



Paraguard® Excel Stretcher

FERNO/MAN/0523/133-R07/UK
Stock Code 2003-0037



*Read this Manual
and Retain for
Future Reference*

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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.

1.2 Important

Blood borne Disease Notice

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

1.3 Safety Alerts

Safety alerts identify potential hazards to avoid. The following safety alerts appear in this manual:



WARNING

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

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

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

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

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

Non Ferno parts and service can cause injury. Repair can only be carried out by Ferno.

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

Attaching Non Ferno items to the Paraguard® can cause injury. Use only Ferno approved items on the Paraguard®.



WARNING

Do NOT exceed the safe working load of 136 kg

1.4 Precautions for Safety

To ensure safety and satisfaction with your Paraguard® Excel Rescue Stretcher, all users should read these instructions completely, as well as the individual portions of recognised emergency care manuals, which relate to the application and use of rescue equipment.

2 - INTRODUCTION

PREFACE

This manual has been prepared to provide general instructions for proper usage and maintenance of the Paraguard® Excel Rescue Stretcher.

Specific applications and operating techniques may vary from user to user. Ferno does not intend or recommend that this product be used for any purpose other than for which it is designed and outlined in this manual.

Any other use or application of this product becomes the complete responsibility of the owner/user.

Retain this manual for future reference and include it with the Paraguard® Excel Rescue Stretcher in the event of transfer to new owners/users.

2.1 INTRODUCTION

2.1.1 Product Description

Designed for a variety of specialised rescues, the Paraguard® Excel Stretcher is compact, quick to apply and versatile. It is ideal for search and rescue operations in structural building collapse, industrial or confined space rescues. Constructed of quality synthetic material, stainless steel and aluminium alloys, the Paraguard® Excel Stretcher is impervious to oil, water, grease and other petroleum products. It is also resistant to rot and corrosion and is unaffected by long-term storage.

Suitable for vertical or horizontal lifting, the Paraguard® Excel Stretcher may be used for high building or helicopter rescues.

2.1.2 Operator Skills

Minimum recommended skills are as follows:

- The strength, balance, co-ordination and common sense to safely operate the stretcher.
- The ability to select the proper equipment and procedures for the circumstances.
- Operators should have operator certification (or equivalent).
- The ability to understand and follow the procedures described in this manual.

2.1.3 Operator Training

Minimum recommended training is as follows:

- A training plan approved by a medical training officer (or equivalent).
- Read and understand the instructions in this manual.
- Practice using the fully equipped stretcher with weight and under simulated conditions.
- Trainees should be tested to verify their understanding of stretcher operation.
- The Paraguard® Excel Rescue Stretcher, like any other emergency equipment, should be included in the users formal training programme.
- Keep training records. Annual refresher training for all stretcher operatives is recommended.

2.1.4 General Principles

1. When moving casualties, always inform them of what you are going to do.
2. Always follow good lifting procedures as specified in the current manual handling regulations and your appropriate training manual.
3. Medical advice is beyond the parameters of this manual. It is the user's responsibility to ensure safe practices for the patient and themselves.
4. Placement techniques, heavy patients, rough terrain or unusual circumstances may require more rescuers.
5. Always follow instructions and adhere to warnings. - See Page 4

2 - INTRODUCTION

2.2 Warranty

2.2.1 Limited Warranty

Ferno warrants that its products will be free from material or workmanship defects for one year except as follows:

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

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

If a defect was found after the product has been placed in service, DO NOT return it to Ferno. Contact your dealer or Ferno Sales Department for replacement information.

2.2.2 Limitation of Liability

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. In no event is Ferno liable for more than the selling price of the product. The purchaser accepts these terms in lieu of all damages.

Except for the limited warranty above, Ferno makes no other warranties, either expressed or implied. Ferno makes no implied warranties of merchantability and fitness for a particular purpose. In no event will Ferno be liable for any indirect or consequential damages sustained in connection with the delivery, use, or performance of its products.

Any legal action for breach of the limited warranty must be filed within one year of the date the breach of warranty is or should have been discovered.

2.2.3 Return Policy

No Product will be accepted without prior approval by Ferno. Merchandise accepted for repair or replacement will be evaluated against established criteria, including age and condition of the product and expected length of time to repair that product, as well as its ability to meet current industry standards. If repairable, an estimate will be provided to the customer before work begins. A cleaning charge may apply to returned products. Your Ferno Sales Representatives will be happy to assist you.

