



# ***FERNO***

When it's critical.™

## ***Users' Manual***



## **Model 93-P, 93-PST PROFlexx™ Cots**

***March 2003 GLO***

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**Disclaimer**

This manual contains general instructions for the use, operation and care of this product. The instructions are not all-inclusive. Safe and proper use of this product is solely at the discretion of the user. Safety information is included as a service to the user. All other safety measures taken by the user should be within and under consideration of applicable regulations. It is recommended that training on the proper use of this product be provided before using this product in an actual situation.

Retain this manual for future reference. Include it with the product in the event of transfer to new users. Additional free copies are available upon request from Customer Relations.

**Proprietary Notice**

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**Additional Instructional Material Available:****Video 283-1177**

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Ferno-Washington, Inc.  
70 Weil Way  
Wilmington, OH 45177-9371 U.S.A.

Telephone (U.S.A. and Canada) ..... 1.800.733.3766  
Telephone (Worldwide) ..... +1.937.382.1451  
Fax (United States) ..... 1.937.382.1191  
Fax (Outside U.S.A.) ..... +1.937.382.6569  
Internet ..... [www.ferno.com](http://www.ferno.com)

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# 1 - SAFETY INFORMATION

## 1.1 Warning

The following warnings appear in this manual.

### WARNING

**Untrained operators can cause injury or be injured. Permit only trained personnel to operate the cot.**

**Improper use of the cot can cause injury. Use the cot only for the purpose described in this manual.**

**Rolling the cot in the loading position can cause it to tip. Use a rolling position to roll the cot.**

**Improper operation can cause injury. Operate the cot only as described in this manual.**

**An unattended patient can be injured. Stay with the patient at all times.**

**An unrestrained patient can fall off the cot and be injured. Use restraints to secure the patient on the cot.**

**An unlocked undercarriage can cause injury. Make sure the undercarriage is locked.**

**Helpers can cause injury. Maintain control of the cot, operate the controls, and direct any helpers.**

**Helpers can be injured. Show helpers where to grasp the cot to avoid pinch points.**

**Improper maintenance can cause injury. Maintain the cot only as described in this manual.**

**Improper parts and service can cause injury. Use only Ferno parts and Ferno-approved service on the cot.**

**Modifying the cot can cause injury and damage. Use the cot only as designed by Ferno.**

**Attaching improper items to the cot can cause injury. Use only Ferno-approved items on the cot.**

## 1.2 Important

Boxes like the one below emphasize important information.

### Important

Before installing the safety hook, consult the ambulance manufacturer about possible interference with wiring and other elements under the ambulance floor, and about the ambulance warranty.

## 1.3 Cot and Fastener Compatibility

Combining different manufacturer's products into a "mixed-component" cot/cot fastener system can increase the users' risk of injury and damage.

Ferno-Washington, Inc. strongly recommends that only Ferno-manufactured cots be used in Ferno-manufactured cot fasteners, and that only Ferno-manufactured cot fasteners be used for securing Ferno-manufactured cots in ambulances.

ANY COMBINATION OF A FERNO COT OR COT FASTENER WITH A NON-FERNO COT OR COT FASTENER IS MISUSE OF THE FERNO PRODUCT. Responsibility for the outcome of known, intentional misuse rests squarely on the misuser.

## 1.4 Bloodborne Disease Notice

To reduce the risk of exposure to bloodborne diseases such as HIV-1 and hepatitis when using the cot, follow the disinfecting and cleaning instructions in this manual.

## 1.5 Safety and Instruction Labels

Safety and instruction labels place important information from the Users' Manual on the cot. Read and follow label instructions. Replace worn or damaged labels immediately. New labels are available from EMSAR (in the U.S.A. and Canada; see page 43) or from your Ferno distributor (page 45).

The following labels are affixed to the cot:

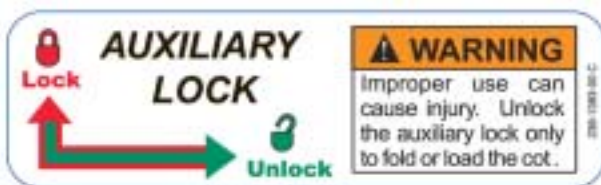
### 93-P IDENTIFICATION/LOAD LIMIT LABEL (1)



### 93-PST IDENTIFICATION/LOAD LIMIT LABEL (1)



### AUXILIARY LOCK LABEL (1)



### PINCH POINTS

(4 on Model 93-P; 2 on Model 93-PST)



### LOWER FRAME PINCH POINT (1)



## 2 - OPERATOR SKILLS AND TRAINING

### 2.1 Skills

Operators using the cot need:

- ☐ a working knowledge of emergency patient-handling procedures.
- ☐ the ability to assist the patient.
- ☐ a complete understanding of the procedures described in this manual.

### **! WARNING**

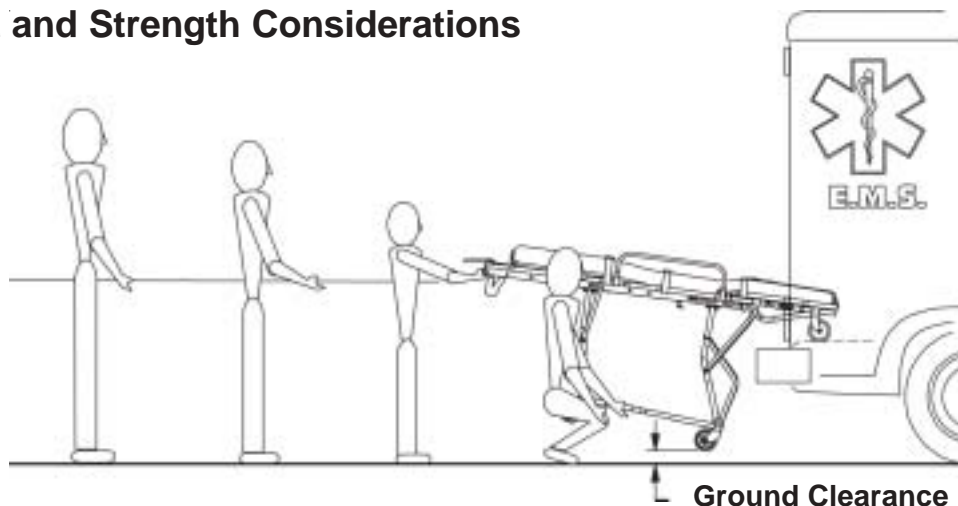
**Untrained operators can cause injury or be injured. Permit only trained personnel to operate the cot.**

### 2.2 Training

Trainees need to:

- ☐ follow a training program designed by their training officer.
- ☐ read this manual. For additional free users' manuals, contact Ferno Customer Relations (page 45).
- ☐ practice with the cot before using it in regular service.
- ☐ be tested on their understanding of the cot.
- ☐ record their training information. A form is provided on page 46.

### 2.3 Height and Strength Considerations



When unloading the cot, the foot-end operator must lift and hold the weight of the cot, patient, and equipment high enough for the undercarriage legs to remain clear of the ground until they have unfolded completely and locked into place.

Supporting the weight of the cot, patient and equipment requires greater strength from a short operator than from a tall operator because a short operator must raise his or her arms higher in relation to his shoulders.

Be aware that if the ambulance is parked on an uneven surface, the foot-end operator (and any helpers) may need to lift the cot higher than normal to allow the undercarriage to unfold and lock.

**Note:** Use additional help as needed to lift the weight of the cot, patient, and equipment secured to the cot (see Using Additional Help, page 31).



## 3 - ABOUT THE COT

### 3.1 Cot Description

The Model 93-P or Model 93-PST PROFlexx™ cot (cot) is an emergency patient-handling device designed to transport a patient in a ground-based ambulance.

The cot is for professional use only, by two trained operators. It is designed for roll-in loading to help reduce the risk of back injury to medical service personnel.

Model 93-P is for use with Ferno® Model 175 Series cot fasteners. Model 93-PST is for use with Ferno Stat Trac® fasteners. Cot features include:

- Anodized tubing to prevent blackening of hands and clothing
- Choice of colors
- 5 Height positions
- Adjustable pneumatic backrest
- Shock frame
- One-hand, swing-down sidearms
- Lead handle at foot end
- Four 6" swivel transport wheels
- Two toe-touch wheel locks
- Telescoping lift handle on each side
- Multipurpose drop frame
- Set of patient restraints
- Locking mattress
- Optional safety bar kit (includes safety hook)
- Optional oxygen cylinder holder
- Optional metal lower equipment tray

### WARNING

**Improper use of the cot can cause injury. Use the cot only for the purpose described in this manual.**

#### UNITED STATES FEDERAL SPECIFICATIONS

The cot is for use with ambulances that meet the requirements of the Federal Ambulance Specification KKK-A-1822. For information about Federal ambulance specification KKK-A-1822, contact:

Federal Supply Services  
Specifications Section  
Suite 8100  
470 E. L'Enfant Plaza, SW  
Washington, DC 20407

### 3.2 General Specifications

#### Height<sup>1</sup>

Loading (Inclined) Height .....	30 in (77 cm)
High-Level Rolling Position .....	36 in (91 cm)
Mid-Level Rolling Position .....	28 in (71 cm)
Low-Level Rolling Position .....	21 in (54 cm)
Folded Position .....	11 in (28 cm)

#### Length

Overall .....	83 in (211 cm)
Minimum .....	67 in (170 cm)

#### Width

Overall .....	24 in (61 cm)
Patient Surface .....	19 in (49 cm)

**Load Limit .....** 650 lb (295 kg)

**Model 93-P Weight<sup>2</sup> .....** 98 lb (44.5 kg)

**Model 93-PST Weight<sup>2</sup> .....** 106 lb (48 kg)

**93-P Strength to Weight Ratio (SWR)<sup>3</sup> .....** 6.6

**93-PST Strength-to-Weight Ratio (SWR)<sup>3</sup> .....** 6.1

General specifications are rounded to the nearest whole number. Metric conversions are calculated before rounding the English measurements. For more information, contact Ferno Customer Relations (page 45) or your Ferno distributor.

Ferno reserves the right to change specifications without notice.

<sup>1</sup> Height is measured as follows: Bed position is the distance from the ground to the center of the bed frame. Loading position is the distance from the ground to the bottom of the loading wheel.

<sup>2</sup> Weight is measured without mattress, restraints, and optional equipment (lower tray, oxygen bottle holder, and safety bar).

<sup>3</sup> SWR is the load limit of the cot divided by the cot's weight.

#### AMBULANCE INFORMATION

The ambulance bumper extension should not exceed 14 inches (36 cm). The patient compartment should have a level floor large enough for the folded cot, and a Ferno® cot fastener installed (not included). See *Cot and Fastener Compatibility*, page 5.

