

Texas Mountaineers Sport Route Cleaning Class

This syllabus outlines the Texas Mountaineers' ("TM") Sport Route Cleaning Class, a prerequisite to the TM Sport Leading Class. The objective is to demonstrate and teach students basic belaying of a sport leader and how to clean sport route anchors. It is *not* intended to discuss clipping bolts on lead, rope placement, climbing skills/movement, or advanced techniques (rope taking, dynamic belays, etc.).

The class is open to all with a \$40 class fee (not including gym fees). Although non-TM members must register and pay for membership at or prior to the class (download forms and pay at www.texasmountaineers.org). Current members have priority on the class list. Note that *attendance constitutes an agreement on the student's behalf to assist at the next offering of this class.*

We typically meet in the evening at a local gym; location and time as determined by the coordinator. We will gather at one of the walls as instructors demonstrate belaying, leading and cleaning a sport route. Students will demonstrate cleaning sets of sport anchors (your feet will be no more than 5 feet off the mats), and will have the opportunity to repeat exercises until comfortable with the techniques.

Everyone has read the forms at the gyms and on the TM membership documents about the dangers of climbing. Climbing outdoors adds more variables to the mix - rock fall, bolt failure, wild animals, poisonous plants and no crash pads; plus inexperienced, ignorant or distracted fellow climbers (though the last bit is true at the gym *and* the crag). Ultimately, ***we must be responsible for ourselves*** and help less experienced climbers who might make a serious mistake. Even with much experience, the best gear, and highly qualified instruction; climbing and climbing-related activities are never 100% without accidents.

Student Experience and Gear Requirements*

- Student must have completed the TM Beginner Climb or equivalent
- Student has experience and is comfortable belaying with an ATC or Gri-Gri
- **IMPORTANT:** Student should arrive at the class prepared with a solid understanding of gear and knots (see syllabus page 3) required for this level of climbing.
- Required gear:
 - 1 belay device (ATC or Gri-Gri)
 - 2 quickdraws ("draws") with 2 carabiners ("biners") each
 - 2 single length sewn runners or Personal Anchor System (PAS). NO daisy chains.
 - 4 locking carabiners (1 for belay device, 1 for autoblock, 2 for clipping at 2-bolt belay)
 - 5mm or 6 mm x 52 inch cord for a backup rappel (autoblock)
 - Double length sling for an extended autoblock system.

