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RELIABILITY IN ACTION



STACKS AND STACKS OF SCISSORS!

The biggest surprise at APEX last month, was the sheer number of unheard of scissor lift manufacturers exhibiting at the show. Many were unknown even for us, and we are expected to know them all. Most were small Chinese companies testing the European waters however it was evident that none of them offered anything remotely different or new, and most are clearly very challenging to communicate with. We highlight the newcomers below as part of our look at the market

The rapid growth of the powered access market in China over the past five years has attracted many new entrants into the market, including existing manufacturers expanding into access and a number of start-ups, all it seems, focused on me-too scissiors and boom lifts. Clearly many of them were persuaded that APEX offered an opportunity to expand through exports. However, many of those we spoke to have no idea of how to tackle the challenges involved to break into what is a highly competitive market, in which they have to face several well-established compatriots as well as the big local companies.

The new crop of access manufacturers at the show - including, Quiyn/King, Hered, CFMG, Heli and Jovoo to name a few - may have a product but no established distribution or product support in place. It is hard to see how they can succeed.

The new access manufacturers are not limited to the Chinese and include Italian Italtif which is marketing a full range of slab and RT scissiors, mast and articulated booms, most of which appear to be badged from several different manufacturers rather than its own products. Its address in Italy is the same as forklift dealer and aerial lift rental company EdoCar. Another new name for most visitors was Turkish company Onderlift which offers a range of scissor lifts. The next few years will be very interesting to see how all of these manufacturers perform, whether they survive and how the more established players react.

TOE IN THE MARKET

When new manufacturers such as Dingli first arrived in North America and Europe, they focused on and eventually had success with small mini scissiors, where the per unit investment

Heli was just one of many new Chinese access manufacturers exhibiting at APEX





Until recently Holland Lift dominated the ultra heavy duty market



The momentum over the past few years has been with the Chinese manufacturers such as Dingli, LGMG and Sinoboom

and therefore for the risk was relatively small. What has been surprising is how quickly they have moved into the market for larger machines particularly 55ft and over slab and Rough Terrain scissor lifts. They are now innovating with all-electric drive Rough Terrain scissors and have transformed much of the ultra heavy duty market, previously dominated by Holland Lift with a little competition from PB, both of which have limited production capacity resulting in long lead times. Increased demand for these behemoths is being driven by the surge in high cube warehouse construction in both Europe and North America. As lead times approached 24 months, an increasing number of rental companies took the decision to try machines from the new entrants thanks to very short lead times and a competitive price, coupled with positive product experience on the smaller models. As a result, Dingli is probably the market leader in this product sector and now generates revenues of more than £50 million in the UK alone. The company launched two lighter weight, narrow aisle high-reach slab electric scissor lifts last year - the 50ft 1712DCL and the 56ft JCPT1912DCL - with working heights of 17.2 and 19 metres respectively.

The maximum platform capacity on both machines is 500kg unrestricted, with the same capacity on the 1.2 metre roll out deck extension as on the main deck. Both units can drive at full height, although levelling jacks are standard equipment on both. While these machines are two wheel drive and two wheel steer, they feature 30 percent gradeability and four wheel braking.

The overall width of the new models is 1.25 metres, and the overall stowed length 3.36 and 3.76 metres respectively. The platform size when extended is 4.24 by 1.17 metres on the 1712DCL and 4.64 metres on the 1912DCL. Overall height with guardrails stowed is 2.47 metres on both models. Power comes from a 48 volt 420Amp/hour battery pack with direct electric wheel drive. Overall weight is 6,280kg for the 1712DCL and 7,140kg for the 1912DCL.

CHINESE MOMENTUM

The momentum over the past couple of years has clearly been with Chinese manufacturers such as Dingli but also LGMG and Sinoboom. Since Covid, the two major American brands gave many the impression of retreating somewhat from customer led strategies, such as instigating import tariffs to try and curb Chinese imports into the USA and withdrawing from industry exhibitions. It seems that while tariffs pushed up prices for rental companies, it also led to an increase in Mexican production facilities while providing a major boost to the Canadian market. In many respects it gave the Chinese manufacturers a further boost...not that they needed encouraging, with huge ongoing investments in R&D, hi-tech manufacturing facilities and distribution it is entirely possible that they will become the leading players in the scissor and boom lift markets, manufacturing in Europe and North America as well as China.

