

Mecklenburg County Council

COPE & Climbing

Zip Line SOP

Overview

The purpose of this document is to set a standard means for rigging and operating the zip line at either MCC camp.

The zip line rigging and facilitation is primarily the same at both camps. Whenever necessary differences between the two towers and/or procedures has been noted. If no difference is specified, then the issue in question applies to both camps/facilities.

Equipment

The following is the list of equipment needed to rig the zip line as detailed below at Belk Scout Camp. If rigging at MSR then one less rope tether is needed for the participant tether and only one set of zip line lanyard and trolley.

- Lobster claws with paired aluminum tri-action carabiner
- 2 rope tethers – Z (includes carabiners)
- 2 zip line lanyards
- 2 zip line trolleys
- Rescue bag

Tower Cables

At both of our camp towers we use overhead steel cables for all of our safety tethers. Always make sure that you only use steel carabiners to clip to the steel cables.

Safety Tethers

The first items to be rigged must be the safety tethers at the top of the tower. Safety first. Rig the tethers to keep the instructor(s) safe while completing the rest of the rigging for the zip line.

Instructor Tether

At the towers the lead instructor must be on lobster claws. The lobster claws should be attached to the middle of the cable with the gates on the snap hooks opposite and opposed to each other.



The instructor tether should be clipped to the middle of the cable between the two zip lines at Belk. If two instructors are working, they can both be clipped to the same cable in the middle. At MSR typically only one instructor is facilitating the zip line since there is only one zip line. If a second instructor is present (in a teaching scenario for example) then he/she can be tethered to the overhead diagonal cable.

At MSR the instructor tether must be rigged and the instructor clipped in BEFORE unlocking and opening the gate to allow access to the zip line platform.

Participant Tethers

Next set up the participant tethers. Note that a second instructor can also be on one of these tethers or an additional set of lobster claws. For the participant tethers we use pre-tied rope tethers including a steel dual action carabiner on one end and an aluminum carabiner on the other end. A steel carabiner must be used to attach the top of the tether to the tower cable. A triple action locking carabiner should be used to clip in the participant. (The scouts are less likely to “play” with the triple action carabiner and open it without the instructor noticing.) Do not untie the rope tethers.

The participant tether should be clipped to the cable between the two zip lines at Belk inside the triangle against the pole nearest the zip line in use. This holds the tether so that it does not slide down the cable. At MSR the participant tether will be clipped to the cable running diagonally from the top of the stairs to the zip line platform. At Belk you must have separate participant tethers for each zip line.



At Belk as soon as the participant ascends the ladder he/she should be instructed to the next open zip line platform and clipped to the tether immediately. Check his/her harness and helmet while waiting to reset the zip line. When not in use the tether can be left hanging. Never clip the participant end of the tether to a staple on the pole. The staples are NOT life safety rated and a tether must never be clipped to a staple. It is also recommended that the participant end of a tether not be clipped to the overhead cable. If an aluminum carabiner is on one end of the tether the instructor might inadvertently leave this clipped to the steel cable and attach the participant to the steel carabiner.

At MSR the participant must be clipped to the tether before crossing the rope gate at the top of the stairs. The “on deck” position is the top of the stairs behind the rope gate.

Zip Line Lanyards & Trolleys

Before rigging the zip line trolleys to the cable the instructor must be tethered to the tower. This is especially important at MSR where you must unlock and open the gate prior to ascending the zip line platform to rig the trolley.

To start the rigging process first clip the participant end of the lanyard to the tower using either a staple on the pole at the Belk tower or an overhead cable at MSR. The participant end is the end of the lanyard with the captive eye carabiner and the bag containing the paracord. This is to prevent the lanyard falling to the ground or the trolley zipping down the cable if you lose grip while completing the rigging.

Next, using one arm of the instructor lobster claws, clip the snap hook to the top hole of the trolley. Disconnect the trolley from the lanyard by opening the large oval steel tri-action carabiner. Place the trolley over the zip line cable and re-attach the lanyard to the trolley using the oval steel carabiner. Flip the carabiner upside down so that it “screws” down. Disconnect the lobster claw snap hook from the trolley and re-attach it to the life safety cable.

Use the Petzl Tandem High Speed pulleys as the zip line trolley. This is a silver trolley with two pulley wheels. It does not need to be backed up (no second carabiner is required). DO NOT use a yellow/brass or red colored Petzl Tandem trolley. These are not high speed and are not rated for the zip line.



Completed zip line rigging at Belk.



The MSR Petzl Tandem High Speed Trolley on the zip line.



Completed zip line rigging at MSR.

Facilitating the Zip Line

There are many styles and techniques to facilitate the zip line at one of our towers. However, there are certain steps that must always be followed. These are detailed below.

- Instructor Safety & CHECK
- Participant Safety
- Ascend the Platform
- Clip in to the Lanyard
- Assume the Position
- All Clear
- Zipping
- Return the Trolley

Instructor Safety & CHECK

When the instructor first ascends to the tower platform at either tower he should immediately clip in to the appropriate tether. He should then perform a CHECK of the rigging before any participant is allowed onto the platform.

Participant Safety

As each participant ascends the platform he/she should immediately be clipped in to a tether. There should be no untethered participants on the top of the platform at either tower. This is especially true at MSR with the open gates. At Belk with the two zip line configuration one participant can be “on deck” and watch the first participant zip. At MSR the on deck participant can stand at the top of the stairs, behind the rope gate, and watch the zip.

Ascend the Platform

At Belk have the participant climb over the railing using the staples in the corner pole. The participant may hold on to anything over their head to help them climb over. Often it is necessary for the instructor to help guide the participant over the railing keeping an eye out for the tether so that it does not become tangled in the participant’s legs, the staples or the wooden railing. Have the participant lower themselves gently to the wooden step and if tall enough, onto the zip platform.

