



Model F3_s Trolley & Stretcher



Read this Manual and Retain
for Future Reference 

FERNO[®]

Instructions for Use

March 2024
Pub. No. 50-8330-004

Ferno Customer Relations

For ordering assistance or general information:

CANADA AND THE U.S.A.

Telephone (Toll-free)	1.877.733.0911
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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 and local protocol. Training on the proper use of this product must 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.

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Adverse Event Notice





In the event of an adverse event or serious incident related to the use of this device, the end user/operator must report the incident to Ferno-Washington, Inc. at 70 Weil Way, Wilmington, Ohio 45177 USA, 1-877-733-0911, or via email at tscordinator@ferno.com. If the incident occurred in the European Union, report it to Ferno's Authorized EU Representative and the competent authority of the Member State in which the end user is established.



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



FERNO Product Name/Model


	Date of Manufacture		(01) Global Trade Item Number
	Serial Number		(11) Date of Manufacture
	Ferno Slovakia, Bošáca 893, 91307 - Slovakia		(21) Serial Number

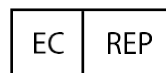
Manufacturer GS1 Data Matrix

Unique Device Identification (UDI)

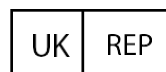
Ferno complies with the United States Food and Drug Administration's (FDA) Unique Device Identification (UDI) regulation to identify medical devices. The UDI label contains information in human- and machine-readable form. Device information is online at the FDA's Global Unique Device Identification Database (GUDID). The public can search and download information at AccessGUDID at www.fda.gov.

The label is located on the backrest.

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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 helpers can cause injury or be injured. Trained operators must operate the controls and direct helpers where to grasp the cot to avoid pinch points.

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

Improper use of control handles, or using both control handles at the same time, can cause the cot to descend and cause injury to the patient and/or operators. Use control handles only one at a time, and only as described in this manual.

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 be injured. Use patient restraints to secure the patient on the cot.

Sheets or other objects can interfere with, or become entangled in, the height-adjustment locking mechanism. This can cause injury and/or malfunction, including unexpected cot lowering. Do not tuck sheets or place other objects where they can interfere with, or become entangled in, the locking mechanism.

Pushing the cot by the backrest can cause it to tip and injure the patient and/or operators. Roll the cot only by grasping the main frame.

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 Notice

Notices emphasize important, but not hazard-related information. Failure to follow Notices could result in product or property damage.

NOTICE

1.3 Bloodborne Disease Notice

To reduce the risk of exposure to blood or other potentially infectious materials when using the cot, follow the disinfecting and cleaning instructions in this manual.

1.4 Compliance

- EN 1789:2020 Medical Vehicles and Their Equipment -Road Ambulances
- EN 1865-1:2010+A1:2015 Patient Handling Equipment Used in Road Ambulances
- **Medical Device Directive:** Ferno products meet the requirements of Medical Device Regulation (EU) 2017/745
- **10g Certification:** The F3 Monobloc Cot, Trolley & Stretcher, when used with a Ferno® F1 (3-Point) Fastening System, meets European Harmonized Standards.













- The F3 Monobloc, Trolley & Stretcher when used with a Ferno® Antler-SLAM Fastening System, does not meet 10g European Harmonized Standards.

1.5 Symbol Glossary

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

1.6 Safety and Instruction Labels

The safety and instruction label places important information from the users' manual on the cot. Read and follow label instructions. Replace worn or damaged labels immediately.

Symbol	Definition
	General warning of potential injury
	Pinch point. Keep hands clear
	No hands area. Do not remove finger guard
	Read the users' manual
	Two trained operators required
	Lubricate
	Do not lubricate
	Lock
	Unlock
	Load Capacity (Safe Working Load in pounds, kilograms, stone)

2 - OPERATOR FOCUS

2.1 Operator Training

- Operators must read and understand this manual.
- Operators must have training on proper use of the cot.
- Operators must have training on emergency-medical service and emergency patient-handling procedures.
- Operators must have the physical ability to assist the patient.
- Operators must practice with the cot before using it with a patient.
- Operators must keep training records. For a sample training record sheet, see “Training Record” on page 24.



WARNING

Untrained helpers can cause injury or be injured. Trained operators must operate the controls and direct helpers where to grasp the cot to avoid pinch points.

2.2 Operator Height and Strength

During unloading, the control-end operator must lift and hold the weight of the cot, patient and equipment high enough for the wheels to remain off the ground until the legs unfold completely and lock.

Supporting this weight requires greater strength from short operators than from tall operators because short operators must raise their arms higher in relation to their shoulders.

If the ambulance is parked on an uneven surface, the control-end operator (and any trained helpers) may need to lift the cot higher than normal to allow the legs to unfold completely and lock.

Use additional help as needed to lift the weight of the cot, patient and equipment. See “Using Additional Help” on page 7.

