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# LOW LEVEL CONUNDRUMS

The term Low Level Access has crept into the industry's terminology and is now firmly entrenched. But speak to different people about what they understand by the term and you are likely to get a wide range of responses, especially if you ask for answers to be limited to a few words.

Some think of push around scissor lifts, perhaps adding podium steps, others of step ladders or small self-propelled scissor lifts and others manually powered lifts. Ask about platform heights and responses range from two to six metres. Most commonly people think of working heights around five or five and half metres...so a 12ft mast lift might or might not qualify. And yet this year sees the arrival of at least two push around scissor/sigma lifts with working heights of six metres - or thereabouts. The introduction of lightweight scissor lifts with all the characteristics of push around models but incorporating a simple self-propelled drive system further confuses the sector.

## NEW LEGISLATION CREATED A MARKET

Until now the Low Level push around lift phenomena has been limited to a few markets. The concept initially took off in the UK with the launch of the Pop-Up push around scissor lift at the start of 2006, followed by the original Power Tower in 2007, both in response to the implementation of the Temporary Work at Height Directive into UK law. Until that time, UK work at height rules generally considered work at height to apply to platform heights of more than two metres.

The new legislation considered work at height to be anything above ground level. Rumours abounded that ladders were banned from job sites as some contractors reacted to the threat of the new legislation without considering unintended consequences. The rumours caused the Health & Safety Executive to start a 'Myth Busting' section to its website to refute such claims. However, they arguably created a new product sector or more truthfully put rocket fuel under an ultra-niche, rag bag mix of products.



Bravi introduced the first lift in 1995



Pop-Up



First Power Tower



## LOW LEVEL ACCESS

Sales for the new products soared, Pop-Up sold or booked orders for 6,000 unit in its first year. Power Towers also got off to a strong start thanks to Nationwide Platforms taking its first year's production, and then some. Another beneficiary was the veteran of the industry Italy's Bravi which began manufacturing its Lui Mini in 1995 later becoming the Leonardo. Sales increased to such a degree that the company built an extra assembly hall at its plant in Pescara on Italy's east coast opposite Rome.

### SLOW GLOBAL ENTHUSIASM

Perhaps surprisingly in the 15 years or more since, the penetration seen in the UK has not really spread to other countries. There has been some significant take-up in France and the Netherlands and to a lesser extent Germany. More surprising is a strong take up in parts of the Middle East which seems counterintuitive, until you look deeper and find that it has been driven by UK-based contractors and construction managers who adopt the same work practices as in their home market.

The North American market is a hard one to judge. Several US manufacturers do very well in their home market with low level equipment, so that although market penetration is relatively low in terms of the total units sold it is likely to count as one of the larger markets for low level access, if not the largest. Manufacturers include Custom Equipment/Hybrid, GMG and MEC. All too often though contractors simply use a larger machine such as a 19 or even 26ft scissor lift, occasionally not even needing to the raise the platform to reach the work. That's fine if you have the



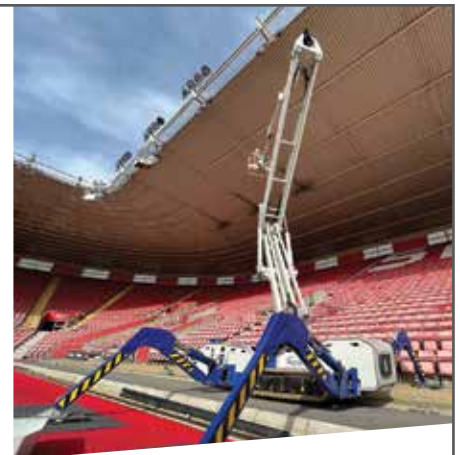
*A Custom Equipment Hybrid push around lift*

space and there are no floor loading restrictions, but with the trend towards multilevel 'big box' structures this factor is becoming more critical, as is space and guarantees against leaks or other contamination which raises another issue. But we are getting ahead of ourselves.

