One
Man
®

Mortuary Cots
24•MAXX®, 24•miniMAXX®, 24H•miniMAXX®

*Read this Manual
and Retain for
Future Reference*

Ferno Technical Support

Customer service and product support are important aspects of each Ferno product. Please have the product serial number available when calling, and include it in all written communications. For technical support questions:

Telephone (Toll-free)	1.800.733.3766 ext. 1010
Telephone	1.937.382.1451 ext. 1010
Email	quality.products@ferno.com

Ferno Customer Relations

For ordering assistance or general information:

CANADA AND THE U.S.A.

Telephone (Toll-free)	1.877.733.0911
Telephone	1.937.382.1451
Fax (Toll-free)	1.888.388.1349
Fax	1.937.382.1191
Internet	www.ferno.com

ALL OTHER LOCATIONS

For assistance or information, please contact your Ferno distributor. If you do not have a Ferno distributor, please contact Ferno Customer Relations:

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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.

Serial Number _____

Location: Crosstube at loading end of cot.

USERS' MANUAL

To request additional free users' manuals, contact Ferno Customer Relations, your Ferno distributor, or visit www.ferno.com.

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Proprietary Notice

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The products sold by Ferno are covered by a limited warranty, which is printed on all Ferno invoices. The complete terms and conditions of the limited warranty, and the limitations of liability and disclaimers, are also available upon request by calling Ferno at 1.800.733.3766 or 1.937.382.1451.

TABLE OF CONTENTS

1 -SAFETY INFORMATION

1.1 Warning

Warning notices indicate a potentially hazardous situation which, if not avoided, could result in injury or death.

⚠ 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.
Improper operation can cause injury. Operate the cot only as described in this manual.
An unrestrained body can fall off the cot. Use restraints to secure the body on the cot.
Rolling the 24H-miniMAXX in the loading position can cause it to tip. Use a rolling position when rolling the cot.
Helpers can cause injury or be injured. Maintain control of the cot, operate the controls, and direct all helpers.
Improper maintenance can cause injury. Maintain the cot only as described in this manual.
Attaching improper items to the cot can cause injury. Use only Ferno-approved items on the cot.
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.

1.2 Important

Important notices emphasize important usage or maintenance information.

Important

1.3 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.

1.4 Cot and Fastener Compatibility

Combining different manufacturers' products into a "mixed-component" cot/cot fastener system can increase the user's 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 vehicles.

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 know, intentional misuse rests squarely on the misuser.

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, page 28) or from your Ferno distributor (page 2). The following labels are affixed to the cot.
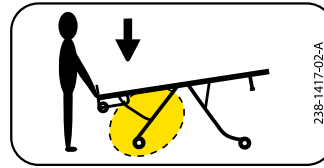
Loading-end Leg Control Handle, affixed near the black control handle at the loading end of the cot. The handle unlocks the loading-end leg for raising or lowering the cot.

Loading-end Leg Control Handle, affixed near the black control handle at the operator end of the cot. The handle unlocks the loading-end leg for loading the cot into a vehicle.

Identification and Load-Limit Label: One of the labels shown above is affixed to the operator end of the cot. The label identifies the cot model and load limit.
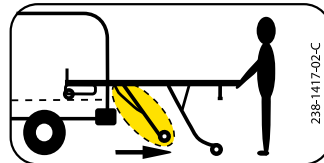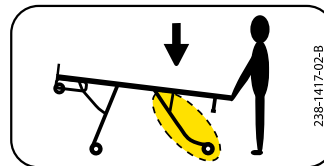
Operator-end Leg Control Handle, affixed near the red control handle at the operator end of the cot. The handle unlocks the operator-end leg for raising or lowering the cot.

Free users' manuals:
1-800-733-3766
www.ferno.com

Users' Manual Label: This label reminds the operator to read the users' manual and tells how to obtain additional manuals.

1.6 Symbol Glossary

The symbols defined in this section are used on the cot and/or in this users' manual. Ferno uses symbols recognized by the International Standards Organization (ISO), the American National Standards Institute (ANSI), and the mortuary services industry.

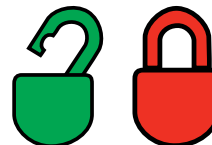| General Warning of Potential Injury	Pinch Point: Keep Hands Clear	Read the Users' Manual	Product meets European Union Standards
Load Limit	Do Not Lubricate / Lubricate	Unlocked Locked	Cot May Be Operated by One Trained Operator

2 - OPERATOR SKILLS AND TRAINING

2.1 Skills

Operators using the cot need:

- a working knowledge of mortuary-service procedures.
- a complete understanding of the procedures described in this manual.

2.2 Training

Operator trainees need to:

- read and understand this manual.
- be trained on the use of the cot.
- practice with the cot before using it with a body.
- record their training information. A sample training record sheet is provided on page 31.

2.3 Height and Strength Considerations

Clearance

Important

The weight of an extremely heavy body may compress the vehicle shocks, lowering the vehicle and requiring the operator and helpers to lift the cot higher than normal in order to allow the legs to lock.
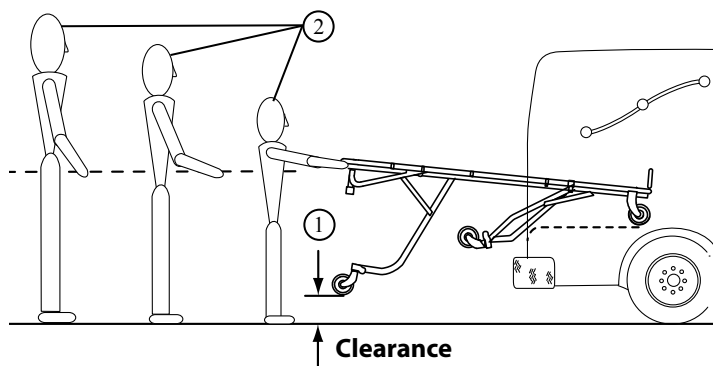
① The cot is designed so that during unloading, the operator lifts the cot only until the rear set of legs unfolds and locks.

Be aware that if the vehicle is parked in a low area or on an incline, the operator (and any helpers) may need to lift the operator end of the cot off the ground to provide clearance for the operator-end legs to unfold completely and lock (see illustration above).

When the operator-end legs have locked, set the cot on the ground.

After the loading-end legs unfold, test that they have locked by pushing them against the bumper — the legs should not fold. If they do, lift the cot high enough to allow both sets of legs to unfold completely and lock.

② Supporting the weight of the cot and body 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 the shoulders.

Note: *Use additional help as needed to lift the weight of the cot and body (see* Using Additional Help, *page 24).*

3 - ABOUT THE COT

3.1 Description

The Ferno® Models 24-MAXX® Cot, 24-miniMAXX® Cot, and 24H-miniMAXX® Cot are mortuary-service products designed for body transport.

In this manual, the term "cot" refers to all three versions of the cot. Use of all three versions is identical. The cots differ only in width and loading height. Where width or loading height is discussed, the model name of the cot is used.

The cot is for professional use by one or more trained operators. The cot is designed for use with a Ferno® Model 5 Mortuary Cot Fastener (not included). Two 7-foot, 2-piece restraints and a 1-inch-thick, locking mattress are included with the cot.

COT FEATURES:

- 1,000 lb (454 kg) load capacity
- 7 transfer positions
- 6 in. (152 mm) Swivel transport wheels with wheel locks (operator end)
- 6 in. (152 mm) Fixed transport wheels (loading end)
- 5 in. (127 mm) Loading wheels at loading end; loading ramp at operator end
- Footrest
- Independent locking legs reduce the lifting required for loading and unloading
- Legs can be locked at different heights at each end of cot
- Bed Width:
  - 25 in./635 mm (24-MAXX)
  - 22 in./559 mm (24-miniMAXX, 24H-miniMAXX)
- Loading Height:
  - 26 in./660 mm (24-MAXX, 24-miniMAXX)
  - 32 in./813 mm (24H-miniMAXX)
- Leg Color:
  - Burgundy (24-MAXX)
  - Gloss-black (24-miniMAXX, 24H-miniMAXX)

VEHICLE INFORMATION

If the vehicle has a bumper extension, the extension should not exceed 14 in. (356 mm). The rear compartment should have a level floor large enough for the folded cot, and a Ferno® cot fastener installed.

⚠️ **WARNING**

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

**1000 lb
454 kg**

Load Limit

Inspect the cot if the load limit has been exceeded (See *Inspecting the Cot,* page 26).

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3.2 Cot Options

The cot may be ordered from Ferno with the accessories shown below factory-installed. The accessories are also available separately. To order, see *Accessories,* page 28.

Sidearms   *Side Lift Handles*

3.3 Components

The components of the three cot models are identical. The cots differ only in their widths and loading height (see *Specifications*, page 9).

