



**BASIC AMERICAN**  
MEDICAL PRODUCTS

# *The* **LIBERTY BED**



## INSTRUCTIONS FOR USE SERVICE MANUAL

*To avoid personal injury or damage to bed,  
please read all sections pertaining to  
your bed model before use.*

ETL/UL/CSA APPROVED  
UL 60601-1  
IEC 60601-2-38  
CSA 22.2 601.1

**This service manual covers the following Liberty Models:**

**Liberty**

76" & 80" Full Electric with Standard Caster System & Grid Decks = LBT7174;  
76" & 80" Full Electric with Locking Caster System & Grid Decks = LBTL7174.



**BASIC AMERICAN**  
MEDICAL PRODUCTS

**Basic American Medical Products**

336 Trowbridge Drive  
Fond du Lac, WI 54937

For Liberty Bed Service Parts  
please contact our Customer Service Department  
at 1-800-365-2338

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**GF Health Products, Inc.**

2935A Northwest Parkway  
Atlanta, GA 30360  
[www.grahamfield.com](http://www.grahamfield.com)

To order a Liberty Bed  
please contact a Graham Field Sales Representative  
at 1-800-554-9215

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**IMPORTANT NOTICE**

GF Health Products, Inc. is not responsible for typographical errors.  
All illustrations, specifications, packaging, and warranties contained in this Service Manual  
are based on the latest product information available at the time of printing.  
The most current product information can be found online at [www.grahamfield.com](http://www.grahamfield.com).

Please check all parts for shipping damage and test before using.  
In case of damage, DO NOT USE.



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## IMPORTANT SAFETY AND WARNING INFORMATION



This product is a variable height, adjustable mattress platform, which will provide comfort and convenience for residents/patients and caregivers in long term care settings.



The MAXIMUM SAFE WORKING LOAD for the Liberty Bed with weight evenly distributed, including bedding, resident/patient, support surface, and all accessories, is 450 lbs.



NEVER operate the bed if a Power Cord or Plug is damaged or not working properly. Contact qualified Service Personnel for examination and repair. Always unplug the Power Cord when performing any maintenance on the bed.



DO NOT open assemblies such as the Actuators, Hand Control, or Control Box. If unauthorized personnel perform work on these components, the manufacturer's warranty becomes void.



DO NOT use unauthorized parts, accessories, or adaptors other than those specified/authorized by GF Health Products, Inc.



When operating the High/Low, Knee, or Back Functions of the bed, ALWAYS ensure that the confined individual is positioned properly within the confines of the bed. DO NOT let any extremities protrude over the side or between the bed rails when performing these functions.



DO NOT lower the bed when objects are beneath it. Failure to inspect under the bed can result in damage to property or personal injury.



The bed's Pendant Cord MUST BE ROUTED AND SECURED PROPERLY to ensure it does not become entangled and eventually severed during use. Also make sure all electrical cords DO NOT get tangled around the bed, side rails, or legs during transport or normal operation of the bed.



When using nasal-type or masked-type administering equipment, all oxygen or air tubing MUST BE ROUTED AND SECURED PROPERLY to ensure that the tubing does not become entangled and eventually severed during the normal operation of the bed.



The bed should ALWAYS be left in its lowest position when unattended to reduce the risk of injury while getting in or out of the bed.



Keep all moving parts free of obstructions (i.e. blankets/sheets, heating blankets/pads, wiring, etc.).



DO NOT use the assist devices as push handles for moving the bed. Assist devices can be deformed or broken if excessive side pressure is exerted. Assist devices are not meant for patients considered as high risks for entrapment (i.e. patients with pre-existing conditions such as confusion, restlessness, lack of muscle control, altered mental status, either organic or medicinal, or a combination thereof). Additional safety measures should be considered for such high-risk patients.



NEVER permit more than one (1) person on/in the bed at any time.



Body weight should be evenly distributed over the sleeping surface of the bed. DO NOT allow the patient to lay, sit, or lean in such a way that their entire body weight is placed only on the raised head or foot sections of the bed. This especially applies when repositioning or transferring a patient in or out of the bed. Increased risk may occur when the patient's size and/or weight are inappropriate for the bed's dimensions or weight capacity.



The bed is intended for use, storage, and transport within a temperature range of -40°C to +60°C. It has a water-resistance rating of IPX4 and IS NOT to be power-washed or submersed.

### **Operating Conditions**

Operation of the bed is based on the following conditions: Ambient Temperature of +10°C to +40°C; Relative Humidity of 30% to 75% (Non-condensing); Atmospheric Pressure of 700hPa to 1060hPa; and a Splash Protection of IEC 60529.

### **Storage**

Storage of the bed is based on the following conditions: Ambient Temperature of -10°C to 70°C; Relative Humidity of 10% to 100%; and an Atmospheric Pressure of 500hPa to 1060hPa.

### **Radio Frequency Interference (RFI)**

RFI influences most electronic equipment. Caution should be exercised with regard to the use of portable communications equipment in the area around such equipment. If RFI causes erratic behavior, shut the bed off immediately. Leave it off while the transmission is in progress.



## TYPICAL SAFETY/WARNING BED LABELS

The following warning labels have been placed on your bed to help protect you and your bed from damage. Please do not remove any labels from your bed.

### WARNING!

DO NOT LOWER BED WHEN OBJECTS ARE BENEATH BED. FAILURE TO INSPECT UNDER BED CAN RESULT IN DAMAGE TO PROPERTY OR PERSONAL INJURY.

### ATTENTION:

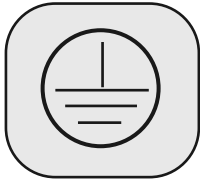
S'assurer de ne pas faire descendre le lit lorsque des objets se trouvent sous le lit. Ne pas inspecter le dessous du lit pourrait entraîner des dommages matériels et des risques de blessures.

### CAUTION

THIS BED IS SUITABLE FOR USE ONLY WITH OXYGEN ADMINISTERING EQUIPMENT OF THE NASAL OR MASK TYPE OR A TENT COVERING ONLY THE UPPER HALF (HEAD END) OF THE BED. OXYGEN TENT CANOPIES SHOULD NOT EXTEND BELOW BED SPRING LEVEL. LOCK HAND CONTROL AT FOOT OF BED WHEN USING OXYGEN ADMINISTERING EQUIPMENT.

### ATTENTION:

CE LIT PEUT ETRE UTILISE UNIQUEMENT AVEC UN EQUIPMENT DESTINE A L'ADMINISTRATION D'OXYGENE DE TYPE NASAL OU MASQUE OU AVEC UNE TENTE RECOUVRANT SEULEMENT LA MOTTIE AVENT (TETE) DU LIT. LES COTES DE LAS TENTE OXYGENE NE DOIVENT PAS SE PROLONGER PLUS DAS QUE LA SOMMIER DU LIT.



### WARNING!

DO NOT LOWER BED WHEN OBJECTS ARE BENEATH BED. FAILURE TO INSPECT UNDER BED CAN RESULT IN DAMAGE TO PROPERTY OR PERSONAL INJURY.

## LABEL SYMBOL DEFINITIONS



Consult  
Accompanying  
Documents



Safe  
Working  
Load



Double  
Insulated



Protected  
Grounded  
Device



Type B  
Equipment &  
Applied Parts



## RECOMMENDED MAINTENANCE AND INSPECTION

### ► Maintenance Inspection of All Components (Receipt of shipment)

- Make sure all parts/components are included (Please see “Unpacking Your Bed” - Page 15).
- Check all bed components for obvious damage.
- Inspect the Power Supply Cord for any cuts and/or damage.
- Check to see all actuator/motor cords are routed and connected properly to the control box.

### ► Mechanical Inspection of Assemblies (every 6 months)

- Inspect all welds on the sleeping surface, frame, and base assemblies for stress fractures.
- Inspect all fasteners for wear and looseness.
- IMPORTANT:** Lubricate all pivot points, actuator/motor clevis pins, and control arm clevis pins as needed. White Lithium Grease is recommended.

### ► Mechanical Inspection of Casters & Pedal Locking Mechanism (every 3 months)

- Check the pedal locking mechanism to make sure it engages and disengages properly.
- Check the bottom foot pads on the foot end casters, making sure they are clean of debris and undamaged. Replace if needed.
- Check all casters to ensure that they roll properly and are unobstructed.

### ► Electrical Inspection of Control Box (every 3 months)

- Check the external power cord that plugs into the control box for any chafing, cuts, or wear.
- Make sure all attaching hardware is securely tightened.
- Check all electrical connections for any wear or fractures.
- Check your external or mounted battery (see page 27) Replace if needed.

### ► Electrical Inspection of Pendant and Staff Control (every 3 months)

- Check the pendant cord for any chafing, cuts, or wear.
- Check all pendant functions . . .
  - ✓ Head raises and lowers properly
  - ✓ Foot raises and lowers properly
  - ✓ Entire bed raises and lowers properly
  - ✓ Bed moves to Chair position properly
  - ✓ Bed moves to Trendelenberg and Reverse Trendelenberg positions properly.
- Check to make sure each button and associated function work properly (i.e. the head section raises when the Head Up button is activated).

### ► Electrical Inspection of Actuators/Motors (every 3 months)

- Check the actuator/motor cords for any chafing, cuts, or wear.
- Check the range of movement on all motors to ensure they do not bind in the Full Up and Full Down positions.

## WARRANTY

- 10 Years on Frame
- **2 Years on Motors and Control Box**
- 1 Year on Other Electronics

The warranties contained herein contain all the representation and warranties with respect to the subject matter of this document, and supersede all prior negotiations, agreements and understanding with respect thereto. The recipient of this document hereby acknowledges and represents that it has not relied on any representation, assertion, guarantee, warranty, collateral contract or other assurance, except those set out in this document.



## **ENTRAPMENT & COMPLIANCE INFORMATION**

On March 10, 2006, the FDA (U.S. Food and Drug Administration) released long-awaited guidelines for reducing the risk of bed entrapment: *“Hospital Bed System Dimensional and Assessment Guidance to Reduce Entrapment”*. The new Guidance identifies potential entrapment areas and those body parts most at risk for entrapment; provides design criteria for manufacturers of new hospital/convalescent beds; recommends particular test methods to assess the conformance of existing hospital/convalescent bed systems; and answers frequently-asked questions about entrapment issues.

The new Guidance was a result of a long-standing collaboration between the *FDA* and the *Hospital Bed Safety Workgroup (HBSW)*, formed in 1999. GF Health Products, Inc.’s Long-Term Care Bed division: *Basic American Medical Products*, is an HBSW charter member. As a result of our commitment to product safety, **all our current long-term care beds have been strictly tested and conform to the new FDA Guidance.**

The guidelines set forth by the FDA Guidance layout specific dimensional limitations on potentially injury-threatening gaps and spaces that can occur between bed system components, such as rails, when not properly installed. GF Health Products, Inc. and Basic American Medical Products have conformed to these guidelines from a manufacturing aspect. However, entrapment issues can often arise when a healthcare provider/facility has not correctly assembled the components on a bed. It is essential that the provider/facility fully understand their responsibility in complying to the guidelines set forth by the FDA in order to avoid injury. To that end, we have provided the FDA’s web address at right as a resource for understanding and following these guidelines for the safety of patients/residents.

It is also essential to have the correct bed components/accessories that correspond with the needs of your patient/resident and the particular bed you have purchased. Matching the correct bed component that correlates with the regulatory guidelines can be a daunting task. Our sales team at GF Health Products, Inc. and our friendly Customer Service Representatives at Basic American Medical Products can help you sift through the wide array of compliance and bed options. We will help you determine which bed/bed part is best for your patient’s/resident’s particular needs and help you with your compliance issues.

**The APS 9000 bed and accessories listed in this manual are in full compliance with FDA guidelines for reducing the risk of bed entrapment: *“Hospital Bed System Dimensional and Assessment Guidance to Reduce Entrapment”*.**

Details can be found at [www.fda.gov](http://www.fda.gov).



## UNPACKING YOUR BED

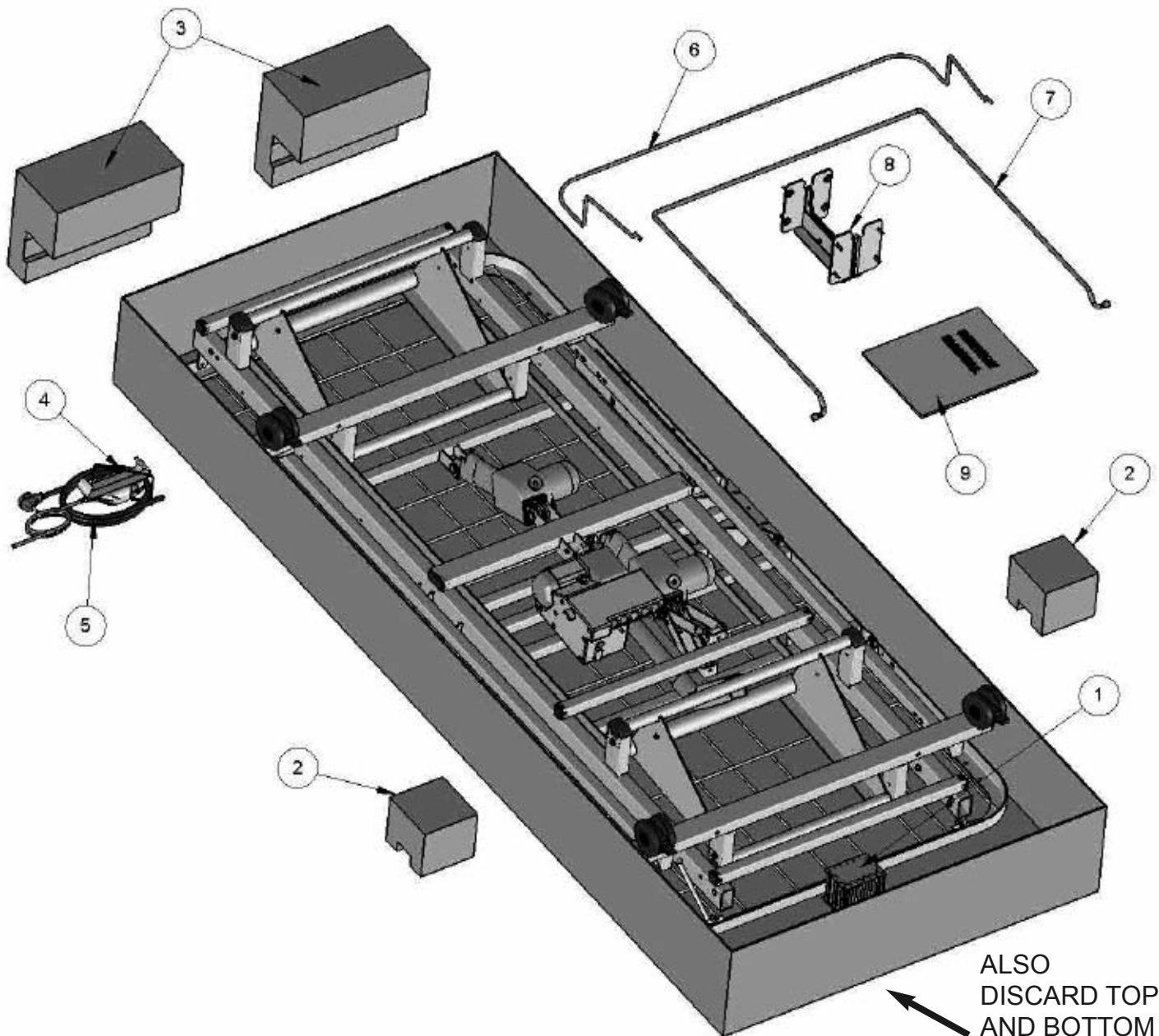
- Make sure all parts/components are included.
- Check all bed components for obvious damage.
- Inspect the Power Supply Cord for any cuts and/or damage.
- Check to see all actuator/motor cables are routed and connected properly to the control box.

### DISCARD

1. Cardboard Block
2. Notched Leg Foam
3. Large Blocks
4. Large Cable Tie - CUT

### KEEP

5. Pendant Holster, Pendant & Power Cord - Coiled for shipping and cable tied to Grid Wire on Head Deck.
6. One Mattress Retainer
7. One Wireform Wallsaver
8. Panel Mounting Brackets & Hardware for attaching Headboard & Footboard
9. Service Manual/Documents



ALSO  
DISCARD TOP  
AND BOTTOM  
CARTONS





## TYPICAL LIBERTY BED IDENTIFICATION LABELS

### with Linak Electronics - LBT7174 or LBTL7174

(Models Manufactured Prior to Sept. 2011- Serial Numbers < to 12020004096)

 <b>GF HEALTH PRODUCTS, INC.</b> ATLANTA, GA 30360	MODEL NO 701-0000-000000								
	MFG. DATE 08/31/11								
DUTY CYCLE - 2 min Continuous/18 min MODE OF OPERATION - Intermittent	<table border="1"> <tr> <th>VOLT</th> <th>HZ</th> <th>AMP</th> <th>TYPE</th> </tr> <tr> <td>120</td> <td>50/60</td> <td>4</td> <td>AC</td> </tr> </table>	VOLT	HZ	AMP	TYPE	120	50/60	4	AC
VOLT	HZ	AMP	TYPE						
120	50/60	4	AC						
 = 450 lbs SAFE WORKING LOAD	SERIAL NO 000000000000								
 									

Bed labels are an important part of identifying your bed's make and model when ordering replacement parts. The Serial Number is essential if you are claiming parts or service under warranty. These helpful labels can be located on the main frame rails, immediately below the sleep decks on either side of the bed.


<b>LBT7174</b>	LIBERTY 701 SERIES PATENT PENDING LIBERTY 7174	SERIAL LBT7
MODEL NO. 701-0000-000000	MFG DATE 08/31/11	
		000000000000
LBT7174		

Please have this IMPORTANT information ready when calling our customer service or technical support staff at 800-365-2338; it will allow us to better assist you and quickly answer your questions and concerns.

