

Mecklenburg County Council

COPE & Climbing

Top Rope Climbing (Indoor Wall) SOP

Overview

The purpose of this document is to set a standard means for rigging and facilitating top rope climbing at the MSR indoor wall. Many of the aspects of this standard are adapted from the standards for the climbing towers at either camp.

BSA NCAP standards require that all scouts are top rope belayed when climbing (PS-206-C-6). The indoor wall at MSR is designed with life safety systems above the climbing wall to facilitate a top rope anchor with a slingshot belay in which the belayer stands on the ground – not at the top of the climbing wall. Although it is possible to access the top of the wall from behind to inspect the indoor wall, no one is required to access the top of the wall for rigging or facilitation during climbing activities.

Equipment

The following lists the equipment needed to rig the top rope climb at the indoor wall as detailed below in this document. This equipment lists needs is for one climbing route. It will need to be increased for up to four climbing routes on the indoor wall.

- Indoor Wall
 - 1 dynamic rope
 - 1 capture eye tri-action locking carabiner
 - 1 Mammut SMART assisted braking belay device
 - 1 screw gate locking aluminum carabiner
 - 1 x 15' webbing (green)
 - 1 steel locking carabiner (screw gate or auto locking)
 - 1 pair of belay gloves

Opening the Indoor Wall for Climbing

Begin by unlocking the gates, collapsing them and swinging them to the sides. They can be used as a means of crowd control along with green cones from the COPE bin to keep observers from wandering too close to the climbing area or interfering with the belayers. The gate sand cones establish the fall zone around the climbing wall.

The large green pads should be laid down on the ground up against the base of the climbing surface. This affords the climbers some protection from the concrete floor while still being pushed back enough that the pads should not interfere with the belayers.

The base area of the indoor wall must be visually inspected including the tie downs in the concrete floor. The picnic tables, trash cans and/or other items may need to be removed from the climbing area, i.e. well outside of the fall zone.

Usually it is not necessary to access the top of the indoor wall to rig a top rope climb. However, if the paracord or rope falls through the quick links you will need to scale the scaffolding on the back of the wall via the access door to reach the quick links.

Rigging for a Top Rope Climb

Rig the Climbing Rope

Once the paracord has been untied the cord must be used to raise the climbing rope. On the indoor wall there are a pair of bolts with steel quick links above each climbing route. The climbing rope must be threaded through both steel quick links. To thread the rope from the ground you will use the paracord. Tie the paracord around the end of the climbing rope. It is best to use a clove hitch about 2-3 inches from the end of the rope then using the long end of the paracord (the end that goes up to the quick links) tie a half hitch near the very end of the rope. Make sure to tighten each of these knots. This is necessary to pull the end of the rope through the quick links. If the knots are not snug the paracord may come loose. If the half hitch is not near the end of the climbing rope, then the “tail” of rope may snag on the quick link and will not pass through cleanly.



Note that it does not matter which way the climbing rope passes through the quick links. Another way of looking at this is that it does not matter which side is the climber's side and which is the belay side. It is acceptable to rig the climbing rope either way.

To raise the climbing rope, hold the rope with one hand keeping light tension on the rope while you pull down on the paracord with your other hand. Take care to never let go of the paracord. The weight of the rope may pull the paracord up unexpectedly and you may lose control. The whole of the paracord may then rise up out of your reach. If the rope end does become snagged on the quick links, you may be able to wiggle the rope from the ground to skip the end up and through the quick link. DO NOT let go of the paracord! Once the rope end has passed through both quick links continue pulling down on the paracord until you have control of both ends of the rope.

Untie the paracord from the end of the rope. Coil the paracord around your hand using a butterfly coil. We sometimes refer to this as a "cherry bomb." This helps to prevent the paracord from becoming tangled when you are derigging the wall at the end of the program session. You may place the paracord coil off to one side of the wall where it does not pose a tripping or fall hazard.



Rig the Climber's End

During normal climbing operations we use a triple action capture eye carabiner to clip in the climber. This improves throughput at the wall via ease and simplicity of operations.

Tie a figure 8 follow through around the eye of the capture eye carabiner. Note you may also tie a figure 8 on a bite if you place the capture eye carabiner on the rope first. The bite of rope through the capture eye should be as small as possible. Make sure to leave enough tail to tie the indicator knot (barrel knot). This knot should be positioned as close to the figure 8 knot as you can manage. Finally make sure to properly dress both knots.



Instead of using the capture eye carabiner, scouts may also tie in to the climbing rope using a figure 8 follow through knot. If you will be running program in this manner, then you may leave the climbing end of the rope loose with no knot tied.

