



Sold to  
mateo.gonzalez.gomez94@gmail.com



## Anchors





## Anchors – What to do at the Top

Many climbs have bolted anchors at the top. This is the standard for sport climbs worldwide, but is also common at many North American trad climbing venues.

These bolted anchors will usually be equipped with maillons (quick links) or lowering rings, sometimes connected with chains. If you want to set up a top rope, you'll need to use your own gear.

You won't be able to simply clip your rope through this type of bolted anchor like you would at the gym. Instead, you'll need untie from the rope and

thread it through. After that, you can either abseil, or have your belayer lower you down.

It's important to learn how to do this in the correct order. If you thread an anchor incorrectly, you could drop your rope and be stranded at the anchor, or even become completely detached from the bolts.



## Setting Up a Top-Rope

With the security of an anchored rope above, top-roping is the safest way to climb. A top-roped climber can rest on the rope whenever they are too tired to continue, safe in the knowledge that

they will only fall a few inches. Top-roping is great for beginners, large groups or for experienced climbers who want to push their physical limits.

## Setting Up a Top-Rope After Leading

### You Will Need

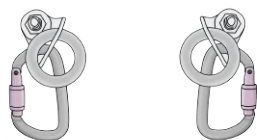
- \* Four screwgate carabiners.
- \* A cordelette/ long sling.

### Best Situation to Use this Method

- If the next climber will top-rope the route.

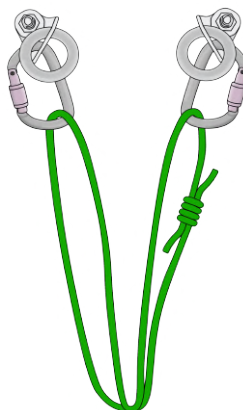
### Step 1

After leading up to the anchor, clip a screwgate carabiner directly into each bolt. They will usually be better orientated if you clip them underneath the lowering rings.



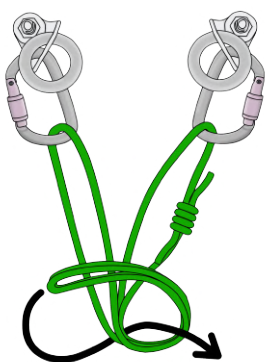
### Step 2

Clip the sling or cordelette to both carabiners. Pull it down in the middle so both strands are equal.



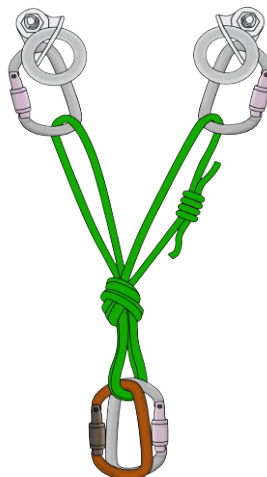
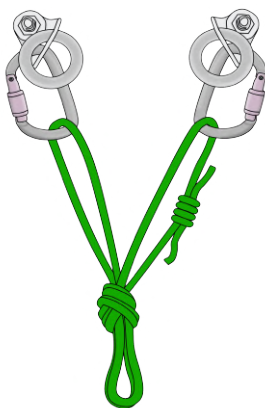
### Step 3

Tie an overhand knot in it. This creates a central point.



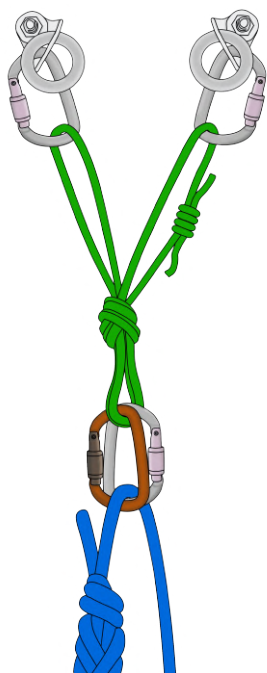
### Step 4

Clip two screwgate carabiners to the central point with their gates facing in opposite directions.



