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booms

Refinery in Saudi Arabia

A Haulotte boom working in the new Jazzan

# What's new in bo

The self-propelled boom lift has not always been known for white heat development, just take a look at many mid range models and compare them with 20 year old units - in some cases they look exactly the same. However in recent years we have seen major developments at the extremes from the 180ft Genie SX-180 and 185ft JLG 1850SJ super booms right down to new lightweight 12 metre articulated lifts. But there have been substantial changes under the covers and more recently new models that break the mould and extend the range. We take a look at some of the latest developments.

The self-propelled boom lift has been evolving, with improved performance envelopes, new overload and tilt alarm systems, lighter and stronger materials reducing weight for easier transport, new power sources and drives including all-electric and hybrid, along with new telematics and diagnostic systems. Manufacturers are looking at improving every aspect of the product, with a view to improve the return on investment by reducing the total cost of ownership.

Some manufacturers aim to achieve this through the hi-technology approach integrating the very latest developments into their machines. Others adopt the 'tried and tested' method of bullet-proof build and high reliability, and there are those that produce lower priced no-frills machines.

The growth in the global demand for powered access has also seen several new players enter the market, particularly from China, which now seems to be focusing on manufacturing machines for established western brands for export, while working on the domestic market under their own name. The sector has also seen a growth in the weird and wonderful - machines designed for a specific purpose. If there is sufficient demand, someone somewhere is happy to design and build a machine for the job.

#### Growth of tracked booms

Crawler booms have long been popular in the Netherlands and Northern Germany, but a couple of years on from Hitachi dropping its boom lift line and the virtual departure of Aichi from the European market, there is now a growing demand for this niche product type. A couple of Dutch companies are looking to replace Hitachi, which always enjoyed steady local demand for work on large glass houses and for steelwork and cladding on new industrial or commercial buildings where soft ground is the norm.

First to the market this year was new entrant Catamount with its 27ft 25.10 telescopic crawler boom. The new company has no previous access manufacturing experience. Owner Caspar van Woerden has designed and built a solid machine with a three section octagonal



boom. With an overall weight of 2.55 tonnes it is light enough to be towed behind a 4x4, but platform capacity is only 150kg and outreach limited at 5.2 metres or 5.7 metres with 80kg in the platform. Overall dimensions are 4.5 metres long, 1.76 metres wide and 1.58 metres high. What is surprising is that the whole machine is apparently fabricated in-house. If all goes well the company says it plans to produce a larger 33 to 40ft version weighing around 5,500kg and perhaps a 66 to 76ft platform in time, as well as hybrid power.

More recently Custers unveiled its 34ft Verda 12 aimed squarely at the gap in the market left by Hitachi. Big brother to the Verda 9 the new track mounted Verda 12 has a 12.3 metre working height and outreach of 10.3 metres and depending on the machine specifications it can be driven at height for most of its working envelope. Machine weight is either 3,500 where weight is critical or 4,900kg with

is critical or 4,900kg with 230kg platform capacity. Transport dimensions are 5.25 metres long by 1.8 metres wide. It has an overall height of two metres.

The Custers Verda 9 is a similar size to the Catamount 25.10 with a working height of 9.2 metres and outreach of 5.4 metres. Weight is 2,500kg but platform capacity is 150kg - enough for one person and tools.



Something entirely different

Of course if you want a go anywhere, all terrain boom with good working height, the most interesting, radical and expensive is the 135ft Teupen Puma 42GTX - a combination of the Menzi Muck walking excavator chassis and a Teupen spider lift lift boom structure. While it is very much a niche machine, Teupen has sold at least three so far, two in the UK and one to Sweden, with several more in production. Even on slopes of up to 17 degrees, the lift can find



booms The JLG 460SJC has a king height of 15.88 metres 12.72 metres of outreach

a safe working position and reach its 42.7 metre maximum working height with a 400kg platform capacity. Outreach of 16.7 metres is achieved with a reduced 300kg in the platform.

JLG which is really focusing on new technology and development these days has two interesting new products. The first is its dynamic auto-levelling concept boom which it showed at Conexpo and following positive feedback has decided to put into production. The initial machine, uses a 460SJ boom superstructure - although the prototype chassis will also take a 60/65ft superstructure - coupled with the self-levelling chassis and is capable of travelling on compound slopes up to 10 degrees. While the chassis layout is much simpler and more traditional than the Teupen Puma, it still allows the machine to cross uneven terrain as it constantly adjusts each wheel independently, allowing smooth travel even when the boom is elevated. The chassis can also be lowered to reduce its overall height for transport or to pass under low overhead obstructions. New standards in the USA, Canada, Australia and Europe will require

boom lifts to lock out when working on slopes that exceed their safe limit. With most booms required to be on firm level ground it will be a real challenge on real-world construction sites creating demand for this type of product.

