

Be Safe.. Think **B-Safe**

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Be Safe.. Think



**TECHNICAL GUIDE &  
PRODUCT USER MANUAL**

- Body Harnesses
- Shock Absorbing Lanyards
- Anchors
- Fall Rescue
- Education

Beaver Brands - Producers of B-Safe Products  
that are manufactured to Australian Standard AS/NZS 1891.1:2007

Distributed by:



## INTRODUCTION

B-Safe congratulates you on your purchase of our equipment.

The B-Safe range of Height Safety, Confined Space and Rescue equipment is manufactured by Beaver Brands, recently acquired by BUNZL Industrial and Safety Group – a global leader in personal protective workwear and equipment.

Safety when working at heights should always be paramount - follow **Be Safe.. Think B-Safe** and embrace the 5 Key Elements of Height Safety to ensure your safe solution to working at height.

You should read and fully understand the instructions contained in this manual.

Since inception Beaver has been renowned for unparalleled quality and has invested heavily in maintaining AS/NZS ISO 9001 quality assurance accreditation, NATA ISO/IEC registration and soon to have ISO 14001 environmental management accreditation.

This instruction manual is supplied to provide the user with basic instructions regarding the selection, use, fitting and care of B-Safe Fall Protection Equipment. If you have any doubt in the correct use, product specifications or any procedures involving this product then the advice of a competent person needs to be sought. Or, you can contact the nearest Beaver Brands Branch for assistance. (See branch list and contact numbers on rear cover)

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

### The Standards they conform to are:

- AS/NZS 1891.1:2007 Industrial Fall-arrest systems and devices - "Harnesses and Ancillary Equipment"
- AS/NZS 1891.2:2001 Industrial Fall-arrest systems and devices - "Horizontal Lifelines and Rail Systems"
- AS/NZS 1891.3:1997 Industrial Fall-arrest systems and devices - "Fall-Arrest Devices"
- AS/NZS 1891.4:2009 Industrial Fall-arrest systems and devices - "Selection, Use and Maintenance"
- AS/NZS 5532:2013 Manufacturing requirements for single point anchor device used for harness based work at height

## 1 YEAR LIMITED WARRANTY

Beaver offers a one year limited warranty on this product.

This warranty is applicable from the 1st of January 2012 and supersedes all previous warranties.

Beaver Brands division of Bunzl Brands & Operations Pty Ltd ("Beaver") warrants to the original retail consumer and purchaser that this product will be free from defects in materials and workmanship or one year from the date the product was purchased ("the warranty period").

Beaver will rectify any defect in materials or workmanship appearing within the warranty period by repairing or replacing the product. Beaver will offer a refund of the purchase price if the product cannot be readily and quickly repaired or replaced. Beaver reserves the right to determine whether the product contains any defects in materials or workmanship covered by this warranty.

The benefits offered by this warranty are in addition to your rights and remedies that may apply at law. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of an acceptable quality and the failure does not amount to a major failure.

### How to make a warranty claim

To make a claim under this warranty, the product or part must be returned for examination to an authorised service centre nominated by Beaver, together with proof of purchase such as the dated sales receipt and an explanation of the problem to be rectified. An authorised service centre can be identified by contacting Beaver at the address or telephone number set out below.

Any costs incurred in making a claim under this warranty or returning the product to an authorised service centre is to be borne by the person making the claim unless otherwise agreed by Beaver. If Beaver determines the product contains a defect in materials or workmanship that is covered by this warranty then Beaver will bear the cost of returning the repaired product or replacement product to the person making the claim. If Beaver determines the product does not contain a defect in materials or workmanship covered by this warranty then the cost of returning the product will be at the expense of the person making the claim.

### Exclusions

This warranty does not apply to any defect caused by, or associated with misuse, abuse, lack of maintenance, negligence or accidents, repairs or alterations not authorised by Beaver.

### Contact

Beaver Brands  
div. of Bunzl Brands & Operations Pty Ltd  
55 Sarah Andrews Close, Erskine Park NSW 2759  
Telephone: 1300 783 606  
Website: [www.beaver.com.au](http://www.beaver.com.au)

**CERTIFIED INSPECTION CHECK LIST**

|                      |            |                                |                      |
|----------------------|------------|--------------------------------|----------------------|
| User's Name:         |            |                                |                      |
| Product:             |            | Serial No:                     |                      |
| Date of Manufacture: |            | Date of Withdrawal of Service: |                      |
| Date of Inspection   | Report No: | Comments                       | Inspectors Signature |
|                      |            |                                |                      |
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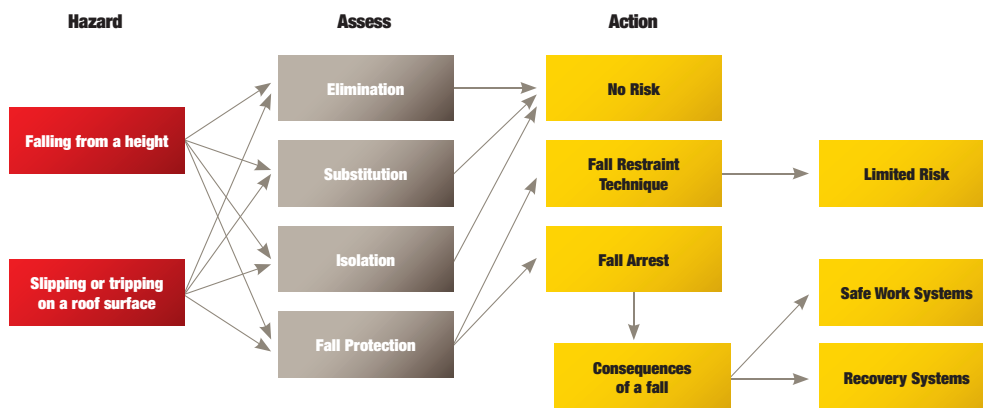
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**FALL PROTECTION INTRODUCTION**

The need for specialised equipment to be used for protection when working at height, whilst driven in part by legislation, is overwhelmingly propelled by users needing to confidently and competently approach their day and safely complete their assigned tasks at height before leaving for home. To facilitate this a structured approach provides the best starting point.

Risk assessments should be conducted prior to any Work at Height or Confined Space Work being carried out to identify hazards that exist and the risks they pose. AS/NZS 1891.4:2009 contains a Hierarchy of Control which provides an ideal platform for development of risk assessments. Find below a sample Risk Assessment Procedure for working at height.



Reference to local authorities is also recommended.

This table is a sample only, as many other hazard factors can come into account. Other hazards may include, but are not limited to: Nature of the work, surface materials, fragile roofing material, personal training levels, competency, weather conditions, surface conditions, etc. Reference should be made to AS/NZS 1891.4:2009 for the Correct Use, Selection and Maintenance criteria for Height Safety Systems.

It is recommended that wherever possible a "Restraint Technique" system is used. This is a system where a person using fall arrest rated equipment, is prevented from reaching a position from where a fall is possible.

Consideration of the following should be part of this when looking for equipment to be used :-

- Equipment capacities and capabilities
- 6kN maximum force on body in a fall.
- Shock Absorbing Lanyard – 136kG / 155kG or Inertia Reel – 136kG
- Appropriately rated Anchors and means of connection
- Foot clearance – the distance below feet to nearest obstacle when working
- Rescue plan in the event of a fall.
- Physical condition and fitness for purpose.
- Comfort

**HEIGHT SAFETY EQUIPMENT INSPECTION CERTIFICATE**

| Customer:               |  |                       |
|-------------------------|--|-----------------------|
| Product:                |  | Date of Manufacture:  |
| Withdraw from Service:  |  | Report No: Serial No: |
| Component               | Condition of fault to be checked   | Checked               |
| Webbing                 | Cuts or Tears  |                       |
|                         | Abrasion damage especially where there is contact with hardware  |                       |
|                         | Excessive stretching   |                       |
|                         | Damage due to contact with heat, corrosives or solvents  |                       |
| Snap Hooks & Karabiners | Deterioration due to rotting, mildew or ultraviolet exposure   |                       |
|                         | Distortion of hook or latch  |                       |
|                         | Cracks or forging folds  |                       |
|                         | Wear at swivels and latch pivot pin  |                       |
|                         | Free movement of latch over its full travel  |                       |
| D Rings                 | Broken weak or misplaced latch springs   |                       |
|                         | Free from dirt or other obstructions   |                       |
|                         | Excessive vertical movement of the straight portion of the D ring at its attachment point on the belt, so that the corners between the straight and curved sections of the D become completely exposed |                       |
|                         | Cracks especially at the intersection of the straight and curved portions  |                       |
| Buckles & Adjusters     | Distortion or other physical damage of the D ring  |                       |
|                         | Excessive loss of cross section due to wear  |                       |
|                         | Distortion or other physical damage  |                       |
|                         | Cracks and forging laps where applicable   |                       |
| Sewing                  | Belt Tongues   |                       |
|                         | Open Rollers   |                       |
|                         | Broken, cut or worn threads  |                       |
| Ropes                   | Damaged or weakening of threads due to contact with heat, corrosives, solvents or mildew   |                       |
|                         | Cuts, abrasion or fraying  |                       |
|                         | Stretching   |                       |
| General Comments:       |  |                       |
| Final Appraisal:        | Pass:  | Fail:                 |
| Inspector:              | Date:  |                       |

CLEANING OF HARNESS: If soiled by dirt or grit, sponge down or hand wash with luke warm tap water using pure soap or soap flakes. Thoroughly rinse and hang harness to room temperature out of direct sunlight and not exposed to direct heat. If any other condition exists, consult inspection guide in operational instructions or contact your nearest Beaver Brands Branch.