### Step 5

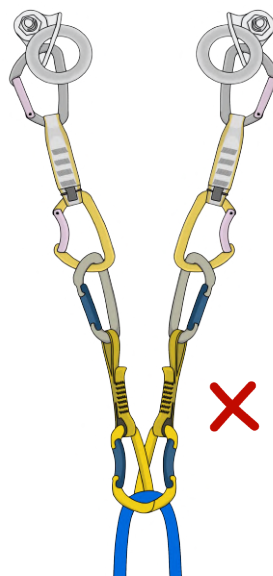
Clip the rope through the carabiners from the back so the rope is coming out towards you. Ask your belayer to take you tight. You are now ready to lower and the top-rope is set.



### Warning — Connecting Quickdraws

Never connect quickdraws together like this.

If you need to extend the anchor for lowering or any other reason, make sure to use a sling or cordelette instead, as described on the previous pages.



## Setting Up a Top-Rope from Above

At some crags it is possible to set up a top-rope by walking to the top and equalizing anchor bolts or trees.

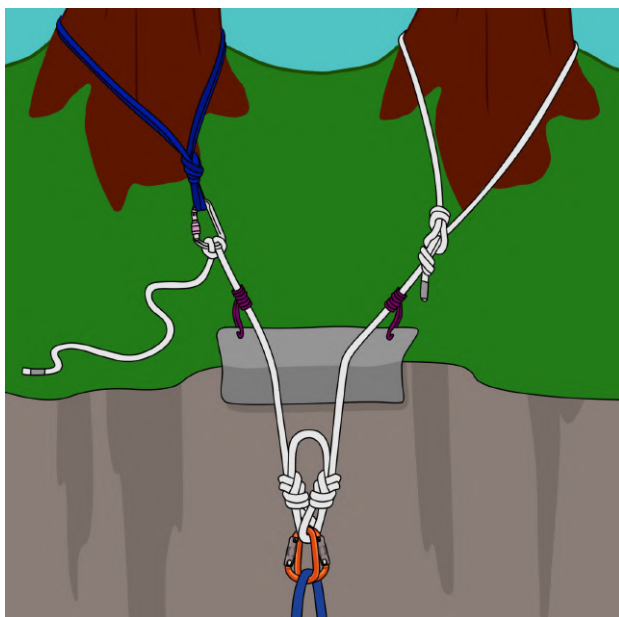
Be careful when walking around the top of a crag un-rope. You may need to make an anchor further back from the cliff edge and then be put on belay while you set up the top-rope anchor.

If the bolts are set back on a ledge, or situated in a place which causes the rope to rub over an edge, you should extend the anchor and pad the edge.

Make sure to double up the slings or cordelettes which extend the anchor over the edge. An old piece of carpet, foam pads or garden hose pipes (without metal lining) make good padding.

Even if your anchor is bomber, extended and well padded, it is wise to check it periodically if it is being used repeatedly. Setting up a trad anchor using trees or other trad gear is explained in *Trad Climbing Basics*.





## Attaching to the Anchor

### The Top Shelf

To free up space at the central point, you can clip in to the top shelf of the cordelette.

**This is useful when:**

- Belaying in guide mode.
- Using a redirected belay.
- There will be more than one other climber attaching to the central point.

#### Step 1

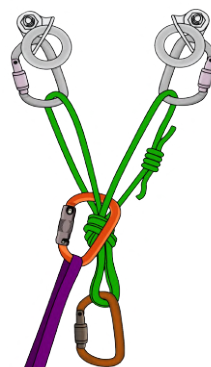
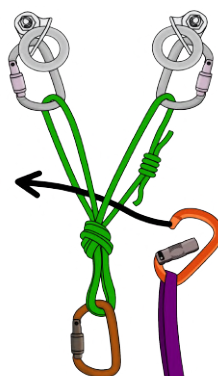
Cinch the cordelette tight and attach a screwgate to the central point. This ensures the knot cannot roll.

