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The powered access trail blazer

The truck mounted lift was arguably the first form of powered access and can be found in every country, even those few places where powered access has yet to make an impact.

Their use was initially driven by demand from utility companies, fire departments and local authorities for lighting and tree trimming applications and later adopted by rental companies for more general work. From the start and for many years the rental model was very similar to that for cranes, with an operator always supplied with the product. It is interesting to note that no matter where you go in the world - including countries where rental is still a totally alien concept - you will always find companies that rent cranes and truck mounted lifts.

of the self-propelled lift that has gone on to make powered access a multi-billion dollar industry. Now you might think that the arrival of self-propelled booms and scissor lifts in the 1970s and 80s would have curbed demand for truck mounted lifts? Far from it, the market has continued to grow as more and more people appreciate the safety and efficiency benefits of powered access, not to mention the concept of renting.

As the powered access market expanded some countries bought into truck mounted lift more than others, countries like Italy, Germany and to a slightly lesser extent

A 1955 Simon IG40 truck mount demonstrating a street lighting application



The fact is that the vast majority of companies have no regular requirement for all but the smallest cranes or truck mounted lifts and therefore have no desire to own them, but they will from time to time clearly have a need and then wish to rent with someone who knows how to operate it. Truck mounted lifts were regular sights on city streets well before the advent

France, as well as Eastern Europe in the pre-Glasnost days.

Meanwhile in the USA, Holland, the UK and Sweden the growth in the use of powered access tended to be more directed towards scissors and booms along with trailer lifts. You may wonder what the markets that favoured truck mounted lifts had in common that caused them to proliferate in those countries?



The only common thread that we can spot is that the type of rental company that adopted the self-propelled lift, non-operated rental companies with transport hardly existed in the big truck mounted markets. Users either bought their own equipment or rented specialist items from crane rental-type companies that looked for lifts that could reach the job site under their own power.

Driving at height or not?

Other factors also came into the equation. In Italy for example, it was not permitted to drive a lift once the platform was raised, removing one of the key benefits of the self-propelled lift. Pulling trailers was also not a practical proposition in Italy, so trailer lifts and delivering small scissors with a trailer behind

the van were also non-starters. Meanwhile in Germany driving at height was limited to eight metres and less, which may also have had an influence? However the same rule applied in Holland and that has long been a big self-propelled lift market.

No, it really seems to come down to the concept of non-operated equipment rental where it was present self-propelled lifts flourished, where it was not truck mounted lifts did better. And in those markets where there was a large demand, manufacturers sprung up to supply them. The past is almost certainly the reason why most truck mounted lifts are now built in Italy and Germany. The UK and USA have maintained some truck mounted lift production but



In markets such as the UK, Holland and Sweden, non-operated rental companies embraced the self-propelled concept far more rapidly and earlier than in Italy or Germany where truck mounted lifts led the powered access charge. For you old timers can you name those men? - answer on page 75

this is largely limited to machines for the traditional utility and fire markets where local knowledge, contacts and ability to customise is a major benefit.

In recent years the UK has regained some truck mounted lift capability with the arrival of Ascendant, but most vehicle mounted production in the country is limited to van mounts and small utility units. In the USA, the Condor name - an early pioneer of big truck mounts - is a mere shadow of what it was, yet companies that build specialist utility trucks, like Versalift, Altec and Elliot have continued to flourish. One exception to our geographical history lesson is high-reach champion Bronto. How a world leading company in large truck mounted lifts and fire platforms came out of Finland is a bit of a mystery, although today it is American owned and part of Federal Signal.

The 3.5 tonne revolution

Moving right up to the current day, the past two years have generally been good for truck mounted lift producers, although the market this year has begun to contract as finance and confidence have become rarer commodities. The big

story in Europe over the past six years, has of course been the phenomenal growth of the 3.5 tonne, self-drive market, spurred on by the fact that anyone born after January 1st 1980 - earlier in some countries - is now required to pass an extra driving test to take anything larger out onto the public highway, although one company may have found a way to extend this a little. (See Is it a trailer or is it a truck?)

