

## FIELD TRIP #4 PREP & ROCK LECTURE

### Intro to Rock Climbing & Rappelling

<b>FIELD TRIP #4 PREP – ROCK 1</b>	
<b>Time:</b>	Date: April 10 <sup>th</sup> or 11 <sup>th</sup> Starting Time: Arrive by 6:30 pm and be ready to go by 7:00 pm. Duration: Approximately 3 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>▪ Take the knots test (if not complete)</li> <li>▪ Practice rock climbing techniques</li> <li>▪ Practice belaying skills</li> <li>▪ Demo/practice lead belaying skills</li> <li>▪ Practice Extended Rappel set up</li> <li>▪ Practice Carabiner Brake Rappel set up</li> <li>▪ Discuss SERENE anchor systems</li> </ul>
<b>Prerequisites:</b>	<ul style="list-style-type: none"> <li>▪ Lecture #1, #2</li> <li>▪ Field Trip #1 Prep, #1 &amp; #2</li> </ul>
<b>Assignments:</b>	<ul style="list-style-type: none"> <li>▪ Reading: <i>Freedom of the Hills</i> 9<sup>th</sup> <ul style="list-style-type: none"> <li>Basic Safety Systems.....Ch 9</li> <li>Belaying .....Ch 10</li> <li>Rappelling.....Ch 11</li> <li>Alpine Rock Climbing .....Ch 12</li> </ul> </li> <li>▪ Study: Information contained in this section. Information required for Field Trip # 1 and # 2</li> </ul>

### EQUIPMENT

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

## ROCK I FIELD TRIP PREP

### PROCEDURE

When you arrive at the clubhouse, put on your harness and gear, and start preparing yourself to learn and climb. You are going to get the chance to get on the walls, practice different climbing techniques and belays. We will also start showing you how to set up different rappels, how to remove (clean) rock protection, and go over anchors.

### ROCK CLIMBING

We will have set up different routes on the walls so you can practice different rock climbing techniques and top rope belaying.

### RAPPELS

We will show you how to set up the extended and carabiner brake rappel methods.

### LEAD BELAY DEMO

Here we will show you how to belay a lead climber, and if time permits we will let you practice.

### ANCHORS

Here we will cover different SERENE anchor set ups.

## **ROCK CLIMBING LECTURE**

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Excerpted with permission from **Accidents in North American Mountaineering 2002** published by The American Alpine Club, Golden, CO; Editorial, pg 2 Jed Williamson.

“Patterns to notice this year include the number of falls made more severe by inadequate protection.....Another common cause for falls being more severe is an inadequate belay, usually due to a poor anchoring system or improper technique. A third category to look at when reading the (accident) narratives is the number of handholds and footholds that ‘broke off’ resulting in considerable falls. These examples provide a good reminder for one of the first lessons learned as a climber: Test all holds on any rock that has cracks or evidence of loose rocks --- no matter what the size.”

## **LEARNING TO ROCK CLIMB**

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### ***From Basic Rock Craft by Royal Robbins (with permission)***

To become a good climber, you do not need great physical strength or superior coordination. These help, but far more important are interest and will supported by lots of energy. Nor is learning-rate a reliable indication of one’s future prospects. I have seen natural climbers who were extremely apt and learned quickly, only to reach a learning plateau and cease to improve; while others who at first were downright clumsy have, through dedication, become outstanding ... (rock climbers) ....

### **Practice Climbing:**

The best way to sample climbing and learn the rudiments is to go with an organization or friends to a practice area or gym. You can learn much on small rocks and in the gym. Even experts may spend an entire day practicing on a 20-foot boulder. Study the information provided on knots, belaying and climbing. Belaying means protecting your partner with the rope, and doing it right means the difference between the rope being an agent of salvation for a falling climber and one of destruction for the entire party. So before attempting the actual climbing techniques, be sure you know how to tie yourself to the rope and that your belayer can protect you. Before starting, test the belay by yelling “Test” and slowly applying body weight. If satisfactory, test further by climbing up a couple of feet and jumping off. Obviously, the landing must be safe, and one must be prepared for the belay to fail. If the belayer still holds you with no trouble, his position is apparently sound and you may climb without danger.

