the ultrasound machine.(See Figure 21)
4. Lock the brakes on ALL 4 CASTERS.

For ultra-sound repositioning for elongated rooms see next page.

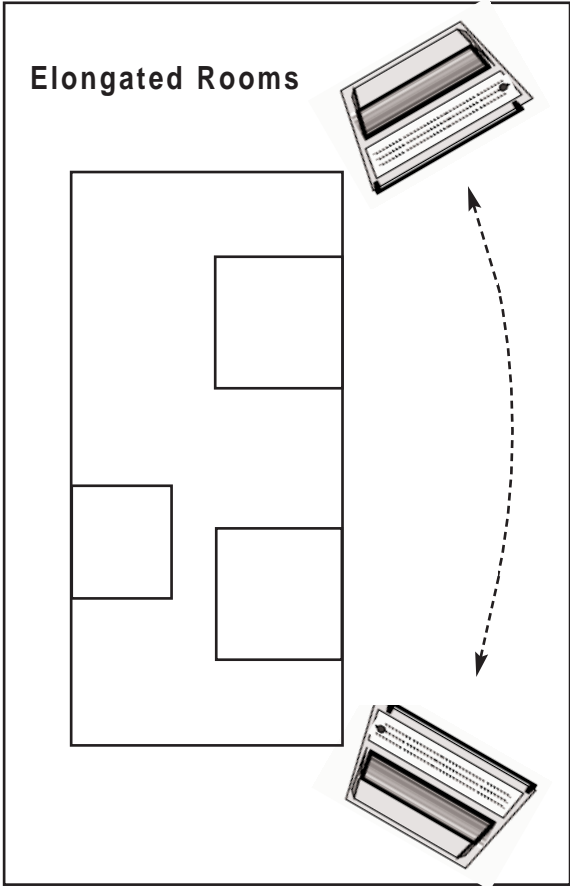
BED PIVOTS ON STATIONARY PIVOT POINT FOR RIGHT HANDED SONOGRAPHY

Figure 21

Ultra-Sound Rotation

Utilization of the multiple drop section characteristics of the All Ways™ EchoBed® for right or left handed orientation can be achieved by rotating the bed as previously described or, where space availability will not permit, by repositioning the ultrasound equipment as shown in Figure 22 .

If this technique is to be used often, careful routing of the electrical cables at time of installation will facilitate quick and easy equipment movement.



**LIMITED MOVEMENT OF
ULTRASOUND UNIT
ALLOWS LEFT/RIGHT
HANDED SONOGRAPHY**

Figure 22

Cleaning Instructions

Please note that substances such as imaging gels and alcohol will not damage the vinyl surface when immediately removed. Studies have shown that exposure for longer than a few minutes can damage the top coat and will eventually discolor vinyl.

The painted metal and plastic surfaces can be cleaned with normal cleaners and disinfectant.

<u>Step</u>	<u>Action</u>
1	Clean and/or disinfect with liquid cleaner of choice being careful to follow label instructions provided with cleaner. (Always test a small area first to determine suitability of solution.)
2	Wipe the surface clean with a wet cloth after applying cleaners and disinfectant to remove excess residue build-up.

ALWAYS READ MANUFACTURERS INSTRUCTIONS AND WARNINGS BEFORE USING ANY CLEANING PRODUCT OR DISINFECTANT.

The vinyl upholstered surfaces can be cleaned in one of the following ways:

<u>Step</u>	<u>Action</u>
1	When caught quickly, most everyday stains like grease, blood and black felt tip pens can be wiped right off. Use mild soap and water. For more stubborn stains, a variety of concentrated and solvent type cleansers may be used without damaging the surface (including alcohol, naphtha and bleach), as long as they are thoroughly rinsed off with water. (Abrasive household cleaners and steel wool should be avoided - see the guide for complete care and cleaning procedures.)
2	Everyday soil can usually be removed using a soft cloth or sponge with mild soap and water. Spills and accidents require immediate attention for best results. In many cases, stains may be cleaned simply with warm water alone. If the stain is allowed to set, more concentrated cleaners may be required.

Cleaning Instructions (cont.)