## TYPICAL LIBERTY BED IDENTIFICATION LABELS

### with IIcon Electronics - LBT7174 or LBTL7174

(Models Manufactured After Sept. 2011- Serial Numbers => to 12020004096)

 <b>GF HEALTH PRODUCTS, INC.</b> ATLANTA, GA 30360	MODEL NO 701-0000-000000								
	MFG. DATE 09/01/11								
DUTY CYCLE - 2 min Continuous/18 min MODE OF OPERATION - Intermittent	<table border="1"> <tr> <th>VOLT</th> <th>HZ</th> <th>AMP</th> <th>TYPE</th> </tr> <tr> <td>120</td> <td>50/60</td> <td>2</td> <td>AC</td> </tr> </table>	VOLT	HZ	AMP	TYPE	120	50/60	2	AC
VOLT	HZ	AMP	TYPE						
120	50/60	2	AC						
 = 450 lbs SAFE WORKING LOAD	SERIAL NO 000000000000								
 									

Bed labels are an important part of identifying your bed's make and model when ordering replacement parts. The Serial Number is essential if you are claiming parts or service under warranty. These helpful labels can be located on the main frame rails, immediately below the sleep decks on either side of the bed.

<b>LBT7174</b>	LIBERTY 701 SERIES PATENT PENDING LIBERTY 7174	SERIAL LBT7
MODEL NO. 701-0000-000000	MFG DATE 09/01/11	
		000000000000
LBT77174		

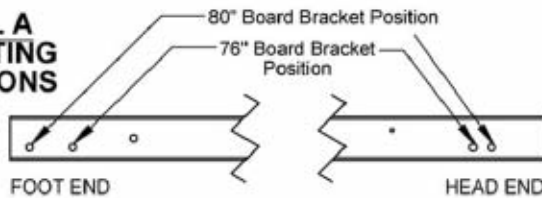
Please have this IMPORTANT information ready when calling our customer service or technical support staff at 800-365-2338; it will allow us to better assist you and quickly answer your questions and concerns.



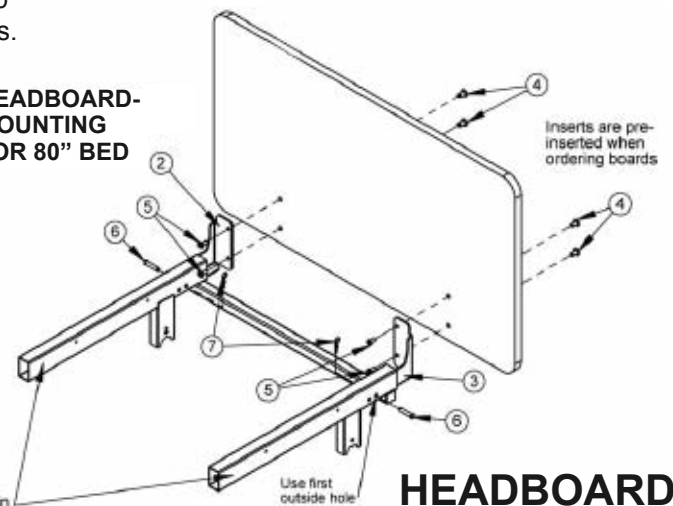
## HEAD- AND FOOTBOARD (PANEL) ASSEMBLY

1. Assemble four inserts (#4) into the outside of both the headboard and footboard if not already pre-assembled.
2. Assemble a right-hand and a left-hand Board Mounting Bracket (#2 & #3) to the insides of both the headboard and footboard using four 1/4-20 x 20mm Hex Drive JCB-B Bolts (#5) for each board. The bolts will go through the four pre-drilled holes on each board into the inserts.
3. Slide the headboard and footboard (with mounting brackets) into the main frame rails.
  - a) For a 76" bed, align the holes in the brackets with the second holes from the end in the sides of the main frame rails (See Detail A).
  - b) For an 80" bed, align the holes in the brackets with the first holes from the end in the sides of the main frame rails (See Detail A).
4. From the outside of the main frame rails, insert a 5/16 x 1.50" Clevis Pin (#6) through the holes in the frame rails and brackets on both sides of the bed.
5. Secure the clevis pins by inserting a 1-9/16 Hair Pin Clip (#7) through each of the holes in the ends of the four pins.

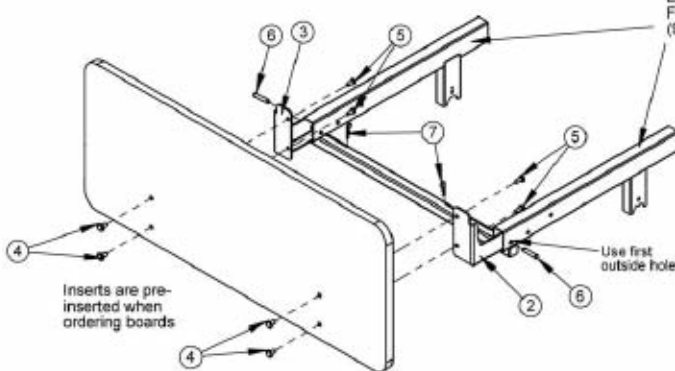
### DETAIL A MOUNTING POSITIONS



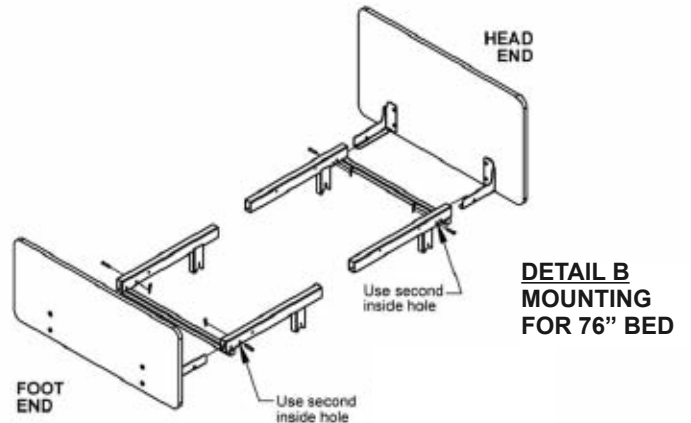
### HEADBOARD- MOUNTING FOR 80" BED



### FOOTBOARD



### FOOTBOARD- MOUNTING FOR 80" BED



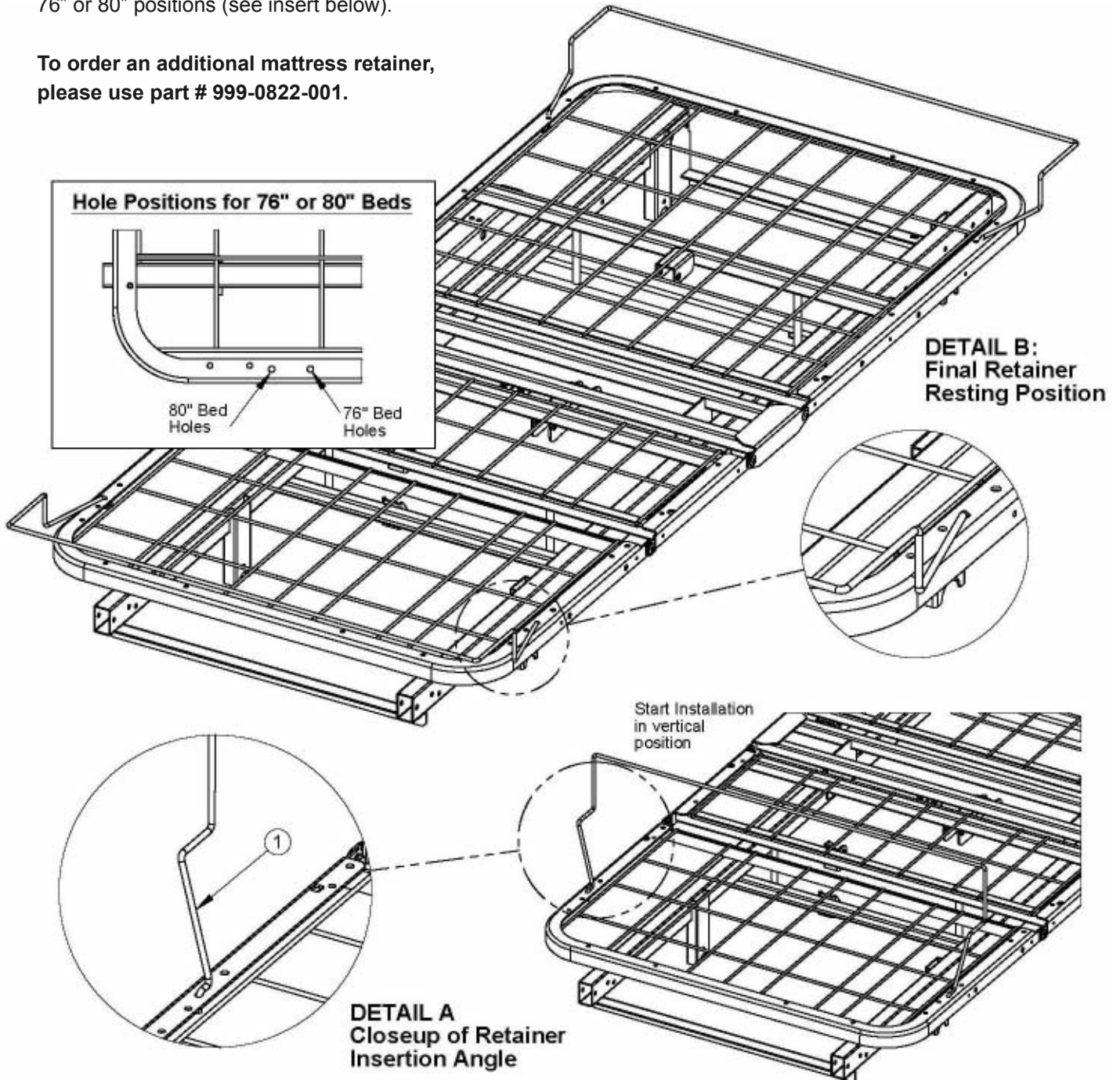
**NOTE:** To order a new Panel Mounting Kit, please use part # 999-0822-000. Kit includes a right-hand and left-hand Mounting Bracket, 8 Hex Drive Bolts, 4 Clevis Pins, 4 Hair Pin Clips, and 1 Hex Allen Wrench. Both Panels (Headboard and Footboard) are sold separately.



## STANDARD FULL-WIDTH MATTRESS RETAINER INSTALLATION

The Liberty Bed's mattress retainer was designed to span the width of the sleeping surface. One retainer is shipped with your bed and is typically placed at the foot end, although it will fit on either end. It is easily attached to the decks by inserting it into the pre-drilled holes for 76" or 80" positions (see insert below).

To order an additional mattress retainer, please use part # 999-0822-001.



Be sure to use a mattress that is properly sized to fit the sleep deck, which will remain centered on the deck relative to State and Federal Guidelines. Use of an improperly fitted mattress could result in injury or death.



Use a properly sized mattress in order to minimize the gap between the side of the mattress and assist devices. This gap must be small enough to prevent resident/patient from getting his/her head or neck caught in this location.



## QUICK-INSTALL, VERSATILE HEAD-END WALLSAVER

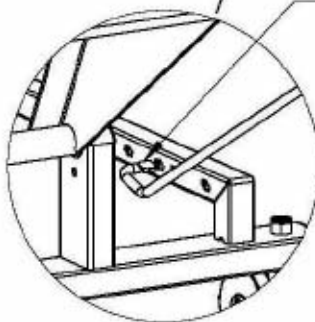
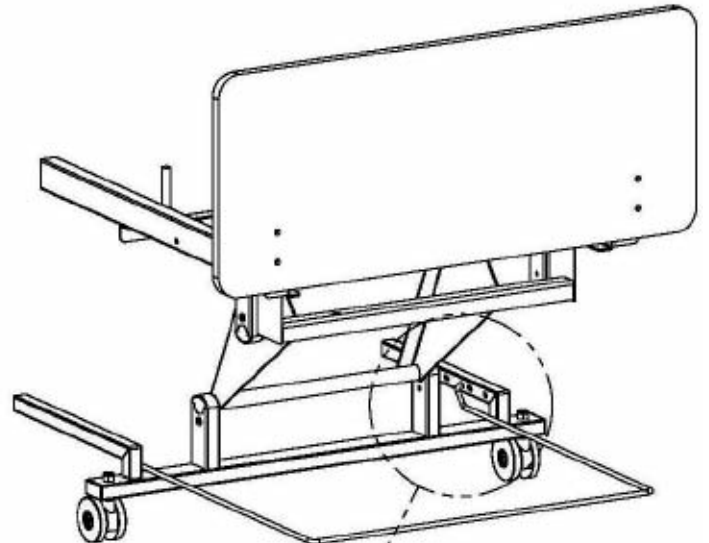
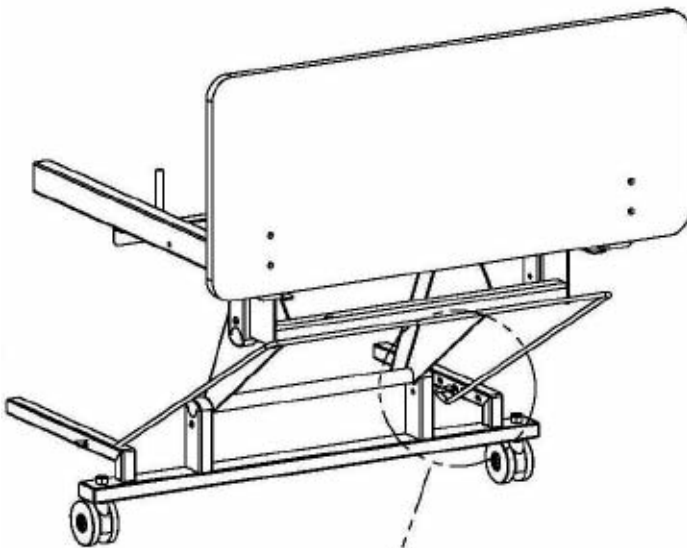
The Liberty Bed is shipped with a durable wireform wallsaver for the head-end of the bed. No hardware is necessary for attaching this multi-positional standard accessory.

Simply bend-in the tabbed ends into the slots in the carriage rails and lock down into place. There is even a position if you choose to install an optional trapeze support at the head end of the bed. (See page 30 for Trapeze Support installation in the Accessories section of this manual.)

To order additional wireform wallsavers, please use part # 999-0822-180.

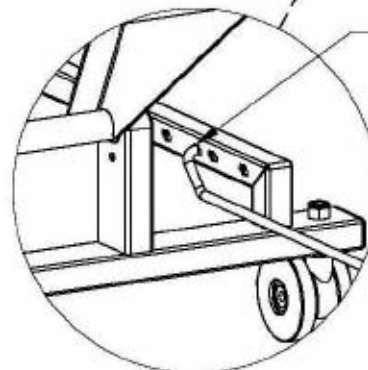
### WALLSAVER ATTACHING POSITION

### FINAL WALLSAVER RESTING POSITION



FLAT TAB IS INSERTED SO THAT IT IS PARALLEL WITH THE SLOT IN THE CASTER CARRIAGE RAIL

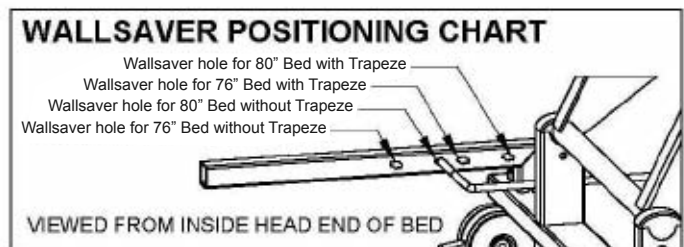
**DETAIL A**  
Illustrates starting angle of flat insert tab - moved to left for clarity



FLAT TAB LOCKS INTO THE CARRIAGE RAIL BY TURNING IT IN SIDE HOLE UNTIL THE WALLSAVER RESTS ON CROSSBRACE

**DETAIL B**  
Illustrates final angle of flat insert tab - rests on caster carriage cross brace

QTY	PART NUMBER	DESCRIPTION
1	999-0822-180	STANDARD WIREFORM WALLSAVER 76" AND 80" (Also has position for Trapeze Accessory)



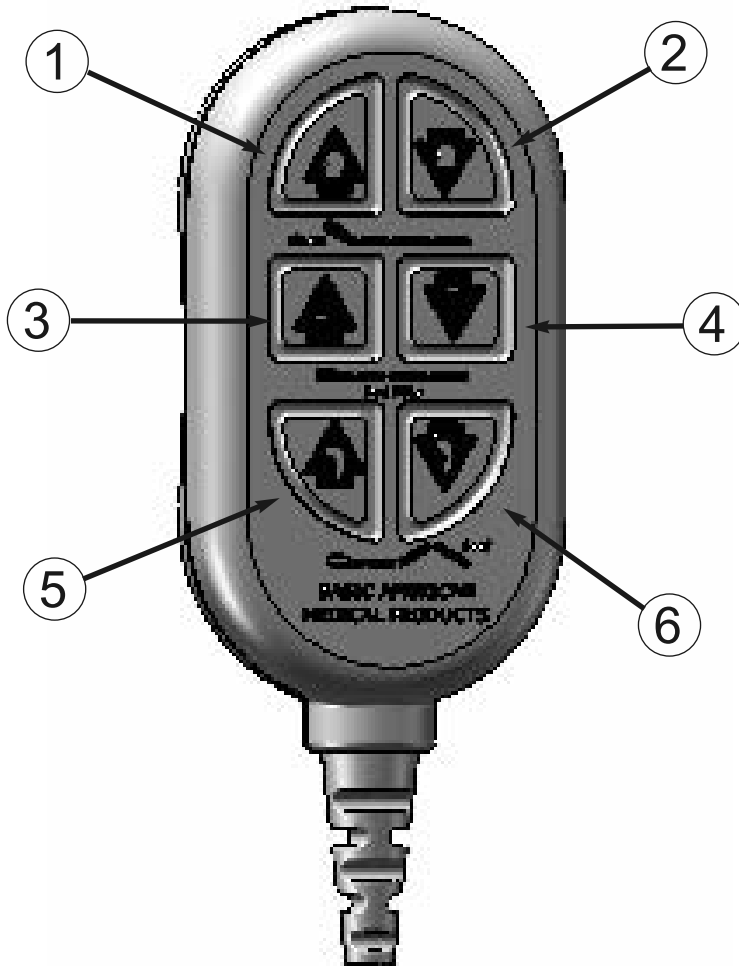


## STANDARD PENDANT/HAND CONTROLLER OPERATION

Each of the Liberty Beds are equipped with a pendant-type hand control - standard. Every control function (head/back, knee, and foot) has two easily recognizable switches for up and down movement. The pendant can be easily dis-connected to deactivate the patient control functions.

