



Quality Gear for Life



# Rescue StayK<sup>®</sup>

Anchor  
&

Load Equalizing Anchor System

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# WARNING

- ◇ YOU COULD BE KILLED OR SERIOUSLY INJURED IF YOU DO NOT READ AND UNDERSTAND THE USER INFORMATION BEFORE USING THIS PIECE OF EQUIPMENT
- ◇ SPECIAL TRAINING AND KNOWLEDGE ARE REQUIRED TO USE THIS EQUIPMENT
- ◇ YOU MUST THOROUGHLY READ AND UNDERSTAND ALL MANUFACTURER'S INSTRUCTIONS BEFORE USE.
- ◇ USE AND INSPECT THIS EQUIPMENT ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS
- ◇ SYSTEM STRENGTH IS DEPENDENT ON SOIL COMPOSITION, CONDITIONS, AND RESCUE STAYK PLACEMENT. SOIL CONDITIONS VARY WIDELY AND IT IS THE USER'S RESPONSIBILITY TO KNOW AND UNDERSTAND HOW THESE CONDITIONS WILL AFFECT THE SUITABILITY OF THEIR SYSTEM. PROPER TRAINING AND PRACTICE IS REQUIRE TO USE THIS PRODUCT.

StayK

Tubular Pin

U-Bolt

Nyloc Nut

Upper Connection Point

Rotation Blocks

Upper Rotation Sleeve

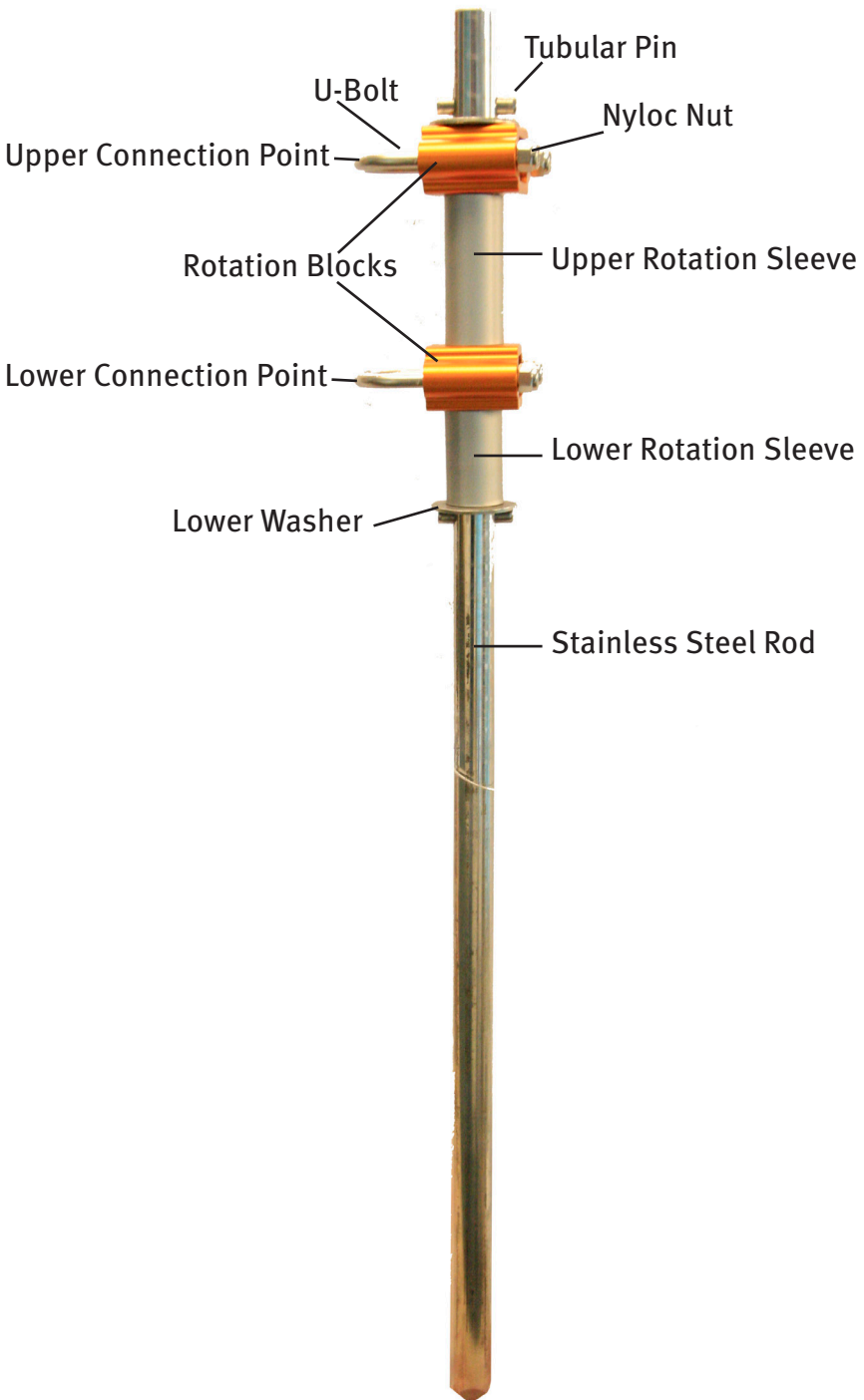
Lower Connection Point

Lower Rotation Sleeve

Lower Washer

Stainless Steel Rod

Spike




## SMC Rescue StayK® Anchor

Ground stakes made from unknown grades of pipe, rebar or scrap iron are risky at best, yet they are extremely common in rope rescue. The SMC Rescue StayK is an engineered solution to the ground stake problem. Our Rescue StayK system is versatile, accommodating, and by far the most effective, efficient, and reliable system available today.

- ◇ The SMC Rescue StayK is constructed from stainless steel and anodized aluminum for long life and durability.
- ◇ Clip points rotate without sliding up or down the stake so rigging remains securely placed even when anchors shift.
- ◇ The combination of rotating clip points and rotating sleeves allow the SMC Rescue StayK to be configured as a load equalizing rescue anchor system with the ability to self-equalize and distribute the rescue load equally throughout the system. This system provides the maximum system strength even when a StayK may shift due to poor ground conditions.
- ◇ Once installed the SMC Rescue StayK System can be divided into multiple safety systems.
- ◇ The StayK's engineered solution with secure attachment points also make many well known rigging methods more safe and reliable.

