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Above all

Breaking the ton barrier

The first company to breach the 100 metre working height barrier for aerial work platforms was Ruthmann with its TTS1000 in 2001. The product was probably ahead of its time and only two units have ever been sold - both to German rental companies. The unit was a little unusual in that it was mounted to an articulated truck chassis, so in effect was a trailer lift rather than a true truck mount.

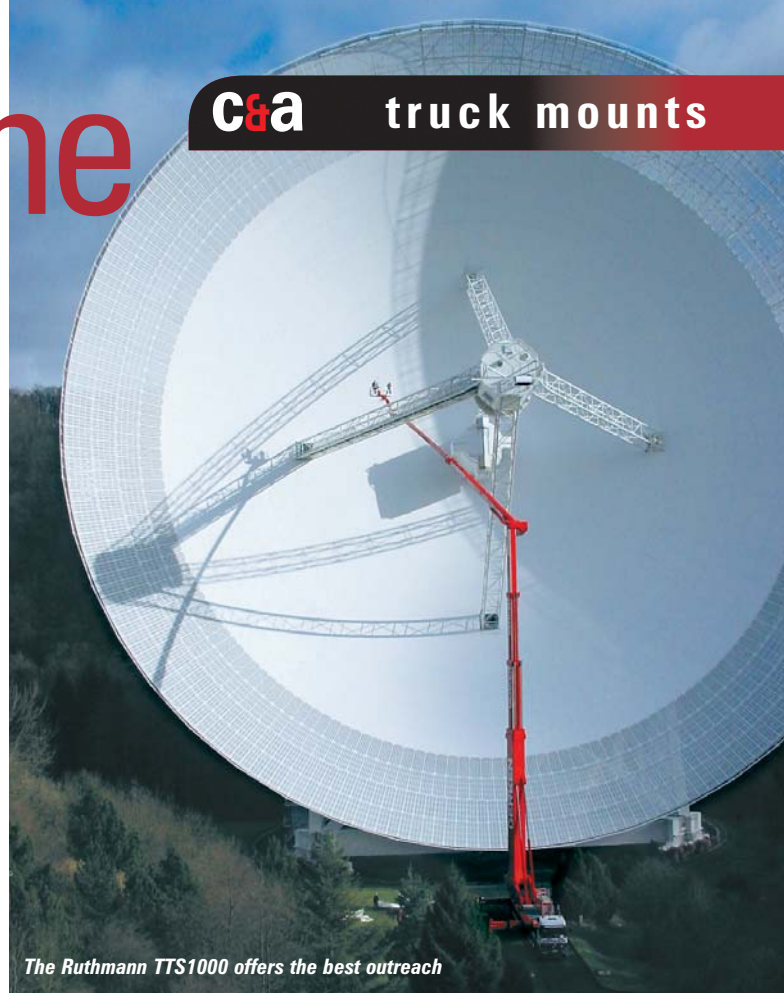
The owners of the two units, Gardemann and Gerken have managed to keep both units busy by covering a wide geographic area including a visit to the UK earlier this year. However, it has been over the past 18 months that the demand for such big lifts has begun to take off.

Beating the four metre challenge

The company to respond to the growing interest in 100 metre machines was Bronto, the first and still the only company to manage to mount a 100 metre boom lift on a regular truck chassis. It launched its S-101 HLA in 2006. The challenge with using a regular truck chassis is that first of all it needs to be equipped with extra axles to cope with the weight, and secondly squeezing the large boom structure over the top of a regular chassis cab while keeping the overall machine height under four metres is a real problem. Bronto has supplied the S-101 for both fire/rescue and regular work with an increasing number using a 12x8x8 chassis.

Ruthmann overcame the height challenge by mounting its TS1000 on a special low-loader trailer. This solution does have some benefits in that the customer can chose his own tractor unit and it is simple to replace when it wears out before the lift. However the resulting machine is a good six metres longer than necessary and considerably heavier.

Wumag is the most recent entrant into this rarefied market, unveiling its 102.5 metre WT1000 in September. It solved the height problem by selecting a crane carrier rather than a commercial truck. Cranes face the same challenge and are therefore purpose-built with low level cabs. Wumag turned to Faun for a modified version of



The Ruthmann TTS1000 offers the best outreach

the five axle carrier used on the 110 tonne Tadano-Faun ATF 110G-5 All Terrain crane. Modifications to the carrier included extending the frame to the rear which allows the slew ring position to be shifted almost three metres backwards. The spacing between the third and fourth axles was also opened up to maintain balanced axle weights. In all, the WT1000 is over a metre longer than the Tadano crane.

The advantage of a crane carrier is that much of the chassis design and test work has already been done. It also offers better manoeuvrability with its multi-axle steering and better off-road performance thanks to its multi-axle drive, off-road transmission and suspension, large all terrain tyres and greater ground clearance.