The second new product launched last month is more traditional crawler mounted 46ft 460SJC seen at Platformers Days. Using the same boom, jib and superstructure as the concept boom it has a working height of 15.88 metres and 12.65 metres of outreach. Unrestricted platform capacity is 270kg and joins the 40ft (no jib) 400SJC.

Both machines are significantly larger than the Custers or Catamount products and along with JLG's 600SJC and 660SJC they clearly target the vacuum left by Aichi which largely sold 40 and 60ft crawler models. The new 460SJC boasts a gradeability of 51 percent. transport dimensions of 8.9 metres long, by 2.24 metres wide and 2.3 metres high, with a total weight of 8.4 tonnes.

In spite of its move towards new technology, JLG is however holding off on producing very large allelectric booms, leaving this to its



distributor and rental company Riwal which pioneered the first electric booms based on the JLG 80/86ft 800/860AJ and more recently the 120ft 1200SJP. The design replaced the diesel engine and fuel tank and electric motor, battery pack and charger. Performance remains the same as the diesel unit, but with zero emissions and perhaps more importantly, minimal noise levels. As well as adding units to its own rental fleet,

Riwal has already sold three of

**Comet Xiraffe** 

Another interesting new platform is

the 33ft platform height/12 metre

working height, Comet Xiraffe. Its

a point behind the operator's seat,

in a similar manner to an articulated

dump truck allowing for greater off

road capability. The four spider type

outriggers can level the machine on

ground with a height difference of up

With floatation tyres, the unit is

ideal for off road work offering a

ride-on platform along the lines

of the Niftylift SD. Outreach is 4.5

metres at an up and over height of

of 150kg. The unit includes power

Outrigger spread is 2.7 by 3.2

wide and 2.35 metres high.

3.75 metres long by 1.85 metres

Although very specialist, the road

rail sector has a wide variety of

and compressed air to the platform.

metres, and overall travel dimensions

New road rail boom

five metres with a platform capacity

unusual 4x4 chassis is articulated at

such a platform.

to 700mm.



Another interesting new platform is the 33ft platform height/12 metre working height, Comet Xiraffe

mostly boom lifts. One of the larger players is Platform Basket which the 1200SJPs to Norwegian rental recently unveiled an all new 40ft company Naboen which says it is articulated self-propelled road rail experiencing increased demand for boom lift, the RR14 EVO 3. With up to 14 metres of working height JLG says that for this size of machine and is aimed at the maintenance it prefers to focus on hybrid solutions of electrical catenaries and lighting however it does agree that the longsystems along rail tracks. Features term future is all electric equipment. include four wheel drive and steer, with a maximum travel speed on

> tracks when stowed of 19kph. The new model is based on the existing RR 14 EVO and includes Platform Basket's well proven superstructure levelling system, the short sigma-type dual risers, all of which stow within an overall height of three metres. Two digital display screens are provided, one on the platform controls and one next to the lower controls.

The machine includes a standard spring-loaded pantograph system with a choice of blades and a highly sensitive encoder to measure the distance between the track and the overhead cables. The results are displayed on the two display screens, while a larger screen mounted to the side of the superstructure is available to display the measurement results to those working alongside. A standard manual winch helps fit and remove the pantograph while a new lightweight trailer with a 2,200kg payload can be towed behind the boom lift.



ifts, mostly boom lifts such as this Platform Basket RR 14 EVO 2-400



#### New boy

New boy on the access market JCB is perhaps finding that gate crashing the access party is not guite as easy as it might have originally thought. After launching a slab electric scissor lift range, it has now added its first boom, the 50ft AJ50 D articulated boom lift. This is the first and the smallest of its planned range of four diesel booms. Weighing just over seven tonnes, it boasts 160 degrees of jib articulation, 227kg platform capacity, 4x4 drive, oscillating axle and an impressive three joystick digital control panel. All daily checks on the good-looking machine can be carried out on one side of the machine.

#### First Niftylift straight telescopic

The UK's leading access platform manufacturer Niftylift has unveiled its first straight telescopic selfpropelled boom lift, the 65ft HR22S 4x4 Hybrid. The all-new boom lift features a three section boom and jib with 150 degrees of articulation. The unit is said to weigh 10 tonnes when fully equipped and yet offers an 18.8 metre working outreach and 280kg unrestricted platform capacity. Features include the company's well-proven full hybrid electric/diesel power pack, four wheel drive with oscillating axle and 40 percent gradeability. Dimensions are also compact with an overall stowed length of 8.97 metres and

Niftylift recently unveiled its first straight telescopic self-propelled boom lift, the 65ft HR22S 4x4 Hybrid minimal tailswing. Overall width is 2.49 metres, with an overall height of 2.7 metres. The company's SiOPS built-in secondary guarding system and non-marking rough terrain tyres are standard. The new controls are digital with on-board diagnostics and the machine is telematics ready. The new model is aimed squarely at the German market where its hybrid

booms are exceptionally popular. Compared to the competition the new product performs well with class leading outreach, platform capacity, overall weight, power choice and jib articulation.

