



Full Body Harness



Certified to:

CSA Z259.10-2012

ANSI Z359.11-2014

ASTM F887-13

Welder's Harness

V8009010 (FBH-121102B)



**READ CAREFULLY
BEFORE USE**

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SureWerx[™]
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Coquitlam, BC V3K 0B3

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INTRODUCTION

This manual contains the Manufacturer's Instructions as required by CSA Z259.10 and ANSI Z359.11. It should be used as part of the fall protection training program required by law. All PeakWorks' products are designed and engineered to meet or exceed applicable CSA, ANSI and OSHA standards along with labour ministry requirements.

WARNING: All persons using this equipment must read and understand all the instructions and warnings contained in this manual. Failure to do so may result in serious injury or death. Do not use this or any other fall protection equipment unless you have been properly trained.

FALL PROTECTION

It is the employer's responsibility to provide fall protection and training for any worker deemed to be working at height. In Canada, any worker that is more than 3 meters (10 ft) from the ground or first obstruction must have fall protection, in the U.S.A. 1.8 meters (6 ft).

A complete fall protection system consists of the following components that are arranged to fit the specific work task and control the elevated fall hazard(s):

Anchorage - An anchorage is a secure means of attachment to which the personal fall arrest system is connected.

Body Support - A body support is the component of a personal fall protection system that is worn on or around the body. Full body harnesses must be used for all fall arrest systems.

Connecting Means - A connecting means is the link between the body support and anchorage. It can be a shock-absorbing lanyard, rope grab, self-retracting lanyard or retrieval system. Connecting means will vary depending on the application.

Anchorage Strength: All anchorages must be capable of supporting a minimum of 3,600 lb (16 kN) when certification exists, or 5,000 lb (22.2 kN) in the absence of certification. (See ANSI Z359.1 for definition of certification.) When more than one personal fall arrest system is attached to an anchorage, the anchorage strengths above shall be multiplied by the number of personal fall arrest systems attached to the anchorage. This requirement is consistent with OSHA requirements as follows: Anchorages used for attachment of personal fall arrest systems shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 lb (22.2 kN) per user attached, or be designed, installed and used as part of a complete personal fall arrest system which maintains a safety factor of at least two and is supervised by a qualified person.

If you fall, remove the equipment from service and immediately report what happened to your supervisor or the safety department. The entire system, including the anchorage point, must be checked by a qualified person to make sure it will provide the proper protection for the next person who might fall. If a fall has occurred, remove the harness from service and destroy.



SYSTEM COMPATIBILITY

PeakWorks equipment has been designed and approved for use only with PeakWorks connectors. Any substitution of components may result in compatibility issues. Users should always ensure that the connectors are properly selected and connected so as not to allow a load to be applied to the gate of the connector.

WARNING: Not following either of these instructions could result in the fall protection system becoming disengaged during a fall which could result in serious injury or death.

TRAINING

All workers and their employer must be trained in the correct use, care and maintenance of this and any other fall protection equipment used. It is the employer's responsibility to provide proper fall protection training for all workers using fall protection equipment. Both the worker and the employer must be aware of the correct and incorrect applications and use of this equipment.

WARNING: Failure to be properly trained on this equipment and any other fall protection equipment used in conjunction with this equipment could result in serious injury or death.

RESCUE PLAN

A rescue plan is an integral and critical part of any fall protection plan and system. It is the responsibility of the employer to have a rescue plan prepared by a competent person. All workers using any fall arrest system must have a rescue plan prior to using the system.

INSPECTION

WARNING: If any portion of the inspection reveals problems, deficiencies or unsafe conditions, the equipment must be removed from service immediately.

This equipment and any other fall protection equipment used in conjunction with it should be inspected by the worker every time it is used. This equipment must be inspected annually by a competent person. A competent person is defined by OSHA: "By way of training and/or experience, a competent person is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation and has the authority to correct them". Details of how to inspect this equipment is discussed later in the manual.

REPAIR

Do not attempt to repair or alter this fall protection equipment. Repairs can only be performed by the manufacturer or its authorized agents.

