

Warranty

FallTech warrants to the buyer that all products are free from defect in material and workmanship at the time of shipment. Obligation under this warranty is limited to product replacement for the period of two (2) years from the date of installation or use by the owner, provided that this period shall not exceed two (2) years from the date of shipment. This warranty is not transferable. No other person or firm is authorized to assume or assign for FallTech any other warranty in connection with the sale or use of this product.

Furthermore, this warranty is void if any product is changed or altered in any way, or if the product is used in a manner other than for which it is intended. This warranty only covers defects in material and workmanship; it does not cover conditions resulting from normal wear and tear, neglect abuse or accident.



FALLTECH

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MFBH01ALX Rev A 101317



Instructions for Full Body Harnesses (FBH's)



Warning!

THE USER OF THIS EQUIPMENT, AND THE USER'S EMPLOYER MUST READ AND COMPLY WITH THESE INSTRUCTIONS. FURTHERMORE, THE USER AND THE USER'S EMPLOYER MUST READ AND COMPLY WITH ALL INSTRUCTIONS, LABELS WARNINGS AND MARKINGS INCLUDED WITH EACH COMPONENT OF THE FALL ARREST SYSTEM OF WHICH THIS PRODUCT IS A PART. FAILURE TO UNDERSTAND AND COMPLY WITH THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.

IF THESE INSTRUCTIONS ARE UNCLEAR TO YOU, PLEASE CONSULT A COMPETENT PERSON. SHOULD THESE INSTRUCTIONS BECOME LOST OR DAMAGED, OR SHOULD ANY LABELS, INSTRUCTIONS OR MARKINGS BECOME ILLEGIBLE, PLEASE CONTACT FALLTECH FOR REPLACEMENTS. SHOULD YOU NEED FURTHER ASSISTANCE WITH UNDERSTANDING THE PROPER EMPLOYMENT OF THIS PRODUCT, PLEASE CONTACT FALLTECH FOR ASSISTANCE:

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Warning: Never attempt to attach any Shock-Absorbing Lanyard, Restraint Lanyard or Self-Retracting Lifeline to either the hip or side D-rings on the waist pad or to the D-rings on the seat sling of this product. Any attempt to utilize these connection points for any purpose other than work positioning (as described in section 3.7 of this manual) **MAY RESULT IN SERIOUS INJURY OR DEATH.**

Warning: NEVER use either the hip or side D-rings on the waist pad or to the D-rings on the seat sling as “lanyard keepers”. There is a black plastic ring on each side of the chest strap for this purpose. Any attempt to use the side or seat sling D-rings as “lanyard keepers” could result in serious injury or death.

Warning: This Full Body Harness is equipped with two, chrome or nickel-plated accessory D-rings, suspended from the torso webbing on the back of the harness, adjacent to the waist pad. These are included for the purpose of carrying tools or for transporting additional accessories. These chrome D-rings are not load-bearing and should never be used as a Fall Protection attachment point. Never attach any Lanyard, SRL or other fall protection connecting device to these D-rings. Any attempt to do so may lead to serious injury or death.

Section 1: Warnings and Advisories

This product is to be used as a part of a personal fall arrest system, and should be used only with compatible components. Please see Advisory #3 in this section for further details. Failure to use compatible components can result in a failure of the system to perform as intended, which may result in serious injury or death.

Throughout the OSHA regulations for safety and health, there are references to Competent Persons and Qualified Persons. ANSI Z359.0-2007 goes on to further define the roles and qualifications of these individuals; as well as Authorized Persons, and their importance in the workplace. These terms are also used in these instructions. Below is a brief description of the part these individuals play in the employment of fall protection equipment:

Authorized Person - a person who is exposed to fall hazards during the course of their work. This individual requires formal training in the use of personal fall protection equipment and systems. The term Authorized Person may be used interchangeably with User and End-User.

Competent Person – a trained and experienced person who is designated to supervise, implement and monitor an employer’s managed fall protection program. This individual is capable of identifying and addressing fall hazards and is authorized to make decisions and take corrective action in the workplace.

Qualified Person – a person possessing a degree or professional certificate and having extensive training, knowledge and experience with fall protection and who is capable of designing and specifying fall protection equipment and systems to address fall hazards.

Please read these instructions and be sure that you understand them prior to utilizing this equipment. Also be sure to read the instructions included with other components which are being utilized in your Personal Fall Arrest System (Lanyards, connecting devices, anchorage connectors, etc.). Failure to understand and comply with manufacturer’s instructions may result in serious injury or death. **IF YOU DO NOT UNDERSTAND ANY PART OF THESE INSTRUCTIONS, PLEASE HAVE THEM EXPLAINED TO YOU BY A COMPETENT PERSON.**

This product is to be used as part of a complete fall arrest system in accordance with industry-recognized best-practices and your employer’s fall protection plan, as required by the Occupational

Safety and Health Administration. Be aware of your employer's fall protection plan and rescue plan. Be aware of the specific fall hazards on your jobsite and work deliberately to avoid these hazards in the course of your work. Also be aware of hazards and obstructions in your fall path, and work with your employer to eliminate these hazards where possible. Failure to be aware of and to address these hazards may result in serious injury or death.

Do's and Don'ts

- **Do** use this device only with compatible components of a comprehensive fall arrest system.
- **Do** use this device only in a system which limits free fall distance to 6 ft or less (May be used in applications where up to a maximum of 12' of freefall is allowable provided it is used with a lanyard or SRL that is rated for that purpose).
- **Do** use extreme caution when rigging this device.
- **Do** rig this device to avoid the hazards of "swing fall" (see Section 2.9)
- **Do** inspect the entire FBH for cuts, abrasions, kinks, wear, or other damage.
- **Do** inspect the harness for signs of activation or exposure to fall arrest forces.
- **Do** use this device only when your clearance distance is a minimum of 2 ft AFTER you have calculated the total fall distance (see section 2.10 for details on clear fall distances).
- **Do** make compatible connections (see Advisory #3 at the end of this Section).
- **Do** call FallTech if the device is damaged, does not pass inspection (see Section 6), or has arrested a fall.

- **Don't** use this component to hoist materials or equipment.
- **Don't** use this device if it exhibits damage from corrosion of component hardware, or exposure to chemicals, excessive heat, flames and electrical charge or shows signs of any physical damage or deformation.
- **Don't** knot any component of your PFAS – knotting reduces strength by up to 50%.
- **Don't** use this device if you are pregnant, a minor, or have a reduced tolerance to fall forces by reason of age, physical medical condition, or other pre-existing disorders.
- **Don't** use this device if you weigh less than 75 lbs.
- **Don't** use this device if your total combined weight (body, clothes, tools, etc) exceeds 425 lbs.
- **Don't** attempt to modify, repair or alter this harness in any way.

3. Once the sling is installed, adjust the straps to provide better lower back support while working hands-free. When properly adjusted, you should feel about a 50/50 distribution of support between the lower back and the seat. To check your adjustment, use a positioning device in a safe location where you will not be exposed to a fall hazard.

Before attempting to use this harness, first become an expert on section 3.7 of this Instruction manual. Particular attention must be paid to the sections on Fall Arrest, Work Positioning and Climbing. Failure to adhere to these instructions may result in serious injuries or death.

Warning: Never attempt to utilize the side or hip D-rings on the waist pad or the D-rings on the seat sling for work positioning without a back-up Shock-Absorbing Lanyard or Self-Retracting Lifeline attached to the back D-ring of your Full Body Harness as shown in Figure B below. There is no Tower Harness in existence for which this warning should be ignored. Serious injury or death could result from failure to adhere to this warning.

Fig. B
Correct Method for Work Positioning/Tower Work



Appendix A: Tower Climbing Harnesses

With the rapid expansion of communications technology and wind energy, climbing and prolonged work positioning at extreme heights is becoming more common. *FallTech* has introduced a series of Tower Harnesses under the *ComforTech* line to address this need.

Harnesses for these specialized applications typically require additional knowledge and training. Before using this product, be sure you have read and understand the contents of this entire instruction manual and that you have undergone training for the use of this product in accordance with ANSI Z359.2-2007 and Section 6 of this instruction manual. Lack of training in the use of this product and subsequent misuse may lead to serious injury or death.

FallTech 7084 series and 7085 series Tower Harnesses are equipped with a seat sling for prolonged work positioning. Before using, check for proper installation of the seat sling:

1. On the back of the seat sling are two narrow web straps which fasten to the waist pad by means of 1" pass-thru buckles. Ensure these are fastened and adjusted to your preference. These straps are not load-bearing: They are to position the seat sling relative to your backside so that it is in the correct position prior to engagement.
2. Adjacent to each D-ring, you will find a black 1-3/4" web strap with a male pass-thru buckle. This buckle is attached to the steel buckle on either side of the waist pad, located behind the side or hip D-rings. Ensure this buckle and strap assembly is inserted in the manner shown in Figure A below.

