



User Instruction Manual

8' Confined Space Tripod

This manual is intended to meet the Manufacturer's Instructions as required by the American National Standards Institute (ANSI) Z359.1-2007, Z117.1-2009, A10-32-2012, and Occupational Safety and Health Act (OSHA) regulations 1926.502, 1926.21, and 1910.146 and should be used as part of an employee training program as required by OSHA. The user of the equipment discussed in this manual must read and understand this manual before beginning work, or if necessary, have this manual explained. This manual assumes the user has been trained in the use of this equipment in a Non-Permit and Permit-Required Confined Space environment.

WARNING

This product is part of a personal fall protection, restraint, work positioning, suspension, or rescue system. A Personal Fall Arrest System (PFAS) is typically composed of an anchorage and a Full Body Harness (FBH), with a connecting device, i.e., a Shock Absorbing Lanyard (SAL), or a Self-Retracting Device (SRD), attached to the dorsal D-ring of the FBH.

These instructions must be provided to the user of this equipment. The user must read and understand the manufacturer's instructions for each component or part of the complete system. Manufacturer's instructions must be followed for proper use, care, and maintenance of this product. These instructions must be retained and be kept available for the user's reference at all times. Alterations or misuse of this product, or failure to follow instructions, may result in serious injury or death.

A Fall Protection Plan must be on file and available for review by all users. It is the responsibility of the user and the purchaser of this equipment to assure that users of this equipment are properly trained in its use, maintenance, and storage. Training must be repeated at regular intervals. Training must not subject the trainee to fall hazards.

When this equipment is in use the employer must have a rescue plan and the means at hand to implement it and communicate that plan to users, authorized persons, and rescuers.

Consult a doctor if there is reason to doubt your fitness to safely absorb the shock of a fall event. Age and fitness seriously affect a worker's ability to withstand falls. Pregnant women or minors must not use this equipment.

NOTE: For more information consult ANSI Z359

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1. DESCRIPTION

The FallTech® 8' Contractor Confined Space Tripod is primarily for those entering and working in confined spaces, both Permit and Non-Permit. OSHA defines a confined space as any space with limited openings for entry or exit, is large enough for a worker to enter bodily and perform work, and is not designed for continuous worker occupancy. Confined spaces include but are not limited to, tanks, storage bins, manholes, pits, silos, underground utility vaults and pipelines. See 29 CFR 1910.146.

Permit-required confined spaces are confined spaces that, in addition to having limited entry/egress, also contain some type of hazard, either environmental or atmospheric, unguarded machinery, exposed electrical components, engulfment hazards, or a downward sloping tapered shape. See 29 CFR 1910.146.

The tripod provides the support structure for entry and egress for rescue/evacuation systems, and is the anchorage for fall protection, work positioning, and personnel riding systems. See Section 2.

The tripod is composed of a cast aluminum head assembly, equipped with integrated aluminum pulleys and pulley guards for rescue and retrieval device cables and two eyebolts for attaching one or more PFAS. The legs are 2-part telescoping square aluminum tube, secured to specified length by pins. Brackets to facilitate the use of entry/egress, lower/hoist personnel winches, and 3-Way SRL-R fall protection devices are installed on the legs. The feet are auto-leveling and are equipped with a spiked edge for soft ground and rubber pads for hard surfaces. Eyebolts in lower legs facilitate the use of a safety chain to prevent the tripod legs from splaying out under loads when the tripod is in use.

This manual contains three Appendices; A, B, and C. Appendix A contains figures and tables specific to the tripod discussed in this manual.

Appendix B contains figures and tables applicable to fall protection equipment in general. Appendix C contains general information, installation and use procedures for the confined space winch and 3-way device used in conjunction with the tripod discussed in this manual. All figure, table, and chart references in this manual are to Appendix A unless otherwise noted.

For purposes of this manual, the tripod, in all iterations, may be referred to collectively as the tripod, the equipment, the product, or the unit.

See Table 1 for product and materials, specifications and ratings. See Figure 1A for an illustration of the product parts and features, and Figure 1B for an illustration of working dimensions.