### COMPONENTS AND ASSEMBLY

- StayK - main component of the StayK is a 1" diameter stainless steel rod with one pointed and one flat end.
- Driving Cap - provides broad surface area to aid driving and extends the life of the StayK by keeping the top from mushrooming and splitting.
- Orange Rotation Blocks – when fitted with U-bolts, the rotation blocks serve as the 2 main connection points.
  - Attach U-bolts by inserting them through holes provided in Rotation Block and then installing nuts. Tighten nuts until end of bolt protrudes. Gear may be attached directly to U-Bolts or clipped via carabiner. U-bolts are a custom size which allows enough room to attach typical rescue hardware items. Standard consumer U-Bolts are not long enough to accommodate gear and still completely tighten nuts.
  - Lower Connection point is the only attachment point to directly attach the main rescue load. It can also serve as an attachment point in other rigging configurations
  - Upper Connection point is used for tie-backs and for distributing force back through a system. NEVER attach the main rescue load directly to the upper connection point.
- Silver Rotation Sleeves – Used for attaching rope or by wrapping the rope it acts to direct or redirect rope through a multi StayK system.

 **WARNING:** System strength is dependent on soil composition, condition, and Rescue StayK placement. Soil compositions vary widely and it is the user's responsibility to know and understand how these conditions will affect the suitability of their system. Proper training and practice is require to use this product.

## BEFORE USE

Read and understand these instructions before using the SMC Rescue StayK system. Inspect gear and remove from service if necessary. See INSPECTION AND REMOVAL FROM SERVICE.

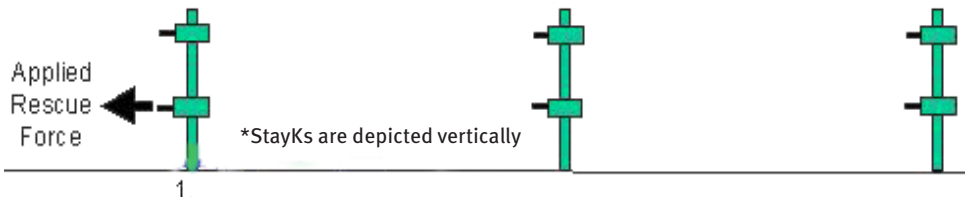
The techniques employed in the proper and safe use of this equipment may only be learned through PERSONAL instruction received from an instructor who is well-qualified in all phases of vertical rope work. Such instruction will include an evaluation of your comprehension of, and ability to perform, the tasks required to safely and efficiently use this equipment.