In recent months both Genie and JLG appear to have regained much of their Mojo and have stepped up their marketing to re-establish any lost presence in the market or damage to customer relationships. And lest there be any misunderstanding, they remain formidable players in the global market.



A Sinoboom tracked scissor

ZERO OIL, TRACKED AND ANTI-ENTRAPMENT

While the scissor lift product is now relatively mature, there have been a fair few major developments over the past few years including the move away from hydraulic wheel motors to the highly efficient electric motors, the introduction of anti-entrapment/secondary guarding devices and a growing number of tracked scissor lifts across all sizes.

Direct electric front wheel motor drive was introduced by Italian manufacturer Iteco - now Imer - in 2004. UpRight had installed electric drive on its battery powered LX Rough Terrain scissors in the late 1990s, but only on the non-steering rear axle. The same was true for JLG and its first ES scissor lift range introduced in 2001/2. However, the JLG ES range brought the direct electric drive into the mainstream market, having tested the concept on a 30ft boom lift a few years earlier.

For many years JLG and Iteco were alone the market, and a premium price for the ES range meant that it was a product for those who really needed longer battery life and fewer hydraulic



JLG and its first ES scissor lift range introduced in 2001/2

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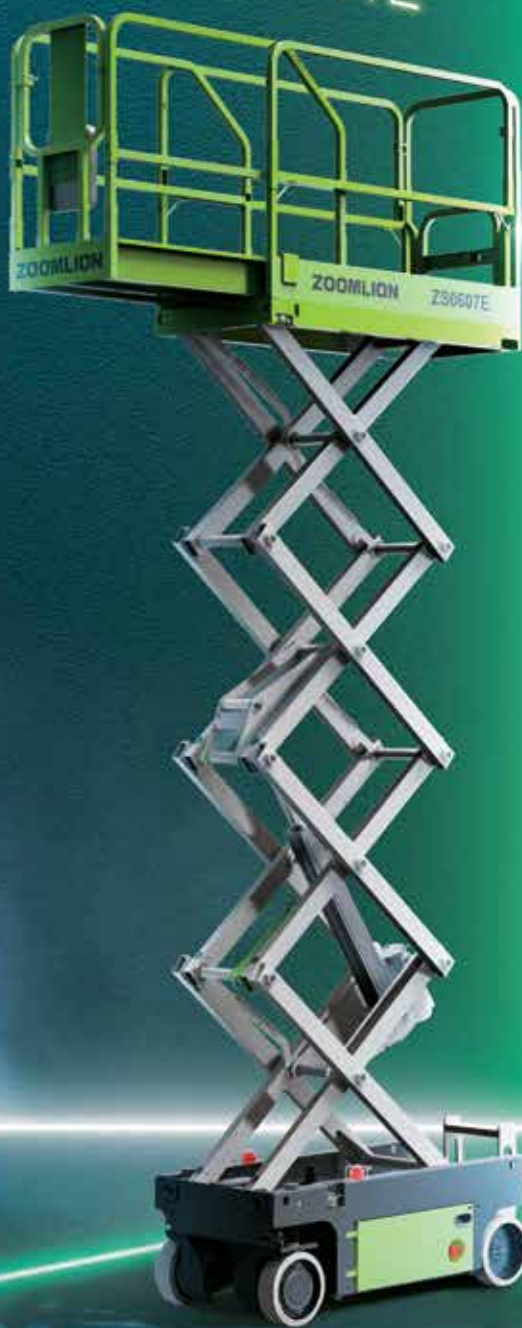


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SCISSOR LIFTS

connections, although it did add it to its first 12ft mast lift, initially dubbed the Prolift series in 2006.

The rest of the market stayed with hydraulic drive, until relatively recently. Dingli was one of the first to make the technology affordable to a wider range of buyers, introducing the concept as early as 2015, with Mantall-supplied GMG introducing similar products a few years later. The change gathered pace in 2020 when Genie introduced its first E-Drive models having also tested the concept on boom lifts.