To operate, simply push the appropriate button to activate the desired function (see diagram at right).

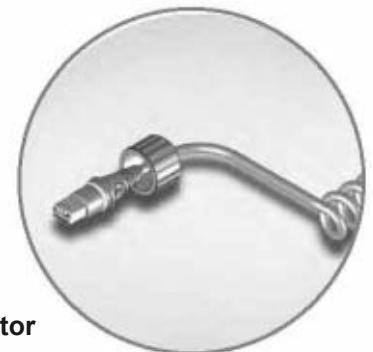
NON-BACKLIT PENDANT	
1	HEAD DECK ANGLE UP BUTTON
2	HEAD DECK ANGLE DOWN BUTTON
3	HI/LO UP BUTTON (RAISE ENTIRE BED)
4	HI/LO DOWN BUTTON (LOWER ENTIRE BED)
5	KNEE & FOOT DECK ANGLE UP BUTTON
6	KNEE & FOOT DECK ANGLE DOWN BUTTON



**NON-BACKLIT PENDANT**  
Model #HB00  
Part # 999-0808-305

### OPERATION:

1. To angle the Head Deck upward, PRESS 1
2. To angle the Head Deck downward, PRESS 2
3. To raise the Bed Up horizontally, PRESS 3
4. To lower the Bed Down horizontally, PRESS 4
5. To angle the Knee/Foot Decks upward, PRESS 5
6. To angle the Knee/Foot Decks downward, PRESS 6



**Male End Connector  
of Pendant Cable**



**Pendant Holster**  
999-0791-000

### NOTE:

The easiest method for deactivating the Pendant function is to simply unplug the power cord from the wall socket or other power supply when the patient is left alone in the bed. When you need to use the Pendant function to raise or lower the bed or decks, replug the power cord into the power outlet.



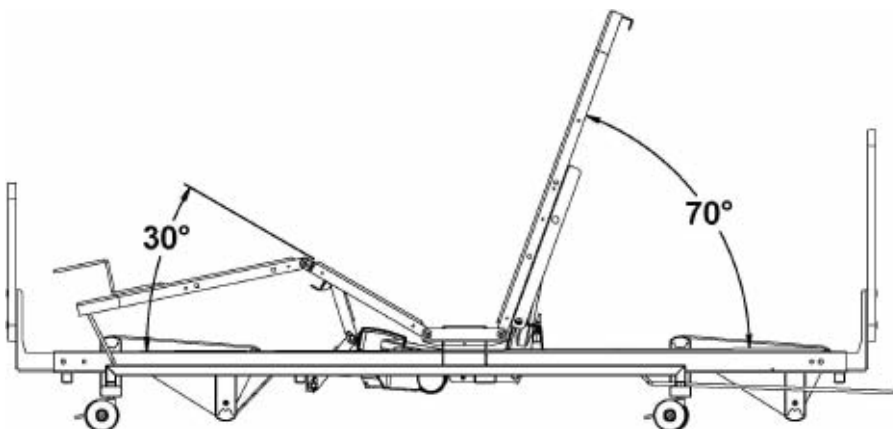
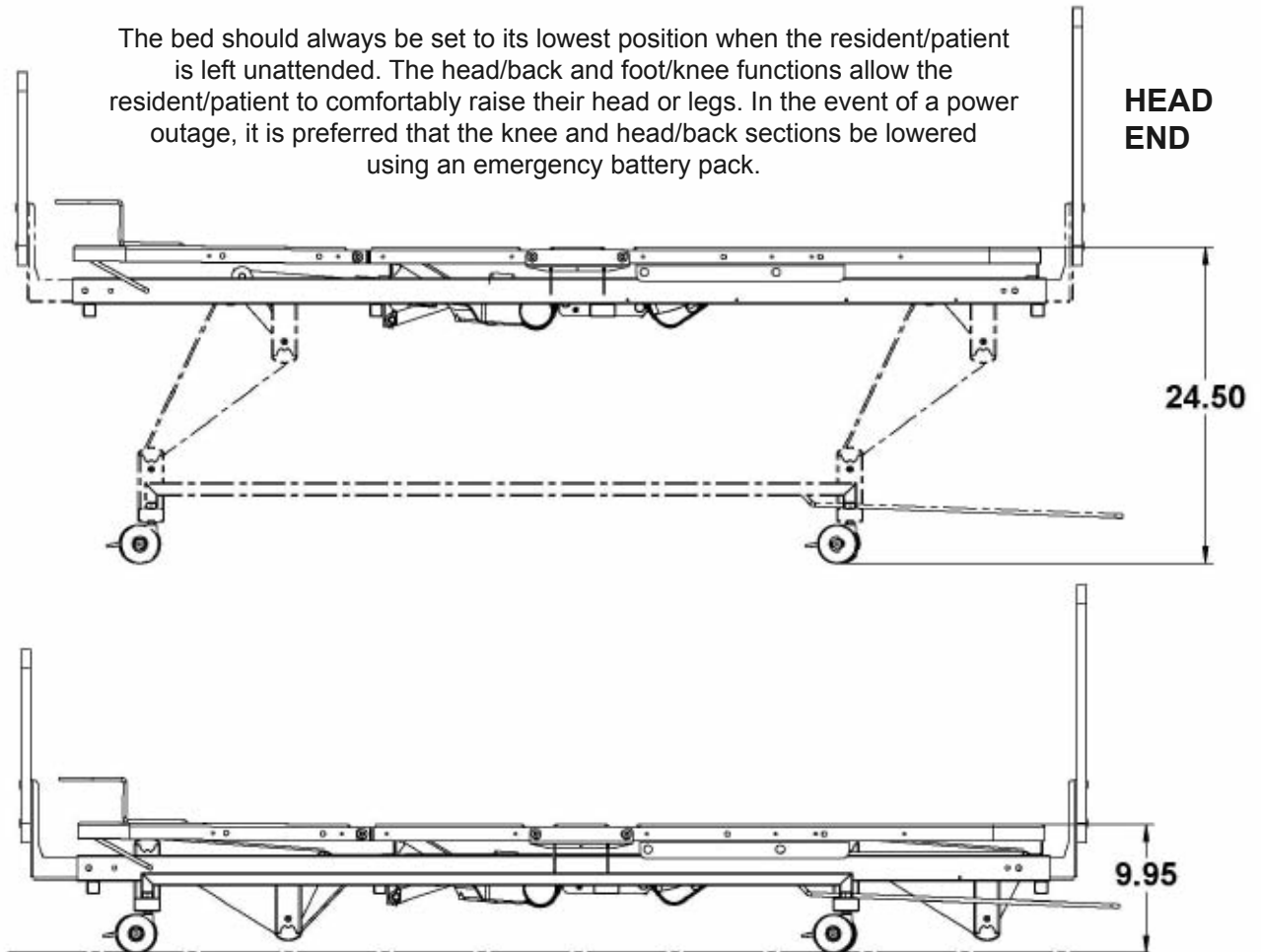
## LIBERTY BED HI/LO & DECK POSITIONS

The Liberty bed has a variety of positions that serve to help the patient be more comfortable and gives the practitioner/caregiver easy access during procedures and transfers. The correct placement of the bed is essential for the patient's safety.

The bed should always be set to its lowest position when the resident/patient is left unattended. The head/back and foot/knee functions allow the resident/patient to comfortably raise their head or legs. In the event of a power outage, it is preferred that the knee and head/back sections be lowered using an emergency battery pack.

**FOOT  
END**

**HEAD  
END**



### QUICK REFERENCE

Bed Height - floor to sleep deck top  
MAXIMUM (High Position) = 24.50"  
MINIMUM (Low Position) = 9.95"

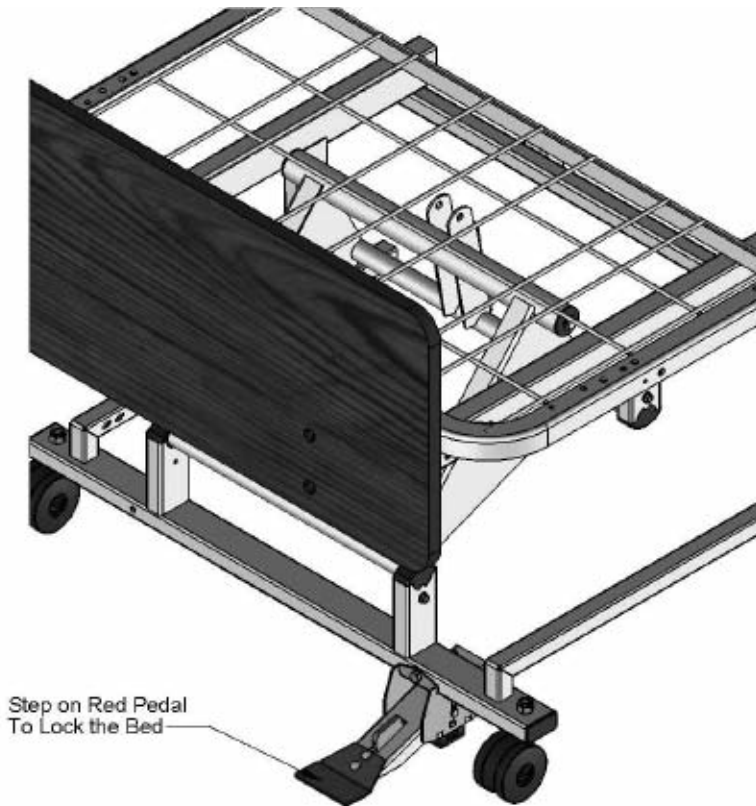
Head Deck to Sleep Surface  
MAXIMUM (Head Angle) = 70°

Knee Deck to Sleep Surface  
MAXIMUM (Knee Angle) = 30°

Knee Deck to Foot Deck  
MAXIMUM (Knee/Foot Angle) = 45°

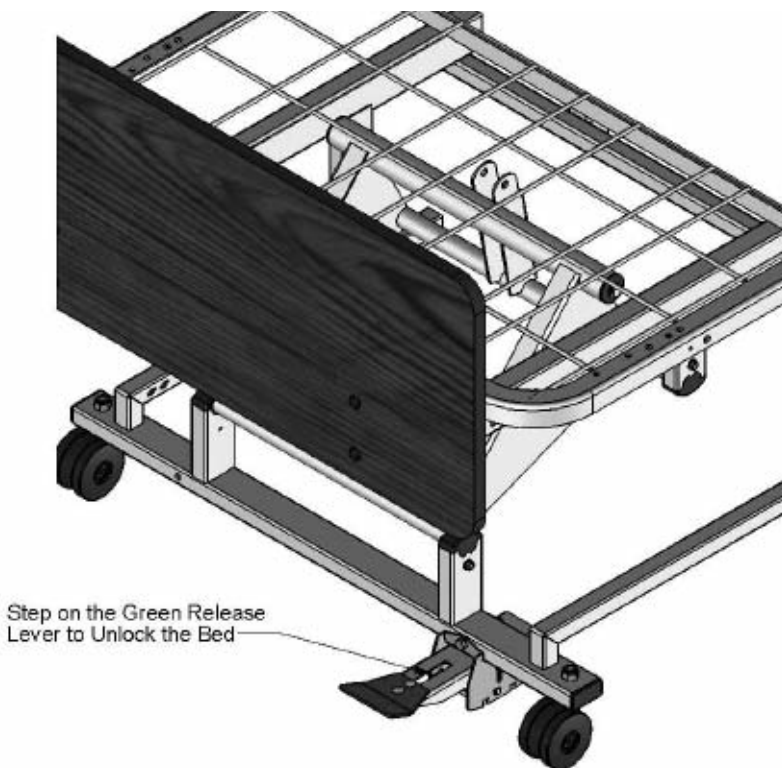


## LIBERTY BED ONE-STEP LOCKING MECHANISM OPERATION INSTRUCTIONS



### Locked Position on Your Liberty Bed

To lock the foot end of the Liberty bed, step on the red pedal until the lock engages. The green release lever will show through the slot in the top of the locking mechanism. To fully lock the bed, make sure the caster keepers at the head of the bed are both in their down positions.



### Unlocked Position on Your Liberty Bed

To unlock the foot end of the Liberty bed, step on the green release pedal until the lock disengages. The green release lever will disappear through the slot in the top of the pedal locking mechanism and the red pedal will raise. To fully unlock the bed, make sure the caster keepers at the head of the bed are both in their up positions.



# **SECTION A**

## **Liberty Beds with Linak Electronics**

Models Manufactured Prior to 09/01/2011  
(All Beds with Serial Numbers prior to SN12020004096)





## **LIBERTY BED MECHANICS (All Models)**

NOTE: All dimensions are in a range of +/- .25 inches

- Overall Bed Length (with brds & wallsaver) . . . 83"/86"
- Overall Bed Width (with boards) . . . . . 36.00"
- High Height\* . . . . . 24.50"
- Low Height\* . . . . . 9.95"
- Maximum Head/Back Deck Angle . . . . . 70°
- Maximum Knee/Foot Deck Angle . . . . . 30°
- Maximum Safe Working Load . . . . . 450 lbs.  
WITH WEIGHT EVENLY DISTRIBUTED  
- includes bedding, resident, support surface,  
and all accessories.
- Mass of bed (without assist devices or boards) = 182 lbs.

\* Bed height calculated from floor surface to top of sleep deck.

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## **LIBERTY LINAK ELECTRONICS Prior to 09/01/2011 Mfg Date**

(All Beds with Serial Numbers prior to SN12020004096)

- Power/Frequency . . . . . 120 Volt - 50/60 Hz
- Output Rating . . . . . 12/33V IPX4
- Overall Movement Draw . . . . . 4.00 Amps
- Classification . . . . . Class I, Type B
- Electrical Cord . . . . . #18 AWG 3 Conductor  
Type SJT
- Mode of Operation . . . . . 10% Max. Duty Cycle  
2 minutes on/18 minutes off



**LIBERTY ELECTRICAL LINAK COMPONENTS (Prior to 09/01/2011)**



Control/Junction Box  
Part # 999-0779-300  
Quantity = 1

Power Cable plugs  
into side port (part  
listed at bottom)



VENDOR MODEL  
HB00  
PENDANT:  
Part # 999-0808-305  
Quantity = 1

Bed also includes  
Pendant Holster  
Part # 999-0791-000  
Quantity = 1



Head Motor/Actuator  
Part # 999-0822-052  
Quantity = 1



Knee/Foot Motor/Actuator  
Part # 999-0822-053  
Quantity = 1



Hi/Lo Motor/Actuator  
Part # 999-0778-051  
Quantity = 1



25.50" Motor Cable (Hd.)  
Part # 999-0808-204  
Quantity = 1



20.00" Motor Cable (Ft.)  
Part # 999-0822-204  
Quantity = 1



8.00" Motor Cable (Hi/Lo)  
Part # 999-0778-204  
Quantity = 1



STANDARD:  
3 Prong Power Cable  
Part # 999-0775-208  
Quantity = 1

**!** DO NOT use unauthorized parts, accessories, or adaptors other than those specified/authorized by GF Health Products, Inc. DO NOT open assemblies such as the Actuators, Hand Control, or Control Box. If unauthorized personnel perform work on these components, the manufacturer's warranty becomes void. NEVER operate the bed if a Power Cord or Plug is damaged or not working properly. Contact qualified Service Personnel for examination and repair. Always unplug the Power Cord when performing any maintenance on the bed.



**SERVICE/REPLACEMENT PART RECORD - WITH LINAK ELECTRONICS**

<b>DECKING</b>					
<b>Part Number</b>	<b>Description</b>		<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0822-920SP	Head/Back Deck & Hardware Pack		1 Deck		
999-0822-930SP	OR - Foot Deck & Hardware Pack		1 Deck		
999-0822-940SP	OR - Knee Deck & Hardware Pack		1 Deck		
	<b>Deck Hardware Pack - INCLUDES . . .</b>		1 Pkg		
	4	Short Machine Screws			
	4	Self-Wrenching Nuts			
	1	Clevis Pin			
	1	Circle Cotter			
	1	Installation Instruction Sheet			
<b>MOTORS (ACTUATORS)</b>					
<b>Part Number</b>	<b>Description</b>		<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0778-051SP	Hi/Lo Motor (Cable not included) & Hardware Pack		1 Motor		
999-0822-052SP	OR - Head Motor (Cable not included) & Hardware Pack		1 Motor		
999-0822-053SP	OR - Foot Motor (Cable not included) & Hardware Pack		1 Motor		
	<b>Motor Hardware Pack - INCLUDES . . .</b>		1 Pkg		
	2	12mm Retaining Rings			
	2	Hair Pin Clips			
	2	Snap Rings			
	8	Standard Cable Ties			
	1	Installation Instruction Sheet			
999-0808-204	Head Motor Cable		1 Cable		
999-0822-204	Foot Motor Cable		1 Cable		
999-0778-204	Hi/Lo Motor Cable		1 Cable		
<b>CONTROL BOX &amp; POWER CABLES</b>					
<b>Part Number</b>	<b>Description</b>		<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0779-300	Linak Control Box and Clip		1 Box		
999-0775-208	Standard 3 Prong Power Cable		1 Cable		
<b>PENDANT/HAND CONTROLLER</b>					
<b>Part Number</b>	<b>Description</b>		<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0808-305	<b>Non-Backlit</b> Pendant (Std. Model)		1 Pendant		
999-0791-000	Pendant Holster (Std. for all pendants)		1 Holster		