The following guide covers many of the most common staining agents. During independent laboratory testing, many were allowed to stand for up to 40 hours with excellent cleaning results.

Generally speaking, always start with the mildest cleaning agents first. **Never use harsh powdered abrasive cleansers or steel wool.** Products containing bleach, ammonia or alcohol (Lysol™) should be wiped from the surface with a wet cloth after use. Residue from these products **will** damage vinyl surfaces.

<u>Step</u>	<u>Action</u>
1	Remove excess spill with damp cloth. Clean with 1:1 mix of Ivory™ soap and water. Rinse with clean water and dry.
2	Use straight application of concentrated cleaners such as Formula 409™ or Fantastik™ Spray Cleaner. Then wipe with clean cloth.
3	Use a 1:1 mix of ammonia and water or a 1:4 mix of bleach and water. Rinse with clean water and dry.
4	Use straight application of naphtha (lighter fluid). Rinse thoroughly with clean water and pat surface dry. (see note below)
5	Use 1:1 mix of isopropyl alcohol and water. If stain persists, use straight alcohol. Rinse thoroughly with clean water pat surface dry. If stains remain, use a 1:1 mix of acetone and water. Rinse with clean water and pat surface dry. (see note below)

Note: For cleaning that requires steps 4 or 5 - use a soft cotton cloth saturated with the cleaning material, rub the stain in circles 10 times. Pat dry with another soft cotton cloth and check results.

This information is not a guarantee and does not relieve the user from the responsibility of the proper and safe use of the product and all cleaning agents.

Formula 409™ is a trademark of the Clorox Company.

Fantastik™ Spray Cleaner is a trademark of the Texize Division of Dow Consumer Products, Inc.

Ivory™ is a trademark of Procter and Gamble.

Lysol™ is a trademark of Reckitt & Colman Inc.

Troubleshooting Guide

A “**Troubleshooting Guide**” is included to instruct you in the event of a malfunction. If you are experiencing any of the following symptoms, this guide may help you quickly solve the problem. If, after consulting this guide, you are still unable to operate your EchoBed®/EchoBed® Dual please contact Medical Positioning, Inc. at 1-800-593-3246. Please have the following information ready when you call:

1. Model Number or Name of Product
2. Date Received
3. Condition When Received
4. Symptom (or problem) Encountered & Result of Troubleshooting Procedure

Symptom	Probable Cause	Suggestion
<p>No Actuator Function. Actuator(s) Not Running.</p>	<p>Power cord not plugged all the way in wall receptacle.</p> <p>Power outlet receptacle not supplying 120 VAC power.</p> <p>The power cord may be separated from the control box.</p> <p>On supine ergometer units, the power strip circuit protector may be tripped.</p> <p>Hand wand not properly connected to control box.</p> <p>Actuator power cord not fully connected to control box.</p>	<p>Push power cord securely into receptacle.</p> <p>Check power availability or plug unit into another receptacle.</p> <p>Inspect power availability light on control box. (See Figure)</p> <p>Inspect black plunger switch on power strip and reset by pushing in (fig. 2).</p> <p>Securely press end of hand wand power cord into control box</p> <p>Securely press end of actuator power cord receiver (fig. 3). Inspect control box continuity light on handwand.</p>

Illustrations

The following illustrations correspond with the instructions outlined in the “**Troubleshooting Guide**”.

