



# *Users' Manual*

## **SPED**

### Spinal Protection Extrication Device



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Read and retain this Manual for future reference

## 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 electronic copies are available free upon request from Customer Service.

## Proprietary Notice

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## Limited Warranty Statement

The products sold by Ferno are covered by a limited warranty, which is printed on all Ferno invoices. The complete terms and conditions of the limited warranty, and the limitations of liability and disclaimers, are also available upon request by calling Ferno UK on +44 (0) 1274 851999.

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## FERNO TECHNICAL SUPPORT & CUSTOMER SERVICE

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

Service Telephone	+44 (0) 1274 854511
Telephone	+44 (0) 1274 851999
Email	service@ferno.co.uk
Fax	+44 (0) 1274 851111
<a href="http://www.ferno.co.uk">www.ferno.co.uk</a>	

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# 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 SPED.**

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

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

**Modifying the SPED can cause injury and damage. Use the SPED only as manufactured and sold by Ferno.**

**Improper maintenance can cause injury or damage. Maintain the SPED only as described in this manual.**

**Improper parts and service can cause injury. Use only Ferno approved parts and service on the SPED.**

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

**Attaching improper or inappropriate items to the SPED can cause injury. Use only Ferno-approved items on the SPED.**

## 1.2 Important

Boxes like the one below emphasise important information.

**Important**

Rescue procedures using ropes, harnesses, bridles and other Personal Protective Equipment (PPE) require special skills and are potentially hazardous activities. No rescue personnel should attempt such rescue procedures unless he or she has received professional instruction and training.

**Important**

Ensure all straps are fastened and tensioned. DO NOT over tension. Allow for at least one 'flat' hand space between the strap and the patient's body.

## 1.3 Bloodborne Disease Notice

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

## 1.4 Safety Labels

Labels place important information from the Users' Manual on the stretcher. Read and follow label instructions. Replace worn or damaged labels immediately. The product information label is affixed to the middle carry handle and contains important information regarding the unit and date of manufacture.

A sample of the product label is illustrated opposite:



## 2 - OPERATOR SKILLS AND TRAINING

### 2.1 Skills

1. Operators using the SPED 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.
  - Follow local protocols and guidelines as set down by your organisation

### 2.2 Training

Trainees need to:

- Follow a training program designed or approved by their training officer.
- Read this manual. For additional free users' manuals, contact Ferno Customer Service.
- Practice with the stretcher before using it in regular service.
- Be evaluated and tested on their understanding of the stretcher.
- Record their training information. A form is provided on page 11.

### **WARNING**

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

### **Important**

Rescue procedures using ropes, harnesses, bridles and other Personal Protective Equipment require special skills and are potentially hazardous activities. No rescue personnel should attempt such rescue procedures unless he or she has received professional instruction and training.



### **USERS' MANUAL AND TRAINING CD-ROMS**

To request additional free users' manuals or training CD-ROMs, contact Ferno Service Department, your Ferno distributor, or visit [www.ferno.co.uk](http://www.ferno.co.uk).



### 3 - ABOUT THE SPED

#### 3.1 Description

The SPED Spinal Protection Extrication Device (referred to as the SPED throughout this manual) is designed for the immobilisation and extrication of crash victims from closed-top racing vehicles.

#### WARNING

**Untrained Operators can cause injury or be injured. Permit only trained personnel to operate the device.**



**SAFE WORKING LOAD**

#### 3.2 SPED Components

SPED COMPONENTS	
SPED	Vacuum Pump
Introducer Paddle	Carry Bag
Buckle Relocator	Shoulder Straps
Puncture Repair Kit	Head Straps x2