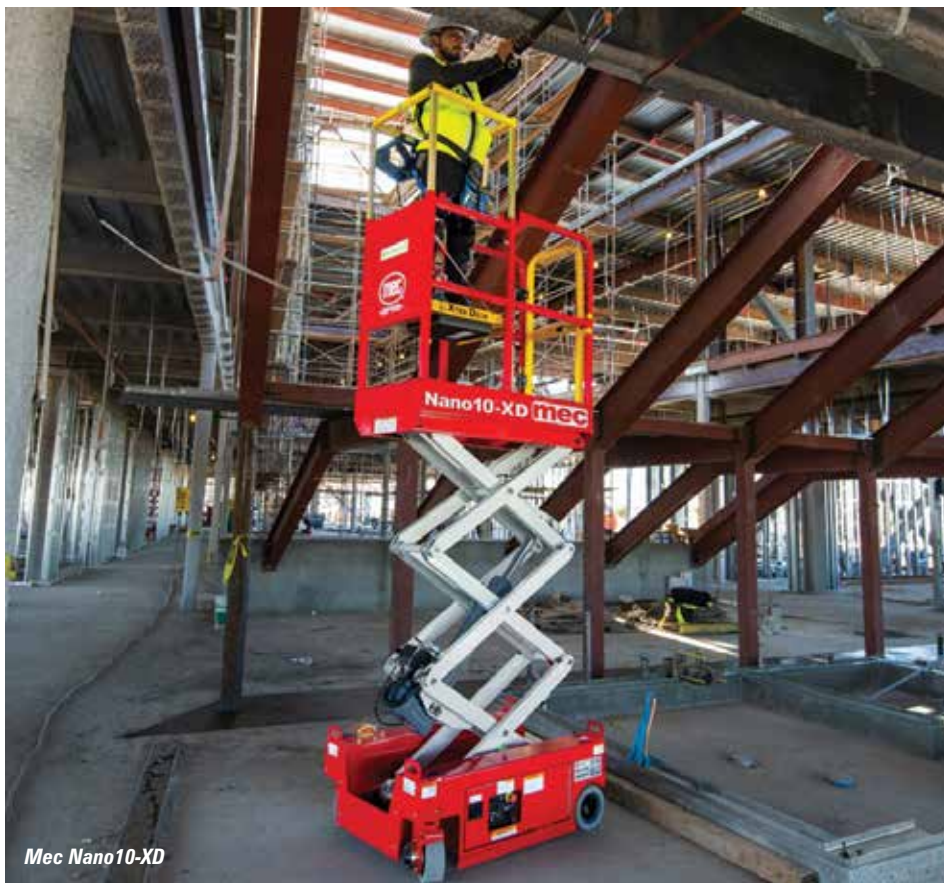
Since then, an increasing number of manufacturers have followed suit, the most recent being JCB in May having introduced the first three models in what will be a line of six electric drive slab scissor lifts all of which are built in India.

The new range starts with the 19ft S1932E, 26ft S2632E and 32ft S3246E, a wider 26ft, a 40ft and 45ft following later this year. Working heights range from 7.7 to 15.8 metres, capacities from 230 to 450kg and overall widths of 810mm, 1.2 and 1.3 metres. The S1932E replaces the S1930E and is 50mm wider for 106kg reduction in overall weight. The 810mm wide S2632E has a 250kg platform capacity while S3246E offers 320kg.

JCB says that its direct electric drive increases the run time on a single battery charge by 53 percent. The electric motor drive also provides increased torque while reducing the number of hydraulic connections by up to 50 percent, cutting the potential for leaks and reducing maintenance costs.

The logical development from direct electric drive is moving to completely 'oil free' or 'zero oil' scissor lifts, and this continues apace on the smaller scissor lifts.