1.1 American National Standards Institute (ANSI) and Occupational Safety and Health Act (OSHA): The tripod discussed in this manual, including all devices attached to it, meets the standards of ANSI Z359.1-2007, ANSI Z359.4-2013, Z117.1-2009, A10-32-2012, and Occupational Safety and Health Act (OSHA) regulations for general industry 1926.502, and 1910.146.

OSHA requires all employees working in a confined space application be trained regarding the nature of hazards involved, the necessary precaution to be taken, and in the use of protective and emergency equipment.

2. APPLICATION

2.1 Purpose: A typical confined space application is a tripod set up over an entry port, equipped with entry/egress, fall protection, and rescue devices i.e., personnel and material winches, 3-way SRL-R winch devices, a Self-Retracting Device (SRD) and a Fall Arrester Connecting Subsystem (FACSS). See Appendix C of this manual.

There are two operators of a tripod with a device. 1) the entrant who is equipped with an approved full body harness and remains attached to a lifeline, and 2) the attendant, who cranks the winch, directs the cable, and maintains constant contact with the entrant, either visually or by other means.

Each device has a certain functional configuration. The personnel winch is a manually operated raising and lowering device that must be cranked in both directions. The 3-way device is a fall protection SRD with a rescue function.

Confined space operations may be described and planned for according to how the entry/egress will be accomplished using what equipment.

- Confined space entry, using a tripod and a single winch as shown in Figure 2A. The ladder is the primary method of entry and egress. The winch is a backup device, for emergency retrieval and fall protection device. Since the winch lacks an energy absorber, it requires an attendant at all times to keep the device lifeline tensioned, to prevent fall protection loads from impacting it.
- Confined space entry with a tripod and a single 3-way SRL-R as shown in Figure 2B. The ladder is the primary method of entry and egress. The 3-way SRL-R is the fall protection and emergency retrieval device. The 3-way SRL-R is not intended as an everyday raising and lowering winch and must not be used as a primary entry and egress device.
- Confined space entry with a tripod, a winch and one 3-way SRL-R, as shown in Figure 2C. The winch is the primary method of entry and egress. The 3-way SRL-R is the fall protection and emergency retrieval device. The 3-way SRL-R is not intended as an everyday raising and lowering winch and must not be used as a primary entry and egress device.

2.2 Application Limits: Take action to avoid sharp edges, rough, abrasive or corroded surfaces and edges, and thermal, electrical and chemical hazards. Ensure the tripod is on solid ground, the tripod head is level with the surface, the feet are in good contact with the surface, and the pins and detents are properly employed.

When used with a FallTech device, the tripod is rated for one worker weighing a maximum of 310 lbs (140 kg) (including all clothing, tools, and equipment). For emergency retrieval applications, more than one person may be attached to the tripod. For rescue purposes, devices may be mounted in any manner and place that would facilitate the rescue.

NOTE: When used as a material lowering/hoisting device, the tripod is rated at 620 lbs.

3. SYSTEM REQUIREMENTS

3.1 Capacity: The capacity of the tripod in Specifications is listed as 310 lbs. (140 kg) including tools, clothing, etc. For material handling applications with a designated material handling winch, the tripod capacity is 620 lbs. When at maximum extension, the FallTech tripod has a maximum lift height of 80" above the working surface. Ensure personnel can be removed from the space in the event of a rescue.

3.2 Compatibility Of Connectors: Connectors are considered compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to open inadvertently, regardless of how they become oriented. Contact FallTech if you have any questions about compatibility. Connectors must be compatible with the anchorage or other system components. Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage. Connectors must be compatible in size, shape, and strength. Self-closing, self-locking snap hooks and carabiners are required by OSHA.

3.3 Compatibility Of Components: Equipment is designed for use with approved components and subsystems only. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may affect the safety and reliability of the complete system.

3.4 Making Connections: Only use self-locking snap hooks and carabiners with this equipment. Only use connectors that are suitable to each application. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Visually ensure all connectors are fully closed and locked. Connectors (snap hooks and carabiners) are designed for use only as specified in the user instruction manual provided with each product. See Figure 13 in Appendix B.

DO NOT use rebar hooks or any large-throat opening hooks with this tripod.

