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**ZHEJIANG DINGLI MACHINERY CO.,LTD.**

Add: No.1255 Baiyun South Road, Leidian Town, Deqing Zhejiang

Tel:+86-572-8681688 8681689 Fax:+86-572-8681690

E-mail:market@cndingli.com

export@cndingli.com

[www.cndingli.com](http://www.cndingli.com)





# Worth the risk?

The industrial sector has always had its fair share of working at height challenges and over the year's there have been many ingenious solutions. Over the last few decades powered access has been an increasingly popular option making the task quicker, safer and in many cases less expensive. However, industrial powered access has for many reasons remained a market that has been difficult for manufacturers and even rental companies to penetrate. Therefore the take-up of powered access in this sector is still relatively low.

The problem appears to stem from the fact that in many manufacturing companies much of the work at height is either partially or completely unplanned. It might be something as simple as a failed light bulb, a jammed hoist line on an overhead crane or a component that is just too high to reach from the ground. Historically if the job is likely to be short and simple and needs to be done now, it is all too easy to make do with a 'death wish' solution such as a pallet on the fork lift or a 'Heath Robinson' lashed together affair. Use this method once or twice and it soon becomes the accepted solution - that is until something goes wrong and then the ramifications can kill an otherwise healthy business - not to mention its employees. The relatively recent introduction of corporate manslaughter charges and heavy fines for company directors mean that pressure is slowly being applied to companies to 'do it right'.

## But is it that simple?

It should be relatively easy to find a powered access supplier, but then they will, or should ask what type of lift is required, how high do you need it, what is the outreach, what power source, is it for indoor or outdoor use, what are the ground conditions/loading etc? For a company that has not considered any or all of these it can be quite daunting, especially if you are in a hurry to get the job done and production running again.

That's why these things are better planned. Once you have established the right equipment for the job, you will want to shop around to check you have the best price and make sure you are not being ripped-off as the 'expert' on the other end of the phone realises that you haven't got a clue! Once you have decided on a rental company and type of equipment, you will of course have to open an account, pay a hefty delivery charge and almost a weekly rate when all you wanted to do was change a light bulb!



Snorkel lifts help improve productivity at the UK's largest coachbuilder Plaxton



C&a industrial access

That forklift and pallet suddenly looks like a fantastically simple, immediate and cheap alternative. Sadly this is not the end of it as once the job is done working at height is forgotten until the next time when the call is unlikely to be made at all.

While this scenario is certainly a classic one, challenges like this are not always the case. Surprisingly we have been sent dozens of examples where a company resorts to the makeshift solution when they are virtually next door to a powered access rental company - many of whom would gladly loan a machine to their neighbour for an hour or two - and would certainly walk over and advise for free; yet those in charge still chose to make do and risk everything.

## Worth the risk?

And risk is the operative word. In the UK in the past year alone there have been several prosecutions involving the death and serious injury of employees which have resulted in stiff fines. But fines and costs are only the half of it. Morale can be crippled for months afterwards, those that suffer the worst incidents struggle for months

to fully recover after production restarts following the almost inevitable suspension during investigations. Add to this the damage to the company's reputation and the ongoing distraction for senior managers over several years or more of the prosecution process and it is no wonder that so many smaller companies end up failing after such an incident.



A Manitou 120SE



Then there are those that think that by subcontracting all such repair or maintenance work they need not concern themselves with work at height issues any more. If this is you then think again! Just take a closer look at some of those recent prosecutions. Invariably the main contractor or company that employed the subcontractor is also standing in the dock, so the notion that you can just let subcontractors get on with it is totally false.



*The Nationwide Platforms scissors have a board handling attachment*

This 'we have subcontracted the responsibility' notion is very widespread, even among local government which should know better and is usually responsible for local health and safety. The number of times our subscription department is called by the secretary of a new street maintenance or facilities manager - yes they all seem to have assistants - asking to cancel the magazine as the person it goes to has left - then when questioned about changing it to the new person are told "We don't need it because we subcontract all the maintenance etc..." bears out this fact. Ignorance is bliss - until there is an accident and then innocence is lost in the flash of an eye.