### THE ARRIVAL OF THE MAJORS?

The leading aerial lift manufacturers have tended to shy away from adding low level aerial lifts to their product lines, usually leaving it to smaller

companies, although Snorkel has actively participated in the market and at one time had a partnership with Pop-up. Today the company offers five models including the new S3210P with a five metre working height. Market leader JLG changed this trend when it acquired Power Towers in 2015 and has run the business as a separate unit within the company. That has begun to change in the past year or two as becomes more integrated. So far though JLG's ownership



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JLG 1030



Having said all that Haulotte has decided to dip its toe in the water with the introduction of a dual range product line up, which it appears to be badging rather than manufacturing itself. The company is keeping 'tight lipped' who is manufacturing them - possibly two companies?

**MICRO SELF-PROPELLED SCISSORS AND MASTS**

At the other end of the product spectrum is a growing line up of 13 or 14ft micro scissors such as Genie's GS-1432m and Skyjack's SJ3014 which are sitting just above the low level classification, while the 12ft mast lifts from Skyjack, Snorkel and JLG are at the top end as are the 12ft scissor lifts such as the Dingli JCPT0607DCM.

When the 15 and 19ft 'elevator' type micro scissor lifts arrived in 1994, the challenge was how to produce them cost effectively compared

to existing 20ft models. Volume was the secret back then with companies like UpRight building more than 20 units a day. In today's more competitive market with its higher costs, that strategy will no longer cut it. It now requires a clever, clean sheet design with production and assembly considerations at the fore, combined with a sophisticated unautomated production line. And if you look at where the epicentre of this type of manufacturing is, you have to conclude that it is China. In fact, machines introduced by two of the early participants in the market, Pop-Up and Youngman/Boss X, were built by Chinese contract manufacturers.

The exception was Power Towers which managed to be highly competitive from a small assembly plant in Leicester, England, mainly due to low overheads, good sub-contractors and lots of owner led experience. Under JLG ownership it has moved into a substantially larger plant nearby and is now looking to ramp up production volumes.



*Micro self-propelled scissor lifts like this Imer Easy-Up 5SP could cut into the top end of the market*

does not appear to have had a major impact on sales of Power Towers products into other markets. It is, of course always a challenge for a distributor or sales team to focus on a product range that runs too wide. Give a salesman a spread of products that runs from a \$3,500 low level platform to a \$150,000 boom lift and the focus is almost inevitably going to be on the larger kit.



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## POWER OR NOT

As we touched on earlier, cleanliness is an increasingly important issue on site, as is power supply, both of which tap neatly into contractor's aims to reach 'Net Zero' as soon as possible. All of the early Low Level machines were powered by the classic battery - electric motor - hydraulic pump - and cylinder or motor drive train, from the first Bravi machines through to the Pop-Up and Power Tower, although the latter machines dropped the drive in favour of human push power. Then in 2012 Power Towers launched the 3.5 metre working height Pecolift, with no hydraulics, no batteries, in fact no electrics or power at all. You simply pushed it around and turned a large flywheel to ascend or descend - 'simples'. The new model had a tiny footprint and weighed just 180kg. The gas spring assisted lift took the platform to full height in 11 seconds with very little physical effort, while four point automatic braking was activated as soon as the platform lifted off. The unit was an instant success, Nationwide alone taking more than 1,000 units in the first 12 months.



*The Power Towers Peco*

Contractors working on major projects at the time - such as the St Barts redevelopment and Heathrow's new terminal T2B - needed hundreds of small step ladders, podiums or ideally lifts to carry out the fit out work efficiently. The idea of having to place 200 or more small scissor or mast lifts on charge over night was a potential nightmare. The Pecolift concept solved all that in one clean sweep being the right machine at the right time.

## NON POWER - CHOICES GROW

Today there is a choice of manually operated work platforms. JLG has both the Pecolift and the Ecolift which offers a little more reach than the Pecolift with a 4.2 metre working height. Essentially it is a Pecolift with slightly longer masts, giving it a higher stowed height obliging you to climb a step into the platform. The extra height is a factor, although the penalty for that is more weight -



*The Ecolift*

coming in at 305kg. It has proved popular - not necessarily due to the height - because users also prefer the slightly bigger platform - 850mm x 644mm - compared to the Pecolift's 720mm x 600mm.

The manual lift mechanism is patented and uses gas springs and a toothed rubber Kevlar type belt with the flywheel/handle providing smooth operation and momentum. In spite of the patents there are two 'lookalikes' on the market. One of which is the Zarges Liftmaster U which has been around for some time but has not exactly been widely promoted. It offers a 4.3 metre working height and only weighs 165kg, however, it has outriggers and the overall width starting at 1.2 metres extends to 1.65 metres for work - not an attractive option and it's pricey.



