



**HARKEN**<sup>®</sup>  
C A N V A S

**2234 BOSUN'S CHAIR**  
**Adult Size Standard – Not For Use by Children**  
**User Instruction Manual**



**WARNING!** This product is NOT to be used for fall arrest purposes. Use of the bosun's chair for fall arrest could fail to sufficiently restrain a falling person, possibly resulting in serious injury or death.



**WARNING!** This instruction manual must be provided to the user of this equipment. The user must read and understand these instructions before using this equipment. Failure to read and follow these instructions could lead to a fall, possibly resulting in serious injury or death.



**WARNING!** The manufacturer's instructions must be followed for proper use and maintenance of this equipment. Alterations or misuse of this equipment or failure to follow these instructions could lead to a fall, possibly resulting in serious injury or death.



**WARNING!** Children do not fit this chair and can easily slip out, possibly resulting in serious injury or death.

**I M P O R T A N T**

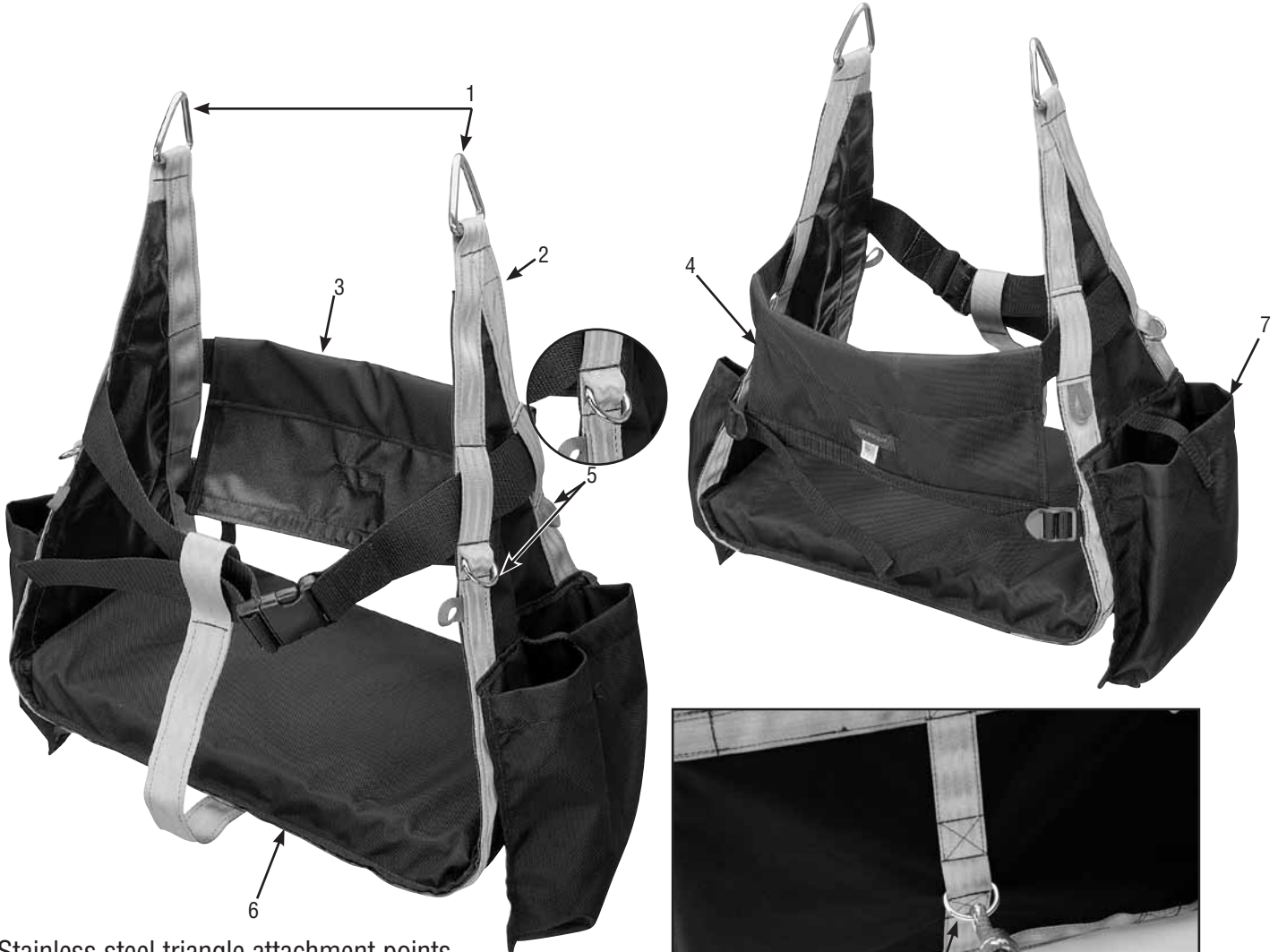
If you have questions on the use, care or suitability of this equipment for your application, contact Harken Inc.

