

# **Reach Anchor Manual**



024-4109	Reach Anchor Assembly		
022-4086	Reach Anchor		
023-4107	Reach Anchor Pole		
024-4110	Reach Anchor: Magnetic Quick Connector Base		
024-4111	Reach Anchor: Hook Attachment		



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#### Read and understand instructions before using equipment! Do not throw away instructions!

Always verify the latest revision of the Safewaze Manual is being utilized. Visit the Safewaze website, or contact Customer Service, for updated manuals.

#### **△IMPORTANT**:

- Please refer to this manual for essential instructions on the use, care, or suitability of this equipment for your application. Contact Safewaze for any additional questions.
- Record all important product information prior to use. Documentation of all Competent Person annual inspections is required in the Inspection Log.

► USER INFORMATION	
Date of First Use:	
Serial Number:	
Trainer:	
User:	

# **SAFETY INFORMATION AND PRECAUTIONS**

- The manufacturer's instructions must be provided to users of this equipment.
- The user must read, understand, and follow all safety and usage information contained within this manual.
- The user must safely and effectively use the Reach Anchor and all equipment used in conjunction with the anchor.
- Failure to follow all safety and usage information can result in serious injury or death.

### **∆Warnings**:

Regulations included herein are not all-inclusive, are for reference only, and are not intended to replace a Competent Person's judgment or knowledge of federal or state standards.

# The warnings indicated below are designed to minimize risk associated with the use of the Reach Anchor.

- Users should consult with their doctor to verify ability to safely absorb the forces of a fall arrest event. Fitness level, age, and other health conditions can greatly affect an individual's ability to withstand fall arrest forces. Women who are pregnant and individuals considered minors must not use any Safewaze equipment.
- Do not alter or misuse equipment. Only Safewaze, or entities authorized in writing by Safewaze, may make repairs to Safewaze fall protection equipment.
- A Competent Person must conduct an analysis of the workplace and anticipate where workers will be conducting their duties, the route they will take to reach their work, and any existing and potential fall hazards. The Competent Person must choose the fall protection equipment to be utilized. Selections must account for all potential hazardous workplace conditions. All fall protection equipment should be purchased in new and unused condition.
- If work is conducted in a high heat environment, ensure that Arc Flash or other suitable fall protection equipment is utilized.
- Use of a body belt is not authorized for fall arrest applications.
- Work directly under the anchor point as much as possible to minimize swing fall hazards.
- The user must ensure that there is adequate fall clearance when working at height.
- Anchors that are exposed to fall arrest forces must be immediately removed from service and destroyed.
- Training of Authorized Persons to correctly install, inspect, disassemble, maintain, store, and use equipment must be provided by a Competent Person. Training must include the ability to recognize fall hazards, minimize the likelihood of fall hazards, and the correct use of personal fall arrest systems.
- Equipment designated for fall protection must never be used to lift, hang, support, or hoist tools or equipment unless specifically certified for such use.
- · Avoid using the anchor in applications where engulfment hazards exist.
- Avoid moving machinery, sharp and/or abrasive edges, and any other hazard that could damage or degrade the component.
- Utilize extra caution to keep lifeline free from any obstructions including, but not limited to, surrounding objects, tools, equipment, moving machinery, co-workers, yourself, or possible impact from overhead objects.
- Only one Personal Fall Arrest System should be attached to the anchor at a time.

# TABLE OF CONTENTS

1.0 ► Introduction	5
2.0 ► Intended Use	5
3.0 ► Applicable Safety Standards	5
4.0 ► Worker Classifications	5
5.0 ► Rescue Plan	. 6
6.0  Product Limitations	. 6
7.0 ► Allowed Anchorage Applications	. 7
8.0 Product Specifications	. 8
9.0 Fall Clearance	. 8
10.0 ► Compatibility of Connectors	. 10
11.0 ► Making Connections	. 11
12.0 ► Installation / Operation of Reach Anchor	. 12
13.0 ► Inspection / Maintenance	16
14.0 ► Labels	18
15.0 Annual Inspection Form	19

# ► 1.0 INTRODUCTION

Thank you for purchasing a Safewaze Reach Anchor. This manual must be read and understood in its entirety and used as part of an employee training program as required by OSHA or any applicable state agency.

The Reach Anchor is a safe and efficient system designed for a user to remotely anchor to an elevated location. The anchor acts as an anchorage connector for fall protection equipment and can be used with energy absorbing lanyards, Self-Retracting Lifelines (SRLs), and Vertical Lifelines (VLLs). The anchor is not suitable for Horizontal Lifeline or SRL-P use.

