

**Regional B-Safe Offices**

**Australian Head Office**

Sydney

340 Victoria Street

Wetherill Park NSW 2164

Phone: (02) 9034 5444

Fax: (02) 9034 5499

**Regional Offices**

**Melbourne**

Phone: (03) 8558 3700

Fax: (03) 8558 3788

**Adelaide**

Phone: (08) 8244 3555

Fax: (08) 8244 3533

**Brisbane**

Phone: (07) 3279 1100

Fax: (07) 3279 1381

**Perth**

Phone: (08) 9458 3300

Fax: (08) 9458 3311

**Bundaberg**

Phone: (07) 4151 4642

Fax: (07) 4151 7628

Phone 1300 783 606

or visit

[www.beaver.com.au](http://www.beaver.com.au)



Beaver Brands Pty Limited  
Producers of B-Safe Products  
that are manufactured to  
Australian Standard AS/NZS 1891.1.2007



2334

**Fall Prevention & Rescue Equipment**



**B-Safe**



**Technical Guide and Product Users Manual**





The B-Safe brand of Height Safety, Confined space and Rope Rescue equipment is manufactured by Beaver Brands Pty Ltd. We manufacture a wide range of quality products as well as offering Technical Advice on our products and solutions to your Height Safety issues.

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 Industrial Fall-arrest systems and devices – "Harnesses and Ancillary equipment"
- AS/NZS 1891.2 Industrial Fall-arrest systems and devices - "Horizontal Life lines And Rail Systems"
- AS/NZS 1891.3 Industrial Fall-arrest systems and devices - "Fall-Arrest Devices"
- AS/NZS 1891.4 Industrial Fall-Arrest Systems and Devices - "Selection, use and Maintenance"

### General Warnings

- All users of Height Safety equipment require training in its selection 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 training in the selection, care and use of Height Safety Products. This training 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/NZS 1891.4 for guidance on the selection, use and maintenance of height safety equipment.
- 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 1891.1.2007
- 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, Dee's etc.
- All height safety equipment is once only shock load equipment. If the harness, lanyard, slings, 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.
- If any part of this equipment is exposed to chemicals, (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.

(continued over page)

### General Warnings *(continued)*

- 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. Read and understand all instructions and warnings BEFORE using equipment.
- When connecting the lanyard to the harness (in particular to the rear Dee) 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.
- 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 contact Beaver Brands.
- Always carry out a risk assessment and hazard identification plan prior to selecting the type of equipment to be used. (see next page)
- When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007.

### HAZARD IDENTIFICATION AND RISK ASSESSMENT

Identify the hazards (e.g. a fall) and assess the likelihood and consequence of each hazard (e.g. injury or death)

**ELIMINATION** – Eliminate the need to access the fall-risk area, e.g. by locating or relocating items requiring inspection, maintenance or other attention elsewhere.

**SUBSTITUTION** – Provide alternative means to access the point or item to which access must be made avoids the risk of a fall e.g. walkways.

**ISOLATION** – barricade or enclose the fall risk so that it cannot be reached.

**FALL PROTECTION** – Provide personal protective equipment which either prevents a fall or reduces the risk or severity of a fall or, in the event of a fall minimizes the risk of injury.

*The most preferred control is at the top and the least preferred at the bottom.*

## Height Safety Product Construction Information

### Harnesses

Fall Protection harnesses, webbing lanyards and pole straps are manufactured from 100% High Tenacity Polyester Fibre Webbing incorporating a lock stitch edge. All stitching is sewn using a lock stitch machine and finished by over-stitching and is not less than 2mm from the edge of the webbing, using 100% 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 a polished finish to minimize any possible damage to the webbing.

### Snap Hooks and Karabiners

In order to reduce the probability of involuntary opening, all snap hooks 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 snap hooks and karabiners used by B-Safe have ratings in excess of the requirements of AS/NZS 1891.1:2007 of 20kN.

### Personal Energy Absorbers

Personal Energy Absorbers are to be used in all Free Fall situations 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 point on the front or 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

B-Safe Fall Prevention equipment is designed to assist in the minimising of risk, where injury may occur in the event of a fall.

