

PULLING POWER



There are some things you really should do, but just never seem to manage. Going to the Dentist is one, learning more about ropework is another. Well, that may be OK for Stange on sunny Sunday, but if you're heading off to Gogarth or the Alps don't be a fumbler with toothache – get it sorted before you go. As your mother always said - you'll feel better for it afterwards. Tim Neill from Plas y Brenin shares some of his favourite tricks.

Prusiks

Carrying a couple of prusik loops about your person is a very smart idea. These clever little things have a multitude of uses, from protecting abseils, ascending ropes, and constructing hoists, to even extending runners. And that's not including their other invaluable contributions to the climbing community; fixing hammocks, adjusting slack lines, tying up sleeping mats, you name it, a prusik's probably stepped in and done it somewhere.

But what is a "prusik loop"? As the name suggests, it's a loop of cord, made of supple 5 or 6mm rope, approximately 1.5m long with the ends tied by a tight double fisherman's knot. With the cord costing less than a pint, there really is no excuse not to own a pair. And whilst we're on that note, do be aware that like a rope these are degradable items, so don't be delay – replace them instantly if in any doubt about the amount of wear and tear they've suffered.

Protecting abseils

Whilst protecting an abseil at a single pitch crag can often seem irrelevant, as soon as things get bigger it is definitely worth considering. On longer descents the journey down the rope may be a bit of an uncertainty. Tangles could need sorting out, the ends of the rope might not reach the deck, you could descend the wrong way, or the combination of a steep abseil, thin rope, and heavy sack might be a potential worry. In all of these situations having some form of automatic brake on the rope will make your life a lot easier.

Unexpected stone fall, perhaps dislodged by your own ab rope, or another incident could also cause you to inadvertently let go of with your brake hand with potentially disastrous consequences. Of course there's still nothing to prevent you just launching off and hoping for the best, but most people stop doing that after their first near miss!

One common solution is to use a French prusik coming off your leg loop. Whilst this cannot claim to be 100% failsafe, it comes pretty close if well set up. But remember, if you're stopping for anything beyond unraveling a quick tangle, do back it up by wrapping the slack rope around your leg. Note that a French Prusik is used, not the simple Prusik - the French Prusik is a good abseiling back up because it releases under load, a normal prusik will not, something you will discover when you get firmly stuck! See diagram right for how to set up this system. Some people prefer to fix the prussic above their belay plate, but this can give the added danger of the knot ending up out of reach above your head.

There are however still a few abseils that might be better without a prussik, these include low angle descents where the extra friction caused makes its use impractical, a descent on icy or very wet ropes, or when the quality of the anchor is a little more subjective (i.e. snow / ice anchors or threaded rabbit holes on the Lleyn Peninsular) and a very smooth ride is required. As ever the key is to exercise judgment and caution.

Going back up

Ascending a rope is a lot more strenuous than abseiling, but in some situations is the only way out - you may have abseiled down the wrong line, fallen off and be hanging in space, or perhaps be stuck down a crevasse. Route-setters, photographers and big-wallers carry jumars specially designed to make ascending a rope easier, but in most climbing situations, prusiks will be good enough, albeit harder work. Whilst the French Prusik is a good abseiling back up because it releases under load this also means it's less suited to ascending since it'll slide if you grab and pull directly on it by mistake. For this job a Klemheist is better, as this knot locks up tight when loaded but can easily be "thumbed" loose when unweighted.

KLEMHEIST & FRENCH PRUSIK

FRENCH PRUSSIK

Best tied with a short loop as one which is too long will open out and not grip as well because it's the length of unwrapped ends which affects its grip!
Will release when loaded by squeezing the knot.

Needs a karabiner to clip the ends together.

KLEIMHEIST

Wind loop spirally, then thread through itself. Best if neat, not overlapping – can be done with a soft daisy.
Difficult to release when loaded!

Push here with thumb to loosen off if it jams.

