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Stress EchoBed®

MEDICAL POSITIONING, INC
1146 Booth Street
Kansas City, KS 66103

**Stress EchoBed®**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>120 VAC</td>
</tr>
<tr>
<td>Amperage</td>
<td>2.6 Amps</td>
</tr>
<tr>
<td>Cycle</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Duty Cycle</td>
<td>10%, 1 min. on/9 min. off</td>
</tr>
<tr>
<td>Leakage Current</td>
<td>&lt; 100 µA</td>
</tr>
<tr>
<td>Maximum Distributed Load</td>
<td>1000 lbs.</td>
</tr>
</tbody>
</table>

**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 60601-1 AND CAN/CSA C22.2 NO. 601.1

Transportation and storage:
Temperature range within -40 to 70 °C
Relative humidity range within 10% to 100%
Atmospheric pressure range within 500 to 1080 hPa
Symbols and Definitions

Warning, follow instructions for use. Failure to comply may result in injury.

Warning, stepping is prohibited. Failure to comply may result in injury.

Applied Part complying with specified requirements for protection against electric shock. Type B Applied Parts are those parts, which are usually Earth referenced. Type B are those parts not suitable for direct cardiac application.

Attention, consult accompanying documents.

Any terminal which is intended for connection to an external protective conductor for protection against electric shock in case of a fault.

This device contains materials that are potentially hazardous to the environment. In accordance with the DIRECTIVE 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE CONCIL on waste electrical and electronic equipment (WEEE), the Stress EchoBed® electrical system and accessories should not be disposed as unsorted municipal waste. Consult your instructional policies and local regulations regarding disposal. Contact your Medical Positioning, Inc. Service Representative if additional disposal details are required.
Precautions

Your Stress EchoBed® has been pre-assembled and tested to ensure operation on day one. Please closely inspect it when you receive it to ensure no damage has occurred during shipment. Because it is a complex piece of equipment, make note of the following precautions.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. Do not leave patient unattended while using the table.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. Do not modify this equipment without authorization of the manufacturer.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. Do not use in oxygen rich environment.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. To reduce the risk of electrical shock, grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked “hospital only” or “hospital grade”.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. To reduce the risk of electrical shock, do not remove secured covers. Refer servicing to qualified personnel.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. To reduce the risk of a potential fall, lock all casters before using equipment.
⚠️ WARNING, POTENTIAL FOR INJURY. Verify the area around the product is free of impediments before articulating the product to prevent injury or equipment damage.

⚠️ WARNING, POTENTIAL FOR INJURY. Keep hands and feet clear from beneath the patient surface when articulating the product to avoid possible injury

⚠️ WARNING, POTENTIAL FOR INJURY. Never step or rest a foot on the base frame of the product as there is a potential for injury.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. Once the table and patient have been properly positioned, ensure the casters are locked and the hand wand is placed in a safe position to prevent incidental contact and unwanted movement of the table surface during the procedure.

⚠️ WARNING, POTENTIAL FOR INJURY. Avoid placing your hand in or near the drop section mechanism during operation.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. After closing, always lift up on the drop section to assure that it is totally locked before patient entry or exit.

⚠️ WARNING, POTENTIAL FOR INJURY. Failure to hold the back rest when activating the release lever will result in the back rest lowering suddenly, possibly causing injury to the patient.

⚠️ WARNING, POTENTIAL FOR INJURY. Do not operate drop section or back rest if non-pinch closure flap is absent. The flap is attached to the bed with hook and loop tape and can easily be adjusted whenever necessary.

⚠️ WARNING, POTENTIAL FOR INJURY. To reduce the risk of potential injury to patients lower extremities, only place a patient on the Stress EchoBed® when the Ergometer or Track Insert is in place.

⚠️ WARNING, POTENTIAL FOR INJURY. To reduce the risk of a potential injury, lock all casters before installing, adjusting, or removing the Ergometer.

⚠️ WARNING, POTENTIAL FOR INJURY. To reduce the risk of a potential injury, always use two (2) people to install or remove the Ergometer. It has a weight that exceeds that for which a single individual can safely lift.

⚠️ WARNING, POTENTIAL FOR INJURY. Always have the Ergometer Slide Lock engaged when the ergometer is removed from the Stress EchoBed®.

⚠️ WARNING, POTENTIAL FOR INJURY. Do not install or remove the Ergometer Controller while a patient is on the bed.

⚠️ WARNING, POTENTIAL FOR INJURY. To reduce the potential for patient knee injury, position the ergometer so the patient's knees remain slightly bent through all positions of pedal rotation.
WARNING, POTENTIAL FOR INJURY OR DEATH. Always verify the safety rail is securely latched in the up position before using the table with the safety rail raised. Failure to have the safety rail latched in the raised position may result in a patient fall.

WARNING, POTENTIAL FOR INJURY OR DEATH. Remove the Pediatric/Geriatric Adaptor when not in use.

WARNING, POTENTIAL FOR INJURY. Always read manufactures instructions and warnings before using any cleaning product or disinfectant.

WARNING, POTENTIAL FOR INJURY OR DEATH. It is recommended that the product be cleaned between patients; please follow your facilities documented policy.

CAUTION, PRODUCT DAMAGE MAY RESULT. Secure hand wand with hook when not in use. Keep cable clear of moving parts.

CAUTION, PRODUCT DAMAGE MAY RESULT. The drop sections must be closed or placed in the upright position before the head end of the table is tilted below horizontal (Trendelenburg) when the bed is at a low height. Failure to follow this precaution can result in damage to the drop section upholstery, hinge and/or latch mechanism.

CAUTION, PRODUCT DAMAGE MAY RESULT. It is not necessary to ”slam” the drop section closed. Slamming the drop section closed will startle the patient and may result in damage to the mechanism.

CAUTION, PRODUCT DAMAGE MAY RESULT. The ergometer control cable must be disconnected from the Ergometer Controller before you install or remove the Ergometer Controller. Failure to do so may result in Ergometer Controller damage.

CAUTION, PRODUCT DAMAGE MAY RESULT. Proper alignment of the connector pins is critical. Failure to properly align the connector pins can result in damaging the connector.

CAUTION, PRODUCT DAMAGE MAY RESULT. Always grasp the connector and not the cable.

CAUTION, PRODUCT DAMAGE MAY RESULT. Do not over tighten the mounting screws. Over tightening may result in stripping threads.

CAUTION, PRODUCT DAMAGE MAY RESULT. 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.

CAUTION, PRODUCT DAMAGE MAY RESULT. Do not use abrasives to clean surfaces.
Intended Use

The product is intended for use with ultrasound systems and ECG systems. The product is intended for the environment where ultrasound systems are used, including hospitals, outpatient facilities, and doctor’s offices. The product is contraindicated for patients that cannot safely sit in a chair or lie on an elevated surface.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. Do not leave patient unattended while using the table.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. Do not modify this equipment without authorization of the manufacturer.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. Do not use in oxygen rich environment.

MPI is the only provider of the patented drop section, which optimizes the sonographer’s ability to:

- Place the patient in full left lateral decubitus position,
- Improve image clarity,
- Reduce image acquisition time,
- Provided uninhibited access to the apical window,
- Expand intercostal spaces (with Safe-T-Wedge™), and
- Reduce foreshortening of apical images.

The American Society of Echocardiography provides supporting commentary in “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 steep left lateral position, it is frequently difficult to transect the true apex unless there is a mattress with scoop or evacuation 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 images.

Set Up

Your Stress EchoBed® has been shipped to you in “plug and play” condition. After unpacking the product, we recommend performing an initial test of your Stress EchoBed® to ensure that each function is in correct working order. After reviewing this manual you are ready to begin using your Stress EchoBed®.

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.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. To reduce the risk of electrical shock, grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked “hospital only” or “hospital grade”.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>After removing padding and packaging materials, locate primary power supply cord and attach to suitable grounded 120 VAC outlet.</td>
</tr>
<tr>
<td>2</td>
<td>To test actuator function, locate the hand-wand and depress each function button one at a time. (Depressing multiple buttons simultaneously will prevent the motor from operating.) Figure 2.</td>
</tr>
<tr>
<td>3</td>
<td>If any function does not operate, perform the test procedures listed in the Troubleshooting Guide</td>
</tr>
</tbody>
</table>

Isolation from the external electrical supply can be obtained by unplugging the power cord from the wall outlet or by unplugging the power cord from the control box.

Figure 2
Safety Features

- This product is equipped with multiple automated safety features to prevent danger or damage during use. The entire system is electrically isolated to UL/IEC 60601-1 and CAN/CSA C22.2 No. 601.1 hospital safety 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-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 tables are equipped with total locking, sealed bearing, and braking casters at all four corners.
Operation

Your Stress EchoBed® is shipped assembled and ready for use. Each function has been pre-tested to ensure perfect working order on day one.

A “Troubleshooting Guide” is included in this manual to assist you in the event of a malfunction.

The Stress EchoBed® is designed for use by sonographers who scan left-handed or right-handed. The Stress EchoBed® is equipped with two drop-sections:

- An imaging window drop-section, and
- The Sonographer’s entry drop-section

Left-handed scanners sit in a chair beside the bed and utilize the imaging window drop section. The Sonographer’s entry drop-section on the right of the patient provides a place for the sonographer to sit behind the patient, reaching over to scan right-handed. See Figure 3

![Remote release for imaging window drop-section](image-url)

Figure 3

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.

Functionality in this section

- Hand-wand
- Individual Locking Casters
- Drop Sections
- 2-Way Back Rest
- Non-Pinch Flap
- Ergometer
- Ergometer Controller
- Patient Coach
- Bed Preparation
- Patient Positioning Procedure
- Sonographer Positioning
### Hand-Wand

The hand wand is a low voltage device. The cable begins at the hand wand and plugs into the control box on the other end.

⚠️ **WARNING, POTENTIAL FOR INJURY.** Verify the area around the product is free of impediments before articulating the product to prevent injury or equipment damage.

⚠️ **WARNING, POTENTIAL FOR INJURY.** Keep hands and feet clear from beneath the patient surface when articulating the product to avoid possible injury.

⚠️ **WARNING, POTENTIAL FOR INJURY.** Never step or rest a foot on the base frame of the product as there is a potential for injury.