It is recommended that the user consult AS/NZS1891.4 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.

### Definitions

**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.

### 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.

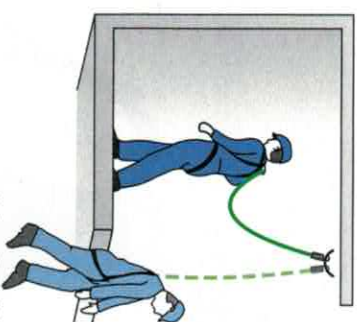
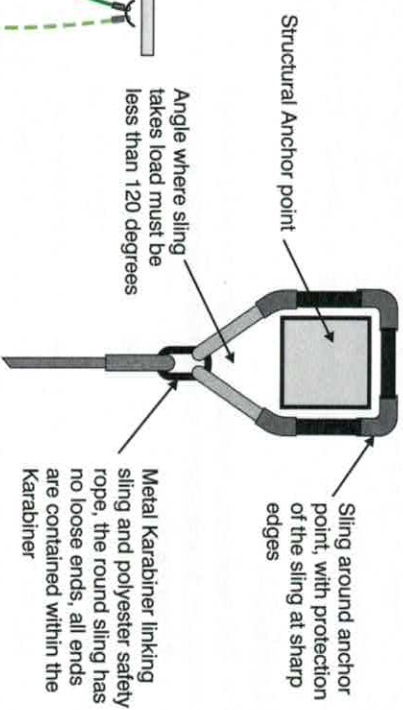
**Confined Spaces Harness/Spreader Bar:** A full body harness incorporating retrieval attachment points fitted to the shoulder straps that will retain the wearer in the heads up position when being lifted and to which is attached either a spreader bar, a pair of lifting straps or a lifting bridle. Wrist 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 can not exceed 2m.

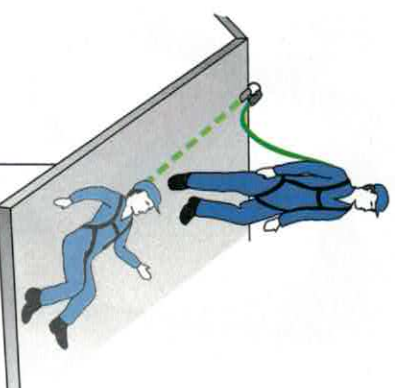
**Pole Strap:** A work positioning strap designed to be placed around a pole or other vertical structural member and attached at two points, one each side of a harness whilst the wearer is working on the pole.

**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.

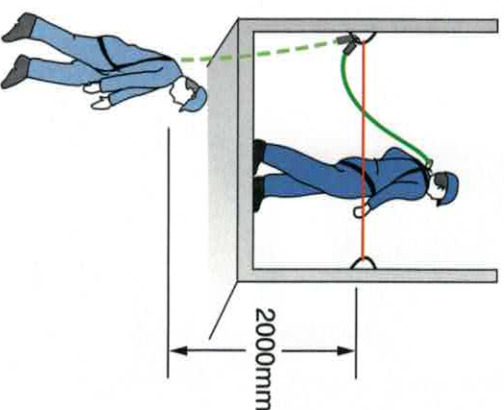
**Slings:** can be used to make anchor points around structures, but it is important to be aware that no polyester on polyester connection occurs, that when the sling is deployed that there are no loose ends in the system and that the angle of a rigged sling is no greater than 120 degrees to the attachment.



Limited Free Fall  $\leq 600\text{mm}$



Free Fall  $> 600\text{mm}$



2000mm

## **BH01120 – Harness** c/w rear and front fall arrest points

### **Purpose:**

This full body harness is designed to provide a means of arresting a maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

### **Features:**

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps. It is equipped with both a Rear Dee and Front Fall Arrest Loops.

### **Limitation:**

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.

### **Fitting Instructions:**

When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page **22 & 23** of this booklet



## **BH01121 - Harness** BH01120 f/w a waist belt and side Dees

### **Purpose:**

This full body harness is designed to provide a means of arresting a maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

### **Features:**

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps. It is equipped with both a Rear Dee and Front Fall Arrest Loops.
- Equipped with a waist band fitted with side restrained fall Dees for use with a pole strap and for work positioning.

