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Access all areas

With the summer and holiday season rapidly approaching, most companies that have scheduled maintenance shut-downs are probably well into the planning stages. These facility closures can be for annual maintenance and repair work or the reformatting of production lines including the installation of new machinery. While an increasing number of companies plan well in advance for their main lifting and access requirements, a good number will still leave sourcing the smaller 'run of the mill' equipment until the last minute. Some do not have a shut-down period as such, trying instead to carry out repairs and maintenance in smaller stages at weekends or during quieter 'holiday' periods throughout the year such as Christmas and New Year or increasingly - thanks to the latest access equipment - during normal working hours.

Access equipment in particular is an item that is generally not well planned in advance. Many companies leave it to their contractors to provide equipment, perhaps use whatever they already have on site or carry out the work as it did in previous years. This can however lead to problems or inefficiencies. Equipment on site might not be suitable for the more intense work carried out during a shutdown. For the most part it is probably safe enough for the job at hand, but might not be the most efficient - a critical factor given the limited time available. And with margins becoming increasingly tight, obtaining the best equipment for the task may well lead to an improvement in productivity, finishing the job both with increased safety and greater speed allowing the facility to restart perhaps quicker than planned or at the very least taking pressure off of other tasks.



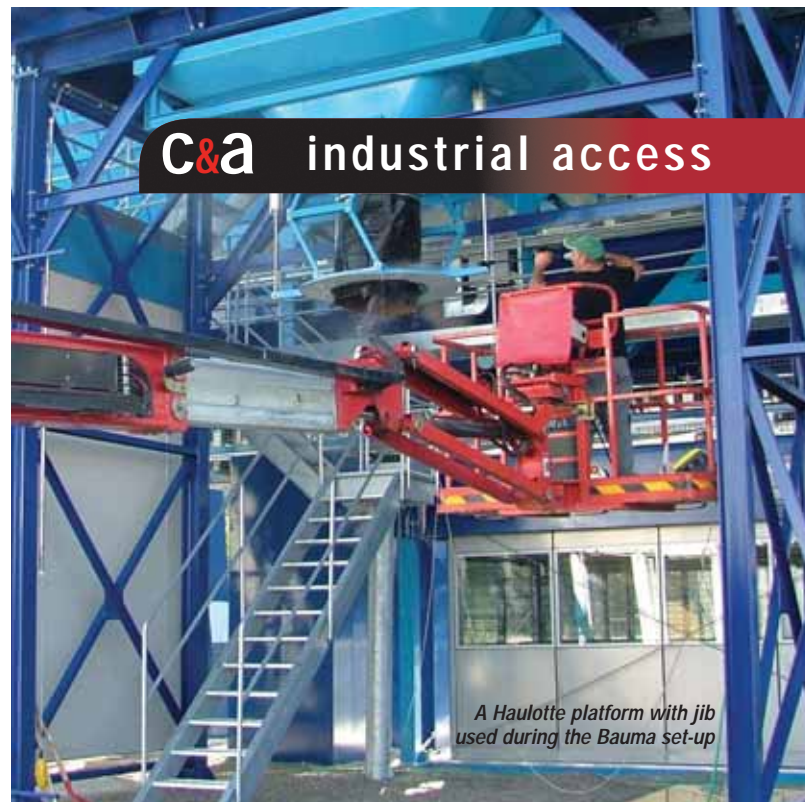
A Genie Z45-25DC electric articulated boom

As to leaving it to the contractor or sub-contractor to provide its own gear, this is fine as long as the equipment is safe and the 'best for the job'. It should also not affect other trades or work, due to the space it needs or time required to erect and dismantle. Remember, it is the property owner who is liable for accidents on his site and he has a duty of care to ensure that contractors or sub-contractors follow a safe method of working.

Insisting on the best equipment for the job is a tricky one in that contractors will tend to use what they already have. With the advances in the types of equipment over the past few years it may be worthwhile checking exactly how the contractor intends to carry out the work. Hiring or buying the very latest equipment could make an enormous difference to the overall speed of the job - something contractors might not find to their benefit.....