## GENERAL

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## Parts



1. Stainless steel triangle attachment points
2. High strength 'seat belt' webbing
3. Ballistic nylon fabric throughout
4. Adjustable back support
5. D-rings and webbing loops for the attachment of tools or parts
6. Extra-wide padded seat
7. Wide-mouth pockets on each side
8. Downhaul attachment on bottom of chair

This chair is designed to be used as a work positioning system to ensure comfortable seating while suspended. It must be used in conjunction with a separate full-body harness. The bosun's chair and harness must each have its own separate suspension system led and secured as instructed below. This chair is only to be used for work purposes. Do not use this chair for sport.



**WARNING:** This product is NOT to be used for fall arrest purposes. Use of bosun's chair for fall arrest could fail to sufficiently restrain a falling person, possibly resulting in serious injury or death.

### Limitations

**Capacity:** This system is designed for use by one person with a combined weight (clothing, tools, etc.) of no more than 100 kg (220 lbs).

**No Free Fall:** A separate full-body harness restraint system must be rigged so that no vertical free fall is possible.

**Training:** This equipment must be used by persons trained and competent in its correct application and safe use. If you are in doubt about the correct use of the bosun's chair, have a rigging professional do the aloft work.

### Training

It is the responsibility of the purchaser and user of this bosun's chair to assure that they are familiar with the instructions; are trained in the correct care and use of the equipment; and are aware of the operating characteristics, application limits, and consequences of its improper use.

### Inspection

## INSPECT BEFORE EACH USE



**WARNING!** Failure to perform inspection steps each time chair and hoisting equipment are used could lead to a fall, possibly resulting in serious injury or death. Go through inspection check list below each time chair is used.

Inspection should be recorded in inspection and maintenance log.

### Inspection Check List

- Inspect the chair carefully for wear or abrasion to webbing and cut or worn threads. See photo at right and Service section on Page 4.
- Inspect triangle attachment points carefully for signs of wear, fatigue or corrosion. Expose welded area to make sure it is secure.
- Inspect belt and buckle to ensure locking device is secure and unworn and strap is correctly fastened.

See Service section on Page 4.

- Before going aloft, inspect all other equipment that will be used for damage or wear. Inspect all halyards and standing rigging. Do not rely on any equipment that is suspected of being worn, damaged, corroded, needs replacement, or is out of date. If there is any doubt about the condition of standing rigging at masthead do not go aloft. Be especially wary of going aloft on a boat with a furler that has had a halyard wrap around top of stay.



Do not use chair if there are cut or worn threads.



**WARNING!** If wear or damage is detected, do not go aloft.

Service

A competent person must inspect equipment frequently, at least every 12 months, and **ALWAYS BEFORE USE.**

Ensure product markings are still legible.

If wear or damage is detected, return to manufacturer for repair or replacement.

Any attempt to modify or repair equipment by user will void the warranty.