### Work at height audit

So how should you deal with this area of responsibility? We would recommend carrying out a work at height audit by going around your facility and looking for any areas that need some form of access equipment - no matter how unlikely. The secret is to consider how you would deal with reaching anything that might need fixing, repairing or cleaning etc. The next step is to locate one or two local suppliers

and call each of them asking them to come in and give you some advice. Don't take everything they say as gospel, but do listen and compare and don't forget to ask how quickly they can react in an emergency.

Clearly if you have a neighbour who is in the access business this will usually be your best bet. Getting acquainted with the types of equipment available is also very useful, so take a look at some trade magazines - such as *Cranes & Access* - or use the internet and once you feel comfortable with what you might need get some guide prices and decide which supplier you liked best. Then when you do need to work at height give them a call and organise the equipment. Take the opportunity when you have the access equipment on site to carry out any high level inspection work or cleaning, you'll be surprised at how much work at height you do have and how quick, safe and efficient it can be if you have the right equipment for the job.

### Rental options

Many companies find that after carrying out such an audit they would benefit from having a work platform on site all the time. If this is the case and purchasing the equipment is not a viable option, then there are several rental alternatives, ranging from contract hire to leasing or hire purchase. Contract hire can be a good option as it usually includes all routine maintenance, repairs, call outs and the relevant six monthly LOLER inspections. However, one thing that should be carried out regardless is to have a few of your staff trained to operate the equipment. The IPAF PAL card is the industry standard and with thousands of training centres you are likely to find one close by - certainly in most European countries. The PAL card



*JLG Toucan 10E*



*JLG LiftPod*

lasts five years and the course and test takes just a day and can even be carried out on your premises. If you want to have several staff trained this is a good idea.

### So what sort of equipment is available?

One type of platform that has transformed working at lower levels over the past six years or so is the push-around platform, led by the Pop-Up - the original low-level push-around scissor lift. These units are small, lightweight and offer platform heights up to three metres, with a working height of up to five

metres. They are simple in design and easy to use, giving a safe, quick and easy method of access that would have traditionally been carried out using a step ladder or podium steps. Whether the mechanism used is a scissor, a mast or articulated sigma lift (such as the Power Tower) they all do the same thing, providing a vertical lift with a small mount or no outreach. Weighing around 350kg they are easy to manoeuvre and compact enough to travel in passenger elevators. Most push-around platform makes



*Pop Up Push8*



*Power Tower NanoSP*





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have also generated self-propelled versions, with all the same features but able to move between work points rather than repeated down, push and up movements.

### Micro compact

One new machine that has just started shipping and is ideally suited to industrial access work is the Skyjack SJ16, a self propelled 16ft platform height unit which provides a working height of almost seven metres from a footprint of just 1.37 metres by 760mm. 12ft versions of this mast lift have been around since the mid-1990s and are highly popular in Japan, but they are frequently slightly too low to reach all of the work in many industrial buildings. The Skyjack also features 400mm outreach thanks to its traversing platform. The SJ16 was first unveiled more than three and a half years ago and has taken a long time to come to market, however its design has been refined along the way and also benefited from field experience from its little 12ft sister model.

The compact nature of the machine means that when not in use it takes up little space and can easily be driven into offices or taken to upper floors in most elevators with its overall weight of 966kg.

Should higher elevations be required, there are a number of other push-around lifts, such as the Genie AWP aerial work platforms with working heights from 8.12 to 14.29 metres, Haulotte Quick-Up, Faraones PK and Snorkel PAM lifts - all with platform heights of more than 12 metres. Remember

though that the larger units do require outriggers which can take up a fair bit of space when in use and mean that they are not ideal for working close to a wall.

### Indoor or out?

While the Skyjack SJ16 is ideal for most production facilities or industrial units it is not designed to meet European outdoor use regulations. If you do have a need to work at height outdoors, don't automatically jump to a product that will do both at least not if you are making a long term commitment. It may be that the outdoor requirements are infrequent enough to rent a specific machine for that work without compromising the machine used for the majority of working at height indoors.