Fig. A



- **Don't** use this component near moving machinery which may entangle any part of your PFAS.
- **Don't** use this FBH if there are any signs of excessive wear, soil or surface contamination such as paint, oil, grease, dirt or any other substance which may inhibit adjustability or may change the characteristics of the harness in any way.
- **Don't** use this harness if it shows any signs of damage to any element or component of the harness. When in doubt, remove from service immediately and replace.

Advisory #1: Further Reading

If you have access to the internet, please go to www.osha.gov. This website is an exceptional resource, and has a great deal of information which is easy to access. Use the search field to find information on fall arrest, including standards, news, interpretations and other valuable tools. The more you know about how this product works and how it is supposed to be used, the safer you will be during the course of your work.

Advisory #2: Proper product selection

Product selection is an important element of fall protection. Fall Arrest products are like any other tools that you may use in the course of your work – there is a proper tool for every application. You may find that while this product is suitable for some applications, it may not be suitable for others. Please be sure to pay close attention to sections 2, 3, and 4, for greater detail on this point.

Advisory #3: Connector Compatibility

Making compatible connections may mean the difference between life and death. Connectors (snap hooks, rebar hooks and carabiners), must be of the locking type and require two distinct actions to open the gate. Your connectors must be sized and shaped so that the rings or structural members to which they are attached will not pose a risk of forcing the gate open, and must fully captivate the connector so that it cannot become disengaged, slide or shift during use or in the event of a fall.

Certain connections are forbidden and should never be attempted with this product or any other unless there is a specific

allowance in the manufacturer’s instructions. Forbidden connections include, but are not limited to:

- Two or more connectors to one d-ring are a forbidden connection.
- A connection that rests on or loads the gate is a forbidden connection.
- A connection that does not allow the gate to close and lock is a forbidden connection.
- Two or more connectors attached to one another are a forbidden connection.
- Connecting directly to webbing, rope, cable (wire rope) is a forbidden connection.
- Connecting directly to a horizontal lifeline is a forbidden connection.
- Tie-back with your *FallTech SAL* is a forbidden connection except for model # 7241, 7241Y, 8241 and 8241Y in the *WrapTech* series.
- Connecting to any ring or structure that does not fully captivate and completely restrict the movement your connector is a forbidden connection.

Section 2: ABCD’s

Every Personal Fall Arrest System consists of four basic elements – Anchorage, Body-wear, Connectors/Connecting Devices and Deceleration Devices. Each of these four elements is discussed in greater detail below. If, after reading though this section, you do not fully understand these items and how they work together to form a compatible fall arrest system, please be sure to have this explained to you by a Competent Person.

It is absolutely critical that you be familiar with the proper wear and/or use of each component of your Personal Fall Arrest System (PFAS). Failure to read, understand and adhere to instructional materials and warnings provided with each of these components could lead to a catastrophic failure of your PFAS, resulting in serious injury or death.

2.1: Anchorage

The selection of an anchor point and anchorage connector is critical to the successful function of any Personal Fall Arrest System (PFAS). OSHA 1926.502 (d) (15) states that:

“Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend

Journeyman Full Body Harnesses and Combinations – Rated 425 lbs.

7020	7023XL	7029	70343X	BV7034MP
7020XL	70232X	7029XL	70344X	BV7034LP
70202X	70234X	70292X	7035S	BV7034XLP
7021	7024	70293X	7035M	BV7034XXP
7021XS	7025	7029MB	7035L	BV70343XP
7021XL	7025XL	7029MBXL	7035XS	GT70212X
70212XL	70252X	7033	7035XL	GT70213X
70213X	7027	7034S	7035XXL	70212X246Y
70214X	7023XS	7034M	70353XL	70212X46Y3
7021XLSP	70272X	7034L	70354XL	
7022	70273X	7034XL	7035MQC	
7023	7028	7034XX	7035XLQC	

Specialty Full Body Harnesses – Rated 425 lbs.

7037	7039XL	7041XL	7047XL	OI70373QC
7037XL	70392X	70412X	7048S	
70372X	7040	7047S	7048M	
70373QC	7041	7047M	7048L	
7039	7041XS	7047L	7048XL	

ComforTech Full Body Harnsses – Rated 425 lbs.

7080SM	7081SMRD	7082QSM	70832X	7085XL
7080LX	7081LXFD	7082QLX	7083QSM	BM7080SM
70802X	7081LXRD	7082Q2X	7083QLX	BM7080LX
70803X	7081LXFDRD	7082QSMFD	7083Q2X	BM70802X
7080LXFD	70812XFD	7082QLXFD	7083Q3X	BM7080SMRD
7081SM	70812XRD	7082Q2XFD	7084S	BM7080LXRD
7081LX	7082SM	7082LXQSFD	7084M	BM7080RDLX
7081XS	7082LX	70822XQSFD	7084L	SH7041LX
70812X	70822X	70823XQSFD	7084XL	
70813X	70823X	7082SMQSFD	7085S	
70814X	7082SMRD	7083SM	7085M	
7081SMFD	7082LXFD	7083LX	7085L	

FlowTech Full Body Harnesses – Rated 425 lbs.

7086S	7087S	7088S	7089S	
7086M	7087M	7088M	7089M	
7086L	7087L	7088L	7089L	
7086XL	7087XL	7088XL	7089XL	

10.5: Model Number Listing

This instruction manual pertains to all FallTech Full Body Harnesses and all FBH components of FallTech Combinations (FBH permanently joined to a lanyard) including, but not limited to the model numbers in the listing below.

FT Basic Full Body Harnesses and Combinations – Rated 310 lbs.

6015	7007LTDXS	OS7007TB	700756LTRY	70077256LT
6016	7007LTDXL	OS7007TBXL	700756LTY3	70077256RY
6017	7007LTD2X	OS7007TB2X	700759RY	700789Y3RY
6018	DS7007	OS7007TB3X	7007593RY	7007XLLTY
7007	OS7007	OS7013	70075918RY	7007XL56LT
7007XS	OS7007XS	OS7013LTD	700759Y3RY	7007XL59RY
7007XL	OS7007XL	700704RY	70077204	NT700759RY
7007XX	OS70072X	7007043RY	70077256	
70073X	OS70073X	70072X56LT	70077259	
70074X	OS70074X	70073X259Y	70077259Y	
7007LTD	OS7007LTD	700756LTY	70077259Y3	

Contractor Full Body Harnesses and Combinations – Rated 310 lbs.

7015	70163X	70173X	FD7016	70157259
7015XS	70162K	7018	FD70162X	70157259RY
7015XL	7016PC	7018XS	FD70163X	7015XL59RY
70152X	70162XPC	7018XL	FD70165020	70152X59RY
70153X	7016QC	70182X	GT7016	70152X082D
70153QC	7016QCXL	70183X	GT7016XL	70167259RY
7015FSB	7016QC2X	7073SM	GT70162X	70167259Y3
7015WL	7016QC3X	7073LX	HS7015	7016726073
7015XLFSB	7016SP	70732X	HS70152X	7016XL59RY
7015XLWL	7016XLPC	70733X	SC7015	70162X59RY
7016	7016XLSP	DS7016	SC7016	70177259
7016XS	7017	DS7016XL	SC70162X	
7016XL	7017XL	DS70162X	SS7015	
70162X	70172X	DS70163X	70157253	

Tradesman Full Body Harnesses and Combinations – Rated 425 lbs.

7006	7008XL	7008QC	7010XXL	7079XL
7006XL	7008XX	7009	7010FD	BV7006UT
7006XXL	70083X	7009XL	7078SM	7006082D
70063QC	70082XQC	7009QC	7078LX	7008082D
7006XL3QC	7008CS	7009QCFD	70782X	70087259Y3
7008	7008FD	7010	7079	7008XL082D
7008XS	7008PC	7010XL	7079XS	

platforms and capable of supporting at least 5,000 pounds (22.2 kN) per employee attached, or shall be designed, installed, and used as follows: as part of a complete personal fall arrest system which maintains a safety factor of at least two; and under the supervision of a qualified person.”

Ensure that the structure to which you are attaching your anchorage connector is capable of meeting the above requirements and that your anchorage connector is installed in accordance with the manufacturer’s instructions. Also be sure to check that the anchorage connector is compatible with your connecting device and that it securely retains the your connecting device without inhibiting its function. If you are unable to determine whether your connecting device and your anchorage are compatible, please immediately consult with a competent person or your immediate supervisor. For more details on anchorages, please see section 5 of this instruction manual.

