USER INSTRUCTION MANUAL

OSHA CONFORMANCE

FRONTLINE®

FALL PROTECTION

User manuals occasionally may be updated, so verify the Published Date for the latest version by scanning the QR code.

PRODUCT NAME: **Overhead Tripod Anchor**

PART NUMBER: OTP21

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Frontline Fall Protection Inc.

USER INSTRUCTION MANUAL

This product is designed and tested to meet the applicable OSHA requirements.

These instructions apply to the model(s) listed on the front cover of this manual.

Applicable standards and regulations depend on the type of work being done, and also might include state-specific regulations. Refer to local, state, and federal (OSHA) requirements for additional information concerning the governing body of occupational safety regarding Personal Fall Arrest Systems (PFAS). The standards and regulations referenced in this manual are listed on the References page at the end of Part 3.

All users must refer to local, state or federal safety and health regulations before using this equipment. If any conflict exists between this manual and an applicable local, state, or federal requirement, the most stringent requirement governs. If a conflict cannot be resolved, do not proceed; consult a qualified person and contact Frontline before use.

You are required to read and fully understand the user instruction manual BEFORE using this product. Improper use and installation can result in serious injury or death. User manuals occasionally may be updated so for the latest user manual please visit **www.frontlinefall.com/uim.**

⚠ WARNING

- Failure to read, understand, and follow all instructions and warnings before use could result in serious injury or death.
- A fall protection plan – including a rescue plan and the means to implement it promptly – must be in place before use. Prolonged post-fall suspension can cause suspension trauma, resulting in serious injury or death.
- Use only within the service temperature range (-30°F to +130°F) and other limitations in System Specifications (Section 8.0).
- This manual must be kept with, or remain available to, the user of this product.

TABLE OF CONTENTS

Definitions 4

PART 1 – GENERAL REQUIREMENTS

1.0 General Statement and Warnings 8
2.0 Training Requirements 9
3.0 System Requirements 10
4.0 Inspection Requirements 17
5.0 Service Life 18
6.0 Maintenance, Storage and Transportation 18

PART 2 – PRODUCT INFORMATION

7.0 Product Description 19
8.0 System Specifications 22
9.0 Application 23
10.0 Product Safety Specific Requirements 25
11.0 Installation 26
12.0 Labels 36

PART 3 – RECORDS AND WARRANTY

13.0 Inspection Checklist and Log 37
14.0 Limited Warranty and Limitation of Liability 39
References – Standards and Regulations 41

DEFINITIONS

Read and understand these terms before proceeding – they are used throughout this manual. For better use and understanding, the following is some terminology and definitions as referenced by OSHA and ANSI/ASSP Z359 that may help better understand this user manual. Please refer to OSHA 1910 or 1926 for full details.

Anchorage / Anchorage Connector

A secure point of attachment for lifelines, lanyards, or deceleration devices. In this manual, the anchorage connector is the Frontline device that provides that point of attachment when installed to a supporting structure.

Attachment Point

A loop or “D” ring connected (integrally) to the body support that provides a means for attachment of other components of the fall protection system.

Authorized Person

A person assigned by the employer to perform duties at a location where the person will be exposed to a fall hazard.

Body Harness

Means straps, which may be secured about the worker in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

Carabiner

A link with a gate that is normally closed or that automatically closes, and is used to connect components of a personal fall protection system.

Competent Person

Is defined as “one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them” [29 CFR 1926.32(f)]. By way of training and/or experience, a competent person is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation and has the authority to correct them.

Connector

A device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a buckle or D-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

D-Ring

A form of attachment point on body belts and full body harnesses meant for attachment of other components of a fall protection and positioning system.

Deceleration Device

Means any mechanism that serves to dissipate energy during a fall.

Deceleration Distance

The vertical distance a falling employee travels from the point at which the deceleration device begins to operate, excluding lifeline elongation and free fall distance, until stopping. It is measured as the distance between the location of an employee's body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

Fall Arrest System

A fall arrest system means a system used to arrest an employee in a fall from a working level. It consists of an anchor point, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. (Note: body belts are prohibited for fall arrest – see Personal Fall Arrest System.)

Fall Protection System

Any of the following when used to protect a worker from a fall or minimize the risk from falling: Guardrails, Safety belt or a full body harness with a lanyard and/or lifeline and an anchor, and their related equipment, Safety net, Control zone, Safety monitor with a control zone, and other acceptable procedures.

Fall Protection Plan

A written, site-specific plan that identifies fall hazards and establishes the fall protection systems, procedures, rescue provisions, and training required for the work.

Fall Restraint System

A work positioning system to prevent a worker from falling from a work position, or a travel restriction system such as guardrails or a personal fall protection system to prevent a worker from traveling to an edge from which the worker could fall. As used in this manual, a personal restraint system limits the user's travel so the user cannot reach a fall hazard (see Application (Section 9.0)).

Free Fall

The act of falling before the personal fall arrest system begins to apply force to arrest the fall.

Free Fall Distance

Vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, lifeline and lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before the devices operate and fall arrest forces occur.

Full Body Harness

A body support device consisting of connected straps designed to distribute a fall arresting force over at least the thigh, shoulders and pelvis, with provision for attaching a lanyard, lifeline or other components.

Lanyard

A flexible line of webbing, synthetic rope or wire rope that is used to secure a safety belt or full body harness to a lifeline or anchor.

Leading Edge

The edge of a floor, roof, or formwork for a floor or other walking or working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an “unprotected side and edge” during periods when it is not actively and continuously under construction.

Lifeline

A synthetic or wire rope, rigged from one or more anchors, to which a worker’s lanyard or other part of a personal fall protection system is attached.

Lower Levels

Those areas or surfaces to which a worker can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.

Passive Fall Prevention

Refers to a system that is non-dynamic, stationary, and does not move, adapt, or change when in or out of use. Passive systems don’t require the use of personal protective equipment or active participation from the worker. Typically, passive systems include netting, handrails, and guardrails.

Personal Fall Arrest System (PFAS)

A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited. A full body harness must be used.

Positioning System (work-positioning system)

A system of equipment and connectors that, when used with a body harness or body belt, allows an employee to be supported on an elevated vertical surface, such as a wall or window sill, and work with both hands free. Positioning systems also are called “positioning system devices” and “work-positioning equipment”.

Program Administrator

A person designated by the employer to be responsible for the managed fall protection program (see ANSI/ASSP Z359.2).

Qualified Person

A person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.

Rescue Plan

A pre-planned method, with equipment and trained personnel in place, to promptly retrieve a worker after a fall arrest or other fall-related emergency.

Self-Retracting Lifeline/Lanyard

A deceleration device containing a drum-wound line, which can be slowly extracted from, or retracted onto, the drum under slight tension during normal worker movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

Energy Absorber (Shock Absorber)

A device intended to limit the deceleration forces exerted on a worker during fall arrest (the ANSI/ASSP Z359.13 term is “personal energy absorber”).

Snap Hooks

A connector consists of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.

Working load

Refers to aggregate simultaneous load of personnel, equipment, and/or material to be supported by the equipment or system.

PART 1 – GENERAL REQUIREMENTS

1.0 GENERAL STATEMENT AND WARNINGS

This Anchorage Connector is meant to be used ONLY by personnel trained in fall protection. This anchorage connector is ONLY intended for use as part of a complete personal fall protection system. This product is designed to meet the applicable OSHA requirements.

User MUST read, understand, and follow all safety information contained in these instructions prior to the use of this Anchorage Connector. Use in any other applications including, but not limited to, material handling, recreational or sports related activities, or other activities not described in the User Instructions is not approved by Frontline Fall Protection and could result in serious injury or death. This device is only to be used by trained users in workplace applications.

These instructions must be provided to the user of this equipment. Retain these instructions for future reference; a copy is also available at www.frontlinefall.com/uim. For more information about any part of this user instruction manual, contact us at info@frontlinefall.com.

All warranty disclaimers and limitations or exclusions of liability in this manual apply to the maximum extent permitted by applicable law; if any such provision is held unenforceable in any respect, it applies to the maximum extent permitted and the remainder of this manual remains in effect.

- Do not use this equipment until proper training, fall protection and rescue programs are in place.
- Do not use this equipment in combination with other components or subsystems other than those described in this manual.
- Do not use this equipment for any purpose other than its designed and intended use.
- Follow the requirements in Product Safety Specific Requirements (Section 10.0) in addition to Part 1.
- Do not use product that has been subjected to a fall or impact, that does not pass inspection, or whose safety or integrity is questionable.
- Users must be in a physical condition to use this equipment safely and to withstand fall arrest and suspension forces. Consult a physician if there is any doubt.
- Minors must not use this equipment or be exposed to a workplace fall hazard. Users who are or may be pregnant need written approval from a licensed health care practitioner before use. Fitness for use is decided by the user, their practitioner and the employer's qualified person – not by Frontline. Medical approval does not make a particular installation or use safe, and does not replace the employer's safety obligations or any requirement of this manual.
- Avoid sharp and/or abrasive surfaces and edges as this will compromise the safety of the Personal Fall Arrest System, unless the system is specifically rated for edge exposure (see Swing Fall (Section 3.10)).
- All users must refer to local, state or federal safety and health regulations before using this equipment. If any conflict exists between this manual and an applicable local, state, or federal requirement, the most stringent requirement governs. If a conflict cannot be resolved, do not proceed; consult a qualified person and contact Frontline before use.
- Avoid moving machinery, thermal, and/or chemical hazards as contact may cause serious injury or death.

