

# **FERNO<sup>+</sup>MIR**

Major Incident Response

## **Users' Manual**



## **Ferno<sup>®</sup> Tactical Litter**

### Disclaimer

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

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

### Proprietary Notice

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## TABLE OF CONTENTS

| Section                                            | Page        | Section                                   | Page         |
|----------------------------------------------------|-------------|-------------------------------------------|--------------|
| <b>1 - Safety Information</b> .....                | <b>4</b>    | <b>5 - Maintenance</b> .....              | <b>12-13</b> |
| 1.1 Warning .....                                  | 4           | 5.1 Maintenance Schedule .....            | 12           |
| 1.2 Important .....                                | 4           | 5.2 Decontaminating the Litter .....      | 12           |
| 1.3 Bloodborne Disease Notice .....                | 4           | 5.3 Disinfecting & Cleaning               |              |
| <b>2 - Operator Skills and Training</b> .....      | <b>4</b>    | the Litter and Restraints .....           | 12           |
| 2.1 Skills .....                                   | 4           | 5.4 Inspecting the Litter .....           | 13           |
| 2.2 Training .....                                 | 4           | 5.5 Lubricating the Litter .....          | 13           |
| <b>3 - About the Litter</b> .....                  | <b>5-6</b>  | <b>6 - Related Products</b> .....         | <b>13</b>    |
| 3.1 Litter Description .....                       | 5           | <b>7 - Limited Warranty</b> .....         | <b>14</b>    |
| 3.2 General Specifications .....                   | 5           | <b>8 - Ferno Customer Relations</b> ..... | <b>14</b>    |
| 3.3 Litter Components .....                        | 6           | <b>Training Record</b> .....              | <b>15</b>    |
| <b>4 - Using the Litter</b> .....                  | <b>7-11</b> | <b>Maintenance Record</b> .....           | <b>15</b>    |
| 4.1 Before Placing the Litter in Service .....     | 7           |                                           |              |
| 4.2 General Guidelines for Use .....               | 7           |                                           |              |
| 4.3 Unfolding the Litter for Use .....             | 8           |                                           |              |
| 4.4 Folding the Litter for Storage .....           | 9           |                                           |              |
| 4.5 Using the Litter With a Patient .....          | 10          |                                           |              |
| 4.6 Attaching the Litter to an Ambulance Cot ..... | 10          |                                           |              |
| 4.7 Using Additional Help .....                    | 11          |                                           |              |

## ILLUSTRATIONS AND DIAGRAMS

|                                             |   |                                                          |    |
|---------------------------------------------|---|----------------------------------------------------------|----|
| Components .....                            | 6 | Figure 6 - Closing the Litter .....                      | 9  |
| Figure 1 - Unfolding the Litter .....       | 8 | Figure 7 - Rotating the Handles .....                    | 9  |
| Figure 2 - Rotating the Litter Poles .....  | 8 | Figure 8 - Securing the Litter With the Restraints ..... | 9  |
| Figure 3 - Grasping the Handles             |   | Figure 9 - Securing the Patient .....                    | 10 |
| and Opening the Litter .....                | 8 | Using Additional Help .....                              | 11 |
| Figure 4 - Engaging the Spreader Bars ..... | 8 | Maintenance Table .....                                  | 12 |
| Figure 5 - Using Your Foot to               |   | Serial Number Location .....                             | 14 |
| Disengage the Spreader Bars .....           | 9 |                                                          |    |

## 1 - SAFETY INFORMATION

### 1.1 Warning

The following warnings appear in this manual.

#### WARNING

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

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

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

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

Improper attachment to a cot can cause injury. Follow the attachment instructions in the 35-L users' manual. Always check to make sure the litter is securely attached to the cot.

Helpers can cause injury or be injured. Maintain control of the litter and direct all helpers.

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

#### WARNING

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

### 1.2 Important

Boxes like the one below emphasize important information.

#### Important

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

### 1.3 Bloodborne Disease Notice

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

## 2 - OPERATOR SKILLS AND TRAINING

### 2.1 Skills

Operators using the litter need:

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

### 2.2 Training

Trainees need to:

- ☐ follow a training program designed by their training officer.

