

# 2 Person Cable Horizontal Lifeline Kits

30', 60', 80', 100' Lengths Available

We've upgraded our cable horizontal lifeline kits to include our new coil energy absorber and our heavy duty cross arm straps. We're offering more kit configurations with additional length options so that you can have the right cable lifeline for your job.



Additional Kit Configurations Include



2 - 6' Heavy Duty Cross Arm Straps & Coil Energy Absorber

OR



2 - 6' Heavy Duty Cross Arm Straps & Energy Absorber

# Horizontal Cable Lifeline Kits

2 Person Kit Configurations



## 2 Person HLL Kit

- Galvanized Cable
- 2 O-Rings
- Coil Energy Absorber
- 2 Steel Carabiners
- 2 Fist Grips
- Turnbuckle
- Cable Thimble
- Carry and Storage Bag
- 80' and 100' Kits Come with 2nd Energy Absorber

### *Kit Rope Length Options*

- Item# 019-8016 - 30'
- Item# 019-8017 - 60'
- Item# 019-8018 - 80'
- Item# 019-8019 - 100'



## 2 Person HLL Kit with Cross Arm Straps & Coil Energy Absorber

- Galvanized Cable
- 2 O-Rings
- Coil Energy Absorber
- 2 - 6' Heavy Duty Cross Arm Straps
- 2 Steel Carabiners
- 2 Fist Grips
- Turnbuckle
- Cable Thimble
- Carry and Storage Bag
- 80' and 100' Kits Come with 2nd Energy Absorber

### *Kit Rope Length Options*

- Item# 019-8020 - 30'
- Item# 019-8021 - 60'
- Item# 019-8022 - 80'
- Item# 019-8023 - 100'



## 2 Person HLL Kit with Cross Arm Straps & Energy Absorber

- Galvanized Cable
- 2 O-Rings
- 2 - 6' Heavy Duty Cross Arm Straps
- Energy Absorber w/ Protective Cover
- 2 Steel Carabiners
- 2 Fist Grips
- Turnbuckle
- Cable Thimble
- Carry and Storage Bag
- 80' and 100' Kits Come with 2nd Energy Absorber

### *Kit Rope Length Options*

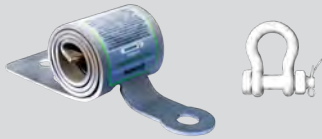
- Item# 019-8024 - 30'
- Item# 019-8025 - 60'
- Item# 019-8026 - 80'
- Item# 019-8027 - 100'

# HLL Kit Accessories

Replacement Parts & Components



## Part Kits



### Coil Energy Absorber with Shackle

This cable horizontal lifelines parts kit comes with our steel coil energy absorber and steel heavy duty shackle

Item#: 019-8028

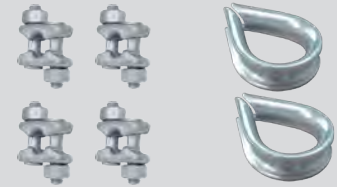


### HLL Installation Kit

This cable horizontal lifelines installation kit comes with:

- Coil energy absorber
- Turnbuckle
- 2 Cable thimbles
- 4 Fist grips
- Heavy duty shackle

Item#: 019-8032



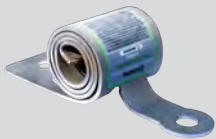
### HLL Termination Kit

This cable horizontal lifelines termination kits comes with 4 fist grips and 2 cable pullers.

Item#: 019-8033

SafeWaze offers a variety of bases, end and intermediate posts, and anchorage points for our horizontal lifeline systems. Visit [safewaze.com](http://safewaze.com) to learn more.

## Components & Replacement Parts



### Coil Energy Absorber

The coil energy absorber is designed use with cable horizontal lifeline systems.

Item#: 019-8029



### Web Energy Absorber

The 6' web energy absorber is designed for use with cable or rope horizontal lifeline systems

Item#: 019-8030



### Turnbuckle

Designed for use with cable horizontal lifeline systems. Adjusts from 18" to 28".

Item#: 019-8036



### Shackle

Item#: 019-8037



### Fist Grip

Item#: FS-EX2516

# Components

More Options to Use With Your Horizontal Lifeline



## SAFELINK 30' Retractable

---

*This 30' Cable Self Retracting Lifeline is designed for use with SafeWaze horizontal lifeline systems and is ideal for subdued edge work. This unit is also available in 50' length.*

Item#: FS-EX2530-G-SL



## SAFELINK StopLink Brake Assembly

---

*The StopLink brake assembly is an inline absorber for the SafeWaze horizontal lifeline systems. This brake allows four workers to be tied off at the same time, and with low minimum clearance heights.*

Item#: FS-EX2503-SL



## SAFELINK Come-A-Long

---

*The 12' cable come-a-long is used to tension a SafeWaze cable horizontal lifeline system.*

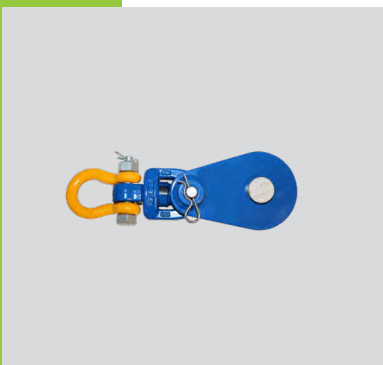
Item#: FS-EX2510

## SAFELINK SafetyLink Strap

---

*The SafetyLink strap provides additional security from premature release when your HLL is tensioned with the come-a-long.*

Item#: FS-EX2505



## SAFELINK Snatch Block with Shackle

---

*The SafeLink snatch block with shackle is utilized when tensioning your SafeWaze cable horizontal lifeline system with a cable puller.*

Item#: FS-EX320



**SAFEWAZE™**  
[safewaze.com](http://safewaze.com) | (P) 704-262-7893 | (F) 704-262-9051  
 322 Industrial Court, Concord, NC 28025

## TECHNICAL DATA SHEET

### 019-8016 thru 019-8019

2 Person Temporary Cable HLL



<b>Description</b>	2-Person portable cable horizontal lifeline Turnbuckle 2 Carabiners 2 O-rings 2 Fist Grips Cable Thimble Coil Energy Absorber Transport bag
<b>Part Numbers and Lengths</b>	<b>019-8016:</b> 30' <b>019-8017:</b> 60' <b>019-8018:</b> 80' <b>019-8019:</b> 100'
<b>Attachment Point(s)</b>	2 Carabiners (structural) - 2 O-rings
<b>Materials</b>	Cable - Galvanized Cable Steel Carabiner tensile strength > 5,000 lbs; gate rated at > 3,600 lbs Shock pack Stamped steel O-ring, rated at 5,000 lbs Steel Fist Grips Steel Coil Energy Absorber
<b>Weight Capacity</b>	310 lbs/person 2-person maximum 420 lbs/single user - If using heavyweight harness and lanyard
<b>Applicable Standards</b>	OSHA 1926.502 - OSHA 1910.140



**SAFEWAZE™**  
[safewaze.com](http://safewaze.com) | (P) 704-262-7893 | (F) 704-262-9051  
 322 Industrial Court, Concord, NC 28025

## TECHNICAL DATA SHEET



### 019-8020 thru 019-8023

2 Person Temporary Cable HLL

<b>Description</b>	2-Person portable cable horizontal lifeline Turnbuckle 2 Carabiners 2 O-rings 2 Fist Grips 2 Cross Arm Straps Cable Thimble Coil Energy Absorber Transport bag
<b>Part Numbers and Lengths</b>	<b>019-8020:</b> 30' <b>019-8021:</b> 60' <b>019-8022:</b> 80' <b>019-8023:</b> 100'
<b>Attachment Point(s)</b>	2 Carabiners (structural) - 2 O-rings
<b>Materials</b>	Cable - Galvanized Cable 1.75" Green polyester cross-arm strap webbing— Tensile strength > 9,500 lbs Polyester thread Steel Carabiner tensile strength > 5,000 lbs; gate rated at > 3,600 lbs Shock pack Stamped steel O-ring, rated at 5,000 lbs Steel Fist Grips Steel Coil Energy Absorber
<b>Weight Capacity</b>	310 lbs/person 2-person maximum 420 lbs/single user - If using heavyweight harness and lanyard
<b>Applicable Standards</b>	OSHA 1926.502 - OSHA 1910.140





**SAFEWAZE™**  
 safewaze.com | (P) 704-262-7893 | (F) 704-262-9051  
 322 Industrial Court, Concord, NC 28025

## TECHNICAL DATA SHEET



### 019-8024 thru 019-8027 2 Person Temporary Cable HLL

<b>Description</b>	2-Person portable cable horizontal lifeline Turnbuckle 2 Carabiners 2 O-rings 2 Fist Grips 2 Cross Arm Straps Cable Thimble Standard Energy Absorber Transport bag
<b>Part Numbers and Lengths</b>	<b>019-8024:</b> 30' <b>019-8025:</b> 60' <b>019-8026:</b> 80' <b>019-8027:</b> 100'
<b>Attachment Point(s)</b>	2 Carabiners (structural) - 2 O-rings
<b>Materials</b>	Cable - Galvanized Cable 1.75" Green polyester cross-arm strap webbing— Tensile strength > 9,500 lbs Polyester thread Steel Carabiner tensile strength > 5,000 lbs; gate rated at > 3,600 lbs Shock pack Stamped steel O-ring, rated at 5,000 lbs Steel Fist Grips Web Energy Absorber
<b>Weight Capacity</b>	310 lbs/person 2-person maximum 420 lbs/single user - If using heavyweight harness and lanyard
<b>Applicable Standards</b>	OSHA 1926.502 - OSHA 1910.140



# SAFEWAZE

## 2 PERSON TEMPORARY CABLE HORIZONTAL LIFELINE



Compliant with OSHA 1910, OSHA 1926 Subpart M  
ANSI A10-14





These instructions must be provided to any person utilizing this equipment. The worker must read and understand the manufacturer's instructions for this, and all other components of the complete Fall Protection System. These instructions must be followed for the proper use, maintenance, and inspection of this equipment. These instructions must be kept and made available to worker's at all times. Any alteration, misuse, or use of this equipment outside the scope of the manufacturer's instructions, may result in serious injury or death.

