

Construction workhorse

C&A heavy duty scissors

The Rough Terrain scissor lift is the workhorse of the cladding and sprinkler trades. Their simple and rugged origins made them ideal for jobs requiring plenty of space or platform capacity. We take a look at recent developments and products in this important market sector.

From its simple, lightweight, two-wheel drive beginnings in the 1970s the Rough Terrain scissor lift has developed over the years into more sophisticated versions of the original with working heights up to 33 metres, large platforms and a range of features, including dual powered extensions, four wheel drive and steer and a choice of diesel, electric and hybrid drive variations. In spite of all this, they essentially do the same job - provide a go anywhere lift with a large, stable and safe working area at height.

The sector is roughly split into two with large heavy duty and narrow models from Holland Lift, PB Liftechnik and now AB Lift - the reincarnation of H.A.B which went into administration in 2014 - and the lighter, mass market machines supplied by Genie, JLG, Skyjack, Haulotte, Snorkel, Iteco, Dingli, Airo and ATN etc...

The heavy-duty scissor manufacturers build niche models, both Rough Terrain and narrow

aisle models, with working heights generally running from 16 to 33 metres, starting where the lighter duty models tend to stop. The lighter machines - both compact and full size - tend to cover three key working heights 10, 14 and 17 metres. The larger models all offer large double deck extensions, levelling jacks and excellent gradeability but without the platform capacity or rigidity of the heavy-duty models. But then they are a good deal lighter, easier to move around and considerably less expensive.

Heavy duty popularity

The market for the heavy-duty narrow electric machines is driven by the growth in the number of high cube warehousing initially in the Benelux region, then spreading through Germany and now most of Europe. With demand outstripping supply - even with additional capacity coming on stream - the three main manufacturers are failing to keep up, in some cases customers are waiting almost a year



longer than originally quoted.

Because of this, those rental companies that already have units in their fleet, are refurbishing and rebuilding them. Last year in the UK, Nationwide Platforms refurbished a number of its older Liftlux scissor lifts. The complete strip-down and rebuild of the 68ft Liftlux SL205-25 and 86ft Liftlux SL260-25 2.5 metre Rough Terrain lifts included shot blasting and re-painting all structural parts, as well as installing new engines, generators and control boxes. While refurbished machines may look like new, they obviously lack some of the latest technological developments. In the case of big scissor lifts this might include auto levelling, on-board diagnostics and hybrid power packs.

Each of the three, heavy-duty scissor lift manufacturers are

experiencing their own challenges at the moment. Market leader Holland Lift recently saw the departure of managing director Eline Oudenbroek who managed to put the company back on track in terms of product range focus, greater innovation and increased production capacity. However the strategy of building a wider international distribution network meant that customers in the company's core markets did not see a reduction in lead times. Here interim replacement Rik van Sonsbeek, who had been working with the company as a consultant, is hoping to see the company achieve shipments of 400 large scissor lifts a year.

PB Liftechnik and AB Lift both have a considerably lower production output even when combined. In spite of the lower volumes they are



The JLG 430 LRT has a working height of 15.11 metres and 568kg capacity



One of Nationwide Platforms' Liftlux machines undergoing a complete refurbishment

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The JLG logo is displayed in a bold, white, italicized sans-serif font against the orange background.

Two of AB Lift's larger narrow scissors - the S320 and S280-12E4WDS



22ft S2255RT and 27ft S2755RT - earlier this year. These are based on units first built in New Zealand and launched in 2006 for customers in Australasia wanting a narrower width machine easily transported on a tandem trailer. With growing interest in Europe, and in particular Germany following a few sales some years ago, the company is now selling them across Europe and the Middle East, and may start production in the UK. The S2255RT has a platform capacity of 420kg and the S2755RT

300kg. Gradeability is 35 percent and overall weight 2,360kg, and 2,580kg respectively, including a 1.2 metre deck extension, large non marking tyres, long stroke levelling jacks with auto level and oscillating axle - all of which is standard equipment - making them light enough for a standard two axle trailer towed behind a van or 4x4.

