



SAFEWAZE

D-Ring Extender Manual



STANDARDS		
ANSI	OSHA	ASTM (Arc Flash Only)
Z359.11-2021	1926.502, 1910.140, 1910.66	F887

This manual intends to meet the Manufacturer's Instructions specified by the American National Standards Institute (ANSI) and should be utilized as part of an employee training program as required by the Occupational Safety and Health Administration (OSHA).

**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 product and all equipment used in conjunction with the product.
- 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 D-ring Extender and associated equipment.

- 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.
- Equipment that is 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.
- If conducting training operations with this equipment, a secondary fall protection system must be installed and utilized to ensure the trainee is not exposed to unintended fall hazards.
- 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 product 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.
- Never connect two D-ring Extenders to the same D-ring.
- Do not use D-ring extenders when using this product in a Leading Edge environment.
- Never exceed maximum allowable weight capacity or maximum free fall distance of the fall protection equipment.

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► 1.0 INTRODUCTION / INTENDED USE

Thank you for purchasing a Safewaze D-ring Extender. D-ring Extenders are intended for use as part of a Personal Fall Arrest System (PFAS). The product attaches to the back D-ring of a harness to provide additional length for easier connection to a PFAS. Safewaze also offers Arc Flash D-ring Extenders. An Arc Flash occurs when an electric current leaves its intended path. When a human is in close proximity to an Arc Flash, serious injury or death can occur. Safewaze Arc Flash D-ring Extenders are engineered to withstand an Arc Flash event and continue to provide Fall Protection for the user.

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 equipment covered in this manual is intended for use as part of a complete Personal Fall Protection System. D-ring Extenders are not approved for Material Handling. 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.

► 2.0 APPLICABLE SAFETY STANDARDS

When used according to instructions, the product meets the standards and regulations designated on its labels. 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).

Safewaze D-ring Extenders meet the **ANSI Z359.11-2021** standard and **OSHA 1910.66, 1910.140, and 1926.502** regulations. Safewaze Arc Flash D-ring Extenders also meet the **ASTM F887** standard.

► 3.0 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.

► 4.0 PRODUCT SPECIFICATIONS / LIMITATIONS

Capacity:

- User Weight Capacity: ANSI 130-310 lbs. (59-141 kg) and OSHA up to 420 lbs. (191 kg). *including clothing, tools, equipment, etc.
- Designed for 6' (1.83 m) and 12' (3.66 m) free fall applications. For 12' free fall applications, the user must use a personal energy absorber (PEA) rated for 12' free fall.
- Multiple configurations offered (snap hook, choke loops, 1 or 2 D-rings, etc.)
- For Arc Flash D-ring Extenders:
 - » Nomex Label Cover
 - » 40Cal Rated

D-ring Extender Materials	
Component	Materials
Webbing	1-3/4" Polyester (Pro-Shield has Polyurethane Coating)
Snap Hook (if applicable)	Zinc-Plated Steel
D-ring(s)	Zinc-Plated Steel

Arc Flash D-ring Extender Materials	
Component	Materials
Webbing	35mm Aramid or 1-3/4" Aramid (based on configuration)
Thread	Kevlar®
D-ring(s)	Zinc-Plated Steel

► 5.0 FALL CLEARANCE

Always select an SRL/lanyard and anchor point location that limits free fall and swing fall as much as possible. Refer to the chosen PFAS system manuals for information on fall clearance. A free fall of more than 6 ft. could cause excessive arrest forces that could result in serious injury or death.

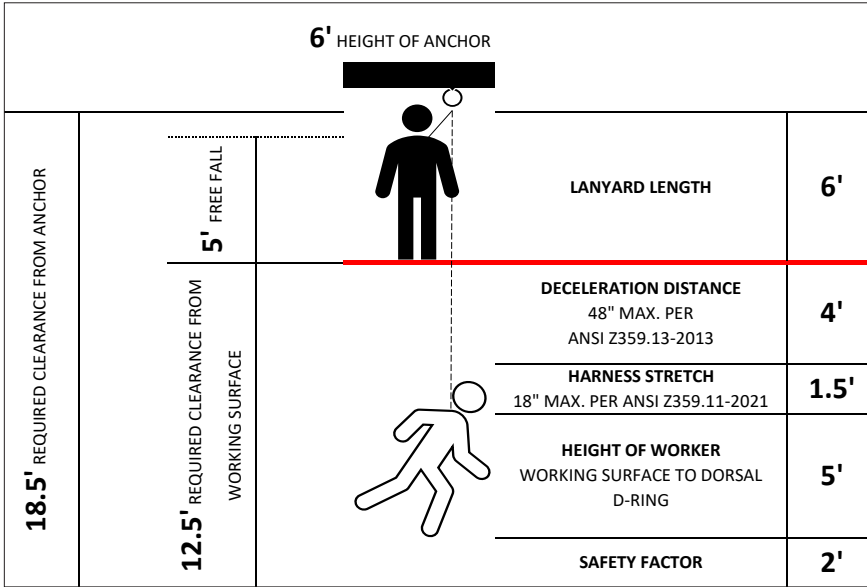
- **Fall Clearance:** There must be sufficient clearance below the anchorage connector to arrest a fall before the user strikes the ground or an obstruction. When calculating fall clearance, account for all applicable factors. A Competent Person must reference the entire system's components* to calculate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

