

Hinowa®



MEMBERS
APPROVED
TRAINING CENTRE

Discover the New **TTS** Spider Lifts Series at Bauma



Bauma External area
2010 Pav. F13
Stand 1305-2

www.hinowa.com



HINOWA S.p.A. - Via Fontana - 37054 NOGARA (VR) Italia
Tel. +39 0442 539100 - Fax +39 0442 539075 - hinowa@hinowa.it

Scaffold what scaffold?

The mastclimbing work platform is, by definition, powered access and yet it sits uneasily alongside booms and scissors. In the early days a number of powered access rental companies dived into the business and sooner or later regretted it. The fact is that while mastclimbers are powered, they fit much more comfortably alongside their principle competition - façade or contract scaffold.

Apart from the very smallest towable models, which have yet to catch on, mastclimber rental or contracting requires a great deal of knowledge and engineering ability, not to mention efficient logistics and erection skills. The positive aspect of this for rental companies is that clients are prepared to pay for that know-how and experience - the intellectual capability of the supplier.

The odd thing is that while the use of mastclimbers has grown steadily both in Europe and North America, market penetration is still patchy, both geographically and in terms of applications. Mastclimbers are increasingly being used for tricky jobs or where their unique abilities of being able to lift materials as well as provide a perfect work platform, are particular requirements. When it comes to bog-standard façade work though most contractors will still tend to default to scaffolding. In some places that may even be to the most traditional form of scaffolding, such as tube and fitting or bamboo, both of which require a great deal of labour and a high level of specialist skill to do well. That combination of hard physical work and high levels of experience and knowledge is becoming increasingly hard to source so it is surprising that these forms of access remain competitive. What is even more puzzling is that even large and sophisticated contractors appear to be oblivious to the cost and convenience benefits of mastclimbers for routine work where scaffold is currently used.

Take the recent case involved the repainting the windows and some minor façade repairs on a historic five story Georgian apartment building in the UK. The façades included four floors above street



A mastclimber at work in a typical renovation job



Mastclimber usage for cladding work is not as widespread as one might expect

level and a basement level below. All of the shortlisted painting contractors quoted for the work with a full façade scaffold itemised separately at £22,500 and above.

As the tenants/owners of the apartments are charged by the housing association for the work, the successful bid was circulated prior to it being accepted. When an alternative form of access was suggested - a couple of boom lifts or a mastclimber for example - it was dismissed, based on the fact that it was not practical, let alone cost effective. Neither the contractor nor the client would even consider the option even though a relatively small and simple mastclimber installation would have been ideal for the job as well as

solving the potential security problems, stepped up the work pace and been safer overall (ladders were used for access). This is an all too common reaction and reinforces the comments made by Joy Jones of the HSE in our article on this year's IPAF summit, in which she says that most contractors have no clue about specifying the right type of access equipment and tend to stay with what they know.

The fact is that particularly for larger jobs, mastclimbers can dramatically reduce the cost of the job while offering other benefits such as being aesthetically more attractive during the contract, reducing the amount of climbing to the work zone, greater levels of safety and can save the rental of a separate hoist.



An interesting application involving a special twin mast transport mastclimber, a regular hoist and a twin tower mastclimber - note how little affected the building appearance is compared to full scaffold cover



Mastclimbers can be adapted to fit all manner of shapes.

Mastclimbers are also considerably safer to erect - something that safety authorities are increasingly focusing on and are faster and less expensive to put up. At night and weekends the platform can be disabled to prevent potential intruders climbing it to reach upper floors and finally it is less prone to wind damage. Every year in every country there are numerous cases of large expanses of façade scaffold collapsing into the street in the face of strong winds.

