



Stickman's guide to

Single Rope Technique (SRT)



University of Bristol Spelaeological Society

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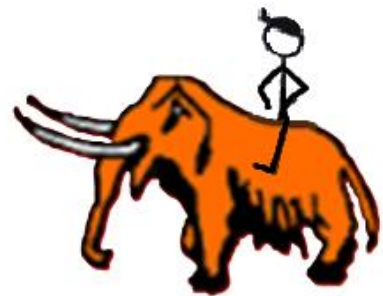
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Foreword

What is SRT?

Single Rope Technique (SRT) is used to ascend and descend pitches in vertical caves. This guide is intended as an introductory guide for beginners and contains the basic information to supplement SRT training sessions. It is not to be used in place of physical practise and teaching.

Please note:

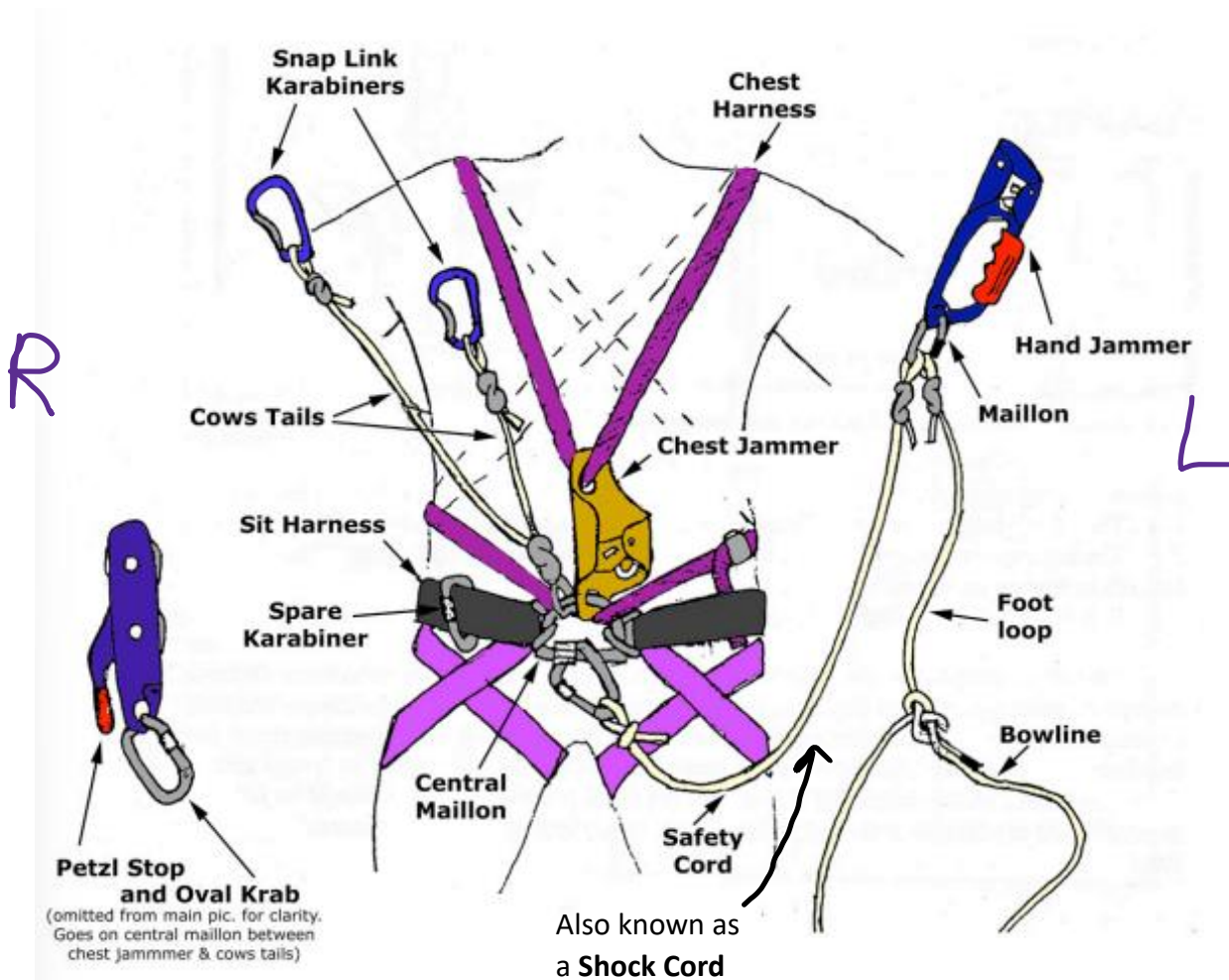
The methods shown here are not the only way of doing SRT. Each person has their own slight preferences but this seems to be the most universally agreed method in the club.