The anchor can be utilized as a permanent overhead anchor, or as a temporary fall protection solution while permament anchors are being installed on the jobsite. The Reach Anchor connects to I-beams, pipes, and other pre-established anchor points. The 2-stage installation allows a user to easily attach the anchorage connector to the anchor point, as well as raise the PFAS to the anchor point.

# 2.0 INTENDED USE

The equipment covered in this manual is intended for use as part of a complete personal fall protection system. Use of this equipment for any other purpose including, but not limited to, sports or recreational activities, non-approved material handling applications, or other action not described in these instructions, is not approved by Safewaze. Use of this equipment in a manner outside the scope of those covered within this manual can result in serious injury or death. The equipment covered in this manual must only be used by trained personnel in workplace applications. If the anchor is used for training, a secondary fall protection system must be used so the trainee is not exposed to accidental fall hazards.

# 3.0 APPLICABLE SAFETY STANDARDS

When used according to instructions, this product meets **ANSI Z359.18-2017 Type A** standard and **OSHA 1926.502**, **1910.140**, **and 1910.66** regulations. Applicable standards and regulations depend on the type of work being done and may include state-specific regulations. Refer to local, state, and federal requirements for additional information on the governing of occupational safety regarding Personal Fall Arrest Systems (PFAS).

# ► 4.0 WORKER CLASSIFICATIONS

# Read and understand the definitions of those who work in proximity of, or may be exposed to, fall hazards:

**Qualified Engineer:** A person with a Bachelor of Science in Engineering degree from an accredited college or university. They are able to assume personal responsibility for the development and application of engineering science and knowledge in the design, construction, use, and maintenance of their projects.

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



**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.

Authorized Person: A person approved or assigned by the employer to perform a specific type of duty or duties, or to be at a specific location or locations, at the jobsite.

#### It is the responsibility of a Qualified Person or Engineer to supervise the jobsite and ensure safety regulations are met.

# ► 5.0 RESCUE PLAN

Prior to the use of this equipment, employers must create a rescue plan in the event of a fall and provide the means to implement the plan through training. The rescue plan must be specific to the project. The rescue plan must allow for employees to rescue themselves or be promptly rescued by alternative means.

This plan must be communicated to/understood by all equipment users, authorized persons, and rescuers. Rescue operations may require specialized equipment beyond the scope of this manual. Every user must be trained in the inspection, installation, operation, and proper usage of their Rescue Equipment and Rescue Plan. See ANSI Z359.4-2013 for specific rescue information. Immediately seek medical attention in the event a worker suffers a fall arrest incident.

Note: Special rescue measures may be required for a fall over an edge.

# ► 6.0 PRODUCT LIMITATIONS

When installing or using this equipment always refer to the following requirements and limitations:

- Capacity Range: ANSI 130-310 lbs. (59-141 kg) and OSHA up to 420 lbs. (191 kg). \*including clothing, tools, equipment, etc.
- **Anchorage**: Anchorages selected for fall arrest systems shall have a strength capable of sustaining static loads applied in the directions permitted by the system of at least:
  - 1. 5,000 lbs. (2267.9 kg) for non-certified anchorages, or
  - 2. Two times the maximum arresting force for certified anchorages, or
  - 3. 3,100 lbs. for Rescue applications.

When more than one fall arrest system is attached to an anchorage, the strengths set forth in one of the above shall be multiplied by the number of systems attached to the anchorage.

**From OSHA 1926.502 and 1910.66:** Anchorages used for attachment of personal fall arrest systems shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 lbs. (2267.9 kg) per user attached. Or, anchorages for attachment should be designed, installed, and used as part of a complete PFAS which maintains a safety factor of at least two and is under the supervision of a Qualified Person.

- Locking Speed: The nature of an SRL requires a clear fall path to ensure the SRL will lock in the event of a fall. Working in obstructed fall paths, cramped areas, or on moving materials like sand and grain, may not allow the user's body to gain enough speed buildup to cause the SRL to engage and lock in the event of a fall.
- Free Fall: The distance a user falls before the fall arrester activates.
- Swing Falls: As the user moves laterally away from an overhead anchor point, the risks related to swing falls increase. The force of striking an object involving swing fall can in some instances generate more forces than a fall with the user wearing no fall protection equipment. Minimize swing falls by working as directly below the anchorage point as possible.
- Swing Fall Drop Distance: The additional clearance added from the excess lifeline of an SRL being paid out when working at a lateral offset from the anchorage.
- Fall Clearance: The amount of feet required below the working surface for the personal fall arrest system to work correctly.
- **Hazards**: Extra precautions should be taken if this equipment is used in an environment where hazards exist. Hazards can include, but are not limited to, moving machinery, high voltage equipment or power lines, caustic chemicals, corrosive environments, toxic or explosive gases, or high heat. Avoid working in an area where overhead equipment or personnel could fall and contact the user, fall protection equipment, or the lifeline. Areas where the user's lifeline may cross or tangle with the lifeline of another user should be avoided. Do not allow the lifeline to pass under arms or between the legs.
- Sharp Edges: Safewaze Class 1 SRLs are NOT designed for use in Leading Edge Environments. Should a specific work area have an extremely sharp edge/ edges that may come into contact with the lifeline constituent of the SRL, a Class 2 SRL is required.
- · Use only the applicable D-ring for intended use.
- The Reach Anchor is NOT suitable for use with Horizontal Lifelines.