In the UK it is estimated that there are between 2,000 and 2,500 mastclimbers at work, possibly fewer than in several smaller markets where mastclimbers have already become more mainstream, such as Holland, Sweden and other parts of Scandinavia. For another comparison there are estimated to be around 14 to 16,000 units in North America which has a slightly better penetration level, although it varies enormously from state to state. After a few years of strong growth, mastclimber adoption has slowed, although much of this is due to the fall in high rise construction. Most mastclimber rental contractors are currently running with utilisation rates of around 50 percent, although feedback suggests that rates have held up better than in the aerial lift market and most companies we spoke to are still making a modest profit.

With pressure on contract prices contractors ought to be investigating the adoption of more efficient methods of working which would, one assumes, provide an opportunity for mastclimbing companies. And yet the opposite seems to be the case, with contractors now afraid to try what they don't know! There is surely a case for the industry to do something here to spread the word.



The one metre cantilever extension provides access into the building as well as allowing the contractor to working into the corners

Double decker does the Lofts



The mast sits neatly away from the cladding bars

A 90 metre high single mast dual platform mastclimbing work platform has proved ideal for all façade works on a 32 storey new build structure in Sheffield, England. City Lofts is located in St Paul's and will be the tallest tower in Sheffield, designed specifically as an iconic landmark for the city centre. When completed it will incorporate some 22,000 square feet/2,100 square metres of retail and restaurant space, as well as 316 one and two bedroom apartments, set in two interlinking 12 and 32 storey towers.



The 90 metre mast is fitted with two platforms in order to maximise productivity

The mastclimber has been supplied by the Brogan Group for main contractor Shepherd largely for cladding works. It includes the supply and erection of two separate mastclimbing platforms running on a single 90 metre high mast. Both mastclimber platforms are fitted with two metre high guard rails and edge protection. The lower platform is also fitted with an overhead 'roof' protection.

Both platforms were also equipped with one metre wrap around cantilever extensions on one end to allow access into the building and for works to be carried out to the corners of the building.

Built-in glass positioner boosts productivity

Harsco Infrastructure helped contractors speed up the construction of a Grade A commercial development in the heart of Glasgow last year. Two, West Regent Street is a high-specification 10-storey mixed-use development comprising nine floors of office accommodation above ground floor retail units.

In order to achieve efficient progress on the construction programme, main contractor Taylor Woodrow needed to find an external access system that would assist with the rapid installation of the building's glass curtain-walling façade, without monopolising the site's tower crane. The company approached Harsco, (SGB as it was then) which devised a solution using nine mast-climbing work platforms, five of which were specially modified with a custom-made monorail system designed to lift and position the glass panels against the building's 50 metre high façade.

Working closely with Taylor Woodrow, Harsco engineers attached the horizontal monorail to the top of each pair of mast towers. An electric winch, was then mounted to an under-slung trolley that ran along the monorail, a vacuum lifting device was then connected to the hoist line of the remote controlled winch to handle the glass panels.

"The system provided us with the equivalent of five cranes"

An additional advantage of the monorail system is that it can continue operating in wind-speeds well above that which shuts down the tower cranes on site. Using the system saved approximately four weeks in the cladding schedule.

"The monorail system effectively provided us with the equivalent of five cranes, which has meant we could really speed up work on site," said Mike King, project manager with Taylor Woodrow. "We were therefore able to maximise installation of large glass units on multiple work faces which would otherwise have solely relied on the tower crane thereby limiting the amount of labour we could use."

"The combination of the monorail with the mast-climbing work platform helped us get early completion of the building envelope and improve productivity by up to 300 percent. The system itself is far quicker to install than traditional scaffolding, in this case it took only about a week to install, whereas scaffolding would have taken three or even four weeks."



The monorail glass handling system in action



GEDA
ORIGINAL



TEMPORARY INSTALLATIONS

GEDA TRANSPORT PLATFORMS SUSPENDED WORKING PLATFORMS

GEDA rationalizes construction work:
For transport of persons or material
– a versatile orientated platform concept
can be individually arranged for every use.
Up to 400 m height, max. 3200 kg (persons
and material), European type test certified,
thousand fold in action at constructions sites
worldwide.

