

Let's get Climbing



Let's get climbing

DC VICKERS HAS TAKEN UP A NEW ROLE AS THE ARBORICULTURE PROGRAMME MANAGER AT BERKSHIRE COLLEGE OF AGRICULTURE, BUILDING AND MANAGING THE NEW ARBORIST APPRENTICESHIP PROVISION THERE. YOU CAN EMAIL DC AT: DVICKERS@BCA.ORG.UK. HERE, DC CONTINUES THIS REGULAR SERIES LOOKING AT CLIMBING TECHNIQUES.

In the last article we introduced the most basic of basal tie-offs for an SRT system, but this was tempered by the notion that it did not really provide a suitable option for attempting an aerial rescue and wasn't all that kind to the ropes in use.

In this article, though, we will start to build a better system up from these humble beginnings...but before we do that, I'd just like to return quickly to the simple system.

KEEPING IT BASIC...

We can very easily modify the most basic basal tie-off to provide one means of completing an aerial rescue and it is also very simple.

1 Once the basic basal tie-off has been completed, we can insert a loop into the line as it leads off up the tree - an alpine butterfly knot is perfect for this as it can be three-way loaded and can be undone even after it has been heavily loaded - into which we can add an additional rescue rope.

Should we adopt this method of adding in a rescue line, we must make sure to do so in a safe manner. Just joining one rope to another should ideally be avoided and using a karabiner to join the two lines is also not recommended, as the karabiner could be subject to loadings that are not good for it, especially as it goes over a branch, or it could become trapped, or the gate could be opened. None of which are particularly ideal. However, the simple use of the arborist ring is perfect for this; small, lightweight and its shape means that

2 it will glide over branches.

For SRT systems using a basal tie-off, this is probably about as simple as you could make an aerial rescue system that could be used by the ground crew to lower the climber down. However, as you might have guessed, there's still an important thing to think about with this system...to use it you will have to cut the basal tie-off away (by cutting the link between the alpine butterfly and the tie-off); given the situation, this may be acceptable but you must consider how you are actually going to lower the casualty using the second line.

3 This would be via a belay system of some description - don't try to hold the casualty by grabbing the rope as you cut the line!

4 Cutting the line to rescue the casualty would subject the ropes to considerable shock loading - consider the setup shown in the photo - as the line is cut, there is considerable slack in the system which will make the casualty drop quickly then, as that slack is taken up, the system is shock loaded; that shock would be passed on to the casualty with potentially devastating effects. To prevent the shock loading, we will have to find a way to 'pre-load' the tension on the belay line so that the tensioned line is in the same plane as the climbing line. All we need to do is to move the belay anchor point to underneath the basal tie-off and we will accomplish this. The system looks complicated but is just made up of the main climbing line with basal tie-off and 'rescue loop',