As the self-drive market for these lifts expands and rental companies make them increasingly easy to rent, so manufacturers have invested massive resources to develop wider ranges of ever more innovative products. Straight telescopics are now available up to 27 metres while the choice of articulated models balloon. Most serious producers now offered a rake of different models and variations on 3.5 tonne trucks.

However there has also been significant growth in the larger end of the market especially over the past three or four years. In the UK in 2007 for example, the number of companies owning 70 metre models or larger was just two or three, this year it was seven or eight. This trend is likely to continue as demand for wind farm maintenance and work on high rise buildings increases. Sales in this sector have been encouraged by the arrival of Bronto's 101 metre F101HLA in 2006, Wumag's crane carrier mounted, 103 metre WT1000 in 2007 and Bronto's 104 metre S-104HLA in 2008. Five years ago a 45 to 50 metre truck mount was considered big - today it is increasingly becoming a 'run of the mill' product.

The 101 metre Bronto was the first 'proper' truck mounted 100 metre truck mount, although it was preceded by Ruthmann's TTS1000 -



A huge selection of different lifts are now offered on small trucks of every size

launched at Bauma in 2001 - it was mounted on an articulated trailer. Although only two units were ever sold it still holds the record for the 100 metre lift with the most outreach.

It is interesting to see where the big machines have been sold, the two Ruthmanns were delivered to Gardemann and Gerken in Germany

McNally - and one of Riwal's machines are often to be found working in the UK. The fact is that at the moment demand is such that these big machines are best owned by companies that are used to working internationally as demand in most countries is still too limited to keep one unit fully occupied on jobs of 80 to 90 metres or more



Wumag-Palfinger's WT1000 mounted on a Faun crane carrier has been a huge success

- while the first Bronto 101 was acquired by Maes Hoogwerkers of Belgium, hardly the high rise capital of the world. The unit was fitted out for fire duties with Maes providing it under contract. So why does London, New York, Los Angeles, Tokyo, Manchester and Moscow not require such a beast when Brussels does?

In the space of less than four years Europe has gone from two 100 metre machines to at least 14 units, their spread though is patchy, limited to Finland, Holland, Belgium, Germany, France and Ireland. The UK does not yet have one even though the Irish unit - owned by

which is where the best rates are obtained. This will change though as more users begin to realise that such machines are available. Bronto, understanding this announced a 112 metre unit earlier this year which will largely be used for wind farm applications.

So almost 60 years after the very first hydraulically powered truck mounted lifts began to appear and almost 40 years after the arrival of the first booms and scissor the truck mounted lift is not only still with us but flourishing as a wider audience discovers its merits and manufacturers continue to expand their offerings and innovate.

Working heights of up to 27 metres are available on a 3.5 tonne truck



A 45 metre truck mount is no longer considered to be a big machine in many markets



Bronto's new 112 metre S-112HLA - the world's largest aerial work platform



Is it a trailer or is it a truck?

As the number of Europeans limited to driving nothing larger than a 3.5 tonne vehicle on their regular car licenses increases, so demand to squeeze higher aerial lifts onto 3.5 tonne trucks has grown.

Generally speaking a 20 to 21 metre lift, articulated or telescopic, will fit reasonably well on a 3.5 tonne Nissan truck, albeit with some compromises on jacking width or outreach – not to mention spare payload. Articulated booms are now available up to 24 metres, while straight telescopic booms now extend to 27 metres. However these units are highly tuned thoroughbreds which many rental companies consider to be too sophisticated for routine self-drive rental operations.

Earlier this year Oil&Steel's Dutch-based distributor, Hoogwerker Centrum, came up with an alternative that uses a 3.5 tonne chassis cab, but places the lift, in this case a 27 metre Oil&Steel Snake 2714 compact 'Heavy Duty', on what is technically an articulated trailer. The concept appears to have

already gained Dutch and possibly German road approvals for those with regular car licences with larger trailers – category B+E, although it depends on national interpretations of the 'harmonised' European driving license regulations.

In many countries, the UK included, the law appears somewhat vague. For example if you passed a car test on or after 1st January 1997



The 2714 is essentially made up of a chassis cab with fifth wheel and a trailer with lift.



