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INSTALLATION GUIDE  
**FIXED LIFELINE SYSTEMS**

THESE INSTRUCTIONS APPLY TO THE FOLLOWING MODEL:

USCLCXXX (XXX denotes Length)

**CE 0598**

Please read and understand the manufacturer's instructions for each component or part of the complete system. Manufacturer's instructions must be followed for proper use, care, and maintenance of this product. These instructions must be retained and be kept available for the user's reference at all times. Alterations or misuse of this product, or failure to follow instructions, may result in serious injury or death.

**Note:** The user is advised to keep this user instructions document for the life of the product.

**Warning:** The products enumerated in this instruction manual are a part of personal protective, work support, or rescue system. The user must read and follows the manufacturer's instructions for each component of the system. This manual contains information that is important to the user's safety and should be kept in a safe place for future reference as needed. Please contact KStrong for any questions regarding the use of this equipment. Fall arrest systems and equipment are lifesaving products and are designed to reduce the potential of serious injury in the event of a fall. However, in the event of a fall, the user may experience a force on their body. In case there is a doubt about the user's ability to utilize this product, the user must consult a physician. Pregnant women and minors are not considered fit for the use of this equipment..

If there are any questions or queries about installation, usage, inspection or maintenance our team would be Happy to Help. You may please contact us at [contact@kstrong.com](mailto:contact@kstrong.com)

**Disclaimer:** Illustrations may be changed without notice. All dimensions and specifications are approximate and drawings not to scale.

## 2. VERTICAL LIFE LINE SYSTEM

Ref: USCLCXXX (XXX denotes Length)



Shock Absorber  
Ref. UFF512000

- Material: Stainless Steel 316
- Limits the impact of force in the event of fall to less than 6 kN



Wire Rope (Cable Wire)

Ref. UFF518XXX (Where XXX is the Length of the wire rope in feet)

- Material: Stainless Steel 316
- Diameter:  $\varnothing$ 0.31 in. (8mm)
- Construction: 7x19

Intermediate  
Ref. UFF511500

- Material: Stainless Steel 316
- Recommended Installation- Every 32.8 ft. (10m)

Wire Rope Cap  
Ref. UFF513100

- Material: Aluminum Alloy

Inspection Plate  
Ref. UFF115100

Optional

Extension Arm (Finish-ED Coating Black) - Ref.: AFF516000



Mounting Bracket\*  
Ref. UFF511000

- Material: Stainless Steel 316
- Breaking Strength > 23 kN
- Complies with EN 795 Type A

Wire Crimping Assembly

Rope Grab  
Ref. UFG602050

- Material of Rope Grab: Stainless Steel 316
- Material of Carabiner: Alloy Steel
- Anti inversion mechanism

Set of 2 U-Bolts & 1 Thimble  
Ref. UFF513000

- U - Bolts: Qty - 2 nos. Material: Stainless Steel 316
- Thimble: Qty - 1 no. Material: Stainless Steel 316

Tensioner  
Ref. UFF514000

- Regulates tensioning of the cable. Equipped with a Tension Indicator
- Material: Stainless Steel 316.
- Quantity: 1 nos.

## CABLE TERMINATION

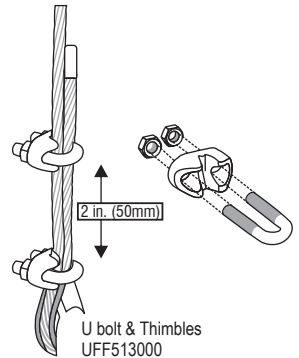
Ref: USCLCXXX (XXX denotes Length)

### STEP 1: CABLE TERMINATION

- A suitable cable termination may be selected according to the site condition, u-bolts and thimbles are only allowed at bottom termination according to EN353.1:2014

### STEP 2: U BOLT & THIMBLE

- Loop the Cable across the thimble and ensure at least 11.81 in. (300mm) of the cable is overlapping.
- Next, fasten the stainless steel U bolts (Part of Ref UFF513000) approximately 2 in. (50mm) apart.
- If the cable is in excess make a loop and tie the loop with cable ties.
- If it is necessary to cut the cable, insert aluminum cap in the free end of wire rope and crimp it.



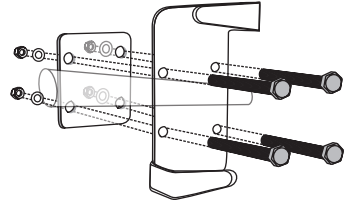
## INTERMEDIATE & TENSIONER

Ref: USCLCXXX (XXX denotes Length)

The intermediate reduces large deflections in the cable due to wind pressure.