### **Limitation:**

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- The side Dees are rated only for restrained falls and work positioning. Both Dees must be connected.

### **Fitting Instructions:**

When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page **22 & 23** of this booklet



### BH01124 - Harness

BH01120 f/w an extension on rear fall arrest attachment point.

#### Purpose:

This full body harness is designed to provide a means of arresting a maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

#### Features:

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps. It is equipped with both a Rear Dee and Front Fall Arrest Loops.
- Equipped with an extension on the Rear Dee for ease of connection

#### Limitation:

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- The rear extension when connected, has to be included when calculating the length of the fall.

#### Fitting Instructions:

When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page 22 & 23 of this booklet



### BH01132 - Harness

BH01120 fitted with a Wire Rope Lanyard with an intergrated Energy Absorber on Rear Dee with Double Action Snap Hook (other lanyard lengths available upon request)

### BH01151 - Harness

BH01120 fitted with an integrated Energy Absorbing Webbing Lanyard on Rear Dee with Double Action Snap Hook. (other lanyard lengths available upon request)

### BH01152 - Harness

BH01120 fitted with a Webbing Energy Absorbing Lanyard c/w Scaffold Hook. (other lanyard lengths available upon request)

#### Purpose:

This full body harness is designed to provide a means of arresting a maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

#### Features:

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps. It is equipped with both a rear Dee and Front Fall Arrest Loops.
- Equipped with an intergrated 2m Energy absorbing lanyard attached to the Rear Fall Arrest Dee.

#### Limitation:

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- If connecting to the front loops a separate energy absorbing lanyard must be used.
- Ensure that the unused lanyard on the Rear Dee is stowed out of user's way, ensuring that it will not interfere with user's safety.
- This harness is not recommended for users requiring frequent attachment to the front Fall Arrest Loops.

#### Fitting Instructions:

When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page 22 & 23 of this booklet



**BH01134 - Harness**

BH01120 f/w Twin Access Webbing Energy Absorbing Lanyard c/w Scaffold Hooks (other lanyard lengths available upon request)

**BH01135 - Harness**

BH01120 f/w Twin Access Wire Rope Energy Absorbing Lanyard c/w Scaffold Hooks.

**BH01136 & BH01137 - Harness**

As above but fitted with Aluminium Scaffold Hooks

**Purpose:**

This full body harness is designed to provide a means of arresting a maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

**Features:**

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps. It is equipped with both a Rear Dee and Front Fall Arrest Loops.
- Equipped with an intergrated 2m twin leg Energy absorbing lanyard attached to the Rear Fall Arrest Dee.

**Limitation:**

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- If connecting to the front Fall Arrest Loops a separate Energy absorbing lanyard must be used.
- Ensure that the unused lanyard on the Rear Dee is stowed out of user's way, ensuring that it will not interfere with user's safety.
- This harness is not recommended for users requiring frequent attachment to the front loops.

**Fitting Instructions:**

When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page **22 & 23** of this booklet

**BH01112 - Harness**

BH01120 c/w waist band and side Dees also fitted with an integrated webbing Energy Absorbing Lanyard on Rear Dee with Double Action Snap Hook (other lanyard lengths available upon request)

**Purpose:**

This full body harness is designed to provide a means of arresting a maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

**Features:**

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps. It is equipped with both a Rear Dee and Front Fall Arrest Loops.
- It is equipped with a waist band fitted with side restrained fall Dees for use with a Pole Strap and for work positioning.
- Equipped with an intergrated 2m energy absorbing lanyard attached to the Rear Fall Arrest Dee.

**Limitation:**

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- If connecting to the front Fall Arrest Loops both loops must be connected together as per AS/NZS 1891.1 - 2007 and a separate energy absorbing lanyard must be used.
- Ensure that the unused lanyard on the Rear Dee is stowed out of user's way, ensuring that it will not interfere with user's safety.
- This harness is not recommended for users requiring frequent attachment to the Front Loops.
- The rear extension when connected, has to be included when calculating the length of the fall.
- The side Dees are rated only for restrained falls and work positioning.

