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Truck mounts go hybrid

The speed of the recent move away from diesel powered cars has been staggering. Several manufacturers have led the way announcing either a move to full electric production or ceasing diesel engine production over the next few years. A number of equipment manufacturers - including crane and access producers - are following suit, with many aerial work platform companies introducing hybrid models, while pushing the all-electric threshold to greater heights. Haulotte for example, announced a completely new strategy earlier this year - dubbed Blue Orientation - and plans to cease making diesel machines over the next few years. Holland Lift meanwhile says that diesel models now represent only 25 percent of its production, the rest being electric or hybrid models.

The move towards electric is now spreading rapidly to the truck mounted platform market. Our last feature on the smaller 3.5 tonne truck mounted platforms last June did not even mention the word 'hvbrid'. However, over the past few months numerous manufacturers have introduced hybrid versions. In the following few pages we take a look at the new hybrid models and catch up on the other developments across the sector.

Before we look at the latest hybrid introductions an unusual truck mounted variation has reappeared that can be driven on a B+E (BE) driving licence. The 31 metre Comet Compact 3117 Jib is a joint effort between Italian manufacturer Comet and Dutch sales, rental and service company Hoogweker Centrum, which also owns PowerLift in Germany. It uses a 3.5 tonne lveco chassis with the



The 31 metre Comet Compact 3117 Jib uses a 3.5 tonne lveco chassis with the platform mounted on trailer frame that creates a third axle.

platform mounted on trailer frame that creates a third axle which is connected to the top of the truck's chassis. The platform looks as if it is mounted to a three axle chassis although it is claimed that the 'trailer' with platform can be disconnected in about 10 minutes leaving the bare two axle 3.5 tonne chassis





The all up weight of the truck and 'trailer' is 6,950kg which means that the combination can be driven with the trailer driving licence but not a standard B licence (see Licence requirements below).

The Compact 3117 uses a dual sigma type riser with three section telescopic boom and jib. Maximum outreach is 17 metres with 250kg platform capacity covering a 240 degree area over the rear and front outriggers. Outreach with 250kg is reduced to 13.5 metres over the cab, while the 17 metres outreach through 360 degrees is possible with a reduced 120kg capacity. Overall length is 8.62 metres and it has a rather exposed overhanging rear jib and basket. Overall height is 3.1 metres, with an overall width 2.36 metres, maximum spread on the beam and jack outriggers is 3.6

Controls are fully hydraulic, while the main hydraulic system is relatively low pressure at 25 bar. Other





Maximum outreach of the Comet is 17 metres with 250kg platform capacity covering a 240 degree area over the rear and front outriggers

features include a bi-energy electric/ diesel power pack, and 180 degrees platform rotation. Price is said to be 'attractive' - at least when compared to a high-tech 29 metre 3.5 tonne truck mount or a regular 31/32 metre model on a 7.5 tonne chassis.

Seen it before?

This concept has of course been seen before. In 2010 Hoogwerker Centrum worked with Oil&Steel to launch a similar format platform but with a lower 27 metre working height called the Snake 2714 Compact. The platform had a 14.5 metre outreach and 300kg platform capacity. The new machine obviously benefits from the recent gains in design and high strength

As far as we know, the Oil&Steel machine is the only machine that used this format and it would appear that a fair few have been sold in the Netherlands and Germany, How well this machine is adopted in other countries will depend on several



factors - the driving licence regime in each country and how rental companies view it.