### STEP 3: INSTALLATION OF THE INTERMEDIATE: Ref. UFF511500

- Place fisher plate of the Intermediate on the back of ladder rung. Fasten the Intermediate Plate with the fisher plate with help of given fasteners. Ensure that the cable is in between the two arms of intermediate. It is recommended to install an Intermediate at an interval of every 32.8 ft. (10m) length of the Cable.



### STEP 4: INSTALLATION OF THE TENSIONER: REF UFF514000

- The Tensioner is installed at the lower end of the system.
- Open the threads of extension rod of the tensioner from both ends. Ensure that 75% of the thread is open.
- Insert the eye of tensioner to the mounting bracket at the lower ladder rung.
- Insert the stainless steel locking pin so as to pass through the eye of the tensioner and the mounting brackets.
- Insert the pin ring in the locking pin to lock it.

#### FIX THE TENSIONER TO THE WIRE ROPE:

- Fix the thimble (part of Ref UFF513000) to the eye of the tensioner by the given fastener.
- Loop the Cable across the thimble and ensure at least 11.81 in. (300mm) of the cable is overlapping.
- Next, fasten the stainless steel U bolts (part of Ref UFF513000) approximately 2 in. (50mm) apart.
- If the cable is in excess make a loop and tie the loop with cable ties.
- If it is necessary to cut the cable, insert aluminum cap in the free end of wire rope and crimp it.

#### PROVIDING TENSION TO THE WIRE ROPE:

- Open both the chuck nuts and hold the tensioner eye.
- Insert a steel rod in the housing of the tensioner and rotate the tensioner in anti clockwise direction.
- Rotate it until reasonable tension is achieved in the cable and the tension indicator disc is free to rotate.
- Tighten both the chuck nuts.



## SHOCK ABSORBER & CABLE TERMINATION

Ref: USCLCXXX (XXX denotes Length)

### STEP 5: INSTALLATION OF SHOCK ABSORBER

- Connect the shock absorber to top mounting bracket by inserting the fastener and the nylon spacer so as to pass through mounting bracket and eye of energy absorber.
- The spacer ensure the correct position of energy absorber.
- Ensure that the energy absorber is fitted with red arrow on label pointing down wards.
- Connect the end extremity to energy absorber by inserting fastener through eye of energy absorber.



### STEP 6: CABLE TERMINATION

- A suitable cable termination may be selected according to the site condition, u-bolts and thimbles are only allowed at bottom termination according to EN 353.1:2014

## EXTENSION ARM

Ref: USCLCXXX (XXX denotes Length)

### STEP 7: INSTALLATION OF THE EXTENSION ARM: Ref. UFF516000

If the System has been provided with the Extension Arm, this shall be installed in place of Upper Mounting Bracket as in step:

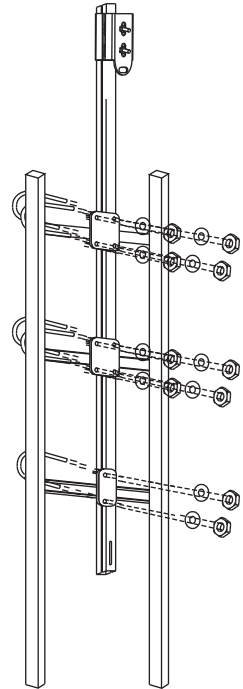
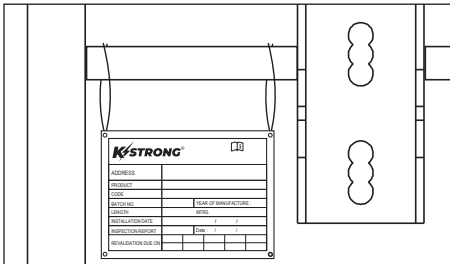
- The Extension Arm is provided pre-installed with the Mounting Bracket for the Upper end of the system.

Follow The Simple Steps For Easy Installation-top Rung

- Hold the extension arm against the upper last three rungs of the ladder.
- Hold the fisher plate in front of the extension arm.
- Insert the given U- bolts through the rung in to the fisher plate. Tighten the nuts of the U-bolts
- Repeat the exercise for the Second Rung from the top.
- On the third rung of the ladder, from the top Insert the given U-bolt through the ladder rung in to the slot so as to pass through the extension arm tighten the nuts of the U-Bolt.

### STEP 8: LABEL UFF115100

- The Label is fixed to the lower most rung of the ladder using cable ties.