Having taken these precautions, climb up using the techniques you have learned. If it gets difficult, don’t give up. You will never know how much you can do until you extend yourself to your limit, and you don’t know that until you fall trying. That’s the key word. Most people fall off a practice climb only after they have given up, and they never approach their real limits. Give it all you’ve got! You are now in the thick of the game. For novices to so push themselves, even when perfectly safeguarded, is usually difficult. If it goes too much against your nature, perhaps climbing isn’t your game. Self-confrontation and inner conflict, though only part of the sport, are nevertheless an inevitable part.

If the pitch is too hard, and you fall and are lowered, don’t despair; now you have a concrete goal. You have an idea of why you failed, whether it be strength, agility, technique, etc., and can work to improve that aspect of your climbing so you can return and solve the problem.

### **Learn From The Leader:**

Watch the leader. Observe how they manage difficulties, their upright, relaxed body position, and their rhythmic movements. Note how, from a comfortable stance, they analyze the problems ahead and moves up smoothly and without hesitation to the next resting place.

By watching a person who knows what they are about, you can learn much. But remember that every leader has subtle bits of knowledge which you can never possess through mere observation. It is dangerous to jump to the conclusion that you are capable of leading what you can follow. It takes time to develop the judgment and self-control needed to safely lead difficult routes.

## **GENERAL ROCK CLIMB KNOWLEDGE**

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### **Terminology:**

There are a lot of different terms and names used in rock climbing. Most apply to various techniques and equipment items. The belay terminology you have already learned and the knots are standard in all climbing situations where they are used. Some of the rock climbing terms that will be most useful to you at this point are listed below:

**A Pitch:** A pitch is generally considered to be a distance of one rope length (max) in a climbing situation. So if you start at a belay spot and climb up to the next belay spot, that’s a pitch. In some situations, the belay spots are separated by substantially less than a rope length, this is called a short pitch. A pitch where the belay spots are a full

rope length apart is called a full pitch. The use of “short” and “full” to describe pitches has no formal basis other than just general usage. For general information, a climbing rope is now generally 200 feet, or 60 meters, and this is the most common accepted basis for the pitch. There are some climbing ropes of 165 feet or 50 meters. So, you can see a 165-foot rope used on a full 200 foot pitch could pose a significant problem.

**“Rock” “Rock” .....Etc:** Loud and often is a warning to climbers of falling rock. If you hear this duck for any possible cover while yelling the warning to climbers below you.

**Helmet:** Never go on a rock climb without one!!! **Required** on ALL Basic climbs.

**Rope Team:** In rock climbing a rope team is normally composed of two people. One climbs while the other belays. Sometimes, it is a three man team, leader, first climbing student, who drags a rope up with him for the second student to climb on.

**Lead Climber/Leader:** The lead climber leads the pitch and places protection as he/she climbs. So if the leader falls the protection will minimize the fall distance.

**Second/Follower:** The person who belayed the leader will follow or second the pitch while on belay from above by the leader.

**Protection (Pro):** This includes all kinds of devices, such as hexes, cams, stoppers, and nuts that are placed in/on the rock to protect the leader in the event of a fall. You can read up on this in *Freedom of the Hills*.

**Cleaning The Pitch:** As the second climbs the pitch he/she will remove the protection set by the leader while en route up the pitch.

**Chock Pick:** A small device used as an aid in cleaning the pitch to help extract nuts, stoppers, hexes that are stuck in cracks and crevasses in the rock.

### **Communication**

Good communication between partners is essential to safe climbing. Sometimes regular partners have their own abbreviated commands, but in general it's best to use the formal signals listed here so there is no misunderstanding. If you're in a crowded climbing area, it's good to follow each command with your partner's name so she knows who's talking and to whom she should be listening. Twice, I have mistakenly been taken off belay after my partner heard another leader cry, "Off belay!" You can imagine my alarm when, in the middle of a crux, I heard my partner yell, "Belay off!" When the wind or river noise is excessive, even the loudest verbal communication may be impossible, so you should have already agreed upon an alternate system (a loud whistle is nice for this).

