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Alimak Hek

Like most construction related equipment, the mastclimber market has been going through a tough period. The tightening of the financial belt has meant a general lack of confidence and investment resulting in a reduction of both new build and major maintenance or refurbishment projects. Those that are being let are under severe pressure to reduce costs which inevitably leads to pressure on equipment prices, while performance and service expectations remain high.

In the UK, possibly the largest market outside of the 'home markets' of Scandinavia and Holland, the mastclimber sector is highly incestuous with just a handful of players. The largest mastclimber fleet by far is Harsco Infrastructure with around 900 units. Although its recently published nine month financial figures show an improvement (its losses are getting less – just $26 million this year) it blames Western Europe and the UK in particular for 'on-going weakness'.

Unlike those countries, which use mastclimbers for general construction and house building, the UK generally reserves their use for working at heights of more than 20 metres. As a result the 2008 collapse in the UK housing market since has not been a major factor in the mastclimber market. And on a positive note, there still appears to be a reasonable number of industrial and infrastructure projects on the go which are keeping the UK mastclimber fleet relatively busy.


An unusual contract for Hydro-Mobile

The financial squeeze means that contractors are now pitching for the same work at reduced prices. For example, tower block maintenance contracts which used to be valued at say £1.2 million are now typically going for around the £700,000 mark. With the 'access' element generally around 10 percent of contract value this is a significant reduction and it is having a serious effect on rates and the overall state of the mastclimber market. Several of the already small numbers of companies (perhaps which have entered the market from the contract scaffolding business) are reducing their presence or leaving the sector completely.

After Harsco, there are a few companies with fleets between 200 and 300 units giving a total of about 2,000 mastclimbers in the UK. With the high investment in trained labour and logistics needed to enter the market, coupled with mediocre returns, any company wanting to succeed in this market must have a long-term strategy. It is definitely not a 'get rich quick' sector!

However there are companies that are doing all right. Walsall-based Adastra was formed about 10 years ago and was strengthened by a management buy-in in 2008 which has helped it go from strength to strength (see following article).

Leighton Buzzard-based BFT Mastclimbing is another company that despite the difficult economical situation says it has had one of its most successful years since it decided to focus solely on being a mastclimbing contractor back in 2005. It says that with full order books for the next six to eight months, its outlook for 2012 is quite positive.

A low-level Fraco mastclimber

Both BFT and Adastra emphasise that success is based on giving a full service to customers - being involved from the building/contract tender stage through to the completion of works on site - gaining and maintaining a good reputation and securing repeat business from clients. Success in this sector is all about being able to engineer and plan an efficient solution and then ensuring that the logistics and erection crews are equally efficient and thorough.

BFT says that the cost cutting in the construction industry has meant increased enquiries for mastclimbers throughout the UK as estimators and quantity surveyors look at ways to reduce costs and build-times over more traditional forms of access. According to its contracts director Jason Harris it has recently toyed with the idea of adding an additional 100 machines to its existing fleet of 220 units.

With the normal life span of a mastclimber being around 20 years new sales have been very low over the past year or two and there is a fair amount of second hand equipment on the market, but this can be quite expensive. Because of this a few companies in the UK have opted to give Chinese equipment a try out.

"Second hand equipment from manufacturers such as Hek can be very expensive so we looked at


BFT Mastclimbing is having a very successful year

what the Chinese GJJ products (made by Jing Long Engineering Machinery) had to offer," said Adastra's director Ken Goundrey. "We had the quality of the steel tested and the results were very good and pricing was significantly cheaper. The rest of the mastclimber features European components so quality is good and sourcing parts in the UK is quite easy."

Spain hit the doldrums about a year before the UK and with a national fleet of over 5,000 mastclimbers at the start of the recession many were sold overseas very cheaply. However many of the units were designed for stucco or painting work which many think are too light-weight and flimsy for the UK market and many have narrow (900 to 1,100mm wide) platforms which makes working from the platform for some trades more difficult. As one UK mastclimber rental company put it: "You buy cheap, you buy twice."