**Fitting Instructions:**

See fitting instructions on page **22 & 23** of this booklet





## BH02020 - Harness

c/w with rear and front fall arrest points & confined space retrieval tabs on shoulders

### Purpose:

This full body harness is designed to provide a means of arresting a maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

### Features:

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps.
- It is equipped with both a rear Dee and front fall arrest loops.
- It has confined space retrieval loops on shoulders
- Fully openable buckles for easy access for first aid and removal
- Extension on rear Dee for ease of connection with a fall arrest indicator.

### Limitation:

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- The rear extension when connected, has to be included when calculating the length of the fall.

### Fitting Instructions:

When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page 22 & 23 of this booklet



## BH02030 - Harness

BH02020 Harness f/w with rear and front fall arrest points, confined space retrieval tabs on shoulders & waist band with side Dee's

### Purpose:

This full body harness is designed to provide a means of arresting a maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

### Features:

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps.
- It is equipped with both a rear Dee and front fall arrest loops.
- It has confined space retrieval loops on shoulders
- Fully openable buckles for easy access for first aid and removal
- It is equipped with a waist band fitted with side restrained fall Dees for use with a Pole Strap and for work positioning.
- Extension on rear Dee for ease of connection with a fall arrest indicator.

### Limitation:

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- The rear extension when connected, has to be included when calculating the length of the fall.
- The side Dees are rated only for restrained falls and work positioning.

### Fitting Instructions:

When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page 22 & 23 of this booklet



### BH02030 - PAD - Harness

BH02020 Harness f/w with rear and front fall arrest points, confined space retrieval tabs on shoulders & padded waist band with side Dee's

**Purpose:**

This full body harness is designed to provide a means of arresting a maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

**Features:**

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps.
- It is equipped with both a rear Dee and front fall arrest loops.
- It has confined space retrieval loops on shoulders
- Fully openable buckles for easy access for first aid and removal
- It is equipped with a waist band fitted with side restrained fall Dees for use with a Pole Strap and for work positioning.
- This harness is fitted with a padded waist band for comfort
- Extension on rear Dee for ease of connection with a fall arrest indicator.

**Limitation:**

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- The side Dee's are for use with a pole strap they are rated for restrained fall and work positioning both Dee's must be connected.
- The rear extension when connected, has to be included when calculating the length of the fall.

**Fitting Instructions:**

When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page 22 & 23 of this booklet



### BH02051 - Harness

BH02020 f/w an integrated BL01112 Lanyard - Harness c/w with rear and front fall arrest points, confined space retrieval tabs on shoulders (other lanyard lengths available upon request)

**Purpose:**

This full body harness is designed to provide a means of arresting a maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

**Features:**

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps.
- It is equipped with both a rear Dee and front fall arrest loops.
- It has confined space retrieval loops on shoulders
- Fully openable buckles for easy access for first aid and removal
- This harness is fitted with a 2mt energy absorbing lanyard on the rear attachment point

**Limitation:**

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- If connecting to the Front Fall Arrest Loops a separate energy absorbing lanyard must be used.
- Ensure that the unused lanyard on the rear Dee is stowed out of user's way, ensuring that it will not interfere with user's safety.
- This harness is not recommended for users requiring frequent attachment to Front Fall Arrest Loops.

**Fitting Instructions:**

When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page 22 & 23 of this booklet

### BH04050 - Harness

BH02020 Harness f/w with rear and front fall arrest points, confined space retrieval tabs on shoulders & padded waist band with side Dee & Integrated Pole Strap

**Purpose:**

This full body harness is designed to provide a means of arresting a fall - maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

**Features:**

- Lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps.
- Equipped with both a rear Dee and front fall arrest loops.
- It has confined space retrieval loops on shoulders
- Fully openable buckles for easy access for first aid and removal
- Equipped with a waist band fitted with side restrained fall Dees for use with a Pole Strap and for work positioning.
- Fitted with a padded waist band for comfort and a buttock strap.
- Extension on rear Dee for ease of connection with a fall arrest indicator.
- Integrated Pole Strap for work positioning and restrained falls.