## FALL ARRESTER

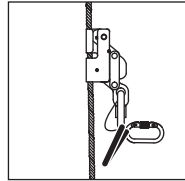
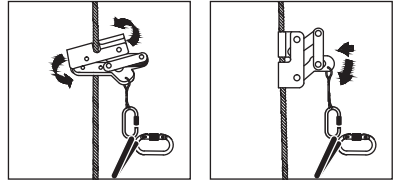
Ref: USCLCXXX (XXX denotes Length)

### STEP 9: INSTALLATION OF THE ROPE GRAB:

Ref. UFG602050

Connect Rope Grab to the Cable following the given simple steps:

- Hold the Rope Grab as shown in the figure.
- Push the Rope Grab through the cable and rotate it counter clockwise.
- Ensure the arrow on Rope Grab points up wards.
- Insert the carabiner of the shock absorbing lanyard UFG602050 in the eye of the Rope Grab.
- Connect the other end of the shock absorbing lanyard to the harness of the user by the other carabiner.



### STEP 10: CONNECT THE HARNESS TO THE ROPE GRAB

- Check the harness that all the straps are connected and buckles are secured and the harness has been adjusted to give it a snug fit.
- Connect the Rope Grab to the front attachment point of the full body harness with the help of the carabiner of the connecting lanyard.
- Ensure that the gate of the carabiner is closed and locked properly.



### RECOMMENDED PPE





### 3. PRE-USE CHECKS

#### Checks and Precautions

- **Post Installation Inspection**
  - Once installed, it is important to inspect the complete line by moving the entire length of life line.
  - On site testing of the receiving structure may be provided at an extra cost.
- **Pre Use-check Guidelines**
  - It is mandatory for the Site Inspector/ Supervisor and the actual users of the system to perform a thorough check of the same before carrying out work. KStrong conducts a brief training of all concerned personnel on the subject of Pre-Use Inspection of the System as per a defined guideline after the system has been installed by KStrong personnel.
- **Checking the Receiving Structure**
  - Do not use the system if receiving structure is found weak.
- **Checking the System**
  - Check any sag in the system.
  - Check any deployment in the shock absorber.
  - Check the lock nuts of tensioner.
  - Check the proper working and condition of PPE.
  - Clean the system from dust/dirt. Check for any mechanical defects.
  - Check for wear and tear in all components or unusual bending or deformation.
  - Check for any modifications done by the user.
  - Check for any missing component.
  - Check for any damages that may have been caused due to welding while maintenance of other equipment.
  - Check the Identification Plate. The system needs to be put out of service if the label is not legible or missing.
- **Checking the Cable**
  - See that there is sufficient tension on the cable by checking the tension indicator in the shock absorber.
  - Check the condition of the cable. Wear hand gloves and check the wire from all sides. Check for broken strands or any deformity in the cable. Report if strands are found broken.

## 4. PRECAUTIONS WHILE USING

### Precautions While Using The System

- **The Following Points of Precautions Needs to Be Considered for Safe Use of the Fixed Line Systems**
  - The life line is for the purpose of fall protection while working at height. A back up fall arrest system is required when transitioning on and off the life line system .
  - Never disengage the fall arresting lanyard from the life line while working at height.
  - Avoid using grease to lubricate the system. If any fall is reported put the system out of use. Contact the manufacturer for repairs and re-validation.
  - Only certified KStrong full body harness with proper attachment anchorage points should be worn while using KStrong Fixed Line Systems.
  - Do not alter or misuse this equipment. Always take an advice from KStrong personnel while using this equipment in combination with components or subsystems other than those described in this manual. Usage of certain component/sub system may interfere with the proper functioning of this equipment and the system may not deliver the working as per its intended use. In such case KStrong may not be held responsible for any malfunction.
  - The lifelines must be kept free from dust, grease etc., by periodic cleaning. The system can be cleaned by a soft dry cloth.
- **Hazards**
  - Hazards existing in immediate environment may require additional precautions to limit the possibility of injury to the user or damage to the equipment. Hazards may include but are not limited to, extreme temperatures, caustic chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, sharp edges, high velocity winds Etc. Do not expose the equipment to any hazard for which it is not designed to withstand. Consult the manufacturer if in doubt.
- **Rescue Plan**
  - It is mandatory to ensure that the user shall have a rescue plan and means to execute it while using this equipment. The rescue plan needs to be project specific. The employees must be trained in self-rescue or alternative means shall be provided for prompt rescue in an event of a fall.
  - Always work in a pair to ensure that in an event of a fall your partner may help in rescue

