

Important Safety Information for Users of Bashlin Personal Fall Protection Equipment Harnesses, Lanyards Anchorage Connectors



- WARNING -



For your personal safety, this booklet must be read and all of the information completely understood before using these products.



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Se habla Español, (Para una versión española de este folleto de la seguridad, contacta las Industrias de Bashlin S.a. por favor.)

Nous parlons Français (Pour une version française de ce livret de sûreté, contacter les Industries de Bashlin Inc s'il vous plaît.)

Other languages upon request.

Important Safety Information

This information is referenced from ANSI Z359, and is intended for the user of the products indicated. It must be read and understood by the user prior to placing this product into service. The equipment is to be used by properly trained professional workers, and should be inspected prior to each use by the user and annually by a competent person, other than the user. If the equipment needs repaired it must be done by Bashlin. The information in this booklet does not constitute proper training for the use of these products.



- WARNING -



Bashlin equipment must not be altered. Do not remove product labels. Altering or modifying these products voids all warranties, may affect performance, and could cause accident, injury or death to the user. Only the equipment manufacturer or persons or entities authorized in writing shall make repairs on equipment.

Applicable Standards for Bashlin Personal Fall Protection Equipment

Bashlin Personal Fall Protection includes harnesses, lanyards, belts, and anchors. They are manufactured in accordance to the appropriate OSHA, ASTM and ANSI standards. These products may be 3rd-party tested for certification of the specific standard that is marked on the product. Please contact us if you have any questions.



- WARNING -



Shock loading is extremely damaging to climbing equipment. OSHA Standards require that any harness, lanyard, anchorage, or belt that has been shock loaded must be removed from service.

Bashlin Equipment is designed for specific applications, so it's important that you use the right product. To help ensure that you are using the right product for your application the following symbols are placed under the part number, allowing you to easily identify the design application of the product.



FALL ARREST

More than 2', but not more than 6' free fall. (Full body harness)



POSITIONING

Maximum 2' free fall. (Positioning belts)



SUSPENSION

Raising, lowering, and work positioning. (Boatswains chairs)



RETRIEVAL

For rescue from enclosed, confined spaces. (Full body harness)



NOT A SAFETY BELT

Not to be considered personal protective equipment.

The weight range for ANSI labeled fall protection equipment is 130-310 lb. On certain applications Bashlin equipment may carry a slightly higher weight limit as labeled. Please contact customer service for more information.

Full Body Harnesses

Bashlin's full body harnesses are manufactured in compliance with the current ⚡**Arc Flash** standards. They are constructed from durable nylon webbing and are available in many different styles.

Bashlin Body Harness Applications

662 "H" Style Harness



683 "X" Style



Sizing Bashlin Harness

Proper sizing is essential for comfort and performance in the event of a fall. In the event of an arrest, the individual could fall out of an improperly sized harness.

Bashlin harnesses are sized in accordance with the torso of the worker. The wearer must measure their height and chest size to determine the correct harness size. For most individuals, their overall height will determine the correct size. However, if the chest measures larger than the corresponding height, move to the larger size. Please contact us with any questions.



Bashlin Harness Sizes

H Style Harnesses-662R and 662A

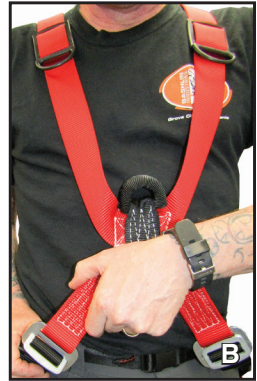
Size		Height	Chest
O	One Size Fits Most	5' 4" - 6' 3"	48 in.
X	X-Large	6' 3" - 6' 6"	54 in.
2X	XX-Large	6' 6" - 6' 10"	60 in.

X-Style 683 and H-Styles 662H-662V-662Z-664A-664T

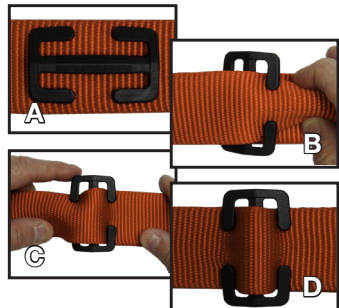
Size		Height	Chest
S	Small	5' 4" - 5' 7"	36 in.
M	Medium	5' 8" - 5' 11"	40 in.
L	Large	6' 0" - 6' 3"	44 in.
X	X-Large	6' 3" - 6' 6"	48 in.
2XL	XX-Large	6' 6" +	52 in.
3XL	XXX-Large	6' 6" +	56 in.