Never attempt its use until you have received such instruction and are believed competent by your instructor.

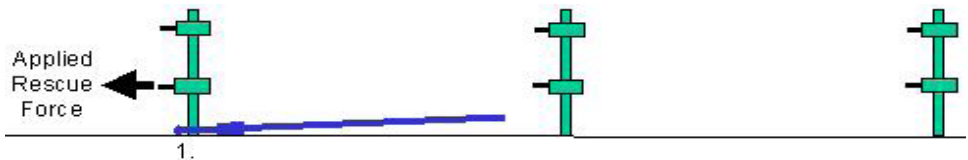
## RIGGING LOAD EQUALIZING ANCHOR SYSTEM

The following step-by-step instructions show how simple the system is to set up, how the self-equalizing is achieved, and how the system can be maintained and adjusted as the rescue proceeds.

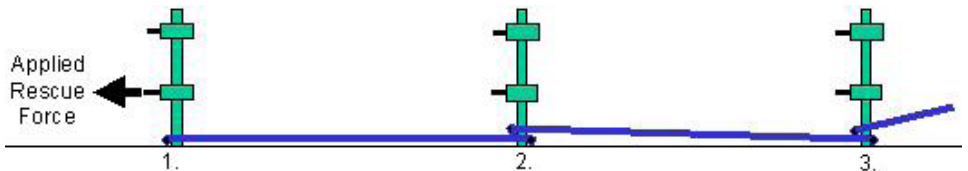
A. Using the Driving Cap drive each of the three anchor rods in the soil at a 20° angle away from the intended rescue load until the lower washer is flush with the ground. The cap has a larger surface area which makes driving the StayK easier and safer. It also helps protect the end of the StayK from distorting which increases the product lifespan.




B. Drop a figure eight on a bite over the anchor rod closest to the rescue load so that it rests near the ground around the lower Rotation Sleeve.

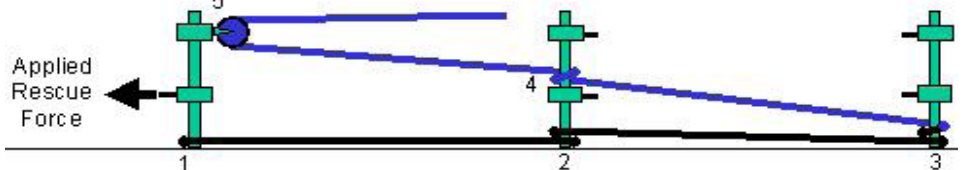


C. Wrap the rope clockwise at ground level one full turn around the bottom 2nd and 3rd anchor rod rotation sleeves.

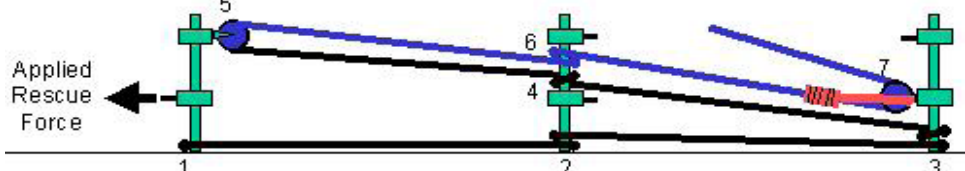


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D. Continue the rope 1/2 turn clockwise around the 3rd anchor's lower Rotation Sleeve (3) and then wrap the rope counter-clockwise one full turn around the 2nd anchor rod upper Rotation Sleeve (4). Feed the rope through a 2" PMP and attach the pulley to the 1st anchor rod's upper Rotation Block U-Bolt (5) with the rope coming out of the pulley from the top as shown.

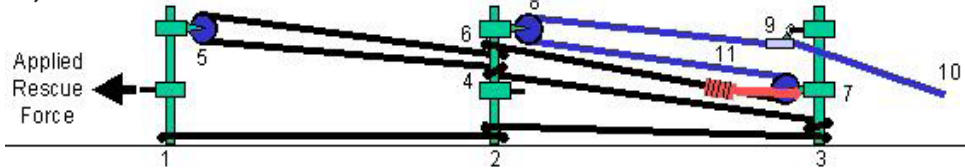


E. Wrap the rope proceeding out of the top of the pulley from anchor one (5) again counter-clockwise (as you look back from anchor #1) around the 2nd anchor rod's upper Rotation Sleeve one full turn (6). Triple wrap a Prusik cord around the rope and let it hang. Continue by feeding the rope through a 2" PMP and attach the pulley and the Prusik Cord to the 3rd anchor lower Rotation Block U-bolt (7) with the rope coming out of the pulley from the top as shown.