However, with a working height

of 31 metres, the Comet may just have hit on a winning formula. Equivalent working height machines are mounted on 7.5 tonne chassis

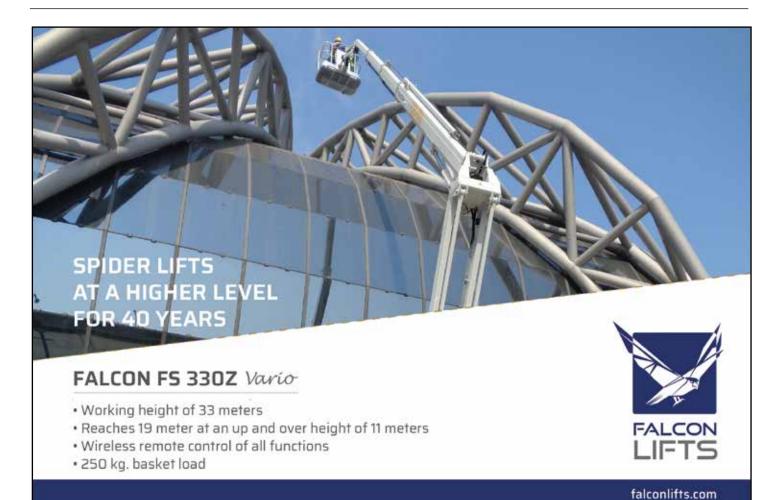


and moving up a metre or two means using a much larger and more expensive 18 tonne chassis. This means that the Comet is the only manufacturer with a 31 metre working height truck mount that can be driven on the B+E licence. For the 7.5 tonne chassis platforms the driver must have or pass the C1 licence. For those with only a B licence limited to driving 3.5 tonne trucks the 28.6 metre Ruthmann TB290 is still the highest platform available.

The Comet is long at more than 8.6 metres - the result of bolting on the trailer section - however it has 17 metres of outreach even with its maximum 250kg capacity and weighs in at under seven tonnes. The only other machines to better these figures are the Socage 32DJ and Ruthmann TB330 - both on 7.5 tonne chassis. The Ruthmann TB330 tops the 7.5 tonne chassis platforms with its 33 metre working height, 320kg capacity and 17 metre outreach. The Socage is not far behind with a 32 metre working height and 17 metre outreach with 280kg and is mounted on a much more compact chassis, but weighs 7,600kg which may need an additional category on the driving licence.

How the Comet compares to other 28m+ truck mounted platforms

Make Model	Comet 3117	Palfinger P280 B	Socage forSte 32DJ	GSR E290PX	Multitel MX290 EX	Ruthmann TB290	Ruthmann TB330
Work height	31m	27.6m	32m	28.7m	29.3m	28.6m	33m
Chassis	3.5 + trailer	3.5/5/7.5t	7.5t	7.5t	7.5/6t	3.5t	7.5t
Max capacity	250kg	230kg	280kg	220kg	225kg	230kg	320kg
Outreach with max capacity	17m/ 250kg	9.5/230kg over side 13m over rear	17m/ 280kg	15.6/ 220kg	13.2m/ 225kg	10m/ 230kg side 13.2m over rear	17m/ 220kg
Max Outreach	17m/ 250kg	17m/100kg over rear	19m/ 120kg	15.6m/ 220kg	14.9m/ 120kg	16.2m/ 100kg	21.2m/ 100kg
Length	8.62m	7.85m	7.99m	7.6m	7.94m	6.94m	8.79m
Height	3.1m	2.9m	3.15m	3.5m	2.95m	3.02m	3.56m
Weight	6,950kg	3,500kg	7,600kg	7,500kg	7,500kg	3,500kg	7,490kg
Slew degrees	360 Cont	500	700	450	400	450	500
Licence required	B+E	B/C1	C1/C LGV	C1	C1	В	C1





Licence requirements

The trailer concept appears to be more acceptable in Germany and the Netherlands while in many other countries, the UK included, the concept has not been adopted and people's understanding of the law regarding licences and tachographs etc appears somewhat vague. Tachograph rules apply throughout the UK if the maximum permissible weight of vehicle or vehicle combination is more than 3.5 tonnes.

Depending on where you live, if you are younger than 38 years old you will have a regular B licence and are limited to driving vehicles with a GVW of less than 3.5 tonnes. If towing, the trailer must weigh less than 750kg. In many parts of Europe, including the UK, older drivers automatically have the B+E (BE) category licence and can drive a vehicle up to 3,500kg and tow a heavy trailer.