**Limitation:**

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- Pole strap must be connected for restrained fall and work positioning.
- The rear extension when connected, has to included when calculating the length of the fall.
- The side Dee's are for use with a pole strap they are rated for restrained fall and work positioning both Dee's must be connected.



be

**Fitting Instructions:** When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page 22 & 23 of this booklet

### BH04055 - Harness

BH02020 Harness f/w with rear and front fall arrest points, confined space retrieval tabs on shoulders & padded waist band & Buttock Strap with side Dee's

**Purpose:**

This full body harness is designed to provide a means of arresting a fall - maximum allowed free fall of 2 metres (The user must be connected to a suitable energy absorbing lanyard or similar device as per AS1891.4)

**Features:**

- The harness is lightweight and comfortable due to its fully adjustable leg, chest and shoulder straps.
- It is equipped with both a rear Dee and front fall arrest loops.
- It has confined space retrieval loops on shoulders
- Fully openable buckles for easy access for first aid and removal.
- Side Dee's for work positioning and restrained fall.
- This harness is fitted with a padded waist band and buttock strap for comfort
- Extension on rear Dee for ease of connection with a fall arrest indicator.

**Limitation:**

- Both the Rear Dee and the Front Loops are rated for fall arrest.
- The attachment points are only to be used for the purpose indicated on their respective labels.
- Pole strap must be connected for restrained fall and work positioning.
- The rear extension when connected, has to be included when calculating the length of the fall.

**Fitting Instructions:**

When using the front attachment points on a harness, both loops must be connected together as per AS/NZS 1891.1 - 2007. See fitting instructions on page 22 & 23 of this booklet



## Harness Fitting Instructions

Before using the B-Safe harness, you should inspect the harness straps, 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.

**1**

Pick up the harness by holding the rear dorsal connection Dee ring and gently shake the harness to separate 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 dee, carry out a pre use inspection of the components, webbing, stitching and buckles. Check labelling, identify the withdrawal from service date has not passed.



Dorsal Dee



**2**

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



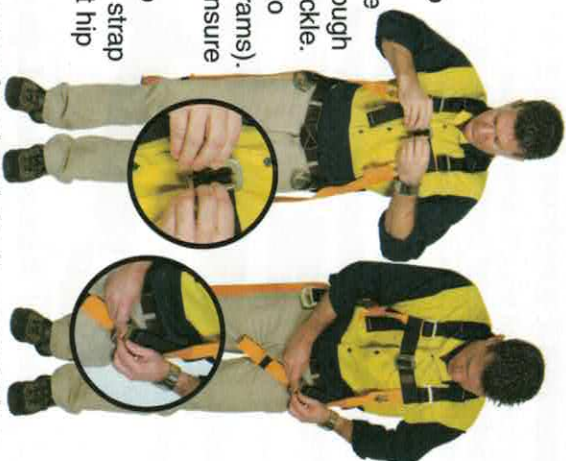
**3**

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.

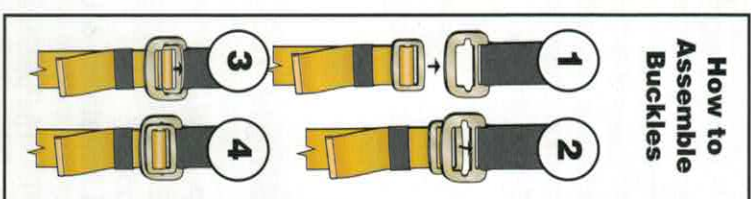


**4**

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 dee is located between the shoulder blades in the centre of the back. Then adjust chest and leg straps to a firm fit, and slide webbing keepers along to hold free webbing in place.



**6**

When using the front attachment points, both loops must be connected as per AS/NZS 1891.1 - 2007



## B-Safe Lanyards

As with all Height Safety equipment great care should be taken in selecting and using a lanyard. Refer to AS/NZS 1891.4 for guidance on selection use & maintenance.

All users of B-Safe lanyard products are required to have had suitable training ensuring they are competent with this equipment. If there is any doubt as to the method of use, you should consult your B-Safe approved distributor or contact B-Safe directly.