Donning Bashlin Harnesses

- Grasp the harness by the back attachment point and remove all the twists from the material. **(A)** Then open the chest closure, or as on the 683 style, one side of the chest assembly.
- Place the harness on the shoulders and fasten the chest closure. **(B)**
- Buckle the leg straps.
- Adjust the shoulder straps so the seat strap is snugly underneath the buttocks.
- The back attachment must be squarely between the shoulder blades. **(C)**
- Tighten the leg, chest and shoulder straps.
- Make a final check of all buckles and straps before beginning the work.



Once the harness is adjusted per your preference, stow the excess webbing into the elastic keepers and install the PSK device (A) to eliminate the chance of the buckles coming out of adjustment. **This is done by first placing the PSK under both plies of the webbing at the point you want it positioned. Then pinch a section of the 2 plies and place it into one side of the PSK(B). Then squeeze the material on the other side of the center bar of the PSK and tuck it in (C). When it is installed correctly it will look like this (D).**

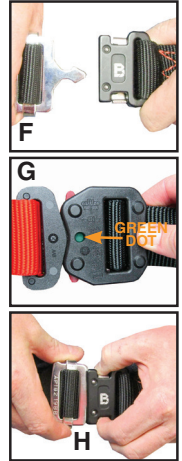


Buckles on Bashlin Harnesses

- **Interlocking Pass-Thru Buckles** – Connect these buckles by sliding the smaller frame through the slot on the larger frame. **(A)** It will slide through easier if the printing on the smaller frame is turned toward the webbing attached to the larger frame. **(B)** After the buckle is secured and the strap adjusted, tuck the webbing into the plastic keeper to restrict the strap movement. **(C)**
- **Grommet Tongue Buckles** – Slide the end of the billet through the buckle frame and adjust the strap to the correct length. Place the tongue of the buckle through the billet grommet that will make the strap the correct length, **(D)** then secure the end of the billet in the keeper. **(E)**



- **Quick Release Buckles Including Dielectric (DE)** – Connect the buckles by inserting the male component into the female section **(F)** until both of the tabs “click”, and the buckle is locked. **(G)** The dielectric buckles have a green dot that will show. The buckle is released by depressing both tabs until the male end can be removed. **(H) Both tabs must be depressed to release the buckle, if it releases when only one tab is depressed the harness should be removed from service immediately.** Adjust the strap after the buckle is connected, then tuck it into the keeper to maintain the adjustment.



Adjustors on Bashlin Harnesses

- **Single Bar Friction Dielectric Adjustors** – To lengthen or shorten shoulder straps using the single bar friction adjuster on 662 style harnesses simply put some slack in the webbing **(A)** then pull up on the adjuster to shorten **(B)** or pull down to lengthen. Adjust elastic keeper accordingly after adjustments have been made **(C)**.
- **Sliding Bar Adjustor** – To lengthen or shorten shoulder straps using the sliding bar adjuster on 662 style harnesses simply put some slack in the webbing **(D)** and pull down on the webbing to shorten **(E)** or pull up on adjustor to lengthen. Adjust elastic keeper accordingly after adjustments have been made.



Proper Use of Bashlin's Hook and Loop Body Harness Chest Closure

- Adjust hook and loop chest strap to the proper vertical position on the shoulder straps. It should cross at the mid-point of a chest pocket. **(A)**
- Wrap the strap under and over the right shoulder strap. Firmly press the hook and loop material together across the length of the strap. **(B)**
- Tuck the free end of the strap behind the left shoulder strap. **(C)**



- WARNING -



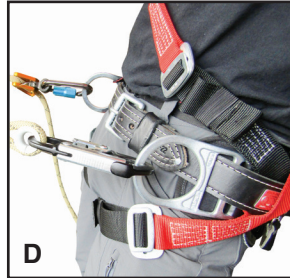
For the hook and loop chest strap closure of the harness to be secure, at least 2" of the strap must extend beyond the inside edge of the left shoulder strap. The hook and loop must be secure at all times during use. Keep the material free from foreign matter that could keep the hook and loop sections from securely mating. If there are any indications of wear, remove the harness from service immediately.