2.2: Body-wear

This Full Body Harness (FBH) comprises the Body Wear component of your Personal Fall Arrest System (PFAS). Section 3.7 discusses the different types of FBH’s, and how they may be used for Fall Arrest, Fall Restraint and Work Positioning. Further details on these primary fall protection applications are available in sections 2.5 – 2.7 of this manual. Any misuse of this FBH could result in serious injury or death. Be sure to read, understand and follow all instructions and warnings in this manual.

2.3: Connectors/Connecting Devices

Connectors and Connecting Devices are terms that are sometimes used interchangeably. It is important to note the differences between these two terms in order to help distinguish the parts that these components play in the rigging of your PFAS. In both cases, these products/components are required to have a minimum static strength of 5,000 lbs. For additional details on requirements for connectors and connecting devices, see OSHA 1926.502 at www.osha.gov as referenced in section 1, advisory #1.

A **connector** is any metallic, mechanical element such as a carabiner, snap hook or rebar hook that physically links one or more elements of a your PFAS together in a manner such that they will remain engaged to one another unless they are intentionally disengaged.

A **connecting device** is an element (i.e. lanyard or self-retracting lifeline) that connects your full body harness to the anchorage in an effort

to ensure that you remain attached or tethered to the structure upon which you are working. In other words, the connecting device is that element which secures you to your anchorage.

2.4: Deceleration Devices

A **deceleration device** is the element of a Personal Fall Arrest System (PFAS) which is activated during a fall event and reduces the forces exerted on the user's body and on the anchorage during the arrest of the fall. In the case of a Shock Absorbing Lanyard or a Self-Retracting Lifeline, these products are both a connecting device and a deceleration device.

2.5: Fall Arrest

Fall Arrest is an area of Fall Protection which focuses on stopping a fall once it has occurred. Personal Fall Arrest Systems typically consist of an anchorage, a full body harness and a self-retracting lifeline, shock-absorbing lanyard or other deceleration device designed to bring a falling user to a stop in the shortest possible distance while limiting the force imparted to the user's body.

2.6: Fall Restraint

Fall Restraint is an area of Fall Protection devoted to restraining the user of the system in a manner which restricts his or her access to the fall hazard in a manner such that they cannot be subjected to a fall. A typical Fall Restraint System consists of an anchorage, a full body harness or a restraint belt and a restraint lanyard. An SAL or an SRL should never be utilized in a restraint application as it is not capable of restricting a user's access to fall hazards.

2.7: Work Positioning

Work Positioning is an area of Fall Protection devoted to allowing a user to work on a vertical surface by means of a positioning assembly, and restricting the user's exposure to a fall of no more than two feet. Typical positioning assemblies consist of a large rebar hook and a length of chain, rope, wire rope or webbing with a double locking snap hook on either end. These snap hooks are attached to d-rings on the hips or on the waist of the user's full body harness, with the rebar hook attached to the structure upon which the user is working. An SAL should never be used for work positioning, nor should it ever be attached to a side or hip d-ring on a full body harness. However, while rigged for work positioning, the user should always have an SAL attached to the

10.4: Standards and references

Below is a listing of standards that are applicable to the construction and use of this product. *FallTech* strongly encourages that all employers acquire and utilize these documents for the creation of your own fall protection policies and your individual fall protection plans. Users of this product should also be familiar with this information as well.

OSHA Standards bear the force of law on a federal level. Some states have their own regulations which are locally enforced – check with your State Department of Labor for specific requirements which may be enforced in your area. OSHA Standards can be accessed for free at www.osha.gov.

29 CFR 1926 (Subpart M)

- 1926.500: Scope, Application and Definitions
- 1926.501: Duty to Have Fall Protection
- 1926.502: Fall Protection Systems Criteria & Practices
- 1926.503: Training Requirements

ANSI standards are voluntary consensus standards, and are generally regarded among the best practices where fall protection is concerned. Some states have incorporated one or more of the ANSI standards by reference, meaning that they may be enforced by some state or local agencies. Check with your State Department of Labor for further details. ANSI standards are available for purchase through the e-standards store at www.ansi.org.

ANSI Z359.1-2007: Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components

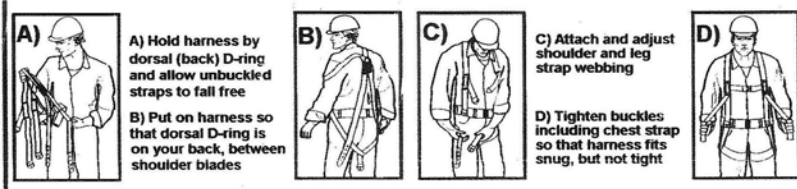
ANSI Z359.2-2007: Minimum Requirements for a Comprehensive Managed Fall Protection Program

ANSI Z359.12-2009: Connecting Components for Personal Fall Arrest Systems

ANSI A10.32-2004: Fall Protection Systems for Construction and Demolition Operations

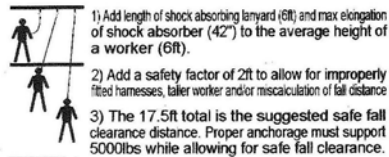
	J	F	M	A	M	J	J	A	S	O	N	D
10												
11												
12												
13												
14												

1) User must inspect before each use
 2) Competent person to inspect at least once every six (6) months
 Mark or punch on date grid:
 A) Initial in-service date
 B) Date of passed inspection
 IF UNIT FAILS INSPECTION REMOVE FROM SERVICE AND DESTROY
 SERIAL NUMBER: 1234570

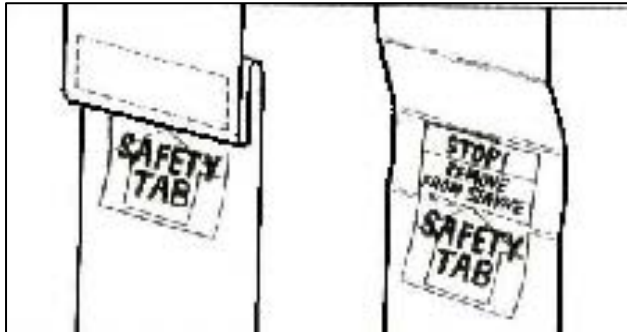


! WARNINGS !

All manufacturer's instructions, labels and warnings must be read before use and followed at all times. Avoid contact with sharp or abrasive edges and surfaces. Use only approved connecting devices. Make only proper connections/attachments. For "Y" (2) leg lanyards with integrally connected legs, only attach snaphook at the center of the lanyard to the fall arrest attachment D-ring of the full body harness. Failure to be familiar with and to comply with the instructions and labels may result in serious injury or death.



Load- Indicating Safety Tabs – Located on Back Torso Straps



back d-ring of their full body harness and tied-off to the structure on which they are positioning as a back up device.

2.8: Free-Fall

Free-Fall is the distance that a worker will fall before the connecting device or deceleration device elements of the PFAS will begin to engage during a fall event. OSHA allows a maximum Free-Fall Distance of 6' (6 feet) when rigging a Personal Fall Arrest System (PFAS). In some cases, exceptions may be allowed when there is no practical way to limit the Free-Fall Distance to 6', such as a job-site where no overhead anchor-point is available. Tying off in a manner that would create a Free-Fall greater than 6' should always be a last resort. If you are rigging a system that allows more than 6' of Free-Fall, make sure your Connecting Device/Deceleration Device is rated for this application.