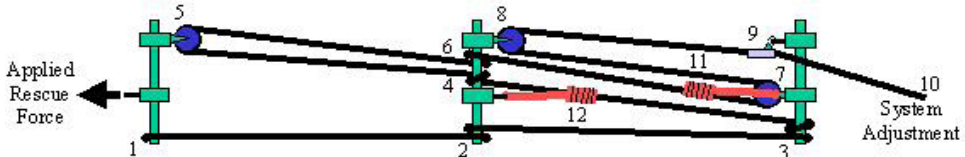


F. Feed the rope coming out of the top of the pulley from the 3rd anchor lower Rotation Block (7) through a 2" PMP. Attach the pulley to the 2nd anchor upper Rotation Block (8) U-bolt with the rope coming upwards out of the top of the pulley. Feed the rope coming out of the top of the pulley (8) through a SMC Grip. Attach the SMC Grip to the 3rd anchor upper Rotation Block U-bolt (9). (Note: Remember that the arrow on the SMC Grip must face/point towards the LOAD, which is coming from the 2nd anchor).

Equalize the system by pulling the rope through the SMC Grip (9). As you pull the rope (10) through the SMC Grip, the rotation Sleeves and Pulleys will rotate and self-equalize the entire system. A team member may feed slack and make minor rope adjustments if needed.



G. Once the system equalization is achieved, The SMC Rescue StayK can be secured into three separate Safety Zones by Triple Wrapping a Prusik (12) to the section of rope between the 2nd anchor upper Rotation Sleeve and the 3rd anchor lower Rotation Sleeve and then securing it to the 2nd anchor lower Rotation Block U-bolt. Adjust and tighten the second Triple Wrapped Prusik (11) for safety. The SMC Grip makes zone three.



## RIGGING OTHER ANCHOR SYSTEMS

The uses for the Rescue StayK is not limited to just the Load Equalizing Anchor System. It can be used individually, in windlass systems or in any system designed around multiple stake ground anchors. Quality materials and secure attachment points make systems rigged with the Rescue StayK more safe and reliable.

## SYSTEM STRENGTH CONSIDERATIONS

The Rescue StayK is only as strong as the soil conditions allow. A StayK anchor rigged in light, dry soils may pull out very easily and not support a rescue load, while an anchor rigged in heavy, dense soil may have a large safety factor for a normal rescue load. It is imperative that you understand the existing soil conditions and plan accordingly to achieve a safe working load for your specific situation.

Under test lab conditions, where soil conditions are NOT a factor, an individual StayK anchor without a tie-back can sustain over 3,000 lbf. with the load attached to the lower connection point. With an appropriate tie-back at the upper connection point an individual StayK anchor can withstand 10,000 lbf. with the load at the lower connection point. These results WILL NOT be achieved in the field, as soil conditions are a major factor in the overall strength of the StayK. The results are provided only to illustrate how the hardware can perform in an ideal environment.


Never attach the main rescue load directly to the upper connection point. Connecting the load to the upper connection point will weaken the anchor placement by leveraging the StayK out of the ground.

In all soil conditions, maximum strength is achieved only when the StayK is driven completely into the ground (lower washer is flush with the ground) and the load is connected to the lower connection point. Additionally, system strength can be increased by driving the StayK directly behind features such as pavement, sidewalks or by driving it through soil that is supported by root systems (but still must be fully driven into ground or the StayK will bend and pull out due to leveraging).

Whether you use the self-equalizing method described in these instructions or rig the StayK System in another fashion, it is highly recommended that you test and train with the StayK System in your specific configurations and conditions.

## AFTER USE

Carefully clean and dry this Rescue StayK to remove all dirt, foreign material and moisture. Minor sharp edges may be smoothed with a fine abrasive cloth before cleaning. Inspect StayK per INSPECTION AND REMOVAL FROM SERVICE. Record any necessary inspection or use information per RECORDS section of these instructions. Store in a clean, dry place.