Several manufacturers now build scissor lifts and mast booms designed for both ultra compact indoor use as well as coping with outdoor applications. Some are simply wider and heavier to handle the wind loadings that CE certification requires, while others also include larger wheels to handle poor ground conditions such as gravel. A good example of this is Californian-based lift manufacturer MEC's Crossover scissor lift range. It is something of a hybrid falling between a compact narrow indoor machine and an electric powered Rough Terrain scissor. It can also be ordered with an offset platform - and most buyers are opting for this feature. On one side of the lift the platform extends as far as the edge of the chassis, making it easy to get the platform close to a wall. On the other side it is inboard but incorporates a panel rack for standard 8ft sheets of material such as ply-board etc.

If such options are not for you but a slightly larger Rough Terrain electric indoor/outdoor scissor lift is, then Genie's recently launched GS2669,



MEC Crossover with panel rack



Dingli JCPT 3.0



Genie GS2669

3369 and 4069DC models will appeal. With their 680kg, 454kg and 363kg platform capacities, large off-road type tyres and optional levelling jacks, the platforms feature the well-proven AC direct electric drive system used in the company's industrial boom lift models ensuring operational speeds that match the diesel equivalent and also great battery life, even when travelling significant distances. All units can drive at full height and if used indoors it is worthwhile specifying, the grey non-marking tyre option.

### 14 compact metres

Genie has also joined the market for 40ft/14 metre working height compact electric scissor lifts with its GS4047. This category - which also has products from Iteco, Haulotte, Holland Lift Ecostar, H.A.B and more recently Dingli - is essentially a stretched 26/32ft - 1.2 metre wide, 2.5 metre long battery electric mini scissor. The advantage is that they tend to share smaller



The electric Haulotte Compact 3947E



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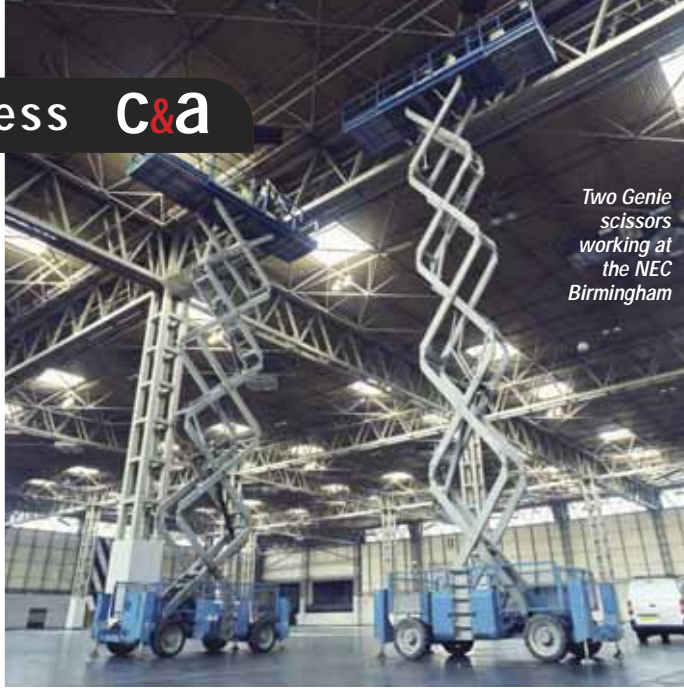


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Holland Lift Monostar working outdoors



Two Genie scissors working at the NEC Birmingham



Dingli JCPT 0807DC



HAB S142-12



Genie GS4047

cousins, making them both compact and less expensive than the full capacity 1.2 wide giants from the likes of Holland Lift, H.A.B and PB. And while 14 metres may not sound so high, it is in fact too high for most regular industrial units. You are always better off specifying the right height unit unless of course you really need the full 14 metres... A half extended scissor lift is not as rigid as when fully extended, the entry height is greater and there is usually a platform capacity trade off not to mention higher price tag.

The biggest 1.2 wide scissors now top 86ft platform heights - offering 28 metre working heights - but they are long and heavy and designed with high warehouse racking installation in mind and are not necessarily the best machine for industrial maintenance work.

While these large scissor lifts are excellent for specific facilities that need the height and or the capacity. Most industrial units will cover most applications with an ultra-compact model with working heights from 4.5 to eight metres. And you might be surprised to learn, there has never been as much choice on the market in terms of producers, product types and models.