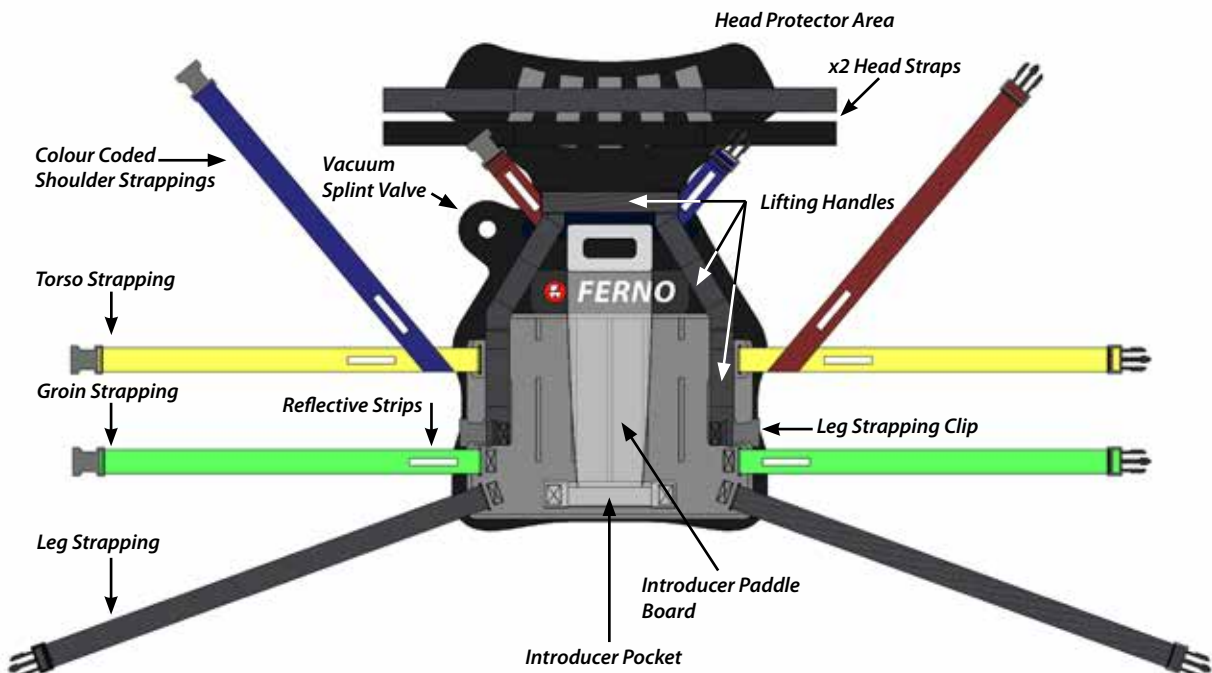
#### 3.3 General Specifications

Part Number	23 005 000 013
Length	1000mm
Width unfolded	670mm
Width folded	650mm
SPED Weight	2.8 kg
<i>Ferno and manufacturers of components reserve the right to change specifications without notice.</i>	

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

#### 3.4 Bag Specifications wit SPED stored

Length	700mm
Width	300mm
Depth	250mm
Weight of kit in Bag	4.7 kg



## 4 - GUIDELINES FOR USE

- Using the SPED requires a minimum of two trained operators. In most Motorsport situations, operators will want or need additional help.
- Follow standard emergency patient-handling procedures when using the device.
- Stay with the patient at all times. Always use the patient restraints provided, as well as a supplementary restraining system as per your training and team protocols, applicable to the situation.
- Personnel using the SPED in high-angle environments are responsible for learning the proper techniques involved, and for selecting the equipment and procedures best suited to the rescue situation.
- The device should be stored in a cool, dry place out of direct sunlight or damp conditions.

## 5 - OPERATION OF DEVICE

### 5.1 Before placing into service

- Remove SPED from the bag, record serial numbers and other relevant information.
- Thoroughly inspect the SPED and ensure it is damage free.
- Before and after each use, inspect the SPED buckles, materials and vacuum components. If there are any signs of damage, **DO NOT** use the device and remove it from service immediately.

### 5.2 Preparing the SPED for use

1. You need to have a clear entry point into the casualties cockpit.
2. Ensure the casualty is free from the vehicles seat safety harnesses or belt and any other cockpit obstacles including their crash helmet.
3. Leave the SPED strapping system in their pockets until ready to secure the casualty.
4. Position the SPED behind the casualty, GREEN side to the casualties back.
5. This puts the "low friction material" facing the vehicle seat, apply the Introducer to the introducer pocket and push the sped to the base of the casualties spine
6. You are now ready to operate the device.