2.2.4 Customer Service

If you have any questions or need assistance with your Ferno equipment, contact our Sales Department:

Ferno (UK) Ltd	Telephone	+44 (0) 1274 851999
Stubs Beck Lane	Fax	+44 (0) 1274 851111
Cleckheaton	Email	sales@ferno.co.uk
West Yorkshire	Web	www.ferno.co.uk
BD19 4TZ		

Please have the product serial number ready when contacting our Sales Department.

2 - INTRODUCTION

2.4 Technical Specifications

Paraguard® Excel Rescue Stretcher c/w Valise	L x W x C (mm)	Weight	Max Load Capacity
	<u>Folded in Valise:</u> 920 x 270 x 150 mm	Packed in Valise 12.0 kg	136 kg / 21 stone / 300 lbs
	<u>Deployed:</u> 1820 x 250 mm (excluding body flaps)	Paraguard 10.5 kg Slot-in handles (2) 2.5kg Shoulder Harness (2) 1.4 kg Lifting sling 0.8 kg Foul weather sheet 1.5kg	
Four Point Lifting Sling			226 kg / 35.6 stone / 500 lbs

Operating & Storage Temperature/Relative Humidity range: from -15°C to + 40°C 10' to 70' RH

Maximum working lifespan / shelf life - 10 years

** All dimensions are approximate. Load limit is total weight distributed in accordance with basic human anatomy proportions. Users must consider the weight of the casualty, equipment and accessories when determining the total load on the Paraguard® Excel Rescue Stretcher. Ferno reserves the right to change specifications without notice.*