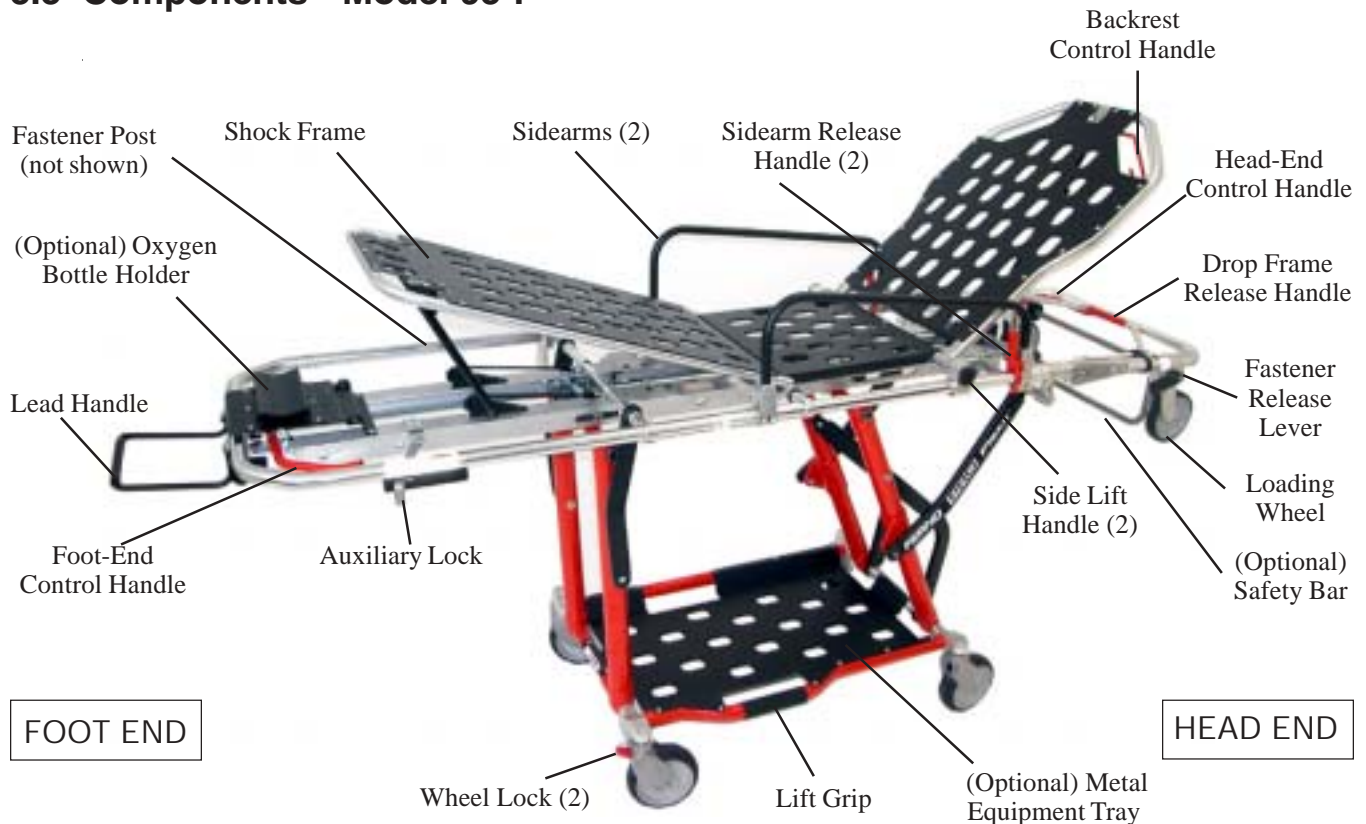
#### LOAD LIMIT



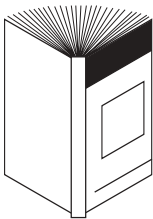
Inspect the cot if the load limit has been exceeded (*Inspecting the Cot*, page 41).



### 3.3 Components - Model 93-P



#### USERS' MANUAL



#### VIDEO



For additional free users' manuals or videos, call Ferno Customer Relations at 1.800.733.3766 or visit [www.ferno.com](http://www.ferno.com)

#### Cot Versions:

Model 93-P cots can be ordered with any or all of the following options:

- With Safety Bar/Safety Hook Kit
- With Foot-End Oxygen Bottle Holder
- With Metal Lower Tray

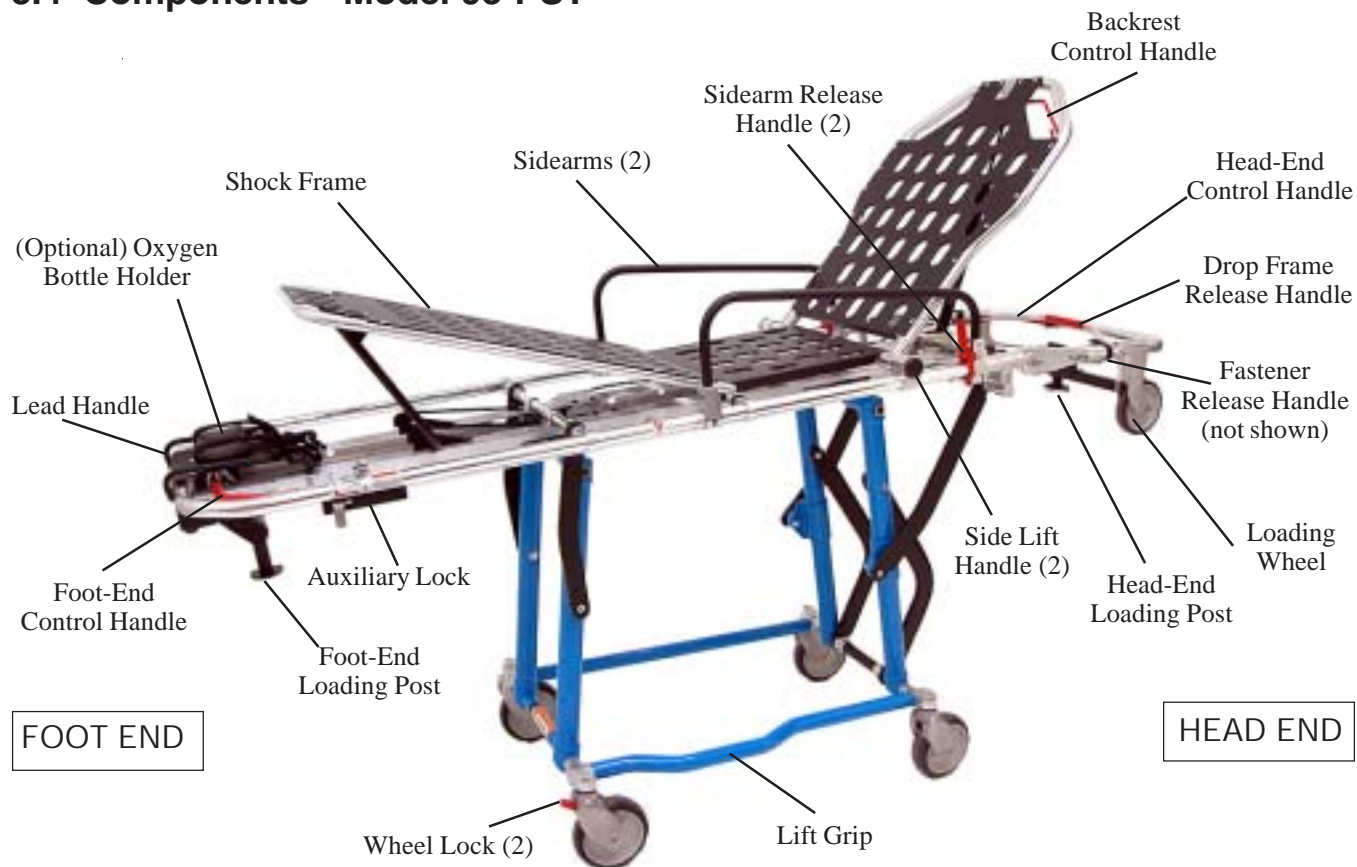


**Locking Mattress**

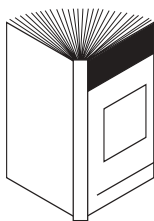


**Set of Restraints**

### 3.4 Components - Model 93-PST



#### USERS' MANUAL



#### VIDEO



For additional free users' manuals or videos, call Ferno Customer Relations at 1.800.733.3766 or visit [www.ferno.com](http://www.ferno.com)

#### Cot Versions:

Model 93-PST cots can be ordered with either or both of the following features:

- With Foot-End Oxygen Bottle Holder
- With Metal Lower Tray

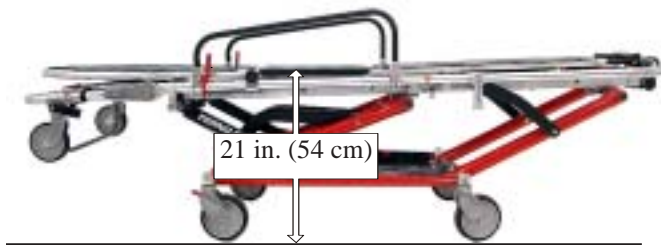


Locking Mattress



Set of Restraints

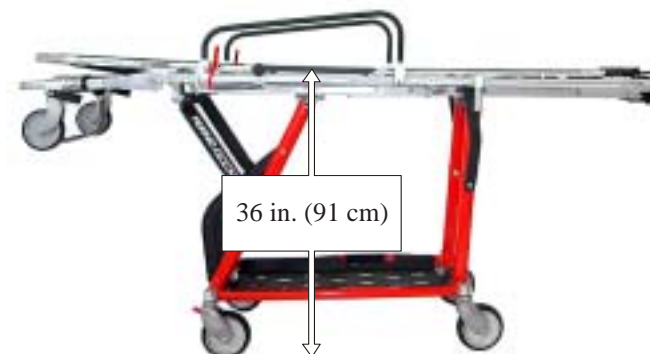
### 3.5 Cot Positions



***Low-Level Rolling Position***



***Mid-Level Rolling Position***



***High-Level Rolling Position***

### **! WARNING**

Rolling the cot in the loading position can cause it to tip. Use a rolling position to roll the cot.



***Loading (Inclined) Position***



***Folded Position***

## 4 - SETUP AND INSTALLATION

### 4.1 Attach the Mattress and Restraints

Before placing the cot in service, install the mattress (see page 22) and restraints (see page 15 and the restraint users' manuals provided with the restraints). Keep the restraint manuals with this manual for future reference. For additional, free manuals, contact Ferno Customer Relations (page 45).