LOADING END

Loading-end Leg Control Handle (black)

OPERATOR END

Footrest

Loading Wheel (2)

Bumper Glide (2)

Fixed Transport Wheel (2)

Loading-End Legs

Swivel Transport Wheel with Wheel Lock (2)

Operator-End Legs

Loading-end Leg Control Handle (Black)

Operator-end Leg Control Handle (Red)

Loading Ramp and Post (2)

Ramps and Posts
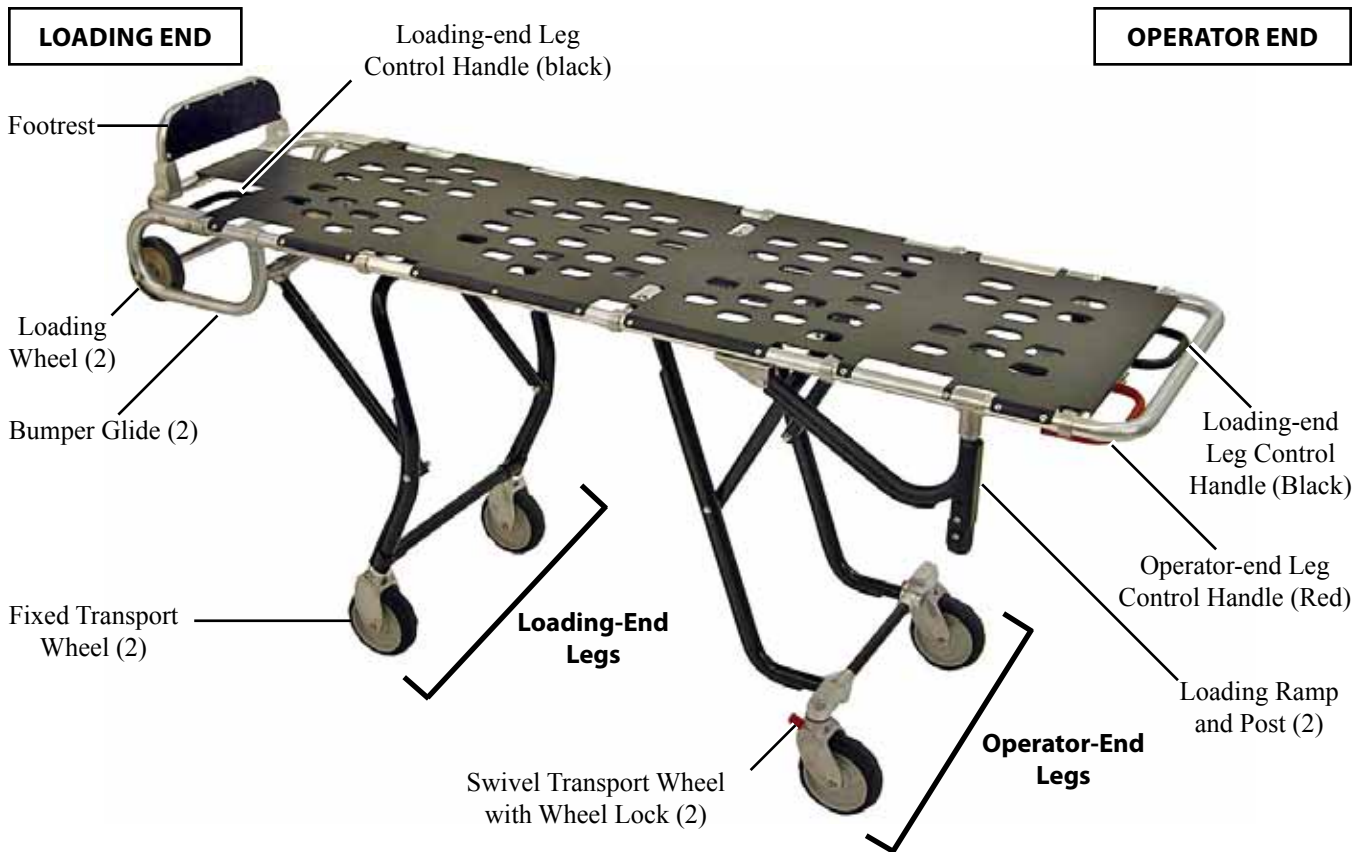
Posts

OPERATOR-END SLIDES/GRIPS

Cots beginning with Serial Number 11N-183015 feature operator-end loading ramps and posts (above, left) to ease loading, unloading, and managing the cot on stairs. Cots before this have only the loading posts (above, right).

Anchor (4)

Mattress (Bottom Side Shown)

USERS' MANUAL
To request additional free users' manuals, contact Ferno Customer Relations, your Ferno distributor, or visit www.ferno.com.

Restraints (Set of 2 Included)

3.4 Specifications

Most general specifications are rounded to the nearest whole number. Metric conversions are calculated before rounding the Imperial measurements. For more information, contact Ferno Customer Relations (page 2) or your Ferno distributor.

Ferno reserves the right to change specifications without notice.

Construction	Tubular aluminum
Wheels	
Diameter	6 in./152 mm
Width	1-¾ in./44 mm
Wheel Bearings	Sealed/greaseless
Bed Surface	Aluminum panel
Overall Height	
Highest Position	40 in (1016 mm)
In Folded (Vehicle) Position	13-¾ in (349 mm)
Bed Height[1]	
Highest position	33-⅝ in (854 mm)
Lowest transfer position	13 in (330 mm)
Folded (vehicle) position	9 in (229 mm)
Loading Height[1]	
24H-miniMAXX	32 in (813 mm)
24-miniMAXX	26 in (660 mm)
24-MAXX	26 in (660 mm)
Length	
Overall Frame Length	76 in (1930 mm)
Bed Surface Length	72 in (1835 mm)
Overall Folded Length	79-½ in (2019 mm)
Overall Cot Width	
24-miniMAXX	23-⅝ in (600 mm)
24H-miniMAXX	23-⅝ in (600 mm)
24-MAXX	26 in (660 mm)
Bed Surface Width	
24-miniMAXX	22 in (559 mm)
24H-miniMAXX	22 in (559 mm)
24-MAXX	25 in (635 mm)
Weight[2]	
24-miniMAXX	76 lb (34 kg)
24H-miniMAXX	76 lb (34 kg)
24-MAXX	78 lb (35 kg)
Load Limit	1000 lb (454 kg)

Note: *All Ferno® mattresses for the 24-MAXX and 24-miniMAXX series are heat-sealed.*

[1] *Height measurements are as follows: Bed Position is the distance from the ground to the patient surface, measured at the center of the bed surface. Loading Position is the distance from the ground to the bottom of the loading wheel.*

[2] *Weight is without mattress, restraints and optional features.*

3.5 Measurement Reference Points

Length Measurements
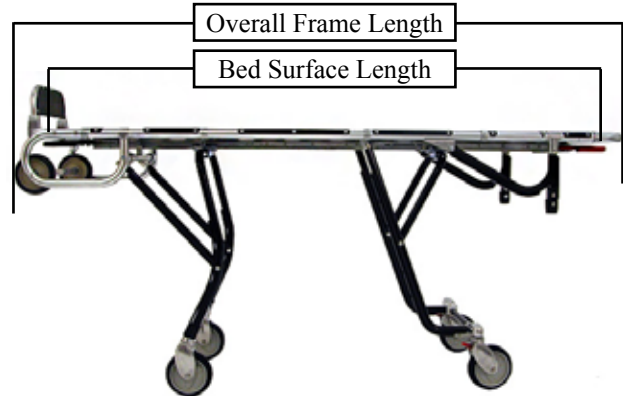
Height Measurements

3.6 Cot Positions

7 Level Positions

Legs

Transfer/Rolling Positions
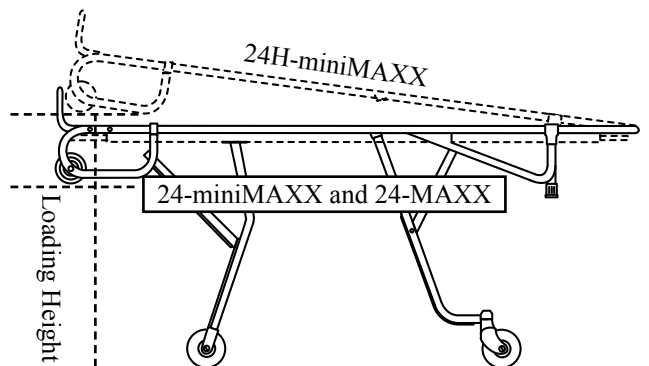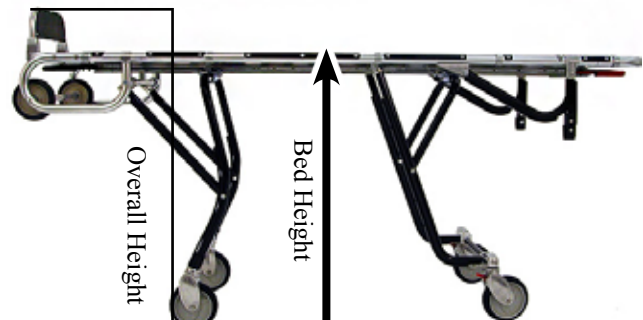
Legs
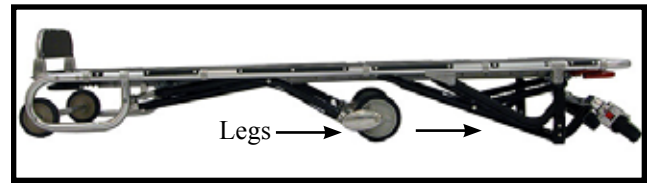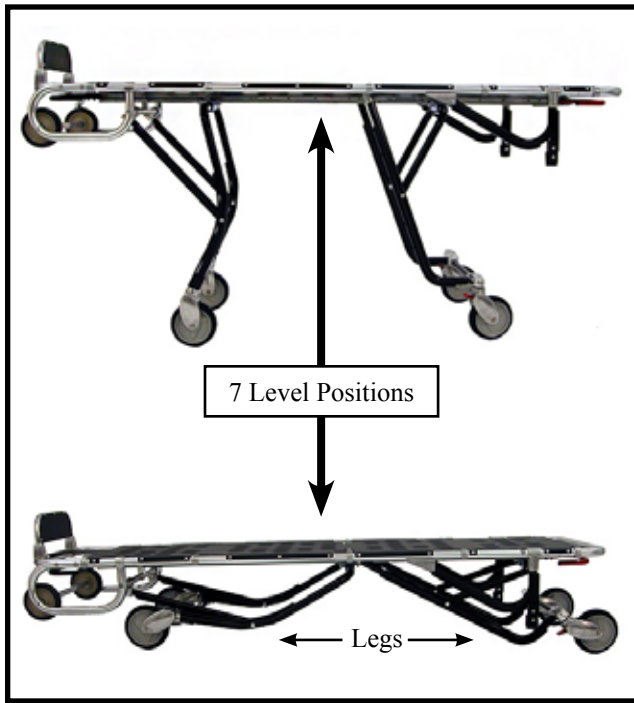
Vehicle Position (Folded)

4 - COT SETUP

4.1 Setup

Before using the cot, set the position of the footrest. The footrest is shipped in a folded position but should be positioned upright for use.