Attachment Points

- **Dorsal** - Used as the primary fall arrest attachment. The direct load will be through the shoulder straps and around the thighs. Post fall body position is upright with a slight lean and slight lower chest pressure. **(A)**
- **Sternal** - Used as the alternative fall arrest attachment only where the fall direction is feet first. The direct load will be through the shoulder straps and around the thighs. Post fall body position is a sitting position with weight concentrated on the thighs, buttocks, and lower back.
- **Frontal** - Used as a ladder climbing connection for guided type fall arrestors only where the fall direction is feet first, or may also be used for work positioning. The direct load will be around the thighs and under the buttocks. Post fall body position is a sitting position with weight concentrated on the thighs and buttocks. **(B)**



- **Shoulder** - Must be used in a pair, for rescue and entry/retrieval. Do not use for fall arrest. A yoke with a spreader element is recommended to use in conjunction with the shoulder attachment elements, to keep the harness shoulder straps separate. **(C)**
- **Hip** - Must be used in a pair, for work positioning only. Do not use for fall arrest. Do not use to store unused end of fall arrest lanyard, it may cause a tripping hazard or adverse loading on the harness and wearer. **(D)**



Tips for Using Bashlin Harnesses

- Wear your harness as snug as possible. This will reduce strap slippage and help keep you in the harness in the event of an arrested fall.
- Do not use combinations of components or sub-systems, or both, which may affect or interfere with the safe function of each other.
- Do not use an improperly sized harness.
- Only use a harness made for the work being performed.
- Use extreme caution when using the harness around moving machinery, electrical hazards, and near sharp edges and/or abrasive surfaces.
- Avoid exposing the harness to excessive heat, chemicals and prolonged sunlight that could degrade the material.
- Store the harness in a ventilated area, and clean it regularly. We suggest a canvas or nylon bag for storage and transport as well as to protect the harness at the work-site.
- Don't violate safety rules.
- See pages 15-16 for inspection and maintenance.
- A maximum length of full body harness stretch (Fs) of 18" shall be used in calculating total fall clearances. User shall also take into account factors such as D-ring/connector length, settling of the user's body and all other contributing elements when calculating fall clearance.
- User shall have a rescue plan and the means at hand to implement the plan when using a Full Body Harness for fall arrest.
- Please see additional information provided from the ANSI Z359.11 standard Annex A on pages 17-20.

Visual Indicator Tags

Visual indicator tags must be intact. (A)

If indicator tag is visible it shows that the harness has been exposed to a shock loading event and must be removed from service immediately. (B)



Lanyard Parking Tab



Your Bashlin Harness will have this packet with the following information:



B135/BP13-01.001 Rev. A	ANSI Z359.11- 2021
	ANSI Z359 Recognizes the use of this harness only within the capacity range of:
	130-310 lbs.

 CERTIFIED SAFETY US MH48981	Model: 683XC Size: X-Large Material: Nylon D.O.M: 02/24/22 Serial#: 2022H0842 Max. Capacity: 350 lbs ANSI/ASSP Z359.11-2021 ANSI/ASSP A10.32-2012 ASTM F887-20
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DORSAL	STERNAL	SHOULDER	FRONTAL	WAIST	REAR WAIST
☐	☐	☐	☐	☐	☐

B139

B136/BP13-01.003 Rev. A	
	BASHLIN INDUSTRIES INC. P.O. BOX 867, 119 WEST PINE ST. GROVE CITY, PA 16127-0867 (724) 458-8340 FAX (724) 458-8342 www.bashlin.com
	Owner's Name: _____

Inspection Record	Year	INSP 1	INSIP 2				

B135/BP13-01.002 Rev. B	WARNING FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN DEATH OR SERIOUS PERSONAL INJURY	•READ AND FOLLOW THE MANUFACTURER'S INSTRUCTIONS INCLUDED WITH THE EQUIPMENT AT TIME OF SHIPMENT FROM THE MANUFACTURER •PROPER TRAINING IS REQUIRED PRIOR TO USE •INSPECT PRIOR TO EACH USE •DO NOT ALTER OR REPAIR, •DO NOT USE IF THERE IS ANY SIGN OF ABUSE, EXCESSIVE WEAR OR DETERIORATION •USE ONLY COMPATIBLE CONNECTIONS FOR ANCHORAGES AND OTHER CONNECTING COMPONENTS OF A PERSONAL FALL ARREST SYSTEM
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•AVOID SHARP EDGES, ABRASIVE SURFACES, EXPOSURE TO ACIDS AND PROLONGED SUNLIGHT •PARK UNUSED LANYARD ONLY ON LANYARD PARKING POINT OF HARNESS •LIMIT FREE FALL DISTANCE TO THE LENGTH OF THE LANYARD OR 6 FEET WHICHEVER IS LESS •ALLOW FOR A MAXIMUM EXTENSION OF 48" OVER THE STATED LENGTH OF THE LANYARD.	 WARNING FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN DEATH OR SERIOUS PERSONAL INJURY
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Lanyards

