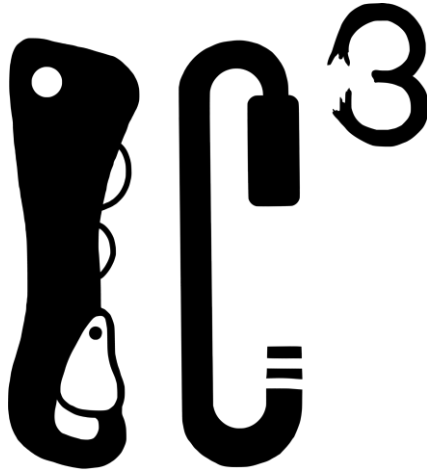


# ICCC Freshers' guide to Single Rope Techniques (SRT)



This handbook is intended to **accompany** the 'tree training' practical sessions held once a week throughout first term. As with everything, SRT clicks instantly for some people but requires a lot more practice for others. Tree training can be hard to follow, especially in the middle of the usual freshers' chaos. This guide is primarily for the people who, like me, struggled to pick things up solely from tree training sessions and would benefit from a written explainer to go through and understand in their own time. If you're still getting over the overwhelm of a demanding course in a new city, if it's hard to follow verbal instructions, if you've never done any outdoor sports before and have all kinds of imposter syndrome - or all this and more - it's all right. Been there. I was entirely incompetent at tree training. Still here with the club 5 years on. You'll get it and it's worth it! And for those whose brains are wired to catch on to practical things faster, this will still be useful to read through while you're learning.

I hope this helps!

'Til the last,

Oonagh

## What the things are

Before you go on your first trip, make sure you at least **know the names** of all the different bits of equipment. This way, if (when!) you get in a tangle you can explain to us exactly what the problem is and we'll be able to talk you out of it safely.

### Central maillon

This is the 'D' or shaped maillon which holds the two sides of your sit harness together, and what your SRT kit is attached to. **There should be 5 things on your central maillon**; from left to right (different people arrange their kit differently, so you'll form your own opinion on what should go where, but this is a decent order to start out with for avoiding tangles): cows' tails, croll, descender, braking crab, shock cord (with hand jammer and footloop attached). **When on your harness the half circle should be facing up**, as below. We also have a small number of the triangular kind of central maillon - these are fine too, and some people favour them over the round kind.



**Tip:** while caving, occasionally **check your central maillon is still screwed fully shut** as they can undo slightly on long pitches.

## Krabs (carabiners)

### i. Snapgate carabiner

These karabiners snap closed rather than screwing shut. These are the kind on the end of your **cows' tails** because it's easy to clip them on and remove them from ropes one-handed. These are not appropriate for the rest of your kit - you'll want oval krabs or screwgates for everything else.



### ii. Screwgate carabiner

These are lightweight karabiners which screw securely shut. Use these for attaching your **SRT bag** to one of the gear loops on your sit harness, or on both ends of your **shock cord** (oval krabs are also suitable for this).



### iii. Oval carabiner

These are as the name suggests oval shaped carabiners which also screw securely closed. Use these on your **descender**, and on both ends of your **shock cord**.

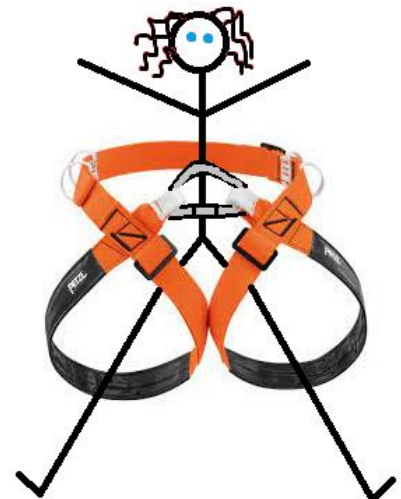
**Tip:** Get into the habit of checking the gates of your karabiners every so often on a trip to avoid close calls/ dopping bits of kit down a pitch (we've all done it at some point...)



## Sit harness

Put on your sit harness as per my superb artwork on the right, with the central maillon holding the two front loops together.

You'll want your **cows' tails and croll on the upper side** of the central maillon before you put it through the second gear loop, everything else clips on with maillons.



## Chest harness

Your chest harness goes on like so, with the long red strap looping through the **top hole in your croll** and back up to the other side of the chest harness.

The bottom hole in the croll is for the central maillon, so the croll links your chest harness to the sit harness.



## Cows' tails

Cows tails are **essential safety equipment** used to **maintain two points of attachment** while switching ropes or traversing. They attach directly to your central maillon. One of the twin lengths is **long** and one is **short**. When choosing cows' tails from the tangle in stores, try to get a pair in which the shorter rope is roughly the length of your forearm and the longer rope is roughly the length of your outstretched arm. Over time you'll learn your own preferences for how long you like each of them to be.

## Croll / Chest jammer / ascender

The croll is used to ascend ropes, supporting your weight on the way out of a cave. It also **connects your chest harness to your central maillon and sit harness**. It goes straight onto your central maillon via the lower hole, and should sit **flat against your chest with the gate facing outwards**.