Rig the Belay

BSA standards require that a ground anchor be used for the belayer whenever possible. The ground anchor at the indoor wall is one of the tie downs in the concrete behind each climbing route on the wall.

There are two methods to anchor to the tie downs. The first uses webbing while the second uses the climbing rope.

Webbing Tether

First tie the webbing in a loop using a water knot with appropriate back up knots. Clip the webbing to steel carabiner near the water knot. Tie an overhand knot between the carabiner and the water knot. This keeps the webbing from sliding and the water knot interfering with the belayer. Clip the steel carabiner to the tie down and lock the carabiner.

A stopper knot (barrel knot) must be tied in the end of the climbing rope. This is the same knot that we use as a backup for a figure 8 knot.



Rope Tether

Tie the belay end of the rope into a figure 8 on a bite with backup knot. Clip the figure 8 knot to the tie down using a steel carabiner.



About 3-4 feet up from the tie down, tie a clove hitch in the belay end of the rope and clip this to the belay carabiner. This clove hitch may be adjusted to bring the belayer closer to the tie down (if the

belayer is shorter) or add length to the tether if the belayer is taller. Note that the clove hitch does not need to be untied to adjust it and the carabiner does not need to be opened.



Staging for Climbing Operations

All spectators must be instructed to remain outside of the climbing/belay area at all times. Use of the gates and the green cones in the COPE box are useful to delineate this area. Scouts waiting to climb must line up behind the belay anchor tie down for the route they would like to climb.

Spectators taking pictures must also remain outside of the climbing/belay area.

While climbing, only the climber should be on the pad in front of the climbing route. However, since the wall has multiple routes that could be in action at one time, climbers and staff may be moving on and off the pads during operations. However, everyone should move off the pads if they are not actively assisting a climber.

Facilitating a Top Rope Climb

There are many styles and techniques to facilitate a top rope climb. However, there are certain steps that must always be followed. These are detailed below.

- CHECK
- Clip in (Tie in) to Climbing Rope
- Climbing Commands
 - On Belay

- Climbing
- Lowering
- Off Belay
- Unclip (untie) from the Climbing Rope

CHECK

Before beginning any climbing session, the climbing instructor must go through CHECK.

The first step is to CHECK the overall rigging and himself/herself.

Once facilitating a climbing session each participant must be CHECK'ed. A trained climbing staff member must check the harness and helmet of the climber every time the climber approaches a route. Climbers will often take off their harness or loosen it between climbs. Never assume that a harness or helmet is OK. Check every time.

It is very useful to ask the climber his/her name. Use it and repeat it often. It reinforces the connection between the climber and the belayer. It also helps to get the climber's attention when there is a lot of noise and commotion around the climbing wall or open shelter.

Clip in (Tie in) to the Climbing Rope

The belayer may need to unclip from the belay device and walk the climber up to the wall. The belayer may also clip the climber in to the climbing rope from the belay station and have the climber walk up to the wall. The belayer will have much more slack in the climbing rope to pull through the device in this second scenario. Alternatively, other climbing staff may assist the belayer by walking the climber up to the wall and clipping the climber into the climbing rope. Examples of this staffer might be the backup belayer, climbing instructors not otherwise occupied, youth or adult staff assigned to the station for the day. This role is filled at the discretion of the lead instructor on site.

If using the captive eye carabiner, clip the climber in to the climbing rope through the colored belay loop if using a program harness. Clip from the top down so that the gate is facing out, away from the climber's body. Double check the carabiner is locked by squeezing the gate – "click, click." The outward orientation of the gate also allows the belayer to see the gate and visually check that the carabiner is locked. Due to the shape of the captive eye carabiners that we use this orientation also puts the least strain or discomfort on the climber.

If the scouts are tying in to the rope, they must use a figure 8 follow through with appropriate back up knot. This knot must be checked by the climbing staff member.

If a harness other than a program harness is in use, the manufacturer's recommendation must be followed for the clip in or tie in point(s) on the harness.

Climbing Commands

The climber and belayer must exchange the climbing commands before the climber may ascend the wall.

Ask the climber to face the belayer. This aids in hearing the climber issue commands but also allows the belayer an additional check of the climber. A good technique is to have the climber put his/her back against the wall.



On Belay

The climber asks "On Belay?" The belayer must:

- Check that he/she is clipped in to the belay device properly and the belay tether.
- The backup belayer must be in position
- Visually check the climbing area. No one out of place, belay stance is clear, etc.
- Pull slack out of the rope – the belayer should see the climbing rope tensioned on the climber's belay loop.