### **Time Management:**

You will do a lot of waiting around on rock climbs. The second rope team cannot start the pitch until the first team clears the belay spot, and so on for the third rope team, etc. On basic rock climbs, the actual climbing once a rope team is set up does not take all that much time. Most of the time is spent setting up and breaking down belays, and getting ready. So if the first rope team wastes 10-15 minutes that delays the second and third rope team. If the second and third team waste a like amount of time, it does not take much to waste a lot of hours by wasting a few minutes here and a few minutes there. These wasted hours are important hours because they are day light hours on the mountain. The idea is to do the climb and get back down before it gets dark. So, it is very important when it is time for you to set up or break down your belay; get ready to climb, etc., be ready, and don't waste time. This can cost a climb, or mean an unplanned overnight on the mountain (called a bivy), or a long hike out with head lamps. In summary, sometimes delays and slow going are necessary for reasons of safety or other circumstances that are unavoidable. If it's a good day and everything is going your way don't end up stumbling down the trail by head lamp late at night tired and foot sore thinking “if I had not wasted so much time on tying knots, setting up and breaking down belays, I'd be eating pizza right now; or home with my boots off having some well-deserved refreshment.”

### **Loose Rocks:**

Loose rocks are a great hazard on rock climbs. Take great care and make every effort not to dislodge rocks. This is something you must be conscious of all the time. If you do dislodge a rock yell “**ROCK, ROCK, ROCK**” as a warning to those below you on the mountain, whether you see them or not.

## **TYPES OF BELAYS**

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### **Top-Rope Belay**

With a "slingshot" top-rope, the rope runs from your belay device up to the anchors at the top of the pitch and back down to the climber's tie-in knot. The climber will attempt to climb to the anchors at the top of the pitch, while the belayer takes in rope (using the PBUS method) as the climber ascends and feeds it out as they descend. If the climber falls with the rope directly overhead, he/she shouldn't swing, hit anything, or fall far (at most 6-12 inches due to rope stretch).

**Leader Belays**

When belaying a leader, the belayer feeds rope out as the leader climbs up, and takes rope in if she moves back down or asks you to “take.” The exception occurs when the leader has clipped protection above her harness, in which case the reverse is true. As long as she stays below a clipped piece of protection, her situation is similar to being on top rope. Because the leader must ultimately climb above his/her protection, thus sacrificing this top-rope-like safety, being on the “sharp end” of the rope is usually much more risky than top roping or being the second.

After each piece of protection is clipped, allow a minimal amount of slack, allowing the leader to move freely, but not so much that you unnecessarily increase the potential length of a fall. Remember, for every foot of slack, there is another foot of potential fall. On the other hand, it is also important that the rope not impede upward mobility or, worse, pull the leader off.

To feed rope out, the brake hand pulls it toward the belay device as the guide hand pulls it out from the climber's side of the belay device. When the leader is about to clip protection, the belayer must feed rope out quickly, so the leader can easily pull up the necessary slack and quickly clip it into the carabiner. To feed rope rapidly, slide your brake hand along the rope until it is a full arm's length away from the belay device (never release your brake hand!) and slide your guide hand in next to the belay device, so that as soon as you see the leader reach down to pull up slack, you can pull out an arm's length of rope. Then return your hands to the starting position. If the leader grabs for more rope, quickly repeat the process.

Ideally, the leader shouldn't feel any resistance from the rope while climbing or clipping, but it can be hard to feed the rope fast enough. If the clip is super-desperate, you may need to feed slack just before the leader needs it, so she can pull rope freely; be prepared to pull the rope back in if she drops it — or suddenly falls — because a fall with extra rope out means an extra-long fall. If your partner falls or requires support from the rope, quickly bend the rope to the side from the belay device to brake the fall. Be especially attentive for a sudden fall when the leader has clipped protection but is still near the ground. If necessary, sit back into the rope to take up any slack

**WHAT TO EXPECT ON A ROCK CLIMB**

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As a student taking this class it is likely you have never been on an alpine rock climb. The intent here is to explain something about what you can expect on your first rock climb. This will be where you will use a collection of skills you have learned and practiced on several field trips: knots, belaying, rappelling, and rock climbing techniques.