2.3 Daily Operator Duties

It is good practice for operators to check equipment at the start of each work shift. To check the cot prior to use, follow the procedures described in this manual:

- Unload the cot from the ambulance.
- Fold the cot to the floor or ground.
- Raise the cot to its locked rolling height.
- Visually inspect the cot for readiness. See “Inspecting the Cot” on page 19.
- Rotate the cot in a circle to verify it rolls easily.
- Load the cot into ambulance and secure it in the fastening system.

2.4 Using Additional Help


Operating the cot requires a minimum of two trained operators. They may need additional trained help when working with heavy loads (patient plus equipment).

- Two trained operators stand at the loading end and control end of the cot, maintain control of the cot, operate the controls, and direct helpers on where to stand and how to grasp the cot.
- Side helpers may need to walk sideways under some circumstances. Follow local protocols.
- Ferno recommends that helpers work in pairs to help maintain cot balance.

Refer to the chart for suggested placement for operators and helpers.

⚠ WARNING

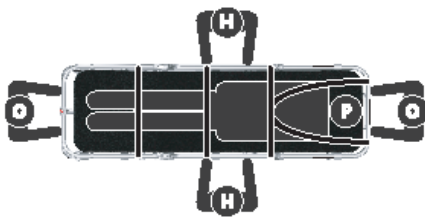
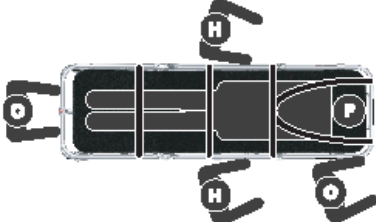
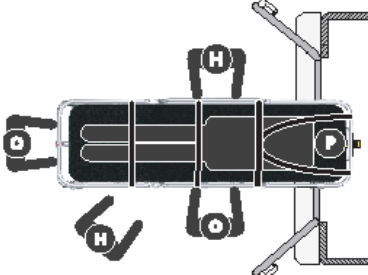
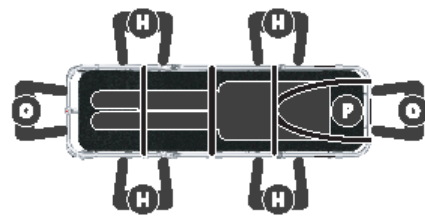
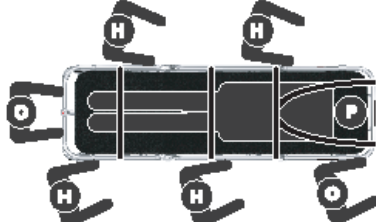
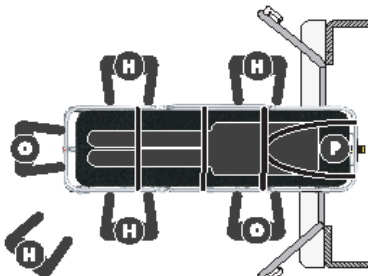
Untrained helpers can cause injury or be injured. Trained operators must operate the controls and direct helpers where to grasp the cot to avoid pinch points.



250 kg
550 lb
39.4 st

Load Capacity

Inspect the cot if the load capacity has been exceeded. See “Inspecting the Cot” on page 19.

Helpers	Changing Levels	Rolling	Loading/Unloading
2 Operators, 2 Helpers			
2 Operators, 4 Helpers			

Key: O = Operator H = Helper P = Patient

3 - ABOUT THE COT

3.1 Description

The Ferno® F3_s Trolley & Stretcher (called the cot in this manual) is an emergency patient-handling device designed to transport a patient in a ground-based ambulance. The cot is for professional use by a minimum of two trained operators. It is designed for roll-in loading to help reduce the risk of back injury to medical service personnel.

A patient mattress and set of restraints are required, but not included (available separately). See “Accessories” on page 23.

The cot is compatible with Ferno® fastening systems (not included):

- Ferno® F1 (3-Point) fastening system (10g system, CE Certified)
- Ferno® Antler-SLAM fastening system

FEATURES

- 7 variable heights (controlled by a fully mechanical system) to facilitate loading, unloading and patient transfer
- 7-Position backrest
- 2-Position shock frame (raised and lowered)
- Infinitely - adjustable gas-assist backrest
- 2 Fold-down sidearms
- 4 Transport wheels 200x50 mm/8x2 in.
 - Two front wheels with swivel lock
- Loading wheel system allows smooth loading into a variety of ambulances with or without loading trays

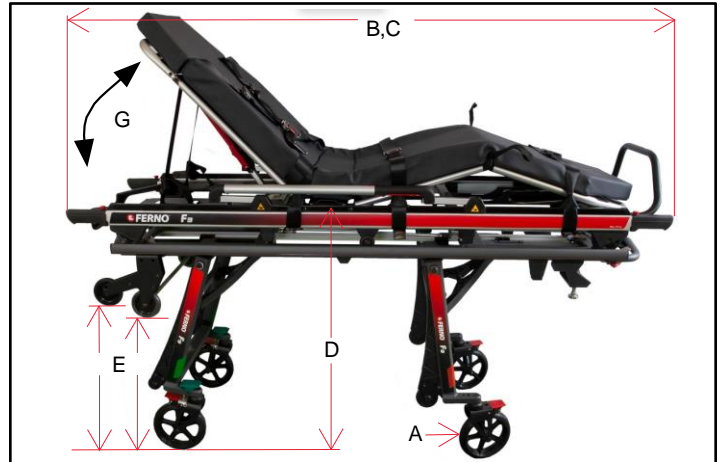
3.2 General Specifications

Specifications are shown in the tables at right. General specifications are rounded. Imperial conversions are calculated before rounding the Metric measurement. Ferno reserves the right to change specifications without notice. For more information, contact Ferno Customer Relations or your Ferno distributor (page 2).