### Single Tailed Energy Absorbing Lanyards

#### Purpose:

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

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

- I. The personal energy absorbing end of the lanyard must be attached to a fall arrest attachment point on the harness at all times.
- II. 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 and the least total fall distance consistent with the wearer's ability to carry out work tasks.
- III. When connecting to a 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.
- IV. Do not connect more than one lanyard at a time as this will increase the maximum activation load required and increase the maximum shock on the body above 6kN.
- V. Minimum force required to activate lanyard is 2kN or 203kgf - short falls or slides will not generate enough force to activate shock absorber.
- VI. The maximum allowable free fall is 2 metres.

## Twin Access Energy Absorbing Lanyards

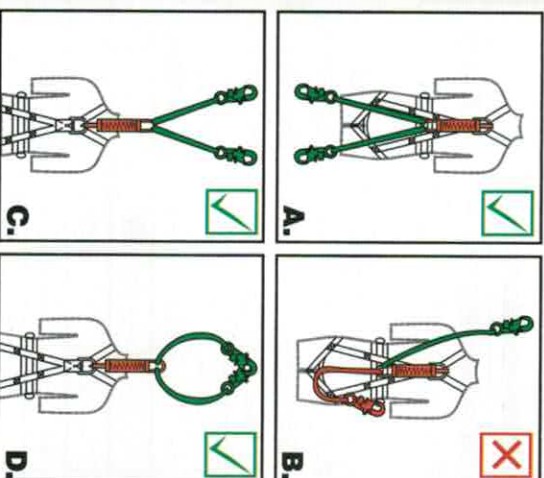
The twin lanyard permits the user to move around to different anchor points whilst having one hook attached at all times. All the rules regarding the use of energy absorbing lanyards must be maintained.



#### Purpose:

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

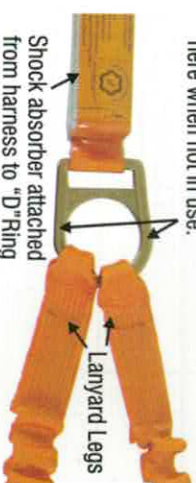
#### Correct use of twin lanyard



- The personal energy 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 tails to any part of the harness at any time (Fig B.) This is known as "short-circuiting" and could cause the lanyard to fail in the event of a fall.
- (Fig C.) It is best to use both lanyard tails at all times.
- (Fig D.) Either or both lanyard tails **MUST** be attached to an anchorage at all times.

Attach free tail fitting to here when not in use.



If you are using a B-Safe Twin Access lanyard you must not attach the unused leg to anything other than the designated attachment / stowage point as advised by the manufacturer. (see right)

## Energy Absorbing Lanyard Inspection

**Before & after use inspection** - User to check the following points

- Date of manufacture: The lanyard cannot be older than 10 years from date of manufacture. The reason for this life limitation on a lanyard is because of UV degradation of the webbing.
- Inspect the lanyard energy absorber for any signs of deployment (Tear web exposed or shrink wrap broken) lanyard must be destroyed.
- Check lanyard manufacturers compliance with AS/NZS1891.1

### Inspect webbing for:

- Abrasion - scuff marks on webbing
- Cuts - score marks or cuts in web
- Heat - burn marks or shiny surfaces on web
- Chemicals - grease, paint, acidic contact on web
- Excessive stretching - Stitching loose - Webbing deformed.
- Examine all stitching areas to ensure that no stitching has been cut, broken, heat or chemical damage or stretched.

### Metal components for:

- Check all hooks, karabiners and / or attachment devices for: Double action closing and locking ensure gate / catch locks close and cannot be opened by one action.
- Check metal components for corrosion, heat damage, bending, warping and twisting.