This product is part of a complete fall protection system. User's must utilize, and connect to a SafeWaze Horizontal Lifeline (HLL) system with ANSI Z359 compliant restraint or Personal Fall Arrest Systems (PFAS). This product is not designed, nor should be used as a component for a Positioning, Suspension, or Rescue System. A PFAS is typically composed of a Full Body Harness (FBH), Anchorage, and a Connecting Device. Connecting Devices used with SafeWaze HLL's are Energy Absorbing Lanyards (EAL's) or a Self Retracting Device (SRD). The connection point to the FBH for use of a SafeWaze HLL is the Dorsal D-ring.

A comprehensive Fall Protection Plan must be kept on file and available to all employees at all times. The employer and user's of this equipment must be properly trained in the installation, use, inspection, and maintenance of this equipment.

Consult your doctor if there is reason to doubt your fitness to safely absorb the shock from a fall arrest. Age and fitness seriously affect a worker's ability to withstand falls. Pregnant women or minors must not use this equipment. Failure to heed this warning may result in serious injury or death.

The maximum weight capacity of this equipment is 310 lbs. per user, up to a maximum of two users (including tools and equipment) as specified by ANSI. The weight capacity of this equipment for a single user is 420 lbs. (including tools and equipment).

User's of this equipment must read and understand this manual in it's entirety prior to use.

Contact SafeWaze if you have questions, regarding compatibility of this equipment, that are not covered in this manual. Do not alter or misuse this equipment. Some subsystem components could affect the performance and the operation of this equipment. Do not anchor this product to moving machinery, or hazards that have chemical, electrical or gaseous characteristics. Failure to comply with this warning could result in serious injury or death.

## Table of Contents

1	INTRODUCTION & SCOPE OF USE.....	3
2	APPLICABLE SAFETY STANDARDS.....	3
3	WORKER CLASSIFICATIONS.....	3
4	PRODUCT SPECIFIC APPLICATIONS.....	4
5	LIMITATIONS.....	4
6	COMPATIBILITY OF CONNECTIONS .....	5
7	MAKING CONNECTIONS.....	6-7
8	COMPONENTS AND SPECIFICATIONS.....	8
9	INSTALLATION AND USE.....	9-14
10	FALL CLEARANCE CHARTS.....	15-17
11	SAG DISTANCES CHART.....	18
12	INSPECTION AND MAINTENANCE .....	19
13	INSPECTION LOG .....	20
14	LABELS .....	21

## 1.0 Introduction & Scope of Use

Thank you for purchasing a SafeWaze Cable Horizontal Lifeline. 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. The user must understand how to safely and effectively use a Horizontal Lifeline, and all fall protection equipment used in conjunction with such.

The SafeWaze Cable Horizontal Lifeline has been designed for your safety. These Horizontal Lifeline systems are designed to offer users a flexible anchorage between two structures. The lines can also be used to provide a temporary barrier system.

## 2.0 Applicable Safety Standards

### ANSI STANDARDS

ANSI	Z359.0	Definitions and Nomenclature Used for Fall Protection and Fall Arrest
ANSI	Z359.1	Safety Requirements for Personal Fall Arrest Systems, Subsystems, and Components
ANSI	Z359.2	Minimum Requirements for a Comprehensive Managed Fall Protection Program
ANSI	A10-14	Safety Requirements for Safety Belts, Harnesses, Lanyards, and Lifelines for Construction and Demolition Use

### OSHA REGULATIONS

OSHA	1910.66	Personal Fall Arrest Systems
OSHA	1926.502	Fall Protection Systems Criteria and Practices

## 3.0 Worker Classifications



Understand the definitions of those who work in proximity of or may be exposed to fall hazards.

**Qualified Person:** A person with an accredited degree or certification, and with extensive experience or sufficient professional standing, who is considered proficient in planning and reviewing the conformity of fall protection and rescue systems.

**Competent Person:** A highly trained and experienced person who is **assigned by the employer** to be responsible for all elements of a fall safety program, including, but not limited to, its regulation, management, and application. A person who is proficient in identifying existing and predictable hazards, and who has the authority to stop work in order to eliminate hazards.

**Authorized Person:** A person who is assigned by their employer to work around or be subject to potential or existing fall hazards.

**It is the responsibility of a Qualified or Competent person to supervise the job site and ensure safety regulations are complied with.**

## 4.0 Product Specific Applications

**Personal Fall Arrest:** SafeWaze Cable Horizontal Lifelines can be used as part of a complete Personal Fall Arrest System (PFAS) for a maximum of 2 users. The structure utilized for attachment must be capable of withstanding a load of 5,000 lbs in all directions permitted by the system. The maximum allowable free fall is 6 ft.

## 5.0 Limitations

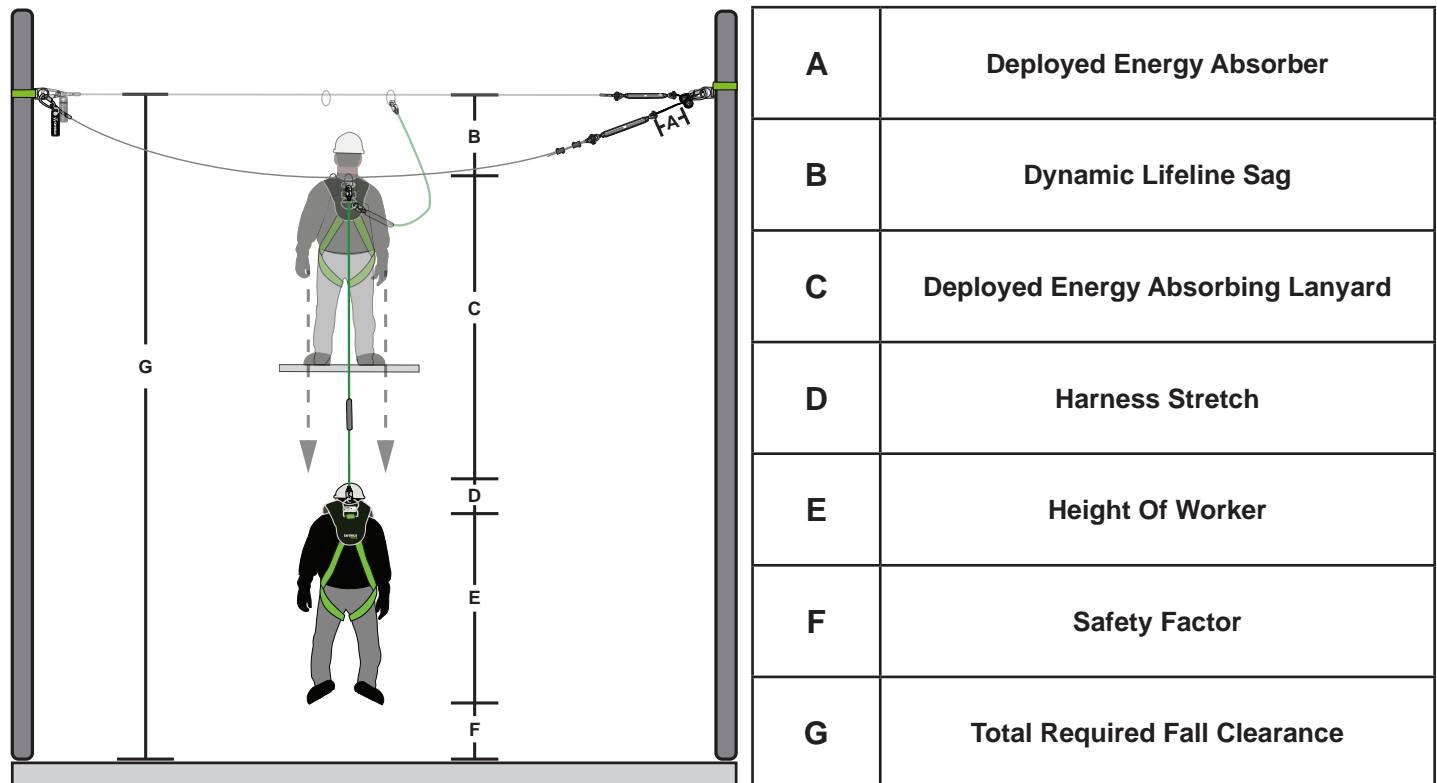
**Fall Clearance:** There must be sufficient clearance below the anchorage connector to arrest a fall before the user strikes the ground or an obstruction. When calculating fall clearance, account for a MINIMUM 2' safety factor, deceleration distance, user height, length of Lanyard/SRD, and all other applicable factors (See Figure 1).

**FIGURE 1**

For all applications: worker weight capacity range for 1 User (including all clothing, tools, and equipment) is 420 lbs.  
Capacity range for 2 Users is (130-310 lbs) for each User (including all clothing, tools, and equipment)

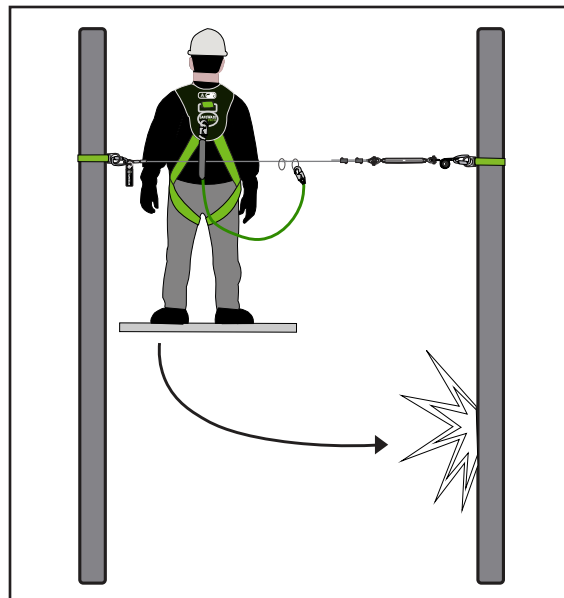
**Fall Clearance Diagram**

\*\*\*Diagram shown is an example fall clearance calculation 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 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 (See Figure 2).