⚠️ **WARNING, POTENTIAL FOR INJURY OR DEATH.** Once the table and patient have been properly positioned, ensure the casters are locked and the hand wand is placed in a safe position to prevent incidental contact and unwanted movement of the table surface during the procedure.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Initialize all of the actuators by running each actuator (one at a time) to its fully retracted position. Lower the height actuator all the way down. Position the lateral tilt actuator to level. Place the bed in reverse Trendelenburg position (the Trendelenburg actuator is fully retracted in this position). See Figure 4</td>
</tr>
<tr>
<td>2</td>
<td>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 the [P1] and [M] buttons at the same time. An audible tone will be produced by the actuator control box when the memory position is stored.</td>
</tr>
<tr>
<td>3</td>
<td>Repeat step 2 for memory positions 2 and 3, using the [P2] button for memory position 2 and the [P3] button for memory position 3.</td>
</tr>
<tr>
<td>4</td>
<td>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 each time.</td>
</tr>
</tbody>
</table>
Figure 4
The Hand-Wand attaches to the bed by utilizing the hook on the backside of the Hand-Wand which is designed to hang on the safety rail. See Figure 5

⚠️ CAUTION, PRODUCT DAMAGE MAY RESULT. Secure hand wand with hook when not in use. Keep cable clear of moving parts.

⚠️ CAUTION, PRODUCT DAMAGE MAY RESULT. The drop sections must be closed or placed in the upright position before the head end of the table is tilted below horizontal (Trendelenburg) when the bed is at a low height. Failure to follow this precaution can result in damage to the drop section upholstery, hinge and/or latch mechanism.
Individual Locking Casters

The standard casters installed on your Stress EchoBed® are total locking casters. When in the locked position, the caster is prevented from both rolling and swiveling.

⚠️ **WARNING, POTENTIAL FOR INJURY OR DEATH.** To reduce the risk of a potential fall, lock all casters before using equipment.

⚠️ **WARNING, POTENTIAL FOR INJURY.** To reduce the risk of a potential fall, do not use the product to transport patient between rooms or over thresholds.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To lock the caster, step down on the outermost edge of the locking tab located at the top of the caster wheel. See Figure 6</td>
</tr>
<tr>
<td>2</td>
<td>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 7</td>
</tr>
<tr>
<td>3</td>
<td>When moving the Stress Echo Bed, place the product horizontal, or the lateral tilt down position.</td>
</tr>
</tbody>
</table>

![Figure 6](image1.png) ![Figure 7](image2.png)
Drop Sections

The Stress EchoBed® is designed to both improve images and maximize sonographer ergonomics. The two drop-sections built into the table are identified as the “Imaging drop section” and the “Sonographer’s drop section”. The Sonographer's drop-section on the right of the patient provides a place for the right-handed 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 section) you are ready to place yourself in the proper position, open the imaging window drop-section and when imaging the apical views on the patient.

The drop sections are designed to be opened or closed easily with one hand.

⚠️ WARNING, POTENTIAL FOR INJURY. Avoid placing your hand in or near the drop section mechanism during operation

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. After closing, always lift up on the drop section to assure that it is totally locked before patient entry or exit.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To open the drop section, locate the metal handle mounted on the bottom of the drop section at the front edge. See Figure 8</td>
</tr>
<tr>
<td>2</td>
<td>Pulling the handle to the left or towards the foot of the bed, from under the drop section, will release the latch mechanism and allow the drop section to swing open. Do not abruptly yank or jerk on handle, it is designed to work with a smooth, steady pull</td>
</tr>
<tr>
<td>3</td>
<td>To close the drop section lift the drop section smoothly until it is securely in the full, upright and locked position.</td>
</tr>
</tbody>
</table>

Figure 8

Release Lever
Additionally the drop section on the patients left (imagining drop section) can be opened remotely from the left side of the table.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To open the imagining drop section remotely, locate the remote release on the patient’s right side just next to the right side drop section on the side toward the head of the table. See Figure 9</td>
</tr>
<tr>
<td>2</td>
<td>Pulling the handle outward will release the latch mechanism and allow the drop section to swing open.</td>
</tr>
<tr>
<td>3</td>
<td>To close the drop section lift the drop section smoothly until it is securely in the full, upright and locked position.</td>
</tr>
</tbody>
</table>

⚠️ CAUTION, PRODUCT DAMAGE MAY RESULT. The drop sections must be closed or placed in the upright position before the head end of the table is tilted below horizontal (Trendelenburg) when the bed is at a low height. Failure to follow this precaution can result in damage to the drop section upholstery, hinge and/or latch mechanism.

⚠️ CAUTION, PRODUCT DAMAGE MAY RESULT. It is not necessary to “slam” the drop section closed. Slamming the drop section closed will startle the patient and may result in damage to the mechanism.
2-Way Back Rest

Stress EchoBed® has a convenient patient support back rest integrated into the sonographer’s drop section on the patient’s right side by allowing it to rise in addition to drop. The 2-Way Back Rest is part of a multi-functional feature that also operates as the sonographer’s drop section.

⚠️ WARNING, POTENTIAL FOR INJURY. Failure to hold the back rest when activating the release lever will result in the back rest lowering suddenly, possibly causing injury to the patient.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To raise, lift up on the outside edge of the back rest (drop section on the patient right) until the locking pin engages and holds the back rest in the elevated position. To raise into a steeper position, move lever to the left as you push drop section up, until the locking pin engages again and holds the back rest in a steep left lateral position.</td>
</tr>
<tr>
<td>2</td>
<td>To lower, grasp the top edge of the back rest and exert a little pressure towards the center of the table and pulling the drop section release handle will release the latch mechanism. Lower the back rest to the flat position. See Figure 8</td>
</tr>
</tbody>
</table>

Non-Pinch Closure

The non-pinch closure flap located at the back edge of the back rest is designed to reduce the possibility of the patient being pinched when the back rest is raised or lowered.

⚠️ WARNING, POTENTIAL FOR INJURY. Do not operate drop section or back rest if non-pinch closure flap is absent. The flap is attached to the bed with hook and loop tape and can easily be adjusted whenever necessary.

Examine the non-pinch closure flap with the back rest raised and lowered and when the arm rest is open and closed. The flap attaches to the bed surface with hook and loop tape that has been permanently attached to the surface. See Figure 10

![Flap](image)

Figure 10

Occasionally the flap may become bent or creased. When that occurs, remove the flap from the bed surface by separating the hook and loop strips. (See Figure 6) 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).
Ergometer

The ergometer can be removed and its mounting area covered with an optional Track Insert so the entire surface of the bed can be used.

⚠️ WARNING, POTENTIAL FOR INJURY. To reduce the risk of potential injury to patients lower extremities, only place a patient on the Stress EchoBed® when the Ergometer or Track Insert is in place.

⚠️ WARNING, POTENTIAL FOR INJURY. To reduce the risk of a potential injury, lock all casters before installing, adjusting, or removing the Ergometer.

⚠️ WARNING, POTENTIAL FOR INJURY. To reduce the risk of a potential injury, always use two (2) people to install or remove the Ergometer. It has a weight that exceeds that for which a single individual can safely lift.

⚠️ WARNING, POTENTIAL FOR INJURY. Always have the Ergometer Slide Lock engaged when the ergometer is removed from the Stress EchoBed®.

Ergometer Installation

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Remove the Track Insert, if installed. See Track Insert section of manual.</td>
</tr>
<tr>
<td>2</td>
<td>Using two people, rest the ergometer track assembly on the foot end of the bed, in line with the track restraint guides. See Figure 11</td>
</tr>
<tr>
<td>3</td>
<td>Slowly push the entire track assembly towards the head of the bed aligned between the track restraint guides until the ergometer slide lock comes into contact with the back edge of the track base. See Figure 12</td>
</tr>
<tr>
<td>4</td>
<td>Momentarily lift the handle of the ergometer slide lock while pushing the entire track assembly further into the track restraint guides until the red “warning” label is fully covered by the track and the ergometer slide lock is fully engaged in the track lock receiver. See Figure 11 and Figure 13</td>
</tr>
<tr>
<td>5</td>
<td>Inspect and test before using the ergometer. The ergometer track lock should be fully engaged in the track lock receiver. No part of the red “warning label” should be visible. See Figure 12 and Figure 14</td>
</tr>
<tr>
<td>6</td>
<td>Route the ergometer power cord over the end of the bed, through the retaining strap under the bed and plug the ergometer power cord plug into the power strip.</td>
</tr>
</tbody>
</table>
Figure 11

Figure 12
## Ergometer Removal

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lift and turn the handle of the ergometer slide lock located in front of the ergometer to disengage it. See Figure 14</td>
</tr>
<tr>
<td>2</td>
<td>Slide the ergometer as far toward the head of the bed as possible, and turn the ergometer slide lock handle to engage the lock. Confirm the Ergometer is locked into position. Move the ergometer as needed to allow the slide lock to drop into a hole in the slide base.</td>
</tr>
<tr>
<td>3</td>
<td>Follow the power cord from the back of the ergometer to the power strip and unplug the ergometer from the power strip.</td>
</tr>
<tr>
<td>4</td>
<td>Pull the ergometer power cord and plug through the retaining strap under the bed. The power cord must be completely detached from the bed before the ergometer can be removed.</td>
</tr>
<tr>
<td>5</td>
<td>Secure the power cord so that it does not get damaged when removing the track assembly (i.e. wrap around post supporting the computer controller. Also, position the boots in a neutral, level position with straps secured, not dangling.</td>
</tr>
<tr>
<td>6</td>
<td>Lift up on the track lock knob located towards the back of the track assembly. While pulling up on the ergometer track lock, pull the entire track assembly away from the head of the bed a few inches to disengage the track lock from the receiver mounted on the bed surface. See Figure 12</td>
</tr>
<tr>
<td>7</td>
<td>Slowly slide the entire track assembly away from the head of the bed. (approximately 12 inches) The ergometer slide lock will come to rest at the end of the channel in the track base.</td>
</tr>
<tr>
<td>8</td>
<td>Momentarily lift the handle of the ergometer slide lock (approximately 1/2 inch) while pulling the entire track assembly further away from the head of the bed. This temporary lift will disengage the ergometer slide lock from both the channel and the track base. Allow the ergometer slide lock to reengage into the hole in the track (so that the ergometer cannot slide independently of the track) after the track has been moved far enough from the head of the bed so that the ergometer slide lock is out of the channel.</td>
</tr>
<tr>
<td>9</td>
<td>Using two people, slide the entire track assembly to the end of the bed. Lift the assembly from the bed and set aside or on the optional Ergometer Storage Cart.</td>
</tr>
</tbody>
</table>
Ergometer Controller

The Ergometer Controller provides protocols (both pre-programmed and user programmable) to allow predetermined and precise exercise regimens to achieve desired levels of patient exercise. The Ergometer Controller will produce a cadence tone or a rhythmic beep to assist the patient to match his or her pedaling speed to the protocol. The patient’s performance through the stages of a protocol is also monitored and displayed. An additional timer automatically begins timing when the protocol ends to indicate post exercise time.