Caving is a potentially dangerous sport and it is the caver's responsibility to make sure that they understand the safe and correct use of gear before they use it in a cave. The club or university cannot accept any responsibility for damage or injury resulting from this advice in this guide.

**Familiarise yourself with this guide before tackling an SRT
cave**



Equipment



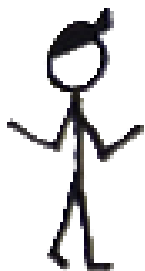
Kit Tips

- To put on the harness loosen the leg loops and waist all the way. Step into leg loops and tighten them first. Then tighten your waist. The harness should not be so tight that it is painful but tight enough to not fall out of.
- Ensure all screw gates on the karabiners are done up before going in the cave.
- Your chest jammer should always lie flush against your body. It shouldn't be twisted.
- Tighten chest tape before ascending.
- Wear gloves to prevent rope burn.
- Wellies are the most appropriate footwear for caving.
- Leave all metal work connected to prevent separation.
- Leave jammers and descender in closed position to prevent damage.

ALWAYS REMEMBER TWO POINTS OF ATTACHMENT WHEN DOING SRT!



Caving Lingo



'ROPE FREE'- to signify that the rope is ready for the next caver who will say **'OKAY'** to signal to the other caver that they are coming.

'BELOW'- shout when loose rock falls down a pitch or a climb to warn others

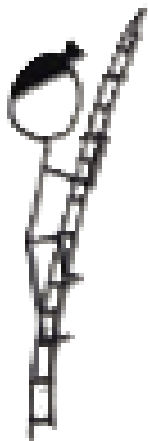
- **Prussik**- the action of ascending a rope
- **Pitch**- a drop where a rope/ or ladder has been rigged
- **Pitch-head**- area at the top of a pitch, defined by traverse line
- **Deviation**- a redirection of the rope. Normally a loop with a krab. NON-WEIGHT BEARING.
- **Rebelay**- where the rope is re-attached to the rock part of the way down a pitch. WEIGHT BEARING.

Pitch Etiquette

Before you get to the pitch head or drop, there is normally a traverse or security line in place. This serves as a place for waiting cavers to safely clip on with their cowstails. Do not crowd the traverse line.

When approaching the pitch-head give the person in front of you space. Wait for your turn as the person before you descends/ascends. When they are finished on the pitch they will shout **'ROPE FREE'**. You shout **'OKAY'** so they know you have heard them. Now you can clip onto the rope and begin ascending/descending

Ladders



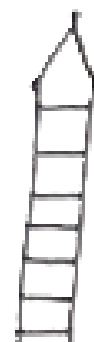
Ladders are used to climb up and down pitches. They are made out of metal and are quite narrow.

The best technique for climbing a caving ladder is to grab the rungs from behind.

This stops your fingers from being squished and gives you a better hold on the ladder.

If the ladder becomes flush with the rock behind it use this trick -> With your foot still in the ladder press your knee against the rock and the next rung will lift away from the rock.