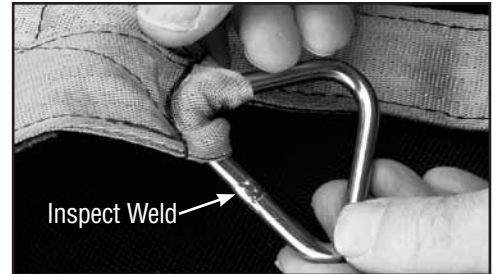
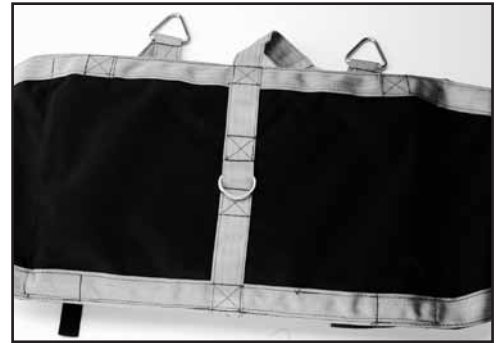


**WARNING!** Modifying, changing or temporarily securing the equipment to “get the job done” could lead to a fall, possibly resulting in serious injury or death.

If chair has been subjected to a severe shock load, it must be removed from service and replaced.



**WARNING!** A chair that has been subjected to a shock load can be severely weakened and subject to further deterioration through normal use. Failure to replace such a chair may result in the chair breaking, leading to a fall, possibly resulting in serious injury or death.



Chair Fit

Before using for first time, perform a comfort and adjustability test in a safe place to ensure chair is correct size, has sufficient adjustment, and has acceptable comfort level for intended use.

Weight should be centered on seat. Crotch strap must be used. Legs must be on either side of crotch strap.



**WARNING!** Failure to use crotch strap can result in user slipping out of chair and falling, possibly resulting in serious injury or death.

Adjust webbing buckles on back support and waist strap to ensure a snug, comfortable fit.

Ensure locking tabs on waist buckle are fully snapped into place.

Ensure steel triangle attachment points are clear of clothing and to front of body.

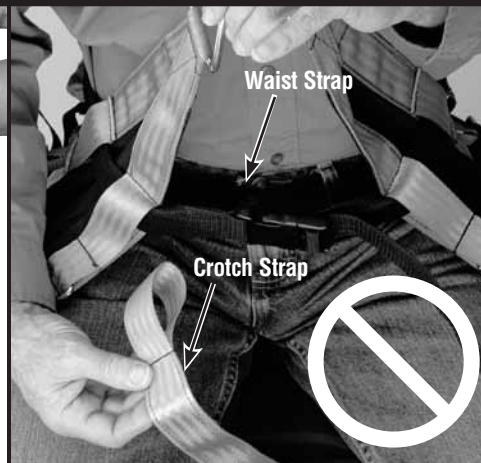


CORRECT



Waist strap inserted through crotch strap.

INCORRECT



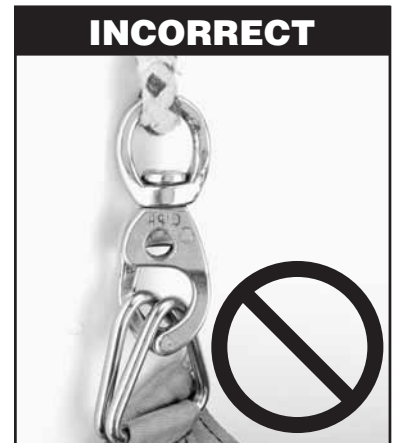
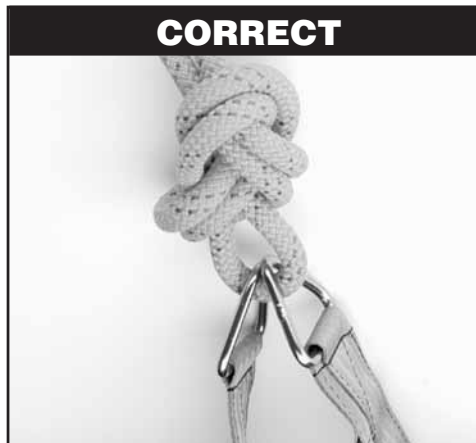
Waist strap strap must be inserted through crotch strap before it is fastened.