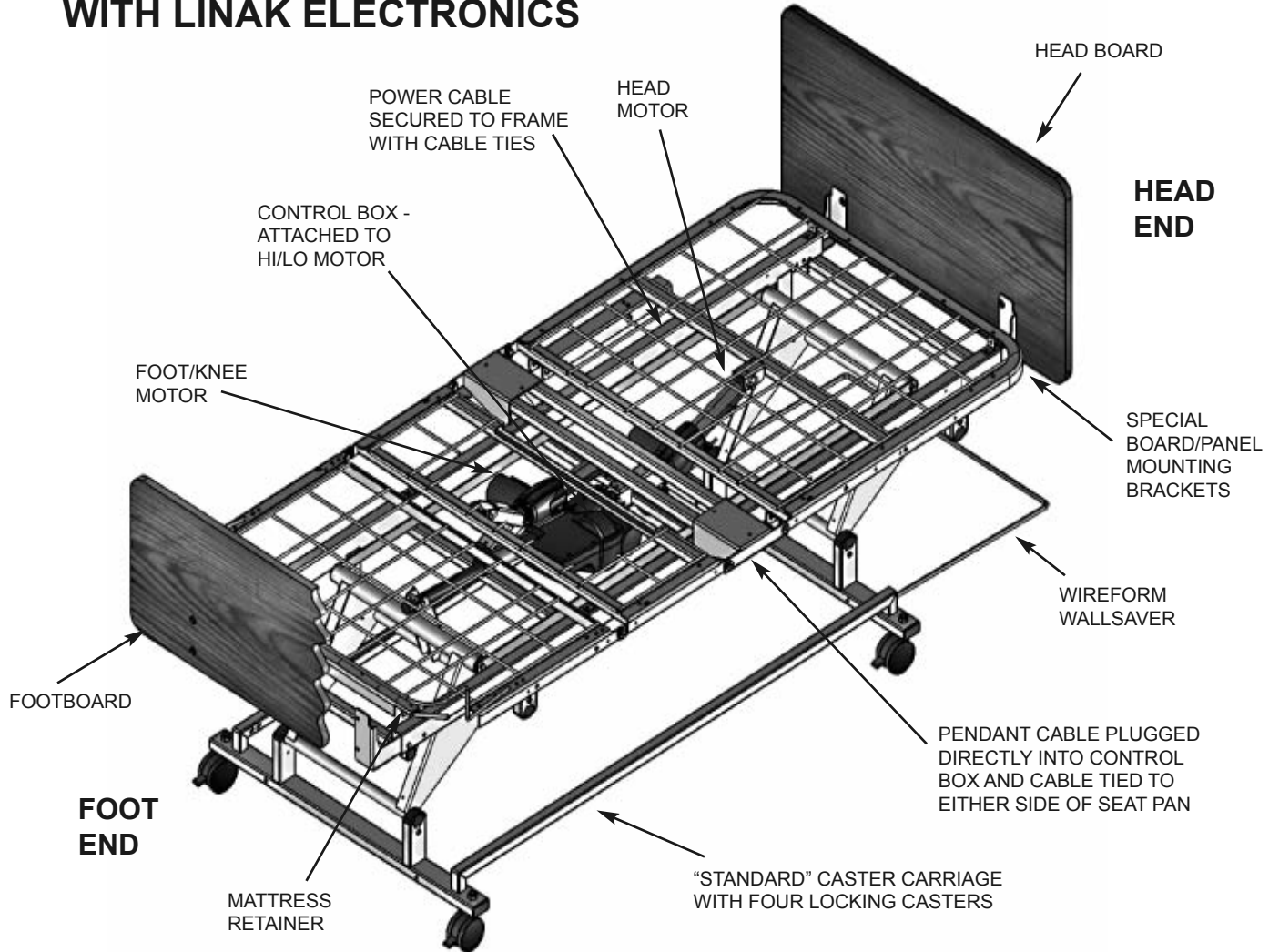


**SERVICE/REPLACEMENT PART RECORD - WITH LINAK ELECTRONICS**

<b>MISCELLANEOUS SERVICE BED PARTS</b>				
<b>Part Number</b>	<b>Description</b>	<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0822-012	Spanner Plates	1 Plate		
999-0822-031	Pivot Channels	1 Unit		
999-0822-036	Leveler Rods	1 Rod		
100-8050-008	1/2" E-Style Retaining Rings (for Leveler Rods)	1 Ring		
999-0822-001	Mattress Retainer	1 Unit		
999-0822-180	Wireform Wallsaver	1 Unit		
999-0822-083	18GA Ground Wire	1 Wire		
100-5710-019	#10-24 x .375" HWHTC Ground Screws TYP23	1 Screw		
100-1100-018	Standard Cable Ties	1 Tie		
100-1100-060	Wing-Tip Cable Ties	1 Tie		
<b>CASTER CARRIAGE</b>				
<b>Part Number</b>	<b>Description</b>	<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0822-905G	Caster Carriage Weldment	1 Unit		
100-6330-062	3" Twin Locking Caster with 7/16-14 Stems (LBT7174)	1 Caster		
100-6330-061	3" Twin Non-Locking Caster with 7/16-14 Stems (LBTL7174)	1 Caster		
999-0832-980G	One-Step Locking Mechanism (LBTL7174)	1 Unit		
100-6744-001	7/16-14 Nylon Lock Nuts (secure caster stems to frame)	1 Nut		
<b>CAPS &amp; PLUGS</b>				
<b>Part Number</b>	<b>Description</b>	<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
NOTE: CAPS & PLUGS CAN ONLY BE PURCHASED IN SETS OF 12				
100-4700-015PK	<b>1.00" x 1.00" Square Caps Pack</b>	12/pkg		
100-4700-017PK	<b>1.00" x 2.00" Rectangular Caps Pack</b>	12/pkg		
999-0822-041PK	<b>Black Tube Pivot Caps</b>	12/pkg		
FOR GENERAL CAP DIAGRAMS PLEASE SEE PAGES 44 & 45				



# SERVICE/REPLACEMENT PART DIAGRAM - STANDARD BED WITH LINAK ELECTRONICS



1. **TO ORDER A REPLACEMENT HI/LO MOTOR USE SERVICE PACK 999-0778-051SP** (Includes motor, mounting hardware & installation instruction sheet.)

2. **TO ORDER A REPLACEMENT HEAD MOTOR USE SERVICE PACK 999-0822-052SP** (Includes motor, mounting hardware & installation instruction sheet.)

3. **TO ORDER A REPLACEMENT FOOT MOTOR USE SERVICE PACK 999-0822-053SP** (Includes motor, mounting hardware & installation instruction sheet.)

4. **TO ORDER A REPLACEMENT CONTROL BOX PLEASE USE 999-0779-300** (Includes Control Box and mounting clip. For new Power Cord use 999-0775-208.)

5. **TO ORDER A REPLACEMENT MATTRESS RETAINER PLEASE USE 999-0822-001**

6. **FOR NEW WALLSAVER PLEASE USE 999-0822-180**

**FOR ALL OTHER SERVICE PARTS PLEASE REFER TO PAGES 19 - 20**

WHEN ORDERING REPLACEMENT PARTS WITH CUSTOMER SERVICE, PLEASE HAVE YOUR BED'S SERIAL NUMBER AVAILABLE TO CONFIRM WHETHER THE PART IS COVERED UNDER WARRANTY. (SEE PAGE 9 FOR LOCATION OF SERIAL NUMBER ID LABEL.)



# **SECTION B**

## **Liberty Beds with IIcon Electronics**

Models Manufactured After 09/01/2011

(All Beds with Serial Numbers equal to or after SN12020004096)



## **LIBERTY BED MECHANICS (All Models)**

NOTE: All dimensions are in a range of +/- .25 inches

- Overall Bed Length (with brds & wallsaver) . . . 83"/86"
- Overall Bed Width (with boards) . . . . . 36.00"
- High Height\* . . . . . 24.50"
- Low Height\* . . . . . 9.95"
- Maximum Head/Back Deck Angle . . . . . 70°
- Maximum Knee/Foot Deck Angle . . . . . 30°
- Maximum Safe Working Load . . . . . 450 lbs.  
WITH WEIGHT EVENLY DISTRIBUTED  
- includes bedding, resident, support surface,  
and all accessories.
- Mass of bed (without assist devices or boards) = 182 lbs.

\* Bed height calculated from floor surface to top of sleep deck.

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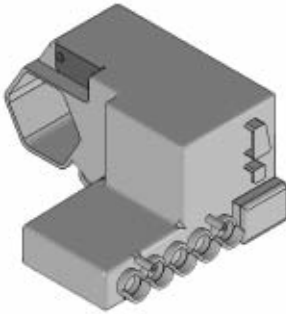
## **LIBERTY ILCON ELECTRONICS After 09/01/2011 Mfg Date**

(All Beds with Serial Numbers equal to or after SN12020004096)

- Power/Frequency . . . . . 120 Volt - 50/60 Hz
- Output Rating . . . . . 24V IPX4
- Overall Movement Draw . . . . . 2.00 Amps
- Classification . . . . . Class I, Type B
- Electrical Cord . . . . . #18 AWG 3 Conductor  
Type SJT
- Mode of Operation . . . . . 10% Max. Duty Cycle  
2 minutes on/18 minutes off



**LIBERTY ELECTRICAL ILCON COMPONENTS (After 09/01/2011)**



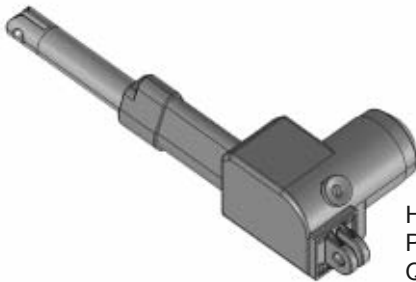
Control/Junction Box  
Part # 999-0848-300  
Quantity = 1

Power Cable is not detachable (hard-wired into the side of the Control Box)



VENDOR MODEL  
HB00  
PENDANT:  
Part # 999-0808-305  
Quantity = 1

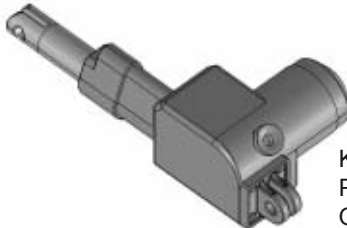
Bed also includes  
Pendant Holster  
Part # 999-0791-000  
Quantity = 1



Head Motor/Actuator  
Part # 999-0844-052  
Quantity = 1



Adaptor Cable  
for connecting  
Pendant Cable  
to Control Box  
Part # 999-0848-200  
Quantity = 1



Knee/Foot Motor/Actuator  
Part # 999-0844-053  
Quantity = 1

**NOTE:**  
MOTOR CABLES AND  
POWER CORD ARE  
NOT DETACHABLE  
(SEPARATE ITEMS).  
CABLES ARE HARD  
WIRED DIRECTLY  
INTO MOTORS AND  
CONTROL BOX.



Hi/Lo Motor/Actuator  
Part # 999-0848-051  
Quantity = 1



DO NOT use unauthorized parts, accessories, or adaptors other than those specified/authorized by GF Health Products, Inc. DO NOT open assemblies such as the Actuators, Hand Control, or Control Box. If unauthorized personnel perform work on these components, the manufacturer's warranty becomes void. NEVER operate the bed if a Power Cord or Plug is damaged or not working properly. Contact qualified Service Personnel for examination and repair. Always unplug the Power Cord when performing any maintenance on the bed.





**SERVICE/REPLACEMENT PART RECORD - WITH ILCON ELECTRONICS**

<b>DECKING</b>					
<b>Part Number</b>	<b>Description</b>		<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0844-920SP	Head/Back Deck & Hardware Pack		1 Deck		
999-0844-930SP	OR - Foot Deck & Hardware Pack		1 Deck		
999-0844-940SP	OR - Knee Deck & Hardware Pack		1 Deck		
	<b>Deck Hardware Pack - INCLUDES . . .</b>		1 Pkg		
	4	Clevis Pins			
	5	5/16" Retaining Rings (Deck Brackets)			
	2	12mm Retaining Ring (Cntrl Arms to Decks)			
	1	Installation Instruction Sheet			
<b>MOTORS (ACTUATORS)</b>					
<b>Part Number</b>	<b>Description</b>		<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0848-051SP	Hi/Lo Motor (Cable hard-wired) & Hardware Pack		1 Motor		
999-0844-052SP	OR - Head Motor (Cable hard-wired) & Hardware Pack		1 Motor		
999-0844-053SP	OR - Foot Motor (Cable hard-wired) & Hardware Pack		1 Motor		
	<b>Motor Hardware Pack - INCLUDES . . .</b>		1 Pkg		
	2	12mm Retaining Rings			
	2	Hair Pin Clips			
	2	Snap Rings			
	8	Standard Cable Ties			
	1	Installation Instruction Sheet			
<b>CONTROL BOX &amp; POWER CABLES</b>					
<b>Part Number</b>	<b>Description</b>		<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0848-300	Linak Control Box and Clip		1 Box		
	No Detachable Power Cord Available (Cord hard-wired to CB)				
<b>PENDANT/HAND CONTROLLER</b>					
<b>Part Number</b>	<b>Description</b>		<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0808-305	<b>Non-Backlit</b> Pendant (Std. Model)		1 Pendant		
999-0848-200	Pendant Adaptor Cable		1 Cable		
999-0791-000	Pendant Holster (Std. for all pendants)		1 Holster		

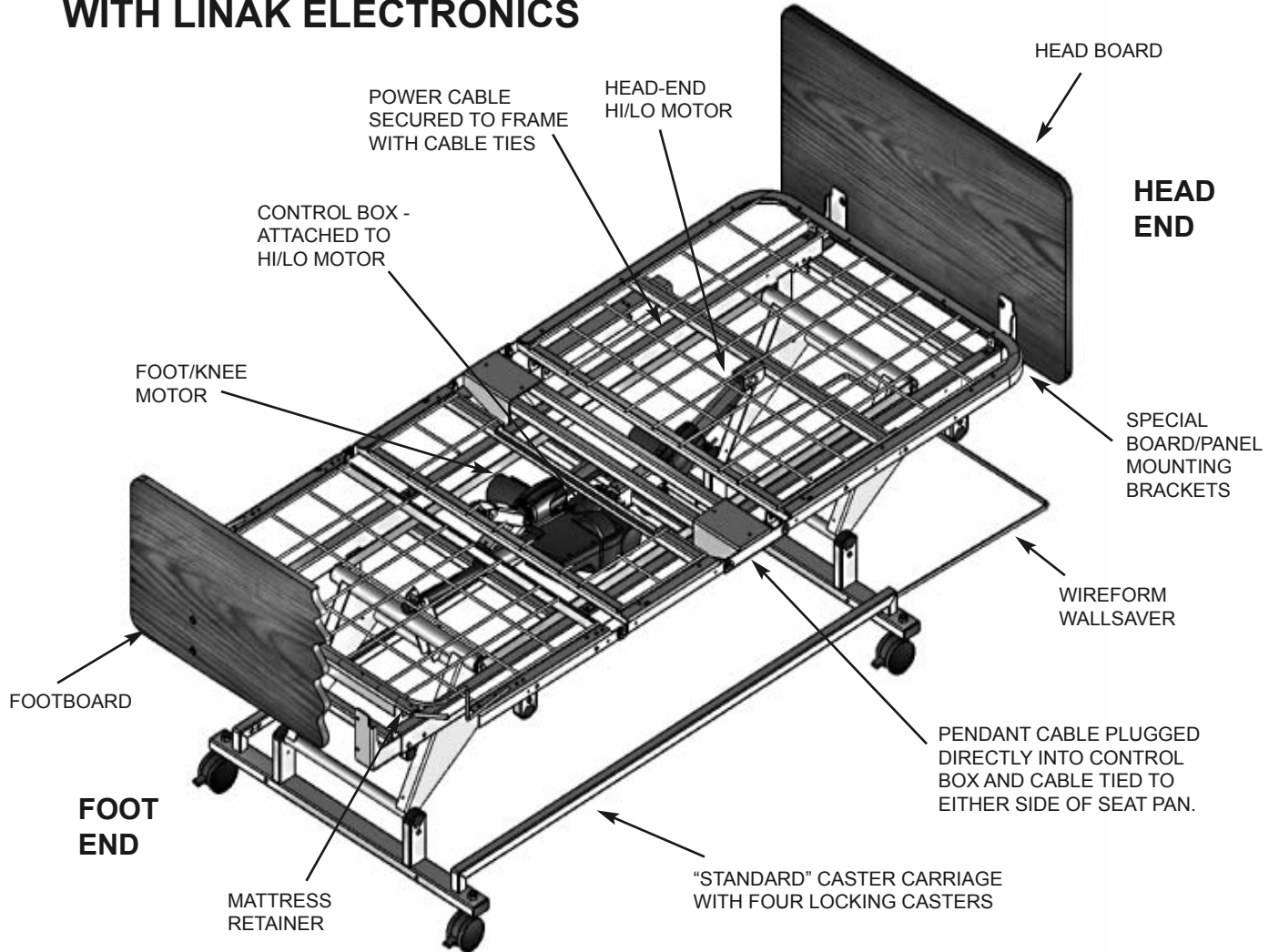


**SERVICE/REPLACEMENT PART RECORD - WITH LINAK ELECTRONICS**

<b>MISCELLANEOUS SERVICE BED PARTS</b>				
<b>Part Number</b>	<b>Description</b>	<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0822-012	Spanner Plates	1 Plate		
999-0822-031	Pivot Channels	1 Unit		
999-0822-036	Leveler Rods	1 Rod		
100-8050-008	1/2" E-Style Retaining Rings (for Leveler Rods)	1 Ring		
999-0822-001	Mattress Retainer	1 Unit		
999-0822-180	Wireform Wallsaver	1 Unit		
999-0822-083	18GA Ground Wire	1 Wire		
100-5710-019	#10-24 x .375" HWHTC Ground Screws TYP23	1 Screw		
100-1100-018	Standard Cable Ties	1 Tie		
100-1100-060	Wing-Tip Cable Ties	1 Tie		
<b>CASTER CARRIAGE</b>				
<b>Part Number</b>	<b>Description</b>	<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
999-0822-905G	Caster Carriage Weldment	1 Unit		
100-6330-062	3" Twin Locking Caster with 7/16-14 Stems (LBT7174)	1 Caster		
100-6330-061	3" Twin Non-Locking Caster with 7/16-14 Stems (LBTL7174)	1 Caster		
999-0832-980G	One-Step Locking Mechanism (LBTL7174)	1 Unit		
100-6744-001	7/16-14 Nylon Lock Nuts (secure caster stems to frame)	1 Nut		
<b>CAPS &amp; PLUGS</b>				
<b>Part Number</b>	<b>Description</b>	<b>QTY</b>	<b>Order Date</b>	<b>Price</b>
NOTE: CAPS & PLUGS CAN ONLY BE PURCHASED IN SETS OF 12				
100-4700-015PK	<b>1.00" x 1.00" Square Caps Pack</b>	12/pkg		
100-4700-017PK	<b>1.00" x 2.00" Rectangular Caps Pack</b>	12/pkg		
999-0822-041PK	<b>Black Tube Pivot Caps</b>	12/pkg		
FOR GENERAL CAP DIAGRAMS PLEASE SEE PAGES 44 & 45				



# SERVICE/REPLACEMENT PART DIAGRAM - STANDARD BED WITH LINAK ELECTRONICS



1. **TO ORDER A REPLACEMENT HI/LO MOTOR USE SERVICE PACK 999-0848-051SP** (Includes motor, mounting hardware & installation instruction sheet.)

