









Boom lif a growing fog of choice

It is almost 50 years since John Grove and his small team began working on what was to become the very first modern - telescopic - self-propelled boom lift. Today there are hundreds of models from a dizzying array of suppliers. So, what are the key factors in a purchasing decision?

While John Grove and his team can be credited with developing the first telescopic self-propelled boom lift, it was not the first boom lift, as the company often claims. That credit goes to Ted Trump, Selma Manlift and others with their self-propelled cherry pickers, that were really used to pick fruit. Since then, the market has grown beyond all recognition, we estimate that there are at least 40 manufacturers offering several hundred different models - at least 500 at last count. And that's before you add in all of the different power variants such as diesel, battery electric - lithium or lead acid - hybrid, bi-fuel/LPG

Most buyers narrow this overwhelming choice down to a short list of no more than 10 manufacturers, depending on what they are looking at. Even then the choice can still be mind numbing, so it usually comes down to what you already have and know, whether you like doing business with the dealer or manufacturer's sales subsidiary, the strength of product support, reputation and of course price. All too often the availability of an attractive finance package or payment holiday - regardless of your credit rating - will 'swing the deal'. The relationship with the salesman is also a major factor in a decision, as is potential resale value, although

for many buyers this tends to be a subconscious factor.

Will a better mousetrap bring buyers to your door?

The detailed specification of a machine often tends to be a secondary consideration. A specific case in point occurred when an aerial lift manufacturer decided to add boom lifts to its range. It decided to start out with a 45ft articulated model, given it was the largest single market segment at the time. It was however also one of the most competitive, dominated by the Genie Z-45.

The manufacturer in question conducted the most comprehensive and professional market research study I have ever seen in this business, both in North America and Europe. The results were fully quantified and boiled down into a specification that users said they wanted. 'Essential' features included: a generous sized basket, fully proportional all joystick controls, a jib with a good range of articulation, easy entry into the platform when carrying materials, a tight turning circle - preferably without the complexities of four wheel steer - a rigid/solid feel to the elevated platform, zero tailswing, easy service access, and a full range of power options, plus 4x4 versions. Good platform capacity with great outreach and up & over reach went without saying.

The resulting machine met or exceed virtually all of the criteria on paper, visually and operationally. It was certainly a considerably 'better mousetrap'. It then came to pitching the initial price point, the president of the US business, which was to build the machine. considered the specifications, performance and side by side evaluations, comparing the final machine with the demands arising from the market research and focus groups, as well as reactions of influential buyers that had seen the prototypes. Based on all of this he insisted that it be priced at a 10 percent premium over the established market leader. After all it was exactly what hundreds of customers and fleet owners said they wanted and needed. And so the product was launched with a 10 percent premium - which it was unquestionably worth. What he overlooked and refused to acknowledge was that although it had a strong reputation for other types of self-

propelled lifts, it was unproven in the boom lift market. So, what happened? It flopped!

Rental customers that made up most of the market all acknowledged that it was a great machine, that it met all of their desires and then some, that their customers - the end users - would love its features. "But you cannot expect to sell it for more than a Genie 45! In fact, it needs to be cheaper, otherwise why should I take the risk?" "My customers know the Genie they ask for it by name. I could even buy a JLG for less." This was the reaction from a very wide swathe of the market. The senior manager held stubbornly to his premium, rightfully pointing

out that the extra features - most of which have been adopted over the intervening years - carried a cost and stating: "You can not sell a Mercedes for the price of a Ford". By the time the policy was changed the golden moment that comes when a new product is launched had passed. The market then slowed for a while, existing products were updated, and the shiny new model never become the market leading machine that it deserved to be.

The latest incarnation of the Genie Z-45

boom lifts

A salutary lesson that a) it's not all about the specifications and b) customers can be fickle.

So, having said all that, the following is a roundup of the latest boom lift developments and new product launches.

What's new

Soaring higher

A six year wait then two arrive together! The biggest developments of the past 12 to 18 months has been the arrival of the bigger self-propelled boom lifts breaking through the 200ft height range. This began with the unveiling of the 210ft Snorkel 2100SJ at Conexpo in March 2020, as the Covid-19 lockdowns began. It was the first time the boom lift height record had been broken since the 185ft JLG 1850SJ boom lift appeared at Conexpo 2014, which



itself was a

boom lifts

year on from Genie having taken the title with its 180ft SX-180, with the first units delivered just weeks before the JLG launch. I should also point out that Chinese manufacturer XCMG did break JLG's 185ft record with the 186ft GTBZ 58S telescopic unveiled in November 2018. However, the actual platform height on these big machines can differ by as much as a metre from the claimed height - due to variety of factors, including boom deflection variance. So the XCMG fell within the margin for error more likely

matching the record rather than breaking it.