All Bashlin energy absorbing lanyards are independently tested to ANSI/ASSE Z359.13, and comply with ASTM F887 and ⚡ **Arc Flash** ratings. All lanyards are constructed from rope or nylon tensile members and thread with a loop, snap hook, or carabiner on the ends to connect a harness or belt to an anchor. All lanyards are tagged with an individual serial number. For fall arrest applications a shock absorbing device is incorporated into the lanyard to reduce the arrest force to a maximum of 1,800 pounds, if configured correctly. There is a maximum free fall of 6' allowed for fall arrest, with the maximum elongation of energy absorbing lanyards at 4'. The chart below gives some examples of expected elongation of energy absorbing lanyards in conjunction with the user's weight. Users must exercise extreme caution when selecting extensions other than 4' for a specific application.

Upon request, Bashlin Industries will provide information necessary in designing fall protection systems, including representative graphs of the time history plot of loading from a dynamic drop test.

LANYARD DEPLOYMENT

	Free Fall Distance					
	1'	2'	3'	4'	5'	6'
130 lb.	8"	10"	13"	15"	17"	19"
150 lb.	9"	11"	14"	16"	19"	22"
175 lb.	9"	12"	15"	19"	22"	25"
200 lb.	10"	13"	17"	21"	25"	28"
225 lb.	10"	15"	19"	24"	28"	32"
250 lb.	11"	16"	21"	26"	31"	36"
275 lb.	12"	18"	23"	29"	35"	41"
310 lb.	13"	20"	27"	34"	41"	48"
350 lb.	15"	23"	32"	40"	48"	48"

Series Number	Description	Usage	Maximum Length
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SHOCK ABSORBING LANYARDS

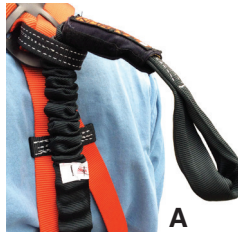
2000NWB	With B-Lan Shock Absorber		6 Feet
2300	Bungee Style w/Shock Absorber		6 Feet
2800	Fixed Length, w/Shock Absorber		6 Feet
2027/2028	Y-Lanyard w/Shock Absorber		6 Feet
2327/2328	Y-Lanyard w/Shock Absorber		6 Feet
2827/2828	Y-Lanyard w/Shock Absorber		6 Feet

Manufactured with nylon web and steel or aluminum components.

Hitching a Lanyard to a Harness

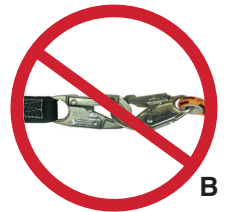
To eliminate a hardware connection, many users hitch a lanyard with a loop end (ex. 2805-6HL) to a harness.

- Insert the loop end of the lanyard into the harness back attachment point, either a nylon loop or metal D-Ring. **(A)**
- Pull the snap end through the lanyard loop. **(B)**
- Remove any twists in the material and pull the lanyard tight. **(C)**



Tips for Using Bashlin Lanyards

- Always confirm the connection to the harness or anchor by visually verifying the snap hook or carabiner is attached and the gate fully closed before beginning the work. Never just listen for the “click”.
- If the shock indicator is exposed on the shock absorber, the lanyard must be removed from service immediately.
- Never knot the lanyard to shorten the length. This reduces the overall strength by over 30%. **(A)**
- Never wrap the lanyard around an anchor then place the snap hook or carabiner on the rope or webbing, unless it is specifically designed for the application. The material will place side loads on the gate of the hardware or anchor and could damage the webbing. During an arrested fall it could cut the strap or rope.
- Never connect a ladder hook to a small D-Ring. Verify the dimensional compatibility of all hardware connections.
- In fall arrest applications, the free fall distance must not exceed 6'.
- Never connect 2 snap hooks together. **(B)**
- Never place a snap hook directly into a web loop, only use a carabiner or soft loop. During an arrested fall, the sharp edges of the snap hook could cut the nylon loop causing it to fail. **(C)**



Anchorage Connectors

Bashlin anchorage connectors provide a temporary point to attach a lanyard for fall protection purposes, and have been tested in compliance with the requirements set forth by ANSI/ASSP Z359.7. ANSI compliance and testing covers only the hardware and does not extended to the anchorage and substrate to which the anchorage connector is attached.