Genie RTs

Genie has been tweaking its line-up of six Rough Terrain scissor lifts, which runs from 26ft compact bi-energy models to its 53ft GS5390RT. Changes have included improved traction control, a reduction in the different parts and components used to improve commonality, a move towards hybrid and all electric compact Rough Terrains and new streamlined and standardised scissor lift maintenance regimes that extend some service and inspection intervals while condensing six service manuals into one.

JLG

JLG upgraded its largest Rough Terrain scissor lift range the 53ft 530LRT and 43ft 430LRT, with a number of improvements including all steel component covers and improved electrics, but has generally been quiet in terms of major RT scissor lift development. However earlier this year it showed a new scissor proximity sensing system - the No Touch Enhanced Detection System - which uses advanced infrared technology to sense when an object or structure is close, flashing lights and an alarm warn the operator as the platform approaches a structure or obstacle, and then stops the machine restricting the controls to the opposite function of what caused the alert, unless the operator overrides the system to inch closer to complete the work. The system automatically resets when clear of the obstacle. It is aimed at applications near delicate structures such as aviation or for working in areas with a series of overhead obstacles. It can also be used as a simple overhead protection/secondary guarding system.

A dual charger solution

Italian manufacturer Airo's largest RT scissor is the 56ft XL19 RTD offering a 19 metre working height with double deck extension with 500kg capacity across its extended decks. Airo together with its UK distributor Aerial Handling Solutions have devised a solution for charging issues in the UK for the XL19's big 775AH battery pack. The two large 24 volt traction batteries use a three phase 80 amp charger, which manages to take the batteries

from 20 percent - as empty as you might get on a modern scissor lift - to fully charged in nine hours or overnight in the real world. However most construction sites either do not supply or will not allow three phase 415 volt equipment to be used. This is the real issue that shows no signs of resolution, leaving it to manufacturers or rental companies to find a 'solution'. As a result of



PB's latest model is the Top 19 series which has working heights from 12.85 to 18.1 metres

all often struggling to meet delivery dates, probably due to the long lead times making exact dates a challenge to get right.

PB gear up

In order to keep pace with demand, PB added a new production assembly hall at the end of last year, at its facility in Oberbechingen, Southern Germany. The aim was to reduce bottlenecks to increased production, while adding offices for the manufacturing, engineering and design teams. The company hopes that by bringing them together it will encourage the two teams to work closer together and help boost productivity.

The company has also launched a new model this year, the PB Top 19 series - which has a modular chassis design with a range of configurations, including two or four wheel drive both with fixed or oscillating axles. Five different scissor stacks provide working heights of between 12.85 and 18.1

metres and capacities ranging from 500 to 900kg making up 15 different model variations all with an overall width of 1.93 metres, an extended deck size of 6.36 by 1.88 metres and battery electric power.

Dropping the H

AB Lift might sound like a new kid on the block, but it is a reincarnation of German manufacturer H.A.B which ran into financial difficulties in 2014 that put it into administration. The company is still run by Andreas Becker, with daughter Tatjana as general manager, but now it is working in close partnership with its Dutch dealer Collé Rental & Sales, which is now its master distributor, taking this year's entire production run of 120 machines. These are destined for sales all over Europe (see HWS Rental UK interview page 45) as well as the Collé rental fleet.

Compact alternatives

Among the lighter mass market machines, Snorkel launched two new 1.45 metre wide models - the



Snorkel has recently launched two new 1.45 metre wide models - the 22ft S2255RT and 27ft S2755RT (above)



Genie has been tweaking its line-up of six Rough Terrain scissor lifts



JLG's 53ft 530LRT is its largest Rough Terrain scissor

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customer feedback Airo is now offering dual on-board chargers, the standard 415 volt three phase unit and a single phase charger that can be used on a conventional 110 volt/32 amp supply. The rental company can easily configure the charger to be used at the start of the rental contract. The downside is that the 110V charger takes 30 to 40 percent longer to fully recharge, fine for 'nine to five' schedules, but not exactly overnight for more intensive or double shift operations.