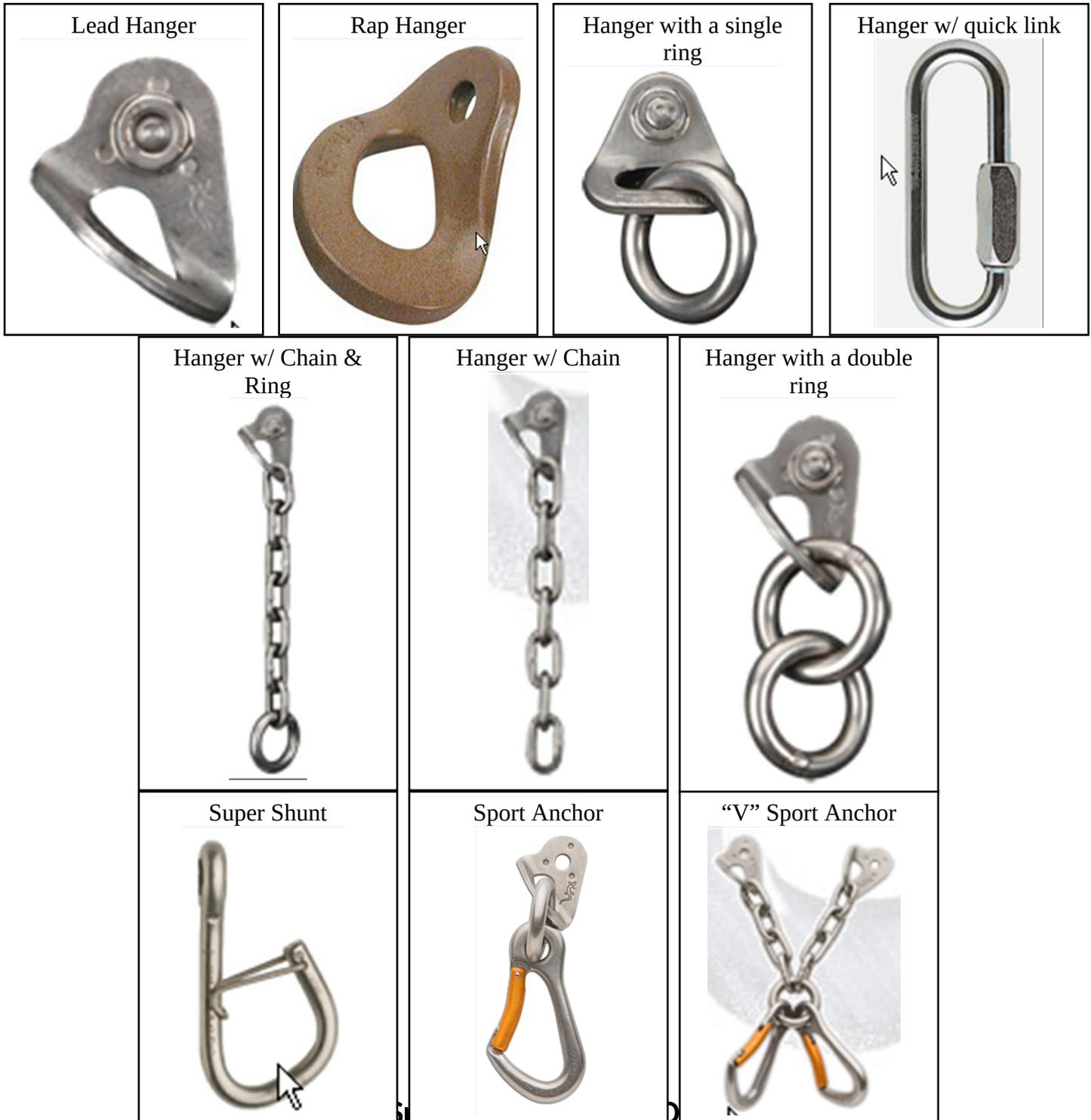
Lead Instructor Requirements*

- Minimum of 3 months of gym or outdoor climbing
- Assisted on a Sport Lead and Anchor Cleaning Class
- Has demonstrated to TM Safety Officer/Board members:
 - a. Knowledge of, and high competency in, cleaning sport routes
 - b. A conscience level of safety for others.

**Note: Chairman/Safety Officer or Board members may determine equivalents and have final approval*

Overview of Anchors at the Cliff Line

Different types of hardware that might be encountered at a crag.
Images courtesy of Fixe USA, Petzl and Metolius.



A) Student Check

1. Knots:

Helpful resources:

- <http://www.animatedknots.com/indexclimbing.php>
- Knots for Climbers – 2nd Edition by Craig Luebben
- Grog Knots app for iPhone and Android

Each student individually demonstrates how to tie the following knots:

- Overhand knot (first step to water knot, end of rope knot)
- Double fisherman's (tie prusik cord and two ropes together)
- Retraced figure 8 (tie into rope)
- Figure 8 on a bight (create master point in anchor)
- Girth Hitch (PAS or slings to harness/rope tie-in point)
- Clove hitch (tie into anchors)
- Auto-block (rappel backup)
- Munter (alternate belay method)

2. Harness check

B) Belaying a leader

1. Belay technique

- Student demonstrates proper belay technique using an ATC or similar device
- Student demonstrates proper commands for climbing.

2. Belaying a leader

Note on GriGri's: although a GriGri is self-locking (assisted braking belay device), the belayer should still have the brake hand in a locked position, palm down as if using an ATC. This creates a habit of having your climber locked off with your brake hand below the brake device if the climber falls.