Anchor Number	Description	Usage	Length Dimensions	Z359.18 Type
2011P	Anchor Strap with D-Ring		36 to 48 in.	A
2012P	Anchor Strap with Loops		36 to 48 in.	A
703/703R	Anchor Strap with D-Ring		55 in.	A
703R-2D	Anchor Strap with 2 D-Rings		55 in.	A

Verify ratchet binder is folded and secure before using the 703R or 703R-2D.

****Only ONE WORKER may be attached to the 703R-2D at any time and one D-Ring shall be kept free at all times.****

Manufactured with nylon web and steel components.

Minimum service temperature -30°F.

When affixed to an anchorage, the eye of the anchorage connector should be positioned on the side of the anchorage in which the user is working. For 2012P straps, pass one eye of the strap through the other and on 2011P straps, pass the small O-Ring through the large O-Ring. All slack should be removed from the line so that the anchorage connector is tight against the anchor. Slack left in the line may increase free fall distance in the event of a fall. Connect to the eye of the anchorage connector using a self-locking carabiner or self-locking snap hook only. When using 2011P straps, never connect hooks to the large O-Ring. Connections should not be made in a manner that would result in a load on the gate.

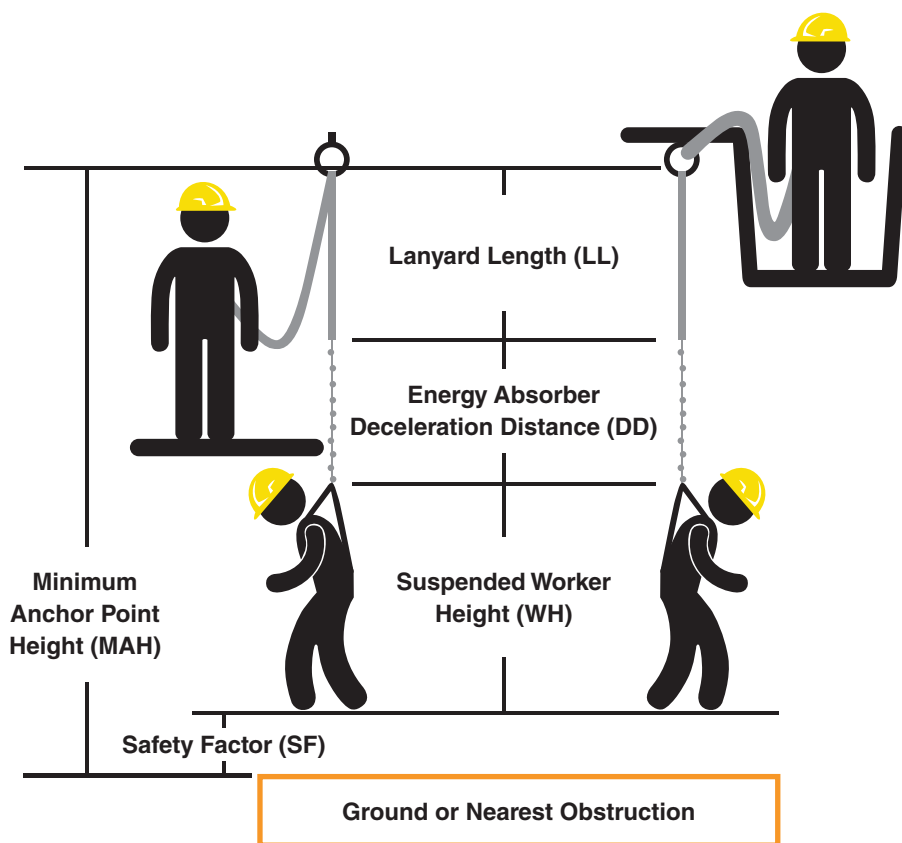
Tips for Using Bashlin Anchorage Connectors

- Always place the anchorage connector as high as possible to reduce the free fall distance.
- Never wrap an anchorage directly to a steel beam or other rigid surfaces (see image). Use padding between the anchorage and rigid anchor point.
- Fall arrest systems, including the anchorage, must have a static load strength of 5,000 pounds in permitted directions for non-certified anchorages, or two times the maximum arresting force for certified anchorages.