The 'right' equipment

The type of access equipment you eventually use will of course depend on several clear criteria - how high you need to go, access to the site, how close you can get, what sort of ground pressures the floor can take and how much space you have to set up and use the equipment. The fact is that when it comes to access equipment working in industrial-type



C&a industrial access

A Haulotte platform with jib used during the Bauma set-up



A scissor with extendible platform



A useful feature is the rotating jib allowing better access

situations, there is an incredible amount of choice. So much so that it is quite possible that your local supplier - whether a hire or sales company - may either not be aware of, or not stock the best product for you job. Yet the right piece of equipment could really make your life a whole lot easier. Starting with how high you have to go, it is worth looking at how much work you have to do at each height. It may be more economical to rent two or more pieces of equipment rather than order a machine that can reach everything. There is also no point considering small slab scissor lifts if most of your work is above 20 metres. However if it is a narrow scissor lift you want, for whatever reason, there are products now available that are just 1.2 metres wide and yet go up to almost 28 metres and feature a long deck and high platform capacity. However you may have to shop around to find one that is available, this is another



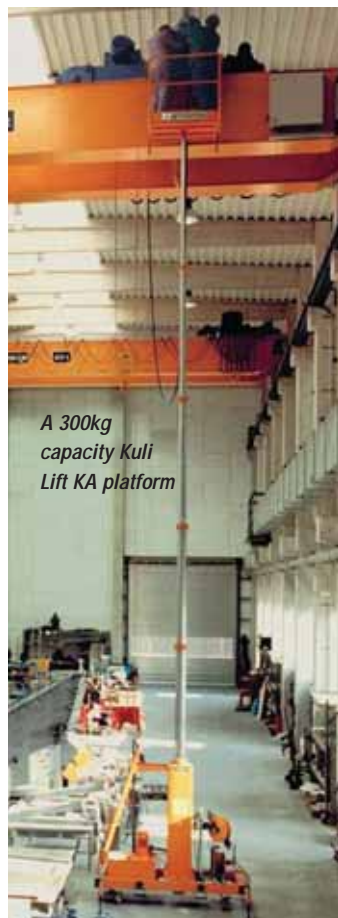
Checking cabling at a chemical plant using a mast boom

industrial access C&a

reason why it is worth starting the planning process as early as possible.

Bear in mind that which ever machine/s you use, it has to be able to reach the work area. Does it have to travel in a lift, up stairs or be hoisted into position? Does it have to negotiate narrow corridors or move around and in between equipment? Some equipment is more manoeuvrable than others - tracked spider lifts for example are very narrow and compact in transport mode and are able to find a way to most working positions including climbing stairs. The problem however is the outrigger spread which might be too wide for working location.

Another important consideration is the floor loading. Computer or suspended flooring in particular can cause even small scissor lifts a problem, however there are now several lightweight self propelled scissor type platforms that can work quite happily on these floors and are compact enough to travel in even the smallest of passenger lifts to reach upper floors. It is the floor surface that is at risk, rather than its bearing capacity, again there are a wide range of products that can protect the floor and spread the point loadings.



A 300kg capacity Kuli Lift KA platform



JLG Toucan 10E

Another consideration is how close can you get to the job? If you cannot get right alongside or underneath, then a scissor lift is unlikely to be the right tool for you. The problem with standing off and using a boom lift is that the further away you are, the bigger the machine required to reach it. And if you also need a big capacity and lift capacity the base machine gets bigger again. In cases where there are obstructions a mast boom or small articulated boom might be able to get in closer and their 'up and over' reach facility could make all the difference.

But, by necessity, these machines tend to be bigger and heavier, which brings us back to floor point loadings as well as the space available to get the machine into position and have a clear working envelope (particularly if



Haulotte HA12 with rotating jib

the maintenance work is on an upper floor and involves stairs, lifts etc). Over the past year or so there have been an increasing number of electric powered articulated platforms introduced with working heights up to 21 metres.

Power options

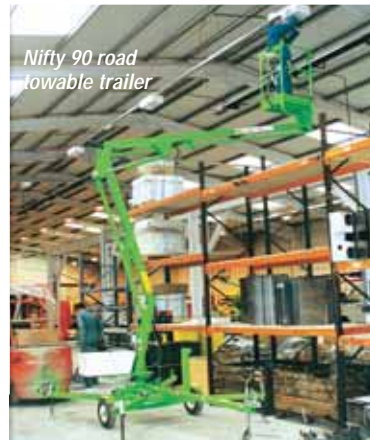
If working indoors consideration has to be given to the equipment's power options. More and more platforms are now available with either bi-energy or battery electric, providing an emission free environment for those carrying out the work and those inhabiting the



Genie GR26J mast boom



Bravi Leonardo working in London



Nifty 90 road towable trailer



Youngman Boss X3 small enough for a lift

building. In many manufacturing and production facilities (food for example) non-polluting equipment i.e. electric is all that is allowed and even then the type of batteries the machine uses may be a consideration with gel or other sealed type batteries required. Where there is risk of a spark and explosion, equipment has to be chosen accordingly and thankfully there are now a number of machines on the market that have been modified



Faraone PK 50 S



A Nifty HR12 on a wiring contract at Brighton train station

to cope with ATEX explosion proof' standards.