- Loading Height is the distance from the ground to the bottom of loading wheel.
- Bed Position is the distance from the ground to the patient surface, measured at the center of the cot.
- Weight is without mattress, patient restraints and optional features.
- All Ferno® mattresses for emergency medical use are fully-sealed.

⚠ WARNING

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



Dimensions	Imperial	Metric
A) Wheels	8 in x 2 in	200 mm x 50 mm
B) Length Stretcher (Minimum)	77 in	1945 mm
C) Length (Telescoping Handles Extended)	92 in	2350 mm
D) Height Trolley	12 in, 33 in	315 mm, 850 mm
E) Loading Height	27 in	700 mm
F) Width (Overall)	22 in	568 mm
G) Backrest Adjustment	0° - 85°, 7 Locking Positions	

Specifications	Imperial	Metric
Load Capacity	550 lb	250 kg
Load Capacity (UK)	---	39.4 st
Weight Stretcher / Trolley	---	18,3 kg / 32kg
Cot Construction	Tubular aluminum	

3.3 Cot Positions



4- FEATURES

4.1 Control Handles

The control handles unlock the legs and allows them to fold.

The green handle at the operator's right unlocks the loading-end legs. The operator have to use this handle first when loading the cot into a ambulance (Figure 1).

The red handle at the operator's left unlocks the control-end legs. The operator have to use this handle second when loading the cot into a ambulance (Figure 1).

Control handles are used only to unlock and fold the legs. Do not use the control handles when raising the cot to the raised position. See "Changing Positions" on page 16.

Do not use the control handles when unloading the cot from a ambulance. See "Loading the Cot" on page 18.
Control end lever unlocks the control-end legs.

⚠ WARNING

Improper use of control handles, or using both control handles at the same time, can cause the cot to descend and cause injury to the patient and/or operators. Use control handles only one at a time, and only as described in this manual.



4.2 Fold-Down Sidearms

Sidearms provide patient security and comfort. Keep sidearms raised except when transferring a patient onto or off the cot.

To lower, squeeze the release handle to unlock (Figure 2), then fold the sidearm toward the control end of the cot.

To raise, lift the sidearm until it locks.

NOTICE

Do not use the sidearms to lift the cot. Sidearms are not designed for lifting. Lift the cot only by grasping the main frame, or main frame and side lift handles.

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



4.3 Backrest

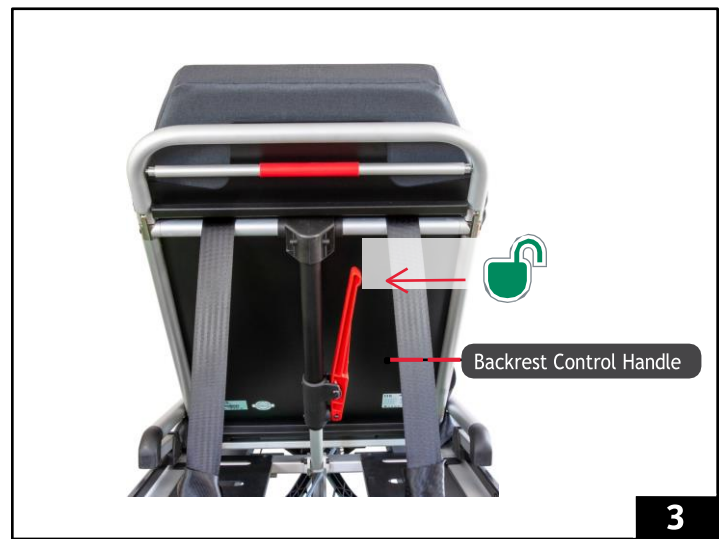
The movable frame of the stretcher under the patient's head allows the head to be locked in the forward position and the head to be locked in the backward position and the flat supine position.

The backrest adjusts between seven locking positions.

Lowest Position: To access the handle when the backrest is in the lowest position, lift the backrest until it locks in the first raised position. Then, follow the instructions below.

To raise or lower the backrest from any position other than the lowest position:

1. Unfasten or loosen the patient restraints.
2. Support the weight on the backrest. Squeeze the backrest control handle to unlock (Figure 3).
3. Raise or lower the backrest to the desired position. Release the backrest control handle.
4. Raise or lower the backrest until it locks into the new position.
5. Fasten and adjust patient restraints.



4.4 Shock Frame

In addition to the flat position, the shock frame adjusts to two raised positions:

- Raised/Modified Trendelenburg shock position (Figure 4) elevates the patient's feet.
- Contour/Fowler's shock position, (Figure 5) to elevate the patient's knees higher than the feet.