FIGURE 2



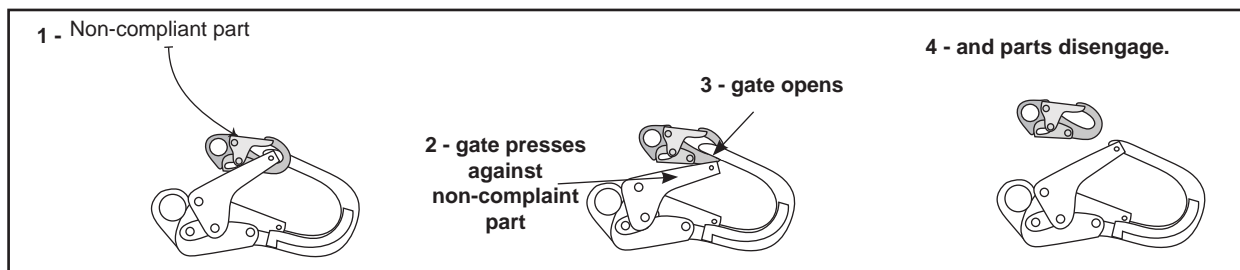
## 6.0 Compatibility Of Connections

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. (22.2 kN). Connectors must be compatible with the anchorage or other system components (See Figure 4). Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage (See Figure 3). Connectors must be compatible in size, shape, and strength. Self-locking snap hooks and carabiners are required by ANSI Z359 and OSHA guidelines. Contact SafeWaze if you have any questions about compatibility.



**NOTE:** SOME SPECIALITY CONNECTORS HAVE ADDITIONAL REQUIREMENTS. CONTACT SAFEWAZE WITH QUESTIONS.

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.

## 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.

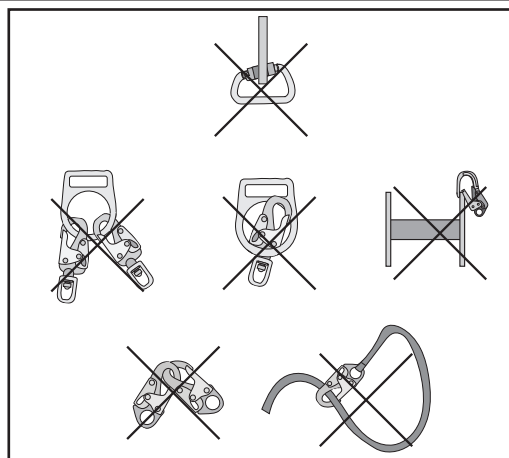
SafeWaze connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user's instructions. See figure 4 for examples of inappropriate connections. Do not connect snap hooks and carabiners:

- 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.
- NOTE: Large snap hooks must not be connected to objects which will result in a load on the gate if the hook 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. Check the marking on your snap hook to verify its compatibility.



**NOTE:** 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. Check the marking on your snap hook to verify that it is appropriate for your application.

**FIGURE 4 - INAPPROPRIATE CONNECTIONS**





## 7.1 Connections

### Number of Users:

Maximum two users at one time with a capacity up to 310 lbs. per worker including tools and equipment.

Maximum one user at one time with a capacity up to 420 lbs. per worker including tools and equipment.

### Full Body Harnesses

Only Full Body Harnesses may be used with a SafeWaze Cable Horizontal Lifeline.

### Use of Shock Absorbing Lanyards

Fall Clearance Requirements when utilizing a 6' Shock Absorbing Lanyard with the HLL system are indicated in the fall clearance table (Section 10, page 15) of this manual. The fall clearance distances indicated are the total required from the properly installed HLL system to the next lower level or obstruction. The user should ensure that the distance between the installed lifeline and the next lower level is at least equal to, or greater than the values given in Section 10, page 15 of this manual prior to use of the HLL system. Failure to calculate proper fall clearances prior to use of the system could result in serious injury or death.




Note: Never use combinations of components or subsystems that may affect, or interfere with the safe function of each other.

### Use of Self-Retracting Devices

Fall Clearance Requirements when utilizing an SRD with the HLL system in an overhead installation are indicated in the fall clearance table (Section 10.1, page 16) of this manual. When using Personal SRD's with the HLL system, where the installation could possibly be below dorsal D-ring Height, refer to the fall clearance table (Section 10.2, page 17) of this manual. The user must ensure that the Personal SRD being utilized is not connected to the HLL at a distance below the dorsal D-ring, which exceeds the maximum allowed as specified by the SRD manufacturer. When calculating fall clearance distances, the user must add the total deflection of the HLL system during a fall event, to the total deceleration distance of the SRD being used. The combination of the system deflection, and the deceleration distance of the SRD, when added to the Harness Stretch of the full body harness, worker's height, and Safety Factor equals the minimum required fall clearance. Failure to calculate proper fall clearances prior to use of the system could result in serious injury or death.

## 8.0 Components and Specifications

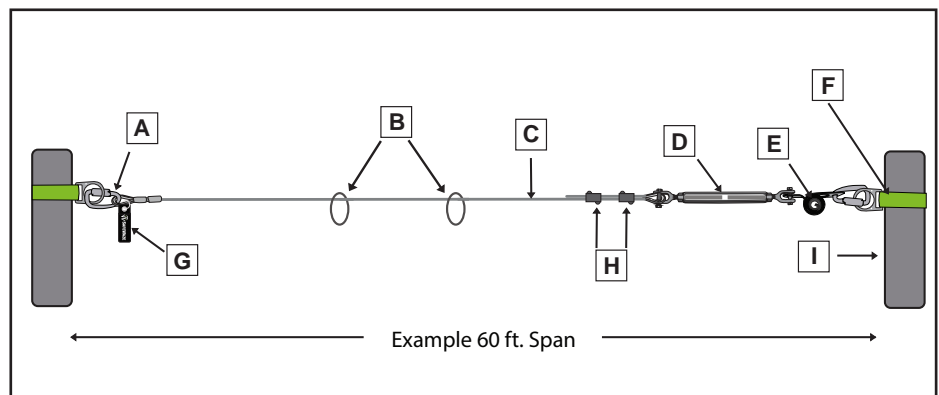
**FIGURE 5 - HLL KIT PART NUMBERS AND CONFIGURATIONS**

Configuration		Configuration		Configuration	
					
Part Number	Length in Feet	Part Number	Length in Feet	Part Number	Length in Feet
019-8016	30 ft.	019-8020	30 ft.	019-8024	30 ft.
019-8017	60 ft.	019-8021	60 ft.	019-8025	60 ft.
019-8018	80 ft.	019-8022	80 ft.	019-8026	80 ft.
019-8019	100 ft.	019-8023	100 ft.	019-8027	100 ft.

SafeWaze Cable Horizontal Lifelines are offered in 3 different configurations. Each configuration is offered in 4 different lengths. The table above (Figure 5) indicates the part numbers and system lengths offered.

**FIGURE 6 - COMPONENTS**

<b>A</b>	Carabiner
<b>B</b>	O-Rings
<b>C</b>	Galvanized Cable
<b>D</b>	Turnbuckle / Tensioner
<b>E</b>	Coil Energy Absorber
<b>F</b>	Cross Arm Strap
<b>G</b>	Label Pack
<b>H</b>	Fist Grips
<b>I</b>	Anchorage



The SafeWaze Cable Horizontal Lifeline is designed as a temporary reusable anchorage subsystem for the attachment of up to two Personal Fall Arrest systems. The Cable Horizontal Lifeline subsystem is comprised of Galvanized Cable, a Galvanized Steel Tensioner, and a Steel or Web Energy Absorber. The system also contains two self-closing, self-locking, ANSI Z359.12 compliant end attachment carabiners. One carabiner secures the energy absorber to an end anchorage, and the other is used to secure the HLL to the opposite anchorage point. Fist Grips are included in order to create an additional thimble connection at free end of cable.

## 9.0 Installation and Use

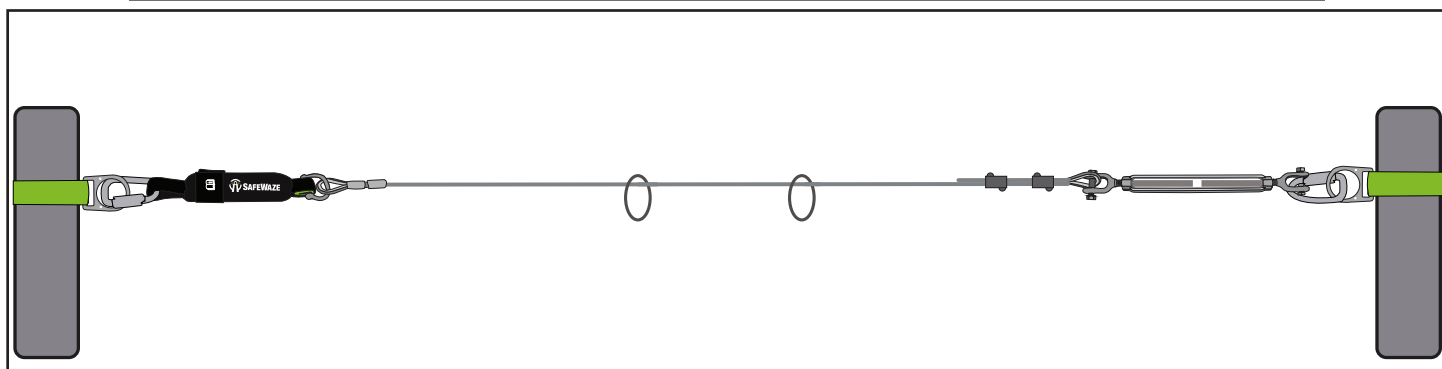
### Before Each Use

Users of personal fall arrest systems must have a rescue plan in place, if the user cannot rescue themselves, as well as the means to carry out the rescue.

The user must read and understand these User Instructions, as well as the User Instructions for every component/subsystem of the personal fall arrest system.