FALL CLEARANCE

Fall Clearance is the distance required to safely arrest the user's fall. It is the distance from the anchorage to the ground. A Fall Clearance Calculation must be done anytime this or any other fall protection equipment is used.

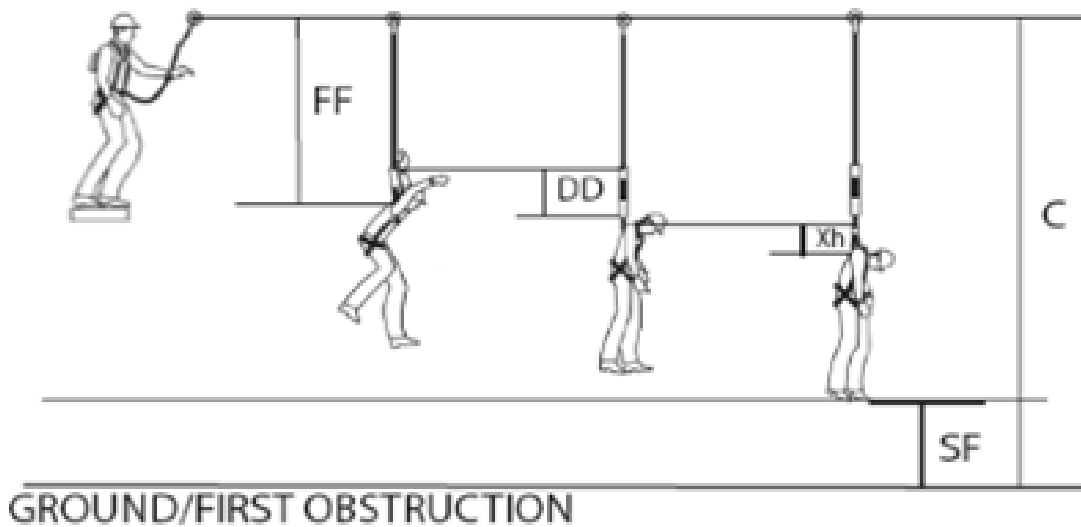
Step 1: Calculate Free Fall (FF)

Step 2: Determine how much the connecting device deploys (DD)

Step 3: Determine the stretch of the harness (Xh)

Step 4: Add a safety factor (typically is 3 ft)

Step 5: Fall Clearance $C = FF + DD + Xh + SF$



Harness Stretch

Fall arresting forces will cause the harness to stretch. Always account for harness stretch when calculating free fall distances. Harness stretch will be less than 18 inches (0.46 m) for PeakWorks harnesses.

HARNESSES SPECIFICATIONS

All PeakWorks harnesses have been designed and engineered to meet or exceed ANSI Z359.11 and/or CSA Z259.10 standards as well as applicable OSHA regulations.

PeakWorks full body harnesses are designed for use by persons with a combined weight (clothing, tools, etc.) of no more than 310 lb (140 kg). Peakworks full body harnesses that meet CSA Z259.10 standards only are labeled for maximum capacity of 400 lb (181 kg). Make sure all of the components in your system are rated to a capacity appropriate to your application.

FALL INDICATOR

Every PeakWorks harness is fitted with a Fall Indicator. This is a visible warning device which alerts the user that the harness has been subjected to a force similar to that of a fall. The fall indicator deploys only when a force at or below 900 lb (408 kg) is applied to the harness. The fall indicators can be found on the back of the harness below the D-ring. They are a folded over section of the webbing stitched in a rectangular shape. If the fall indicator is deployed, a warning label will be visible and the harness should be removed from service immediately.

HARNESSES CLASSIFICATION

Class A: Fall Arrest



Class A full body harnesses are designed to support the body during and after the arrest of a fall.

Class D: Suspension and Controlled Descent



Class D full body harnesses are designed for suspension or controlled descent from a height.

Class E: Limited Access



Class E full body harnesses are designed to support a worker in a position that reduces the worker's profile during passage through a limited access area. Hoisting of the worker is usually involved.