#### Step 2

Clip each individual loop of the cordelette with another screwgate as shown.

#### Step 3

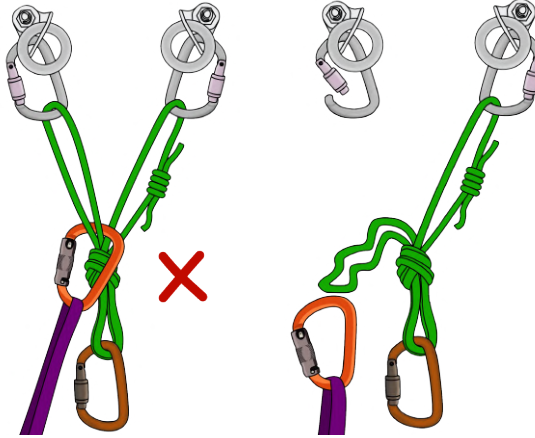
Attach yourself to this screwgate.



### Warning!

Make sure you have clipped through each cordelette loop individually. It is dangerous to clip around the loops as

shown. If one part of the anchor fails, you will become completely detached.

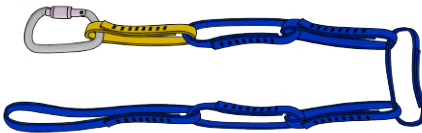


## Slings, PAS's and Daisy Chains

### Personal Anchor Systems

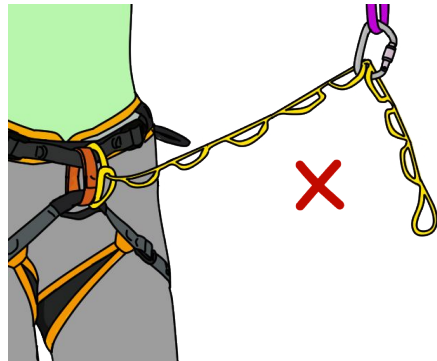
A Personal Anchor System (PAS) is a series of very short sewn slings connected in a chain-link-style. They are designed as an idiot-proof anchor attachment.

Once girth hitched to your harness, any part of the PAS can be clipped to an anchor to provide a full strength attachment.



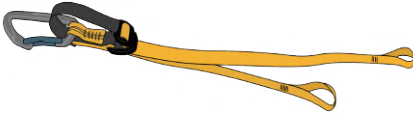
### Daisy Chains

Daisy chains look and function in a similar way to the PAS, but they are only full strength when clipped end-to-end. The stitching between daisy chain loops is very low strength. If you connect to an anchor by clipping a carabiner through two consecutive loops, the stitching could break, causing you to become completely detached from the anchor.



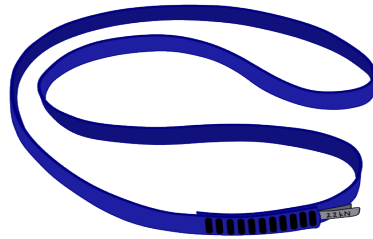
### Adjustable Daisy Chains

Adjustable daisy chains are not full strength (usually rated to around 5kN) and should never be used as your primary anchor attachment.



### Slings

Slings are designed to be used with a dynamic rope in the system to lessen the impact on them. Much higher forces can be generated when they are used alone.



### Moving Above the Anchor

It's only safe to attach yourself to an anchor with a sling, daisy chain or PAS if you won't be moving above it (such as when setting up an abseil).

If you fall when above an anchor (even if you are only 30cm above), unusually large forces will be generated. This is because slings (especially those made of Dyneema) do not absorb much energy — think of it as similar to falling when attached to a length of steel cable. You can damage internal organs with just a 10kN force — falling onto a sling directly is likely to be much higher than this.

It could also break the sling, or the anchor. If there is any chance that you will move sideways or above the anchor, make sure to attach to it with the rope.

