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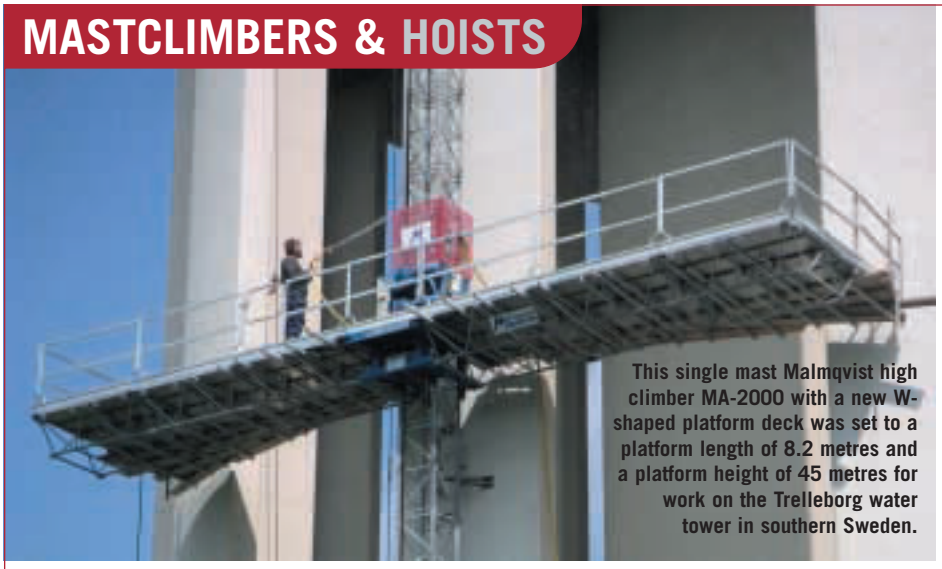

This single mast Malmqvist high climber MA-2000 with a new W-shaped platform deck was set to a platform length of 8.2 metres and a platform height of 45 metres for work on the Trelleborg water tower in southern Sweden.

# UK Standard

**Since the 1980s the mast climbing work platform has seen a number of changes, not only in its popularity but also in the legislation that it is controlled by. Mike Pitt of Mast Climbing Platforms reports for *C&A*.**

**ALMOST SINCE** day one in the early 1980's, when the first mast climbing work platforms were being used in the UK, there have always been a few people working on the legislation for their safe use. This has resulted in the mast climbing industry's British Standard Code of practise BS 7981.

The focus of the these working committees over several years has been to assist contractors and developers to exploit the cost savings and safety advantages offered by mast climbing work platforms compared to traditional façade scaffold.

Much of what these committees have achieved is now available in the BS7981 Code of Practice for Installation, Maintenance, Thorough Examination and Safe Use of Mast Climbing Work Platforms (MCWPs). The Code provides a comprehensive guidance to every facet of the application of MCWPs.

It was originally based on a Health & Safety Executive (HSE) guidance note published in 1984 but has been developed to clarify the safe use of work platforms and to enhance its use through out the UK. Andrew Reid, managing director of Mastclimbers UK has chaired the Bsi select committee with the HSE and Bsi on the redrafting of the new Standard.

### MASTCLIMBER FACTS

**Throughout the world there are approximately 30 to 35 mast climber manufacturing companies based in Austria, Canada, Czech Republic, Finland, France, Germany, Holland, Italy, Singapore, Spain, Sweden, the UAE and the US. Some of these have sub-manufacturing operations in Central Europe and beyond. Italy is home to the largest number of manufacturers.**

**With over 800 machines in the UK the manufacturers represented include Intervect (including the brands of Alimak, Cimar and Hek), Safi, Scanclimber, Maber and Haki.**

### MAJOR RENTAL COMPANIES

| | |
|---|---|
| **Mastclimbers UK** | **(650 units)** |
| **Mastclimbers Ireland** | **(35 units)** |
| **Sovereign Access** | **(109 units)** |

**Based in Atlanta in the US, Mike Pitt has been involved in the mast climbing industry for over 20 years and is currently a self-employed salesman and consultant to the industry, supplying new and used mast climbing platforms, construction hoists and general access equipment around the world.**

"It clarifies the criteria of training, methods and procedures for the people involved in carrying out the tasks," says Reid. "It also clarifies the distinct health and safety criteria for the installation of the products and eliminates a tree of paperwork at the tendering stage."

Incorporating the installation, maintenance, thorough examination and safe use of mast climbing work platforms, the Standard enables main contractors to specify the type of men and material access required when going out to tender.

A crucial area is the specialist task of installation, which demands skill and experience. The Code quantifies exactly what is required in this respect and the requisite training is already encompassed within the IPAF-Approved Training Scheme and covers installers, operators and demonstrators of MCWPs.