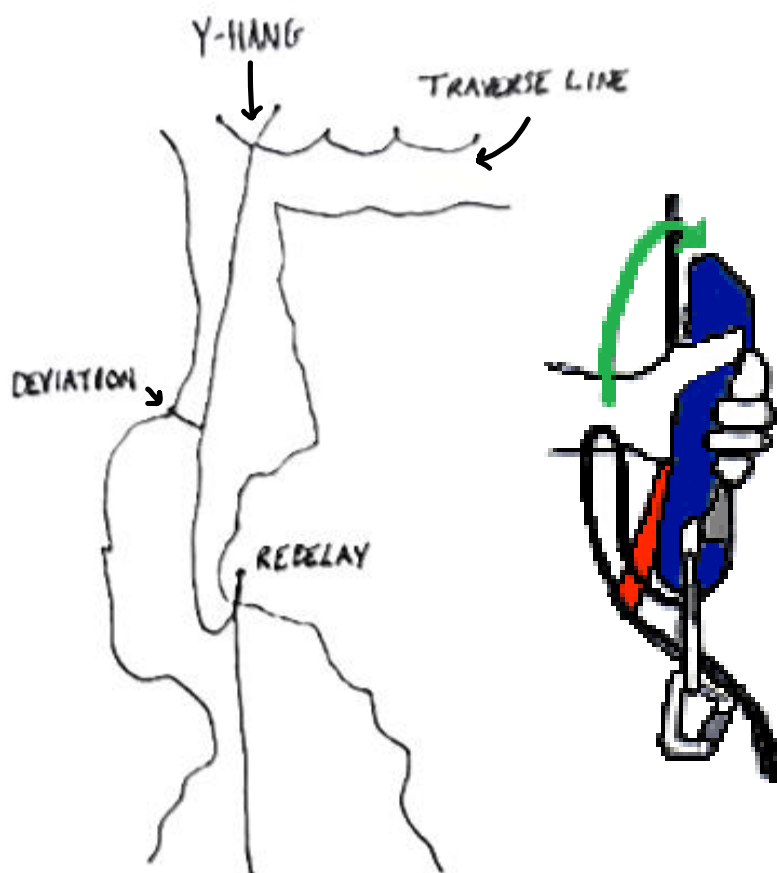
Never have more than one person on a ladder.



Descending ↓

A Petzl Stop (descender) is used to abseil down pitches.

1. The live rope (the rope which comes from the knot of the y-hang) must always go around the lower bobbin first.
2. The live rope makes an 'S' shape working from the bottom. It enters the left then is wound up between the bobbins and emerges on the right. (There's also a diagram on the back).
3. Once loaded, clip the free hanging rope through breaking krab. The breaking krab is an extra krab clipped next to the descender on the central maillon which helps with speed.



Locking off

Once the stop is on the rope it is key that it is 'locked off' before you put your weight on it. This is also important when passing obstacles.

Locking off is a safety feature that stops you from descending before you are ready.

To lock off push the free hanging rope through the breaking and stop krabs and thread the resulting loop over the top of the descender

How to tackle a straight-forward pitch

Approach pitch-head with your cowstails ready. Clip into the traverse line or back up belay as soon as possible. Grab the main rope and thread the rope through your descender as close to the top of the rope as possible (this will help you to swing less when you put your weight on it). Put a full lock on the descender. Check that the rope is threaded correctly, if it is, lower your full weight onto your descender. Take your short cowstails off and undo the full lock to test your descender. Don't descend too far as your long cowstails will become out of reach. Once you have tested your descender take off your long cowstails and descend.

Descending (page 4)

1. Clip cowstails into the knot.
2. Load descender with the rope. Adjust descender so it is close to the knot.
3. Put on full lock.
4. Sit on rope (let the rope take your weight). All weight should be on the descender NOT the short cowstail.
5. Take off short cowstail.
6. Take off locks and test descender. (Only a few inches, don't go further than long cowstail)!
7. REAPPLY soft lock.
8. Take off long cowstail.
9. Descend down the rope.



