Be Safe.. Think

B-Safe®

TECHNICAL GUIDE
& PRODUCT USER MANUAL

Certified Product - AS/NZS 1891.1
Global-Mark.com.au®
ID Number: 100037

WAHA
WORKING AT HEIGHT ASSOCIATION
REACHING NEW LEVELS IN SAFETY

VERSION 2

BODY HARNESSES **S**HOCK ABSORBING LANYARDS **A**NCHORS **F**ALL RESCUE **E**DUCATION

INTRODUCTION

B-safe has been delivering height safety and fall prevention solutions to businesses throughout Australia since 1985. Our success is built on delivering world class products along with cost saving solutions that don't compromise safety.

Our Mission is to provide a complete range of height safety products and systems that are easy and comfortable to deploy, exceed safety standards and above all, provide the user with confidence.

Today, B-safe is part of Bunzl Safety, a wholly owned subsidiary of the Bunzl PLC group, a FTSE 100 company and global leader in safety. B-Safe has built a strong reputation and forged a leading position in the market through a combination of technical expertise, quality products and a strict testing regime.

Quality Assurance & Testing

Since inception B-safe has invested heavily in maintaining AS/NZS ISO 9001 Quality Assurance accreditation, NATA ISO/IEC 17025 registration and ISO 14001 environmental management accreditation. Our harnesses and lanyards are made and tested in accordance with AS/NZS 1891.1.2007 and each product is tested to strict Quality Assurance guidelines within our NATA accredited laboratories before they hit the market.

Education & Training

In recent times, the height safety industry has shifted focus by increasing requirements on manufacturers to provide meaningful advice as well as compliant, comfortable and easy to use products. End users are also required to maintain a sufficient level of knowledge and competence in the use of height safety products.

To help, B-Safe has focused on 5 key elements in heightsafety as outlined below:

Body Harnesses | Shock Absorbing Lanyards | Anchors | Fall Rescue | Education / Competence

Technical Product Demonstrations

B-Safe has various forms of testing and demonstration equipment to highlight and simulate real life applications. Our B-Safe products, equipment and a demonstration trailer can be utilised to demonstrate or test various fall prevention scenarios and systems. Short two hour presentations include fitting a harness, selection of equipment, user inspections and a rescue demonstration.

Our products are:

- Compliant To Australian Standards
- Designed With The Users Comfort In Mind
- Easy To Deploy

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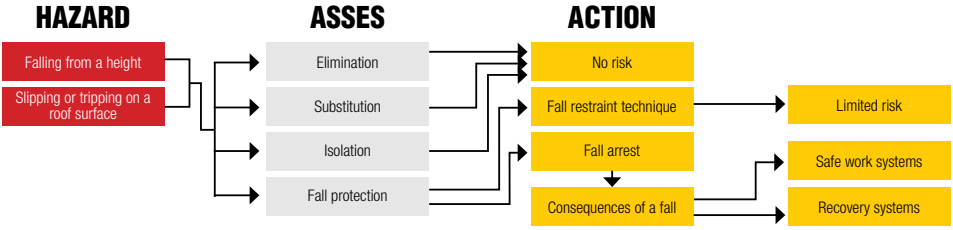
RISK ASSESSMENT PROCEDURES

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. Below is 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.

Relevant Australian/New Zealand Standards listed below are recommended for further reading:
AS/NZS 1891.1:2007 Industrial Fall-Arrest Systems And Devices – Harnesses And Ancillary Equipment.
This is a manufacturing standard which specifies requirements for materials, design, manufacturing and testing of harnesses, lanyards, pole straps and associated equipment. Testing utilises 100kg mass – users of greater mass should consult manufacturer.
AS/NZS 1891.2:2001 Industrial Fall-Arrest Systems And Devices – Horizontal Lifeline 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.
This is a user orientated document outlining selection criteria, safe use, inspection and maintenance requirements of products and systems used in fall protection.