Always use two lifting ropes when going aloft, one attached to bosun's chair and one attached to separate full-body harness.

**WARNING!** Both equipment and people can fail to secure a suspended person—using only a single lifting rope greatly increases risk of serious injury or death.

Do not depend on snap shackles; tie each lifting rope or use approved carabiner, hook, or “D” ring for industrial applications. Use both stainless triangles using a secure locking knot. Secure snap shackle out of the way so it does not catch.

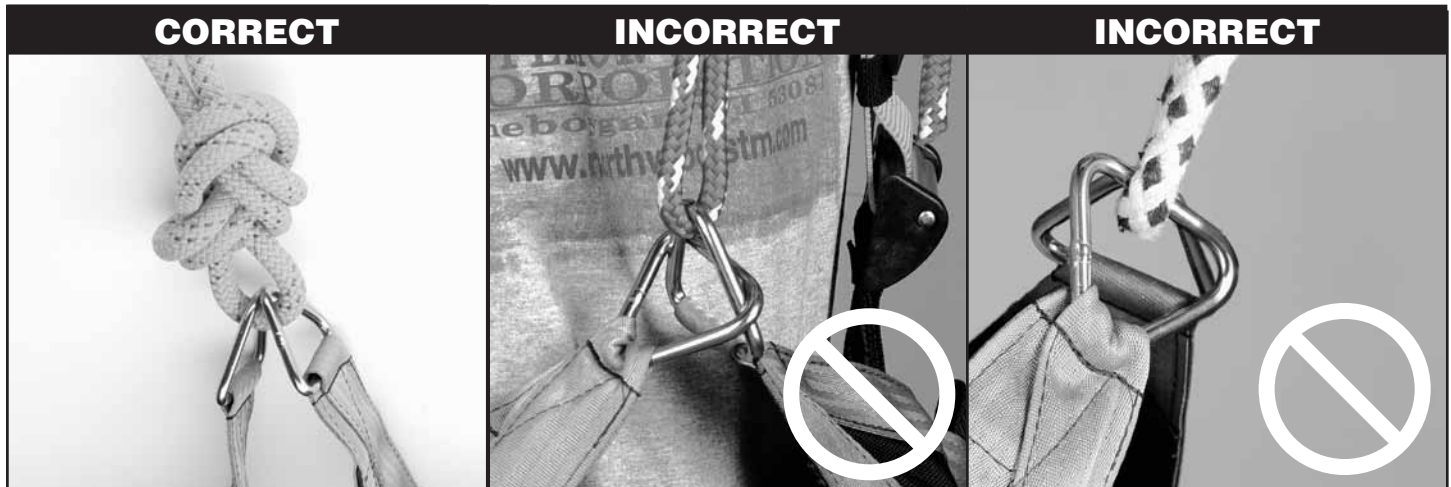
**WARNING!** Snap shackles can open suddenly. Any shackle, even stainless steel versions, are subject to stress corrosion. Shackles may have been stressed in other load applications while sailing. Overloading is not always apparent, especially when using high-load stainless steel such as type 17-4. Stress corrosion in this material is only detectable using dyes or X-ray imaging. Using shackles to secure to bosun’s chair can result in sudden breakage leading to a fall, possibly resulting in serious injury or death.




*Do not depend on snap shackles; tie each lifting rope using knot shown on pages 8-9 or use approved carabiner, hook, or “D” ring for industrial applications.*

*Snap shackles can open suddenly. Also any shackle is subject to stress corrosion and may fail suddenly.*


Always secure halyard or other attachment system to **BOTH** triangles. Make sure steel triangles are seated flat in webbing



**Do not tie halyard to D rings or small webbing loops on side of chair. These are for suspending tools only.**

 **DANGER!** Supporting person on D-rings or webbing loops on side of chair will cause rings or straps to fail, leading to a fall, possibly resulting in serious injury or death.