### 5.3 Securing the Strapping System

1. During the strapping process one extrication team member is required to hold the casualties head firmly above the ears with both hands from behind.
2. Secure the patient to the SPED by firstly fastening the YELLOW Torso Strapping.
3. Then secure the BLUE and RED shoulder straps.
4. Moving down the torso fasten the GREEN groin strapping followed by both SILVER leg straps, these go under each leg up through the groin area across the casualty and attach to the other side from where the straps were deployed.

**REMEMBER THE STRAPPING SYSTEM IS DEPLOYED FROM WITHIN THE DEVICE & REQUIRES A FIRM PULLING ACTION TO FREE THE STRAPS FOR SECURING PURPOSES.**

5. You are now ready to apply the vacuum

### 5.4 Applying the Vacuum to the SPED

1. The application of the vacuum requires two operators
2. The operator in charge of holding the casualties head can now massage the SPED's neck and head area to form a closer contact to the the casualties c-spine area (head and neck).
3. The operator who would have deployed the strapping is now required to insert the vacuum pump nozzle to the vacuum splint valve.
4. Using the vacuum hand pump stiffens the SPED compartments, forming too and immobilising the casualty in seconds
5. Attach the two head straps one to forehead the other to chin using the velcro on the back of the SPED to secure both straps.
6. You are now ready to lift the casualty away from the vehicle



## WARNING

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

## 5.5 Manually lifting a casualty

Refer to local protocols and guidelines regarding manual handling and lifting of persons or objects. The SPED is fitted with five carry handles. There should be a minimum of three people lifting the device but one person on each carry handle (five people) is recommended.

Each operator to grasp a carry handle in palm of hand and in a coordinated action, lift out and carry as required.

**Using additional help:** Operators should maintain control of the device and direct any helpers or assistants.

## 5.6 Vertical/ Horizontal Lifting

High angle and rope-access rescue can involve any combination of ropes, winches, pulleys, litter bridles, belay devices and many other specialised items and devices.

Proper and safe use of these tools requires professional instruction and training. When using high-angle or rope-access equipment with the SPED, ensure the equipment has an adequate load-rating, and that it is at least as great as that of the SPED.

### Important

Rescue procedures using ropes, harnesses, bridles and other Personal Protective Equipment require special skills and are potentially hazardous activities. No rescue personnel should attempt such rescue procedures unless he or she has received professional instruction and training.

## 5.7 Returning the Strapping System after use

One of the most important protocols is once the **SPED** has been used it must be returned to **'Ready to Deploy'** status. The vacuum valve releases to allow air back in **plus** the strapping system must be returned to their pockets, ensuring the device is able to be used correctly the next time it is needed.

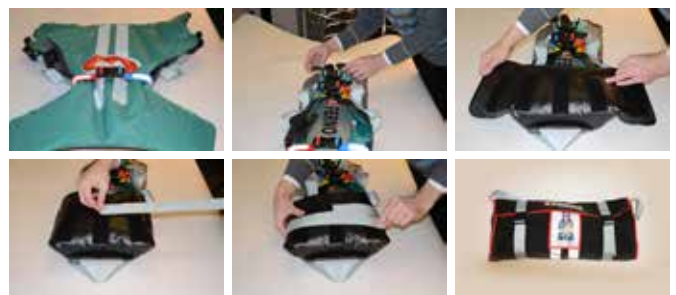
*To stow the straps into their pockets place the SPED on a flat surface with the outer surface upwards.*



*Manipulate the buckle to the end of the strap, Place Strap Introducer on top of strap, Loop the excess with finger and poke strap under where it exits. Push strap in the full length of the Introducer, Repeat with the excess strap length underneath the previously stowed strap, push strap in until buckle is flush. APPLY TO ALL OTHER STRAPPINGS*



