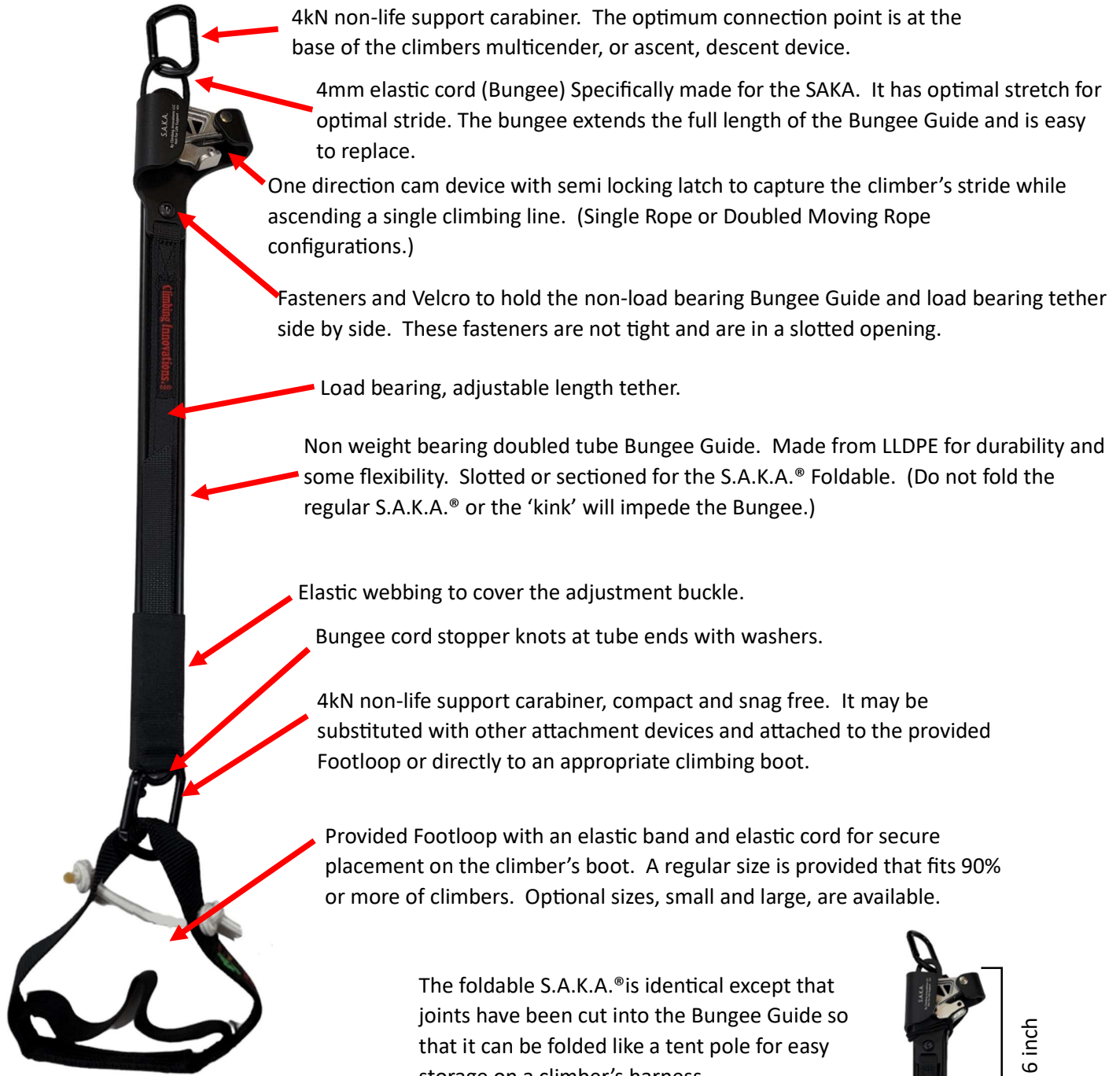




Failure to comply with any of these warnings may result in severe injury or death.

Patents granted  
US11617922  
US10052521  
US11273345

### Explanation of parts



# S.A.K.A.® (Self Advancing Knee Ascender) by Climbing Innovations LLC

The patented S.A.K.A.® is a unique device in rope access, it is the only one of its kind that can draw sufficient rebound Bungee (elastic cord) directly from the top of the ascender and provides for adjustment in the length of the climber's stride. This allows the entire rope walking system to remain below and out of the way of any life support connections or devices. Clean and uncluttered rope connections and areas will add to safe rope access.





Rope access is a high-risk and physically very demanding activity. The S.A.K.A.® makes these activities more efficient and lowers the risk when proper precautions are followed.


These instructions, warnings, cautions and helpful hints cannot cover all techniques and potential applications.

Rope walking is not a natural thing to do, in fact, we must overcome things we have learned since our first steps. No longer are our feet used for balance. Our feet must now follow the direction of the rope simply moving up and down to provide the vertical movement required to ascend the rope. No longer are we using our feet for forward motion, again, straight up and down the rope with smooth deliberate and comfortable steps wins the race. No riding a bicycle, no circular motions forward or backwards, simply straight up and down the rope. It is a difficult technique to master, especially if one tries to 'run' before they have learned to walk properly up a rope. Watch the tail of the rope as a climber ascends, it will tell you how efficient their technique is.


## General information and field of use.


 The instructions below explain common ways of using a knee ascender for rope walking, but it is impossible to describe or foresee every possible variant. Check at [www.ClimbingInnovations.com](http://www.ClimbingInnovations.com) for updates, additional information and inquiries. It is your responsibility to use this equipment correctly and inspect prior to each use.