These Standards are to be used as a guide to form safe work procedures, however, they are not all inclusive.

WORKING AT HEIGHTS

GENERAL PRINCIPLES OF SAFELY WORKING AT HEIGHTS

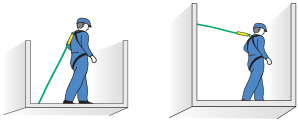
Work sites today pose hazards that can cause serious harm. The responsibility to end each day safely is everyone's responsibility, employers and employees. An awareness of the hazards at workplaces allows them to be safely addressed.

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

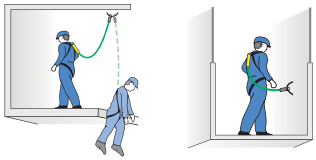
B-Safe Fall Prevention equipment is designed to assist in minimising risk, where injury may occur in the event of a fall. It is recommended that the user consult AS/NZS 1891.4 for guidance on the selection, use and maintenance of this type of equipment. If there is any doubt as to the method of use and 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

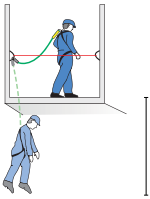


Restraint Technique
Control of a persons movement by means of a combination of a harness, and shock absorbing lanyard connected to an anchor point that will physically prevent the person from reaching a position at which there is a risk of a free fall.

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.
- I f 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.

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 your Bsafe distributor.
- 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 System: 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.

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

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

BODY HARNESSES

The B-Safe Harness Range provides **140kg** capacity when used with our shock absorbing lanyards or inertia reels and **160kg** when used with our high capacity shock absorbing lanyards.

The B-Safe Harness Range builds upon itself:

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

APPLICATION

Harness Product Code	Fall Arrest	Confined Space	Pole Work	Utilities	Tower Work
BH01115	✔				
BH01116	✔				
BH01118	✔				
BH01120	✔				
BH01121	✔				
BH01124	✔				
BH01132	✔				
BH01112	✔				
BH01151	✔				
BH01120-HALO2	✔				
BH05200-HALO2	✔		✔	✔	✔
BH02020-QB	✔	✔			
BH02030-QB	✔	✔	✔		
BH02030PAD-QB	✔	✔	✔		
BH04055-QB	✔	✔	✔	✔	✔
BH05200-QB	✔		✔	✔	✔
BH02020-LT	✔	✔			
BH02030-LT	✔	✔	✔		
BH04055-LT	✔	✔	✔	✔	✔
BH01118-EVOLVE	✔				
BH02020DE-EVOLVE	✔	✔			
BH02020QB-EVOLVE	✔	✔			
BH02030DE-EVOLVE	✔	✔	✔		
BH02030QB-EVOLVE	✔	✔	✔		
BH04055DE-EVOLVE	✔	✔	✔	✔	✔
BH04055QB-EVOLVE	✔	✔	✔	✔	✔
BH05200QB-EVOLVE	✔		✔	✔	✔

Note: Please refer to the B-Safe Catalogue for harness features

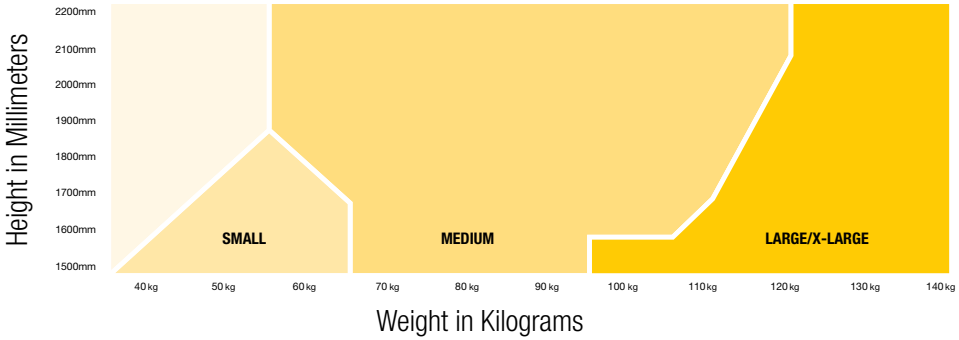
HARNESS SIZING CHART

All B-Safe harnesses are designed and manufactured to exceed the requirements of AS/w 1891.1:2007. Utilising only the finest components we have forged a hard earned reputation for the design, manufacture and supply of superior fall prevention and rescue equipment.

