

Sport Climbing Technical Leader Standards

NoCO CMC

December 2024

Introduction

The skills and guidelines in this document are intended as standards for skills needed to be a successful CMC Technical Trip leader (TTL) for Sport Climbing. These skills are in addition to those outlined in the CMC Trip Leader Manual. Club policy will determine any prior certifications necessary to lead trips.

Scope and Terrain

Sport climbs are defined by a manageable hazard of ground or ledge fall, modern bolts, and bolted anchors. They are generally clear of loose rock. Single-pitch climbs are those climbed without intermediate belays. Climbs that are top-roped have anchors consisting of fixed protection. Approaches and/or descents to these climbs generally do not include notable navigational, terrain, or technical challenges.

Training and Experience

Training:

The NoCo 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.). In particular, candidates for a Sport Climbing Trip Leader are encouraged to consider taking the CMC Sport Lead Climbing School and Self-Rescue I (or equivalent) currently offered in Golden. However, candidates that have not taken those courses and that (1) have the experience outlined below and (2) can display that they meet the activity standards through the procedures outlined below are encouraged to become Technical Trip Leaders.

Experience:

- Candidates must have at least one year of sport lead climbing experience in a variety of terrain
- Candidates are confident in cleaning sport routes with mussy hooks, rethreading and lowering, untying and lowering, and by rappelling.
- Candidates are expected to have led approximately thirty sport climbs.
- Candidates must demonstrate confidence leading and cleaning sport climbs of at least 5.4 difficulty at the time of assessment.
- While it is generally expected that candidates have experience on a substantial number of climbs at the 5.6 grade or higher and will be confident in leading at that level, candidates who only have experience at the 5.4 level are encouraged to apply and continue to develop their skills.

Assessment

Candidates will be evaluated by experienced CMC mentors according to these

standards. The assessment is three-fold:

- (1) The Technical Trip Leader Committee (TLC) will review a resume that outlines the climber's experience in leading and co-leading sport climbs.
- (2) Candidates take a written assessment to evaluate their understanding of these standards.
- (3) Candidates display their knowledge and skills in the field on a Technical Leader-in-Training Day.

After completion of steps 1-3, the TLC will review the entire assessment and formulate a recommendation on certification to forward to the NoCo Group Council. The recommendation from the TLC, if positive, will include a suggested upper limit on climbing grades on trips led by the TTL. The NoCo Group Council will have final approval for the TTL.

Skills and Knowledge

Sport Technical Trip Leaders demonstrate proficiency in executing and applying the skills and knowledge listed below.

- A. **Climbing Movement.** When climbing and placing protection, Technical Trip Leaders must be fluid, effective, and efficient on onsight leads of routes of at least 5.4 difficulty on a variety of rock types and features. They avoid and correct issues such as z-clipping and back-clipping.
- B. **Route Cleaning.** Technical Trip Leaders must be proficient in safely cleaning a route by:
 - a. Using mussy hooks
 - b. Threading a bight to lower
 - c. Untying, retying and lowering
 - d. Rappelling

Technical Trip Leaders must be knowledgeable on when to use each technique and the risks involved for themselves and others.

- C. **Equipment.** Technical Trip Leaders must be knowledgeable about the variety of tools available to accomplish any relevant task and about the advantages and disadvantages of each. They should appreciate the design, intended uses, and practical applications of each tool, and should make selections and recommendations based on that knowledge and equipment ratings. Equipment with which Technical Trip Leaders are familiar includes:

- fixed anchors (bolts, hangers, rappel rings, 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.)
- stick clip devices

Technical Trip Leaders must also display an understanding of non-climbing-specific outdoors equipment used on climbing outings. The TTL 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.

Technical Trip Leaders must ensure equipment is suited for its intended use.

- D. **Rope Management, Knots, and Hitches.** Technical Trip Leaders manage ropes, maintain organized workspaces and manage the ends of the rope. The TTL must manage slack in the belay system and secure climbers to mitigate fall consequences.

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

Knots

Overhand on a Bight

BHK

Flat Overhand

Figure-Eight Follow Through

Figure Eight on a Bight

Bowline

Double Fisherman's

Barrel

Mule

Water

Hitches

Clove

Prusik

Basket

Autoblock

Klemheist

Girth

Munter

- E. **Protection Systems and Anchor Building.** Technical Trip Leaders effectively select, use and evaluate a variety of protection types (See "Equipment") in a wide variety of climbing environments. They understand the

general principles behind an item's construction, functionality, and common mechanisms of failure.

Technical Trip Leaders must have a practical understanding of protection principles, and understanding of mechanics and forces, both actual and potential, - affecting the climbing system, and techniques for building appropriate systems and safeguarding the integrity of those systems, including the use of double checks. They understand how a variety of factors (e.g. rope drag, weather conditions, and rock type can affect the functionality of equipment and systems. They are prepared to anticipate and manage possible factors.

Technical Trip Leaders must know how to construct strong, secure, and simple sport anchors using common anchor materials such as: quickdraws, locking carabiners, cordelette, and slings. They adjust anchor construction based on their knowledge of the many factors affecting climbing systems.

- F. Belaying and Spotting.** Technical Trip Leaders must belay in a fundamentally sound manner. The principles of fundamentally sound belay mechanics are:
1. Going through belay checks and ensuring that the system is closed before leaving the ground (e.g., the rope ends are tied).
 2. Protecting the climbing leader by establishing a ground anchor, stick-clipping the first bolt, or spotting them before the first quick draw is clipped.
 3. Maintaining the hand in brake position at all times and ensuring others do, as well.
 4. Anticipating changing belay needs (e.g. wet ropes, rope diameter vs/chosen belay device, etc.)
- G. Rescue and Assistance Skills.** Technical Trip Leaders must be 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.
- H. Climbing Communication.** Technical Trip Leaders employ communication techniques that accommodate a variety of environments and situations, including verbal and non-verbal strategies.
- I. Objective and Terrain Identification.** Technical Trip Leaders identify appropriate objectives and terrain. They manage environmental hazards, including elevation, lightning, water crossings, rock fall, exposure to elements and precipices, and flora and fauna hazards. They should be familiar with a variety of route selection tools (e.g. online resources, guidebooks, and peer input).

General Policies for Technical Trip Leaders. All trips led by the TTL must be within a reasonable range of the conditions assessed in the LIT for TTL approval, including: grade, season, anticipated weather and terrain conditions, etc.

Technical Trip Leaders must also possess the fortitude to completely call off a climb (on location) should any of the terrain, environmental and/or climber conditions warrant it.

Staying Current with Skills and Knowledge.

The expectation is that technical trip leaders will maintain their skills and will only lead climbs within their competency level. Furthermore, the expectation is that technical trip leaders will stay current with best practices in climbing as knowledge and equipment evolve.