2.9: Clear-Fall

Clear-Fall or Clear-Fall Distance is the distance that is required to safely arrest the fall of a user. When working at heights and using a PFAS, it is important to consider the distance between the walking/working level and the next lower level to ensure that the components selected are capable of arresting the user's fall before they hit the next lower level. The required Clear-Fall Distance can easily be calculated by adding together the Free-Fall Distance, the Deceleration Distance, the height of the user plus a safety factor of 2 feet. The formula for calculating Clear-Fall Distance is shown below:

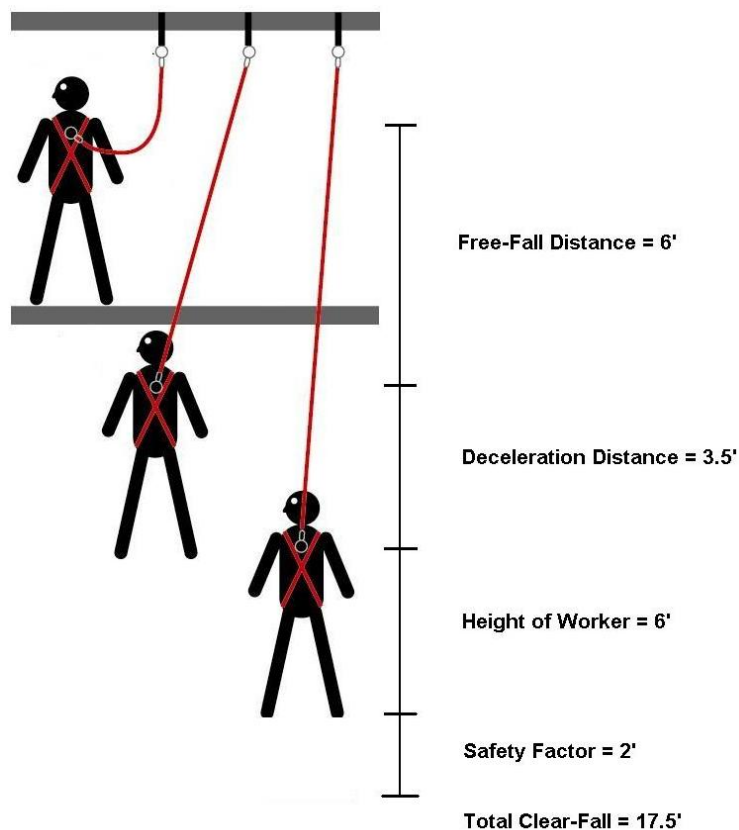
$$\text{Free-Fall Distance} + \text{Deceleration Distance} + \text{Height of Worker} + \text{Safety Factor} = \text{Clear-Fall Distance}$$

The matrix below can be used as a guide for calculating Clear-Fall Distance on your job-site:

	Example Values	Actual Values
Free-Fall Distance (OSHA allows up to 6')	6'	
Deceleration Distance (Typically 3.5' or less)	3.5'	
Height of Worker	6'	
Safety Factor (Minimum of 2')	2'	
Total (Sum of all values)	17.5'	

See figure 2.1 on the next page for a graphic illustration of Clear-Fall Distance and the method for calculating. It is also necessary to consider the fall path when determining the Clear-Fall limitations in your application. Ensure the fall path is clear of obstructions, protrusions, equipment or materials that may be a hazard in the event of a fall. Pay special attention to those items which may present an impalement hazard. Obstructions in the fall path may be just as hazardous as the fall itself, and your PFAS may not be able to protect you from these hazards. Failure to clear the fall path may result in serious injury or death. Rig your PFAS with extreme caution, and be aware of all of the factors that may come into play in the event of a fall.

Figure 2.1: Clear-Fall Diagram



2.10: Swing-Fall

10.1: Mandatory Disclosures

This instruction manual addresses foreseeable hazards, uses and applications. If you have questions about your application that are not addressed in this document, contact *FallTech* for additional guidance.

It is the responsibility of the employer/issuer of this equipment to ensure that it is used in a manner consistent with these instructions. Failure to do so could result in serious injury or death.

For further reading and additional information, see Section 10.4 for a listing of relevant standards with which you should be familiar.

10.2: Performance Specifications

Full specification sheets for each Full Body Harness are available through *FallTech*. All FallTech FBH's meet or exceed the minimum requirements of both OSHA under Title 29 CFR, as well as those outlined in ANSI Z359.1-2007, ANSI Z359.12-2009 and ANSI A10.32-2004. Specification data is also shown on the labels of your *FallTech* FBH.

Below are the *minimum* specifications for your *FallTech* FBH:

FBH Component	Min. Tensile Strength
D-rings	5,000 lbs./ 2,273 kg / 22.2 kN
Buckles	3,375 lbs./ 1,534 kg / 15 kN
Adjusters	3,375 lbs./ 1,534 kg / 15 kN
Webbing	5,000 lbs./ 2,273 kg / 22.2 kN

10.3: Labels and Markings

The labels shown below must be present on the product and must be legible. If they are not, remove the product from service.

Product Labels – Located on Torso Strap

<p>FALLTECH DO NOT REMOVE LABEL Meets or exceeds all applicable OSHA Regulations including 1926.502 and ANSI Standards including Z359.1-2007 Made in USA Max Arrest Force: 1800 lbs P: 800-719-4619 F: 323-752-5613 www.falltech.com</p>	<p>Full Body Harness Style (estilo):# 7084L Size (tamaño): Large Date of Mfg: 02/08/11 (fecha de fabricacion)</p>	<p>ComforTech Tower Capacity:130-310lb Material: Polyester D-rings: Back: For Fall Arrest Side: For Positioning Only</p>
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0 84298 70842 8

Section 9: Maintenance and Storage

The service life of your *FallTech Full Body Harness* will depend on two factors: The environmental conditions of your working environment along with proper care (specifically, maintenance and storage).

Keeping the FBH clean and free of contaminants will greatly increase the service life and will ensure that the FBH will be in proper working order in the event that you need it to arrest a fall. The following steps should be taken periodically:

1. Use a mild solution of soap and water to clean the webbing and all hardware. A damp rag can be used to scrub and stubborn stains or surface build-up of contaminating substances. Do not use any solvents or petroleum products to clean this FBH.
2. Use a damp rag and a mild soap and water solution to clean the hardware on this FBH (D-rings, buckles, adjusters, etc.). Wipe the hardware dry with a clean soft cloth.
3. After cleaning, hang the harness up and allow it to air dry. Do not use heat to force dry a FBH.
4. The FBH should be stored hanging up in a clean, dry location free from harsh chemical vapors and out of direct sunlight.
5. Do not attempt to repair or modify this FBH or any of its components. Such attempts will void the warranty and may result in serious injury or death.

Note: Harsh environments, prolonged use and other extreme working conditions may reduce the serviceable life of this FBH, and may require greater inspection frequency. While there are no OSHA or ANSI mandates with respect to product lifespan, *FallTech* recommends replacing a Full Body Harness every five years, or whenever it fails to pass the inspection as outlined in Section 8 of this manual.

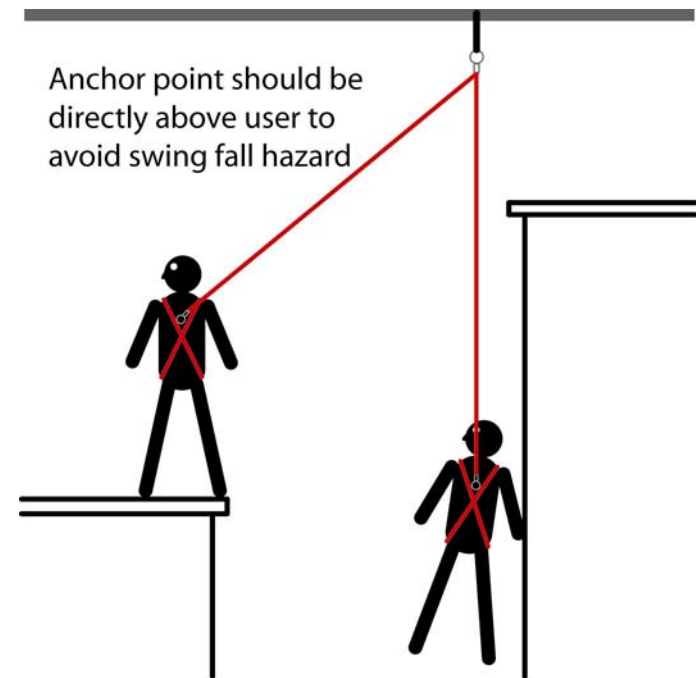
If your FBH is in need of repair or you are concerned about its condition, return it to the place of purchase to arrange an inspection and/or repair through an authorized service center. For further details, contact *FallTech*.

Section 10: Specifications

This section contains important information regarding the performance and construction of this product. Please read and be familiar with this and all information contained in this instruction manual.

Swing-Fall is the phenomenon that occurs when the user falls from a location that is not directly adjacent to, or directly below the anchorage connector. This is also referred to as the “pendulum effect”, and can result in a situation where the user is not only falling vertically, but is also swinging on the horizontal as well. This can bring additional hazards into play, as you may swing into an obstruction or structural element, causing serious injuries (see figure 2.2). A significant Swing-Fall may also require increased Clear-Fall distance. As a rule of thumb, you should ensure work in an area that does not exceed an angle greater than 15 degrees in any direction from your anchorage.

Figure 2.2: Swing-Fall Diagram



Be sure to consider Swing-Fall when calculating your Clear-Fall requirements and checking the fall path for hazards and instructions. Failure to do so may result in serious injury or death. Should you have any questions regarding Free-Fall, Clear-Fall, Swing-Fall or other hazards in the fall path, be sure to contact *FallTech* or consult with a competent person or your direct supervisor on your job-site.

Section 3: Use and Limitations

if the warning is exposed on the safety tabs, immediately remove the harness from service (See Section 10.3).