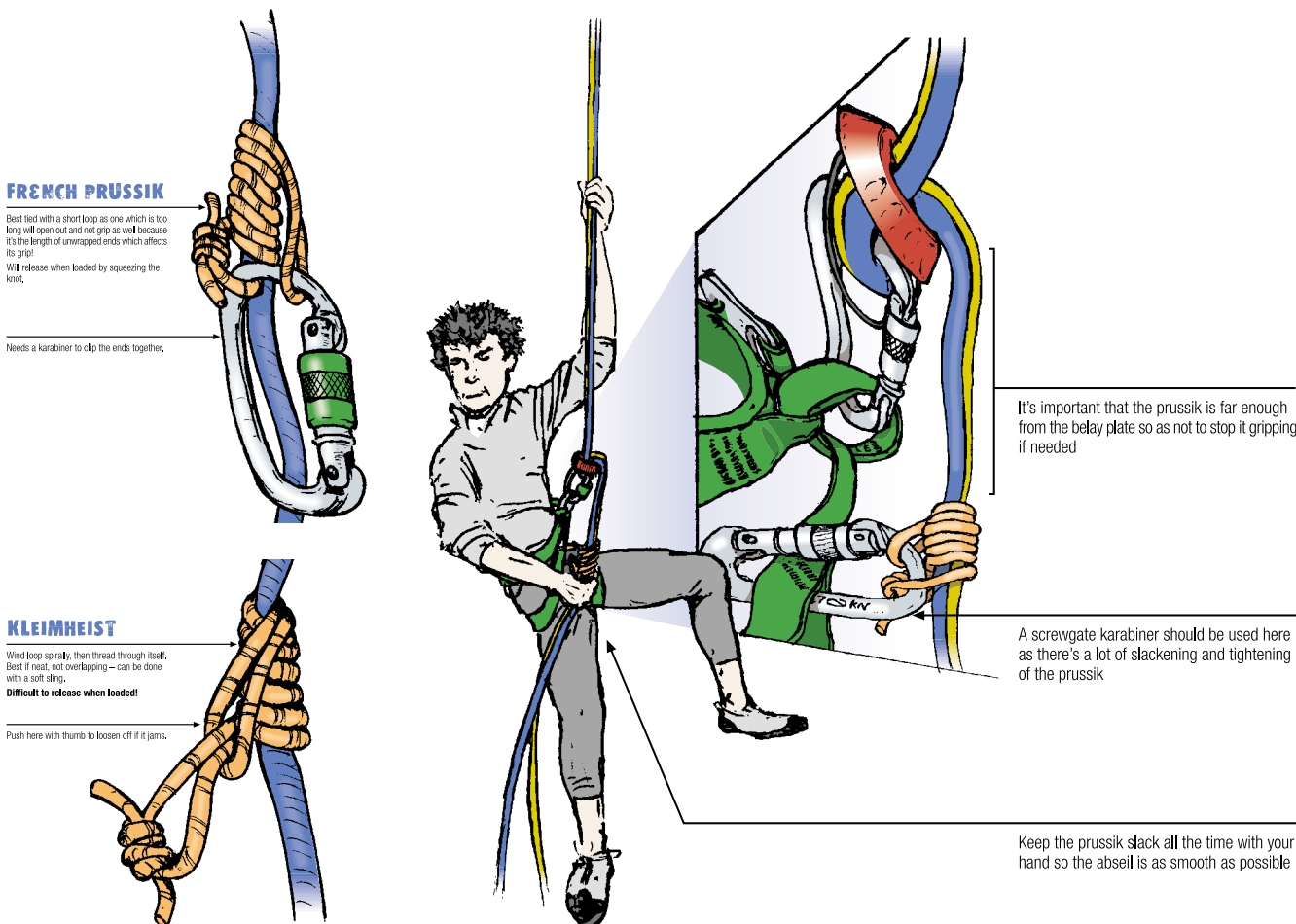
BACKING UP AN ABSEIL

It's important that the prussik is far enough from the belay plate so as not to stop it gripping if needed

A screwgate karabiner should be used here as there's a lot of slackening and tightening of the prussik

Keep the prussik slack all the time with your hand so the abseil is as smooth as possible

(LEFT) Catherine Barton wishing this wasn't the first time she'd ever had to ascend a rope - on the Lost Arrow Spire tyrolean, Yosemite. Credit: Alex Messenger.





Cruising down

Some abs are straight forward, a single rope leads straight down to the deck. Others involve multiple change-overs and uncertain terrain. Make life easier for yourself by sticking to a smooth system, this is especially vital when tired or if it's getting dark. Be logical and ordered as there are many pit-falls, and if in doubt, check and check again.

1 Check if the anchor(s) are OK. If so, and there's more than one equalize to a single independent loop. Don't be afraid to leave some tat, or krabs if required. If you consider an anchor suspect look at the options of either replacing it or tweaking it. You could back it up using some of your gear - remember to let all the load fall on the existing anchors, but with the back up system sufficiently tight that it is not shock loaded should the anchor fail. Send the heavier member of the party down the rope first, whilst the second keeps an eye on the system, then either remove the back up, or if there is cause for worry, sacrifice some gear. Don't be a lemming, and automatically launch off into space from any old collection of tat. Get into the habit of casting a critical eye over anything you're about to trust with your life, and remind yourself that gear is easy to replace, you are not.