With the B licence, you can tow a heavier trailer, BUT the weight of

the vehicle and trailer combination must not exceed 3.5 tonnes. There is also a B+ trailer driving licence where you can tow more than 750kg and may exceed the 3500kg maximum of the category B license. In this case, your car and loaded trailer may weigh up to 4,250 kg together.

The B+E (BE) licence allows you to tow a much heavier trailer - a 3.5 tonne GVW truck and up to a 3,990kg 'fixed' trailer - and this is where the Comet should comply as it weighs 6,950kg.

Hybrid truck mounts

As we have mentioned before, there has been a dramatic move among aerial lift manufacturers towards alternative power sources to diesel. The main reasons for this trend is air and noise pollution. however probably the most powerful driver for the equipment owner is the prospect of much lower running costs. Electric vehicles are simpler, more reliable and less costly to power and





truck mounts

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service. Currently they are subject to a premium purchase price however when production numbers increase the cost per unit will fall further benefiting the whole life cost of ownership.

Over the past few months several platform manufacturers have launched hybrid and lithium battery powered machines - a market pioneered by Niftylift with its hybrid boom lifts. This switch is now finding its way into smaller truck mounted platforms with three manufacturers - Multitel, Ruthmann and Palfinger - launching hybrid machines at Platformers' Days in Germany last month. Versalift has also added its first hybrid van mount. In addition to the lower running costs particularly in terms of breakdowns and servicing, platform users working in urban areas can extend their working day thanks to the silent operation, thus increasing utilisation and productivity.

Ruthmann's first hybrid truck mount is the 18 metre Ecoline 180 hybrid which provides the same features as its diesel Ecoline 180 aerial lift, including a 9.5 metre outreach and 250kg platform capacity. A hybrid version of the 16 metre Ecoline 160 will also be available. Both models

feature a choice of Euro 6, 3.5 tonne chassis with, says Ruthmann, sufficient payload capacity despite the relatively heavy battery pack. In addition to operating from the PTO mounted pump on the truck, the superstructure has a battery pack for emission free, low noise level operation.

Optional features include Ruthmann's 'Easy' stabilising and secondary guarding systems.

Ruthmann says that the battery pack on the Ecoline 180 will last six to eight hours in normal working applications. The battery pack is recharged while the truck is driven to and from the job or between jobs, it can also be topped up during operation, when a power source is available, using the integrated charger. The first unit has been purchased by German access rental company Gerken.

Multitel MT162

The 16 metre Multitel MT 162 Hybrid platform - mounted on either a 3.5 tonne Iveco Daily 35 S 13 or Mercedes Sprinter 3.5 chassis - is based on the MT 162 EX and has a 10 metre outreach with a maximum 300kg platform capacity. Outreach is increased to 11.5 metres with an unrestricted capacity of 230kg. The



chassis continues to be powered by the standard engine, but a second alternator tops up or recharges the battery pack used to power the platform.

Once on site, the platform is operated on battery power with the chassis engine switched off but can also be powered from the vehicle's PTO driving the pump. As the vehicle moves from one site to another the batteries are automatically topped up by the second alternator with the main alternator charging the vehicle starter battery and supplying lights and other standard features as normal.

Multitel says the batteries can be fully recharged from empty in less than four hours and that it is looking to expand its hybrid range saying it will convert other models to the Eco Hybrid specification.

First Palfinger hybrid

Although we are concentrating on 3.5 tonne truck mounts it is interesting to note that Palfinger has recently launched its first hybrid truck mounted platform, the P 370 KSE based on the standard 37 metre P 370 KS.

While the 18 tonne chassis retains its diesel power, the platform hydraulics are battery powered. Working time can be further extended by topping up the battery by plugging into the mains. Palfinger says the intelligent charging system with integrated fast charging function shortens the charging time by 25 percent, and that after one hour of charging from low battery cut out, the machine can be operated for up to one and a half hours.

