FERNO®
When It's Critical®

Model 417-1 Series
Harness Restraint

Description

The Model 417-1 Harness Restraint ("restraint") is a combination shoulder and chest restraint designed to help secure a patient on an ambulance cot or stretcher (the "equipment") during transport.

Primary-Use Restraint

Ferno defines this restraint as a **Primary-Use Restraint**. When properly attached and used in conjunction with additional restraints (not supplied), it is suitable for use to transport a patient on an ambulance cot in a ground-based ambulance.

FERNO DEFINITIONS

- **Primary-Use Restraints** are suitable for securing a patient on compatible equipment during transport in a motor vehicle.

- **Secondary-Use Restraint**s ARE NOT suitable for securing a patient during transport in a motor vehicle. They are for temporary use to secure a patient on a backboard, hand-carried stretcher, scoop stretcher, stair chair, or extrication device. Transfer the patient onto an ambulance cot or other device with primary restraints before transport in a motor vehicle.

- **Transport Restraint System** is defined by Ferno as a set of Primary-Use restraints used together to properly restrain a patient in an ambulance.
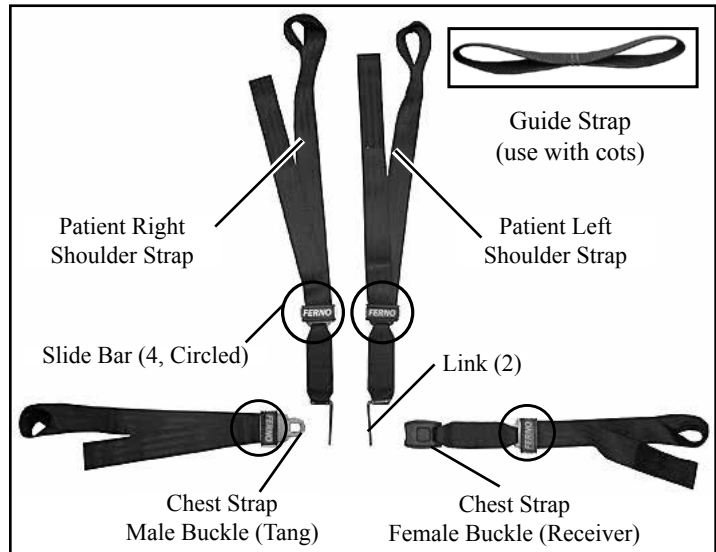
Specifications

The restraint is constructed with nylon webbing and a metal buckle. The shoulder straps have a metal link. All straps have adjustable slide bars. A guide strap is included to help keep the shoulder straps on the patient's shoulders.

Load Limit

When properly attached and used in conjunction with additional restraints (not supplied) as specified in the equipment users' manual, the restraint is capable of securing a patient weighing the maximum allowable load limit of the equipment. Do not exceed the load limit of the equipment.

Important

Do not exceed the load limit of the equipment on which the restraint is used. Refer to the equipment users' manual for the equipment load limit.

Guide Strap (use with cots)

Patient Right Shoulder Strap

Patient Left Shoulder Strap

Slide Bar (4, Circled)

Link (2)

Chest Strap Male Buckle (Tang)

Chest Strap Female Buckle (Receiver)

General Guidelines for Use

- **For transport in an ambulance, Ferno requires a Transport Restraint System composed of the Model 417-1 harness plus two additional Ferno Model 430 primary, metal-buckle restraints.**

- Use the guide strap (provided) to help keep the shoulder straps from sliding off the patient's shoulders. Thread the shoulder straps through the guide strap and position the guide strap near the backrest frame, not over the patient (See page 2).

- For placement on a patient, follow local protocols.

- Adjust restraints to safely secure the patient to the equipment without causing discomfort or impairing circulation.

- Keep restraints fastened when not in use to prevent interference with equipment operation.

- The Model 417-1 is not approved by the United States Federal Aviation Administration for use in aircraft. Please contact Ferno Aviation at 1.770.521.1005 for FAA-approved patient restraints and shoulder harness assemblies.

⚠ WARNING

Improper use of the restraint can cause injury. Attach and use the restraint only as described in this manual.

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

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

Before Using the Restraint

- Personnel who will work with the restraint need to read this manual.
- Confirm that the restraint operates properly (See *Inspection Checklist,* page 4).

Attaching the Restraint

Attach the restraint to the equipment at points that ensure strong anchorage and proper patient restraint. Verify that restraint placement will not interfere with use of the equipment or accessories.
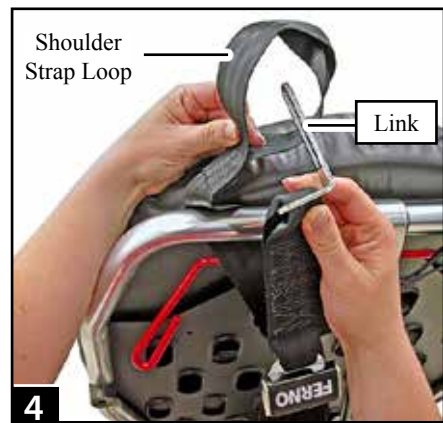
ATTACHING THE CHEST STRAPS

1. Unbuckle the restraint and separate the straps.
2. Wrap the loop end of a chest strap around the equipment main frame. An example attachment point for an ambulance cot is shown in Figure 1. **Do not attach the chest strap to moveable areas of equipment such as a cot drop frame or backrest**.
3. Thread the male buckle/tang or female buckle/receiver (Figure 2) through the loop and pull the webbing through the loop until the loop is snug around the attachment point.
4. Repeat Steps 2 and 3 to attach the other chest strap to the main frame on the opposite side of the equipment.
5. Confirm that the straps are attached securely.