The entire Safewaze Cable Horizontal Lifeline system, and its subsystems, must be inspected prior to each use for wear, damage, and other deterioration. All snaphooks and carabiners must be able to self-close and lock. Check the operation of self retracting lanyards by pulling smoothly on the lifeline, then pull sharply on the lifeline to engage the locking mechanism. All webbing and cable must be inspected for tears, cuts, fraying, abrasion, unsplicing, discoloration, or other signs of wear and damage. Sewn terminations should be secure, complete, and not visibly damaged. All cable splices should be secure. System must be properly tensioned. No load indicators shall be deployed. Damaged and other deteriorated and defective components must be immediately removed from service, in accordance with the requirements of OSHA 29 CFR 1910.66 and 1926.502.

**FIGURE 7 - STANDARD ENERGENCY ABSORBER INSTALLATION EXAMPLE**



### Cross Arm Strap System Installation with Integral Energy Absorber

#### Step 1. Install Anchorage Connector

Wrap the Cross Arm Strap around the anchorage and pass the small D-ring end through the large D-ring end. Wrap as many times as necessary to achieve desired length, ensuring strap is wrapped at least twice around the end anchorage. A minimum of two wraps around the end anchorage helps prevent sliding of the anchor straps during use. Only connect to the small D-ring of the Cross Arm Strap.

Other approved anchorage connectors, which meet the 5,000 lbs strength requirement, may be used in place of the supplied FS810-6 Cross Arm Straps. See anchorage connector user instructions for proper installation.

#### Step 2. Connect Integral Energy Absorber to End Anchorage

Connect the Integral Energy Absorber to the small D-ring of the Cross Arm Strap using one of the supplied carabiners. Connect the tensioner to the opposite anchorage point (cross arm strap) via the other supplied carabiner.

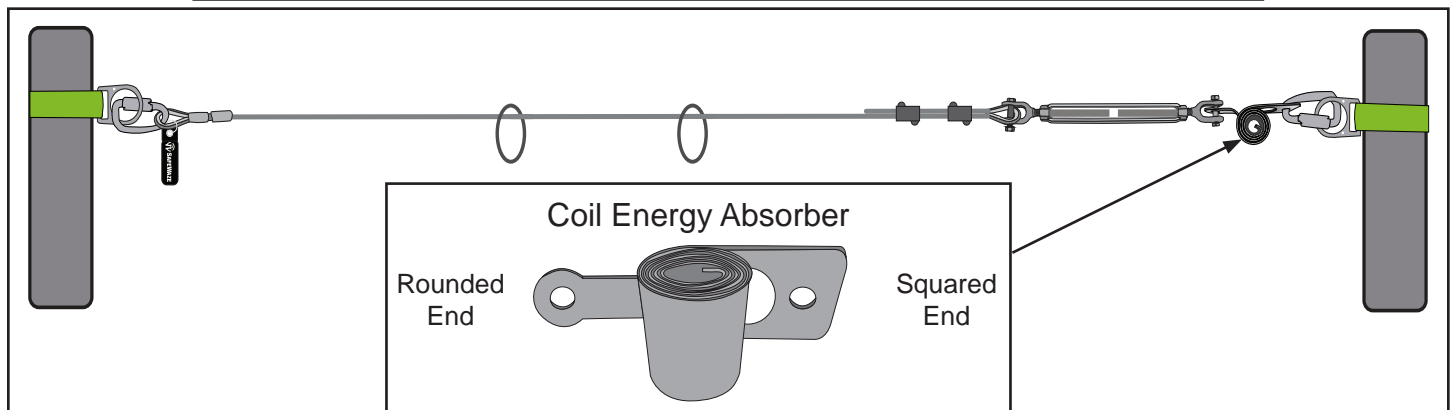
### Step 3. Attach Free End of Cable to Tensioner

Prior to attaching the cable to the tensioner, turn both ends of the tensioner to increase its overall length. Determine the approximate span length of cable required. After determining the length needed, form a thimble attachment point on the free end of the cable. Remove the bolt from the clevis on the tensioner. Take the extra supplied thimble and form the cable in a loop using the thimble as a guide (See Figure 9A). Wrap the cable around the thimble ensuring there is a minimum 12" tail of cable to allow connection of the fist grips. Insert the thimble and cable loop into the open end of the clevis, and re-install the clevis bolt ensuring it is through the thimble (See Figure 9B). Remove excess slack from the system by hand and attach the free end of the cable back to itself using the supplied fist grips (See Figure 9B). Torque fist grips to 35 ft lbs. (See Figure 9C).

### Step 4. Tension the System

Insert a large screwdriver, bar, etc... into the gap between the threaded rods of the tensioner. This gap was created in Step 3 when extending the overall length of the tensioner. Rotate the body of the tensioner which draws the ends of the tensioner assembly towards the center of the unit, thereby tensioning the system (See Figure 9D & 9E). To determine proper tension of the system, refer to the HLL Sag Table (Figure 12, Page 18), and tension until proper sag is achieved.

**FIGURE 8 - COIL ENERGY ABSORBER INSTALLATION EXAMPLE**



### Cross Arm Strap System Installation with Coil Energy Absorber

#### Step 1. Install Anchorage Connector

Wrap the Cross Arm Strap around the anchorage and pass the small D-ring end through the large D-ring end. Wrap as many times as necessary to achieve desired length, ensuring strap is wrapped at least twice around the end anchorage. A minimum of two wraps around the end anchorage helps prevent sliding of the anchor straps during use. Only connect to the small D-ring of the Cross Arm Strap.

Other approved anchorage connectors, which meet the 5,000 lbs strength requirement, may be used in place of the supplied FS810-6 Cross Arm Straps. See anchorage connector user instructions for proper installation.

### Step 2. Connect Coil Energy Absorber to End Anchorage

Connect the squared end of the Coil Energy Absorber to the small D-ring of the Cross Arm Strap using one of the supplied carabiners.

### Step 3. Attach Tensioner

Prior to attaching the Tensioner to the Coil Energy Absorber, turn both ends of the tensioner to increase its overall length. Attach the clevis of the tensioner to the coil energy absorber by removing the bolt from the clevis, and inserting the bolt back through the clevis and predrilled hole in the rounded end of the coil energy absorber (See Figure 8).

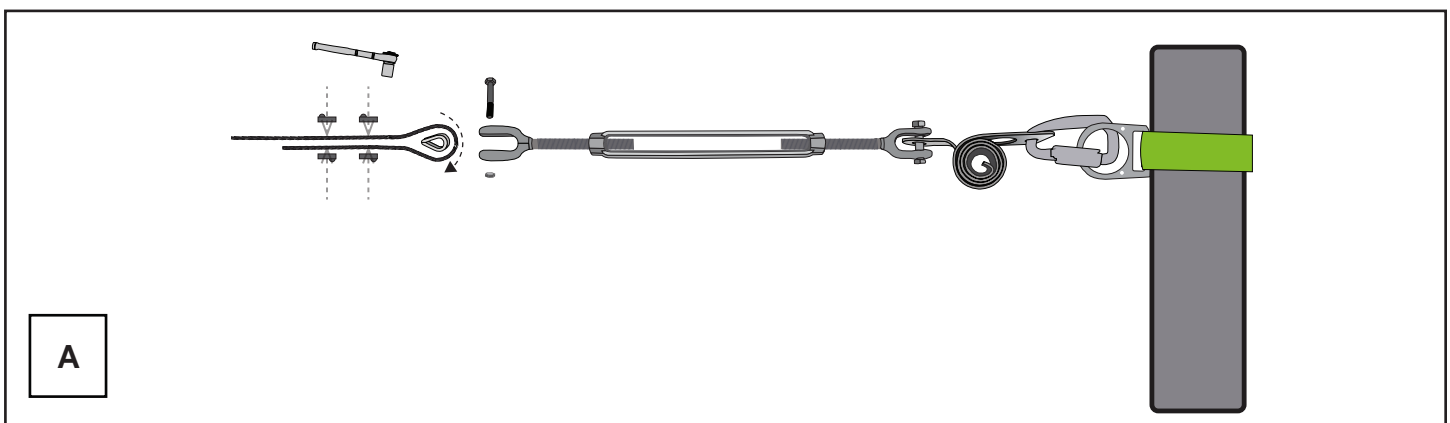
### Step 4. Attach Free End of Cable To Tensioner