Compared with an all diesel machine, the hybrid offers considerable fuel savings, is much quieter (less than 62 decibels) and has lower CO2 emissions making it ideal for night-time and indoor work as well as for use on environmentally friendly construction sites in urban areas. With intermediate charging during

work breaks the battery electrical operation can be extended and when the battery charge is low or in emergency situations, platform operation can be continued via the chassis engine and PTO drive.

Versalift VTL hybrid

Another recent launch is Versalift's first hybrid VTL van mount, the 14.6 metre VTL-145-F Hybrid. Mounted on a 3.5 tonne Mercedes-Benz Sprinter chassis the aerial lift has an outreach of up to 8.6 metres and a platform capacity of 230kg. The standard chassis is diesel powered, while the platform is powered either by a 100 percent electric drive system using an electric motor, a separate hydraulic pump and an onboard lithium ion battery pack. The company says that the battery pack will last a full working day between charges. The vehicle's engine driven PTO pump can also be used to power the platform.

Summary

The smaller truck mounted platform market has repeatedly pushed the technology and performance envelope in recent years. With Bauma now just six months away it will be interesting to see just how many manufacturers unveil new hybrid or electric powered models, as they strive to satisfy the increasing demand for cleaner and quieter equipment and benefit from the lower running costs.







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Bucking the trend

The past few years have seen a major change at Skyking - the UK distributor for Palfinger Platforms, Ascendant and Isoli truck mounts. Mark Darwin visited the company to see how it is progressing under new management.

Founded in 1962 the King group - which included Skyking, King Trailers, King Highway Products and King Transport Equipment and Safety Vehicle Hire and Lease - was acquired by the HW Martin group in June 2016.

At this point Skyking was the UK distributor of Palfinger Platforms, Almac scissor lifts and Easy Lift aerial work platforms, having just relinquished the UK distributorship for GSR platforms because of the increasing overlap with the Palfinger range, and added Ascendant platforms in May 2017.

However, since the acquisition both Almac and Easy Lift have also departed, leaving Skyking with the challenge of regaining lost market share. Richard Martin joined the company as sales director from Rapid Platforms just over a year ago. Dave Freebody, one of the founders of Riwal UK, joined at the same time as operations director but has since left the company. Martin has now been appointed sole director of Skyking which operates as a stand alone sales and service company but using the back office facilities of the £100 million revenue Martin group.

"It is all about rebuilding customer confidence, expanding our sales portfolio and getting everybody excited about what we do," says Martin. "The last few years has seen quite a turnover of products and senior staff which has led to disruption and disgruntled customers. All these changes mean we need to improve our game in all areas - sales, parts, service and backup."

Company reorganisation

"There was a problem with the company structure which needed addressing. My first challenge was product backup and to try and replicate the excellent engineering facilities and qualities that we have here at head office in Market Harborough, out in the field. We need to tell the industry about our ability to service, maintain or fully repair and rebuilt even the biggest platforms, including the 103 metre Palfinger P1000. Unlike some other UK platform distributors, we do not have to send any machine back to the manufacturer for repair - a major plus point for customers. Our facilities are second to none."

"For many years Skyking and Palfinger took a good chunk of the large truck mounted platform market in the UK but when the market dipped a few years ago, there was not enough attention paid to developing future sales," he said. "My brief was to reorganise the







company taking a new approach. Until now all platforms had to be sent back to head office for even minor work, which meant customers were without machines for longer than necessary - in some cases several weeks. The solution has been to employ two experienced mobile engineers - one in the north, in St Helens between Manchester and Liverpool which is a densely populated area for truck mounted platforms, and the other in the south, in Sussex. Before they started both were put through Palfinger's technical training courses."

"We need to reinstall customer confidence and having our 'reactive squad' i.e. the mobile engineers is starting to pay off with companies such as Elev8 recently ordering two platforms - a 64 metre and 30 metre. I have been here about a year however over the past 10 months we have sold 12 Ascendants, six Palfingers over 30 metres and one Isoli since signing the contract."

