Sport Climbing Technical 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.

2. Scope and Terrain

   Sport climbs are defined by a manageable hazard of ground or ledge fall, modern bolts and bolted anchors, and are reasonably clear of loose rock. These standards apply to single-pitch climbs--those climbed without intermediate belays. Climbs do not involve top-site management. Approaches and/or descents to these climbs do not include notable navigational, terrain, or technical challenges.

3. Training and Experience

   Training. CMC Sport Lead Climbing School and Self-Rescue I (or equivalent)

   CMC Sport Lead Climbing School includes instruction on proper attachment of quick draws to bolts and proper clipping of the rope to the quick draw, avoiding back clipping and z-clipping. It also covers construction of pre-equalized and quad load distributed master points using the two bolts at which modern sport routes usually end. Finally, Sport Lead Climbing covers cleaning an anchor that does not allow passing a bight of rope through rings or chains, that does allow passing a bight through rings or chains, or that is outfitted with mussy hooks.

   Basic Self Rescue covers weighted and unweighted belay takeovers and ascents, and pickoffs.

   For climbs ending at the top of a cliff, leaders must be proficient in constructing anchors from natural features, as well as in lowering with a backup and hauling techniques such as the vector pull, 3:1, 3:1 drop loop, and 5:1 systems.

   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 sport lead climbing experience in a variety of terrain
- Candidates have led a minimum of thirty sport climbs; fifteen of these climbs are graded 5.5 or harder.
- Candidates are confident cleaning sport routes by using mussy hooks, by rethreading and lowering, by untying and lowering, and by rappelling.
- Candidates are confident leading and cleaning sport climbs of at least 5.6 difficulty at the time of assessment.

4. **Assessment**: Sport climbing leader candidates are evaluated by experienced CMC mentors according to the following standards. Successful Sport Climbing Leaders shall demonstrate proficiency in executing, applying, and teaching the skills and knowledge listed below. While rigorous assessment of technical skills is a focus of the technical LIT, managing group dynamics is also an important part of the overall assessment. Candidates who lack experience managing groups may enroll in a Wall Leader School to get some exposure.

    A. **Climbing Movement.** When climbing and placing protection, Leaders are fluid, effective, and efficient on-sight leads of routes of at least 5.5 difficulty on a variety of rock types and features. Leaders know how to avoid and correct issues such as z-clipping and back-clipping.

    B. **Route Cleaning.** Leaders are proficient in safely cleaning a route by:

        a. Using mussy hooks
        b. Threading a bight to lower
        c. Untying, retying and lowering
        d. Rappelling

        Leaders are knowledgeable on when to use each technique and the risks involved for themselves and others.

    C. **Equipment.** Leaders are knowledgeable about the variety of tools available to accomplish any relevant task and about their 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 with which Leaders are familiar includes:
        - fixed anchors (bolts, hangers, rappel rings, webbing, 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

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.

D. **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 single-pitch sport 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	

E. **Protection Systems and Anchor Building.** Leaders are experienced in selecting, using, and evaluating 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 a variety of factors from rope drag and user error to weather conditions and

rock type can affect the functionality of equipment and systems. They are prepared to anticipate and manage possible factors.

Leaders know how to construct strong, secure, and simple sport anchors by using quickdraws, locking quickdraws and quads. They may adjust their construction based on their knowledge of the many factors affecting climbing systems.

F. **Belaying and Spotting.** Leaders 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 stick-clipping or spotting them before the first quick draw is clipped.
   3. Maintaining the brake hand at all times and ensuring others do, as well. Hand transitions should happen in the position of maximum friction and the hands and limbs should be positioned ergonomically.
      a. 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.

G. **Rescue and Assistance Skills.** Sport 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. For routes ending at the top of a cliff leaders must be proficient in building anchors from natural features, as well as in lowering and hauling systems.

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

I. **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.