**VISUAL INSPECTION CHECKLIST - BEFORE & AFTER USE**

|                                 |                      |  |  |  |  |  |  |
|---------------------------------|----------------------|--|--|--|--|--|--|
| Serial No:                      | Date of Manufacture: |  |  |  |  |  |  |
| Date of Withdrawal from Service |                      |  |  |  |  |  |  |
| Item to Inspect                 | Inspection Date      |  |  |  |  |  |  |
| Webbing - Cut / Tears           |                      |  |  |  |  |  |  |
| Webbing - Abrasion              |                      |  |  |  |  |  |  |
| Webbing - Heat, solvent         |                      |  |  |  |  |  |  |
| Webbing - Rot, mildew           |                      |  |  |  |  |  |  |
| "D" Rings - Distortion          |                      |  |  |  |  |  |  |
| "D" Rings - Cracks              |                      |  |  |  |  |  |  |
| "D" Rings - Movement            |                      |  |  |  |  |  |  |
| Buckles - Distortion            |                      |  |  |  |  |  |  |
| Buckles - Cracks                |                      |  |  |  |  |  |  |
| Buckles - Damage                |                      |  |  |  |  |  |  |
| Sewing - Loose threads          |                      |  |  |  |  |  |  |
| Sewing - Damage                 |                      |  |  |  |  |  |  |
| Sewing - Abrasion               |                      |  |  |  |  |  |  |
| Hooks - Distortion              |                      |  |  |  |  |  |  |
| Hooks - Wear                    |                      |  |  |  |  |  |  |
| Hooks - Closing action          |                      |  |  |  |  |  |  |
| Hooks - Dirt, solvents          |                      |  |  |  |  |  |  |

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**WORKING AT HEIGHTS**

**GENERAL PRINCIPLES OF SAFELY WORKING AT HEIGHTS**

Work sites today pose hazards that can cause serious harm. The responsibility to end each day safely is everyone's responsibility, employers and employees. An awareness of the hazards at workplaces allows them to be safely addressed.

This principle has been used in many very high risk occupations for some time, and the benefits have been rewarding with a noticeable reduction in accident statistics. A risk assessment – hazard reduction programme should be used by all working at height. Identification of the hazards is key to working safely – avoiding injury or death.

**FALL PREVENTION SYSTEMS**

B-Safe Fall Prevention equipment is designed to assist in minimising risk, where injury may occur in the event of a fall. It is recommended that the user consult AS/NZS 1891.4 for guidance on the selection, use and maintenance of this type of equipment. If there is any doubt as to the method of use and procedures you adopt in the use of these products, you should consult with your B-Safe approved Distributor or contact B-Safe directly.

**GENERAL TERMINOLOGY USED IN FALL PREVENTION**

**Restraint Technique**

Control of a persons movement by means of a combination of a harness, and a shock absorbing lanyard connected to an anchor point that will physically prevent the person from reaching a position at which there is a risk of a free fall.



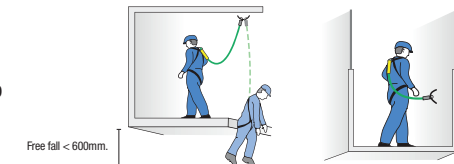
**Restrained Fall**

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 under tension.



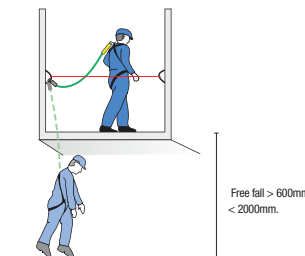
**Limited Free Fall**

A fall or the arrest of a fall where the free fall distance prior to the system taking the load does not exceed 600mm.



**Free Fall Arrest**

A fall or the arrest of a fall where the fall distance prior to the fall arrest system taking any load exceeds 600mm either vertically or on a slope on which is not possible to walk without assistance of a handrail or hand line. The maximum free fall distance permitted with a shock absorbing lanyard is 2m. (Refer notes on fall clearances).



## GENERAL WARNINGS

- All users of Height Safety equipment require training in its selection, care and use. The information contained within this manual does not constitute or replace the necessary training. Users of fall protection equipment should be in good physical condition, must not be under the influence of Drugs or Alcohol and must be mentally fit for the task at hand.
- B-Safe provides and delivers product demonstrations showing the selection, care and use of Height Safety Products. This is suited to equipment users, Purchasing Officers and Safety Personnel.
- Users should be competent in the use of the equipment contained in this manual before starting any task that requires its use. Refer to AS/NZS1891.4 for guidance on the selection, use and maintenance of height safety equipment.
- Always select equipment that provides sufficient 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/NZS1891.1:2007
- Always inspect the equipment prior to each use. Check date of manufacture and the remove from service dates on the product label. The equipment cannot be used past the remove from service date.
- Look for damage to webbing (such as abrasion, cuts or damage by chemicals) and inspect all hardware such as buckles, D Rings etc.
- If the harness, lanyard, attachments strap, 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. (Note: - some Inertia Reels are serviceable – contact Beaver Brands for further information).
- 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.
- If any part of this equipment is exposed to chemical contamination, (e.g. some marking pens, paints, cleaning materials or hazardous atmospheres) the user should consult the manufacturer to determine whether the equipment 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. Peer Rescue is recommended.
- Never use Fall Protection equipment for a purpose other than what it was intended for. Read and understand all instructions and warnings BEFORE using equipment.

## PERIODIC INSPECTION

B-Safe recommends the periodic inspection of Height Safety Equipment in accordance with AS/NZS 1891.4:2009 as shown in the below table.

### HEIGHT SAFETY EQUIPMENT INSPECTION & MAINTENANCE

| Item   | Inspection Frequency as required by AS/NZS 1891.4  |
|--|--|
| Harness, Lanyard, PPE, FA Devices, Ropes and Slings.             | 6 monthly inspection by height safety equipment inspector.   |
| Anchorage – drilled in type or attached to timber frame. Others. | 12 monthly inspection by height safety equipment inspector. As recommended by manufacturer to maximum of 5 yearly – 12 monthly in absence of this. |
| Fall-Arrest devices – full service.                              | 12 monthly inspection by height safety equipment inspector. As recommended by manufacturer to maximum of 5 yearly – 12 monthly in absence of this. |
| Horizontal Lifelines and Vertical Lifelines – Steel or Rail.     | 12 monthly inspection by height safety equipment inspector. As recommended by manufacturer to maximum of 5 yearly – 12 monthly in absence of this. |
| All items of personal and common use equipment.                  | Inspection by height safety equipment inspector on entry or re-entry of service.   |
| All items which have been stressed as a result of a fall.        | Inspection by height safety equipment inspector before use.  |

**IN ADDITION, B-SAFE RECOMMENDS A 3 MONTHLY EXTERNAL CHECK OF ALL FALL ARREST DEVICES.**

Contact B-Safe Customer Service for Servicing Agent details.

## STORAGE

When not in use, store the equipment in a dry, clean and well ventilated area away from extreme temperatures and away from chemicals and corrosives. Never store in direct sunlight nor place heavy items on top. Avoid excessive folding and preferably store hanging vertically. If the product is wet, allow to dry fully before placing into storage. Never apply a heat source to dry webbing.

## CLEANING

In case of minor soiling wipe the equipment with a cotton or sponge. Do not use any abrasive material. For intensive cleaning wash the harness/lanyard in a water temperature between 30 degrees and 60 degrees C using a bleach free neutral detergent (baby wash gels are commonly used). The washing temperature should never exceed 60 degrees C. Equipment should be air dried and never exposed to a direct heat source or sunlight for drying.

**Operators are required to check equipment before and after use.**

## INSPECTION, MAINTENANCE & STORAGE

### INSPECTION

Inspection of your Harnesses, Lanyards, Inertia Reels, Rope and Web products will keep them up to date and ready for use at the time needed.

In accordance with AS 1891.4 2009 B-Safe advises that:

- a. "Harnesses, Lanyards, Connectors, Fall Arrest Devices, Ropes, Slings and Mobile Attachment Devices shall be subjected to inspection by the height safety operator before and after each use to ensure that it is in serviceable condition."
- b. "All items of equipment which are in regular use shall be subjected to periodic inspection and where applicable, servicing at the manufacturer's recommended intervals."

### BEFORE AND AFTER USE INSPECTION

User to check the following points

- Distortion or other physical damage

Inspection shall be by sight and touch. It shall include the opening of any equipment where access for daily inspection is provided to ensure that internal components are in satisfactory condition. The operation of the locking mechanism on Fall Arrest devices shall also be checked.

Note - your life may depend on the continued efficiency and durability of this equipment and that an inspection prior to each use is vital in preventing the use of faulty equipment.

### Date of last periodic inspection.

**Products that have exceeded their 10 year life span or exceeded their expiry date shall be removed from service immediately.**

## GENERAL WARNINGS (CONT.)

- When connecting the lanyard to the harness (in particular to the rear D ring) if the connection cannot be seen by the wearer of the harness, the connection should be made prior to fitting the harness or if this is not practical then get a second competent person to either connect the lanyard or check that it is connected correctly.
- Only connect to a suitable anchorage point (See AS/NZS 1891.4). The anchorage point / structure must be capable of withstanding a minimum load of 15kN for a single person and 21kN for two persons.
- Always inspect the attachment point / anchorage prior to connection. If the point's ability to perform its intended function is in doubt then have it inspected by a competent person.
- The harness has a label affixed to it showing how to fit it. If you require additional information please refer to the relevant harness fitting pages or contact Beaver Brands.
- Always carry out a risk assessment and hazard identification plan prior to selecting the type of equipment to be used. (see page 4)
- When using the front attachment loops on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007.