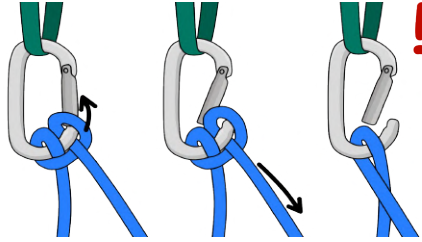




## Common Mistakes

### Tying Clovehitches on Snapgates

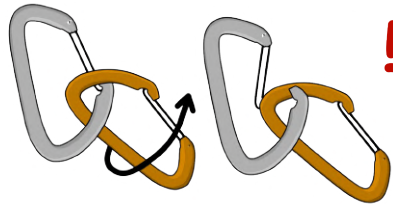
Part of the clovehitch could easily snap through the gate, making the knot useless. Never tie clovehitches on snapgate carabiners. Use a screwgate, or two opposite and opposed snapgates (see next page) instead.



### Clipping Snapgates Together

A slight twist can cause the carabiner's gate to open.

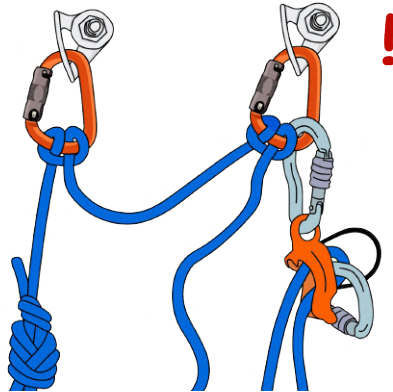
Instead, use a quickdraw, sling or screwgate depending on the situation.



### Non-Equalized Anchor Attachment

If one bolt fails, everything will swing onto the other bolt. This presents a real danger of losing control of the belay.

Always make sure your anchor is equalized.

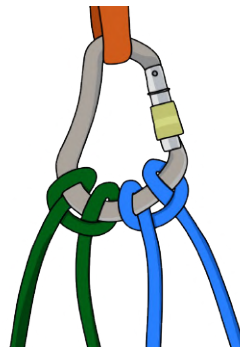


### Too Many Knots on one Carabiner

This is bad because:

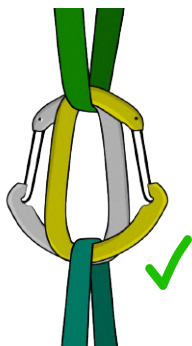
- If the blue rope is weighted, it will be impossible to remove the green rope.
- If the green rope is a climber's attachment point and you open the gate to remove the blue rope, the climber will only be attached by an open carabiner — this is very dangerous.

If you need to attach more than one knot to an anchor, use a separate screwgate for each.



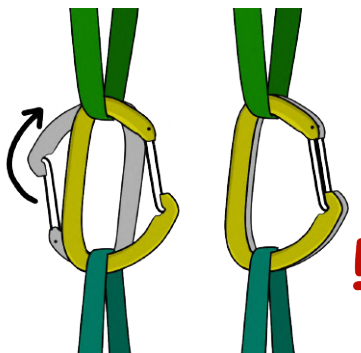
## No Screwgates?

If you need a screwgate but don't have one, you can use two 'opposite and opposed' snaggates instead. This is useful in situations such as attaching to an anchor.



### Warning!

This is a common incorrect carabiner alignment. If one carabiner flips around, both gates could be pushed open at the same time.



## Cleaning a Sport Anchor

Cleaning a sport anchor means removing all of your gear from it. Three of the main ways to do this are described on the following pages.

Which you choose depends on the type of anchor and whether you plan to lower or abseil.

## Method 1 – Feed a Bight of Rope Through

You will remain on belay during this whole process until you're back on the ground.

### You Will Need

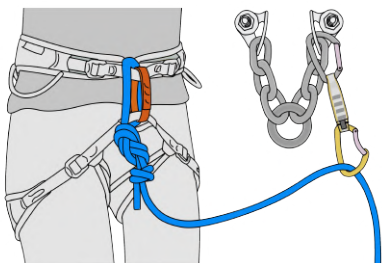
- \* Two spare quickdraws.
- \* One screwgate carabiner.