### 4.2 Install the Safety Hook

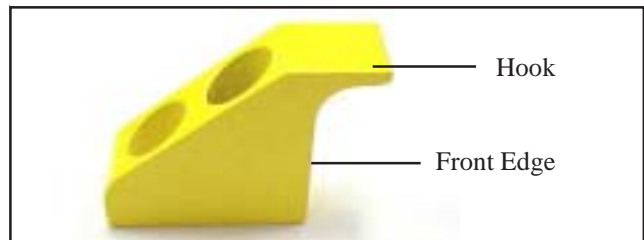
**Note:** *If you purchased a 93-P cot with the optional safety bar/safety hook kit, follow the instructions in this section to install the safety hook on the ambulance floor.*

A safety hook (Figure 1) is provided in the optional safety bar/safety hook kit. The safety hook must be installed on the ambulance floor.

The safety hook catches the cot safety bar (Figure 2) and secures the cot in the ambulance while the undercarriage is unlocked during loading and unloading.

Installing the safety hook requires the skills of a mechanic familiar with ambulance construction.

Before installing the safety hook, consult the ambulance manufacturer about the location of wiring, oxygen or fuel lines, and other elements under the ambulance floor, and about the warranty.



**Figure 1 - Safety Hook**

#### Important

Before installing the safety hook, consult the ambulance manufacturer about possible interference with wiring and other elements under the ambulance floor, and about the ambulance warranty.

#### HARDWARE NEEDED (NOT SUPPLIED)

- 2 ..... 1/4 in-20 socket-head cap screws\*
- 2 ..... flat washers
- 2 ..... lock washers
- 2 ..... 1/4 in-20 nuts

\*Make sure that the socket-head cap screws are long enough to pass through the safety hook, patient compartment floor, both washers, and still have at least two full threads extending past the nut.

The hardware should be at least SAE Grade 5 with UNC-2 thread (or equivalent).



**Figure 2 - Engaging the Safety Hook**

### POSITIONING THE SAFETY HOOK

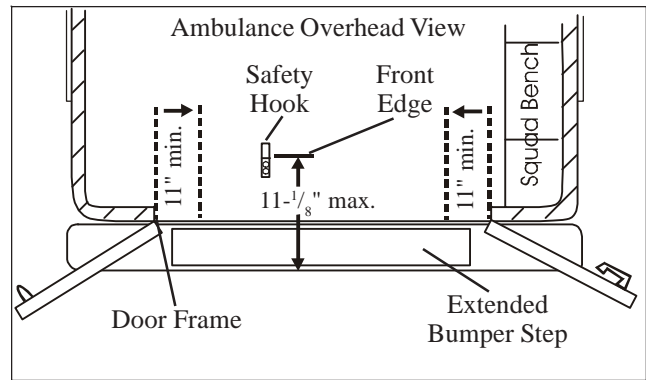
Position the safety hook as close to the rear of the ambulance as possible, within the limits below:

- ❑ The bumper or extended folding bumper must not exceed 14 inches (36 cm).
- ❑ Position the safety hook with the hook facing the front of the ambulance.
- ❑ Position the safety hook at least 11 inches away from the door frame (Figure 3) so the cot safety bar will engage the safety hook when the cot is loaded or unloaded.
- ❑ Position the safety hook no more than 11- $\frac{1}{8}$  in. (34 cm) from the front edge of the hook to the rear of the ambulance, **including** the bumper and folding bumper step in the extended (open) position.

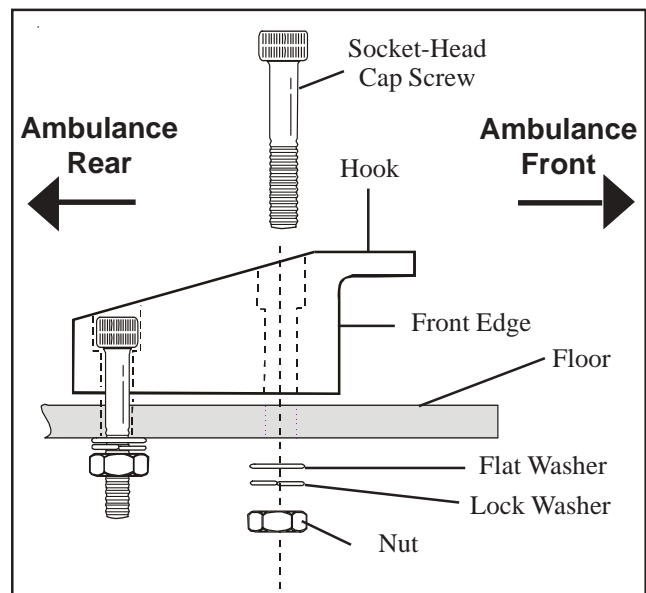
**Note:** If the safety hook is installed too far inside the ambulance, you will not be able to properly fold or unfold the cot when it is secured by the hook.

### INSTALLING THE SAFETY HOOK

1. Mark the position of the safety hook on the floor.
2. Drill holes for the socket-head cap screws and attach the safety hook to the floor (Figure 4).
3. To test the hook, load and unload the cot.



**Figure 3 - Safety Hook Placement**



**Figure 4 - Installing the Safety Hook**



### 4.3 Update the Model 175 Fastener

**Note:** If you purchased a 93-P cot with the optional safety bar/safety hook kit, follow the instructions in this section to update your cot fastener. This update is not necessary if none of your cots have safety bars.

Model 175 fasteners with removable antler mounts AND serial numbers lower than L-612245 must be updated to function properly with current Ferno ambulance cots and transporters. (The serial number is located on the rail portion of the fastener).

Model 93-P cots are shipped with parts to update one fastener: one low-profile mounting block and one short turn knob. Contact Customer Relations (page 45) to order parts to update additional fasteners.

**Note:** Updated fasteners will still function with older Ferno® cots and transporters.

#### Update your fastener if:

- the antler is removable (attaches to the ambulance floor with a large turn-knob)

AND

- the antler is currently attached to the ambulance floor by an (old) rectangular mounting block (Figure 5) and knob

#### Do not update your fastener if:

- the antler is permanently attached to the floor by a bolt

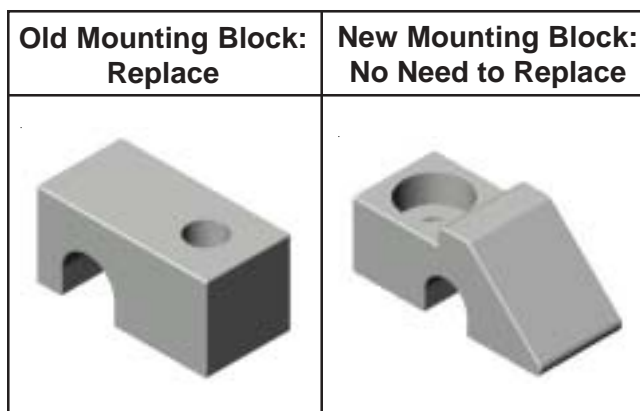
OR

- your removable antler already uses low-profile mounting blocks (Figure 5)

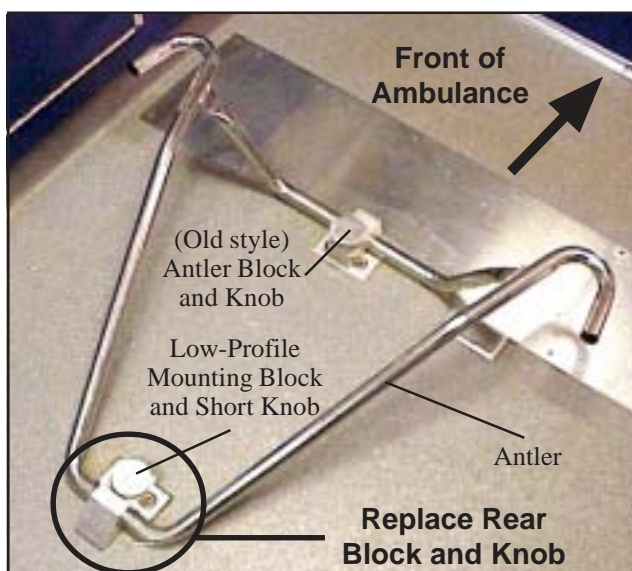
#### TO UPDATE YOUR FASTENER

The parts provided allow you to replace the block and knob at the rear of the antler. To update an existing fastener:

1. Remove the old antler mounting block and knob from the rear of the antler.
2. Position the new low-profile mounting block (provided) with the sloped end facing toward the rear of the ambulance (Figure 6). Secure the antler and mounting block with the new knob provided.



**Figure 5 - Old and New Mounting Blocks**



**Figure 6 - Mounting Block Placement When Updating a Fastener**



## 5 - COT FEATURES

### 5.1 Patient Restraints

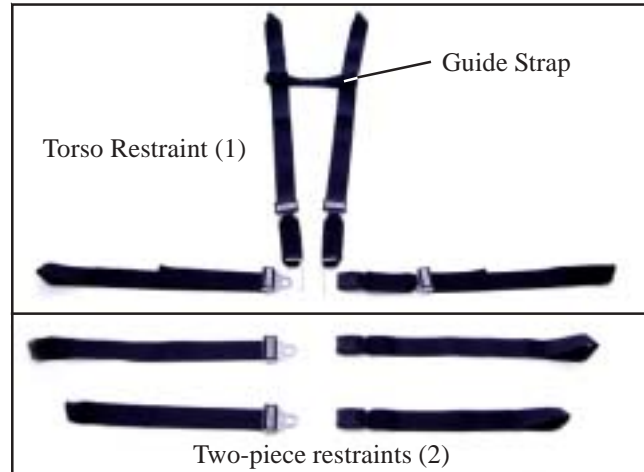
A set of three patient restraints are shipped with the cot: a torso restraint for use at the patient's shoulders and chest; a two-piece, 7' restraint for use at the patient's hips/thighs; and a two-piece, 5' restraint for use at the patient's legs/ankles (Figure 7).

Use all three restraints to secure the patient on the cot. Adjust restraints to safely secure the patient without causing discomfort or impairing circulation.

Keep restraints fastened when not in use to prevent them from interfering with cot operation.

The guide strap supplied with the torso restraint (Figure 7) is designed to help keep the restraints from sliding off the patient's shoulders. Thread the guide strap onto each shoulder strap and position the guide strap near the backrest frame.

For instructions on attaching, using, and maintaining restraints, see the restraint users' manuals shipped with the cot. Additional free manuals are available from Ferno Customer Relations (page 45).



**Figure 7 - Patient Restraints**

### 5.2 Wheel Locks

Two transport wheels are fitted with wheel locks. They are positioned at opposite ends of the cot where they are accessible to the operator's right foot. Use the wheel locks to help keep the cot stationary during patient transfer and certain medical procedures.

