

## FIELD TRIP #4 – ROCK 1

### Rock Climbing & Rappel Practice

<b>FIELD TRIP #4– ROCK 1</b>	
<b>Time:</b>	Date: April 20 <sup>th</sup> , 21 <sup>st</sup> , or 22 <sup>nd</sup> Starting Time: Arrive by 7:30 am and be ready to go by 8:00 am. Duration: Approximately eight hours
<b>Location:</b>	<i>Tacoma Mountaineer Clubhouse 2302 North 30<sup>th</sup> St, Tacoma</i>
<b>Purpose:</b>	<ul style="list-style-type: none"> <li>▪ Practice rock climbing techniques</li> <li>▪ Practice lead belaying and catching a leader fall</li> <li>▪ Discuss and practice cleaning rock protection</li> <li>▪ Size autoblock (and personal anchor if not done already)</li> <li>▪ Practice/discuss scrambling in crampons</li> <li>▪ Discuss rappel anchors and set up</li> <li>▪ Practice carabiner brake rappel</li> <li>▪ Practice extended device rappel</li> <li>▪ Practice self-belay on rappel (leg wrap &amp; autoblock)</li> <li>▪ Practice self-belay on 4<sup>th</sup> class rock – arm rappel and prusik on a hand line</li> <li>▪ Practice Fireman belays</li> </ul>
<b>Prerequisites:</b>	<ul style="list-style-type: none"> <li>▪ Lecture #1, #2, #3</li> <li>▪ Field Trip #1 Prep, #1, #2, and FT #4 prep</li> <li>▪ Passed the Knots Test</li> </ul>
<b>Assignments:</b>	<ul style="list-style-type: none"> <li>▪ Reading: Review the readings assigned for Field Trip 4 Prep</li> <li>▪ Study: Information contained in this section. Information required for Field Trip 4 Prep/Lecture Information required for Field Trip # 1 and # 2</li> </ul>

### EQUIPMENT

**See Required Equipment FT 4 on the Equipment Matrix (Lecture 1)**

### PROCEDURE

As soon as you arrive, start getting ready by putting on your harness and gear. The field trip leader will soon provide instructions on the day's activities and hand out field trip books. You will likely need a partner and be sent to one of the instruction stations.

You are responsible for your own progress through the practice stations. As you complete stations move on to the next one making sure to take your pack and equipment with you, and get your field trip book signed off. If you feel you are not as far along as you should be or find one of the stations particularly difficult for you, talk to an instructor or the field trip leader. In order to receive credit for the field trip, you need to complete all stations, and turn in your field trip book to the trip leader at the end of the day.

**NOTE: Know your knots, belays, and climbing signals! You were tested on these skills, and are expected to show proficiency.**

#### Safety Rules

All belayers must be anchored (simulating a multi-pitch rock climb) before starting to belay.

No one is permitted to climb un-roped on the rock. Except on traverse at the base if climbers are not above.

Helmets must be worn at ALL TIMES.

Gloves must always be worn when belaying and rappelling.

#### Suggestions

This is where you get to show your skills. Remember, your ability to safely belay will now be put to the test for real. You will have a person on the other end. On the rock you will be belayed at all times while climbing. Watch how the person ahead of you climbs the pitch. It will help you. Push your limits, see what you can do.

## RAPPELLING

At this station we will practice rappelling and discuss rappel anchors. This is a critical skill, so make sure you come prepared. We will show you how to set up and let you rappel using the Carabiner Brake Rappel and Extended Device Rappel. We will also show you how and let you practice self-belay while on rappel using an autoblock and stopping mid-rappel with a leg wrap. Each student will get the chance to perform at least one belayed rappel from below also known as a fireman's belay. The standard rappelling signals will also be introduced and practiced.

### RAPPEL SIGNALS

Study the following signals, what they mean, and when they should be used.

1. "On Rappel"
2. "Rope"
3. "Off Rappel"
4. "ROCK!! ROCK!! ROCK!!" (anyone)

### EXTENDED RAPPEL DEVICE METHOD

The Extended Rappel is the primary method of rappel taught in the Tacoma Basic Course due to its safety.

#### EXTENDED RAPPEL SET UP WITH AUTOBLOCK

NOTE: Your personal anchor should already be girth hitched through both hard points of your harness.

Step 1. A locking carabiner is clipped to the end of your personal anchor and clipped to the rappel anchor.

Step 2. A HMS locking carabiner is clipped through the "remote belay loop" and the rappel device is attached to this locker in the usual manner.