- Avoid exposure to electrical hazards and arc flash at all times; accidental arcs from electrical equipment can damage PFAS equipment, resulting in injury or death.
- Protect the equipment from welding and other hot work – heat, sparks, and spatter can damage PFAS equipment, resulting in injury or death.
- Avoid swing falls at all times when using Personal Fall Arrest Systems.
- Follow the weight restrictions/limitations in this manual.
- Never alter this equipment or make unauthorized relocations or additions; relocate or reinstall it only as permitted in Removal and Relocation (Section 11.0, Step D). Always inspect before each use to ensure its compliance and safe use.
- Never connect rebar hooks, large carabiners, large snap hooks or non-approved hooks/connectors to the full body harness's dorsal D-ring as this may cause a roll-out and/or unintentional disengagement.
- Always examine the work area and the surroundings to identify hazards that may impact safety and proper functioning of the Personal Fall Arrest System before commencing work.
- Only one fall protection system or positioning system may be attached to an individual connection point.

2.0 TRAINING REQUIREMENTS

Before using Frontline Fall Protection product, user and employers must ensure that the person using this equipment has been trained on the proper use, care and maintenance of this product by a competent person qualified in the required fall-protection subjects (construction) or a qualified person (general industry), and that training is completed before any exposure to a fall hazard. It is the responsibility of the user of this product to ensure that proper training has been done in addition to reading and fully understanding this user instruction manual.

Additionally, the employer must establish a training program for employees that are exposed to a fall hazard. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards. Training and retraining must meet OSHA and ANSI/ASSP Z359.2 requirements.

Retraining is necessary when the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill to carry out those duties. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace make previous training obsolete.
- Changes in the types of fall protection systems or equipment to be used make previous training obsolete.
- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.
- Changes in the OSHA regulations or ANSI Standards that affect the equipment or procedures used.

Training must be done in the language that the employee understands and shall be documented (for construction, a written certification record with the employee's name, the training date(s), and the signature of the trainer or the employer) and kept as outlined under OSHA recordkeeping regulations. No user or employee shall perform work without the proper training and understanding on how to properly and safely use this product.

3.0 SYSTEM REQUIREMENTS

3.1 Compatible Connectors: In order to use Frontline Fall Protection Anchors, connecting devices must include a compatible connector. Compatible connectors must be approved snap hooks or carabiners that meet OSHA and ANSI standards to be compatible with the member to which they are connected to prevent unintentional disengagement. Snap hooks and carabiners must be the automatic-locking type that require at least two separate, consecutive movements to open, designed and used to prevent disengagement of the snap hook by contact of its keeper with the connected member. Connector gate strength and geometry must be suitable for the connection (ANSI/ASSP Z359.12).

Frontline PFAS equipment must be used only with compatible Frontline equipment, unless the employer's qualified person authorizes use with another manufacturer's equipment. In that case, the qualified person is solely responsible for determining that the components are compatible and that their combined use complies with all applicable requirements. This authorization is not an approval, representation or warranty by Frontline concerning the other manufacturer's equipment or the performance of the combined system, and Frontline disclaims responsibility and liability for any incompatibility, malfunction, failure, incident or damage resulting from selecting, combining or using another manufacturer's equipment with Frontline PFAS equipment.

3.2 Structural Requirement: It is the responsibility of the installer and user of this equipment to ensure that the installed anchorage – the anchor, its fasteners, the attachment interface and the supporting structure – either:

1. supports at least 5,000 lbs (22.2 kN) per employee attached; or
2. is designed, installed and used under the supervision of a qualified person as part of a complete personal fall arrest system that maintains a safety factor of at least two.

The anchorage must also be independent of any anchorage used to support or suspend workers or the platforms they work on (OSHA).

3.3 Anchorage Substrate Connection: Frontline tests its products to OSHA requirements under controlled conditions, using specified substrates. That testing covers only the product under those conditions; it is not an evaluation, approval or representation by Frontline of the substrate at any jobsite. The end user, installer and owner are responsible – through a qualified person where required – for making sure the actual substrate and the product's connection to it are suitable and can support all applicable loads. Frontline assumes no responsibility for the substrate's selection, condition, strength, suitability or performance, or for any failure caused by an unsuitable substrate or an improper connection to it.

3.4 Making Connections: When making the anchor connecting device connection, ensure that the connecting equipment is compatible and meets or exceeds OSHA and ANSI standards. Once connected, perform a connection check:

1. Visually confirm the connector is fully seated, closed, and locked.
2. Apply a light hand pull to confirm engagement.
3. Repeat the check whenever a connection is remade.

This check verifies connection engagement only – it does not verify anchorage or structural strength. If equipment is not working properly or the safety integrity is in question, do NOT use and consult with Qualified Person. No more than one system may be attached to an individual designated connection point at one time.

Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked and that only one system is attached per designated connection point.

Frontline connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user's instructions. See Figure 1 – Non-Compatible Connections.

NOTE: Check connector markings for the required ratings (ANSI/ASSP Z359.12, including a 3,600 lb (16 kN) gate). A gate-strength rating does not make a connection compatible or permit any connection shown in Figure 1

– Non-Compatible Connections. Do not connect where twisting or rotation can load the gate or allow unintended disengagement. Use only connections permitted by both component manufacturers.

3.5 Personal Fall Arrest System: The complete personal fall arrest system must meet applicable OSHA requirements, and harnesses, connecting devices and other components must meet their applicable ANSI requirements stated in this manual. Use this anchor under the direction of a qualified person. A full body harness along with a compliant connecting device must be worn when this equipment is used as a component of a PFAS. As required by OSHA, the PFAS must be able to arrest the user's fall with a maximum arresting force of 1,800 lbs (8 kN), and limit the free fall to 6 ft (1.8 m). In general industry only, free fall may exceed 6 ft where the employer can show the manufacturer designed and tested the system for it (e.g., an energy absorber rated for 12 ft of free fall per ANSI/ASSP Z359.13); in construction it may not. For SRLs, follow the SRL manufacturer's limits for foot-level anchorage, free fall, edge exposure and clearance. (See Total Fall Clearance for PFAS (Section 3.9) and Swing Fall (Section 3.10).) Once equipment has been subjected to a fall or an impact, it must be removed from service.

3.6 Structure Mounting Strength: The structure and mounting hardware must support at least 5,000 lbs (22.2 kN) per attached person, or be part of a complete personal fall arrest system designed, installed and used under the supervision of a qualified person that maintains a safety factor of at least two. They must also meet the requirements in Installation (Section 11.0). Installations MUST comply with all Federal, State, and local regulation standards and be approved by a Qualified Person before use.

FIGURE 1 – NON-COMPATIBLE CONNECTIONS

1.



DO NOT connect two snaphooks or carabiners to each other.

2.



DO NOT connect two snaphooks or carabiners to a single D-ring at the same time.

3.



DO NOT connect in a way that would create a loading on the gate.

4.



DO NOT attach to an object in a manner whereby the gate of the snaphook or carabiner would be prevented from fully locking. Always visually inspect for proper and full closure of the snaphook or carabiner.

5.



DO NOT attach directly back into the component itself such as webbing, cable, or rope, unless specifically allowed by manufacturer and instructions.

6.



DO NOT attach in manner where the connector, gate or release lever, may become caught on the anchor causing additional risk of false connection.

7.



DO NOT attach a double snaphook to two side/positioning D-rings in a manner whereby the D-rings will engage the gates.

3.7 Structure Mounting Selection: When selecting a mounting structure, there are various factors to consider. Some which are described below, but not all inclusive:

- The type of work being done, application, and the particular anchor being used.
- Select a structure that supports at least 5,000 lbs (22.2 kN) per attached person, or meets the qualified-person alternative in Structural Requirement (Section 3.2).
- Select a work area that will be free of obstructions.
- Select a work area that will be free of any other recognizable safety hazards.
- Environmental exposure at the anchor location (temperature extremes, chemicals, corrosive atmospheres).

- Compatibility of the connecting device and hardware with the anchor.
- Access to the anchor for connection, inspection, and rescue.
- Adequate fall clearance below the work area (see Total Fall Clearance for PFAS (Section 3.9)).
- Select an overhead anchor when possible. If an overhead anchor is not possible, ensure that all the equipment used to connect the anchor is rated for tie-off below the waist or at foot level (e.g., an energy-absorbing lanyard rated for 12 ft of free fall per ANSI/ASSP Z359.13 where permitted (general industry only, never in construction), or an SRL used within its manufacturer's foot-level limits).
- Ensure there are no swing hazards.

If the user is unable to determine whether the anchorage meets the manufacturer's specification, contact your employer or qualified person, or Frontline at info@frontlinefall.com. Do not install or use the anchor if the required substrate, structure, or installation conditions cannot be verified.