JLG was one of the first with its 19ft DaVinci AE1932 in 2021, however as with its first electric drive models it is priced as a premium product, putting most high volume buyers off. We understand that there is a significantly higher cost associated with reliable and durable electric powered screw type actuators. Dingli is also doing well in this part of the market and now has the widest range with 10 slab electric models ranging from a 10ft micro to a 46ft 1.2 metre wide model - with working heights from five to 16 metres - as well as a couple of stock picker models although it is the smaller models that are taking off. The advantages include lower energy consumption, easier maintenance, no oil leaks, no oil or filter changes and most are also equipped with maintenance free AGM batteries.



Mec Nano10-XD

ZERO-OIL MEC NANO

Earlier this year MEC introduced a new compact 10ft all-electric - zero oil - Nano10-XD scissor lift with lithium ion battery pack for longer cycle times and faster recharging. The model appears to be based on Dingli's oil-free JCPT0507PA which is becoming increasingly popular in Europe as customers adapt to the zero oil concept. MEC hopes to build on the inroads it has already made into the data centre/clean room market with its patented LCS - Leak Containment System - for hydraulic slab electric scissor lifts.

With a working height of five metres, a platform capacity of 227kg and all up weight of 560kg, the Nano is said to be ideal for data centres, hospitality, food and pharmaceutical applications. Its overall height of 1.6 metres when stowed, compact length of 1.15 metres and overall width of 760mm means it can pass easily through standard single doorways. A standard 'Xtra Deck' provides an extension that can pass through 600mm by 600mm false ceiling grid.

NO OIL FROM ZOOMLION

The latest manufacturer to enter the sector last month is Zoomlion with two new '100% Electric, Zero Leaks' slab electric scissor lifts. The new models - the 14ft ZS0407E and 19ft ZS0607E - feature direct electric wheel motor drive, while using electric linear actuators to operate the steering and platform lift. Both units have an overall width of 760mm, the overall length of the 14ft is just 1.44 metres - putting it in the micro scissor class - while the 19ft is a classic 1.85 metres long. Both have overall stowed heights with guardrails up of more than two metres, but they fold down reducing this to 1.7 and 1.79 metres respectively.



The new Zoomlion ZS0407E



In May JCB introduced the first three models of a six electric drive slab scissor lifts range



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The 14ft ZS0407E has a 600mm roll out platform extension, while the 19ft ZS0607E has a more typical 910mm extension. Platform capacity is 240kg and 230kg respectively. An outdoor rating is provided on both models, but with reduced platform heights of 12ft and 14.5ft providing outdoor working heights of 5.6 and 6.4 metres. Gradeability is 30 percent compared to 25 percent on the hydraulic versions. Features include IP67 rated drive motors, a brushless maintenance free DC lift motor, a real time lift height display said to be accurate to within three percent, and a load indicator with a live display of the actual load on the platform accurate to within five percent.

Access R&D manager Yi Zhong said: "We have seen a rapid adoption of eco-friendly work platforms at jobsites particularly in American & European markets, that's why we developed full electric scissor lifts to deliver quiet, clean and safe working conditions with long lasting performance."

HAULOTTE COMPACT

Mid last year Haulotte completely upgraded its Compact range of slab electric scissor lifts. The five new models follow classic overall widths and heights and include 20ft and 26ft narrow models with an overall width of 810mm, plus three 1.2 metre wide models with platform heights of 26ft, 32ft and 39ft, and working heights of 7.8, 9.8, 12, and 14 metres respectively.

The Compact 10N and Compact 14 are indoor only, while the other three have both indoor and outdoor ratings and platform capacities of 250kg

to 450kg. The overall length of both units is 2.5 metres.

One major change on the new machines is a move to synchronous AC direct wheel drive, rather than hydraulic. However, the company has decided to go with rear wheel drive and fit the front steering wheels with sensors to help ensure smooth turning even when the front wheels are fully turned to more than 80 degrees.

The new chassis and scissor stack design is more rugged than the units they replace, with all critical components such as the drive motors and steering wheels fully integrated and protected from damage through crashing into obstacles while driving. All five units drive at full height and feature active pothole protection and 940mm roll out deck extensions.

The Haulotte Activ'Screen on-board diagnostic tool is also available via the Haulotte Diag mobile application which also offers advanced diagnostics with detailed resolution procedures.

