Manual # 311

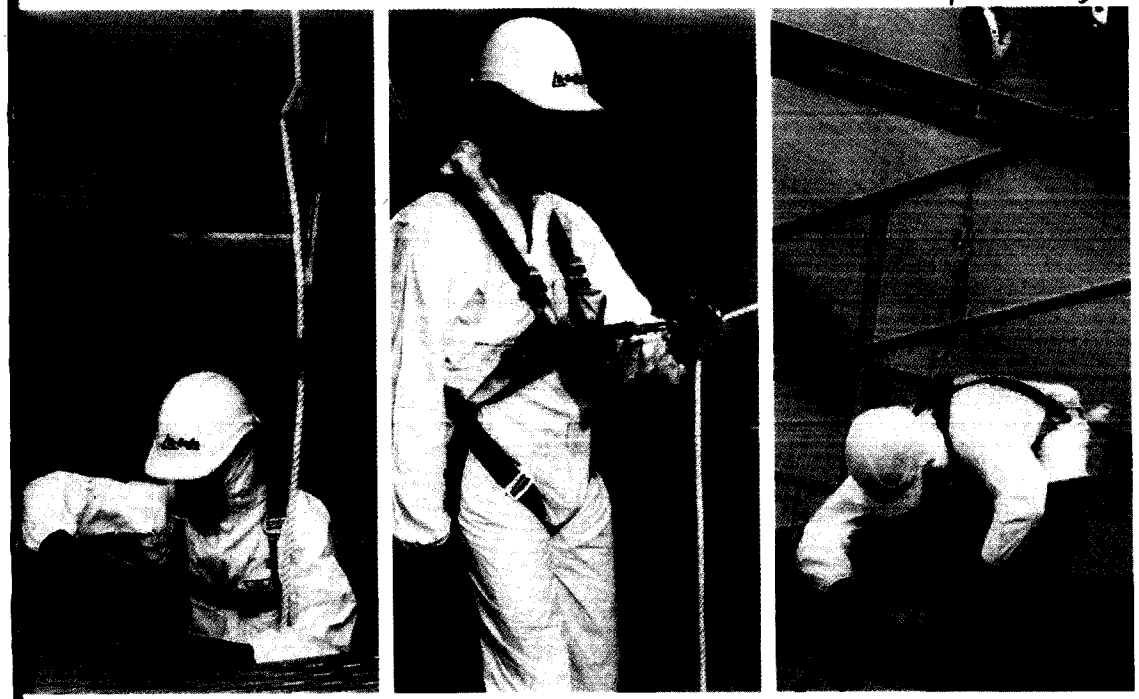
B-Safe®

2638

Static Line 16mm x 20m

Temporary poly rope (max 2 persons)

Fall Prevention & Rescue Equipment



Technical Guide and Product User Manual

The B-Safe brand of Height Safety, Confined Space and Rope Rescue Equipment is manufactured by Beaver Sales Pty Limited with a wide range of Quality Products for selection, offering Technical Advice and Solutions on these products and their use. This Instruction booklet is supplied to give the user basic instruction on the selection, use, fitting and care of Fall Protection Equipment. If there is any doubt as to the method of use and procedures you should adopt in the use of the product, a competent person should be sought or contact the nearest Beaver B-Safe branch for assistance. (See Branch list and contact numbers)

All products manufactured by B-Safe are of the highest quality, with Australian / New Zealand Standards Mark of Conformity on the product where applicable.

AS/NZS 1891.1.1995 - Industrial Fall-arrest systems and devices - "Safety belts and Harnesses"

AS/NZS 1891.2.2001 - Industrial Fall-arrest systems and devices - "Horizontal life lines and Rail Systems"

AS/NZS 1891.3.1997 - Industrial Fall-arrest systems and devices - "Fall-arrest Devices"

AS/NZS 1891.4.2000 - Industrial Fall-arrest systems and devices - "Selection, use and Maintenance"

B-Safe Harnesses, Lanyards, Belts and Fall Arrest equipment is designed to assist in the minimising of risk where injury may occur in the event of a fall. We would recommend that the user consult AS/NZS 1891.4 for actual guidance on selection and use.