Ensure halyards or lines are not tangled and do not trail or loop over any sharp edges. If tangle or jam occurs at winch, use secondary halyard to hold person. Additionally, suspended person must secure to mast or other suitable surface.

 **WARNING!** If tangled line frees, halyard can suddenly let go, leading to a fall, possibly resulting in serious injury or death.



**Use**

Do not stand in chair when aloft.

 **WARNING!** Standing or in any way getting out of chair position, described on Page 4 under “Chair Fit” while hoisted, can lead to a fall, possibly resulting in serious injury or death.

Make sure no one is below person working aloft.

Secure tools carefully to prevent dropping them and causing damage or injury.

 **WARNING!** Tools and equipment are easily dropped, possibly causing serious injury or death to those below hoisted person.

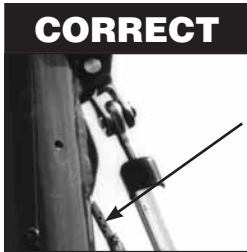


If in doubt about correct use of bosun's chair, contact rigging professional before going aloft. A rigging professional can demonstrate correct use of equipment and help you avoid accidents.

Two suspension systems are required. When used for aloft rigging separate full-body harness must be used along with bosun's chair. Harness and bosun's chair must each have its own halyard led to separate internal halyard sheaves as instructed below. Each halyard must go to separate stopper and winch.

**! WARNING!** Both equipment and people can fail to secure a suspended person—using only a single halyard greatly increases risk of serious injury or death.

Use only halyards with internal mast sheaves.

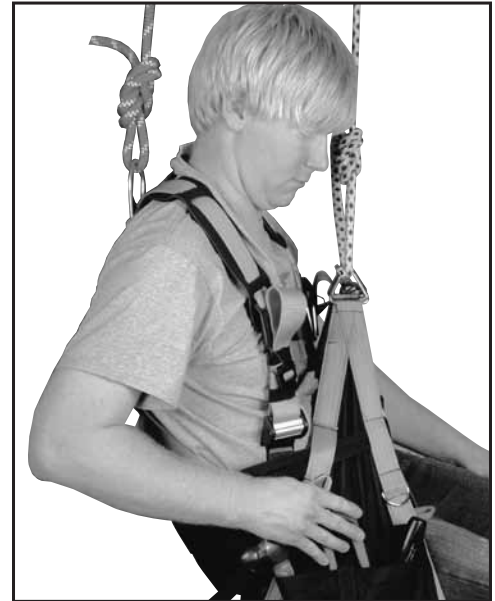


Internal Halyard



External Halyard

**! WARNING!** Do not use externally attached masthead blocks. Critical parts of externally attached masthead blocks can wear, corrode, or crack. Because they cannot be inspected easily, failure can happen suddenly and unexpectedly, leading to a fall, possibly resulting in serious injury or death.



**Inspect**

Inspect condition of all halyards to make sure all parts are in new condition. If necessary use trace lines to run halyards out of mast to inspect. Inspect halyards for wear, fraying, or degradation from sun's UV rays. Replace halyards showing any of these signs before going aloft. Use only halyards that are in new condition. If there is any doubt about condition of halyard do not use.

**! WARNING!** Halyards that are frayed, worn or degraded from UV damage can part suddenly, leading to a fall, possibly resulting in serious injury or death.

Inspect all stays and standing rigging for any signs of wear, fatigue or damage. If boat is equipped with furler, know history of stay inside furler. If there has been a halyard wrap, do not rely on stay to hold mast. It may be weakened and not visible under foil.

**! WARNING!** If working on mast with furler do not go aloft if there has been a halyard wrap that was forced by furling line. If halyard wrap is forced it will twist, and may damage and weaken halyard, stay, terminals and/or connections. Weight of being aloft can cause stay or connecting fittings to break, causing mast to collapse, leading to a fall, possibly resulting in serious injury or death.