The rear of the Snake 2714 is technically a trailer and has air suspension



A 3.5 tonne truck that thinks it is a six tonner the Oil&Steel Snake 2714 compact

you're limited to vehicles up to 3.5 tonnes GVW towing a trailer up to a maximum of 750kg. However, you can tow a heavier trailer BUT the weight of the vehicle and trailer combination must not exceed 3.5 tonnes AND the GVW of the trailer must not exceed the unladen weight of the towing vehicle – ie a 4x4 with a GVW of 1,760kg and a trailer with GVW of 1740kg.

The B+E license allows you to tow a much heavier trailer. In Holland for instance, it would appear that you can drive a 3.5 tonne GVW truck pulling a 6.5 tonne articulated trailer, or a 3.5 tonne GVW truck and up to a 3,990kg 'fixed' trailer.

This legislation is notoriously difficult to interpret - when we tried to obtain clear official written clarification on this a year or two ago we got nowhere and it would appear everyone is still unclear. In the UK the B+E license is available at a test cost of £115 so this may be a worthwhile alternative route for younger drivers.

The Oil&Steel Snake 2714 Compact uses a dual pantograph riser and three section telescopic top boom

to provide 27 metres working height, 10 metres up and over reach and between 11 and 14 metres of outreach with 200kg platform capacity - the former with inboard jacking. It will also take 300kg to 8.5 or 11 metres depending on jacking position. All capacities are good through 360 degrees.

The trailer fits to the chassis cab via a traditional fifth wheel, but side to side articulation is mechanically blocked so it is driven like a regular truck. The lift can be removed in a few minutes though to allow the chassis cab to pull a regular trailer of the type often used in Holland and Germany for lighter equipment.

The down side of this arrangement is a machine that is long at 8.5 metres, with an overall height of 2.7 metres. The verdict? If you were to buy this with a trailer for delivering self-propelled lifts it might prove to be a handy alternative to simply putting the unit on a six or 7.5 tonne truck – however it is all down to the license that your staff may have and the cost differentials of running what is essentially a van-based rather than a larger truck-based vehicle.



The unit drives just like a regular truck

Yet another way to 20 metres

In one of the most dramatic unveilings in recent Bauma history, Italian truck and spider lift manufacturer CTE decided to uncover its latest new product on the third day of the show, leaving visitors on Monday, Tuesday and most of Wednesday guessing what was hidden under the sheet. When the covers finally came off, the expectations were understandably high and few were disappointed. The new model or rather concept – the 20.13MP – is a 20 metre working height, up and over lift

mounted on a 3.5 tonne truck, nothing new there then. It uses a telescopic lower boom and telescopic top boom, again nothing new there - Multitel Pagliero's MX200 which also uses two telescopic booms has been on the market for several years... However the big departure is the location of the slew ring, rather than being at the bottom as on most other lifts, the 20.13 slew ring is mounted to the top of the two section lower boom which elevates to the vertical. The benefits are a low overall height, a smaller slew ring and most of all it is mechanically impossible to create any tail swing on this machine.

Another benefit is that the top boom can be used while the lower boom remains stowed – hence the 13 in the nomenclature, for the 13 metre working height when only the top boom is used as a straight telescopic. In this configuration with the chunky lower boom lying on the truck bed, the machine's centre of gravity is low enough to allow the top boom to be used free on wheels over the rear, which can prove handy for street lighting duties. For more regular use the jacks can be set up within the width of the vehicle - on one side only or extended on both sides. The working envelope is automatically adjusted to match the outrigger set up.

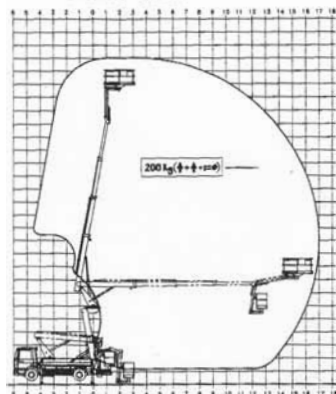
While the 'top slewing' concept is a new approach for 3.5 tonne truck mount, it is not the first machine to employ it. CTE had an earlier run at this concept in 2000 when the



The covers come off – halfway through Bauma 2010



The CTE 20.13MP is mounted to a long wheelbase Nissan



concerned those are givens - it must weigh less than 3.500kg on the road and it must be priced at a level the market will bear. We like it for its zero tail swing in all positions, it's almost nine metres of up and over reach, the fact that when the lower boom is raised the centre of rotation is at the very rear of the truck, its near vertical raised lower boom, its low centre of gravity when stowed and its clean design.