It's in the blood

Walsall-based rental company Adastra was founded 10 years ago, but can trace its roots back to the early 1980s. Mark Darwin spoke to two of its directors - Peter Hoar and 'mastclimber guru' Ken Goundrey - about the company and the sector.

Goundrey is one of the most experienced mastclimber people in the UK starting way back in 1983 with Yorkshire-based steel erection company Access Engineering. At the time most of its contracts involved working on conveyors and transfer houses at Selby opencast mine, however its engineering managing director John Garton spotted a mastclimber of sorts working on the doors of an aircraft hanger in Saudi Arabia.

Peter Hoar (L) with Ken Goundrey

He was immediately impressed and on his return, like all good engineering entrepreneurs, he proceeded to build the original two wheeled, trailer mounted Satellite mastclimber which he then demonstrated around sites in Yorkshire, towing it behind his Ford Granada.

The Satellite had a 12 metre long platform and could free stand to a height of 20 metres on the trailer, which was ideal for many trades. Increased marketing lead to the company going more into high rise construction and at this point Goundrey was moved from the steel erection side of the business into sales and tasked to sell and promote the new mastclimber products.

Access Engineering also set up a general rental division - BW Engineering - which focussed solely on mastclimbers and was one of the first companies to offer mastclimber rental in the UK.

"With mastclimbers you provide a service - not just a piece of equipment" Ken Goundrey

The product range never expanded but the company successfully continued with the original model, selling more than 300 units. Garton then floated the company - Access Engineering plc - towards the end of the 1980's but stock market problems eventually meant he lost it all, having sold products into the USA and South Africa. The company was eventually taken over by the BET group becoming part of PTP, Powerclimbers and CSG. Manufacturing ceased at this point but the rental side continued with a fleet of around 130 machines.

The UK recession of the early 1990's meant most of the platforms went overseas. A few companies started manufacturing Satellite 'look-alikes' but these also failed.
In the mid 1990s another company started making a remodelled Satellite and with used equipment returning to the UK from completed overseas contracts, Andrew Reid set up Mastclimbers Ltd which purchased a lot of the equipment and went on to become the largest (now Harsco Mastclimber).

During that period mastclimbers became very popular and made big inroads into the scaffolding sector. Hek sold up to 400 platforms, Malmqvist more than 100 lightweight cladding units and GKN set up a mastclimbing division.

"Several larger companies have tried to run mastclimber rental fleets but have failed," says Goundrey, "primarily because mastclimbers are far more labour intensive than other powered access platforms. EPL and GKN were classic examples of access rental companies that added mastclimbers and then struggled with the labour problems of erecting, handing over, servicing and dismantling. Mastclimbers are a bit of a hybrid - not plant hire but not full-on contracting."

"With mastclimbers you are providing a service and not just a piece of equipment. It has to fit with the site requirements and you must coordinate with staff on site or occupants in the building which makes it far more complex than most think. Many dabble with them for a few years but then get rid."

"We are not the cheapest but we offer a good full service. New customers often just look at the initial price but should look at the whole cost which includes sorting problems out quickly and efficiently. 90 percent of our equipment is less than three years old which helps reduce breakdowns and reliability problems."

Adastra history

Hoar has been involved in scaffolding for more than 30 years, both with his own company Libra Services and then 10 years with Formscaff UK as managing director. He set up Adastra in June 2000 building up a fleet of more than 20 machines with revenues of £500,000 by concentrating on specialised jobs.

Adastra now has a fleet of 250 machines

Tapered bridge columns on the River Swale crossing required specially designed mastclimbers

At that time Goundrey and Kevin Hayes were at Sovereign Access building it from sales of a few hundred thousand pounds to £4 million over a six year period. But in 2008 the company and management was acquired by Harsco (SGB) and were to be run as an autonomous unit. Unfortunately the recession began almost immediately and the parent company began to exert more influence. Goundrey remained for eight months, while Hayes lasted a few months longer. It was at this point they met with their old friend Hoar, who agreed to make them all equal directors/partners creating the management team that exists today. The fleet is currently around 250 units, close to the maximum that can be run from one facility.