**Pre-Climb:**

After you sign up for your rock climb, a week or two before the climb, the climb leader will likely start a pre-climb email or schedule a meeting. The leader will cover the specifics of the trip, what the route will be, what equipment you are expected to bring, the climb schedule, and possible weather considerations if any. For the most part rock climbs are one day affairs from the trail head; at times, it's a long day depending on the peak and how the climb goes. If the peak is some distance from Tacoma, you may travel to the trailhead area the day before and camp overnight in order to get an early start. If the rock climb is to be an overnight, there will of course be a discussion of who will bring what gear. You are expected to have done some preparation prior to the pre-climb and read some of the available information on routes and approaches. Often these logistics will be handled through email as well. If you have questions, ask them. There are no dumb questions. Be honest with the climb leader about your experience level. Always be prepared.

When the pre-climb is over you should know the following general information:

- Climb route and pertinent details.
- Scheduled meeting time and specific location at the trailhead.
- Carpool meeting times and location.
- Required equipment for the climb.

**The Trailhead:**

Be on time and be ready. The climb leader will check everybody out and give last minute instructions. You will be carrying a rope, so if you show up with 65 pounds of 10 essential systems in your day pack, you will end up with all that plus a 10-pound rope. So plan your equipment/food/clothing intelligently because you will carry it.

**The Approach:**

Don't let the term rock climb create any false impressions. The approach hike into an alpine rock climb will include some distance on trails, some scrambling off trail, and sometimes crossing or climbing snow fields. Depending on current conditions the leader may tell you to bring crampons, snow shoes, and ice axe. Always expect to take your

HELMET and wear good boots. Rocky trails, scree/talus slopes and scrambling third class rocks and boulders require rugged foot wear to protect your feet. The approach ends when you reach the base of the first pitch.

### **The Climb:**

You will be assigned to a rope leader, you and the rope leader are a rope team. The rope leader will most often use rock shoes. However, it is at the discretion of the climb leader if you will be required to use mountaineering boot, or have the option to use rock shoes. Let's assume you and your rope leader are going to be the first ones to climb. So what happens now? For one thing your fellow basic student classmates will be more than happy to sit back and let you sweat it out. The other thing is your rope leader will be watching you very closely; hoping dearly that you know what you're doing well enough to inspire confidence on his part in your ability. The leader has a lot depending on you, and he/she wants to feel confident that you can do your job as the belayer while he/she is climbing. Activities at this point are fun but DEADLY SERIOUS BUSINESS. The leader and rope leaders will be watching you and everyone else looking for the following: Do you know your knots and how to tie-in to your harness? Can you set-up a belay correctly and quickly?

You are not expected to be a polished rock climber and know everything. You will get help where you need it; but you are expected to know your knots, how to set-up a belay once an anchor is established, and to belay well.

### **Climbing The Pitch:**

Once you set up your belay and have told your climber "belay on," he/she will start climbing after an exchange of signals (climbing/climb on). The leader will set protection as he/she climbs. After the leader reaches the top of the pitch and has established a SERENE anchor, he/she will call down "off belay." This is your signal take the leader off belay and respond to the leader "belay is off", and to pick up your gear and get ready to climb, while still being anchored in. The leader will start to pull up all slack in the rope, when they reach you, call up to the leader saying "that's me." The leader will then set up the belay, and when he/she calls out "belay on" you can unclip and break down the anchor. Before you start climbing, signal to the leader you are ready to climb by calling "climbing." If the leader is ready you will hear them respond back with "Climb On."

As you climb you will clean the pitch by removing the protection placed by your lead climber. You will need a chock pick for this chore, so have your own, or borrow one from your rope leader. When cleaning piece from the wall clip it to your harness or a gear sling over your shoulder, and THEN detach it from the rope. The purpose of this is to prevent dropping the piece, which can be expensive. It also is a safety issue, avoiding falling objects from hitting someone below. After you reach the top of the pitch, and clove hitch into the anchor, you're off belay and can return the "pro" to the lead climber. Again, you set up the belay (flaking out the rope) so the lead climber can start the next pitch.

### **The Summit:**

If your party moved right along you may have time to lounge around and have lunch on the summit, take pictures, and enjoy yourself. The leader will let the party know how much time can be spent.

### **Getting Down:**

Remember the climb is only half over, don't get careless. Every bit as much care and caution is needed on the trip down as was exercised on the way up. You will get to do a rappel. Once everyone is off the climb, gear is packed up for the hike out to the trailhead, surprise, you get to carry the rope again.