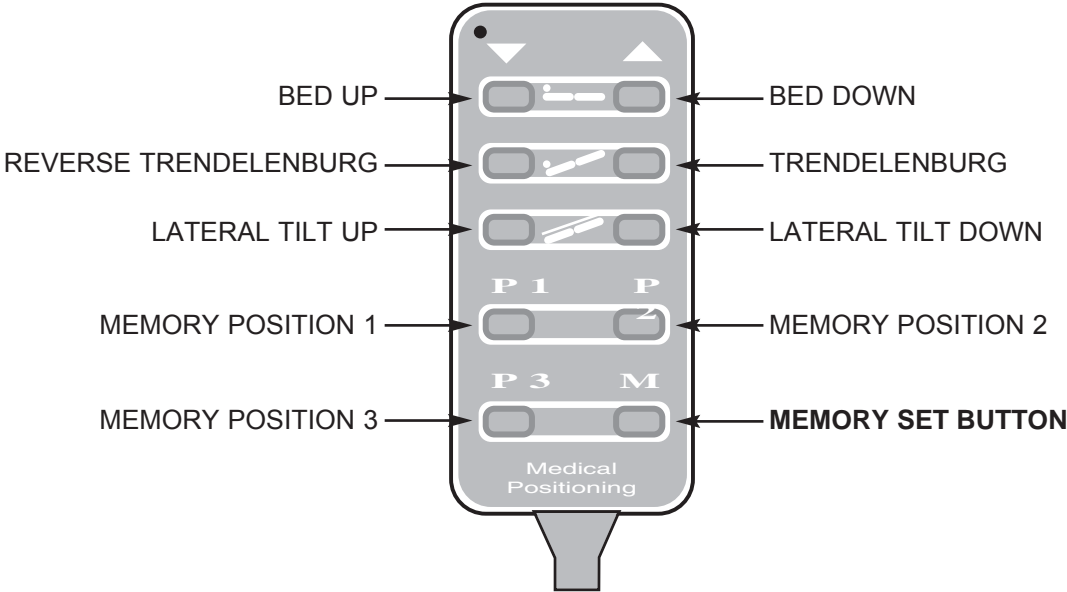


Figure 23

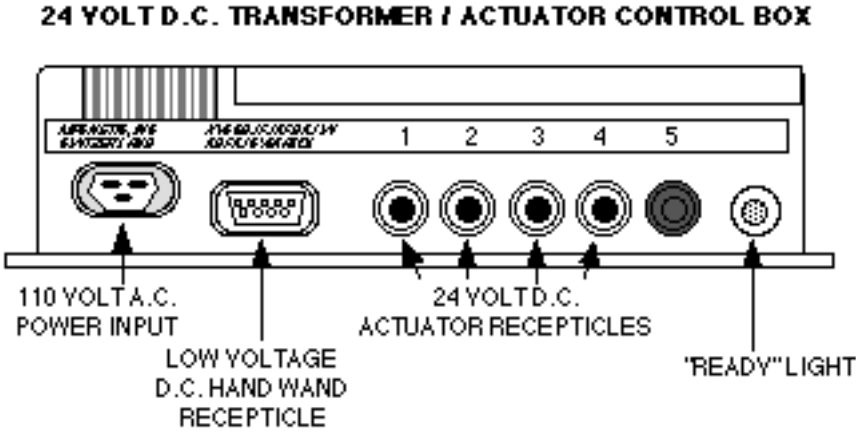


Figure 24

Warranty

Hospital Models

EchoBeds®

1 year - Parts and labor
5 years - All electrical, mechanical and structural parts

This product is fully guaranteed against defects in material or workmanship, for the period indicated above commencing with receipt by the original end user. If a product fails due to a manufacturing defect, we will repair or authorize repairs to the product without charge or replace it at our option.

We use only the finest materials available, but even these premium quality materials will not last forever. Repairs due to normal wear, accident, improper care, or negligence, where we are not at fault, will be performed for a reasonable charge. The warranty does not apply if the product has been modified without the advance written permission of Medical Positioning, Inc. or if a Office Model product is placed in an acute care facility.

Medical Positioning, Inc. makes no other warranty, either expressed or implied, with respect to this product. Medical Positioning, Inc. specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

The remedies provided herein are customer's sole and exclusive remedies. In no event shall Medical Positioning, Inc. be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory.

Product shall not be returned to Medical Positioning Inc. without prior written authorization from Medical Positioning, Inc. If a product is returned without prior authorization, customer is responsible for all shipping charges and any applicable duties and/or taxes. When a repair is made on site, (solely) at the request of the customer, the customer is responsible for all travel costs.

Medical Positioning, Inc.