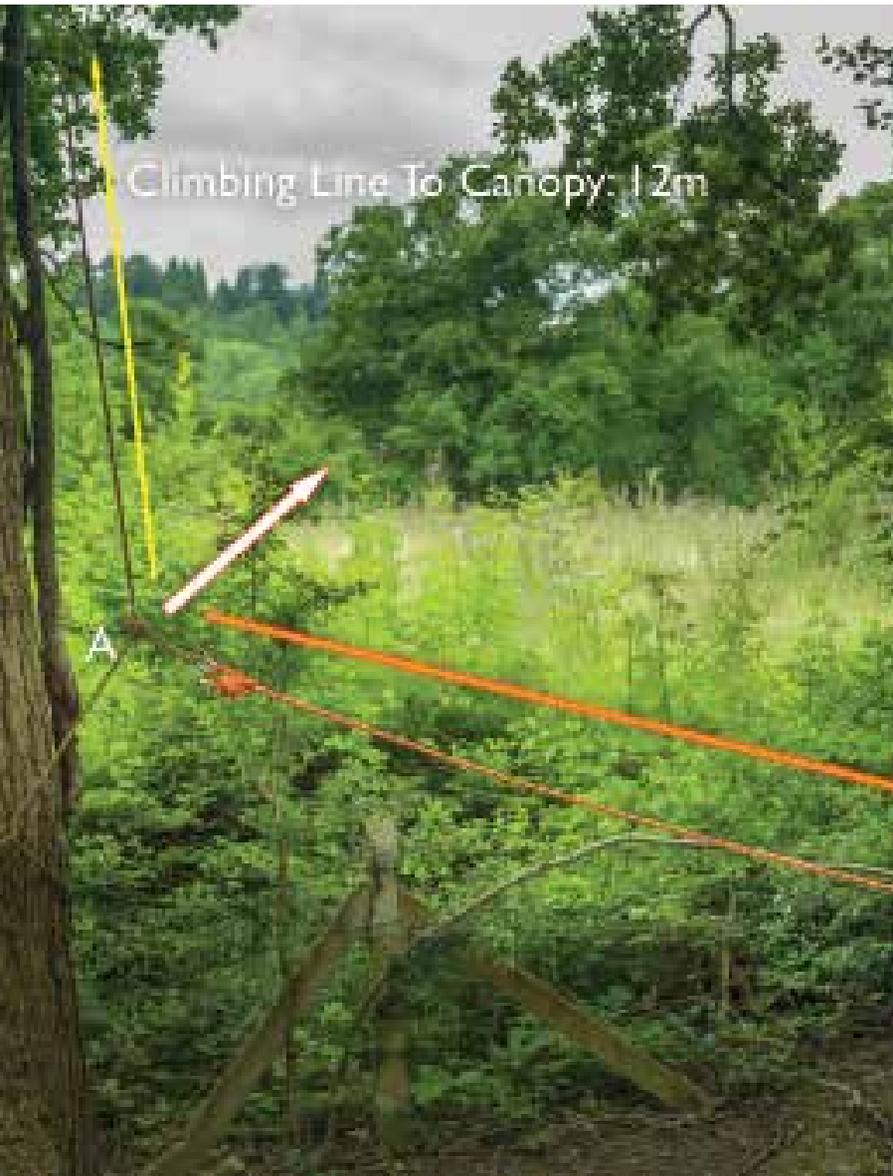


connected to a belay system using one other climbing line, a belay device and back-up.

Let's leave these very basic systems here but what we have gained so far are some fundamentals to creating what we need - a safe system capable of lowering the casualty, using a basal tie-off. We now have a better understanding of those things that we are trying to avoid too.

POSITIVES SO FAR...

- We have created a minimal SRT system that will work despite its limitations.
- Basic equipment required.
- Does not require as much detailed knowledge of knots and equipment as the improved system(s) that we will come to.
- Low-cost.
- Casualty can be lowered from the ground.



LIMITATIONS...

- Areas of high wear could lead to system failure.
- The potential exists for high shock loads when attempting an aerial rescue.
- The climbing line must be cut to carry out the aerial rescue.
- Potential to run out of rescue line when lowering the casualty (can only be lowered from a height approximately equal to half the length of the line).
- Whilst the system is simple, the current method of lowering the casualty with the belay line fitted under the basal tie-off is a little confusing with a mass of ropes and knots; cleaning this up would make the system more usable.

In the next article, we'll move on to building one of the ways that we can take the advantages and minimise the limitations.

It's important to realise that the final system that will be presented is not the only way to do it, but the aim of these articles on SRT is to open up a debate about how to deal with aerial rescue scenarios and also to highlight some of the issues surrounding the use of this method of climbing.



DISCLAIMER

The usual disclaimer applies...you would be well advised to seek out training and advice from an experienced person before trying out any of the methods discussed in these articles. Try out any new method by starting low to the ground initially and then moving higher. The magazine, Berkshire College of Agriculture, nor I, cannot accept any liability for any injuries howsoever caused by trying out methods shown in these articles.