The strides that have been made in lithium ion battery development over the past year or so are now being seen in the powered access sector with several spider lift manufacturers - lead by market-leader Hinowa - producing lithium ion powered machines that can work for a full day on battery power, eliminating the need for trailing cables. However, as soon as the machine is in its set-up position it is possible to run them on mains electric if desired, which means batteries are constantly being replenished.



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SUMNER

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Spider platforms can access the tightest of areas



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A lightweight Custom scissor



Skyjack 4632 scissor

For those companies that don't want or can't cope with machines that require a source of electricity and who don't want or can't have diesel, petrol or LPG powered equipment on site, there is even the Power Scissor which gives up to six metres of working height and a good sized platform without the need for external power sources. In spite of its name it achieves its lift through purely mechanical means or with a cordless drill - and therefore requires very little maintenance and is achieving significant success for that very reason.

If you are really stuck?

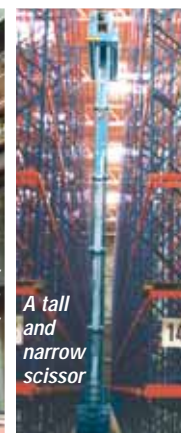
If it is possible to get underneath or alongside the work to be done, but space is too limited for a 'regular' platform, don't despair! There are some amazing products out there, either using alloy tower components or even vertical powered platforms. Companies such as Genie, Faraone, Snorkel, Kempkes (Kuli lifts) and others all produce specialist units that could be exactly what you want. If you cannot find the exact machine for rent it might be worth considering a lease assuming that you can use such a product on a regular basis. If it is a 'one off' the benefits could be such that it is worth buying it and then reselling after the work is completed. With more awareness in safely working at height manufacturers are constantly adding new products and tweaking older ones. Just make sure you are using the very best equipment to complete the job as quickly and as safely as possible.



Sometimes the only way in is being lifted by a crane



A spider working internally



A tall and narrow scissor



Snorkel A38E

But which platform to choose?

With so many different types of access equipment available, we thought that our end-user readers might benefit from a straight-forward guide to the key platforms that can be used for industrial maintenance and repair.

Mast booms

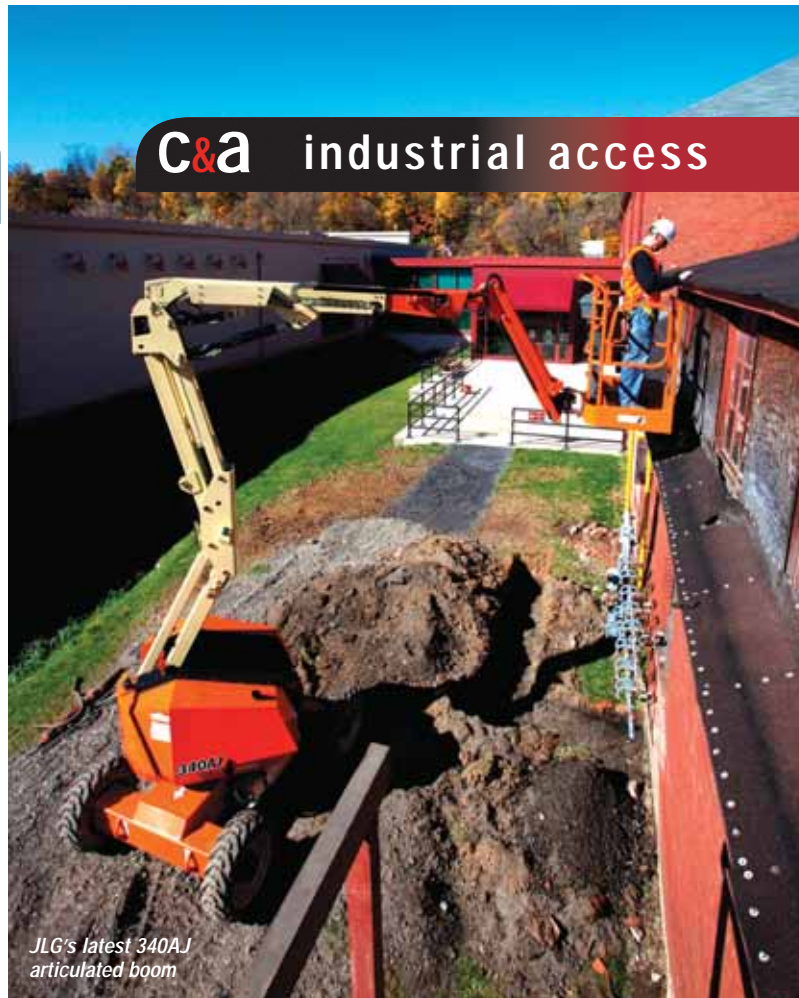
The mast boom - a vertical telescopic mast topped by a jib that supports the platform - is ideal when working in confined spaces thanks to its exceptionally compact dimensions. The mast provides height, slewing capability of a minimum of 180 degrees while the jib/boom provides variable outreach. Many people refer to mast booms as Toucans a brand made famous by the French company that promoted the concept - Delta and later Grove Manlift. Today the Toucan brand and product line up is owned by JLG.