3.8 Before Working with your PFAS: Before work begins, the employer must have a site-specific fall protection plan in place and in use, including the working conditions and equipment to be used. Here are some aspects, but not all inclusive, of the items that need be included in a fall protection plan:

- End user training on the safe use, care and maintenance of equipment and jobsite conditions prior to commencing work.
- Inspection procedures.
- Fall clearances and potential swing falls.
- Proper structure/substrate anchoring to withstand the minimum required loads.
- A rescue plan in case the end user or anyone else is subjected to a fall.

Rescue readiness: before work begins the employer must assign the trained rescuer(s) and rescue method, confirm the method can actually be performed at this location with this anchor and the equipment in use, and keep the required rescue equipment available at the work area.

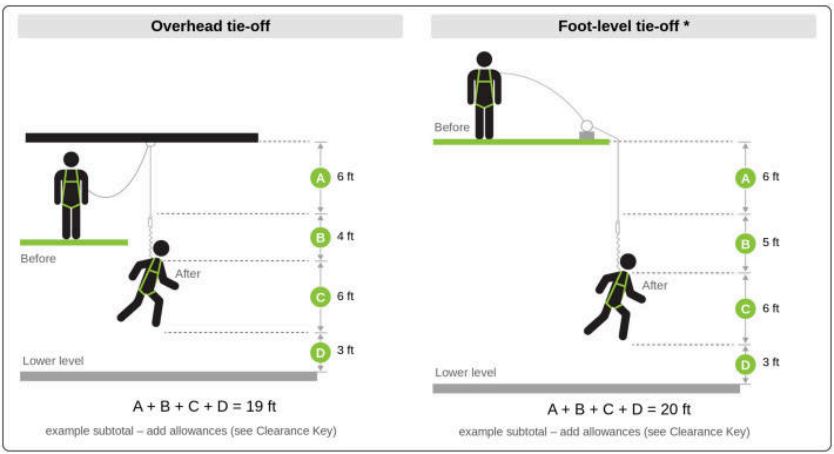
3.9 Total Fall Clearance for PFAS: According to OSHA, the total fall clearance distance is the minimum vertical distance between the worker and the lower level that is necessary to ensure the worker does not contact a lower level during a fall. The total fall clearance distance needs to be calculated by the user/employer before a decision is made to use a PFAS. If the available distance is not greater than the total fall clearance distance, it is inappropriate to use the PFAS and a fall restraint system might be used instead. Total fall clearance must be calculated before use, and again any time the anchor location, connecting device, or work area changes, accounting for factors including but not limited to:

- Lanyard/Self Retracting Lifeline length which may vary depending on the device being used and their specifications. See connecting device user manual for more information.
- The height at which the lanyard is anchored relative to where the other end attaches to the worker's harness.
- The distance the worker will travel as the deceleration device absorbs the energy from the fall (i.e., slows it down.)
- The worker's height.
- D-ring shift and a safety factor.

- Anchorage-connector deflection under load and harness stretch – these vary with the user, equipment, and fall conditions; allow for them in the calculation.
- The length of this anchorage connector itself (see Dimensions (Section 8.0)) and its position relative to the working surface – add it to the connecting-device length when it hangs below the structural anchorage.

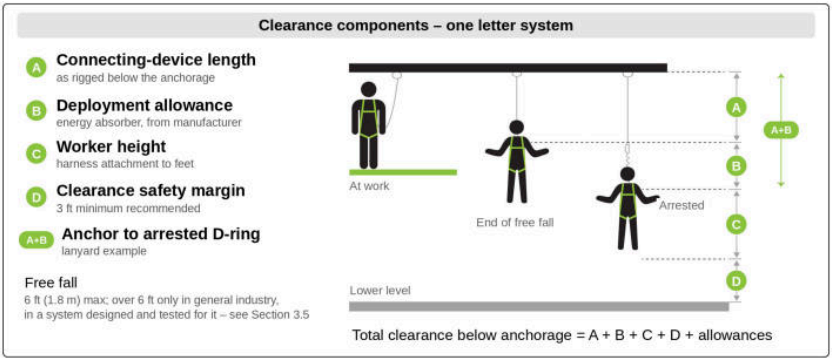
The examples in Figure 2 – Fall Clearance Examples and Figure 3 – Clearance Components measure required clearance below the anchorage. The illustrations below help guide the user to determine minimum fall clearances and swing hazards:

FIGURE 2 – FALL CLEARANCE EXAMPLES



* **Foot-level tie-off (Figures 2 and 3):** this example produces about 12 ft of free fall – A + C, the 6-ft lanyard plus the 6 ft from the worker's feet to the D-ring. A 12-ft free fall is allowed only in general industry, in a system the manufacturer designed and tested for it (such as an energy-absorbing lanyard rated for 12 ft of free fall) – not in construction. Foot-level tie-off that keeps free fall within 6 ft may still be used where the device is rated for it. SRLs: follow the SRL manufacturer's limits. B = 5 ft (60 in) is the absorber's deployment, not free fall.

FIGURE 3 – CLEARANCE COMPONENTS



CLEARANCE KEY – FIGURES 2 AND 3

A = Connecting-device length, as rigged below the anchorage. **B** = Energy-absorber deployment allowance – use the connecting-device manufacturer's value. The examples use the ANSI/ASSP Z359.13 maximum deployment: 48 in (4 ft) for an absorber rated for 6 ft of free fall, 60 in (5 ft) for one rated for 12 ft. **C** = Height of worker below the harness attachment point (harness attachment to feet). **D** = Clearance safety margin (minimum 3 ft recommended). **REQUIRED CLEARANCE BELOW THE ANCHORAGE = A + B + C + D + allowances.** Allowances are D-ring shift, harness stretch and anchorage-connector deflection – add them; do not take them out of D. The 19-ft and 20-ft totals in Figure 2 – Fall Clearance Examples are worked examples of A + B + C + D only, based on a 6-ft energy-absorbing lanyard – substitute the values for your specific equipment. For SRLs, use the SRL manufacturer's clearance chart.

⚠ WARNING

- Insufficient fall clearance can result in serious injury or death. The distances and illustrations in Figure 2 – Fall Clearance Examples and Figure 3 – Clearance Components are examples only and do not represent your specific equipment, anchor location, or work site. The employer/user must perform the correct fall clearance calculation before each use, using the actual values for the specific connecting device, the anchorage location, and the work area or site-specific conditions, as varying factors can affect the required distance. These illustrations do not replace the connecting-device manufacturer's instructions.

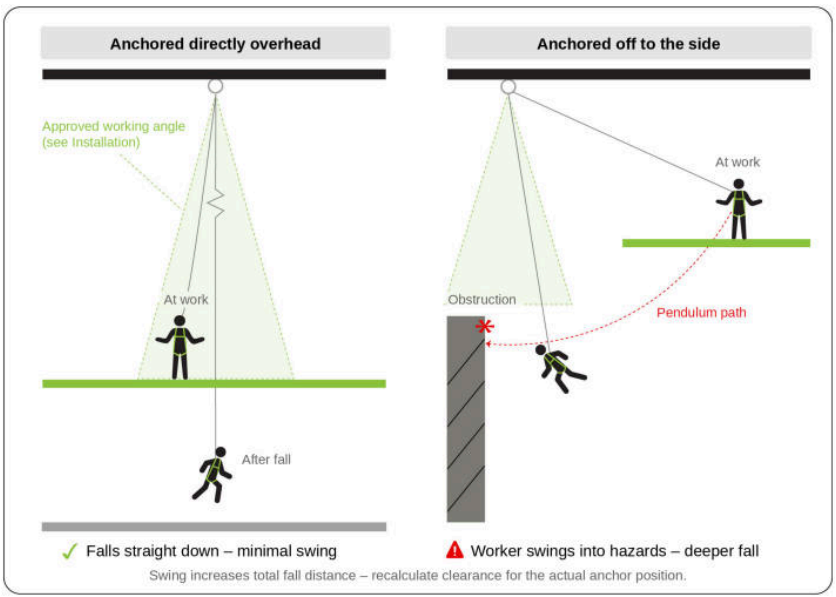
3.10 Swing Fall: Swing fall hazards or pendulum effect occurs when the anchorage is not directly overhead and/or there is some lateral distance away from the falling worker. In cases where the anchorage is not completely directly overhead, or behind/underneath if the anchor is anchored below the waist or at foot level, the total fall distance increases significantly and the worker can strike nearby hazards while swinging.

Anchor overhead and work directly below the anchorage whenever possible. Where the anchor is installed at waist or foot level, work within the approved working angles and direction of loading for the specific anchor (see Installation (Section 11.0, Item 4)). Working within the anchor's approved angles does not by itself control swing fall, lateral offset, edge contact, or clearance – the employer/user must still evaluate the complete work zone.

Waist- or foot-level tie-off is permitted only when all three conditions are met:

1. The free fall stays within 6 ft – or, in general industry only, within the higher limit of a system the manufacturer designed and tested for it (e.g., an energy-absorbing lanyard rated for 12 ft of free fall) – and the connecting device is approved by its manufacturer for waist- or foot-level tie-off. For SRLs, follow the SRL manufacturer's limits.
2. Total fall clearance has been recalculated for the increased free-fall distance BEFORE tie-off.
3. The work remains within the approved working angles and direction of loading for the specific anchor.

FIGURE 4 – SWING FALL



⚠ WARNING

- Swing falls can cause death or serious injury. Working outside the anchor's approved working angles, or where a swing fall can occur, is NOT permitted. Reposition the anchor or the work so the fall path is clear before use.