## B-Safe Lanyard Identification Table

BL01000	Personal Shock absorber pack only
BL01XXXX	Webbing Shock absorbing lanyard with fittings each end max length 2m
BL02XXXX	Rope Shock absorbing lanyard with fittings each end max length 2m
BL03XXXX	PVC coated wire rope Shock absorbing lanyard with fittings each end max length 2m
BL04XXXX	Webbing twin access shock absorbing lanyard with Harness attachment fitting and fittings each Leg max length 2m.
BL06XXXX	Wire rope twin access shock absorbing lanyard with Harness attachment fitting and fittings each Leg max length 2m.
BL07XXXX	Elasticized shock absorbing lanyard with fittings each end max length 2m.

## Lanyard Code Sequence

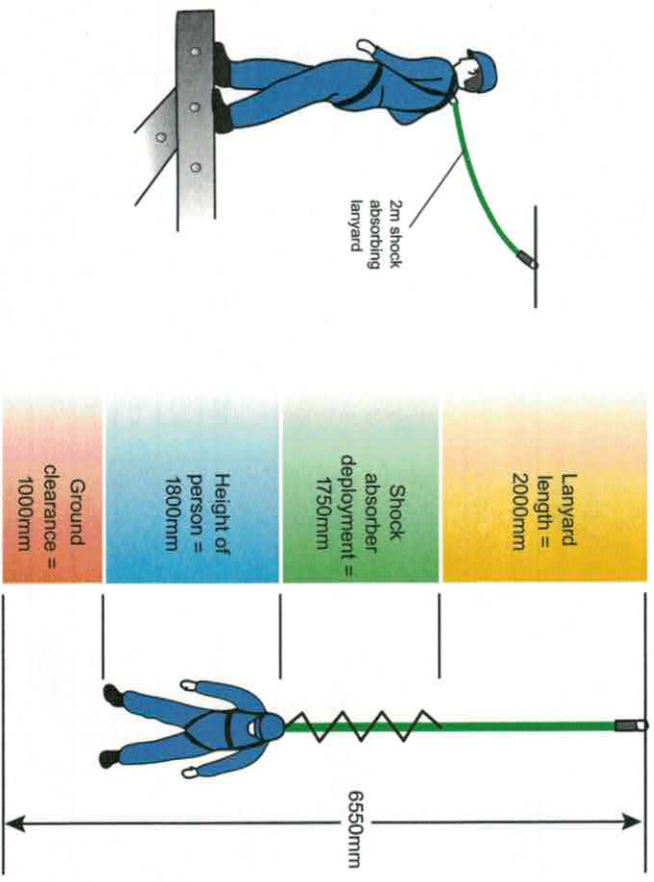
B-Safe Lanyard Type	Description	End Fittings & Description	Length
BL 01	Webbing	1 = BSM0007 Double Action Hook	<=2m
BL 02	Rope	2 = BSM0008 Scaffold Hook	"
BL 03	Wire Rope	3 = BSK0001 Screw Gate Karabiner	"
BL 04	Twin Access	4 = Triple Action Karabiner	"
BL 06	Twin Access Wire Rope	5 = Swivel Hook D/A	"
BL 07	Tubular/Elastic	6 = BSM06650 D/A Hook	"
		7 = BSK0005	"
		8 = BSK0024	"

### Fall Clearances (Refer to AS/NZS 1891.4 section 7)

If using a fall arrest system, it is essential that there be adequate clearance under the system so that in the event of a fall the user of the system will not strike the ground.

Fall distances will vary according to the type of Fall Arrest System or equipment used. As such, all factors likely to contribute to the fall distance together with adequate provision for residual fall clearances are essential elements in determining the selection of Fall Arrest systems and equipment.