### Best Situation to Use this Method

- When you are the last person to lead the route.
- When the anchor has a central point which is big enough to feed a bight of rope through.

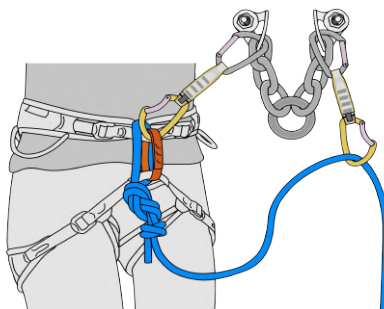
### Step 1

Clip your rope through a quickdraw on one of the anchor bolts.



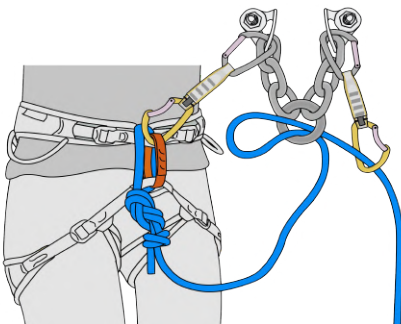
### Step 2

Clip another quickdraw into the other anchor bolt and clip it directly to your belay loop. Rest your weight on this quickdraw.



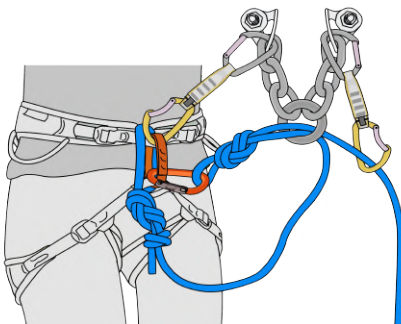
### Step 3

Pull up a little slack and push a bight of the rope through the main anchor point as shown.



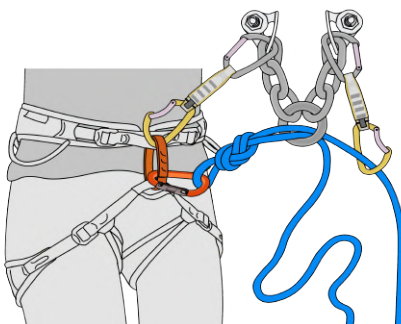
### Step 4

Tie a figure-8 on a bight and clip this to your belay loop with a screwgate carabiner.



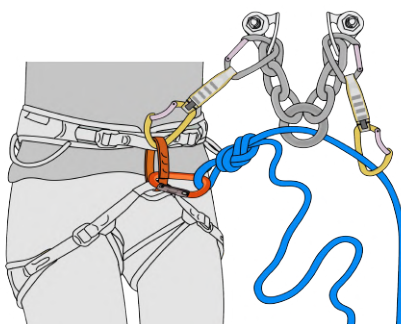
### Step 5

Untie from the end of the rope.



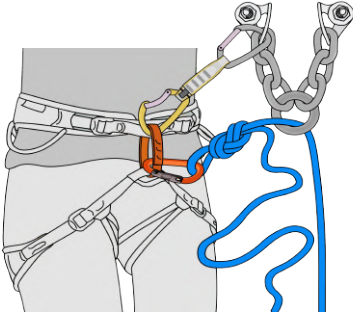
### Step 6

Pull the end of the rope through the main anchor point.



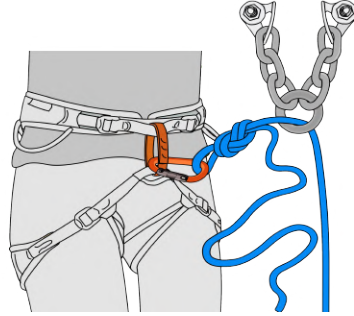
### Step 7

Remove the quickdraw which isn't holding your weight. Ask your belayer to take you tight.