"The hardest part of increasing the fleet is people - good riggers are hard to find," says Goundrey. "We have 35 staff and a turnover of £2.2 million. This has steadily increased from £1 million the first year, while in 2012 we expect it to reach £3 to 3.5 million. We realise this is a service industry and have put a lot of emphasis on customer service, particularly health and safety," says Hoar. "If you get it right in the yard, you spend less time out on site. All our employees are fully trained so that the equipment is installed quickly. Unlike most other mastclimber rental companies, we are members of Chas, Achilles and have ISO 9001 which reflects our professionalism. We are in it for the long term and want to work with the top customers. We also have our own structural engineer which is essential as only about 20 percent of projects involve a standard installation."

"We try to be part of the site team, not just a hire company," he adds. "There is a job starting next February that we have been involved with for 12 months already - it is a new build with a lot of heavy glazing units and we are discussing with the main contractor and glazing contractor how to fit them, getting the machines in the right place, checking accepting loads etc. We provide a lot of added value."

Training

Adastra is also one of three IPAF mastclimber training centres in the UK, initially set up to ensure its operators were trained to a high standard and can train up to installer level. The centre has been going since 2008.

"Once we hand a machine over it is the main contractor's responsibility to have a competent person on site to handle the equipment including daily and weekly inspections. We offer training for these installers who can then train site operators. We also carry out the six monthly Loler check."

Product changes

Over the years the basic design and technology has not really changed," says Goundrey. "Most machines are still rack and pinion with a button to go up and down and an emergency stop. These are very reliable and rugged machines but electronics can cause problems. Within its fleet Adastra has a couple of Malmqvist machines and 30-40 Heks but the rest are Chinese GJJ (made by Jing Long Machinery).

"With the high price of new and second hand machines, we looked very closely at the GJJ machines, including carrying out metallurgist tests on the critical steel components. The results were very good and they have performed very well. We went for the heavier duty 700mm by 700mm mast sections which are needed in the UK. And with their European-built major components spares can be sourced locally. We have even added some of their cradles for use where mastclimbers are not suitable. Surprisingly China has a huge market for hoists but has very few mastclimbers."

"There are several main advantages when using mastclimbers – such as reduced damage and a better finish - but we can supply the best package even if that includes scaffolding and hoists," says Hoar. "Unfortunately contractors are very conservative and rarely do a proper cost analysis.

You can get a far better render finish with a mastclimber because you don't get the board and lift lines. Scaffold tie patterns can also disrupt a higher proportion of the external cladding/finish."

The flip side of this is that mastclimbers place an additional onus on the contract programming as two trades cannot work at the same time. Windows for example would have to be finished before the next trade commences."

Cradle division

Nine months ago Adastra also set up a suspended platform division for contracts where access makes mastclimbers impractical. "In contracts that have a combination of precast concrete and glazed panels the external seal between the two can be done from a cradle, which is much easier and cheaper than erecting a mastclimber," says Hoar. "The secret is to give the client the best bespoke access package, regardless of whether that includes mastclimbers, scaffold or cradles."

Contract programming is essential when using mastclimbers

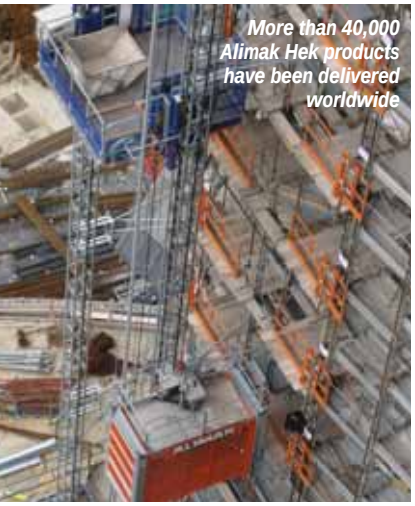
Details of the River Swale crossing.