2. **TO ORDER A REPLACEMENT HEAD MOTOR USE SERVICE PACK 999-0844-052SP** (Includes motor, mounting hardware & installation instruction sheet.)

3. **TO ORDER A REPLACEMENT FOOT MOTOR USE SERVICE PACK 999-0844-053SP** (Includes motor, mounting hardware & installation instruction sheet.)

4. **TO ORDER A REPLACEMENT CONTROL BOX PLEASE USE 999-0848-300** (Includes Control Box and mounting clip.)

5. **TO ORDER A REPLACEMENT MATTRESS RETAINER PLEASE USE 999-0822-001**

6. **FOR NEW WALLSAVER PLEASE USE 999-0822-180**

**FOR ALL OTHER SERVICE PARTS PLEASE REFER TO PAGES 25 - 26.**

WHEN ORDERING REPLACEMENT PARTS WITH CUSTOMER SERVICE, PLEASE HAVE YOUR BED'S SERIAL NUMBER AVAILABLE TO CONFIRM WHETHER THE PART IS COVERED UNDER WARRANTY. (SEE PAGE 9 FOR LOCATION OF SERIAL NUMBER ID LABEL.)



# **SECTION C**

## **Liberty Bed Accessories**

All Models



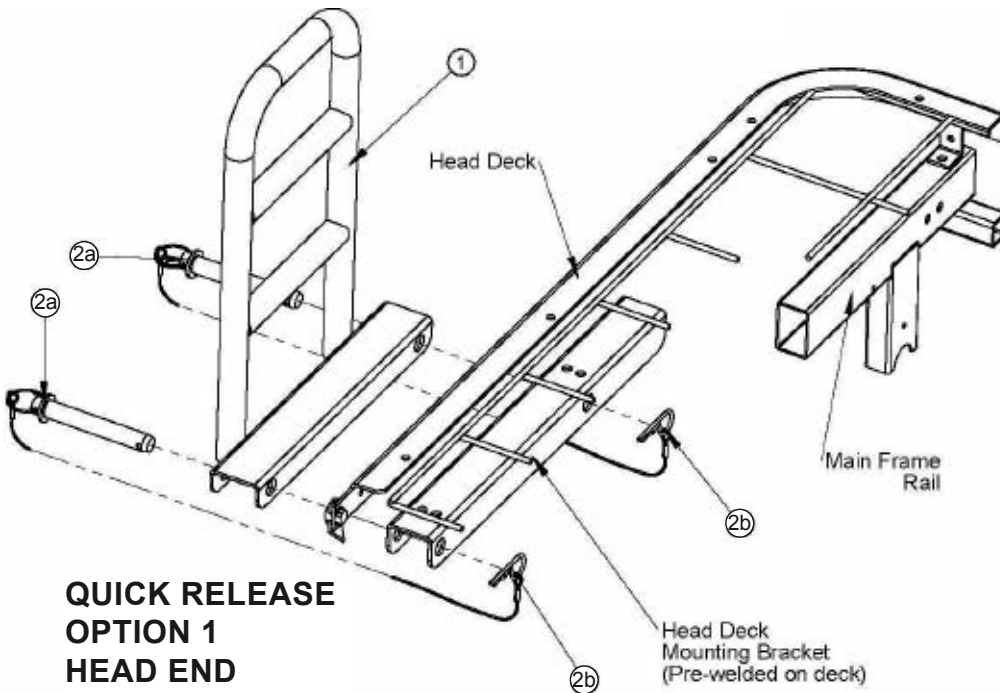
## OPTIONAL “FIXED” ASSIST BAR INSTALLATION - HEAD END KIT ZA80300 (Includes One Assist Bar and Hardware Bag)

### INSTALLATION

1. With the Assist Bar (#1) bracket facing inward toward the bed as shown, align the two large holes on the bracket with the two holes in the head deck’s welded mounting bracket.
2. For the Quick Release (Option 1), insert the two Clevis Pins of the two Lanyard Assemblies (#2a) from the outside through the Assist Bar bracket and mounting bracket holes.

Insert the Hair Pins on the opposite end of the Lanyard Assemblies (#2b) into the small holes at the ends of the clevis pins.

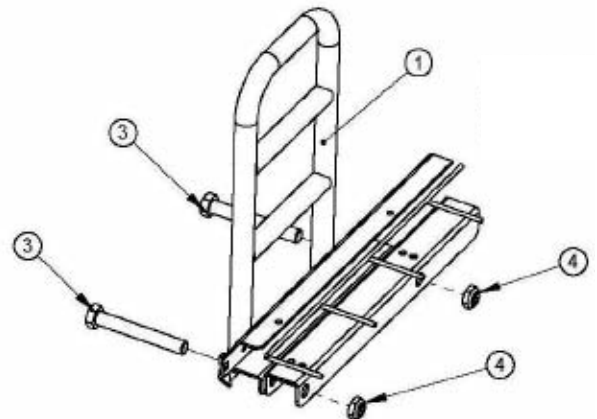
3. For the Fixed Bar (Option 2 - bottom of page), insert the two cap screws (#3) from the outside through the Assist Bar bracket and mounting bracket holes. Secure screws by attaching two Thin Nylon Lock Nuts (#4) and tighten using two 13/16 wrenches.



**QUICK RELEASE  
OPTION 1  
HEAD END**

**ASSIST BAR**  
999-0803-902G  
SHOWN AT HEAD-END  
ON RIGHT SIDE OF BED  
(Hardware Bag = 999-0803-905  
includes both quick release and  
fixed hardware options)

**FIXED ATTACHMENT  
OPTION 2  
HEAD END**



**WARNING:** When assessing the Risk of Entrapment, you need to consider your bed, mattress, headboard and footboard, assist devices (i.e. rails and assist bars) and other accessories as an entire system. All bed systems are evaluated for full compliance to the FDA/CDRH “Hospital Bed System Dimensional and Assessment Guidance to Reduce Entrapment” guidelines.

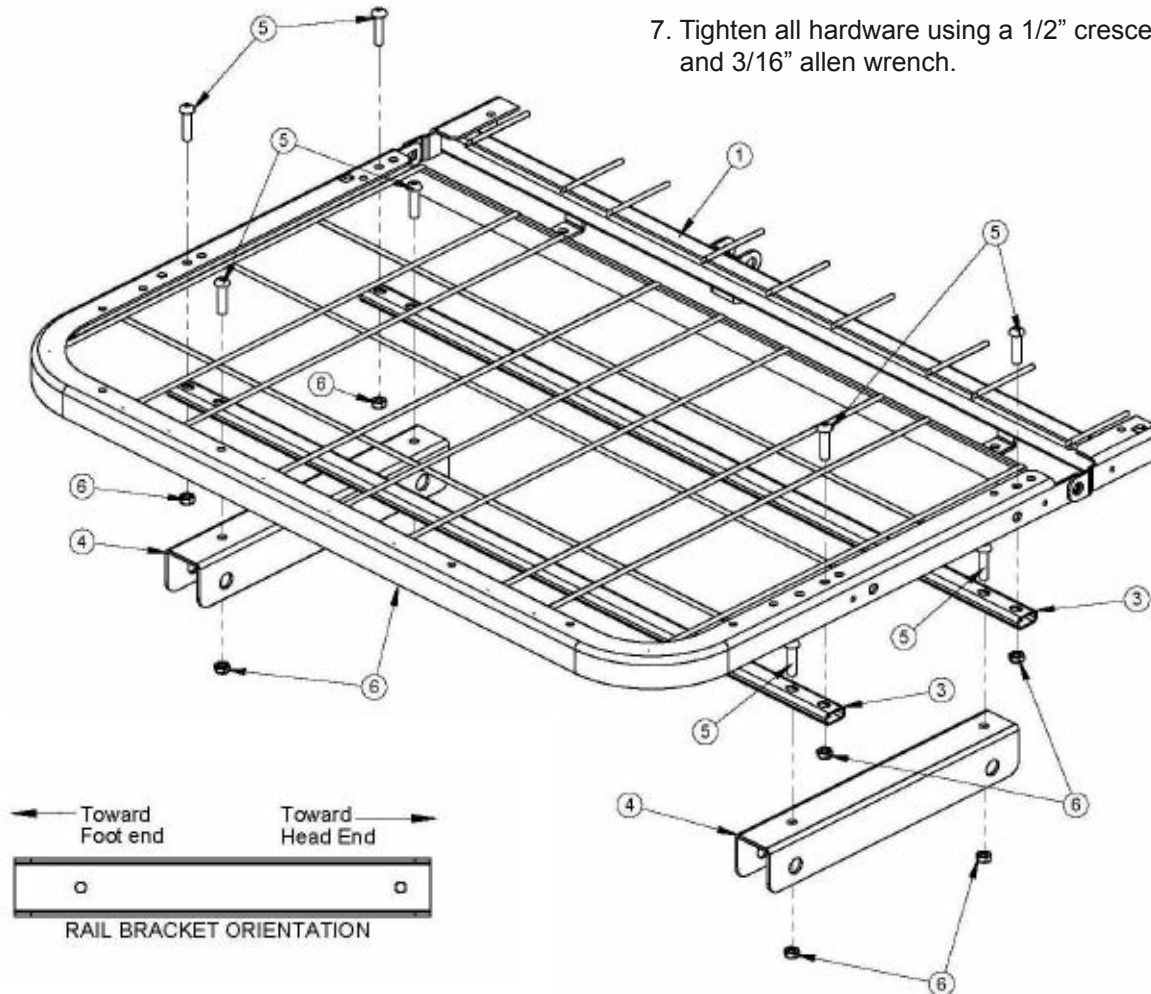
It is extremely important to review the resident/patient’s physical and mental conditions and initiate an appropriate individual care plan to address any entrapment risks. Please see page 7 for further information.



# FOOT-END MOUNTING BRACKET AND CROSS TUBE INSTALLATION FOR OPTIONAL FOOT-END ASSIST DEVICES KIT ZA82900 (Includes Two Cross Tubes, Two Mounting Brackets, and Hardware Bag 999-0829-905)

## INSTALLATION

1. Locate the two Cross Deck Tubes (#3) in your kit. Align the outside oblong holes with the appropriate holes in the foot deck - fourth and seventh holes from the foot end of the foot deck.
2. From the top, insert a 5/16-18 x 1.75" Button Head Machine Screw (#5) from your kit through each of the holes in both the deck and the deck tubes.
3. From the bottom, secure the screws to the tubes using four 5/16-18 Thin Nylon Lock Nuts (#6). Hand tighten at this time.
4. Locate the two long "U-shaped" Rail Mounting Brackets (#4) in your kit. The brackets should be oriented so that the top hole closest to the edge of the bracket is furthest away from the foot end of the bed. With the open end facing downward as shown, align the top holes with the inside oblong holes on the underside of the cross tubes.
5. From the top, insert a 5/16-18 x 1.75" Button Head Machine Screw (#5) from your kit through each of the holes in both the deck and the deck tubes.
6. From the bottom, secure the screws to the tubes using four 5/16-18 Thin Nylon Lock Nuts (#6).
7. Tighten all hardware using a 1/2" crescent/socket wrench and 3/16" allen wrench.





## OPTIONAL “FIXED” ASSIST BAR INSTALLATION - FOOT END KIT ZA80350 (Includes One Assist Bar and Hardware Bag)

### INSTALLATION

1. With the Assist Bar (#1) bracket facing inward toward the bed as shown, align the two large holes on the bar's bracket with the two holes in the pre-assembled mounting bracket on the Foot Deck (see page 30).
2. For the Quick Release (Option 1), insert the two Clevis Pins of the two Lanyard Assemblies (#2a) from the outside through the Assist Bar bracket and mounting bracket holes. Insert the Hair Pins on the opposite end of the Lanyard Assemblies (#2b) into the small holes at the ends of the clevis pins.
3. For the Fixed Bar (Option 2 - bottom of page), insert the two cap screws (#3) from the outside through the Assist Bar bracket and mounting bracket holes. Secure screws by attaching two Thin Nylon Lock Nuts (#4) and tighten using two 13/16 wrenches.

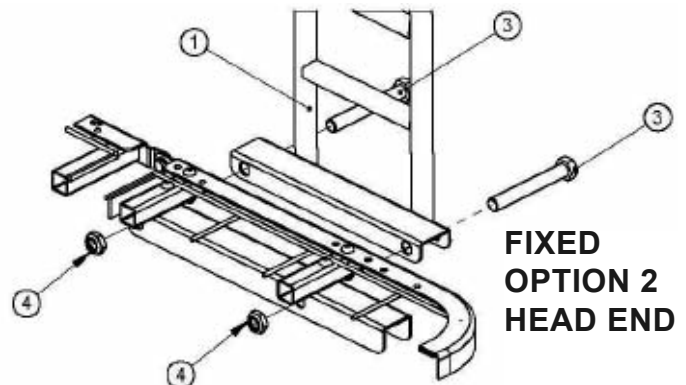
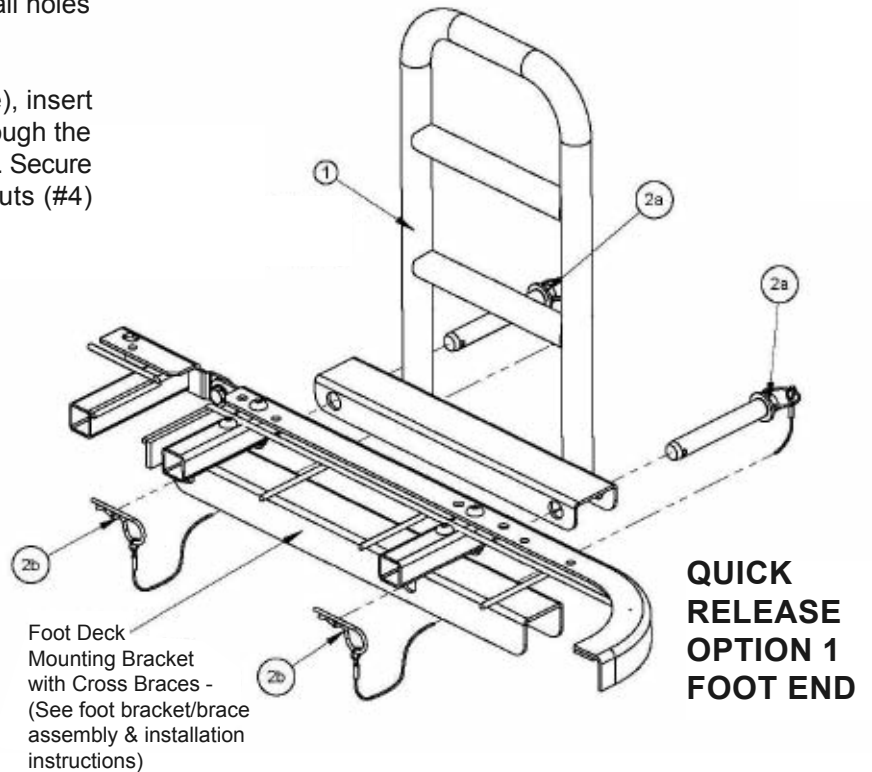
### **IMPORTANT:**

**THE MOUNTING BRACKET AND TWO CROSS BRACES MUST BE ASSEMBLED ONTO THE FOOT DECK PRIOR TO INSTALLING ANY ASSIST DEVICE TO THE FOOT END OF THE BED. PLEASE ORDER THE SEPARATE KIT IN ADDITION TO THE ASSIST BAR KIT (SEE PAGE 30 FOR INSTALLATION).**

**ASSIST BAR**  
999-0803-902G

**SHOWN AT HEAD-END  
ON RIGHT SIDE OF BED**  
(Hardware Bag = 999-0803-905  
includes both quick release and  
fixed hardware options)

**MOUNTING BRACKETS AND  
CROSS TUBES SOLD  
SEPARATELY.**



**WARNING:** When assessing the Risk of Entrapment, you need to consider your bed, mattress, headboard and footboard, assist devices (i.e. rails and assist bars) and other accessories as an entire system. All bed systems are evaluated for full compliance to the FDA/CDRH “Hospital Bed System Dimensional and Assessment Guidance to Reduce Entrapment” guidelines.

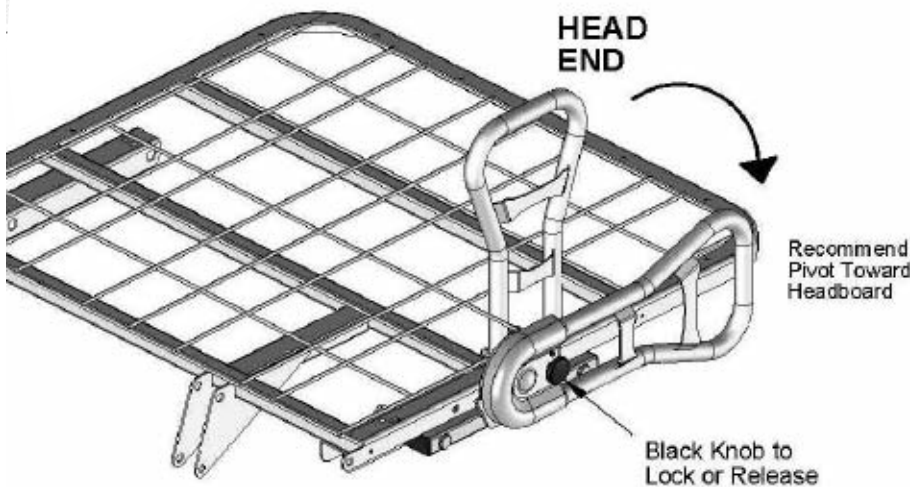
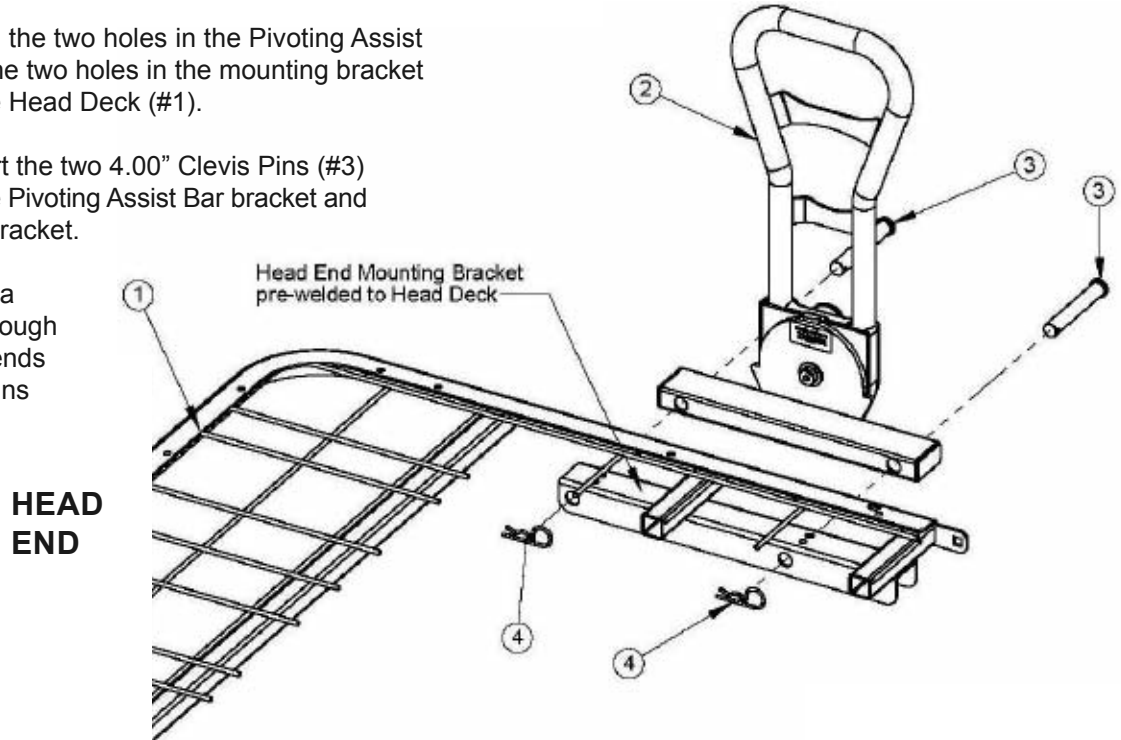
It is extremely important to review the resident/patient’s physical and mental conditions and initiate an appropriate individual care plan to address any entrapment risks. Please see page 7 for further information.