Tracked alternative

Another possible alternative to the RT scissor is the tracked scissor. Italian

manufacturer Almac has expanded the top end of its Building Line (BL) tracked scissors recently unveiling the 33ft Bibi 1270-HE and the 39ft Bibi 1470-HE with working heights of 12 and 14 metres respectively. Both machines differ from Almac's smaller models levelling on two position jacks rather than from the tracks - which can level the machine up on slopes of up to 15 degrees. They can also work free on tracks and can drive at up to six metres and can then lift to a working height of 10 or 12 metres with inboard jacks and to their full heights with jacks rotated to a slightly wider position.

Both machines have a 300kg capacity and measure 3.05 metres long by 1.15 metres wide. The 1470-HE weighs 3,380kg with the 1270-HE 200kg lighter. A Bibi 1270-HE Light version is also available weighing 2,880kg.



Airo's two charging plugs - either 415 (red) or 110/32amp (yellow)



An alternative to the wheeled RT scissor is a crawler scissor such as this Almac Bibi 850-HE

Titans to the rescue

The Rough Terrain scissor market also includes some alternatives that do not use a conventional scissor stack, such as the Speed Levels from Snorkel and Mec and the Mec Titan boom. Two specially adapted Titan 60S machines have been working underneath a bridge project in the North West of England. Supplied by Nationwide Platforms the Titans were required to install more than 200, six metre long drainage pipes, connecting the road drainage gully's underneath the bridge deck. The lifts had to work between the bridge beams and their 1.9 metre centres, at heights of up to 20 metres.

Unfortunately the Titan platform is 2.28 metres wide, so Nationwide worked closely with Mec, to develop a reduced guardrail width of 1.6 metres. With an outreach of 14.6 metres, and a 1,350kg platform capacity, the Titan 60S was able to lift a number of the heavy pipes at a time, its ability to telescope also reduced the time spent repositioning the machine, while a bespoke material handling attachment helped reduce manual handling and make pipe positioning and fixing easy. The Titan was one of the few platforms capable of carrying out the work. The alternatives, such as scaffolding, would have been far more costly in terms of labour and time.



Machines such as the Mec Titan 60S boom have good platform capacity as well as outreach

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Game set and match to Genie

Two Genie GS-4390 RT scissors are helping with extension works at the Roland-Garros tennis stadium in Paris, France. The two-part project involves fitting the 15,000 seat Philippe Chatrier centre court with a retractable roof to cater for the variable weather conditions, and the construction of a new tournament organisation building just a stone's throw away.

The scissors - from Pas-de-Calais rental company Duma Rent France - have been supplied to ASF Façade Alu which was looking for high capacity, four wheel drive scissors with double deck extensions that could reach up to four storeys. They are currently being used to line up and install 300 windows, each weighing 100kg.

The Genie GS-4390 RT at Roland-Garros tennis stadium in Paris



Restoring the Panorama Mesdag

The Panorama Mesdag is a large 360 degree painting of the sea, dunes and fishing village of Scheveningen in the Netherlands as it was in 1881.

The cylindrical painting, more than 14 metres high and 120 meters in circumference, was painted by Hendrik Willem Mesdag and friends.

The massive painting is currently being cleaned, with three restorers working from a specially made, big deck Holland Lift scissor lift, based on a Type A146 from 1987. The scissor lift runs on rails just inside the cylindrical painting - or cyclorama. Both the chassis and platform on the canvas side are curved so the whole platform is a constant distance from the canvas as it moves around. This reduces the risk of damage from any sudden platform movements, allowing the restorers to concentrate on their work.



