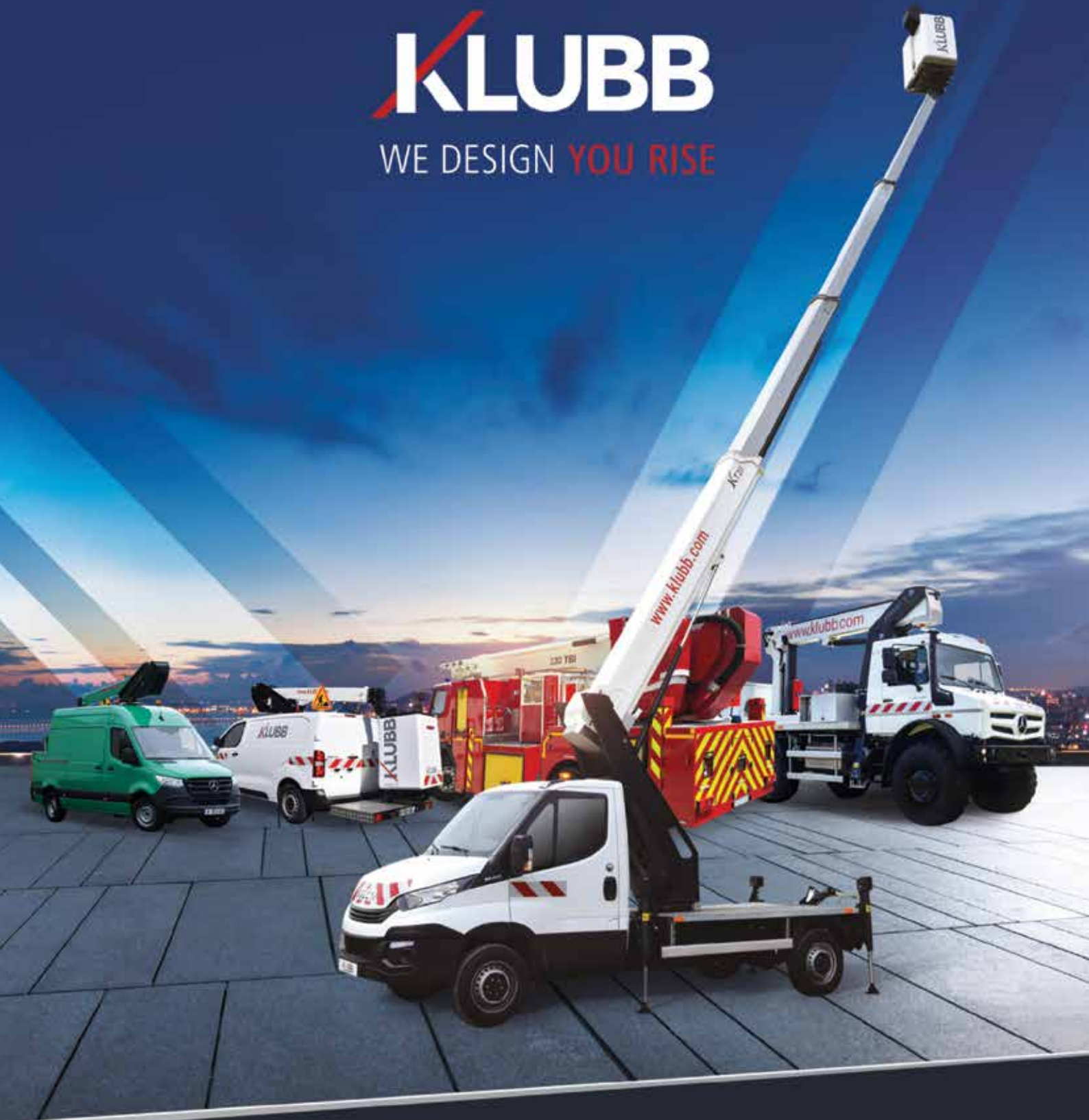


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Andy Dowden

THE PERFECT LIFT

The arborist and forestry industries are among the most dangerous in terms of the number of incidents involving serious injury or fatalities, however there are hundreds of arborists currently working with cranes and work platforms that have not been suitably trained or qualified. C&A editor Mark Darwin talks to Andy Dowden of Afan Treescapes and Arborcraft Training in Port Talbot, South Wales about a possible solution to be launched at the 'ARB Show' the APF2022 exhibition in September.

Using a mobile crane to assist in dismantling a tree where there not sufficient space to fell it whole is arguably the safest, most controlled and efficient method of working. Industry guidance also recommends considering the use of a crane before rigging. It also states, as does UK law, that those undertaking such activities as well as those planning them - the appointed person (AP) - must be able to prove competence.