### Step 8

Rest your weight on the rope, then remove the other quickdraw. You are now ready to lower.



## Method 2 – Feed the End of the Rope Through

Sometimes, you won't be able to push a bight of rope through the anchor. This depends on the thickness of your rope and the type of anchor.

As with method 1, you will remain on belay during the whole process.

### Best Situation to Use this Method

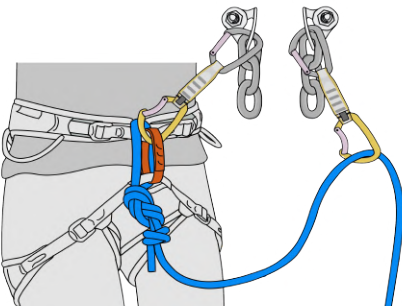
- When you are the last person to lead the route.
- When the anchor has a central point which is too small to feed a bight of rope through.

### You Will Need

- \* Two spare quickdraws.
- \* One screwgate carabiner.

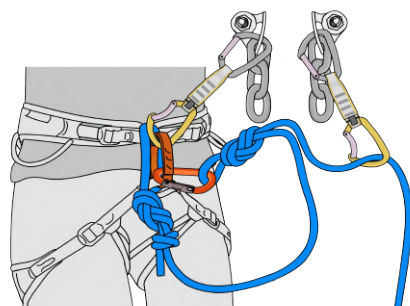
### Step 1

Clip two quickdraws into the anchor bolts; one clipped through the rope and the other clipped directly into your belay loop, just the same as method 1. Rest your weight on the quickdraw.



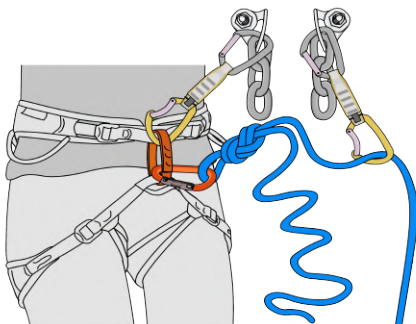
### Step 2

Pull up some slack rope and tie a figure-8 on a bight. Clip this to your belay loop with a screwgate carabiner.



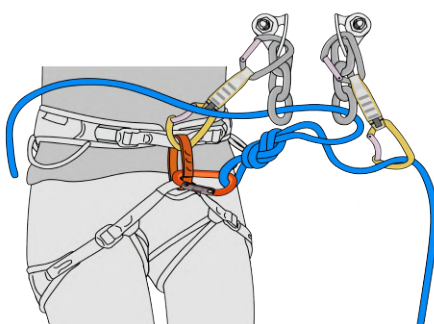
### Step 3

Untie from the end of the rope.



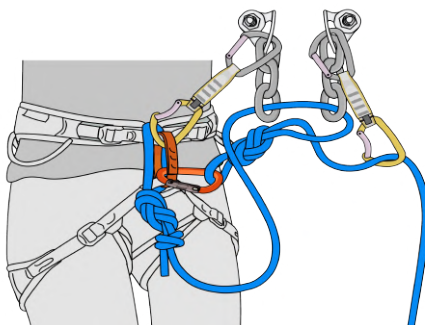
### Step 4

Feed the end of the rope through the main anchor point(s).



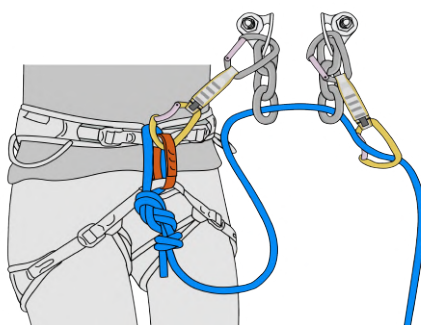
### Step 5

Tie in to the end of the rope.