Class L: Ladder Climbing



Class L full body harnesses are designed for use with fall restrict systems involving the use of a Class AS or FRL fall arrester that travels on a vertical lifeline or rail, as described in CAN/CSA- Z259.2.1. These systems are typically mounted on or adjacent to ladders or towers.

Class P: Work Positioning



Class P full body harnesses are designed to position the worker during a work operation.

In addition to the connector required for Class A, all Class P full body harnesses shall have two Class I connectors mounted at waist level.

MARKINGS AND LABELS



DONNING AND FITTING A HARNESS

Step 1: Hold the harness by the back D-ring. Untangle any tangled straps and unbuckle all connection hardware.

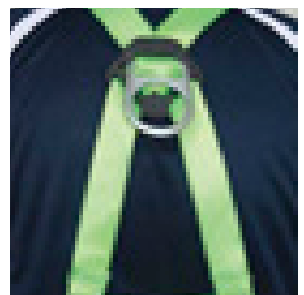
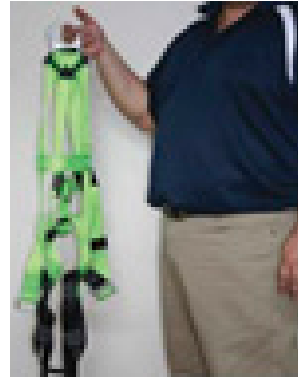
Step 2: First grasp one and then the other front shoulder strap, sliding them over your arms and into position on your shoulders. The back D-ring pad should lie flat against your body with the back D-ring in an outward position and both letters "A" visible.

Step 3: Reach between your legs and pull the leg straps through. Join the connection hardware as shown. Ensure the strap is not twisted and is lying flat against your leg. Repeat for the second leg strap. Leg straps should be snug, but not snug to the point that they obstruct normal blood circulation in the legs. Use a flat hand between the leg strap and your leg as a guide for the amount of slack allowed in each leg strap.

Step 4: Ensure the sub pelvic strap is positioned under your buttocks. This is important so that in the event of a fall the sub pelvic strap can distribute the forces evenly throughout the harness.

Step 5: Connect chest strap using the connection hardware as shown. Ensure the strap is not twisted and is lying flat against your chest. Position the chest strap in the mid-chest area approximately 6" to 8" below the chest, but not below the sternum.

WARNING: After all straps have been buckled, tighten all webbing so that the harness fits snugly but allows a full range of motion.





CARE AND STORAGE

This harness and all fall protection equipment should be stored in a clean dry environment that is free of exposure to fumes or corrosive elements. Never store this harness where it is exposed to long periods of sunlight.

Regular cleaning of your harness will help extend its life. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and mild soap or detergent. Work up a thick lather with a vigorous back and forth motion. Remove the soap or detergent with a clean damp cloth. Wipe the harness dry with a clean cloth. Hang the harness to dry away from excessive heat or steam.

PeakWorks offers a professional cleaning service. Our non-invasive cleaning process does not weaken reflective materials, stitching or seams. The colours of your items will not fade. Even materials like leather can go through the cleaning process. Please contact PeakWorks for more information.

HARNESS INSPECTION

This harness and any other fall protection equipment used in conjunction with it should be inspected by the worker every time it is used. This equipment must be inspected annually by a competent person. PeakWorks offers a professional RFID based inspection system. Please contact PeakWorks for more information. The following guide should be used to inspect your full body harness.

Step 1: Webbing

Place the webbing between both of your hands approximately 6" apart. Flex the webbing to reveal any signs of damage such as burns, frays, cuts, chemical damage or pulled stitches. Continue this procedure for the entire harness ensuring that you inspect all the webbing on both sides.

Step 2: D-Rings

Locate the back D-ring and look for signs of distortion, corrosion, cracks, breaks or sharp edges. Move the webbing at the attachment point to ensure there are no signs of damage under the webbing. Repeat the procedure above for all D-rings located on the harness.

Step 3: Connection Hardware

This full body harness has multiple connection points. Look for signs of distortion, corrosion, cracks, breaks or sharp edges. Each connector should be tested to ensure that both halves mate properly. Move the webbing at the attachment point to ensure there are no signs of damage under the webbing. Repeat this procedure for all connection points.