## OPTIONAL “PIVOTING” ASSIST BAR INSTALLATION - HEAD END ONLY KIT ZA85500 (Includes One Pivoting Assist Bar and Hardware)

### INSTALLATION

1. On the head end, align the two holes in the Pivoting Assist Bar (#2) bracket with the two holes in the mounting bracket on the underside of the Head Deck (#1).
2. From the outside, insert the two 4.00” Clevis Pins (#3) through the holes in the Pivoting Assist Bar bracket and Head Deck mounting bracket.
3. From the inside, insert a 2.375” Hair Pin Clip through the small holes at the ends of each of the Clevis Pins to secure.



### OPERATION

1. To release the Pivoting Assist Bar from its vertical lock position, hold onto the top of the bar with one hand and slightly pull out the black knob on the outside of the assembly with the other hand to release the locking mechanism. For your safety, make sure your fingers are not near the pivot assembly when pivoting the rail. For ease of patient access, it is recommended that you pivot the rail toward the headboard until it stops and rests in place.
2. To set the assist bar back to its upright locked position, grab the top of the assist bar with one hand and pivot the assembly upward until the black knob mechanism snaps into place, locking the assist bar vertically.

**!** FOR YOUR SAFETY, MAKE SURE YOUR FINGERS ARE CLEAR OF THE SIDES OR UNDERNEATH THE PIVOTING ASSEMBLY WHEN PIVOTING THE ASSIST BAR UP OR DOWN.

**!** PLEASE MAKE SURE THE PIVOT ASSIST BAR IS ALWAYS IN THE FULL, VERTICAL, LOCKED POSITION WHEN RESIDENT/PATIENT IS LEFT UNATTENDED.



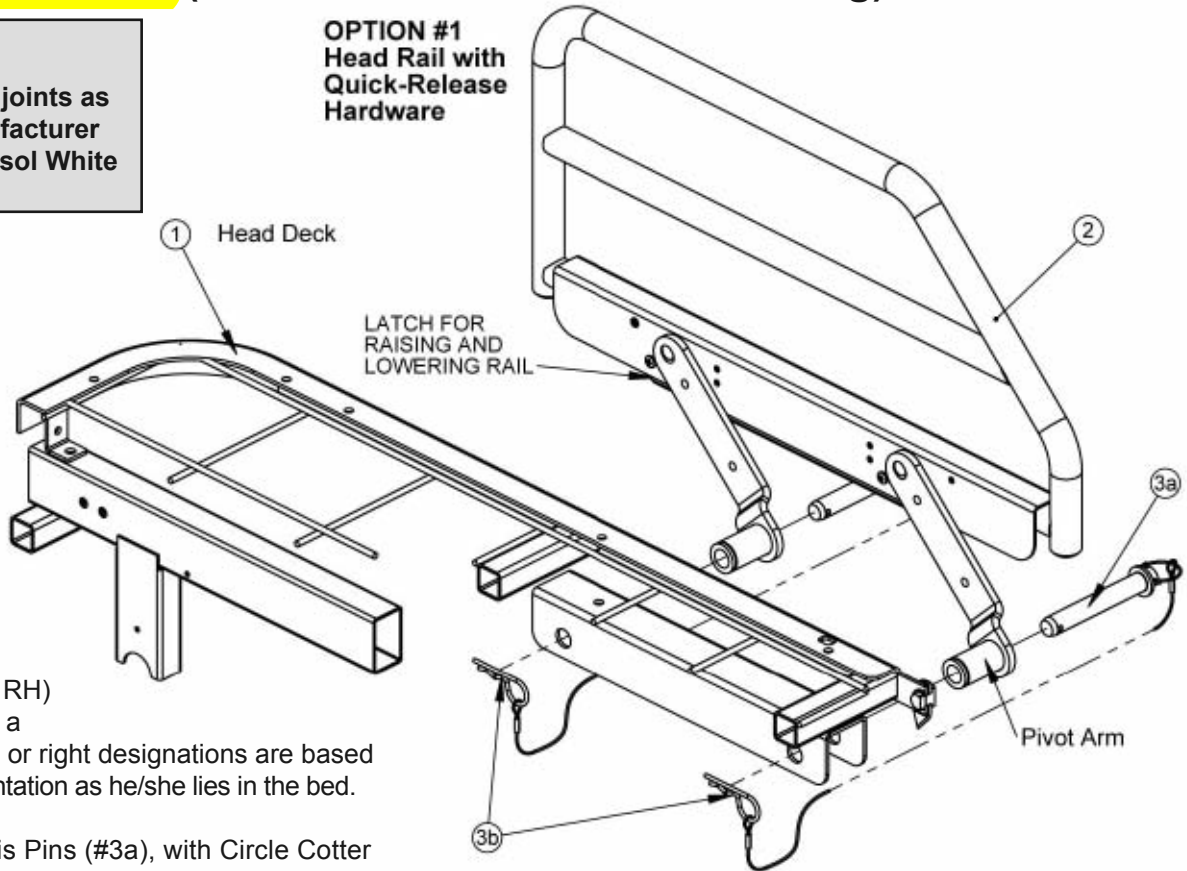


**OPTIONAL HALF RAIL INSTALLATION - HEAD END**

**76" & 80" = ZA82800 (Includes Rails and Hardware Bag)**

**IMPORTANT:**  
Lubricate all pivot joints as needed. The manufacturer recommends Aerosol White Lithium Grease.

**OPTION #1**  
Head Rail with Quick-Release Hardware

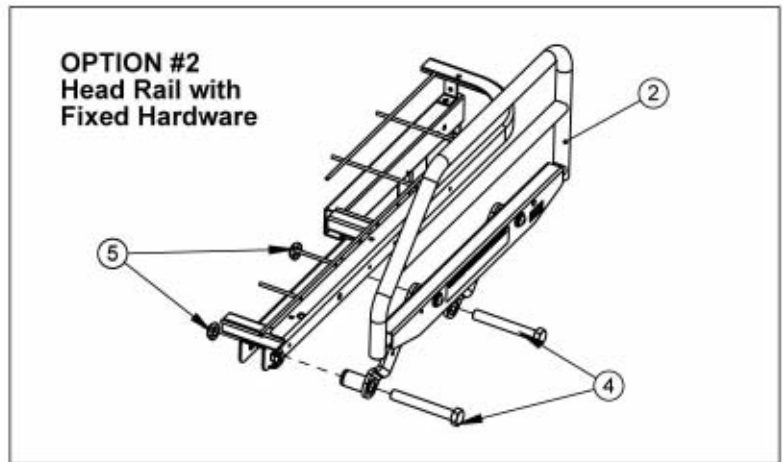


Hardware Bag is Common for Both Kits = 999-0785-905

**INSTALLATION**

1. All Half Rails (LH & RH) mount to the bed in a similar fashion. Left or right designations are based on the patient's orientation as he/she lies in the bed.
2. Insert the two Clevis Pins (#3a), with Circle Cotter and Lanyard Cable, into the two Half Rail arms.
3. Attach the Half Rail to the Head Deck's welded mounting bracket by aligning the arms (with Clevis Pins) to the holes in the bracket.
4. For Quick Release (Option 1), insert the Clevis Pin ends of the Lanyard assembly (#3a) from the outside through the holes in the pivot arms and mounting bracket. From the inside, secure with the Hair Pin Clips on the other side of the Lanyard Assembly (#3b).
5. For Fixed Position (Option 2), insert the 5/8-11 x 4.50" Cap Screws (#4) from the outside through the holes in the rail and bracket. From the inside, secure the screws with 5/8-11 Nylon Lock Nuts (#5)

**OPTION #2**  
Head Rail with Fixed Hardware



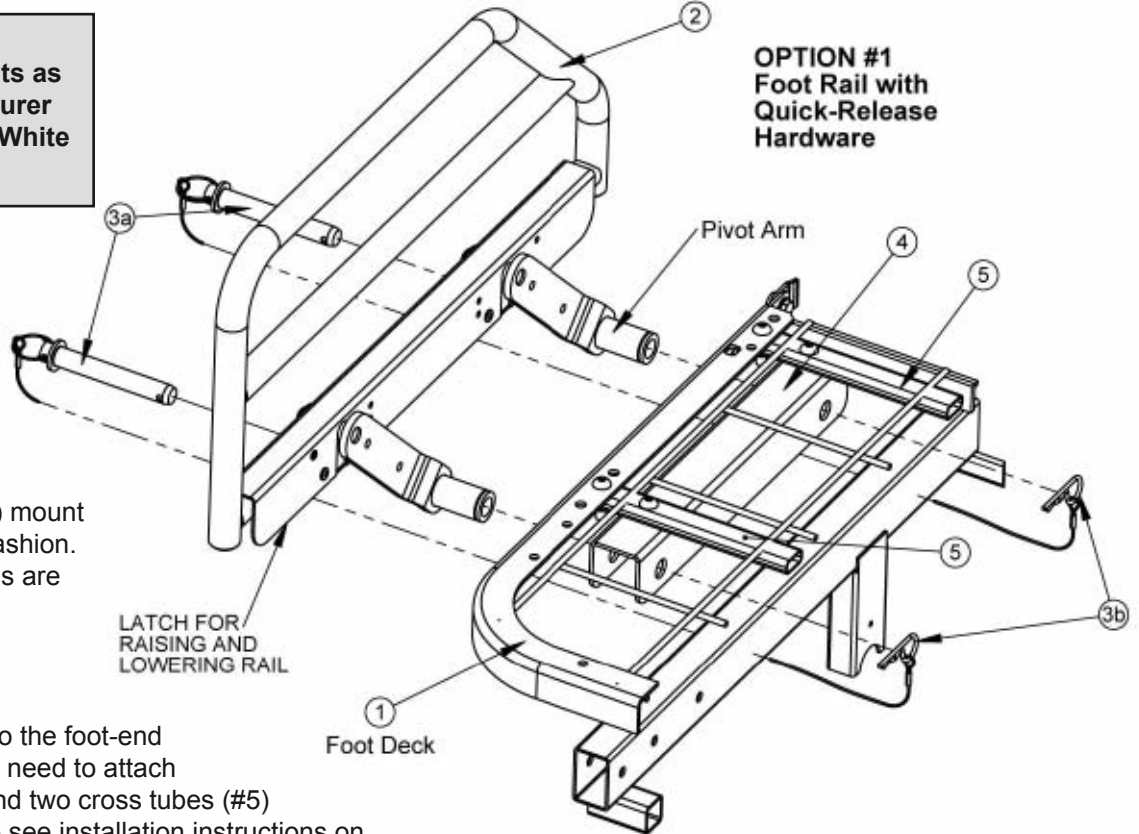
**WARNING:** When assessing the Risk of Entrapment, you need to consider your bed, mattress, headboard and footboard, assist devices (i.e. rails and assist bars) and other accessories as an entire system. All bed systems are evaluated for full compliance to the FDA/CDRH "Hospital Bed System Dimensional and Assessment Guidance to Reduce Entrapment" guidelines.

It is extremely important to review the resident/patient's physical and mental conditions and initiate an appropriate individual care plan to address any entrapment risks. Please see page 7 for further information.



## OPTIONAL HALF RAIL INSTALLATION - FOOT END KIT ZA82900 - Includes Two Rails, Two Cross Tubes, Two Mounting Brackets, and Hardware (Hdwr Bag 999-0820-905)

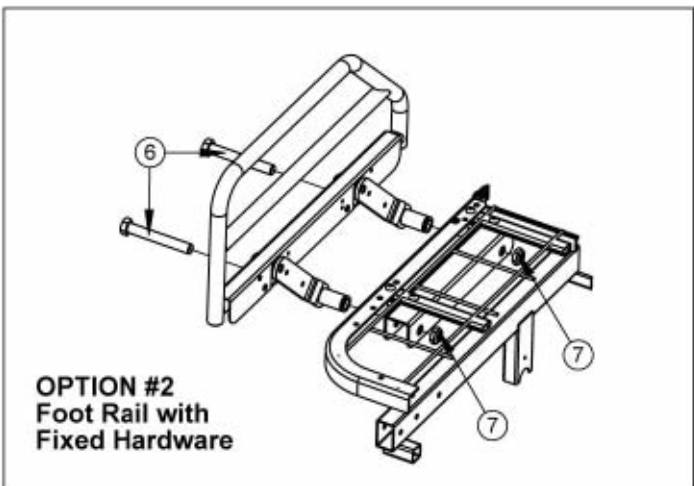
**IMPORTANT:**  
Lubricate all pivot joints as needed. The manufacturer recommends Aerosol White Lithium Grease.



**OPTION #1**  
Foot Rail with  
Quick-Release  
Hardware

### INSTALLATION

1. All Half Rails (LH & RH) mount to the bed in a similar fashion. Left or right designations are based on the patient's orientation as he/she lies in the bed.
2. To mount the half rails to the foot-end of the bed, you will also need to attach two rail brackets (#4) and two cross tubes (#5) to the foot deck. Please see installation instructions on page 30 of this service manual.
3. Align the holes in the rail's pivoting arms with the holes in the mounting brackets as shown.
4. For Quick Release (Option 1), insert the Clevis Pin ends of the Lanyard assembly (#3a) from the outside through the holes in the pivot arms and mounting bracket. From the inside, secure with the Hair Pin Clips on the other side of the Lanyard Assembly (#3b).
5. For Fixed Position (Option 2), insert the 5/8-11 x 4.50" Cap Screws (#6) from the outside through the holes in the rail and bracket. From the inside, secure the screws with 5/8-11 Nylon Lock Nuts (#7)



**OPTION #2**  
Foot Rail with  
Fixed Hardware

**! WARNING:** When assessing the Risk of Entrapment, you need to consider your bed, mattress, headboard and footboard, assist devices (i.e. rails and assist bars) and other accessories as an entire system. All bed systems are evaluated for full compliance to the FDA/CDRH "Hospital Bed System Dimensional and Assessment Guidance to Reduce Entrapment" guidelines.

It is extremely important to review the resident/patient's physical and mental conditions and initiate an appropriate individual care plan to address any entrapment risks. Please see page 7 for further information.