4. Ensure that the labeling is present and legible. If the labels and warnings are missing or illegible, immediately remove the harness from service.
5. Inspect all metal hardware (D-rings, buckles, adjusters, grommets, etc.). Look for hardware that is bent, cracked or deformed. Look for sharp edges and burrs. Also check for signs of corrosion. Ensure that none of the metal hardware has an excessive build-up of dirt, grease, oil paint or any other substance or contaminant. If any of these conditions exist, immediately remove the FBH from service and replace it with one that is in serviceable condition.
6. Check buckles and adjusters for proper mechanical function. Ensure that all buckles can be easily and securely fastened and that all adjusters can be operated allowing the webbing to pass through when loosened, and to be held tight when under tension. If mechanical functions of the buckles and adjusters do not pass inspection, immediately remove the FBH from service and replace it with one that is serviceable.
7. If the FBH fails to pass inspection on any of these points, or if there is any doubt as to whether it is in proper working order, immediately remove it from service.

8.3: Mandatory Semi-Annual Inspection

ANSI Z359.1-2007 requires that all fall protection equipment be inspected by a competent person other than the user at least once each year. FallTech strongly encourages that all fall protection equipment be inspected by a competent person other than the user at least once every six months.

This inspection should be noted in the inspection log below, along with any deficiencies. This inspection should also be used as an opportunity to counsel any authorized persons with respect to any deficiencies that they may have failed to note in their daily inspections.

these requirements, please go to www.osha.gov to review the OSHA requirements. Copies of the ANSI standards are available at www.asse.org in the e-standards store.

3.2: Approved Applications

FallTech Full Body Harnesses (FBH's) are available in a wide variety of different configurations to address the specific needs in nearly every workplace. The suitability of a **Full Body Harness** for a specific application is determined primarily by the type and location of the D-ring or D-rings on the **FBH**. Below is a summary of the approved applications for each D-ring location on the **FBH**. This list is not all-inclusive, but is intended to anticipate the most common applications in which this product may be used. If you have questions about whether this product is suitable for your particular application, please consult a competent person or contact *FallTech* for further advice.

Back D-ring: Also referred to as a dorsal D-ring, this attachment point is located on the back of your *FallTech* FBH. When the FBH is worn and properly adjusted, this D-ring should be located between your shoulder blades. This D-ring is intended to be used for **fall arrest** and may also be used for **fall restraint**. Appropriate connecting devices for these applications would be Shock Absorbing Lanyards, Self-Retracting Lifelines and Restraint lanyards. All *FallTech* Full Body Harnesses have a back D-ring and may be used for **fall arrest** and **restraint**.

Side D-rings: Also referred to as hip D-rings and located adjacent to each hip, are intended for **work positioning** on a vertical surface (such as in tower applications, rebar tying, etc.). These may be an integral part of the FBH, attached to the front torso webbing in the area of the hips, or may be an integral part of a belt assembly or waist pad. Side D-rings should never be used for fall arrest or restraint, and should never be used as a lanyard keeper or for any other purpose.

Shoulder D-rings: Located on the upper torso webbing on each shoulder, these D-rings are intended for confined space entry and retrieval and are also used in many rescue applications. The shoulder D-rings should never be used for fall arrest, restraint or positioning.

Front D-ring: Located on the chest strap or adjacent to the user's sternum on cross-over styles, this d-ring is intended for climbing applications for the purpose of fall arrest, provided that the user is exposed to a maximum of 2 feet of free fall. Front D-rings should never be used for positioning, restraint of fall arrest applications where more than 2 feet of free fall may be possible.

If you have any questions regarding the suitability of this product for your specific application, please consult with a competent person or contact *FallTech* before using. Misuse of this product may result in serious injury or death.

Be sure to consult Section 5 of this instruction manual for details on anchorage considerations, as the anchorage and its relationship to the walking/working surface will be an important factor in determining suitability and could contribute to the outcome of a fall event. Use of an anchor point that is not properly rated could lead to a catastrophic failure of your personal fall arrest system, which may result in serious injury or death.

3.3: Restricted Applications

Not all Full Body Harnesses are built alike, and each product has different features. There are some applications for which our products may not be ideally suited. Below are a few restrictions to consider before using your *FallTech* Full Body Harness:

Harsh Chemical Environments: Acids and other caustic chemicals may cause damage to this FBH, its components and other elements for your Personal Fall Arrest System (PFAS). Damage from chemical exposure can be difficult to detect and *FallTech* recommends inspection before each use and frequent replacement. *FallTech* does manufacture products which are better suited to harsh and caustic environments. For additional details, please contact Customer Service or your local *FallTech* sales representative.

Arborist Applications: This product should never be used in arborist applications or tree-trimming applications.

Welding: *FallTech* recommends the use of Aramid webbing FBH's (Kevlar®, Nomex® or Dyneema®) for welding and other applications where the harness may be exposed to extremely high temperatures.

Heavyweight: Most *FallTech* FBH's are rated for a maximum capacity of 425 lbs (user, clothing, tools and equipment), provided they are used in conjunction with *FallTech Heavyweight* shock-absorbing lanyards (8246 model series) or *FallTech DuraTech* self-retracting lifelines. Be sure to check the product label for the capacity of your specific product.

Extended Free Falls: *FallTech* FBH's are rated for a maximum free fall of 6 feet. *FallTech* FBH's may be used in applications where there may be exposure to free falls of up to 12 feet, provided that a *FallTech*

Section 8: Product Inspection

Inspection is a critical element in the employment of any fall protection equipment. In order to protect Authorized Persons who are using this **FBH**, it is important that the employer establishes procedures that has layers of inspection to ensure that any mechanical or functional deficiencies are recognized before the product is put into use.

8.1: Issuing

If the FBH is to be kept in a locker or tool crib between periods of use, the person responsible should inspect the product upon issuing and receipt to ensure that it is in proper working order. If any deficiency is noted, this should be logged on the inspection record and the product should be removed from service and handled in accordance with the employer's lock-out/tag-out policy. If this FBH exhibits a deficiency, it should be immediately removed from service and replaced.

8.2: Daily/Incidental Use

OSHA 1910.66 and OSHA 1926.502 (as well as ANSI Z359.1-2007 and ANSI A10.32-2004) specifically require that the user inspect all fall protection equipment prior to each use to ensure proper function and to ensure that the equipment is in serviceable condition. Failure to do so may result in serious injury or death.

FallTech requires that the following steps be taken during each inspection prior to use of this Full Body Harness:

1. Check the webbing and look for cuts, fraying and signs of damage to the webbing from excessive wear or abrasion. Also look for excessive dirt, grease, oil, paint or other surface contamination or discoloring. If any condition exists that compromises the integrity of the webbing, changes the general properties or feel of the webbing or limits/restricts the adjustment of the webbing, immediately remove the FBH from service and replace it with one that is in serviceable condition.
2. Check all stitch locations. Ensure that each stitch box and bar-tack is intact with no loose, frayed or torn threads. If any of the stitch locations shows signs of damage or excessive wear, immediately remove the harness from service and replace it with one that is serviceable.
3. Look for signs that the harness has been exposed to fall arrest forces. Every *FallTech* FBH has two load-indicating safety tabs (labels) or load-indicating safety pleats stitched on the back torso straps, below the back D-ring. If these stitched pleats are torn or

- Limitations on use of the system (maximum Free-fall, arrest force and maximum number and permitted locations of authorized persons who may use the system).
- Procedures for installation, use and removal of the system.
- Detailed instructions for inspection of systems and system components to include rejection criteria and replacement procedures.
- A detailed plan and procedures for the rescue of a worker who may be involved in a fall event.

7.2: Rescue Plan

In the event of a fall, OSHA requires that a prompt rescue be provided. In order to facilitate a prompt and effective rescue, it is important to have a Rescue Plan as part of your overall Fall Protection Plan.

The rescue plan should include detailed procedures for summoning a professional rescue agency (such as the local fire department) and/or for performing self-rescue or in-house rescue.

For detailed assistance in formulating and maintaining an effective rescue plan, see ANSI Z359.2-2007.

7.3: Suspension Trauma

Suspension Trauma (also referred to as orthostatic intolerance) is a condition that can arise from being suspended in a full-body harness for a prolonged period of time while awaiting rescue after a fall. Under these circumstances, blood circulation can be restricted allowing a large volume of blood to accumulate or pool in the veins of the workers legs. This condition can result in a variety of symptoms, some of which include light-headedness, loss of consciousness, difficulty concentrating and palpitations.

