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# Electrifying lifts

When we talk of electric powered scissor lifts most people think of 19, 20 and 26 ft narrow aisle machines. Certainly these are by far and away the most numerous and popular lifts on the planet. However in the past year most development has been elsewhere.

Looking at the market in Europe and North America there are around 20 companies producing electric powered self propelled scissor lifts. However fewer than 10 of those represent 99.9 percent of all production, with the top four, Genie, JLG, Skyjack and Haulotte producing over 80 percent of all shipments.

As the market has matured the products that those companies build has grown increasingly similar, at least in terms of dimensions and general performance.

The last big new product development was the introduction by JLG of direct electric drive on its ES19, 26 and 32 models. Engineers generally estimate direct electric drive systems to be around 65 percent efficient compared to only 30 to 35 percent for electro-hydraulic drive-trains. The benefit of course is longer battery life and the significant improvement has proved popular in a number of particular applications.

However the benefits are not so great that the other manufacturers have felt impelled to rush out and follow JLG's lead. In fact more than four years later the only company that has followed JLG's lead is Iteco. This is most likely down to the production costs of direct electric drive on such a small front wheel drive machine. Some argue that the time proven hydraulic motor drive-train, coupled with smooth motor control operation is both quiet and relatively energy efficient. Plus it offers low cost rugged reliability.

Both arguments have merit. When it comes to pure battery life the direct drive has it, particularly if the application involves a good deal of travel.

What the difference in strategy does illustrate is that this type of scissor lift has now been accepted as a general workhorse and as long as the machine is compact, reliable, reasonably quick and will run a full shift - and then some - the detailed specification is, for most users, not critical.

In fact one or two of the models offered by at least one of the top producers is very old fashioned and does not stack up too well when it comes to comparing turning radius, gradeability and battery life. However, they are extremely reliable, the parts are readily available, they are easy to work on, a single battery charge will last all day, they are

*Iteco has followed JLG with direct electric front wheel drive*



attractively priced, are readily available and most importantly are easy to buy. As a result in many markets they outsell the technically superior products offered by the top two companies in the business.

So if product development in the middle market has slowed, if not stagnated, what have all the engineers been working on? The most exciting new developments are at the smaller end of the market, and conversely at the larger and more specialised end.

## Small is beautiful

The smaller end of the electric scissor lift market has always been the most dynamic, however what constitutes small has changed over the years. At one time small was a 20ft platform height scissor lift, 820mm wide and around 2.4 metres long. By the mid 1990's 19ft, 750mm wide, 1.6metre long was considered small and the market had shifted permanently from 20ft scissors to 19ft scissors. The 19ft's are more compact, easier to transport, lighter and easy to manoeuvre.

*19ft scissors lifts are far more manoeuvrable*

A lower 15ft version of the 19 has always been available, but with no benefits in terms of price or dimensions, these units have never caught on. However there has clearly been demand for a smaller electric lift, UpRight has sold thousands of its TM12 over the years although the big appetite for this product has been limited to certain markets such as Scandinavia.



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More recently Genie has done exceptionally well compared to others with its Runabout range with 12 and 15ft platform heights, but it has hardly dented the 19ft scissor market. Haulotte has a 12ft product the Star 6 but it too has been less than a runaway success.

Enter JLG, it launches its new ES1230 at the ARA rental show this week. Will this be the machine that changes the market and takes volume away from the 19ft segment? JLG does not have a great track record when it comes to pioneering small scissor lifts but this time it might have got it just right?

We spoke to a good number of small scissor lift users and there is



Not all 19ft scissor lifts are certified for outdoor use. Genie increased its width to 820mm to achieve this.

travel easily in a 1,000kg elevator (or even a 680kg elevator if you remove the batteries,) or with a one tonne forklift.

2. Space: These units are over 300mm shorter than a 19ft scissor and so easier to store, easier to transport and easier to manoeuvre.

3. Entry height: The 12 ft mast type lifts offer a single step into the cage and can be driven through a regular door without having to leave the platform, very handy if you are passing through doorways all day.

The new JLG ES1230 will be launched officially this month.



The new JLG ES1230

no question that there is an increasing level of work at 18ft or lower well within the reach of a 12ft platform height machine.

While the European work at height rules have been in place for almost two years now, we found that many trades have still not decided on what equipment they will use in place of ladders. Many companies know that if they follow the strict interpretation of the WAHR they could be carrying out their work with safer equipment such as powered access. In the UK the HSE is now concentrating on work at lower levels and will begin to lean on companies to adopt safer equipment to carry out work.

So why buy or rent a 12 of 15ft machine when a 19ft will cover a wider range of work? The three key reasons are:

1. Weight: The 12 ft mast type machines weigh around 750kgs and



If you want all the benefits of the mast type lifts but you need a larger working platform, Custom Equipment might have what you are looking for. It has virtually



The Hybrid HB1030 should arrive on the European market fully CE approved, very shortly

completed the CE approval process for its Hybrid lift HB1030 a fully spec'd 10ft platform height self propelled scissor lift. The benefits of the Hybrid include a low platform entry height of only 500mm, a low weight of 550kgs, a 780mm overall width and yet it offers a platform that extends to 2.3 metres long and offers a 340kg platform capacity. Another unique feature are its dual front wheels which allow it to perform a static turn on carpet without scrunching it up.