The Ergometer Controller and the protocols provide repeatable exercise sequences that are easy to set up and use. Any one of ten (10) preprogrammed protocols or four (4) protocols you design and program, can be selected. An additional manual protocol also allows you to choose and manually change or vary the ergometer resistance setting before and during exercise.

⚠️ WARNING, POTENTIAL FOR INJURY. Do not install or remove the Ergometer Controller while a patient is on the bed.

Mounting the Ergometer Controller

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Loosen (Rotate counter-clockwise) the controller swivel mount tensioner and slide computer controller onto metal tube at the top of the ergometer. See Figure 15</td>
</tr>
<tr>
<td>2</td>
<td>Position the controller so that it is facing the side of the bed you will be monitoring from.</td>
</tr>
<tr>
<td>3</td>
<td>Turn the controller swivel mount tensioner clockwise until the controller is secure. See Figure 15</td>
</tr>
<tr>
<td>4</td>
<td>Holding the connector on the end of ergometer control cable (cable coming out of the top of the ergometer). Align the cable connector with the connector on the back of the Ergometer Controller. Push the cable connector firmly into place. See Figure 16</td>
</tr>
<tr>
<td>5</td>
<td>Tighten the screw knobs of the connector to the computer controller. See Figure 16</td>
</tr>
</tbody>
</table>

Figure 15
CAUTION, PRODUCT DAMAGE MAY RESULT. The ergometer control cable must be disconnected from the Ergometer Controller before you install or remove the Ergometer Controller. Failure to do so may result in Ergometer Controller damage.

CAUTION, PRODUCT DAMAGE MAY RESULT. Proper alignment of the connector pins is critical. Failure to properly align the connector pins can result in damaging the connector.

Removing the Ergometer Controller

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To remove the computer controller, disconnect the computer controller control cable by unscrewing the knobs. See Figure 16</td>
</tr>
<tr>
<td>2</td>
<td>Grasping the connector, pull it out from the rear panel. See Figure 16</td>
</tr>
<tr>
<td>3</td>
<td>Turn the swivel mount tensioner counterclockwise to loosen. Lift the computer controller off of the support tube. See Figure 15</td>
</tr>
</tbody>
</table>

CAUTION, PRODUCT DAMAGE MAY RESULT. Always grasp the connector and not the cable.

Ergometer Controller Operation

The top portion of the Ergometer Controller front panel contains all the displays. The Patient Monitor band (green) is the first line of displays across the top of the front panel. They are used to show measured parameters. Below that are the Program Presets (blue). They are used to show current protocol progress and programming information. Below the displays, the Ergometer Controller controls are used to setup, program, and operate the Ergometer Controller. The Operational Controls (green) on the left side are used to select protocols to control the operation of the Ergometer Controller. The programming Controls on the right side (blue) are used to create custom protocols or to control the manual operation of the ergometer.
Please refer to Figure 17 for the display and controls described below.

<table>
<thead>
<tr>
<th>Display</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATIENT RPMS</td>
<td>The patient’s pedaling rate is shown in revolutions per minute.</td>
</tr>
</tbody>
</table>
| METS             | Metabolic Equivalents – Multiples of resting oxygen uptake. This value is dependent upon the weight of the patient. METS as displayed on the Medical Positioning, Inc. Ergometer Controllers are based on a body weight of 154 lbs. (70 kg). If higher precision is desired, the value obtained can be corrected for the actual weight of the patient using the following calculations.  

\[
\frac{154 \text{ lbs.}}{\text{patient weight (lbs.)}} \times \text{METS}_{\text{Displayed}} = \text{METS}_{\text{Corrected for Patient Weight}} \\
\text{or} \\
\frac{70 \text{ kg}}{\text{patient weight (kg)}} \times \text{METS}_{\text{Displayed}} = \text{METS}_{\text{Corrected for Patient Weight}}
\]

| PROTOCOL NUMBER  | The number from 1 to 15 is shown to indicate the selected protocol.          |
| ELAPSED TIME     | This display shows the total time the patient has pedaled in minutes and seconds since the protocol in use was started. |
| POST EXERCISE TIME | This display shows time in minutes and seconds beginning when the protocol ends or when the patient stops pedaling before a protocol is finished. The letters PROG will be shown in the display when a protocol is being programmed. |
| PEDAL RATE       | This display shows the programmed pedal rate in revolutions per minute at which the patient should be pedaling for a given stage in a protocol. When programming a new protocol, this display shows the pedal rate being set for a stage of a protocol. The cadence tone is synchronized to 60 RPMs. |
### Display Description

<table>
<thead>
<tr>
<th>Display</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESISTANCE</td>
<td>This display shows the resistance in watts that the ergometer is providing to oppose the patient's pedaling while a protocol is in use. When programming a new protocol, this display also shows the resistance being set in a protocol stage. When previewing a protocol, it shows the resistance set for a stage of a protocol.</td>
</tr>
<tr>
<td>STAGE</td>
<td>This display shows the current stage of the protocol that is currently running. When programming a new protocol, this display shows the stage being programmed. When previewing a protocol, it shows the stage of a protocol.</td>
</tr>
<tr>
<td>STAGE DURATION</td>
<td>This display shows the duration in minutes and seconds of the current protocol stage while a protocol is in use. This display serves as a timer and shows the time remaining in a given stage. The display counts down from the programmed stage time to zero during the progress of the stage. When programming a new protocol, this display also shows the duration being set in a protocol stage. When previewing a protocol; it shows the stage duration set for a stage of a protocol.</td>
</tr>
<tr>
<td>AUTO STOP</td>
<td>Displays “ON” or “NO” indicating if the automatic protocol stop feature is enabled (ON) or disabled (NO). See Setting Automatic Protocol Stop in this manual.</td>
</tr>
<tr>
<td>STAGE HOLD</td>
<td>Displays “ON” or “NO” indicating if the stage hold feature is enabled (ON) or disabled (NO).</td>
</tr>
</tbody>
</table>

### Control Description

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROTOCOL-UP/DN</td>
<td>This control is used to select the protocol you wish to use or preview. Pressing the UP side moves to the next higher numbered protocol and pressing the DN side moves to the next lower numbered protocol. When UP or DN is pressed and held, the computer controller will scroll through the protocols. This control can be used any time the ergometer is turned on except when a protocol is in progress.</td>
</tr>
<tr>
<td>STAGE-UP/DN</td>
<td>This control is used to select the stage of the selected protocol you wish to use or preview. Pressing the UP side moves to the next higher numbered stage and pressing the DN side moves to the next lower numbered stage. This control can be used any time the ergometer is turned on.</td>
</tr>
<tr>
<td>TONE</td>
<td>This control is used to turn the cadence tone on or off. If the cadence tone is on, press this control to turn it off. If the cadence tone is off, press this control to turn it on.</td>
</tr>
<tr>
<td>AUTO STOP</td>
<td>This control is used to turn the automatic protocol stop on or off. See the setting Automatic protocol stop in this manual.</td>
</tr>
<tr>
<td>CONTROL</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>STAGE HOLD</td>
<td>This control is used to hold or “pause” a stage during a protocol. Pressing the “Program Stage” button while a protocol is running will place the protocol in a paused move. The total elapsed time will continue but the stage will not advance. Pressing it a second time will resume normal operation. You can confirm the status of this feature in the “Stage Hold” window of the controller.</td>
</tr>
<tr>
<td>START</td>
<td>This control is used to start the selected protocol.</td>
</tr>
<tr>
<td>STOP</td>
<td>This control is used to stop the selected protocol. Press this control a second time to place the computer controller in the Ready mode. During an exercise protocol, the controller will recognize the termination of exercise in one of two ways. If the stop button is pressed, pedaling resistance is eliminated and the post exercise timer begins. If the Auto Stop feature is enabled and the patient stops pedaling for ten seconds, this also signals the end of the procedure, the pedaling resistance is eliminated, and the post exercise timer begins. (The automatic protocol stop feature can be disabled. See “Defaulting Automatic Protocol Stop” following this section.) With either stop condition, the STOP control must be pressed an additional time to return the controller to the Ready mode.</td>
</tr>
<tr>
<td>PROGRAM PROTOCOL/STAGE</td>
<td>This control is used in programming a protocol to select the number of the protocol that will be programmed. Continual pressing of the PROTOCOL side cycles through the programmable protocols (11-15) until the desired protocol number for programming is displayed. Pressing the STAGE side cycles to the next higher stage of the protocol that is being programmed.</td>
</tr>
<tr>
<td>TIME-UP/DN</td>
<td>This control is used to program the time in minutes and seconds for a protocol stage. Pressing the UP side will cycle to the next higher selection for time. Pressing the DN side will cycle to the next lower selection for time. Time is increased or decreased in 15 second increments.</td>
</tr>
<tr>
<td>WATTS UP/DN</td>
<td>This control is used to program the amount of resistance in Watts for a protocol stage. Pressing the UP side will cycle to the next higher selection for resistance. Pressing the DN side will cycle to the next lower selection for resistance. Watts are increased or decreased in 5 watt increments.</td>
</tr>
<tr>
<td>RPM UP/DN</td>
<td>This control is used to program the desired patient pedaling rate in revolutions per minute for a protocol stage. Pressing the UP side will cycle to the next higher selection for RPM. Pressing the DN side will cycle to the next lower selection for RPM. RPM is increased or decreased in 5 RPM increments.</td>
</tr>
</tbody>
</table>
The speaker is located on the front of the patient coach. When the tone is on, the computer controller will beep at a rate that the patient can use to adjust his or her pedaling speed to the rate set for the protocol stage. The volume level of the cadence tone is controlled by turning the VOLUME CONTROL KNOB. Turn the VOLUME CONTROL KNOB in either direction as needed to increase or decrease the volume. You may also adjust the cover over the speaker to reduce the volume further.

