



## AAC Publications

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### **Know the Ropes: Cleaning Sport Routes**

Efficient ways to clean the gear from overhanging climbs

**YOU'VE TRAINED for months to send a classic overhanging sport climb.** You've spent day after day in the gym, improving your power and endurance. You must have watched dozens of YouTube videos, dialing in that beta. When the day arrives, you crush the route first go while hanging the draws. An Ondra-level flash. The crowd goes wild.

But wait...now you have to clean the route. At least the anchors are similar to those in the gym, with carabiners on the chains where you can clip your rope. As you lower, you start to kick out, creating momentum so you can reach your next draw. It's hard! It ends up taking you three times as long to clean as it did to climb. At the bottom, you drag your belayer off a boulder, through a bush, and into a tree. Yikes.

At the Red River Gorge, my home crag, we often see strong climbers waltz up an overhanging route only to fumble the cleaning process. It doesn't have to be that way. This article will help you safely and efficiently clean your draws after leading a steep single-pitch climb. The techniques described here apply to bolted or mostly bolted routes, though they also can be used to clean single-pitch traditionally protected climbs. These techniques become particularly useful on overhanging and traversing routes—any climb where the bolt line is not directly under the anchors and the cleaning climber will take large swings when retrieving gear.

#### **AT THE ANCHORS**

Until your party is done with a route, the anchor should be equipped with your own gear for lowering or top-roping. Do this even if there are drop-in lowering hooks (a.k.a. mussy hooks) or fixed carabiners at the anchors. Lowering or top-roping from your own equipment saves wear and tear on the permanent anchor—which is a community resource.

To equip the anchor with quickdraws for lowering or a TR:

- Clip at least two draws or slings to the anchor. Orient your draws so they are opposed and approximately equalized.
- A locker draw (a quickdraw with locking carabiners on each end) will increase the security of a top-rope anchor.
- If possible, do not clip your draws to the bottom chain link, quicklink, ring, etc., on the anchor. This makes it easier for the final climber to clean the anchor.
- Avoid quickdraw placements that would cause the carabiners to be weight-loaded over an edge.
- A draw with a steel carabiner on the rope side will last much longer for frequent top-roping. (The Edelrid Bulletproof, an aluminum carabiner with a wear-resistant steel insert in the basket, comes in locking and non-locking options.) As a bonus, steel at the anchors reduces grime on your rope.

Once everyone is done with a climb, it's time to clean your gear from the anchor and the route. Before the cleaning climber leaves the ground, make a plan. The climber and belayer should discuss what cleaning method will be used (lower or rappel) and the steps involved. They should also discuss what verbal (or non-verbal) cues will be used and what they mean. This is especially important when communication is difficult between the anchor and belay locations.

For cleaning the gear from really steep climbs, assuming no one is seconding the route, it is generally safest and easiest to do it while lowering. At today's busy sport crags, with active local climbing organizations (LCOs) and modern anchor systems, lowering has become widely accepted—even recommended—at many areas. (A few climbers and local organizations still recommend rappelling to clean—learn more about the local cleaning ethic through guidebooks, Mountain Project, the LCO's social media or website, or by visiting the local climbing gym/outfitter.) If rappelling from an anchor is necessary because it's the local ethic, the anchor hardware is worn, or it's a remote climb where anchors are rarely maintained, it's often easiest to follow the route on top-rope and then rappel, rather than trying to clean on rappel. Always incorporate a backup, and be sure your rope ends are knotted.

## CLEANING THE ANCHORS

If you are reading this article to learn how to clean steep routes, you probably already know how to thread the rope through the anchors and prepare for lowering or rappelling. If not, there are plenty of resources available to learn this skill, including videos produced by the AAC and AMGA. If you haven't cleaned a route before, it is imperative to practice in a safe environment with feedback from an experienced climber. It is becoming more common to see practice anchors at popular crags. Ask your local climbing gym if they have or can set up practice anchors. Many gyms also offer "gym to crag" education, or you can hire a guide service to learn these skills in a controlled environment with expert feedback.

If there are drop-in anchor hooks (mussy hooks) or carabiners on the anchors, no threading or knot untying is required for cleaning. (This may seem obvious, but I've often seen people do it, and it adds unnecessary risk for the climber.) If you are cleaning after leading, simply clip the hooks/carabiners at the anchors. If you are cleaning after top-roping, clip direct into the anchors as a backup, and then, instead of threading, just place the rope into the hooks/carabiners and transition back to your belayer. In both cases, do your normal checks before cleaning any of your own gear and lowering off the anchor system.

