



Arc Flash Lanyard Manual



APPLICABLE SAFETY STANDARDS

When used according to instructions, Safewaze Arc Flash Lanyards meet **ANSI Z359.13-2013, OSHA 1926.502, 1910.140, 1910.66, and ASTM F887**. 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).

WARNING:

The manufacturer's instructions must be provided to users of this equipment. The user must follow the manufacturer's instructions for each component of the system. The user must read and understand these instructions before using this equipment. Manufacturer's instructions must be followed for proper use and maintenance of this equipment. The user must understand how to safely and effectively use the Arc Flash Lanyard and all equipment used in conjunction with the Arc Flash Lanyard. Alterations to this product, misuse of this product, or failure to follow instructions may result in serious injury or death. Avoid moving machinery, sharp and/or abrasive edges, and any other hazard that could damage or degrade the component.

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

IMPORTANT:

- Please refer to this manual for essential instruction on the use, care, or suitability of this equipment for your application. Contact Safewaze for any additional questions.
- Only Safewaze, or entities authorized in writing by Safewaze, may make repairs to Safewaze fall protection equipment.
- Record all important product information below prior to use. Documentation of all Competent Person annual inspections is required in the Inspection Log.
- Always verify the latest revision of the Safewaze Manual is being utilized. Visit the Safewaze website, or contact Customer Service, for updated manuals.

INTRODUCTION

Thank you for purchasing a Safewaze Arc Flash Lanyard. 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 Lanyards 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. This manual and any other instructional material must be available to the user of the equipment. Every user must be trained in the inspection, installation, operation, and proper usage of the anchor.

SPECIFICATIONS

Safewaze Arc Flash Lanyards are designed to be used as part of a Personal Fall Arrest System (PFAS).

- For use in high heat environments where an Arc Flash (Electrical Explosion) could occur.
- Capacity: **ANSI 130 to 310 lbs. (59-141 kg)** *including any tools, clothing, accessories, etc.
- Offered in a variety of configurations: nylon or aramid web material; single leg or dual leg; internal energy absorber or external energy absorber; steel, aluminum, or dielectric hardware, etc.

USER INFORMATION

Date of First Use: _____
Serial Number: _____
Trainer: _____
User: _____

WORKER CLASSIFICATIONS

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

Qualified Engineer: "Qualified Engineer" means 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: "Qualified Person" means 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: "Competent Person" means 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: "Authorized Person" means 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 complied with.**

LIMITATIONS

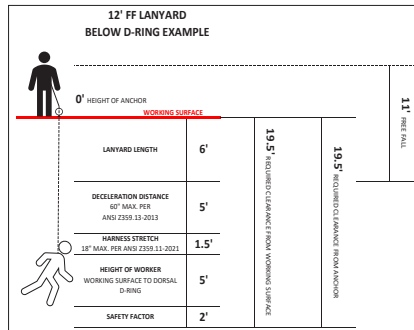
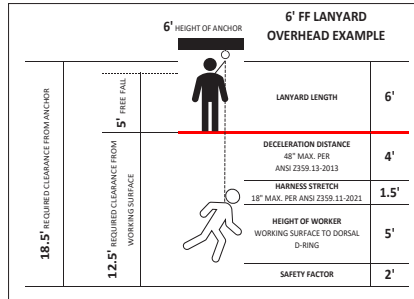
Always select a lanyard and anchor point location that limits free fall and swing fall as much as possible. A free fall of more than 6 ft. could cause excessive arrest forces that could result in serious injury or death.

Structures for the attachment of an Arc Flash Lanyard shall support a minimum 5,000 lbs. (22 kN) or be designed with a safety factor of two to one by a Qualified Person.

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 (Figure 1). A Competent Person must reference the entire system's components to calculate Fall Clearance.

FIGURE 1: FALL CLEARANCE DIAGRAMS

*These diagrams are examples of fall clearance calculations ONLY.



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 2).

FIGURE 2: SWING FALL



ANCHORAGE INSTALLATION LOCATION

A Qualified Person or Engineer must conduct an analysis of the workplace and ensure the anchorage location is capable of withstanding loads from a fall. An anchorage location selected for a Personal Fall Arrest System (PFAS) must have a strength capable of sustaining a static load applied in the direction permitted by the PFAS of at least:

- 5,000 lbs. (2267.9 kg) for non-certified anchorages, or
- Two times the maximum arresting force for certified anchorages, or
- 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.