## EQUIPMENT DEFINITIONS

**Full Body Harness:** An assembly of interconnected shoulder and leg straps with or without a body belt, designed for the attachment to a lanyard, pole strap or fall arrest device for fall arrest or work positioning purposes.

**Work Positioning:** Use of a system that enables a person to work supported in a harness in tension in such a way that a fall is prevented.

**Confined Spaces Harness/Spreader Bar:** A full body harness incorporating retrieval attachment points fitted to the shoulder straps that will retain the wearer in the heads up position when being lifted and to which is attached either a spreader bar, a pair of lifting straps or a lifting bridle. Wrist straps attached to a spreader bar should enable the wearer's arms to be raised above the head to facilitate a rescue and which shall be readily detachable from the wrist.

**Lanyard:** An assembly of a line and components which will enable a connection between a harness and an anchorage and which will absorb energy in the event of a fall. The maximum working slack of a lanyard shall not exceed 2m.

**Pole Strap:** A work positioning strap designed to be placed around a pole or other vertical structural member and attached at two points, one each side of a harness whilst the wearer is working on the pole.

**Anchorage Point:** All Anchorage points used for Free Fall Arrest must be rated at 15kN for 1 person or 21kn for two people. They should be as close as practicable to vertically above the place of work to reduce the likelihood of swing or pendulum effect. Care must be taken to position an anchorage device at a level that will result in the minimum Free Fall distance. Refer to AS/NZS1891.4 for further details on how to avoid the Pendulum effect, Fall Clearances and Maintenance of Anchorages.

**Restrained Fall:** Any fall where the person suffering the fall is under less than the full influence of gravity due to the action of a restraining device such as a pole strap, or restraint line or is sliding down a slope less steep than is required to have the assistance of a hand rail or hand line.

**Restraint Line:** A line used to restrict the horizontal movement of the user to prevent a fall. (To be used in restraint technique only, should include a shock absorber in the event of a fall)

**Total Fall Distance:** The total distance a person is likely to fall during both the free and restraint parts of a fall, including the maximum dynamic extension of all supporting equipment.

**Rescue:** A Rescue System is designed to raise or lower a user to safety in the event of fall or immobility. Free fall should not be possible.

**Competent Person:** AS/NZS1891.4 defines a competent person as "A person who has, through a combination of training, qualification and experience, acquired knowledge and skills enabling that person to perform a specified task."

**Height Safety Operator :** A person who is able to perform harness based work at heights under the direction of a height safety supervisor.

**Height Safety Supervisor:** A person who is competent in the skills needed to perform harness based work at heights, to supervise other operators including those at entry level and to participate in first response rescue.

**Height safety Equipment Inspector:** A person who is competent in the skills needed to detect faults in height safety equipment and to determine remedial action.

**Height Safety Manager:** A person who is competent in the selection, design, manufacture or installation of height safety systems or equipment, or the development of control measures or work practices.

## TECHNICAL ASPECTS & TRAINING

B-Safe has various forms of testing and demonstration equipment to highlight and simulate the real life applications industry use. Our B-Safe products and this equipment can be utilised to demonstrate to our customers or to test various pieces of height safety equipment.

All B-Safe products are tested and labelled according to regulatory requirements and are supplied with the necessary instructions for their correct use. It is important that users of height safety equipment are competent when working at height and have appropriate training in the products used. B-Safe provide user manuals with all equipment and these must be referred to prior to the equipment being used. These manuals cover all necessary safe use requirements and are regarded as the manufacturers instructions for use. Any use of the product or mis-use of the products outside of these recommendations will invalidate any claim against B-Safe.

### MANUFACTURER BASED PRODUCT DEMONSTRATIONS

Presentations\* include fitting a harness, selection of equipment, user inspections and a rescue demonstration.

\* Based upon the 5 Basic Elements of Height Safety: **B**ody Harness, **S**hock Absorbing Lanyard, **A**nchor, **F**all Rescue and **E**ducation.





## EDUCATION

This element is key to completing and implementing your Fall Protection Plan. Your safety is paramount – Training in accordance with the requirements of AS/NZS1891.4-2.2.11 as below combined with a comprehensive understanding of the 5 Elements of Height Safety and the associated equipment will provide you with the platform you need to address your Height Safety tasks.

### HEIGHT SAFETY COMPETENCIES AS PER AS/NZS 1891.4-2.2.11

Users of fall arrest equipment and all people undertaking tasks associated with harness based work at heights shall be trained and assessed in accordance with the requirements set out below.

#### Height Safety Theory

All people falling under the below classifications shall undergo training in height safety theory to a standard equal to that of a nationally accredited general height safety course.

#### Height Safety Operator

Operators who are required to perform harness based work at heights shall be trained and assessed in a nationally accredited general height safety course to a level of competence where they can work under a supervisor. The training and assessment shall take into account the type of work, structures, equipment to be used as well as first response methods.

#### Height Safety Supervisor

Supervisors shall be assessed as competent if they can demonstrate the above competence, work unsupervised, supervise the job and height safety operators under their control as well as participate in first response rescue.

#### Height Safety Equipment Inspector

Designated equipment inspectors shall be trained and assessed in height safety theory and the identification and assessment of all defects that may occur in the equipment they may be required to inspect including manufacturers recommendations where they exist.

#### Height Safety Manager

This category applies to people who have tasks associated with harness based work at heights including – personal management, infrastructure design, equipment assessment and selection as well as participation in safe work practice development for harness based work at heights.

Competency based Nationally Accredited Training appropriate to each of the above levels is available - consult our B-Safe Customer Service Team for information on 1300 783 606.

### THE B-SAFE 5 KEY ELEMENTS OF HEIGHT SAFETY

- B**ody Harnesses
- S**hock Absorbing Lanyards
- A**nchors
- F**all Rescue
- E**ducation / Competence

B-Safe provides Product Demonstration Training for all of the above

- Specific Product on site
- Trailer based demonstrations on site
- Facility based demonstrations at Erskine Park

All product demonstrations embrace the above.

### THE B-SAFE 5 KEY ELEMENTS OF HEIGHT SAFETY

All Fall Protection Systems must address the 5 Key Elements listed below

- B**ody Harnesses
- S**hock Absorbing Lanyards
- A**nchors
- F**all Rescue
- E**ducation / Competence

- Everyone needs to ensure that they are aware of their need to be competent. B-Safe offers solutions to meet this requirement.

**BODY HARNESS**

**B-Safe Harness Range** provides 136kg capacity when used with our Shock Absorbing Lanyards or inertia reels and 155kg when used with our High Capacity Shock Absorbing Lanyards.

B-Safe Harness Range builds upon itself:

- Basic Fall Arrest
- Confined Space
- Pole Workers (Basic)
- Utilities
- Tower Work

| APPLICATION           |                       |                       |                       |                  |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|
| FALL ARREST           | CONFINED SPACE        | POLE WORK             | UTILITIES             | TOWER WORK       |
| BH02020QB-EVOLVE      | BH02020QB-EVOLVE      | -                     | -                     | -                |
| BH02020DE-EVOLVE      | BH02020DE-EVOLVE      | -                     | -                     | -                |
| BH02030QB-EVOLVE      | BH02030QB-EVOLVE      | BH02030QB-EVOLVE      | -                     | -                |
| BH02030DE-EVOLVE      | BH02030DE-EVOLVE      | BH02030DE-EVOLVE      | -                     | -                |
| BH04055QB-EVOLVE      | BH04055QB-EVOLVE      | BH04055QB-EVOLVE      | BH04055QB-EVOLVE      | BH04055QB-EVOLVE |
| BH04055DE-EVOLVE      | BH04055DE-EVOLVE      | BH04055DE-EVOLVE      | BH04055DE-EVOLVE      | BH04055DE-EVOLVE |
| BH02020<br>BH020200QB | BH02020<br>BH020200QB | -                     | -                     | -                |
| BH02030<br>BH02030-QB | BH02030<br>BH02030-QB | -                     | -                     | -                |
| BH04050<br>BH04050QB  | BH04050<br>BH04050QB  | BH04050<br>BH04050QB  | BH04050<br>BH04050QB  | -                |
| BH04055<br>BH04055-QB | BH04055<br>BH04055-QB | BH04055<br>BH04055-QB | BH04055<br>BH04055-QB | -                |
| BH05200               | BH05200               | BH05200               | BH05200               | BH05200          |
| BH02030PAD            | BH02030PAD            | BH02030PAD            | -                     | -                |
| BH01120               | -                     | -                     | -                     | -                |
| BH01115               | -                     | -                     | -                     | -                |
| BH01116               | -                     | -                     | -                     | -                |
| BH01118               | -                     | -                     | -                     | -                |
| BH01121               | -                     | BH01121               | -                     | -                |
| BH01124               | -                     | -                     | -                     | -                |
| BH01132               | -                     | -                     | -                     | -                |
| BH01112               | -                     | BH01112               | -                     | -                |
| BH01151               | -                     | -                     | -                     | -                |

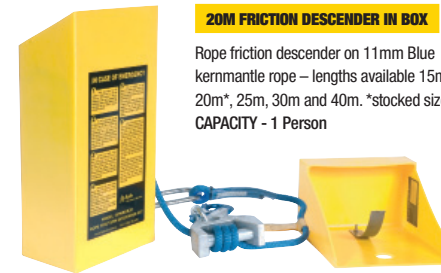
All Harnesses are suitable for: Suspension Intolerance Fitment.

\* All harnesses that are supplied with dorsal extensions have (a) Fall Indicator (b) Should use max. 1.6m Shock Absorbing Lanyard.

**B-SAFE RESCUE KITS**

**B-SAFE LIFE SAVER RESCUE KITS**

Rescue kits for Elevated Work Platforms, pole top rescue, towers, construction cranes, overhead cranes and forklifts.