- **Prior to Start:** Mutual harness check to ensure both leader and belayer are appropriately secured to the system. Leader and belayer should discuss what the leader will do when he/she reaches the anchors. Too many accidents involve poor communication at the anchor when the belayer takes the leader off belay and the leader thinks he/she is still on belay. Once you make a plan, stick to it. Close system with a stopper knot; double fisherman's or tie into other end.

- **The start:** Start behind the climber in a spotting mode until the first bolt is clipped, then stay next to the wall (but not under) the climber. Once the climber has clipped the third bolt, move slightly away from the wall to better see the leader and adjust to their needs.
On spotting technique:
Prior to clipping into the route's first bolt, a lead climber is unprotected from a fall. A spotter's role is to help eliminate or minimize injury should a leader fall before that first bolt. The spotter stands below the climber, arms raised or at the ready. If the climber falls, the spotter does not catch the climber, but redirects the climber's fall so that they land safely. At the very least the spotter ensures that the climber's head and back do not strike the ground directly. If the climber jumps down, the spotter can also help prevent stumbles and injuries on uneven ground. The spotter should stand with their fingers together ("using spoons") to avoid broken fingers.
A spotter should always be used for accident prevention. On (more or less) vertical climbs, the spotter will typically hold their arms up with hands in a supporting position. When the climber falls, the spotter's hands lightly hold the climber's hips or lower back, near the climber's center of gravity. This allows the spotter to help guide the climber's fall effectively, helping them keep their center of gravity over their feet. On steeper past vertical climbs (i.e., overhanging starts), the spotter will hold their arms out in a cradling position. If the climber falls, the spotter supports the upper and middle back, helping the climber land on their feet.
www.wikipedia.com
 - **While leader is climbing:** Attention - Just the right amount of rope!
The belayer can step toward the rock to give more rope and step away to take rope as needed for the leader. Take up rope as the leader climbs up to a bolt they have already clipped. Start to feed out rope as they pass the bolt.
 - **When leader reaches the anchors:** The leader will clip two draws at the anchor and the rope through these draws. (To be addressed in more detail in the Sport Lead Climbing Class). Leader says to the belayer, "TAKE." Belayer takes up slack, locks off rope, and may respond "TAKE ON". When ready to be lowered, leader says to belayer, "LOWER." Belayer then moves BOTH hands to the brake side of the rope, responds "LOWERING," and lowers the leader to the ground.
 - **When leader is safely lowered to the ground:** Leader says to belayer, "OFF BELAY." Belayer takes the leader off the belay device and responds with "BELAY OFF."
Call off belay before untying
3. **Belaying a second** is essentially belaying on TR. The student should already know this skill.

C) Sport Climbing Video (class instructor's discretion)

- Lead climb belaying
- Belaying (Good, Bad and the Ugly)
- Show Bolts

D) Cleaning the Route or Seconding

- 1. Preparing to clean:** Be sure to attach two sewn runners or 1-2 personal anchor systems (PAS) to your harness. You can do this by a) girth-hitching them through your rope tie-in point or b) using locking biners to attach them to your belay loop. *Never attach "soft gear" directly to the belay loop.* Attach the loose sling/PAS end to a gear loop with a locking biner. Once again, discuss with the belayer what you plan to do when you reach the anchors. Once you make a plan, stick to it.
- 2. Cleaning quickdraws as you ascend:** Unclip quickdraw from bolt, clip quickdraw to harness, unclip quickdraw from rope. This process minimizes the chance that you'll drop gear, but may not always be possible if short draws are used.
- 3. Anchoring at the 2 bolt rap anchor:** Secure one runner or PAS to each anchor bolt with a locking biner (lock when clipped in!). When secure, load runners/PAS('s) with weight by calling for rope slack. You may communicate "SAFE" to your belayer to let them know your weight is off the rope and on your own anchors. The belayer can relax while the anchor is cleaned, until the climber asks for a "TAKE" and "LOWER." ***DOUBLE-CHECK that you are secure before proceeding!***
- 4. Cleaning the anchor**
 - **LOWERING** - on rings and chains **only**. Do **not** lower off of rap anchors!

