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# The choice is yours

Recent new model introductions mean that choosing a small boom lift in the 10 to 12 metre range is even more difficult than before. Not only is there a wide choice of concepts - mast boom, ultra-compact industrial booms, and light weight electric or Rough Terrain - there is a growing choice of power units. Cranes & Access looks into the latest models and developments.

Last year there was flurry of activity in small lightweight booms with the launches of the Manitou Man'Go 12 and the Genie Z33/18. This year there have been fewer but no less interesting introductions.

The mast boom may appear to be out of step with the other products we have listed, with outreach on all but the largest limited to three or four metres. However, it has the advantage of being lighter and narrower, while offering far better up-and-over heights. A little later we take a look at the new Haulotte Star 10 and compare it with the updated competition. First however there has been a significant addition to

the 30ft articulated battery powered industrial type booms.

### New Skyjack boom

Skyjack's latest 30ft SJ30 articulating boom takes it back into a market that it last contested prior in the late 1990s with the SJKB-33N. It is the smallest in its three model articulated boom range - which includes the SJ46 and SJ63 - and the first ultra-compact industrial lift the company has produced since it re-entered the boom market in 2006. Two versions will be offered - the regular SJ30 AJE is a straightforward machine with short dual risers, two section telescopic boom and an articulated



jib, and the SJ30 ARJE (Articulating Rotating Jib Electric) with the jib rotator which, as a result has slightly less height and outreach.

This latest lift takes it into a well-established, slightly niche end of the boom market joining manufacturers such as Manitou, Genie, JLG, Haulotte and Airo.

Launched at the recent ARA Rental Show the Skyjack enters a market with products that are not upgraded too often and one where all the products are quite similar in performance and appearance. The typical 30ft industrial electric articulated boom - dubbed dust bin booms by some for their high round

superstructures - has an overall width of around 1.2 metres, working outreach getting-on for seven metres, absolute zero tail-swing and an up-and-over height of four metres or so. It might be interesting to point out that the sector dates back to the late 1980s when Mark Industries launched the 30KBN, although that unit had a longer single riser. Apart from that the specification has changed little so that the 27 year old design would compete head to head with the current crop of machines apart from the riser and the lack of a jib. Skyjack's last entry in this market the SJKB-33N could also hold its head up amongst the current crop. It also had a longer

single riser, but did have a jib.

### How the new Skyjack compares with other industrial articulated booms

	Skyjack SJ30 ARJE	Manitou 120 AETJ-C	Genie Z30/20N RJ	JLG E300AJP	Airo A12 JE	Haulotte HA12 CJ+
Platform height	9.14m	9.95m	9.14m	8.97m	10.1m	9.68m
Width	1.19m	1.2m	1.19m	1.22m	1.2m	1.2m
Weight	5,563kg	6,660kg	6,450kg	7,100kg	7,510kg	7,065kg
Outreach	6.25m	6.5m	6.25m	6.1m	6.9m	6.3m
Capacity	227kg	200kg	227kg	230kg	230kg	230kg
Jib Rotate	Yes	Yes	Yes	Yes	No	Yes
Up and over	3.99m	4.77m	3.86m	4.01m	4.7m	4.74m
Stowed height	2.01m	1.99m	2.0m	2.01m	1.99m	1.99m
Grade	35%	25%	35%	25%	25%	25%
Drive speed	4.8km/h	6 km/h	4.8 km/h	4.8 km/h	6 km/h	6 km/h
O/a Length*	4.09m	3.74m	3.66m	5.74m	4.6m	4.2m
Power	Electric	Electric	Electric	Electric	Electric	Electric

\* With jib tucked under for transport where possible - JLG does not tuck under



Skyjack will offer two versions - the regular SJ30 AJE with short dual risers, two section telescopic boom and an articulated jib, and the SJ30 ARJE (Articulating Rotating Jib Electric) with the jib rotator which has slightly less height and outreach.



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A Genie Z-30/20N RJ



Skyjack was in the market in the late 1990s with the SJKB-33N.



Haulotte HA12CJ+ showing off its outreach

Today these machines are preferred by some users over a similar working height mast boom primarily for their outreach which is typically more than double. However, the downside of this is the significant increase in overall weight and at least 200mm greater width.