*Once you have got the straps back in their pockets, turn to over to the GREEN side up, attach the BLUE and RED buckles, place introducer into the centre then fold the remaining bottom buckles into each other.*



*Then fold the top head area down on itself and using the head straps fold the edges under and apply the straps to secure, then put it in the carry bag. Once you have followed these procedures your SPED is ready to deploy again.*



## 6 - MAINTAINING THE SPED

### 6.1 Maintenance Schedule

The SPED requires regular maintenance. Set up and follow a maintenance schedule. A form is provided on page 11. The schedule below represents minimum maintenance and you should modify your own program based on your needs.

Over and above an inspection prior to and after each use, the SPED must be inspected by a competent person every 6 months and must be recorded in the equipment inspection manual for this device.

	Each Use	As Needed	Each Month
Disinfecting	■		
Cleaning		■	
Inspecting	■		

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

### WARNING

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

### Important

Disinfectants and cleaners containing bleach, phenolics, or iodines can cause damage. Disinfect and clean only with products that do not contain these chemicals.

### 6.2 SPED Longevity

The SPED has a 5 year life span provided the device does not sustain any damage during this period. After 5 years, it is recommended the SPED is removed from service.

### 6.3 Disinfecting and Cleaning

1. Hand wash the SPED in warm water with a mild soap (Ferno recommend Rope & Harness Wash). Once stains are removed, rinse in clear water. DO NOT use excessive force or abrasive items in the cleaning process. Do not use cleaners that contain bleach, phenolics or iodines.
2. Once the SPED is clean, hang to dry in a warm, well ventilated area away from direct sunlight, or air dry near a heat source. Do not tumble dry.
3. Once completely dry, inspect the entire SPED and ensure all components are operational and in good condition.

### 6.4 Inspecting the SPED

After each use, check the stretcher for the following:

- Are all components present?
- Is all strapping in good condition with no cuts or frayed edges?
- Is stitching in good condition with no frayed or broken threads?
- Are the adjustment buckles operational and do they insert and release smoothly?
- Is the material of the SPED intact and not torn or excessively worn?
- Are the lifting attachment points in a good condition and free from any wear, tear or fraying?

If inspection shows damage or excessive wear, remove the stretcher from service and retire it. Do not attempt to repair or replace any materials or components.

## 7 - WARRANTY

### Limited Warranty Summary

Ferno-Washington, Inc. (Ferno), warrants the SPED (Spinal Protection Extrication Device) to be free from defects in material and workmanship for two years except as follows:

(A) 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 Customer Service.***

## 8 - FERNO CUSTOMER SERVICE

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

For assistance with the SPED please contact your Ferno distributor, or Ferno Customer Service as listed below:

Service Telephone	+44 (0) 1274 854511
Telephone	+44 (0) 1274 851999
Email	service@ferno.co.uk
Fax	+44 (0) 1274 851111
Online	www.ferno.co.uk

## TRAINING RECORD

Date	Name	Training Method

## MAINTENANCE RECORD

Date	Maintenance Performed	By



## Overview

**Ferno SPED** - Spinal Protection and Extrication Device, designed for immobilisation and extrication of crash victims from closed-top racing vehicles.

- **Low friction material** - quick and easy introduction of SPED into position
- **Special introducer paddle** – aids in the quick & easy positioning of the device
- **Cobra stripes** – visible confirmation ensuring centralisation of patient in SPED prior to deployment
- **Vacuum hand pump** – simple stiffening of vacuum compartments once positioned
- **Integrated colour coded strapping system** – instant visual verification, no loose straps
- **Vacuum splint technology** – immobilises victim within seconds
- **Built-in spinal stiffening ribs** – giving maximum support during immobilisation and extrication
- **Integrated head-immobiliser** – further protection of victim during transfer
- **Scan compliant** – patient is immobilised from crash scene right through to triage
- **Multiple lifting points** - seven lifting handles for ease of lifting manoeuvrability

**FERNO**<sup>®</sup>  
Inspired Safety Innovation

### Contact

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