However as any crane man will tell you, the costs involved with running an All-Terrain compared to a truck mount are substantially higher. The higher running costs include more expensive, faster wearing tyres, higher fuel consumption, more costly replacement parts and more a complex drive train. However outside of the UK, cranes tend to operate within a relatively local area helping limit the extra

costs. A 100 metre truck mounted work platform on the other hand, needs to ply its trade over a large, often international, geographic region and will therefore clock up exceptionally high mileage if it is to keep busy. In the UK where crane hire companies clock up a higher mileage with their All Terrain cranes, many owners choose to sell their cranes after five or six years in order to avoid the steeply escalating costs of a high mileage All Terrain carrier.



The Bronto S-101HLA



Wumag WT1000

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When its time to replace the chassis replacement

A truck mounted lift not only offers lower running costs, but when the mileage starts to cause high maintenance costs, it is a common practice to remount the lift onto a new truck, usually a more modern version of the original. Remounting is not so simple when the chassis is a crane carrier. Ten years or more on, the carrier is unlikely to still be in production and one that will fit is likely to be too expensive. Not only is a five axle replacement crane carrier likely to cost double that of a similar sized truck chassis, but if a new chassis is needed it will require some extensive engineering work which will further add to the cost.

The other advantage of a traditional truck mount of course is that to some degree a buyer can choose the vehicle that offers the best service in his market, whether that be Mercedes, Volvo, DAF, MAN or another marque.

Wind farm work

The number of wind farms with 70 to 100 metre turbines is growing rapidly, and with it the volume of cleaning and maintenance work. Given that wind farms are often located in remote areas on steep hillsides and are serviced by basic access roads, an aerial lift mounted

on an All Terrain carrier is attractive. So if you are looking for a 100 metre platform which do you choose? As we have indicated you have three options - two made in Germany and one in Finland - all being a different configuration.

Which one is for you?

If wind farm work is your main market then the Wumag will be hard to beat. Bronto says that it will also mount its unit on a crane carrier and has already delivered its 88 metres S888 HLA on a four axle, all-wheel drive, all-wheel steer chassis. It goes on to say though that, so far, its 12x8x8 truck chassis has been preferred for wind farm applications given its eight wheel steer and drive configuration.

If outreach is critical then the Ruthmann is your machine. It offers an unrestricted working outreach of almost 40 metres compared to 31metres on the Bronto and 29 metres on the Wumag (35 metres with 200kg capacity).

If overall dimensions are important the Bronto is the machine for you, with its 2.55 metre overall width and a similar overall length to the Wumag.

At the end of the day you will of course decide based on the deal you are offered and when the manufacturer can deliver.

c&a

truck mounts

The Wumag WT1000 on a five axle Faun crane chassis looks good for remote windfarm work



The Ruthmann TTS1000



A 88 metre Bronto 88HLA on a four axle crane chassis

The 100 metre platforms

Feature	Ruthmann	Wumag	Bronto
Model	TTS 1000	WT 1000	S101HLA
Working ht	100.0m	102.5m	100.2m
Lift capacity	500kg	600kg	440kg
Max outreach	39m	35m	31m
Unrestricted capacity	500kg*	200kg	440kg
Up and over	62.5m	58m	64m
Platform size	2.5 x 1m	2.47 x 1.05m	2.25 x 0.93m
Platform extended	4.0 x 1m	3.88 x 1.05m	2.78 x 0.93m
Overall length	22.46m	16.2m	16.0m
Overall width	3.04m	2.75m	2.55m
Outrigger spread	9.16m	7.5m	8.53m
Drive steer	Artic trailer	10x6x8+	12x4x8
Road speed	85 kph	85 kph	87kph
GVW	80,000 kg	60,000 kg	59,500 kg

* 320kgs with big basket + 12x8x8 optional

Compact Size, Powerful Performance

The new ultra-compact **JLG® Model 1230ES**, a self-propelled mast lift that weighs only 790 kg and provides up to 5.7 m working height. The 1230ES features the same energy saving 'direct electric' drive system, found on the popular JLG ES Series scissor lifts. This system provides up to three times the number of duty cycles compared to other models in its class. Comfortable to operate with fully proportional control for drive and lift, it also features a new hydraulic system that provides elevation to full height in only 12 seconds.

With its reduced weight, superb manoeuvrability, and compact dimensions - 0.76 m wide and stowed height of 1.66 m – the Model 1230ES provides a cost effective solution for use in confined or weight-restricted areas so you can go to work on raised floors, in high-rise buildings and in multi-storey warehouses. It is also light and compact enough to be transported in most construction or industrial elevators and it can be lifted by crane to elevated work areas.

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How hard can it be to get a PAL card?