Follow your local medical protocols when deciding which position to use. Use a lifting straps to support the shock frame while raising or lowering it. Always work from the control end of the cot. Raising and lowering from the side can expose your hand to pinch points.

RAISED (MODIFIED TRENDELENBURG) SHOCK POSITION

Raising:

1. Unfasten or loosen the leg restraint.
2. Working from the control end of the cot, lift the shock frame with both hands until it locks in the raised position (Figure 4). The support bars engage automatically.
3. Fasten and adjust the leg restraint.

Lowering:

1. Unfasten or loosen the leg restraint.
2. Working from the control end of the cot, support the weight of the shock frame with both hands and lift slightly.
3. With your thumbs, press the shock frame control levers to disengage the support bars, then lower the shock frame.
4. Fasten and adjust the leg restraint(s).

CONTOUR (FOWLER'S) SHOCK POSITION

Raising:

1. Unfasten or loosen the leg restraint(s).
2. Working from the control-end of the cot, grasp the lifting strap with one hand and the foot end of the shock frame with your other hand.
3. Lift the shock frame with the lifting strap while sliding the foot end of the shock frame toward the head end of the cot until it locks in the contour position.
4. Fasten and adjust the restraints.

Lowering:

1. Unfasten or loosen the leg restraint(s).
2. Working from the control-end of the cot, use the lifting strap to lift the shock frame slightly.
3. With your thumb, press the shock frame control lever to disengage the support bars, then lower the shock frame.
4. Fasten and adjust the restraint(s).



STRETCHER BLOCK SYSTEM CONTROL

1. Locate the red button under the footrest and above the leg control handles.
2. In one motion press the red button with one hand while sliding the stretcher in the direction of the operator (the stretcher will be disengaged from the base and can be removed).



4.5 Compatible Fastening Systems

CE CERTIFIED

10g Certification: The F2 Monobloc Cot, when used with a Ferno® F1 (3-Point) Fastening System (Figure 6), meets European Harmonized Standards. To use the cot with the fastening system, see “Loading the Cot” and “Unloading the Cot” on page 18.

During loading, guide the cot fastening post into the guide and continue rolling the cot into the ambulance until the cot is captured by the lock box.

To disengage the lock box lock, one operator push the release lever. Both operators work together to roll the cot out of the fastening system. Follow the instructions in “Unloading the Cot” on page 18.

NON-CE CERTIFIED

The F2 Monobloc cot, when used with a Ferno® Antler-SLAM Fastening System, does not meet 10g European Harmonized Standards.



4.6 Telescoping Handles

The optional telescoping handles extend to aide the operator to lift and carry the cot. The handles lock in four positions (Figure 7):

To use the telescoping handles:

Press the button on the end of the handle and push or pull the handle to the desired position. Release the button and pull or push the handle until it locks. Use the telescoping handles only when they are in a locked position.



4.7 IV Pole (Optional)

The IV pole accessory mounts to a mounting point. The mounting point is attached to the corner of the cot (Figure 8).

ATTACHING AN IV POLE

1. Remove the IV pole from the storage clips at the patient-left side of the cot (Figure 9).
2. Set the IV pole in the mounting point (Figure 8).

ADJUSTING AN IV POLE

1. Rotate the adjustment to the left (counter-clockwise) to loosen.
2. Raise or lower the pole to the desired height.
3. Rotate the adjustment knob to the right (clockwise) to tighten.

REMOVING AN IV POLE

1. Adjust the IV pole to its minimum height and tighten the adjustment knob.
2. Grasp the lower portion of the IV pole and lift the pole to remove it from the mounting point.
3. Place the IV pole in the storage clips at the patient-left side of the cot (Figure 9). The IV pole is held in place by friction. Verify the IV pole is held by the clips.

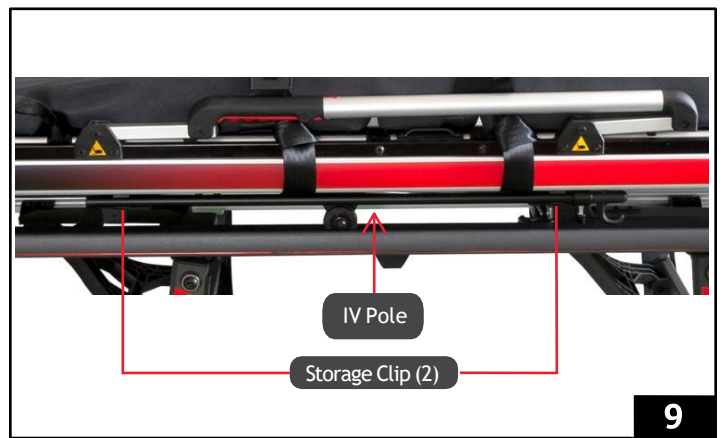


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Tip

Mounting Points

The mounting point may be attached to any corner of the cot. See "Setup" on page 21. To purchase additional mounting points, see "Accessories" on page 23.