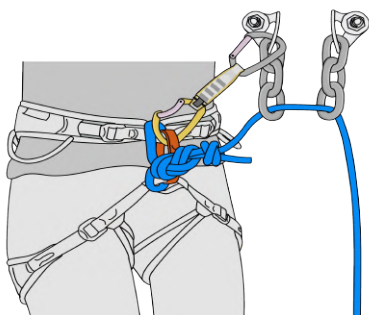
### Step 6

Remove the screwgate carabiner and untie the figure-8 on a bight.



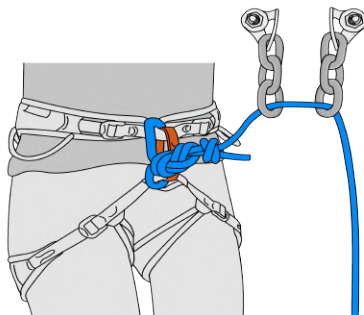
### Step 7

Remove the quickdraw which isn't holding your weight. Ask your belayer to take you tight.



### Step 8

Rest your weight on the rope, then remove the other quickdraw. You are now ready to lower.



## Method 3 – Attach Directly and Abseil

### Best Situation to Use this Method

- When you are the last person to climb the route.
- If the main anchor point is showing some signs of wear.
- If your rope would rub over rough edges while lowering.

### You Will Need

- \* A belay device with a screwgate carabiner.
- \* A prusik cord with a screwgate carabiner.
- \* Three spare carabiners (two of these must be screwgates).
- \* Two 60cm slings.

### Step 1

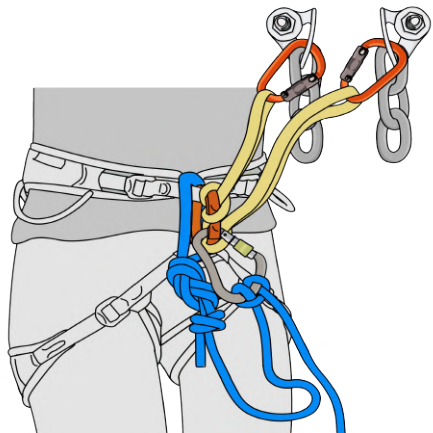
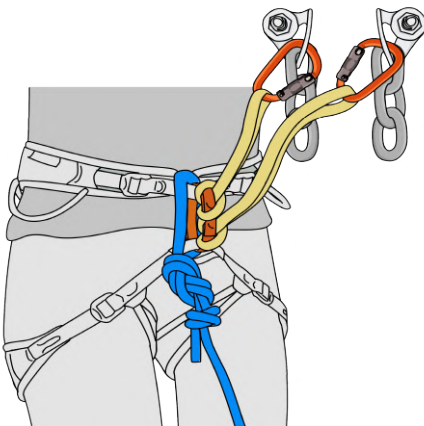
Girth-hitch both slings through your belay loop and attach them to the anchor bolts with screwgate carabiners.

You can now tell your belayer that you are 'off belay'.

### Step 2

Pull up some slack and tie the rope to a carabiner. Clip this to your belay loop. You don't necessarily need to use a screwgate carabiner here, and it doesn't matter too much what knot you use. The point of this is so you can't accidentally drop the rope during the following steps.

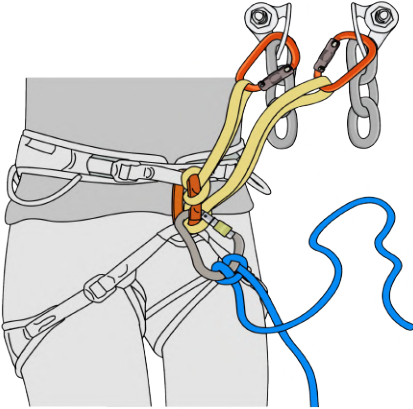
Some climbers clip this to a gear loop, since it will not be weighted. This is okay, but it's possible to break your gear loop if the rope gets stuck on something, meaning that you would end up stranded at the top of the climb without a rope.