2 Clip yourself to the anchor with a "cowstail". This is a sling "lark's footed" to your harness's tie in point perhaps knotted to adjust it's length, and clipped into the belay.

3 Clip the rope(s) to the anchor, to stop you letting go accidentally! If using two ropes, join with a suitable knot. There are a few options here, and it really depends on personal preference. An overhand knot is widely used, this is less likely to snag than others, but remember to leave generous tails (0.5m) either side of the knot. If this slimline number upsets you, or if the ropes are of different thicknesses or iced then choose a double Fisherman's, or a reef knot followed by a double Fisherman's.

4 Thread the ropes through the anchor, knotting the ends separately, so that they can still spin and unkink but you won't fly off the ends by mistake.

5 Connect your belay plate and prusik. If using double ropes the prussik knot goes around both ropes with perhaps one less turn than used on a single rope.

6 Check everything once again then unclip your cowstail and go. If it's going to be a long abseil, or the ropes are wet consider leaving behind a krab for a slicker pull through afterwards.

7 Don't just charge down, look out for your next anchor. If it's out to one side re-direct the ropes with runners (the second will take these out) rather than penduluming and sawing the ropes. This technique is also used to get down overhanging terrain that would otherwise leave you hanging in space.

8 Clip in to your next anchor, and give the ropes a test pull. If it's not working the second can readjust them. For efficiency undo the tail knot and thread the pulling rope into the anchor whilst the second is rapping down to you.

9 Pull them smoothly with a good hefty tug at the end so it clears the crag. Watch out for any debris that might come down at this stage. Repeat, whilst keeping your fingers crossed and thinking nice thoughts, until you are safe on the ground with all your ropes.

Struggling up

Pop a French prussik on the rope above you, and clip a short foot sling into it. Ideally use screwgates throughout the system, although in an unexpected situation this may not always be possible.

1 Add a Klemheist to the rope just above the French prussik and add a harness loop. As a rough guide the prussik knot should be at about forehead level when you're hanging from the prussik.

2 Step into the foot sling and clip your harness to the Klemheist, then slide it as far up the rope as you can

3 Sit on it carefully checking that it grips and that you're not cross-loading the karabiner.

4 Now push up the foot loop, lean back, get your foot into the sling and make a big rock-over move to send you a long way up the rope each time. As you go, unweight and "thumb" the Klemheist attached to your harness and slide it up.

5 As height is gained, paranoia will set in that you're only attached to the rope by a couple of bits of cord. Put your mind at rest and back yourself up by connecting the rope below you to your harness every now and again. Either repeatedly tie and untie a figure of eight, or use a clove hitch that can be rolled up the rope as you ascend.

6 There is another back up option if you're trying to re gain the rock after a long fall into space on double ropes. Get your partner to lock off one rope, and ascend that, whilst he/she belays you on the other.

Don't let your first prusiking experience be on Dream of White Horses! Ascending ropes is hard enough at the best of times - find somewhere safe to practice and discover the exact lengths of slings and prusik loops that suit you.

How to lock off a rope

We're mentioned "locking off a rope", but how is this done? There are a few options here. You can just hang onto it, but this soon loses it's appeal as your grip starts to fade. Or you could tie a big overhand knot into the spare rope below the belay device which will then butt up against it. Effective and definitely hands free but very hard to undo afterwards, especially if there's still weight on the rope. The connoisseurs method is to tie the slack rope around the back bar of the belaying screwgate, and tie the loop created around the rest of the rope with overhand knots. This is easy to release whilst under load with little or no rope slippage when tying or untying. If using double ropes, it is simple to tie off one, and still belay with the other.

Finding out more

The use of prusiks and locking off a belay plate are two of the basic starting points of nearly all the more complicated "improvised help" systems. Whilst the use of full-blown hoist systems is very rare, the ability to use the techniques described here should be common knowledge to any competent team. But remember that practising for an hour is worth more than reading a 1000 books, so get some experience in at a friendly venue before testing your skills for real – and if in any doubt, consider attending a course.

Contact Plas y Brenin on 01690 720 214 or visit www.pyb.co.uk for full details of all their courses.