#### WARNING

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

## 3 - ABOUT THE LITTER

### 3.1 Litter Description

The Ferno® Tactical Litter (referred to as “litter” in this manual) is an emergency patient-handling device designed to transport a patient. The litter is primarily carried by hand, but can also be attached to a Ferno® Model 35-L Litter Carrier for wheeled transport or transport in an ambulance.

The litter is for professional use by two trained operators. Additional helpers may be necessary when transporting heavy patients. Litter features include:

#### OVERALL FEATURES

- Conforms to Military Specification MIL-L-49511B (a specification for materials, load performance, and cleaning)
- Folds lengthwise and crosswise for compact storage
- Powder-coat OD green

#### POLES

- Heavy-duty poles made of 6061 aluminum tubing
- Integrated handles with sanoprene rubber end plug

#### BED

- Polypropylene mesh bed surface
- Bed material is fire-retardant and meets California State Fire Marshal standards
- Bed material is chemical resistant
- Bed material is UV-stabilized to help prevent deterioration from exposure to sunlight

#### RESTRAINTS

- Two polypropylene restraints sewn onto bed surface
- Two polypropylene quick-release restraint buckles

#### HINGE

- Extra-strong aluminum hinge constructed of 2024-T4 aluminum

### ! WARNING

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

### 3.2 General Specifications

|                         |                                    |
|-------------------------|------------------------------------|
| <b>In use</b> .....     | 92" x 23" x 6" (234 x 57 x 14 cm)  |
| <b>Storage</b> .....    | 46.5" x 8" x 7" (118 x 19 x 18 cm) |
| <b>Load Limit</b> ..... | 1,200 lb (544 kg)                  |
| <b>Weight</b> .....     | 17 lb (8 kg)                       |

General specifications are rounded to the nearest whole number. Metric conversions are calculated before rounding the English measurements. For more information, contact Ferno Customer Relations (page 14) or your Ferno distributor.

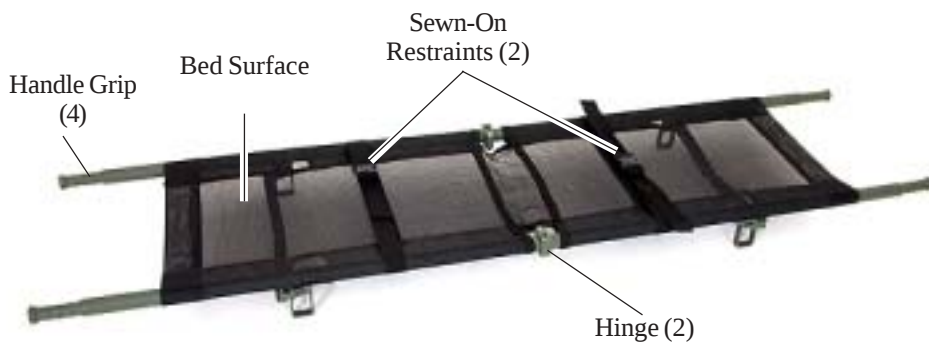
Ferno reserves the right to change specifications without notice.

#### LOAD LIMIT

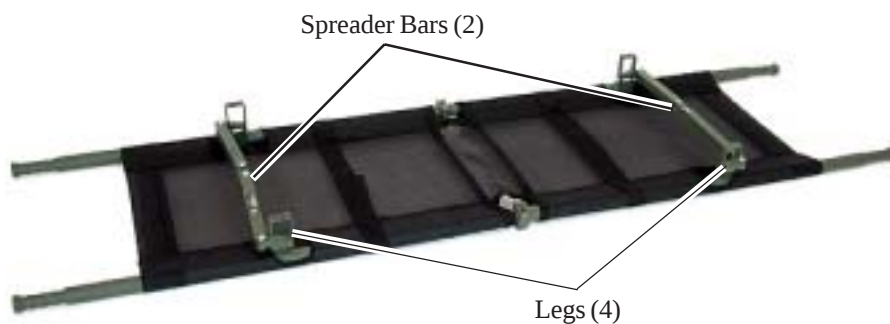


Inspect the litter if the load limit has been exceeded (*See Inspecting the Litter*, page 13).