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4.8 Footrest

The permanent, built-in footrest (Figure 10) provides stability and support for a patient's feet. The footrest can also be used by the Control-end Operator to pull and steer the cot while rolling it.

The footrest is shipped attached.



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4.9 Wheels

LOADING-END WHEEL LOCKS

Wheel locks help keep the cot stationary during patient transfer and certain medical procedures. When engaged, the wheel lock stops wheel rotation.

Press the lever down to engage; tap the top part of the lever to disengage (Figure 11). Wheel locks are not brakes. Stay with the cot and maintain control of it at all times. Do not leave the cot or patient unattended.

SWIVEL LOCKS

The control-end wheels feature an automatic detent assembly that helps the operators roll the cot in a straight line (Figure 12).

For full 360° swiveling of the control-end wheels, the control-end operator pulls or pushes the cot to one side to overcome the detent.

To return to in-line rolling, the operators roll or push the cot toward the loading end. The wheels will align and the detent will automatically snap into place.

All wheels swivel 360 degrees.



11



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5 - USING THE COT

5.1 Before Placing the Cot in Service

- Before use, personnel who will work with the cot must read and understand this manual. Appropriate skills and training are also required. See “Operator Training” on page 6.
- Confirm that the cot operates properly. See “Inspecting the Cot” on page 19.
- The ambulance must have a Ferno fastening system installed.
- Attach patient restraints **only** to the cot main frame. See the restraint users’ manuals.
- **Primary-use restraints are required.** Ferno defines “primary-use” restraints as those capable of securing a patient during transport in a motor vehicle. Ferno recommends a restraint system consisting of one-piece or two metal-buckle restraints such as the Ferno Model 430 series, and a metal-buckle harness restraint such as the Ferno Model 417-1. See “Accessories” on page 23.
- Keep restraint and accessory users’ manuals with this manual for future reference. For additional, free manuals, contact Ferno Customer Service (page 2).

WARNING

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 be injured. Use patient restraints to secure the patient on the cot.

5.2 General Guidelines for Use

- Medical advice is beyond the parameters of this manual.
- It is the users’ responsibility to ensure safe practices for the patient and themselves.
- A **minimum** of two trained operators is required.
- Follow standard emergency patient-handling procedures when operating the cot.
- **Operators work together and maintain control of the cot at all times.**
- Operators **must** communicate with one another and use coordinated movements to operate the cot.
- Operators **must** stay with the patient at all times.
- **Always** use patient restraints to secure the patient on the cot.
- Lift only the weight you can safely handle. Use additional help when working with heavy loads (patient and equipment). See “Using Additional Help” on page 7.
- See the fastening system users’ manual for instructions on using the fastening system. Also see “Fastening System Compatibility” on page 4.

⚠ WARNING

Improper use of control handles, or using both control handles at the same time, can cause the cot to descend and cause injury to the patient and/or operators. Use control handles only one at a time, and only as described in this manual.

NOTICE

Operators should expect and be prepared to control the normal downward movement of the cot which occurs when a control handle is squeezed.

NOTICE

Make sure that the legs are in the desired position, otherwise you will trip with your foot

5.3 Changing Positions

Changing cot positions with a patient on the cot requires a **minimum** of two trained operators who are communicating, working together, and maintaining control of the cot at all times. Use additional help as needed. See “Using Additional Help” on page 7 .

To unfold:

Control handles are used only to unlock and fold the legs. Do not use the control handles when raising the cot to the raised position.

1. **Both Operators:** Stand at opposite ends of the cot. Use the handles and grasp the cot main frame with both hands.
2. **Both Operators:** Working together, lift the cot until both sets of legs lock into the raised desired position (hear an audible “click” from the locking mechanism). To verify both legs have fully extended and locked, raise the cot slightly off the ground.

To fold:

1. **Both Operators:** Stand at opposite ends of the cot. Use an underhand grip and grasp the cot main frame with both hands.
2. **Both Operators:** Lift the cot slightly to ensure you have assumed the load (weight of the cot, patient, and accessories). Communicate as you continue to Step 3.
3. As the **Control Operator** squeezes the control handles in the sequence of (1) loading-end (right hand) and (2) control-end (left hand), **both operators** fold the cot.
4. Both Operators: Release the leg control handles when the cot is near the desired height. Continue lowering until the locking mechanism engages.
5. Both Operators: Do not release your grasp until you are sure the undercarriage is locked at the new position.
6. Both Operators: If the legs have not locked, raise the cot a little higher until you hear an audible “click” from the locking mechanism, then retest.



5.4 Transferring the Patient Onto the Cot

To transfer a patient onto the cot:

1. Roll the cot to the patient. Fold the cot if desired. See “Changing Positions” on page 16.
2. Lower the sidearms and engage the wheel locks.
3. Unfasten the patient restraints. Arrange the straps so they will not interfere with transferring the patient onto the cot.
4. Transfer the patient onto the cot using approved emergency medical procedures and following your local protocols.
5. Raise the sidearms.
6. Adjust the shock frame and/or backrest as needed.
7. Fasten and adjust the patient restraints.
8. Disengage the wheel locks.
9. Before moving the cot or changing its position, make sure sheets and other articles will not interfere with cot operation.