Not everyone will want a hybrid of course, so price and residuals will play a key factor in decision making.

Niftylift also launched the 63ft HR21e last month, a new pure battery electric version of the updated HR21 articulated boom lift. It features direct electric drive, 13 metres of outreach, a 250kg platform capacity, 150 degree articulating jib, 30 percent gradeability and an overall weight of 6,640kg.

#### New Sinoboom

Sinoboom recently unveiled details of three new platforms including a 52ft battery electric boom lift, the GTZZ16EJ, which updates an existing model and offers up to 9.37 metres of outreach, a working height of 17.8 metres and a platform capacity of 230kg. Gradeability is 40 percent and it is expected to share the same overall width as the current model at 1.9 metres. The unit includes on board diagnostics and improved electrics. Another interesting development on this model is the use of "carbon fibre reinforced" covers.

#### Top end platforms

It is now more than four years since Genie launched its 180ft SX-180, which was closely followed by JLG's 185ft 1850SJ. What is perhaps surprising since then is that neither company has mentioned a larger model - given that both have said that 200ft is possible.

Both however have introduced other large platforms - JLG with the 150ft articulated JLG 1500AJP and

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#### booms

All the new Genie XC booms are equipped with a new integrated overload system



Genie with the straight boom Xtra Capacity 135ft SX-135XC, 125ft SX-125XC and 105ft SX-105, All three Genie's share the new Mini X chassis which is used on the updated articulated ZX135/70 which is more than one metre narrower than the previous model. All the new XC booms are equipped with a new integrated overload system to comply with the ANSI A92 and CSA B354 updates, the current European EN280 and Australian AS 1418.10 which require platform load sense technology. The system continuously checks the weight in the platform and adjusts the working envelope to match. A tilt sensor also adjusts the working range based on the slope measured.

#### 80-86ft boom sector hotting up

The other major development in the boom market is the growing number of products in the 80 to 86ft range. Once a small sector, it is now serviced by almost every aerial lift manufacturer with models from JLG, Genie, Niftylift, Snorkel, Skyjack, Haulotte, Manitou, Dingli, Sinoboom, Runshare and Mantall, with many of them offering both telescopic and articulated models. Although buyers already had a decent choice there were five new additions at the beginning of the year three of them telescopic - the Haulotte HT28 RT, Dingli BT28RT and XCMG GTBZ26S, and two articulated models, the Dingli BA28RT and Skyjack SJ85A. This was followed by the 80ft Haulotte articulated RT boom the HA26RTJ and Dinolift's 280RXT.

#### Two new Haulottes

Haulotte unveiled its new HT28 RT telescopic with a fairly standard but strong base specification which uses a three section boom and



simple fixed length articulating jib. It has some really interesting features including its Activ' Lighting safety loading system which illuminates controls and the area around the boom lift in order to help when loading and unloading from a truck. The Stop Emission system stops the engine when the machine is inactive while working at height and restarts as soon as a controller is activated. Savings of up to 20 percent have been seen. The HT28's Activ'Screen on-board diagnostic system helps users carry out daily maintenance operations with details and resolution procedure of any malfunctions, maintenance alerts and service intervals and machine settings. It also features Haulotte's second generation secondary guarding system.

The latest introduction - the HA26RTJ - has an improved working envelope with 17.4 metres of outreach with 9.2 metres up and over reach. The optional dual platform capacity is 250/350kg but four wheel drive with oscillating axle and hydraulic differential lock are all standard, giving 45 percent gradeability. The company says that boom rigidity has been significantly improved, and automatic soft stop damping occurs when each function reaches its full extension. It also has all the latest features of the HT28 RT.



#### Other new machines

The radical new Dingli booms lifts designed by Italian telehandler company Magni have yet to make it into production, but booms incorporating some of the Magni features have been on trial in the local Chinese market. Expect to see further development of the original Magni product sometime next year.

Crane and construction equipment manufacturer XCMG also unveiled an 86ft boom lift during the year, the GTBZ26S with its 28.2 metre working height it is a fairly standard design, but boasts a decent specification, a rising boom pivot point, three section boom and long articulated jib. Maximum capacity is 340kg restricted to 230kg for the maximum 23.2 metres outreach.

Skyjack unveiled its 85ft SJ85 AJ articulated boom lift at the ARA and made its UK debut at Vertikal Days in May. Largest of Skyjack's articulated booms the SJ85 AJ has a 27.9 metre working height and just over 17 metres of outreach. Up and over clearance is 10.36 metres. It has 360 degrees continuous slew, a dual platform capacity of 340/227kg and indicator lights on the upper and lower controls showing the working zone and platform capabilities.