### Programming a Protocol

Protocol numbers 1 through 10 are fixed and cannot be changed. Protocols 11 through 14 can be programmed or altered with up to 10 stages. Protocol 15 is a manual program where you can manually increase or decrease the ergometer resistance and/or leave it at the selected resistance level for as long as needed. Refer to "Displays" and "Controls" tables along with Figure 17 for the location and description of displays and controls mentioned in the following procedure. A program that you create can be programmed. Use the following procedure to program a protocol.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>If the Stress EchoBed® is unplugged and/or the Ergometer is unplugged from the power strip; plug them in to the respective outlet. Wait 10 seconds before proceeding to the next step.</td>
</tr>
<tr>
<td>2</td>
<td>Press the PROGRAM-PROTOCOL control. The computer controller will enter the Programming mode and PROG will be shown in the POST EXERCISE TIME display. The number 11 will be shown in the PROTOCOL NUMBER display and the number 1 will be shown in the STAGE display.</td>
</tr>
<tr>
<td>3</td>
<td>If you want to program or alter a protocol other than number 11, press the PROGRAM-PROTOCOL control as needed to show the protocol numbers 12 through 14 in the PROTOCOL NUMBER display. If you want to program or alter a stage other than number 1, press the PROGRAM-STAGE control to show the stage number that you wish to change in the STAGE display.</td>
</tr>
<tr>
<td>4</td>
<td>Press the TIME-UP/DN control to select the desired time for stage duration for the selected stage as shown in the STAGE DURATION display.</td>
</tr>
<tr>
<td>5</td>
<td>Press the WATTS-UP/DN control to select the desired amount of resistance for the selected stage as shown in the RESISTANCE display.</td>
</tr>
<tr>
<td>6</td>
<td>Press the RPM-UP/DN control to select the desired patient pedaling rate in revolutions per minute for the selected stage as shown in the PEDAL RATE display.</td>
</tr>
<tr>
<td>7</td>
<td>Press the PROGRAM STAGE control to program or alter the next stage of the protocol. Each time you press the PROGRAM STAGE control, the protocol program is saved for that stage.</td>
</tr>
<tr>
<td>STEP</td>
<td>ACTION</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>8</td>
<td>Repeat steps 4 through 7 for all remaining stages to be programmed.</td>
</tr>
<tr>
<td>9</td>
<td>When all the stages have been programmed, press the PROGRAM STAGE control to save the last stage. The protocol program will be available for use.</td>
</tr>
<tr>
<td>10</td>
<td>To SAVE the protocol in permanent memory and exit the programming mode, press START. If you are not planning to use the protocol that you just programmed, you may press STOP after the protocol begins. Starting and running or starting and stopping a new protocol stores the protocol in memory. It will remain in memory until a new protocol is programmed in this channel.</td>
</tr>
<tr>
<td>11</td>
<td>To alter any or all stages of a previously programmed protocol, perform steps 1 through 10.</td>
</tr>
<tr>
<td>12</td>
<td>To program the manual protocol, protocol 15, perform step 1 and press the PROTOCOL-UP/DN control as needed to show the number 15 in the PROTOCOL NUMBER display. Press the WATTS-UP/DN control to show the desired amount of initial resistance in the RESISTANCE display.</td>
</tr>
<tr>
<td>13</td>
<td>Press the WATTS-UP/DN control at any time during the protocol to change the resistance as desired.</td>
</tr>
</tbody>
</table>

**Utilizing a Protocol**

Any one of 15 protocols can be selected and used. Protocol numbers 1 through 10 contain fixed pre-programmed exercise steps (See protocol list in this manual). Protocols 11 through 14 can contain protocols that you have programmed (See “How to Program a Protocol”). Protocol 15 allows you to manually increase or decrease the ergometer resistance and leave it at the selected resistance level for as long as needed. Refer to “Displays” and “Controls” tables along with Figure 17 for the location and description of displays and controls mentioned in the following procedure. Use the following procedure to set up, use, and/or stop a protocol. This procedure is to be followed after the patient has been positioned on the bed.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>If the Stress EchoBed® is unplugged and/or the Ergometer is unplugged from the power strip; plug them in to the respective outlet. Allow 10 seconds for the computer to complete internal self-diagnostics before proceeding. If the power is already on, press the STOP control to place the computer in the Ready mode. The computer controller will then be ready to use the protocol that was last run, beginning with stage one.</td>
</tr>
<tr>
<td>2</td>
<td>Press the PROTOCOL-UP/DN control (as needed) until the number of the desired protocol is shown in the PROTOCOL NUMBER display. This number is the exercise protocol that the patient will be using. The conditions of each protocol (time, resistance, etc.) are described in the “Displays” and “Controls” tables. If you will be using protocol 15, proceed to “Using Manual Protocol 15” further in this section.</td>
</tr>
</tbody>
</table>
### If you prefer to begin a protocol at a stage other than stage one, you can start at another stage in the protocol by pressing the STAGE-UP/DN control until the number of the desired stage is shown in the STAGE indicator.

### You can select to have the cadence tone be on or off during the protocol. Either before you start or during the exercise protocol, the cadence tone can be changed from ON to OFF or from OFF to ON by pressing the TONE control. You can adjust the volume of the tone by turning the VOLUME ADJUST KNOB clockwise or counterclockwise.

### If you will be using the cadence tone, tell the patient that he or she will need to begin pedaling when the computer controller begins beeping and to pedal in rhythm with the beeps. (For example, if the patient has his or her right foot fully forward at the tone, the patient should complete one revolution of the pedals and have the same foot in the same position - fully forward - at the next tone.) If you have turned off the cadence tone, tell the patient to start pedaling when you press the START control and to begin pedaling faster or slower as needed to illuminate the green light in the center of the “Patient Assist”. If the protocol you will be using will change the pedaling rate, tell the patient that this will happen and that he or she will have to change how fast they are pedaling during the exercise protocol.

### When you and the patient are ready to begin, press the START control and tell the patient to begin pedaling.

### When the patient achieves double product range or target heart rate you can tell the patient to stop pedaling. If the AUTOMATIC PROTOCOL STOP (see SETTING AUTOMATIC PROTOCOL STOP later in this manual) is turned on, the protocol will stop automatically when pedal revolutions have stopped for 10 seconds. You can also stop the protocol at any time by pressing the STOP control. Note that if the patient stops pedaling before the protocol is finished and the AUTOMATIC PROTOCOL STOP is turned on, the Ergometer Controller will stop the protocol ten seconds after the pedals have stopped turning. Once an exercise protocol is stopped by either of the above methods, all of the information including the protocol elapsed time and stage duration elapsed time remain on the displays for patient charting. The information will remain on the display until the STOP button is pushed again. When a protocol is finished or has otherwise been stopped, the POSTEXERCISE TIME display will begin keeping track of the time since the protocol was stopped and will provide a series of audible tones every minute during post exercise.

### To return the computer to the Ready mode, press the STOP control a second time after the protocol has stopped. The computer controller will then be ready to use the protocol that you just completed and the first stage will be selected.

### If this or another protocol is to be set up and run, repeat steps 2 through 8.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>If you prefer to begin a protocol at a stage other than stage one, you can start at another stage in the protocol by pressing the STAGE-UP/DN control until the number of the desired stage is shown in the STAGE indicator.</td>
</tr>
<tr>
<td>4</td>
<td>You can select to have the cadence tone be on or off during the protocol. Either before you start or during the exercise protocol, the cadence tone can be changed from ON to OFF or from OFF to ON by pressing the TONE control. You can adjust the volume of the tone by turning the VOLUME ADJUST KNOB clockwise or counterclockwise.</td>
</tr>
<tr>
<td>5</td>
<td>If you will be using the cadence tone, tell the patient that he or she will need to begin pedaling when the computer controller begins beeping and to pedal in rhythm with the beeps. (For example, if the patient has his or her right foot fully forward at the tone, the patient should complete one revolution of the pedals and have the same foot in the same position - fully forward - at the next tone.) If you have turned off the cadence tone, tell the patient to start pedaling when you press the START control and to begin pedaling faster or slower as needed to illuminate the green light in the center of the “Patient Assist”. If the protocol you will be using will change the pedaling rate, tell the patient that this will happen and that he or she will have to change how fast they are pedaling during the exercise protocol.</td>
</tr>
<tr>
<td>6</td>
<td>When you and the patient are ready to begin, press the START control and tell the patient to begin pedaling.</td>
</tr>
<tr>
<td>7</td>
<td>When the patient achieves double product range or target heart rate you can tell the patient to stop pedaling. If the AUTOMATIC PROTOCOL STOP (see SETTING AUTOMATIC PROTOCOL STOP later in this manual) is turned on, the protocol will stop automatically when pedal revolutions have stopped for 10 seconds. You can also stop the protocol at any time by pressing the STOP control. Note that if the patient stops pedaling before the protocol is finished and the AUTOMATIC PROTOCOL STOP is turned on, the Ergometer Controller will stop the protocol ten seconds after the pedals have stopped turning. Once an exercise protocol is stopped by either of the above methods, all of the information including the protocol elapsed time and stage duration elapsed time remain on the displays for patient charting. The information will remain on the display until the STOP button is pushed again. When a protocol is finished or has otherwise been stopped, the POSTEXERCISE TIME display will begin keeping track of the time since the protocol was stopped and will provide a series of audible tones every minute during post exercise.</td>
</tr>
<tr>
<td>8</td>
<td>To return the computer to the Ready mode, press the STOP control a second time after the protocol has stopped. The computer controller will then be ready to use the protocol that you just completed and the first stage will be selected.</td>
</tr>
<tr>
<td>9</td>
<td>If this or another protocol is to be set up and run, repeat steps 2 through 8.</td>
</tr>
</tbody>
</table>
Utilizing the Manual Protocol

Protocol 15 is used if you want to manually set, adjust, or vary the resistance of the ergometer without having any automatic protocol steps running. This protocol is used to give the patient a fixed or variable resistance for an indefinite amount of time. The stage duration timer is not available while using protocol 15. Refer to “Displays” and “Controls” tables along with Figure 17 for the location and description of indicators and controls mentioned in the following procedure. Use the following procedure for protocol 15.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>If the Stress EchoBed® is unplugged and/or the Ergometer is unplugged from the power strip; plug them in to the respective outlet. Allow 10 seconds for the computer to complete internal self-diagnostics before proceeding. If the power is already on, press the STOP control to place the computer in the Ready mode.</td>
</tr>
<tr>
<td>2</td>
<td>Press the PROTOCOL-UP/DN control until the number 15 is shown in the PROTOCOL NUMBER display.</td>
</tr>
<tr>
<td>3</td>
<td>Select and program the pedal rate and watts of resistance at which you wish the test to begin.</td>
</tr>
<tr>
<td>4</td>
<td>When you and the patient are ready to begin, press the START control and tell the patient to begin pedaling.</td>
</tr>
<tr>
<td>5</td>
<td>At any time during the procedure you can change the resistance or pedal rate using the appropriate control.</td>
</tr>
<tr>
<td>6</td>
<td>When you and the patient are finished with the exercise, press the STOP control.</td>
</tr>
<tr>
<td>7</td>
<td>To return the computer to the Ready mode, press the STOP control again.</td>
</tr>
</tbody>
</table>

Setting Automatic Protocol Stop

The Medical Positioning, Inc. Stress Echo® Computer allows you to automatically stop the protocol and start post exercise timing after the patient has ceased pedaling for 10 seconds. This feature allows you to ignore the controller and begin post exercise imaging.

When the controller goes into the post exercise timer mode, a brief burst of tones are sounded to alert both you and the patient to the end of the test. The post exercise timer display is in the center of the controller (see figure 23). Once the post exercise timer has begun, the computer controller sounds a series of tones every minute. This tone is a reminder for other measurements such as post-test blood pressure.