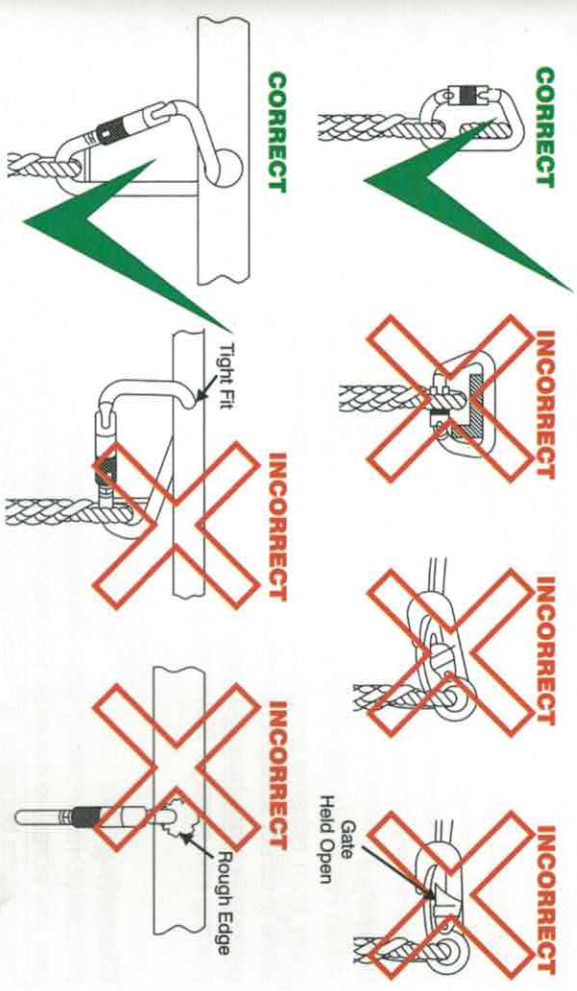
Please refer to AS/NZS1891.4 for guidance on calculating fall clearances.



### 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 "Dynamic roll out". Please review the images below to ensure correct loading and positioning of Attachment Hardware





## Inspection, Maintenance and Storage

Inspection of Harnesses, Lanyards and Fall Arrest devices should be conducted by the operator prior to and after each use. Products that have exceeded their 10 Year life time or exceeded the expiry date shall be removed from service immediately.

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.

Please note that your life may depend upon the continued efficiency and durability of this equipment and that a inspection prior to each use is vital in preventing the use of faulty equipment.

### 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 cloth or sponge. Do not use any abrasive material. For intensive cleaning wash the harness in a water temperature between 30° to 60°C using a bleach free neutral detergent. The washing temperature should never exceed 60°C. Harnesses should be air dried, never expose to a direct heat source.

**Before and after use inspection – User to check the following points**  
As before lay out your equipment and check for the following:

#### 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.

#### Hooks and Karabiners:

- Distortion of hook or latch
- Cracks or folds
- Wear or excessive movement at latch or swivels

#### “D”- Rings:

- Free from dirt or other obstructions, e.g. paint.

#### Sewing / Stitch blocks:

- Broken, worn or cut threads.
- Damaged or weakened threads due to contact with heat, corrosives, solvents or mildew.
- Abrasion fraying

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

### Periodic Inspection

All items of equipment that are in regular use shall be subjected to periodic inspections and where applicable servicing as per the table below. The inspection should be carried out by a competent person.

Equipment	Certification Intervals
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
Rope and slings	6 monthly
Permanently installed anchorage's, life lines, rails and components	12 monthly

**All Height Safety Equipment must be inspected and certified by the manufacturers recommended representative.**





### Visual Inspection Check List (Before and 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						



### 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	
Dee Rings	Free movement of latch over its full travel	
	Broken, weak or misplaced latch springs	
	Free from dirt or other obstructions	
	Excessive vertical movement of the straight portion of the dee ring at its attachment point on the belt, so that the corners between the straight and curved sections of the dee become completely exposed	
Buckles and adjusters	Cracks, especially at the intersection of the straight and curved portions	
	Distortion or other physical damage of the dee ring	
	Excessive loss of cross section due to wear	
	Distortion or other physical damage	
Sewing	Cracks and forging laps where applicable	
	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	
	Damage due to contact with heat, corrosives, solvents etc. deterioration due to ultraviolet light or mildew	
General comments		
Final appraisal:	Pass:	Fail:
Inspector:	Date:	

CLEANING OF HARNESS: If soiled by dirt or grit, sponge down or hand wash with lukewarm 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 instruction manuals in operational instructions or contact your nearest Beaver Products Branch.



**Certified Inspection Check List**

**NOTES**

User's Name:

Product: Serial No.:

Date of Manufacture Date of Withdrawal of Service

Date of Inspection	Report No.	Comments	Inspectors Signature