Skyjack says it identified 'two key parameters for its new electric boom - competitive reach specifications, coupled with exceptional drive and duty cycle performance', while keeping its long stated mantra of being simple, reliable and easy to run and operate.

Its drive and duty cycle performance remains to be seen but its 6.25 metre outreach is nothing to write home about being on par with most of the other manufacturers but a good deal less than one or two of the European offerings. This combined with the lowest working height probably accounts for the unit's light weight which is about two tonnes lighter than the heaviest and around a tonne less than the average, although we are using preliminary specifications and the CE machine might just end up heavier? The Skyjack is also one of the narrowest at 1.19 metres but

stowed height is on the higher side at just over two metres.

"A lot of manufacturing and warehouse facilities have narrow and confined spaces that require up-and-over access," says Corey Connolly, Skyjack product manager. "With its narrow dimensions and zero tail-swing, the SJ30 is ideally suited for their needs in the nine metre and under reach zone. The SJ30 is a perfect complement to our electric scissor lifts, that are limited to the up-and-over clearance of their extension decks. This product helps to fill out our product line and satisfies a demand customers have been asking for in our line."

The SJ30's features include its relay-based control system, a vertical rise system and direction sensing drive and steer controls. In addition, all components have extra protection from water ingress and falling debris - particularly useful when being used for rental applications.

Before we end this sector it is worth pointing out that there are a few 34ft versions such as the Genie Z34/22N - but they tend to be wider - between 1.4 and 1.5



An Airo A12 JE has the best platform height at 10.1 metres.





Manitou's 120 AETJ C

metres - taking them into the area covered by the lighter weight market such as the Niftylift HR12, Snorkel's AB38E and the recent Genie Z33/18.

### Mast booms

An increasingly popular alternative to the industrial articulated lift such as the Skyjack SJ30 is the 10 metre mast boom. This sector which has always been very popular in its country of origin - France - is steadily picking up new followers with sales growing year on year over a wider number of markets, as users appreciate their compact design, light weight and enough outreach to complete most industrial, maintenance type tasks.

While most producers build eight metre working height models and there are an increasing number of larger models - some with telescopic jibs - and the 10 metre is by far and away the most popular. The JLG Toucan has consistently been market leader having been the first in the market, originally as the Delta Systemes Toucan. Haulotte though has carved out a significant share of the market with its Star 10, and appears to be gaining further volume with its new AC drive Star 10. JLG has responded with a lighter weight version of its Toucan 10E, but it faces strong competition from the Manitou - which is also sold by Genie as the GR26J - but there are also mast booms from Dingli and ATN and Airo which added the Airo V10 E last year.

As with the articulated industrial-type booms, the mast booms from all the manufacturers have very similar specifications with hardly a whisker between them. The working

height may vary from 9.8 to 10.4 metres, the overall width of all of them is generally a metre and stowed height just under two metres. Most of these specifications were laid down at the very beginning by the original Toucan and all the units that have followed have marched to pretty much the same tune. In fact it is only the overall weight and outreach that varies and then not by a great deal. We do know that in order to be competitive the overall weight needs to be under three tonnes, and outreach tends to be fixed by the fact that at this height none of the jibs are telescopic which pretty much limits what it possible, unless you extend the overall stowed length. This is what ATN has done with the Piaf 1000R which is a good 200 to 300mm longer than most, although still under three metres. The ATN is also the heaviest at almost three tonnes, this due to the longer jib pivoting on the front of the stack forklift type mast creating the best outreach at 3.46 metres. The unit also limits slew to 220 degrees - 110 degrees of centre - while most offer close to 350 degrees.

If three to 3.5 metres outreach is enough, the mast boom could be just the machine for you, it is much lighter and narrower than the compact industrial platform but may have a restricted outdoor working capacity.