What the (Alimak) Hek!

In its various guises over the past 60 odd years Alimak Hek has been at the forefront of the mastclimber and hoist sector. The Swedish-based company has 15 wholly owned sales, rental and service subsidiaries around the world. Russell Bates the managing director of its UK operation is one of its longest serving employees at one of its longest established sales operations. Mark Darwin investigates....

Russell Bates

Bates joined the company in 1975 becoming the first management trainee that Alimak took on in the UK. Since then he has spent time in each area of the company, getting to know every aspect of the business. The UK operation goes back to 1968, when the business as it is now was established as Linden Alimak UK. The move followed the merger of Alimak with Linden cranes the year before. Alimak was well established in the UK by then, Geoff Warlow - having taken on the franchise in 1949 - becoming product manager at the merged company. Linden Cranes had previously been handled by George Cohen and the 600 Group. The new company was based in Beckenham, Kent and moved to the current Rushden, Northamptonshire location in the mid 1970s.



More than 40,000 Alimak Hek products have been delivered worldwide

One of the first Hek mastclimbers

Alimak and Hek both have long and illustrious pasts. Alimak founder and inventor Alvar Lindmark, started the company in 1948 and launched the first construction hoist in 1951, unveiling the first rack and pinion mastclimber in 1956. Dubbed the 'Jacobs Ladder' it combined a hoist and work platform. In 1983 it launched its first modular mastclimber and sold off the crane business and in 1996 acquired Italian work platform manufacturer Cimar.

Dutch company Hek was founded in 1962 by crane engineer Piet van Hek and his wife, designing and manufacturing construction equipment and material hoists. The first Hek mastclimber came in 1976. The merger of Alimak with Hek in 2001 created Intervect which was renamed four years later as Alimak Hek. 2006 was a busy year adding the manufacturing business of Champion Elevators in the USA, a manufacturing facility in China and acquiring the Conrent mastclimber rental business from Coates Hire in Australia.

Changing ownership

The current owner is the Triton group which acquired the stakes of Ratos and 3i in 2006. Since the first hoist was produced more than 60 years ago around 40,000 Alimak Hek products have been delivered worldwide. The company operates three development and manufacturing facilities. Its range of hoists and industrial lifts, as well as underground equipment, is developed and manufactured in Skellefteå, Sweden. Hoists for the Asian market are produced at its factory in Changshu, China and the mast climbing work platforms, transport platforms and material hoists are developed and produced at the Hek facility in Middelbeers the Netherlands.

Tower cranes

Alimak's history with tower cranes should not be forgotten. Swedish designed and built Linden-Alimak cranes were particularly popular through the 1970s with 6,000 cranes produced before the decision was taken to exit the sector and the division was acquired by Comansa. Linden-Alimak was the originator of the flat top tower crane when it introduced the Linden 8000 Modular System crane in 1977.

"Unfortunately the decision was taken to concentrate on the core business of rack and pinion hoists and Linden-Alimak was sold to Comansa," remembers Bates. "There was a synergy between the tower cranes and hoists that worked well. In the UK we set up a specialist hoist rental company but this was eventually sold to Delta Plant. We have not had a rental fleet in the UK for many years although some of our other divisions - particularly France, Germany, Holland and USA - do very well with their rental operations."

Very few contracts are straight forward

Working on the Erasmuserug Bridge in Rotterdam

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Alimak Hek has 15 wholly-owned sales, rental and service subsidiaries around the world

While the technology may be very similar, there is a clear market division between mastclimbers and hoists. Even Alimak Hek divides its ranges - Alimak for the hoists and Hek for mastclimbers.