Anytime the ergometer is turned on and before beginning a procedure; press the “Auto Stop” button. Confirm the status in the “Auto Stop” window of the controller. (ON for enabled and NO for disabled)
Patient Coach

Please refer to Figure 18 for the display and controls described below.

<table>
<thead>
<tr>
<th>CONTROL</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEDAL SPEED INDICATOR LIGHT</td>
<td>These lights indicate patient pedaling speed. Left amber light indicates patient is pedaling too slow, green light indicates correct speed, right amber light indicates patient is pedaling too fast. This feature allows you to use visual monitoring to judge patient progress in lieu of audio cadence.</td>
</tr>
<tr>
<td>VOLUME ADJUST KNOB</td>
<td>Rotate to adjust volume of cadence. Note: Cadence tone can be turned on or off using the TONE BUTTON on the ERGOMETER CONTROLLER.</td>
</tr>
</tbody>
</table>

Figure 18

Mounting the Patient Coach

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Place the patient coach on top of the Ergometer Controller facing the patients head. The hook and loop fasteners on both units will secure them together.</td>
</tr>
<tr>
<td>2</td>
<td>Secure the RS232 type wiring connector to the back of the patient coach and the bottom of the Ergometer Controller. See Figure 19</td>
</tr>
</tbody>
</table>
**Bed Preparation**

Stress EchoBed® provides lateral tilt functionality and is equipped with a safety hip belt and padded patient shoulder restraint.

⚠️ **WARNING, POTENTIAL FOR INJURY OR DEATH.** To reduce the risk of a potential fall, lock all casters before using equipment.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Place the Safe-T-Wedge™ flush with the head end of the bed (the end opposite the ergometer). Position the Safe-T-Wedge so it is centered evenly between the sides of the bed. Re-position the Safe-T-Wedge under the patient’s shoulders and head once they are on the bed, so that they can view the display on the Patient Coach and to inhibit movement away from the ergometer during pedaling.</td>
</tr>
<tr>
<td>2</td>
<td>Locate the restraint lock knob on the top of the shoulder restraint adjusting bar. Lift the restraint lock knob and rotate it ¼ turn to the “Unlocked” position. See Figure 20</td>
</tr>
<tr>
<td>3</td>
<td>Swing the restraint adjusting bar and pad to the outside edge of the bed. (You may prefer to remove the shoulder restraint from the bed. To do so, lock the restraint lock knob. On the restraint there are columns at the head and side of the bed. At the column at the head of the bed, pull out and turn locking plunger ¼ turn. Lift the restraint to remove. Reinstall in reverse order.</td>
</tr>
<tr>
<td>4</td>
<td>Lift and turn the handle of the ergometer slide lock to the “Disengage” position. See Figure 21</td>
</tr>
<tr>
<td>STEP</td>
<td>ACTION</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>5</td>
<td>Slide the ergometer as far away from the head of the bed as possible, turn the handle of the ergometer slide like and put it down in the “Engaged” position. Confirm the Ergometer is locked into position. Move the ergometer as needed to allow the slide lock to drop into a hole in the slide base.</td>
</tr>
<tr>
<td>6</td>
<td>Position the wide safety belt across the bed surface and press the hook and loop fastener tab at the buckle end of the belt against the hook and loop on the side of the bed. Also place the narrow belt retractor tip in the belt holder on the opposite side of the bed. See Figure 22</td>
</tr>
</tbody>
</table>

![Figure 20](image_url)

![Figure 21](image_url)
Patient Positioning Procedure

⚠️ WARNING, POTENTIAL FOR INJURY. To reduce the potential for patient knee injury, position the ergometer so the patient’s knees remain slightly bent through all positions of pedal rotation.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>With the imaging window drop-section closed, ask the patient to lie on his or her back on the bed. Have the patient slide toward the head or foot of the bed so his or her heart is positioned directly over the imaging window drop-section. Next, position the patient’s hips so they are over the wide safety belt and his or her right hip is against the narrow belt holder.</td>
</tr>
<tr>
<td>2</td>
<td>Explain to the patient that you will be putting a safety belt around his or her hips and will be positioning the shoulder restraint pad against his or her shoulder. Tell him or her that this is so he or she will stay in position when the bed is tilted. Also explain that you will be opening the imaging window drop-section. While the patient will not feel any discomfort, do not surprise the patient by opening the drop section or tilting the bed without warning.</td>
</tr>
<tr>
<td>3</td>
<td>Disconnect the hook and loop fastener from the side safety belt, and position the belt over the patient’s left hip. If you fail to disconnect, it will allow the patient’s hip to slide when the bed is tilted to the left.</td>
</tr>
<tr>
<td>4</td>
<td>Reach across the patient with your other hand and remove the belt retractor from the belt holder.</td>
</tr>
<tr>
<td>5</td>
<td>Hold the retractor in the “Extend position and pull the retractor toward you across the patient. See Figure 24</td>
</tr>
<tr>
<td>6</td>
<td>Rotate the retractor to the “Lock” position and insert the retractor tip in the buckle of the wide belt creating a “sling” around the patient’s hips. See Figure 24</td>
</tr>
<tr>
<td>7</td>
<td>Allow the connected retractor and buckle to move toward the belt holder on the far side of the bed (this removes slack) and gently lay the retractor on the patient. The retractor will take up the excess slack in the narrow belt.</td>
</tr>
<tr>
<td>8</td>
<td>Reposition the shoulder restraint as needed. If not unlocked, lift the lock knob on the restraint adjusting arm and turn 1/4 turn. Swing the restraint adjusting arm to position the pad against the patient’s shoulder.</td>
</tr>
<tr>
<td>9</td>
<td>Press the pad firmly against the patient’s shoulder to hold the patient securely when the bed is tilted laterally. Rotate the restraint lock knob 1/4 turn on the adjusting arm and allow it to engage in one of the locking holes in the adjusting arm. See Figure 20</td>
</tr>
<tr>
<td>10</td>
<td>Lift the ergometer slide lock; slide the ergometer toward the patient. See Figure 21</td>
</tr>
<tr>
<td>STEP</td>
<td>ACTION</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>11</td>
<td>When the sonographer is ready to begin baseline/resting imaging, place the patient’s feet in the ergometer boots. The ergometer boots should be large enough to accommodate most patients with shoes. If not, the patient can exercise comfortably without shoes and their feet with socks in the ergometer boots. It is recommended to use disposable covers, such as surgical foot coverings on patient’s feet for infection control purposes. See Figure 25.</td>
</tr>
<tr>
<td>12</td>
<td>Adjust and fasten the hook and loop fasteners on the ergometer boots to provide a snug fit. (Be sure the patient’s heel is all the way back in the boot.)</td>
</tr>
<tr>
<td>13</td>
<td>Slide the ergometer to a position so that when the pedals are rotated away from the patient, his or her legs still have a slight bend at the knee. Do not position the ergometer so the patient’s legs can be fully extended during exercise. Figure 23</td>
</tr>
<tr>
<td>14</td>
<td>Turn the handle on the ergometer slide lock to allow it to go down into a hole in the slide base. Confirm the Ergometer is locked into position. Move the ergometer closer to the patient if necessary to allow the slide lock to drop into the next available hole in the slide base.</td>
</tr>
</tbody>
</table>

![Figure 23](image1)

![Figure 24](image2)

![Figure 25](image3)
Sonographer Positioning

Before you begin this procedure, please familiarize yourself with the Patient Positioning Procedure Section and the Drop Sections section of the manual. Place your ultrasound unit in close proximity to where you are seated to minimize the reach from the table to the ultrasound unit whether you are scanning left or right-handed. 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.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Prior to beginning an echo procedure, familiarize the patient with the Stress EchoBed®. Explain to him/her that you will be opening the drop-sections; their opening will be slightly noisy, but the patient will be both comfortable and secure throughout the procedure. Insure the patient is in the correct position as described in the preceding section “Bed Preparation” and “Patient Positioning”. If scanning right-handed, the patient may need to be closer to the head of the bed, to minimize reaching backward to scan.</td>
</tr>
<tr>
<td>2</td>
<td>Left-handed scanning, please refer to steps 3 through 5. The sonographer should be seated in a chair on the patient’s left, with the patient positioned for pedaling the supine ergometer and properly restrained.</td>
</tr>
<tr>
<td>3</td>
<td>Tilt the bed using the hand wand by depressing the lateral tilt control to 15° and begin imaging the parasternal window. Increase tilt as needed (usually up to 30°) to optimize images.</td>
</tr>
<tr>
<td>4</td>
<td>When ready to image the apical views, the drop section may be lowered for unhindered access to the apical region, if needed. Tell the patient that you will be opening the imaging window drop-section. Again, the patient will not feel anything; however, do not surprise the patient by opening the drop-section without warning. Lower the imaging window drop-section by activating the remote release as described in the Drop Sections section of the manual.</td>
</tr>
<tr>
<td>5</td>
<td>Return the drop section to the closed position when finished with apical views. Before returning the patient to the supine position, have the patient pedal in the tilted position and instruct them that the next time you tilt the bed you will need them to keep pedaling in that position while you obtain the exercise images. Return the patient to the supine position using the lateral tilt control on the hand wand, when ready to start the exercise portion of the study.</td>
</tr>
<tr>
<td>6</td>
<td>Right-handed scanning, please refer to steps 7 through 10</td>
</tr>
<tr>
<td>STEP</td>
<td>ACTION</td>
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<tr>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>7</td>
<td>Let the patient know that you will be opening the Sonographer’s entry drop section, while the patient will not feel anything, do not surprise the patient by opening the drop-section without warning. Open the Sonographer’s entry drop section, enter the cut-out area of the table, and stand facing the head of the bed and perpendicular to the patient. If you are able to image with the bed supine or tilted only slightly, you may sit in the Sonographer’s drop section, as you would for standard Transthoracic Echocardiography exams, and utilize the Sonographer Extension. However, if the bed needs to be tilted more laterally to obtain satisfactory images, it is recommended that you stand in the drop section space to scan. The patient should be positioned close to the head of the bed, if possible, to minimize reaching backward, in this case.</td>
</tr>
<tr>
<td>8</td>
<td>Tilt the bed using the hand wand by depressing the lateral tilt control to 15° and begin imaging the parasternal window. Increase tilt as needed (usually up to 30°) to optimize images.</td>
</tr>
<tr>
<td>9</td>
<td>When ready to image the apical views, the drop section may be lowered for unhindered access to the apical region, if needed. Tell the patient that you will be opening the imaging drop section, so that they will not be surprised. To lower the imaging drop section, use the remote release as described in the Drop Sections section of the manual.</td>
</tr>
<tr>
<td>10</td>
<td>Return the drop section to the closed position when finished with apical views. Before returning the patient to the supine position, have the patient pedal in the tilted position and instruct them that the next time you tilt the bed you will need them to keep pedaling in that position while you obtain the exercise images. Return the patient to the supine position when ready to have the patient begin pedaling.</td>
</tr>
<tr>
<td>11</td>
<td>You are now ready to begin imaging the patient.</td>
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# Stress Exercise Protocols