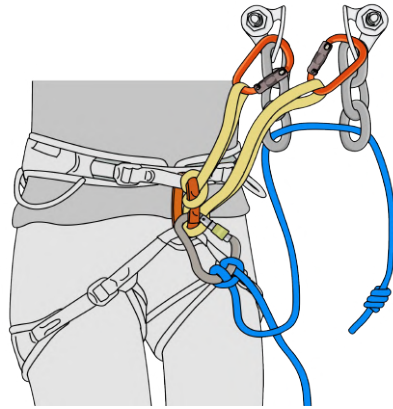
### Step 3

Untie from the end of the rope.



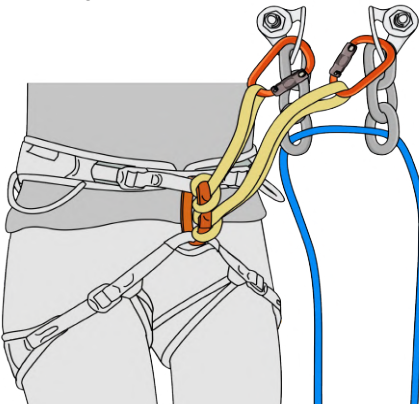
### Step 4

Feed the end of the rope through the main anchor points. Tying a knot in the end of the rope stops it from zipping through the anchor if you accidentally let go of it during the next step.



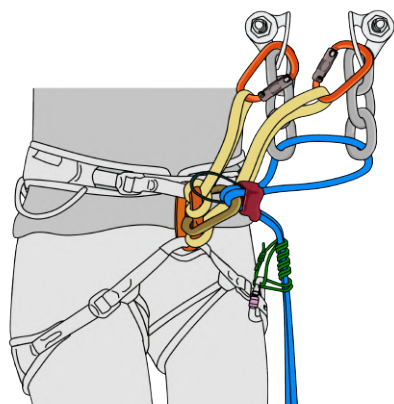
### Step 5

Remove the carabiner from your belay loop and untie the knot. Pull the rope down so that both ends are on the ground. Some ropes have a convenient middle marker to make this easier. Ask your belayer to confirm that the ends are down. If the ends are only just down, or if you're abseiling to an exposed ledge, you should tie knots in both ends of the rope. These knots stop you from accidentally abseiling off the end of the rope.



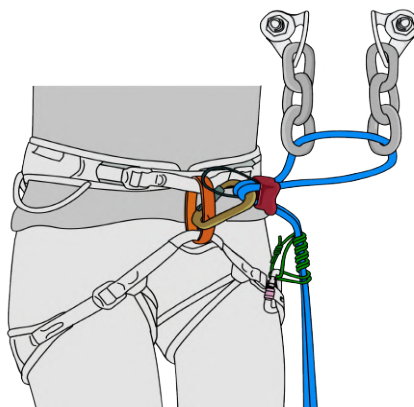
### Step 6

Attach your belay device and prusik to the rope (as described on pages 70-72).



### Step 7

Weight your belay device to check the setup. Then remove the slings. You are now ready to abseil (learn how to abseil on page 70).



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## Cleaning Anchors – Top Tips

- \* Always double-check the setup before you untie each knot. A mistake could be fatal.
- \* Make sure to communicate with your partner so they know if you plan to lower or abseil. If you plan to lower but your partner thinks you will abseil, they will take you off belay! Be clear about what you are doing.
- \* Look out for sharp edges beneath the anchor. Consider abseiling, rather than lowering, if your rope could run over a sharp edge.
- \* It's important that you don't add wear on the anchor rings by top-roping off them. Make sure to use your own screwgates and slings for top-roping so any wear is on your own gear rather than the rings.
- \* Always inspect the quality of the anchors and the surrounding rock before trusting your life to them.
- \* Never thread a rope directly through a bolt hanger. The square edges are likely to damage or cut your rope. Only thread your rope through round-edged metal.