**Tip #1: Consider the orientation of the anchors.** When you are threading or clipping anchors, think about which side of the anchors you want to be on while lowering. Try to clip the anchors in a way that minimizes rope-on-rope contact during the lowering process. For example, if your belayer is down to your right, you should clip or thread the anchors so you lower on the left side.

**Tip #2: Clean the anchors from an adjacent route.** If you are climbing a series of routes side by side and have enough draws, you may be able to lower from draws at the anchors of one route and then clean them after climbing an adjacent route. This is easier on closely spaced routes where the anchor of the second route is higher than the previous route. Be sure you understand the implications of any fall if you have to scramble/traverse to reach your gear.

## CLEANING THE DRAWS

When cleaning any route, take your time and use good judgment. Before removing each draw, think about how the system will change. The lowering climber is the pendulum, and the anchor location is the pivot point. When each draw is removed, the cleaning climber will swing toward and often past the pivot point, depending on friction and other variables in the system. Be aware of this directional swing and any hazards for both the swinging climber and the rope above, which can rub over edges or snag on bushes or rocks that may be loose.

If the route is not very steep—up to vertical or slightly overhanging—and the bolts lie directly under the anchor, cleaning while lowering is simple. Ask the belayer to hold you at each bolt and unclip the draw. It's often easier to unclip the bolt end of the draw first and then remove the draw from the rope.

## Tram Technique

When a route is very overhanging or the line of bolts and draws is not directly below the anchor, the tram technique (a.k.a. trolley or rail car technique) becomes very useful. When tramming, the lowering climber gets help from the belayer's side of the rope to reach the next draw. It also helps to control the pendulum swing when each draw is cleaned on the route.

Clip the straight-gate side of a draw to your harness belay loop and clip the rope side of the draw to the belayer's rope. Have your belayer lower you until you are roughly even with or slightly below the next draw. With your belayer keeping you tight, pull on the belayer's rope to move in the direction of the next draw. On really steep routes, it can help to face away from the wall in a horizontal body position and pull in head first—anyone who has crossed a Tyrolean traverse will be familiar with this technique.

While you are lowering on the tram, your belayer can assist you into the wall by pulling or "sitting" on the rope. This is easier when the climber is lighter than the belayer, and an assisted-braking device will help the belayer make rapid adjustments and lock off the belay rope. Depending on the route and the belay area, the belayer also may be able to take in rope by moving away from the first bolt. Be sure to move back under the first bolt once the climber has removed the draw and is ready to continue lowering.

Removing each draw on steep or traversing routes can be difficult due to the directional forces the rope puts on the draw. When you lower to the next draw on the wall, assess the situation before removing it. It can help to grab the dogbone of the draw or heel hook the belayer's side of the rope below the draw for stability while you work out how to clean the draw. Sometimes you need to get back on the route like you are climbing to remove the draw from the wall. Another option is a quick deadpoint move: With one hand holding the gate clipped to the bolt in the open position and the other hand on the dogbone, pull yourself in quickly and work the carabiner off the bolt before gravity forces you to re-weight the tram.

If you use the tram technique, only unclip the tram draw from the belayer's rope while you are close to the wall (typically when you have clipped in direct to a bolt). If you unclip while you're dangling far from the wall and the belay strand is at a sharp angle, slack will be introduced to the system and you will drop suddenly. This can be very dangerous when you're close to the ground.

## **Fixed Lowering Gear**

Some routes will be equipped with one or more permadraws or carabiners to help with cleaning. This gear serves as a directional for the lowering climber, changing the pivot point from the anchors to this gear.

In the case of a permadraw, you'll likely have clipped the permadraw for protection while leading. When you're lowering, swap out the belayer's side of the rope with your side (the lowering climber's side).

If there's a single carabiner left mid-route for cleaning, try to place your own draw under the fixed carabiner while leading, so your draw is optimally positioned for the load of a fall. Then, while lowering, place your strand of the rope in the carabiner before you remove your draw from this bolt.

Going in direct to the bolt can help with these rope transitions. Always assess fixed gear for any signs of excessive wear or sharp edges. And don't assume a carabiner left on a route is abandoned gear that you can take!