- For PAS systems: the remote belay loop is the **two** center loops of the PAS

- For webbing PA: the remote belay loop is the two slings on either side of the knot in your PA.

Step 3. The autoblock is girth hitched to your belay loop, wrapped around and up the rope and re-attached to the belay loop with a locked locking carabiner.

Step 4. Thread both strands of the rope through your belay device and locking carabiner. Lock the carabiner.

Step 5. When the belay device is threaded and safely attached to the PA, pull rope through the device from the brake strand and lock it off thus creating slack in your PA so that you can weight and test your rappel system before unclipping the locking carabiner from the anchor.

Step 6. Attach the unclipped locking carabiner back to the belay loop on your seat harness.

The brake hand rides above the autoblock to tend the coils as your rappel and the rappel rope should be centered between the climber's legs to enhance balance and stability.

### CARABINER BRAKE RAPPEL METHOD WITH AUTOBLOCK

Although complex, the Carabiner Brake rappel method is taught in the Tacoma Basic Climbing Course as a back-up in case you have forgotten or lost your belay device.

#### CARABINER BRAKE RAPPEL SET UP

Step 1. Take 2 (preferable oval) carabiners and clip them to either a locking carabiner off your belay loop (as showing in the picture) or directly to your belay loop, the gates should be opposite and opposed.

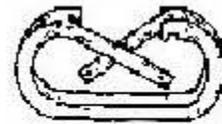
Step 2. Pull a bight of rope through the opposite and opposed carabiners, pinching it to rope going to the anchor.

Step 3. Clip 2 carabiners (with gates reversed and opposed) through the bight and the climbing rope going to the anchor so the rope runs over the spines of the reversed and opposed carabiners.

Step 4. Figure 5 Slide the reversed and opposed carabiners over the opposite and

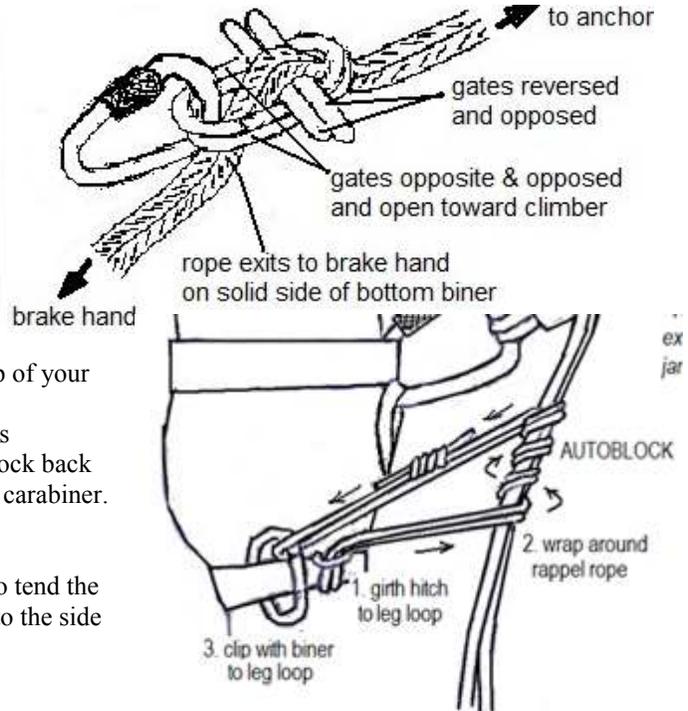
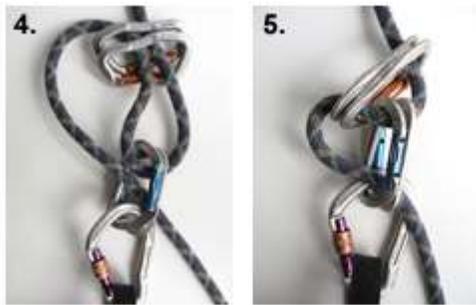


gates opposite  
and opposed



gates reversed  
and opposed

opposed carabiners, making sure that the braking strands of the rope exits the opposite and opposed carabiners on the spine side of the bottom carabiner.



Step 5. Girth hitch your autoblock to your leg loop of your seat harness.

Step 6. Wrap your autoblock up the rope (4 coils is recommended) and then clip the end of the autoblock back to the leg loop of your seat harness with a locking carabiner. Lock the carabiner.

Again, the brake hand rides above the autoblock to tend the coils as you rappel and the rappel rope should be to the side of the climber.