2.5 Product Overview

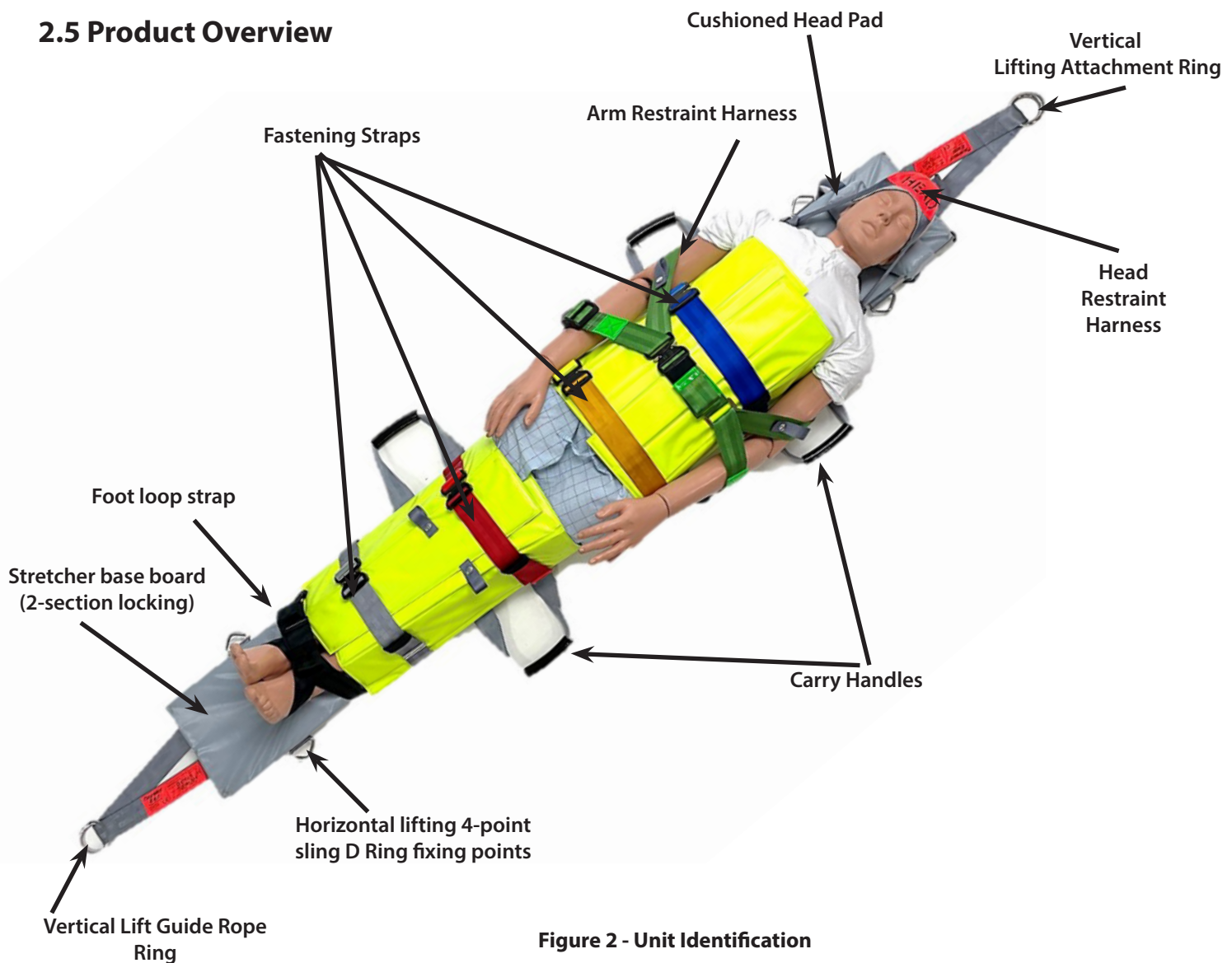


Figure 2 - Unit Identification

2 - INTRODUCTION

2.6 Pre-Requirements

- Operators need the ability to use the Paraguard® Excel Stretcher as instructed in this manual.
- Operators need the ability to assist the casualty.

2.7 Pre-Service Checks

- Refer to Section 4 of this manual to perform a check of the product prior to using.

3 - PRINCIPLES OF OPERATION

3.1 Using the Paraguard® Excel Rescue Stretcher

3.1.1 Further Operator Skills and Training

- Operators need the ability to use the Paraguard® Excel Stretcher as instructed in this manual.
- Operators need the ability to assist the casualty.
- When moving casualties, a training officer or medical advisor needs to approve the training programme.
- Trainees need to read this manual as part of the training programme.
- Trainees need to be tested on Rescue Stretcher operation before they use the Stretcher.
- Operators should practice using the Paraguard® Excel Stretcher before using with a casualty.

3.1.2 Operating Guidelines

- Inform the casualty before moving or lifting the Paraguard® Excel Stretcher.
- Stay with the casualty and control the Stretcher at all times.
- Keep the casualty restrained when using the Stretcher.
- Use help when needed to ensure casualty and emergency/rescue personnel safety.

3.1.3 Using Additional Help

Two trained emergency/rescue personnel are needed to effectively use the Paraguard® Excel Stretcher. When using additional help, emergency/rescue personnel should maintain control of the stretcher while directing helpers.

Keep the load limit of the Stretcher in mind throughout all rescue procedures. Take care when working with very heavy casualties.



WARNING

**Paraguard® Excel Stretcher modification can cause unpredictable operation and injury.
Do not modify the Paraguard® Stretcher for any reason.**

3.2 STORAGE

This Rescue Stretcher should be stored in a well-ventilated place, away from extremes of hot, cold and moisture including high humidity and salt laden atmospheres.

3 - PRINCIPLES OF OPERATION

3.3 Preparing the Stretcher for Use



Figure 3 - Removing the Paraguard® from Valise



Figure 4 - Preparing the Paraguard® for use

1. Remove the Paraguard® Excel Stretcher from the valise and lay the Paraguard® Excel on the ground, poles uppermost.
2. Unbuckle the blue, red, yellow and grey straps, open the body flaps and move the green arm harness strap to the sides.



Figure 5 - Engage locking sleeve

3. Engage locking sleeves by pressing the spring-loaded plunger and sliding the locking sleeve towards the locking pin.
4. Engage the locking sleeve until the locking pin is in view in the slot. Rotate locking sleeve 90° clockwise.
5. Ensure that the spring-loaded plunger re-engages in the locking sleeve hole. This is vital to prevent damage to the locking sleeve and poles and to ensure that the poles cannot separate.



Figure 6 - Releasing Carrying Handle



Figure 7 - Release vertical lifting rings

6. Un-clip the handle retaining straps.
7. If a vertical lift is planned, un-clip the GREY vertical lifting rings at this stage.

NOTE: This operation will be difficult if left until the stretcher has been turned over and the casualty is strapped in.