# ► 7.0 ALLOWED ANCHORAGE APPLICATIONS

**Personal Fall Arrest:** Safewaze Anchors are designed as an anchor point to support a maximum of 1 PFAS when utilized for fall protection applications. The structure to which the anchor is attached must withstand loads applied in the directions permitted by the system of at least 5,000 lbs. (22 kN) or be designed with a safety factor of two to one. Maximum allowable free fall is based on the PFAS used.

**<u>Restraint</u>**: Safewaze Anchors are authorized for use in Restraint applications. The structure to which the anchor is attached must withstand loads applied in the directions permitted by the system of at least 1,000 lbs. NO free fall is permitted. Restraint systems may only be used on surfaces with slopes up to 4/12 (vertical/horizontal). For Restraint applications, the allowable attachment points to the harness are Dorsal, Front/Sternal, Side, and Shoulder D-rings.





**Work Positioning:** Safewaze Anchors are authorized for use in Work Positioning applications. Work Positioning allows a worker to be supported during suspension while freeing both hands to conduct work operations. The structure to which the Anchor is attached must withstand loads applied in the directions permitted by the system of at least 3,000 lbs. Maximum allowable free fall is 2 ft. For positioning applications, the allowable attachment points to the harness are the Side D-rings.



**Rescue/Confined Space:** Safewaze Anchors are authorized for use in Rescue/ Confined Space applications. Rescue systems are utilized to safely recover a worker from a confined location or after exposure to a fall. Composition of rescue systems can vary based upon the type of rescue involved. The structure to which the anchor is attached must withstand loads applied in the directions permitted by the system of at least 3,100 lbs. NO free fall is permitted for rescue scenarios. For confined space scenarios, maximum allowable free fall is based on the PFAS used. For these applications, the allowable attachment points to the harness are Dorsal, Front/Sternal, and Shoulder D-rings.

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# ► 8.0 PRODUCT SPECIFICATIONS

- Minimum Breaking Strength (MBS): 5,000 lbs. (22 kN)
- Working Load: 1,000 lbs. (4.4 kN)
- Maximum Installation Height: 20 ft. from working surface.
- Minimum Service Temperature: -30° F (-34° C)
- Weight: 10.3 lbs. (4.7 kg)
- Connects to I-beams (up to 12"), pipes (maximum diameter of 6"), D-rings (minimum diameter of 2"), and other pre-established anchor points.
- Fall Arrest Point: D-ring.
- Includes: a telescopic pole with 1 magnetic head pole attachment and 1 hook head pole attachment.
- Features: 2-stage installation, remote release, telescoping pole, and self-tightening jaws.

TABLE 1: MATERIALS				
Extension Arms	Aluminum			
Shuttle Housing	Aluminum			
Shuttle Assembly	Stainless Steel			
D-Ring	Steel			
Pulley	Nylon			
Rope	Polyester			
Pole	Fiberglass			

# ▶ 9.0 FALL CLEARANCE

Always select a fall protection device and anchor point location that limits free fall and swing fall as much as possible. A free fall of more than 6 ft. could cause excessive arrest forces that could result in serious injury or death.



• Fall Clearance: There must be sufficient clearance below the anchorage connector to arrest a fall before the user strikes the ground or an obstruction. When calculating fall clearance, account for all applicable factors. A Competent Person must reference the entire system's components to calculate Fall Clearance.

#### THE BELOW DIAGRAMS ARE ONLY EXAMPLES.

Note: Numbers used in these examples are based on ZERO offset and setback with the anchor directly overhead or below, to represent an in-line Fall Clearance calculation. Consult with a Competent Person when working in different scenarios and when using non-Safewaze equipment.