Martin is also making changes in other areas of the company.

"We were being too rigid on the pricing structure," he said. "The 30 metre counter-slew Palfinger P300 KS is a great, compact machine but £20k more expensive than Ruthmann's popular 33 metre TB330. Now that the price is the same we are starting to see more interest and have the first sale to

High Access Maintenance (which now owns AA and Outreach) which arrives next month. We have had some help from Palfinger with the financials but essentially I need to get platforms out into the market."

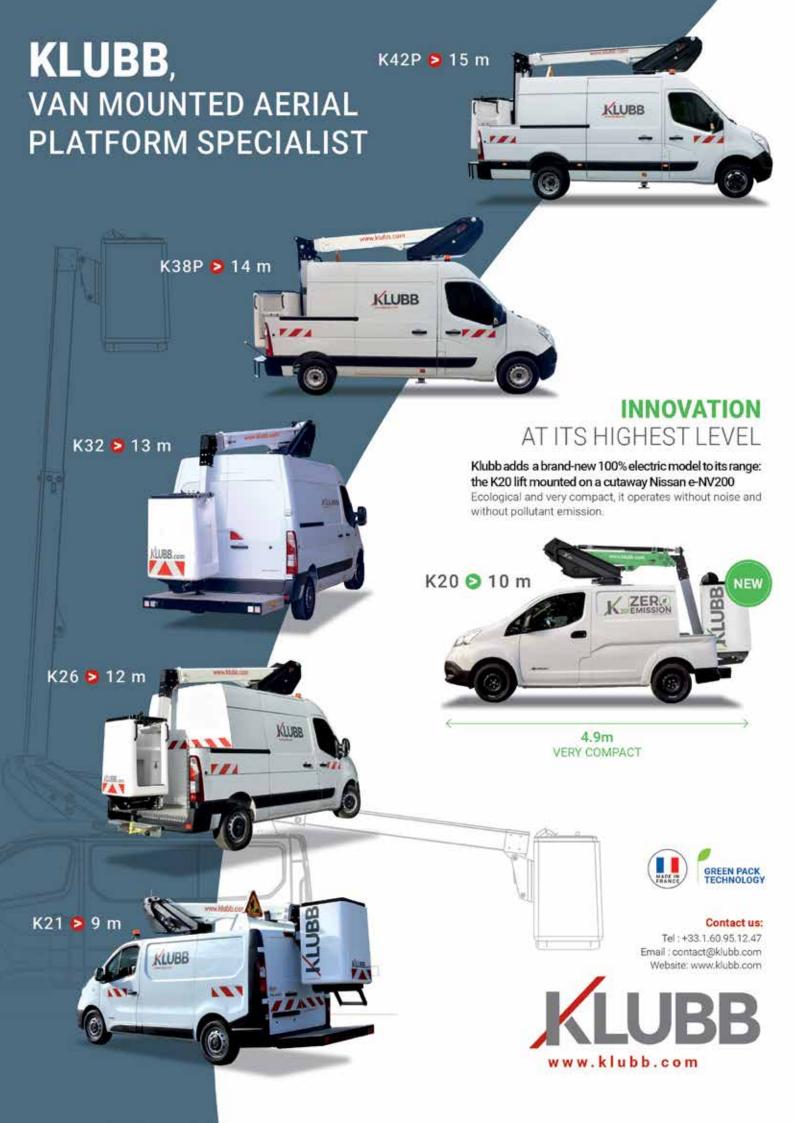
Ascendant success

Skyking says that it is also having some success with the Ascendant platforms.

"Orion Access has just taken delivery of the first two new 20 metre Ascendant 20-15TJ - which has 15 metres outreach. We have stopped using the 3.5 tonne Nissan Cabstar chassis and have decided to put most of them on Mercedes Sprinters or Iveco Dailys. We have a three year warranty on the Sprinter chassis so that if there is a problem - perhaps a broken wing mirror or a blown bulb - Mercedes' service team come out and fix it. Yes, the chassis may cost an extra £3,000 but it is all covered under the warranty. As a hire business that is exactly what I would want."