"Proving competency is where the challenge lies and is one of the main issues within the arb sector at the moment," says Dowden. "I have a holistic approach to competency which includes achieving, maintaining and evidencing it because these are the three areas where the industry is struggling. The industry has been calling out for years for help with training and assessment, finding an effective and palliative way of monitoring and evidencing competency, areas which we as an industry have identified for years and years."

Dowden is a fully qualified and experienced arborist having studied Countryside Management in the late 1990s before working as a trainee

arborist and then a freelance climber in the UK, Sweden, Australia and Grenada between 2000 and 2011. He set up his own contracting company Arborcraft 2002 and added a training centre - Arborcraft Solutions - after qualifying as an instructor in 2010.

The 'two ropes' climbing fiasco (see box story p40) which came to a head in 2019 coupled with Covid restrictions put an end to the training side of the company, so he decided to sell the whole business to local company Afan group about six months ago.

Dowden is now construction manager at the newly formed arborist division Afan Treescapes and development manager at Arborcraft training. He has worked for more than 15 years with cranes, gaining knowledge and experience from other arborists who were willing to help and explain, to the point that he felt and was seen to be competent. However, proving that competence is difficult.

"There has never been a Lantra course or an NPTC (National Proficiency Test Council) assessment for crane assisted arb work," he says, "and it was seemingly impossible (given the logistical costs and challenges) to organise a formal training course or assessment in an industry accepted format."

Sparrow Crane Hire working with arborists at Longleat, Wiltshire



Arborists working with cranes in the UK will be very familiar with the terms 'Contract Lift' and 'Hire only'. With the more expensive 'Contract Lift' the crane rental company accepts liability however leaving the planning of the entire operation to an Appointed Person with little or no arb knowledge can be problematic.

"Often the lift plan drawn up for a contract lift passes the responsibility for estimating the weight of the cut sections and determining the sling positions back to the arborist - two of the most safety-critical elements of the lift," says Dowden.

The best way forward was often a collaboration between the arborist and the crane AP but what if something went wrong - who would be responsible and how would they prove competence?"

Dowden made a point of developing a better understanding of health & safety legislation but at this point there were no qualifications, industry guidance or best practice to follow. "We weren't making it up as we went along but proving otherwise would be difficult," he adds.

In 2017 Lantra - one of the leading awarding bodies in the UK and Ireland, developing training courses and nationally recognised qualifications delivered through a national network of training Provider Partners - revised the National Occupational Standards (NOS) for tree work, adding LANTw32 - Carry out the aerial cutting of trees using a crane which lists the skills and knowledge required by a tree worker to carry out a job or task of work. The standards are useful to assess skill levels and identify training needs as well as identifying learning objectives when preparing training.

The following year the Arb Association (AA) began work on Technical Guide 4: The Use of Mobile Cranes in Tree Work, a project Dowden was invited to work on at peer review level and which he used to benchmark his work methods at the time. The Guide was one of five Technical Guides covering tree climbing and aerial rescue to the use of tools in the tree and using work platforms for tree work.

ARB ASSOCIATION - TECHNICAL GUIDES

Industry Code of Practice (ICoP) for Arboriculture - Tree work at height

TG1 Tree climbing and aerial rescue.

TG2 Use of tools in the tree.

TG3 Rigging and dismantling.

TG4 Use of mobile cranes in tree work.

TG5 Use of Mobile Elevating Work Platforms in tree work.

"The project highlighted to me the inability to prove competency when specific training and qualifications were not available for crane assisted operations. There was construction-based training from slinger/signaller to appointed person and City & Guilds chainsaw units up to aerial tree rigging, but nothing specific about cutting and lifting tree sections with cranes."

Dowden booked himself onto an AP course to "get a better understanding of the AP's roles and responsibilities" and to gain the confidence and qualification to produce his own lift plans.



Removing tree sections correctly

DEVELOPING TRAINING

"Crane assisted tree work requires skilled, competent operatives and thorough planning to avoid potentially catastrophic accidents," he says. "Most of us do it safely and effectively every time. However, every arborist that I've met has learnt on the job with no formal training or assessment. Do we really need training? Legally yes, but this is not possible as the logistical and financial obstacles to hosting a conventional course are far too great."

