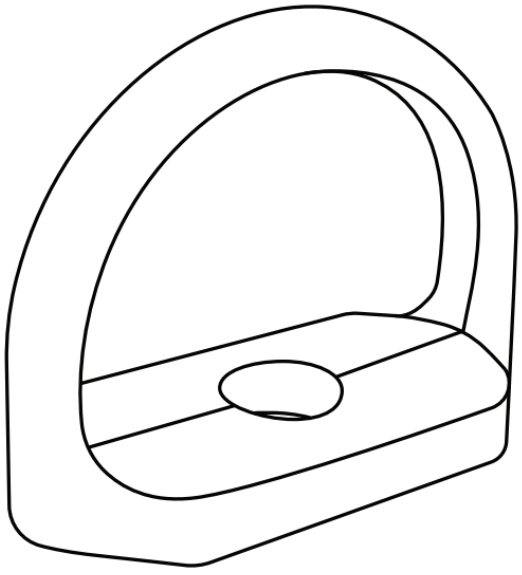
FallTech MANC39 Ironworkers Bolt On D Ring Anchor Instruction Manual

User Instruction Manual
Ironworkers Bolt-On D-Ring Anchor



Contents

MANC39 Ironworkers Bolt On D Ring Anchor

This manual is intended to meet the Manufacturer's Instructions as required by the American National Standards Institute (ANSI) Z359 and should be used as part of an employee training program as required by the Occupational Safety and Health Administration (OSHA).
For the purposes of this manual, the FallTech Ironworkers Bolt-on D-Ring Anchor, in all iterations may be referred to collectively as the Ironworkers Anchor, the Bolt-On D-Ring Anchor, the D-Ring Anchor, the Bolt-on Anchor, the anchor, the anchorage connector, the equipment, the device, the product, or the unit.
Throughout this manual, ANSI Z359.0-2012 fall protection words, phrases, and terms are used. These terms are all formally defined in Section 9 of this manual.
Any non-English translations of this user instruction manual are for reference only.

Warnings and Important Information

⚠WARNING

- Avoid moving machinery, thermal, electrical, and/or chemical hazards as contact may cause serious injury or death.
- Avoid swing falls.
- Follow the weight restrictions and recommendations in this manual.
- Remove from service any equipment subjected to fall arrest forces.
- Remove from service any equipment that fails inspection.
- 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.
- Avoid sharp and/or abrasive surfaces and edges.
- 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.
- Examine the work area. Be aware of the surroundings and workplace hazards that may impact safety, security, and the functioning of fall arrest systems and components.
- 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 fall arrest system.

- Do not work under suspended loads.

⚠IMPORTANT

This product is part of a personal fall arrest, 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., an Energy Absorbing Lanyard (EAL), or a Self-Retracting Device (SRD), attached to the dorsal D-ring of the FBH.
These instructions must be provided to the worker using this equipment. The worker 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 worker'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 workers. It is the responsibility of the worker 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.
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.
Heavy users experience more risk of serious injury or death due to falls because of increased fall arrest forces placed on the user's body. In addition, the onset of suspension trauma after a fall even may be accelerated for heavy users.
The user of the equipment discussed in this manual must read and understand the entire manual before beginning work.

Description

The FallTech® Ironworkers Bolt-on D-Ring Anchor described in this manual is designed to provide a single point temporary anchorage for a personal protection system, including fall arrest, work positioning, and restraint systems. The Ironworkers Anchor is a powder coated alloy steel D-ring anchor with a hole intended to fit a maximum 3/4" bolt size but may fit many sizes commonly carried by ironworkers to be able to be bolted to a steel anchorage structure. Upon job completion the anchors are mechanically designed to be removed for reuse. Figure 1 below describes key components of the Ironworkers Anchor.