## **The Bottom Draw**

Cleaning the last draw while lowering on a steep route is potentially dangerous. The swing for the

cleaning climber is typically greatest at the bottom of the route, and since the climber is low to the ground, hazards like trees and rocks are more likely to be relevant. A misstep at this stage can endanger the belayer as well. Use the following steps to keep you and your belayer safe:

- **Go in direct.** Grab the draw connected to the bolt, unclip your tram draw from the belayer's rope, and clip it into either carabiner on the draw clipped to the bolt. Alternatively, you can use another draw or sling—anything to connect your belay loop to the draw or bolt on the wall. Be mindful of which side of the belayer's rope you want to be on to prevent the rope from twisting between you and the anchors or around the gear.

- **Assess the situation.** You are in straight, so take some time to think about the trajectory you will take once removing this draw. Are there obstacles? Consider lowering and then removing the last draw from the ground (see next section).

- **Free your belayer.** Always unclip the belayer's rope so you don't take them for a ride when you swing. Have your belayer give you a little slack (you are clipped in direct) and remove the belayer's strand of rope from any draws connecting the belayer to you or the wall. Unless you decide to leave the lowest draw in place, the belayer's rope should be running straight to the anchor above. Once free, they can find a good position for the final lower (see "Belayer Positioning" sidebar).

- **Remove all slack.** The belayer must take all the slack out of the system and should take a crouched stance. (The tighter the rope, the better.) As the cleaning climber, confirm that all the slack and stretch is out of the system by pulling up and verifying your weight is 100 percent on the rope and no longer on the first draw.

- **Take the swing.** At this point, you are ready to remove the draw and release from the wall. Enjoy the ride! Be sure to look where you are swinging to address any obstacles.

- **Ask to be lowered.** Finishing the lower while the climber is swinging can be tricky for the belayer. Make sure there are no twists or snags in the rope. (Nothing is worse for the climber than having the rope get stuck in the belay device with the climber hurtling over boulders and into bushes.) The lower may need to be timed to land the climber in a certain location. This takes practice. There's typically no rush to get them to the ground; let them swing a few times to reduce the magnitude of the swing.

- **Beware of rope length.** Lowering from an overhanging or traversing route may take more rope than expected, especially if the lowered climber ends up down a hill. Always close the system by tying a stopper knot or tying in the belayer!

**Tip #1: Clean the first bolt while clipped direct to the second bolt.** This keeps you higher on the route before taking the final swing. Typically, early bolts on a climb are spaced closer together to reduce the risk of a ground fall. If this is the case, go in straight to the second bolt and reach down to retrieve the draw on the first bolt. Then, follow all the above steps before taking the swing. This technique can be used anywhere on a route where you can reach multiple draws from a single location. The less you swing, the faster you can clean!

It's often useful to clean the lowest draw on a route from above. Clip in direct to the second bolt (note the long tether), reach down to unclip the first draw, and then clean the second draw.

**Tip #2: Climb up after cleaning.** If the bottom of the route is relatively easy, consider climbing some of the route after retrieving the draws to lessen the swing.

**Tip #3: Leave a directional.** Temporarily leave a draw somewhere mid-route and use it as a directional to clean the bottom half of the route. (This can be especially helpful for routes that overhang or traverse more in the upper section.) First, clean the top draws of the route until there's a logical place to leave a directional. Replace the belayer's side of the rope in this draw with your side of

the rope, then continue to lower and clean the draws below the directional. When you're done, climb back up to the directional to clean this draw and swing off. This can also help protect the rope if it's running over a bulge or edge every time you clean a draw and swing off.

## **Remove The Lowest Draw From The Ground**

An easy way to finish cleaning a steep route is to leave the bottom draw clipped and lower to the ground, then retrieve this last draw from the ground. This is a good tactic when the swing for the cleaning climber is unsafe or would leave the climber in an undesirable position once lowered (e.g., hanging over a pond or a drop-off).

Here are two options for completing the lower with the first draw left in place:

(1) Keep your tram draw clipped to the rope above the draw on the first bolt, and then ask the belayer to lower you to the ground. One benefit of this option is efficiency. No ropes are switched, and the belayer doesn't need to move. However, the climber will land well out from the cliff, so, while it eliminates the swing, it may not be desirable for situations with hazards directly underneath the anchors. In addition, the climber must not remove the tram during the lower. Doing so will instantaneously introduce rope slack and drop the climber.

(2) Option two is to swap the belayer's rope in the last draw with the climber's side of the rope. This method is especially useful in situations where there are obstacles or hazards directly underneath the anchors. It can be helpful to clip in direct to the bolt before swapping the ropes. Be mindful of which side of the belayer's rope you want to be on to keep the rope from getting twisted between you and the anchors.