ALLOWED ANCHOR 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 freefall is based on the connector used.

Restraint: 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.

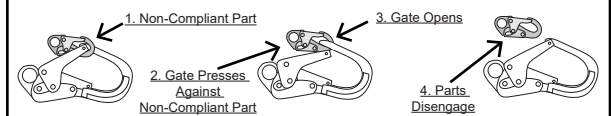
Rescue/Confined Space: Safewaze Anchors are authorized for use in Rescue/ Confined Space applications. Rescue systems are utilized to safely recover a worker from a confined location or after exposure to a fall. Composition of rescue systems can vary based upon the type of rescue involved. The structure 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 applications, the allowable attachment points to the harness are Dorsal, Front/Sternal, and Shoulder D-rings.



COMPATIBILITY OF COMPONENTS/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 3).
- 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.

FIGURE 3: 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.

MAKING CONNECTIONS

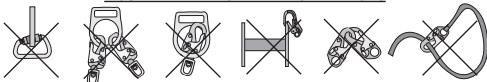
Snap hooks and carabiners used with this equipment must be double locking and/or twist lock. Ensure all connections are compatible in size, shape, and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked.

Safewaze connectors (hooks, carabiners, and D-rings) are designed to be used only as specified in each product's manual. See Figure 4 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.

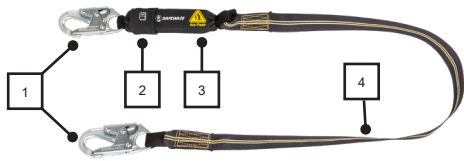
- In a manner that does not allow the connector to align properly while under load.

FIGURE 4: INAPPROPRIATE CONNECTIONS



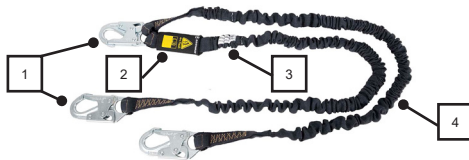
Large throat snap hooks must not be connected to standard size D-Rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates, unless the snap hook complies with ANSI Z359.12-2019 and is equipped with a 3,600 lb. (16 kN) gate.

ARC FLASH LANYARD COMPONENTS



1	Snap/Rebar Hooks
2	Label Set/Protective Cover
3	Energy Absorber/Protective Cover
4	Webbing

ARC FLASH INTERNAL LANYARD COMPONENTS



1	Snap/Rebar Hooks
2	Label Set/Protective Cover
3	Fall Indicator
4	Webbing with Internal Energy Absorber

INSTALLATION / USE

- Before installing a Safewaze Arc Flash Lanyard, a suitable anchor point must be chosen under the guidance of a Competent Person that will provide proper strength for installation of the lanyard.
- The preferred connection of the lanyard to a fall arrest anchorage is at D-ring height or above. Tie-off below the level of the Dorsal D-ring of a Full Body Harness should always be the last resort. Tying off below the Dorsal D-ring requires additional fall clearance and increases the potential for swing fall injuries.
- Ensure that the energy absorber end of the lanyard is connected to the Dorsal D-ring of the Full Body Harness. **Do not connect the energy absorbing end of the lanyard to any anchorage connector. If using a dual leg lanyard, never attach the unused leg of the lanyard to the harness at any location other than a lanyard storage keeper.**
- Avoid working in a position which would allow the lanyard to continuously or repeatedly rub against sharp or abrasive edges. Eliminate contact if possible, or use an edge protector.
- Never use an energy absorbing lanyard in a fall protection system that allows for a greater than 6 ft. free fall, unless the lanyard is rated specifically for such use.

INSPECTION

- Safewaze Arc Flash Lanyards must be inspected prior to each use by the user and at least annually by a Competent Person other than the user.
- Competent Person inspections must be recorded in the Inspection Log included in this manual and on the inspection grid label on the lanyard label.
- Severity of conditions during use of the lanyard may necessitate increased frequency of documented inspections.

INSPECTION CONT.

- Prior to each use, inspect the lanyard for deficiencies or damage including, but not limited to, sharp edges, rough edges, deformations, corrosion, pits, burrs, chemical exposure, extreme heat exposure, and damaged, missing, or illegible labels.
- If any deficiencies or defects are found, the lanyard must **IMMEDIATELY** be removed from service.