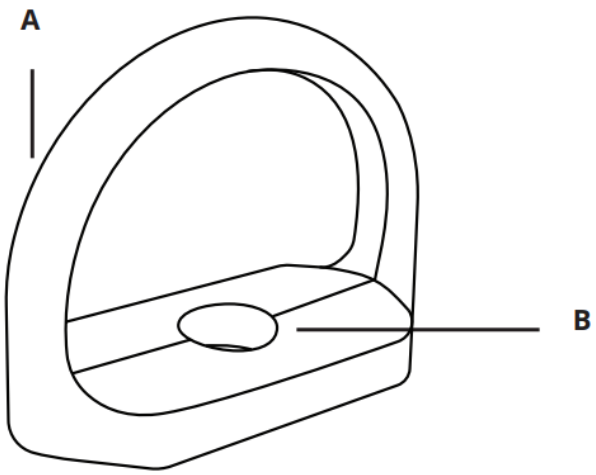


Figure 1 – About FallTech® Ironworkers Bolt-On D-Ring Anchor

A. D-Ring Anchor
B.13/16" Countersunk Hole (for up to 3/4" bolts)

⚠WARNING

Be sure to read, understand, and follow all instructions and warnings in this manual.
Any misuse could result in serious injury or death.

Application

3.1 Purpose:
The FallTech Ironworkers Bolt-On D-Ring Anchor is designed to be attached to steel structure with a user-supplied fastener as part of Personal Fall Arrest System, restraint, or work positioning system.
Ironworkers Anchors may be attached overhead, horizontally, or along the walking-working surface as approved by the Competent Person and/or Qualified Person.
3.2 Personal Fall Arrest System:
A PFAS is typically composed of an anchorage and a FBH, with an energy absorbing connecting device, i.e., a EAL, an SRD, or a Fall Arrester Connecting Subsystem (FACSS), attached to the dorsal D-ring of properly fitted and adjusted FBH. All uses and applications of a FBH with this equipment requires the FBH to be properly fitted and adjusted to the user. Failure to properly fit the FBH to the user could result in serious injury or death.
3.3 Application Limits:
Care should be taken to understand the capacity of the system, anchorage strength requirements, total allowable free fall, and the requirements of how the user's PFAS deploys during a fall event. The longer the freefall, the greater the energy in the system, which will result in more significant clearance requirements and impact forces on the body. Take action to avoid sharp edges, abrasive surfaces, and thermal, electrical, and chemical hazards. Installation of the anchor below the full body harness (FBH) dorsal D-ring requires the use of a PFAS designed for extended free fall scenarios. Minimum service temperature is -40°F (-40°C).

3.5 Approved Applications:
Below are applications for which the Ironworkers Anchor are specifically suited. This list is not allinclusive, but is intended to anticipate the common applications in which this product may be used.
3.5.1 Personal Fall Arrest:
The Ironworkers Anchor is designed to be used as single person anchor point for a personal fall arrest system. Use with horizontal lifelines is prohibited.
3.5.2 Work Positioning:
The Ironworkers Anchor may be used as a component of a work positioning system to support the user at a work position. Work positioning systems typically include an FBH with integrated side D-rings, a body belt, and a positioning lanyard. A back up PFAS is required when the user is exposed to a free fall of 2 ft (1.8 m) or more.
3.5.3 Restraint:
The Ironworkers Anchor may be used as a component of a restraint system to prevent the user from reaching a fall hazard. Restraint systems typically include a full body harness containing a body belt and a lanyard or restraint line.
3.5.4 Horizontal Lifelines:
The Ironworkers Anchor is suitable for use in any application where a horizontal lifeline has been installed under the guidance of a Qualified Person, and where the freefall distance does note exceed 6 ft (1.8 m). The horizontal lifeline system shall limit maximum arrest forces loading the Ironworkers Anchor to 2,500 lbf (11.1 kN).
3.6 Approved Load Directions:
The Ironworkers Anchor may be attached in a variety of orientations depending on the application at hand. Figure 2 below illustrates the approved load directions of the Ironworkers Anchor.

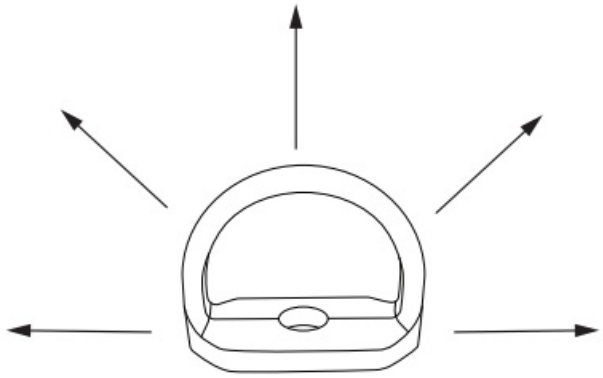


Figure 2 – Approved Load Directions

System Requirements

4.1 Capacity:
The FallTech Ironworkers Bolt-On D-Ring Anchor discussed in this manual is rated for a maximum total combined (clothing, tools, etc.) user weight of 425 lbs (192.8 kg). To comply with ANSI Z359, total worker weight must be 130 to 310 lbs (59 to 140.6 kg). Heavyweight users must wear an appropriately rated connecting device or self-retracting lifeline. After a fall event, suspension trauma may rapidly develop. Users are advised to deploy suspension trauma relief equipment as soon as possible after a fall event.