Six months after the 210ft Snorkel was unveiled, Chinese manufacturer Zoomlion surprised the world by unveiling the 217ft ZT68J at bauma China in November. However, while that unit was an early prototype it is likely to remain a domestic machine for now. The production units of the big Snorkels have been on test, resulting in some major specification changes. The most notable being the outreach, which has increased to 35 metres, from the original

How do these mega boom lifts stack up?

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Manufacturer	Snorkel	Zoomlion	JLG	Genie	XCMG
Model	2100SJ	ZT68J	1850SJ	SX-180	GTBZ58S
Work height	66m	67.5m	58.4m	56.9m	58.6m
Working outreach	35m	31m	25m	25m	25m
Max platform cap.	454kg	454kg	454kg	340kg	450kg
Unrestricted cap.	300kg	300kg	230kg	340kg	230kg
Jib length	Tele	Tele	Tele	Fixed	Tele
	9.1m	9.15m	4-6.1m	3.05m	4-6m
Jib articulation	128°	125°	120°	135°	120°
Jib rotation	No	No	No	60°	No
Working width	5.49m	5.15m	5.04m	4.72m	5.03m
Travel width	2.5m	2.5m	2.49m	2.49m	2.49m
GVW	41,730kg	35,900kg	27,350kg	24,950kg	27,200kg
Transport length	15.5m	15.5m	14.6m	13m	14.6m



31.5 metres, as a result, says the company, of test programme data. Although, the fact that the overall weight has also increased from 36.3 to 41.73 tonnes may be more of a factor.

The new Zoomlion ZT68J is quite similar to the Snorkel, from its swing out axles - although the Snorkel has patented double jointed steering allowing axles to be 'driven in or out' rather than pushed or pulled - to the 9.1 metre telescopic articulated jib. While similar, the ZT68J currently weighs almost six tonnes less than the Snorkel.

It will be interesting to see the 'take up' of these new super mega boom lifts. The 180/185ft models

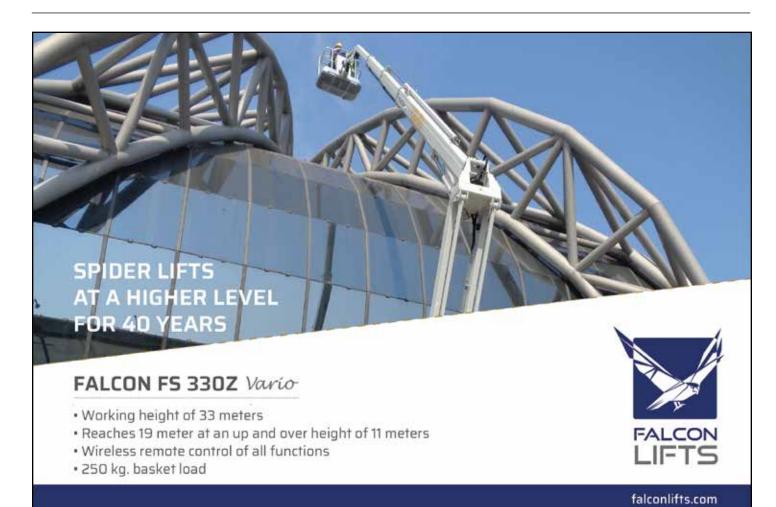
have proved to be more popular than originally anticipated with new applications popping up for them. The biggest challenge is transporting them, and the cost in comparison to a 65 /70 metre truck mounted lifts.

Back down closer to earth

When it comes to the more mundane working heights there is much more to talk about, companies have been busy innovating and expanding their product lines and upgrading models.

Haulotte's Sigma

Haulotte has launched another all new 'white paper' Pulseo machine in the form of the 46ft Sigma 16 and 16 Pro (Sigma 46/Pro in North America) all-electric compact articulated boom lift. The new model





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boom lifts





follows on from the HL20 LE Pro launched at Intermat 2018, as part of a programme to replace all diesel models with electrics by the middle of the decade.

The Sigma 16 Pro uses a classic dual sigma over centre/in line riser, topped by a two section telescopic boom and jib with 130 degrees of articulation. The jib on the Pro model also offers 110 degrees of horizontal rotation - 55 degrees either side of centre. Working height is 16.1 metres with an unrestricted platform capacity of 230kg. Maximum outreach is 8.35 metres (8.05 metres on the Pro due to its rotating jib) at an up & over height of 7.6 metres, with a perfectly vertical lift from two metres. The standard platform is 1.2 metres wide with dual side and a front entrance, while a 1.5 metre wide option is available.