### Star improvements

The Star 10 and the smaller Star 8 are some of the best-selling products in the Haulotte range. The two are one and the same with an extra mast

The ATN Piaf 1000R has the best working height of 10.4 metres



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A Haulotte Star 10 at work

section converting the Star 8 into the Star 10. The product has been subject to a thorough update announced at InterMat 2015 and reaching production around July last year. One of the major changes is the switch to AC electric direct drive wheel motors which further improve battery life, reduce maintenance and provide an even more precise drive control. The platform controls feature a new joystick which is more intuitive and said to be much better for the operator when manoeuvring in confined spaces. The company's Activ'Shield Bar - secondary guarding - is also available. Haulotte says that the products have the best in class turning radius helped by intelligent steering with the rear steer linked to



Dingli mast booms.

the front drive motors, to match the speed of each with the crank angle of the steering axle. The platform has plenty of room for two for which it has both an indoor and outdoor rating.

On-board diagnostics via Haulotte's Activ'screen helps trouble-shooting faults. Standard centralised battery filling helps with maintenance and battery life of course, the new composite covers are said to be unbreakable, while a drastically improved anti-corrosion treatment has been used for components such as axles, bushings and fasteners. One of the most significant changes though may be the simple addition of higher built-in fork lift pockets. The machine can be forked laterally or longitudinally, the lateral fork pockets will be the most frequently used and unusually they are not located under the machine, but rather on the top of the chassis. This may not seem so significant, but one factor that deterred rental companies in the early days of the



Airo V10 E

most boom was their difficulty to load. They did not lend themselves to fork trucks, and their high centre of gravity led to many accidents on truck loading ramps as the weight lifted off the drive brake wheels. In fact only last year a case which came to court in the UK led to a contractor being fined £12,000 for an accident involving a mast boom and telehandler which seriously injured one of the men trying to help move the machine. The higher lift pockets means that a substantial portion of the machine's weight lie under the forks creating a much better balanced load for carrying the machine across site, or from one factory building to another.

### Passive or Active pot hole protection?

The new Star 10 and most other mast booms feature passive pot hole protection. Blocks close to the wheels prevent the entire wheel dropping into an open hole, or more likely over a kerb. Leading Chinese manufacturer Dingli has decided to install Active pothole protection on its new AMWP10-8100 similar to that used on most slab electric scissor lifts. The benefit is a greater ground clearance when the mast is stowed and less chance of catching up on wires and debris left on the ground.

### A slimmer Toucan

The JLG Toucan 10E has the longest pedigree in the business and for many years the range dominated the sector. Now there is a good deal more competition, in what is a much larger and growing market. One of the results of the increased competition was pressure on the company to reduce the overall weight of the popular Toucan 10E, launched in late 2008. The first units shipped the following year with more than 1,000 units delivered in the first two years. While lighter than some of its predecessors



The latest version of the JLG Toucan 10E has been slimmed down and moved to AC drive motors

its was still around three tonnes, making it a challenge to transport on many 3.5 tonne trucks and equipment trailers. JLG is therefore shaving a few hundred kilos from the machine's counterweight, but the trade-off is a restricted outdoor rating with one person rather than two - although the heavier counterweight version will still be available. The new machine has also gone over to brushless AC direct electric drive motors with several other minor improvements. All of these will be launched at Bauma next month.

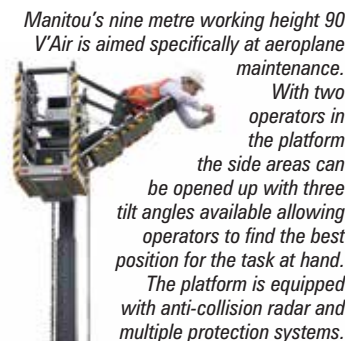


Mast booms offer a reasonable amount of outreach but they are narrow and light

### How the new Haulotte Star 10 and JLG Toucan 10E stack up

	Haulotte Star 10	JLG Toucan 10E	ATN Piaf 1000R	Airo V10 E	Dingli AMWP 10-8100	Manitou 100VJR	Snorkel MB26
Working height	10.0m	10.1m	10.4m	9.8m	10.0m	9.9m	9.8M
Width	1,000mm	990mm	1,030mm	998mm	1,000mm	990mm	1,000mm
Weight	2,677kg	2,700kg	2,980kg	2,770kg	2,890kg	2,650kg	2,660kg
Outreach	3.0m	3.08m	3.46m	3.3m	3.0m	3.0m	3.0m
Capacity	200kg	200kg	200kg	200kg	200kg	200kg	215kg
Up and over	6.6m	6.51m	-	6.64m	6.69m	6.67m	6.65m
Stowed height	1.99m	1.99m	1.98m	1.90m	1.99m	1.99m	1.98m
Grade	25%	25%	20%	25%	25%	25%	25%
Drive speed	5 km/h	5.5 km/h	4.8 km/h	6 km/h	4.5km/h	4.5km/h	3.3km/h

\*figures in red indicate best specification. JLG new Toucan 10E weight provisional. Snorkel MB26 up and over height estimated.