"In the UK although the sector began more than 30 years ago, mastclimbers are still in their infancy with only a few serious players in each sector," says Bates. "Numbers wise, I would think that the UK mastclimber rental market has around 1,500 drives and about the same number of hoists. Our industry is quite simple - we supply platforms or cages that move people and materials up and down a building. Fortunately or unfortunately - depending on your point of view - hoists and mastclimbers can have a 30 year lifespan if maintained well and certainly last a good 10 years or more, even in high utilisation rental applications. Unlike tower and mobile cranes, there has been no real objection from contractors regarding the age of the machines we supply on sites."

"As people carriers they should really be tested every three months with a structural test every 12 months. Fortunately there are very few accidents with mastclimbers and hoists and when they do they tend to occur during erection or dismantling. Overload sensing devices and the fact that they only work in a single fixed plane almost eliminates operational problems in this area."

Mastclimbers have a 30 year lifespan if well maintained

Not all are created equal

"There are more manufacturers entering the market which has led to some pricing pressures, hopefully it will not impact the safety or quality of the products" he says. "Although we are seeing Chinese manufacturers trying to copy the Alimak hoists and starting to export where perhaps the quality is not quite what it could be. Production in China is huge, between 3,000 and 4,000 units a year, however almost all are for the home market. Alimak Hek has had a manufacturing facility in China for several years and works to international standards, however from what we can see the copies clearly have a shorter life span. Grey imports of such machines into Europe is raising some concerns."

Currently Alimak Hek UK is performing well and having a very good year. "Generally Alimak subsidiaries have four divisions that contribute to income - industrial, construction, rental and parts & service. Obviously construction is not performing overly well at the moment, but the industrial sector is quite buoyant."

Alimak products

Powered access and scaffolding both have their own advantages and benefits depending on the application. Alimak Hek uses its own computer programme with its clients to analyse all the relevant data and recommend the best solution for the job. The company currently has two ranges of mastclimbing work platforms - light and medium - and a heavy version is currently being developed. The light range has platform lengths from 2.6 to 29.1 metres, with capacities up to 2,970kg and a maximum lifting height (tied) of 100 metres. The medium range has platforms up to 51 metres long, a maximum capacity of 5,150kg and maximum tied height of 200 metres. Its hoists include the Scando 650 construction hoists, rack and pinion industrial lifts and transport platforms.

"The main Mastclimber developments over the years have been longer platforms and larger capacities," says Bates. "The largest can now carry eight tonnes. There are also innovative uses such as linked masts allowing four sides of a building to be covered using just four masts – one at each corner."

The latest products to be introduced are the TPL 300 and TPL500 hoists, both available in three phase 500kg capacity or 300kg single phase configurations with dual functionality as either a transport platform or material hoist.

The new lifts are completely modular, the load ramp position is fully interchangeable and can be installed on three sides. It can also be replaced by a bi-foldable gate to allow easy loading of the platform with a fork-lift or when used as a transport platform for ease of personnel access. The enhanced mast design allows tie distances of up to 7.5 metres giving the ability to span three floors. The mast sections are connected by four eyebolts, permanently attached to the mast section, making assembly faster and eliminating the risk of loss. An over-speed safety device brings the hoist to a controlled stop if the platform exceeds the rated speed.