We have a broad range of harnesses designed with the requirements of an end user in mind, allowing for maximum comfort and to ensure an even distribution of fall arrest forces.

Prior to the final inspection each product is individually proof loaded to 7.5KN (750Kg) to verify the integrity of the construction and configuration. All metal hardware used on B-Safe products are batch numbered, tested and fully traceable. It is this attention to detail that allows B-Safe to provide peace of mind to our valued clients.

HARNESS SIZING CHART



MAXIMUM WAIST	**900MM**	**1050MM**	**1150MM**
MINIMUM WAIST	**660MM**	**750MM**	**750MM**

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

ACCESSORIES

LANYARD STOWAGE

Application:
The lanyard stowage is designed to stow your lanyard safely and securely. Should the lanyard get caught on something, it will safely detach to prevent injury or damage.

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 e.g. loop and 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.

HARNESS 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.

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

HARNESS FITTING INSTRUCTIONS

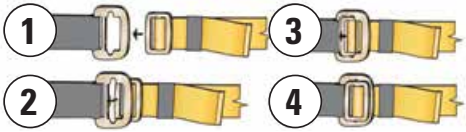
4

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.

5

Adjust shoulder straps first to ensure that the rear dorsal D 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.

HOW TO ASSEMBLE BUCKLES



6

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

HARNESS FITTING INSTRUCTIONS

EVOLVE HARNESS

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.

BODY HARNESSES

SCAN THE QR CODE TO VIEW THE EVOLVE HARNESS DONNING VIDEO

POSILOCK D RINGS

DIELECTRIC BUCKLES

HARNESS FITTING INSTRUCTIONS

EVOLVE HARNESS

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

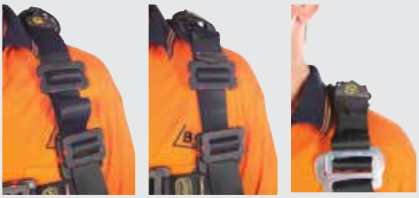
If required only, a final adjustment can be made to finalise fitting, by pulling webbing up through shoulder buckle. Tuck all excess webbing into elastic tidies provided.

SUSPENSION TRAUMA STRAPS

CONFINED SPACE POLE WORK UTILITIES

SHOULDER STRAP ARRANGEMENTS

Note two stage adjustment required on Dielectric hardware



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.

HARNESS FITTING INSTRUCTIONS

CROSSOVER HARNESS

4

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

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.

6

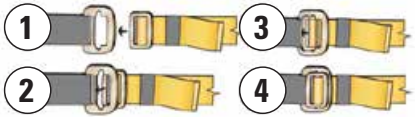
If required only, a final adjustment can be made to finalise fitting. Tuck all excess webbing into the elastic tidies provided.

CORRECT ✓

INCORRECT X

Correctly fitted, a flat hand should pass between webbing and leg BUT not a fist. If you can make a fist, tightening is required.

HOW TO ASSEMBLE BUCKLES



SHOCK ABSORBING LANYARDS

INERTIA REELS

Application: 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.

- The 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.

SHOCK ABSORBING LANYARDS

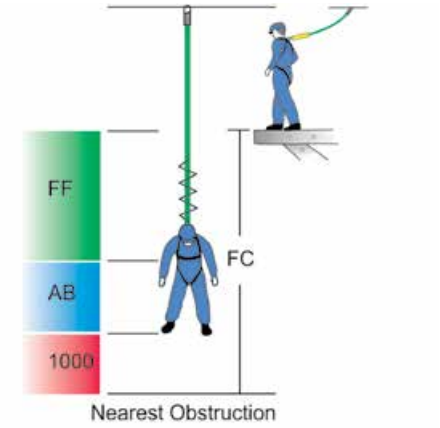
FALL CLEARANCES

Fall Clearances For 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.