**20M FRICTION DESCENDER IN BOX**  
Rope friction descender on 11mm Blue kernmantle rope – lengths available 15m, 20m\*, 25m, 30m and 40m. \*stocked size. CAPACITY - 1 Person



**20M EMERGENCY DESCENDER IN BAG**  
20m Emergency Descender Unit without hand wheel in box. CAPACITY - 1 Person

**B-SAFE ROPE RECOVERY SYSTEM**

15m rope recovery system with auto braking mechanism, longer rope lengths available.  
4:1 Rope Recovery System in Bag  
Safe Working Load 375kg

All Rope Recovery Systems are provided with detailed user instructions.



**15, 30, 60M RESCUE DESCENDER IN BAG**

Rescue Descender Unit with Hand Wheel in Bag. Other lengths available. CAPACITY - 1 Person

Use in conjunction with Rescue Pole.

All Descender Systems are provided with detailed user instructions.



**B-SAFE AUTO DESCENDER AND POLE SYSTEM**

**F** FALL RESCUE



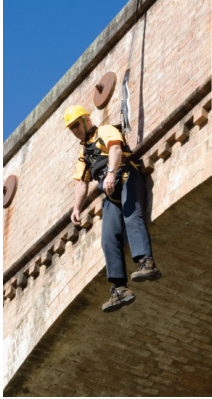
RESCUE POLE

RESCUE DESCENDER



RESCUE POLE WITH KARABINER OPEN

**THE STAGES OF RESCUE**



**1** Fallen worker.



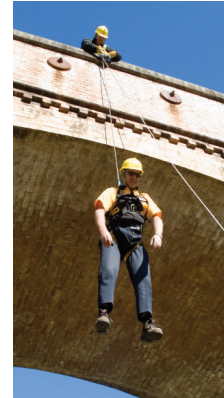
**2** Rescue Pole being used connect to hook to rear of harness.



**3** Raising the fallen worker with the descender.



**4** Releasing loaded equipment.

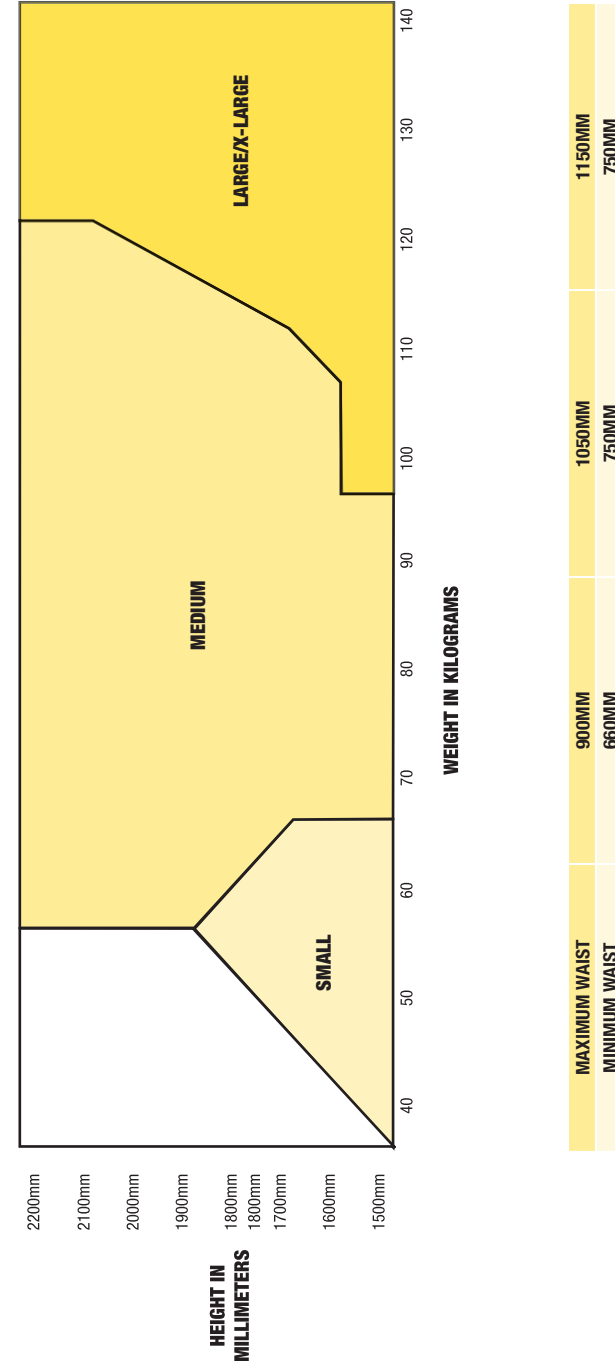


**5** Fallen worker with Shock Absorbing Lanyard removed.



**6** Fallen worker descending automatically.

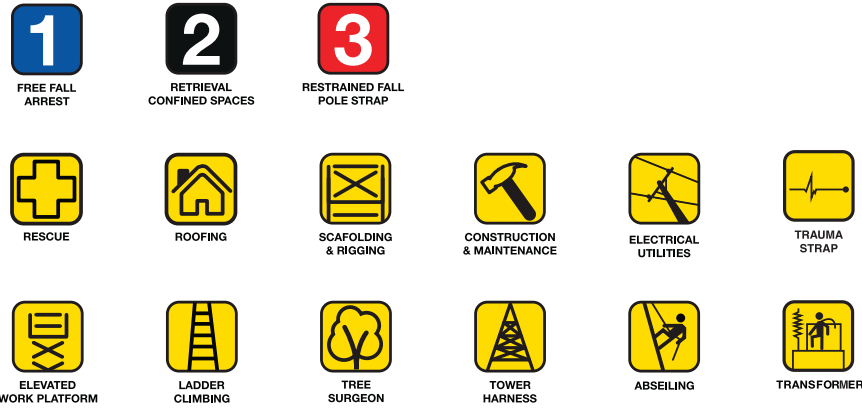
**HARNES SIZING CHART**



The above sizing is a guide only and does not supersede the necessity to confirm before purchasing.

## BODY HARNESSSES

Beaver Brands produces a wide range of specialty harnesses for a wide range of applications. For your convenience icons have been derived, to readily identify each harness attachment points and its applications.



### BH01120

#### FEATURES

- Lightweight and comfortable
- Rear D Ring & frontal attachment loops below shoulder adjuster
- Fully adjustable leg & shoulder straps

#### APPLICATIONS

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both Frontal Loops or rear D ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both Frontal Loops or Rear D Ring to limit access to fall situations.

**Recovery & Rescue** – Using frontal loops connected together.

**Fitting instructions:** when using the front attachment points (loops) on a harness both loops must be connected together as per AS/NZS1891.1:2007. See fitting instructions on [pages 22 and 23](#).



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## B-SAFE FALL RESCUE

### B-SAFE RESCUE EQUIPMENT

The ability to rescue a fallen person is required on any site where persons are working at height. Whilst harnesses are worn when working at height, as part of a fall protection system to cradle the body in the event of a fall, it is a distinct advantage when considering a rescue. It is every employers responsibility to ensure that if a person does suffer a fall and is suspended in a harness that they must be able to recover them as quickly as possible.

In this event it is also important that the rescuers are not put in further danger to carry out the rescue. The Auto descender and pole system provide for this by not adding to the hazardous situation putting the rescuer in any danger.

The device is designed to be able to reach the suspended person with an open double action snap hook and attach this to the suspended person through the rear D ring of the harness. The system is designed that if the suspended person is unconscious no further help is required as the attachment can be made without the assistance of the suspended person.

Once the hook is in place the suspended person can be raised to allow for the loaded equipment to be removed. Once this is done the person can be automatically descended to the ground by the device where professional medical attention can be provided.

### B-SAFE DESCENDERS

Available for Emergency evacuation or Rescue from a fall at height can be achieved with ease using a B-Safe Descender. Once attached to the unit a person can descend to the ground safely without having to control the equipment.

Descenders can be used with rope lengths of up to 150m and have descent speed of approximately 0.9m per second.

Standard Sizes -

| Description  |
|--|
| Rescue Descender Unit with Hand Wheel                            |
| 15M Rescue Descender Unit with Hand Wheel – 1 person             |
| 30M Rescue Descender Unit with Hand Wheel – 1 person             |
| 60M Rescue Descender Unit with Hand Wheel – 1 person             |
| Rescue Descender Unit with Hand Wheel                            |
| 15M Emergency Descender Unit without Hand Wheel in bag– 1 person |
| 30M Emergency Descender Unit without Hand Wheel in bag– 1 person |
| 60M Emergency Descender Unit without Hand Wheel in bag– 1 person |
| 20M Emergency Descender Unit without Hand Wheel in bag– 1 person |
| Rescue Pole – 2.4 metres extending to 3.8 metres                 |

**Note:** Rope lengths on both automatic and re-wind descenders can be manufactured to suit customers requirements.



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**B-SAFE TEMPORARY ANCHORS**

**BP03001.5**

1.5m Tie Off Adaptor.



Available in multiple lengths.

**BP03002**

2m Tie Off Adaptor.

**BP03101.5**

1.5m Attachment Strap.  
Available in lengths from 500mm to 2m.

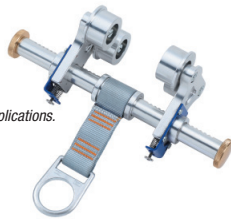


Available in multiple lengths.

**BSM0045 - Beam Trolley**

76mm – 255mm.

Rolling capabilities for overhead applications.  
Use Instructions included.



**BSM0035B - Sliding Horizontal Beam Anchor**

76mm – 260mm.

Suitable for sliding capabilities for overhead applications.  
Use Instructions included.