#### 6' FREE FALL LANYARD (OVERHEAD) EXAMPLE

#### CLASS 1/CLASS 2 (OVERHEAD) EXAMPLE



• Swing Falls: Prior to installation or use, make considerations for eliminating or minimizing all swing fall hazards. Swing falls occur when the anchor is not directly above the location where a fall occurs. Always work as close to, or in line with, the anchor point as possible. Swing falls significantly increase the likelihood of serious injury or death in the event of a fall (Figure 1). Ensure a Competent Person includes swing fall in calculations if the hazard exists.



#### FIGURE 1: SWING FALL

#### 10.0 COMPATIBILITY OF CONNECTORS

- Safewaze equipment is designed for, and tested with, associated Safewaze components or systems. If substitutions or replacements are made, ensure all components meet the applicable ANSI requirements. Read and follow manufacturer's instructions for all components and subsystems in your PFAS. Not following this guidance may jeopardize compatibility of equipment and possibly affect the safety and reliability of the system.
- Connectors are 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 inadvertently open regardless of how they become oriented.
- Connectors (hooks, carabiners, and D-rings) must be capable of supporting at least 5,000 lbs. (22 kN).
- · 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 (Figure 2).
- · Connectors must be compatible in size, shape, and strength.
- Self-locking snap hooks and carabiners are required by OSHA guidelines.
- Use only the applicable D-ring for intended use.
- Some specialty connectors have additional requirements. Contact Safewaze if you have any questions about compatibility.

#### FIGURE 2: UNINTENTIONAL DISENGAGEMENT



Using a connector that is undersized or irregular in shape (1) to connect a snap hook or carabiner could allow the connector to force open the gate of the snap hook or carabiner. When force is applied, the gate of the hook or carabiner presses against the non-compliant part (2) and forces open the gate (3). This allows the snap hook or carabiner to disengage (4) from the connection point.

# ► 11.0 MAKING CONNECTIONS

Snap hooks and carabiners used with this equipment must be double locking and/ or twist lock. 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.

Safewaze connectors (hooks, carabiners, and D-rings) are designed to be used only as specified in each product's manual. See Figure 3 for examples of inappropriate connections. Do not connect snap hooks and carabiners:

- To a D-ring to which another connector is attached.
- In a manner that would result in a load on the gate (with the exception of tie-back hooks).
- In a false engagement, where features that protrude from the snap hook or carabiner catch on the anchor, and without visual confirmation seems to be fully engaged to the anchor point.
- To each other.
- By wrapping the web lifeline around an anchor and securing to lifeline, except as allowed for tie-back models.
- To any object which is shaped or sized in a way that the snap hook or carabiner will not close and lock, or that roll-out could occur.
- In a manner that does not allow the connector to align properly while under load.

#### FIGURE 3: INAPPROPRIATE CONNECTIONS



Large throat snap hooks must not be connected to standard size D-rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates, unless the snap hook complies with ANSI Z359.1-2007 or ANSI Z359.12 and is equipped with a 3,600 lb. (16 kN) gate.



# ▶ 12.0 INSTALLATION / OPERATION OF REACH ANCHOR

Prior to the installation of the anchor, a Competent Person must determine that the installation location is capable of supporting intended loads on the anchor point. Read all instructions carefully before beginning the installation process. Ensure that all parts are present prior to installation.

- Install the Clamp Assembly onto the Pole. To install the Clamp Assembly onto the Pole, insert the Magnet Head into the Pole Mount of the Clamp Assembly until the magnet engages.
- 2. Stand the Reach Anchor up with the Pole on the floor and the Clamp Assembly facing the intended installation location.
- **3.** Remove the black Shuttle from the green Shuttle Housing by pulling on its Pull Cord and allow it to lower to the floor.
- 4. Flip the Locking Switch beneath the Clamp Assembly into its upward position. The Locking Switch is a safety that ensures once the anchor is installed onto the I-beam, it cannot reopen.
- Unlock a Flip Lever on the Pole to start extending the Pole. Ensure the black Shuttle stays on the ground.
- Once the section of the Pole is fully extended, close the Flip Lever to lock the Pole Extension into place. If one portion of the Pole is not long enough, repeat step 4 with the remaining Flip Levers and Pole Extensions of the Pole.
   Extend each section only until resistance is met. Do not overextend. All segments must be locked in place and secure before use.
- Put the Extension Arms around the I-beam (or anchor point). Start at the side of the I-beam with one Extension Arm making contact. Tilt until both Extension Arms are gripping the I-beam and pull down. The anchor will progressively tighten until fully attached.
- 8. Pull the Pole away from the Clamp Assembly to disengage the magnet. Lower the Pole Extensions into the Pole and lock the Flip Levers into place once fully compact. Place Pole to the side.
- Locate an SRL (or Lanyard/VLL) and attach its carabiner to the D-ring of the black Shuttle from Step 1. Do not put the carabiner through the Pull Cord located in the black Shuttle.
- **10.** Hook the snap hook of the SRL to the user's appropriate PFAS D-ring. A separate tagline can be used to install the SRL if a user is not immediately using it.
- **11.** Use the Tagline to raise the SRL and black Shuttle to the green Shuttle Housing. The black Shuttle will automatically lock into the green Shuttle Housing. Pull to resistance.
- **12.** To uninstall the SRL, remove the Magnet Head of the Pole and install the Hook Head onto the Pole.
- **13.** Raise the Pole (refer to Step 4 for Pole Extension instructions) and insert its Hook Head into the Pull Cord located in the black Shuttle. Pull down on the Tagline to lift the black Shuttle slightly while simultaneously pulling on the Pull Cord with the Hook Head attachment. Lower the black Shuttle to the ground.
- Use the Hook Head of the Pole to pull the Locking Switch located on the Clamp Assembly into a downwards position.