The main benefits of a mast boom are working height up to 13 metres - although the vast majority are 10 metre models - 'up and over' capabilities up to about eight metres, outreach generally more than three metres but can run to more than five metres, a decent sized platform - generally about 900 x 750mm - with at least 200kg capacity and compact dimensions - usually 2.5 metres long by just under a metre wide and two metres high. Most weigh less than three tonnes (although the largest models with greater outreach are more than five tonnes) making transport easier.

While this is still a relatively rare product outside of France, there are now a good number of producers, including ATN, Manitou and Haulotte as well as JLG, Snorkel, Genie and Lift-a-Loft. While most models have a very similar specification, one area that might differentiate is the drive train. Some companies use full traction fork lift-type batteries with automatic top up system and while others use regular large lead acid batteries. One provides more



The mast boom's jib and slewing capability makes it ideal in confined spaces



JLG's latest 340AJ articulated boom

power but is more expensive to replace if damaged so if there is a chance of abuse the regular batteries might be best. Also check for direct electric drive, which will provide longer battery life with excellent gradeability and braking. Turning radius is another area where there are marked differences - critical when working in confined areas.

boom something has to give, 'up and over' capability is limited to around four to five metres and they are much heavier - up to seven tonnes. In the transport position they are also a good deal longer, often more than five metres. On the plus side though platform capacity is also higher at up to 250kg.

If you are looking to use the platform outdoors check if the machine has an outdoor rating and the ground clearance to cope with ground that is not perfectly flat. Some units do have active pot-hole protection which helps. Check for trade-offs for working outside, such as one man or lower capacity.

Ultra narrow aisle electric booms

An alternative to the larger mast booms are the narrow aisle articulated electric boom from manufacturers such as JLG, Genie, Manitou, Haulotte and Iteco. These 'wheeled dustbins' as they are sometimes referred to have similar specifications such as working height - up to around 12 metres - width and height but the main advantage of the narrow aisle boom is its greater outreach - up to seven metres - compared to mast booms. To achieve this within the similarly compact working dimensions of the mast



A Manitou 120AETJ compact 'wheeled dustbin'

Compact articulated booms

Compact articulated booms with working heights of between 12 and 13 metres are a good compromise for a great deal of shut down and industrial maintenance work. They are almost as light as the mast booms at between three and 3.5 tonnes, are only 1.5 metres wide, have electric or bi-energy power and are as at home working indoors as outdoors. Some, such as the market leader Niftylift also offer 4x4 versions making them very versatile machines. Niftylift and Snorkel lead this market, while Haulotte, Airo, Manitou and Matilsa have products that fit into this category directly while Genie and JLG have products that are a little larger.



Tall narrow scissiors are now available from several rental companies

more than 18 tonnes! However it is a rock solid machine and while battery powered offers four wheel drive and four wheel steer options - the latter being a handy aid to manoeuvring what is a very long machine at 5.6 metres. A benefit of this length is an extended platform length of 7.4 metres. Other prominent players in this field include German-based H.A.B and PB Liftechnik and JLG Liftlux.