Do not drill through mast while being suspended on halyard. Drill entering mast can make contact with halyard and weaken it.



**! WARNING!** Drilling through mast can weaken internal halyards causing them to break, leading to a fall, possibly resulting in serious injury or death.

When using halyards to hoist person aloft, ensure they are securely held and locked off. Always keep halyard wrapped securely on winch. Halyard must be wrapped three or more times around winch and line secured in self-tailing jaws. Stoppers must be closed when hoisting person aloft and when they hold someone in place for working.

**! WARNING!** Do not rely solely on stoppers for holding person aloft. Stoppers or clutches may slip suddenly, leading to a fall, possibly resulting in serious injury or death.

When lowering person, keep at least three halyard wraps on primary and backup winch. Two people must work together, one in charge of lowering using one winch, the other with line securely wrapped on backup winch. To prevent line jams and overrides, carefully align wraps on winch so that one does not overlap another. If jam occurs, close stoppers. Use backup winch halyard to take up tension and free override or line jam. Have aloft worker temporarily secure themself to mast. If lowering to new hoisted working position, carefully close stoppers.

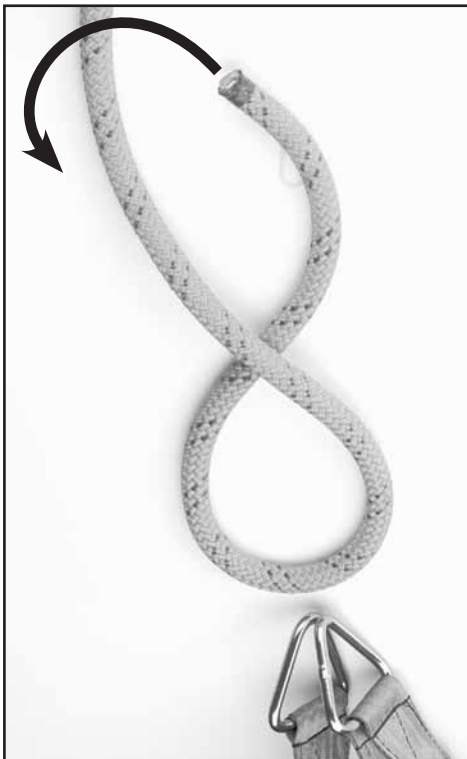
Always use two halyards when going aloft; one attached to bosun's chair, and one attached to separate full-body harness. Tie each halyard using method shown below.

**! WARNING!** Attempting to free jams on winch drum without stopper or second halyard can result in jam suddenly freeing, leading to a fall, possibly resulting in serious injury or death.

**! WARNING!** If you have any question about how to tie halyards to chair/full body harness using following instructions do not go aloft. Knot failure can lead to a fall, possibly resulting in serious injury or death.

**SAILING**

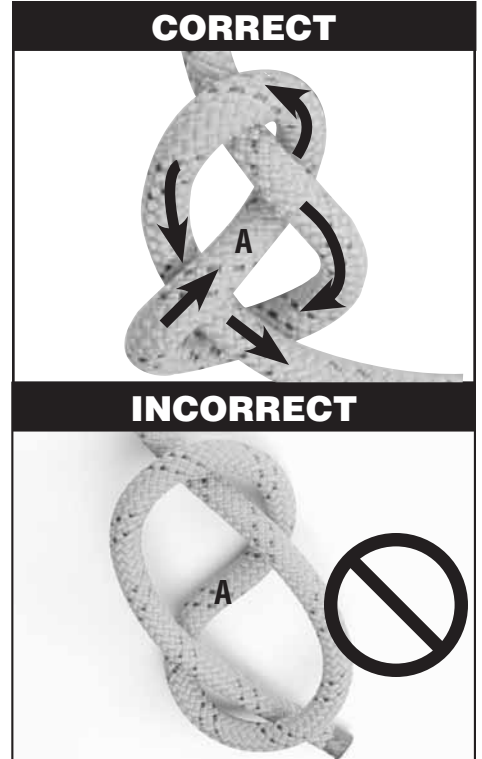
**Tying to Bosun's Chair**



*Loop rope underneath and over top of itself.*



*Come up from underneath "A" to make a figure 8.*



*Do not run line over "A".*



*Make sure you have a figure 8 exactly as shown above. Have a long tail as shown*