4.2 Compatibility of Connectors:
Connectors are considered to be 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. Substitutions or replacements made with non-OSHA 1926 compliant components or subsystems may jeopardize compatibility of equipment and may affect the safety and reliability of the complete system.
4.3 Making Connections:
Only use self-locking connectors 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, rebar hooks, and carabiners) are designed for use only as specified in this manual.

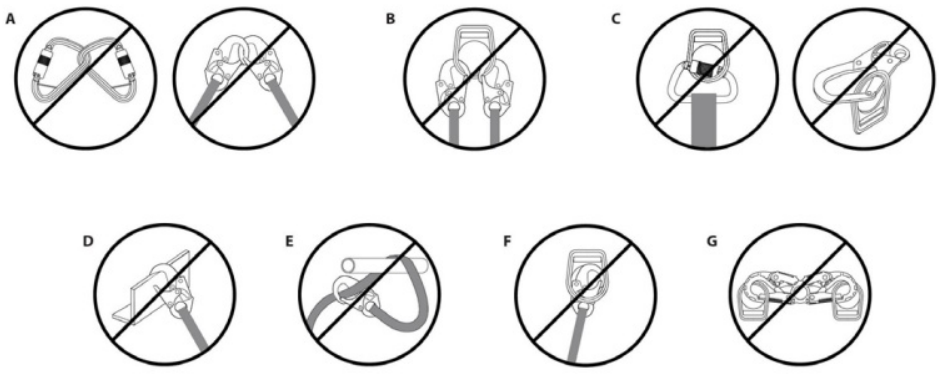


Figure 3 – Non-Compatible Connections

A	Never connect two active components (snap hooks or carabiners) to each other.
B	Never connect two active components (snap hooks or carabiners) to a single D-ring at the same time.
C	Never connect in a way that would produce a condition of loading on the gate.
D	Never attach to a object in a manner whereby the gate (of the snap hook or carabiner) would be preve nted from fully closing and locking. Always guard against false connections by visually inspecting for cl osure and lock.
E	Never attach explicitly to a constituent subcomponent (webbing, cable or rope) unless specifically prov ided for by the manufacturer's instructions for both subcomponents (snap hook or carabiner and webbi ng, cable or rope).
F	Never attach in a manner where an element of the connector (gate or release lever) may become cau ght on the anchor thereby producing additional risk of false engagement.
G	Never attach a spreader snap hook to two side/positioning D-rings in a manner whereby the D-rings will engage the gates; the gates on a spreader must always be facing away from the D-rings during wo rk positioning.

4.4 Personal Fall Arrest System:
PFAS used with this equipment must meet OSHA requirements. A full body harness must be worn when this equipment is used as a component of a PFAS. As required by OSHA, the personal fall arrest system must be able to arrest the user's fall with a maximum arresting force (MAF) of 1,800 lbs (8 kN),
and limit the free fall to 6 ft (1.8 m).
4.5 Personal Fall Arrest System Anchorage Strength:
PFAS Anchorage Strength: An anchorage selected for PFAS must have a strength able to sustain a static load applied in the direction permitted by the PFAS of at least:
a. Two times the maximum arrest force permitted when certification exists, or b. 5,000 lbs. (22.2 kN) in the absence of certification.
Select an anchorage location carefully. Consider structural strength, obstructions in the fall path, and swing fall hazards. In certain situations, the qualified person can determine that a given structure is able to withstand the applied MAF of the PFAS with a safety factor of at least two.