GEDA
Dechentreiter GmbH & Co. KG
D-86663 Asbach-Baumenheim
Phone +49 (0) 906 9809-0
Fax +49 (0) 906 9809-50
E-Mail: info@geda.de
www.geda.de

The full Monty

Merchant Square is new mixed-use building project in Paddington London which encompasses six architecturally diverse buildings set within a high quality public area with a major new canal-side square as its focal point. The scheme will consist of 559 new homes, shops, almost 100,000 square metres of new office space and substantial underground parking. The main contractor Carillion called on the Brogan Group to provide scaffolding, hoists and mastclimbing work platforms for work on different parts of the project.

The development comprises Building D and F, both of which are residential buildings - designed by the Kalyvides Partnership and UK-based Mossessian & Partners - with 140 and 196 apartments respectively as well as ground floor retail outlets

and three levels of basement parking. Brogan was called in to supply and erect scaffolding to Building D (West End Reach) which required initial access to all levels for the structural concrete framework. The scaffolding will then be adapted to facilitate the cladding elements required to the building including glazing and stone finishing. The courtyard area requires a bespoke scaffold layout to suite the varying shape and levels of a series of balconies.

Two hoists have also been erected to service the scaffolding, one to the canal elevation for the transportation of goods and personnel and the second on the west elevation to transport materials and personnel to and from the basement up to the 16th level.

On another part of the building a 26 metre high twin mast mastclimber



A single mast 40 metre high mastclimber runs from the first floor, leaving the ground floor unobstructed.



The West elevation material and passenger hoist runs from the basement to the 16th floor



The canal side elevation showing the materials and passenger hoist and some of the extensive system scaffolding.



The twin mast, 26 metre high mast climbing work platform is being used for cladding and rendering.

was provided along with a single mast, 40 metre high mastclimber to the Harbet Road elevation. The mast on this unit runs from a first floor cantilever deck, leaving street level unobstructed. The two mastclimbers provide access for

curtain walling, cladding and rendering of the 16 storey building. As a footnote, the access provision on this site has won Brogan several monthly health & safety awards from Carillion for maintaining a zero events record.

Mastclimbers in demolition

Demolishing a 140 metre power station chimney/smoke stack is a challenge at the best of times. When it's surrounded by the low level buildings and offices the factor of difficulty is magnified many times. Faced with the challenge of bringing such a stack down at the Goose Creek power station in South Carolina, Commonwealth Dynamics and Atlanta-based Mastclimbers LLC worked together to create a method which dramatically increased productivity compared to traditional methods.

A combination of four heavy-duty Fraco mastclimbing work platforms, connected by curved platforms combined with Commonwealth's know-how and the use of a Positioner Actuator Manipulator (PAM unit) to increase the efficiency of the heavy-duty jack hammers brought the stack down in record time.

Commonwealth and Mastclimbers combined their skills to bring down this chimney in record time.



The project - which can take up to a year using traditional methods - was completed in just 65 days with more than two metres of progress a day.

Mike Pitt of Mastclimbers said: "We set out to achieve maximum productivity and maximum safety. The mastclimber units had to be specially configured with connectors to take account of the increasing diameter of the stack as it came down."

The PAM units were brought in to reduce repetitive strain and fatigue and enabled the operator to manipulate the heavy jack-hammer as if it weighed next to nothing.

The PAM system helped improve jack-hammer productivity.



The mastclimbers during erection, note the connecting bridges that provided adjustment to cater for the changing diameter of the smoke stack

Bridges for APEC 2012

Two large suspension bridges are currently being built in the Russian port of Vladivostok to coincide with the start of the Asia-Pacific Summit (APEC) in 2012. The €6.5 billion project - Russia's largest - includes a four-lane road bridge using 226 metre high pylons, serving the Golden Horn bay area and a second bridge - the Russki Bridge - which takes the route over a stretch of water called the Eastern Bosphorus to the offshore island of Russki, where the conference will take place. The plan is to build a new town on the island which was once declared a restricted area by the military.