4.0 INSPECTION REQUIREMENTS

This anchor and any other PFAS shall be inspected BEFORE each use. The program administrator, authorized user and/or rescuer inspecting the product shall have the proper training on the use, maintenance, care and inspection of this product. Additionally, a competent or qualified person other than the user shall conduct thorough safety inspections at least every six (6) months, or sooner when required by conditions of use, the authorized user, the employer, or any applicable requirement – whichever is most stringent. Some of the items that shall be inspected, but not all inclusive, are the following:

- Safety labels/markings/tags that are legible, with the markings shown in Labels (Section 12.0), product limitations, user capacity and other required markings.
- Defects or any imperfections on the products such as; Corrosion, broken, bent, deformed, excessive wear, defects in welded areas or any other evidence of damage or alterations affecting the safety functionality of the anchor.
- Any other conditions that may question the integrity of the anchor, shall be put out of service.
- Any product that has been subjected to a fall or an impact shall be put out of service.
- Clean/clear product of any surface contamination such as concrete, stucco, roofing material or other material that may impact the safe use of the product.
- Any damage to the equipment or inadequate maintenance.
- The installed condition of the supporting structure and the anchor/substrate interface – damage, movement, corrosion, or loosening.
- The details of the Inspection Checklist and Log (Section 13.0).
- The additional inspection and safety items in Product Safety Specific Requirements (Section 10.0).

Permanently remove from service equipment that fails any of these inspection criteria, has not undergone required preventative service or maintenance, or whose condition is questionable. Immediately stop use; mark or tag the equipment “DO NOT USE”; remove it from the work area and prevent any further use; and notify the program administrator. Equipment permanently removed from service must not be returned to use.

Exception – light cleaning only: equipment whose only issue is surface contamination removable by light cleaning with warm water and soap is tagged “DO NOT USE”, cleaned and re-inspected, and returns to use only if it passes every inspection criterion. This never applies to equipment that is damaged, has been subjected to a fall or impact, needs any other maintenance, or remains of questionable condition.

The program administrator must set inspection criteria at least as strict as this manual and the employer’s fall protection program, and keep them current as conditions of use change. Record every competent- or qualified-person inspection in the Inspection Checklist and Log (Section 13.0): the equipment identity, the inspection date, the inspector’s name, and the result. Pre-use checks are required before each use and must be recorded when the employer’s program or applicable regulations require it.

These are minimum requirements. For questions about inspecting Frontline Fall Protection products, contact us at info@frontlinefall.com.

5.0 SERVICE LIFE

This product has no predetermined service life or fixed expiration date. Service life is governed by inspection: the product remains in service only while it passes the pre-use inspections and the competent-person inspections required by this manual (at least every six (6) months). Permanently remove the product from service if it fails any inspection criterion, has been subjected to a fall or impact, shows corrosion, or if its condition is questionable. Local, state, or federal safety regulations may also govern product life; whichever requirement is most stringent supersedes and applies. (For equipment awaiting only light cleaning, see Inspection Requirements (Section 4.0) and Maintenance, Storage and Transportation (Section 6.0).)

6.0 MAINTENANCE, STORAGE AND TRANSPORTATION

MAINTENANCE: In order to maintain product in good standing, it is necessary to keep them cleaned and in good condition. Avoid surface contamination such as concrete, stucco, roofing material, chemicals or other harmful substances that could accelerate cutting, abrading, damaging and/or rusting/corroding of products. Use warm water and soap to wash any contaminants and then dry off to help extend the life of the product. Cleaning does not restore equipment damaged by chemical exposure – remove such equipment from service (see Inspection Requirements (Section 4.0)).

Only light cleaning with warm water and soap is permitted. Do not repair, modify, alter, or otherwise service this product. Tag equipment awaiting cleaning “DO NOT USE” until it is cleaned and inspected. Equipment requiring more than light cleaning, failing inspection, or showing chemical damage must be permanently removed from service (see Inspection Requirements (Section 4.0)). Frontline does not authorize any maintenance, repair, modification, or servicing of this product beyond the light cleaning expressly permitted in this manual and assumes no responsibility or liability for any damage, failure, or other condition caused by or arising from any such unauthorized maintenance, repair, modification, or servicing.

STORAGE: When not installed, products must be stored at room temperature in indoor space, lockers or in a clean area away from sunlight, rain and other environmental conditions. Products should also be stored where they are not exposed to chemical, oils, paint, concrete, or other contaminants that might compromise the integrity of the product. Equipment that has been physically exposed such as rain/dirty water, concrete, paint, buildup of other construction material or other surface contamination shall be cleaned and dried before storage.

TRANSPORTATION: Transport the product so it is protected from impact with other equipment and from contact with chemicals or other harmful substances; either can compromise the integrity of the product and require its removal from service.

Do not install or use this product until Part 1 – General Requirements (Sections 1.0-6.0) has been read and understood.

PART 2 – PRODUCT INFORMATION

7.0 PRODUCT DESCRIPTION

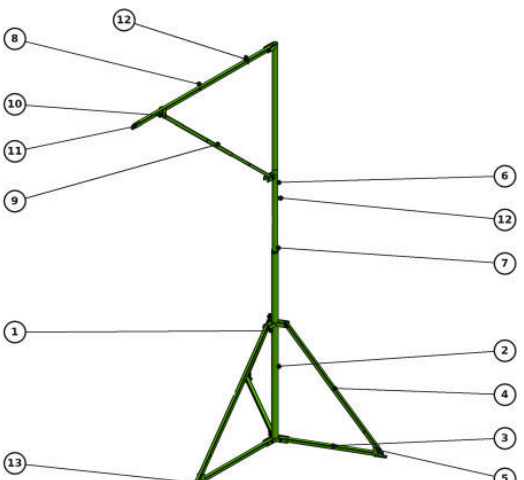
7.1 Description:

The Frontline Overhead Tripod Anchor (OTP21) is a portable, free-standing overhead anchorage connector for one (1) person. It provides an overhead anchor point where no suitable overhead structure is available.

The OTP21 has two main assemblies: a three-legged tripod base that is fastened to a concrete slab with three anchors, and a mast with a horizontal boom. The mast sits in the central post of the tripod base. The anchor point is the load rod at the end of the boom. The boom swivels on the mast and rotates with a small force to follow the user.

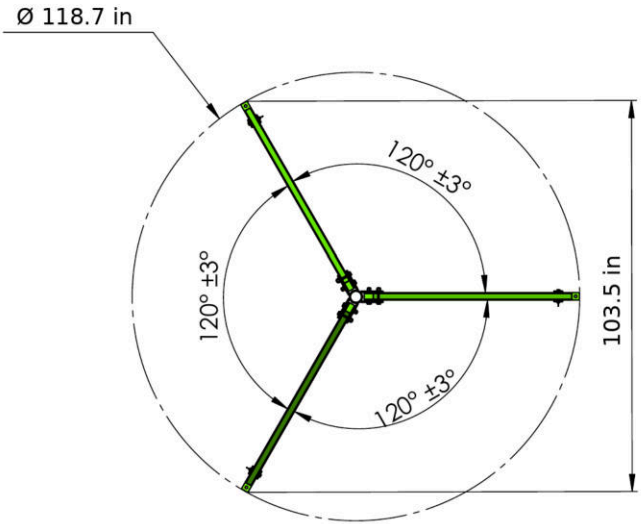
Use the OTP21 only as part of a personal fall arrest system with a Class 1 or Class 2 self-retracting lifeline (SRL). Do not use a lanyard unless the required fall clearance can be met.

7.2 Product Drawing and Dimensions:



1 Tripod base
2 Central post – product label location
3 Leg (3)
4 Leg brace (3)
5 Leg pin with clip pin (3)
6 Mast
7 Mast seat – rests on top of the central post
8 Boom
9 Boom strut with gas spring – do not disassemble
10 Strut pin with clip pin
11 Anchor point
12 Lifting eyes (2) – for hoisting only. Not an anchor point.
13 Foot plate

FIGURE 5 – PRODUCT COMPONENTS



Tripod base – top view

- Feet on a 118.7 in (9 ft 11 in) diameter circle
- Legs 120° apart
- 103.5 in (8 ft 7-1/2 in) across the feet

FIGURE 6 – TRIPOD BASE, TOP VIEW

Key dimension	Value (drawing OTP21 V1, 17/03/2026)
Overall height	20 ft 9 in (6,331 mm)
Anchor point height above base	20 ft 6-1/2 in (6,261 mm)
Boom reach (mast to boom end)	8 ft 8 in (2,647 mm)
Leg layout	3 legs at 120°; feet on a 9 ft 11 in (3,016 mm) diameter circle
Base footprint	103.5 in x 89.6 in (2,630 x 2,276 mm)

7.3 Components Supplied:

Item	Description	Qty
A	Tripod base – central post, legs, leg braces, leg pins with clip pins	1
B	Mast assembly – mast, boom with anchor point and lifting eyes, boom strut with gas spring, strut pin with clip pin	1
C	Hilti KWIK BOLT TZ2 (KB-TZ2) 5/8 in x 6 in carbon steel concrete expansion anchors	3
D	User Instruction Manual (this manual)	1

Required but not supplied: Class 1 or Class 2 SRL (ANSI/ASSP Z359.14) with a compatible connector; full-body harness; tag line; rotary hammer drill and 5/8 in carbide bit; calibrated torque wrench; lifting equipment and rigging rated for the mast assembly.