### Not small enough?

For some even 12 to 15 ft electric lifts are unnecessarily high - perhaps you are looking for a low cost lightweight easy to use lift to cover work up to three metres for example, where the HSE says a large number

So will the new JLG make a difference? Possibly - its direct electric drive and low weight should allow it to be used not only as a platform for working at height, but also as a form of transport. The unit can be loaded with a tool box and other items and then used to take them and the technician around a production facility, office complex, hotel, school, museum or whatever, even when working at height is not called for. When work is higher though, a press of a button and he can reach up to 5.5 metres or so, whether it be to replace a light fitting, clean the walls or reach fire alarms.



The Pop-Up has proven to be far more successful than it originators had anticipated.

of accidents occur, if so the Pop Up might be what you are looking for?

Introduced at last year's Hire show in January, the PopUp is not self propelled, it is a push around scissor lift. With a weight of only 272kgs though, it is easy enough to handle. Once in place and the castors



The Pop-Ups arrive in packed in cardboard boxes.

are locked it works like any other scissor lift, push the button and up you go to a 1.63 metre maximum platform height covering work up to 2.6metres high. In the 12 months since its launch the product has sold exceptionally well, to the point where it has been moved into a stand alone company - PopUp Products Ltd. The PopUp is made in China and shipped in cardboard boxes to the UK with roughly 50 or so to a container.

**The other end of the scale**

In addition to developments at the smallest end of the market there have been interesting introductions at the top end of the market, both in terms of size and highly specialised niche machines. In the past 12 months Holland Lift, which nowadays counts the UK and Ireland among its top three markets, has introduced a range of heavy duty, narrow aisle electric scissor lifts with platform heights of up to 86ft/26 metres. The top of the line N265EL13 4WDS provides a working height of up to 93ft with a width of only 1,300mm, barely wider than most 26ft mini scissors! This monster lift was first seen at the end of August at Platformers Days, with the first unit sold to German rental company Gerken.

Not only does this massive machine offer a truly narrow base, but it also offers up to 750kgs of lift capacity, incorporates four wheel drive and four wheel steer - rarities on electric scissor lifts. It does though weigh a whopping 11.5 tonnes.

This new model tops out what is proving to be a very popular narrow range from Holland Lift with platform heights of 16 and 19 metres (53 and 63ft). In order to cope with increasing demand for such scissor lifts, which are used in high rise warehouses and airport type applications, Holland Lift has almost doubled the size of its production facility in Hoorn and sold the rights for the smaller end of its N - narrow electric scissor range to Haulotte. Haulotte will produce models in the 12 to 16 metre (40 - 53ft) platform height range. It has yet to start producing these units, but when it does it will produce both Haulotte versions for its company stores and

rental fleets as well as building versions for Holland Lift to sell to its growing distribution network.

**And now for something completely different...**

Staying at the larger more specialised end of the market a company called OmniMove has introduced the Triple-Lift 8000 and other models that utilise telescopic boom sections in place of a traditional scissor stack. The 8000 offers 1,000kg lift capacity and up to eight metres platform height. Other models include a unit with 4.3 metre platform height and 2,000kg lift capacity and an eight metre single mast type lift (similar to the JLG ES1230/ UpRight TM12) with 500kg lift capacity. All models use omni directional wheels similar to that used by Airtrax and MEC on the Phoenix lift. The wheels allow the lift to move sideways as well as forward and reverse and can also turn on the spot by counter rotating the wheels.



*The OmniMove 8000 offers 1,000kgs lift capacity and rigid platform*

OmniMove has already been successful in selling these highly specified units to aviation companies such as Airbus and Turkish airways, where they are used in the production, paint and service areas. They can include ATEX zone-one explosion proof certification and a number of other special application related modifications. If you think you have seen this type of lift mechanism before you may well be right, Snorkel had a product in the 1980's called the 4000 which used the same general concept and in Japan

*A 4.3 metre OmniMove working on a Turkish airways Airbus.*



*The top of the Holland lift N Electric range the 26m platform height N26EL134EDS*

rental company Niken favoured this type of lift mechanism and designed several models which it had made by subcontractors working to its designs.

The principal benefits for the users are a very strong and rigid platform, a smooth and even lifting cycle with little to no 'bounce' and an extraordinarily low platform entry height which also makes the unit ideal for passing under very low obstacles and working on low level work. The cost of these machines will prohibit them from the mainstream access market, but they should prove popular for very specialised applications such as aviation maintenance.



*The OmniMove has the lowest closed height of any lift.*

**Will there be a shortage?**

The aerial lift market continues to grow, estimates indicate that in 2006 over 100,000 new lifts were shipped for the first time and is set to grow by at least a further five percent in 2007. The growth has extended lead times significantly which is not all bad. However significant additional production capacity is now coming on stream.