Height Safety Product Construction Information

Harnesses and Belts

Fall Protection belts, harnesses, webbing lanyards and pole straps are manufactured from High Tenacity Polyester Fibre Webbing incorporating a lock stitch of 45mm width. All stitching is sewn using a lock stitch machine and finished by over-stitching and not less than 2mm from the edge of the webbing, incorporating Polyester threads.

Attachment Hardware

D-rings, buckles and other metal products used in the construction of the harness are made from sheet or forged steel and have been coated with a zinc chromate to protect the surface of the hardware. They have been polished finished to minimalise any possible damage to the webbing material.

Snap Hooks and Karabiners

In order to reduce the probability of involuntary opening, all snaphooks and karabiners, shall be capable of being opened only by at least two consecutive deliberate actions. In the case of a screw gate karabiner, it is imperative that the operator screws the locking nut up to lock the latch closed. All snaphooks and karabiners used by B-Safe have ratings in excess of the requirements of AS/NZS 1891.1.1995 of 15kN.

Height Safety Product Construction Information (cont.)

Personal Energy Absorbers

Personal Energy Absorbers are to be used in all likely Free Fall occurrences and are designed to limit the shock load on the body to less than 6kN. They must be used in series with the lanyard and connected to the attachment "D" ring on the rear of the harness. They are for use by one person only and any sign of tearing within the shock absorber indicates that it has received a shock load and must be removed from service and inspected by the manufacturer or a competent person.

Personal energy absorbers are not intended for use within a static or horizontal line.

Fall Prevention Systems

Using any form of Fall Prevention equipment requires a clear understanding of the equipment, recommended uses and limitations that are part of any Life Saving equipment.

AS/NZS 1891.4 "Selection, Use and Maintenance" should be referred to by all users of this type of equipment. This Standard gives guidelines to understand Fall Prevention systems and guidance to the correct selection of equipment.

If you have any doubts you should contact your supplier or B-Safe directly to assist with your selection.

Definitions

Total Restraint: A control of a persons movement by means of a combination of a belt or harness, a restraint line and a line anchorage which will physically prevent the person from reaching a position at which there is a risk of a free or limited fall.

Restrained fall, restrained fall-arrest: A fall or the arrest of a fall where the person suffering the fall is partially restrained by a restraining device such as a pole strap, or is sliding down a slope on which it is normally possible to walk without the assistance of a handrail or hand line.

Limited Free Fall, Limited free fall arrest: A fall or the arrest of a fall occurring when the maximum free fall distance is controlled to less than 600mm by way of a lanyard, fall arrest device or restraint line.

Free Fall, free fall arrest: A fall or the arrest of a fall where the fall distance before the fall-arrest system begins to take any loading, is in excess of 600mm either vertically or on a slope on which it is not possible to walk without the assistance of a hand rail or hand line.

Falls: A fall can occur over the edge, through or into a structure.

Fall Prevention Systems

Equipment Definitions

Fall Arrest Harness: is a full body harness with a rear attachment point, shoulder, waist or chest straps and leg straps. They can have other components such as front attachment loops, side attachment "D" rings, back support, waist belts, buttock strap and confined space loops on the shoulders. They should always be used in conjunction with a shock-absorbing lanyard when used for Fall Arrest.

Work Positioning Harness: is used in conjunction with a restraint line or pole strap only in situations where there is not a risk of free fall. Except when the fall distance is less than 600mm. The harness shall be used in such a way that under working conditions the pole strap or restraint line is always in tension.