Dinolift has also launched an 85ft platform - 280 RXT semi selfpropelled All Terrain boom lift. The



new machine has a new articulated jib giving two metres more working height than the existing 260 RXT at 28 metres, more outreach at 16 metres, more up and over reach at 8.2 metres. Its use of higher strength steel in the boom design means its overall weight is just 4,800kg. Standard features include four wheel drive, four wheel steer, oscillating front axle, a state of the art Moba control system and a 10kph stowed drive speed. Unlike the others of course it has to set its outriggers before lifting, but given the changing standards for working on slopes this could well be an advantage.





Largest of Skyjack's articulated booms the SJ85 AJ has a 27.9 metre working height and just over 17 metres of outreach.



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#### booms

## **MEC** launches new boom

Following the departure of MEC's international sales director/partner Jim Tolle to start his new venture GMG - Global Machinery Group - earlier this year, California-based MEC restructured its operations, appointing Pat Witte as vice president of business development and building a new international sales team. Mark Darwin talked to president David White and Pat Witte about developments at the company.

MEC is doing well, growing 70 percent over the past year, it has also been working on new products and recently launched the 19ft Micro 19 scissor and the 45ft **45-AJ Rough Terrain articulated** boom lift. The 45-AJ takes the company into the mainstream boom market, and it plans to add a larger articulated boom next year. The Kubota diesel powered 45-AJ offers 360 degree continuous slew, solid rough terrain tyres, a triple entry platform with swing gate and oscillating front axle. Outreach is 7.6 metres with an up and over clearance height of 7.5 metres. Maximum platform capacity is 227kg.

The 19ft Micro 19 slab scissor lift joins the 13ft 1330SE Micro scissor lift launched last year, with the same features, including direct electric drive for longer battery life. "The Micro 19 in combination to our 1330SE provides our customers with the height options they need in tight spaces, where the Micro class delivers. A 19ft machine that fits in most elevators opens up new opportunities," said president David White.

Both units are built for MEC by Dingli in China and incorporate numerous

The 6092RT scissor is primarily for the European market but the product has also been taken up by American customers

design changes in order to deliver a cost-effective product with MEC's usual 'bells and whistles'.

"With our 45-AJ, we were looking to expand our boom line with a product that demonstrates our values for full-featured, rugged, simple, reliable boom lifts," he said. "We believe this machine delivers those values and provides best in class productivity with the continuous slew."

The company has also been busy integrating its parts business over the past year following the ending of an agreement with TVH last December. MEC says the new system which went live in January is working well and exceeding expectations.

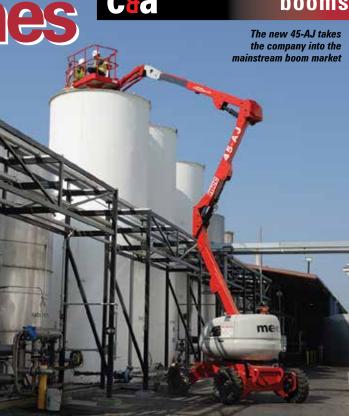
70 percent of MEC's revenues come from North America, and the company has had limited success with overseas sales as much of its product line has a North American focus, however this is changing as it adds more core products with international potential.

"We will tailor products for a specific region," says White. "The 6092RT scissor is primarily for the European market but the product has also been taken up by American customers. We have also developed

our products for the Norwegian tunnel market with our dealer Perfect Lift.

#### **Future plans?**

"Our near term plan is to complete the boom range over the next two years. The 70 percent growth came mainly from new products in high volume sectors and gaining new customers, so this



year will probably be more modest at around 20 to 25 percent."

Regarding increasing competition particularly from China MEC says that its strength is being a specialist aerial lift manufacturer and not a general manufacturer making access equipment.

"Historically we are an engineering company and we have the advantage of introducing innovations - and not just producing the same models as the competition," said Witte. "New products built in China are going to be MEC designed with features that differentiate them from others on the market - that is our strength. In the mature US market we are one of the four major brands, however we knew we had to offer something different to gain market share. It will be a challenge for other new manufacturers entering the sector. We are expanding our team, bringing in experience whereas many of our competitors are going the opposite way. We have recently taken on three former Genie employees with a total of more than 80 years experience, we are proud of that - we want experienced people."

"On the sales side we are fortunate there is a pool of seasoned experts with customer relationships decades long. Part of our growth is mainly because of these relationships - we are not starting

from scratch with a lot of these accounts. Of course we have young sales people, but the older guys have taken on the responsibility to mentor them. At the moment the company has 140 employees but I am proud that we are supporting the largest rental companies in the world with products that are some of their top performers, in terms of return on investment."