WARNING

Sheets or other objects can interfere with, or become entangled in, the height-adjustment locking mechanism. This can cause injury and/or malfunction, including unexpected cot lowering. Do not tuck sheets or place other objects where they can interfere with, or become entangled in, the locking mechanism.

5.5 Rolling the Cot

GENERAL GUIDELINES

- Rolling the cot with a patient on the cot requires a **minimum** of two trained operators who are communicating, working together, and maintaining control of the cot at all times.
- 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.
- 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 additional help as needed to safely control the weight of the patient and cot. See “Using Additional Help” on page 7.
- When rolling over rough terrain, the operators (and helpers) should grasp the cot with both hands.

ROLLING THE COT

1. Securely fasten the patient restraints around the patient.
2. **Both Operators:** Raise the cot to the raised position.
3. **Both Operators:** Position yourselves at the sides or ends of the cot (Figure 15), grasp the main frame with both hands, and roll the cot. Attend to and communicate with the patient.

ONE OPERATOR

If permitted by local protocols, one trained operator may roll an empty cot (no patient). Follow the instructions above.

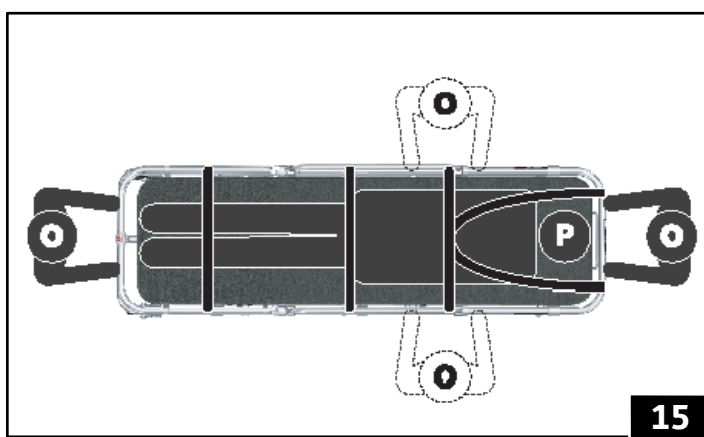
WARNING

Pushing the cot by the backrest can cause it to tip and injure the patient and/or operators. Roll the cot only by grasping the main frame.

NOTICE

Roll the cot downhill control-end first. If it is not medically appropriate to do this, roll the cot loading-end first, but do the following:

To maintain cot balance while rolling the cot downhill loading-end first, the Assisting Operator must exert upward force on the drop frame.



5.6 Loading the Cot

Loading the cot into an ambulance with a patient on it requires a **minimum** of two trained operators who are communicating, working together, and maintaining control of the cot at all times.

1. **Both Operators:** Raise the ambulance folding bumper and/or lower the tray, if present.
2. **Both Operators:** Roll the cot to the ambulance. Align the cot parallel with the ambulance side walls.
3. **Both Operators:** Roll the cot into the ambulance until both loading wheels are on the floor and the loading-end legs contact the ambulance bumper.
4. **Assisting Operator:** Ensure the loading wheels remain inside the ambulance as the cot is rolled into the ambulance.
5. **Control-end Operator:** Use your right hand to squeeze and hold only the #1 control handle to unlock the loading-end legs.
6. **Both Operators:** Together, push the cot into the ambulance keeping it parallel with the ambulance side walls.
7. **Control-end Operator:** When the control-end legs contact the ambulance bumper, use your left hand to squeeze the #2 control handle and continue pushing the cot into the ambulance.
8. **Both Operators:** Secure the cot in a Ferno fastening system.

ONE OPERATOR

If permitted by local protocols, one trained operator may load an empty cot (no patient). Follow the instructions above.

5.7 Unloading the Cot

Unloading the cot from an ambulance with a patient on it requires a **minimum** of two trained operators who are communicating, working together, and maintaining control of the cot at all times.

Control handles are used only to unlock and fold the legs. Do not use the control handles when unloading the cot from a ambulance.

1. **Both Operators:** Raise the ambulance folding bumper and/or lower the tray, if present. Release the cot from the fastening system.
2. **Both Operators:** Roll the cot out of the ambulance while lifting and holding the cot high enough for the control-end legs to unfold completely and lock into the raised position (Figure 16). The control handles are not used.
3. **Loading-end Operator:** Assist the unloading process. Ensure the loading wheels remain inside the ambulance until both legs have locked in place.
4. **Both Operators:** Roll the cot out of the ambulance while lifting and holding the cot high enough for the loading-end legs to unfold completely and lock into the raised position (Figure 17). Verify the legs have locked.
5. **Both Operators:** Roll the cot completely out of and away from the ambulance.

ONE OPERATOR

If permitted by local protocols, one trained operator may load an empty cot (no patient). Follow the instructions above.

WARNING

Improper use of control handles, or using both control handles at the same time, can cause the cot to descend and cause injury to the patient and/or operators. Use control handles only one at a time, and only as described in this manual.