Confined Space Harness: This harness is the same as a fall arrest harness which can be used to prevent falls into a confined space, however they have rescue/ recovery loops located on the upper shoulder straps and when used in conjunction with a spreader bar can be used to raise or lower a wearer in a heads up position. This is important when working within the constraints of a confined space. (see definition of Spreader bar)

Restraint Belt: This is a body or waist belt used purely for the purpose of restraint and should under no circumstances be used where limited or free fall arrest may occur. The shock load when fall arrest occurs in a belt would cause irreparable damage to the body.

Lineworkers Belt: This is specifically designed for use with a pole strap and for restraint purposes only. Again no limited or free fall arrest can occur in this belt.

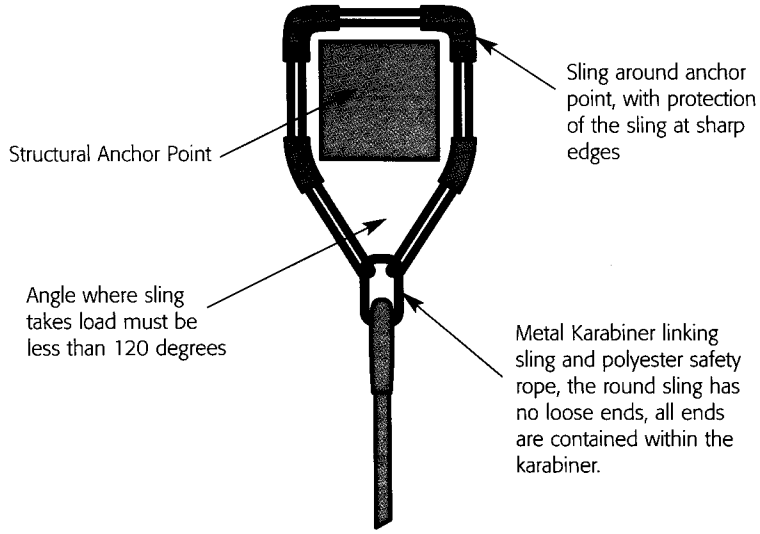
Lanyard Assemblies: are used to connect the harness to an anchor point or static line and can be manufactured in webbing, rope or stainless steel cable and will have a personal shock absorber included in its construction. **The maximum lanyard length will be 2 metres.**
As lanyards are the most important piece of equipment to allow the user of fall prevention equipment to undertake a work function, the many various varieties are available to permit the user to ensure that they are always connected to an anchor point when in a risk situation. Please consult your nearest B-Safe supplier for further information on the different types of lanyards available or B-Safe directly for special application lanyards.

Spreader Bar: This is connected to the top lifting loops on a confined space harness, so that when used for recovery from confined spaces the person is lifted vertically. The bar has wrist retention straps for securing the arms above the head.
Pole Straps: are used to support a worker on a pole by attachment to a pole belt or work positioning harness. The strap is designed to be used in constant tension or in a restraint fashion.

Pole Straps: are used to support a worker on a pole by attachment to a pole belt or work positioning harness. The strap is designed to be used in constant tension or in a restraint fashion. The pole strap is fitted with an adjuster so that the length can be altered under tension, and has a wear protector to prevent abrasion damage on rough surfaces.
Pole straps should not be used as a fall arrest lanyard.

Anchor points: When attaching to a fixed anchor point several factors need verification. All anchor points used for fall arrest, must be able to hold 15kN **without distortion.** With mechanical or structural anchor points that the user may have some doubt regarding its load capabilities then they should be assessed by an engineer, unless it is clear to a competent person that the anchorage system is structurally adequate. All Chemical or Friction anchor systems must be annually tested, certified and labelled as to its load capabilities.
When using any anchor point in a fall arrest system check with an applied load (Pulling on the equipment) prior to the possibility of shock loading occurring.

Slings: can be used to make anchor points around structures, but it is important to be aware that no polyester on polyester connection occurs, that when the sling is deployed that there are no loose ends in the system and that the angle of a rigged sling is no greater than 120 degrees to the attachment.