## Hand jammer

There are two kinds of hand jammer, one without a handle and one with a handle. People tend to start out using the kind with the handle and then gradually find a preference for the kind without. If you initially choose the handle, **resist the urge to use it to pull yourself up - you should be using your legs** to ascend the rope by standing up in your footloop, not pulling yourself up by your arms which will quickly tire you out. Looking at you, climbers. It's also



easier to push the handled kind out of reach - also something to avoid, as this is a common way for SRT newbies to get stuck.

## Shock cord

The shock cord is also part of your ascending gear. It should have **either a screwgate or oval karabiner at both ends**. It clips onto your central maillon at one end, and the karabiner at the other end is attached to your hand jammer and footloop.

## Footloop

An adjustable loop of fabric which attaches to the same karabiner as your hand jammer, at the end of your shock cord. You ascend ropes by first moving your hand jammer up the rope, then standing up in this loop to push your chest ascender up the rope.

## Descender

As the name suggests, this is the piece of equipment used to descend the rope. There are two types of descender in stores - the petzl simple, which is the one you'll be using, and the petzl stop, which has a handle. We discourage people from learning on a stop so only worry about the non-handled kind for now.



## Braking krab

The braking krab is typically a big, clunky karabiner which provides friction, helping to control the speed of your descent as you feed rope through it. **It clips onto your central maillon to the immediate right of your descender**. Some of the club braking krabs have functional screw gates, but there is no need to screw these closed - the braking krab should be a snapgate to enable you to easily switch ropes in and out of it.

**Tip:** clip this onto your central maillon with the gate facing outwards to make it easier to switch ropes in and out of it quickly.

## How to ascend (prusik)

When ascending the rope, your two points of contact are your croll, which will be taking your weight, and your hand jammer, which is attached to your central maillon via your shock cord.

Clip your croll and hand jammer to the rope, and pull the rope down until you **feel your croll taking your weight**. Now push your hand jammer up until your footloop is at about mid-thigh height (or wherever you feel comfortable stepping up into your footloop). The first few times you try ascending a rope, it's helpful to have someone behind you hold the rope down, until you get the hang of doing this yourself (see "frogging"). **Tip: try not to repay this person's kindness by kicking them in the head as you flail about.**

When you take your first step up, try to **keep your posture as vertical as you can**. **Keep the leg you're using to step up straight underneath you**. What you're trying to do by stepping up is **force the rope through your croll**. Ridiculous as it feels, trying to **thrust upwards with your chest** as you step up helps with this. And **don't use your hand jammer to drag yourself up!** All this does is tire you out quickly. **Your legs should be doing the work.**

So, you're now moving, but the rope keeps refusing to go through your croll. Pulling it through each time with your free hand is exhausting. So, instead: the "frogging" technique. It's called "frogging" because your back legs will be moving together, like a frog jumping. Instead of moving up the rope with just one leg, you'll want to **put both of your feet through the footloop**, and then **trap the rope between your toes to pull it through your croll as you step up**. You then release it, scrunch up both of your legs for the next step as you push your hand jammer up. Trap the rope again as you step up, pulling that length of rope through your croll. It requires some coordination, but it's satisfying once you get it to work.

At tree training, you'll get to practice this on a pulley before having to learn how to change over to your descending gear to come back down.

## How to descend

### i. Rigging your descender

This takes a little practice but becomes muscle memory after your first few trips. Your descender has two bobbins on the inside which the rope winds around, providing friction. Helpfully, the petzl simple has a **diagram** on the front which



should be facing you if your descender is clipped on the right way around. It may be useful to remember “**down is the right way**”: the rope going **down** should be **coming out on the right**, and the one going **up** should be coming **in from the left**.

**Tip: long hair gets caught in descenders! Tie it back so you don't end up cutting it off/ ripping it out while on a rope (said from experience).** Buying a buff (a multipurpose tube of fabric sold in most outdoor shops) and wearing it over your head and neck on trips with your hair carefully tucked in works well. They're also good for extra warmth.



How to rig descender

## ii. Soft lock

A soft lock stops you moving but **isn't hands-free**. Until you get more confident, focus on hard-locking your descender whenever you need to stop to *do* anything, though a soft lock is fine for a **brief stop** in which you don't need your hands e.g. to check out a cool formation or check where the next rebelay is below you.

To soft lock, put a **loop of the rope below you around the top of your descender**. This will stop you moving as long as you **still have a hand on the rope**. You may also want to **keep your other hand around the top of your descender** to stop this loop becoming dislodged.



How to soft lock

## iii. Hard lock

This is the **safer, hands-free lock** which you'll need to do whenever getting onto a rope, stopping for a rebelay or a tricky deviation.



Start off as if you're doing a soft lock, **crossing the rope from below over the top of your descender**. Then take a **beit** (a loop) of this rope and **force it through both your brain krab and the oval krab** attached to your descender. This loop goes **over the top of your descender, then pull it tight**. This will hold itself, so now your hands are free to figure out that rebelay/ deviation/ fidget with your SRT bag. See right for picture.