1717 Washington
Kansas City, MO 64108,
(800) 593-3246
www.medicalpositioning.com

WARR0700

U.S. Patents: 6,353,949 B1; 5,950,262; 5,919,131; 347,691; ,184,363; 5,461,739; 6,367,104 B1; 5,250,262; 5,367,104 B1; 6,832,399 B2; 6,557,196 B2; 7,082,268: **International Patents:** 195 81 706; 2,304,568; Additional Patents Pending

Echo & EchoBed are registered trademarks of Medical Positioning, Inc.

Parts List and Diagrams

Parts List

<u>Part #</u>	<u>DESCRIPTION</u>
10217	FRAME, BASE B1023-3
10218	FRAME, BED B1023-4
10219	PLATE, TOP B1023-5
10220	SHAFT, TRENDELENBURG B1023-6
10312	SPACER, COLUMN B1023-7
10332	BRACKET, PIVOT B1023-8
10221	FRAME, TRENDELENBURG B1023-9
10301	COLUMN, FIXED HEIGHT B1023-10
10222	BRACKET, LOWER LATERAL TILT B1023-11
10223	BRACKET, UPPER LATERAL TILT B1023-12
10224	BRACKET, BED B1023-13
10225	BRACKET, PEDESTAL B1023-14
10251	PROTECTOR, PLUG B1023-16
10307	TRAY, SMALL B1023-17
10308	TRAY, LARGE B1023-18
10253	FRAME, LATERAL TILT B1023-20
10302	BRACKET, TABLE B1023-23
10102	LINK, TRENDELENBURG B1023-99
10188	BOLT, HEX 1/4-20 X 3/4"
10026	BOLT, HEX 5/16-18 X 1 1/2"
10189	BOLT, HEX, 5/16-18 X 2" GRADE 8
10027	BOLT, HEX 3/8-16 X 1"
10343	BOLT, HEX, 3/8-16 X 1" GRADE 8
10190	BOLT, HEX, 3/8-16 X 2" GRADE 8
10191	BOLT, HEX, 3/8-16 X 3" GRADE 8
10192	BOLT,HEX, 1/2-13 X 2 1/2" GRADE 8
10193	BOLT, HEX, 10mm X 40mm
10194	BOLT, HEX, 10mm X 50mm
10195	BOLT, SHOULDER, 12mm X 35mm
10057	SCREW, PHILLIPS PAN HEAD, #8 X 3/4"
10116	NUT, NYLOCK 1/4-20
10028	NUT, HEX, 5/16-18
10196	NUT, HEX, 5/16-18 GRADE 8
10197	NUT, HEX, 3/8-16 GRADE 8
10198	NUT, HEX, 1/2-13 GRADE 8
10199	NUT, NYLOCK, 10mm
10255	WASHER, INTERNAL TOOTH, 5/16"
10254	WASHER, INTERNAL TOOTH, 3/8"
10140	WASHER, LOCK, 3/8"
10256	WASHER, INTERNAL TOOTH, 10mm
10205	WASHER, MACHINE BUSHING, 7/8 X 1 3/8-18 GA.
10056	WASHER, LOCK 1/2"
10238	BEARING, #GEZ014
10342	BEARING, FLANGE #EF1620-16
10240	COLLAR,SET SCREW, 7/8" ID
10284	GROMMET, CATAPILLAR #2692
10239	LEVEL, POCKET 5"
10245	POWER CORD 16/3 SJT
10278	POWER STRIP #ULHC4-15
10025	CASTER, PLATE #22-5156-45
10185	ACTUATOR, HT / LC 12XWDK2U-001
10215	ACTUATOR, LT / SGU014UDAK-400
10228	ACTUATOR, TB / SGU013UDAK-413
10216	WAND, CLASSICO-1 MOTOR #PHC1-130833
10279	WAND, CLASSICO-2 MOTOR H/LT #PHC2-130835
10229	WAND, CLASSICO-2 MOTOR H/TR #PHC2-130834
10239	WAND,CLASSICO-3 MOTOR H/T/L #PHC3-130836

Parts List (EPS Bed with Fowler)