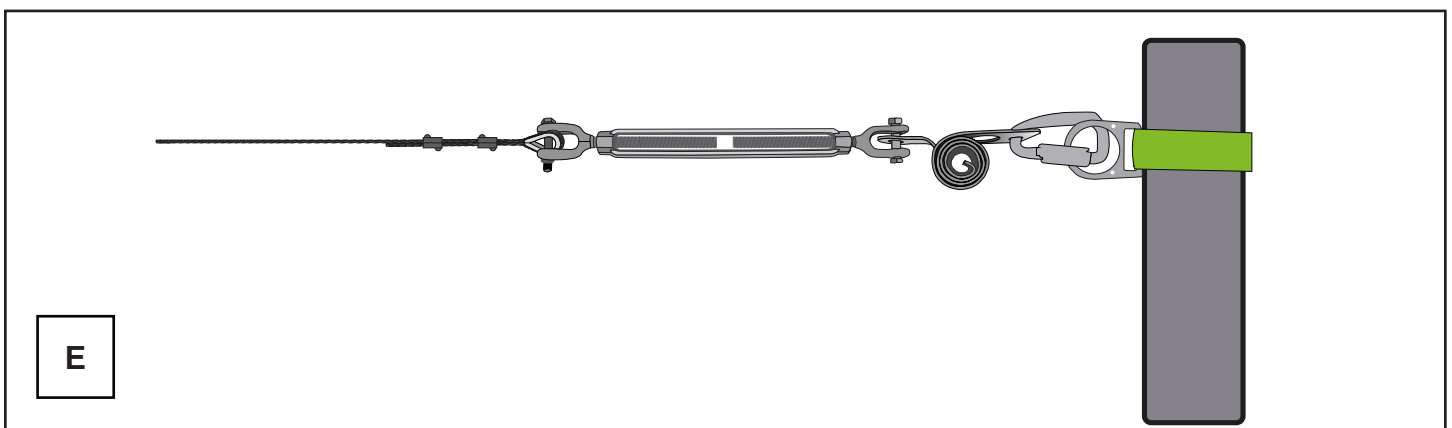
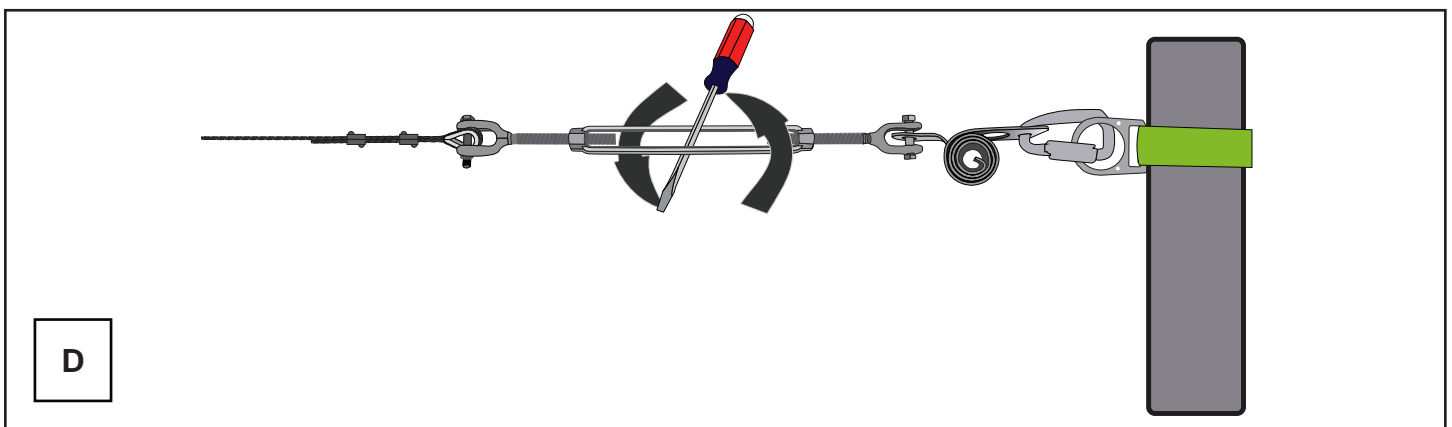
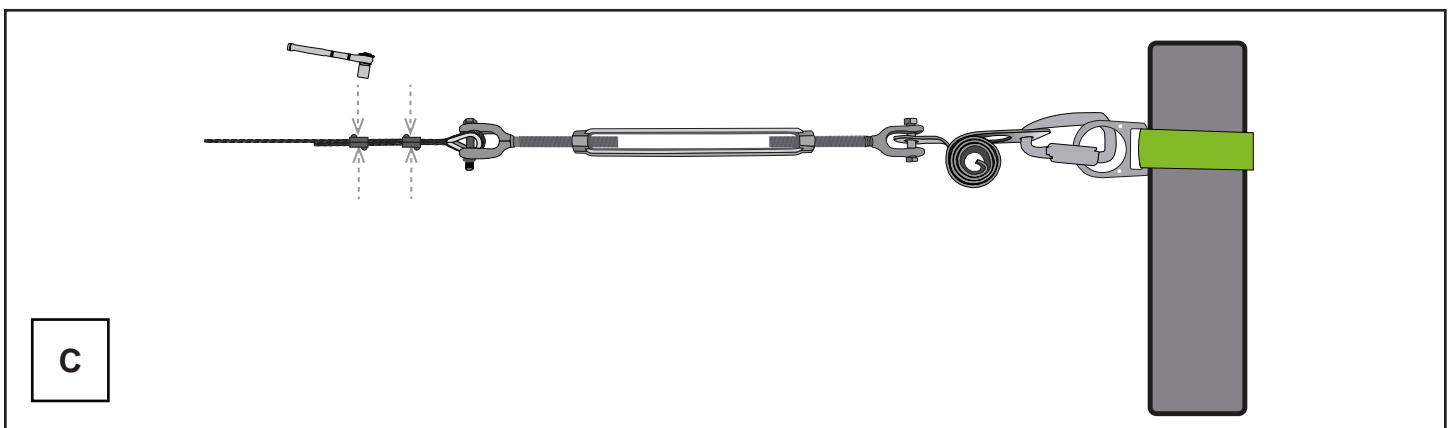
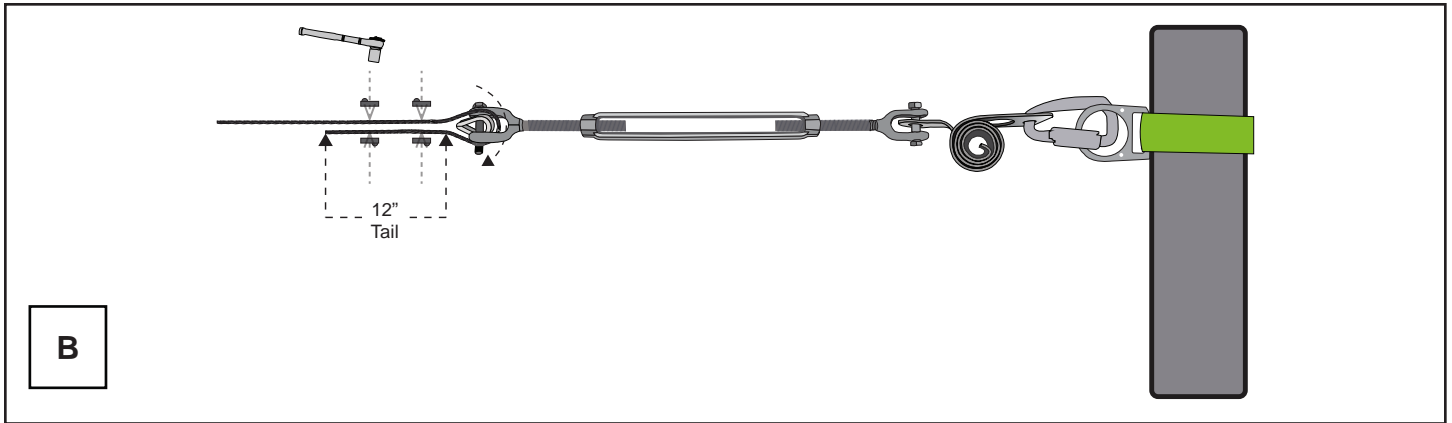
Determine the approximate span length of cable required. After determining the length needed, form a thimble attachment point on the free end of the cable. Remove the bolt from the clevis on the tensioner. Take the extra supplied thimble and form the cable in a loop using the thimble as a guide (See Figure 9A). Wrap the cable around the thimble ensuring there is a minimum 12" tail of cable to allow connection of the fist grips. Insert the thimble and cable loop into the open end of the clevis, and re-install the clevis bolt ensuring it is through the thimble (See Figure 9B). Remove excess slack from the system by hand and attach the free end of the cable back to itself using the supplied fist grips (See Figure 9B). Torque fist grips to 35 ft lbs. (See Figure 9C).

### Step 5. Tension the System

Insert a large screwdriver, bar, etc... into the gap between the threaded rods of the tensioner. This gap was created in Step 3 when extending the overall length of the tensioner. Rotate the body of the tensioner which draws the ends of the tensioner assembly towards the center of the unit, thereby tensioning the system (See Figure 9D & 9E). To determine proper tension of the system, refer to the HLL Sag Table (Figure 12, Page 18), and tension until proper sag is achieved.