*Zarges Liftmaster U*

A more recent introduction comes from Italian manufacturer Gromet which launched two new Low Level platforms under the Axolift brand last year. One was the manually operated Manulift 200 which offers a four metre working height, 125kg platform capacity 740mm x 640mm platform, low level entry and an overall weight of 249kg, possibly combining the best features of the Peco and Eco? The manual lift mechanism looks similar to the Pecolift, but apparently does not contravene the patent and does not use gas springs. We have yet to give it a test drive and the proof, as they say is in the eating. The other model is the battery powered Elift 350 push around with a 4.95 metre working height.



*The Axolift Manulift 200*

More recently the British-built Navigator 6.0 arrived on the scene a few months ago, featuring a scissor lift structure and manual flywheel elevation, with a six metre working height and many innovative features. See page 25.

## HAULOTTE ENTERS THE FRAY

In April Haulotte announced its entry into the sector with seven new lightweight models with working heights of less than six metres. Two push around mast lifts include the Move Up 4.6 and Move Up 5.6 with working heights of 4.6 and 5.6 metres respectively with 670mm x 660mm platforms and 159kg platform capacity. The overall width of the machines is 700mm with a stowed height of 1.8 metres and overall weight 288kg and 378kg respectively. Power for the masts comes from a single 12 volt AGM battery.

The two push around scissor lifts include the Swift Up 3.8 and Swift Up 4.5 with working heights of 3.8 and 4.5 metres, a 1.04 metre x 570mm platform and 240kg platform capacity.



*Haulotte Swift 4.5 and Move Up 5.6*



**NEW DEVELOPMENTS FROM JLG/POWER TOWERS**

**NEW SNORKEL PUSH AROUND LIFT**

The overall length of both is 1.2 metres, the overall width 700mm, and weigh 270kg and 315kg respectively. Power comes from the same 12 volt AGM battery used by the Move Up mast lifts.

And finally, a three model Swift Up self-propelled scissor lift line - the Swift Up 4.5 SP, Swift Up 5.0 SP and Swift Up 5.9 SP - with maximum working heights of 4.5, 5.0 or 5.9 metres respectively.

Platform dimension on the 4.5 SP is 1.04 metres x 570mm while the two larger models have a 1.28 metre x 650mm platform. Capacity on all three is 240kg and overall width 700mm. The battery pack comprises two 12 volt AGM batteries and drive is direct electric wheel motors.

The new range will be initially available in Europe, but not the UK for some reason, and throughout the Asia Pacific region apart from South Korea, while in South America only the Swift Up SP range will be offered.

The Snorkel S3210P launched last year, is the latest low level scissor lift in the company's range and features a working height of five metres, with a 1.1 metre x 520mm platform - a little narrow perhaps? Platform capacity is 240kg and overall width 810mm. The unit weighs a hefty 470kg, but has an outdoor rating and, if you need it, a decent platform capacity.



Snorkel S3210P

JLG held a series of open days at its Power Towers plant in Leicester last month. Although the focus of the events was not particularly on low level platforms, there were a number of innovations on display.

The most striking is a move towards vertical intermediate guardrails on its mast type lifts which included the Nano, Nano SP Pecolift and Ecolift, to prevent users from standing on the mid rail in order to gain 500mm or so more reach. The company says that in addition to solving a potential safety issue, it is easy to install and apparently has no impact on weight.

It is also working on a new slightly higher Power Tower with a working height of 5.9 metres, the new model looks similar to the original push around unit, but the sigma type lift mechanism has been tweaked to provide the extra 800mm of working height. This will allow it to go head to head with the new Navigator 6.0 but also some of the other self-propelled micro scissor lifts.

Also new on the Power Tower front is the updated Duo. Launched in 2019 for the Middle East market it incorporates outriggers or stabilisers to provide an outdoor rating. The company is now using the lift to add a material rack for sheet materials.