Ascending (page 6)

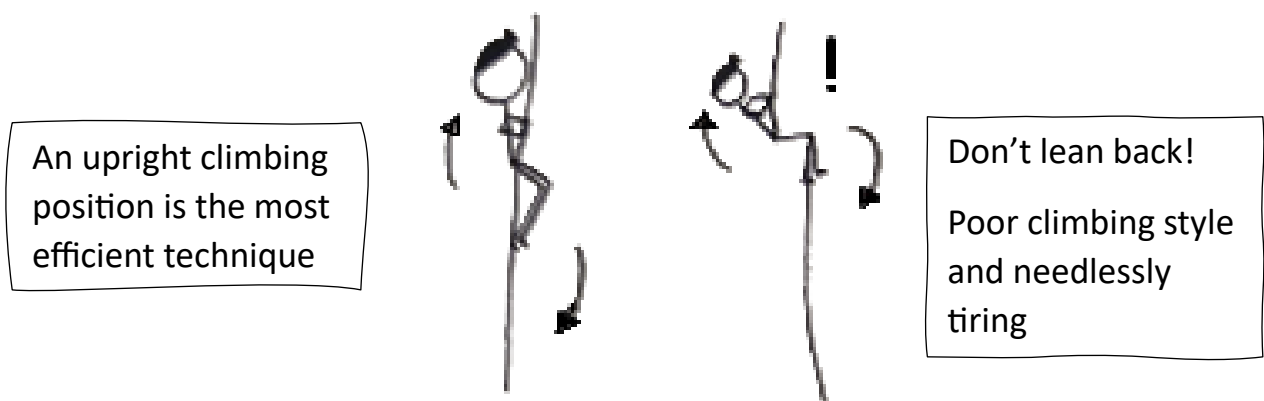
1. Attach chest jammer and pull rope through until taught.
2. Attach hand jammer, (within reach).
3. Sit on rope. (Let the rope take your weight).
4. Move hand jammer up and step up in footloop to bring chest jammer up the rope to hand jammer (PRUSSIK).
5. Repeat moving hand jammer and chest jammer up the rope, (going from sitting to standing).
6. AT THE TOP, clip in long cowstail into the knot, and step away from the pitch.
7. In a safe location, clip short cowstail onto traverse line and take off hand and chest jammers and step away from the pitch.
8. Continue caving.

Ascending ↑

Prussiking

Going up is called prussiking. This uses a chest jammer, hand jammer and a footloop. By pushing down on the foot loop the rope moves through the chest jammer. Weight is then put onto the chest jammer, and the hand jammer is used to move the footloop up the rope. The process repeats and the caver moves up by standing up and sitting down.

Hold the rope between your feet to make sure it pulls through as you prussik. The further you ascend the weight of the rope will eventually do this itself. (This can be tricky).



Sometimes you might get into a pickle and have to change direction whilst on the rope, e.g. Knot Bypass, here's how you do that,

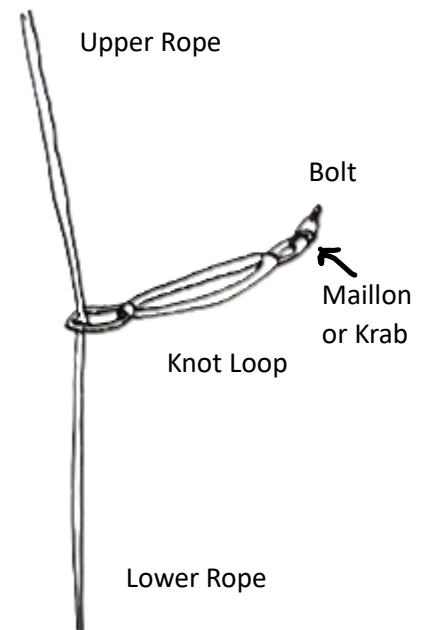
<p>↓ ↑ Descent to Ascent</p> <ol style="list-style-type: none">1. Lock off stop.2. Attach hand jammer.3. Stand up in your footloop.4. Attach chest jammer to rope above stop.5. Take one prussik up, this makes things easier.6. Remove stop.7. Start prussiking.	<p>Ascent to Descent ↑ ↓</p> <ol style="list-style-type: none">1. Make sure hand jammer is well within your reach.2. Put petzl stop on the rope below your jammers and lock off.3. Stand up in your footloop and take weight off chest jammer and release from rope.4. Sit down until weight is on your stop.5. Unclip the hand jammer.6. Unlock stop and abseil.
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Deviation

A deviation is another means of avoiding obstacles and other hazards by altering the hang of the rope down the pitch. The rope runs freely through a krab which is attached to a belay via a tape or rope-loop. This deviation pulls the rope away slightly from its natural vertical hang to move the rope below the deviation away from a rub-point.