NOTICE

If the ambulance is parked on an uneven surface, the operators may need to extend the legs higher than normal to allow the cot to roll into the ambulance.

6 - MAINTENANCE

6.1 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. For a sample record sheet, see “Maintenance Record” on page 25.

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

6.2 Disinfecting and Cleaning

RESTRAINTS

To disinfect, remove the patient restraints from the cot. Apply disinfectant to all restraint surfaces, following the disinfectant manufacturer’s instructions for application method and contact time. Wipe with a clean cloth. **Do not immerse metal buckles in liquid.**

To clean, remove the restraint from the equipment.

1. Spray the buckle with disinfectant, following the disinfectant manufacturer’s instructions for application method and contact time. Wipe with a clean cloth. Do not immerse in liquid.
2. Webbing:
 - Add a disinfectant cleaner to warm water, following the disinfectant manufacturer’s instructions.
 - Immerse webbing in the solution for the time directed by the disinfectant manufacturer. Do **not** immerse the metal buckle.
 - Repeatedly dip the webbing in clear water to rinse. Do **not** immerse the metal buckle.
3. Hang the restraint to air-dry.
4. Attach only dry restraints to the equipment.

MATTRESS

Remove the mattress from the cot. To disinfect, apply disinfectant to the mattress, following the disinfectant manufacturer’s instructions for application method and contact time.

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.

COT

To disinfect, wipe all surfaces with disinfectant. Follow the disinfectant manufacturer’s instructions for application method and contact time. Ferno recommends you inspect the cot for damage as you disinfect it.

To clean, remove the patient restraints, mattress and any accessories. Hand clean all surfaces of the cot with warm water and a mild detergent. Rinse with warm, clear water. Dry the cot with a towel or allow it to air-dry.

6.3 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 inspection shows damage or excessive wear, remove the cot from service until repair is made.

WARNING

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

Minimum Maintenance	Each Use	As Needed	Monthly
Disinfecting (this page)	●		
Cleaning (this page)		●	
Inspecting (page 19)		●	●
Lubricating (page 20)		●	

NOTICE

Disinfectants and cleaners containing phenolics or iodines can cause damage. Do not use products containing these chemicals. If bleach is used, rinse with plenty of clear water to remove bleach residue.

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

Metal buckles and slide bars can be damaged by immersion in liquids or by washing-machine action. Disinfect and clean only as described in the restraint users’ manual packaged with the restraints.

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.

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 legs lock, unlock, and fold properly?
- Does the cot load and unload properly?
- Does the cot roll smoothly?
- Do the wheels have some tread?
- Are the patient restraints properly installed?
- Is the patient mattress in good condition without rips, tears, or damage?
- Is patient-restraint webbing in good condition with no cuts or frayed edges?
- Are patient-restraint buckles free of visible damage and do they operate properly?
- Is the ambulance properly prepared for the cot with an approved Ferno fastening system installed?
- Do installed accessories operate properly without interfering with cot operation?

6.4 Lubricating the Cot

Disinfect and clean the cot before applying lubricant. Use the lubricants designated below to lubricate the cot. Do not lubricate points marked with the “do not lubricate” symbol.

Use a small amount of lubricant. Lubricate identical points on each side of the cot. After applying, wipe off excess.

NOTICE

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.

LUBRICATION POINTS

- | | | |
|----|---|-------------------|
| 1. | Main leg bolt (both legs, inside/outside, x8) | WRL-191S or E-Z-1 |
| 2. | Leg brace hinges and pivot points (both legs, x6) | WRL-191S or E-Z-1 |
| 3. | Telescoping handles (x4) | WRL-191S or E-Z-1 |
| 4. | Positioning bar | |

LUBRICATION-FREE ITEMS

- | | | |
|---|---|------------------|
| ⊗ | Sidearm bearings (plastic) | Do not lubricate |
| ⊗ | Backrest adjustment assembly (greaseless) | Do not lubricate |
| ⊗ | Loading wheel (greaseless) | Do not lubricate |
| ⊗ | 200 mm/8" wheels (greaseless) | Do not lubricate |



7 - SETUP

7.1 Ambulance Information

The patient compartment should have a level floor large enough for the folded cot and a Ferno® fastening system installed (not included). See “Fastening System Compatibility” on page 4.

7.2 Mattress and Accessories

Before placing the cot in service, assign appropriate personnel to install the mattress (Figure 21), patient restraints, and any accessories shipped with the cot.

Follow the instructions in the restraint users’ manuals to attach restraints.

Keep restraint and accessory users’ manuals with this manual for future reference. For additional, free Ferno product manuals, contact Ferno Customer Service (page 2).

Buckle Orientation

Ferno recommends that you attach all patient restraints with the buckles at the same side for operator convenience and efficiency.