 **WARNING:** System strength is dependent on soil composition, condition, and Rescue StayK placement. Soil compositions vary widely and it is the user's responsibility to know and understand how these conditions will affect the suitability of their system. Proper training and practice is require to use this product.



## INSPECTION AND REMOVAL FROM SERVICE

This Rescue StayK must be inspected prior to use and after use as part of a regular cleaning and storage procedure. Record the results of this inspection, and any repairs or replacements, for future reference.

- Check StayK for straightness - Bends less than 5 degrees can be used as is or straightened by the user through mechanical means such as a vise. Do not heat part using a torch or similar means to straighten. Do not straighten parts that are bent at cross holes drilled for tubular pins. A StayK should be removed from service if it has been bent to more than 5 degrees or if bending is at cross holes drilled for tubular pins. Also remove a StayK from service if inspection records show a pattern of repeated bending and straightening.
- Check U-Bolts - Make sure nuts are tightened until end of bolt protrudes. Sharp edges that may develop on inside where gear attaches should be smoothed out with hand file or sandpaper, especially if rope or webbing is to be attached directly. If U-Bolt is deformed or if records show it has been repeatedly filed or sanded, it should be replaced. U-Bolts are a custom size which allows enough room to attach typical rescue hardware items. Standard consumer U-Bolts are not long enough to accommodate gear and still completely tighten nuts. Do not use off the shelf nuts because the quality of the product for this purpose is not known.
- Check Rotation Block - If it is deformed so that a U-Bolt cannot easily be installed by hand, then the StayK should be removed from service.
- Check Rotation Sleeves – Make sure that the rope bearing surfaces rotate freely and are free from burrs or sharp edges that might damage rope. Hand file or sand to smooth out sharp edges.
- Check Driving Cap and StayK - Both the StayK and Driving Cap may be hand sanded or filed to reduce sharp edges and ensure that Driving cap slides easily on and off the end of the StayK
- Check Tubular Pins – If they are off center they may be tapped back to center with a small hammer. If they are loose, the StayK should be removed from service. If inspection records show a pattern of repeated movement of the pin, then remove StayK from service
- Review environmental conditions of last use and remove StayK from service if it has been exposed to harsh chemicals or to extreme heat beyond normal human environment.

## RECORDS

It is suggested that the user of this Rescue StayK keep a permanent record listing the date and results of each usage inspection. Such record should show, as a minimum, inspection for all of the following conditions:

- Repairs performed such as straightening and deburring.
- Parts replaced
- Environmental Conditions of last use
- Disposition of inspection such as approved for use or removed from service.
- Areas of concern to be considered at next inspection.
- User Information sheet present

## USE OF THIS USER INFORMATION SHEET

It is suggested that this User Information sheet be retained in a permanent record after it is separated from the Rescue StayK, and that a copy of it be kept with the Rescue StayK.

It is suggested that the user refer to this User Information sheet before and after each use of the Rescue StayK.

## LIFESPAN

The service life of the Rescue StayK is largely dependent on the type of use and the environment used in. Under moderate use, with limited exposure to moisture, salt water, corrosive agents, excessive loads, shock loading and excessive wear, Rescue StayK may last many years. However, many events such as taking a large dynamic load, dropping, or other events which cause physical damage, can reduce the lifespan of this Rescue StayK dramatically.

You must inspect your Rescue StayK frequently and take personal responsibility for evaluating its condition and retiring unsafe gear. Inspection is extremely important, but visual inspection only will not assure that damage has not occurred. If history of the Rescue StayK is unknown or if based on the history of the use of this Rescue StayK there is any doubt regarding the safety of this Rescue StayK, it should be removed from service. You should destroy retired gear to prevent future use.

## LIMITED WARRANTY

SMC products are warranted to the original retail purchaser in accordance with the full Statement of Limited Warranty printed on our web site, [www.smcgear.net](http://www.smcgear.net). Items that are claimed to be defective must be returned under a pre-assigned Return Authorization/CC Number and should include a detailed description of the conditions existing during use of the item, the place and date of the original purchase as well as a copy of the original invoice or receipt. Items being sent in for inspection may or may not be returned if the product in question is deemed potentially unsafe or non-functional.

If you do not completely understand any of the outlined user Instruction provided on this sheet or if you have any questions please contact SMC at 360-366-5534 or [info@smcgear.net](mailto:info@smcgear.net)



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