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*The most visually striking feature are the patented anti-climb vertical guardrails*



*The Navigator 6.0 has a 6m working height*

# CARBON ZERO, FULLY MECHANICAL... THE WAY FORWARD?

Launching a totally new aerial work platform brand in the current economic and political climate is bold. However, UK-based Metal & Modular Fabrication Services has done just that, unveiling its first access platform - the self-powered, fully mechanical, carbon zero, push around scissor lift, the Navigator 6.0 - in spite of having no experience in powered access market.

With a working height of six metres, it not only claims to be the highest manually operated platform on the market, but it also includes several new and innovative features. And despite being a small manufacturing company in Flore, Northamptonshire, Metal & Modular has its sights set on taking on the major manufacturers with a well designed, high quality product with almost 100 percent English content. Aimed at the global market, its six metre working height means that it can cover the low level sector but also deal with the majority of work currently carried out by smaller self-propelled scissor lifts, from the start to the end of the project.

Using its in-house design and manufacturing capabilities, Metal & Modular aims to develop high quality, bespoke safety, security and material handling equipment mainly helping to prevent the theft of tools and reduce the risk of accidents

on site. Its main products include mobile stores and workbenches, cutting stations, load trolleys, mobile pipe racks and stores. Those involved in low level access may also know its range of guards and tool trays for Power Tower/JLG Eco/Peco machines.

Its prototype push around scissor made its first appearance in February at the UK's Executive Hire Show. Since then it has undergone a weight reduction programme using aluminium rather than steel to reduce its overall weight from 670kg to just 500kg - making a huge difference to transportation. The lightweight aluminium unit was launched at Vertikal Days last month and is already attracting a lot of interest. The company says that it has booked orders for 200 units and is expecting several large orders over the coming months. It hopes to build around 500 this year - all staying in the UK - with the aim to ramp up production over the next few years as



*Integral pull-out side stabilisers allow the lift to work outdoors*



## LOW LEVEL ACCESS

demand increases and it begins exporting. It sees the potential for annual production to rise into the thousands. The first machines to be produced are earmarked for Mr Plant Hire and should ship in July with units for Broughton Plant and Sales coming soon after.

"Initially we will concentrate on the UK market with Metal & Modular dealing with the major rental accounts but supported by our newly appointed dealer International Platforms," says Lee Crosse, strategic executive officer who previously worked with JLG and Power Towers. "However, because the product has a working height of six metres it will be also appeal for markets such as North America, France and Germany which look for higher working heights from push around lifts."

The Navigator's main designer, Michael Brown, has incorporated many unique features - several of which have been patented or are patent pending. The most visually striking feature are the patented anti-climb vertical guardrails - possibly a first for an aerial lift. The platform has also been designed so that the guardrails can be easily removed allowing an operator to be rescued more easily in the case of an emergency.

The unit can fit through a standard doorway, measuring 1.98 metres high, 730mm wide and 1.3 metres long. The platform dimensions are 690mm by 1.1 metres, but the length can be extended to 1.5 metres with the 400mm deck extension.

Integral pull-out side stabilisers allow the lift to operate both indoors and outdoors in windspeeds



Lee Crosse with Vicki Allen of International Platforms

of up to 12.5 metres a second. As mentioned earlier the overall weight has been reduced to 500kg and the lift features high quality castors with a maximum capacity of 2,000kg with 800kg per fixed wheel. Other features include tethering accessories for tools, anti-surf brakes, transport and deck lock, a winch point and an optional brick guard.

The company is keeping the details of the mechanical workings that lift the platform close to its chest. The unit is fully mechanical with no hydraulic or electrical components. To raise the platform to the chosen height the operator simply turns the handle. Safety features mean that it cannot be raised without someone in the platform.

"We are all about a product that is carbon zero rather than producing an electric platform that requires charging which is not," says Crosse. "And although it is fully mechanical it is not a low level platform but has a very useful six metre working height."



Turn handle to go up...



The integral pull-out stabilisers

The company also claims that the manufacturing process helps with its aim to be carbon zero. Its welding method for example, employs a mechanical strip which uses 80 percent less weld material, while the paint process is twice as quick and uses a much lower temperature than normal - both aimed at reducing carbon emissions.

The company says that the unit is also 'competitively priced'. While nothing has yet been confirmed, if the Navigator 6.0 is successful, Metal & Modular is likely to add to the range - perhaps with a smaller Navigator 4.0 or 4.5?

Watch this space! ■

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