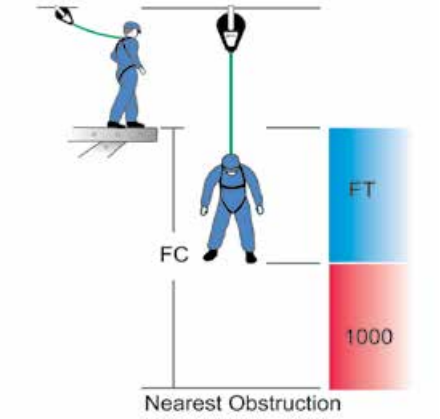


Fall Clearances For Inertia Reels

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.



BSAFE SHOCK ABSORBING LANYARDS & INERTIA REELS

SINGLE LEG SHOCK ABSORBING LANYARDS

Application:

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.

TWIN LEG ACCESS SHOCK ABSORBING LANYARDS

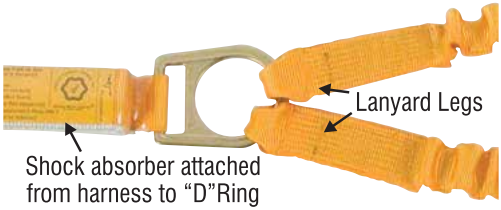
The twin leg lanyard permits the user to move around to different anchor points whilst having one hook attached to an anchor point at all times. All the rules regarding the use of shock absorbing lanyards must be maintained.

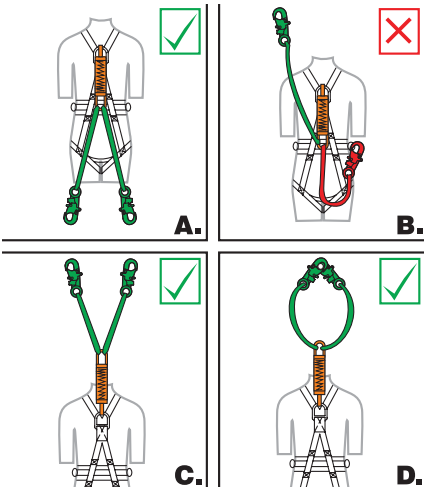
Purpose:

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 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 your Bsafe distributor for capacities.

LANYARD CODE SEQUENCE

B-Safe Lanyard	Type	Description	End Fittings & Description	Length
BL	01	Webbing	1 = BSM0007-16 Double Action Hook	<=2m
BL	02	Rope	2 = BSM0008-16 Scaffold Hook	<=2m
BL	03	Wire Rope	3 = BSK0002TC-16 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 = BSK0003-16	<=2m
			8 = BSK0024	<=2m

High capacity lanyards have suffix XXX-NTBK. Contact your Bsafe distributor for capacities.

B-SAFE POLE STRAPS & RETRACTABLE LANYARDS

POLE STRAPS

Application: 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

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

BP02112 - 2m Pole Strap

RETRACTING WEB LANYARD BL05332.5

Application: B-Safe self retracting lanyards allow 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 with oval double action karabiner each ends
BL05332.5	2.5m retracting lanyard with oval double action karabiner each ends
BL05332.5TC	2.5m retracting lanyard with triple action karabiners each end

BL05332.5
Capacity 100KG
Refer to user instructions supplied with unit.