"First you need to find a few trees big enough to warrant using a crane. Perhaps just use one tree but then that reduces the training from four people to two which doubles the cost of the course. Next you need access to the tree and a massive area to put the crane, and then an area to lower the sections. Hiring a full team - the crane and operator plus the instructor and equipment etc for a five day training course - which may take a day and a half in normal commercial circumstances - you are probably looking at up to £4 to £5,000 each for two people. It is just not going to happen."

"City and Guilds - the awarding body - will not invest the money into creating a course because while tree work using cranes is becoming more frequent it is not popular enough - possibly around 100 candidates a year? To give an idea of frequency, here at Afan Landscapes and at TR33, another local tree company, we may both only do one crane job a month."

"It is now a commonly accepted fact - even by the HSE - that short courses offer little more than basic training and the 'certificate of competence' only proves someone has attended a course and does not prove competence."

With the support of the Welsh not for profit company Focus on Forestry First, Dowden was able to obtain grants to fund both the time and resources to develop and pilot classroom based training. "If in house training is correctly prepared, delivered and robustly recorded it is an effective and low cost means of proving competency, especially in the absence of any accredited training programmes," he said.

The Forestry Industry Safety Accord (FISA) 805: Training and Certification provides guidance on selecting suitable instructors from within the workforce or externally to prepare, deliver and record the training. Instructional techniques training for an experienced employee with the right demeanour could be a good investment. If that is not a viable option, an external instructor or contractor can be brought in to deliver training or work alongside the team to impart knowledge and supervision on the job.

"Over years of training and assessing, the most satisfaction and enjoyment I've gained has been from delivering in-house and advanced units to working arborists," says Dowden. "When assisting clients with in-house training, I employ a simple process to ensure a robust package:

1. Discussion with the client regarding training needs to agree aims and objectives.
2. Prepare draft training plan and submit to client for approval or amendments.
3. Deliver the agreed training plan.
4. Assess the learner's knowledge and provide feedback. Method of assessment and the objectives achieved recorded.
5. Record and evaluate the training including any changes or additions to the plan and an overall assessment of the group and the delivery.
6. Compile all documentation and deliver to the client for their records.

Dowden will be launching a suite of in-house training programmes at the ARB Show at the APF in September including the training for crane work.

"We will be using a 40 tonne All Terrain crane to demonstrate crane work at the show, trying to achieve the perfect lift i.e. no movement of the branch after being cut indicating that the weight and centre of gravity of the section had been calculated perfectly."

Dowden also said he would be delivering some crane related presentations in the association's marquee. "I'd love to hear anyone's thoughts and opinions on anything arb related, but especially cranes." ■



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JLG

TWO ROPE FIASCO

Over the past 20 years or so the industry has been through two major fiascos - climbing using 'two ropes' in the arb sector and requiring welfare units for forestry work.

"A few years ago the HSE made a big push mandating the immediate use of Welfare Units on every forestry site. Given the range, scope and amount of accidents within the sector, many thought the HSE should have focussed on some of the more pressing issues," said Dowden.

"The same could be said about the two ropes issue. Around 2004, the HSE pushed for climbers to use two ropes when climbing. Reading the newly introduced Working at Height regs at the time, there was an argument for using two ropes however it was not practicable in the commercial world and the widely used 'moving rope' or 'double rope' technique was easier, quicker and just as safe. The 'moving rope' or 'double rope' technique uses a single rope thrown over a branch so has two ends."

The industry continued with the 'moving/double rope' system for about 15 years with little interference from the HSE. However, it came to a head in 2019 when the Arb Association decided to produce a series of Technical Guides including TG1 - Tree climbing and aerial rescue.

"The drafted guide was sent to industry for consultation and then to the HSE which also approved the copy. However when the HSE saw the method used in the pictures - a single rope with two ends and not two - the proverbial hit the fan."

"The HSE won't budge and the solution is everyone has to comply with the legislation. The Arb Association has had to rewrite its working at height guidance and technical guide. However there is provision to go to one rope when two ropes when safer to do so..." ■



Pictures - The Arb Association



WHERE IS ALL THE ARB EQUIPMENT?

The world is full of trees and a sizeable proportion need supervision and management usually carried out by arborists or tree surgeons. However, work at height equipment specifically designed to help access these trees is severely lacking with arborists generally having to compromise with 'off the shelf' products.

Recent legislation regarding working at height has changed the way the arb industry thinks about how to work on a tree. Can it be done from the ground? If not, is it safer to climb it or use an aerial work platform?

Aerial work platforms have become more popular in recent years, but concerns about the seemingly high number of accidents that occur when using them compared to climbing remain. Is this because of the particular equipment used or lack of training and competency or both?