The wheel locks are **not** designed for use as brakes. Remain with the cot and keep control of it at all times.

To engage a wheel lock, press down the red lock lever with your toe (Figure 8). To release, slide your toe under the lever and lift the lever up.



**Figure 8 - Toe-Touch Wheel Lock**

### 5.3 Swing-Down Sidearms

Sidearms provide patient security and comfort. Keep the sidearms raised except during patient transfer or certain medical procedures.

The sidearms feature an intermediate stop at 90° (Figure 10) that allows a patient's arm to be placed on the sidearm.

#### LOWERING A SIDEARM TO 90°:

1. Unlock the sidearm by squeezing the release handle (Figure 9).
2. As soon as you start moving the sidearm downward, let go of the handle.
3. Swing the sidearm down until it stops.

#### COMPLETELY LOWERING A SIDEARM:

1. To fold, squeeze the release handle (Figure 9) to unlock the sidearm and hold the release handle as you swing the sidearm past the 90°.
2. Let go of the release handle after the sidearm passes the 90° point, then continue lowering until it stops.

#### RAISING A SIDEARM:

1. Raise the sidearm to either the 90° or upright positions. You do not need to use the release handle when raising the sidearm.

#### Important

Do not lift the cot by the sidearms. The sidearms are not designed for lifting. Lift the cot only by grasping the main frame or side lift handles, following the instructions in this manual.

#### Important

The sidearms are designed to support light objects. Do not place objects weighing more than 10 pounds (4.5 kg) on the sidearms.



**Figure 9 - Using the Sidearm Release Handle**



**Figure 10 - Sidearms in 90° Stop**



**Figure 11 - Raising a Sidearm**

## 5.4 Adjustable Backrest

The backrest can be elevated to any angle between 0° and 75°. To adjust the backrest:

1. Unfasten or loosen the torso restraint before adjusting the backrest.
2. While supporting the weight of the backrest and patient, press the red control handle toward the backrest and raise or lower the backrest (Figure 12).
3. Release the handle to lock the backrest.
4. Fasten and adjust the torso restraint.

**Note:** *The backrest gas spring is under pressure to ease raising and lowering. When raising the backrest with a very small patient, control the movement of the backrest so it does not move too quickly.*



**Figure 12 - Using the Backrest**

## 5.5 Shock Frame

Use the shock frame to elevate the patient's legs. Use an underhand grip (palms up) to support the shock frame when raising or lowering it. Operate the shock frame from the foot end. Lifting and lowering from the side can expose your hands to pinch points.

### RAISING THE SHOCK FRAME

1. Unfasten or loosen the leg restraint.
2. Support the shock frame with both hands and lift until it locks in the raised position (Figure 13). The support bars will engage automatically.
3. Fasten and adjust the leg restraint.



**Figure 13 - Raising the Shock Frame**

### LOWERING THE SHOCK FRAME

1. Support the weight of the shock frame and lift it slightly.
2. With your thumbs, press the shock frame control levers (Figure 14) to disengage the support bars, then lower the shock frame.
3. Fasten and adjust the leg restraint.



**Figure 14 - Lowering the Shock Frame**

## 5.6 Auxiliary Lock

The auxiliary lock is positioned near the foot end of the cot where it is accessible to both operators. When used as described in this manual, the engaged auxiliary lock prevents the undercarriage from folding prematurely while the cot is being loaded into the ambulance.

The auxiliary lock engages automatically when the cot is moved from the folded position directly to the loading (inclined) position. This sequence occurs in two situations:

- When the cot is unloaded from the ambulance.
- When the cot is raised from the folded position to the loading position.

Keep the auxiliary lock engaged when changing cot positions. Disengage the lock only at the appropriate time (see *Folding and Unfolding an Empty Cot*, page 30, and *Loading the Cot*, page 33 and page 37).



**Figure 15 - Disengaging the Auxiliary Lock**

## 5.7 Undercarriage Control Handles

There are two red undercarriage control handles, one at each end of the cot. The handles operate the undercarriage locking mechanism that allows the cot to be raised and lowered.

To operate the control handles, the operators grasp the main frame with an underhand grip (palms up). Their right hands must be positioned where they can reach and squeeze the red control handles (Figures 16-17).

For complete operating instructions, see *Using the Cot*, pages 23-31.



**Figure 16 - Foot-End Control Handle**



**Figure 17 - Head-End Control Handle**



## 5.8 Fastener Release Lever or Fastener Release Handle

The fastener release lever (on a safety bar-equipped Model 93-P) or the fastener release handle (on the 93-PST) is located near the cot's loading wheels.

The release lever or release handle is one part of the safety system that prevents the cot from being pulled accidentally from the ambulance while the operators are repositioning the undercarriage during loading and unloading.

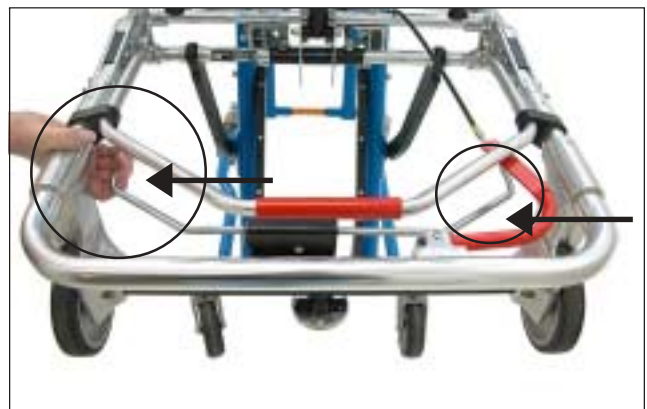
For the Model 93-P (when equipped), the other part of the system is the safety hook used with the Model 175 fastener.

For the Model 93-PST, the other part of the system is the safety stop on the Stat Trac.

The safety hook or safety stop catches and holds the cot until the operator releases it by using the fastener release lever/handle.



**Figure 18 - Using the Fastener Release Lever with the Safety Hook**



**Figure 19 - Using Fastener Release Handle with the Stat Trac**

### RELEASING THE COT: MODEL 175

1. Follow the instructions in *Unloading the Cot*, page 34.
2. Make sure the undercarriage is locked.
3. Turn the fastener release lever (Figure 18) counterclockwise to release the safety bar from the safety hook.
4. Roll the cot completely out of the ambulance.

### RELEASING THE COT: STAT TRAC

1. Follow the instructions in *Unloading the Cot*, page 39.
2. Make sure the undercarriage is locked.
3. When standing on the patient's left side, pull the fastener release handle (Figure 19) toward the loading wheel to release the cot from the Stat Trac's safety stop. When standing on the patient's right, push the handle to release the cot.
4. Roll the cot completely out of the ambulance.

## 5.9 Multipurpose Drop Frame

The drop frame is located at the head end of the cot. It adjusts to three positions.

- ❑ **Folded (unlocked):** Use to shorten the cot in confined spaces, such as in elevators and hallways (Figure 20). The drop frame is unlocked in this position - do not use this position to lift the cot.
- ❑ **Middle (locked):** Allows head-end operator to gain better leverage for lifting (Figure 21).
- ❑ **Extended (locked):** Use for all other cot functions, including loading and unloading an ambulance (Figure 22).

### TO LOWER THE DROP FRAME

1. Place the cot in any position except folded.
2. Unfasten or loosen the torso restraint.
3. Raise the backrest.
4. Squeeze the drop frame release bar (Figure 23) and adjust the drop frame to the middle or folded position, then let go of the release bar.

### TO EXTEND THE DROP FRAME

1. Squeeze the drop frame release bar and swing the drop frame up to the extended position, and let go of the release bar.

**Note:** You do not need to squeeze the release bar when adjusting the drop frame from the folded to middle position. Simply lift the frame until it locks.



**Figure 20 - Drop Frame Folded**



**Figure 21 - Drop Frame in Middle Position**



**Figure 22 - Drop Frame Extended**



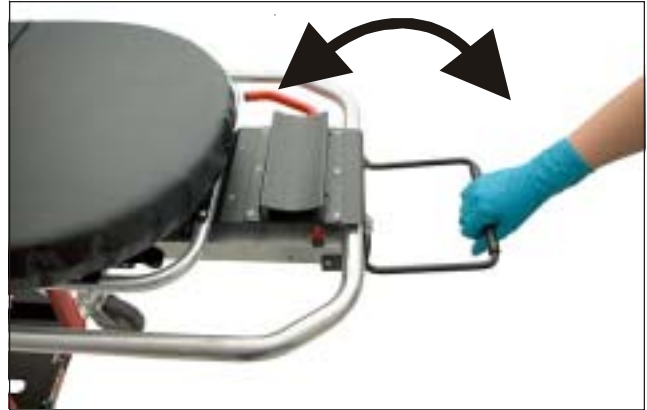
**Figure 23 - Using the Drop Frame**



## 5.10 Lead Handle

Use the lead handle to pull the cot when it is in a rolling position. See *Cot Positions*, page 11.

Store the lead handle in the folded position. Swing the handle out for use (Figure 24).



**Figure 24 - Using the Lead Handle**

## 5.11 Telescoping Side Lift Handles

The side lift handles are designed for use as extra lifting or grasping points. Helpers or additional operators can use them to help raise, lower, roll, or carry the cot.

Pull the side lift handles away from the center of the cot to extend (Figure 25). Push to retract.

To maintain cot balance, use both lift handles.



**Figure 25 - Side Lift Handle**

### USING THE LIFT HANDLES

When four or more people work with the cot, a helper stands on each side of the cot and positions his/her hands as follows:

- Place one hand on the lift handle. Use a cylindrical or “power” grip (Figure 26).
- Grasp the cot main frame with the other hand, using an underhand (palms up) grip (Figure 26).

Alternatively, when rolling the cot or when directed by the control operators, the helpers may wish to keep both hands on the lift handle.



**Figure 26 - Grasping Positions When Using the Side Lift Handle**

## 5.12 Attaching the Mattress

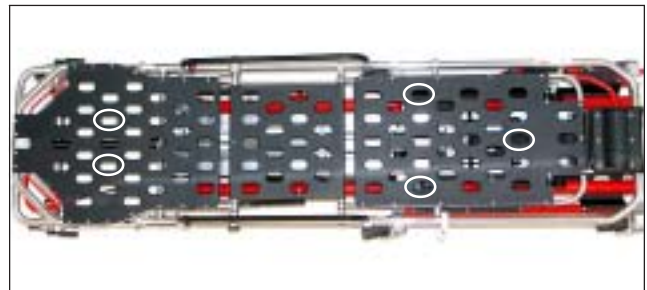
Five hooks are attached to the bottom of the mattress. The hooks anchor the mattress to the cot bed and limit the movement of the mattress so that it does not slide when transferring a patient or during certain medical procedures. Attach all five hooks to the cot bed to secure the mattress.