Manitou's nine metre working height 90 V'Air is aimed specifically at aeroplane maintenance.

With two operators in the platform the side areas can be opened up with three tilt angles available allowing operators to find the best position for the task at hand. The platform is equipped with anti-collision radar and multiple protection systems.







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# Semi-automatic guided mast boom

When the Dutch railway system operator Nederlandse Spoorwegen was looking for a new method of working at height while maintaining long distance trains, it decided not only to use mast booms - to reach the train roof area, the electric overhead pantograph and air conditioning units - but also to introduce a semi-automatic drive system similar to that found on automatic guided delivery trucks working in modern car plants.

The company wanted the aerial lift to travel down the platform parallel and close to the train without the risk of operator error causing it to go over the edge onto the rails. The work platforms can also be used for general maintenance work on the engine shed.

In order to satisfy these requirements it approached German mast boom manufacturer Lehmann for one of its Emu mast boom models. It eventually selected a modified version of the 7.5 metre working height Emu XXL 750, which uses a standard base and mast but has a long fixed platform attached to the top mast section, in place of the usual jib. Platform capacity is 250kg with indoor and outdoor CE certification.



The Lehmann XXL 750 was selected for the job

In order to develop a reliable automatic guided drive system Lehmann decided to team up with a specialist in this area, selecting Efatec, a producer of automated tow tractors and control system supplier. The result is an aerial work platform that automatically travels along the edge of the platform for the entire length of

the train, following a track set into the floor. The system maintains the mast boom at a safe optimum position at all times, allowing its operator to focus on operating the platform height and the work at hand. The railway purchased a small number of trial machines and early indications are very positive.

The track guidance system has been fully integrated into the mast boom's overall control system, largely using Curtis motor controllers and components. It helped that Efatec already used the same Curtis controller operating platform on a number of other special-purpose vehicles - including its articulated trailer movers - and so had plenty of operational experience that proved invaluable with the development of the mast boom. It also supplies complete custom made wiring harnesses.

## Versatile control system

The Curtis system incorporates control units for both electric and hydraulic drive functions, linked through CANBus and is said to be extremely easy to programme using the Curtis developed Vehicle Control Language (VCL). This allows an optimum match to be made between the machine and the application requirements, making it a highly versatile solution. It is also helped by a wide range of additional Curtis equipment such as multi-function displays and programming tools.

Curtis claims that equipment



The mast boom is ideal for train maintenance as well as for working on the shed

manufacturers can - once trained - easily adapt the control system to the specific requirements of their machines, and specific applications. Alternatively the company can supply pre-programmed modules or algorithms. In the case of the mast boom, the complexity of the application made it necessary for Lehmann to work closely with the software developers. They programmed a software module with logic functions for the required track guidance and then integrated it into the overall control system together with the corresponding sensor system.

The integration offers several advantages, one being that the hydraulic steering and track guidance system communicate with each other. Response times between the two are said to be almost instantaneous, with the result that the automatic guided drive precisely and smoothly follows the wire track set into the ground. A wide range of built-in safety features include a key transfer interlock that prevents the platform from operating until the overhead power lines have been disconnected.