Experts from rental companies, manufacturers and safety officers all contributed to the rewriting of this standard through various working committees and meetings. In the future it will significantly enhance site safety by eliminating procedural confusion.

It is hoped that the code will eventually be elevated to European Standard status and subsequently an ISO (International Standard) and all those involved will continue to promote its wider use.

Already in place is the European standard BS/EN 1495:1998 - The mast climbing work platform standard for the design and manufacture, which was put together by a select committee including European manufacturers and safety officers.

Other countries have adopted these standards either in their entirety or at least partially, but both standards are quickly becoming the benchmark that aims to further promote the safe use of mast climbing work platforms throughout the industry.

### BS EN 1495

British & European Standard for Design Specifications for Mast Climbing Work Platforms, BS EN 1495, specifies the specific safety requirements for MCWPs either permanently or temporarily installed, manually or power operated and which are used by one or more persons from which to carry out work. Such work platforms are used to move those same persons and their equipment and materials to and from their working levels with access onto and off of the platform limited to one point.

The legislation covers special safety requirements for MCWPs, the design, and hazards arising during the various phases in the life of equipment and describes methods for the elimination or reduction of these hazards and safe working procedures. ■

## UK Construction Hoist benchmark

**IT HAS** been several years now since the Construction Hoist Interest Group (CHIG) of the UK's Construction Plant-hire Association first addressed the lack of common standard practice among hire companies and contractors with regards to the installation and thorough examination of construction hoists on UK job sites. July 2003, however, saw the publication of the "CPA Best Practice Guide Inspection, Thorough Examination and Maintenance of Construction Hoist", which for the first time clarifies the share of responsibilities between the hire company and the contractor and gives substantial practical advice on meeting the requirements of the law.

"Prior to publication, there was no common ground between hoist installation and thorough examination," says John Varcoe, safety, technical and training manager at the CPA.

"Some hoist hire companies would only install hoists, leaving scaffolders to continue to use the equipment to erect scaffolding and hang the landing gates themselves. Methods varied from region to region and opinions differed on the best and safest installation practice, when and how to complete the initial thorough examination and the subsequent in-service inspections and on-going thorough examinations.

"It took two years to write the standards and for the Health & Safety Executive (HSE) to agree to them," he continues. "But working closely together, the guide was completed and we now have an industry standard that covers the UK, Scotland and Northern Ireland."

The guidance is for the benefit of both plant hire companies and contractors and details thorough examination after installation, in-service thorough examination, daily pre-use checks, weekly inspections, and the maintenance of construction hoists.

However, some contractors are still guilty of neglecting the scaffolding design, the hoist interface, hoist base and tie loads, ground preparation, power requirements, loading and unloading issues, thorough examination and the training of operators.

Since the CDM regulations where introduced, the installation of hoists needs to be considered, discussed and tendered earlier in the planning process. Planning to hire a hoist is an involved process dealing with a number of different people, all of whom contribute to ensure that any newly completed installation is safe prior to the hoist being put into service.

According to the CPA, the new guide is likely to have far reaching consequences on current practices, which vary from region to region across the country. The required law hasn't changed, but this is the first time that the hire sector has joined with the HSE to decide on how best to meet its legal requirements. ■

# Mastclimbers slant on safety






**ACCORDING TO the International Powered Access Federation, since 1989 it has recorded an average of less than 2 accidents per year. Seven per cent of these were attributed to maintenance; 43 per cent occurred during erection and dismantling and 46 per cent were down to operator use. Compare this to the thousands of injuries and over 900 fatalities over the past 10 years within the construction industry as a whole, this demonstrates the relative safety of MCWPs, which are often working at heights in excess of 100 metres. Here, Andrew Reid, founder and managing director of Mastclimbers UK, highlights some of the key safety features built into the latest generation of machines.**

**LIMIT SWITCHES (A): Top, bottom and ultimate limit switches make contact with striker plates fitted to the mast sections and electronically isolate the platform to prevent travel beyond the striker plate.**

**MAST PROXIMITY SWITCH (B): Primarily for erection purposes, this prevents the platform driving off the top of the mast in the absence of a top mast. It also acts as a back-up system for the top mast limit switch and electrically isolates the platform power in the event that the mast section above the platform is not detected.**

**LEVELLING SYSTEM (C): In the twin configuration all MCWPs will have a levelling system activated to maintain a horizontal platform during travel. When the platform begins to move out of the level position, the limit switches are activated by the centre span deck modules, and isolate the power on one drive unit, allowing the other to 'catch-up' to the same level. Power will be restored once a level platform has been achieved, allowing normal movement to continue.**
**EMERGENCY STOP BUTTON: Fitted to all platforms to electrically isolate power to the platform.**

**DIRECTIONAL CONTROLS: 'Dead Man Type' directional controls only allow platform movement if the user activates either a button or lever.**

**GATE INTERLOCK LIMIT (D): Limit switches which electrically isolate the platform's drive system, preventing operation while the access gate is opened.**

**MANUAL DESCENT (E): In the event of a loss of power while the platform is in an elevated position, hand brake release systems manually release the primary braking system and allow the platform to descend in a controlled manner.**

**OVER SPEED SAFETY BRAKE: In the event that the primary braking system has failed and the platform begins to freefall, a gravity activated braking system will engage to prevent the platform descending to the ground in an uncontrolled manner.**

*The safety features appear courtesy of Mastclimbers Ltd and are taken from their 'Site Safety Guide', which is now published by, and available from IPAF as the industry safety guide. The 50 page booklet is issued to persons attending Mastclimbers' IPAF Approved Training Courses.