With the introduction of the Work at Height Regulations an increasing number of tradesmen are turning towards the powered access solutions rather than ladders, trestles or aluminium towers. A 3.5 tonne self-drive truck mounted lift is becoming an increasingly popular choice, but before picking one up at a rental yard you need to have proof of training and that usually means an IPAF PAL card. Cranes & Access' Mark Darwin put on his harness and went to find out how easy it is to get one.

An early morning drive of more than 130 miles around the M25 motorway for an 8.00am start is not the best start to a day's training. Yes, there are numerous other IPAF training facilities closer to the Vertikal Press offices, but I headed off to Hickstead based Facelift Access Hire because it had just taken delivery of the first two 17 metre Ascendant truck mounts and I was eager to put it through its paces.

Despite the distance and bad weather, the journey on 'Floody Friday' at the end of July was relatively painless. On arrival there was a quick cup of tea and registration and then into the specific training room with one of the instructors and the three other trainees.



If you haven't used a harness before it can be quite fiddly to put on. Make sure it is adjusted and fits correctly

Here the training course was briefly outlined - classroom theory in the morning session and then a practical test on a machine. As I wanted to try out the Ascendant 17, I and one other trainee were taking

the VMP26 (Vehicle Mounted Platform to 26 metres) course, whereas the other two trainees (both electricians) were taking two categories - the SL (Scissor Lift)



Outriggers and mats must be set correctly and checked before levelling the machine

and SPB (Self Propelled Boom).

The classroom session deals with general safety and operational theory for the machine category. Similar to a driving license, you are only allowed to operate the machines in the categories that you have been trained and qualified. So make sure you enrol for the right course or courses for the equipment you want to use.

After a brief safety introduction, each trainee is given a 'before training' multiple choice test which establishes each candidate's basic knowledge before the specific training. The result is irrelevant but the 25 questions are a taster of the content of training to come. I am sure that most of us scored more than 80 percent on this test, a reflection of our site

experience and general common safety sense.

According to Percy, our instructor, a problem for some candidates is not being able to speak English well, particularly with the increasing number of Eastern Europeans now looking for work in the UK. The language barrier is not a problem so long as

you can understand the course.

This might mean bringing an interpreter, however, if you cannot understand, you will fail the course.

If you are familiar with access equipment most of the answers were obvious. However, one or two make you think such as which gas is produced when charging a lead acetate battery (answer - hydrogen) and what is the set up distance from a high voltage metal pylon (answer - the fully extended boom plus 15 metres). Each question has four, multi-choice answers so the answer is there, it's just a case of selecting it.

The second multi-choice test - after the classroom training - has a minimum pass mark of 80 percent. Anything less and no IPAF card will

be issued. The classroom session takes about two to three hours and covers everything from types of machines, regulations, owner and operator responsibilities, travelling on site, machine positioning and stability, safe working load, hazards including overhead high voltage lines, the proper use of a MEWP, the proper use of harnesses, daily service checks and wind.

Once the presentation was complete and any questions answered it was on to the real exam. Thankfully, due to the skill and experience of the instructor (thank you Percy) we all achieved a 100 percent pass mark.

I am not sure if all training facilities provide lunch, but Facelift took us all for a much needed 'big breakfast' at the local pub (no alcohol of course) before starting the practical part of the day. At this point we split up with two of us heading for the truck mounted platform and the other two going to the scissor/boom lifts.

The Ascendant 17 is a new, UK designed and built, truck mounted platform mounted on a 3.5 tonne chassis making it driveable by most holding a normal car licence. (see story P31). Our second instructor, Ian, then took over. He reinforced the morning theory by getting us to look around the machine to gather information (from the manufacturer's plate, decals etc) that would help with its operation.

The operator must carry out daily service checks and inspection in accordance with the manufacturer's instructions and as the truck is a road-going vehicle, items checked should also include lights, tyres and all fluid levels.





The instructor outlines the machine checks and the use of outrigger mats.

When using a machine, the main information you need to find and understand is the safe working load in the basket (comprising the weight of the people, tools, equipment and any materials) and the maximum wind speed in which the machine can operate safely.

This information is usually found on the manufacturer's plate and may

also be on decals in the basket. The only accurate way of measuring wind speed is with an anemometer rather than relying on the Beaufort 'moving leaves and branches' scale.

A full body harness with an adjustable lanyard should also be worn and some time was spent on how to check, adjust and put it on correctly. Wearing a harness can save your life, keeping you in the basket if the boom drops suddenly, creating a catapult effect.

The practical issues of setting up the machine, extending the outriggers, levelling and checking the boom is operating correctly, were all covered before climbing into the basket and using the machine.

Little pointers such as always setting the machine so that it faces downhill, always level the front of the machine first, wear warm clothing (remember the wind chill factor), use the lower boom to align with the target, then upper then telescope in and out were also very useful.