## Simple architecture

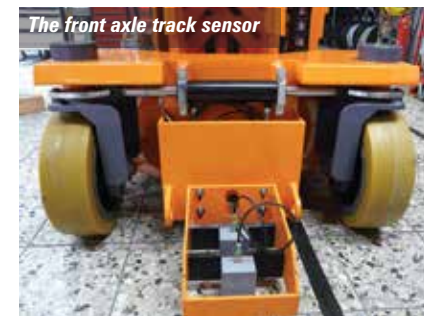
The control 'architecture' comprises the Curtis 1232E-2121 motor controller operating as a master, controlling one of the two wheel drive motors. A second identical



The rear drive axle with identical motor controllers and rear sensors

control unit, with slave function, acts on the other wheel drive motor. Control of the hydraulic pump for steering and platform functions, including slew, is provided by a Curtis 1232E-2321 motor controller. A tilt sensor integrated into the system signals and then halts all functions when the maximum three degrees incline is reached.

Additional Curtis components built into the system include an LC display screen, with all components communicating with each other via CANBus and programmable through the universal Vehicle Control Language.



The front axle track sensor



A Curtis 1232-2321 motor control is used for the lift and slew functions



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# The unknown manufacturer

**c&a**

**mast booms**

Italian aerial lift manufacturer Tigieffe and its Airo brand builds a full range of platforms including scissors, articulated booms, spider lifts, push arounds and mast booms. With competitive specifications and impressive build quality it can only be a matter of time before it becomes better known all around the world. Mark Darwin travelled to its production facility in Luzzara, a 30 minute drive south west of Verona and was pleasantly impressed.

Although the company was founded in 1981, the latest incarnation of Tigieffe dates back to 2012, when a large Asian group took a 60 percent stake in the business, increasing its holding to 90 percent 2014. The involvement of the new ownership appears to have been good for the company, allowing it to develop its products and distributors without the usual time and performance pressures.



Oscar Prigione

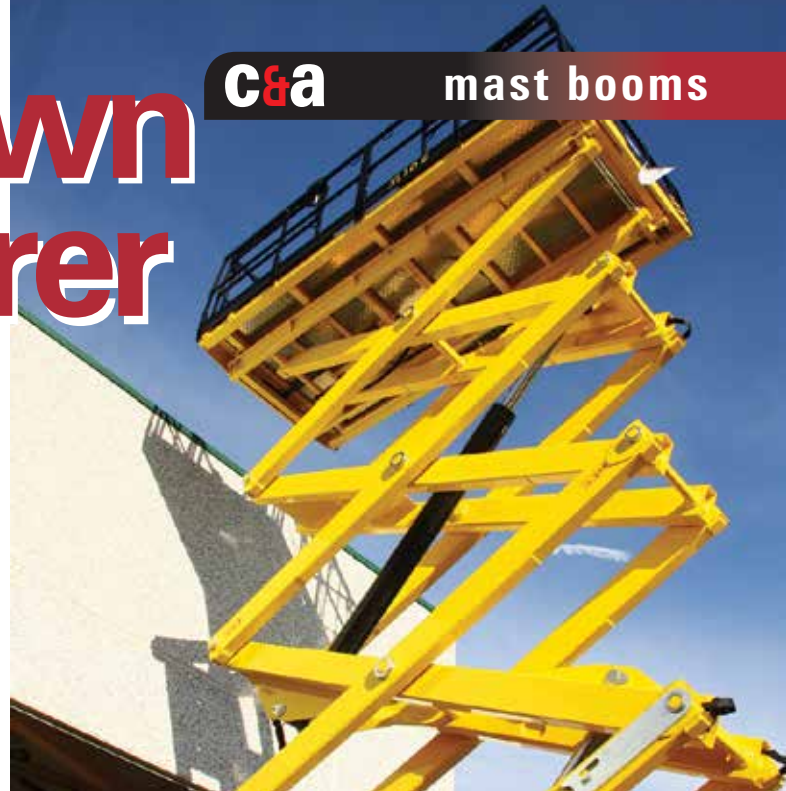
Until 2014 Airo concentrated only in European market, with most of its sales in Italy, Germany and France. However, that is all beginning to change as belief in its products being as good or in many instances superior to other manufacturers spreads. A new export manager - Giovanni Marzoli - was recruited late last year from outside the access industry. He brings international sales experience and contacts and is starting to expand the company's geographical coverage.

## In the beginning...

The company's roots date back to 1970 when the three Ferramola brothers - at that time working in different industries - joined forces to form TGF (TiGiEffe) or Technology Group Ferramola. They began by manufacturing Pimespo forklift trucks which was sold to OM in 1980, became part of the Fiat group and then purchased by Linde.