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<th>Protocol #1</th>
<th>1 Minute/Stage</th>
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**Notes:**
- Each protocol uses a constant 60 RPM pedal speed
- Maximum of 10 stages per protocol
- Higher wattages may be adjusted by staging up or using manual protocol (#15)
### Stress EchoBed®

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**Notes:**
- Each protocol uses a constant 60 RPM pedal speed
- Maximum of 10 stages per protocol
- Higher wattages may be adjusted by staging up or using manual protocol (#15)
### Protocol #11

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<tr>
<td>Length of Stage</td>
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<tr>
<td>Accumulated Time</td>
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</tr>
</tbody>
</table>

### Protocol #13

<table>
<thead>
<tr>
<th>Minute/Stage</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Stage 5</th>
<th>Stage 6</th>
<th>Stage 7</th>
<th>Stage 8</th>
<th>Stage 9</th>
<th>Stage 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATTS</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>METS</td>
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<td>Length of Stage</td>
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<td>Accumulated Time</td>
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</tr>
</tbody>
</table>

### Protocol #14

<table>
<thead>
<tr>
<th>Minute/Stage</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Stage 5</th>
<th>Stage 6</th>
<th>Stage 7</th>
<th>Stage 8</th>
<th>Stage 9</th>
<th>Stage 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATTS</td>
<td></td>
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<td>METS</td>
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<td>Length of Stage</td>
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<tr>
<td>Accumulated Time</td>
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</tr>
</tbody>
</table>

### Protocol #15

<table>
<thead>
<tr>
<th>Minute/Stage</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Stage 5</th>
<th>Stage 6</th>
<th>Stage 7</th>
<th>Stage 8</th>
<th>Stage 9</th>
<th>Stage 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ANY VALUE FROM 0 TO 300 WATTS</td>
</tr>
<tr>
<td>METS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of Stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SINGLE STAGE – CHANGES WHEN USER INITIATES UP TO 60 SECONDS</td>
</tr>
<tr>
<td>Accumulated Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Notes:**

- Each protocol uses a constant 60 RPM pedal speed
- Maximum of 10 stages per protocol
- Higher wattages may be adjusted by staging up or using manual protocol (#15)
Ergometer Quick Reference Guide

TO BEGIN
- Adjust bed to desired position
- Turn on ergometer and select exercise protocol
- Position patient on the bed, and in the restraint system as directed previously
- Attach monitoring equipment: blood pressure cuff, ECG, pulse oximeter, etc. according to your lab’s protocol
- Explain stress procedure to patient
- Secure patient’s feet in ergometer pedal boots, and adjust ergometer for proper bend in patient’s knee. It is important to do this just before your resting image acquisition, so that patient’s legs are not elevated for a long period before beginning exercise. If there is a waiting period due to absence of physician or nurse, remove patient’s feet from boots until ready to begin.
- Perform baseline/resting imaging with patient in the exercise imaging position (bed tilted as needed to the left lateral position)
- Have the patient pedal in this position before returning to supine exercise position. Instruct the patient that you will need them to keep pedaling when the bed is tilted again to image later in the test
- Return the patient to the supine position
- Press computer START button Have patient begin pedaling
- Encourage the patient throughout the exercise

IMAGING DURING EXERCISE
- Acquire images as quickly as possible at peak or during any stage of exercise. It is recommended to image at the end of the stage for steady state circulatory physiology, if performing Exercise Doppler acquisition.
- (If image acquisition is delayed, you can STAGE DOWN and/or STAGE HOLD to keep the patient pedaling until you acquire all your images.
- Obtain post-test information per your protocol

WHEN FINISHED
- Remove patient’s feet from ergometer pedal boots
- Slide ergometer out away from patient
- Assist the patient in sitting and then standing
Accessories

Functionality in this section

- Safety Rails
- Sonographer’s Extension
- Patient Positioning Safe-T-Wedges™
- Ergometer Storage Cart
- Track Insert
- IV Pole Holder
- Pediatric/Geriatric Adapter
- Paper Roll Holder

Safety Rails

The Stress EchoBed® is equipped with removable safety rails. The safety rails lock in the raised position and removable without the use of tools.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. Always verify the safety rail is securely latched in the up position before using the table with the safety rail raised. Failure to have the safety rail latched in the raised position may result in a patient fall.

Safety Rail Deployment

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>From the safety rail’s stored position, grab the center of the top section of the rail and pull upward until the locking mechanism engages and the safety rail is secure in the up position. See Figure 26</td>
</tr>
</tbody>
</table>

Safety Rail Storage

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To lower the safety rail, lift slightly on the center of the top section of the rail, pull out on rail release knob and lower the rail downward. See Figure 26</td>
</tr>
</tbody>
</table>
Figure 26

Safety Rail Removal

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Grab the center of the top section of the rail and pull upward while pulling the safety rail release knob until the safety rail has cleared the release knob. See Figure 26</td>
</tr>
</tbody>
</table>

Safety Rail Insertion

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To insert the safety rail, pull out on rail release knob while inserting the safety rail and lowering it downward. See Figure 26</td>
</tr>
</tbody>
</table>
Sonographer’s Extension

The Stress EchoBed® is equipped with a removable sonographer’s extension. The sonographer’s extension is designed to increase the usable sitting area and comfort for the sonographer for a right handed scanning sonographer. The sonographer’s extension is removable.

→ **NOTICE.** Sonographer should not be seated on the Sonographer’s Extension when operating the actuators or moving the product.

→ **NOTICE.** The Sonographer should not be seated on the Sonographer’s extension the lateral title function is raised.

Sonographer’s Extension Insertion

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rotate the support bracket to the side of the use position. See Figure 27</td>
</tr>
<tr>
<td>2</td>
<td>Insert the sonographer’s extension pilot tube into the support bracket. See Figure 27</td>
</tr>
</tbody>
</table>

Sonographer’s Extension Removal

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pull straight up on the sonographer’s extension until the pilot tube is free of the support bracket. See Figure 27</td>
</tr>
<tr>
<td>2</td>
<td>Rotate the support bracket to the transport position. See Figure 27</td>
</tr>
</tbody>
</table>

![Figure 27](image-url)
Patient Positioning Safe-T-Wedges™
The Stress EchoBed® may be used with an optional Safe T Wedge™. The Safe-T-Wedge™ can be used to achieve additional patient positions.

Paper Roll Holder
The Stress EchoBed® may be used with a Paper Roll Holder that also includes a paper cutter.

The Paper Roll Holder was pre-installed at the factory to insure proper fit, and then removed to prevent damage during shipment.

Tools Required: Phillips Head Screwdriver

Paper Roll Holder Installation

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Install the paper roll holder at the head of the bed as shown in Figure 28,</td>
</tr>
<tr>
<td>2</td>
<td>Using the 4 (four) #8 screws provided. Carefully place the screws through the paper roll holder mounting brackets and re-install into the bed. Snug the screws tight with a Phillips screw driver.</td>
</tr>
</tbody>
</table>

Figure 28

⚠️ CAUTION, PRODUCT DAMAGE MAY RESULT. Do not over tighten the mounting screws. Over tightening may result in stripping threads.
Ergometer Storage Cart

The Stress EchoBed® may be used with an optional Ergometer Storage Cart for storing the Ergometer utilizing the bed as a traditional EchoBed®.

⚠️ WARNING, POTENTIAL FOR INJURY. To reduce the risk of a potential injury, lock all casters before installing, adjusting, or removing the Ergometer.

⚠️ WARNING, POTENTIAL FOR INJURY. To reduce the risk of a potential injury, always use two (2) people to install or remove the Ergometer. It has a weight that exceeds that for which a single individual can safely lift.

⚠️ WARNING, POTENTIAL FOR INJURY. Always have the Ergometer Slide Lock engaged when the ergometer is removed from the Stress EchoBed®.

Ergometer installation to Storage Cart

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lock Ergometer Storage Cart’s casters.</td>
</tr>
<tr>
<td>2</td>
<td>See the Ergometer section of the Manual for removal of the Ergometer from the Stress EchoBed®.</td>
</tr>
<tr>
<td>3</td>
<td>Confirm the Ergometer is as far forward in the slide track, locked into position. Move the ergometer as needed to allow the slide lock to drop into a hole in the slide base. See Figure 14</td>
</tr>
<tr>
<td>4</td>
<td>Using two people, rest the ergometer track assembly on the foot end of the Ergometer Storage Cart with the foot end of the Ergometer toward the Storage Cart handle, in line with the track restraint guides.</td>
</tr>
<tr>
<td>5</td>
<td>Pull up on the Track Lock Knob, and then slowly pull the entire track assembly towards the handle end of the Ergometer Storage Cart aligned between the track restraint guides. If the Ergometer catches, pull up on the track lock knob while pushing the Ergometer. Push the Ergometer until the ergometer lock comes into contact with locking hole at the handle end of the Storage Cart. See Figure 11</td>
</tr>
</tbody>
</table>

Ergometer removal from Storage Cart

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lock Ergometer Storage Cart’s casters.</td>
</tr>
<tr>
<td>2</td>
<td>Confirm the Ergometer slide track is locked into position. Move the ergometer as needed to allow the slide lock to drop into a hole in the slide base. See Figure 14</td>
</tr>
<tr>
<td>3</td>
<td>Lift up on the track lock knob located towards the back of the track assembly. While pulling up on the ergometer track lock, pull the entire track assembly away from the handle end of the Storage Cart a few inches to disengage the track lock from the Lock hole on the Storage Cart. See Figure 11</td>
</tr>
</tbody>
</table>
**STEP** | **ACTION**
---|---
4 | Slowly slide the entire track assembly away from the Storage Cart’s handle and remove the ergometer from the Storage Cart.
5 | See the Ergometer section of the Manual for installation of the Ergometer to the Stress EchoBed®.

**Track Insert**

The Stress EchoBed® may be used with an optional Track Insert for utilizing the bed as a traditional EchoBed® with the Ergometer removed.

⚠️ **WARNING, POTENTIAL FOR INJURY.** To reduce the risk of potential injury to patients lower extremities, only place a patient on the Stress EchoBed® when the Ergometer or Track Insert is in place.

⚠️ **WARNING, POTENTIAL FOR INJURY.** To reduce the risk of a potential injury, lock all casters before installing, adjusting, or removing the Ergometer.