8.0 SYSTEM SPECIFICATIONS

CONFORMANCE:	OSHA 29 CFR 1910.140 and 29 CFR 1926.502 (as marked on the product label).
USER CAPACITY:	1 Person with a combined weight (clothing, tools, etc.) of no more than: 310 lbs (140 kg)
SERVICE TEMPERATURE RANGE:	-30°F to +130°F (-34°C to +54°C)
MINIMUM BREAKING STRENGTH (MBS):	5,000 lbs per attached person If the MBS is less than 5,000 lbs (22.2 kN), use this anchor only as part of a complete personal fall arrest system designed, installed and used under the supervision of a qualified person that maintains a safety factor of at least two (see Structural Requirement (Section 3.2)).
CONNECTION POINT(S):	One (1): the anchor point (load rod) at the end of the boom (see Figure 5 – Product Components)
MATERIAL:	ASTM rated steel
FINISH:	Powder coated
FASTENERS:	Three (3) Hilti KB-TZ2 5/8 in x 6 in carbon steel concrete expansion anchors, one per foot plate.
DIMENSIONS:	Overall (L x W x H): 103.5 in x 89.6 in x 20 ft 9 in (base footprint x overall height) See Figure 5 – Product Components for all other dimensions.
WEIGHT:	Tripod base: approx. 209 lbs (95 kg) | Mast assembly: approx. 165 lbs (75 kg) | Total: approx. 374 lbs (170 kg)
USE:	**Installation:** ☒ Temporary ☒ Permanent **Reuse:** ☒ Reusable ☐ Single installation The OTP21 can be installed as a temporary or permanent anchor and is reusable. The KB-TZ2 concrete anchors are single-use – use new anchors at every location.
CONNECTING DEVICE:	**Fall arrest:** Class 1 or Class 2 self-retracting lifeline (SRL) meeting ANSI/ASSP Z359.14. Do not use a lanyard, including an energy-absorbing lanyard, unless the required fall clearance can be met. **Restraint:** a restraint lanyard or SRL short enough that the user cannot reach the fall hazard.
WORKING ANGLE:	SRL (or lanyard) within 25° of vertical below the anchor point, on all sides. Keep the anchor point above the user's dorsal D-ring.
ANCHOR POINT DEFLECTION:	12 in (30 cm) – add it to the fall clearance.
WIND LIMIT:	Do not install or remove the OTP21 in winds above 20 mph (32 km/h). Do not use it in winds above 28 mph (45 km/h), or when lightning is possible.

If additional product performance data is required, contact Frontline at info@frontlinefall.com.

9.0 APPLICATION

This Anchorage Connector has been tested under controlled conditions to the OSHA requirements identified for this product in this manual. That testing covers only the Anchorage Connector – not other components, subsystems or the substrate used with it (see Anchorage Substrate Connection (Section 3.3)), and Frontline makes no representation about them except as stated in this manual.

Prior to installation and use of this equipment, record the product identification information from the label in the Inspection Checklist and Log (Section 13.0). Use a pen or fine-point permanent marker with blue or black ink when logging inspections.

Purpose: The Frontline Fall Arrest Anchors are designed to be used as a component in a Personal Fall Arrest System (PFAS). Frontline Fall Arrest Anchors are tested to meet the applicable OSHA requirements so employees can safely tie off while maintaining mobility and being productive when using Anchorage Connector.

Approved Applications: The chart below defines the approved applications for this anchorage connector. Only applications checked are approved for this model. Unchecked applications are not approved.

APPLICATION	DESCRIPTION	APPROVED APPLICATION
PERSONAL FALL ARREST	Personal fall arrest is the application in which the user can be subjected to a fall. The anchorage needs to be used in conjunction with approved connecting device such as a lanyard or self-retracting lifeline and a harness. Free fall must not exceed 6 ft (1.8 m), or the connecting device's limit if lower; more than 6 ft is allowed only in general industry, with a system the manufacturer designed and tested for it. Anchorages selected for fall arrest systems shall be capable of sustaining static loads applied in the directions permitted by the system of at least 5,000 lbs (22.2 kN) per attached employee, or be part of a complete personal fall arrest system designed, installed and used under the supervision of a qualified person that maintains a safety factor of at least two.	☒
RESTRAINT	Restraint is the application used by the user where the user is limited in distance so they cannot reach or be exposed to a fall hazard. Restraint anchorages must sustain static loads, in all directions the system permits, of at least 1,000 lbs (4.5 kN) for non-certified anchorages, or twice the foreseeable force for certified anchorages designed by a qualified person in accordance with ANSI/ASSP Z359.6 (strengths per ANSI/ASSP Z359.2). In general industry, OSHA also requires 5,000 lbs (22.2 kN) per attached person, or a qualified-person design with a safety factor of at least two. This system also is composed of the anchorage, a connecting device approved by its manufacturer for restraint, and a harness.	☒
WORK POSITIONING	Positioning devices shall be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds (13.3 kN), whichever is greater. Positioning systems must be rigged so the user cannot free fall more than 2 ft (0.6 m) (OSHA construction). This system also is composed of the anchorage, a connecting device approved by its manufacturer for positioning, and a harness.	☐

APPLICATION	DESCRIPTION	APPROVED APPLICATION
RESCUE	This anchor may be used for rescue only as defined in Product Safety Specific Requirements (Section 10.0), by trained rescuers, and only where rescue loads (rescuer plus casualty) and any use after fall loading are approved for the specific product. Unless the product-specific instructions expressly approve rescue loading, this anchor is rated for one person and must not be used to attach a rescuer. An anchor that has arrested a fall must be removed from service once the casualty is recovered.	☐

10.0 PRODUCT SAFETY SPECIFIC REQUIREMENTS

The following requirements are specific to this product. They apply in addition to Part 1 – General Requirements.

- One (1) person, connected to the anchor point at the end of the boom with one (1) Class 1 or Class 2 SRL. Do not use a lanyard unless the required fall clearance can be met.
- Approved for personal fall arrest and restraint. Work positioning and rescue are not approved.
- Restraint: use a lanyard or SRL short enough that you cannot reach the fall hazard, and keep it within 25° of vertical, the same as for fall arrest.
- Always work beneath the anchor point. Keeping the anchor point above you reduces swing falls and the fall clearance you need. The boom swivels and rotates with a small force to follow you as you move – stay beneath it.
- Keep the anchor point above your dorsal D-ring and keep your SRL (or lanyard) within 25° of vertical.
- Fall clearance: use the SRL or lanyard manufacturer's clearance information, then add the anchor point deflection of 12 in (30 cm) and the clearance allowances in Total Fall Clearance for PFAS (Section 3.9).
- Connect to the SRL before you reach the fall hazard. Use the tag line to pull down and return the SRL snap hook

  – never let the line retract freely.
- Keep the fall path clear of the tripod legs, mast, vehicles and other objects.
- Do not use the OTP21 to lift, lower or hang materials, tools or equipment. Do not climb the tripod or mast. Never connect fall protection to the lifting eyes, boom, strut, mast or legs.
- Protect the OTP21 from vehicle and equipment impact. If it is struck, remove it from service.
- Rescue: the anchor point is not approved for rescue loads. The rescue plan must include a way to reach a worker suspended below the boom (for example, a mobile elevating work platform).
- Do not install or remove the OTP21 in winds above 20 mph (32 km/h). Do not use during lightning or in winds above 28 mph (45 km/h).
- The KB-TZ2 concrete anchors are single-use – use new anchors at every location.
- Inspection, in addition to Inspection Requirements (Section 4.0):
  - Before each use, from the ground: check that the OTP21 has not moved or been struck, the boom is level and at 90° to the mast, all pins and clip pins are in place, and the anchors and the concrete around them are sound. Do not climb the OTP21.
  - Before each use, do a functional pull test: pull the SRL line down with the tag line, then give it a firm, quick pull. The SRL must lock and the boom and anchor point must hold. If anything does not work properly, do not use the OTP21.
  - Inspect the SRL and harness per their manufacturers' instructions.
  - At least once a month, or as required, or whenever the condition of the system is in question – whichever is most stringent – a competent or qualified person must inspect the anchor point, boom, strut and pins up close from a scissor lift or other aerial lift.
  - Record the results in the Inspection Checklist and Log (Section 13.0).

11.0 INSTALLATION

Do not install or use this product until Part 1 – General Requirements (Sections 1.0-6.0) and Part 2 – Product Information (Sections 7.0-10.0) have been read and understood.

1. Approved substrates and substrate verification:

Approved substrate: solid, normal-weight concrete (slab-on-grade or structural slab) with:

- Compressive strength of at least 3,000 psi, fully cured.
- Slab thickness of at least 6 in (152 mm).
- Each anchor at least 8-3/4 in (222 mm) from any slab edge, joint, crack, opening or embedded item.
- Flat, level surfaces only – all three foot plates must bear fully on the concrete.

Substrate verification: before installation, a qualified person must verify that the slab and its supporting structure can resist the loads from the OTP21 at this location, including uplift and shear on the anchors. Treat the concrete as cracked unless the qualified person determines otherwise.