Part #	DESCRIPTION
10344	FRAME,STATIONARY FOWLER-1
10345	FRAME,FOWLER FOWLER-2
10373	BRACKET,COLUMN FOWLER-3
10346	MOUNT,TRENDELENBURG FOWLER-4
10347	COVER,LATCH FOWLER-5
10348	STOP BAR,DROP SECTION FOWLER-8
10217	FRAME.BASE B1023-3,
10219	PLATE,TOP B1023-5
10220	SHAFT,TRENDELENBURG B1023-6
10251	PROTECTOR,PLUG B1023-16
10360	BOLT, HEX 1/4-20 X 3"
10405	BOLT, HEX 1/4-20 X1"
10026	BOLT, HEX 5/16-18 X 1 1/2"
10189	BOLT, HEX 5/16-18 X 2" GRADE 8
10190	BOLT, HEX 3/8-16 X 2" GRADE 8
10359	BOLT, MACHINE 10/24 X 1"
10193	BOLT, HEX 10mm X 40mm
10195	BOLT, SHOULDER 12mm X 35mm
10430	BOLT, HEX 7/16 X 1 3/4, GR 8
10369	NUT, PUSH 3/8" (MCMMASTER #94803A031)
10361	NUT, TEE 10/24 X 5/8"
10362	NUT, TEE 1/4-20 X 5/8"
10028	NUT, HEX 5/16-18
10196	NUT, HEX 5/16-18, GRADE 8
10197	NUT, HEX 3/8-16, GRADE 8
10199	NUT, NYLOCK 10mm
10165	NUT, HEX 1/4-20
10381	NUT, COUPLING 1/4-28
10057	SCREW, PHILLIPS PAN HEAD #8 X 3/4"
10036	WASHER, FLAT #10
10363	WASHER, LOCK #10
10200	WASHER, FLAT 1/4"
10364	WASHER, LOCK 1/4"
10140	WASHER, LOCK 3/8"
10255	WASHER, INTERNAL TOOTH 5/16"
10256	WASHER, INTERNAL TOOTH 10mm
10203	WASHER, FLAT 1/2"
10254	WASHER, INTERNAL TOOTH 3/8"
10201	WASHER, FLAT 5/16"
10365	BEARING, NYLON FLANGE 3/4" O.D.
10366	BEARING, FLANGED PILLOW BLOCK #5968K44
10330	GAS SPRING, LOCKING -800N #028-00147
10331	RELEASE MECHANISM,GAS SPRING #021-00075
10350	LATCH, #AE3/22388
10351	HANDLE, #PIN100
10376	CHAIN, #10 STAINLESS STEEL BEAD
40019	SPRING, LATCH #C28S/C28C
10377	COUPLING, CHAIN END
10354	KNOB, 1 3/8"DIA. X 1/4-20 THREAD #85221
10353	SWIVEL, CONTROL - MC MASTER #6058K13
10382	ROD, THREADED 1/4-28
10123	TUBING,CLEAR PLASTIC 3/8 ID
10284	GROMET, CATAPILLAR #2692
10239	LEVEL, 5"POCKET
10278	POWERSTRIP, #ULHC4-15
10237	CASTER, PLATE
10245	POWER CORD, 16/3 SJT
10185	ACTUATOR, HT/ #LC12XWDK2U-001
10228	ACTUATOR, TB #SGU013UDAK-413
10216	HANDSWITCH, PNEUMATIC H
10229	HANDSWITCH, PNEUMATIC H/TR
10370	WOOD KIT
10384	UPHOLSTERY KIT

Collapsible Safety Rail Operation

Introduction

Collapsible Safety Rails are an accessory item that may have been purchased on your EchoBed® or may be installed at a later date.

In This Section

You will be instructed on how to operate the collapsible safety rails.

Collapsible Safety Rail Operation Procedure

<u>Step</u>	<u>Action</u>
1	To remove the safety rail, hold the safety rail with one hand (to prevent it from dropping) while you pull the release button with the other hand. (See Figure 1)
2	To lower or replace the safety rail, pull the release button, insert and lower the safety rail all the way down. Let go of the release button.
3	To raise the rail, lift the safety rail until the locking tab of the release button engages the locking hole in the safety rail preventing it from further movement.