### 3.3 Litter Components



**Top View**



**Bottom View**



**Storage View**

#### USERS' MANUAL



For additional free Users' Manuals, contact Ferno Customer Relations at 1.800.733.3766, 1.937.382.1451 or [www.ferno.com](http://www.ferno.com)

## 4 - USING THE LITTER

### 4.1 Before Placing the Litter in Service

- q Personnel who will work with the litter need to read this manual.
- q Confirm that the litter operates properly. Follow the instructions in *Inspecting the Litter*, page 13.

### 4.2 General Guidelines for Use

- Using the litter requires a minimum of two trained operators.
- Operators may need help when working with heavy loads. For information about placement and direction of helpers, see *Using Additional Help*, page 11.
- Follow standard emergency patient-handling procedures when operating the litter.
- Stay with the patient at all times.
- Always use patient restraints.

#### **WARNING**

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

#### **WARNING**

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

### 4.3 Unfolding the Litter for Use

To prepare the litter for use:

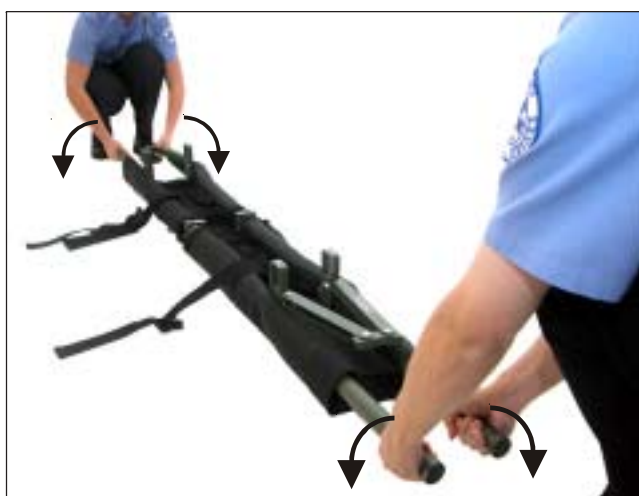
1. Stand the litter upright, with the handles on the floor or ground and with the litter legs facing to the sides.
2. Unbuckle the restraints.
3. Unfold the litter by grasping the pairs of poles and pulling them away from one another (Figure 1).
4. Lay the stretcher with its bottom surface facing up (so the legs are visible).
5. With a partner, rotate the handles outward 90°. This raises the legs and secures the hinges so they cannot be folded (Figure 2).
6. With your partner, grasp the handles and pull the poles apart to open the litter (Figure 3).
7. Use your foot to push each pair of spreader bars toward the center of the litter (Figure 4) until the spreader bars lock in the open position.



**Figure 1 - Unfolding the Litter**



**Figure 3 - Grasping the Handles and Opening the Litter**



**Figure 2 - Rotating the Litter Poles**



**Figure 4 - Engaging the Spreader Bars**

## 4.4 Folding the Litter for Storage

To fold the litter for storage:

1. Lay the stretcher with its bottom surface facing up.
2. Disengage the spreader bars by using your foot to push the spreader bars away from the center of the litter (Figure 5).
3. Pull the poles together to close the litter (Figure 6).



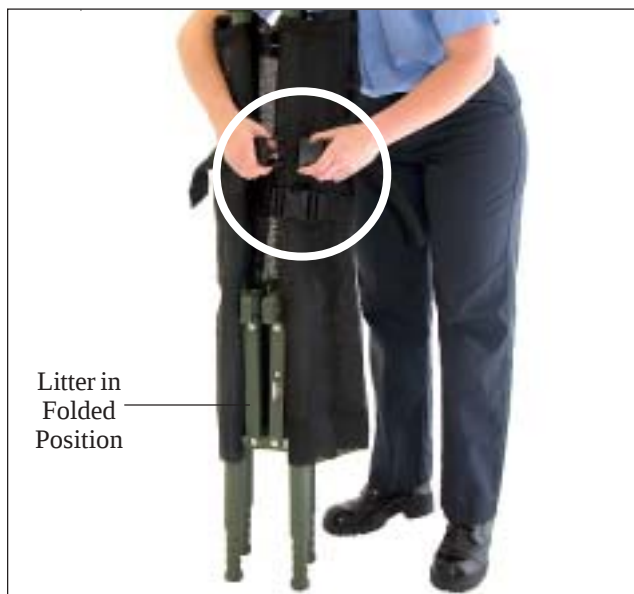
**Figure 5 - Using Your Foot to Disengage the Spreader Bars**