3.5 Personal Fall Arrest System: The additional PFAS components used with this equipment must meet applicable OSHA requirements. A FBH must be worn when this equipment is used as a component of a PFAS. As required by OSHA, the personal fall protection system must be able to arrest the user's fall with a maximum arresting force of 1,800 lbs., and limit the free fall to 6 feet or less. If the maximum free fall distance must be exceeded, the employer must document, based on test data, that the maximum arresting force will not be exceeded, and the personal fall protection system will function properly.

3.5.1 PFAS Anchorage Strength: The tripod shown in Table 1 is listed as having a minimum tensile strength of 5,000 lbs. To maintain OSHA compliance, the structure where the unit is installed must be capable of supporting at least 5,000 lbs, or be designed, installed and used as part of a PFAS, which maintains a safety factor of at least 2:1, under the supervision of a qualified person.

3.5.2 Work Positioning: Work positioning requires an anchorage capable of supporting 5,000 lbs applied in the direction permitted by the system.

3.5.3 Personnel Riding: A structure used for personnel riding, lowering and hoisting, must be able to support a static load of 2,500 lbs applied in the direction permitted by the system.

3.5.4 Material Handling: A structure used for material handling must be able to support a static load of 2,500 lbs applied in the direction permitted by the system.

3.5.5 Rescue: A structure used for rescue must be able to support a static load of 2,500 lbs applied in the direction permitted by the system.

3.6 Definitions: The following are definitions of terms as defined in ANSI Z359.0-2012.

Authorized Person: A person assigned by the employer to perform duties at a location where the person will be exposed to a fall hazard (otherwise referred to as "user" for the purpose of these instructions).

Certified Anchorage: An anchorage for fall protection, positioning, restraint, or rescue systems that a qualified person certifies to be capable of supporting the potential fall forces that could be encountered during a fall or that meet the criteria for a certified anchorage prescribed in the standard.

Competent Person: 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.

Qualified Person: A person with a recognized degree or professional certificate and with extensive knowledge, training, and experience in the fall protection and rescue field who is capable of designing, analyzing, evaluating and specifying fall protection and rescue systems to the extent required by the standard.

Rescuer: Person or persons other than the rescue subject acting to perform an assisted rescue by operation of a rescue system.

4. INSTALLATION AND OPERATION

WARNING

Do not alter or intentionally misuse this equipment. Consult FallTech when using this equipment in combination with components or subsystems other than those described in this manual.

Do not connect rebar hooks, large carabiners, or large snap hooks to the FBH dorsal

D-rings as this may cause a roll-out condition and/or unintentional disengagement.

Examine the work area. Take action to avoid sharp and/or abrasive surfaces or edges, i.e., rough concrete, corroded metals, metal roofing or steel decking.

Avoid electric hazards. Use caution when performing arc welding. Arc flash from arc welding operations, including accidental arcs from electrical equipment, can damage equipment and are potentially fatal. Be aware of chemical, environmental and atmospheric hazards that may be encountered in sewage treatment and chemical plants, refineries, explosive hazards and toxic fumes, including flammable gases and dust, and low oxygen content.

Other workplace hazards may include but not be limited to cable or debris tripping hazards, equipment failures, personnel mistakes, moving equipment such as carts, barrows, fork lifts, cranes, or dollies. Do not allow materials, tools or equipment in transit to contact any part of the entry/egress or fall protection system. Pay special attention to the lifeline. Do not work under suspended loads.

4.1 General Installation Requirements: The tripod is designed for confined space entry and egress, fall protection, rescue and evacuation, and material handling. The user must perform specific job hazard analyses in accordance with OSHA regulations. Mitigate hazards in accordance with OSHA guidelines.

The tripod is most efficient when used at its maximum working extension height.

Ensure the installation surface is solid, free of loose sand, gravel, anything that might compromise footing. For more information on confined space practices and procedures, see Appendix C of this manual.

4.2 First Time Pre-Use Assembly: This step installs the device brackets. Once the brackets are installed, removal is unnecessary. Remove all components and pieces from the packing materials. Place the tripod on a work bench or on a flat surface.