- Anchorage connectors are designed for use for personal fall arrest, restraint, work positioning, suspension or in rescue systems. For personal fall arrest, anchorage connectors may be used when maximum permissible free fall is 6' or under. For fall restraint where no vertical free fall is permitted, users are prevented from reaching a fall hazard. In a work positioning system, the maximum permissible free fall is 2'. In a personal riding application where a user is being suspended or transported vertically, no vertical free fall is permitted. In a rescue application no vertical free fall is permitted.
- Positioning systems, including the anchorage, must have a static load strength of 3,000 pounds in permitted directions for non-certified anchorages, or two times the foreseeable force for certified anchorages.
- Restraint and travel restraint systems, including the anchorage, must have a static load strength of 1,000 pounds in permitted directions for non-certified anchorages, or two times the foreseeable force for certified anchorages.
- Only one fall protection system or positioning system may be attached to an individual connection point. Use Boom Straps only on anchors with smooth rounded edges. Do not attach subsystem to both eyes of an anchor strap. When selecting a hook to connect to the anchorage connector, ensure that roll-out cannot occur. A hook or carabiner should close completely over the attachment object.
- If a positioning system or restraint and travel restraint system is also used for fall arrest it must comply with the fall arrest anchorage requirements.
- OSHA requires either a 5,000 pound test anchorage connector or an engineered system meeting minimum requirements.
- Verify the anchor you choose meets the minimum strength requirements as outlined by OSHA and ANSI standards.
- Avoid exposing anchorage connections to environmental conditions that may degrade the anchorage connector.
- Upon request, Bashlin Industries will provide information necessary in designing fall protection systems, such as AAF and/or force vs. displacement curves for the device.
- Remove any surface contamination such as concrete, stucco, roofing material, etc. that could accelerate cutting or abrading of attached components.
- Users must be properly trained for the correct use of this equipment. Users should be familiar with operation, limitations, proper care and consequences of misuse of this equipment.
- See pages 15-16 for inspection and maintenance.

Minimum Anchor Height



LL Lanyard Length
+ DD Deceleration Distance of Energy Absorber
+ WH Worker Height (Suspended)
+ SF Safety Factor

= MAH Minimum Ancor Height (Using a Bashlin Energy Absorbing Lanyard)

$$\text{MAH} = \text{LL} + \text{DD} + \text{WH} + \text{SF}$$

The two scenarios shown above are fairly typical, however a competent safety person should evaluate the situation for other factors, including, but not limited to, substitution of an SRL for the lanyard, swing falls, other workers, obstructions, electrical line contact, traffic, etc.



Bashlin Positioning Belts



Bashlin positioning belts help secure a worker in an elevated work area. They consist of a back pad, and a waist belt with two D-Rings. Tool Loops may or may not be attached to the belt. The belt may or may not be part of a harness.



- WARNING -



OSHA Standards prohibit the use of positioning belts for fall arrest. The free fall distance for the use of positioning belts must be 2' or less.

Sizing Bashlin Positioning Belts

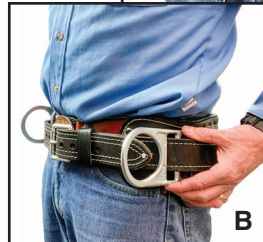
Determining your “D” size is done by measuring from a point 4” down from the top of your hipbone, around your buttocks to the same point on the other side (A). When worn, the D-Rings on a properly sized belt will point straight ahead off of the hips, and the tongue adjustment will be in the center hole (B).



- CAUTION -



An improperly sized belt will be uncomfortable, and could cause an accident, injury, or even death.



Series Number	Description	Sizing
656PX Series	Positioning Tool Belt	D18-D32



Tips for Using Bashlin Positioning Belts

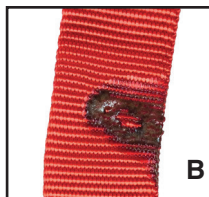
- Never climb or work while engaging both ends of your lanyard into one D-Ring of your belt.
- Always visually verify that the snap hooks are engaged, and the gates are fully closed and locked before allowing the equipment to support your weight. Never rely on the click.
- Never let go of the structure while repositioning your lanyard.
- Never carry any wire, tools, or other accessories on the D-Rings of your belt. Any foreign objects carried on the “D” could interfere with the operation of the snap hook, causing an accidental disengagement resulting in a fall.
- Wear the positioning belt on or above, not below the hips. Wearing a belt loose and/or below the hips may cause the wearer to “slip out”, causing injury or death.
- Don’t violate safety rules.

