INTRODUCTION

It’s always difficult to know exactly where to start a series of articles and to decide exactly who you are aiming them at... this series is no different and rather than assume existing knowledge, and to maybe help newcomers into the industry, the editor and I figured we might just as well start at the beginning!

Suffice to say that if you are just starting out, you must get some training in arboricultural climbing methods, progress slowly and under supervision. Always check your gear before climbing on it too.

THE HUMBLE PRUSIK

This knot was ‘invented’ by Dr Karl Prusik in the early 1930s, appearing in a publication of the Austrian Alpine Club in December 1931 and still commonly used today. It’s simple, easy to tie and hard to get wrong (although not impossible!) and it works. It’s also cheap. It’s the knot that many of us started out using when we were training and we still train people to use it today; many people carry on climbing with this knot eschewing the various mechanical methods available now.

One of the reasons that it is still so popular is its versatility – it gets used for climbing, aerial rescue, in basal tie-off systems for SRT, for backing up belay systems, on work positioning lanyards and so on. It’s not without its issues however and can either not grip too well or lock up completely, but that is more about dressing the knot correctly and selecting the correct ropes – Prusiks work best when tied on to a line that is thicker than the Prusik line, that’s why the minimum diameter for climbing lines is 10 mm and for Prusiks it is 8 mm.

CLIMBING WITH A PRUSIK

The most simple climbing system to set up (apart from the 3-knot system) uses just a harness, climbing rope, karabiner and a Prusik loop – and these days I would highly recommend buying a CE-marked ready-made loop rather than tying your own (for reasons related to LOLER than anything else).

In use you’ll need to climb with the ‘hip-thrust’ technique, which many people struggle with initially although when you learn the right way it’s quite quick to use, but the one thing you’ll realise is that selecting the optimum length of Prusik loop is important to efficiency. There are also ways to improve climbing using this system that we’ll cover later in this article.

The Prusik can be tied either left-handed or right-handed to take into account people’s preferences, but whichever way you decide to tie yours, try to keep that ‘bar’ running down next to, and parallel with, the main line visible. This will allow you to use your thumb to either tighten (pull it around the main line) or loosen the knot (push it away from the main line) as needed.
As mentioned a moment ago, ensuring that the loop is the right length for you will make a big difference to how quickly and efficiently you can climb with the Prusik, and there are a number of trade-offs too. Simply put, a short loop will only allow you to advance a very small amount with each thrust, making a long climb pretty tedious, whereas a long loop will allow you to advance much further with each pull... but too long and you won’t be able to reach the knot after pushing it up as far as you can, as you will drop lower as any slack gets taken up. A long loop may also leave you quite a way underneath a branch as you come to carry out a changeover, whereas a short loop will get you closer and higher; shorter loops are often advantageous whilst branch walking too.

In the end, it will come down to personal preference and what is available to you, but if you’re struggling with the Prusik then maybe changing the length of the line may help. You don’t need to stick to using ready-made loops either, another option is to use one of the several eye-to-eye systems such as the Ocean Polyester 8 mm e2e, although you’ll often find these will leave you with a very short length even if they do grip excellently.
STEPPING IT UP A BIT

The most basic Prusik-based system can be very tiring to climb with and there is nothing to stop you using a footlocking method – ideally something like the Petzl Pantin – in conjunction with the Prusik, although you’ll still have to manually advance the knot up the main line.

However, add in a micro-pulley, karabiner and another Prusik and you can turn it into an auto-advancing system. To do this, place this Prusik on the static side of the system just above the point where the climbing line attaches to the karabiner that links to your harness. Now put a micro-pulley underneath your main ‘climbing’ Prusik and hook it on to the new Prusik loop that you’ve just added. Push the Prusik loop on the static side up the line so that the loop is taut with micro-pulley under the main Prusik. You may need to load the system up and make a few minor adjustments, but this is a great way to set up a simple climbing system if you are faced with a long haul up the tree. It has the advantage that every time you push down with your foot, the knot will advance automatically and you’ll be using your leg muscles which is a much larger muscle group and less tiring.

HITCH CLIMBING SYSTEMS

In the next article we’ll take a look at systems using the triple attachment point pulley, aka Hitchclimber, and see what advantages this offers the climber.
The Landscape Institute has submitted evidence to a National Institute for Health and Care Excellence consultation ‘Air pollution: outdoor air quality and health’ to make the case for the role of urban trees in supporting healthy urban communities.

Professor Alan Simson, Professor of Landscape Architecture and Urban Forestry at Leeds Beckett University School of Art, Architecture and Design and a member of the LI’s technical committee, said: “The NICE consultation does not acknowledge the role street trees play in creating healthy communities as positively as it could and more research needs to be carried out into barriers and how street trees influence urban air quality. There is, however, more research available than acknowledged by the consultation.”

Vegetation is the most effective way of intercepting particulate aerial pollution. Trees, because of their large canopy surface area of leaves, stem and branches, and the air turbulence created by their structure, are the most effective form of vegetation for doing this.

The Landscape Institute would strongly maintain that planting trees of the right species, in the right place, in the right way and for the right reasons can greatly assist in helping to mitigate the effects of both particulate and gaseous pollution in urban areas.

We know which tree species attract the most particulate pollution and how leaf size can influence this. We also know which tree species to avoid due to their excessive pollen production and there are proven benefits that single lines of street trees can bring to mitigating air pollution in certain situations.

There can be disadvantages from retaining or incorporating trees into urban areas. On occasion they may not have as positive an effect to mitigate air pollution. This can occur where tree canopies meet over roadways but this is rare in the UK. Trees can also emit biogenic volatile organic compounds (bVOCs) as a reaction to stress in their environment.

Professor Alan Simson continued: “Urban forestry has moved from being seen as a ‘green cosmetic’ to becoming an integral part of a new, more resilient form of European urbanism. Design of the urban forest is becoming more sophisticated as the canopy area, structure and choice of tree species are critical in intercepting the maximum amount of pollution. It is the landscape architect’s mission to shape a better world. Landscape architecture and urban forestry have a role to play in the emerging, world-wide movement of New Urbanism. This is based on the belief that the true wealth of our towns and cities can only really be measured in terms of the well-being of our people and the sustainability of our environment.”

One of the tallest trees crashes down

A famous Hermitage Douglas fir at Dunkeld, which came down mid-January, could be used to build a memorial. The tree stood at 211ft – the third largest tree in Britain, and was a big draw to visitors at the Hermitage beauty spot just off the A9.

Rangers are trying to decide what to do with one of the ‘young giants of the Hermitage’ after it smashed through its own information board. The Perth and Kinross Countryside Trust is working with the National Trust for Scotland and Forestry Commission Scotland to decide the best way to recover the tree, and the best use for the timber.

“At the moment, discussions are taking place about the possibility of utilising some of the timber to produce a piece in memory of the magnificent tree and siting it at the Hermitage,” said a spokeswoman for the Countryside Trust.

The self-sown tree sat in the wild tree garden created by the Dukes of Atholl in the 18th century. It survived remarkably well and grew to an impressive height, despite being located on a very rocky site with a shallow root system. It is considered a great loss to Perthshire, and regular visitors to the Hermitage have been saddened by the loss, with some describing it as “the end of an era”.

While many agree with the idea of erecting a memorial, others believe the tree should be left in its final resting place.