ANCHORS

Application: Safety anchor points are a vital part of a fall protection system. Fall protection anchor points are usually installed on the roof and are used to connect lanyards, lifelines and other forms of tie-off which prevent a worker from falling. 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 532:2013

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

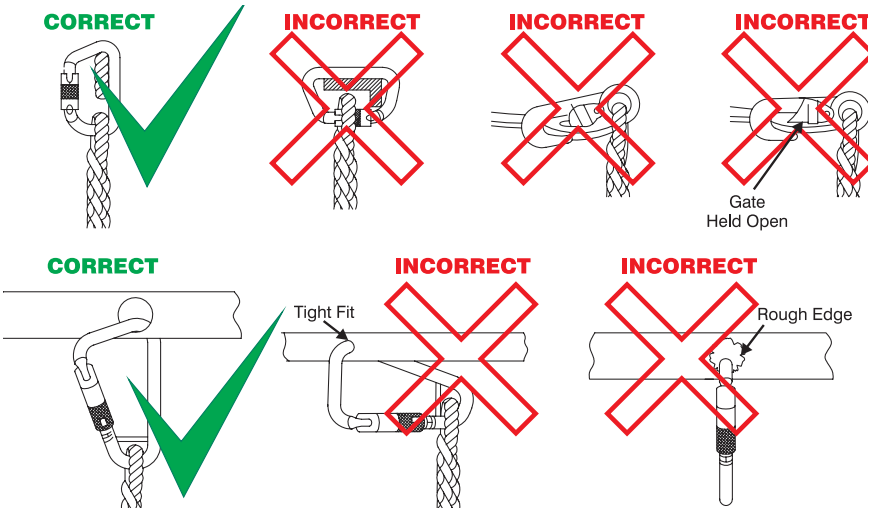
Both load and direction of load should be considered when evaluating structural members. Not all structures are suitable – obtain engineering certification where work task is to be carried out on a regular basis.

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 21** 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 ARRESTO SELECTION GUIDE

ARRESTO INERTIA REELS (SELF RETRACTING LIFELINES)		BMIC02-130AT	BMIC02-130	BPWSW3.5(SE)	BPWSW7.5(SE)	BPWSW12	BPSSW05(SE)	BPSSW10(SE)	BPSSW15	BPSSW20	BPSSW30	BPCGS10R	BPCGS20R	BPCGS25R
		2m	2m	3.5m	7.5m	12m	5m	10m	15m	20m	30m	10m	20m	25m
Wire Rope 4.5mm							✓	✓	✓	✓	✓	✓	✓	✓
Polyester Webbing Technora 21mm		✓	✓											
Polyester Webbing 25mm				✓	✓	✓								
Dual Fall Arrest												✓	✓	✓
Swivelling Anchorage		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
140kg Capacity (1 Person)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carrying Handle		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Retrieval Handle												✓	✓	✓
Quarter Turn Locking Karabiner			✓											
Triple Action Locking Karabiner		✓												
Self Locking Snap Hook				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fall Indicator		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
16kN Gate Strength		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inbuilt Energy Absorber		✓	✓		✓			✓						
Tripod Mountable												✓	✓	✓
Heavy Duty Plastic Casing		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Serviceable				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Quick Scan Technology QR Code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lightweight Technology		✓	✓	✓	✓	✓								
Testing Criteria	Edge Tested (to 100kg)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Static Strength	15kN for 3 minutes												
	Dynamic Performance	100kg mass free fall of 600mm with breaking force of less than 6kN & arrest distance of less than 2 metres.												
Standards		Meets EN360 and AS/NZS 1891.3												
Special Instructions		Please refer to Arresto Technical User Manuals for further information												

B-SAFE TEMPORARY ANCHORS

BP03001.5 1.5m Tie Off Adaptor.
BP03002 2m Tie Off Adaptor.

Available in multiple lengths

BP03101.5
1.5m Attachment Strap. Available in lengths from 500mm to 2m.

Available in multiple lengths

BSM0045 - BEAM TROLLEY
76mm – 255mm.