The specially adapted Holland lift scissor runs on rails around the 120 metre painting circumference



Painting restorers at work

The ultimate answer to overall efficiency



Holland Lift presents its new smart models: HL-160 and HL-190. The concept is designed for tailored efficiency. A modular system with various options: 16 or 19m high, electric, diesel or hybrid; the base of the machine always remains the same. These scissor lifts have attractive exploitation costs and a high return on investment. And whatever configuration you choose, Holland Lift quality, safety and durability are as always part of the deal.



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Exploring the niche

The success of any new business is obviously helped by the general state of the economy and the activity in the sector at the time. Dutch access rental company HWS recently launched HWS Rental UK to specialise in narrow, heavy duty scissor lifts and hybrid booms. The new venture has entered the UK market at an optimum time, with manufacturers, rental companies and contractors all enjoying a very busy, sustained period of demand. Mark Darwin spoke managing director Tim White to find out more...

Tall, narrow electric and diesel powered scissor lifts are a niche product sector that has seen a growing popularity over the past 10 years or so, mainly to satisfy the specific demand for the construction of high cube warehousing and the installing of high racking systems, spurred on by growth of internet purchases. However, according to Tim White, the growing acceptance and use of powered access platforms is also helping expand demand for these machines.

"More people are now aware of the range of access equipment available and this is helped by the



Tim White

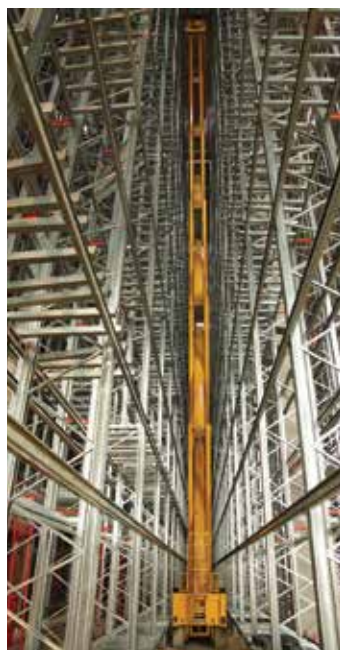
excellent economic climate and Working at Height legislation," he said. However, in spite of the large amount of work there is a surprisingly large variation in rental rates and return on investment. "You can buy a 19ft scissor for £6,000 while a JLG 450AJ costs £30,000, five times the purchase price but you will only get twice the rental rate!"

Typically the best returns to be found in 'niche' sectors such as spider lifts or tall, narrow heavy-duty scissors - the one area where HWS UK is concentrating.

Internet driven

While HWS Rental UK is managed by White, the ownership is shared with ex Riwal colleagues and HWS owners Dick Schalekamp, Allard May and Coert Nodelijk.

"We worked together at Riwal between 2009 and 2012 and are



all partners in the new UK venture which will primarily focus on the long-term rental and sales of large electric scissor lifts and hybrid booms," says White.

"I think there is a real opportunity in the UK market for renting scissor lifts with working heights over 22.5 metres because of the increasing demand for internet storage and distribution facilities which are growing in height and using taller racking systems."

To this end, HWS has formed a partnership with Dutch sales and rental company Collé - which has acquired the European master distributorship for German large scissor and boom lift manufacturer AB Lift - previously HAB. As part of the deal it has taken its entire production capacity for the next 18 months - roughly 120 machines in total.

As AB Lift's preferred supplier for the UK, HWS Rental UK has access to the full range of AB Lift products - but primarily its large narrow electric scissor lift with working heights from 22.5 to 32.63 metres with overall widths of 1.25 and 1.39 metres respectively. HWS also offers the machines for sale or rental.

Market size

"The size of the big scissor fleet is difficult to estimate as they tend to follow contractors and jobs around Europe" says White. "Total



There is a high demand for tall narrow scissors in the UK

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production from the only three manufacturers - Holland Lift in the Netherlands and PB Lifttechnik and AB Lift in Germany - is perhaps 500 a year, with demand outstripping supply."