ATTACHING THE SHOULDER STRAPS
AND GUIDE STRAP

- When using the restraint on an ambulance cot, attach the guide strap to both shoulder straps. For other equipment, use the guide strap only if appropriate. Follow local protocols.
- Arrange the shoulder straps so the links will lay against one another when the restraint is buckled (see Figures 6-7 on page 3).
1. If using the guide strap, thread the shoulder strap through one loop of the guide strap.
2. Wrap the loop end of the shoulder strap around the selected attachment point on the equipment (Figure 3). **Do not** wrap the shoulder strap around equipment control handles.
3. Thread the link through the loop (Figure 4) and pull the webbing through the loop until the loop is snug around the attachment point.
4. Repeat Steps 1-3 to attach the other shoulder strap to the opposite side of the equipment.
5. Confirm that the shoulder straps are attached securely and do not interfere with use of the equipment.
6. If the guide strap is used, confirm that it properly holds the straps in position without interfering with equipment operation (Figure 5).

Removing the Restraint

To remove the restraint from the equipment, first unbuckle it. Then, feed the buckle, tang, and link ends backward through the loops and remove the restraint straps from the equipment.
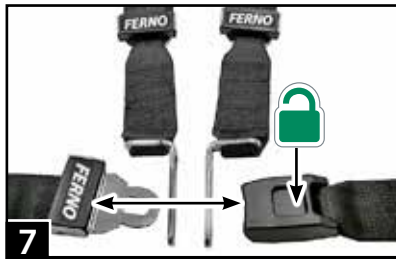

Attachment Point

1

Loop

2

Shoulder Strap Loop

Guide Strap

3

Shoulder Strap Loop

Link

4

5

Buckling/Unbuckling

To buckle the restraint:

1. Lay the shoulder straps over the patient's shoulders. Lay the chest straps across the patient's high diaphragm/ribcage.

2. Evenly adjust the length of each shoulder and chest strap to position the buckle at the patient's breastbone. Adjust the shoulder straps so they are against the patient's shoulders.

3. Insert the male buckle/tang through both shoulder-strap links and into the female buckle/receiver until it locks into place (Figure 6).

4. Always confirm that the buckle is securely fastened.

To unbuckle the restraint: Press the release button in the center of the buckle (Figure 7) and separate the pieces.

Adjusting the Restraint

To lengthen a strap:

1. Unfasten the restraint.

2. Grasp the strap slider bar and turn it perpendicular to the webbing (Figure 8).

3. Pull the slider bar outward, away from the strap attachment point until the strap is the desired length (Figure 8).

4. Adjust the straps to an even length so the buckle will be centered on the patient when fastened.

To shorten a strap: Grasp the hemmed tab and pull the webbing through the slide bar assembly until the strap is the desired length (Figure 9).

Properly-fastened cot-mounted restraints will match Figures 10 and 11.

Hemmed Tab
Slide Bar

Hemmed Tab

> ⚠ **WARNING**
>
> Improper operation can cause injury. Operate the restraint only as described in this manual.

⚠ **WARNING**

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

Important

Metal buckles and slide bars can be damaged by immersion in liquids or by washing-machine action. Disinfect and clean only as described in this manual.

Important

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

Maintenance Schedule

The restraint requires regular maintenance. Set up and follow a maintenance schedule. Conduct maintenance as follows:

- **Inspecting:** Inspect the restraint as needed, following the Inspection Checklist below. At minimum, inspect monthly.
- **Disinfecting:** Disinfect the restraint after each use.
- **Cleaning:** Clean the restraint as needed.

Inspection Checklist

- Are all components present?
- Is restraint webbing in good condition (no cuts/frayed edges)?
- Are restraint buckles and slide bars free of visible damage?
- Do buckles open and close smoothly and properly?
- Can strap length be adjusted smoothly and properly?
- If used on a cot, is the guide strap properly attached and located so it will not interfere with equipment function?

If inspection indicates damage or excessive wear, take the restraint out of service and destroy it.

Disinfecting the Restraint

1. Remove the restraint from the equipment.
2. Spray the metal buckles and slide bars with a disinfectant cleaner, following the disinfectant manufacturer's instructions for application method and contact time. **Do not immerse the buckles or slide bars in liquid.**
3. Hang the restraint to air-dry if needed. Attach only dry restraints to the equipment.

Cleaning the Restraint

1. Immerse the restraint webbing in a solution of mild soap and water. **Do not immerse the buckles or slide bars in the solution.**
2. Repeatedly dip the webbing in clear water to rinse. **Do not immerse buckles or slide bars in liquid.**
3. Hang the restraint to air-dry. Attach only clean, dry restraints to the equipment.

Restraint Versions	
031-3914	417-1 Restraint, Orange
031-3915	417-1 Restraint, Black
031-3945	Guide Strap, Black (only)

Note: *Only restraints shipped with Ferno® cots include the guide strap. For replacement, order a restraint plus a guide strap.*

Ferno Technical Support

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

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, contact your Ferno distributor. If you do not have a Ferno distributor, contact Ferno Customer Relations:

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Limited Warranty Statement

The products sold by Ferno are covered by a limited warranty, which is printed on the invoice you received when you purchased the product. Please refer to the warranty terms as printed on your invoice. 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.