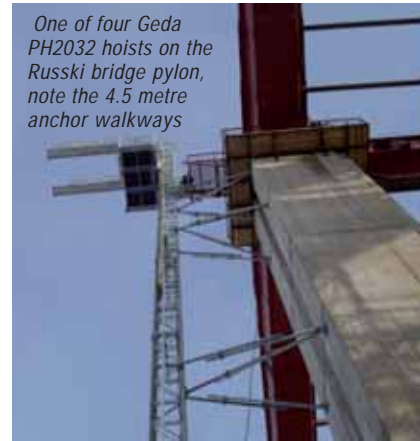
Building work began on the Russki Bridge in September 2008. The 1,885 metre long structure is supported by two, 320 metre high pylons. A tight construction schedule with completion required before the summit means there is huge pressure to complete the project on time. Bavarian-based Geda-Dechentreiter was awarded the hoist contract for four Geda PH2032 personnel and material hoists, two of which have been in use since last year, with another two to be supplied shortly. The mast height of the hoists increases as the pylons are constructed up to their full 320 metre height. The hoists have frequency inverter controlled lift speeds of 65 metres a minute, a maximum lifting height of 400 metres and can transport 25 people or 2,000kg.

The hoist cars are loaded and unloaded at the pylon formwork work platforms through an additional D-door on the inside of the car. Specially designed 4.5 metre long anchors maintain the mast distance to the pylons - fixed from two adjustable assembly frames that are mounted on the roof. The inclination of the mast increases as the pylon rises and this had to be considered in the planning. Another factor that had to be taken into account was the severe climatic conditions in Vladivostok, including heavy snowfall and freezing temperatures. Every aspect of the special designs for this project had to be accepted and approved by the Russian authorities. The safety at entry and exit points is ensured using Geda CE certified landing gates. Safety features such

as the speed-dependent safety device and overload protection, as well as upper and lower limit switches are part of the standard package.

With a population of 600,000 Vladivostok is the most important Russian port on the Pacific and has only been accessible again to foreigners since 1991.

One of four Geda PH2032 hoists on the Russki bridge pylon, note the 4.5 metre anchor walkways



The Hoists will eventually rise 320 metres

Venice beach rack and pinion

When a 100 metre high-rise appartement block was built on the famous Venice Lido in Italy the contractor turned to mastclimbers and hoists to supply the access and lifting duties.

Italian manufacturer Maber won the contract to supply the equipment, which consisted of a large dual mast MB C 3500/120 mastclimbing transport platform with three metre by five metre loading platform, capable of lifting up to 3,000kg. The company says that the platform saved at least one tower crane and avoided the need for landing platforms on each of the 25 floors.



Two MBP02/150 mastclimbers were used, first on the long façades and then the ends. Platforms are 23 metres long with two metre wrap around cantilevers

Maber also supplied an MB A 1400/150 - R single mast passenger and materials hoist with 1,400kg lift capacity, although it was selected for its 60 metres per minute hoist speed. The system was installed with a sophisticated call system and landings on each of the 25 floors.



The MBC3500 transport platform offers a 3mx5m lift platform with 3,000kg capacity.

Finally two twin mast MB P 02/150 mastclimbers with 23 metre platforms plus two metre wrap around extensions on each end, were chosen for the regular façade work such as the installation of window frames and glass panels. The mastclimbers were initially set up to cover two sides and then relocated to the ends.



The MBA1400-R passenger and material hoist with 25 landings

Specialist IT solutions for the rental industry

"inspHire gives us full
control
of our business"



HigherAccess Paul Hyde - HigherAccess

"inspHire allows us to have an immediate handle on what is happening within the business in an easy to access format. We cannot rate inspHire highly enough, we have no hesitation in recommending both inspHire the company and the product offering"

Whatever the size of your business, inspHire provide hire management software solutions that will deliver proven results. Contact us today and become inspHired.

0800 634 0600
hello@inspHire.com
www.inspHire.com