Step 4: Shoulder Strap Adjustors

This full body harness has 2 sets of shoulder strap adjustors (one located at each side of the shoulder straps). Look for signs of distortion, corrosion, cracks, breaks or sharp edges. Ensure that you inspect the knurled bar as well as the spring loaded bar for signs of distortion, corrosion, cracks, breaks or sharp edges.



Step 5: Stitching

Peakworks utilizes programmable stitch patterns on all stitches used to manufacture all full body harnesses. Check all stitches on the harness to ensure that there are no missing stitches within each stitch pattern, and that there are no loose or pulled stitches. Also make sure that all joints are tight and have not become loose over time.

Step 6: Fall Indicators

There are two fall indicators. Check that the stitching holding the folded portion of the fall indicator is complete and not torn or separated from the webbing. The warning label must not be visible in any way under the fold. If one of the warnings is visible in any way, remove the harness from service immediately.

Step 7: D-Ring Pad /Chest Keepers

Check the D-ring pad and chest keepers on the harness for damage. Look for any cracks, plastic fatigue, or excessive wear.

Step 8: Webbing Keepers

Webbing keepers hold in place the loose webbing ends. Look for any cracks, plastic fatigue, or excessive wear. If there are any keepers missing please contact PeakWorks for replacements.

Step 9: Recording the Inspection

The harness inspection should be recorded on the harness label as well as in this manual.

WARNINGS

- One person to a harness; no multiple person attachment of any kind with any fall arrest system unless using an approved horizontal lifeline system.
- Anyone who has a history of back or neck problems that could be aggravated or complicated by using fall protection equipment should not do so.
- Pregnant women and minors should not use this equipment. If there is any reason why you may not be physically able to safely absorb the forces subjected in the event of a fall arrest, consult your doctor.
- Always check for obstructions below your work area to make sure your potential fall path is clear. Work directly under your anchorage/attachment point because swing falls can result in serious or fatal injury.
- Never punch or cut extra holes in a harness. If the size is incorrect, check with your supervisor or contact Peakworks for the correct size.

- Never cut the length of tongue buckle leg straps to reduce over-hang.
- Never use harnesses, lanyards, webbing, snap hooks, or other fall protection equipment for any other use except personal fall protection as detailed in Peakworks instructions.
- Remove from service and discard the harness if the fall indicator is deployed. The harness is unsafe for use if stressed.
- Use extreme caution when working near an energized source. No material is completely dielectric. Maintain a safe working distance from electrical hazards. **The PeakWorks FBH-121102B harness is designed and tested as an arc flash/welding harness but caution must always be taken when working in these environments.**

ANNEX A - NORMATIVE

- Note: This information from the Z359.11 standard is required to be included in the instruction manual for the end user:
 - ANSI/ASSE Z359 Requirements for Proper Use and Maintenance of Full Body Harnesses (Note: These are general requirements and information provided by ANSI/ASSE Z359, the manufacturer of this equipment may impose more stringent restrictions on the use of the products they manufacture, see the manufacturer's instructions.)
1. It is essential that the users of this type of equipment receive proper training and instruction, including detailed procedures for the safe use of such equipment in their work application. ANSI/ASSE Z359.2, Minimum Requirements for a Comprehensive Managed Fall Protection Program, establishes guidelines and requirements for an employer's managed fall protection program, including policies, duties and training; fall protection procedures; eliminating and controlling fall hazards; rescue procedures; incident investigations; and evaluating program effectiveness.
 2. Correct fit of a full body harness is essential to proper performance. Users must be trained to select the size and maintain the fit of their full body harness.
 3. Users must follow manufacturer's instructions for proper fit and sizing, paying particular attention to ensure that buckles are connected and aligned correctly, leg straps and shoulder straps are kept snug at all times, chest straps are located in the middle chest area and leg straps are positioned and snug to avoid contact with the genitalia should a fall occur.
 4. Full Body Harnesses which meet ANSI/ASSE Z359.11 are intended to be used with other components of a personal fall arrest system that limit maximum arrest forces to 1800 pounds (8kN) or less.
 5. Suspension intolerance, also called suspension trauma or orthostatic intolerance, is a serious condition that can be controlled with good harness design, prompt rescue and post fall suspension relief devices. A conscious user may deploy a suspension relief device allowing the user to remove tension from around the legs, freeing blood flow, which can delay the onset of suspension intolerance. An attachment element extender is not intended to be attached directly to an anchorage or anchorage connector for fall arrest. An energy absorber must be used to limit maximum arrest forces to 1800 pounds (8kN). The length of the attachment element extender may affect free fall distances and free fall clearance calculations.
 6. Full Body Harness (FBH) stretch, the amount the FBH component of a personal fall arrest system will stretch and deform during a fall, can contribute to the overall elongation of the system in stopping a fall. It is important to include the increase in fall distance created by FBH stretch, as well as the FBH connector length, the settling of the user's body in the FBH and all other contributing factors when calculating total clearance required for a particular fall arrest system.
 7. When not in use, unused lanyard legs that are still attached to a Full Body Harness D-ring should not be attached to a work positioning element or any other structural element of the Full Body Harness unless deemed acceptable by the competent person and manufacturer of the lanyard. This is especially important when using some types of "Y" style lanyards, as some load may be transmitted to the user through the unused lanyard leg if it is not able to release from the harness. The lanyard parking attachment is generally located in the sternal area to help reduce tripping and entanglement hazards.