HYDROGEN SCISSOR

Last year Haulotte and Bouygues Energies & Services - a subsidiary of Bouygues Construction - announced a partnership to develop a practical hydrogen power source for aerial work platforms.



The Haulotte Compact 12 with AC direct rear wheel drive

Bouygues would carry out live real world tests with a Haulotte platform equipped with a hydrogen fuel cell system on several of its construction sites as well as studying the hydrogen supply system.

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JF235

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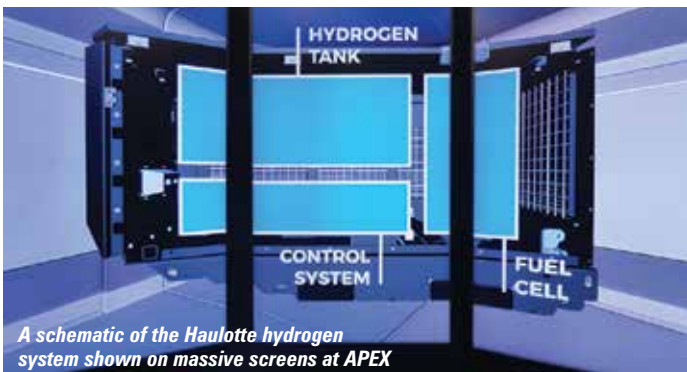
ADDITIONAL ELECTRIC MOTOR

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The hydrogen range extender version of the Haulotte HS18 Pro at Hyvolution

The result was seen earlier this year when Haulotte exhibited a prototype of the hydrogen fuel cell system - an all-electric Pulseo HS 18 Pro full size Rough Terrain scissor lift - equipped with a prototype of the removable and interchangeable Range Extender generator, operating with a Bouygues Hyvision hydrogen fuel cell system.



A schematic of the Haulotte hydrogen system shown on massive screens at APEX

OZ SAFETY SYSTEM

Another interesting development has been the introduction of the OverWatch secondary guarding system from Australian company EQSS. Launched in Australia in 2020 the system is based on a Lidar - Light Detection and Ranging or Laser Imaging - sensor which uses an infrared light beam to track the operator's movements analysing their position and movement in relation to the motion of the scissor lift, in order to determine when an operator has moved abruptly or is in a dangerous position. In either situation it will immediately stop the machine, usually without using the operator as a mechanical element - or 'sandwich filler' - to trigger the anti-crush device. The system can, apparently be easily installed in around 20 minutes on machines from all major manufacturers that have already approved the system. The European launch of the system began in 2022 with demonstrations in the UK with major



The EQSS system on a JLG scissor lift

Thanks for your interest



Dear guests,

We would like to express our gratitude for your visit to our booth at the APEX 2023 Show! It was a pleasure to meet each and every one of you and engage with you.

At Holland Lift, we strive to provide exceptional experiences and innovative solutions to meet your needs. Your visit to our booth allowed us to showcase our latest offerings and discuss the benefits they can bring to you and your company.

If you have any further questions or would like to explore our products in more detail, please do not hesitate to contact us. We are always here for you, providing the support you need.

Best regards,
The Holland Lift Team

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contractor Sir Robert McAlpine. The system is now CE certified and already generating considerable interest. Craig Hook, head of McAlpine Lifting Solutions said: "We are very keen to use technology to support safe operational use of work platforms. The OverWatch system promises safety without impairing the use of the machine for the planned works."

Features of the EQSS system:

- Real Time measurement of the operator
- Spatial movement measurement of the lift
- Smart AI Algorithms for crush detection events
- Adaptive sensor fusion code for enhanced detection
- Small, robust and non-intrusive external sensor
- Standard Wi-Fi configuration and diagnostics
- Audio output with synthesised voice commands
- Simple aftermarket integration and installation
- Voice notification of movement direction
- Duck Through Doorway (DTD) Detection
- Real time data logging with event playback 8000+ samples
- Automatic calibration, diagnostics and self-testing



Tracked scissor lifts sold mostly to contractors for greenhouse construction



A Fronteq FS1241TL



The 0407ET in front of the larger 1215ET tracked scissor lift

the Netherlands and north Germany mainly for greenhouse contractors working on reclaimed land.