 The floating knee ascender, when used in conjunction with a foot ascender allows a climber to simply walk up a rope taking steps and strides with each foot. The knee and foot ascender must be used with an appropriate life support device to prevent falls from height. The S.A.K.A.® and family of rope walking products are NOT life support or PPE products and should not be used as such.

 The floating knee ascender provides the most efficient ascent on rope as it allows the use of all available leg muscles and keeps the climber upright. If an ascender is simply attached to the knee, simple body mechanics prohibit the use of the largest muscles in the leg and the knee location tends to push the climber back and away from the climbing line.


## Helpful Information using the S.A.K.A.® Knee Ascender.


 Stay upright as much as possible to lessen the strain on the arms and let the legs do the lifting.


 The channel of the ascender should follow in the direction of the rope. This will generally leave the feet pointing directly away from the rope and perpendicular to the travel of the foot as it ascends the rope. For this reason, foot and knee ascenders may be used on either foot/leg.


 The S.A.K.A.® allows for a totally hands-free ascent, allowing a climber to grasp the rope, tree structure or


anything else within reach. In fact, when climbing a structure like a tree, if one can have their toes and hands touching the structure, an instant efficiency can be realized.


 Consider these limits when rope walking; The foot ascender goes to the bottom of the knee ascender and the knee ascender goes to the bottom of the PPE climbing device or multicenter. The S.A.K.A.® allows an adjustable stride and keeps ALL the movement below and free of the PPE climbing device.

 The S.A.K.A.® comes with an approximate 17 inches (43 cm) of stride. Most climbers find this to be a comfortable maximum stride but depending on the needs of the climber, this can be adjusted. Think of stairs that commonly have about 14-15 inches (35-39 cm) of stride. Find your own comfort zone.


 The teeth on the cam are pointed and reasonably sharp as the cam must engage the rope under weight already applied to the climbing line by the climber standing on a foot ascender. To avoid 'picking' (rope fibers being displaced from the manufactured weave) the rope, all weight must be released from the cam to disengage the cam and remove the climbing line.

 Although not life support PPE, the S.A.K.A.® and Footie (foot ascender) may provide backup to a failed multicenter that has not properly engaged the climbing line.

 The S.A.K.A.® family of knee ascenders and Climbing Innovations LLC foot ascenders are compatible with and independent from the climbers chosen life support devices. Care should be taken to maintain this independence when choosing a connection point for the Bungee cord.


 For maximum efficiency and comfort follow these guidelines.

- Adjust the length of the tether using the provided buckle to place the ascender in a clear area between the legs. Most climbers find the provided length will provide a comfortable stride with no adjustment necessary. Be sure to re-secure the buckle. It is not necessary to trim or shorten the bungee guide.
- Keep the Bungee attachment low and clear of the chest area. The installed Bungee should be adequate but additional Bungee is provided for alternate configurations.
- Take comfortable steps, small choppy or large steps will not be efficient.

 An extra wire gate carabiner may be added for those that prefer it over the smaller 4kN (900 pounds) carabiner. The 4kN carabiner breaks at about 1,000-1,500 pounds from the tests that have been performed. If a climber's pants leg or anything prevents the gate from being properly closed it will start to bend at about 200 pounds and break at approximately 400 pounds.


## Cautions





 Activities involving the use of this equipment are inherently high risk or dangerous. You are responsible for your own actions, use of this equipment and the decisions made.


- Read and understand these instructions.
- Understand the risks involved with activities at height. Gravity is quick and unforgiving.
- Acquaint yourself with the capabilities and limitations of using this device.
- You must be trained on the proper use of this device.

- Health or physical disabilities need to be addressed by medical experts to ascertain if it is safe to use this equipment.

 To avoid a painful pinch, do not place fingers inside the ascender or under the path of the rope cam.


 If the Bungee is extended ABOVE the lower attachment point of the climber's PPE multicender or life support connections, be certain that the working or failed Bungee cannot adversely impact those devices. One of the main advantages to this patented design is that all attachments and knee ascender functions will take place below and free of our life support climbing devices.

 Proper technique dictates that the leg and foot attached to the knee ascender is near and in alignment to the rope or climbing line. Failure to maintain this position may result in the ascender failing to engage on the rope causing unexpected slippage. This is similar to missing a step when climbing a flight of stairs.

 When cutting or trimming bungee cord, use a hot knife or lighter to melt the ends to help prevent the special cord from unraveling. Do this in a well-ventilated area.


## Warnings




 Before using an ascender at height that has a 'one way cam,' become proficient at being able to open the latch, if required and releasing the load on the cam so that it may move freely away from the rope. This is the only way that the ascender can be released from the rope allowing the climber to descend. Being stuck on rope for extended periods of time may lead to injury or death.

## Inspection and Maintenance

 Before each use check the condition of textile parts and stitching for wear or damage.

 Before each use check the condition of the ascender, the cam should move freely with the spring in place. Clean and lubricate (a drop of 3 in 1 oil) moving parts as needed. Check the teeth on the ascender for wear. At some point after sliding across thousands of feet of rope, the points will become dull and fail to engage the rope. Contact Climbing Innovations LLC for repair or replacement. It is impossible to predict this wear with all the variations of rope and climbing conditions encountered.

 Check the orientation fasteners holding the textile near the ascender. These screws are not tight but should be present.

# CLIMB SAFE

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