⚠️ **WARNING, POTENTIAL FOR INJURY.** To reduce the risk of a potential injury, always use two (2) people to install or remove the Ergometer. It has a weight that exceeds that for which a single individual can safely lift.

**Track Insert Installation and Removal**

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Position the Track Insert over the ergometer mounting area with “thin” edge adjacent to vinyl on bed. The hook and loop strips on the underside of the insert will fasten it to the bed. See Figure 29</td>
</tr>
<tr>
<td>2</td>
<td>To remove the insert, lift the insert from the bed, separating the hook and loop strips.</td>
</tr>
</tbody>
</table>

![Figure 29](image-url)
The Stress EchoBed® may be equipped with an optional IV pole holder for ½ inch diameter IV poles. The IV pole holder is located near the head end of the table. See Figure 30.
Pediatric/Geriatric Adaptor

The Stress EchoBed® can be used with an optional Pediatric/Geriatric Adaptor. This accessory reduces the size of the opening of the imaging drop section when imaging smaller patients.

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. Remove the Pediatric/Geriatric Adaptor when not in use.

⚠️ WARNING, POTENTIAL FOR INJURY. Do not operate drop section or back rest if either the non-pin finance closure flap or Pediatric/Geriatric Adaptor is absent. The flap is attached to the bed with hook and loop tape and can easily be adjusted whenever necessary.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lower the Drop Section</td>
</tr>
<tr>
<td>2</td>
<td>Remove the non-pin finance closure flap by grasping one side of the flap and gentle separating the hook and loop fastener.</td>
</tr>
<tr>
<td>3</td>
<td>Position the adaptor locator flanges within the imaging area. See Figure 31</td>
</tr>
<tr>
<td>4</td>
<td>Remove the adaptor when not needed.</td>
</tr>
<tr>
<td>5</td>
<td>With the drop-section lowered, align the top edge of the non-pin finance closure flap, (within the access cavity) with the top edge of the bed surface.</td>
</tr>
<tr>
<td>6</td>
<td>Press the hook and loop attachment strips together.</td>
</tr>
</tbody>
</table>

![Locator Flange](image)

Figure 31
Preventative Maintenance

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. Do not modify this equipment without authorization of the manufacturer.

The following Preventative Maintenance should be performed at a minimum annually:

- Visually inspect all mechanical assemblies and moving parts on the product ensuring 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. If damaged, replace.
- Operate all drop section latch mechanisms to insure proper engagement of latch into receiver. Adjust if necessary.
- Operate the back rest latch mechanisms to insure proper engagement and release. Adjust if necessary.
- Operate all motors to insure full extension, retraction and correct operation. The motors are permanently lubricated and require no lubrication.
- Operate the braking system to insure proper engagement of the wheel and swivel lock mechanism. Replace as necessary.
- Operate all accessories to insure proper attachment and operation. Tighten, adjust or replace if necessary.

This device contains materials that are potentially hazardous to the environment. In accordance with the DIRECTIVE 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE CONCIL on waste electrical and electronic equipment (WEEE), the Stress EchoBed® electrical system and accessories should not be disposed as unsorted municipal waste. Consult your instructional policies and local regulations regarding disposal. Contact your Medical Positioning, Inc. Service Representative if additional disposal details are required.
Remote Release Mechanism Adjustment

The Stress EchoBed® 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 smoothly as it should, please proceed with these instructions.

**Tools Required:** Phillips Head Screwdriver

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Close the imagining drop section</td>
</tr>
<tr>
<td>2</td>
<td>Located under the imaging drop-section is the control cable for the remote release handle. The cable is equipped with an adjustable mounting tab. Should it be necessary, adjustment is performed in the following manner. See Figure 32</td>
</tr>
</tbody>
</table>
| 3    | Determine if the Remote Release Cable needs tightening.  
- Tighten the cable: When opening the imaging window using the remote release, the drop-section does not respond properly. In this event, follow steps 5, 6, and 8.  
- 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 5, 7, and 8. |
| 5    | Locate and loosen the Phillips Head screw that holds the mounting tab in place. See Figure 33 |
| 6    | To tighten the cable, (take up the slack in the cable) slide the mounting tab towards the center of the bed. See Figure 34  
**Take care to note over tighten the cable by 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.** |
| 7    | To loosen the cable, (increase slack to allow more secure closure) slide the mounting tab away from the center of the bed. See Figure 34 |
| 8    | Re-tighten the Phillips head screw in the mounting tab to lock-in the adjustment. See Figure 33 |

![View of Remote Release Cable Installation](image-url)
Figure 33
Loosen

Figure 34
Tighten
Cleaning

⚠️ WARNING, POTENTIAL FOR INJURY. Always read manufactures instructions and warnings before using any cleaning product or disinfectant.

⚠️ CAUTION, PRODUCT DAMAGE MAY RESULT. 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.

⚠️ CAUTION, PRODUCT DAMAGE MAY RESULT. Do not use abrasives to clean surfaces.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>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)</td>
</tr>
<tr>
<td>2</td>
<td>Wipe the surface clean with a damp cloth after applying cleaners and disinfectant to remove excess residue buildup.</td>
</tr>
</tbody>
</table>

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

⚠️ WARNING, POTENTIAL FOR INJURY OR DEATH. It is recommended that the product be cleaned between patients; please follow your facilities documented policy.

The preferred method of everyday cleaning is using a soft cloth or sponge with mild soap and water or disinfectant. Spills and accidents require immediate attention for best results. When caught quickly, most stains such as grease, blood and black felt tip pens can be wiped right off. Mild soap and water is the preferred method; however, typical hospital-grade antiseptic wipes work as well. For more stubborn stains, a variety of concentrated and solvent type cleansers may be used without damaging the surface as long as they are thoroughly rinsed off with water.

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 should be wiped from the surface with a wet cloth after use. Residue from these products will damage vinyl surfaces.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>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)</td>
</tr>
</tbody>
</table>
STEP | ACTION
--- | ---
2 | Wipe the surface clean with a damp cloth after applying cleaners and disinfectant to remove excess residue buildup.

<table>
<thead>
<tr>
<th>RECOMMENDED MAXIMUM CLEANER TO WATER SOLUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mildest</strong></td>
</tr>
<tr>
<td></td>
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<tr>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Strongest</strong></td>
</tr>
</tbody>
</table>

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.

The Ergometer and Ergometer Storage Cart can be cleaned as needed. The exposed surfaces of the computer and ergometer can be cleaned with normal cleaners and disinfectant. Do not spray cleaner or any liquid directly onto the ergometer or the computer controller.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clean and/or disinfect the outer surfaces of the Ergometer, Ergometer Storage Cart, Ergometer Controller, and/or Patient Coach by applying cleaner or disinfectant to a clean cloth and wiping surfaces. Be sure to follow instructions provided with cleaner or disinfectant.</td>
</tr>
<tr>
<td>2</td>
<td>After cleaner and/or disinfectant has been applied, wipe surfaces clean with a damp cloth.</td>
</tr>
</tbody>
</table>
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 table please contact Medical Positioning 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

Complaint Reporting Procedure

In the event of a product malfunction or patient injury, please immediately report the incident to:

1. ____________________________________________
   (The distributor from whom the product was purchased)

   1146 Booth Street
   Kansas City, KS 66103
   www.MedicalPositioning.com
   011-816-474-1555
   800-593-3246 (ECHO)

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>PROBABLE CAUSE</th>
<th>SUGGESTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Actuator Function</td>
<td>• Power cord not plugged all the way into wall</td>
<td>• Push power cord securely into receptacle.</td>
</tr>
<tr>
<td>Actuator(s) Not Running</td>
<td>receptacle</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Power outlet receptacle not supplying 120 VAC</td>
<td>• Check power availability or plug unit into another</td>
</tr>
<tr>
<td></td>
<td>power</td>
<td>receptacle</td>
</tr>
<tr>
<td></td>
<td>• The power cord may be</td>
<td>• Securely press power</td>
</tr>
<tr>
<td></td>
<td>separated from the control box</td>
<td>cord into control box Figure 36</td>
</tr>
<tr>
<td></td>
<td>• Hand wand not properly connected to control box</td>
<td>• Securely press end of hand-wand into control box</td>
</tr>
<tr>
<td></td>
<td>• Actuator power cord not</td>
<td>Figure 35 and Figure 36</td>
</tr>
<tr>
<td></td>
<td>fully connected to control box</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Actuator power cord not</td>
<td></td>
</tr>
<tr>
<td></td>
<td>fully connected to control box</td>
<td></td>
</tr>
<tr>
<td>SYMPTOM</td>
<td>PROBABLE CAUSE</td>
<td>SUGGESTION</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------------------------------------------------------</td>
<td>-------------------------------------------------------</td>
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<tr>
<td>Ergometer and Ergometer Controller Do Not Turn On</td>
<td>• Power cord for bed is not completely plugged in at wall power receptacle</td>
<td>• Push power cord securely into receptacle.</td>
</tr>
<tr>
<td></td>
<td>• Ergometer power cord is not completely plugged in at bed power strip</td>
<td>• Push ergometer power cord plug securely into bed power strip</td>
</tr>
<tr>
<td></td>
<td>• Power outlet receptacle not supplying 120 VAC power</td>
<td>• Check power availability or plug unit into another receptacle</td>
</tr>
<tr>
<td></td>
<td>• Circuit breaker on bed’s plug strip is tripped</td>
<td>• Check circuit breaker on power strip and reset by pushing in.</td>
</tr>
<tr>
<td>Ergometer Controller Does Not Turn On</td>
<td>• Ergometer power switch not on</td>
<td>• Turn switch on</td>
</tr>
<tr>
<td></td>
<td>• Cable is loose or disconnected at Ergometer Controller</td>
<td>• Firmly push connector on to Ergometer Controller</td>
</tr>
<tr>
<td>Cannot Set or Program the Ergometer Controller</td>
<td>• Ergometer power switch not on</td>
<td>• Turn switch on</td>
</tr>
<tr>
<td></td>
<td>• Cable is loose or disconnected at Ergometer Controller</td>
<td>• Firmly push connector on to Ergometer Controller</td>
</tr>
<tr>
<td></td>
<td>• Bed or Ergometer power problem</td>
<td>• Refer to symptom “Ergometer and Ergometer Controller Do Not Turn On”</td>
</tr>
<tr>
<td>Patient Coach Does Not Turn On</td>
<td>• Ergometer power switch not on</td>
<td>• Turn switch on</td>
</tr>
<tr>
<td></td>
<td>• Cable is loose or disconnected at Ergometer Controller</td>
<td>• Firmly push connector on to Ergometer Controller</td>
</tr>
<tr>
<td>No Pedal Resistance</td>
<td>• Bed or ergometer power problem</td>
<td>• Refer to symptom “Ergometer and Ergometer Controller Do Not Turn On”</td>
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</table>
Troubleshooting Test: Ergometer/Ergometer Controller

An internal self-test is performed on the Ergometer Controller each time it is turned on. No further function testing is required for the Ergometer Controller. The ergometer function test consists of verifying that it is providing resistance to movement of the pedals.