2. Fastener specification:

- Fastener type:	Hilti KWIK BOLT TZ2 (KB-TZ2) expansion anchor, carbon steel. Use only KB-TZ2 nuts with KB-TZ2 bolts.
- Dimension:	5/8 in diameter x 6 in long.
- Quantity:	3 – one per foot plate.
- Embedment:	4-1/2 in (114 mm) minimum nominal embedment. Minimum hole depth: 4-3/4 in (121 mm).
- Torque:	40 ft-lb (54 N·m) – Hilti installation torque for 5/8 in carbon steel KB-TZ2 in concrete. Use a calibrated torque wrench.
- Other:	Any other anchor, size, embedment or substrate must be approved by a qualified person.

3. Installation steps:

Before commencing the installation, the installer must be protected by independent means and must not rely on this anchor until installation is verified.

A. Plan and prepare

WARNING

Installing the OTP21 means lifting a tall, heavy mast. A falling or tipping mast, contact with overhead power lines, or a base that is not fully fastened can cause death or serious injury.

- Install only with trained personnel under the supervision of a competent person.
- Use lifting equipment and rigging rated for the load, run by a qualified operator. Keep everyone out from under the load.
- Keep the OTP21, the lifting equipment and the load at least 20 ft (6 m) from overhead power lines.
- Never leave the tripod base standing unattended until all three anchors are installed and torqued.

1. Confirm that a qualified person has verified the location and the concrete, and that your fall protection plan covers the OTP21 at this location, including rescue, fall clearance and swing fall.
2. Pick a location where the anchor point will be over the work area, so users can stay beneath the anchor point and within the 25° working angle. Check for overhead power lines, overhead obstructions, and vehicle and equipment traffic.
3. Inspect all components before installation. Do not install a damaged or incomplete unit.
4. Barricade the installation area. Do not install in winds above 20 mph (32 km/h) or when lightning is possible.

B. Set up and fasten the tripod base

5. Lay the tripod base on the slab where it will be installed.
6. Open each leg: swing the leg and leg brace out, line up the holes and install the leg pins. Lock them with the clip pins.

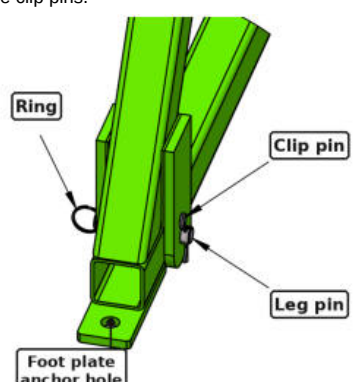


FIGURE 7 – LEG PIN, CLIP PIN AND FOOT PLATE

7. Stand the tripod base up on its three feet. Hold or brace it until all three anchors are installed.

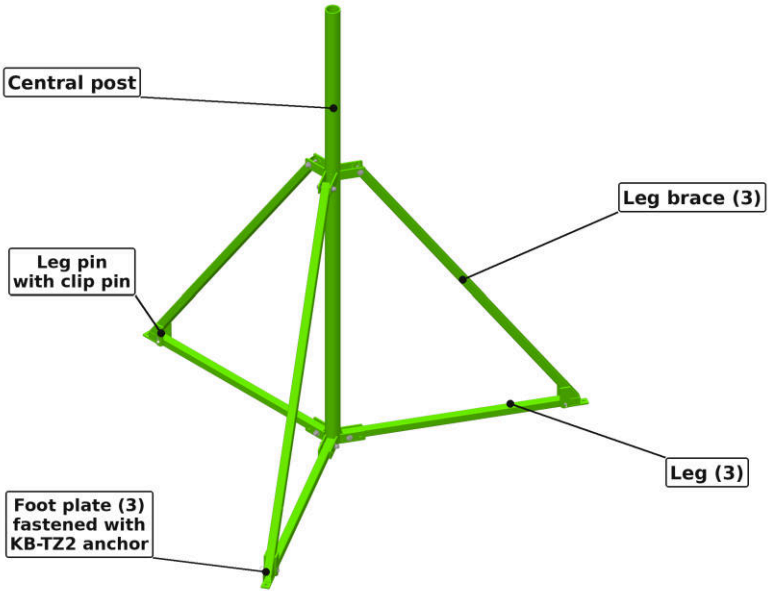


FIGURE 8 – TRIPOD BASE ASSEMBLED AND UPRIGHT

8. Check that all three foot plates sit flat on the concrete with no gaps and the central post is plumb.
9. Check that each foot-plate hole is at least 8-3/4 in (222 mm) from any slab edge, joint, crack or opening.
10. Drill each anchor hole through the foot-plate hole with a rotary hammer and a 5/8 in carbide bit, straight down, to a depth of at least 4-3/4 in (121 mm). Follow the Hilti Instructions for Use (IFU) – the instruction sheet packed with the anchors.
11. Clean each hole as required by the Hilti IFU.
12. Drive a KB-TZ2 through the foot plate into each hole until the washer sits on the foot plate and the 4-1/2 in (114 mm) minimum embedment is reached.
13. Tighten each nut to 40 ft-lb (54 N·m) with a calibrated torque wrench.
14. Check that all three anchors are installed and torqued and that the feet did not move.

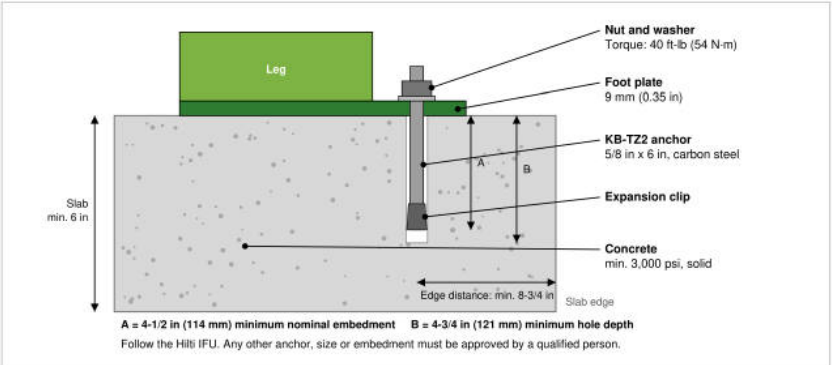


FIGURE 9 – KB-TZ2 ANCHOR INSTALLED THROUGH THE FOOT PLATE

⚠ WARNING

The boom strut contains a pressurized gas spring, and the boom can swing suddenly when the strut pin is installed or removed. Being struck by the boom or strut can cause serious injury.

- Keep hands, head and body out of the path of the boom and strut.
- Never disassemble the strut or remove the gas spring. If the strut is damaged or leaking, or the boom does not stay level, remove the OTP21 from service.

C. Assemble the mast (on the ground)

15. Lay the mast assembly on clean, level ground or blocking.
16. Swing the boom out, line up the strut with the boom bracket and install the strut pin. Lock it with the clip pin.
17. Connect the SRL to the anchor point with a compatible connector, following the SRL manufacturer's instructions. Check that the connector is fully closed and locked, then give it a light pull to confirm it is engaged. Attach a tag line to the SRL snap hook so the line can be pulled down and returned from the ground.

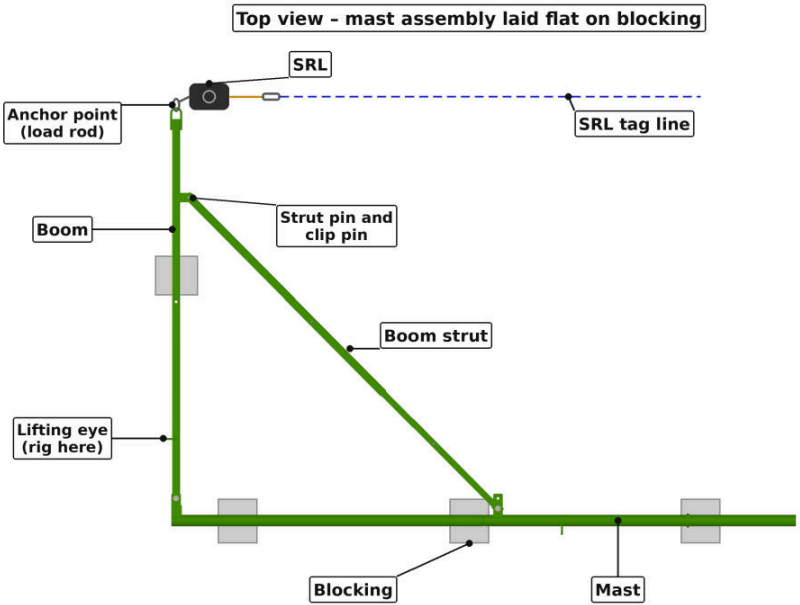


FIGURE 10 – MAST ASSEMBLY ON THE GROUND WITH THE SRL CONNECTED

D. Lift and seat the mast

⚠ WARNING

Improper rigging can drop the mast or let it swing out of control, causing death or serious injury.

- Rigging, lifting and tag lines must be planned and placed by a qualified rigger.
- Figure 11 – Hoisting the Mast onto the Installed Tripod Base is for information only. It does not show where to attach tag lines or how to rig the equipment – follow the qualified rigger's lift plan.