A deviation **never** bears the full weight of a caver (or a fraction of it). Since deviations sometimes use poor belays you should never load them with your full weight.

In the description below, the cowstail is clipped into the deviation merely to stop you swinging away from it - **at no point should you be hanging from the deviation itself**. Your weight should always be taken by the rope.



Descending Past A Deviation ↓

1. Abseil down so that you're level with the deviation and lock off your descender.
2. Clip long cowstail into the deviation loop.
3. Unclip the deviation krab from below you and clip it in on the rope above you.
4. Unclip cowstail and continue abseiling.

Ascending Past A Deviation ↑

1. Prussik up to the deviation.
2. Clip long cowstails into the deviation.
3. Unclip the deviation krab from above you and clip it in on the rope below you.
4. Unclip cowstail (you may swing out) and continue prussiking.



Always clip the deviation back in!

Rebelays

A reelay is where the rope is re-attached to the rock part of the way down a pitch. If the rope from the top of the pitch meets a rub point, waterfall or loose rock the rope is reelayed to the rock over to one side so that the lower part of the rope (which hangs down from the reelay) avoids it. This means that you will have to unclip above it and reclip on to the rope below it if descending, and vice versa when ascending. Sometimes there is a ledge to stand on or brace against. When tackling a hanging reelay there is nothing to stand on.



Descending Past A Reelay ↓

1. Abseil until you are level with the reelay knot. **DON'T abseil past it!**
2. Clip your short cowstail into the reelay (into the knot or the maillon). Clip long cowstail into the loop in the upper rope.
3. Abseil until your weight is taken by the short cowstail.
4. Take your descender off the upper rope (the one above the knot) and put it on the lower rope.
5. Lock descender off.
6. Unclip the short cowstail by standing in the reelay loop or a handy ledge to take your weight off it. (If you can't do either of these clip on your hand jammer, not too high, and stand in your footloop). Transfer your weight onto the descender.
7. Unclip long cowstail.
8. Continue descending.

Ascending Past A Reelay ↑

1. Prussik up to just below the reelay knot.
2. Clip long cowstail into reelay.
3. Take weight off chest jammer by standing in footloops.
4. Transfer chest jammer from lower to upper rope.
5. Transfer hand jammer from lower to upper rope (ensure that the shock cord isn't wrapped round the lower rope).
6. Unclip long cowstail from reelay (you may need to prussik up a bit to do this until it's slack).
7. Continue ascending.

SRT difficulty levels from the CNCC Website

0 – 1: One or two short (typically <7m) pitches which are regularly accessed with no tackle or by using ladder and line, though SRT could be used instead if preferred. Possibly some free climbs where a handline may be advisable. Suitable for novice cavers.

2: A couple of simple short single-drop pitches with traverse lines at the pitch heads, usually with no flowing water. SRT is easily supervised by experienced members of the party at key points. Suitable for newer cavers who have demonstrated entry-level SRT skills.

3: Multiple pitches which may contain technically easy rebelay (not hanging rebelay) and deviations. Water may be a hazard to safe SRT practice in wet weather. Suitable for newer cavers who have demonstrated sufficient SRT proficiency in caves before.

4: Multiple pitches which may contain multiple rebelay, hanging rebelay and/or technical deviations, and which are hazardous in wet weather. The entire group should be self-sufficient in SRT in a diverse variety of scenarios if attempting these caves.

5: Similar to 4, but the cave is wetter and the pitches often deeper. A more serious undertaking.

TRAINING

Write down the dates of your training sessions here!