Stand the tripod up, spread the legs out until all three head locking detent balls in the legs click into the holes in the head assembly. Refer back to Figure 1A. Note that the leg length adjustment pins will be in the transit/storage holes, approximately 14" below the head assembly. These holes are for storing the pins during transit and storage. Remove the pin from one leg. Extend that leg to the first adjustment hole and insert the pin. Repeat on the other two legs.

The tripod is at approximately half its working height, to facilitate bracket installation.

4.2.1 Install The Device Brackets: The tripod is designed to use up to three device brackets. Bracket part number 7291B is the compatible bracket. Note on the head assembly the two pulleys at the top of two legs. The brackets install on one or both legs. To install a third bracket, an additional pulley is required. Find the bracket components. Fit the components for one bracket to one leg at approximately the bottom edge of the black and yellow safety tape. See Figure 3. Ensure the stationary device locking bar is at the bottom. Insert the bolts, place a lock washer on each one, thread the nuts on and tighten securely. Ensure the bracket is installed on the outside of the leg(s).

Fit the remaining bracket(s) to line up to a head pulley and tighten the nuts. Device bracket installation is complete.

Remove the leg securing detent pins from the legs, retract the legs all the way and put the pins into the storage location. Disengage the detent balls in the head assembly and put the legs together. Place the tripod in the provided carrying bag.

4.3 Tripod Set-up: Remove the tripod from the carrying bag. Before each use, inspect the tripod and ensure it is in proper working order, in accordance with the inspection procedures in Section 7 of this manual.

Stand the tripod up, near or over the confined space entry point. Use caution. Avoid stepping, falling, or dropping tools or parts into the confined space. Spread the legs out until all three head locking detent balls in the head assembly click into the holes in the legs.

Remove one leg securing detent pin from its storage location, extend that leg to its first adjustment hole and insert the leg securing detent pin. Repeat with the remaining legs. The tripod is at approximately half its working height, to facilitate device installation, as shown in Figure 4.

NOTE: Leg height may be adjusted to accommodate uneven surfaces or raised edges. Before attaching the entrant to the leg end connector, ensure the tripod is straight upright, and the head assembly is level, as shown in Figure 8.

4.3.1 Install the Winch/Devices: This step installs the device(s) on the tripod. The winch and device should have one half of the mating bracket already installed.

Place the winch/device bracket onto the leg bracket. Ensure the mating slots on the winch/device bracket engage the leg bracket rod as shown in Figure 5A and 5B. Align the top holes, and insert the integral device securing detent pin.

Remove enough cable from the device(s) to drop the leg end connector down through the tripod head assembly to the working surface. Slip the cable under the cable retainer as shown in Figure 6.

4.4 Use of the Tripod: Ensure the tripod is centered over the confined space opening, and that the attendant and entrant, or any personnel involved in a rescue, would not inadvertently step into the confined space opening during normal operation or in a rescue situation.

Ensure the feet are deployed to the proper application for the surface, i.e., on the rubber pads for firm surfaces. Flip the feet up and out to deploy the teeth for loose, shifting, or soft surfaces.

With the devices installed, extend the legs to raise the tripod height. Remove the leg securing detent pin on one leg extend that leg out until the leg locking detent ball clicks into place, as shown in Figure 4. Insert leg securing detent pin in the leg. Repeat with the two remaining legs.

Pass the leg securing chain through the eye bolts at the bottom of the legs, take up as much slack as possible, and fasten with the threaded link to prevent the legs from spreading due to a fall arrest event. See Figure 4.

WARNING

Ensure the leg securing detent pins are inserted through the appropriate holes in the tripods legs, and the detent ball pins are properly inserted.

The device should be at a comfortable height for use. Adjust device bracket if necessary. The leg end connector for the device should be within reach.

4.5 Install Additional Fall Protection Devices: The eye bolts under the head assembly are for additional devices such as SRDs, a Fall Arrestor Connecting Subsystem (FACSS), or a rope rescue system. See Figure 7. Do not use winch or 3-Way SRL-R device cables in a secondary pulley installed in eyebolts. Winch and device cables must be installed in the pulleys on the head assembly. The tripod is normally equipped with two pulleys in the head assembly, with an option for a third. Ensure the brackets are installed on the outside of the leg(s).