## OPTIONAL TRAPEZE SUPPORT INSTALLATION

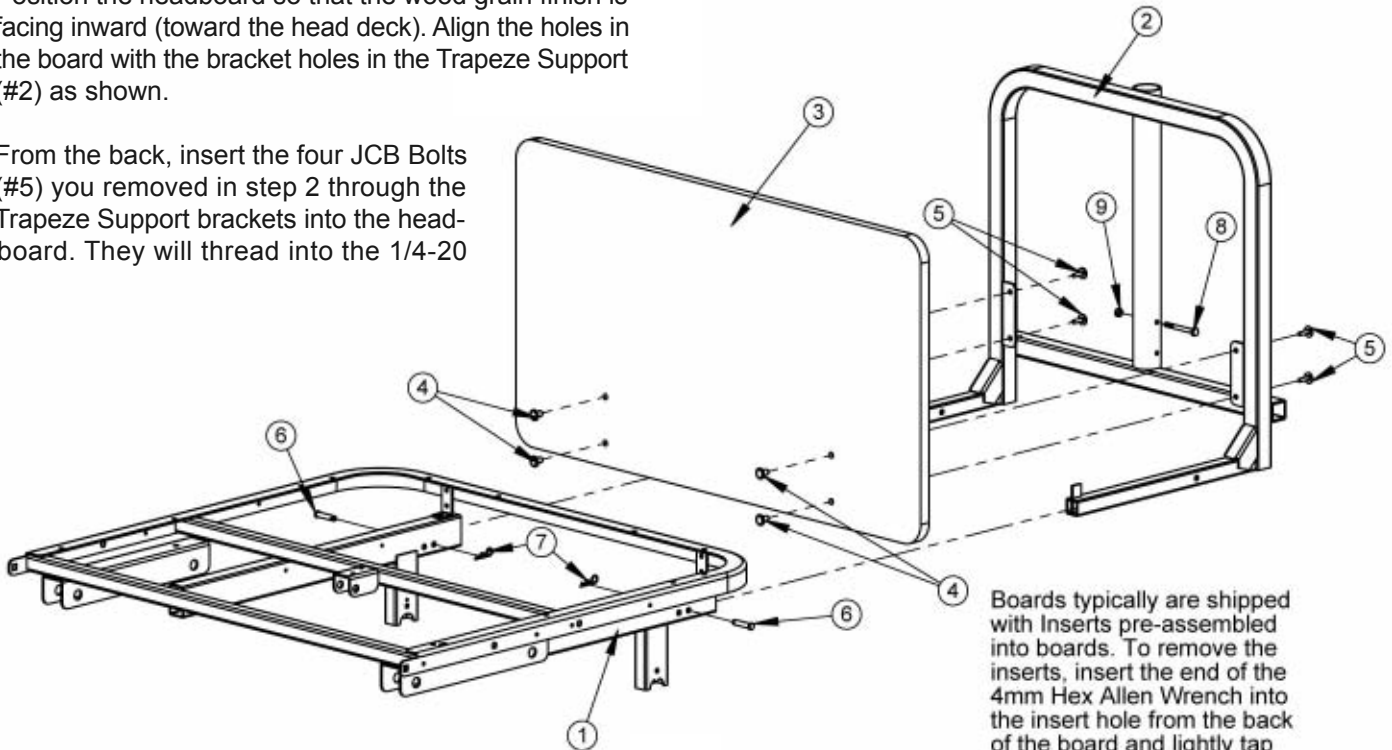
**(The Trapeze Support is attached to the head section of the bed.)**

**Please Order Kit Number ZA83000 - Includes Hdwr. Bag 999-0830-905**

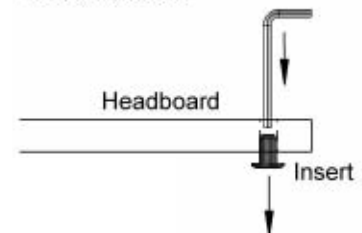
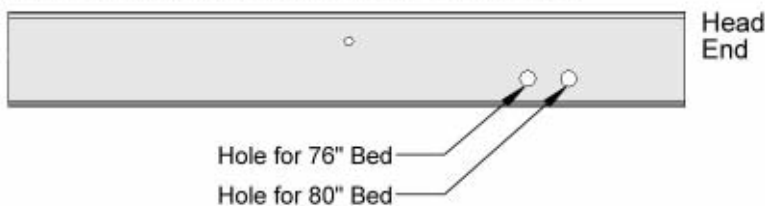
1. Remove the headboard panel assembly, if previously assembled to the bed, by pulling out the Clevis Pins (#6) and Hair Pin Clips (#7) that attach the main frame rails to the headboard's mounting brackets. Set hardware aside.
2. Detach the headboard panel from the mounting tubes by removing the four 1/4-20 JCB Bolts (#5) from the brackets using the 4mm Hex Allen Wrench included in your kit. Remove the four 1/4-20 Inserts (#4) from the board by inserting the opposite end of the allen wrench into the hole and lightly tap with a hammer. Reinstall the inserts into the four holes on the wood grain side of the board.
3. Position the headboard so that the wood grain finish is facing inward (toward the head deck). Align the holes in the board with the bracket holes in the Trapeze Support (#2) as shown.
4. From the back, insert the four JCB Bolts (#5) you removed in step 2 through the Trapeze Support brackets into the headboard. They will thread into the 1/4-20

inserts. Tighten all JCB bolts with the hex allen wrench. **DO NOT OVERTIGHTEN.**

5. Assemble the Trapeze Support (with headboard attached) to the main frame rails by inserting the support's tubes into the rails. The vertical stop at the ends of the support tubes will help keep the trapeze support level.
6. The Liberty Bed features two positions for the Trapeze Support depending on the length of bed you have (please see Detail A below).
7. Secure the Trapeze Support to the rails using the Clevis Pins (#6) and Hair Pin Clips (#7) you removed in step 1.



### DETAIL A: TRAPEZE SUPPORT TO MAIN FRAME RAIL HOLE POSITIONS



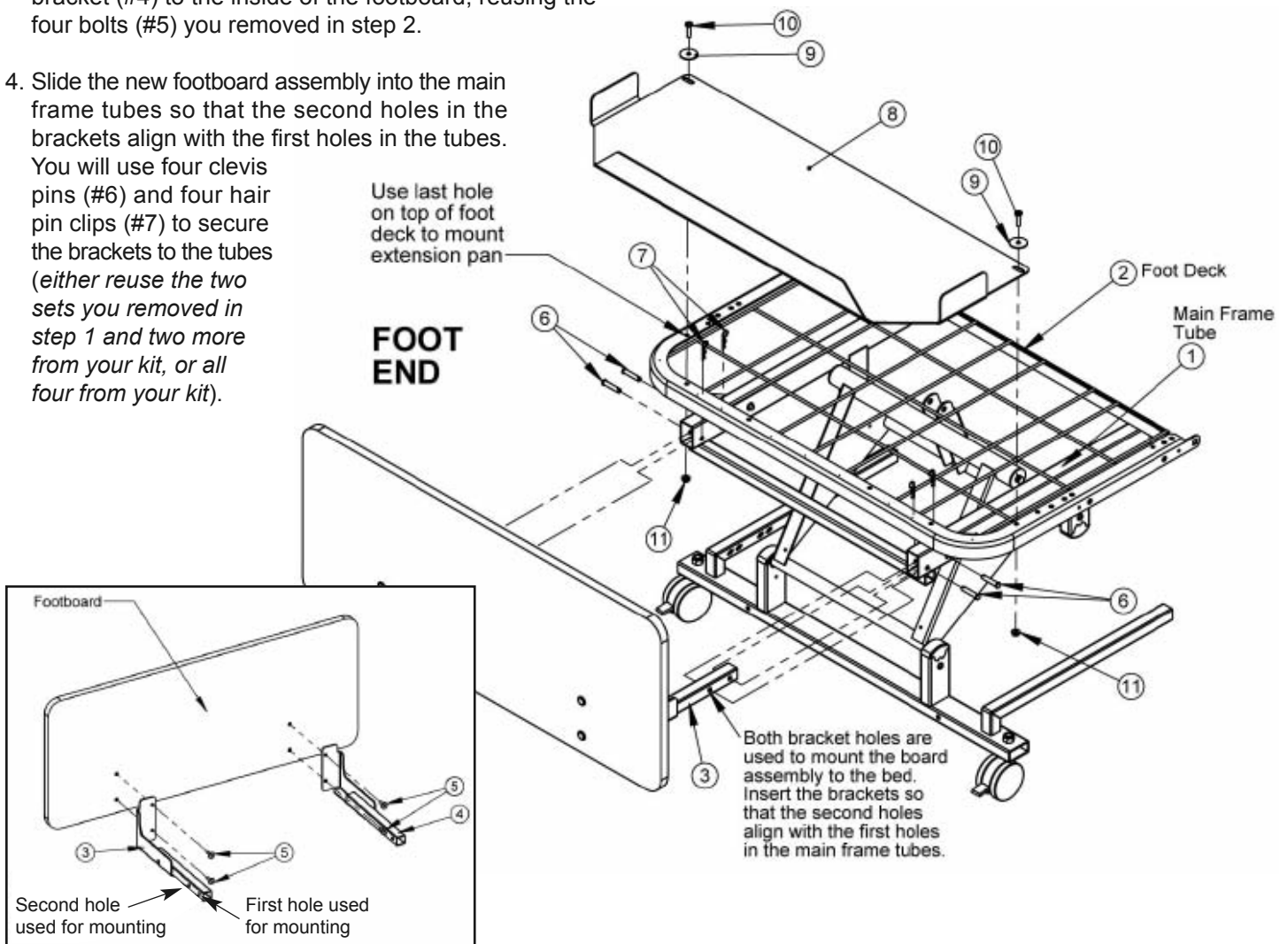


## OPTIONAL 4" LIBERTY EXTENSION PAN INSTALLATION

**Please Order Kit Number ZA83000 - Includes Hdwr. Bag 999-0833-995**

1. The Liberty Extension Pan kit includes two footboard mounting brackets that are used to extend the footboard to accommodate the pan. If you already have a Liberty bed and have purchased the 4.00" Extension Kit, begin by first removing your existing footboard assembly from the bed.
2. Remove the two hair pin clips (one on each side) from the clevis pins that are holding the brackets into the main frame tubes. Detach the existing brackets from the footboard by removing the four 1/4-20 x 20mm bolts from the inside of the brackets. Retain the bolts for the next step. Discard the old brackets if you do not need them for future use.
3. Attach both the left-hand bracket (#3) and right-hand bracket (#4) to the inside of the footboard, reusing the four bolts (#5) you removed in step 2.
4. Slide the new footboard assembly into the main frame tubes so that the second holes in the brackets align with the first holes in the tubes. You will use four clevis pins (#6) and four hair pin clips (#7) to secure the brackets to the tubes (either reuse the two sets you removed in step 1 and two more from your kit, or all four from your kit).

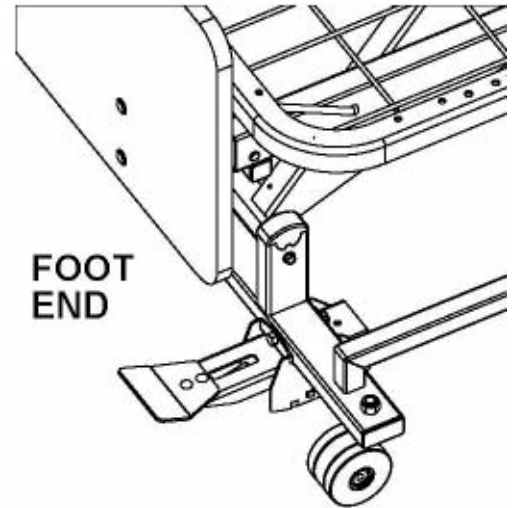
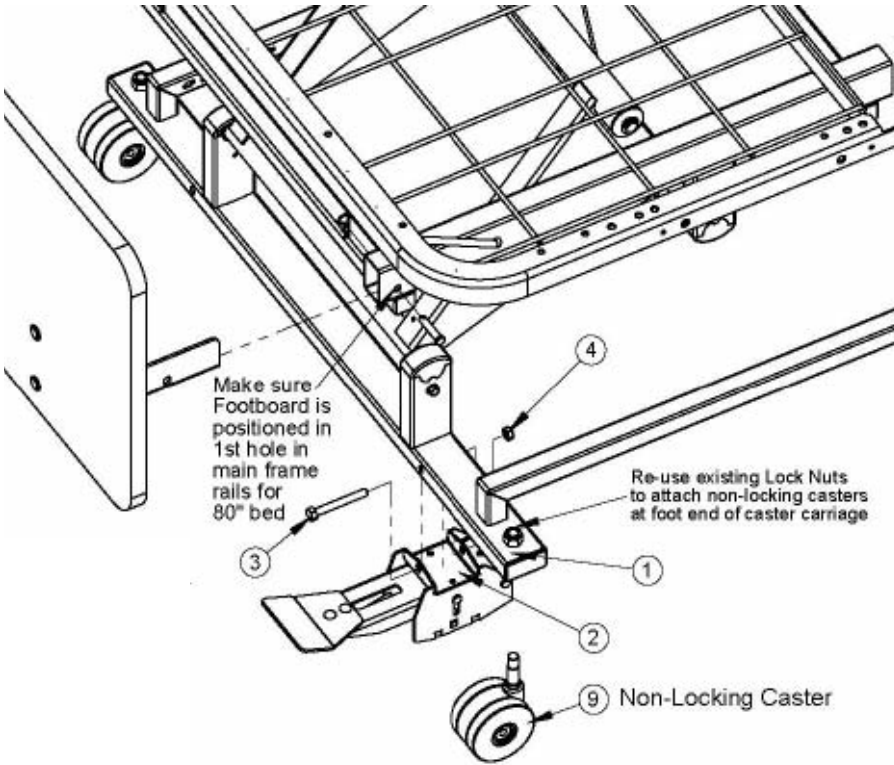
5. Now you can attach your extension pan to your foot deck. Lay your pan on top of the foot deck so that the three bent sides face upward and the side without any bends is oriented toward the head end as shown.
6. Position the two oval holes at the end of the pan so that they align with the last holes in the foot deck (nearest the curved ends).
7. Insert a Washer (#9) onto each of the two Phillips Pan Head Machine Screws (#10). From the top, insert the screws (with washers) through the holes. From the bottom, screw on two Flange Lock Nuts (#11) to secure. Tighten the nuts with a 7/8" open wrench or socket wrench.





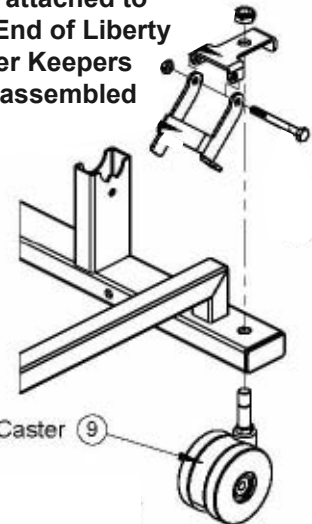
# ONE-STEP LOCKING MECHANISM INSTALLATION - MODEL LBTL7174

Please Order Kit Number LBTL83200 -  
(Includes Pedal Lock, Caster Keepers, 4 Non-Locking Caster & Hdwr.)



View of Pedal Lock Attached to the Foot End of Liberty Bed.

View of Caster Keeper Assembly attached to the Head End of Liberty Bed. Caster Keepers come pre-assembled in kit.



1. Position the Locking Pedal Assembly (#2) so that the mounting bracket is on top and the red pedal is facing outward, away from the carriage weldment.
2. Align the holes in the bracket with the pre-drilled holes in the cross brace.
3. From the outside, insert a 5/16-18 x 2.50" Hex Head Bolt (#3) through both holes in the bracket and cross brace.
4. From the inside, secure the bolt to the assembly using a 5/16-18 Thin Nylon Lock Nut (#4). Tighten with two 1/2" wrenches. (If you already have a lock mechanism system on your Liberty bed and are attaching a second Pedal Lock you are done and can skip steps 5 - 8.)
5. Remove the two locking casters at the foot end of the carriage and replace with two non-locking casters (#9) from your kit. Use the same Locking Nuts to secure.
6. Remove the two locking casters at the head end of the carriage. Discard the nuts and locking casters. From the bottom, insert the stems from the last two non-locking casters from your kit into the carriage weldment holes.

7. Position the pre-assembled Caster Keepers (bent arm outward and toward the foot end) onto the exposed ends of each of the caster stems. The brackets should rest securely on the carriage cross brace. Secure the brackets to the carriage using two (2) new 7/16-14 Thin Nylon Lock Nuts from your kit.

**NOTE: A Second Locking Mechanism can be attached to the opposite side - Order part # 999-0832-980G.**



# SECTION D

## **TROUBLESHOOTING**

All Liberty Models



## **LIBERTY QUICK REFERENCE - ELECTRONIC TROUBLESHOOTING**

The Liberty beds use a 3-motor system with either LINAK electronics (prior to 9/1/2010) or ILCON electronics (after 9/1/2010). Staff Control is not offered on the Liberty Bed.

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### **NO POWER**

1. Check Outlet.
2. Unplug Power Cord and Check the following . . .
  - a. Check Power Cord for Damage or Pinching.
  - b. Check Short Black Control Box Cable for Damage or Pinching.
  - c. If any Cables Damaged - Replace Immediately.



### **PENDANT NOT WORKING**

1. Check All Pendant and Cable Connections and retest.
2. Unplug Power Cord.
3. LINAK Electronics: Unplug the Pendant from Control Box. Use a new Pendant you know is working from another bed. Plug in the power cord and test:
  - a. If Pendant works - Replace old pendant.
  - b. If Pendant **Does Not Work** - Replace Control Box.
4. ILCON Electronics: Unplug the Pendant from the Adaptor Cable. Use a new adaptor cable you know works from another bed. Plug in the power cord and test:
  - a. If Pendant works - Replace Adaptor Cable.
  - b. If Pendant **Does Not Work** - Unplug the Pendant from Control Box. Use a new Pendant you know is working from another bed. Plug in the power cord and test:
    - i. If Pendant works - Replace old pendant.
    - ii. If Pendant **Does Not Work** - Replace Control Box.





## LINAK ELECTRONIC TROUBLESHOOTING

### HEAD OR FOOT MOTOR MALFUNCTIONING (DECK DOES NOT GO UP AND/OR DOWN)

1. Check All Motor Cable Connections.
2. Check Motor Condition - Cracked Housing, Scratches, Bent Shaft, etc.
3. **Hi/Lo & Foot Works, But Head Does Not**
  - a. Unplug Power Cord
  - b. Remove Cord Guard at Control Box
  - c. Switch Head & Foot Motor Cables at the Control Box
  - d. Replug Power Cord and Test
4. **Hi/Lo & Head Works, But Foot Does Not**
  - a. Unplug Power Cord
  - b. Remove Cord Guard at Control Box
  - c. Switch Foot & Head Motor Cables at the Control Box
  - d. Replug Power Cord and Test
5. **Motor Grinding Loudly** - Replace Motor

Head Motor  
999-0822-052



Foot Motor  
999-0822-053



### HI/LO MOTOR MALFUNCTIONING (ENTIRE BED DOES NOT GO UP AND/OR DOWN)

1. Check All Motor Cable Connections.
2. Check Motor Condition - Cracked Housing, Scratches, Bent Shaft, etc.
3. **Head & Foot Motor Works, But Hi/Lo Does Not**
  - a. Unplug Power Cord
  - b. Remove Cord Guard at Control Box
  - c. Unplug Hi/Lo Cable at the Control Box, and plug into empty port.
  - d. Replug Power Cord and Test
4. **If Hi/Lo Works** - Replace Control Box
5. **If Hi/Lo Doesn't Work or has a Grinding Noise** - Replace the Hi/Lo Motor.