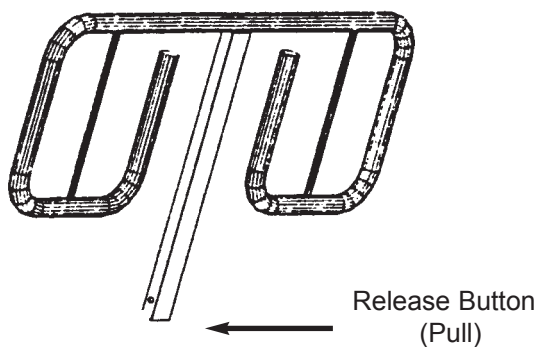


Figure 1

Paper Roll Holder Installation

Introduction

The paper roll holder and cutter is an accessory item that may have been purchased with your EchoBed® or may be installed at a later date.

In This Section

If the bought at time of purchase, the paper roll holder was pre-installed at the factory to insure proper fit, then removed to prevent damage during shipment. You will be instructed on how to re-install the paper roll holder.

Paper Roll Holder Installation

Tools Needed: 1 Philips Head Screwdriver

Step

1

Action

Install the paper roll holder at the head of the bed as shown in Figure 2 , using the 4 (four) #8 screws provided. Carefully place the screws through the paper roll holder mounting brackets and re-install into the bed. **Do not over tighten the mounting screws. Over tightening may cause the threads to strip.**

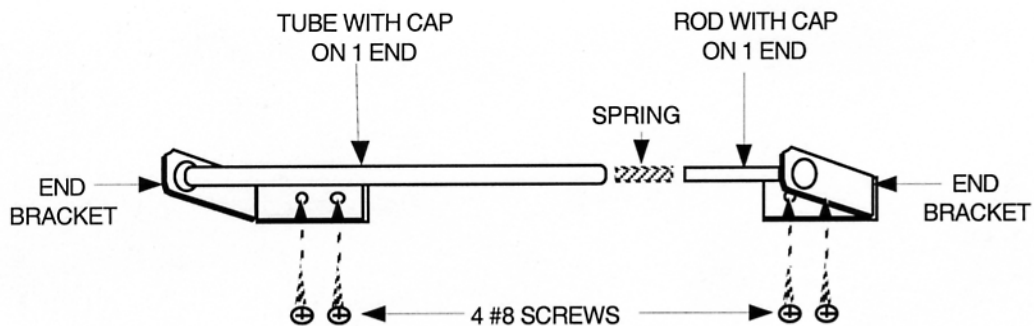


Figure 2

Pediatric / Geriatric Adapter Use

Introduction

The pediatric/geriatric adapter can be placed over the open "Drop Section" imaging window to lessen the size of the opening when imaging smaller patients. It should be removed when not in use.

In This Section

You will be instructed on how to properly place the Pediatric / Geriatric Adapter.

Pediatric / Geriatric Adapter Use

In order to use the pediatric/geriatric adapter it is necessary to first remove the "Non-Pinch Closure" flap.

<u>Step</u>	<u>Action</u>
1	Lower the Drop Section.
2	Remove the Non-Pinch Closure Flap by grasping one side of the Flap and gently separating the hook and loop attachment.
3	Position the adapter locator flanges within the imaging area. (See Figure 3)

Important: When the adapter is not required, simply lift up and out to remove. ***Replace the "Non-Pinch Closure" flap to insure patient comfort and safety.***

4	With the drop section lowered, align the top edge of the non-pinch closure flap, (within the access cavity) with the top edge of the bed surface.
5	Press the hook and loop attachment strips together.

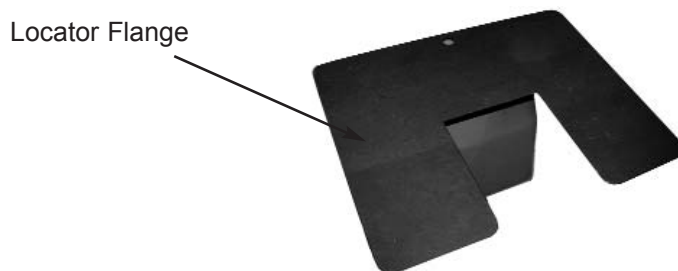


Figure 3