1. Raise the backrest and/or shock frame as needed.
2. Place the mattress on the cot.
3. Align each hook on the bottom of the mattress with the appropriate hole in the cot bed.
4. Feed each hook through a hole in the bed surface (Figures 27 and 28).

To remove the mattress, slide one hand under the mattress and apply upward pressure while removing the hooks from the bed surface.



**Figure 27 - Attaching the Mattress**



**Figure 28 - Mattress Attaching Points**

## 5.13 Equipment Tray (Optional)

The equipment tray can hold items while the cot is being rolled. Include the weight of items placed on the tray when calculating the total load being placed on the cot.

Be aware of the height of items placed on the tray and remove them before changing cot positions if they will interfere. Always remove all items from the tray before folding the cot or loading it into an ambulance.

### Important

Items left on the equipment tray can interfere with proper height adjustment. Remove items from the tray before lowering, loading or folding the cot.

## 6 - USING THE COT

### 6.1 Before Placing the Cot in Service

- Q Personnel who will work with the cot must be trained. See *Operator Skills and Training*, page 7.
- Q Set up the cot. Attach the mattress and restraints. Install the safety hook and the low-profile mounting block and knob if using a Model 93-P with the optional safety bar/safety hook kit. See *Setup and Installation*, pages 12-14.
- Q Confirm that the cot operates properly. See *Inspecting the Cot*, page 41.

### 6.2 General Guidelines for Use

- The cot is for use by a minimum of two trained operators.
- Operators may need help when working with heavy loads (patient and equipment). See *Using Additional Help*, page 31.
- Follow standard emergency patient-handling procedures when operating the cot.
- Stay with the patient at all times.
- Always use patient restraints.
- When changing cot positions or loading/unloading, make sure the undercarriage locks.
- Read the fastener users' manual for instructions on using the fastener. See also *Cot and Fastener Compatibility*, page 5.
- Always roll the cot using a rolling position. Use the loading position only when loading the cot into, or unloading it from, an ambulance.

### 6.3 Single Operator Guidelines (Empty Cot Only)

If local protocols permit, the Model 93-P can be loaded into, or unloaded from, an ambulance by one operator when there is no patient on it. Follow the single-operator procedures on page 36 .

#### **WARNING**

**Improper operation can cause injury. Operate the cot only as described in this manual.**

#### **WARNING**

**An unattended patient can be injured. Stay with the patient at all times.**

#### **WARNING**

**An unrestrained patient can fall off the cot and be injured. Use restraints to secure the patient on the cot.**

#### **WARNING**

**An unlocked undercarriage can cause injury. Make sure the undercarriage is locked.**

## 6.4 Changing Cot Positions

Learn how the cot works. Read and understand “*Know the Cot’s Position Paths*” and “*Checking the Undercarriage Lock Engagement*” on this page. These boxes explain important aspects of the cot’s function. The Position Change Guidelines pertain to both operators.

### POSITION CHANGE GUIDELINES

- Changing cot positions requires two operators. The only exception is when local protocols allow one operator to raise and lower an **empty** cot (page 30).
- Operators stand at opposite ends of the cot, using an underhand grip (palms up) to grasp the main frame with both hands.
- Lift the weight of the cot off its wheels before squeezing a control handle (see *Undercarriage Control Handles*, page 18).
- Be prepared to control the normal downward movement of the cot that occurs when a control handle is squeezed.
- Verify that the undercarriage is locked in the new position before releasing your grasp on the frame.

### Checking the Undercarriage Lock Engagement

To make sure the cot undercarriage is locked into position, both operators lift the cot until the transport wheels are off the ground.

This allows the undercarriage to lock into place if it has not already done so. Visually check to make sure the auxiliary lock has engaged.

Once you are sure the undercarriage is locked and the auxiliary lock is engaged, lower the cot onto its transport wheels.

### Important

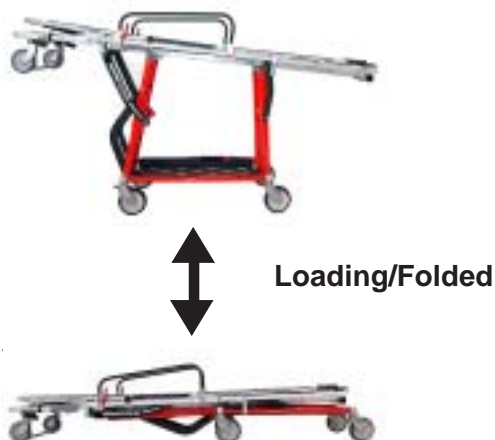
- Always support the weight of the cot before squeezing a control handle.
- Both operators should expect (and be prepared to control) the normal downward movement of the cot that occurs when a control handle is squeezed.
- Before you release your grasp on the frame, verify that the undercarriage has locked.

### Know the Cot’s Position Paths

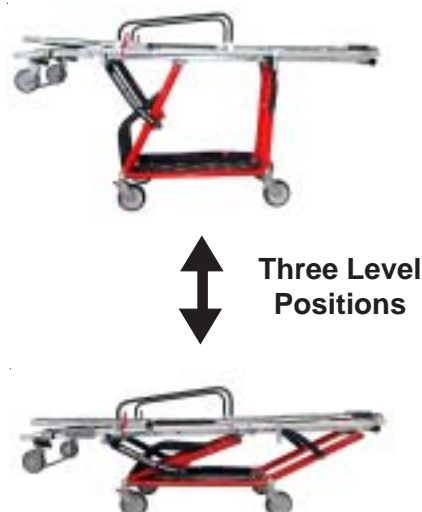
The cot moves directly from the folded position to the loading (inclined) position with no intermediate stops.

\* \* \*

Before the cot can be moved from the folded position to a rolling position, it must be raised to the loading position and then have the head end lowered to the high-level rolling position.



Once in a level rolling position (high-level, mid-level or low-level), the cot can be changed to any position except folded. The cot must be raised to the loading (inclined) position before it can be folded.



### UNFOLDING THE COT

The cot moves between the loading and folded positions with no intermediate stops. Note that when in the loading position, the cot is at its maximum height and is inclined at the head end.

1. *Both Operators:* Grasp the cot's main frame with an underhand grip (Figure 29) and lift the cot until the undercarriage unfolds completely and locks in the loading position. The auxiliary lock will engage automatically.
2. *Both Operators:* Continue to support the weight of the cot as you check to make sure it has locked into position (see box on page 24). Once you are sure the undercarriage is locked, release your grasp on main frame.
3. *Both Operators:* Before rolling the cot, adjust it to a rolling position (see *Loading to High-Level Rolling*, page 26).



**Figure 29 - Raising the Cot from the Folded Position**

### LOADING TO FOLDED POSITION

The cot cannot be folded with a patient on it. To load a cot with a patient into an ambulance, see *Loading the Cot* on page 33 or page 38. An empty cot can be folded by one operator if local protocols allow. See *One Operator Folding*, page 30.

### LOADING TO HIGH-LEVEL ROLLING

When changing the cot between the loading (inclined) position and the high-level rolling position, **only** the Head-End Operator squeezes his/her control handle (Figure 30). If the Foot-End Operator squeezes his/her control handle, the cot will descend past the high-level position. To change the cot between the loading (inclined) and high-level rolling position:

1. *Both Operators:* Grasp the cot main frame and lift the weight of the cot slightly off the wheels. The wheels should remain on the ground.
2. *Head-End Operator ONLY:* Squeeze the control handle and begin lowering the main frame to the high-level position or raising the main frame to the inclined position. **As soon as the main frame begins to move, release the control handle.**
3. *Head-End Operator:* Continue moving the frame until it locks into position.

**Note:** When changing positions, ensure patient comfort by controlling the downward movement of the main frame until it locks into position.

### CHANGING BETWEEN A ROLLING POSITION AND THE LOADING POSITION

To change the cot from any rolling position to the loading position, both operators squeeze the control handles and raise the cot completely, then release the control handles.

The Head-End Operator should lift his/her end of the cot higher than the Foot-End Operator and verify that the cot has locked into the loading position.



**Figure 30 - Loading to High-Level Rolling**

#### Important

When changing the cot between the loading and high-level rolling positions:

- **Only** the Head-End Operator squeezes his/her control handle.
- The operator releases the control handle as soon as the main frame begins to move up or down.



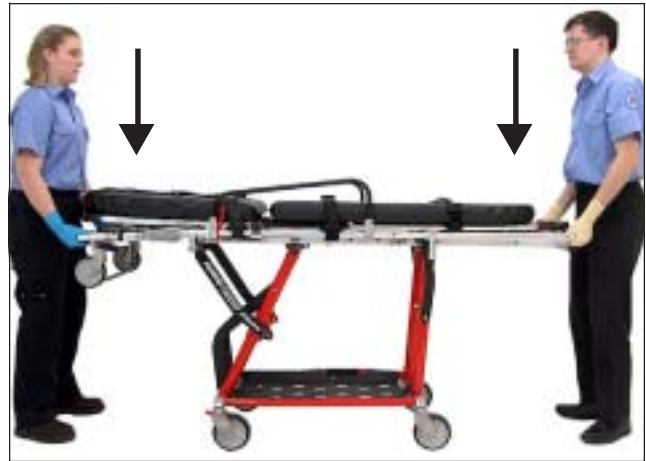
### CHANGING BETWEEN ROLLING POSITIONS

Once the cot is in one of the three intermediate rolling positions (See *Cot Positions*, page 11), it can be raised or lowered to any position except folded.

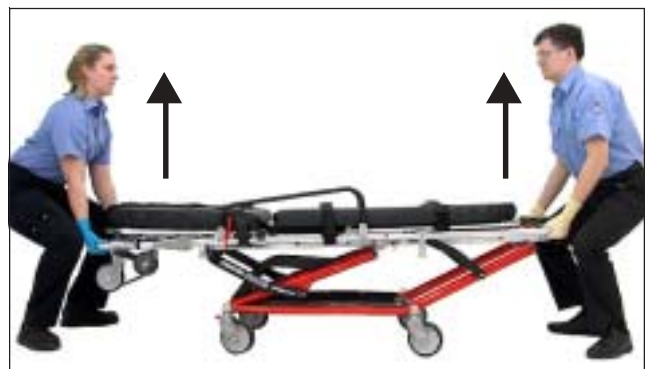
**Note:** When changing the cot between rolling positions, lowering the head end of the cot a moment before beginning to lower the foot end allows the cot undercarriage to change positions more easily.

**Note:** When changing positions, ensure patient comfort by controlling the downward movement of the main frame until it locks into position.