At MSR simply have the participant step out onto the zip platform then turn and face the instructor.

Clip into the Lanyard

Now unclip the zip line lanyard from the tower staple or cable. Attach the captive eye carabiner to the participant’s harness loop. You may take this opportunity to show the participant how the carabiner opens so that they may unclip themselves once on the top of the ladder or scaffolding at the time of dismount. DO NOT yet unclip the tower tether from the participant.

If using a chest harness, please refer to the section below “Chest Harness Use with the Zip Line”.

Assume the Position

Have the participant turn and face away from the tower, down the zip line cable. They may remain firmly standing on the platform at this point and should not yet step off the platform.

Take this opportunity if you have not already to explain to the participant what they are about to do. You should cover the following points:

- Both hands on the lanyard/rope.
- Yell “Zip Line Clear”
- Wait for response from the dismount team
- Step off the platform. Do not jump.
- Keep head up (if not wearing a full body or chest harness)
- When done zipping, pull out the paracord and drop it. The dismount team will use it to pull you to the ladder/scaffolding and you will use it to return the trolley to the top of the tower.

For some participants it is easier if they try to sit or squat down and scoot off the platform. This is fine as long as they keep both hands on the rope. If they were to flair a hand or arm when going off the platform they could strike the wooden platform and injure themselves.

All Clear

Visually confirm that the previous zip participant is down off the zip line cable and the dismount ladder and that the ladder is far to the left as you view it from the tower. The ladder must be all the way to the left and not under either cable at Belk or the single cable at MSR. Wait at this point with the participant still tethered to the top of the tower before proceeding.

This is the case at both camps. At either Belk or MSR the ladder or scaffolding must be as far to the left as it can go on the platform or pad.



Belk Scout Camp - The zip line dismount ladder in the All Clear position.



MSR - The zip line dismount scaffolding in the All Clear position.

Once the prior participant is clear and the ladder has been moved to the left the current participant should yell “Zip line clear” to the dismount team and wait for the “Clear” response. The dismount team may raise one arm in the air to signal clear, or place two arms crossed above their heads to signal that they are not ready, or the line is not clear. Although you may be able to see from the top of the tower that the line is clear this is still an important step to alert the dismount team that the participant is about to zip. While travelling down the cable the participant will pass only a few feet above the ground at high speed. The dismount team must be made aware so that they are not injured.

Note that there are separate documents covering the operation of the ladder or scaffolding for the dismount team. These are maintained so that they are single page, standalone documents that can be printed and laminated and made available at the ladder or scaffolding at each respective camp. It is your responsibility to review these separate standard documents and be familiar with those procedures.

Zippering

Now take the tower tether off the participant. Pull it out of their way so that they do not inadvertently grab it or strike it while stepping off the platform. Leave the tether free of any other individual, participant or instructor, in case the zipper baulks and you must bring him or her back onto the tower platform.

Have the participant step off the platform and enjoy the ride.

Return the Trolley

The participant must hold the end of the paracord and head past the tower so that the trolley will travel up the zip line cable far enough for you to grab. At Belk, the participant must go past the tower in the grass. Have them stay off the rock garden.

When the lanyard is in reach, grab it and immediately clip the captive eye carabiner to the tower staple or a cable so that the trolley does not descend back down the zip line cable. Neatly coil the paracord and stuff it back in the bag attached to the lanyard.

The zip line is reset and ready for the next participant.

Chest Harness Use with the Zip Line

For some participants it may be necessary to use a full body or chest harness. This may be due to the participant's body shape and/or size. If a seat harness will not fit over the hips of the participant preventing the participant from sliding out of the seat harness were they to invert, then a chest harness should be used.

The current chest harnesses come in two sizes: standard and extra-large. The appropriate size harness should be selected. The chest harness can be fitted to the participant while still on the ground or while at the top of the tower. The chest harness should be fitted before the participant climbs over the railing at Belk or steps to the zip line platform at MSR. (The participant must remain on a tether connected to the seat harness if at the top of the tower at either camp.)

Place the harness over the head and shoulders of the participant with the chest strap around the chest of the participant under the arms and the shoulder straps positioned on the shoulders away from the neck, but not so far to the sides that they could slip off the shoulders. The buckles of the shoulder straps should be on the participant's chest with the sternum loop in the center of the chest. The Misty Mountain label should be in front and upright so that it can be read when facing the participant. (It will be on the participant's left side.) Tighten all of the quick release buckles as you would for a seat harness. The straps should be snug, one or two fingers under the straps, but not so tight as to restrict breathing.

Once the participant is ready to zip, the lanyard must be passed through the sternum strap of the chest harness and connected to the belay loop of the seat harness. Note that it will be necessary to unclip the bag containing the paracord from the zip line lanyard before passing the lanyard through the sternum strap of the chest harness. Once the lanyard is attached to the belay loop of the seat harness the paracord bag may be reclipped to the zip line lanyard. This can be done with the participant on the tower top platform or the zip line platform. At Belk, if on the zip line platform, the participant must remain on the tether until the All Clear signal. At MSR, the participant should always remain on tether while on the tower platform if the gate to the zip line platform is open.



At this point the participant is ready to zip as usual.

When the participant has completed his/her zip and is standing on the dismount ladder or scaffolding platform, the lanyard must be removed from the chest harness. Begin by unclipping the paracord bag. Then unclip the lanyard from the belay loop on the seat harness. Pull the lanyard through the sternum strap of the chest harness. Reattach the paracord bag to the lanyard. The participant may now descend the ladder or scaffolding and return the zip line trolley to the tower.