1. Raise the footrest until it is upright and perpendicular to the bed frame.

2. Use a #2 Phillips screwdriver to fully and evenly tighten the two footrest screws (Figure 1).

3. Attach the mattress, restraints, and any accessories before placing the cot in service. Follow installation instructions in the restraint and accessory manuals, and the restraint-placement information in this manual (page 11 and page 12).

Figure 1 - Securing the Footrest

5 - USING THE FEATURES

5.1 Bed Panel Slots

Several slots and notches have formed into the cot bed panel. They are designed for attaching the restraints and accessories to the cot. Figure 2 shows a top-down view of the cot bed panel and main frame.

- The four slots for the restraints are narrow and are designed for only the restraints.

- The optional sidearms attach to the four large slots nearest the ends of the cot.

- The optional side-lift handles attach to any of the six large slots (Figure 2).

Note: *The sidearm slots are large enough to allow sidearms AND side-lift handles to be attached if desired. Cots before serial number 07041779 have smaller slots that allow only one accessory at these locations.*
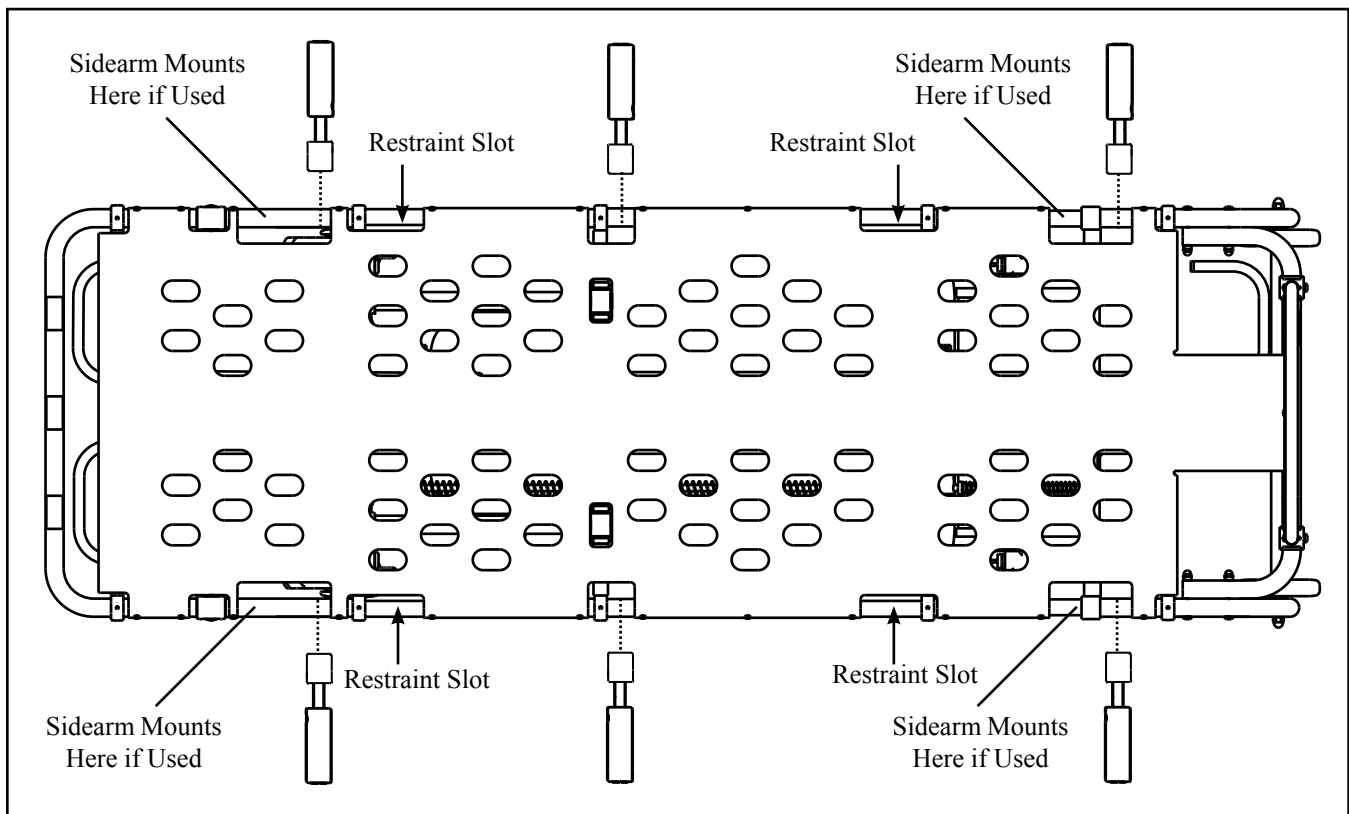
Figure 2 - Restraint and Accessory Slots

5.2 Restraints

A set of two 7-foot, 2-piece restraints is supplied with the cot (Figure 3). Always use both restraints to secure the body to the cot. Attach and adjust restraints so they properly secure the body without damaging it. Use additional restraints if needed.

Keep restraints fastened when not in use to prevent them from interfering with cot operation (Figure 4).

To attach, use, and maintain restraints, see the restraint users' manuals included with the restraints. Additional free manuals are available from Ferno Customer Relations (page 2).

The cot bed panel has four slots for use with the two restraints provided (see Figure 2 on page 11).

Restraints may also be attached to any unused sidearm or side lift handle slots. This allows for different strapping configurations or for the use of additional restraints. Follow your protocols to properly restrain the body on the cot.

Figure 3 - Restraints

Figure 4 - Restraints Attached and Fastened

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5.3 Control Handles

The cot has three control handles. Use the controls to unlock the legs to raise or lower the cot, to load the cot into a vehicle, or to unload the cot from a vehicle.

RAISING OR LOWERING THE COT

LOADING END: Use the (black) loading-end leg control handle at the loading end of the cot (Figure 5) to raise or lower the loading end of the cot.

Note: *If you have a Model 24H-miniMAXX, remember there is an extra position at the loading end. The loading position is used only to load the cot into the vehicle. See the Loading Height reference points on page 9.*

OPERATOR END: Use the (red) operator-end leg control handle at the operator end of the cot (Figure 6) to raise or lower the operator end of the cot.

TWO OPERATORS: Two operators can raise or lower both ends of the cot simultaneously. See *Changing Cot Levels With Two Operators,* page 17.

LOADING/UNLOADING THE COT

To load the cot into a vehicle, the operator uses both operator-end control handles in sequence.

As the cot is pushed into the vehicle, the operator uses first the black, loading-end leg control handle (Figure 6) to unlock the loading-end legs. As the cot is pushed further into the vehicle, the operator uses the red operator-end leg control handle to unlock the operator-end legs. See *Loading the Cot,* page 21.

When unloading the cot from a vehicle, the operators uses only the red operator-end leg control handle. See *Unloading the Cot,* page 22.

Note: *Model 24H-miniMAXX users must raise the loading end of the cot to the loading position **before** the cot can be loaded into a vehicle. See the Loading Height reference points on page 9.*

Loading-end
Leg Control Handle (Black)

Figure 5 - Loading-end Leg Control Handle
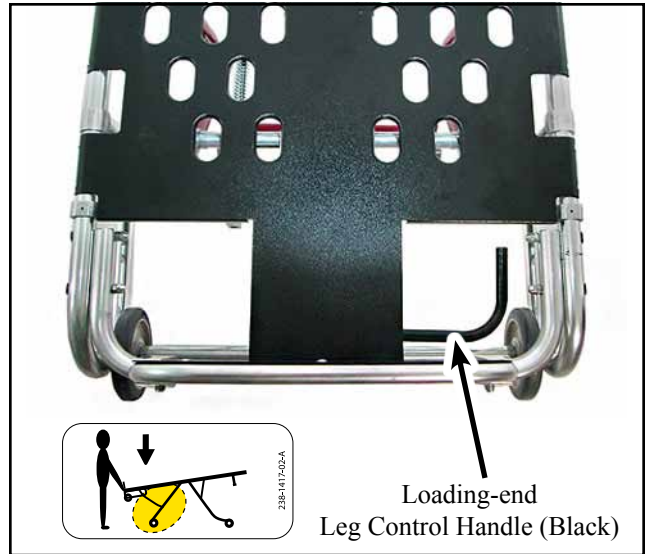

Important

CONTROL-HANDLE REMINDER

Both control handles for the loading-end legs are black. The control handle for the operator-end legs is red.
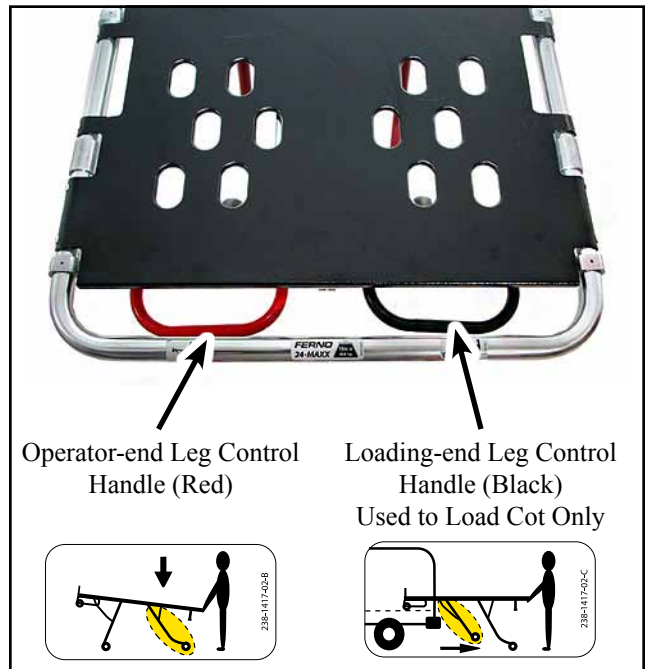

Operator-end Leg Control   Loading-end Leg Control
Handle (Red)   Handle (Black)
                                  Used to Load Cot Only

Figure 6 - Operator-End Control Handles

5.4 Mattress

The four hooks on the bottom of the mattress (Figure 7) anchor the mattress to the cot and limit its movement during body transfer.