Most of the platforms used by arborists - including spider or trailer lifts, vehicle mounts and booms - are generally the very same as those used on any construction site or industrial application. Adequate yes but lacking a few features that would go a long way to making an arborist's life a lot easier.

One company that has always put arborists front and centre is the small Spanish company Mecaplus. One of the main problems with any tree work is site access and the ability to set the machine in the optimum position - on ground that

is rarely level. Mecaplus has a range wheeled and tracked platforms that dynamically self-level without the use of outriggers, allowing tree workers to prune rows of trees on slopes and verges with maximum productivity. Other Mecaplus 'tree' features include a small basket to make accessing the interior of the tree easier, built in compressed air equipment with connections in the basket and the ability to drive at height with your feet, allowing the operator to use hand tools more effectively.

Mecaplus recently unveiled an all-electric - no hydraulics at all - 17.2 metre working height boom lift, the E-SL 17.2. The unit dynamically levels while travelling at heights of up to 12 metres with a 230kg unrestricted platform capacity and 7.5 metre maximum outreach. While Mecaplus was a pioneer of the self-levelling boom several other manufacturers have also entered the sector.

JLG's '670SJ Self-Leveling' boom with automatic levelling at height on slopes of up to 10 degrees in any direction is now in production. Working height is 22.3 metres with a maximum outreach



Mecaplus designs platforms with arborists in mind

of 17.5 metres. Early unofficial feedback suggests it may be a little complex and expensive for many rental companies and contractors? However, specialist users such as arborists may be ideal customers for this unusual boom? In the same vein are AlmaCrawler self-levelling tracked booms and scissors.



JLG's '670SJ Self-Leveling' boom has a working height is 22.3 metres with a maximum outreach of 17.5 metres

Almac has two ranges of lifts - the tracked Bibbi scissor and the tracked Jiffi boom - which can self-level up to 15 degrees in all directions. In an effort to keep the weight of the machine to a minimum, Almac teamed up with Multitel Pagliero last year to develop a lightweight AlmaCrawler telescopic boom lift - the U-1570 Evo - which uses Multitel's aluminium boom coupled with AlmaCrawler's bi-levelling tracked undercarriage complete with dynamic 'Pro-Active' levelling allowing it to be driven at height on ground of up to 25 percent with up to 15 degrees side to side and longitudinally. The machine weighs around 2,880kg and features a 15 metre working height with up to 8.4 metres outreach with 80kg in the 1.4 metre wide platform.



The U-1570 Evo uses Multitel's aluminium boom coupled with AlmaCrawler's bi-levelling tracked undercarriage

Maximum capacity is 250kg with 5.8 metres or outreach. The largest tracked scissor Bibbi lift is the 10 metre Bibbi 1090-BL. Maximum capacity is 300kg with all round levelling from 14 to 20 degrees. Overall weight ranges from 2,820kg to more than 3,000kg depending on the power.



The Bibbi 870-BL Evo has an 7.9 metre working height and 250kg capacity

VAN MOUNTS OFFER STORAGE CAPACITY

Another growing trend is the use of van mounts for tree work especially in parks and green spaces within urban areas. Initially favoured by the telecom, utilities and building maintenance sectors, the vast range of van mounted lifts - together with their working heights and storage capacities - allow tree workers to keep all equipment on hand in the van - a major advantage over a spider lift or even a truck mounted platform.

4x4 PICK UPS AND CHIPPERS

The 4x4 Pick-up mounted platform has always been popular with arborists with several manufacturers now offering products. CPL's 4x4 Isuzu D-Max and Toyota Hilux based vehicles offers 360 degree slew and can be equipped with in-house options including storage lockers and cages to protect beacons.

CPL/Klubb also produces the All Terrain Arb Truck (ATAT) Chipper Tippers on Isuzu and Toyota 3.5 tonne chassis specifically developed for tree surgeons and forestry. Both are fully type approved and come with the chassis manufacturer's warranty and breakdown cover. Options include secure tool boxes with 190kg storage capacity. Recent improvements from customer feedback mean the units are now offered as a drop side and waste disposal unit with mesh sides.



CPL's 4x4 Isuzu D-Max pick-up mounted platform

TREE HANDLERS

A manufacturer not usually associated with tree care is Sennebogen which recently added a seven tonne 728 E to its tree handler range. It features a single 9.2 metre boom plus a six metre telescopic 'jib' for a maximum height of 21 metres. It can handle its maximum capacity at 4.5 metres and 1.7 tonnes at a radius of 18 metres, while offering up to 7.5 metres below ground reach. Features include a 2.7 metre elevating cab and a wide range of attachments.



Sennebogen 718 E tree handler

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