Following a rescue, Suspension Trauma can be so acute as to cause cardiac arrest when the large volume of un-oxygenated blood overwhelms the heart. This severity of this condition can be greatly reduced by using any one of a variety of devices offered to alleviate Suspension Trauma, such as *FallTech's ReliefPak* and by providing a prompt rescue in the event of a fall.

For additional details on Suspension Trauma, refer to OSHA's Safety and Health Information Bulletin SHIB 03-24-2004 at www.osha.gov.

Ironman or *Ironman+* shock absorbing lanyard is used. Some *FallTech* self-retracting lifelines may also be used to rig your PFAS for up to 12 feet of free fall. Please contact *FallTech* for additional details.

3.4: Specialty Applications

Where fall arrest is concerned, there are many applications that are highly specialized which require Full Body Harnesses with special materials, features or construction. Below is a short summary of some of the specialty FBH products manufactured by *FallTech*. If you have questions about your application or about which product is best suited for your needs, please contact customer service for assistance.

Tower Climbing/Wind Energy: *FallTech's* 7084 and 7085 series FBH's were specifically developed to meet the needs of these specialized applications. Our 7029 is a more basic, light-weight alternative that is also suitable. *FallTech* also has an assortment of connecting devices and anchorage connectors specifically made for use in these applications – see table 3.1 below:

Table 3.1

7214	17" Choker Anchor
8456	Spreader Hook (Z359.1-2007)
8457	Spreader Hook with Carabiner (Z359.1-2007)
8458	Spreader Hook with Carabiner + Swivel Rebar Hook (Z359.1-2007)
8459	Spreader Hook with Swivel Rebar Hook (Z359.1-2007)
7250	Positioning Assembly, Chain with Swivel Rebar Hook (A10.32-2004)
7250LT	Positioning Assembly, Chain (A10.32-2004)
7250W	Positioning Assembly, Web with Swivel Rebar Hook (A10.32-2004)
7250LTW	Positioning Assembly, Web (A10.32-2004)

Arc/Flash Exposure: *FallTech* recommends using 7047 or 7048 series FBH's for applications where the user may be exposed to high voltage or energized power transmission equipment. The products comply with the ASTM F887-04 standard for Arc/Flash resistance.

Confined Space Entry: *FallTech's* 7027 and 7034 series harness were specifically developed for confined space entry. We recommend the use of the 7208 confined space yoke for use with these FBH's.

3.5: Donning Instructions

A Full Body Harness should be worn with all straps buckled and adjusted at all times. The FBH should be adjusted to fit snugly, and adjustments should be checked frequently as the webbing can shift or slip during the course of work. Failure to properly don, wear and adjust the FBH can result in severe bodily injury or death in the event of a fall. To ensure proper donning and adjustment, follow the six simple steps in figure 3.1 below:

Fig. 3.1



3A: Hold Harness by the back D-ring and allow unbuckled straps to fall free.



3B: Put on the Harness so that the back D-ring is in the back between your Shoulder blades.



3C: Buckle the leg straps and adjust so that they are snug, not tight. (see FIG. 3.2)



3D: Tighten torso straps so that Harness is snug, but not tight.



3E: Buckle chest strap and adjust.



3F: Back D-ring centered between shoulder blades. Chest strap nipple to nipple and sub-pelvic strap below the buttocks.

Section 7: Fall Protection Plan

Title 29 CFR, section 1926.500 – 503 requires that an employer have a written fall protection plan where fall hazards exist. The best way to address a fall hazard is to eliminate it entirely or to employ a passive system to restrict access to the hazard (i.e. guardrails, netting, covers, etc.) Fall arrest products are the last line of defense in the hierarchy of fall protection, and should be used as a last resort by employees who have been thoroughly trained. The accepted fall protection hierarchy is as follows:

- Eliminate the fall hazard.
- Passive fall protection (guardrails, safety nets, barriers, etc.).
- Fall Restraint (prevent the worker from having access to the fall hazard by using a fixed lanyard which is short enough to restrict access to the hazard).
- Fall Arrest (utilizing Personal Fall Arrest Systems).
- Administrative Controls (use of warning lines, controlled access zones or monitors).

Two exceptional resources for developing a written fall protection plan are OSHA 1926 Subpart M, Appendix E and ANSI Z359.2-2007. All ANSI standards are available for purchase at www.ansi.org in the e-standards store.

7.1: The Fall Protection Plan

As a minimum, a fall protection plan should identify and/or address the following points:

- Any and all fall hazards which may exist on your job-site or in your facility.
- Steps that have been taken to eliminate each fall hazard.
- Equipment that has been or will be employed to address each fall hazard.
- Provisions for 100% continuous fall protection in the vicinity of all fall hazards.
- Training procedures for all authorized persons.
- Identification of acceptable anchorages for positioning, restraint and fall arrest.
- Clear-fall requirements.
- Use and egress from the system.

It is important to note that improper use of fall arrest equipment can be just as dangerous as not using it at all. Failure to adequately train and supervise your employees may result in serious injury or death. It is critical to have a training program supported by documentation, refresher/remedial training and to establish best practices where the employment of all PPE is concerned.

6.2: User Training

It is the responsibility of the user of this equipment to read and fully understand these instructions before employing this product as part of a Personal Fall Arrest System (PFAS). Every user of fall protection should be provided a four to eight hour course of instruction for the Authorized User. Training must also be provided in the use of each component of the user's PFAS and in the recognition of fall hazards. During the course of this training, the user may not be exposed to a fall hazard.

In the absence of a formal training program, FallTech has designed these instructional materials to act as an abbreviated course of instruction in an effort to give the user an over-view of fall arrest. This manual does not constitute a comprehensive training program, and it is not all-inclusive. Be sure to consult www.osha.gov for details on OSHA requirements for training. *FallTech* has additional services available to assist with end-user training – contact a *FallTech* sales professional for additional details.

As a minimum, training should address the following points:

- ABCD's of Fall Arrest (as discussed in Section 2).
- Recognition of fall hazards.
- Fall hazard elimination and control methods.
- Applicable fall protection regulations and standards.
- The responsibilities of designated persons (Authorized, Competent, Qualified).
- How to use written fall protection procedures.
- Inspection of equipment components and systems before use.
- Fall protection rescue procedures.
- Installation and use of products common to your duties, job-site or facility.

It is important to note that improper use of this equipment can be just as dangerous as not using it at all. Failure to read, understand and follow these instructions may result in serious injury or death.

3.6: Instructions for Use by Application

Many FallTech Full Body Harnesses can be used for more than one application under a variety of conditions. Care has been taken to address the most common applications and uses in the instructions below. If you are unsure about whether your FBH is suitable for your application, or if you are unsure about how to use it in your workplace, please seek assistance from a competent person, your supervisor or foreman, or from a FallTech sales representative. You may contact FallTech at 800-719-4619 should you require any assistance.

Failure to comply with these instructions, failure to comply with labels and warnings, and misuse of this product can result in serious bodily injury or death.

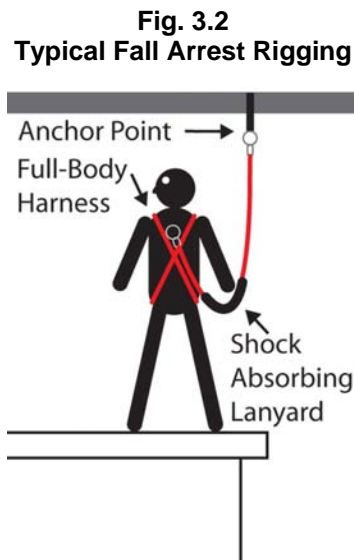
Fall Arrest and Restraint:

All *FallTech Full Body Harnesses* containing a back D-ring may be used for Fall Arrest and Restraint applications. Before working in the vicinity of a fall hazard, follow the steps below:

1. Select the appropriate *FallTech FBH* based on the work conditions, specific hazards and the weight of the user.
2. Read, understand and comply with manufacturer's instructions for each component of your Personal Fall Arrest System (Full-Body Harness, Connecting Devices, Anchorage Connectors, etc.). Be sure to choose components that are compatible with this *FBH*. If you have questions about product or component compatibility, be sure to contact *FallTech* for additional instructions.
3. Calculate possible swing fall hazards, total fall distance, and required clearance distance. If you have a swing-fall hazard or do not have the required clearance distance, STOP and reevaluate your application and system. Your work location should never exceed an angle of 15 degrees in any direction in relation to your anchorage location.
4. Inspect this *Full Body Harness*, and all components of your Personal Fall Arrest System in accordance with Section 8 of this manual. **Be sure to consult, and adhere to the instructional materials, labels and warnings accompanying the other components of your PFAS as well.**
5. Don and adjust your Full Body Harness in accordance with section 3.6 of this manual.
6. If using a *Shock-Absorbing Lanyard* or a *Restraint Lanyard*, Attach the Lanyard to the back D-ring of your full body harness by connecting the double-locking snap hook or carabiner directly

adjacent to the shock absorber to the back d-ring. Ensure that the gate on the snap hook or carabiner closes and latches securely and automatically. *If using a Self-Retracting Lifeline or SRL, skip steps 7 and 8 below and go to step 9.*