Installation and Use

⚠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. All components or subsystems used with the anchors discussed in this manual must be in compliance with OSHA.
Take action to avoid sharp and/or abrasive surfaces and edges when possible.
5.1. Plan the Personal Fall Arrest System (PFAS):
Examine the work area and take action to address hazards. Falls are a serious hazard when working at height. Training and equipment are the tools of fall hazard management. There are several closely related facets of fall hazard management with a PFAS;

- Anchorage
- Minimum Required Fall Clearance (MRFC)
- Swing Fall and Expanded Work Zone
- Overhead (above the FBH D-ring) Anchorage
- Non-overhead (below the FBH D-ring) Anchorage
- Rescue Plan

5.2 Minimum Required Fall Clearance:
The MRFC is the minimum distance a user needs between himself and the nearest obstruction (or ground) below the walking/working surface to avoid serious injury or death in case of a fall event.
The user of this equipment must determine the MRFC for units discussed in this manual to ensure adequate clearance exists in the fall path. Variables discussed in this manual include the height of the anchor point relative to the user's FBH D-ring, i.e., overhead, see the user manual of your specific connecting device.

5.3 Pre-Use Inspection:
FallTech requires that the following steps be taken during each inspection prior to each use of this product.

- Inspect the Ironworkers Bolt-On D-Ring Anchor and user-supplied fastener thoroughly for damage. Inspect all metal parts for cracks, bends, sharp edges, burrs, corrosion, or deformation of any kind.
- Inspect all parts for surface contamination which may inhibit the operation of mechanical parts
- Inspect the labels. All labels must be present and fully legible.
- Inspect each system component or subsystem according to the associated manufacturer's instructions.
- Remove from service any system component or subsystems that fails inspection.

5.4 Anchorage Location Selection:
Select a suitable anchor location as determined by a Competent Person; see Section 3.5 and 4.5.
Anchorage hole size in steel structure shall not exceed 1.5" (38 mm).
5.5 Fastener Selection:
FallTech qualified the Ironworkers Anchor to ANSI Z359.18 using 3/4" Grade 8 bolts/nuts and 3/4" ASTM A325 bolts/nuts. Therefore, both fastener specifications are acceptable for use without additional review by Competent Person or Qualified Person. Alternate fastener specifications are suitable for use as approved by the Competent Person or Qualified Person that meet the minimum 5,000 lbf requirements noted in Section 3.5 and 4.5.

5.6 Installation Instructions:

1. Select an appropriate anchorage location.
2. Select an appropriate fastener to accommodate steel structure thickness. For bolt and nut connections, bolt length shall be such that there will be a minimum of two full threads exposed after the nut is secured. D-ring Anchor Hole is designed for 3/4" diameter fasteners.
3. Ensure the anchorage hole location has sufficient clearance to place and tighten the fastener.
4. Orient the D-ring to ensure that the predicted load direction is in line with the major axis of the D-ring. See Figure 2. Do not cross load the D-ring. Avoid orientations that cross load or transversely load connectors.
5. Tighten the fastener to manufacturer's specifications or as determined by the Qualified Person.
6. Inspect anchorage connection before connecting PFAS with a compatible connector.

Maintenance, Service, and Storage

6.1 Maintenance:
Clean the FallTech ® Ironworkers Anchor with water and mild detergent. Do not allow excessive buildup of dirt, paint or other agents that may cause binding of the mechanism. Avoid water or other corrosion causing elements to enter the anchor.
6.2 Proper Care:

- Keep the Ironworkers Anchor clean and free of contaminants, this will increase the service life.
- Use a damp rag and a mild soap and water solution to clean the hardware. Wipe the hardware dry with a clean soft cloth.

- DO NOT use heat to dry.
- DO NOT use any solvents or petroleum products to clean this anchor.
- DO NOT attempt to repair or modify this Ironworkers Anchor or any of its components. Such attempts will void the warranty and may result in serious injury or death.

6.3 Storage:
Store in a clean, dry, and chemical free environment and kept out of direct sunlight.

Inspection

7.1 Pre-Use Inspection:
Please review the Pre-Use Inspection guidelines in Section 5.3 for inspection requirements.
7.2 Inspection Frequency:
Inspection by a Competent Person at regular intervals is required; at minimum annually. The Competent Person will use the information in Table 1: Inspection Frequency, to determine the inspection frequency.
7.3 Inspection Results:
If an inspection reveals defects in or damage to the equipment, inadequate maintenance or activated fall indicators, remove the equipment from service.
7.4 Inspection Document:
Record inspection results on the Inspection Record provided below or on a similar document.