"Palfinger Germany also manufactures 3.5 tonne platforms which are highly innovative, modern and targeted towards the end user market. The comfort features and supplementary equipment tends to be overlooked in the UK rental markets due to price limitations."

"A 25 metre Palfinger is on another pricing level compared to our manufacturers' products and the exchange rate has not helped of



Skyking

course, however this is where the UK-built Ascendant scores. It is true that they appeal to totally different users, but you can almost get two Ascendants for the price of one Palfinger."

However, Martin is determined to push the smaller 3.5 tonne Palfinger platforms and is doing a two week customer tour around the UK with a 25 metre P 250BK on a Mercedes Sprinter chassis.

"The platform may be of interest to the smaller companies/owner operators, but I am also visiting some of the larger rental companies wanting the platform mounted on a five tonne Iveco Daily 4x4 for the utilities market."

Workshop facilities

The workshop facilities include overhead cranes and equipment for mounting platforms, but Skyking says that at the moment it does not



want to be mounting booms onto chassis. All the platforms arrive fully complete from the manufacturers. Another policy decision was to take very high specification truck chassis.

"The standard Palfinger spec chassis is quite basic, with no sat nav', curtains or heaters on the sleeper cabs etc... Drivers spend so much time in the trucks that we have gone for the highest specification available. Until now Palfinger has favoured MAN chassis for its mid range platforms. One potential customer was interested in the P370 KS but wanted it a Volvo FM chassis, which Palfinger has now

agreed to do, it is due for delivery in March. We have made enormous progress in supplying the equipment asked for by UK customers and this is translating into sales. Palfinger is also improving delivery times on parts - some of which had a 12 week delivery time - and we are looking at the pricing structures. We are also talking with Palfinger engineers about our ideas for UK specific machines rather than having to sell the machines that Palfinger produces."

Although it no longer distributes GSR products, Skyking still has about £80,000 worth of replacement parts in stock.











- Max working height: 11 m (also available 15 m)
- Lateral outreach: 4 m constant
- Basket capacity: 400 Kg
- Basket size: 3.5 m x 2.0 m
- Basket with double lateral movement 90+90° rotation
- 4 stabilizers in shape (H+H)
- Operational on slopes up to 8 "



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Bigger portfolio

Skyking surrendered the Almac tracked scissors which has decided to set up Almac UK, while Easy Lift moved the account to Aerial and Handling Services. Palfinger Italia also moved its distribution to CPL.

"We need a wider portfolio of machines and are currently finalising agreements with a self propelled manufacturer to distribute scissor and spider lifts," says Martin. "I have also brought in Isoli as we needed a range of articulated truck mounts. It is early days, but we have already sold a 21 metre Isoli 210 to a customer in Ireland and have a 24 metre Isoli PNT 240 in the depot."

The new Ascendant A20-15TJ is apparently selling well, being well priced thanks to the current exchange rates pushing up the price of imported products. Two A20-15TJs - which have 13 metres outreach with 230kg and 15 metres with 120kg were delivered to Orion Access a few weeks ago.

"I bought my first Ascendant 18-13 when I was at Rapid Platforms, but the new machine has an additional two metres of outreach which is what people want in the small machines."

Machine Availability

Another change Martin has introduced to the way Skyking operates is by arranging short term availability - as quick as one week on its most popular products.

"If customers order a large platform from any manufacturer, delivery is probably next May at the earliest. Using this to our advantage, we have looked at the market over the past six months and have identified which machines are required in the UK and have arranged to have these selected models on a short term, if not readily available basis. We have reduced the prices as well so that they are on par with the competition. I want machines out there and to start building relationships rather than trying to maximise profit. We have the engineering/back up sorted and with the machines available we are looking to buck the recent trend and put Palfinger, Ascendant and Isoli back on the UK map."