The belayer now responds "Belay On." The belayer may make a sentence out of each command response. For example, "Timmy, the belay is on."

Climbing

The climber issues the command "Climbing." The belayer responds "Climb On." ("Timmy, you may now climb the wall.") The climber may now turn, face the wall and begin to climb.

Some of the smaller or shorter climbers may need help reaching the first climbing holds. An assistant may approach the climber to give them a hand or leg up to the first holds.

While the climber is ascending, the belayer should be looking out for safety concerns. These might include but are not limited to the following:

- Climber must keep his head above his waist
- The climbing rope must remain between the climber's arms
- Climber should face the wall and the climbing holds

At no point should the climber ascend beyond the two quick links on the wall. The climber must not grab a quick link as his or her hand or fingers could be pinched under the rope and serious injury could result.

Further climbing techniques and belaying techniques (such as dealing with fear) are outside of this document's scope.

Lowering

Usually the climbers are inexperienced and forget the command to "Lower". The belayer needs to be clear with the climber that he is about to be lowered to the ground using what language is deemed appropriate by the belayer for the given situation. Often the climber will be too emotionally distraught to issue a clear command. As long as the intent is clear lowering may begin.

The climber must be instructed to keep both hands on the rope and face the wall. The climber's legs should be straight out in front of him/her with their feet on the wall. Avoid lowering the climber if they are grabbing a hold or have their back turned to the wall. Injury could result.

The belayer must have both hands on the brake strand of the rope with the rope in the brake position below the belay device. Lower the climber in a slow, controlled fashion until both feet are safely on the ground.

Off Belay

Once the climber is safely on the ground the belayer may release the belay. Usually the climber is not aware or forgets to issue the "Off Belay" command. Once off belay the belayer may relax his hold on the rope, unclip from the belay device and ready himself/herself for the next climber.

The backup belayer may release the rope and attend to the current climber or help prepare the next climber.

Unclip (untie) from the Climbing Rope

In a reverse of the clip in or tie in process, the belayer may unclip from the belay device, approach the wall and unclip the climber. The climber may also walk back to the belay station and the belayer can unclip the climber from there. If additional climbing staff is available, they may unclip the climber while the belayer resets or ready's the next climber.

In between climbing sessions, the belay device should remain rigged on the climbing rope. Enough tension should be pulled so that the hardware is not resting on the ground. The climbing rope may

either be left hanging against the wall if it will not interfere with other wall operations or may be pulled back to the belay station and clipped in to the belay carabiner.

Derig (Take Down) a Top Rope Climb

First you need to take down the belay station. Unclip the belay device and the carabiner from the webbing and/or the rope. Do not place hardware on the ground. Clip it to a gear loop on your harness. Place the rope on the pads around the wall. Unclip the webbing or the rope from the tie down.

Untie the captive eye carabiner if in use.

To lower the climbing rope, follow the same process as you used to raise the rope. Tie the paracord to the end of the rope using the same series of knots. Pull down on one end of the rope while the paracord end is raised up and through the quick links. Be sure to keep one hand on the paracord at all times. As the rope comes through the quick links gravity will take over and the rope can come down quickly, pulling the paracord up and out of reach. This is a particular risk if the paracord bundle has become tangled. Once the rope is completely down, untie the end and tie the two ends of the paracord together using an overhand knot. Wrap the paracord around a climbing hold or leave it hanging.

The rope must be inspected and butterfly coiled. This is easiest to do away from the wall where you have plenty of room. There is plenty of space in the open shelter to spread out the rope to reduce tangles.

The webbing must be daisy chained for proper storage.

Carry all gear to the closet. Hardware and webbing may be hung in the closet, but the ropes should be laid out on a table. Do not put the rope away in the closet until after it has been entered into the log book.

Closing the Indoor Wall

Visually inspect the wall and stand the pads up, leaning against the wall. Close the gates and lock them with the pad lock. Ensure that the WARNING sign is securely hung and visible on the gates.

Weather Conditions

Since the indoor wall is under cover, it may remain open during all sorts of weather conditions that might otherwise close the exposed tower. These may include temperature, humidity, rain, wind or thunder. The indoor wall may remain open during any of these conditions at the discretion of the lead instructor. The lead instructor may consult with the camp director, camp ranger or campmaster to determine if the wall should be closed due to any of the environmental conditions listed above. Furthermore, it may not be the conditions themselves that cause the wall to be closed but side effects such as crowding in the open shelter, mud on the shoes of the participants, etc. The lead instructor has the responsibility to make the determination if it is safe to keep the indoor wall open.