3 - PRINCIPLES OF OPERATION



Figure 8 - Remove Head Pad



Figure 9 - Adjusting head restraint

8. Remove the cushioned head pad from the pouch. Secure the pad to the head-end of the stretcher by passing the pad underneath the stretcher and attach using the hook and loop fastener (Recommended to do this before turning over the stretcher).

9. Slacken off the GREY head restraining harness.

10. Turn the stretcher over and lay out the Body and Leg Boards and un-clip the BLACK foot-restraining strap. The stretcher is now ready for positioning the casualty.

3.4 Securing the Casualty

1. Using recognised patient handling techniques to move the casualty, position the person on the Paraguard® Excel such that their armpits are just above the cut-outs in the top of the upper body flaps.



Figure 10 - Positioning the head using the harness



Figure 11 - Securing retaining straps

2. Adjust the top strap of the head restraining harness such that the triangular pad is positioned on the casualty's forehead.

3. Secure the casualty's head by tightening the straps on both sides. See Figure 10.

4. Wrap the body flaps around the casualty and secure the casualty's body using the BLUE and YELLOW straps. See Figure 11.

NOTE: The casualty may be wrapped in a Foul Weather Sheet to provide additional protection. See Figure 23.

3 - PRINCIPLES OF OPERATION



Figure 12 - Securing green retaining strap



Figure 13 - Securing grey retaining strap

5. Locate the casualty's arms in the GREEN harness as shown and tighten the strap. See Figure 12.

6. Secure the casualty's legs in the leg-boards using the RED and GREY straps. See Figure 13.

7. Secure the casualty's feet by passing the BLACK strap over the legs, round under the instep and back over the legs as shown below. The casualty is now securely located in the Paraguard® Excel Stretcher, ready for evacuation.



Figure 14 - Securing foot restraint 1



Figure 15 - Securing foot restraint 2



Figure 16 - Securing foot restraint 3



Figure 17 - Securing foot restraint 4



Figure 18 - Securing foot restraint 5

3.5 Carrying a Casualty to Safety

The casualty may be evacuated to safety using the built-in side carrying handles. See Figure 19.



3 - PRINCIPLES OF OPERATION

3.6 Lifting a Casualty to Safety (Vertical and Horizontal)

The casualty may be evacuated horizontally using the 4 fixing point D-rings on the sides of the unit or vertically using the vertical lift O rings at the head-end and foot-end.



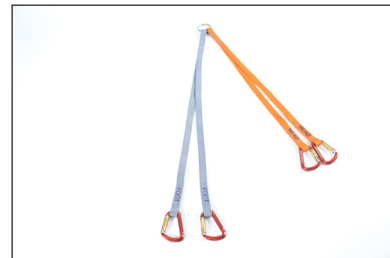
Attachment points for lifting

3.6.1 Using the Four-Point Lifting Sling

1. Open the carabiner by lifting then rotating the sleeve, the gate carabiner will then open.
2. Clip the Carabiners to the D-rings as shown ensuring that the two shorter orange straps marked "HEAD" are at the head-end. See Figure 20.
3. The longer straps are for use at the foot end.
4. Store away the side carrying handles by attaching them to the GREEN arm strap at head-end and to the body flaps at the foot-end using the GREY straps and press-studs.



Figure 20 - Using Four Point Lifting Bridle



3.6.2 Using the Slot-In Carrying Handles

1. These carrying handles are fitted by pushing them onto the main Paraguard® poles at each end. See Figure 21.
2. The carrying handles should be pushed on until the spring-loaded plungers engage.



Figure 21 - Using Slot-In Carrying Handles



WARNING

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

3 - PRINCIPLES OF OPERATION

3.6.3 Using the Shoulder Harness

1. The shoulder harness is fitted as shown and clipped to the carrying handles using the snap hooks provided. See Figure 22.

NOTE: The shoulder harness can only be used in conjunction with the carrying handles. The height of the Paraguard® Excel can be altered by adjusting the length of the straps on the shoulder harness.



Figure 22 - Using Shoulder Harness

3.6.4 Using the Foul Weather Sheet

1. Lay the foul-weather sheet on the ground and open out flat.

2. Position the casualty on the sheet and wrap the casualty inside using the hook and loop fastening enclosures provided.

3. Place the casualty on the Paraguard® Excel Stretcher as shown in Figure 23.



Figure 23 - Using Foul Weather Sheet

3.7 Packing the Paraguard® After Use

Before packing the stretcher away, ensure that all the straps are tidy and ready for use. When folding the stretcher to pack away in the valise, ensure the posts are innermost. The stretcher will then open and fold up; poles uppermost ready to locate in the locking sleeves.