Before the company sold Pimespo, it started to produce aerial work platforms. This was at the same time that one of the brothers founded another access company - Iteco - which claims to have produced the first European scissor lifts, a six to eight metre unit around 1986/7. In the early days Tigieffe manufactured the Iteco scissor lift, but then at the end of 1990 it decided to produce its own lifts under the Airo brand - which means 'raise' in Greek. It claims that its forklift heritage instilled an excellent customer service mentality which it still has today.

While the first Iteco and Airo scissors were Marklift copies, it



Airo A15 JRTD

soon developed a style of its own and adopted the sigma lift design for its first in-house designed machines. Realising early on that it did not stand much chance competing against the major manufacturers - such as UpRight - with similar machines it decided to offer something different - equipment with different working heights, improved outreach or platform capacities - compared to the North American products.

It was not until the last remaining brother, Roberto Ferramola decided to leave the company in July 2014 - to be replaced by general sales manager Oscar Prigione - that the current management structure was formed, with Prigione on sales, Gianluca Ferramola - Roberto's nephew - overseeing technical/design engineering, and another employee in charge of administration, with the new owners keeping an eye on the business from a distance.

Gianluca Ferramola has grown up in the company and has been designing platforms since 1995, introducing innovative features such as larger central section

scissor stacks to keep more weight inboard. As well as differentiating its products, in the last 20 years the company has finally realised that the route to success is to develop export markets - a decision helped along by Italy's economic crisis since 2008.



Airo X19 levelling



Airo uses a larger central section scissor stack



The 19 metre Airo X19



A busy production facility



The new management team and Asian ownership are having an effect as the company is growing rapidly. It produced around a 1,000 units last year, a significant rise from the 700 sold in 2014. This figure is split roughly between 65 percent scissors and 35 percent booms. Currently it has a maximum production capacity of 1,400 units a year however it owns surrounding land so could expand if demand requires.



Airo A12 JE

## Airo dealers

Italy is the company's largest market followed by Germany, with France growing fast through a wholly owned distribution company Airo France. It is developing new territories such as Turkey, Israel, Saudi Arabia and the UK where its dealer is Aerial Handling Services and it is looking at growth in Spain and the Netherlands. Its first distributor was Hoffmann in Germany which established and sold the brand for several years, in 2014 it decided to close its sales operation to focus on rental and helped Airo find its current distributor Ommelift Germany, which is apparently working well. The export manager Giovanni Marzoli is now looking to the South American market and hopes to appoint several new dealers in South America, Scandinavia and Eastern Europe in 2016 and also reactivate the Airo brand in the whole Iberian Peninsula. The UK has now been identified as having major potential for Airo having previously avoided it, thinking that it was totally price



The new secondary guarding system called Sentinel

driven. Having said that, the Airo product is price competitive given the performance, features and level of standard equipment.

## New products

AAiro has a full product range but has tended to concentrate on scissor lifts and articulated booms. Both lines are a mix of old and new, but older models are being upgraded to match or exceed competitor offerings. The company will launch several new products at Bauma, including two new safety devices, a scissor anti-entrapment device SAFE (Self Adjustment From Entrapment) with the concept and name by Ian Harding of its UK distributor Aerial Handling Services

and a secondary guarding system for boom lifts called Sentinel.

The SAFE system is a two part, operator controlled anti-entrapment system for scissors. The first part is a re-designed and collapsible version of the SanctuaryZone which physically prevents the operator being crushed. This is only fitted to scissors where the platform controls are docked providing protection for the user when travelling. When not in use the SanctuaryZone can be collapsed and stowed out of the way. The second part is the electronic system allowing the operator to set their own ceiling height preventing any accidental overhead collision. The operator simply takes the lift to the maximum

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*Sentinel*



*Airo X14 EW battery pack swing out tray*



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safe height and arms the system by pushing a button on the control panel for three seconds which then prevents the platform from raising above this height until it is reset. The scissor can be lowered and raised as many times as necessary (being limited to its new maximum height) until the whole system is cancelled by holding down the button. By adding a more secure activation sequence the device could also be used for restricting the height of a platform which may be useful for rental companies sending out larger machines than booked. The system can be retrofitted to all Airo X series scissor lifts.