**FIGURE 9 - TENSIONER OPERATION**



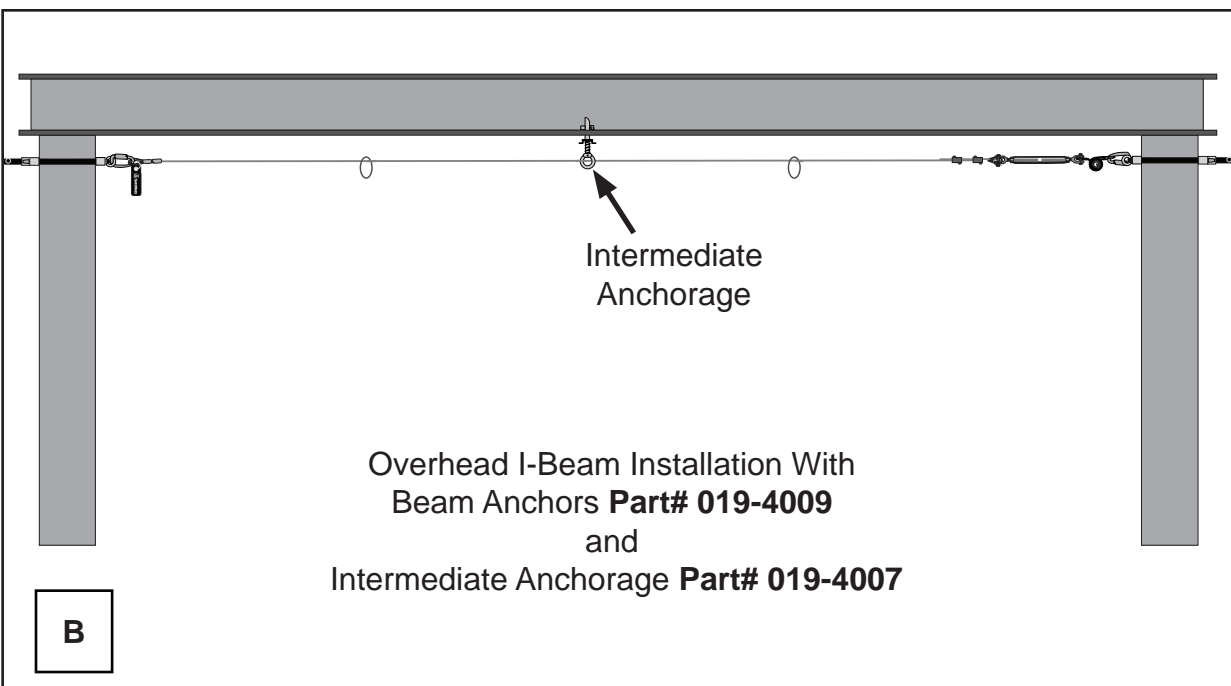
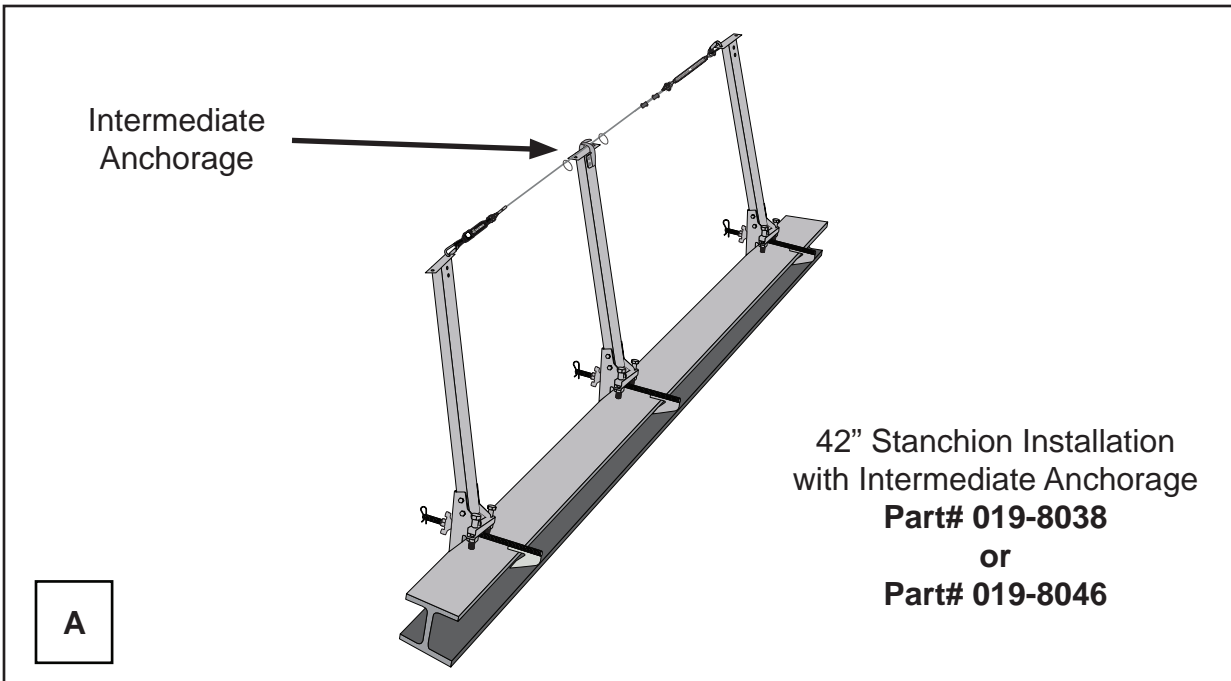




The SafeWaze Cable Horizontal Lifeline is designed for spans up to 100 ft. in length. However, any span over 60 ft. requires the use of an Intermediate Anchorage. The Intermediate Anchorage point can vary insofar as components used, as the setup / installation method determines what type of Intermediate Anchorage is required.

Figures 10 A and 10 B indicate some examples of Intermediate Anchorages that may be used with the Cable HLL system.

**FIGURE 10 - INTERMEDIATE ANCHORAGE**



If work operations are complete, work requires movement of HLL system to another location, or the system needs to be uninstalled, the lifeline tension will need to be released. To release the tension:

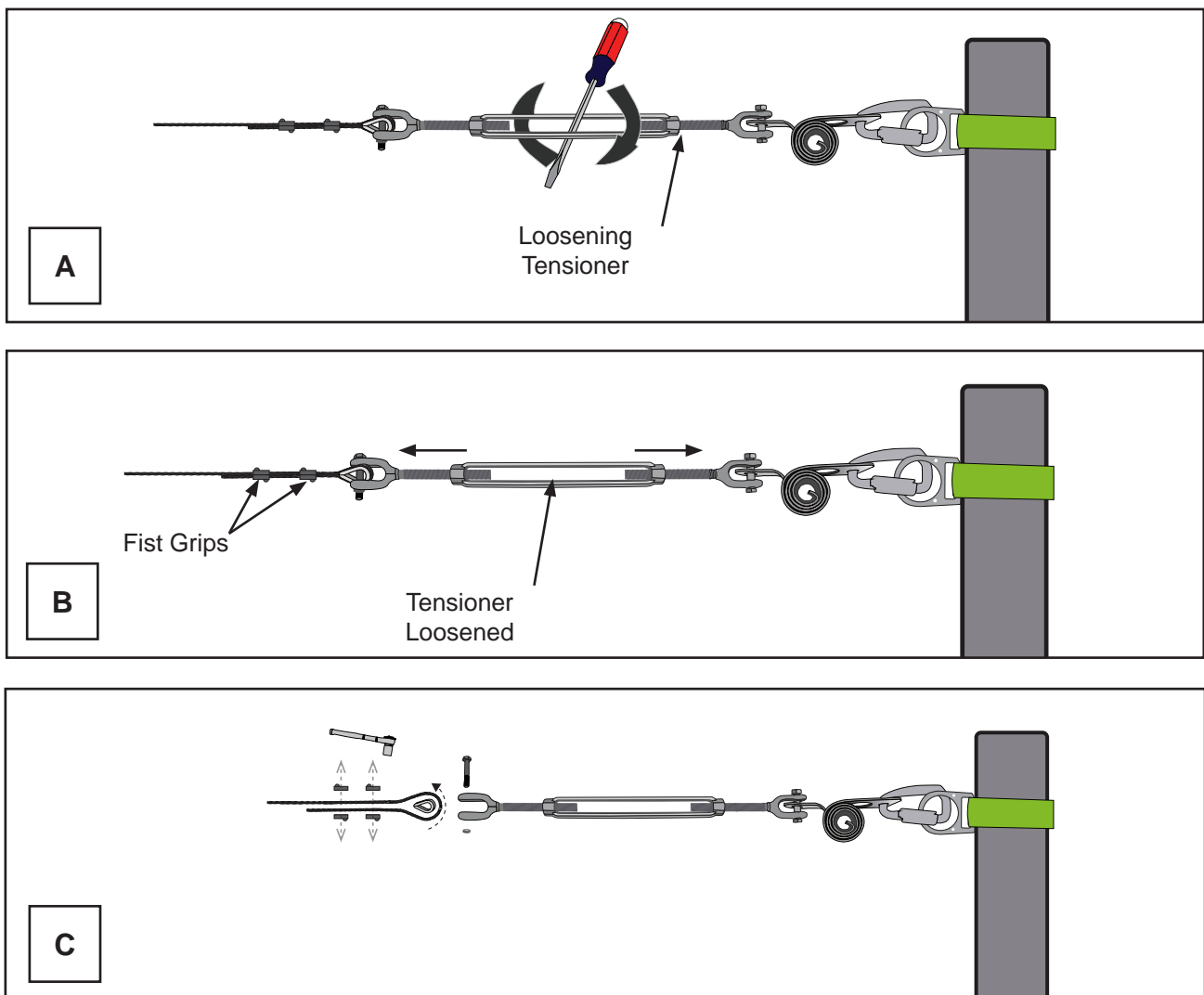
**Step 1.** Ensure all equipment (SRD's / Energy Absorbing Lanyards), and users are disconnected from the system prior to Step 2.

**Step 2.** Using a large screwdriver, rod, wrench, etc..., rotate the body of the tensioner which allows the tensioner to spread apart, thereby releasing tension on the system (See Figure 11 A).

**Step 3.** Once tension has been released as much as possible via the tensioner, loosen the fist grips on the cable to release remaining tension on the system (See Figure 11 B & 11 C).

**Step 4.** System can then be removed and reinstalled in a different location as necessary.

**FIGURE 11 - RELEASING LIFELINE TENSION**



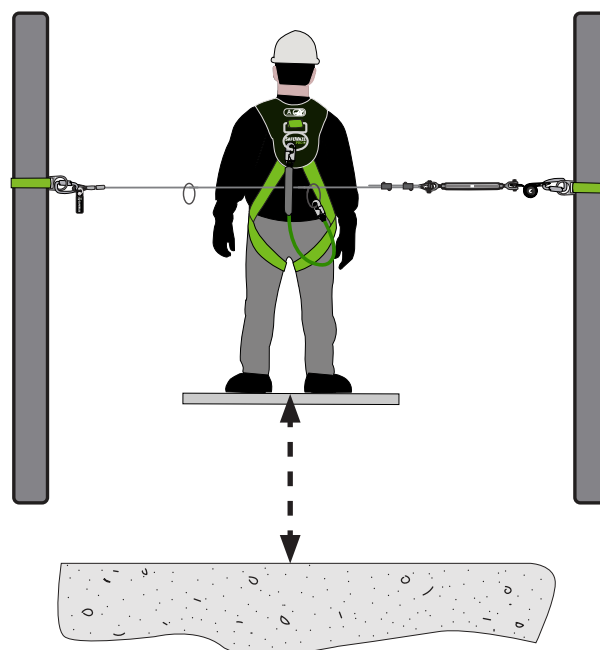
# 10.0 Fall Clearance Charts

**6 ft. Energy Absorbing Lanyard Fall Clearance Chart  
(1 User)  
420 lbs. Max Capacity**

**6 ft. Energy Absorbing Lanyard Fall Clearance Chart  
(2 Users)  
310 lbs. Max Capacity per User**

		Freefall Distance in Feet						
		0	1	2	3	4	5	6
Span Length in Feet (m)	0-30 (0-9.14)	15 (4.57)	16.0 (4.87)	17.0 (5.18)	18.0 (5.48)	19.0 (5.79)	20.0 (6.09)	21.0 (6.40)
	31-40 (9.44-12.20)	16.0 (4.87)	17.0 (5.18)	18.0 (5.48)	19.0 (5.79)	20.0 (6.09)	21.0 (6.40)	22.0 (6.70)
	41-50 (12.50-15.24)	17.0 (5.18)	18.0 (5.48)	19.0 (5.79)	20.0 (6.09)	21.0 (6.40)	22.0 (6.70)	23.0 (7.01)
	51-60 (15.54-18.28)	18.0 (5.48)	19.0 (5.79)	20.0 (6.09)	21.0 (6.40)	22.0 (6.70)	22.5 (6.85)	24.0 (7.31)
	61-70 (18.60-21.33)	18.5 (5.63)	19.5 (5.94)	20.5 (6.24)	21.5 (6.55)	22.5 (6.85)	23.5 (7.16)	24.5 (7.46)
	71-80 (21.64-24.38)	19.5 (5.94)	20.5 (6.24)	21.5 (6.55)	22.5 (6.85)	23.5 (7.16)	24.5 (7.46)	25.5 (7.77)
	81-90 (24.68-27.43)	20.0 (6.09)	21.0 (6.40)	22.0 (6.70)	23.0 (7.01)	24.0 (7.31)	25.0 (7.62)	26.0 (7.92)
	91-100 (27.73-30.48)	20.5 (6.24)	21.5 (6.55)	22.5 (6.85)	23.5 (7.16)	24.5 (7.46)	25.5 (7.77)	26.5 (8.07)