Cleaning Method A (on rings or quick links): If possible pass a generous bight of rope through both rap rings. Tie a figure-eight knot on that bight. Attach figure-eight to a locking biner clipped to the belay loop of your harness. The original quickdraws clipped into the anchors should now be unweighted. Unclip quickdraws from the anchors, clip quickdraws to a gear loop on your harness, then unclip rope from those draws. Untie the original knot on which you ascended, and un-thread that loose end of rope through the rap rings. *You will lower on the rope attached to the belay loopharness via a locking carabiner.*

Cleaning Method B (on chains): Pull up a generous length of rope, then tie a figure-eight on a bight, and clip it to your belay loop with a locking biner. The original quickdraws clipped into the anchors should now be unweighted. Unclip quickdraws from the anchors, clip quickdraws to a gear loop on your harness, and then unclip rope from those draws. Now, untie the knot on which you originally ascended, and pass *that* end of the rope through the rings. Retie a figure-eight/figure-eight on a bight on that end and attach to your belay loop with a locking biner. *You will lower off of this last figure-eight knot.* Untie the figure-of-eight on a bight knot that is attached to your belay loop.

Lowering off: *Double check that the rope from the belayer passes through both anchor points and is securely attached to you!* Double-check your system, and when ready, call "TAKE" to transfer your weight off the slings/PAS and onto the rope.

Your slings or PAS to the anchor should be slack to verify you are on belay before unclipping your anchor slings or PAS. Re-verify that the rope runs through rap rings and is securely connected to the belay loop on your harness.

Now, unclip slings or PAS from bolts. When ready to descend, call "LOWER" to belayer. Belayer responds "LOWERING" and brings climber safely down.

RAPPELLING - Some climbers prefer rappelling to lowering to reduce wear on the anchor *and* the rope. If your anchors are rap hangers, the choice is made for you!

Pull up a generous length of rope from the belayer's side, tie a figure-eight on a bight, and clip it to your belay loop with a locking biner. The original quickdraws clipped into the anchors should now be unweighted. Unclip them from the anchors, clip to a gear loop on your harness, and then unclip rope from those draws.

Now, untie the knot on which you originally ascended, and pass *that* end of the rope through the rings/chains/anchors. Tie a double fisherman's knot on the end of the rope to a) ensure the rope does not accidentally slip back through the rings/chains/anchors and b) that *you* don't rappel off the end of the rope. Pull additional rope through, and then untie the figure-eight on a bight that is clipped to your belay loop. Continue pulling rope through until the knotted end of the rope is on the ground or until the midpoint is at the rings/chains/anchors. ***Both ends of the rope MUST touch the ground!***

Using a prusik cord, attach an autoblock around the doubled rope strands to the locking carabiner that is attached to your leg loops or belay loop (for an extended rappel).

Attach an ATC to your belay loop or through both loops of a knotted sling for rappel with extension. Pull a bight of rope between the anchors and autoblock and feed the rope into your ATC. To test your setup, pull on the rope to move the ATC closer to the anchors, weighting the rope and creating slack at the slings/PAS attached to the anchors (one of which may be your rappel extension).

Now, unclip slings or PAS from bolts. If using a rappel extension, clip the outer loop of the extension back to your belay loop and lock the biner. When ready to descend, call "ON RAPPEL." When you've reached the ground and are safely off the rope, call "OFF RAPPEL."

Students will now form rope teams and demonstrate belay technique, communication skills, and route and anchor cleaning at FOUR different anchor stations that a climber might encounter at the crag. Lead and assistant instructors provide guidance and feedback.

E) Common accident scenarios

1. Poor communication: Belayer takes climber off belay. Climber yells "take," leans back and falls.
2. Leader attempts to lower off a route that is more than half the length of the rope.
3. Other possible scenarios.

Revised Dec 2014 by M. Maddy and G. Ballard

Revised 13 Mar 2013 by L. Cranford

Approved 21 Mar 2013 by Texas Mountaineers Eboard