To pass the practical test, we each had to set up the machine and then



Mounted on a 3.5 tonne chassis, the Ascendant's 17 metre working height and basket capacity of 230kg, should be popular with new users.

operate the basket at full extension. The Ascendant, although it has a very good outreach of 12 metres, was very stable and easy to operate so there were no problems there.

All in all, the course was excellent and I am glad to say we all passed. My thanks go to Facelift and the two instructors for an easy to understand, but thorough training session. However, proving that you can operate a machine in a 'controlled' environment for the test

is one thing, out on site with all the additional problems of varying ground conditions, lack of space and time constraints can be totally different. Using the knowledge gained from the course and applying it is the only way to be absolutely safe.

Despite the number of accidents regularly reported on www.vertikal.net a properly maintained and correctly operated platform is a very safe item of equipment.

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Totally one sided

Seen for the first time at this year's SED, the Ascendant 17 is a new truck mounted platform, designed and built in the UK for Blue Line Access based on an idea by Facelift managing director Gordon Leicester. Facelift has taken the whole of the first year's production with the first units entering its hire fleet mounted on Iveco 3.5 tonne chassis.

Simple to operate, a good outreach and rugged enough to withstand the rental environment were the main design criteria. With a 17 metre working height, the unit is unusual in that it has extendible outriggers on the near-side only - the outriggers on the off-side are vertical and within the width of the vehicle. In this configuration the machine has an excellent maximum 12.2 metres of unlimited outreach in a 180 degree arc stopping short of the driver's cabin on the near-side, to just over the rear off-side corner of the vehicle.

leaving about 50-100kg for tools or materials yet keeping within the 3.5 tonne maximum capacity. The unit is very easy to drive being the same size as a transit-type van and can be driven on a regular car licence.



The Ascendant has vertical outriggers on the outside of the vehicle allowing it to set up in a single carriageway.

Once on site the machine is straight-forward to set up from the central control panel on the near-side of the vehicle the outriggers and safety checks can be performed. Each outrigger has a safety light that illuminates if it is not under pressure - so it is easy to check potential problems of one leg not fully down.

With the off-side outriggers within the width of the machine, it means that the unit can be set up in a single carriageway width. The long front nearside outrigger ram and pad could however do with more clearance under it to avoid high kerbs etc, especially if setting up on uneven ground. This is currently being looked into and should be improved on subsequent machines.

Given its overall weight the machine is sturdily built with several nice design touches that reflect input from a hirer trying to minimise user problems or damage. Basket controls are protected so that they cannot be operated inadvertently or if the operator falls onto them, and there are two central harness fixing points.



This is as far as the boom will rotate to the offside of the machine.

According to Leicester, the majority of customers only work one side of the machine and its restricted outreach to the off-side of the vehicle should never be a problem. If needed, the truck can easily be turned around giving the required coverage. Problems with increasingly heavy Ford Transit chassis during the design have now been sorted by using an Iveco base which suits the vehicle giving a safe working load of 230kg and a gross vehicle weight of 3,250kg capable of carrying two operators in the cab and still

Specifications

working height	17.0m
outreach	12.2m
safe working load	230kg
GVW	3250kg
slewing range	180 deg
working width	3.2m
length	4.1m
stowed width	2.3m
height stowed	3.07m
platform size	0.7m x 1.1m

According to Leicester, the unit is aimed at short-term hirers such as builders, and painters with its features justifying the hire rate of about £800 per week or £280 per day. Overall a nice machine possibly a little more costly than some imported products but then it has a good chassis and with 12.2 metres outreach it should prove popular.



One of the trickiest areas to reach was an internal glazed-in courtyard - the Eagle's 17m jib and built-in pressure washer proved ideal.

An Eagle's reach

Salford Hall is a 15th century residence for Monks in Worcestershire, now converted to a hotel and restaurant. When the time came for inspection and cleaning some difficult to reach external areas, the Hall called in Panther Platform Rentals for advice. The work involved inspecting the buildings for any fallen or loose tiles and general cleaning and maintenance tasks on the outside of the buildings and conservatory.

The outreach and capacity of the Oil&Steel Eagle 44 made the machine a contender for the job, being able to reach all of the areas from a single set up location and therefore minimising disruption. However the feature that clinched it was its 17 metre jib which was required to reach an internal glazed-in courtyard by the only accessible route, up and over the main building. The machine's 400 kg platform capacity, 240 volt power sockets and built-in pressure washer with

150psi cleaning lance outlets also made it the perfect machine for the job.

Mandy McClements-John, Panthers vehicle mount/specialist equipment manager said:

"The areas we needed to work on included reaching an internal atrium. The Eagle's built-in pressure water container enabled the client to use a pressure washer without trailing water hoses over the delicate roof."



The Oil&Steel Eagle 44 was able to reach all access points from a single location.