Attach the mattress by laying it on the cot and feeding each hook through a hole in the bed panel.

To remove the mattress, slide one hand under the mattress and apply slight upward pressure while unfastening a hook from the bed surface with your other hand. Repeat for the remaining three hooks.

Hook (4)
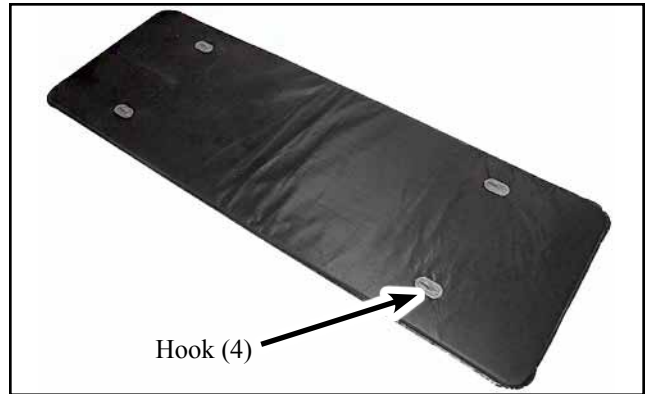
Figure 7 - Mattress (Bottom View)

5.5 Wheel Locks

The operator-end swivel wheels are fitted with wheel locks. Use the wheel locks to help keep the cot stationary while transferring a body onto or off from the cot.

Do not use the wheel locks as brakes.

Remain with the cot and maintain control of it at all times.

To engage a wheel lock, press down on the red lock lever with your toe (Figure 8). To disengage, slide your toe under the lock lever and left it up.

Figure 8 - Engaging a Wheel Lock

5.6 Sidearms (Optional)

If installed, the two sidearms provide additional security by helping to keep the body from sliding on the cot. Keep the sidearms raised except when transferring a body onto or off from the cot.

Sidearms may be factory-installed, or are available as an accessory. See *Accessories,* page 28.

To lower, pull the sidearm release pin (Figure 9) and lower the sidearm. To raise, rotate the sidearm upward until the pin locks in place.

Important

Sidearms are not designed for lifting. Grasp only the main frame or (accessory) side lift handles to lift the cot.

Figure 9 - Pulling the Sidearm Release Pin

5.7 Side-Lift Handles (Optional)

The optional side-lift handles provide additional grasping points for helpers to assist raising or lowering the cot, loading the cot into a vehicle or unloading it from a vehicle. The side-lift handles can also be used to help steer and maneuver the cot.

Up to six side lift handles (three pairs) may be attached to the cot. See *Bed Panel Slots,* page 11.

Each side-lift handle has three potential locking positions:

- Unfolded for use, perpendicular to the cot frame (Figure 10)

- Folded for storage parallel with the cot frame (toward the operator end or loading end of the cot, Figure 11)

USING THE SIDE-LIFT HANDLES

To unfold a side-lift handle for use: in a continuous motion, pull the spring-loaded handle in line with the cot frame to disengage the lock (Figure 11, Step 1), then swing the handle perpendicular to the cot frame (Figure 11, Step 2). Release the handle to lock it in the unfolded position.
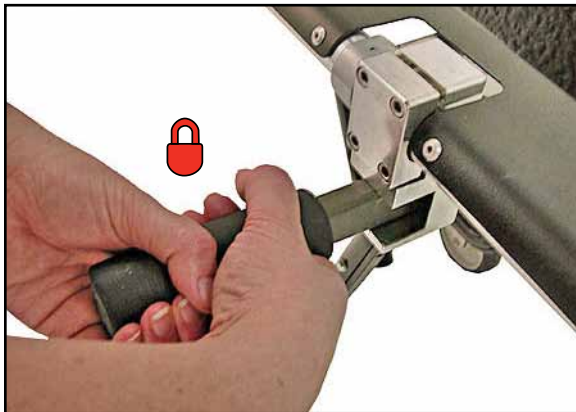
Figure 10 - Using the Side Lift Handle
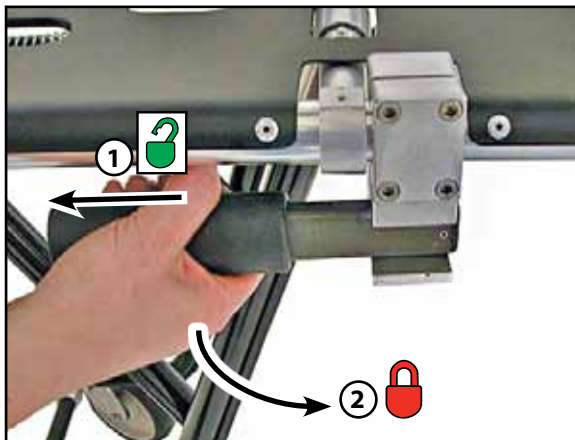
Figure 11 - Unfolding the Handle

To fold a handle for storage: in a continuous motion, pull the spring-loaded handle outward to disengage the lock (Figure 12, Step 1), then swing the handle right or left (Figure 12, Step 2) until it is parallel with the cot frame and locks in a storage position. Release the handle to lock it in the folded position.
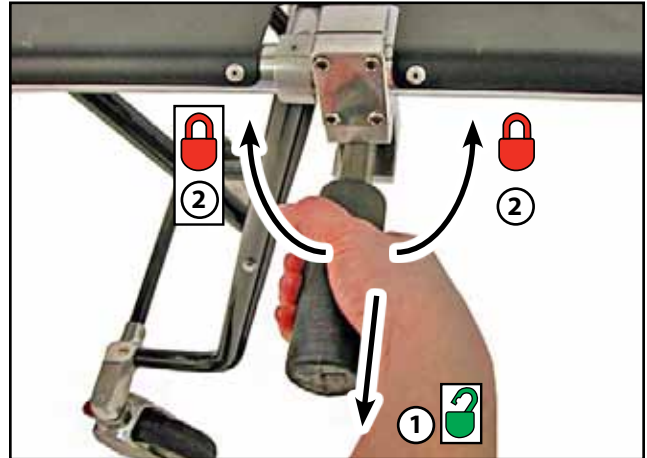
Figure 12 - Folding the Handle

Be Aware

- The overall width of the cot increases when the handles are unfolded for use. Fold the handles when working in narrow areas.

- At the loading-end and operator ends of the cot, interference with cot structures limits the handle to only one storage position (see below).

6 - USING THE COT

6.1 Before Placing the Cot in Service

- Personnel who will work with the cot need to read this manual.

- Set up the cot. Attach the mattress, restraints and any accessories.

- Confirm that the cot operates properly. Follow the instructions in *Inspecting the Cot*, page 26.

- The vehicle must have a Ferno cot fastener installed.

6.2 General Guidelines for Use

- Follow standard mortuary-service procedures when operating the cot.

- The cot can be operated and maneuvered by one person, but operates and maneuvers more easily when controlled by two operators.

- **The operator or operators must maintain control of the cot at all times.**

- Lift only the weight you can safely handle. Use additional help when a heavy body is on the cot. For placement of help, see *Using Additional Help*, page 24.

- Operator(s) and helpers must work together. Communicate with one another and operate the cot using coordinated movements.

- Stay with the cot at all times.

- Always use restraints to secure the body on the cot.

- Read the cot fastener users' manual for instructions on using the fastener.

- When using a 24H-miniMAXX cot, do not roll the cot in the loading position. This can cause the cot to tip, causing operator injury or damage to the body. Use only a rolling position to roll the cot.

⚠️ **WARNING**

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

Read the Users' Manual   Cot May Be Operated By One Trained Operator

⚠️ **WARNING**

An unrestrained body can fall of the cot. Use restraints to secure the body on the cot.

⚠️ **WARNING**

Rolling the 24H-miniMAXX in the loading position can cause it to tip. Use a rolling position when rolling the cot.

6.3 Changing Cot Levels With Two Operators

When raising or lowering the cot with two operators, communicate with one another and use coordinated movements to change the cot from one level to another.

Maintain control of the cot at all times.

1. **Both Operators:** Stand at opposite ends of the cot, facing each other. Grasp the cot main frame using an underhand grip (palms up).

2. **Both Operators:** Slightly lift the cot to ensure you are holding the weight of the body and cot (Figure 13), then squeeze the leg-control handle for your end of the cot and begin raising or lowering the cot (Figure 14).

   ○ **Loading-End Operator:** If the cot is empty or has a light body, you may need to push downward slightly to begin lowering the loading-end legs.

3. **Both Operators:** Raise or lower the cot until it nears the desired height, then release the control handles and continue raising or lowering the cot until both sets of legs lock into place.

4. **Both Operators:** Lift the cot until all four transport wheels come off the ground to ensure that both sets of legs have locked at the new position, then set the cot on the ground.

Operator-End Operator

Loading-End Operator
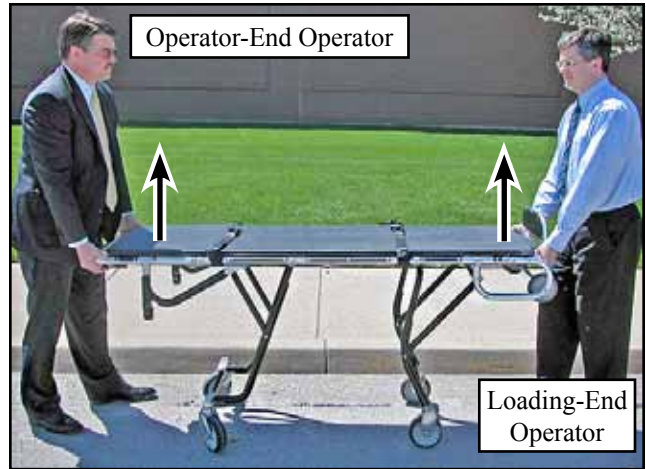
Figure 13 - Lift the Cot Slightly Before Squeezing the Control Handles

Important

Slightly lift your end of the cot before raising or lowering it. This ensures that you have assumed the weight of the cot **before** you squeeze a control handle.
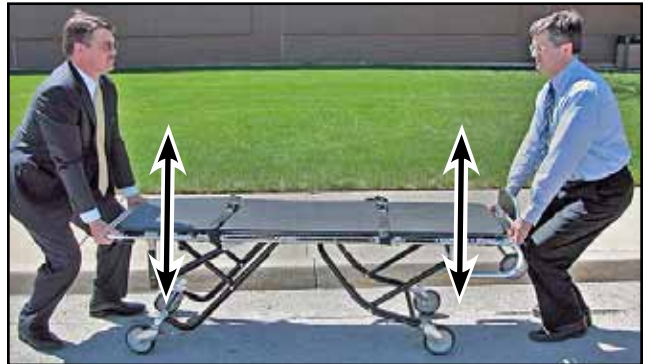
Figure 14 - Work Together and Use Coordinated Movements

6.4 Changing Cot Levels
With One Operator

To change cot levels with only one operator, raise or lower the cot in stages, repeating until the cot is at the desired height.