*Will Aichi start to import CE versions of its scissor lifts this year?*

Tanfield has moved its UpRight production into its massive new plant in the UK and the brand is making a solid comeback in Europe. Snorkel has opened up a new scissor lift plant in Kansas, Haulotte is opening two new plants in the first half, neither of which is targeted at small scissors, but which could



*Snorkel has opened a new scissor lift facility to keep pace with growing demand*

have a knock on effect. JLG has reorganised its plant in Tonneins, France and says that it has the potential to build a significant number of the new ES1230 in addition to its Toucan products, Genie will start to build lifts in Italy and Holland Lift has more than doubled its production capacity. So it looks as though the industry will at least keep pace with electric scissor lift demand this year.

**Checking out the Motorbike museum**

When ES Electrical was called to carry out the annual inspection for public liability insurance at the National Motorcycle museum in Birmingham this year it called AFI and rented a Haulotte Star 6 for the job. The job involves the inspection of cables and fittings many of which are located above the false ceilings. This test is particularly sensitive for the home of the world's largest





A Haulotte Star 6 carries out the annual insurance inspection at the Motorbike museum.

motorbike collection, given that it was devastated by a fire in 2003 which destroyed over 75 percent of the building. The museum was founded in 1984 by Roy Richards of Richards and Wallington crane fame.

### Casino moves from ladders to lifts

The Platform Company has supplied London casino - Palm Beach, with a 12ft Genie Runabout GR12 to help staff with maintenance work. The lift replaces step ladders which have been used until now. The work includes electrical maintenance, and cleaning and setting of CCTV camera and vent grills.



Palm Beach casino moved from ladders to lifts

"The GR12 was the perfect solution, not only to meet new working at height regulations but also to boost productivity," said Lee Perry, sales director for The Platform Company. Palm Beach casino has high ceilings and access was needed above fixed gaming machines and tables. The GR12's working height is 5.5 metres and its extendable deck helps gain access over obstacles. At 750mm wide and 1.57 metres high it passes easily through doors and takes up relatively little storage space."

Liz Styan head of commercial operations at the casino, adds: "We have just replaced all of our transformer lights and the GR12 made speedy work of this task. The process was simple, safer and there was no clearing up to do afterwards, as the Genie's non-marking tyres left the casino's cream carpets in pristine condition."

### Supermarket refurb

Given the competitiveness between supermarket chains, the refurbishment of retail space is now a regular occurrence and one that demands speed and minimal disruption. A good example of the approach that contractors now take is the refurbishment of two Waitrose stores in Edinburgh. The electrical contractor, T Clarke Midlands, rented 20 small electric scissor lifts from AFI for the job, along with a number of small boom lifts. Most of the scissor lifts used were 19 ft Skyjack 3219 units, ideal for the job given their size, and manoeuvrability. This might though have also been a good application for 12ft mast type self propelled lifts.

# How safe are your electrics?

With an increasing number of small electric scissor lifts fitted with AC power to the platform as standard equipment and more users looking to use it, some companies are taking steps to make sure that they comply fully with current legislation and guidelines. Hewden Instant Access claims it is the first national company to adopt a systematic testing regime. It has implemented a 100 percent test on all electric lifts as part of its Pre Delivery Inspection prior to each rental contract. It is using Seaward PAC 1500xi test units to check the 110 volt cable to platform and battery charger lead. The inspections check for proper earthing, cable insulation and polarity, none of which can be properly checked with a visual inspection alone.

## So what are the regulations?

In the UK electrical safety is covered by a number of Regulations:

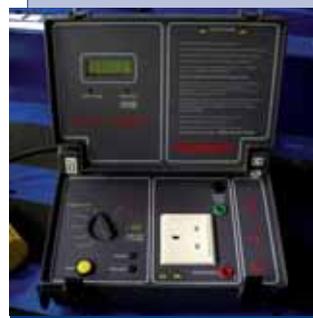
- The Health and Safety at Work Act 1974
- The Management of Health and Safety at Work Regulations 1999
- The Provision and Use of Work Equipment Regulations 1998
- The Electricity at Work Regulations 1989

The Provision and Use of Work Equipment Regulations 1998 (PUWER) requires every employer to ensure that equipment is inspected as necessary to ensure it is maintained in a safe condition.

The Electricity at Work Regulations 1989 state that all electrical systems and equipment shall be maintained so as to prevent, as far as reasonably practicable, any danger. The Regulations state that it shall be a defence if it can be proved that all reasonable steps were taken and all due diligence was exercised to avoid an offence under the regulations.

The IEE Code of Practice for In-Service Inspection and Testing of Electrical Equipment recommends a regime of inspection and testing as a means of demonstrating due diligence.

Although there is no requirement in the Electricity at Work Regulations 1989 to keep records of inspections and tests, the Health and Safety Executive Memorandum of Guidance on these Regulations advises that records of maintenance, including tests should be kept throughout the working life of equipment.



The Seaward PAC1500xi test unit

Paul Hemsworth of Hewden checks out a batch of Genie Scissor lifts.