At the smaller end of this sector are a growing number of 14 metre working height/ 40ft platform height scissor lifts that are very similar dimensionally and running gear wise as the regular mini scissiors with platform heights of between 20 and 32ft. Products in this sector are offered by Haulotte, Iteco and Holland Lift with its new 14 metre Ecostar.

And the not so narrow...



Holland Lift's huge 34m working height G320DL30

If you are looking for the maximum height from an electric scissor lift then the recently launched Holland Lift Megastar G-320DL30 4WDS/N with a platform height of 105ft and working height of 33.7 metres, yet features a 1,000kg platform capacity on its 9.66 metre long extended deck, should fit the bill.

Transport dimensions are seven metres long by just under three metres wide and weighing a whopping 32 tonnes.

Low level access Push arounds

This sector is basically divided by drive - push around or self-propelled. In just five years the push around scissor lift product has gone from zero to hero, offering a wide range of products with working heights to about five metres. There are now so many manufacturers in this sector that obtaining product isn't an issue. Simple in design and

to use, the push-around gives a safe, quick method of access that would historically have been carried out using a step ladder or podium steps. Most use a scissor type lift mechanism but even if using a mast or articulated sigma lift such as the Power Tower they still afford basic 'up and down' access with little to no outreach. Typically weighing around 350kg they are easy to push around, small enough to manoeuvre into position, compact enough to travel in office elevators and can easily carry one man and a tool kit in the platform. Almost a replacement for the ladder, these allow extended work to be carried out and unlike a ladder you can use both hands safely for the job.

For higher elevations the original forms of push around or 'portable' lifts such as Genie's AWP range, JLG's access Master and Lift Pod, Haulotte's Quick-Up, Faraone's PK and Snorkel PAM lifts offer platform heights of up to more than 12 metres - the larger units do though require outriggers which take up a fair bit of space.



A rail mounted articulated boom



Push arounds offer working heights to about five metres

Heavy duty narrow scissiors

For some types of maintenance/ refurbishment there may be a need for a narrow machine with large deck with good lift capacity and yet very high working height - all factors that contradict each other. However there is now a reasonable and growing selection of products that fit into this specialist category. Holland Lift is the leader in this sector with 1.2 to 1.3 metre wide models topped out by the 28 metre working height/86ft platform height Combistar N265 that boasts a massive 750kg lift capacity in spite of its narrow overall width. There is a trade-off of course - it weighs

Also in this category is the manually operated Power Scissor - with three or four metre platform heights. The lifts weigh less than 300kg and have no built-in power source. Unusual for a push around lift unit is it is approved for outdoor use, thanks to its short swing-out stabilisers, which are also handy for levelling. The lift will easily pass through a single door and offers a 600mm x 1,260mm platform. As well as the usual applications, the unit will appeal to users where the possibility of an electrical spark or contamination by hydraulic fluid are serious concerns.

Self propelled

All the above features apply to the self propelled machines except - of course - there is no need to lower the platform, get out, push the machine to the next work point, get back in and raise the platform again and again. Something that users clearly get frustrated with given the temptation to 'surf' the push around models (a potentially dangerous practise of not braking the machine and pulling it along from the basket from one work position to another when at height) - something that the latest push around models have prevented with automatic braking.

Some of the mast-type machines can work over obstacles such as office desks which can be a distinct advantage for some applications. The mast-type Bravi Leonardo machines for example have larger 1.7 metre long platforms and can carry 180kg.

Small electric scissors

The established small electric scissor lift manufacturers now all offer units with mast type lift mechanisms spurred on by the success of the UpRight - now the Snorkel TM12 - now also



The Alarina Alas 2100 lightweight self propelled scissor lift

available with the Manitou badge. Products include the direct electric drive JLG ES1230, the Genie Runabout - now available with a heavy duty steel mast version - Haulotte Star 6 and the latest product the Skyjack SJ12 and the sector stretching SJ16.