The 20.13 MP has some interesting potential, much will depend on final price and meeting the weight criteria

CTE has shown a 'top slewer' before- the SZ25J

company launched the SZ25J, a 25 metre lift with a single section lower boom, three section top boom and articulating jib. Jacking was totally inboard and like the new MP20 it had absolutely no tail swing. Perhaps it was ahead of its time as it seemed to fizzle out after its launch at Bologna 2000.

As to the 20.13MP - well, those who have seen it are divided. Some think it offers some interesting possibilities while others are more hesitant, suggesting that it is over-complicated. It is hard to understand the latter comment, given that in many respects it is a more simple product – perhaps the elevated slew ring puts some off? Other doubters question it on grounds of weight and cost. As far as we are



In use as a 13 metre straight telescopic boom free on wheels



Similar but completely different

At this year's SAIE newly resurgent Cela unveiled what we considered to be the best new product of this year's show. The 21 metre DT21 follows the Multitel MX200 and CTE 20.13MP concept of using two telescopic booms.

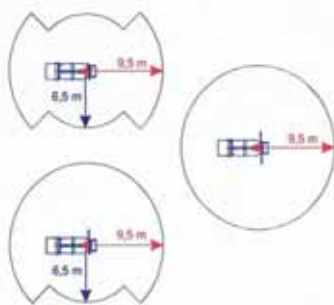
However the Cela uses a four section lower boom, compared to the three sections of the Multitel and two sections on the CTE. Like the CTE, the lower boom lies flat – close to the bed – when stowed, however the two section upper boom lies flat on top the lower and gives the machine a record breaking overall height of just over two metres – the height of the cab.

Sticking with the CTE format, the lower boom pivot is at the very rear of the vehicle and rises to the vertical, but unlike the CTE the slew ring is located in the traditional position at the bottom.

The downside of the DT21's exceptional low height is that the lower boom must be full raised before the upper boom can be elevated. So no using it as a small straight telescopic or anywhere the headroom is less than six metres. However the four section lower boom does provide an exceptional 14 metres of up and over reach clearance under the boom and pure parallel/vertical lift at maximum outreach from six metres to 15 metres working height.

Outreach is an impressive nine metres to the edge of the platform, thanks to it being end or even top-mounted, rather than the usual pedestal mounting. While this

feature provides more outreach it robs at least two metres from the maximum working height. However at 21 metres it is no slouch in this area. The front jacks are fixed and do not extend, while the rear ones can be set up fully inboard without sacrificing outreach through a 90 degree range over the rear or the front. When they are extended on one side or both sides, the full outreach is also possible over the side – otherwise over side outreach is limited to six metres.



The three outrigger set ups – all in – one out and both out.

One downside on this unit is its overall length with basket in position. At 6.3 metres it is not a shocker, BUT when mounted on the short wheelbase Nissan, the rear overhang is too great, at least for Italian road regulations. To overcome this, the platform is designed to be unpinning and

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The lower boom must be fully elevated before the top boom can be raised. Note the top mounted cage and the outrigger configuration

stowed amidships on a support bracket. We watched this be carried out by two men in less than two minutes from fully installed to fully stowed and ready for the road. When removed the overall length is an attractive 5.67 metres. We think

machine so soon after this is a triumph. The key to it being a success however depends now on being able to produce it within the weight and cost parameters and for the machine to then work reliably in the real world.



The platform rotates a full 180 degrees – but must come off for transport on the short wheelbase model

that the optional long wheelbase Nissan carrier will be more popular in many countries, the machine will look better balanced and will eliminate the need to remove the platform for road travel, which while easy will not appeal to many users. The regular caveats apply of course, the lift needs to weigh in at a legal GVW, and it must be priced within sight of other 21 metre truck mounts. As to weight many engineers will be scratching their heads over the challenge of fitting a four section plus two section steel booms on a 3.5 tonner. However Cela appears to have done a superb engineering job on the boom design and construction, using high-strength steels with very little wasted material and an apparently simple single cylinder telescope system. What is more impressive is that barely more than a year ago Cela was a defunct name in the commercial lift market and bankrupt. To launch such a

So how do the dual boom machines stack up?