*Go through both triangles and trace line following figure 8.*



*Continue tracing figure 8.*



*Tightly cinch all four strands of rope exiting the knot.*



When bosun's chair is used in conjunction with fall arrest system it must be certified by the country where the product will be used.

Bosun's chair is only a working platform. It must be attached to a secondary support system which meets the industrial safety standards of the country where the product will be used.

Fall arrest system must consist of a full-body harness worn as the main body-holding device. It must be connected to a shock-absorbing lanyard and approved anchor device.

Connectors (hooks, carabiners, and D-rings) must be capable of supporting loads specified by the industrial standards of the country where the product will be used.

## Standards

This equipment has been tested to European standard — EN813:2008.

## Use

If using other anchor devices or anchor points, ensure they are certified to EN795 standards, and are positioned as closely as possible to directly overhead.

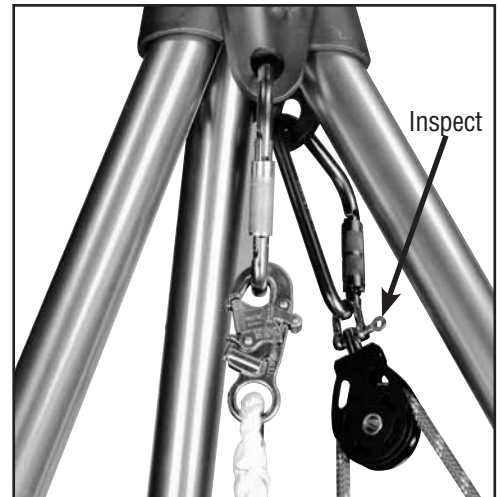


**WARNING!** Non-certified anchor points may look secure however they may be cracked, rotten, or corroded, or their fastening method may not be secure, especially if device was designed for other purposes. Such anchor points may give way suddenly leading to a fall, possibly resulting in serious injury or death.

Inspect all connections and fasteners to make sure they are secure. Especially pay attention to screw pin fasteners.



**WARNING!** If screw pin fastener loosens, connection can let go, leading to a fall, possibly resulting in serious injury or death.



## Rescue

When using this equipment, employer must be trained and have a rescue plan and means to implement it. The plan must be communicated to users, authorized persons, and rescuers.

### Suspension Trauma

Make sure plan includes training to treat victim suffering from suspension trauma and reflow syndrome.



**WARNING!** Rescued worker may appear fine after being lowered. However, failure to properly treat victim after an arrest from even a relatively short fall can lead to reflow syndrome and death.

### Shock Load

If bosun's chair has been subjected to a shock load, chair must be removed from service immediately and destroyed by user or an authorized person.



**WARNING!** A chair that has been subject to a shock load can be severely weakened and subject to further deterioration through normal use. Failure to replace such a chair may result in chair breaking, leading to a fall, possibly resulting in serious injury or death.

Wash with fresh cold water to remove any dirt and salt water.

Allow to dry naturally, away from direct heat.

Store in a dry, ventilated place, away from direct sunlight to avoid corrosion, mold/mildew damage, and UV degradation.

**Inspection Records**

A record must be kept for each component, subsystem, and system, with following details (see example record log below).

It is the responsibility of the user organization to provide the record and to enter onto the record the details required.