**Tools Required:** No tools are required to perform the ergometer function test.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unplug the entire Stress EchoBed® from the wall outlet. Wait 5 seconds.</td>
</tr>
<tr>
<td>2</td>
<td>Before powering the unit again, press and hold the RPM-UP button. While you hold the RPM-UP button, have another person plug the unit into the wall outlet.</td>
</tr>
<tr>
<td>3</td>
<td>Release the RPM-UP button after the displays on the computer controller come on.</td>
</tr>
<tr>
<td>STEP</td>
<td>ACTION</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>5</td>
<td>The automatic protocol stop will be disabled and remain disabled until the main power has been shut off.</td>
</tr>
<tr>
<td>6</td>
<td>Press the PROTOCOL-UP/DN control until the number 15 is displayed in the PROTOCOL NUMBER indicator.</td>
</tr>
<tr>
<td>7</td>
<td>Press the WATTS-UP/DN control until the number 25 is displayed in the RESISTANCE display.</td>
</tr>
<tr>
<td>8</td>
<td>While continuing to turn the pedals, press the WATTS-UP control until the number 40 is displayed in the RESISTANCE display.</td>
</tr>
<tr>
<td>9</td>
<td>Continue to rotate the ergometer pedals by hand and verify that there is more resistance to pedal movement than in step 7.</td>
</tr>
</tbody>
</table>
| 10   | Contact Medical Positioning, Inc. at 1-800-593-3246 with the following information:  
              1. Model Number or Name of Product  
              2. Date Received  
              3. Condition When Received  
              4. Symptom (or problem) Encountered & Result of Troubleshooting Procedure |
# Stress EchoBed® Parts List

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10041</td>
<td>ASSEMBLY, REMOVABLE TRACK</td>
</tr>
<tr>
<td>10098</td>
<td>PAPER HOLDER - CUTTER KIT</td>
</tr>
<tr>
<td>10099</td>
<td>PAPER CUTTER STRAP #MEP-1556</td>
</tr>
<tr>
<td>10132</td>
<td>HANDRAIL</td>
</tr>
<tr>
<td>10158</td>
<td>BELT RETRACT</td>
</tr>
<tr>
<td>10159</td>
<td>PLUNGER, HR W/KNOB, 1/4-20 X 1/2 X 1/2, 1-5 LB, YZNC, CL-4-HRP</td>
</tr>
<tr>
<td>10175</td>
<td>PAD, SHOULDER RESTRAINT</td>
</tr>
<tr>
<td>10219</td>
<td>COLUMN TOP PLATE</td>
</tr>
<tr>
<td>10220</td>
<td>SHAFT, TRENDELENBURG</td>
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<tr>
<td>10221</td>
<td>TREND FRAME</td>
</tr>
<tr>
<td>10240</td>
<td>COLLAR, W/SET SCREW, 7/8 ID X 1 1/2 OD X 5/8 L, ZN</td>
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<tr>
<td>10246</td>
<td>PLUG, TUBING, SQUARE, SMOOTH, 1 SQX .870, PE, BLACK</td>
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<tr>
<td>10255</td>
<td>WASHER, LOCK, INT TOOTH, 5/16, ZN</td>
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<tr>
<td>10266</td>
<td>ASSEMBLY, SHOULDER RESTRAINT MAIN BAR</td>
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<tr>
<td>10267</td>
<td>ASSEMBLY, SHOULDER RESTRAINT LOCKING BAR</td>
</tr>
<tr>
<td>10268</td>
<td>BRACKET, SHOULDER PAD SWIVEL</td>
</tr>
<tr>
<td>10269</td>
<td>TUBE, EXTENDER, SHOULDER RESTRAINT</td>
</tr>
<tr>
<td>10327</td>
<td>LEV-O-GAGE, 45° TO 45°, #2011-</td>
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<tr>
<td>10332</td>
<td>ASSEMBLY, BRACKET, LATERAL TILT</td>
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<tr>
<td>10342</td>
<td>BEARING, FLANGE, 1 ID</td>
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<tr>
<td>10415</td>
<td>KNOB, KNURLED, 1/4-20 X 9/16 X 1 1/2 OD, PHENOLIC, BLACK</td>
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<tr>
<td>10435</td>
<td>RETRACTOR, BELTING ASSEMBLY</td>
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<tr>
<td>10436</td>
<td>BRACKET, HANDRAIL,</td>
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<tr>
<td>10441</td>
<td>TOP FRAME, DUAL</td>
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<tr>
<td>10442</td>
<td>ASSEMBLY, BRACKET, LATERIAL TILT, LOWER</td>
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<tr>
<td>10443</td>
<td>COLUMN, SIDE SUPPORT</td>
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<tr>
<td>10453</td>
<td>BOOT, SLIMLINE CAST, MED</td>
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<td>10471</td>
<td>TRACK BASE SEB</td>
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<tr>
<td>10489</td>
<td>UPHOLSTERY KIT-SEB DUAL</td>
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<tr>
<td>10556</td>
<td>TRACK RESTRAINT</td>
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<tr>
<td>10577</td>
<td>BRACKET, TRACK STOP</td>
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<tr>
<td>10582</td>
<td>LEVER, RELEASE</td>
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<tr>
<td>10606</td>
<td>PLUNGER, HR W/L-HANDLE, LONG, 1/2-13 X 1 1/8 X 1/2, 1-5 LB, YZNC, CL-8-HRP</td>
</tr>
<tr>
<td>10622</td>
<td>ERGOMETER CONTROLLER</td>
</tr>
<tr>
<td>10624</td>
<td>PATIENT COACH</td>
</tr>
</tbody>
</table>
| 10626       | TAG, ERGOMETER ""CAUTION""
| 10704       | PLUNGER, HR W/KNOB, 1/2-13 X 7/8 X 1, 2 1/2-10 LB, YZNC, CL-8-HRP |
| 10705       | RESTRAINT BELT, SEB |
| 10726       | ACTUATOR, TREND |
| 10729       | ACTUATOR, LATERAL TILT |
| 10739       | HAND WAND, H-TR-LT, M |
| 10754       | CONTROL BOX |
| 10802       | CONTROL BOX TRAY, NARROW |
| 10847       | BUMPER, CORNER |

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<table>
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<tr>
<th>Part Number</th>
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<tr>
<td>10851</td>
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<tr>
<td>10969</td>
<td>BEARING, FLANGE, 7/8 ID</td>
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<tr>
<td>11043</td>
<td>ERGOMETER STORAGE CART</td>
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<tr>
<td>11049</td>
<td>ACTUATOR, HEIGHT</td>
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<td>11050</td>
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<td>11051</td>
<td>CORNER BRACKET, SHOULDER RESTRAINT</td>
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<td>11132</td>
<td>SWIVEL EXTENSION</td>
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<td>11134</td>
<td>EXTENSION SUPPORT PAN</td>
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<tr>
<td>11481</td>
<td>COVER, D.S. LATCH HANDLE</td>
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<tr>
<td>11763</td>
<td>POWER STRIP</td>
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<td>11768</td>
<td>EXTENSION BRACKET</td>
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<td>11770</td>
<td>PAD, SONOGRAPHER EXTENSION</td>
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<td>11786</td>
<td>BASE 3</td>
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<tr>
<td>11806</td>
<td>CABLE, ERGOMETER CONTROLLER</td>
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<td>11943</td>
<td>SAF-T-WEDGE, # 816</td>
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<tr>
<td>11953</td>
<td>RAIL SPACER LARGE</td>
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<td>12145</td>
<td>MODIFICATION, V3 ERGOMETER</td>
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<tr>
<td>14529</td>
<td>ASSEMBLY, UPHOLSTERED, SEB DUAL SECTION</td>
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<td>14571</td>
<td>UPHOLSTERED, PINCH FLAP, SEB IMAGING</td>
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<td>14579</td>
<td>UPHOLSTERED, SEB COVER</td>
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<td>14580</td>
<td>UPHOLSTERED, PINCH FLAP, SEB 2-WAY</td>
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<td>14581</td>
<td>UPHOLSTERED, SEB DROP SECTION, 2-WAY</td>
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<td>14661</td>
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## Specifications

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<th>ATTRIBUTE</th>
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<tr>
<td>Electrically Adjustable Height</td>
<td>24” to 34”</td>
</tr>
<tr>
<td>Electrically Adjustable Trendelenburg Positioning</td>
<td>0° to 15°</td>
</tr>
<tr>
<td>Electrically Adjustable Reverse Trendelenburg Positioning</td>
<td>0° to 15°</td>
</tr>
<tr>
<td>Electrically Adjustable Lateral Tilt</td>
<td>0° to 40°</td>
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<tr>
<td>Electrically Isolated Hand Wand</td>
<td>24 VDC</td>
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<td>Dynamic Load Capacity, Table</td>
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<tr>
<td>Static Load Capacity, Table</td>
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<td>Load Capacity, Sonographers Extension</td>
<td>200 Lbs.</td>
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<tr>
<td>Load Capacity, IV Pole Holder</td>
<td>33 Lbs.</td>
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<td>Casters</td>
<td>5” Individual Lock Casters</td>
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<td>Length</td>
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<tr>
<td>Width</td>
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<td>Weight</td>
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<td>Electrical</td>
<td>120 VAC, 50/60 Hz, 2.6 A</td>
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### Standard and Optional Configurations

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<th>Option</th>
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<tr>
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<tr>
<td>Ergometer Controller</td>
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<td>IV Pole Holder</td>
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</tr>
<tr>
<td>Pediatric/Geriatric Adaptor</td>
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</tr>
</tbody>
</table>
Warranty

This product is fully guaranteed against defects in material and/or workmanship during the period indicated above, commencing with the manufacturing date. If a product fails due to a manufacturing defect, Medical Positioning, Inc. (MPI) will repair or authorize repairs to the product without charge, or replace the product at MPI’s option.

Preventative maintenance and repairs due to accident, improper care, negligence, or other non-defect related failures are not covered by this warranty. This warranty does not apply to products that have been modified without the advance written permission of MPI.

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

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

A 30 day return policy from the date of receipt applies to new products, subject to a restocking fee and quality inspection. The product shall not be returned without prior written authorization from MPI. The customer is responsible for all shipping charges and any applicable duties or taxes.

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Kansas City, Kansas 66103
(816) 474-1555
(800) 593-3246
Fax (816) 474-7755