“The entire concept and philosophy behind SAFE is to challenge the market by having an option,” said Ferramola. “It is very simple, entirely transferable technology but it is also the first Secondary Guarding solution for boom or scissor that requires the user to accept responsibility for their actions. Think of it like this, you crash your hire car and weren’t wearing a seatbelt, do you blame the hire company?”

Sentinel is similar to other systems in that it stops the boom functions, when activated by leaning onto the

pressure pad located above the controls. The system automatically ‘backs off’ the previous movement giving the operator more space between the control panel and the obstacle, as well as alerting fellow workers with a flashing light and siren.

**Bauma launch**

The main new product for Bauma will be a new 105ft straight boom with articulated jib, while a 98ft version without jib will also be available. The T34 JRTD platform has 24 metres outreach, a working height of 34 metres, and has been designed primarily for the Chinese shipyard market, but will be available for sale worldwide. The lift has extending axles, increasing the overall width from 2.45 to 3.36 metres, four wheel steer, a large 2.4 metre wide platform with a full 180 degrees of rotation and 450kg maximum capacity. It is powered by a Tier IV water cooled Deutz. The jib can be tucked under to reduce the overall transport length.

The plan is for all-new machines to be designed in Italy but built in both Italy for all the world and China for Asian and Pacific markets.

“Although we will launch the machine at Bauma it is being driven by several requests received from Asian market. In future we will think to go higher, up to 40 meters and more,” said Ferramola.

Airo is also in the process of designing a new range of Rough Terrain scissor lifts, it ceased production of its old product last year when its engine - a small Hatz - was no

longer available.

“There was no space to use any other engine and the scissor mechanism was the older design, so we decided to create a new range with all the new features. The first will be a 12 metre machine - the X12 RTD - for which we have many requests, so we may see it over the coming months, followed by other sizes such as 10 and 14 metres. As with our other new machines, the RT scissor will have good specifications - 500kg platform capacity and long deck extensions - and be competitively priced for the performance.”

**Major developments**

One of the major advances for the company has been the new scissor design by Gianluca Ferramola. The result allows features such as a long deck extensions up to 500mm longer than most competitors, larger internal scissor stack sections to keep the weight in-board, increased platform capacities and faster function speeds.

“This new design mentality - trying to exceed the best in class at the time - was also included in the A12JE and A15JE articulated booms. In the forklift market around 2011 the AC drive was a must, and while not popular in access platforms we decided to put AC drive and pump on both booms,” says Ferramola. “Full AC drive gives a fast travel speed, good torque for driving up slopes and automatic braking preventing the operator travelling down a slope too quickly.”

**Mast booms**

The 10 metre V10E mast boom was introduced last year replacing a two model range, which used a

forklift mast and was too wide at 1.2 metres. The new V10E uses AC drive motors and function drive and is far more compact at just under a metre wide, and not too heavy.

“There is a big market for these machines particularly in France with the Haulotte Star 10, JLG Toucan and ATN. So we designed two models - the V10 and V8 which is a smaller version - inspired by the same philosophy to be different. It has the greatest reach in that sector at 3.3 metres and a key point was to keep the weight under 2,800kg, to comply with towing regulations.”

“We are not planning to reduce the breadth of our range, but do want to harmonise it with common baskets and a unifying look. For example, the older A16JE is totally different in conception and look than the newer A12JE. We are planning to do a lot of changes in the range between 16 to 18 metres.

Airo is one of the few companies that offers an ATEX rated explosion-proof machine direct from the factory and can also offer a galvanized finish for those that want it.

“If a customer has a special request or feature they require then we are happy to try and work with them and produce the machine. For example, we have a contract at the moment to provide two XL19 E scissor list with a one metre side extension with 500kg capacity. This means a new scissor stack to handle the side loading but we are happy to carry out this work.”

Airo is certainly a company that is changing under the new regime, it likes to be a bit different and looks set to grow as it expands overseas.



*Excellent access with opening canopy and swing out engine*



*Ramp test at 27 degrees*