#### iv. Testing your descender

**You always need to test your descender** after you rig it - before you descend the first rope, and then every time you do a rebelay. Descending is the only time the 'two points of attachment' rule doesn't apply, so you need to make sure that single point of attachment is good!

When rigging your descender, **both of your cowstails should be clipped in**. When your descender is **rigged and hardlocked** on a new rope, **unclip your short cowstail**. Then **carefully undo your hardlock**, and **practice descending a tiny bit** - remember your **long cowstail is still clipped in** so you **don't want to descend too far to reach it**. Once you're sure your descender is rigged as it should be, **hard lock again and unclip your long cowstail**. Now you can descend safely.



Transition to hard lock



Full hard lock

# The three things you need to know to go on your first SRT trip

## i. Changeover - for when things go wrong

'Changeover' means going from your ascending gear to your descending gear, or the reverse, when something's gone wrong and you need to go back and reassess the situation.

### **Remember: two points of contact!**

#### On the way down

So you're going down the rope and for whatever reason you need to switch from your descending gear to your ascending gear and go back where you came from.

The first thing you should do is **hard lock**, freeing up your hands. Then you'll put your **hand jammer** on the rope for that second point of attachment. Then you'll need to **put your croll on the rope above your descender**. Standing up in your footloop to take the weight off your descender will make this easier. Once it's securely on the rope you can **undo your hard lock**, since your **croll should be taking your weight**. Now you can safely derig your descender and you'll have fully switched to your ascending gear.

#### On the way up

The reverse is true: you're going up the rope and someone above shouts that something's wrong and you should go back down.

This one is typically more annoying than the reverse. First **rig your descender just underneath your croll**, as close to it as you can, and **hard lock**. You may want to bring your hand jammer closer to you because you'll be using your footloop for this. Remember that **you're going to lose some height, so keep your hand jammer close enough to you that you'll still be able to reach it easily** when you're on your descender. Now **stand in your footloop to take the weight off your croll**, and undo the gate. This is awkward and may take a few attempts. Now **lower yourself slowly onto your descender**. You can then bring your hand jammer closer to you again and use it to **test your descender** with your shock cord and hand jammer acting as a backup. After this you can remove your hand jammer, and you'll have fully changed over to your descending gear.

**Tip: Remember to close the gate of your croll afterwards.**

## ii. Rebelay - changing ropes

It isn't just one massive rope going all the way down the cave. Pitches are broken up into sections - take a look at the rigging guide for the cave you're going to and ask someone to explain it to you. There will be a 'rebelay' every time you need to switch to a new section of rope. Knowing how many pitches and rebelays there are and when to expect them is helpful!

### On the way down

Descend until you're **roughly eye level with the bolt**, and then **hard lock your descender**. Now **clip into the bolt or the knot with your short cows' tail**. Your **long cows tail should clip into the loop**, as pictured, because you'll need the extra distance to test your descender. Now you have **two points of contact** aside from your descender, and you can de-rig it. **Find somewhere to stand/ wedge yourself** (if there's no good foothold around, **stand in the loop of the rebelay**). Now **rig your descender on the new rope, as high up as you can, and hard lock**. Once you're satisfied with the hard lock, you can **unclip your short cows' tail** and lower yourself onto your descender. **Test your descender** using that extra length your long cowstail gives you, and once you've done that, you can **unclip your long cowstail** and continue descending.

### On the way up

Ascend until you're **roughly eye level with the bolt**, and **clip into the bolt or the knot with your short cowstail**. Clip your long cowstail into the loop. Move your **hand jammer** to a convenient height on the next rope, and **stand up in the loop of the rebelay** (or a foothold on the wall, or your footloop if that's more convenient). **Undo your croll and clip it to the next rope**. With your croll now taking your weight, you can **unclip your cowstails** and carry on prusiking.

**Tip: Make sure your hand jammer is on the right side of the rope, or you'll end up taking the loop of the rebelay with you and getting tangled in it.**

## iii. Deviation

This is just a carabiner attached to a sling around a conveniently placed rock/formation (a 'natural') or a bolt. As you ascend or descend the rope, you need to pass the karabiner without dropping it. A deviation holds the rope safely out of the way from water and pointy rocks (pointy rocks = rope rub, *shudder*) so be careful not to drop it.

If you do drop it, though, it's not the end of the world - your leaders have dropped the sling at least once. Try to make your way to it safely and put it back on, and if you can't, shout to the people close to you so they know what's happened.

### On the way down

Descend until you're **roughly eye level** with the bolt or natural the sling is attached to, and **hard lock**. Now **pull yourself in** to the deviation any way you can, **unclip the karabiner and clip it back in above your descender**.

### On the way up

Same thing applies; ascend until you're roughly eye level with the deviation, pull yourself into it any way you can, and **clip it in below your croll**.

### A note on upper body strength

Yeah, it's helpful for deviations. If you can pull yourself into it with one hand you definitely have an advantage. BUT, **there are ways around it if you're not built that way**. Once again, **take note of your feet**. Is there a **wall you can kick off** to bring yourself closer to it? If not, try putting your arm through the sling and pull yourself into it by **wrapping it around your arm**. This should keep you close enough to it that you can unclip and reclip the karabiner with your free hand.