Now you just have to retrieve the first quickdraw. If the bottom of the route is easy and the bolt isn't too high, the climber or belayer can simply boulder up and get the first draw. (Be mindful of rock quality, as well as the quality of the landing in case of a fall.) Or, the draw can be retrieved using most modern stick clips. The Superclip, Beta Stick, Squid, and homemade stick clips utilizing a metal spring clamp all can be used to both place and remove a draw from a route. Check YouTube to learn how to use these tools. If you don't have a stick clip, try to borrow one or see if a nearby climbing party with one can help you remove the draw. Climbers are typically really good about helping fellow climbers stay safe. Especially if you ask nicely.

If a stick clip is not available, the wall side carabiner on the first draw can be taped open (go in direct to the first bolt and have your belayer toss you the tape). Be aware that the gate will be open while you are lowering—use caution and avoid movement that would jostle the draw while lowering. Once on the ground, shake the rope going to the draw until it pops off the first bolt or use a stick to push the draw off the bolt. This tape trick works best with a keylock carabiner clipped to the first bolt.

## **Clean On Top-Rope**

With the guidance in this article, most climbs can be safely cleaned by lowering after leading. There are exceptions: routes with long traverses close to the ground, for example, or ones where the base area has enough obstacles that any swing will be dangerous. If a route seems unsafe or impractical to clean while lowering, you can always clean by following on top-rope.

The decision to clean the route on top-rope should be made before the leader leaves the ground, so the upper anchor can be equipped properly for top-roping. The cleaning climber should tie into the rope that's clipped into the draws. It's also a good idea to pre-stretch the rope to better protect a low top-rope fall. Before leaving the ground, have the belayer take out all the slack and sit on the rope. (The climber can weight the rope as well.) Keep the slack out of the rope as the climber steps up to the wall. Now, you are ready to climb—and as a bonus, you've pretested your knot!

## **GET OUT AND PRACTICE**

Any climber new to cleaning steep routes should start with gently overhanging climbs to gain experience in a lower risk environment, ideally with an experienced mentor. You can also hire a guide service and let them know you want to learn how to clean overhanging routes. This may require a special trip to the Red, Rifle, or another area that has a large concentration of steep climbing. It's a tough life.

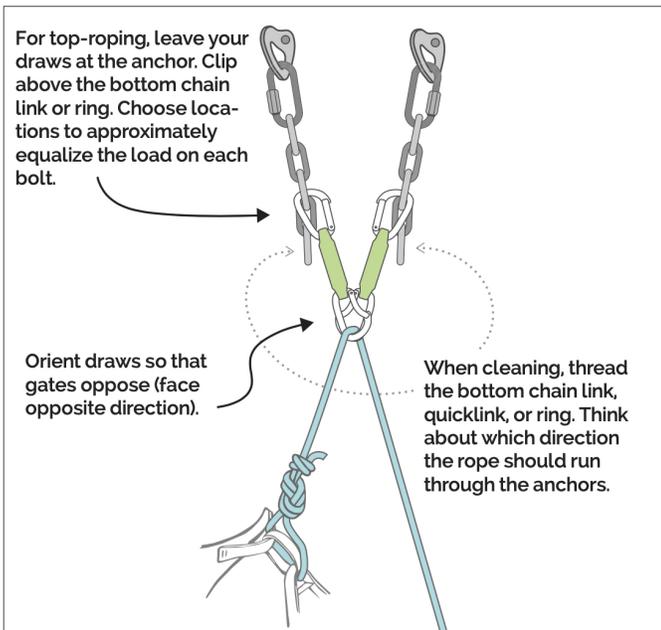
Don't forget that all those super-helpful lowering hooks and permadraws are maintained by your fellow climbers and local climbing organizations. Be a hero at the crag, ready to replace worn gear with a few steel carabiners stashed in your pack. Or donate to the LCO. Do your part to keep climbing fun, safe, and epic-free.

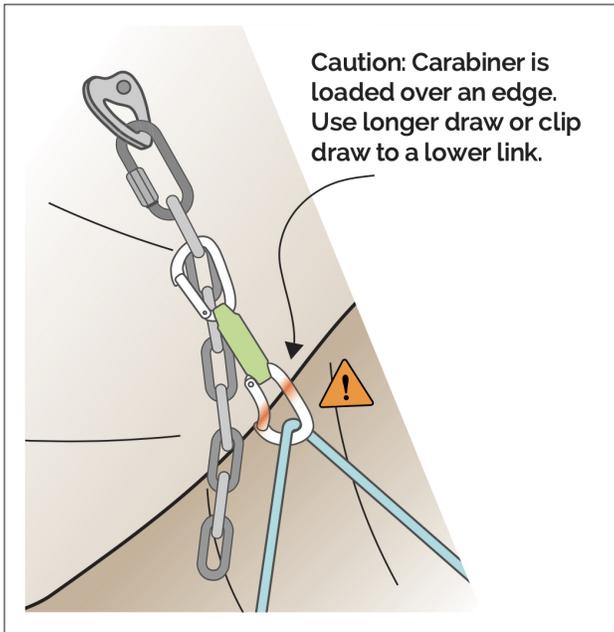
Lindsay Auble is a recreational climber, a professional engineer, and a volunteer editor for this publication. She spends the spring and fall in the Red River Gorge, climbing with strong and experienced mentors on the steep climbs of the South.