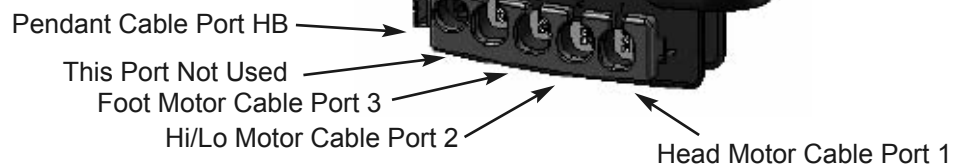
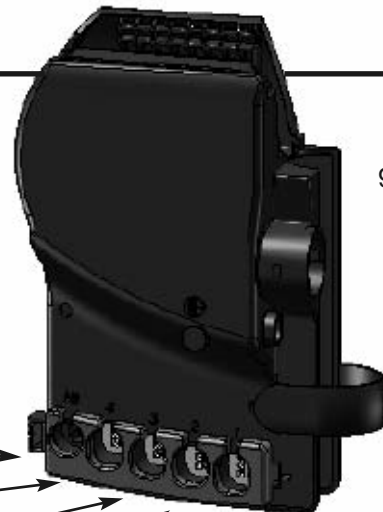
Hi/Lo Motor  
999-0778-051



### CONTROL BOX MALFUNCTIONING

1. Check All Motor Cables and Power Cord Connections.
2. Hi/Lo Motor Works, But Head or Foot Does Not  
(See Head & Foot Motor Troubleshooting above).  
If determined that port is bad, replace Control Box.
3. Head & Foot Motor Works, But Hi/Lo Does Not  
(See Hi/Lo Motor Troubleshooting above).  
If determined that port is bad, replace Control Box.

Control Box  
999-0779-300



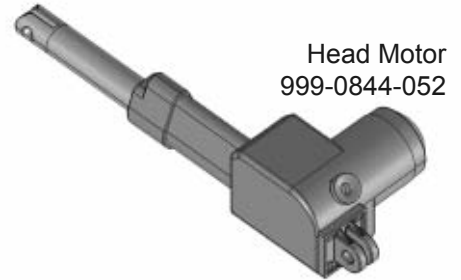




## ILCON ELECTRONIC TROUBLESHOOTING

### HEAD OR FOOT MOTOR MALFUNCTIONING (DECK DOES NOT GO UP AND/OR DOWN)

1. Check All Motor Cable Connections.
2. Check Motor Condition - Cracked Housing, Scratches, Bent Shaft, etc.
3. **Hi/Lo & Foot Works, But Head Does Not**
  - a. Unplug Power Cord
  - b. Remove Cord Guard at Control Box
  - c. Switch Head & Foot Motor Cables at the Control Box
  - d. Replug Power Cord and Test
4. **Hi/Lo & Head Works, But Foot Does Not**
  - a. Unplug Power Cord
  - b. Remove Cord Guard at Control Box
  - c. Switch Foot & Head Motor Cables at the Control Box
  - d. Replug Power Cord and Test
5. **Motor Grinding Loudly** - Replace Motor



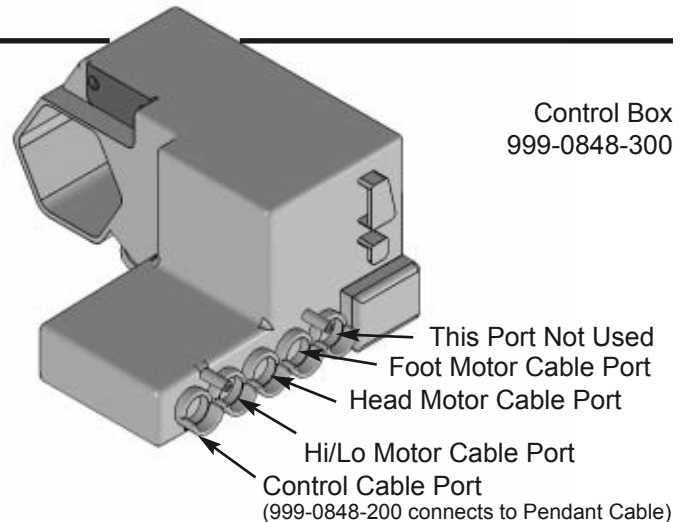
### HI/LO MOTOR MALFUNCTIONING (ENTIRE BED DOES NOT GO UP AND/OR DOWN)

1. Check All Motor Cable Connections.
2. Check Motor Condition - Cracked Housing, Scratches, Bent Shaft, etc.
3. **Head & Foot Motor Works, But Hi/Lo Does Not**
  - a. Unplug Power Cord
  - b. Remove Cord Guard at Control Box
  - c. Unplug Hi/Lo Cable at the Control Box, and plug into empty port.
  - d. Replug Power Cord and Test
4. **If Hi/Lo Works** - Replace Control Box
5. **If Hi/Lo Doesn't Work or has a Grinding Noise** - Replace the Hi/Lo Motor.



### CONTROL BOX MALFUNCTIONING

1. Check All Motor Cables and Power Cord Connections.
2. Hi/Lo Motor Works, But Head or Foot Does Not  
(See Head & Foot Motor Troubleshooting above).  
If determined that port is bad, replace Control Box.
3. Head & Foot Motor Works, But Hi/Lo Does Not  
(See Hi/Lo Motor Troubleshooting above).  
If determined that port is bad, replace Control Box.





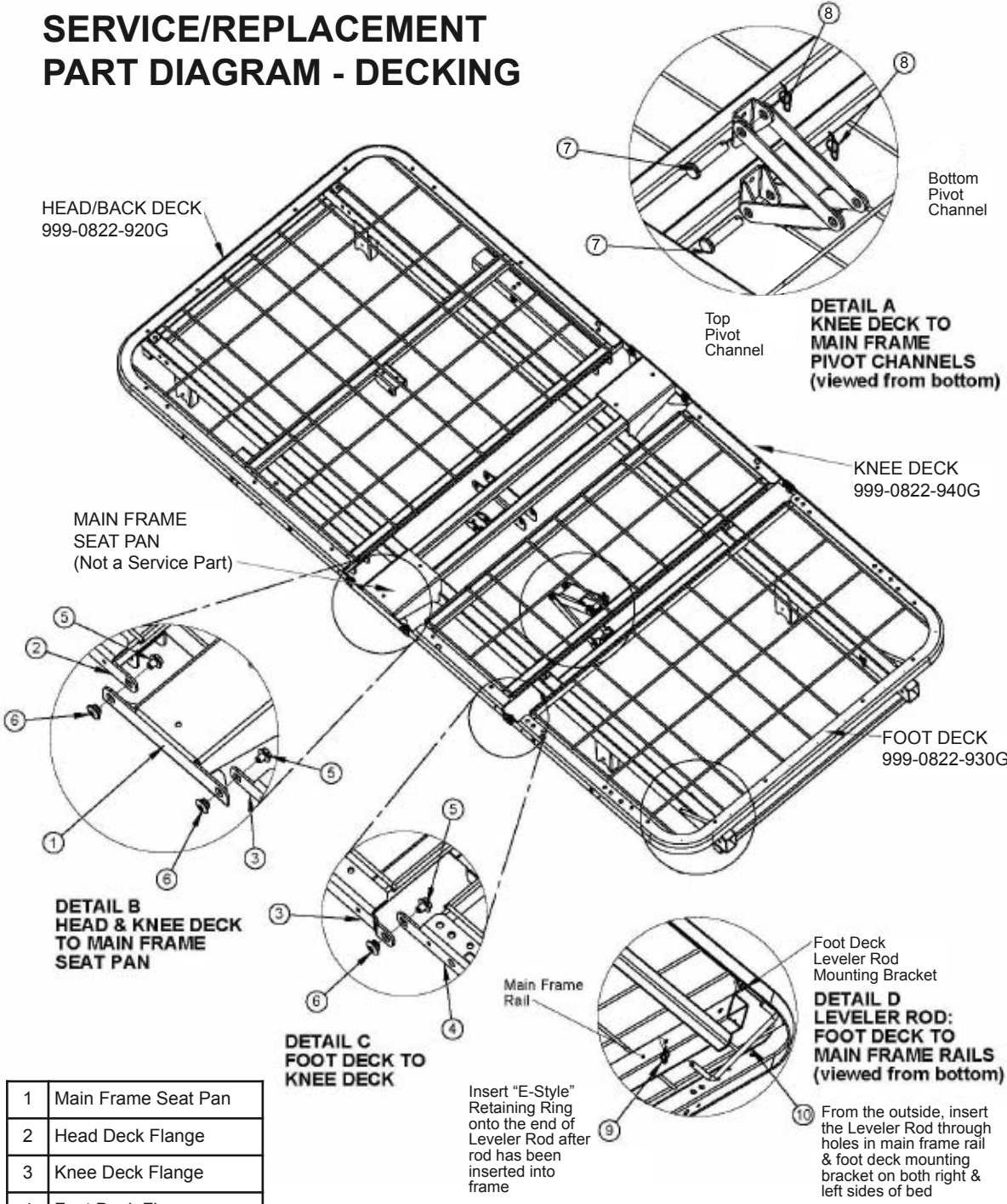
# SECTION E

## **FRAMING SERVICE PARTS**

All Liberty Models



## SERVICE/REPLACEMENT PART DIAGRAM - DECKING



**1. TO ORDER A REPLACEMENT HD. DECK USE SERVICE PACK 999-0822-920SP**  
(includes deck, hardware & installation instructions)

**2. TO ORDER A REPLACEMENT KN. DECK USE SERVICE PACK 999-0822-940SP**  
(includes deck, hardware & installation instructions.)

**3. TO ORDER A REPLACEMENT FT. DECK USE SERVICE PACK 999-0822-930SP**  
(includes deck, hardware & installation instructions.)

**4. MISC. PARTS**

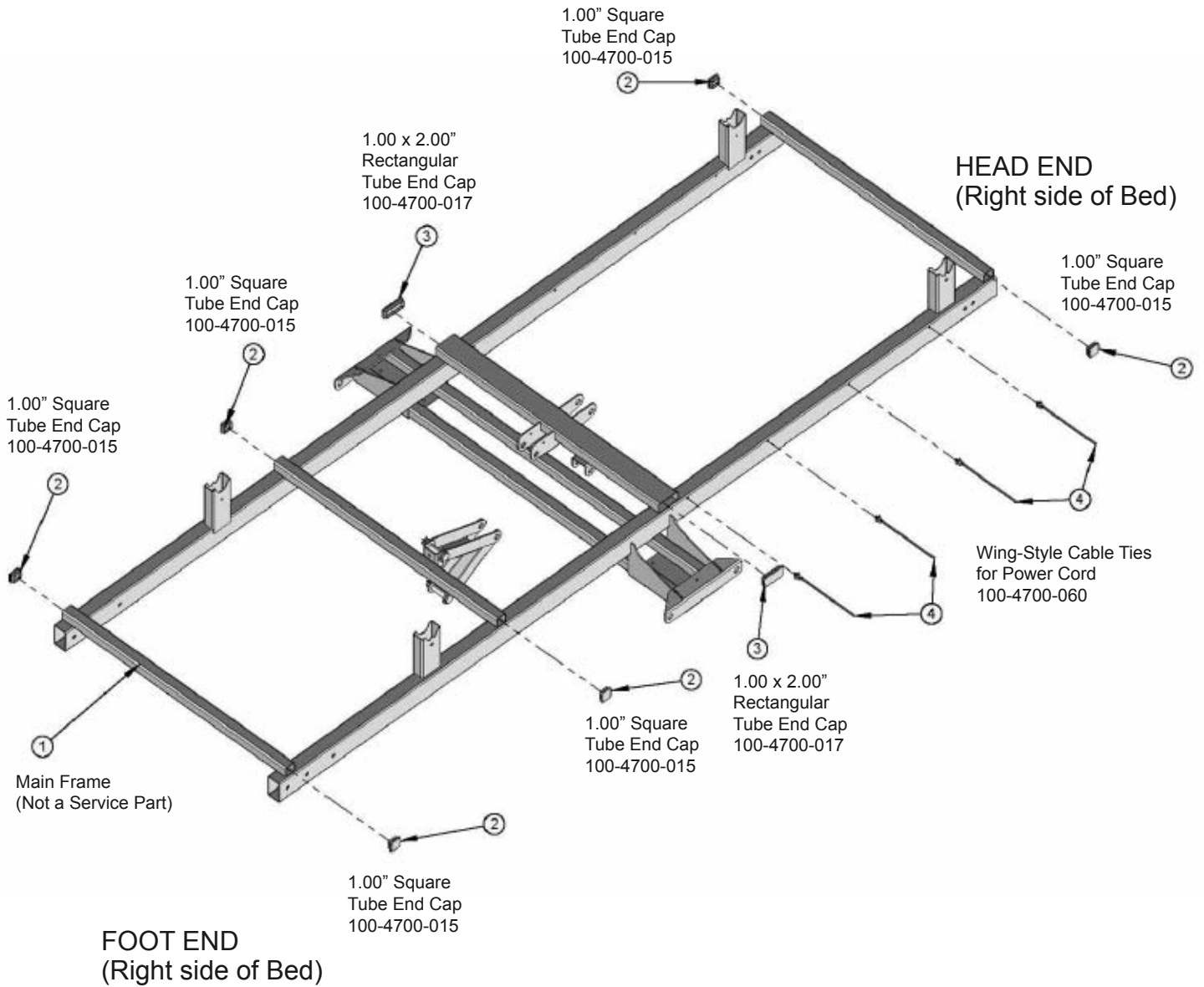
- a) Leveler Rod 999-0822-036
- b) Retaining Ring 100-8031-001
- c) Mach. Screw 100-5431-002
- d) Self Nut 999-0032-010
- e) Clevis Pin 999-0808-455
- f) Circle Cotter 100-7518-001

1	Main Frame Seat Pan
2	Head Deck Flange
3	Knee Deck Flange
4	Foot Deck Flange
5	5/16-18 Machine Screws
6	Self-Wrenching Nuts
7	Clevis Pins
8	Circle Cotters
9	"E-Style" Retaining Rings
10	Leveler Rods

**WHEN ORDERING REPLACEMENT PARTS WITH CUSTOMER SERVICE, PLEASE HAVE YOUR BED'S SERIAL NUMBER AVAILABLE TO CONFIRM WHETHER THE PART IS COVERED UNDER WARRANTY. (SEE PAGE 9 FOR LOCATION OF SERIAL NUMBER ID LABEL.)**



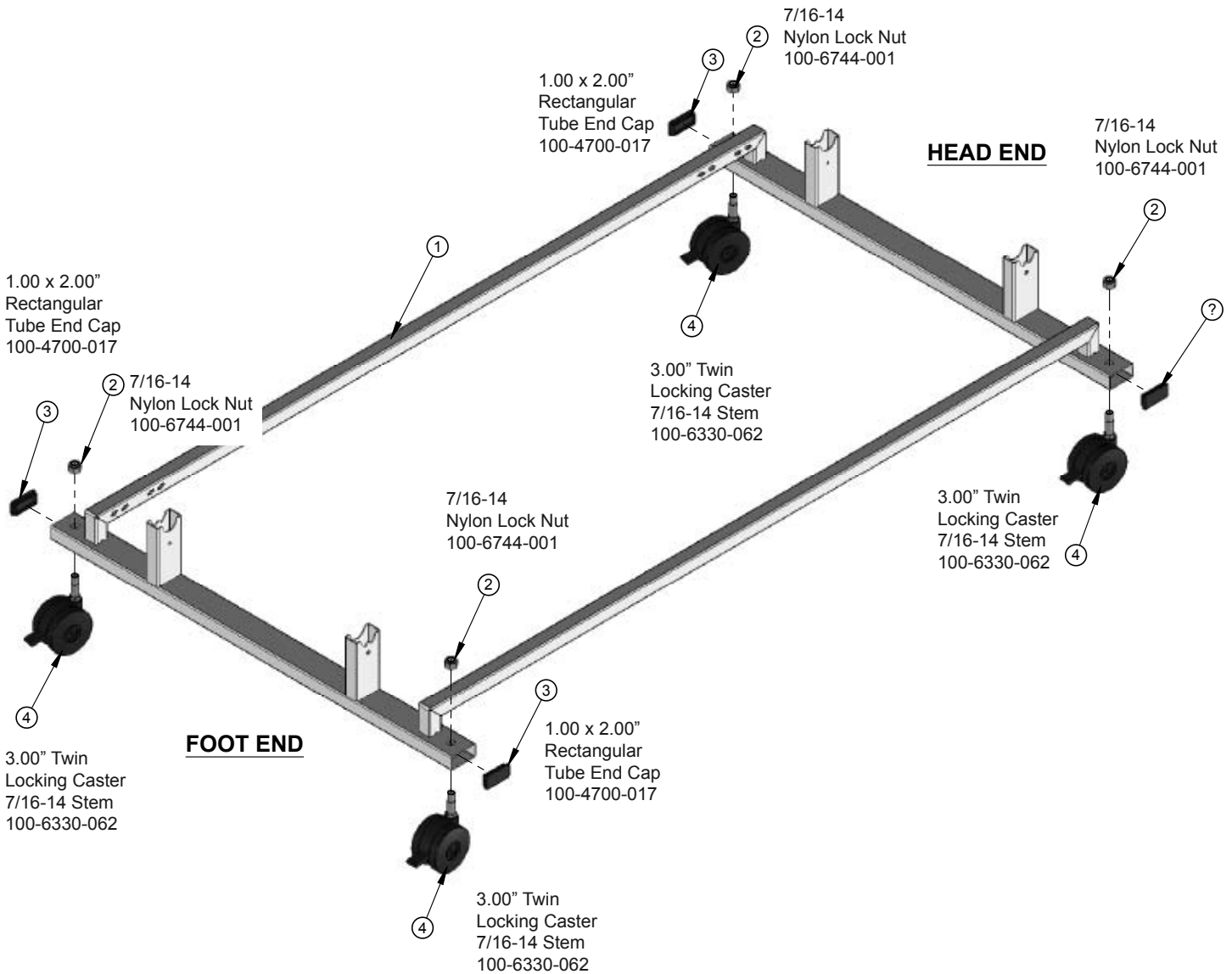
## SERVICE/REPLACEMENT PART DIAGRAM - MAIN FRAME CAPPING & WING-STYLE CABLE TIES



CAPS OR PLUGS ARE NOT COVERED UNDER WARRANTY  
 (PACKS OF 12 CAN BE ORDERED IN THE EVENT YOU DAMAGE OR LOSE  
 ANY CAPS/PLUGS ON YOUR BED - SEE BOTTOM OF PAGE 26 FOR ORDER NUMBERS)



# SERVICE/REPLACEMENT PART DIAGRAM - CAPPING AND CASTER PARTS ON STANDARD CASTER CARRIAGE BED MODEL LBT7174



CAPS OR PLUGS ARE NOT COVERED UNDER WARRANTY  
(PACKS OF 12 CAN BE ORDERED IN THE EVENT YOU DAMAGE OR LOSE  
ANY CAPS/PLUGS ON YOUR BED - SEE BOTTOM OF PAGE 26 FOR ORDER NUMBERS)







**GRAHAM-FIELD**

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[www.grahamfield.com](http://www.grahamfield.com)

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