The new Hek TPL 300 and TPL500 extend the company's Light Range of hoists

The Swiss RE or Gherkin building in London

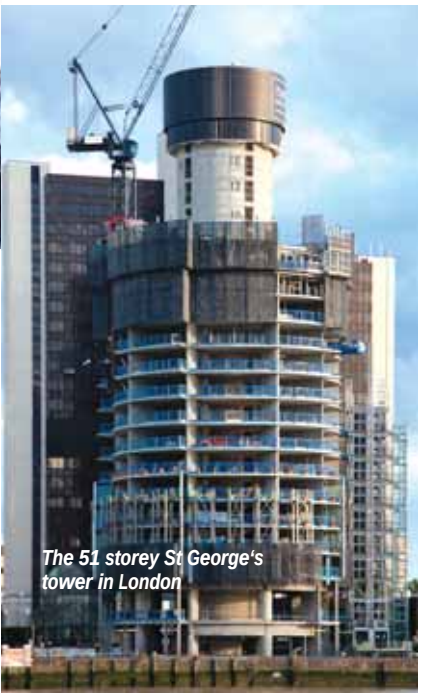
Long-servers

Bates is not the only long-serving employee at Alimak Hek. There are several other senior employees with more than 25 years service. As well as being UK managing director, Bates is also the group's global used equipment manager. The division was formed four years ago to buy and sell individual items right up to entire fleets. "We are one of the few global companies that specialises in used mastclimbers and hoists, willing and able to buy and sell whole fleets of machines," he says. "The Scando 650 hoist, introduced in 2005, is now a big seller and has been used on many of the world's high profile buildings such as the Shard in London. We now have a higher speed version - the 100 metres a minute 650 FC-S - which was launched at Bauma - four have been delivered in the UK this year with one working on St Georges Tower (see separate story). There is also a new increased capacity Mammoth twin masted hoist with a 5,500kg capacity which we have supplied and installed this year."

"We try to offer customers a full service wherever they are located. We have a Wolff 2015 FL tower crane and a Scando combined passenger and goods hoist over three storeys permanently erected and have recently teamed up with CPQ, a CPCS testing centre, allowing operators to come to our premises in Rushden to train for both hoists and tower cranes. This again broadens the service we can offer our customers."

Keeping a low profile

Cambridge-based Construction Access Systems (CAS) working in conjunction with the University of Southampton Research Institute for Industry has developed a low profile, high speed aluminium common tower system for passenger and material hoists designed to reduce costs on high rise construction projects up to 70 storeys or 300 metres.



The 51 storey St George's tower in London

The high speed hoist reduces transport time to just 90 seconds from four minutes

The first system - now in use at the 51 storey St George's Tower project in London - has a five by five metre footprint yet is capable of running multiple hoists simultaneously. This allows all material and personnel hoists to be concentrated in one area, streamlining loading efficiency at ground level and minimising waiting times for men and materials, especially at peak times.

Using the latest Alimak Scando 650 FCS 100 metre a minute high-speed hoists reduces the full height transit time on St George's Tower to just 90 seconds compared to over four minutes using standard hoists. The common tower also accommodates a three metre by 4.6 metre 'Mammoth' hoist with a payload of 5,500kg. As only the common tower - and not the hoists - are tied directly into the building, it means external cladding can be applied to the whole building during construction with the exception of the 4.5 metre access openings at each level. As a result there are far fewer panels to replace at the end of the project, which dramatically speeds up de-rigging.

CAS managing director Tony Faulkner said: "The savings in time that our common tower creates are a real boost to efficiency during the construction phase. In addition, our common towers are far quicker to install and remove than conventional hoist systems, so there are major savings at the start and end of the project as well. High rise developments are becoming more common in city centres throughout Europe and with construction costs continually rising, using our common tower in conjunction with high speed high capacity hoists makes increasingly good sense."