The most recent to arrive on the Western scene is Dingli from China. The company already has dealers appointed in North America, Benelux, Australia, Denmark, Turkey and most recently the UK and Ireland where Leach Lewis is handling the line. While Dingli produces a full range of aerial lifts it is currently focusing its export efforts on self-propelled scissor lifts and push-around lifts - all of which are well suited to industrial

applications. The company has made substantial progress over the past two years in terms of design and build quality. However as an unknown brand it knows that one of its attractions, at least in the early days has to be price. And sure enough you can purchase a Dingli for substantially less than similar machines from the established 'players'. However if you do not plan to keep it for more than a few years, you can expect to achieve a substantially lower resale value when you come to sell. For many industrial applications where usage is light and equipment tends to be well cared for, this may not be an issue and over the longer term this is likely to change as the users gain long-term experience of the product and the manufacturer.

#### Little budget ?

If you are just looking for something small and really inexpensive - cheap in fact - you could do worse than look out for the hundreds of used ex-rental low level lifts - such as Pop-Ups - now coming on the market from rental companies like Speedy Hire. £500 can buy you a functional, if well-used scissor lift and it may just be what you need to get you started and to gain experience of having a powered lift on hand all the time. As mentioned earlier, the push around scissors are very simple to operate and maintain and as long as the height is sufficient can be an ideal work at height tool for a small industrial unit. Other low level options - which may be more reliable than an old Pop-Up - include platforms powered by air, power drills or by hand.

Russon Access' Power Scissor is a hand powered push around scissor

lift which does not require batteries, hydraulics or an external power source and is CE approved for both indoor and outdoor use. Weighing less than 300kg it offers a platform height of three metres and is controlled by a simple hand crank - although there is the added option of using a cordless power drill for the elevation and descent. While many scoffed at the idea of a 'powerless' Power Scissor, the product has been taken up by Speedy Hire in the UK, and is finding a growing market because of its simplicity - i.e. lack of maintenance - and lack of electric/electronics. This product can be of particular interest for oil refineries and petrochemical companies as it can work within confined and hazardous zones and eliminates the need for purchasing an electric explosion proof protection systems.

A similar but totally different product which may be worth considering is JLG's compact FS60 and FS80 Lift Pod personal portable lifts - which have a platform height of 1.72 and 2.35 metres respectively. Set on wheels for quick manoeuvrability the lift is modular, can be carried on the back of a car and assembled in less than 30 seconds. It offers a quick and easy platform for working at height. The units are operated with either a power





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Haulotte Star10

pack or with a cordless power drill. Both weigh as little as 80kg but offer a respectable platform capacity of 150kg.

Alternatively UK-based Platform Sales & Hire has introduced its new Airlift 35, an air powered aerial work platform fitted on a Genie DPL push around double mast lift. The machine has the capability to take two men and



ATN Piaf 1100 launched at Intermat



Niftylift HR28 the world's highest battery electric boom lift

their equipment up to a working height of approximately 13 metres - powered by air. In addition to the pneumatic drive system, all control valves and interlock switches are also air powered. This product might also be of interest in hazardous zones and also eliminates the need for purchasing an electric explosion proof protection systems.

**Mast booms**

The mast boom - a vertical telescopic mast that can slew and is topped by a jib that supports the platform - is ideal when working in confined spaces thanks to its exceptionally compact dimensions. The mast provides height and slewing capability of a minimum of 180 degrees while the jib/boom provides variable outreach.

Mast booms, while used for light construction duties, were originally intended primarily for industrial and institutional type maintenance work. As such they are ultra compact and tend to look good when stowed so that they can stand in the corner of a retail environment without looking out of place if necessary.

French manufacturer ATN has recently launched a higher version of its eight to 10 metre working height Piaf range - the Piaf 1100. Due out this summer it features a longer jib to achieve the greater height as well as providing more outreach.