4.6 Connect to the Device: Grasp the device leg end connector, keep the line taut, and wind enough cable from the device to connect to the dorsal D-ring of the entrant's full body harness.

Ensure working lines are free of entanglement and contact with sharp edges. Avoid swing fall. Use of the tripod for suspension or personnel riding requires a back-up fall protection system. The tripod discussed in this manual is equipped with provisions for a back-up fall protection system.

Fall protection applications require the user to meet OSHA requirements. Ensure the working surface will support fall protection loads. See Section 3. Fall protection systems must include a FBH as the body wear component. A typical PFAS would include a FBH, a connecting subsystem or component (SRL or lifeline and a rope grab) and approved connectors to connect the system together. Position the entrant for entrance into the confined space. For additional information on using the devices, consult the manufacturer's user instruction manual supplied at time of shipping.

4.7 Dismantle the Tripod: To dismantle the tripod, reverse the order of set-up.

Store in the bag provided.

For additional information on confined space, see Appendix C of this manual.

5. SPECIFICATIONS

See Table 1.

6. MAINTENANCE AND STORAGE

Clean the unit with a mild detergent and water solution. Dry with suitable cloth.

Store with the leg pins in the storage/transit holes, in a cool place out of direct sunlight. Avoid chemical vapors and physical damage to the unit.

Inspect after periods of prolonged storage.

Any repairs must be completed by the manufacture or a repair entity with written authorization to make repairs to this unit.

7. INSPECTION OF TRIPOD

Prior to each use, the user must inspect the tripod for any physical damage.

Inspect for:

1. Inspect the entire unit for signs of corrosion, cracks, and deformities
2. Inspect all fasteners to ensure each is securely tightened.
3. Inspect all locking and detent pins are in place
4. Ensure the foot of each leg is secure, with the rubber foot pad attached.
5. Ensure the chain is complete and in good working order.
6. Ensure the pulleys and eye bolts are secure
7. Inspect the labels to be sure they're present and legible

An inspection by a competent person other than the user is required every six months. Use the steps in this manual.

If routine inspection reveals an unsafe condition, tag the tripod as "UNUSABLE".

After a fall event, inspect the entire unit for damage.

Record the results of each

8. LABELS

The following label must be present and legible.

Tripod size



7'



8'



7-11'

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Material: Aluminum
and Steel

Capacity: 620 lbs.
for material
handling

Capacity: 130 lbs
to 310 lbs (including
clothing, tools, etc.)
for personnel

ANSI Z359.1-2007
ANSI Z117.1-2009
ANSI A10-32-2012
ANSI Z117.4-2013

OSHA 1910.146
OSHA 1926.502

Date of Mfg: 03-2015
Serial #: 123456789
MODEL #: 987654321



WARNING

Always follow manufacturer's instruction manual included with equipment at time of shipment. Failure to comply may result in serious injury or death. Refer to instructions for proper method of connecting to tripod. Ensure all connectors are compatible. Be aware of hazards such as thermal, electrical, chemical and environmental. Avoid sharp edges and abrasive surfaces.



INSPECTION

Inspect before each use. Remove the tripod from service if routine inspection shows an unsafe condition. Refer to instruction manual for complete inspection details.



INSTALLATION

Stand the tripod upright. Spread the legs, one at a time, until the head assembly detents lock. Adjust leg length to suit, one leg at a time. Ensure the height adjustment detent ball pins are inserted in the appropriate adjustment holes before placing a load on the tripod. Ensure feet are correctly oriented for the surface. Adjust individual leg length to compensate for uneven ground. Thread the safety chain through the eyebolt immediately above each foot, pull taut, secure with threaded link. The eye bolts in the tripod head assembly are for fall protection anchor attachment only. Ensure winches and devices are installed on the outside of the legs, and that winch and device cables run over the head assembly pulleys. Ensure the confined space entrant is attached to the tripod with an approved full body harness. Refer to instruction manual for complete installation and use details.

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DO NOT REMOVE LABEL