***Note:** D-Ring Extender length must be factored into fall clearance calculation.

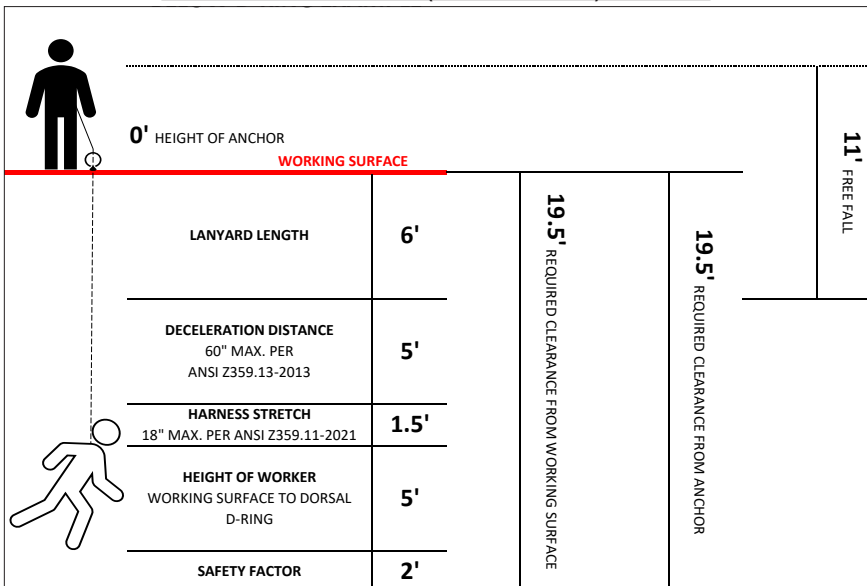
THE FOLLOWING DIAGRAMS ARE EXAMPLES ONLY.

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.

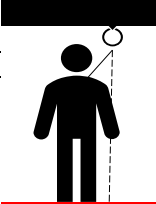
6' FREE FALL LANYARD (OVERHEAD) EXAMPLE




12' FREE FALL LANYARD (BELOW D-RING) EXAMPLE



CLASS 1 (OVERHEAD) EXAMPLE

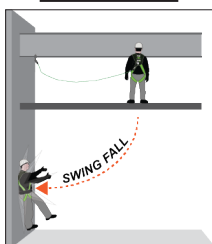
		6' HEIGHT OF ANCHOR	
13' REQUIRED CLEARANCE FROM ANCHOR	0' FREE FALL		
	7' REQUIRED CLEARANCE FROM WORKING SURFACE	WORKING SURFACE	
		ARREST DISTANCE 42" MAX. PER ANSI Z359.14-2021 CLASS 1	3.5'
		HARNESST STRETCH 18" MAX. PER ANSI Z359.11-2021	1.5'
		SAFETY FACTOR	2'
		SWING FALL DROP DISTANCE	TBD

CLASS 2 (BELOW D-RING) EXAMPLE

	0' HEIGHT OF ANCHOR		5' FREE FALL
	WORKING SURFACE		
	ARREST DISTANCE REFER TO MANUAL FOR PUBLISHED ARREST DISTANCES PER ANSI Z359.14-2021 CLASS 2	8'	16.5' REQUIRED CLEARANCE FROM WORKING SURFACE
	HARNESST STRETCH 18" MAX. PER ANSI Z359.11-2021	1.5'	
	HEIGHT OF WORKER WORKING SURFACE TO DORSAL D-RING	5'	
	SAFETY FACTOR	2'	
SWING FALL DROP DISTANCE		TBD	
		16.5' REQUIRED CLEARANCE FROM ANCHOR	

- **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. Ensure a Competent Person includes swing fall in calculations if the hazard exists.