**Figure 7 - Rotating the Handles**



**Figure 6 - Closing the Litter**



**Figure 8 - Securing the Litter With the Restraints**

## 4.5 Using the Litter With a Patient

Open the litter, following the instructions on page 8. Then:

1. Position the litter as close to the patient as possible.
2. Unfasten the two litter restraints and position the restraint straps so they will not interfere with transferring the patient onto the litter.
3. Transfer the patient onto the litter according to approved medical procedures and following your protocols.
4. Fasten and adjust the patient restraints (Figure 9).
5. Use additional help as needed to lift and carry heavy patients (See *Using Additional Help*, page 11). Additional restraints may be desired for some situations or patients. Follow your protocols for using and attaching additional restraints. See *Related Products*, page 13.



**Figure 9 - Securing the Patient**

## 4.6 Attaching the Litter to an Ambulance Cot

The litter can be attached to a Ferno® Model 35-L Litter Carrier. See the Model 35-L users' manual for instructions on attaching the litter to the carrier.

### **! WARNING**

**Improper attachment to a cot can cause injury. Follow the attachment instructions in the 35-L users' manual. Always check to make sure the litter is securely attached to the cot.**

## 4.7 Using Additional Help

Using the litter requires two operators. They may need additional help when working with heavy patients. Operators should maintain control of the litter and direct all helpers. The diagram shows suggested placement for operators and helpers.

### ! WARNING

**Helpers can cause injury or be injured. Maintain control of the litter and direct all helpers.**

### LOAD LIMIT



Inspect the litter if the load limit has been exceeded (See *Inspecting the Litter*, page 13).

| Using Additional Help                                                                                                                                                                           |                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Helpers                                                                                                                                                                                         | Lifting and Carrying |
| Two Operators                                                                                                                                                                                   |                      |
| Two Operators + Two Helpers                                                                                                                                                                     |                      |
| Two Operators + Four Helpers                                                                                                                                                                    |                      |
| <p><b>* Note:</b> When a squad of four or more operators is present, the senior medical person stands at the head end on the patient's right side and issues lifting and carrying commands.</p> |                      |

## 5 - MAINTENANCE

### 5.1 Maintenance Schedule

The litter requires regular maintenance. Set up and follow a maintenance schedule. A form is provided on page 15. The following table represents minimum maintenance.

|                                    | Each Use | As Needed | Each Month |
|------------------------------------|----------|-----------|------------|
| <b>Decontaminating</b> (this page) |          | •         |            |
| <b>Disinfecting</b> (this page)    | •        |           |            |
| <b>Cleaning</b> (this page)        |          | •         |            |
| <b>Inspecting</b> (page 12)        |          | •         | •          |

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

In the U.S.A., contact Ferno Customer Relations to order Ferno disinfectants and cleaners (page 14).

### WARNING

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

### 5.2 Decontaminating the Litter

The litter is suitable for power-washing. When decontaminating the litter, follow the instructions for decontamination equipment and cleaners, and read the manufacturers' material safety data sheets. Contain and dispose of contaminants according to government guidelines.

#### Important

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

### 5.3 Disinfecting and Cleaning the Litter and Restraints

#### DISINFECTING THE LITTER

Wipe all surfaces with disinfectant. Follow disinfectant manufacturer's directions. Ferno recommends inspecting the litter for damage as you disinfect it.

#### CLEANING THE LITTER

Clean all surfaces of the litter with warm water and a mild detergent. Use a stiff-bristled brush (but not a metal bristle brush) to remove stains if necessary. Rinse the litter with warm water. Dry the litter with a towel or allow it to air dry.

#### PLASTIC BUCKLE RESTRAINTS

The plastic buckle restraints are permanently attached to the litter. Clean and disinfect the restraints following the instructions above. If additional restraints are used with the litter, clean and disinfect them according to the restraint manufacturer's instructions.