**A**

**ANCHORS**

**B-SAFE PERMANENT ANCHORS**

**WELD-ON ANCHOR**

BSC5024, BSC5026  
Available in multiple capacities.



**BOLT-ON ROTATING ANCHOR**

BSC5025, BSC5027  
Available in multiple capacities.



**BSC5006MRLP-L**

Suitable for large flat pan roof profiles.



**BSC5006OLP-L**

Suitable for corrugate profiles.



**BSC5006LSLP-L**

Suitable for long span profiles.



All Anchors supplied with Installation Instructions

**B-SAFE OTHER ANCHORS**

B-Safe's range of specialised Anchors include:

- Temporary and Permanently installed ladder systems
- Temporary Vertical and Horizontal Lifelines

Specific user information manuals are provided with each of these products.

**FALL ARREST HARNESSSES**

**BH01115**

**FEATURES**

- Lightweight and comfortable
- Rear D Ring & frontal attachment loops above shoulder adjuster
- Fully adjustable

**APPLICATIONS**

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both frontal loops or rear D ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both Frontal Loops or Rear D Ring to limit access to fall situations.

**Recovery & Rescue** – Using frontal loops connected together.

**Fitting instructions:** when using the front attachment points (loops) on a harness both loops must be connected together as per AS/NZS1891.1:2007. See fitting instructions on pages 22 and 23.

**BH01116**

**FEATURES**

- Lightweight and comfortable
- Rear & frontal attachment D rings
- Fully adjustable chest & leg straps

**APPLICATIONS**

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both Front or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both Front or Rear D Ring to limit access to fall situations.

**Recovery & Rescue** – Using front D Ring.

**Fitting instructions:** See fitting instructions on pages 22 and 23.



**ATTACHMENT POINTS**



**ATTACHMENT POINTS**



**FALL ARREST HARNESSSES**

**BH01118**

**FEATURES**

- Crossover Style
- Lightweight and comfortable
- Rear & frontal attachment D rings
- Fully adjustable

**APPLICATIONS**

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Front or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Front or Rear D Ring to limit access to fall situations.

**Recovery & Rescue** – Using front D Ring.

**Fitting instructions:** See fitting instructions on pages 26 and 27.



**BH01121**

**FEATURES**

- Lightweight and comfortable
- Rear D Ring & frontal attachment points
- Fully adjustable leg & shoulder straps
- Side D rings for pole strap

**APPLICATIONS**

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both Frontal Loops or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both Frontal Loops or Rear D Ring to limit access to fall situations.

**Work Positioning** – Side D Rings for use with a Pole Strap.

**Recovery & Rescue** – Using front loops connected together.

**Fitting instructions:** when using the front attachment points (loops) on a harness both loops must be connected together as per AS/NZS1891.1:2007. See fitting instructions on pages 22 and 23.



**ANCHORS**

The Element Anchor is a most important one as it provides the strength to the FALL PROTECTION SYSTEM. The structural requirements come from AS/NZS 1891.4:2009 and AS/NZS 5532:2013

| TYPE OF PROTECTION                                  | ONE PERSON | TWO PERSONS |
|---|------------|-------------|
| Limited Freefall (including rope access anchorages) | 12kN       | 18kN        |
| Free Fall Arrest                                    | 15kN       | 21kN        |

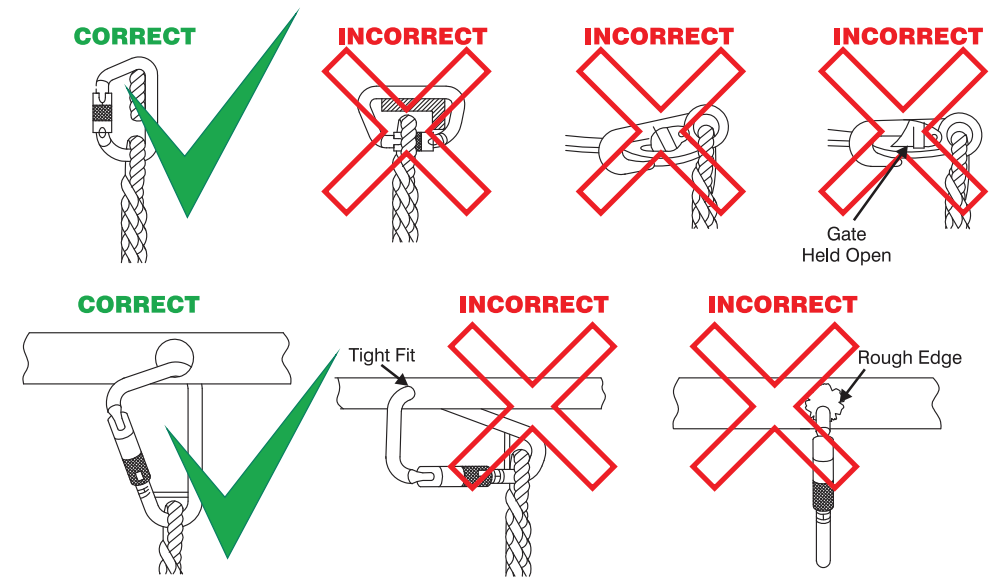
Both Load and direction of Load should be considered when evaluating structural members. Not all structures are suitable – obtain engineering certification where work task is to be carried out on a regular basis.

In order to facilitate minimum fall distances Anchor point should be located above harness attachment point within reach. A maximum freefall of 2meters is defined by As/NZS1891.4 2009 – should you connect in such a manner that your freefall is in excess of this shock absorber deployment and fall arrest forces will increase. The Foot Clearances identified on page 29 will be exceeded increasing the risk of injury.

**ATTACHMENT HARDWARE**

The B-Safe Attachment Hardware (Snaphooks and Karabiners) are self-closing and self-locking. In order to reduce the probability of involuntary opening or release they require at least two deliberate consecutive actions to be opened.

Positioning of these devices can be critical in avoiding accidental opening or “Forced roll out”. Please review the images below to ensure correct loading and positioning of Attachment Hardware.



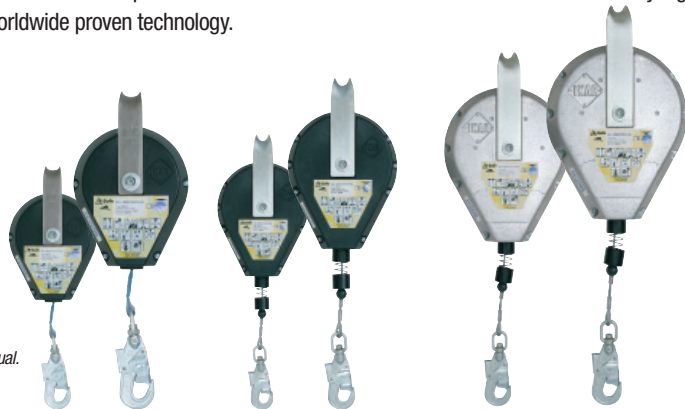
## B-SAFE INERTIA REELS

**Housing design:** Plastic or aluminium

**Connective device:** Webbing strap or galvanized steel rope

Sturdy, lightweight, low maintenance, self retracting inertia reel with either web straps or galvanised steel rope. Lightweight plastic housing or aluminum housing with loop head.

EN compliant – AS/NZS 1891.3 cl 1.6 acknowledges an EN360 listing. Fall Arrest devices complying with EN353-1, EN353-2 or EN360 are acceptable for use in Australia and New Zealand and feature a very high safety standard and worldwide proven technology.



Capacity 136kg  
Lengths 7m - 18m

Refer to specific User Manual.

**Housing design:** Plastic or aluminium

**Connective device:** Webbing strap or galvanized steel rope

Sturdy, low-maintenance height-safety device with webbing strap and galvanized steel rope, extra light plastic housing or with aluminium housing and rotational hook suspension. The rotational hook prevents the strap or rope from twisting.

AS/NZS 1891.3 cl 1.6 acknowledges an EN360 listing. Fall Arrest devices complying with EN353-1, EN353-2 or EN360 are acceptable for use in Australia and New Zealand and feature a very high safety standard and worldwide proven technology.



Capacity 136kg  
Lengths 2m - 9m

Refer to specific User Manual.

## FALL ARREST HARNESSSES

### BH01132

#### FEATURES

- Lightweight and comfortable
- c/w 2m PVC coated wire shock absorbing lanyard permanently attached to rear D ring
- Fully adjustable leg & shoulder straps
- Frontal Fall Arrest Loops

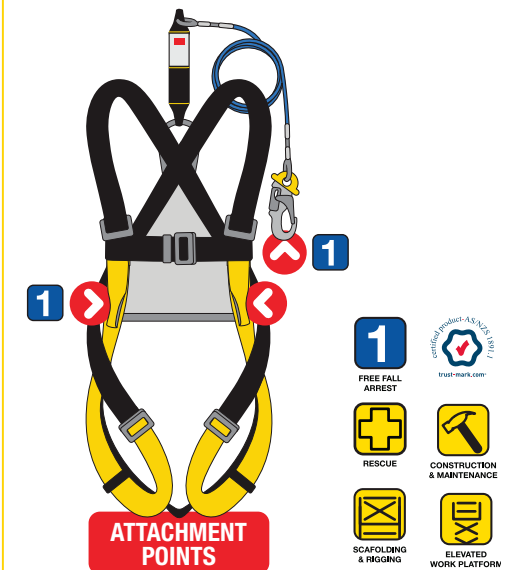
#### APPLICATIONS

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both Frontal Loops or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both Frontal Loops or Rear D Ring to limit access to fall situations.

**Recovery & Rescue** – Using frontal loops connected together.

**Fitting instructions:** when using the front attachment points (loops) on a harness both loops must be connected together as per AS/NZS1891.1:2007. See fitting instructions on pages 22 and 23.