## Mastclimbers buys A-Plant fleet

**EARLIER IN the year, Masclimbers purchased a fleet of around 140 mastclimbers, along with ongoing contracts at the time, for a disclosed sum of £1.4 million from UK rental company A-Plant, the UK subsidiary of the Ashtead Group.**
**The purchase boosted Glasgow-based Mastclimbers' fleet to in excess of 650 units, making one of the world's largest specialist hire contractors in the mast climbing sector.**

Scanclimber says that its SC 5000 mast climber adapts to the changing size of wind turbine masts during their construction by utilising ballast weights that press the platform against the mast.

**Numerous mast climber and hoist products have entered the market during the past 6 months. Here we take a look at some of the latest.**

# On the up

**THE INTERMAT** exhibition held earlier in the year was the main venue for the majority of this year's new product launches in the mast climber and hoist sector. Finland's Scaninta Nokia launched its own assault in the sector with the introduction of its Scanclimber SC20032 personnel/material hoists, first seen at the Paris show. The unit is a larger version of the company's 1.5 tonne payload unit. The smaller SC1532 is capable of transporting up to 18 people in its 1.51 x 3.2 x 2.1 metre cage at a maximum speed of 39 metres per minute to a maximum lift height of 300 metres. The company has allocated a free standing lift height of 20 metres, which is also the anchoring distance of the mast. The lifting unit itself comprises two 9.2 kilowatt, top drive motors, which are replaced for two slightly more powerful 11 kilowatt units on the larger SC 2032F.

The SC 2032F can transport 24 people in its larger cage at the slightly slower speed of 36 metres per minute, while its maximum height is reduced by 50 per cent to 150 metres. Its free standing height is 5 metres less at 15 metres with a reduced anchoring height of 13.2 metres. The unit uses the same mast sections as the SC1532.

Also developed by the company is a trailer mounted mastclimber that can be transported between job sites using a car or van.
The SC1000 is a 10.5 metre long platform mounted on a towable trailer chassis with brakes, capable of being towed at up


**Geda has kept the cost of its MCP 750 and 1500 mast climber units down by incorporating standard scaffold elements into the design of the platform's supporting frame.**

to 80 kilometres per hour with a 20 metre mast section.

Electroelsa specifically targeted rental companies with the launch of its own towable version earlier in the year. The EP 3125T is a trailer mounted unit, and like the Scanclimber unit, can be easily transported from to site-to-site by car.

Germany-based Geda has concentrated on reducing the bulkiness of traditional platforms in transit and making erecting and dismantling the platform as easy as possible with the introduction of its MCP 750 and 1500 mast climber units, also dubbed, 'the electric scaffold'. The platform's supporting frame is made of standard scaffold elements which are attached to each other via tube connectors. The floor of the platform itself is made up of scaffold planks, while lateral protection is provided by boards, intermediate rails and hand rails, hung from a vertical framework.

The 5.6 metre long platform on the smaller MCP 750 single mast unit provides a 0.75 tonne capacity, while the twin-mast MCP 1500 utilises a bigger 16 metre, 1.5 tonne payload version. Both configurations work to a maximum 100-metre mast erection height made up of 1.5 metre individual mast sections and a lifting speed of 9 or 10.8 metres per minute using 400 or 480 volts respectively.

From The Netherlands-based De Jong's Liften comes a 1.5 tonne capacity transport platform, which can also be used as a builders hoist, allowing the transport speed to be doubled. The MP1500 transport platform has 1.5 x 4.2 metres of platform space and is capable of housing up to 8 persons in a single lift.

A somewhat more unique system was introduced by Italian manufacturer Safi. Its TST-500 was launched as brand new concept for providing access in the final stages of tunnelling projects. The system is a rack and pinion system with hydraulic control, which is composed of a platform with a gearbox drive unit which runs on two

**(Left) Safi's TST-500 CE has been developed for the final stages of tunnelling applications.**

curved guides designed with racks to lead the platform's movement around the tunnel. The horizontal movement of the platform is maintained by a hydraulic system that adjusts the level of the operator to the best working position. C&a

**Electroelsa has specifically targeted rental companies with the launch of its towable mast climber, EP 3125T.**