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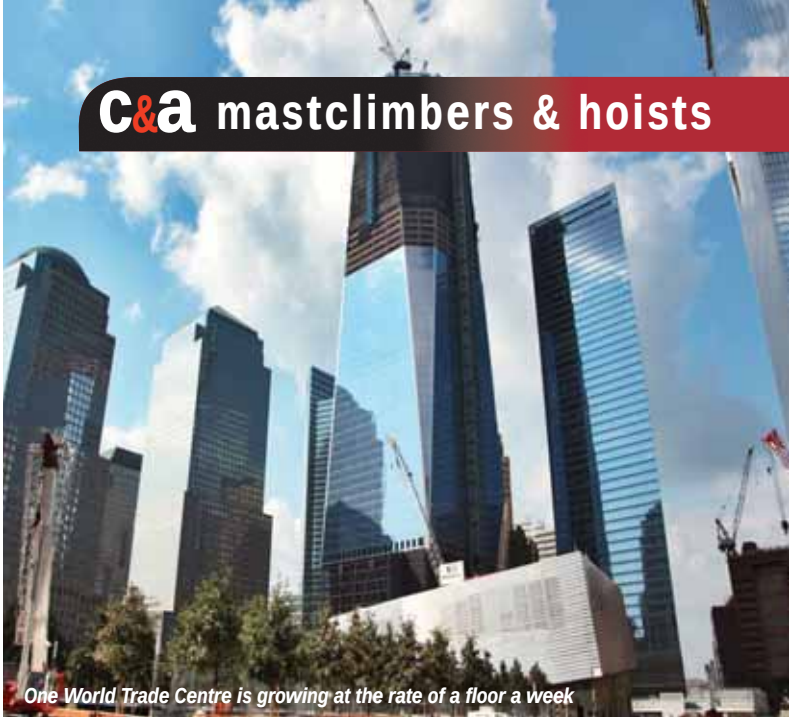
Hoisting at the WTC



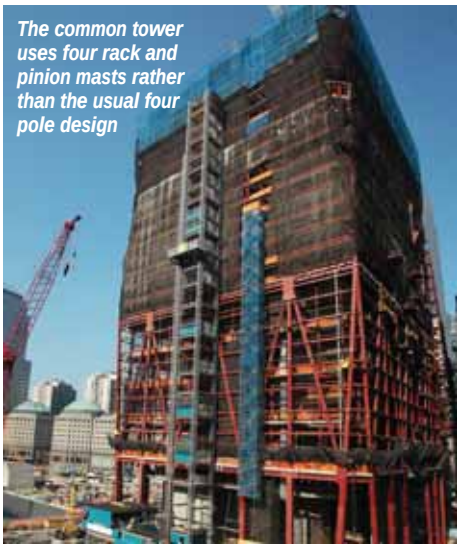
One World Trade Centre is growing at the rate of a floor a week

One World Trade Centre - or Freedom Tower as it was originally dubbed - is climbing its way out of the gaping space left after the destruction of the twin towers of New York's World Trade Centre on September 11th 2001. As it goes it up it is presenting a series of challenges for external access and most critically the hoisting of people and materials.

New York-based Atlantic Hoisting and Scaffolding was contracted by Tishmann Construction to provide suitable solutions for the 1,776ft /541.3 metre high, 105 storey building, which when complete will be America's tallest* and the third highest building in the world. In order to tackle the job Atlantic Hoisting joined forces with manufacturers Hydro Mobile and Raxtar to help overcome some of the challenges on this prestigious job.

A particularly challenging aspect of the contract involved the logistics of moving 1,400 construction workers and their tools, along with the materials and equipment required on a daily basis, to each of the 105 floors of what is a fast-track project. Tishmann had also drawn up a strict set of bid criteria for the hoist contractors on this and the nearby Memorial building. A long list of stipulations was developed and applied to the selection of equipment to be used. A primary concern was that no Chinese content was to be used in any component of the hoists. A non-counterweighted design was also ruled out on the basis of safety and speed of erection. But most important of all was proven dependability.

Led by Greg Karas, Atlantic Hoisting's team planned to use a common tower for the hoists, which normally uses a four pole configuration, using scaffold or shoring components and decked at each entry level to allow exit of the hoists and access from the tower into the building. A common tower also minimises interference with the curtain wall installation and allows the building to be closed in earlier than with conventional hoist configurations. However the extreme height of this tower brought an additional challenge to the traditional concept of the common tower.



The common tower uses four rack and pinion masts rather than the usual four pole design

Two of the Raxtar 92m/min hoist cars in action

The team therefore decided to abandon conventional four pole components in lieu of rack and pinion mast sections at the four corners of the tower, which also made it easier to adapt to the hoists and work platforms. Todd Rego, whose team at Atlantic was responsible for the construction and design of the common tower, claims to have reduced his labour during the construction process by 30 percent, while significantly boosting the factor of safety.