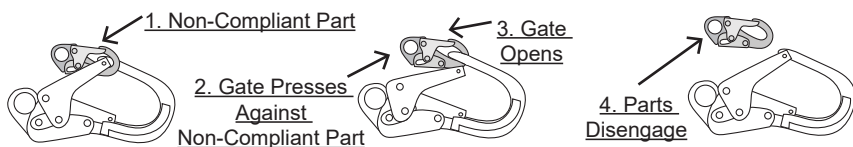
SWING FALL:



► 6.0 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.
- Connectors must be compatible in size, shape, and strength.
- Self-locking snap hooks and carabiners are required by OSHA guidelines.
- Some specialty connectors have additional requirements. Contact Safewaze if you have any questions about compatibility.

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.

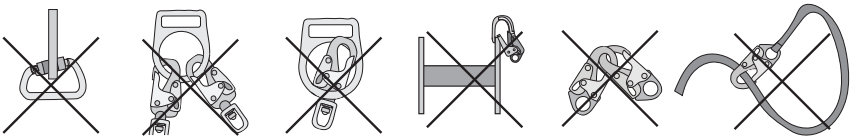
► 7.0 MAKING CONNECTIONS

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 below 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.

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.

► 8.0 INSTALLATION & CONNECTION

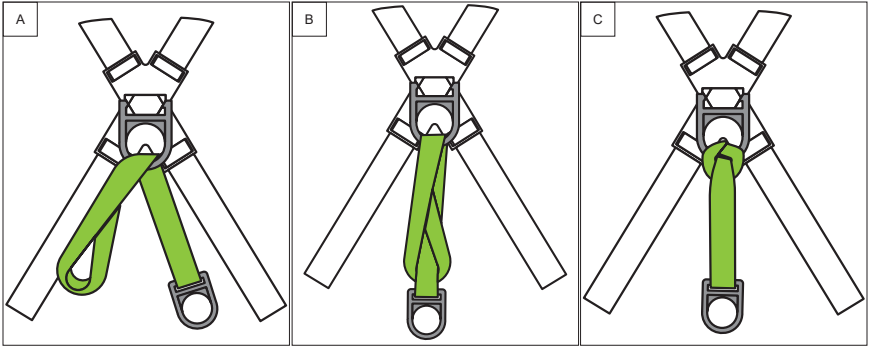
INSTALLATION OF SNAP HOOK D-RING EXTENDERS:

1. Open the Snap Hook of the D-ring Extender and attach it to the Dorsal D-ring of the harness.
2. Ensure the gate of the Snap Hook is fully closed and secured around the harness D-ring.
3. Once properly installed, the user may attach a lanyard or SRL to the D-ring connection point on the D-ring Extender.

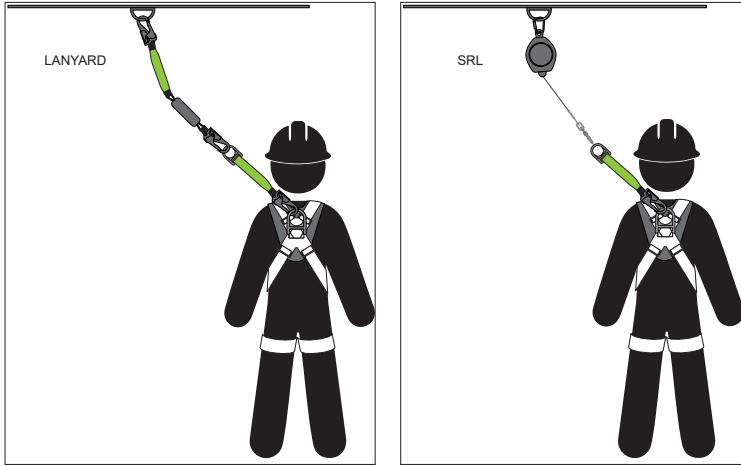
INSTALLATION OF SOFT LOOP D-RING EXTENDERS:

1. Thread the soft loop of the D-ring Extender through the Dorsal D-ring of the harness (A).
2. Pass the D-ring of the D-ring Extender through the Soft Loop (B).
3. Pull until the strap is snug around the Dorsal D-ring (C).
4. Once properly installed, the user may attach a lanyard or SRL to the D-ring connection point on the D-ring Extender.

***Note:** For D-ring Extenders with 2 D-rings, do not attach both D-rings to the same PFAS. The 2 D-rings are for transition use only.