### BH01112

#### FEATURES

- Lightweight and comfortable
- c/w 2m web shock absorbing lanyard permanently attached to the rear D ring
- Fully adjustable leg, shoulder, chest & waist straps
- Side D rings for pole strap
- Frontal Fall Arrest Loops

#### APPLICATIONS

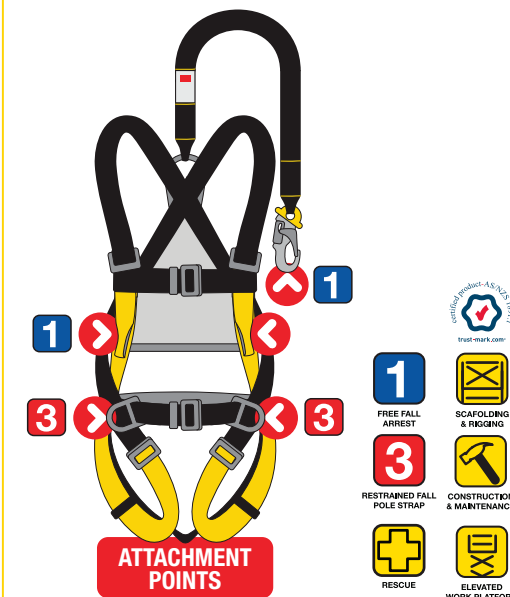
**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Frontal Loops or Rear D Ring.

**Restraint Technique** – Using the integrated shock absorbing lanyard on the rear D or a separate lanyard attached to both frontal loops to limit access to fall situations.

**Recovery & Rescue** – Using frontal loops connected together.

**Work Positioning** – Side D Rings for use with a Pole Strap.

**Fitting instructions:** when using the front attachment points (loops) on a harness both loops must be connected together as per AS/NZS1891.1:2007. See fitting instructions on pages 22 and 23.



**FALL ARREST HARNESSSES**

**BH01134**

**FEATURES**

- Lightweight and comfortable
- c/w 2m Twin Leg Lanyard, Shock Absorbing Lanyard BSM0008 Scaffold hooks permanently attached to Rear D Ring
- Fully adjustable leg, shoulder, chest & waist straps

**APPLICATIONS**

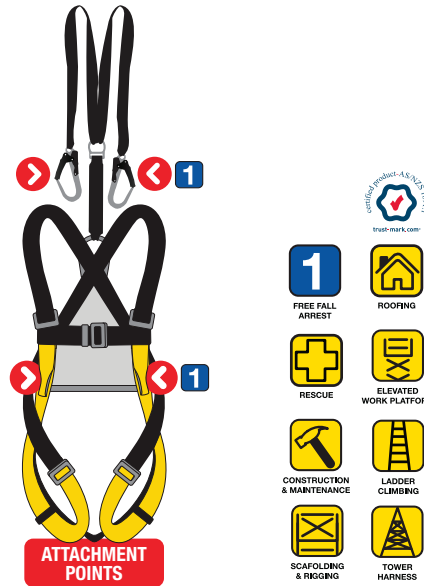
**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both frontal loops or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to both frontal loops or Rear D Ring to limit access to fall situations.

**Work Positioning** – Side D Rings for use with a Pole Strap.

**Recovery & Rescue** – Using front loops connected together.

**Fitting instructions:** when using the front attachment points (loops) on a harness both loops must be connected together as per AS/NZS1891.1:2007. See fitting instructions on pages 22 and 23.



Using Twin Leg lanyard and Twin Leg Lanyard movement technique on structures.

**BH01151**

**FEATURES**

- Lightweight and comfortable
- Frontal attachment loops
- c/w 2m web shock absorbing lanyard permanently attached to the rear D ring
- Fully adjustable leg, shoulder & chest straps

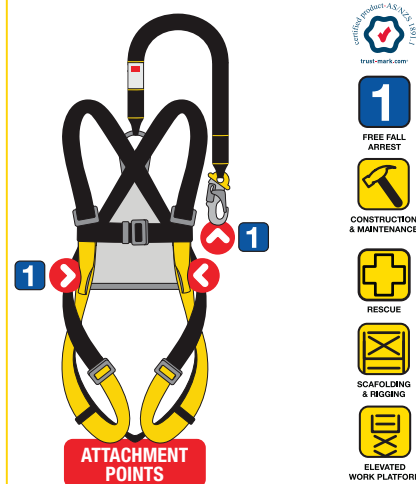
**APPLICATIONS**

**Fall Arrest** – Using the integrated shock absorbing lanyard on the rear D, an inertia reel device attached to the rear D or frontal loops or a separate lanyard attached to both frontal loops.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard to rear D ring or both frontal loops to limit access to fall situations.

**Recovery & Rescue** – Using front loops connected together.

**Fitting instructions:** when using the front attachment points (loops) on a harness both loops must be connected together as per AS/NZS1891.1:2007. See fitting instructions on pages 22 and 23.



**B-SAFE POLE STRAPS & RETRACTABLE LANYARDS**

**POLE STRAPS**

Pole Straps are used by workers when locating themselves on a pole or tower so that they can work hands free and be restrained safely in the work area. The pole strap is designed to fully restrain the user so that any fall is a limited free fall within the work area. They are used by attaching to either side of a harness at the waist belt and going around the pole over a cross brace so that they cannot slide down. This then permits the user to adjust length and work in a safe and retained location.

| Code      | Description   |
|-----------|---|
| BP02111.5 | 1.5m Pole strap, wear sleeve, double action hooks, adjustable |
| BP02112   | 2m Pole strap, wear sleeve, double action hooks, adjustable   |
| BP02112.5 | 2.5m Pole strap, wear sleeve, double action hooks, adjustable |
| BP02113   | 3m Pole strap, wear sleeve, double action hooks, adjustable   |
| BP02113.5 | 3.5m Pole strap, wear sleeve, double action hooks, adjustable |



BP02112 - 2m Pole Strap



\* Other lengths and alloy snap hooks available for special applications. B-Safe pole straps are tested to AS/NZS 1891.1:2007.

**RETRACTING WEB LANYARD BL05332.5**

B-Safe self retracting lanyard allows mobility up to 2.5 metres. Features a webbing guide to prevent twisting and a tough, impact resistant plastic case. Comes complete with karabiners, and an integral shock absorber.

**RETRACTABLE LANYARDS - TYPE 2 FALL ARREST DEVICES**

| Code        | Description  |
|-------------|--|
| BL05332     | 2m Retracting Lanyard c/w Oval Double action karabiner each ends   |
| BL05332.5   | 2.5m Retracting Lanyard c/w Oval Double action karabiner each ends |
| BL05332.5TC | 2.5m Retracting Lanyard c/w Triple action Karabiners each end.     |



Refer to user instructions supplied with unit.



**B-SAFE LANYARD IDENTIFICATION TABLE**

|         |  |
|---------|--|
| BL01000 | Personal shock absorber pack only  |
| BL01XXX | Webbing shock absorbing lanyard with fittings each end max. length 2m  |
| BL02XXX | Rope shock absorbing lanyard with fittings each end max. length 2m   |
| BL03XXX | PVC coated wire rope shock absorbing lanyard with fittings each end max. length 2m                                 |
| BL04XXX | Webbing twin access shock absorbing lanyard with harness attachment fitting and fittings each leg max. length 2m   |
| BL06XXX | Wire rope twin access shock absorbing lanyard with harness attachment fitting and fittings each leg max. length 2m |
| BL07XXX | Elasticised shock absorbing lanyard with fittings each end max. length 2m  |

High Capacity Lanyards have suffix XXX-NTBK. Contact Beaver Brands for capacities.

**LANYARD CODE SEQUENCE**

| B-Safe Lanyard | Type | Description        | End Fittings & Description       | Length |
|----------------|------|--------------------|----------------------------------|--------|
| BL             | 01   | Webbing            | 1 = BSM0007 Double Action Hook   | <=2m   |
| BL             | 02   | Rope               | 2 = BSM0008 Scaffold Hook        | <=2m   |
| BL             | 03   | Wire Rope          | 3 = BSK0001 Screw Gate Karabiner | <=2m   |
| BL             | 04   | Twin Leg           | 4 = Triple Action Karabiner      | <=2m   |
| BL             | 06   | Twin Leg Wire Rope | 5 = Swivel Hook D/A              | <=2m   |
| BL             | 07   | Tubular/Elastic    | 6 = BSM 06650 D/A Hook           | <=2m   |
|                |      |                    | 7 = BSK0005                      | <=2m   |
|                |      |                    | 8 = BSK0024                      | <=2m   |

High Capacity Lanyards have suffix XXX-NTBK. Contact Beaver Brands for capacities.

**CONFINED SPACE HARNESSSES**

**BH02020QB-EVOLVE**

**FEATURES**

- Comfort Padding on Soft twill water repellent webbing
- Heavy Duty Aluminium Hardware
- Fully Adjustable Posilock Front D Ring
- Fully adjustable leg and shoulder straps

**APPLICATIONS**

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Front or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Frontal Loops or Rear D Ring to limit access to fall situations.

**Recovery & Rescue** – Using front D Ring or confined space loops.

**Confined Space** – Rescue and Recovery using confined space loops.

**Fitting instructions:** See fitting instructions on pages 24 and 25.



**BH02020DE-EVOLVE**

**FEATURES**

- Comfort Padding on Soft twill water repellent webbing
- 9Kv Dielectric Resistant Hardware
- Fully Adjustable Posilock Front D Ring
- Fully adjustable leg and shoulder straps

**APPLICATIONS**

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Front or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Frontal Loops or Rear D Ring to limit access to fall situations.