1. *Both Operators:* Grasp the cot main frame and lift the weight of the cot slightly off the wheels. The wheels should remain on the ground (Figure 31 or Figure 32).
2. *Both Operators:* Squeeze the control handles and begin to raise or lower the cot. Release the control handles when the cot is near its desired position.
3. *Both Operators:* Continue raising or lowering the cot until the undercarriage locks into position.



**Figure 31 - Lowering the Cot**



**Figure 32 - Raising the Cot**

### CHANGING COT POSITIONS WITH FOUR PEOPLE

When four people change cot positions, the side helpers can grasp the cot main frame or extend and use the telescoping lift handles (Figure 33). See *Telescoping Side Lift Handles*, page 21.

Lift only the weight you can safely handle. See *Using Additional Help*, page 31. Always have trained operators work the controls and direct helpers.



**Figure 33 - Changing Positions  
With Four People**

## 6.5 Transferring the Patient Onto the Cot

To transfer a patient onto the cot:

1. Unfasten the restraints and arrange the straps so they will not interfere with transferring the patient onto the cot.
2. Place the cot beside the patient and adjust it to the patient's level (Figure 34).
3. Completely lower the sidearms and retract the side lift handles.
4. Transfer the patient onto the cot using approved EMS procedures and your local protocols.
5. Raise the sidearms. Adjust the backrest and shock frame as needed.
6. Fasten and adjust the restraints (Figure 35).



**Figure 34 - Placing Cot Near Patient's Level**



**Figure 35 - Securing the Patient**

## 6.6 Rolling the Cot

### GENERAL GUIDELINES

- Rolling the cot requires a minimum of two trained operators working together.
- Rolling the cot in the loading position can cause the cot to tip. Always use a rolling position to roll the cot. See *Cot Positions*, page 11.
- Roll the cot on smooth, unobstructed surfaces whenever possible.
- To cross low obstacles such as door sills, lift the weight slightly off the cot wheels to allow the wheels to roll smoothly over the obstacle.
- Lift and carry the cot over high obstacles.
- Use help as needed to safely control the weight of the patient, cot, and accessories or equipment. See *Using Additional Help*, page 31.

### ROLLING THE COT

1. Make sure the restraints are securely fastened around the patient.
2. *Both Operators:* Place the cot in a rolling position. See *Cot Positions*, page 11.
3. *Foot-End Operator:* Stand at the foot end of the cot, grasp the main frame, and pull the cot forward (Figure 36).
4. *Head-End Operator:* Stand at the side of the cot near the head end and grasp the main frame, or stand at the head end of the cot. Attend the patient and assist in rolling and steering the cot (Figure 36).

### ROLLING WITH THE LEAD HANDLE

Use the following alternate method to roll the cot on smooth, flat surfaces:

1. *Foot-End Operator:* Unfold the lead handle and pull the cot (Figure 37).
2. *Head-End Operator:* Stand at the head end of the cot, attend the patient and help push and steer the cot (Figure 37).

### Important

Roll the cot downhill foot-end first.

If it is not medically appropriate to do this, roll the cot head-end first, but have the Head-End Operator exert upward force on the main frame to help maintain cot balance.

### ! WARNING

**Rolling the cot in the loading position can cause it to tip. Use a rolling position when rolling the cot.**



**Figure 36 - Rolling the Cot (Typical)**



**Figure 37 - Rolling the Cot (Alternate)**



### ROLLING THE COT WITH FOUR PEOPLE

To roll the cot with four people, position trained operators at the head end and foot end. Helpers extend the side lift handles and assist the trained operators (Figure 38).

When rolling the cot over rough terrain, all operators and helpers should grasp the cot with both hands. For recommendations on the placement of helpers, see *Using Additional Help*, page 31.



**Figure 38 - Rolling the Cot With Four People**

## 6.7 Empty Cot Folding/Unfolding

If local protocols allow, and **only when the cot is empty**, one trained operator can fold the cot or raise it from the folded to the loading position. These are the only one-operator position changes that can be made.

### LOWERING AN EMPTY COT

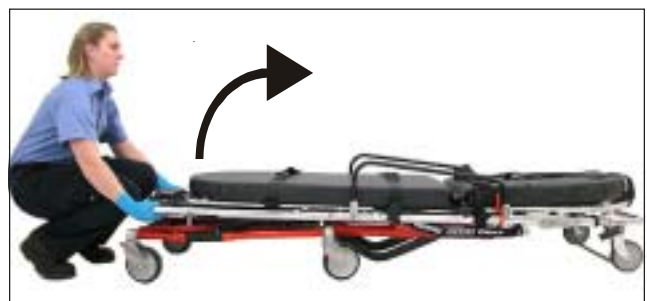
1. Stand at the foot end of the cot and grasp the main frame.
2. Unlock the auxiliary lock.
3. Lift the foot end and tip the head end of the cot until the cot rests on its loading wheels and head-end transport wheels (Figure 39).
4. While supporting the foot end of the cot, squeeze the control handle and fold the cot (Figure 40).

### RAISING AN EMPTY COT

1. Squat at the foot end of the folded cot and grasp the main frame (Figure 40).
2. Lift the cot until the undercarriage unfolds and locks into the loading position. The cot will be resting on its loading wheels and head-end transport wheels (Figure 39).
3. Lower the foot end of the cot until all four transport wheels rest on the ground.



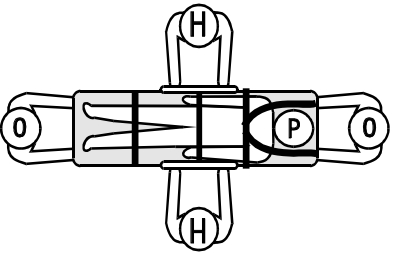
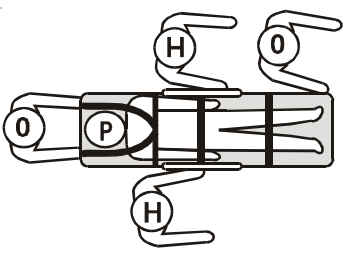
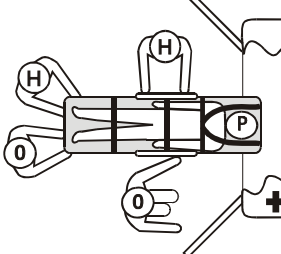
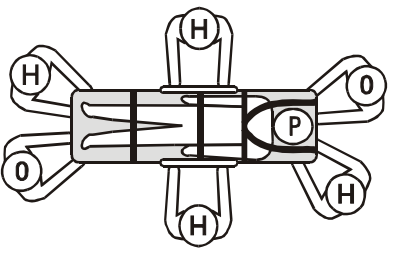
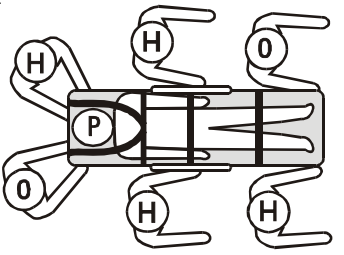
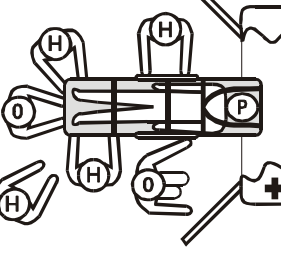
**Figure 39 - Folding an Empty Cot**



**Figure 40 - Unfolding an Empty Cot**

## 6.8 Using Additional Help

Two trained operators are required to operate the cot. They may need additional help when working with heavy patients. Operators should maintain control of the cot, operate the controls, and direct all helpers. The chart below shows suggested placement for operators and helpers.

Helpers	Changing Levels	Rolling	Loading/Unloading
Two Operators + Two Helpers			
Two Operators + Four Helpers			

Key: O = Operator H = Helper P = Patient

### ! WARNING

Helpers can cause injury. Maintain control of the cot, operate the controls, and direct all helpers.

### ! WARNING

Helpers can be injured. Show helpers where to grasp the cot to avoid pinch points.



### LOAD LIMIT

Inspect the cot if the load limit has been exceeded  
(*Inspecting the Cot*, page 41).

## 7 - LOADING AND UNLOADING WITH MODEL 175 (ANTLER AND RAIL) FASTENER

### 7.1 Fastener Compatibility

If you purchased a Model 93-P cot, follow the instructions in this section to use the cot with the Ferno® Model 175 antler and rail fastening system (Figure 41).

The Model 93-P is compatible with all versions of the Model 175 fastener. The fastener must be configured for use with the 93 Series cots (see the fastener installation manual for details).

If you purchased the Model 93-PST cot, follow the instructions in Section 8 (pages 37-39) to use your cot with Stat Trac™ fasteners.



**Figure 41 - A Model 175 Fastener  
(and Safety Hook)**

### 7.2 Guidelines and Preparation

#### GENERAL GUIDELINES FOR USE

If your cot has the optional safety bar/safety hook kit, see *Setup and Installation*, pages 12-14 for instructions on installing the safety hook and (if needed) updating your Model 175 fastener.

A minimum of two trained operators working together is required when using the cot with a patient. Use additional help as needed when working with heavy patients (See *Using Additional Help*, page 31).

#### PREPARING TO LOAD THE COT

1. Raise the ambulance folding bumper, if present.
2. Place the cot in the loading position (*Cot Positions*, page 11).
3. Place the drop frame in the extended position.
4. Roll the cot to the open doorway of the ambulance patient compartment.

#### Important

If the ambulance is parked on an uneven surface, the operators (and any helpers) may need to lift the cot higher than normal to allow the undercarriage to lock.

#### Important

Loose items and debris on the patient compartment floor can interfere with safety bar and safety hook operation. Keep the patient compartment floor clear.



## 7.3 Loading the Cot

Loading the cot with a patient on it requires a minimum of two trained operators working together.

1. Roll the cot forward until both loading wheels are on the patient compartment floor (Figure 42).
  - If your cot has the optional safety bar, load the cot until the safety bar passes the safety hook (Figure 42).
2. *Foot-End Operator:* Stand at the foot end of the cot, grasp the main frame using an underhand (palms up) grip, and support the cot.
3. *Either Operator:* Unlock the auxiliary lock.
4. *Foot-End Operator:* Lift the foot end of the cot until the cot is parallel with the patient compartment floor, or until the transport wheels are off the ground, whichever makes the cot foot end higher.
5. *Foot-End Operator:* Squeeze the control handle and tell the Assisting Operator to lift the undercarriage.
6. *Both Operators:* As the Assisting Operator grasps the lifting grip and raises and folds the undercarriage, the Foot-End Operator pushes the cot into the patient compartment (Figure 44).
7. *Foot-End Operator:* Release the control handle.
8. *Either Operator:* Secure the cot in the cot fastener.