All three of the heavy-duty scissor lift manufacturers are struggling with producing enough machines and meeting delivery times. Collé however has tried to manage this situation by ordering 120 large scissors for delivery over the next 18 months. This means that at any one time, Collé will either have machines in stock or well progressed production slots, allowing HWS to supply machines more rapidly.

HWS UK has initially decided to concentrate two specific models in the AB Lift range the 68ft/1.25 metre wide battery electric S225-12 E4WD which offers a 22.5 metre working height, and the 99ft/1.39 metre wide S320-12 E4WDS which offers up to 32.6 metres of working height. Neither are lightweight products, weighing in at 11 and 21.5 tonnes respectively.

The company also thinks there is a good market for the 92ft S280-25 E4WDS electric Rough Terrain, which is 2.5 metres wide, has a working height of 28 metres and weighs 18 tonnes.

"I believe that when sites realise there is an electric option for a

big scissor they will ask for it. We may be back on diesel in another 10 years, who knows, but at the moment, electric is the way to go. The AB machines are well-built and features include four wheel steer - essential to turn the platform at the end of a 22 metre high racking aisle - the ability to drive at full height, indoor and outdoor ratings and capacities ranging from 600kg to 1,000kg, with the option of hydraulic levelling jacks. The internet shopping craze is not going away and even taller warehouses are being constructed, with even narrower aisles, so the slimmer the machine the better."

HWS UK plan

The HWS Rental UK business plan is fairly standard - buy and rent the machines for a number of years covering costs and then take a profit when selling.

"These large scissors have excellent residuals even at five years old. Initial purchase price - whichever the manufacturer - is however quite high with a 32 metre scissor costing upwards of £200,000 so these machines are a big investment for any company, especially given the fact they remain a niche product. As a result there is re-rent demand from regional rental companies which then do not need to purchase. We will also sell machines but the vast majority will be rented. It is not in my interest to flood the market although the rate at which this type of machine is produced it would almost be impossible to do this!"

The difficulty with 25 metre plus machines is that demand is purely dependant on specific contracts. "The biggest contract for large scissors I have been involved with was a distribution warehouse job with a mix of six electric and diesel 26.5 metre machines over nine months. The electric machines were used for erecting the racking and the diesels for the construction of the shed including cladding."

The current high demand for these tall narrow scissor lifts and hybrid booms has resulted in all the HWS machines in the UK currently out on rent including the 63ft and 86ft Niftylift HR21 and HR28 hybrid boom lifts - the HWS owners acquired Niftylift's Dutch distributor Eurosupply last May. The HWS fleet also includes a few boom lifts converted for rail work.



AB Lift machines feature four wheel steer



Charging problems

One area that all manufacturers of big electric scissors need to sort out in the UK is the charging of 220 volt or three phase 415 volt machines, given that UK construction and building sites are geared up for a 110 volt system. Just adapting the charging input does not solve the issue for these larger machines.

"What currently happens is the plug is changed to take 110 volts but the transformer and batteries are untouched and still geared up for a 220 volt charge so charging takes twice as long and never fully charges the batteries. All new AB Lift machines coming into the UK have been fully converted to accept a 110 volt current," says White.

"The smaller 16.5 metre market in the UK is quite well supplied and the 20 metre plus machines are all busy and giving good financial returns as utilisation is high and rates are decent. This does not look like changing anytime soon as I am constantly being called from regional rental companies asking to take the large scissors when they arrive in the UK."

"I think there is a market for HWS in the UK on long-term rental and sales of this equipment. We are targeting re-renting to the regional Link and Alliance members with high value equipment that many companies do not want to buy,

but are happy to re-rent. Our connections with contractors also means that we are happy helping these member companies rent other equipment alongside our machines. It is early days yet but the scissors are a quality product with good performance. Everyone appears very happy that there is a third supplier in the market."

Capacities range from 600 to 1,000kg



AB Lift scissors can be driven at full height

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