**Recovery & Rescue** – Using front D Ring or confined space loops.

**Confined Space** – Rescue and Recovery using confined space loops.

**Fitting instructions:** See fitting instructions on pages 24 and 25.



**CONFINED SPACE HARNESSSES**

**BH02030QB-EVOLVE**

**FEATURES**

- Comfort Padding on Soft twill water repellent webbing
- Heavy Duty Aluminium Hardware
- Fully Adjustable Posilock Front D Ring
- Comfort padded supporting waist belt with side D rings
- Fully adjustable leg and shoulder straps

**APPLICATIONS**

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Front or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Frontal D Ring or Rear D Ring to limit access to fall situations.

**Work Positioning** – Side D Rings with Pole strap

**Rescue and Recovery** – Using front D Ring or confined space loops.

**Confined Space** – Rescue and Recovery using confined space loops.

**Fitting instructions:** See fitting instructions on **pages 24 and 25.**



**BH02030DE-EVOLVE**

**FEATURES**

- Comfort Padding on Soft twill water repellent webbing
- 9Kv Dielectric Resistant Hardware
- Fully Adjustable Posilock Front D Ring
- Comfort padded supporting waist belt with side D rings
- Fully adjustable leg and shoulder straps

**APPLICATIONS**

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Front or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Frontal D Ring or Rear D Ring to limit access to fall situations.

**Work Positioning** – via Side D Rings with Pole strap

**Rescue and Recovery** – Using front D Ring or confined space loops.

**Confined Space** – Rescue and Recovery using confined space loops.

**Fitting instructions:** See fitting instructions on **pages 24 and 25.**



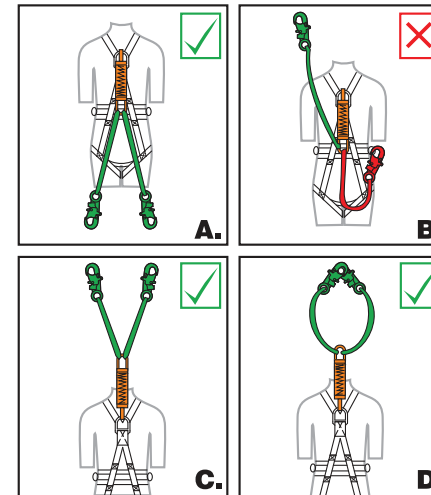
**TWIN LEG ACCESS SHOCK ABSORBING LANYARDS**

The twin leg lanyard permits the user to move around to different anchor points whilst having one hook attached to an anchor point at all times. All the rules regarding the use of shock absorbing lanyards must be maintained.



**Purpose:**

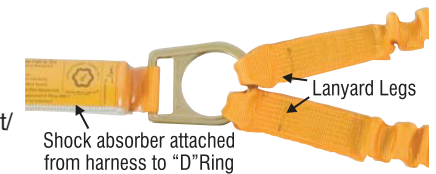
Shock absorbing lanyards are designed to reduce the fall arrest forces on the body.



**Correct use of twin leg lanyard**

- The personal shock absorbing end of the lanyard **MUST** be attached to a fall arrest attachment point on the harness at all times. (fig. A)
- **DO NOT** attach the lanyard legs to any part of the harness at any time (fig. B) This is know as “short circuiting” and could cause the lanyard to fail in the event of a fall.
- It is best to use both of the lanyard’s legs at all times (fig. C)
- Either or both lanyard tails **MUST** be attached to an anchorage at all times (fig. D)

If you are using a B-Safe Twin Leg Lanyard, you must not attach the unused leg to anything other than the designated attachment/stowage point.



### B-SAFE SHOCK ABSORBING LANYARDS & INERTIA REELS



### SINGLE LEG SHOCK ABSORBING LANYARDS

**Purpose:**

Shock absorbers are designed to reduce the fall arrest forces on the body to less than 6kN.

**Limitations & Use of a single leg lanyard.**

1. The shock absorber must be attached to a fall arrest attachment point on the harness in all cases.
2. Attach the fitting on the other end to the anchorage point, the connection should be at a level which will result in the minimum free fall (less than 2m) and the least total fall distance consistent with the wearer's ability to carry out work tasks.
3. When connecting to an attachment point on a harness that is not visible to the user you must either connect prior to fitting the harness or have the connection checked for secure attachment by a second person.
4. Do not connect more than one shock absorber at a time as this will increase the maximum activation load required and increase the maximum shock on the body above 6kN.
5. Minimum force required to activate shock absorber is 2kN or 203kgf - short falls or slides will not generate enough force to activate shock absorber.
6. When used the maximum allowable free fall is 2 metres before activation of shock absorber.

### CONFINED SPACE HARNESES

#### BH04055QB-EVOLVE

**FEATURES**

- Comfort Padding on Soft twill water repellent webbing
- Heavy Duty Aluminium Hardware
- Comfort padded supporting waist belt with side D rings
- Fully Adjustable Posilock Front D Ring
- Functional Drop down seat with D Rings
- Fully adjustable leg and shoulder straps

**APPLICATIONS**

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Front or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Frontal Loops or Rear D Ring to limit access to fall situations.

**Work Positioning** – via Side D Rings with Pole strap

**Rescue and Recovery** – Using front D Ring or confined space loops.

**Confined Space** – Rescue and Recovery using confined space loops.

**Fitting instructions:** See fitting instructions on [pages 24 and 25](#).

#### BH04055DE-EVOLVE

**FEATURES**

- Comfort Padding on Soft twill water repellent webbing
- 9kV Dielectric Resistant Hardware
- Comfort padded supporting waist belt with side D rings
- Fully Adjustable Posilock Front D Ring
- Functional Drop down seat with D Rings
- Fully adjustable leg and shoulder straps

**APPLICATIONS**

**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Front or Rear D Ring.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to Frontal Loops or Rear D Ring to limit access to fall situations.

**Work Positioning** – via Side D Rings with Pole strap

**Rescue and Recovery** – Using front D Ring or confined space loops.

**Confined Space** – Rescue and Recovery using confined space loops.

**Fitting instructions:** See fitting instructions on [pages 24 and 25](#).



**TOWER WORK HARNESS**

**BH05200**

**FEATURES**

- Padded back support
- Padded thigh straps
- Tool Loops
- Fall arrest rated attachment D incorporated onto long extension strap for ease of connection
- Side D rings. Front fall arrest D rings
- Confined space recovery loops
- Fully adjustable thigh, shoulder, and waist straps

**APPLICATIONS**

**Abseiling** – Use the front Fall Arrest D rings.

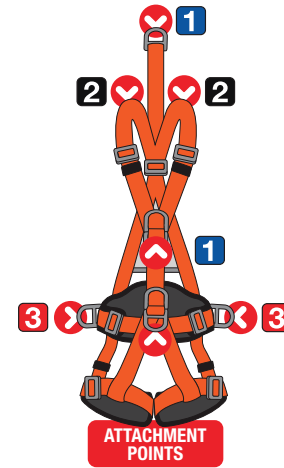
**Fall Arrest** – Use in conjunction with a shock absorbing lanyard or inertia reel device attached to the front D rings or rear extension.

**Restraint Technique** – Use in conjunction with a shock absorbing lanyard to front or rear attachment points.

**Work Positioning** – Use in conjunction with pole strap attached to both side D rings.

**Confined Space** – Work in conjunction with shoulder loops and spreader bar.

Available with Stainless Steel fittings on request. Also available in fire proof, cut resistant Nomex/Kevlar webbing.



\* Maximum recommended lanyard length 1.5m, when using dorsal extension strap.



**ACCESSORIES - LANYARD STORAGE**



Retrofit to standard vest style Harness



Exists on EVOLVE Harnesses



Fitting to Standard Vest Style Harness

**SHOCK ABSORBING LANYARDS / INERTIA REELS - FALL CLEARANCES**

**Fall Clearances Shock Absorbing Lanyards**

FC = FF + AB + 1000

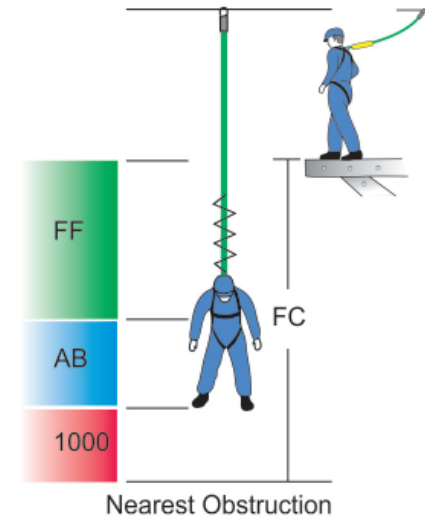
FC = Foot Clearance

FF = Free Fall

(Maximum allowed 2000mm before activation)  
Add 250mm for Harness slippage.

AB= Shock Absorber Extension

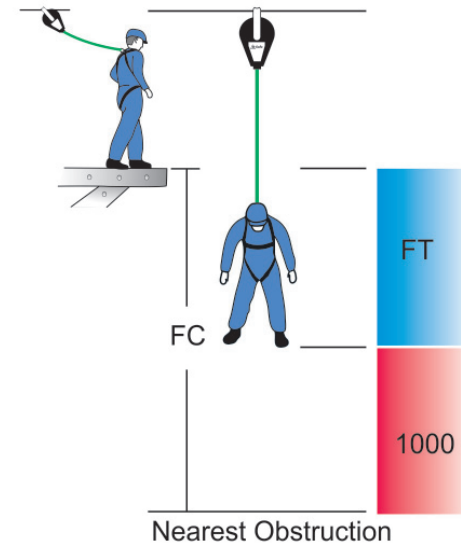
AS/NZS 1891.4 Advises that this can be estimated using FF which reduces FC accordingly.



| FF     | AB    |
|--------|-------|
| 600mm  | 300mm |
| 1000mm | 500mm |
| 1500mm | 600mm |
| 2000mm | 900mm |

1000mm standard safety clearance figure.