### Important

To recover from a loading attempt halted by the auxiliary lock, do the following:

1. Let go of the foot-end control handle.
2. Return the cot to its transport wheels and **make sure the undercarriage is securely locked in its loading position.**
3. Unlock the auxiliary lock.
4. Proceed with the loading procedure.



**Figure 42 - Loading Wheels on Floor  
(Shown: Optional Safety Bar On Safety Hook)**



**Figure 43 - Loading the Cot**



**Figure 44 - Folding the Undercarriage**

## 7.4 Unloading the Cot

Unloading the cot with a patient on it requires a minimum of two trained operators working together.

1. Raise the ambulance's folding bumper, if present.
2. Release the cot from the cot fastener.
3. *Foot-End Operator:* Grasp the main frame at the foot end of the cot and begin pulling the cot from the patient compartment.
  - Do **not** completely remove the cot from the ambulance. Make sure the loading wheels remain on the ambulance compartment floor.
  - If you have the optional safety bar/safety hook kit, pull the cot out until the safety bar catches on the safety hook.
4. *Assisting Operator:* As the cot is being pulled from the patient compartment, grasp the lifting grip and lower the undercarriage (Figure 45).
5. *Foot-End Operator:* Lift and hold the foot end of the cot high enough off the ground for the undercarriage to unfold and lock completely, then lower the transport wheels to the ground.

**Instructions Continue**



**Figure 45 - Unloading the Cot**

### Important

If the ambulance is parked on an uneven surface, the operators (and any helpers) may need to lift the cot higher than normal to allow the undercarriage to lock.

### Important

Make sure the loading wheels remain on the compartment floor (or make sure the cot remains on the safety hook) until the undercarriage unfolds and locks into place. An unlocked undercarriage will allow the cot to fold.

**IF NO SAFETY BAR/SAFETY HOOK:**

6. *Foot-End Operator:* Keep the loading wheels on the patient compartment floor until you are sure the undercarriage is locked into place and the auxiliary lock is engaged (See *Checking the Auxiliary Lock*, this page).
7. *Both Operators:* Remove the cot from the ambulance and place the cot in a rolling position (See *Cot Positions*, page 11).

**IF EQUIPPED WITH SAFETY BAR/SAFETY HOOK**

6. *Foot-End Operator:* Do not release the cot from the safety hook until you are sure the undercarriage is locked into place and the auxiliary lock is engaged (See *Checking the Undercarriage Lock*, this page).
7. *Assisting Operator:* Turn the fastener release lever counterclockwise to release the safety bar from the safety hook (Figure 46).
8. *Both Operators:* Remove the cot from the ambulance and place the cot in a rolling position (See *Cot Positions*, page 11).

**Checking the Undercarriage Lock**

To make sure the cot undercarriage has locked into position, follow the procedure below:

- Keep the loading wheels securely on the patient compartment floor and lift the cot until the transport wheels are clear of the ground. This allows the undercarriage to lock into place if it has not already done so.
- Once you are sure the undercarriage is locked into place, lower the cot onto its transport wheels.



**Figure 46 - Disengaging the Safety Bar  
(If Equipped)**



## 7.5 One Operator Loading/Unloading An Empty Cot

If local protocols permit, an empty cot may be loaded and unloaded from the ambulance by one trained operator.

### ONE OPERATOR LOADING

1. Raise the ambulance folding bumper, if present.
2. Place the cot in the loading position and roll the loading end into the ambulance until both loading wheels are on the patient compartment floor. If you have the optional safety bar, make sure the safety bar passes the safety hook.
3. Unlock the auxiliary lock (Figure 47).
4. Lift the cot until the wheels are off the ground.
5. Squeeze and hold the undercarriage release handle and push the cot into the ambulance (Figure 48).
6. Secure the cot in the cot fastener.

### ONE OPERATOR UNLOADING

1. Raise the ambulance folding bumper and release the cot from the cot fastener.
2. Begin pulling the cot from the ambulance but do not squeeze the release handle. Keep the loading wheels inside the ambulance, but continue pulling the cot out until the legs unfold and lock into place. (If you have the optional safety bail, you can pull the cot out until the safety bar catches on the safety hook, Figure 48).
3. Make sure the cot has locked into the loading position and visually inspect to verify that the auxiliary lock has engaged.
4. Move to the head end of the cot and disengage the safety bar from the safety hook (if equipped).
5. Lower the head end of the cot to place it in the high-level rolling position.
6. Roll the cot away from the ambulance.



**Figure 47 - One Operator Loading/Unloading**



**Figure 48 - One Operator Loading/Unloading**

## 8 - LOADING AND UNLOADING WITH MODEL 185 STAT TRAC® FASTENER

### 8.1 Fastener Compatibility

If you purchased a Model 93-PST cot, follow the instructions in this section to use the cot with any of the Ferno® Model 185 Stat Trac® fasteners (Figure 49).

If you purchased a Model 93-P cot, follow the instructions in Section 7 (pages 32-36) to use your cot with the Model 175 fastener.



Figure 49 - A Stat Trac

### 8.2 Guidelines and Preparation

#### GENERAL GUIDELINES FOR USE

Using the cot with a Stat Trac requires the Stat Trac to be installed a **minimum of 17"** from the ambulance wall. If your Stat Trac was installed before June 2000, and you installed the Stat Trac at the old 16" minimum distance, it must be reinstalled at least one inch farther from the wall to make sure the Model 93-PST's larger wheels do not become wedged against the ambulance wall. No adjustment is needed for Stat Tracs that are center-mounted or installed 17" or further from the ambulance wall.

A minimum of two trained operators working together is required when using the cot with a patient. Use additional help as needed when working with heavy patients. See *Using Additional Help*, page 31.

#### PREPARING TO LOAD THE COT

1. Raise the ambulance folding bumper, if present.
2. Place the cot in the loading position (See *Cot Positions*, page 11).
3. Place the drop frame in the extended position.
4. Roll the cot to the open doorway of the ambulance patient compartment.

#### Important

Stat Tracs installed before June 1, 2000 required only 16" clearance from the ambulance wall to the center of the Stat Trac.

The 6" wheels on the 93-PST require the Stat Trac to be positioned at least 17" from the wall to allow room for the wheels to swivel as the cot is removed.

**If you installed a Stat Trac at the old minimum, you must reposition your Stat Trac to at least the new 17" minimum.**

No adjustment is necessary for a Stat Trac mounted in the center of the ambulance floor.

Contact Ferno Customer Relations (page 45) for a revised Stat Trac installation manual.

#### Important

If the ambulance is parked on an uneven surface, the operators (and any helpers) may need to lift the cot higher than normal to allow the undercarriage to lock.

#### Important

Loose items and debris on the patient compartment floor can interfere with Stat Trac operation. Keep the patient compartment floor clear.



### 8.3 Loading the Cot

Loading the cot with a patient on it requires a minimum of two trained operators working together.

1. *Both Operators:* Align the head-end loading post with the Stat Trac and push the cot into the ambulance until the loading post passes the safety stop on the Stat Trac (Figure 50).
2. *Foot-End Operator:* Stand at the foot end of the cot, grasp the main frame using an underhand (palms up) grip, and support the cot.
3. *Either Operator:* Unlock the auxiliary lock.
4. *Foot-End Operator:* Lift the foot end of the cot until the cot is parallel with the patient compartment floor, or until the transport wheels are off the ground, whichever makes the cot foot end higher (Figure 51).
5. *Foot-End Operator:* Squeeze the control handle and tell the Assisting Operator to lift the undercarriage.
6. *Both Operators:* As the Assisting Operator grasps the lifting grip and raises and folds the undercarriage, the Foot-End Operator pushes the cot into the patient compartment (Figure 52).
7. *Foot-End Operator:* Release the control handle.
8. *Both Operators:* Slide the foot end of the cot to the left to secure it in the Stat Trac's locking mechanism.

#### Important

To recover from a loading attempt halted by the auxiliary lock, do the following:

1. Let go of the foot-end control handle.
2. Return the cot to its transport wheels and **make sure the undercarriage is securely locked in its loading position.**
3. Unlock the auxiliary lock.
4. Proceed with the loading procedure.



**Figure 50 - Rolling Into the Ambulance**



**Figure 51 - Lifting the Cot Level**



**Figure 52 - Folding the Undercarriage**

## 8.4 Unloading the Cot

Unloading the cot with a patient on it requires a minimum of two trained operators working together.

1. Raise the ambulance's folding bumper, if present.
2. *Foot-End Operator:* Pull the release handle on the Stat Trac and slide the foot end of the cot to the right to release it from the fastener.
3. *Foot-End Operator:* Grasp the cot main frame and begin pulling the cot out of the ambulance patient compartment. (Figure 53). Continue pulling the cot until the safety stop on the Stat Trac engages the head end of the cot.

*Assisting Operator:* As the cot is being pulled from the patient compartment, grasp the lift grip and lower the undercarriage (Figure 53).

4. *Either Operator:* Visually check and make sure the auxiliary lock has engaged (See *Checking the Undercarriage Lock*, this page).
5. *Foot-End Operator:* Release the cot from the Stat Trac using the push-pull fastener release handle (Figure 54). See page 19 for instructions on using the release handle.
6. *Both Operators:* Roll the cot completely out of the ambulance and place it in a rolling position (See *Cot Positions*, page 11).



**Figure 53 - Unloading the Cot and Lowering the Undercarriage**

### Important

Make sure the undercarriage is locked before operating the fastener release handle. An unlocked undercarriage will allow the cot to fold.

### Checking the Undercarriage Lock

To make sure the cot undercarriage has locked into position, follow the procedure below:

- Keep the cot secured in the Stat Trac and lift the cot until the transport wheels are clear of the ground. This allows the undercarriage to lock into place if it has not already done so.
- Once you are sure the undercarriage is locked into place, lower the cot onto its transport wheels.



**Figure 54 - Using Fastener Release Handle**

## 9 - MAINTENANCE

### 9.1 Maintenance Schedule

The cot requires regular maintenance. Set up and follow a maintenance schedule. A form is provided on page 47. The table at right represents minimum maintenance.

When using maintenance products, follow the manufacturers' directions and read the manufacturers' material safety data sheets.

In the U.S.A., contact Ferno Customer Relations to order Ferno's SaniZene® hard-surface cleaner and disinfectant (page 45).

### 9.2 Disinfecting and Cleaning the Restraints

Remove restraints from the cot. Disinfect and clean restraints only as directed in the restraint users' manuals provided with the restraints. Additional free users' manuals can be ordered from Ferno Customer Relations (page 45).

### 9.3 Disinfecting and Cleaning the Mattress

1. Remove the mattress from the cot.
2. To disinfect, wipe the mattress with disinfectant, following disinfectant manufacturer's directions.
3. Wash the mattress with warm, soapy water and a soft cloth.
4. Rinse the mattress with clear water.
5. Hang to dry or dry with a towel.