Maintain control of the cot at all times.

Keep in mind that placing the cot at too great a tilt can cause the body to slide off.

LOWERING THE COT WITH ONE OPERATOR

1. Begin at the **loading end** of the cot and grasp the main frame using an underhand grip (palms up).

2. Slightly lift the end of the cot to assure you are holding the weight of the cot and body, then squeeze the leg control handle and lower the loading end of the cot one or two positions (Figure 15).

Note: *If the cot is empty or is carrying a light body, you may need to push downward slightly to begin lowering the loading-end legs.*

3. Release the control handle and verify that the loading-end legs have locked in the new position.

4. Move to the operator end of the cot and grasp the main frame using an underhand grip.

5. Slightly lift the end of the cot to assume the load, then squeeze the red operator-end leg control handle and lower the operator end of the cot to a level position, or one or two positions lower.

6. Release the control handle and verify that the operator-end leg has locked in the new position.

7. Repeat Steps 1-6 as needed until the cot is level and at the desired height.

RAISING THE COT WITH ONE OPERATOR

1. Begin at the **operator end** of the cot and grasp the cot main frame using an underhand grip (palms up).

2. Slightly lift the end of the cot to assure you are holding the weight of the cot and body, then squeeze the red operator-end leg control handle and raise the operator end by one or two positions (Figure 16).

3. Release the handle and verify that the operator-end leg has locked in the new position.

4. Move to the loading end of the cot and grasp the main frame using an underhand grip (palms up).

5. Slightly lift the loading end of the cot to assume the weight of the cot and body, then squeeze the control handle and raise the loading end of the cot to a level position, or one or two positions higher.

6. Release the control handle and verify that the loading-end leg has locked in the new position.

7. Repeat Steps 1-6 as needed until the cot is level and at the desired height.

Important
Placing the cot at too great a tilt can cause the body to slide off. Raise or lower the cot only one or two levels at a time.

Important
When only one operator is present, lower the loading end of the cot first, before lowering the operator end.

Important
Slightly lift your end of the cot before raising or lowering it. This ensures that you have assumed the weight of the cot **before** you squeeze a control handle.

Figure 15 - Lower the Loading End First

Important
Always raise the operator end of the cot before raising the loading end.
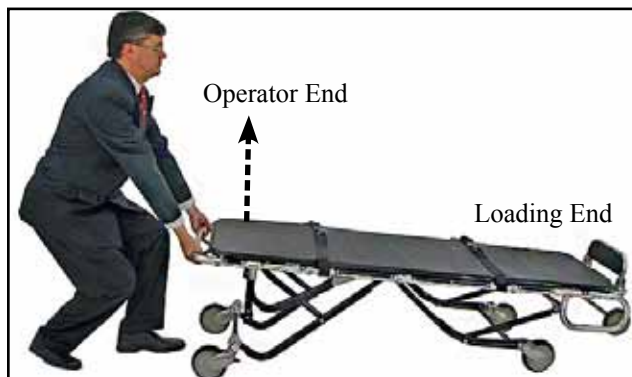
Figure 16 - Raise the Operator End First

         © Ferno-Washington, Inc   234-3307-04   May 2011

6.5 Rolling the Cot

GENERAL GUIDELINES

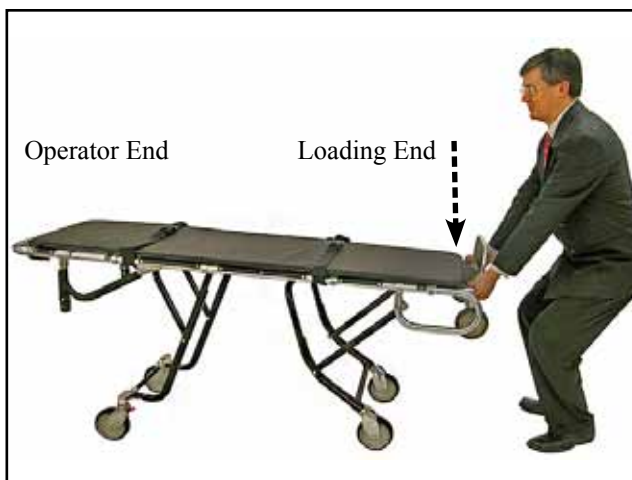- **Maintain control of the cot at all times.**

- Rolling a Model 24H-miniMAXX cot in the loading position can increase the chance for the cot to tip. Use only a rolling position to roll the cot.

- Roll the cot on smooth, unobstructed surfaces whenever possible.

- To cross a low obstacle such as a door sill, lift the cot slightly to take the weight off the wheels so the wheels roll smoothly over the obstacle.

- Two or more operators/helpers lift and carry the cot over a high obstacle such as a curb. **Do not** apply downward force on one end of the cot in order to raise the other end of the cot.

- Use help as needed to safely control the weight of the body and cot (*Using Additional Help,* page 24).

- When rolling over rough terrain, two operators are suggested. Operator(s) and helpers should grasp the cot with both hands.

ROLLING THE COT

1. Verify that the restraints are securely fastened around the body.

2. Raise the cot to its highest level position.

   Model 24H-miniMAXX: Do not use the loading position to roll the cot. Use a level position.

3. Grasp the main frame at the operator end of the cot and push and steer the cot (Figure 17).

   If two or more operators or helpers are present, position helpers in pairs to maintain cot balance and control. See *Using Additional Help,* page 24 for recommended placement of operators and helpers.

Note: *Although the swivel wheels are only at the operator end, steering may be easier from the loading end under certain circumstances. Follow your mortuary protocols.*

> ⚠ **WARNING**
>
> **Rolling the 24H-miniMAXX in the loading position can cause it to tip. Use a rolling position when rolling the cot.**

Operator End   Loading End

Figure 17 - Rolling the Cot

6.6 Transferring the Body Onto the Cot

1. Roll the cot as close to the body as possible.

2. Raise or lower the cot so it is level with the body.

3. Unfasten the restraints.

4. Place the body in a body pouch or use an accessory such as a transfer board to ease transferring the body onto the cot. For a list of accessories, see page 28.

Note: *Ferno recommends that you position the body with the head at the operator end of the cot, if possible. This orientation will place the body in a 'heads-up' position if you need to tilt the cot in a confined area (see* "Maneuvering the Cot in a Confined Area," *below).*

5. Fasten the restraints. Cover the body with a body cover if desired.

6. Raise the cot to the highest rolling position before rolling.

Figure 18 - Cot in Lowest Transfer Position

Figure 19 - Rolling Using the Loading Wheels and Front Transport Wheels

6.7 Maneuvering the Cot In a Confined Area

The cot can be rolled in a tilted position for easier maneuvering in confined spaces such as narrow hallways, elevators, or stairways.

M**aintain control of the cot at all times.**

To roll the cot in a tilted position:

1. Fasten and adjust the restraints to secure the body on the cot. Use additional restraints if necessary (follow your mortuary protocols).

2. Lower the cot to the lowest transfer position (Figure 18).

3. Stand at the operator end of the cot, grasp the main frame, and lift the cot onto its loading wheels and front transport wheels (Figure 19 and Figure 20). Roll the cot in this position.

4. Use additional help as needed to help lift, hold, and push the cot (*see Using Additional Help,* page 24).

Figure 20 - Rolling in a Tilted Position

6.8 Loading the Cot

Use additional help as needed to load a cot into a vehicle when the cot is carrying a heavy body (See *Using Additional Help,* page 24, and *Loading or Unloading With Two Trained Operators,* page 23.

Maintain control of the cot at all times.

When working with untrained helpers, the trained operator stands at the operator end of the cot, operates the controls, and directs the helpers.

1. **Model 24H-miniMAXX only:** After the cot has been rolled near the vehicle rear door, raise the loading end of the cot to the loading position.

2. **Operator:** Stand at the operator end of the cot and grasp the cot main frame using an underhand grip (palms up). Support the cot but **do not lift it**.

3. **Operator:** Push the cot into the vehicle until both loading wheels are on the floor of the compartment and the loading-end legs touch the vehicle bumper (Figure 21).

4. **Operator:** With your right hand, squeeze and hold the **black** loading-end leg control handle and begin pushing the cot into the vehicle. The loading-end legs will fold (Figure 22).

5. **Operator:** Continue pushing the cot into the vehicle. When the loading-end legs have completely folded, release the control handle. Be prepared to assume the remaining weight of the cot before proceeding to Step 6.

6. **Operator:** When the operator-end legs touch the vehicle bumper, use your left hand to squeeze the **red** operator-end leg control handle. With any additional helpers, finish pushing the cot into the vehicle as the operator-end legs fold (Figure 23).