Skyjack upgrades and rationalises

Skyjack has upgraded its 40/45ft and 60/66ft telescopic and articulated boom lifts and streamlined its product line. The new models include the 45ft SJ45T+ and 66ft SJ66T telescopics, replacing existing models with the same designation, while the two new articulated models are the 45ft SJ45AJ+, which replaces the SJ46AJ and SJ46AJ+, and the 60ft SJ60AJ+ which replace the SJ51/SJ63 and SJ63AJ+.

The new booms adopt the company's new SmarTorque axle drive and high efficiency hydraulic system that harnesses the engine's output more effectively. This allows the use of a smaller more efficient diesel, without the need for additional sensors, diesel particulate filters or DEF fluid. Performance is similar to the models they replace, possibly with a little less 'grunt'? However, the company has used two years of telematics data from hundreds of machines on real job sites in the design of the new machines, the first time it has been able to do so. It says that tractive effort is within 10 percent. A dual fuel engine also available for use with LPG.

The two articulated models are around 20 percent lighter than those they replace, albeit with slightly lower working heights - guided again by feedback from the live telematics data. The SJ45AJ+ weighs 5,075kg compared to the SJ46AJ+'s 5,990kg, while the SJ60AJ+ has an all up weight of 8,557kg compared to 10,235kg on the SJ63AJ+. Platform capacities are 300kg on the SJ45J+ articulated boom while the new SJ60AJ+ is 300kg unrestricted, with a 454kg maximum. The new telescopics offer 272kg unrestricted and a 454kg maximum. The first units have started to ship.

Niftylift's Gen 2 and HR17

Niftylift quietly updates its boom lift line all the time, without making a song or dance about it. Last year it introduced the new hybrid Gen2 diesel/electric power pack for its HR17 and HR21 boom lifts. These feature Stage V diesels and improvements to the electric drive train, which are said to reduce

diesel by up to 50 percent. Niftylift believes that diesel engine's days are numbered and has upgraded its all electric range to direct electric wheel motor drive and AGM maintenance free batteries with a lithium-ion option, with the result that a single charge is now good for between two and four full day shifts.

Sinoboom's new 60ft hybrid

Sinoboom launched an all new 60ft AB18HJ hybrid articulated boom lift at bauma China in November. and two high capacity telescopics including the 85ft TB26EJ Plus electric and the 120ft TB 36C shipyard boom lift.

The AB18HJ is essentially a battery powered, four wheel drive unit with oscillating axle and 40 percent gradeability, and is available as the plain EJ pure electric, or the HJ with onboard diesel to drive the electrics and recharge the battery pack if desired. The machine features dual short risers, a two section telescopic boom and a relatively long articulated jib with an unrestricted platform capacity of 230kg. The company has also updated its 52ft AB16EJ.

Essential performance

Last year Genie launched two new simpler, lighter 'J' machines - the 80ft S-80 J telescopic, which is also available as a TraX crawler.

and the 60ft S-60 J. Both are lighter and easier to transport than the company's existing models. The S-80 J has a 26 metre working height, up to 16.8 metres of outreach and an unrestricted platform capacity of 300kg. It features a 1.8 metre iib and weighs just 10.4 tonnes, including four wheel drive and oscillating axles.

The Terex Utilities Z-45 SUB

insulated boom lift

Sinoboom's new AB18HJ

The S-60 J has a simple two section boom and 1.8 metre articulated jib, with unrestricted platform capacity of 300kg, a 20.5 metre working height and 12.3 metres of outreach. Transport weight is 7,550kg compared to the S-65XC at 11,400kg. Genie has also introduced a European TraX version of its 62ft Z-62/40 articulating boom lift.

Substation 'Z' boom

Sister company Terex Utilities has launched the 45ft Z-45 Substation Utility Boom (SUB), based on the Genie Z-45 XC self-propelled boom lift, but heavily modified for substation and insulated applications, with insulated fibreglass articulating jib and levelling rods and a heavy duty fibreglass platform.









ELECTRIC An industry first, the new Snorkel SR626E is the world's first lithium electric powered rough terrain telehandler. Its full-time 4-wheel drive is powered by efficient lithium-ion batteries for long-lasting durable performance. Built compact, the SR626E is highly manoeuverable with reduced noise and zero emissions, making it ideal for indoor and outdoor use. 4x4 Snorkel SR626E CLEAN ENDURANCE



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Dingli all electric booms

Dingli has started shipping its new 86ft EAB28ERT all electric articulated boom lift, with the same four wheel drive. They feature the same four wheel steer telehandler drive line with full differential locking as its diesel booms, but powered by an 80 volt/520Ah lithium battery pack and large AC electric motor. The machine has two charging modes, a 1.5 hour quick charge system, and six hour slow charge programme with Dingli claiming the machines can work three to four typical shifts on a single charge. Performance is the same as the diesel model with which it shares the vast majority of its components. The unrestricted platform capacity is 230kg with a working height of 28.1 metres and up to 19.1 metres of outreach at an up & over height of nine metres. The new model is the first of seven new Dingli lithium electric boom lifts coming on stream.