8. Loose ends of straps can get caught in machinery or cause accidental disengagement of an adjuster. All Full Body Harnesses shall include keepers or other components which serve to control the loose ends of straps.
9. Due to the nature of soft loop connections, it is recommended that soft loop attachments only be used to connect with other soft loops or carabiners. Snap hooks should not be used unless approved for the application by the manufacturer. Sections 11-17 provide additional information concerning the location and use of various attachments that may be provided on this FBH.
10. **Dorsal** - The dorsal attachment element shall be used as the primary fall arrest attachment, unless the application allows the use of an alternate attachment. The dorsal attachment may also be used for travel restraint or rescue. When supported by the dorsal attachment during a fall, the design of the Full Body Harness shall direct load through the shoulder straps supporting the user, and around the thighs. Supporting the user, post fall, by the dorsal attachment will result in an upright body position with a slight lean to the front with some slight pressure to the lower chest. Considerations should be made when choosing a sliding versus fixed dorsal attachment element. Sliding dorsal attachments are generally easier to adjust to different user sizes, and allow a more vertical rest position post fall, but can increase FBH stretch.
11. **Sternal** - The Sternal attachment may be used as an alternative fall arrest attachment in applications where the dorsal attachment is determined to be inappropriate by a competent person, and where there is no chance to fall in a direction other than feet first. Accepted practical uses for a sternal attachment include, but are not limited to, ladder climbing with a guided type fall arrester, ladder climbing with an overhead self-retracting lifeline for fall arrest, work positioning and rope access. The sternal attachment may also be used for travel restraint or rescue. When supported by the sternal attachment during a fall, the design of the Full Body Harness shall direct load through the shoulder straps supporting the user, and around the thighs. Supporting the user, post fall, by the sternal attachment will result in roughly a sitting or cradled body position with weight concentrated on the thighs, buttocks and lower back. Supporting the user during work positioning by this sternal attachment will result in an approximate upright body position. If the sternal attachment is used for fall arrest, the competent person evaluating the application should take measures to ensure that a fall can only occur feet first. This may include limiting the allowable free fall distance. It may be possible for a sternal attachment incorporated into an adjustable style chest strap to cause the chest strap to slide up and possibly choke the user during a fall, extraction, suspension, etc. The competent person should consider Full Body Harness models with a fixed sternal attachment for these applications.
12. **Frontal** - The frontal attachment serves as a ladder climbing connection for guided type fall arresters where there is no chance to fall in a direction other than feet first, or may be used for work positioning. Supporting the user, post fall or during work positioning, by the frontal attachment will result in a sitting body position, with the upper torso upright, with weight concentrated on the thighs and buttocks. When supported by the frontal attachment the design of the Full Body Harness shall direct load directly around the thighs and under the buttocks by means of the sub-pelvic strap. If the frontal attachment is used for fall arrest, the competent person evaluating the application should take measures to ensure that a fall can only occur feet first. This may include limiting the allowable free fall distance.
13. **Shoulder** - The shoulder attachment elements shall be used as a pair and are an acceptable attachment for rescue and entry/retrieval. The shoulder attachment elements shall not be used for fall arrest. It is recommended that the shoulder attachment elements be used in conjunction with a yoke which incorporates a spreader element to keep the Full Body Harness shoulder straps separate.
14. **Waist, Rear** - The waist, rear attachment shall be used solely for travel restraint. The waist, rear attachment element shall not be used for fall arrest. Under no circumstances is it acceptable to use the waist, rear attachment for purposes other than travel restraint. The waist, rear attachment shall only be subjected to minimal loading through the waist of the user, and shall never be used to support the full weight of the user.