Tip

7.3 Using Patient Restraints

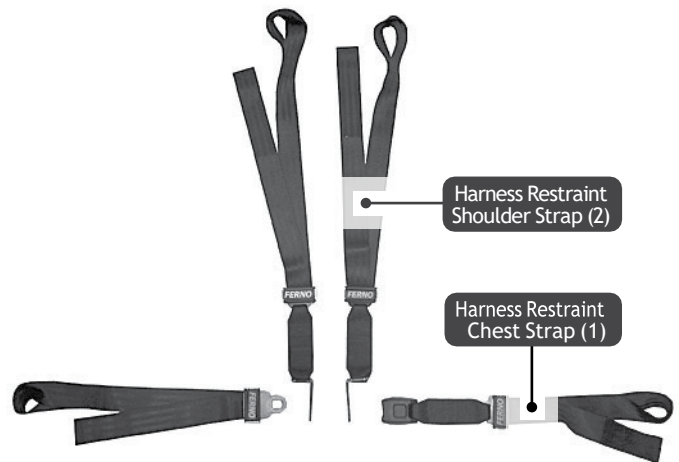
A set of patient restraints is required. Attach the patient restraints only as described in the restraint users’ manuals (supplied with restraints).

- Refer to the restraint users’ manual for attaching, removing, and maintenance information.
- Attach patient restraints only to the cot main frame.
- When attaching restraints, Ferno recommends you place the restraint buckles at the same side for operator convenience in buckling/unbuckling.
- Adjust restraints to safely secure the patient to the cot without causing discomfort or impairing circulation.
- Keep restraints buckled when not in use to prevent interference with cot operation.
- Primary-use restraints are required. Ferno defines “primary-use” restraints as those capable of securing a patient during transport in a motor vehicle. Ferno recommends a restraint system consisting of one-piece or two-piece, metal-buckle restraints such as the Ferno Model 430 series, and one harness restraint such as the Ferno Model 417-1 (Figure 22).
- Keep restraint and accessory users’ manuals with this manual for future reference. For additional, free manuals, see “Ferno Customer Relations” on page 2.



21

Ferno Model 417-1 Harness Restraint



Harness Restraint
Shoulder Strap (2)

Harness Restraint
Chest Strap (1)

Ferno Model 430 Series Restraint - 2pcs



One-Piece Restraint

22

NOTICE

Loose items and debris on the patient compartment floor can interfere with the operation of the cot with the fastening system. Keep the patient compartment floor clear.

Before installing the footrest, clean the threads of the screws and mating threads with acetone or an appropriate cleaner/ primer (not provided).

Allow the threadlocker to cure for one hour before using the cot. Full cure time is 24 hours.

! WARNING

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

Improper installation of accessories can cause injury. Install the footrest and IV pole only as described in this manual.

7.4 Attaching a Harness Restraint

1. Raise the backrest. Unbuckle the restraint and separate the pieces.
2. Orient the shoulder strap so the links will touch one another when buckled, as shown (Figure 26). Wrap the loop end of a shoulder strap around the loading-wheel crosstube and thread the link through the loop (Figure 23).
3. Feed the link, buckle, and webbing through the loop until the loop is snug around the crosstube.
4. Insert the link through the slot in the backrest (Figure 24) and through the slot in the mattress.
5. Repeat Steps 2-4 to attach the second shoulder strap to the crosstube. Adjust the straps so the links will meet the lap buckle.
6. Wrap the loop end of a pelvis strap around the cot main frame (Figure 25).

7. Thread the male buckle/tang or female buckle/receiver through the loop and pull the webbing through the loop until the loop is snug around the main frame.
8. Repeat Steps 6-7 to attach the other strap to the main frame on the opposite side of the cot.
9. Confirm that all straps are attached securely (Figure 26).



7.5 Attaching One-Piece Lap and Leg Restraints

1. Raise the shock frame. Unbuckle the restraints.
2. Feed the restraint tang and/or buckle up through the shock frame panel slot, across the top surface of the panel, and down through the slot on the opposite side.
3. Wrap both ends of the restraint around the cot main frame (Figure 27). Ferno recommends you position the restraint between the shock frame crosstube and control-end mount to prevent interference with the IV pole (optional) or other elements (Figure 28).
4. Repeat Steps 1-3 to attach the second one-piece restraint to the seat panel. Adjust the straps so the links will meet the lap buckle.



7.6 Removing Restraints

Unbuckle the restraints. Unthread the strap from the patient surface and main frame.



8 - ACCESSORIES

When using accessories, be aware of any special considerations such as doorway heights and widths, or other factors which may be affected by the addition of the accessory/accessories to the cot.

Follow all instructions in accessory users' manuals. Keep the instructions with this manual. Contact Ferno Customer Relations (page 2) or your Ferno distributor for information about accessories.

⚠ WARNING

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

Description	Part Number
F2 Locking Device	60-0150-003
Set 4-point restraint + 2x restraint 1pc 180cm	63-4400-001
Patient Mattress, black	65-0358-101, 65-0358-002_90_BLK
Headrest, Instrument Tray	

TRAINING RECORD

Date	Printed Name	Signature	Training Method			Trainer Initials
			Read Manual	Video/ Online	Hands-On	

MAINTENANCE RECORD

Date	Maintenance Performed	By