		Freefall Distance in Feet						
		0	1	2	3	4	5	6
Span Length in Feet (m)	0-30 (0-9.14)	17.0 (5.18)	18.0 (5.48)	19.0 (5.79)	20.0 (6.09)	21.0 (6.40)	22.0 (6.70)	23.0 (7.01)
	31-40 (9.44-12.20)	18.5 (5.63)	19.5 (5.94)	20.5 (6.24)	21.5 (6.55)	22.5 (6.85)	23.5 (7.16)	24.5 (7.46)
	41-50 (12.50-15.24)	19.5 (5.94)	20.5 (6.24)	21.5 (6.55)	22.5 (6.85)	23.5 (7.16)	24.5 (7.46)	25.5 (7.77)
	51-60 (15.54-18.28)	21.0 (6.40)	22.0 (6.70)	23.0 (7.01)	24.0 (7.31)	25.0 (7.62)	26.0 (7.92)	27.0 (8.22)
	61-70 (18.60-21.33)	22.5 (6.85)	23.5 (7.16)	24.5 (7.46)	25.5 (7.77)	26.5 (8.07)	27.5 (8.38)	28.5 (8.68)
	71-80 (21.64-24.38)	24.5 (7.46)	25.5 (7.77)	26.5 (8.07)	27.5 (8.38)	28.5 (8.68)	29.5 (8.99)	30.5 (9.29)
	81-90 (24.68-27.43)	26.0 (7.92)	27.0 (8.22)	28.0 (8.53)	29.0 (8.83)	30.0 (9.14)	31.0 (9.44)	32.0 (9.75)
	91-100 (27.73-30.48)	27.5 (8.38)	28.5 (8.68)	29.5 (8.99)	30.5 (9.29)	31.5 (9.60)	32.5 (9.90)	33.5 (10.21)



# 10.1 Fall Clearance Charts

**Overhead SRD Usage  
Fall Clearance Chart  
(1 To 2 Users)**

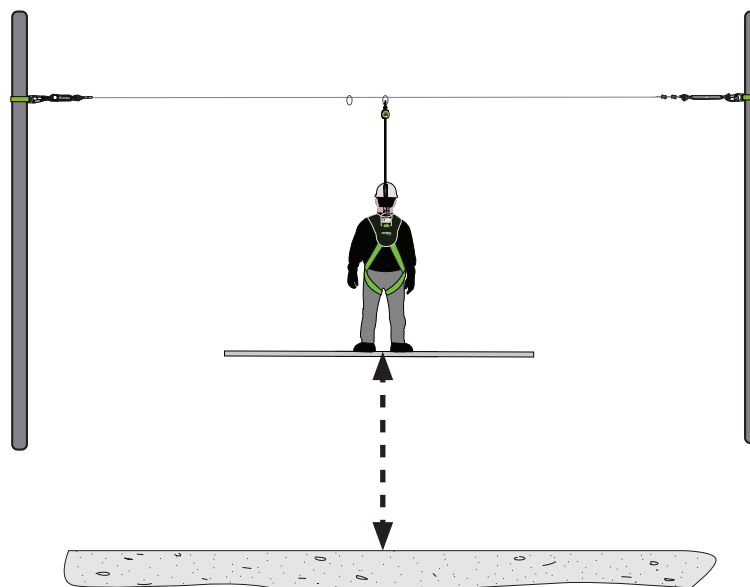
**Fall Clearance Chart  
Class A SRD**

SafeWaze Required Fall Clearance for Up to 2 Users Maximum Span 100 ft.		
Span Length In Feet (m)	Fall Clearance with SafeWaze SRD in Feet (m)	Fall Clearance with SafeWaze SRD in Feet (m)
	<b>ONE USER</b>	<b>TWO USERS</b>
0-30 (0-9.14)	10.5 (3.20)	12.5 (3.81)
31-40 (9.44-12.20)	11.5 (3.50)	14.0 (4.26)
41-50 (12.50-15.24)	12.0 (3.65)	15.0 (4.57)
51-60 (15.54-18.28)	13.0 (3.96)	16.5 (5.02)
61-70 (18.60-21.33)	14.0 (4.26)	18.0 (5.48)
71-80 (21.64-24.38)	15.0 (4.57)	20.0 (6.09)
81-90 (24.68-27.43)	15.5 (4.72)	22.0 (6.70)
91-100 (27.73-30.48)	16.5 (5.02)	24.0 (7.31)

**Fall Clearance Chart  
Class B SRD**

SafeWaze Required Fall Clearance for Up to 2 Users Maximum Span 100 ft.		
Span Length In Feet (m)	Fall Clearance with SafeWaze SRD in Feet (m)	Fall Clearance with SafeWaze SRD in Feet (m)
	<b>ONE USER</b>	<b>TWO USERS</b>
0-30 (0-9.14)	13.0 (3.96)	15.0 (4.57)
31-40 (9.44-12.20)	14.0 (4.26)	16.5 (5.02)
41-50 (12.50-15.24)	14.5 (4.41)	17.5 (5.33)
51-60 (15.54-18.28)	15.5 (4.72)	19.0 (5.79)
61-70 (18.60-21.33)	16.5 (5.02)	20.5 (6.24)
71-80 (21.64-24.38)	17.5 (5.33)	22.5 (6.85)
81-90 (24.68-27.43)	18.0 (5.48)	24.5 (7.46)
91-100 (27.73-30.48)	19.0 (5.79)	26.5 (8.07)

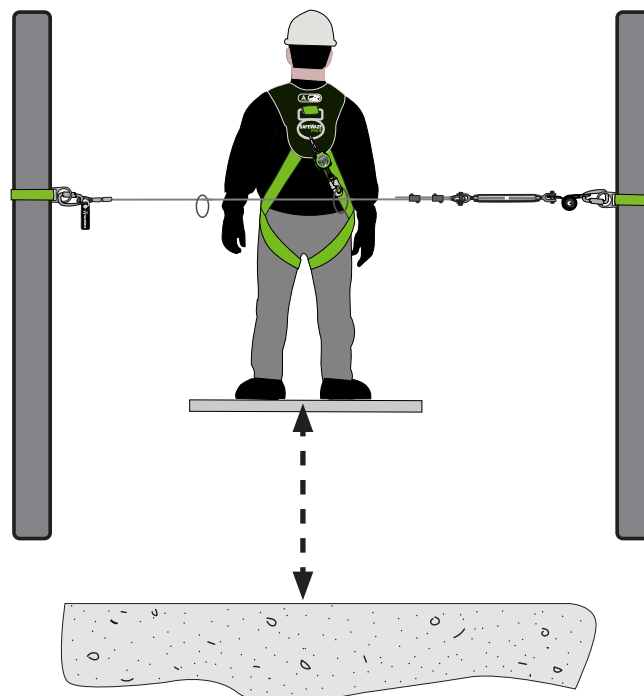
**\*\*THESE CLEARANCE CHARTS REQUIRE THAT THE SRD IS OVER THE HEAD OF THE WORKER WHEN ATTACHED TO THE HORIZONTAL LIFELINE**



## 10.2 Fall Clearance Charts

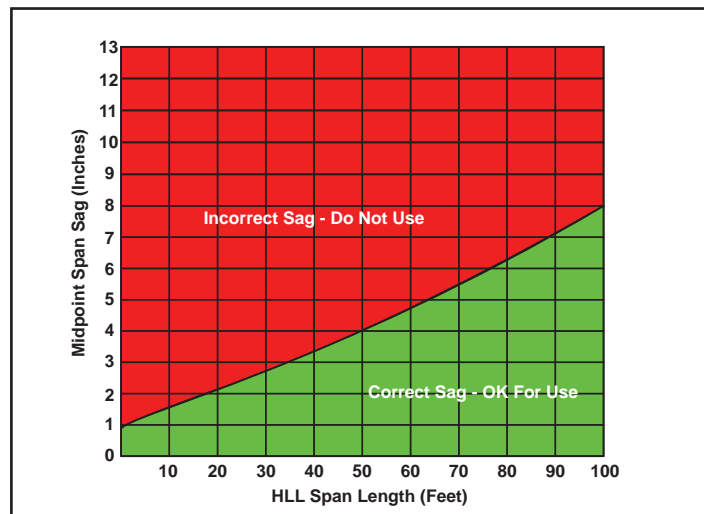
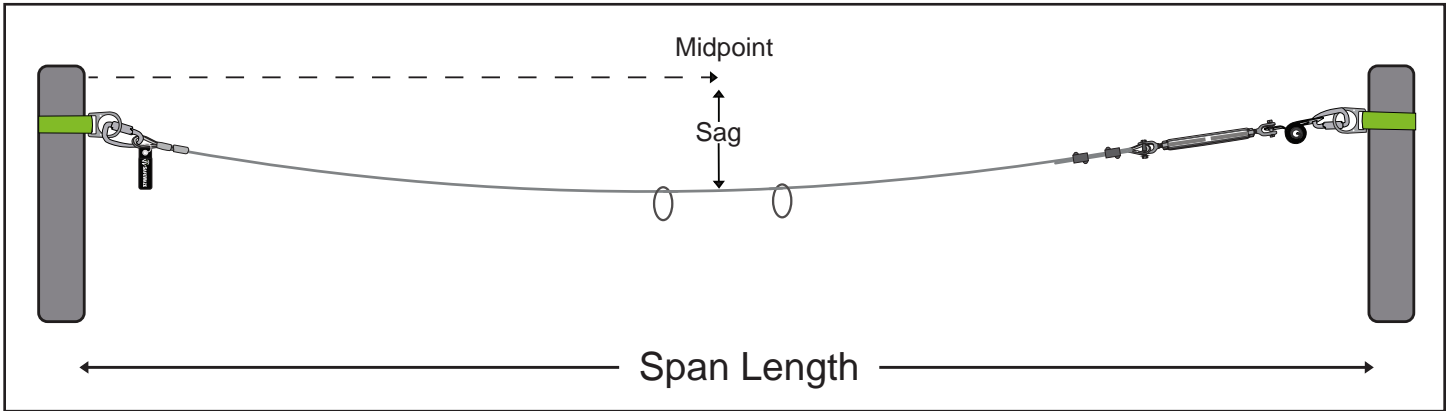
**Personal SRD Usage  
At or Below Dorsal D-ring Height  
Fall Clearance Chart  
(2 Users)**