While these units are well accepted in an increasing number of rental fleets, it will be interesting to see how they mix with the new offerings from the push around manufacturers such as Youngman's new Boss X3XSP and Pop-Up Drive. With a similar five to 5.5 metre working height they do offer a lower operating weight and roll out



JLG's direct electric drive ES1230



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Custom Equipment has built its reputation on low weight scissors that can work on low load bearing floors

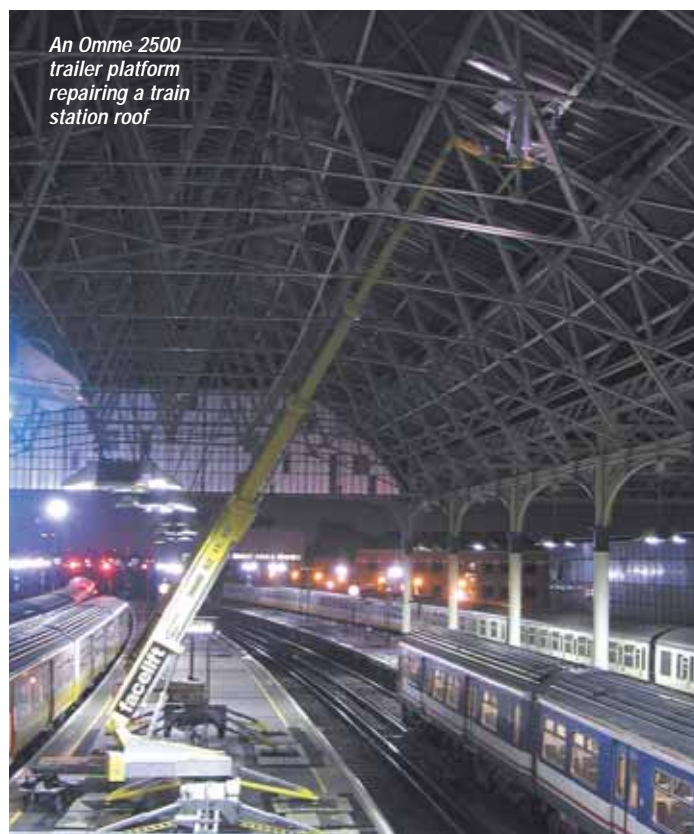
platform extension. The popular Bravi Leonardo also a mast type lift with a 4.9 metre working height is also a significant contender weighing just under 500 kg.

The small electric mini or micro scissor lift is by far and away the most popular and numerous form of powered access in use today and as such is widely available at a very attractive rental rate - often less than a mobile scaffold tower of the same height.

The 19ft platform height micro scissors can pass through standard doorways and fit into most passenger elevators making them ideal for a wide range of applications from internal installation work to refurbishment, cleaning and industrial maintenance. True, they have though got flabby over the years now weighing over 1.5 tonnes - so floor loading is sometimes an issue. Something like the Skyjack SJ3019, Genie GS1932E or JLG 1930ES offer 227kg lift capacity, working height of 7.8 metres and an extended platform up to 2.54 metres long. Custom Equipment has built its reputation on low weight scissors that can work on suspended floors. Its Hybrid 1030CE for example has a 4.87 metre working height, can lift 340kg yet weighs just 680kg and has a sizeable extendible deck.

Trailer lifts

Lightweight, uncomplicated, easy to transport and relatively cheap are the main features of the trailer lift, which helped drive its strong growth in the early days of the powered access market. However its downsides are that it is not



An Omme 2500 trailer platform repairing a train station roof



If you have an access problem a spiderlift may be the solution. Here a Teupen Leo 15GT helps with factory lighting

self-propelled, it is relatively bulky even when working and requires a fair amount of physical effort to use and is often too long to manoeuvre into tight positions so it is not a suitable machine for many industrial applications. It is though widely available and relatively cheap, but if you think this may be the equipment for you, check it goes around that tight corner first!

Spider lifts

As the access industry's emerging 'jack of all trades', the spider platform is very good at most

things. Relatively easy to transport on a standard plant trailer it can track across most terrain and squeeze through most restricted accesses (through standard single doors and even up stairs!) and then unfold to provide working heights of more than 20 metres. The largest spiders now offer working heights of more than 50 metres although most of these are very large machines even when folded. Perhaps its Achilles heel is its large outrigger spread when set up. Popular sizes are now 13 and 17 and 21/23 metres working heights which can cope with most industrial situations. There is also a growing fleet of machines up to 30 metres although if you do need units of this size or larger advance planning is certainly required as demand is rising and there are only a limited amount of platforms in rental fleets.

Equally at home indoors or out, the spider was the first access platforms to feature lithium ion battery power giving increased flexibility and making it ideal in sensitive production facilities. If you have an access problem that does not have an easily identifiable solution - a spider will probably be the answer!

There are of course many other specialist platforms designed for a specific task or purpose. The ones covered here are all available from most rental companies. Each type of equipment has its advantages and disadvantages. Make sure you choose the right equipment for the job to minimise time and maximise profit.

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