Maintenance Requirements of Height Safety Equipment

Height Safety equipment is life saving equipment and therefore should be treated with respect. Part of this respect is the continual maintenance of the products to ensure that each time it is used, the equipment is functioning correctly and will carry out the task of SAVING YOUR LIFE.

User Requirements

The user of this equipment is required to carry out before and after use inspections.
These inspections are a sight and touch inspection for any obvious faults.
The user should lay out the equipment so that they can visually see all components.
Things to look for:

Webbing:
Cuts or tears
Abrasion damage
Contract with heat, corrosives or solvents
Deterioration due to rotting, mildew or ultraviolet exposure (fading)

Buckles and Adjusters:
Distortion or other physical damage.
Cracks, bending or damaged rollers.

Sewing / Stitch blocks:
Broken, worn or cut threads.
Damaged or weakened threads due to contact with heat,
corrosives, solvents or mildew.
Abrasion fraying.

Hooks and Karabiners:
Distortion of hook or latch
Cracks or folds
Wear or excessive movement at latch or swivels
Open rollers
Free movement of latch and engagement of locking mechanism.
Broken, weak, or misplaced latch springs.
Free from dirt or other obstructions, e.g. paint.

"D"- Rings:
Excessive movement and wear around webbing contact points.
Cracks, especially at intersection points.
Distortion or other physical damage.

All Height Safety Equipment must be inspected and certified by the manufacturers recommended representative as per the table below.

Equipment	Certification Interval
Harness, belts, lanyards, hardware, personal use equipment	6 monthly
Fall Arrest devices - external check	3 monthly
Fall Arrest devices type 2 and 3 internal check	12 monthly
Ropes and slings	6 monthly
Permanently installed anchorage's, life lines, rails and components	12 monthly

General Warnings

- All height safety equipment is once only shock load equipment. If the harness, lanyard, sling, retracting reel or any other equipment has received a shock load, been used to arrest a fall then it must be returned to the supplier for inspection and certification or destroyed.
- All Fall Protection Equipment devices supplied by B-Safe must not be altered or added to in any way. Any part of the equipment showing deformation or unusual wear must be taken out of service immediately and checked by a competent person.
- Always select equipment that provides you the freedom to carry out the job but reduces the fall distance to the minimum. "A Lanyard assembly should be secured to an anchorage point which is at a level which will result in the minimum free fall and the least total fall distance consistent with the wearer's ability to carry out work tasks" AS/NZS 1891.1.
- If this assembly is to be exposed to chemicals, e.g. cleaning materials or hazardous atmospheres, the user should consult the manufacturer to determine whether the part is suitable for continued use.
- All connections should be checked to ensure that they are complete and compatible prior to use with a test loading by the operator before use.
- Employers should have a written procedure and provide a contingency plan for recovery or rescue to allow for a prompt response to recover a fallen/ suspended person.
- Never use fall Protection equipment for a purpose other than what it was intended for.
- Always carry out a risk assessment and hazard identification plan prior to selecting the type of equipment to be used.
- Read and understand all instructions and warnings BEFORE using equipment.
- All users of height safety equipment require training to be provided to wearer's and users of fall protection equipment. The information contained within this manual does not constitute or replace the necessary training. B-Safe provides and delivers training that is fit for purpose for fall protection equipment operators and specifiers.
- Users of fall protection equipment should be in good physical shape, must not be under the influence of Drugs or Alcohol and must be mentally fit for the task at hand. The user should not have a medical history that may be aggravated by a fall, which could cause serious injury or death.