3.8 Backpacking the Valise

Adjust the valise waist and shoulder straps to ensure comfortable backpacking. See Figure 24.



Figure 24 - Valise Backpack

4 - ROUTINE INSPECTION AND MAINTENANCE

4.1 Routine Inspection

The Paraguard® Excel Rescue Stretcher requires regular inspection to maintain the safety and performance of the stretcher. Clean and inspect the stretcher as described in this section.

4.1.1 Cleaning

After use:

The stretcher base cushioned pads are removable to aid cleaning.

Clean using a detergent solution and rinse thoroughly in fresh water. Allow to air dry.

For disinfecting, following the disinfectant manufacturer's instructions for application method and contact time

4.1.2 Inspection

Have a qualified maintenance person follow the schedule below and inspect the stretcher at the recommended intervals.

Every month	If stored in positions exposed to high humidity or salt laden atmospheres.
Every three months	If stored in externally mounted stowage which may permit some ingress of moisture.
Every twelve months	If stored in a well ventilated place away from extremes of hot, cold and moisture.

4.1.3 Paraguard® Inspection

- Check that the plungers located at both the head and foot ends and on the locking sleeves operate freely.
- Do the locking sleeves engage properly?
- Look along the poles from one end for signs of distortion. Also check poles for corrosion.
- Check vertical lifting rings, straps and attachment points for damage.
- Do the restraining straps and carrying handles show any sign of damage?
- Check the D-rings for distortion and corrosion.
- Check the head restraint straps for damage and buckles for operation.
- Do the chest and body boards show any sign of wear and tear?
- Do the chest and body board restraining straps, including the foot strap have any cuts, tears or signs of fraying?
- Check that all buckles engage and disengage.
- Check the cushioned head pad for general damage and ensure the hook and loop fastener still operates.
- Check the stretcher base cushioned pads for wear and tear.

Valise

- Check the zip is not damaged and slides freely.
- Check waist, shoulder straps and carrying handle straps for damage. Do the fasteners operate freely?
- Check base for damage.
- Check the canvas has no tears.

4 - ROUTINE INSPECTION AND MAINTENANCE

Four Point Lifting Sling

- Do the Carabiners open and close freely and does the lock mechanism operate?
- Check the lifting ring for corrosion and all straps for damage

Carrying Handles

- Check for distortion and corrosion. Do the joints fit freely?

Shoulder Harnesses

- Check snap-hooks for corrosion and ensure that the gate snaps shut
- Check webbing for damage

Cushioned Head Pad

- Check for general damage
- Check that the hook and loop fastener still operates

Foul Weather Sheet

- Check general condition
- Check for rips, tears and holes

If the Paraguard® Excel is damaged in any way, take it out of service until it has been repaired or replaced as necessary.



WARNING

Improper maintenance can cause injury and unpredictable operation. Maintain the Paraguard® Excel Rescue Stretcher only as described in this manual.

4 - ROUTINE INSPECTION AND MAINTENANCE

4.2 Repair and Service

A damaged stretcher should be returned immediately to Ferno UK for repair. (See sections 2.2 - 2.2.4).

Contact your dealer or the Ferno UK Sales Department at:

Ferno (UK) Limited

Ferno House
Stubs Beck Lane
Cleckheaton
West Yorkshire
BD19 4TZ

Telephone Main Reception +44 (0) 1274 851999

Sales

Telephone +44 (0) 1274 854510
Email sales@ferno.co.uk

Service

Telephone +44 (0) 1274 854511
Email services@ferno.co.uk

4.3 Limitations on Repairs

- Replacement strap assemblies and repairs to damaged straps should be carried out only once
- Minor damage to the body and leg boards can be repaired using patches. A maximum of six patches are allowed
- Up to six patches are permitted on a stretcher base cushioned pad, after which the pad needs replacing
- Repairs to the valise are limited to renewing the zip, harness buckles and renewing the base plate. A maximum of six patches on the canvas are also allowed
- Damaged or corroded Carabiners on the Four Point Lifting System can be replaced. No further repairs are permissible.
- **Paraguard® has a maximum working lifespan of 10 years**

4.4 Training Record

[illegible]

4.5 Inspection Record

[illegible]

4.6 Maintenance Record

[illegible]