15. **Hip** - The hip attachment elements shall be used as a pair, and shall be used solely for work positioning. The hip attachment elements shall not be used for fall arrest. Hip attachments are often used for work positioning by arborists, utility workers climbing poles and construction workers tying rebar and climbing on from walls. Users are cautioned against using the hip attachment elements (or any other rigid point on the Full Body Harness) to store the unused end of a fall arrest lanyard, as this may cause a tripping hazard, or, on the case multiple leg lanyards, could cause adverse loading to the Full Body Harness and the wearer through the unused portion of the lanyard.
16. **Suspension Seat** – The suspension seat attachment elements shall be used as a pair, and shall be used solely for work positioning. The suspension seat attachment elements shall not be used for fall arrest. Suspension seat attachments are often used for prolonged work activities where the user is suspended, allowing the user to sit on the suspension seat formed between the two attachment elements. An example of this use would be window washers on large buildings.

User Inspection, Maintenance and Storage of Equipment

Users of personal fall arrest systems shall, at a minimum, comply with all manufacturer instructions regarding the inspection, maintenance and storage of the equipment. The user's organizations shall retain the manufacturer's instructions and make them readily available to all users. See ANSI/ASSE Z359.2, Minimum Requirements for Comprehensive Managed Fall Protection Program, regarding user inspection, maintenance and storage of equipment.

1. In addition to the inspection requirements set forth in the manufacturer's instructions, the equipment shall be inspected by the user before each used and, additionally, by a competent person, other than the user, at interval of no more than one year for:
 - Absence or illegibility of markings.
 - Absence of any elements affecting the equipment form, fit and function.
 - Evidence of defects in, or damage to, hardware elements including cracks, sharp edges, deformation, corrosion, chemical attack, excessive heating, alterations and excessive wear.
 - Evidence of defects in or damage to strap or ropes including fraying, unsplicing, unlaying, kinking, knotting, roping, broken or pulled stitches, excessive elongation, chemical attack, excessive soiling, abrasion, alteration, needed or excessive lubrication, excessive aging and excessive wear.
2. Inspection criteria for the equipment shall be set by the user's organization. Such criteria for the equipment shall equal or exceed the criteria established by this standard or the manufacturer's instructions, whichever is greater.
3. When inspection reveals defects in, damage to, or inadequate maintenance of equipment, the equipment shall be permanently removed from service or undergo adequate corrective maintenance, by the original equipment manufacturer or their designate, before return to service.

Maintenance and Storage

1. Maintenance and storage of equipment shall be conducted by the user's organization in accordance with the manufacturer's instructions. Unique issues, which may arise due to conditions of use, shall be addressed with the manufacturer.
2. Equipment which is in need of, or scheduled for, maintenance shall be tagged as unusable and removed from service.
3. Equipment shall be stored in a manner as to preclude damage from environmental factors such as temperature, light, UV, excessive moisture, oil, chemicals and their vapours or other degrading elements.



PEAKWORKS®

18.0 MODEL NUMBER LISTING

PRODUCT NUMBER	MODEL NUMBER
V8009010	FBH-121102B



PEAKWORKS®

INSPECTION LOG

	Inspection Date	Results	Corrective Action	Maintenance Performed	Inspection Conducted By
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					