Table 1: Inspection Frequency			
Type of Use	Application Examples	Example Conditions of Use	Competent Person Inspection Frequency
Infrequent to Light Use	Rescue and Confined Space, Factory Maintenance	Good Storage Conditions, Indoor or Infrequent Outdoor use, Room Temperature, Clean Environments	Annually
Moderate to Heavy Use	Transportation, Residential Construction, Utilities, Warehouse	Fair Storage Conditions, Indoor and extended outdoor use, All temperatures, Clean or dusty environments	Semi-annually to Annually
Severe to Continuous Use	Commercial construction, oil and gas, mining, foundry	Harsh Storage Conditions, Prolonged or Continuous outdoor Use, all temperatures, Dirty environments	Quarterly to Semi-annually

Inspection Record

Model #:_____
Serial #:_____
Date of Manufacture:_____

INSPECTION DATE	INSPECTOR	INSPECTOR	PASS/ FAIL	CORRECTIVE ACTION NEEDED	APPROVED BY

Labels

The labels must be present and legible.

FALLTECH®
800-719-4619 falltech.com
DO NOTE REMOVE LABEL
Bolt-on D-ring Anchor, Ironworker
Model#: 7493A20
Date of Mfg: NOV 2023
Material: Steel
OSHA Capacity: 85lbs to 425ibs
ANSI Capacity: 130lbs to 310lbs, Max
OSHA 1926.502
ANSI Z359.18-2017, Type A
MBS: 5,000lbs Serial Number: 12345678

WARNING: Manufacturer's Instructions, Labels, and Warnings supplied with the anchor at the time of shipment MUST BE READ AND FOLLOWED BEFORE USING. Failure to do so could result in serious injury or death. Contact the manufacturer if instructions, labels, or warnings are missing. THIS ANCHOR MUST BE INSPECTED BEFORE EACH USE. DO NOT USE if anchor has any signs of cracks, corrosion, dents, deformities, or bending. If the anchor is found to be damaged or it has been subjected to fall arrest forces, remove from service immediately. Use only with other design compatible components of a comprehensive Personal Fall Arrest System. Anchor must be property installed to support required loads. Take action to avoid chemical, thermal, and electrical hazards. Avoid contact with sharp and abrasive surfaces. See instruction manual for complete installation procedures. DO NOT REMOVE LABEL

MARK ON DATE GRID:

- Initial in-service date
- Inspect before each use
- Competent person to inspect annually

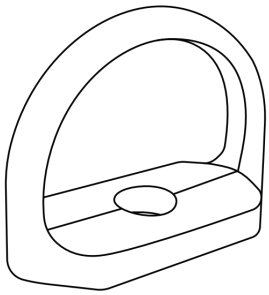
Ensure the anchor remains free of interference. See instruction manual for instructions and proper use procedures.
DO NOT REMOVE LABEL

Date:	Initials:

A Message from Eric Dean, General President of the Ironworkers International:
"RAISE ANCHOR POINT" "REDUCE FALL DISTANCE" "PREVENT IMPALEMENT HAZARDS"

Specifications

Table 2: Specifications for FallTech® Ironworkers Bolt-On D-Ring Anchor

Part #	Minimum Tensile Strength and Material	Capacity and Standards	Image
7439 7439A20 (20-pack)	Min. 5,000 lbs (22 kN) Black Oxide Alloy Steel	Single User Capacity for ANSI Compliance: 130 to 310 lbs. (59 to 141 kg) Single User Capacity for OSHA Compliance: 130 to 425 lbs. (59 to 191 kg) ANSI Z359.18-2017 Type A OSHA 1926.502 OSHA 1910.140	

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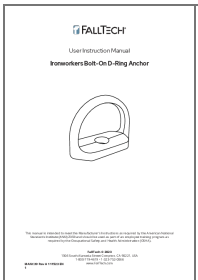
Documents / Resources

	FallTech MANC39 Ironworkers Bolt On D Ring Anchor [pdf] Instruction Manual MANC39 Ironworkers Bolt On D Ring Anchor, MANC39, Ironworkers Bolt On D Ring Anchor, Bolt On D Ring Anchor, Ring Anchor, Anchor

References

- FallTech | Fall Protection Equipment | Fall Safety Products
- User Manual