18. Rig the lifting equipment to the lifting eye on top of the boom. Never rig to the anchor point or the SRL.
19. Lift the mast slowly to vertical. Control it with a tag line. Keep everyone out from under the load. The boom swivels freely – use the tag line to control it. Keep the SRL tag line free and clear of the rigging.

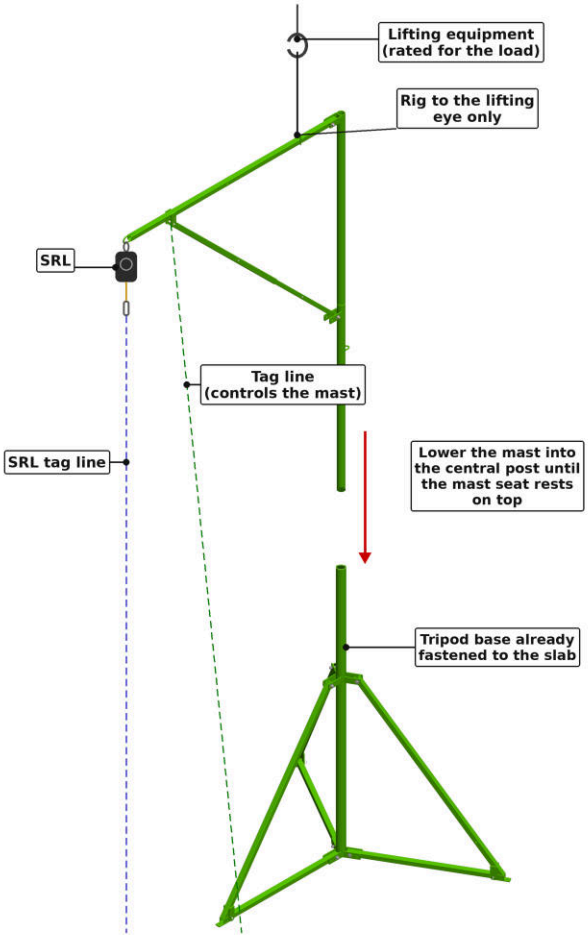


FIGURE 11 – HOISTING THE MAST ONTO THE INSTALLED TRIPOD BASE

Illustration for information only – not rigging or tag-line instructions. Follow the qualified rigger's lift plan.

20. Lower the mast into the central post until the mast seat rests fully on top of the post.

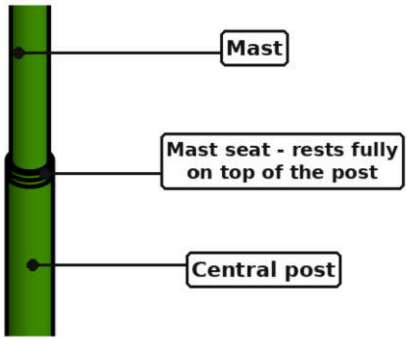


FIGURE 12 – MAST SEAT RESTING ON THE CENTRAL POST

21. Remove the rigging only after the mast is fully seated.

E. Final check and sign-off

22. Check that: the mast is fully seated; the mast is plumb and the boom is level, at 90° to the mast; the boom swivels freely; the strut pin, all three leg pins and all clip pins are installed; all three anchor nuts are tight; and the labels are legible.

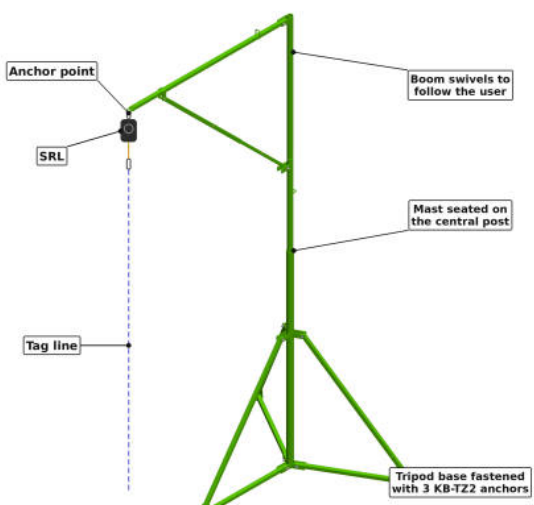


FIGURE 13 – COMPLETE INSTALLATION WITH THE SRL CONNECTED TO THE ANCHOR POINT

23. Pull the SRL line down with the tag line and check that it extends, retracts and locks, per the SRL manufacturer.
24. The competent or qualified person must inspect the completed installation and record it in the Inspection Checklist and Log (Section 13.0) before anyone uses the OTP21.

F. Before each use

25. From the ground, check that the OTP21 has not moved or been struck, the boom is level and at 90° to the mast, all pins and clip pins are in place, and the anchors and the concrete around them are sound. Do not climb the OTP21.
26. Do a functional pull test: pull the SRL line down with the tag line, then give it a firm, quick pull. The SRL must lock and the boom and anchor point must hold. If anything does not work properly, do not use the OTP21.
27. Inspect the SRL and harness per their manufacturers' instructions.
28. Periodic close-up inspection: a competent or qualified person must inspect the anchor point, boom, strut and pins up close from a scissor lift or other aerial lift at least once a month, or as required, or whenever the condition of the system is in question – whichever is most stringent. Record it in the Inspection Checklist and Log (Section 13.0).

G. Removal and relocation

29. Disconnect all users. Rig the lifting equipment to the lifting eye on top of the boom – never to the anchor point or the SRL – lift the mast out of the central post and lower it to the ground. Remove the strut pin and fold the boom.
30. Remove the anchor nuts and lift the tripod base off the anchors. Close the legs and lock them with the leg pins.
31. The old anchors cannot be reused. Remove them or cut them flush with the slab, as directed by the qualified person, so they are not a trip hazard.
32. At every new location, use new KB-TZ2 anchors and repeat these installation steps. Before anyone uses the OTP21, a competent or qualified person must inspect the installation and record it in the Inspection Checklist and Log (Section 13.0).

4. Installation orientation, permitted/prohibited load directions, and working-angle limits (see Swing Fall (Section 3.10)):

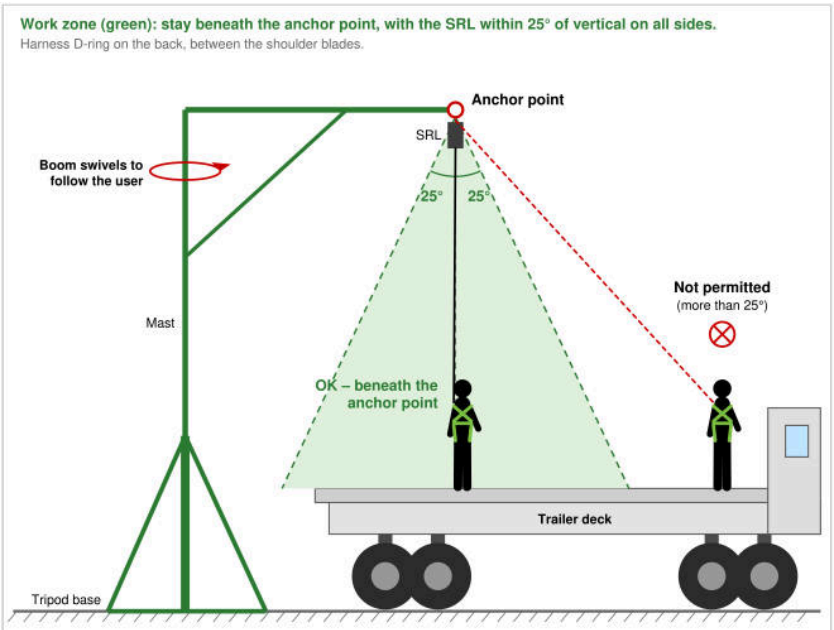


FIGURE 14 – WORKING ANGLE AND LOAD DIRECTION

- Install the OTP21 upright on a level slab, with the mast plumb and the boom level, at 90° to the mast.
- Always work beneath the anchor point. Keeping the anchor point above you reduces swing falls and the fall clearance you need. The boom swivels and rotates with a small force to follow you as you move – stay beneath it.
- **Permitted:** downward load on the anchor point only, through an SRL (or lanyard) that stays within 25° of vertical on all sides of the point directly below the anchor point. Keep the anchor point above your dorsal D-ring.
- **Prohibited:** loading any other part of the OTP21; an SRL or lanyard more than 25° from vertical; horizontal or upward loads; anchor point below the D-ring; line contact with the boom, strut, mast, legs or any edge.

WARNING

Loading the OTP21 anywhere other than the anchor point, or working outside the 25° working angle, can overload or tip the OTP21 or cause a swing fall, resulting in death or serious injury.

- Connect only to the anchor point at the end of the boom.
- Stay beneath the anchor point. Keep your SRL or lanyard within 25° of vertical and the anchor point above your dorsal D-ring.
- Never connect fall protection to the lifting eyes, boom, strut, mast or legs.

5. **Field load (serviceability) testing:** Not required for this anchorage connector unless stated below. During each inspection by a competent or qualified person, conducted at least every six (6) months, check the condition of the installed anchor, fasteners, substrate, and anchor-to-substrate connection. This inspection evaluates condition only; it does not confirm the substrate's structural capacity or replace the initial verification of the substrate and completed installation required before first use (see Anchorage Substrate Connection (Section 3.3)).

