Top Rope Rock/Ice Climbing Trip Leader Standards

1. Introduction

   The skills and guidelines in this document are intended to provide standards for the "**mountain skills**" needed to be a successful CMC technical trip leader for this activity. These skills are in addition to those outlined in the CMC Trip Leader Manual. Leaders approved for Top Rope Ice are automatically approved for Top Rope Rock, but not vice versa due to differences in safety considerations and climbing movement.

2. Scope and Terrain

   Top Rope Climbing Leaders instruct on top access, single-pitch climbs that do not involve lead climbing. Climbs with non-technical access to the area above the climb are considered top access, but may require systems to manage risks associated with exposure or other hazards. Single-pitch climbs are those climbed without intermediate belays. Approaches and/or descents to these climbs do not include notable navigation, terrain, or technical challenges.

   Successful completion of a top rope ice LIT trip satisfies the requirements for top rope rock approval, but successful completion of the top rope rock LIT trip DOES NOT satisfy the requirements for top rope ice approval.

3. Training and Experience.

   Successful candidates for Top Rope rock and ice leader approval typically meet the following criteria. Exceptions may be granted on a case-by-case basis.

   Training. CMC Basic Anchors and Basic Self Rescue, or equivalent. Top managed sites require the skills taught in Single Pitch Rescue (formerly Rescue 1), or equivalent

   The CMC Basic Anchors course covers construction of anchors from natural features such as trees and boulders using cord, webbing, carabiners and static rope.

   CMC Basic Self Rescue (Formerly Rescue 1) covers belay takeovers, counterbalance ascent and rappel. CMC Single Pitch Self Rescue covers, in addition to Basic Self Rescue skills, lowering with belay assisted devices, and vector, 3:1, 3:1 drop loop, and 5:1 hauling setups. and systems to assist or haul a following climber.

   Leaders who demonstrate the ability to construct strong, redundant anchors using fixed anchors (bolts) found on many rock climbs may lead climbs incorporating such anchors. Anchors constructed using a cordelette equalized at a master point, or a

"quad" setup meet the criteria. Leaders who demonstrate the ability to appropriately construct strong, redundant anchors using ice screws or V-threads may lead top rope ice trips incorporating such anchors.

The CMC recognizes that there are many avenues to climbing education, such as informal mentorship, professional instruction, or volunteer peer-based instruction (via organizations like the CMC, Mountaineers, Mazamas, etc.). Candidates that meet these activity standards are encouraged to become Tech Trip Leaders, too.

Experience.

- Candidates typically have at least one year of climbing experience in a variety of terrain
- Candidates are confident climbing at least to 5.5 or WI3, for rock and ice, respectively, at the time of assessment.
- Candidates typically have climbed a minimum of thirty climbs; fifteen of these climbs being graded 5.5 and/or WI3 or harder.

Assessment: Candidates are evaluated by experienced CMC mentors according to these standards.

4. Skills and Knowledge

Top Rope Climbing Leaders are expected to demonstrate proficiency in executing and applying the skills and knowledge listed below.

Climbing Movement. When climbing, Leaders are fluid, effective, and efficient in onsighting top roping routes of at least 5.5 and/or WI3 in difficulty. They are versed in climbing on a variety of rock and/or ice types and features.

Equipment. Leaders are knowledgeable about the variety of tools available to accomplish any relevant task, and their particular advantages and disadvantages. They appreciate the design, intended uses, and practical applications of each tool, and make selections and recommendations based on that knowledge. Equipment that Leaders are familiar with includes:

- fixed anchors (bolts, hangers, rappel rings, webbing, etc.)
- removable protection (cams, stoppers, tricams, etc.)
- ropes (i.e. static and dynamic)
- harnesses
- personal protective equipment (helmets, gloves, etc.)
- footwear
- hard goods (belay/rappel devices, carabiners, etc.)
- soft goods (slings, cord, tethers, etc.)

Leaders also display an understanding of non-climbing-specific outdoors equipment used on climbing outings. The Leader will, for example, choose an appropriate pack

for any given excursion. The contents of this pack will vary based on the venue but may include emergency supplies (first aid kit, headlamp, etc.), human waste disposal kit, communication devices, navigational aids, additional food and layers, and other items.

Leaders ensure equipment is reasonably suitable for its intended use.

Rope Management, Knots, and Hitches. Leaders proficiently manage rope when working with one rope by keeping organized workspaces and managing the ends of the rope. Belay systems manage slack appropriately to secure climbers and mitigate fall consequences.

Leaders have a mastery of the knots and hitches most prevalent in instructing single-pitch top rope climbing:

Knots	Hitches
Overhand on a Bight	Clove
BHK	Autoblock
Flat Overhand	Prusik
Figure-Eight Follow-Through	Klemheist
Figure Eight on a Bight	Basket
Bowline	Girth
Bowline with a Bight	
Double Fisherman's	
Barrel	
Mule	

Protection Systems and Anchor Building. Leaders are experienced in selecting, placing, evaluating, and instructing a variety of protection types (See "Equipment") in a wide array of climbing environments. They understand the general principles behind an item's construction and functionality and common mechanisms of failure.

Leaders have a practical understanding of protection principles, the nature of forces - both theoretical and real - affecting the climbing system, and techniques for building sufficient systems and safeguarding the integrity of those systems, including the use of double checks. Leaders appreciate how factors such as rope drag, user error, weather conditions, rock type, or ice type and conditions can affect the functionality of equipment and systems. They anticipate and manage the risk posed by such factors.

Leaders construct strong, secure, and simple anchors. They adjust their construction based on their knowledge of the many factors affecting climbing systems.

Belaying and Spotting. Leaders belay in a fundamentally sound manner. The principles of fundamentally sound belay mechanics are:

1. A brake hand must be maintained at all times.
2. Hand transitions should happen in the position of maximum friction.
3. The hands and limbs should be positioned ergonomically.

This is true whether they are belaying with a manual- or assisted-braking device. Leaders understand the need for vigilance, positioning, and the ability to anticipate changing belay needs.

Leaders employing top managed sites must be proficient in brake strand redirect and backups for lowering, as well as vector, 3:1, 3:1 drop loop, and 5:1 haul systems.

Technical Descent. Leaders are knowledgeable about a variety of rappel and lowering set-up and back-up strategies. Leaders can assess and use relevant strategies based on the situation, including extensions, friction hitches, and back-up belays.

Rescue and Assistance Skills. Top Rope Climbing Leaders are familiar with both unweighted and weighted load transfer (e.g., belay takeovers), unweighted and weighted ascension, as well as rappelling and lowering modifications necessary for basic intervention in a counterweight system. Trips employing top managed sites where the climber must climb out require proficiency in lowering techniques such as brake strand redirect/backup, as well as in hauling systems such the vector pull, 3:1, 3:1 drop loop, and 5:1 mechanical advantage systems.

Climbing Communication. Leaders utilize climbing communication techniques that accommodate a variety of environments and situations, including effective verbal and non-verbal strategies.

Objective and Terrain Identification. Leaders are adept at identifying appropriate objectives and terrain. They are also aware of and manage environmental hazards, including altitude, lightning, water crossings, rock fall, exposure to elements and precipices, and flora and fauna hazards. Leaders' familiarity with a variety of route selection tools (e.g. online resources, guidebooks, and peer input) enables them to find desired climbs and/or undocumented but climbable features.