**Big Hybrid boom**

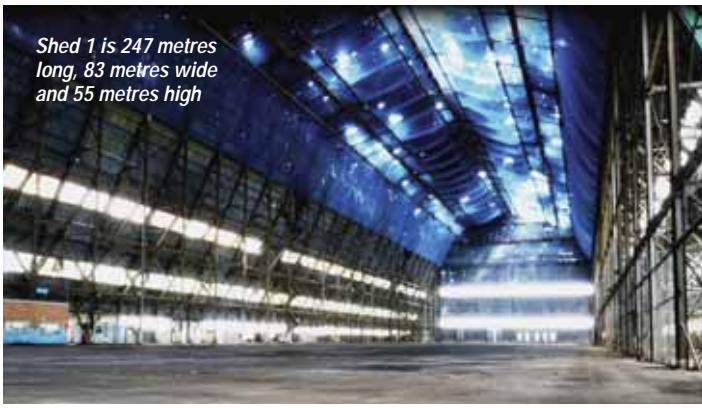
For bigger industrial facilities the UK's leading aerial lift manufacturer Niftylift recently unveiled the world's highest battery electric boom lift - the HR28 4x4. With a platform height of 86ft - it offers a working height of 28 metres in a relatively compact and efficient package. Its 4x4 drive is standard and the Hybrid drive system not only reduces energy consumption in diesel mode - without sacrificing power, but can operate as a pure battery electric model with the ability to quickly charge its own batteries via its engine if required. Scheduled for production in 2013, this new lift will be ideal for high level facilities such as aircraft hangers etc (see Cardington Airship Hangers) as well as working in large steelworks and other large scale facilities.

# Working in an airship hanger

Work started last month on one of the Cardington Airship Hangers three miles south of Bedford in the UK. The two hangers (Shed 1 and Shed 2) are the largest structures of their kind in Western Europe and large enough to house two football stadiums. Shed 1 is 247 metres long, 83 metres wide and 55 metres high. The floor area is five acres (20,000 square metres) and the total volume of the building is 760,000 cubic metres. Each door weighs 470 tonnes.







Shed 1 is 247 metres long, 83 metres wide and 55 metres high

Shed 1 is currently being updated in an 18 month, £5 million refurbishment but it is available for lease and is currently being used for a variety of purposes which includes balloon maintenance and testing and music rehearsals. Working on the roof area could only be carried out with the very largest forms of powered access. So several large truck mounted platforms are currently working inside helping with the refurbishment work to the steel structure including high level cleaning and painting.

Truck mounts on site include several 58 metre and an 84 metre Ruthmann, along with a new 70 metre Bronto. The units are supplied by AA Access and Nationwide Platforms, with one of the 84 metre Ruthmann coming from Nationwide's sister company in Germany - Gardemann. All units are wrapped to protect them from the paint and materials being used. Once the steelwork has been completed attention turns to the cladding.

### The history

The first of the two hangars (Shed 1) was built in 1915 by the Short Brothers and was large enough to build two rigid airships (the R-31 and R-32) becoming the most important airship development site in Britain. By 1917 an estimated 800 people worked there. Two years later the airship site was nationalised and became known as the Royal Airship Works. Shed 2 was 'moved' to the

site from Norfolk in 1928 but, when the famous R101 airship crashed on its way to India in 1930, the British airship industry collapsed and Cardington became a storage station.

In 1936, the hangars were used to build barrage balloons which went on to play a major role in the Second World War and Cardington became the RAF Balloon Training Unit. However the sheds only remained part of RAF Cardington until the late 1940's when they were put to a variety of uses including as hydrogen production, producing all gasses used by the RAF right up until 2000. One of the sheds was also used for the destruction and subsequent testing of multi-storey buildings.

Shed 2 has been leased to Warner Bros and was used recently to make the film Inception which won four Oscars. It is currently being used for a new Batman film with most of the outdoor scenes in Gotham City filmed inside the hangar itself. It is thought that the hangar holds the world record for the largest 'building within a building'. However, it is not just modern films that have been made there, some of the scenes for Chitty Chitty Bang Bang were filmed in 1968. The site has also been used for rehearsals by U2, Rod Stewart, Paul McCartney, AC/DC and Take That as well as television productions such as Top Gear and Red Dwarf.



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P.O. BOX 63 - 15076 OVADA (AL) ITALY  
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E-mail: mktg@ormigspa.com - sales@ormigspa.com  
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