In 2014 Almac launched a compact six metre compact tracked scissor - the Bibi 630-L - which featured side to side levelling of up to 250mm. Platform capacity was 200kg and a 220 volt power unit for indoor use, and Honda engine outdoors. The Dynamic self-levelling Bibilift followed a year or so later capable of levelling 20 degrees longitudinally and 15 degrees side to side.

The current range of crawler scissors include the HE line with levelling jacks and the self-levelling BL line with working heights to 10 metres. AlmaCrawler's tracked scissor lifts sell for substantial premium over wheeled alternatives and yet have proved a popular rental item in a number of countries including Australia where demand has surprised everyone involved.

SINOBOOM

In 2021 Sinoboom launched two new battery powered tracked scissor lifts - the 12ft 0407ET and 39ft 1215ET. Weighing 950kg, the 0407ET offers a working height of 5.8 metres with a 240kg platform capacity. Overall stowed width is 780mm, length is 1.51 metres and height 1.7 metres with its handrails folded down. Power comes from a 24 volt battery pack with electric drive motors for the tracks.

The larger 1215ET offers a working height of 13.8 metres with a 320kg platform capacity. Weighing 3,200kg, it offers an overall stowed width of 1.6 metres, a length of 2.86 metres and a height of just over two metres with the guardrails folded. Power comes from a 48 volt battery pack and it features single touch automatic outrigger levelling. Gradeability on both units is 30 percent.

NEW MANUFACTURERS

Of the newer manufacturers Mantall, Fronteq, Jovoo, Hered and Italift all produce - or offer - tracked scissor lifts with some also offering a 'me too' Almacrawler type self-levelling option.

Fronteq has a range of seven battery electric tracked scissors, five 'TL' models with levelling outriggers, working heights from eight to 13.8 metres and platform capacities from 200kg to 550kg - and two 'T' just on tracks with working

heights from 6.6 to eight metres and 200kg capacity. The largest with outriggers is the 1.6 metre wide FS1214TL with a platform capacity of 320kg. Overall weight is 3,900kg.

Italift offers two compact slab type crawler scissors - the 15ft 1532iEC and 22ft 2232iEC - with working heights of 6.5 and 8.8 metres respectively. A more extensive line is offered by Hered with six models - four with outrigger levelling and the self-levelling HC0607EA - with working heights from 6.5 to 15.8 metres.

The HC0607EA is very much an unashamed AlmaCrawler copy, able to level up to 20 degrees longitudinally and up to 14 degrees side to side. Maximum working height is 7.9 metres with a platform capacity of 230kg Power is supplied by eight, 12 Volt 160Ah batteries and overall weight is 1,890kg.



The Hered HC 0607EA

The four outrigger models range from 7.8 to 15.8 metres working height with levelling on the smallest - the HC0610E - up to 18 degrees front to back and 10 degrees side to side. The larger models can level up to 12 degrees front to back and five degrees side to side.

Jovoo, which has been accused of copying its Chinese competitors, has three basic models with either self-levelling - SL - or just tracks - T - so six models in total - the self-levelling mechanism adds 400mm to the working height. Maximum self-levelling is 20 degrees front to rear and 17 degrees side to side. Working on slopes of up to three degrees is available on the tracked models. Overall weights range from just less than three tonnes to four tonnes. ■



Speedy prepares for its first trials and demonstrations

The system has proved popular with 6,000 units fitted to scissor lifts in Australia and New Zealand in the first two years. Last month it delivered its 10,000th unit. Haulotte is the first manufacturer to offer the system as a factory install option on its new scissor lifts produced in France and China.

TRACKED SCISSORS

Another emerging trend - reinforced by several of the newer Chinese manufacturers - is the move towards smaller scissors on rubber tracks. This type of machine was always viewed as a peculiar Japanese market product, or the bigger models a specialty of Dutch manufacturers including Omega and Holland Lift which sell mostly in

ELECTRIC ROUGH TERRAIN SCISSORS HS15 E & HS18 E



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