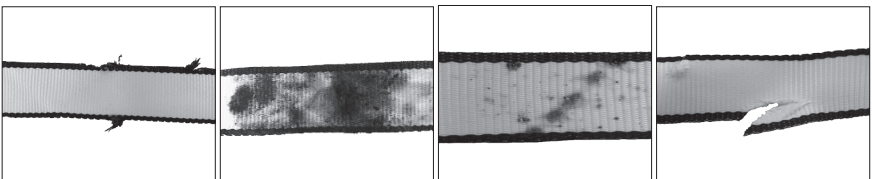
D-RING EXTENDER CONNECTION EXAMPLES:



► 9.0 INSPECTION / MAINTENANCE

Prior to each use, inspect the product 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 D-ring Extender including the webbing, fasteners, and labels. Inspect the entire length of lifeline for any damage including, but not limited to, fraying, crushing, chemical exposure, and heat/welding spatter.

WEBBING DAMAGE EXAMPLES:

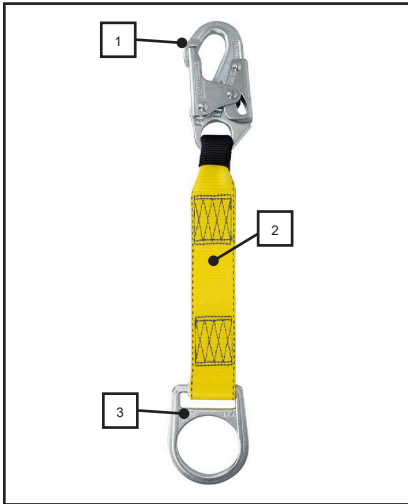


- **Repairs:** Only Safewaze, or entities authorized in writing by Safewaze, may make repairs to Safewaze fall protection equipment.
- **Lifespan:** The working life of Safewaze D-ring Extenders is determined by work conditions, care, and inspection provided. So long as the product and all components pass inspection, it may remain in service.
- **Storage:** Prior to installation, store the product in a cool, dry area where it will not be exposed to extreme light, extreme heat, excessive moisture, or possibly corrosive chemicals or materials.
- **Cleaning:** The product can be cleaned with water and mild soap. The user should remove all dirt, possible corrosives, and contaminants from the lanyard 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 product if wet or damp. Allow product to fully dry before being stored.
- **Disposal:** Dispose of the product if inspection reveals an unsafe or defective condition. If damaged and unserviceable, the lanyard should be destroyed and cut so as not to allow accidental re-use.
- **Frequency:** A Competent Person, other than the user, must inspect the device 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 either with the Inspection Log included in this manual (Page 15), or 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.

INSPECTION FREQUENCY:

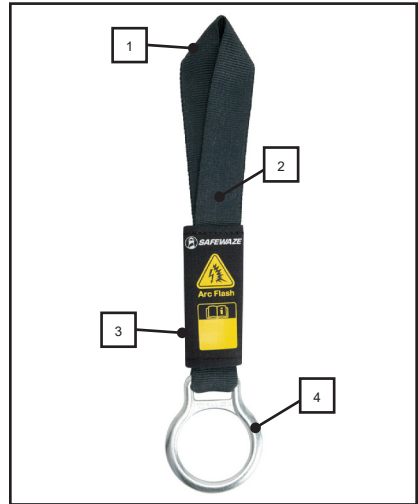
Type of Use	Application Examples	Conditions of Use	Inspection Frequency by Competent Person
Infrequent to Light	Rescue and Confined Space, Factory Maintenance	Good Storage Conditions, Indoor or Infrequent Outdoor Use, Room Temperature, Clean Environments	Annually
Moderate to Heavy	Transportation, Residential Construction, Utilities, Warehouse	Fair Storage Conditions, Indoor and Extended Outdoor Use, All Temperatures, Clean or Dusty Environments	Semi-Annually to Annually
Severe to Continuous	Commercial Construction, Oil and Gas, Mining	Harsh Storage Conditions, Prolonged or Continuous Outdoor Use, All Temperatures, Dirty Environment	Quarterly to Semi-Annually

SNAP HOOK D-RING EXTENDERS:



1	Snap Hook
2	Webbing
3	D-ring

SOFT LOOP D-RING EXTENDERS:



































1	Soft Loop
2	Webbing
3	Labels
4	D-ring

▶ 10.0 PRODUCT PART NUMBERS

019-2008
 019-2022
 020-2051
 020-2053
 022-2080
 022-2081
 023-2052
 023-2053
 023-2113
 FS813
 FS813-24
 FS813-2D
 FS813-LOOP
 FS813-2D



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



SAFEWAZE

Address: 225 Wilshire Ave SW, Concord, NC 28025

Phone: 800-230-0319

Fax: 704-262-9051

Email: info@safewaze.com

Website: safewaze.com