7. When the cot is completely inside the vehicle, release the control handle. Secure the cot in the vehicle with an approved Ferno cot fastener.
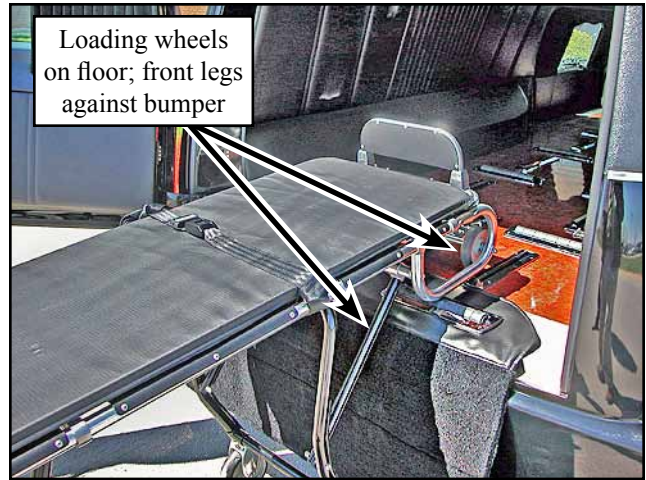
Figure 21 - Preparing to Load the Cot

Loading wheels on floor; front legs against bumper
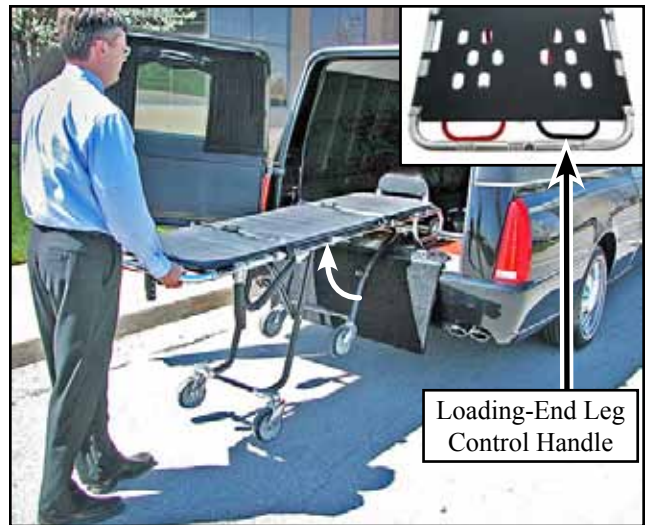
Figure 22 - Loading the Loading-End Legs

Loading-End Leg Control Handle
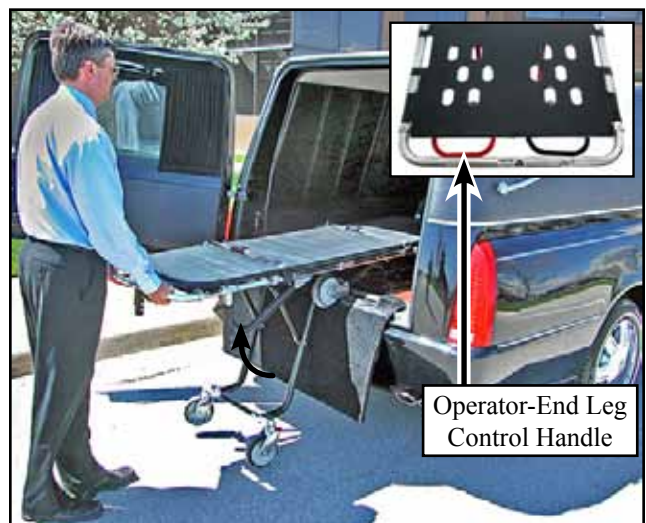
Figure 23 - Loading the Operator-End Legs

Operator-End Leg Control Handle

Important

Do not place your hands at the corners of the frame. The wheel-lock tab could strike your hand as the operator-end legs fold. Keep your hands nearer the center of the cot when loading it into a vehicle.

6.9 Unloading the Cot

Use additional help as needed to unload the cot from a vehicle when the cot is carrying a heavy body (See *Using Additional Help,* page 24, and *Loading or Unloading With Two Trained Operators,* page 23).

Maintain control of the cot at all times.

When working with untrained helpers, the trained operator stands at the operator end of the cot, operates the controls, and directs the helpers.

1. Disengage the cot from the cot fastener.

2. **Operator:** Grasp the cot main frame using an underhand grip (palms up) and support the cot. Squeeze and hold the **red** operator-end leg control handle as you begin pulling the cot out of the vehicle (Figure 24).

3. **Operator (and any helpers):** Lift the cot high enough to allow the operator-end legs to unfold completely and lock into place. You may need to lift the cot foot end higher than normal when:

    ○   the vehicle is on an incline

    ○   the cot is carrying an extremely heavy body (this may compress the vehicle shocks, making the vehicle lower to the ground than normal).

    See *Operator Height and Strength Considerations,* page 6.

4. **Operator:** Release the control handle after the operator-end legs have unfolded to allow the legs to lock into place. Set the operator-end transport wheels on the ground.

5. **Operator:** Continue pulling the cot out of the vehicle until the loading-end legs unfold and lock (Figure 25). You do not need to use a control handle to do this. **Keep the loading wheels inside the vehicle until you verify that the loading-end legs have locked.**

6. **Operator:** To test if the loading-end legs have locked, attempt to push the cot inside the vehicle. If the loading-end legs fold, they are not locked.

Note: *If the vehicle is on an incline, you may need to lift the cot completely off the ground to provide clearance for the loading-end legs to unfold completely and lock into place. See* Operator Height and Strength Considerations, *page 6.*

7. **Operator:** Lower the cot until all four wheels are on the ground.

8. **Operator:** Roll the cot out of the vehicle.

9. **Model 24H-miniMAXX:** After the cot has been unloaded, lower the loading end of the cot to a level rolling position.
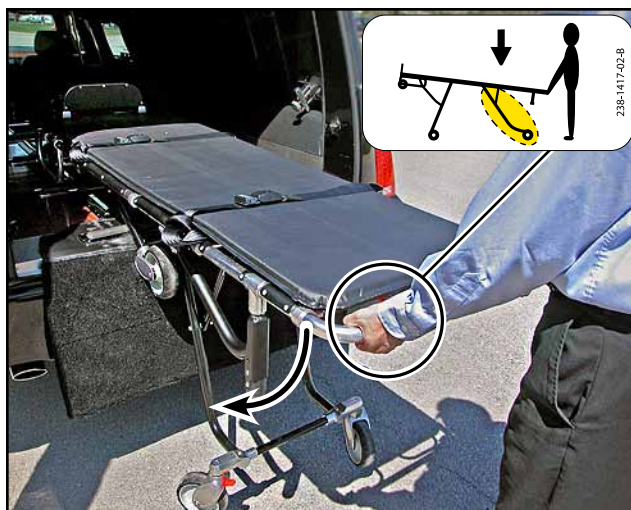
Figure 24 - Unloading the Operator-End Legs

Important
Always keep the loading wheels on the vehicle floor until both sets of legs have completely unfolded and locked into place.

To Test if Locked
Keep loading wheels on floor; push loading-end legs against bumper

Figure 25 - Unloading the Loading-End Legs

Important
The weight of an extremely heavy body may compress the vehicle shocks, lowering the vehicle and requiring the operator and helpers to lift the cot higher than normal in order to allow the legs to lock.

6.10 Loading or Unloading With Two Trained Operators

If a second trained operator is present, both operators stand at the operator end of the cot and work together to help hold the weight of the cot as it is loaded into the vehicle or unloaded from the vehicle.

Maintain control of the cot at all times.

During loading: Follow the loading instructions on page 21, with the following changes:

- The right-side operator operates the black loading-end leg control handle to fold the loading-end legs (Figure 26).

- Working together, both operators lift the weight of the cot and body **before** the left-side operator squeezes the red operator-end leg control handle.

During unloading: Follow the unloading instructions on page 22, with the following changes:

- At the appropriate time, the left-side operator squeezes the red operator-end leg control handle and both operators roll the cot out of the vehicle until the operator-end legs completely unfold. The left-side operator then releases the handle to allow the legs to lock.

- Both operators hold the weight of the cot and body until they confirm that the operator-end legs have locked.

- The right-side operator does not use a control handle.

If more than two operators or helpers are present, see *Using Additional Help,* page 24 for recommended placement of operators and helpers.

Figure 26 - Loading or Unloading With Two Operators

Important

Do not place your hands at the corners of the frame. The wheel-lock tab could strike your hand as the operator-end legs fold. Keep your hands nearer the center of the cot when loading it into a vehicle.
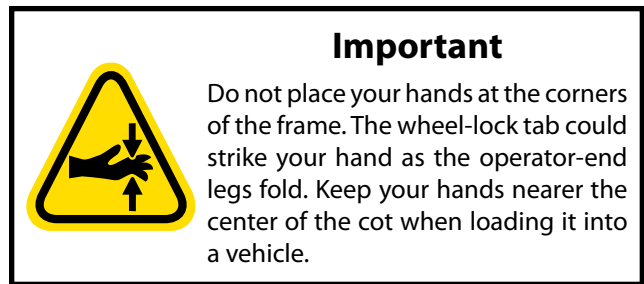
6.11 Using Additional Help

Operating the cot requires a minimum of one trained operator. Additional help may be needed when a heavy body is on the cot. The operator should maintain control of the cot, operate the controls, and direct all helpers. The chart below shows suggested placement for the operator and helpers.

HELPERS	CHANGING LEVELS	ROLLING	LOADING/UNLOADING
ONE OPERATOR + ONE HELPER			
ONE OPERATOR + THREE HELPERS			
ONE OPERATOR + FIVE HELPERS			

Key: O = Operator H = Helper B = Body

H* = Second Trained Operator if present

Load Limit

1000 lb 454 kg

Inspect the cot if the load limit has been exceeded (See *Inspecting the Cot,* page 26).

⚠ **WARNING**

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

7 - MAINTENANCE

7.1 Maintenance Schedule

The cot requires regular maintenance. Set up and follow a maintenance schedule. The table at right represents minimum intervals for maintenance.

Keep maintenance records. A sample maintenance record sheet is provided on page 31.

When using maintenance products, follow the manufacturers' directions and read the manufacturers' material safety data sheets. You can purchase a recommended disinfectant from your Ferno distributor or Ferno Customer Relations (page 2).

7.2 Disinfecting and Cleaning the Restraints

Remove the restraints from the cot. Disinfect and clean only as directed in the restraint users' manuals provided with the restraints. Additional, free users' manuals can be obtained from Ferno Customer Relations (page 2).