Visual Inspection Check List (Before and after use)

Serial No.	Date of Manufacture							
Date of Withdrawal from Service								
Item to Inspect	Inspection Date							
Webbing - cuts / tears								
Webbing - abrasion								
Webbing - heat, solvent								
Webbing - rot, mildew								
"D" rings - distortion								
"D" rings - cracks								
"D" rings - movement								
Buckles - distrotion								
Buckles - cracks								
Buckles - damage								
Sewing - loose thread								
Sewing - damage								
Sewing - abrasion								
Hooks - distortion								
Hooks - wear								
Hooks - closing action								
Hooks - dirt, solvents								

Certified Inspection Check List

User's Name			
Product		Serial No.	
Date of Manufacture		Date of Withdrawal from Service	
Date of Inspection	Report No.	Comments	Inspectors Signature

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BEAVER®

Beaver Sales Pty Limited
Producers of B-Safe Products
that are manufactured to
Australian Standard AS/NZS 1891.1.1995

B-Safe®

NCS INTERNATIONAL
CERTIFIED QUALITY MANAGEMENT SYSTEM
ISO9001
SYDNEY - HEAD OFFICE

NATA
LABORATORIES FOR MECHANICAL TESTING
Sydney • Melbourne • Adelaide • Perth
Brisbane • Bundaberg • Mackay

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Harness Fitting Instructions

Lay harness out on a flat clean surface and inspect webbing, stitching, metal components as by inspection requirements. Note and report any faults found, do not use until certified by competent person.

1

Pick up the harness by large metal "D"-ring on the back of the harness. Identify the shoulder straps and ensure that waist, chest and /or leg straps are un-buckled, and are not twisted.

2

Pass arms through the loops formed between the shoulder straps and chest straps, keeping the fixed buckle to the left.

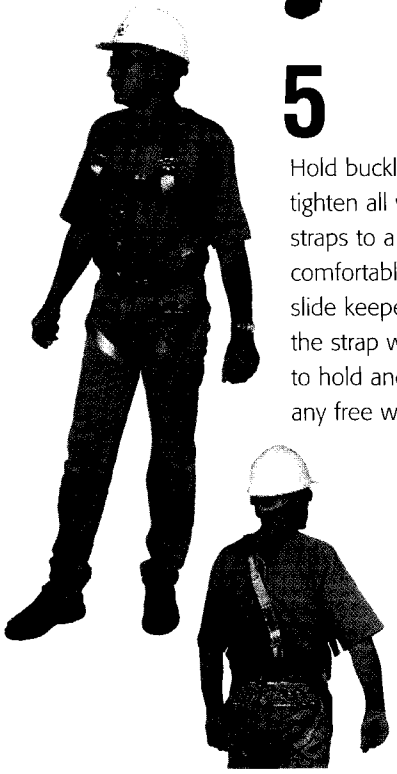
3

Adjust the shoulder strap buckles to place the chest strap just below the arm pits. The rear "D" ring should be located high between the shoulder blades. Once this adjustment is complete, fold away excess webbing so that it is not a further hazard.

All buckles that require fastening involve the quick-connect buckle through the larger buckle and ensure that the buckles are aligned.

4

Connect the two leg straps first, ensuring that the left leg strap goes to the left hip buckle and the right leg strap goes to the right hip buckle. Connect chest and or waist straps.

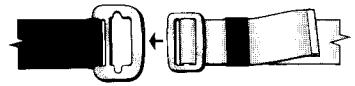


5

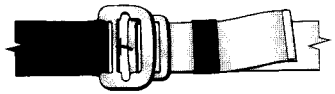
Hold buckle and tighten all webbing straps to a firm but comfortable fit and slide keepers along the strap webbing to hold and secure any free webbing.

How to assemble buckles

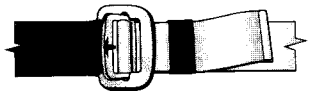
- Make sure straps are not twisted. The loose end of the strapshould be on the outside, away from the body, and should be used to adjust the fit.



- The small buckle with the centre bar must go through the slotted square link from back to front.
- Align the small buckle at right angles to the slotted square link from behind.



- Push the small buckle through the slotted square link completely from underneath.



- The small buckle should fall neatly into place on top of the slotted square link.
- Tighten the harness by pulling the loose end of the strap.
- Adjust the keepers to hold the loose end in place.
- Follow the steps in reverse to unbuckle.