   OTP21: Field load testing is not required. A competent person must inspect and approve each installation before use. Before each use, do a functional pull test: pull the SRL line down with the tag line, then give it a firm, quick pull – the SRL must lock and the boom and anchor point must hold. The OTP21 is not approved for rope descent, suspended access or rescue.

12.0 LABELS



Location: on the central post of the tripod base.

The label image above is for reference only. The actual labels must always be on the physical product. Labels must be present and legible at all times. Remove the product from service if any label is missing or illegible.

PART 3 – RECORDS AND WARRANTY

13.0 INSPECTION CHECKLIST AND LOG

MODEL NUMBER:		**BATCH/SERIAL NUMBER:**	**DATE OF MANUFACTURE:**	**DATE OF FIRST USE:**		
INSPECTION:	Prior to installation and prior to each use / Inspection by a competent or qualified person is required at least every six (6) months.				**PASS**	**FAIL**
ANCHORAGE:	Inspect the Anchor for damage: Look for cracks, dents, or deformities.					
	Inspect for permanent deformation or any change from the original installed configuration (movement, rotation, gap at the substrate) other than movement designed into the product – remove from service if found.					
	Inspect for any missing parts (fasteners, etc.)					
	Inspect the entire unit for corrosion.					
	Ensure all fasteners/bolts are completely and properly installed					
	Inspect for sharp edges, chemical attack or discoloration, heat or arc damage, and any evidence of alteration.					
	Inspect for any other nonconformity.					
	Inspect the product-specific items in Product Safety Specific Requirements (Section 10.0).					
	Leg pins, strut pin and all clip pins installed, secured and undamaged.					
	Mast fully seated on the central post; mast plumb; boom swivels freely.					
	Boom level and at 90° to the mast; strut not bent or damaged; no oil leaks.					
	Anchor point and lifting eyes: no bends, cracks, wear or corrosion.					
	Concrete anchors: nuts tight; no cracks or spalling around the feet.					
	Foot plates flat on the concrete, no movement; legs and braces straight.					
	No vehicle or equipment impact damage on any part of the OTP21.					
LABELS	Inspect the Anchor for legible labels and the markings shown in Labels (Section 12.0).					
PFAS AND OTHER EQUIPMENT	Additional Personal Fall Arrest System (PFAS) equipment (harness, SRL, etc.) that are used with the Anchorage System must be installed and inspected per the manufacturer's instructions.					

INSPECTION LOG

MODEL:	SERIAL/BATCH:			INSTALLATION LOCATION:
COMPETENT OR QUALIFIED PERSON:	DATE OF INSPECTION	PASS	FAIL	COMMENTS / CORRECTIVE ACTION

14.0 LIMITED WARRANTY AND LIMITATION OF LIABILITY

Coverage. Frontline Fall Protection Inc. (“Frontline”) warrants this product to the original end user (the “Covered User”) to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase by the Covered User from Frontline or an authorized Frontline distributor, but in no event later than thirty-six (36) months after the date of manufacture (the “Warranty Period”). The Covered User is the first person or entity that purchases the product for use rather than resale, including an employer that purchases it for its workers. This warranty is non-transferable and extends only to the Covered User. The Warranty Period is not extended if Frontline replaces the product. The Warranty Period is not a statement of service life; the inspection and removal-from-service requirements of this manual apply regardless of warranty status.

Exclusions. This warranty does not cover: normal wear and tear; cosmetic conditions that do not affect function; damage or failure resulting from misuse, abuse, neglect, alteration, modification, or repair or attempted repair not authorized in writing by Frontline; improper installation, storage, maintenance, or inspection; use contrary to this manual or applicable laws, regulations, standards, and the instructions and warnings supplied with the product; use with incompatible components; or any product that has arrested a fall or been subjected to impact loading.

Your remedy. Frontline’s sole obligation, and the Covered User’s exclusive remedy, is limited to replacement of the defective product or refund of its purchase price, at Frontline’s option. This warranty does not cover removal, installation, or reinstallation costs or labor.

How to obtain warranty service. To obtain warranty service, the Covered User must, during the Warranty Period: (1) notify Frontline in writing, by email to info@frontlinefall.com, promptly and no later than thirty (30) days after the Covered User discovers or should have discovered the defect, and in any event before the Warranty Period expires; (2) obtain a Return Merchandise Authorization (“RMA”) number from Frontline before returning any product (no warranty service will be provided without an RMA number); (3) provide proof of purchase showing the purchase date and seller, the product model and serial or lot number, and a description of the claimed defect with photographs; (4) provide any other information Frontline reasonably requests to evaluate the claim; and (5) ship the product, freight prepaid and at the Covered User’s risk of loss, to the location Frontline designates. Frontline will inspect the returned product and, if it confirms a defect covered by this warranty, will replace the product or refund its purchase price, at Frontline’s option, and deliver any replacement product at Frontline’s expense. The Covered User has no right to return a product for warranty service except as set out in this section.

Products involved in a fall arrest, impact-loading event, accident, personal injury, or property-damage incident must not be altered, repaired, destroyed, discarded, or returned except in accordance with Frontline’s instructions.

Limitation of liability. EXCEPT FOR THE EXPRESS LIMITED WARRANTY SET FORTH ABOVE, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, FRONTLINE DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND FRONTLINE SHALL NOT BE LIABLE FOR ANY INCIDENTAL, INDIRECT, CONSEQUENTIAL, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, INCLUDING LOSS OF USE, LOST PROFITS, LOST REVENUE, OR BUSINESS INTERRUPTION; AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, FRONTLINE’S AGGREGATE LIABILITY FOR BREACH OF THIS LIMITED WARRANTY SHALL NOT EXCEED THE PURCHASE PRICE PAID FOR THE PRODUCT GIVING RISE TO THE CLAIM.

Nothing in this warranty or this limitation of liability excludes, limits, or caps Frontline’s liability for liability that cannot be excluded or limited under applicable law. These limitations apply only to the extent permitted by law.

User obligations. Nothing in this warranty relieves the user of the obligation to use, inspect, and maintain this product in accordance with this manual and applicable regulations.

Any product required by this manual or applicable standards or regulations to be removed from service must remain removed from service notwithstanding any warranty inspection, replacement, or other warranty determination.

No other warranties by others. This warranty is provided by Frontline solely to the Covered User. NO DISTRIBUTOR, DEALER, AGENT, OR EMPLOYEE OF FRONTLINE OR ANY RESELLER IS AUTHORIZED TO MAKE ANY MODIFICATION, EXTENSION, OR ADDITION TO THIS WARRANTY. ANY SUCH PURPORTED WARRANTY IS VOID AND DOES NOT BIND FRONTLINE.

Governing law and venue. To the maximum extent permitted by applicable law, this limited warranty and any dispute arising out of or relating to this limited warranty or the product shall be governed by and construed in accordance with the laws of the State of Florida, without regard to its conflict-of-laws principles. Any action or proceeding arising out of or relating to this limited warranty or the product shall be brought exclusively in the state or federal courts of competent jurisdiction located in Miami-Dade County, Florida, and the claimant consents to the jurisdiction of such courts. These provisions shall apply only to the extent permitted by applicable law and shall not operate to waive or restrict any right or remedy that cannot lawfully be waived or restricted.

REFERENCES – STANDARDS AND REGULATIONS

These instructions are based on the regulations and standards listed below. The list is for reference only and does not replace or change their requirements. Any Frontline statement that this product conforms to, complies with or was tested to a requirement is limited to the requirements identified for the model in this manual. The user and employer must comply with the laws, regulations and standards in effect where and when the product is used, and with the instructions for each component in the system. Where requirements differ, follow the most stringent.

Federal regulations (OSHA)

Reference	Title	Applies to
29 CFR 1926, Subpart M	Fall Protection	Construction
29 CFR 1910, Subpart D	Walking-Working Surfaces (including rope descent systems)	General industry
29 CFR 1910.140 (Subpart I)	Personal Fall Protection Systems	General industry

ANSI/ASSP Z359 Fall Protection Code and related standards – for the fall protection program, system and connecting equipment used with this anchor

Reference	Title	Applies to
ANSI/ASSP Z359.2	Minimum Requirements for a Comprehensive Managed Fall Protection Program	Fall protection program, training and rescue
ANSI/ASSP Z359.6	Specifications and Design Requirements for Active Fall Protection Systems	Systems designed by a qualified person
ANSI/ASSP Z359.12	Connecting Components for Personal Fall Arrest Systems	Snap hooks and carabiners
ANSI/ASSP Z359.13	Personal Energy Absorbers and Energy Absorbing Lanyards	Energy-absorbing lanyards
ANSI/ASSP Z359.14	Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems	Self-retracting lifelines (SRLs)

Also follow all other applicable federal, state, and local regulations, your employer's fall protection program, and the instructions of each manufacturer whose equipment is used with this anchor.

OSHA regulations are available at www.osha.gov. ANSI/ASSP standards are available from the American Society of Safety Professionals (www.assp.org) .

Note: the American Society of Safety Engineers (ASSE) became the American Society of Safety Professionals (ASSP) in 2018; editions published before then carry the ANSI/ASSE designation.



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