## 5.4 Inspecting the Litter

Have your equipment maintenance personnel follow the instructions in *Using the Litter*, pages 7-11, and check the following:

- ☐ Are all components present?
- ☐ Are all drive screws and stainless steel rivets securely in place?
- ☐ Do all moving parts operate smoothly and properly?
- ☐ Is the litter free of excessive wear?
- ☐ Is restraint webbing in good condition with no cuts or frayed edges?
- ☐ Are restraint buckles free of visible damage and do they operate properly?

If there are indications of damage or wear, remove the litter from service and replace it. Dispose of worn or damaged litters.

## 5.5 Lubricating the Litter

The litter is constructed of lubrication-free materials and does not require lubrication. Applying lubricant to the litter may allow dirt, sand or other contaminants to gather on litter parts and impair function. Do not lubricate the litter.

# 6 - RELATED PRODUCTS

Ferno MIR offers equipment and supplies for medical, rescue, incident command, disaster, mortuary, Haz-Mat, and Chem/Bio decontamination situations.

Products of special interest to users of the litter are listed at the right. Always follow product instructions. Keep the instructions with this manual.

Contact Ferno Customer Relations or your Ferno distributor (page 14) for product information.

## WARNING

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

| Model #                              | Description            |
|--------------------------------------|------------------------|
| Model 35-L Litter Carrier .....      | Call for availability  |
| 430 Restraint, 1-piece, 7' .....     | 031-2530               |
| 430 Restraint, 1-piece, 9' .....     | 031-2550               |
| 125 KED .....                        | 031-3676               |
| 445 Head immobilizer .....           | 031-3855               |
| 2000 Millennia Backboards, 16" ..... | Multiple color options |
| 2000 Millennia Backboards, 18" ..... | Multiple color options |

## 7 - LIMITED WARRANTY

### Limited Warranty Summary

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

- (A) External finishes (gelcoat, decals, paint, etc.) are warranted for 90 days.
- (B) Soft goods (webbing, vinyl, fabric, foam, etc.) are warranted for 90 days.

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

### Limited Warranty Obligation

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

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

## 8 - FERNO CUSTOMER RELATIONS

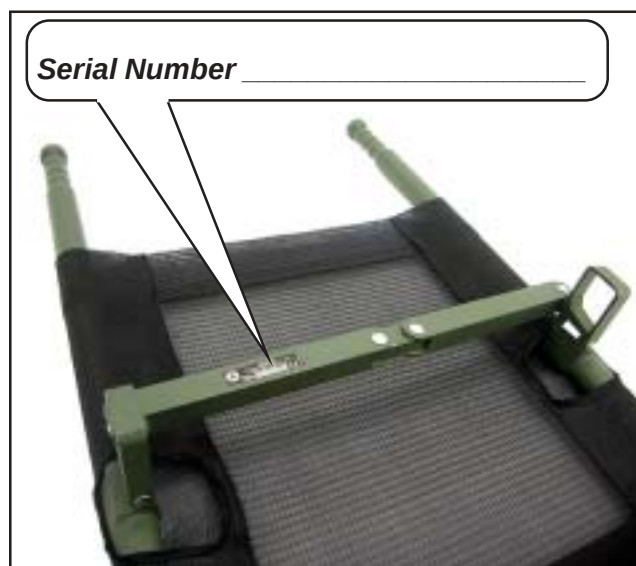
Customer service and product support are important aspects of each Ferno product.

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

Telephone ..... 1.800.733.3766  
 Telephone ..... 1.937.382.1451  
 Fax ..... 1.937.382.1191  
 Internet ..... [www.ferno.com](http://www.ferno.com)

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

Telephone (Worldwide) ..... +1.937.382.1451  
 Fax (Outside U.S.A.) ..... +1.937.382.6569  
 Internet ..... [www.ferno.com](http://www.ferno.com)



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

## TRAINING RECORD

| Date | Name | Training Method |
|------|------|-----------------|
|      |      |                 |
|      |      |                 |
|      |      |                 |
|      |      |                 |
|      |      |                 |
|      |      |                 |
|      |      |                 |
|      |      |                 |
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|      |      |                 |

## MAINTENANCE RECORD

| Date | Maintenance Performed | By |
|------|-----------------------|----|
|      |                       |    |
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