**Fall Clearances Inertia Reels**



FC = FT + 1000

FC = Foot Clearance

FT = Fall Total

(Free Fall, Activation and Declaration to be 1.4m max)  
Add 250mm Harness slippage.

AS/NZS 1891.4:2009 advises that this can be estimated at 700mm + stretch and slide.

1000mm standard safety clearance figure.

## SHOCK ABSORBING LANYARDS - INERTIA REELS

Shock Absorbing Lanyards – Inertia Reels provide the connection between Body Harnesses and Anchors. They also control:

### SHOCK ABSORBERS

The maximum force on the body cradled in the harness. Testing to AS/NZS1891.1 2007 uses 100kG mass – accordingly all compliant Shock Absorbing Lanyards have a minimum capacity of 100kG. Compliant Shock Absorbing Lanyards require that no more than 6kN force be placed on the body during a fall.

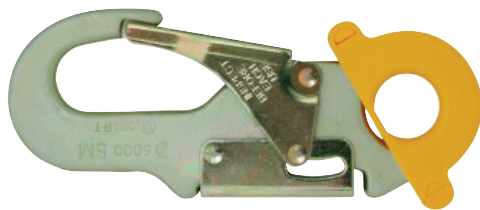
- B-Safe testing regime surpasses the AS/NZS1891.1 2007 requirements allowing the offering of compliant Shock Absorbing Lanyards with the below capacities
  - B-Safe Standard Shock Absorbing Lanyards - 136kG
  - B-Safe High Capacity Shock Absorbing Lanyards - 155kG
- The deployment of Shock Absorbers in Shock Absorbing Lanyards must be no greater than 1750mm but in doing so must do so in a manner approximately proportional to the table contained in the following foot clearance diagram.

### INERTIA REELS

- The maximum force is still to be less than 6kN. AS/NZS1891.3 cl 1.6 acknowledges an EN360 listing. Fall Arrest devices complying with EN353-1, EN353-2 or EN360 are acceptable for use in Australia and New Zealand and feature a very high safety standard and worldwide proven technology.
- The deployment of Inertia Reels also requires compliance with stopping distances – refer to below foot clearance diagram.

### ANTI DE-LATCHING DEVICE

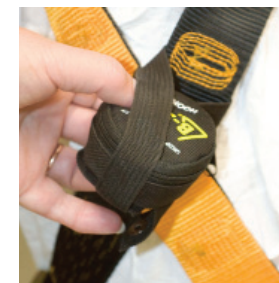
- On Lanyards and Rope Systems, all standard BSM0007 Double Action Snap Hooks have anti detaching devices fitted to prevent inadvertent interference by webbing or rope with secondary latch on snap hook. Safety of the Snap Hook could be reduced if the anti de-latching device is missing.



## ACCESSORIES - SUSPENSION TRAUMA STRAPS

**APPLICATION:** The Suspension Trauma Strap is only to be used in conjunction with a full body harness and is developed to prolong the time a person can be suspended after a fall before suspension trauma occurs. Seek medical attention after a suspension, do not lie in a horizontal position, keep person in upright position where possible. Using any form of Fall Prevention equipment requires a clear understanding of the equipment, recommended uses and limitations.

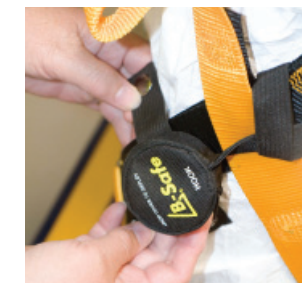
Australian Standards AS/NZS 1891.4 “Selection, Use and Maintenance” should be referred to by all users of this type of equipment. This Standard gives guidelines to understand fall prevention systems and guidance to the correct selection of equipment.



1. Locate strap at cross over of harness - slip through loop where leg strap passes through



2. Choke unit onto strap by passing body through case loop



3. Wrap the straps and secure the snaps around the harness strap to hold into place



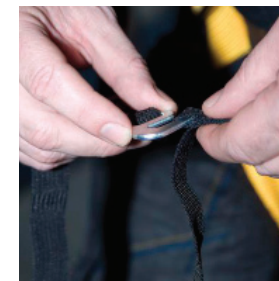
4. Repeat this process for other side; ensure you have full set eg. loop & hook



5. Trauma Strap position when attached (close up)



6. Open zips and drop down straps



7. Connect hook on one strap to loop of the other strap



8. Drop the joined straps down and step onto them slowly one foot at a time



9. Position both feet onto strap and raise the body slowly to relieve the pressure on the groin area

**HARNESSES FITTING INSTRUCTIONS**



**1** Hold the harness by the rear dorsal connection D ring and gently shake the harness to untangle the straps. Ensure the leg straps are free and not buckled up. Ensure that all straps are fully extended. Whilst holding the harness by the dorsal D, carry out a pre-use inspection of the components, webbing, stitching and buckles. Check labelling, identify the withdrawal from service date has not passed.



**2** Hold the harness with the Dorsal D facing away from you, place the shoulder straps of the harness over your hands (as shown) and hold the harness open.



**3** Rotate harness and insert elbow into arm loop and then place arm through the loop, release shoulder strap and place other arm through the other shoulder loop and let harness fall onto the shoulders. Ensure that the harness is fitted correctly without any webbing twists over the shoulders.



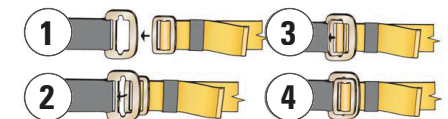
**5**

Bring leg straps between legs in turn ensuring no twists and connect respective strap to buckle on same side. Adjust by squatting and pulling on free webbing - repeat for both sides.



**HOW TO ASSEMBLE BUCKLES**

**6**



If required only, a final adjustment can be made to finalise fitting. Tuck all excess webbing into the elastic ties provided.

**27**

**Before using the B-Safe harness, users should do a pre-inspection on the harness including webbing, metal fittings connection points, and labels for damage. Refer to instruction booklet and if in any doubt you should contact your supervisor, supplier or B-Safe for advice. The date of entry into service should be recorded in the instruction booklet provided.**

**22**

**HARNESS FITTING INSTRUCTIONS - CROSSOVER HARNESS**



**1**  
Inspect Harness to AS/NZS 1891.4 requirements. Refer to Inspection Criteria in manual. Undo all buckles and shake to untangle.



**2**  
Hold harness to your left side by left shoulder strap and right shoulder buckle and slip on shoulders sideways holding large part of buckle in right hand.



**3**  
Connect the side buckles (above and below the front D Ring). Ensure rear D Ring can be reached. The harness should now hang nicely with leg straps hanging. Check for no twists.



**4**  
Buckle all straps prior to adjusting the fit. Locate chest strap and pass the smaller buckle plate through the other chest strap buckle. (As shown in the "How to assemble buckles" diagrams). Locate leg straps and ensure that the left leg strap is connected to the left hip buckle and the right leg strap is connected to the right hip buckle. Ensure the straps are not twisted and the loose webbing end is always on the outside, away from the body. Hold buckle and pull webbing to tighten straps to a firm and comfortable fit and slide keepers along the leg strap webbing to hold free webbing.



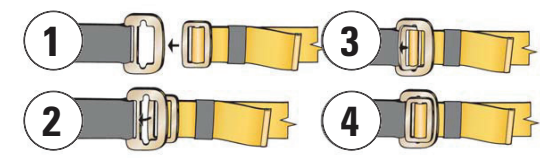
**5**  
Adjust shoulder straps first to ensure that the rear dorsal D is located between the shoulder blades in the center of the back. Then adjust chest and leg straps to a firm fit, and slide webbing keepers along to hold free webbing in place.

**4**  
Use adjusters on side buckles to set D Rings (front and rear) to centre of the body, approximately in line with shoulder blades.



**6**  
When using the front attachment points, both loops must be connected as per AS/NZS 1891.1:2007.

**HOW TO ASSEMBLE BUCKLES**



**HARNESSES FITTING INSTRUCTIONS - EVOLVE HARNESSES**



**1**  
Inspect Harness to AS/NZS 1891.4 requirements. Refer to Inspection Criteria in manual. Undo all buckles and shake to untangle. Hold by shoulder straps with D Ring facing away from you.



**2**  
Rotate harness and put on like a jacket. The Harness should hang nicely with all straps hanging. Check for no twists.



**3**  
Position sub pelvic strap below buttocks - use shoulder strap buckles to adjust - see step 6 picture. Rear D Ring should position between shoulder blades.



**4**  
Connect chest strap and adjust Posilock D Ring to centre of chest. Connect waist strap if fitted.



**5**

Bring leg straps between legs in turn ensuring no twist and connect respective strap to buckle on same side. Adjust by squatting and pulling on free webbing - repeat for both sides. Correctly fitted a flat hand should pass between webbing and leg BUT not a fist.



**6**

If required only, a final adjustment can be made to finalise fitting, by pulling webbing up through shoulder buckle. Tuck all excess webbing into elastic ties provided.



**POSILOCK D RINGS**



**24**

**SUSPENSION TRAUMA STRAPS**



**Steps to couple chest Dielectric Buckles**



**25**



**CONFINED SPACE**



**POLE WORK**



**UTILITIES**



**Shoulder strap arrangements - note two stage adjustment required on Dielectric hardware**

**SCAN THE QR CODE TO VIEW THE EVOLVE HARNESSES DONNING VIDEO**