7. Attach the anchorage end (or ends) of your lanyard to the lanyard keeper(s) located adjacent to the chest strap. Never attach the anchorage ends (or free ends) of your lanyard to any other point on your FBH.
8. Proceed to your work location and immediately attach the anchorage end of your lanyard to the anchorage connector located closest to your work location. Ensure the anchorage end connector on your lanyard is securely latched before proceeding with your work, remaining tied-off at all times **(see figure 3.2 below)**.
9. If using a Self-Retracting Lifeline or SRL, proceed carefully to your work location and ensure that the SRL is properly attached to the anchor point closest to your work area. Ensure proper function of the SRL, in accordance with the manufacturer's instructions. Attach the double-locking snap hook or carabiner on the SRL to the back D-ring of your Full Body Harness and ensure that the gate is closed and latched. Proceed with your work while remaining tied-off at all times.
10. Work carefully and move deliberately at all times while you are tied-off near any fall hazard. Be aware of your surroundings and avoid tripping hazards and any materials or equipment that may be in your way. Sudden movements may result in engagement of your connecting device, causing you to lose your balance.



The anchorage to which this FBH is attached must be capable of sustaining static loads in directions applied by the personal fall arrest system of at least 3,600 lbs (or at least twice the expected dynamic load) with certification of a qualified person (architect, structural engineer, etc.), or 5,000 lbs in the absence of certification. If multiple personal fall arrest systems are being attached to the same anchorage, the minimum values stated above must be multiplied by the number of users.

Ensure that the anchorage connector that you are using is compatible with the anchor point to which you are attaching it. If you are using this FBH with a Horizontal Lifeline, tripod or davit, ensure that it is compatible with these systems by checking the manufacturer's instructions for these systems for the minimum performance requirements of deceleration devices.

Be sure that your fall arrest anchorage is mounted overhead or above the level of the back d-ring of your full body harness wherever and whenever practicable. Be sure to calculate your clear-fall (as discussed in section 2.9) and to avoid swing fall hazards. Ensure the fall path is clear of obstructions and impalement hazards.

Section 6: Employer and User Training

6.1: Special notes for the Employer

As an employer, you may be obliged to provide Personal Protective Equipment (to include Personal Fall Arrest and Fall Protection Equipment) along with an appropriate amount of training to your employees so that they will be adequately prepared to use this equipment in the course of their work. If you are unsure about your duty to provide fall protection, consult Title 29 CFR, section 1926.501 which can easily be viewed at www.osha.gov. Another important resource for employers is the Consensus standard on Managed Fall Protection: ANSI Z359.2-2007.

Equally important is the subject of product/equipment selection. If you are obliged to provide fall protection equipment for your employees, be sure to consult with or appoint a competent or qualified person to select and prescribe equipment that is suitable to address the specific hazards which may be present on your job-site or in your facility. There are different products for different applications, and under many circumstances these products are not interchangeable. If you have questions as to whether this product is suitable for your application, please contact FallTech for assistance.

- A full body harness meeting the requirements of Z359 shall be selected, and it shall be sized to fit the user as per the manufacturer's instructions.
- Connectors that are selected shall be suitably sized and shaped so as to be compatible with the devices to which they will be attached.
- The competent person shall select the method of protecting the equipment from damage by workplace conditions, in accordance with the manufacturer's instructions.
- The competent person shall check the equipment instructions and markings to ensure compliance with the appropriate standards and will ensure that manufacturer's instructions; markings and warnings are read and followed.
- If the PFAS that is selected is made up of components from different manufacturers, the competent person will ensure that these components are compatible.

FallTech strongly encourages that the following points also be considered in the course of product selection, in addition to the points above:

- Select the anchorage connector that is most appropriate for your application and for the anchor point to which it will be attached. While sling-style anchors are popular because of their versatility, they are not always the best choice where sharp or angular edges are present on the structure to which they are attached.
- Select a full body harness of appropriate durability for your workplace which contains all of the attachment elements that you will require.
- Depending on workplace conditions and hazards, you may need to employ multiple systems or different combinations of components. Do not try and force the system to fit the application. Use of the correct equipment is the best policy.

Section 5: Anchorage Considerations

OSHA 1910.66 and 1926.502 state that anchorages used for attachment of a PFAS must be independent of any anchorage being used to support or suspend platforms, and must support at least 5,000 lbs. per user attached, or be designed, installed and used as part of a complete PFAS which maintains a safety factor of at least two, and is supervised by a qualified person (architect, structural engineer, etc.).

Work Positioning/ Tower Work:

FallTech Full Body Harnesses which are equipped with side or hip D-rings may be used for work positioning when used with one of the connecting devices shown in Table 3.1.

1. Select the appropriate *FallTech* **FBH** based on the work conditions, specific hazards and the weight of the user.
2. Read, understand and comply with manufacturer's instructions for each component of your Work Positioning/Personal Fall Arrest System (Full Body Harness, Positioning Assembly, **SAL/SRL**, Anchorage Connectors, etc.). Be sure to choose components that are compatible with this **FBH**. If you have questions about product or component compatibility, be sure to contact *FallTech* for additional instructions.
3. Calculate possible swing fall hazards, total fall distance, and required clearance distance. If you have a swing-fall hazard or do not have the required clearance distance, STOP and reevaluate your application and system. Your work location should never exceed an angle of 15 degrees in any direction in relation to your anchorage location.
4. Inspect this **Full Body Harness**, and all components of your Work Positioning/PFAS in accordance with Section 8 of this manual. **Be sure to consult, and adhere to the instructional materials, labels and warnings accompanying the other components of your PFAS as well.**
5. Don and adjust your Full Body Harness in accordance with section 3.6 of this manual.
6. Attach the one of the small double-locking snap hooks on the legs of your Positioning Assembly to the side or hip D-rings on your **FBH**. Each of the two small snap hooks must be attached to its own side or hip D-ring (in the case of a spreader hook assembly, each side of the hook should be attached to its own side or hip D-ring).
7. Proceed or ascend to your work location, using your back-up **Shock-Absorbing Lanyard** to tie-off to the structure as you ascend, if at all practicable. A "Y-leg" or **100% tie-off lanyard** is ideally suited to this activity, allowing you to remain protected at all times. Once in place, attach the large double-locking snap hook (rebar hook) in the center of your positioning assembly to your anchor point.
8. Be sure to also tie-off with a Shock-Absorbing Lanyard or Self-Retracting Lifeline attached to the back D-ring of your **FBH**. **When positioning, you must always use a back-up fall arrest connecting device (SAL or SRL) to prevent a fall in the event of an accidental disengagement of your**

Positioning Assembly. Failure to do so may result in serious bodily injury or death.

9. Ensure that your Positioning Assembly is tied-off, limiting your free-fall to 2 feet or less. Always ensure that your side or hip d-rings are below the level of your anchorage while positioning **(see figure 3.3 below)**.
10. Ensure that your back-up fall arrest connecting device is rigged to allow no more than 6 feet of free-fall. It should be anchored at or above the level of your back D-ring while you are positioning **(see figure 3.3 below)**.
11. Once your positioning assembly and back-up fall arrest connecting device are attached to the anchorages, carefully lean back into a comfortable work position and proceed with your assigned tasks. Always maintain three points of contact (both feet, and your positioning device) while working hands-free.
12. If you need to move to another work position, carefully disconnect your Positioning Assembly from your anchorage and proceed to your next work position. Ensure that you use your back-up fall arrest connecting device to remain tied-off at all times.
13. In Tower climbing applications, the FallTech 7084 and 7085 series FBH's are equipped with side or hip D-rings on the belt/waist pad assembly. These specific Full Body Harnesses also feature a pair of D-rings mounted to the seat sling. These D-rings on the seat sling maybe be used as an alternative to the side or hip D-rings for prolonged periods of Work Positioning, allowing you greater comfort and support. Should you choose to use the seat sling for Work Positioning, attach your Positioning Assembly or Spreader Hook Assembly to the seat sling D-rings as described in step six above, and then proceed as instructed in steps 7 – 12. **Always use a back-up fall arrest connecting device when positioning in any application!** **(See Figure 3.4 below)**.

9. Have additional fall arrest/fall protection connecting devices available as needed to address additional fall hazards that may exist within the confined space work location(s).