### **RAPPEL SAFETY BACK UP METHODS**

#### **Tying knots in the ends of the Rope**

You should ALWAYS have safety knots tied into the end of the rope, even if you can see that the rope touches the ground.

#### **Autoblock – Self Belay**

Autoblocks (friction hitches) are a great tool for self-belay while on rappel, and especially useful if the route suggests hazards of rock fall, etc. Assuming they are set up correctly they can enable you to stop a rappel without holding on to the rope. It is very important to make sure your autoblock is sized and set up correctly, because if done wrong it can get sucked up into the belay device and cause catastrophic failure. When on rappel, your brake hand is on the rappel rope(s) above and slightly over the autoblock knot. If the knot locks up use your hand to slide down the upper loops of the autoblock to continue the rappel.

#### Set-Up/Sizing

- Step 1. Start with a 5 foot length of 6 mm perlon.
- Step 2. Tie the perlon into a 15-16" length of loop using a double fisherman's knot.
- Step 3. Girth hitch the loop to the leg loop of your seat harness.
- Step 4. Wrap the loop about four times around both strands of rope towards and below the rappel device.
- Step 5. Clip the remaining tail of the perlon loop to your leg loop with a locking carabiner.
- Step 6. If the autoblock is too long it will get sucked into the belay device and needs to be shortened.

#### Autoblock Use

- **This system is not foolproof!** The successful use of the autoblock rappel backup is dependent on several variables including the person's harness, body weight, additional weight being carried on the rappel, length of autoblock loop and number of autoblock wraps on the rope.
- **All factors must combine in such a manner that there is no possibility of the autoblock knot entering the belay device.** If there is, the device may have to be extended away from the harness.
- **Four wraps is only a suggested starting point. The autoblock is a sliding friction knot. The ability of the knot to lock on the rope(s) and hold your weight depends on the rappel rope(s) diameter, the finish and cleanliness of rappel ropes, the diameter of the perlon cord and the number of wraps. This should be evaluated for each situation. There is always the potential the autoblock will not lock on the rope.**

- A climber must practice and develop a **reliable autoblock set up** on safe, practice rappels.
- Descend with brake hand on and above the autoblock loops, causing them to slide on the rope during descent. If autoblock locks, press on top of sliding knot to loosen.
- Descend slowly and smoothly – no bouncing! Bouncing stresses the anchors.

### **Fireman's Belay**

Another method of backing up (belaying) a rappel is for another member of the climbing party to belay the rappeller from below by holding the tail ends of the rappel rope(s) and pulling downward. The belayer must be holding the tail of the rope(s) such that they are able to pull it taut. This is useful if the rappeller somehow loses control of their brake and does not have another back up system in place.

### **Leg Wrap – Stopping Midrappel**

The leg wrap is a great tool if you need to stop midrappel and do not have a self-belay (autoblock) system in place. Wrap the rope 3 times around one leg, if the friction and weight of the hanging rope do not stop the decent, you can add wraps and/or tuck a bight of rope through the wraps.

### **SCRAMBLE RAPPEL METHODS**

Rappelling methods for un-roped parties on less technical terrain.

#### **Arm Rappel**

The arm rappel is typically used in easier lower risk but maybe loose terrain where setting up an actual rappel with gear might be cumbersome or over-the-top.

Set Up: Wrap the rope around your arms and across your back as seen in the picture, however, it is advised to wear long sleeves. Control the rappel with your grip.



#### **Prusik on a Hand line**

Fixed hand lines are used on less technical but exposed terrain where a slip and/or fall could severely injure a climber, but is faster than belaying multiple party members across.

Set Up: Tie a properly dressed prusik knot (a loose or sloppy prusik will not bite the rope if a fall occurs) onto the fixed line, and secure it with a locking carabiner to the climber's belay loop of their seat harness. The climber slides the knot along the rope with one or both hands constantly checking the knot to ensure that it is snug and dressed.

### **ROCK CLIMBING TECHNIQUES**

At this station, we will have multiple routes set up on the climbing walls. You will get a chance to practice the following climbing techniques:

- Friction/Slab
- Crack/Jam
- Rib/Arête
- Face
- Chimney
- Lieback

We will also discuss and let you practice cleaning rock protection. Make sure when you are cleaning protection from the wall you clip it to your harness first and then unclip it from the rope to prevent drops.

### **LEAD BELAYS**

At this station we demo lead belays and catching a leader fall. You will then practice setting up, belaying a leader, and possibly catching a leader fall. Make sure you have read the difference between top rope belaying and leader belays from Field Trip 4 Prep, as well as practiced your belay set up and skills from Field Trip 2.