MAINTENANCE

- The lanyard can be cleaned with water and mild soap if necessary. 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 lanyard.
- Excess water should be blown out with compressed air. Hardware can be wiped off with a clean, dry cloth. Do not store lanyard if wet or damp. Allow lanyard to fully dry before being stored.
- Prior to installation, store the lanyard in a cool, dry area where it will not be exposed to extreme light, extreme heat, excessive moisture, or possibly corrosive chemicals or materials.

WARNINGS

- 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.
- Equipment that is exposed to fall arrest forces must be **IMMEDIATELY** removed from service and destroyed.
- A preplanned rescue procedure in the event of a fall is required. 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.
- 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 the existing and potential fall hazards they may be exposed to. The Competent Person must choose the fall protection equipment to be utilized.
- Equipment designated for fall protection must never be used to lift, hang, support, or hoist tools or equipment unless specifically certified for such use.

LABELS

MODEL #: 020-2040
 DESCRIPTION: Arc Flash 6' Energy Absorbing Lanyard; Kevlar, Dual Leg, Dielectric Snap Hooks

STANDARDS AND REGULATIONS	MAX DEFLECTION LIMIT	FREE FALL	MAX ARREST FORCE	AVG ARREST FORCE	CAPACITY
ANSI Z359-19	48 in (1219 mm)	6 ft (1.8 m)	900 lbs (408 kg)	300 lbs (136 kg)	130-310 lbs (59-141 kg)
OSHA 29 CFR 1910.156-302	42 in (1067 mm)	6 ft (1.8 m)	900 lbs (408 kg)	N/A	310 lbs (141 kg)

Additional Standards: ASTM F887, 40 Cal Rated 750° Char Rated
 MATERIALS: Kevlar Webbing, dielectric hardware
 SERIAL #: 42100002 MFG DATE: 01/2022
 SAFEWAZE 225 Wilshire Ave SW, Concord NC 28025 USA | (800) 230-0319 | www.safewaze.com

Warning: User Capacity Range 130-310 lbs.

6ft. 900lbs.

Maximum Free Fall Average Arresting Force
 Maximum Deployment Distance 48"
 Forces may increase when cold and/or wet
Read Instructions Before Use

Only make compatible connections
 -Inspect before each use
 -Avoid contact with sharp edges and abrasive surfaces
 -Avoid physical hazards such as thermal, electrical and chemical sources

WARNING: Do not exceed the capacity of this or other system components. Capacity is the combined weight for which the component is designed to be used. Combined weight includes the user's body weight, clothing, tools, and any objects carried. Contact Safewaze for more information.

J	F	M	A	M	J	J	A	S	O	N	D

INSPECTION LOG

WARNING

Manufacturer's instructions supplied with this product at time of shipment must be read and understood prior to use. This energy absorbing lanyard shall only be used with compatible Safewaze equipment. Inspect all connections prior to use and verify connecting components are installed correctly. Failure to make secure connections could result in serious injury or death. Not flame or heat resistant unless otherwise specified. Avoid contact with sharp and abrasive edges. Any unit which has been exposed to fall arrest forces should be immediately removed from service and destroyed. **DO NOT REMOVE THIS LABEL.**

LABELS CONTINUED

WARNING

Always attach the Energy Absorbing Lanyard to the harness Dorsal D-ring. Do not attach to any other anchor points or use under arms or legs. Do not attach two users to this lanyard. Failure to follow instructions and warnings may result in serious injury or death. **DO NOT REMOVE THIS LABEL.**

YES NO

LABEL-01349

NEVER attach the unused leg of the lanyard back to the harness at any location other than the lanyard storage keeper.

PART NUMBERS COVERED IN THIS MANUAL

020-2040	023-2101	023-2111
020-2041	023-2102	FS560-AF
020-2042	023-2103	FS560-AF-AJ
020-2043	023-2104	FS560-AF-SE
020-2044	023-2105	FS560-AF-SE-AJ
020-2045	023-2107	SW560-AF-DE
020-2046	023-2108	SW560-AF-DE-SE
022-2087	023-2109	SW561-AF-DE
023-2098	023-2110	

INSPECTION LOG

SAFEWAZE **INSPECTION LOG**
 ANNUAL FORM

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