Section 4: Product Selection

Product selection is as important as the proper use of the product itself. Poor judgment in product selection can have catastrophic results – therefore be sure to consult a competent person to ensure that the product that is issued is appropriate for the application and the specific location for which it is intended.

ANSI Z359.1-2007, Section 7 describes in detail the steps that should be taken with regard to the selection of fall arrest equipment. FallTech strongly encourages the use of this guide by those who employ users of fall arrest products. The ANSI standard recommends the following steps be taken:

- A workplace assessment by a competent person taking into account the presence of sources of extreme heat, chemicals, electrical hazards, environmental contaminants, sharp objects, abrasive surfaces; moving equipment and materials, unstable, uneven and slippery walking/working surfaces; unguarded openings; climatic/weather factors and foreseeable changes to these conditions. Care must be taken to ensure that the equipment that is selected is suitable for use where any of these conditions may exist.
- The workplace assessment must identify all paths of movement and the fall hazards along these paths. Care must be taken to ensure that there are proper anchorages at appropriate intervals along these paths to protect the users from these hazards without exposure to swing-fall conditions. The PFAS selected must limit the fall distance in order to avoid contact with the next lower level in the event of a fall.
- Anchorage connectors should be selected on the basis of their suitability for attachment to the anchor point to ensure a compatible and secure connection.
- The exposure of the anchorage connector to sharp edges, abrasive surfaces and other physical/structural hazards should be considered when evaluating compatibility.
- The competent person shall calculate the weight of all authorized persons when fully equipped to ensure that they are within the maximum capacity of the PFAS.

Confined Space Entry/Retrieval:

Many FallTech Full Body Harnesses are equipped with shoulder D-rings (one D-ring located on top of each shoulder strap). These D-rings are intended for confined space entry and retrieval and should be used in conjunction with a 7208 Confined Space Yoke and an appropriate means of insertion and extraction (tripod/davit and winch). Shoulder D-rings should NEVER be used for fall arrest, positioning or as lanyard keepers.

1. Select the appropriate *FallTech* **FBH** based on the work conditions, specific hazards and the weight of the user.
2. Read understand and comply with manufacturer's instructions for each component of your Personal Fall Arrest System (Full Body Harness, **SRL**, Anchorage Connectors, tripod, winch, etc.). Ensure that you have been fully instructed on the use and care of any confined space equipment that you will be required to use. Be sure to choose components that are compatible with this **FBH**. If you have questions about product or component compatibility, be sure to contact *FallTech* for additional instructions.
3. Calculate possible swing fall/clear fall hazards, total fall distance, and required clearance distance. If you have a swing-fall hazard or do not have the required clearance distance, STOP and reevaluate your application and system.
4. Inspect this **Full Body Harness**, and all components of your Confined Space Kit/PFAS in accordance with Section 8 of this manual. **Be sure to consult, and adhere to the instructional materials, labels and warnings accompanying the other components of your PFAS as well.**
5. Don and adjust your Full Body Harness in accordance with section 3.6 of this manual.
6. Securely attach the 7208 Yoke to the shoulder D-rings of your FBH using the double-locking snap hooks located at the leg ends of the Yoke (one hook attached to each shoulder D-ring). Ensure the gates are closed and latched securely. Connect the O-ring at the top of the Yoke to the double-locking snap hook or carabiner at the working end of the winch line.
7. If using a back-up fall arrest connecting device such as a Self-Retracting Lifeline or 3-way Rescue SRL, ensure that it is securely attached to the back D-ring of your FBH.
8. Proceed with your entry/retrieval procedures as outlined in your fall protection plan and/or your confined space entry permit. Allow the winch operator to assist you as needed while you ascend or descend to or from the work location.

Fig. 3.3
Typical Work Positioning

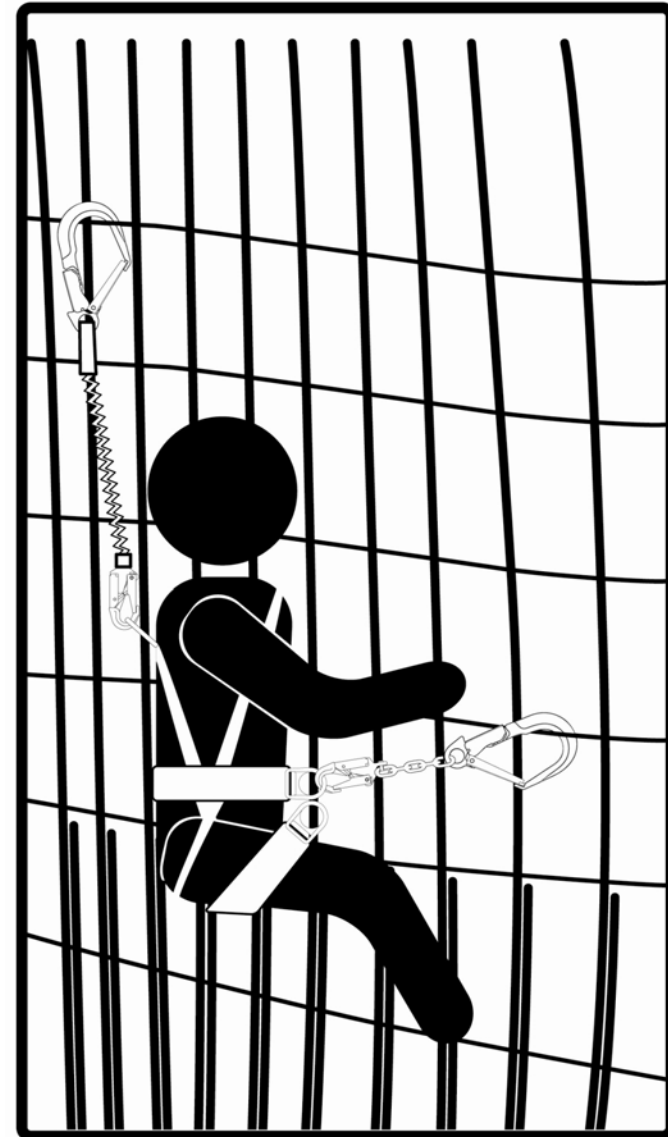


Fig.3.4
Typical Use of Tower Seat Sling



WARNING: Side/hip and seat sling D-rings must never be used for any purpose other than work positioning, and no connections of any kind should ever be made to a side or hip D-ring, except for work positioning. **NEVER** attach a Shock-Absorbing Lanyard or Self-Retracting Lifeline to side/hip or seat sling D-rings. **NEVER** use side/hip and seat sling D-rings as a lanyard keeper. **Misuse of these D-rings may result in serious bodily injury or death.**

Climbing:

Many FallTech Full Body Harnesses are equipped with a front D-ring located on the chest strap (or at the center of the chest, in the case of cross-over style FBH's). This front D-ring is to be used for climbing fixed ladders and other ascent/descent systems. This front D-ring should be used only with systems that limit free-fall to 2 feet or less.

1. Select the appropriate *FallTech* FBH based on the work conditions, specific hazards and the weight of the user.
2. Read, understand and comply with manufacturer's instructions for each component of your Personal Fall Arrest System (Full Body Harness, Connecting Device, Anchorage Connectors, etc.). Ensure that you have been fully instructed on the use and care of any fixed ladder or ascent/descent system that you will be required to use. Be sure to choose components that are compatible with this FBH. If you have questions about product or component compatibility, be sure to contact *FallTech* for additional instructions.
3. Calculate possible swing fall/clear fall hazards, total fall distance, and required clearance distance. If you have a swing-fall hazard or do not have the required clearance distance, STOP and reevaluate your application and system.
4. Inspect this Full Body Harness, and all components of your PFAS in accordance with Section 8 of this manual. **Be sure to consult, and adhere to the instructional materials, labels and warnings accompanying the other components of your PFAS as well.**
5. Don and adjust your Full Body Harness in accordance with section 3.6 of this manual.
6. Attach the trolley or fall arrestor (i.e. cable grab) to the front D-ring of your FBH using a carabiner or integral double-locking snap hook. Ensure that gate is closed and latched and make sure that there is no unnecessary slack in your chest strap.
7. Climb (ascend or descend) carefully and at a comfortable pace using a back-up fall arrest connecting device (attached to the back D-ring of your full body harness and tied off to the ladder or structure) wherever and whenever practicable.
8. Should you need to stop and rest during your ascent or descent, be sure to tie-off with your back-up fall arrest connecting device while you are resting.
9. Once you have reached the exit platform or work location, be sure to tie-off with your back-up fall arrest connecting device prior to disengaging your front D-ring from the climbing system.
10. Proceed to your work location, remaining tied-off at all times when exposed to fall hazards.