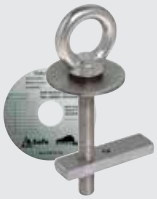
Rolling capabilities for overhead applications

B-SAFE PERMANENT ANCHORS

WELD-ON ANCHOR
BSC5024, BSC5026

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

OTHER B-SAFE 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 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

Application: 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 -

CODE	DECSCRIPTION
BF42-ABS3AW	Descender Unit Without Hand Wheel
BF42-ABS3AW-15	15M X140Kg Emergency Descender Only - 1 Person
BF42-ABS3AW-20	20M X140Kg Emergency Descender Only - 1 Person
BF42-ABS3AW-30	30M X140Kg Emergency Descender Only - 1 Person
BF42-ABS3AW-60	60M X140Kg Emergency Descender Only - 1 Person
BF42-ABS3AWH	Descender Unit With Hand Wheel
BF42-ABS3AWH-15	15M X 140Kg Rescue Descender Only - 1 Person
BF42-ABS3AWH-20	20M X 140Kg Rescue Descender Only - 1 Person
BF42-ABS3AWH-30	30M X 140Kg Rescue Descender Only - 1 Person
BF42-ABS3AWH-60	60M X 140Kg Rescue Descender Only - 1 Person
BF42-ABS3AWH-100	100M X 140Kg Rescue Descender Only - 1 Person

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

B-SAFE AUTO DESCENDER & POLE SYSTEM

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

B-SAFE RESCUE KITS

B-SAFE LIFE SAVER RESCUE KITS

Application: Descender kits and rope recovery systems are suitable for a range of rescue applications including rescues from elevated work platforms, pole tops, 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.

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

B-Safe provides Product Demonstration Training for all of the key elements:

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

All product demonstrations embrace the above.

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 HARNESSES *S*HOCK ABSORBING LANYARDS *A*NCHORS *F*ALL RESCUE *E*DUCATION**

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:

1. "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."
2. "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.

EDUCATION

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.
Anchorages – 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.

VISUAL INSPECTION CHECKLIST

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								

Available for download in PDF format from our website at www.bsafe.com.au

EDUCATION

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	
	Deterioration due to rotting, mildew or ultraviolet exposure	
Snap Hooks & Karabiners	Distortion of hook or latch	
	Cracks or forging folds	
	Wear at swivels and latch pivot pin	
	Free movement of latch over its full travel	
	Broken weak or misplaced latch springs	
	Free from dirt or other obstructions	
D Rings	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	
	Distortion or other physical damage of the D ring	
	Excessive loss of cross section due to wear	
Buckles & Adjusters	Distortion or other physical damage	
	Cracks and forging laps where applicable	
	Belt tongues	
	Open rollers	
Sewing	Broken, cut or worn threads	
	Damaged or weakening of threads due to contact with heat, corrosives, solvents or mildew	
Ropes	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 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 1300 783 606.

CERTIFIED INSPECTION CHECKLIST

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

Available for download in PDF format from our website at www.bsafe.com.au

1 YEAR LIMITED WARRANTY

B-Safe offers a one year limited manufacturer's warranty on this product.

B-Safe is a brand of Bunzl Brands & Operations Pty Ltd.

Bunzl Brands & Operations Pty Ltd (BBO) 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").

BBO will rectify any defect in materials or workmanship appearing within the warranty period by repairing or replacing the product. BBO will offer a refund of the purchase price if the product cannot be readily and quickly repaired or replaced. BBO 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 BBO, 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 BBO 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 BBO. If BBO determines the product contains a defect in materials or workmanship that is covered by this warranty then BBO will bear the cost of returning the repaired product or replacement product to the person making the claim. If BBO 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 BBO.

CONTACT

Bunzl Brands & Operations Pty Ltd
55 Sarah Andrews Close, Erskine Park NSW 2759
Telephone: 1300 783 606

Be Safe.. Think

B-Safe

TECHNICAL GUIDE & PRODUCT USER MANUAL

DISTRIBUTED BY:

Certified Product - AS/NZS 1891.1

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Ph: 1300 783 606
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VERSION 2

Be Safe.. Think B-Safe

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