Vertimac/Nagano have launched an all new 22ft self-propelled articulated tracked boom lift, the Nagano 09AC. It features a short single riser topped by a two section telescopic boom for a working height of 8.8 metres - drivable up to six metres - with 4.5 metres of outreach at an up & over height of almost four metres. Maximum platform capacity is 150kg. Overall width is 1.65 metres, and it has an overall length just over four metres. Total weight is 2,620kg, so transportable on a two axle trailer while providing a low ground bearing pressures. Power comes from a Kubota diesel providing 36 percent gradeability.





Electric Aichi

Aichi Europe has launched a battery electric version of Japanese manufacturer Aichi's new 46ft telescopic boom - the SP14DJE. The new machine is essentially a conversion of the standard diesel SP14DJ and shares all of the fabrications and most components, to maintain a similar performance including hydraulic four wheel drive and oscillating axle. Power comes from two lithium-ion battery packs and a large electric motor.

Airo hybrid

Italy's Airo has launched a hybrid version of its new 54ft A18JRTD Xtreme articulated boom lift dubbed the A18JRTH Plus. With a working height of 18.45 metres, the new boom has 9.9 metres of outreach with an unrestricted 300kg platform capacity, while its maximum 400kg capacity is available up to 8.5 metres with an up & over height of 8.5 metres. The articulating jib can rotate horizontally by 130 degrees, while 180 degrees platform rotation is standard.



Quad tracked growth

Snorkel has launched 60ft and 66ft quad tracked version of its 600/660SJ telescopic booms,

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dubbed the 600/660SJ All Terrain. They offer a maximum outreach of 16 and 17.8 metres respectively with 272kg/454kg platform capacity. At the same time Genie has updated its TraX product range with the already mentioned S-80 J TraX, and European version of its 62ft Z-62/40 articulating boom, taking its TraX range to six models.

LGMG's new 62ft

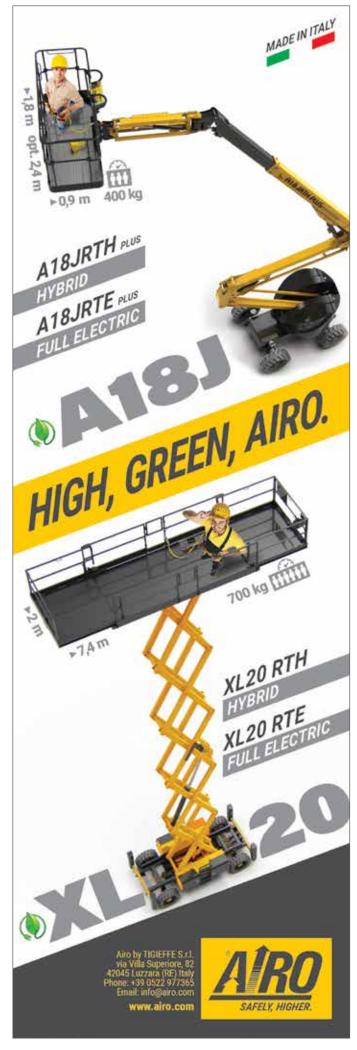
Chinese manufacturer LGMG launched several new boom lifts at bauma China in November, including the new 62ft AR19J articulated boom with short dual risers, a two section over centre telescopic boom and 1.5 metre articulating iib providing a working height of 20.8 metres with an outreach of 12.1 metres. The unit has an overall width of 2.49 metres and is 9.2 metres long. Four wheel drive, front oscillating axle, a "low emission quiet diesel" and intelligent on board diagnostics are all standard, while it weighs just over 10,500kg. If the specifications sound familiar, they are very similar to the Genie Z-62/40.

Almac Ultralight crawler

Italy's Almac has teamed up with Multitel Pagliero to develop a new light weight self-propelled AlmaCrawler tracked auto levelling telescopic boom lift, the 43ft Jibbi U-1570. The first of a new 'Ultralight' range, the Jibbi U-1570 has a three section telescopic boom and articulating jib to offer a 15 metre working height with up to 8.4 metres of outreach with 80kg in the 1.4 metre wide platform. Its maximum capacity of 250kg is available at up to 5.8 metres outreach. The U-1570 combines a Multitel aluminium boom with AlmaCrawler's Bi-Levelling undercarriage, to provide a machine that weighs less than 2,900kg and can drive at heights of up to 9.5 metres on uneven ground or slopes of up to 22 degrees. This is thanks to Alma's Dynamic and Pro-Active automatic levelling technology which can fully level the machine up on slopes of up to 15 degrees in both axis.









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