7.3 Disinfecting and Cleaning the Mattress

1. Remove the mattress from the cot.

2. **To disinfect:** Apply disinfectant to the mattress according to the disinfectant manufacturer's instructions for application method and contact time.

3. **To clean:** Wash the mattress with warm, soapy water and a soft cloth. Rinse the mattress with clear water. Hang the mattress to dry, or dry it with a towel.

7.4 Disinfecting and Cleaning the Cot

To disinfect: Remove all restraints and the mattress from the cot. Wipe all surfaces with disinfectant following the disinfectant manufacturer's directions for application method and contact time. Ferno recommends that you inspect the cot for obvious damage as you disinfect it.

To clean: Hand clean all surfaces of the cot with warm water and a mild detergent. Rinse with warm, clear water. Dry with a towel or allow the cot to air-dry.

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

Minimum Maintenance Intervals	Each Use	As Needed	Each Month
Disinfecting (this page)	•		
Cleaning (this page)		•	
Waxing (page 26)		•	
Inspecting (page 26)		•	•
Lubricating (page 27)		•	

> **Important**
>
> Disinfectants and cleaners containing bleach, phenolics, or iodines can cause damage. Do not use products containing these chemicals.

> **Important**
>
> Water under high pressure, or steam, can penetrate joints, flush away lubricant, and cause corrosion. Use caution when cleaning moving parts such as joints and hinges, and reapply lubricant if needed (see page 27).

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

7.5 Waxing the Cot

While it is not necessary to wax this cot, waxing the aluminum main frame or the painted legs will not damage them, and will help maintain the cot's appearance.

Disinfect and clean the cot before applying wax. Use an automotive wax as directed by the wax manufacturer.

7.6 Inspecting the Cot

Have your service's equipment maintenance personnel inspect the cot regularly. Follow the checklist at right and operate the cot through all its functions as described in this manual.

If the inspection shows damage or excessive wear, remove the cot from service until repair is made. See *Parts and Service,* pages 28-30.

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 cot roll smoothly?
- Do the wheels have some tread?
- Do the wheel locks engage properly and stop wheel rotation?
- Is the mattress in good condition?
- Are the restraints properly installed?
- Is restraint webbing in good condition with no cuts or frayed edges?
- Are restraint buckles free of visible damage and do they operate properly?
- Do installed accessories operate properly without interfering with cot operation?
- Is the vehicle properly prepared for the cot with an approved Ferno cot fastener installed?

7.7 Lubricating the Cot

Disinfect and clean the cot before applying lubricant. Use the lubricants designated below. Do not lubricate points marked with the "Do Not Lubricate" symbol.

The lubrication points are the same for the Model 24-MAXX, Model 24-miniMAXX, and Model 24H-miniMAXX cots.

> **Important**
>
> Lubricating parts that should not be lubricated allows dirt and foreign particles to collect on those parts, resulting in damage. Lubricate **only** the numbered reference points shown.

Lubricate   **Do Not Lubricate**

Release-Handle Hinges (7)
1

I-Beam
2

1   1   1   1
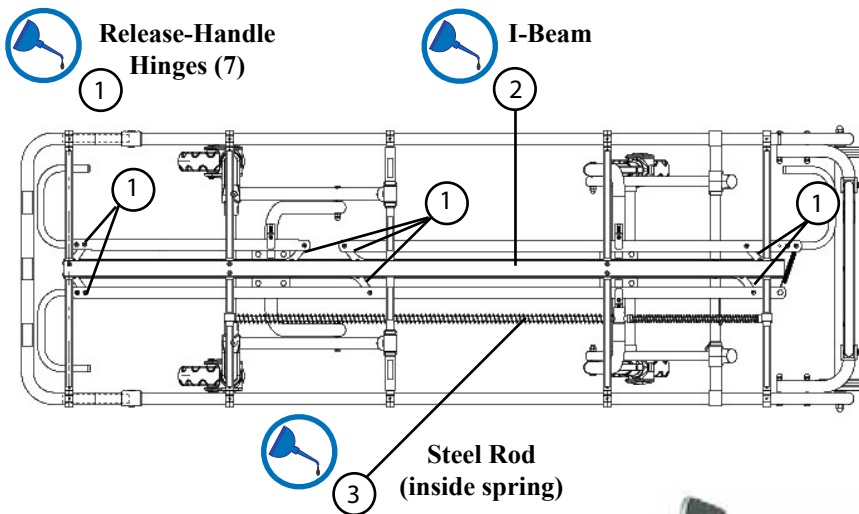
Illustration at Left Shows Top-Down View with Bed Surface Removed

Steel Rod (inside spring)
3

Leg Joints
4
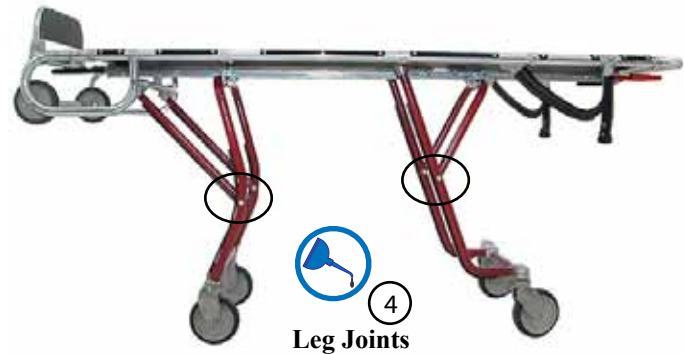
LUBRICATION POINTS (Use a small amount of lubricant)

Reference #	Location	# of Points	Lubricate With
1	Release Handle Hinges	7	WRL-191-S or EZ-1 synthetic lubricant
2	I-Beam	1	White lithium grease
3	Steel Rod (inside leg-return spring)	1	WRL-191-S or EZ-1 synthetic lubricant
4	Leg Joints	4	WRL-191-S or EZ-1 synthetic lubricant
🚫	Wheels (sealed bearings)	0	Do not lubricate
🚫	Upper Leg Pivot Points	0	Do not lubricate

8 - ACCESSORIES

Ferno offers a full line of mortuary-service products and accessories. Always follow the instructions packed with accessories. Keep the instructions with this manual. Be aware of any special considerations (loading heights, door widths, etc.) when using accessories.

Contact Ferno Customer Relations (page 2) or your Ferno distributor for product information.

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

ACCESSORIES (ALL MODELS)

Description	Part Number
430 Restraint (2 piece, 7-foot, black)	031-3911
Sidearm (pair)	082-1997
Side lift handle (pair)	082-1998
366 Cot pillow, white	031-1310

24-MAXX

24-MAXX mattress (1-inch, black)	031-3998
24-MAXX pouch, cabernet (burgundy)	031-4102
24-MAXX pouch, larkspur (blue)	031-4103
24-MAXX pouch, slate (gray)	031-4104
24-MAXX cover, cabernet (burgundy)	031-4105

24-MINIMAXX AND 24H-MINIMAXX

24-miniMAXX mattress (1-inch, black)	031-4042
Model 320 Cover, Interlude cabernet (burgundy)	031-4077
Model 320 Cover, Interlude slate (light gray)	031-4078
Model 320 Cover, Interlude Larkspur (blue)	031-4079
Model 320 Cover, Suede Crypton Fathom (dark gray)	031-4080
Model 320 Cover, Suede Crypton burgundy	031-4081
Model 320 Cover, Suede Crypton Caviar (black)	031-4082
Touch-Up paint (mirror black)	081-9977

RELATED PRODUCTS

Model 5 Cot fastener	056-5000
Model 156 Roller system	066-3909
Model 533-7 Wheel cups (for 5" and 7" wheels)	081-5337
Model 534 Post cups (recessed-style)	081-5340
Model 535 Post cups (raised-style)	081-5350
Transfer board	010-7992
Model 132 Manta™ transfer aid (burgundy)	038-2969
SaniZene® hard surface disinfectant (4 x 1 gal.)	078-9214

9 - PARTS AND SERVICE

9.1 U.S.A. and Canada

In the United States 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.

Telephone (Toll-Free)	1.800.73.EMSAR
Telephone	1.937.383.1052
Fax	+1.937.383.1051
Internet	www.EMSAR.com

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

9.2 Worldwide

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.**

9.3 Parts List 24-MAXX

No.	Part	Description	Qty.
1	090-5835	Footrest frame assembly	1
2	190-1508	Body panel w/rivets (26 qty)	1
3	190-1510	Label Set	1
4	190-1505	Black release handle w/hardware	1
5	190-1506	Red release handle w/hardware	1
6	090-0560	Crutch tip w/inserts (pair, Serial Numbers before 11N183015)	1
7	190-1237	Caster assembly, no brake	1
8	190-1238	Caster assembly w/brake	1
9	190-1144	6" wheel and hub w/bearings	1
10	090-5798	Swivel wheel fork, no wheel, w/bearing and pin	1
11	090-3376	Scuff strips, operator-end leg w/hardware	1