### 9.4 Disinfecting the Cot

Remove the restraints, mattress and accessories from the cot and wipe all surfaces of the cot with disinfectant, following the disinfectant manufacturer's directions. Ferno recommends you inspect the cot for damage as you disinfect it.

### WARNING

**Improper maintenance can cause injury. Maintain the cot only as described in this manual.**

#### MAINTENANCE SCHEDULE

	Each Use	As Needed	Each Month
<b>Disinfecting</b> (this page)	•		
<b>Cleaning</b> (this page, page 41)		•	
<b>Inspecting</b> (page 41)		•	•
<b>Waxing</b> (page 41)		•	
<b>Lubricating</b> (page 42)		•	

### Important

Disinfectants and cleaners containing bleach, phenolics, or iodines can cause damage. Disinfect and clean only with products that do not contain these chemicals.

## 9.5 Cleaning the Cot

1. Remove the restraints, mattress and any accessories.
2. Clean all surfaces of the cot with warm water and a mild detergent.
3. Use a stiff-bristled brush (but not a metal wire brush) if necessary to remove stains.
4. Rinse with warm water. Dry the cot with a towel or allow it to air dry.

### Important

Water under high pressure penetrates joints, flushes away lubricant, and causes corrosion. Do not use a high-pressure washer, or steam, to clean the cot.

### Important

Using abrasive cleaning compounds or applicators on the cot frame can cause damage. Do not use abrasive materials to clean the cot.

## 9.6 Waxing the Cot

It is not necessary to wax this cot. If desired, you may wax the aluminum main frame and the painted legs. First clean and disinfect the cot, then apply a coat of automotive wax. Follow the wax manufacturer's directions.

## 9.7 Inspecting the Cot

Have your service's equipment maintenance personnel inspect the cot by following the checklist at right and the instructions in the following sections:

- *Cot Features*, pages 15-22.
- *Using the Cot*, pages 23-31.
- The loading and unloading instructions for your model fastener (See Section 7 or Section 8).

If inspection shows damage or excessive wear, remove the cot from service until repair is made (see *Repair Parts and Service*, page 43).

### INSPECTION CHECKLIST

- ☐ Are all components present?
- ☐ Is the cot free of excessive wear?
- ☐ Are all screws, nuts, bolts, rivets, and roll pins securely in place?
- ☐ Do all moving parts operate smoothly and properly?
- ☐ Does the cot lock properly into each position?
- ☐ Does the cot load and unload properly?
- ☐ Does the auxiliary lock function properly?
- ☐ Does the cot roll smoothly?
- ☐ Do the wheels have tread?
- ☐ Is restraint webbing in good condition with no cuts or frayed edges?
- ☐ Are restraint buckles free of visible damage and do they operate properly?
- ☐ Are the restraints properly installed?
- ☐ Do installed accessories operate properly without interfering with cot operation?
- ☐ Model 93-PST: Does the cot engage the Stat Trac's safety stop properly?
- ☐ Model 93-P: (when equipped) does the safety hook engage the safety bar properly?
- ☐ Is the ambulance properly prepared for the cot (approved cot fastener installed)?



## 9.7 Lubricating the Cot

Use the lubricants below to lubricate the cot. Lubricate points on both sides of the cot.

### Important

Lubricating parts that should not be lubricated will allow dirt and foreign particles to collect on those parts, resulting in cot damage. Lubricate **only** as shown in the diagram below.

### Important

Lubricating the C-channel can cause foreign matter to adhere to the channel and interfere with cot height adjustment. Do not lubricate the C-channel on the cot.



### LUBRICATION POINTS (USE A SMALL AMOUNT OF LUBRICANT)

- |   |   |                                   |
|---|---|-----------------------------------|
| 1 | Sidearm lock pins .....                     | WRL-191-S or SAE 30-weight oil    |
| 2 | Drop frame hinges .....                     | WRL-191-S or White lithium grease |
| 3 | Sliding pusher bar (in center of cot) ..... | WRL-191-S or SAE 30-weight oil    |

### LUBRICATION-FREE ITEMS

- |   |  |                  |
|---|--|------------------|
| ⊘ | Loading wheel bearings .....             | Do not lubricate |
| ⊘ | Backrest hinges .....                    | Do not lubricate |
| ⊘ | Side lift handles .....                  | Do not lubricate |
| ⊘ | Transport wheels (sealed bearings) ..... | Do not lubricate |



## 10 - REPAIR PARTS AND SERVICE

### 10.1 Parts and Service - U.S.A. and Canada

To order parts or for professional cot repair, contact EMSAR® - the only agent authorized by Ferno to manage, service, and repair Ferno products. EMSAR factory-trained technicians use Ferno-approved parts and repair procedures. EMSAR has a franchise location serving you. For details, phone, fax, or visit EMSAR's web site.

**1.800.73EMSAR (Phone)**  
**1.937.383.1051 (Fax)**  
**www.EMSAR.com (Internet)**



#### ! WARNING

Improper parts and service can cause injury. Use only Ferno parts and Ferno-approved service on the cot.

### 10.2 Parts and Service - Outside U.S.A. and Canada

To order Ferno parts and for professional cot repair, contact your Ferno distributor. Your distributor is the only agent authorized by Ferno to manage, service, and repair Ferno products.

#### ! WARNING

Modifying the cot can cause injury and damage. Use the cot only as designed by Ferno.

### 10.3 Cot Parts List

Part #	Description
090-5015 .....	2.5" Safety hook
090-5333 .....	Safety bar release handle (pair)
090-5465 .....	Safety bar torsion springs (pair)
090-5794 .....	Hinge hardware kit 35-P/93-P
090-5798 .....	Wheel fork w/bearings, pin (no wheel)
190-1087 .....	Lead handle assembly
190-1144 .....	Wheel w/bearing only
190-1145 .....	Wheel lock kit
190-1237 .....	Wheel caster no brake
190-1238 .....	Wheel caster w/brake
190-1243 .....	5" Load wheel w/hrdwr
190-1247 .....	Sidearm release w/spring and pin
190-1153 .....	Backrest release handle 93-P
190-1154 .....	175 Fastener Post 93-P
190-1155 .....	Backrest panel w/rivets 93-P
190-1156 .....	Gas-assist backrest assy. w/hrdwr 93-P
190-1157 .....	Shock frame panel w/rivets 93-P

Part #	Description
190-1158 .....	Seat panel 93-P
190-1159 .....	Label kit 93-P
190-1160 .....	Control handle grip (set)
190-1161 .....	Foot-end bumpers (s/4)
190-1162 .....	Oxygen bottle holder
190-1163 .....	Scuff strips, upper leg (pair)
190-1164 .....	Scuff strips, lower leg (pair)
190-1165 .....	Foot-end release handle
190-1166 .....	Head-end release handle
190-1167 .....	Shock frame bungee cords (pair)
190-1168 .....	Pusher spring housing
190-1169 .....	Auxiliary lock lever
190-1170 .....	Lower Tray
190-1171 .....	Drop frame release bar

## 11 - ACCESSORIES AND RELATED PRODUCTS

Ferno offers a full line of accessories (fasteners, IV poles, immobilizers, blankets, etc.) approved for use with the cot.

Always follow the instructions packed with accessories. Keep the instructions with this manual. Be aware of any special considerations (loading heights, door heights, etc.) when using accessories.

Contact Ferno Customer Relations or your Ferno distributor (page 45) for product information.

### WARNING

**Attaching improper items to the cot can cause injury. Use only Ferno-approved items on the cot.**

<b>Description</b>	<b>Part #</b>
274 Pac Rac™ equipment tray .....	081-9960
430 Restraint (2 pc., 7' black) .....	031-3304
430 Restraint (2 pc., 5' black) .....	031-3892
417-1 Shoulder harness (black) .....	031-3071
35/93 PROFlexx Locking mattress .....	031-3920
35/93 PROFlexx 513-13 cot-mounted IV pole .....	008-7172
35/93 PROFlexx Retrofit block for 513-10 IV pole ...	090-5793
35/93 PROFlexx Large Body Surface (LBS) .....	081-9991
35/93 PROFlexx Sof-Net (drop frame storage) .....	082-1944
93 PROFlexx Sof-Shelf (undercarriage storage) .....	082-1945
Touch-up paint is available in the following:	
Rescue red .....	081-9972
Day-glo green .....	081-9973
Safety orange .....	081-9974
Electric blue .....	081-9975
Dove gray .....	081-9976
Black .....	081-9977
SaniZene® Hard Surface Cleaner/Disinfectant	
4 ea., 1 gallon .....	078-9214
1 ea., 1 gallon .....	078-9644

## 12 - LIMITED WARRANTY

### Limited Warranty Summary

Ferno-Washington, Inc. (Ferno), warrants the products we manufacture to be free from defects in material and workmanship for one year except as follows:

- (A) External finishes (gelcoat, decals, paint, etc.) are warranted for 90 days.
- (B) Soft goods (webbing, vinyl, fabric, foam, etc.) are warranted for 90 days.
- (C) Repairs and services are warranted for 90 days or until the end of the time period(s) above, whichever comes last.

This limited warranty applies when you use and care for the product properly. If the product is not used and cared for properly, the warranty is void. The warranty period begins the day the product is shipped from Ferno or the day you receive it if you have proof of the delivery date. Shipping charges are not covered by the limited warranty. We are not liable for shipping damages or damages sustained through using the product.

### Limited Warranty Obligation

If a product or part is proven to be defective, Ferno will repair or replace it. At our option, we will refund the product's purchase price. The purchaser accepts these terms in lieu of all damages.

*This is a summary of the limited warranty. The actual terms and conditions of the limited warranty, and the limitations of liability and disclaimers, are available upon request by calling 1.800.733.3766 or 1.937.382.1451.*

## 13 - FERNO CUSTOMER RELATIONS

Customer service and product support are important aspects of each Ferno product.

**In the U.S.A. and Canada**, for assistance with the cot please contact Ferno Customer Relations, below:

Telephone ..... 1.800.733.3766  
 Telephone ..... 1.937.382.1451  
 Fax ..... 1.937.382.1191  
 Internet ..... www.ferno.com

**Outside the U.S.A. and Canada**, for assistance with the cot please contact your Ferno distributor, or Ferno Customer Relations as listed below:

Telephone (Worldwide) ..... +1.937.382.1451  
 Fax (Outside U.S.A.) ..... +1.937.382.6569  
 Internet ..... www.ferno.com

**Serial Number** \_\_\_\_\_



Please have the serial number of your Ferno cot available when calling Ferno Customer Relations, and include it in all written communications.

## TRAINING RECORD

[illegible]

# MAINTENANCE RECORD

[illegible]