- **15.** Change the Hook Head on the Pole to the Magnet Head and raise the Magnet Head to the bottom of the Clamp Assembly. Insert the Magnet Head into the Pole Mount of the Clamp Assembly and lift up to disengage the anchor Extension Arms.
- 16. Unlock the Flip Levers of the Pole Extension(s) and lower the anchor.

**Note:** Once fully and properly installed, the Reach Anchor shall remain in place during use. The anchor **is not** designed to be a sliding anchor and must be fully uninstalled and reinstalled to move its installation location. **Do not** reposition the Reach Anchor by dragging its extension arms along the I-beam, pipe, and/or other pre-established anchor points.









# ▶ 13.0 INSPECTION / MAINTENANCE

The user must keep instructions available for reference and record the date of first use on Page 2. The user must **immediately** remove the system from service if defects or damage are found, or if exposed to forces of fall arrest.

#### Work Area:

 Inspect the work area to ensure the location is free of any damage including, but not limited to, debris, cracking, rot, decay, structural deterioration, rust, and any hazardous materials. A Competent Person must determine that the installation location to be utilized will support the intended loads.

#### Frequency:

- A Competent Person, other than the user, must inspect the Reach Anchor at least once annually. While conducting inspections, the Competent Person must consider all applications and hazards that the equipment may have been subjected to while in use.
- Competent Person inspections must be recorded in the Inspection Log included in this manual (Page 19), as well as the inspection table labels on each product individually. The Competent Person must place their initials in the block which corresponds with the month and year that the inspection is performed. All individual labels on the equipment will be initialed in the same manner.

#### Directions:

 Prior to each use, inspect the anchor (Image 1) for possible deficiencies including, but not limited to, missing parts, corrosion, deformation, pits, burrs, rough surfaces, sharp edges, cracking, rust, paint buildup, excessive heating, alteration, and missing or illegible labels. Inspect all components of the device including the Clamp Assembly, Pole, Magnet Head, Pole Mount, Shuttle, Shuttle Housing, Pull Cord, Locking Switch, Flip Lever, Pole Extension, Extension Arms, Tagline, D-Ring and Hook Head.

#### Repairs/Disposal:

 Only Safewaze, or entities authorized in writing by Safewaze, may make repairs to Safewaze fall protection equipment. Dispose of the anchor if inspection reveals an unsafe or defective condition. If damaged and unserviceable, the system should be destroyed so as not to allow accidental re-use.

#### Cleaning:

 The anchor can be cleaned with water and mild soap. The user should remove all dirt, possible corrosives, and contaminants from the system prior to, and after, each use. Never use any type of corrosive substance to clean the system. Excess water should be blown out with compressed air. Hardware can be wiped off with a clean, dry cloth. Do not store system if wet or damp. Allow equipment to fully dry before being stored.

#### Storage:

• Prior to installation, store the anchor in a cool, dry area where it will not be exposed to extreme light, extreme heat, excessive moisture, or possibly corrosive chemicals or materials.

#### Lifespan:

 The working life of the anchor is determined by work conditions, care, and inspection provided. So long as the system and all components pass inspection, it may remain in service.



#### **IMAGE 1: COMPONENT INSPECTION**



Clamp Assembly	1
Extension Arm(s)	2
Locking Switch	3
Pole Mount	4
Shuttle Housing	5
Label Pack	6
D-Ring	7
Pull Cord	8
Tagline	9
Shuttle	10
Pole	11
Magnet Head	12
Hook Head	13
Flip Lever(s)	14
Pole Extension	15
Label	16





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ANNUAL INSPECTION FORM

Inspection Date:	Inspector:	Pass/Fail:	Comments/ Corrective Action:



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