<b>EQUIPMENT RECORD</b>		
<b>Product:</b>		
<b>Model/Type</b> <b>2234</b>	<b>Description</b> <b>Bosun's Chair</b>	<b>Serial Number</b>
<b>Manufacturer</b> <b>HARKEN</b>	<b>Address</b> 1251 E. Wisconsin Avenue, Pewaukee, WI USA	<b>Tel/Fax/Email/Website</b> (262) 691-3320 / (262) 691-3008 harken@harken.com / www.harken.com
<b>Purchase Date</b>	<b>Date First Put Into Use</b>	
<b>Other important information (i.e. document number):</b>		

<b>EXAMINATION/REPAIR HISTORY</b>				
<b>Date</b>	<b>Reason for Entry (Periodic exam or repair)</b>	<b>Defect notes, repairs carried out and other important information</b>	<b>Name and signature of competent person</b>	<b>Date of next periodic examination</b>



## Worldwide Limited Warranty

**COVERAGE.** HARKEN® warrants that each HARKEN product, when properly used and maintained, will be free from defects in material and workmanship from the date of receipt of the product by the final customer.

**THE LIMITED WARRANTY.** This limited warranty applies to all Harken products purchased. The sole and exclusive remedy under this LIMITED WARRANTY for original defects in materials or workmanship of a HARKEN product shall be the repair or replacement, at HARKEN's sole discretion, of the defective part or component, in accordance with the terms of this warranty.

**WARRANTOR.** For products originally sold in the United States, the limited warranty for the products is supplied by HARKEN, INC.. For products originally sold in the European Union, the limited warranty for the products is supplied by the dealer who sold the product through the Harken Distributors in that country. For products originally sold in the rest of the world, the limited warranty for the products is supplied directly by the Harken Distributors in that country. When "HARKEN" is mentioned throughout this Limited Warranty, it refers to the entity as defined in this paragraph.

**OWNER – NON-TRANSFERABLE WARRANTY.** This warranty is made by HARKEN with the original purchaser of the product and does not extend to any third parties. The rights of the original purchaser under this warranty may not be assigned or otherwise transferred to any third party.

**WARRANTY TERM.** The LIMITED WARRANTY covers any original defects in material or workmanship manifested within 12 months of the date of receipt of the product by the final customer.

**NOT COVERED.** The LIMITED WARRANTY does not apply to, nor shall HARKEN have any liability or responsibility for, damages or expenses relating to defects caused by misuse, abuse, failure to install, use, maintain, or store the HARKEN product as specified in the warranty booklet, service booklet, manuals, catalogue, or other literature available from HARKEN.

The LIMITED WARRANTY does not apply to, and neither shall HARKEN have any liability or responsibility in respect to, damages or expenses relating to:

- defects in material or workmanship that did not exist when the product was first delivered;

**Online warranty registration. Registering this product online at [www.harken.com](http://www.harken.com) is critical to receive product updates or any recall information. Harken will not sell this information or use it for solicitation.**

- defects in material or workmanship that are manifested outside the warranty period;
- defects which are not reported to HARKEN within sixty (60) days of discovery;
- a product that has been altered or modified from factory specifications;
- damage or deterioration of cosmetic surface finishes, including cracking, crazing, discoloration or fading;
- accidents, misuse, abuse, abnormal use, improper use, lack of reasonable or proper maintenance or storage;
- installation, service, or repairs improperly performed or replacement parts or accessories not conforming to HARKEN's specifications;
- use exceeding the recommended and permitted limits or loads of the product and/or the product on which the product is installed;
- normal wear or deterioration occasioned by the use of the product or its exposure to the elements;
- ropes, lines, buckles, and webbing;
- loss of time, loss of use, inconvenience, travel expense, costs related to procuring any substitute product, transportation costs, any incidental or consequential damages arising out of the non-use of the product, or compensation for inconvenience or loss of use while the product is being repaired or otherwise not available, or other matters not specifically covered hereunder;
- the costs to remove, disassemble or re-install the product;
- removal, storage and replacing of the product on which the product has been installed, even where this is necessary to carry out the warranty service.

The LIMITED WARRANTY does not cover, nor shall HARKEN have any liability or responsibility in respect to, damages or expenses relating to the following products and/or components:

- washers and spacers;
- ball bearings, roller bearings, thrust bearings.