### WARNINGS:

- Ensure the Medical condition of the user does not affect his safety in normal and emergency use.
- The equipment shall only be used by a person trained and competent in its safe use.
- A rescue plan shall be in place to deal with any emergencies that could arise during the work.
- Ensure that the anchor is installed directly above the user's head.
- It is essential to verify free space required beneath the user at work place before each occasion of use so that in case of a fall there will be no collision with ground or other obstacle in the fall path.
- Do not make any alterations or additions to the equipment without the manufacturer's prior written consent and that any repair shall only be carried out by personnel trained by the manufacturer & duly authorized by him.
- The equipment shall not be used outside its limitation, or for any purpose other than that for which it is intended.
- It should be the personal property of its user.
- Ensure that the equipment is compatible with other items when assembled into a system.
- It is important to check before use, any dangers that may arise by the use of combinations of items of the equipment in which the safe function of any one item is affected by or interferes with the safe function of another
- Carry out a pre-use check of the connectors, to ensure that it is in a serviceable condition and operates correctly before it is used. connectors should not have any cracks, deformation, damages or rusts and gate , lock should be moved freely.
- It is essential for the safety of the user that if the product is re-sold outside the original country of destination the reseller shall provide instructions for use, maintenance, periodic examination and for repair in the language of the country in which the product is to be used.
- Full body harness is the only acceptable body holding devices that can be used in a fall arrest system.



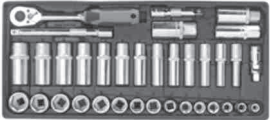




## 5. KStrong Compass™ App

Introducing KStrong Compass™, the fall protection industry's first "free at your fingertips" mobile application for fall protection equipment asset management. KStrong Compass™ is a cloud-based software app which relieves the user from a mountain of paper records. The unique AIR system (Automated Inspection Reminder system) reminds a user of a pending competent person inspection that is required to minimize accidents that may happen due to equipment that has not been properly inspected.

The KStrong Compass™ user management system allows equipment to be issued to individuals, thus ensuring accountability towards the upkeep of the equipment. The mobile app provides each user vital information on inspection and periodic maintenance needs and helps in increasing the life of the equipment. Using KStrong Compass™ is a wise decision to cut down costs on PPE.



**6. TOOLS**

 <p><b>RING SPANNER</b></p>	 <p><b>DOUBLE END SPANNER</b></p>	 <p><b>SOCKET SET</b></p>	
 <p><b>TENSIONER TIGHTENING TOOL</b></p>	 <p><b>CRIMPING PLIER</b></p>	 <p><b>BOLT CUTTER</b></p>	 <p><b>ALLEN KEY</b></p>

**MACHINES**

 <p><b>CORDLESS DRILL MACHINE</b></p>	 <p><b>HAMMER DRILL MACHINE</b></p>	 <p><b>CORDLESS IMPACT WRINCH</b></p>	 <p><b>HYDRA JAWS LIFELINE TESTING</b></p>
 <p><b>SWAGING TOOL</b></p>	 <p><b>HYDRAULIC CRIMPING HEAD</b></p>	 <p><b>POWER BIRD RIVETING MACHINE</b></p>	

**ANCHORS**

## MEASURING TOOLS

					
TAPE	DETECTOR	DIGITAL TORQUE WRENCH	DISTANCE METER	LASER TOOL	VERNIER

## CONSUMABLES, MISCELLANEOUS TOOLS

						
DUST PUMP	HOLE SAW CUTTER	HOT AIR GUN	SETTING TOOL	PAINT BRUSH	DRILL BIT	IMPACT DRILL
						
BLOWER	CHEMICAL APPLICATOR					

WRENCH SIZE					
Hex Bolt	6	8	10	12	16
Wrench Size	10	13	16	19	24
Socket Size	10	13	16	19	24

ALLEN KEY SIZE				
Allen Bolt Size	6	8	10	12
Allen Key Size	4	6	8	10
Allen Grub Screw Key Size	3	4	5	6

## 7. TORQUE CHART

CHART						
Bolt size	6 mm	8 mm	10 mm	12 mm	14 mm	16 mm
Recommended Torque:	9 Nm	22 Nm	29 Nm	50 Nm	80 Nm	125 Nm

**LIFESPAN:** The estimated product Lifespan is 10 years from the date of manufacture. The following factors can reduce the Lifespan of the product: intense use, contact with chemical substances, specially aggressive environments, extreme temperature exposure, UV exposure, abrasions, cuts, violent impacts, bad use or maintenance.

**DISCLAIMER:** Prior to use, the end user must read and understand the manufacturer's instructions supplied with this product at the time of shipment and seek training from their employer's trained personnel on the proper usage of the product. Manufacturer is not liable or responsible for any loss, damage or injury caused or incurred by any person on grounds of improper usage or installation of this product.

<b>EQUIPMENT RECORD</b>				
Product				
Model & type/Identification		Trade Name	Identification number	
Manufacturer		Address	Tel, email into use	
Year of manufacture		Purchase Date	Date first put into use	
Other relevant information (eg. document number)				
<b>PERIODIC EXAMINATION AND REPAIR HISTORY</b>				
Date	Reason for entry (periodic examination or repair)	Defects noted, repairs carried out and other relevant information	Name and signature of competent person	Periodic examination next due date







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