Having designed a solution and won the bid, Atlantic carefully placed 13 Raxtar model RX3245 hoists throughout the two side by side projects. The company says that Raxtar was open and receptive to specific requests and the ideas to ensure a safe and productive artery for the project.

Multiple 92 metres a minute, 3,200kg capacity Raxtar RX3245SFT material hoists were adapted with an overhead protection deck above the car to protect installer's from items falling from the other trades working above them. The cars also incorporate numerous design features from the two companies combined experience.

Since their installation in November 2009, the hoists have run six days a week moving between 1,300 and 1,400 people a day to all floors of the building. It is expected that the hoists will run for an additional three years before the project is completed.

A structural common tower platform of this size is almost a building in its own right, albeit a temporary one. In order to facilitate its construction a customised mastclimbing work platform was designed specifically for the job by Canadian-based Hydro-Mobile. It is also in constant use as the project climbs at the pace of one floor each week.

A Hydro Mobile mast climbing work platform is being used to construct the common tower as it grows with the building.

**Chicago's Willis (Sears) Tower has 108 floors and its roof is 25 metres higher, but its overall height is just 442 metres.*

Mast climbers, hoists, scaffold and nets

The East End of London is currently a hive of construction activity, with major investment programmes transforming the skyline and only part of which is connected to the 2012 Olympics. A major landmark project in this massive regeneration drive is the three block, £23.5 million Alberta House residential development in London's Docklands.

The Brogan group has been contracted by Higgins Construction to provide a tailored access package for the project which includes scaffolding, twin and single mast passenger and goods hoists and mastclimbers for all three blocks throughout various stages of the build. The central feature of the development is a 24 storey, 82 metre high tower, which along with two smaller adjacent blocks, will provide 133 high energy efficient apartments, with retail space at ground level.

Since May last year more than twenty, medium and heavy duty mastclimbers have been in position to carry out the façade works, while single and twin mast goods and passenger hoists on three of four elevations have facilitated the transportation of materials and personnel to the upper floors. Perimeter Cuplok scaffolding cantilevered off the 21st and 23rd floors has also been installed to provide access for the roof work. In view of the height and location of Alberta House, Brogan has also erected Combisafe Safety Net Fans as an extra fall protection measure. The nets are designed to catch falling persons, objects and debris protecting both workers and the general public.

A Stross single mast passenger hoist on the Alberta House project

A Fraco ACT4 single mast mastclimber with 10 metre platform offers 1,815kg platform capacity

Five single mast mastclimbers, on the façade of one of the two smaller blocks.

You raise me up...

The €200 million Philharmonie de Paris - the first large concert hall to be built in Paris since 1927 – is currently under construction at the Porte de Villette in the North East of the city, following a 20 year delay.

The Geda 2 PK has a 200kg capacity

For erection lightweight aluminium ladder sections are passed through the open car roof and fixed using the patented quick-lock system

Bouygues Construction has installed a Geda 2 PK crane operator hoist on the project's tallest top slewing tower crane allowing the operator to reach his cab faster and more safely. The rack and pinion hoist can also be used to rescue operators in the event of sickness or emergency.

Crane operator hoists are mandatory in various Scandinavian countries and the Netherlands, but currently there is no standardised European requirement.

With a 200kg capacity the 2 PK is designed to transport two people at a time with spare capacity to transport maintenance equipment when required. Lifting speed is 25 metres a minute up to its 120 metre maximum lift height.

Once the base unit has been installed and anchored, the 22kg lightweight aluminium ladder sections are erected through the open car roof and fixed using the patented quick-lock system. The hoist can be operated by a control panel in the car or switched to an external control if required.

The main hall of the new symphony hall will seat 2,400 and is built on a two hectare plot next to the existing Cité de la Musique. The building also includes offices for several symphonies including the Orchestre de Paris, a library, rehearsal rooms, classrooms and an exhibition hall. The hoist will be in use until completion in 2013.