No.	Part	Description	Qty.
12	190-1507	Operator-end leg U-frame brace (burgundy), w/hardware	1
13	090-5834	Loading leg (burgundy, complete)	1
14	190-1504	Scuff strips for loading leg and brace, w/hrdwr.	1
15	090-5836	Loading leg brace (burgundy) w/scuff strips	1
16	090-4054	5" loading wheel w/bushing	1
17	190-1509	Loading axle w/cover, inserts (burgundy)	1
18	090-0983	Control bar spring	1
19	190-2090	J-leg bumper, screw, washer	2
20	190-2091	J-leg bumper, mount, and hardware	1
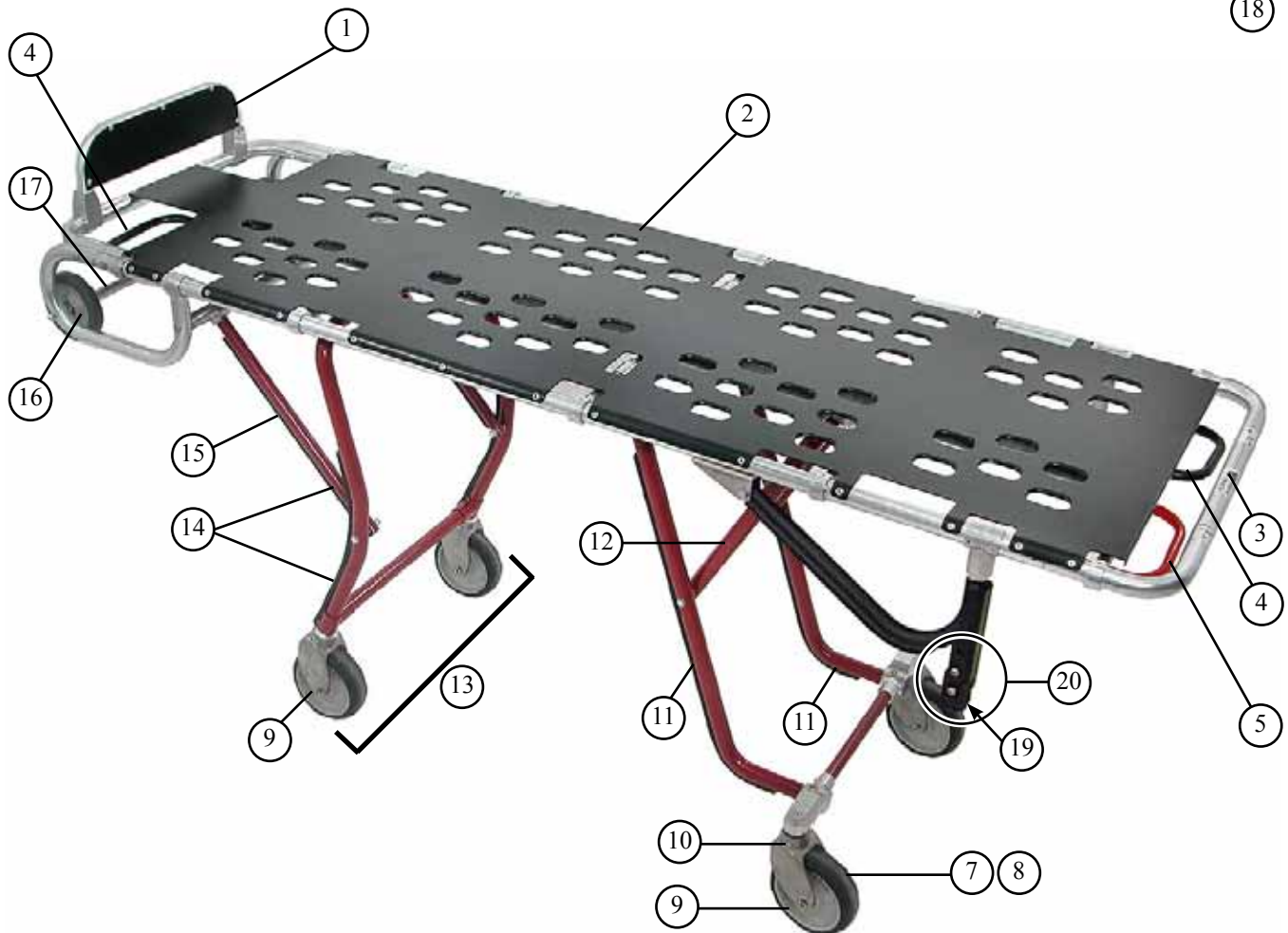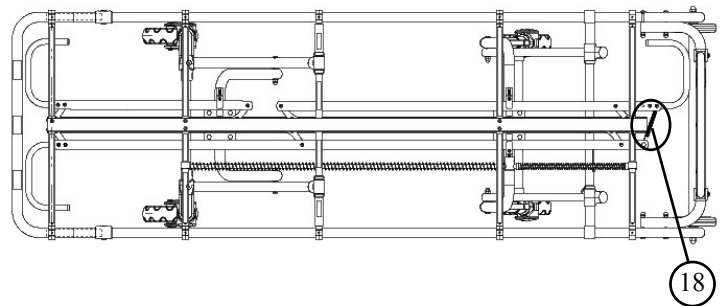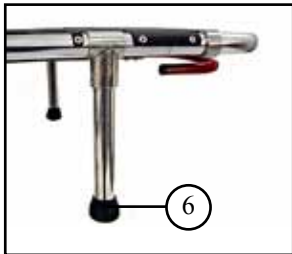
9.4 Parts List 24-miniMAXX and 24H-miniMAXX

No.	Part	Description	Qty
1	190-1694	Body panel w/rivets (26 qty)	1
2	190-1505	Black release handle w/hardware	1
3	190-1696	Loading axle w/cover, inserts (black)	1
4	090-4054	5" loading wheel w/bushing	1
5	090-5871	24-miniMAXX Loading leg brace, black, w/scuff strips	1
5	090-5871	24H-miniMAXX Loading leg brace, black, w/scuff strips	1
6	190-1504	24-miniMAXX Scuff strips only, set, for loading leg and brace w/hrdwr.	1
6	190-1761	24H-miniMAXX Scuff strips only, set, for loading leg and brace w/hrdwr	1
7	090-5896	24H-miniMAXX Loading leg (black, complete)	1
7	090-5870	24-miniMAXX Loading leg (black, complete)	1
8	190-1144	6" wheel w/bearings (only)	1
9	190-1237	Swivel caster (wheel, fork, shank) **no** wheel lock	1
10	190-1238	Swivel caster (wheel, fork, shank) **with** wheel lock	1
11	090-5798	Swivel caster fork (no wheel) w/bearing and pin	1
12	090-3376	Scuff strips, operator-end leg w/hardware, set	1
13	190-1695	Operator-end leg U-frame brace (black) w/hardware	1
14	190-1506	Red release handle w/hardware	1
15	090-0983	Control bar spring	1
16	090-0560	Crutch tip w/inserts (pair, Serial Numbers before 11N183015)	1
17	190-2090	J-leg bumper, screw, washer	2
18	190-2091	J-leg bumper, mount, and hardware	1
n/s	190-1510	Label Set	1
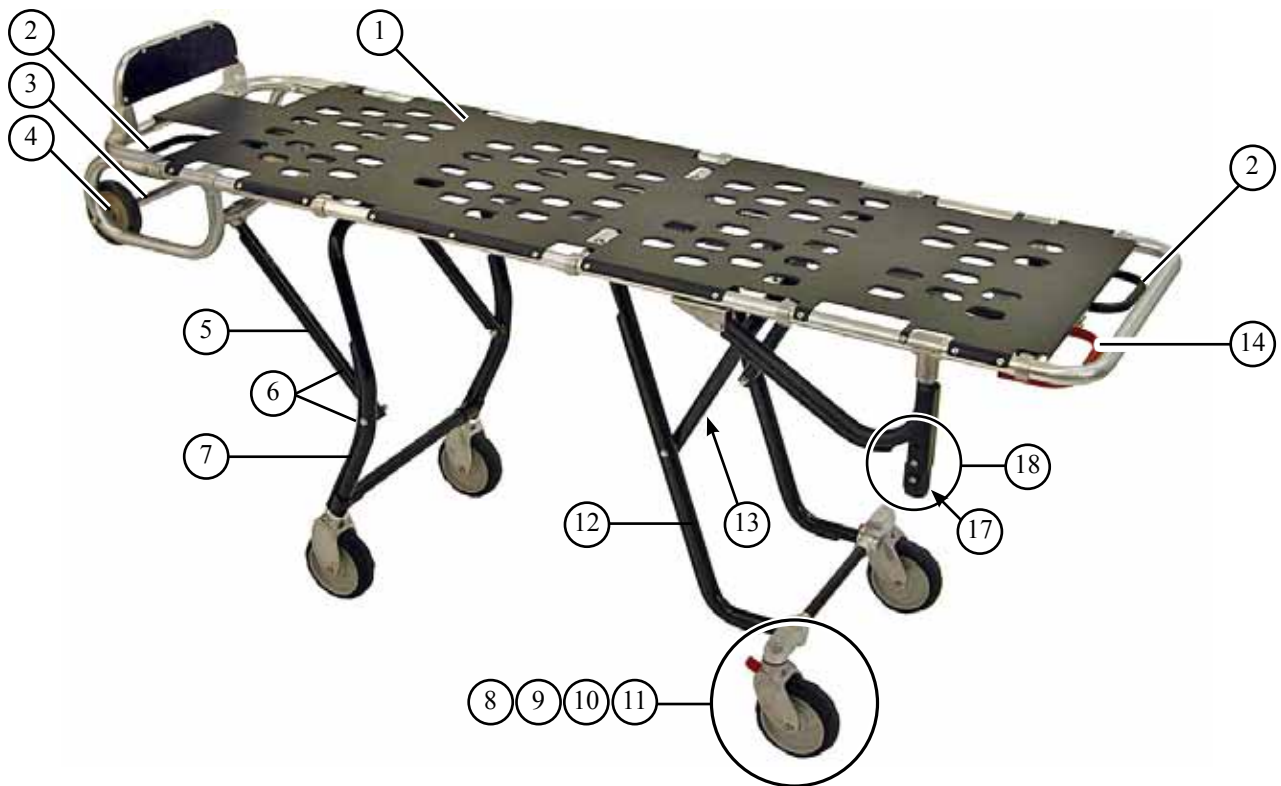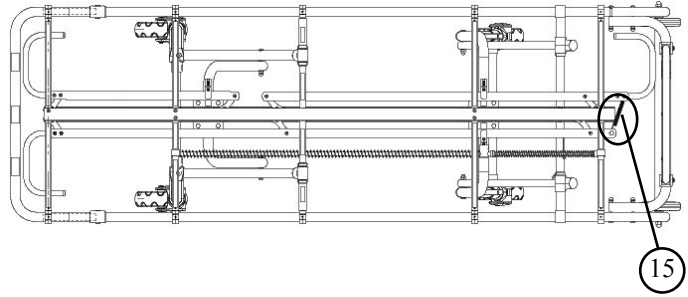
TRAINING RECORD

Date	Name	Training Method

MAINTENANCE RECORD

Date	Maintenance Performed	By