		Freefall Distance in Feet					
		0	1	2	3	4	5
Span Length in Feet (m)	0-30 (0-9.14)	17 (5.18)	18.0 (5.48)	19.0 (5.79)	20.0 (6.09)	21.0 (6.40)	22.0 (6.70)
	31-40 (9.44-12.20)	18.5 (5.63)	19.5 (5.94)	20.5 (6.24)	21.5 (6.55)	22.5 (6.85)	23.5 (7.16)
	41-50 (12.50-15.24)	20.0 (6.09)	21.0 (6.40)	22.0 (6.70)	23.0 (7.01)	24.0 (7.31)	25.0 (7.62)
	51-60 (15.54-18.28)	21.5 (6.55)	22.5 (6.85)	23.5 (7.16)	24.5 (7.46)	25.5 (7.77)	26.5 (8.07)
	61-70 (18.60-21.33)	24.0 (7.31)	25.0 (7.62)	26.0 (7.92)	27.0 (8.22)	28.0 (8.53)	29.0 (8.83)
	71-80 (21.64-24.38)	25.5 (7.77)	26.5 (8.07)	27.5 (8.38)	28.5 (8.68)	29.5 (8.99)	30.5 (9.29)
	81-90 (24.68-27.43)	27.0 (8.22)	28.0 (8.53)	29.0 (8.83)	30.0 (9.14)	31.0 (9.44)	32.0 (9.75)
	91-100 (27.73-30.48)	29.0 (8.83)	30.0 (9.14)	31.0 (9.44)	32.0 (9.75)	33.0 (10.05)	34.0 (10.36)



# 11.0 HLL Sag Distances

**FIGURE 12 - HLL SAG DISTANCES**



Span Length (Feet)	Sag at Midpoint (Inches)
10'	.8"
20'	1.6"
30'	2.4"
40'	3.2"
50'	4.0"
60'	4.8"
70'	5.6"
80'	6.4"
90'	7.2"
100'	8.0"



## 12.0 Inspection and Maintenance

### Inspection

Inspect the Tensioner for corrosion and/or damage.

Inspect both the webbing of Cross Arm Straps (if being used) and for cuts, abrasions and contamination.

Check carabiners for proper operation, signs of corrosion, distortion or damage.

Inspect the cable for damage including but not limited to corrosion, welding spatter, birdcaging, kinks, broken strands, or chemical exposure

### Frequency

All components of the SafeWaze Cable Horizontal Lifeline must be inspected prior to each use, and annually by a “competent person” (other than the user), as defined by OSHA.

### Criteria

If inspection reveals any defect, inadequate maintenance, or unsafe condition, remove from service until a “qualified person” as defined by OSHA 1926.32(m) can determine the need for authorized repair or disposal.

### Maintenance

Any SafeWaze Cable Horizontal Lifeline components requiring maintenance must be tagged “unusable” and removed from service.

Cleaning maintenance may be performed by the user.

Repairs to the product may only be made by the manufacturer or entities authorized in writing by the manufacturer.

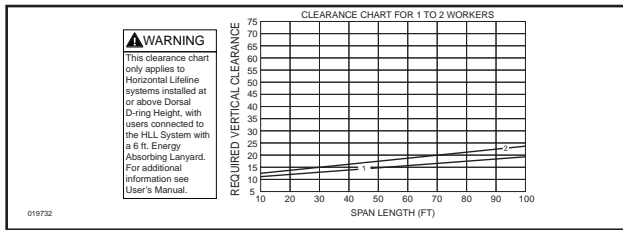
**THIS DEVICE MUST ONLY BE SERVICED BY A TRAINED AND COMPETENT INDIVIDUAL!  
NEVER ATTEMPT TO SERVICE THIS UNIT OR TAMPER WITH ITS FUNCTION IN ANY WAY!**

### Storage

When not installed, the SafeWaze Horizontal Lifeline should be stored in a cool, dry place out of direct sunlight. Do not store in areas where damage from environmental factors such as heat, light, excessive moisture, oil, chemicals and their vapors, or other degrading elements may be present. Do not store damaged equipment or equipment in need of maintenance in the same area as product approved for use. Equipment that has been stored for an extended period must be inspected as described in these User Instructions prior to use.



# 14.0 Labels



BARCODE

**30' GALVANIZED CABLE HORIZONTAL LIFELINE SYSTEM**

PART NUMBER: 019-8016 MFG DATE: XX/XX  
SERIAL NUMBER: XXXXXXXX  
WWW.SAFEWAZE.COM

019731

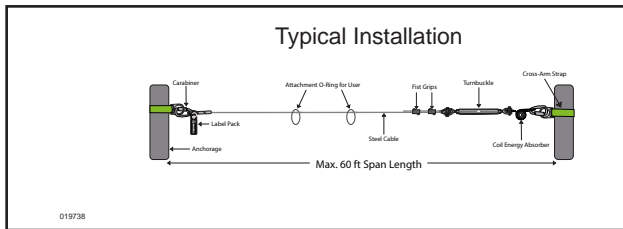
**WARNING**

Manufacturer's instructions supplied with this product at time of shipment must be read and understood prior to use. Ensure Horizontal Lifeline is installed at an elevations which will limit Free Falls to a maximum of 6 feet when using Energy Absorbing Lanyards, and installed overhead when using Self Retracting Lifelines. This equipment must be installed under the supervision of a Qualified Person. 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. Avoid contact with sharp and abrasive edges. Caution should be taken using this equipment near Hazardous Thermal, Electrical, or Chemical Sources. Equipment exposed to fall arrest forces should be immediately removed from service. Alteration or misuse of this product, or failure to follow instructions could lead to serious injury or death. **DO NOT REMOVE THIS LABEL.**

019702

**INSPECTION:** SYSTEM MUST BE INSPECTED PRIOR TO EACH USE TO DETERMINE IF IT IS IN GOOD WORKING CONDITION WITH ALL SYSTEM CONNECTIONS PROPERLY SECURED. THE SYSTEM SHOULD BE INSPECTED AT LEAST MONTHLY BY A COMPETENT PERSON OTHER THAN THE USER. IF INSPECTION REVEALS A DEFECTIVE OR UNSAFE CONDITION, THE SYSTEM MUST BE REMOVED FROM SERVICE. THIS SYSTEM IS NOT USER REPAIRABLE.

019703



**SPECIFICATIONS:** THIS HORIZONTAL LIFELINE SYSTEM IS DESIGNED FOR USE BY UP TO TWO WORKERS. MAXIMUM WEIGHT FOR EACH WORKER INCLUDING TOOLS AND EQUIPMENT IS 310 LBS.

**MATERIALS:** Cable: Galvanized Steel  
Tensioner / Turnbuckle: Galvanized Steel  
Anchor Straps: Polyester  
Hardware: Steel

THIS HLL SYSTEM MEETS OSHA REQUIREMENTS FOR FALL PROTECTION WHEN USED AS DEFINED IN THE USER'S MANUAL

019739

Inspection Log  
Do Not Remove Label

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

019704

Fall Arrest Systems Confined Space Engineering Rescue Systems

**COIL ENERGY ABSORBER**

019-8029

**WARNING**

THIS COIL ENERGY ABSORBER IS DESIGNED FOR USE AS PART OF A SAFEWAZE HORIZONTAL LIFELINE SYSTEM, OR AS A COMPONENT OF A HORIZONTAL LIFELINE SYSTEM WHICH MAINTAINS A SAFETY FACTOR OF AT LEAST TWO. SYSTEM MUST BE DESIGNED, INSTALLED AND USED UNDER THE SUPERVISION OF A QUALIFIED PERSON. USER SHOULD REFERENCE OSHA REGULATIONS. DO NOT USE AS A PERSONAL ENERGY ABSORBER. USER MUST FOLLOW MANUFACTURER'S INSTRUCTIONS SUPPLIED WITH THIS PRODUCT AT TIME OF SHIPMENT. MISUSE OF THIS PRODUCT OR FAILURE TO FOLLOW MANUFACTURER'S INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH!

**SPECIFICATIONS:**  
MATERIAL - STAINLESS STEEL  
MEETS OSHA 1926.502 AND 1910.140 REQUIREMENTS  
DYNAMIC PULLOUT LOAD - 2500 LBS.  
AVERAGE DYNAMIC PULLOUT LOAD - 2000 LBS.  
MAXIMUM PULLOUT - 45.5 INCHES  
ULTIMATE STRENGTH - 5000 LBS

SafeWaze.com  
322 Industrial Court  
Concord, NC 28025  
(800) 230-0319

01987x

WARRANTY



SafeWaze  
322 Industrail Court  
Concord, NC 28025

PHONE: 1-704-262-7893  
FAX: 1-704-262-9051  
EMAIL: [info@safewaze.com](mailto:info@safewaze.com)

Web: [safewaze.com](http://safewaze.com)