It will be no surprise to many that some members of our editorial staff have long appreciated the twin telescopic boomed 3.5 tonne truck mounted lifts as pioneered by the Multitel Pagliero MX200. The low overall stowed height and centre of gravity have proved highly popular with buyers all over Europe since it was launched at the end of 2005. The question is can the two latest products which take very different approaches to the same basic philosophy, expand this market sector or will the recently launched lower stowed height dual riser sigma type articulated booms curb the move in this direction? Here is how they stack up.

The Cela clearly wins on overall height although all are relatively low, The Cela also scores on outreach, thanks to its end mounted platform. On up and over reach it's



The one that started it all off – the hugely popular Multitel MX200

	MX200DS	MX200	CTE20:13	Cela DT21
Work Height	20m	20m	20m	21m
Stowed height	2,435mm	2,435mm	2,729mm	2,007mm
Outreach *	8.3m	8.8m	8.5m	9.0m
Up&Over reach	9.5m	9.5m	8.9m	14m ¹
Overall length	5.97m	5.97m	6.65m	6.32 ²
Full jacking width	1,900mm	3,100mm	3,094mm	3,290mm
Wheelbase	2,900mm	2,900mm	3,400mm	2,900mm
Platform capacity	200kg	200kg	200kg	200kg

* To platform edge ¹ 13.1m under platform ² 5.67m with platform stowed

the Cela again, but the Multitel MX200 scores big on overall length and jacking widths.

When the MX200 was launched at SAIE 2005, it was up against some fairly top heavy articulated lifts. Since then most manufacturers have introduced refined offerings, with more compact dimensions, better outreach and variable jacking such as such as the new GSR E210PX which is also under 2.5 metres high, has totally variable jacking widths and offers a substantial 9.7 metres of outreach, or Oil&Steel's Snake 2010 Compact at just 2.4 metres overall height, with 9.5 metres outreach and an overall length of under 5.8 metres

or CTE's Zed 20C at 2.5 metres overall height.

Add to this the emergence of Isoli onto the international market and the entrance of Hinowa which in just 12 months of starting production has delivered 70 units of its Orchidea 21.11. There is now so much choice in the 20/21 metre articulated boom truck mount market that one wonders how the new entrants will fare. A key factor will be the appetite of rental companies to adopt the new models – if they are at the conservative end of the scale, users will not get to experience them and they will struggle to reach any meaningful volumes. Watch this space.



The GSR E210PX, has a low overall height and can level up to 10 degrees

62 metre Mandarin

When London's Mandarin Oriental Hotel prepared to carry out the annual external inspection of its historic building it called on EPL Skylift to provide an access solution for the architectural inspectors.

Following a site inspection, EPL Skylift's Jack Vardy, recommended a 62 metre Bronto Skylift. He says:



The 62 metre Bronto proved ideal for the façade inspection at the Mandarin Oriental Hotel



The platform was more than adequate in terms of capacity and space for the inspectors

"With work taking place on such a large historical building, it was vital we provided a machine that could reach all areas of the hotel's exterior. The T62B offers 62 metres of working height and 34.5 metres of outreach, more than sufficient to access the building's façade without moving the vehicle from the cordoned off area below. In addition the platform is more than large enough to accommodate the two inspectors along with our operator and their equipment."

Mandarin Oriental Hotel Group purchased the 1902-built hotel in 1996 and re-opened it in May 2000 after a total renovation

60 Scorpions to Enel



Enel's Oil & Steel Scorpion 15E on Unimog U20

Oil & Steel says that delivery of its order from Italian energy supplier Enel for 60 units of its 15 metre Scorpion 15E telescopic boom lift, mounted on the new Unimog U20 8.5 tonne chassis is now well underway.

The 15.9 metre working height lift offers 10 metres of unrestricted outreach, 200kg platform capacity, a 2.36 metre wide by 6.4 metre long closed dimensions, inboard heavy duty stabilisers which provide a high degree of levelling ability and a fibreglass platform with full 180 degrees rotation.



The inboard outriggers have plenty of levelling capability

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