## Images



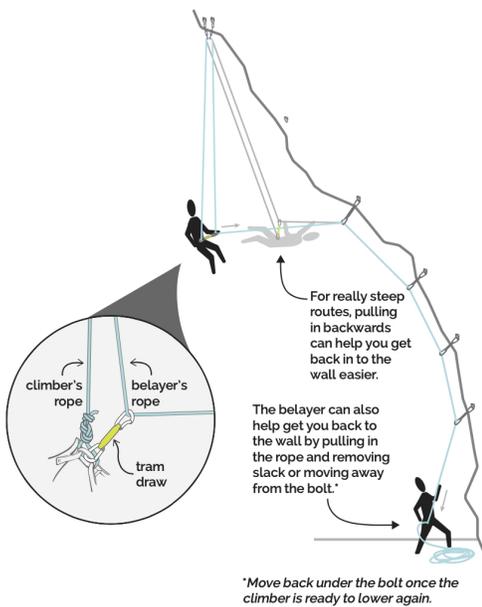
Tramming in to the next draw while cleaning a steep route at the Red River Gorge. This technique helps the climber get back to the wall and lessens the swing after each draw is cleaned.



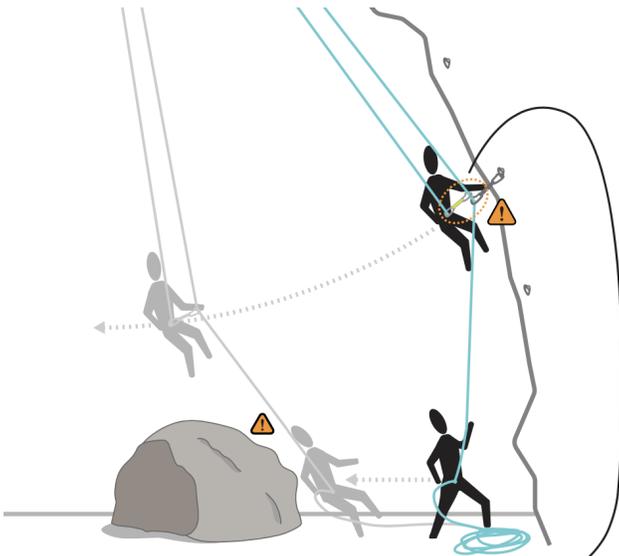


## WORN-OUT ANCHORS

If you reach an anchor with questionable hardware (e.g., sharp edges, significant grooves, loose bolts, etc.), consider rappelling and/or leaving your own carabiner or carabiners to keep your rope intact and minimize additional anchor wear. Once you have internet service, report the shoddy anchor on [badbolts.com](http://badbolts.com) or to the local climbing organization (LCO). And while you're at it, consider a donation to help maintain those anchors!



Trammig technique.



Always free your belayer before removing the last draw from the route. If you are connected to the belayer's side of the rope, you could drag them into obstacles when you swing.

Free your belayer before removing the last draw from the route.



It's often useful to clean the lowest draw on a route from above. Clip in direct to the second bolt (note the long tether), reach down to unclip the first draw, and then clean the second draw.

## BELAYER POSITIONING

When the climber takes the swing after cleaning the final draw, the belayer can be lifted into the air by the force of the swinging climber. This is especially true when the belayer is lighter than the climber. For the belayer, several steps will ensure a safe conclusion to the lower:

- Make sure you are free from your climber before they remove the last draw off the route.
- Move underneath the anchors to minimize any swing if you are lifted off the ground.
- Think about where the climber is going to swing and make sure your side of the rope is not in their way.
- Remove the slack and stretch from the system and take a crouched position before the climber releases from the wall. That way, if the force of the swing is enough to pull you up, there is room to stand before being lifted off the ground. It is also helpful to brace against a rock or tree.

## Article Details

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