Inspecting Bashlin Fall Protection Equipment

The user must inspect this equipment prior to each use. In addition, a competent person, as identified by ANSI Z359, other than the user must inspect the equipment annually following the user’s organization inspection criteria. These criteria must meet or exceed the criteria set by ANSI Z359 Annex A. This inspection is to be documented, and a record of the inspection kept as long as the equipment is in service. We recommend that the equipment be tagged with a serial number, and the same number noted on the enclosed inspection record.

These products must be inspected for the following:

- **Hardware** - look for cracks, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration, and excessive wear. Inspect the gates for easy and smooth operation, ensuring that they close completely. **(A)** Look for a malfunctioning locking system, weak or missing springs. This applies to all snap hooks and carabiners.
- **Synthetic Strength Members** - look for burns, **(B)** cuts, chemical degradation, worn fibers, abrasion, **(C)** alteration, excessive soiling, excessive elongation, and excessive aging. An exposed red center will be cause to remove a product from service immediately.



- Loose bent or corroded rivets.
- Evidence of shock loading, including deployed tags on shock absorbers, harness shock load indicators, broken stitches and elongated grommets. **(D)**
- Absence of legible markings.
- Absence of elements affecting the equipment form, fit, or function.
- Splices that are worn with cut or broken stitches, fraying, burns, a loosened eye splice or loose compression fittings. **(E)**



- WARNING -

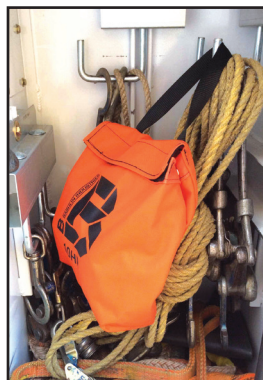


Any equipment with evidence of any one of these or any other conditions deemed unsafe by a competent person must be removed from service immediately. The average useful life of these products is 1-4 years, from the date of manufacture depending on work conditions, care and usage. See the inspection record on the back cover of this booklet.

Maintaining Fall Protection Equipment

Maintenance and storage of equipment should be conducted by the user's organization in accordance with Bashlin's instructions. Unique issues, which may arise due to conditions of use, shall be addressed with Bashlin. Any equipment that is in need of, or scheduled for maintenance should be tagged as "unusable" and removed from service immediately.

Store these products in a ventilated canvas or nylon bag. It will be protected from mechanical and chemical damage as well as light, temperature, UV, excessive moisture, oil, chemicals and their vapors, or other degrading elements. Cleaning is best done by hand washing with mild laundry soap and water, rinsing the soap out completely, and hand drying. The equipment may be machine washed on the gentle cycle by placing it in a nylon mesh bag. Do not machine dry.



ANSI/ASSP Z359.11-2021 American National Standard Safety Requirements for Full Body Harnesses

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/ASSP Z359 Requirements for Proper Use and Maintenance of Full Body Harnesses (Note: These are general requirements and information provided by ANSI/ASSP 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/ASSP 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/ASSP Z359.11 are intended to be used with other components of a Personal Fall Arrest system that limit maximum arrest forces to 1800 pounds (8 kN) 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 (8 kN). 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 of 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 on 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 10-16 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 the different user sizes, and allow a more vertical rest position post fall, but can increase the 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 form 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, in the case of 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 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 equipment. The user's organization shall retain the manufacturer's instructions and make them readily available to all users. See ANSI/ASSE Z359.2, *Minimum Requirements for a 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 use 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 or function.
- **Evidence** of defects in or damage to, hardware elements including cracks, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration and excessive wear.
- **Evidence** of defects in or damage to straps 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 vapors or other degrading elements.

Inspection Record

Part Number _____ Date in Service _____

Employee _____

Date of Inspection	Comments	Inspected By

This equipment must be inspected daily by the user.

Please feel free to copy this form.

Thank you for using Bashlin products. For more information
or if you have questions please contact us:



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