



# IPAF Guidelines for the Safe Use of Mast Climbing Work Platforms

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US Edition 2010

REVIEWED AND ENDORSED BY



**IPAF Guidelines for the Safe Use of Mast Climbing Work Platforms:  
US Edition 2010**

**IPAF 2010**

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# ***IPAF Guidelines for the Safe Use of Mast Climbing Work Platforms: US Edition 2010***

## **Foreword**

This guideline has been prepared by the International Powered Access Federation (IPAF), as a result of requests from industry bodies, users and manufacturers. It has been based on proposals from IPAF using BS7981, and BS EN 1495, *Lifting Platforms – Mast Climbing Work Platforms* and has subsequently been reviewed and endorsed by the Scaffold Industry Association (SIA). It also includes influences from the Center for Protection of Workers Rights (CPWR) Mast Climbers Group, ANSI A92.9, OSHA 1926 Subpart L, 'Scaffolds', Cal OSHA's specific MCWP guidance, and IPAF's International MCWP Committee.

Mast climbing work platforms (MCWPs) are increasingly being used as temporary work places, giving variable height access to specific areas above ground level. In many cases MCWPs are more convenient to use than other forms of access equipment such as ladders, fixed scaffolding, or staging, or swingstage. Examples of MCWPs are shown in Figures 1, 2 and 3.

This guideline sets out recommendations to ensure that MCWPs are installed, maintained, examined and used in a safe manner.

Annex A, Annex B, and Annex C are informative.

**Compliance with this code does not of itself confer immunity from legal obligations.**

### **Summary of Pages**

This document comprises a front cover, an inside front cover, a contents page, page i, pages 1 to 27, and a back cover.

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## 1. Scope

This Guideline provides recommendations for persons responsible for the installation, maintenance and frequent inspection of MCWPs. It also provides recommendations on the safe use of MCWPs.

This Guideline gives recommendations for MCWPs, which are temporarily and permanently installed, electrically or gas powered, and designed to be used by one or more person(s) from which to carry out work. The vertical moving components (work platform) are used to move those same persons and their equipment and materials to and from a single boarding point. These restrictions differentiate MCWPs from construction elevators.

This Guideline gives recommendations for MCWPs including those that meet the requirements of ANSI A92.9. These MCWPs typically can be considered to consist of four assemblies, or groups of parts, as follows:

- a) At least one mast which is climbed by and which supports the platform.
- b) A work platform capable of supporting persons, equipment, tools and materials, etc.
- c) A wheeled chassis, or a base frame, supporting the mast structure.
- d) Mast tie assemblies.

### Notes:

1. The chassis or base frame can provide stability for MCWPs up to a predetermined free-standing height, above which the mast(s) is tied to the building or other structure.
2. Figure 1 shows a single mast mobile MCWP. Figure 2 shows a twin mast MCWP that, for illustrative purposes, shows examples of a fixed base and a mobile base. Twin mast machines on site either have two fixed bases or two mobile chassis. Figure 3 shows typical mast tie arrangements.

This Guideline does not give recommendations for dealing with the hazards involved in the maneuvering, erection or dismantling, fixing or removing of any materials or equipment which are not part of the MCWP. Neither does it deal with the handling of specific hazardous materials.

This Guideline does not give recommendations for delivering persons and materials to fixed landing levels. Such equipment, referred to as lifts or hoists are dealt with by other standards such as ANSI A92.10 *Transport Platforms*, ANSI A10.4 *Personnel Hoists* and ANSI A10.5 *Material Hoists*, Mobile Elevating Work Platforms (MEWPs) conforming to ANSI A92.5 *Boom Lifts*, and A92.6 *Scissor Lifts*.

## 2. Reference Standard

The following Standard contains provisions which, through reference in this text, constitute provisions of the Guideline. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

ANSI A92.9 *Mast-Climbing Work Platforms*

## 3. Terms and Definitions

For the purpose of this standard the following terms and definitions apply.

- 3.1 Rated Load.** Load for which an MCWP has been designed for in normal operation, as stated in the load diagram/chart.
- 3.2 Rated Speed.** Vertical or horizontal speed for which an MCWP has been designed.
- 3.3 Transfer.** Any horizontal movement of an MCWP from one position to another on the same working site.
- 3.4 Transport.** Any movement of an MCWP outside the boundaries of the work site.
- 3.5 Base Frame.** Part of an MCWP that provides support for the mast and elevating assembly.

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- 3.6 Chassis.** Part of an MCWP that provides mobility and support for the mast and elevating assembly.
- 3.7 Jacks or Outriggers.** Supports at the base frame level used to maintain or increase the stability of an MCWP within specified conditions. (*note: they may be used for leveling*)
- 3.8 Mast.** Structure that supports and guides the platform.
- 3.9 Guides.** Parts of the mast which provide guiding for the platform.
- 3.10 Mast Tie.** Anchorage system used to provide lateral restraint to the mast from the building or other structure.
- 3.11 Work Platform.** Vertical, traveling, part of the installation upon which the persons, equipment and materials are carried, and from which, work is carried out. (*Note: This is as opposed to an MCWP, which refers to the whole of the installation, among others, the work platform, mast, mast ties, base and chassis. The work platform includes the main platform and any platform extension.*)
- 3.12 Main Platform.** Part of the work platform that is built up using primary structural elements.
- 3.13 Buffer.** Resilient stop at the end of the travel, comprising a means of arresting using fluids, springs or similar means.
- 3.14 Overspeed.** Any speed above rated speed.
- 3.15 Safety Mechanism.** Mechanical device for stopping and maintaining the work platform stationary on the mast in the event of overspeed.
- 3.16 Competent Person.** Person who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.(OSHA 1926 Subpart L)
- 3.17 Qualified Person.** Person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his/her ability to solve, or resolve, problems related to the subject matter, the work, or the project.(OSHA 1926 Subpart L)
- 3.18 Supplier Competent Person.** Person appointed by the MCWP supplier who is responsible for planning the installation, method statements for the erection, safe operation, inspection, maintenance, frequent inspection and dismantling of MCWPs.
- 3.19 User Competent Person.** Person appointed by the user company who is responsible for devising safe systems of work and other aspects of use to be carried out from MCWPs.
- 3.20 Installer.** Person(s) responsible for installation, including erection, modification, and dismantling of MCWPs.
- 3.21 Demonstrator.** Person(s) responsible for the on-site management of safe use, inspection, servicing and maintenance of MCWPs, and the familiarization of operators on the job site.

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- 3.22 User.** Person(s) or entity that utilizes, or puts into operation, an MCWP.
- 3.23 Operator.** A qualified person (ANSI A92.9 definition), who controls the movement of an erected MCWP.
- 3.24 Mobile MCWP installation.** MCWP installation with no more than two ties, which is suitably designed for horizontal transfer on the job site.

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Job Title	Responsibilities	Basic Skills Required	Training Needs
Demonstrator	<p>Technical Competence:                      To conduct job survey and assess risk                      To specify and configure MCWP's (manufacturer/model specific) of inspection and servicing requirements including motor generator, basic electrics (general and manufacturer/model specific) of testing requirements after erection (general and manufacturer/model specific) to operate machine and have thorough knowledge of all emergency/safety systems complete knowledge of daily/weekly MCWP inspection procedures and requirements instruction competence to familiarize users in safe operation and use, including emergency/safety systems</p>	<p>Minimum 2 years practical experience                      Fully physically fit                      Basic mechanical/electrical awareness                      Basic construction and health and safety awareness</p>	<p>Basic servicing/electrical course (model specific)                      Basic engineering parameters course (model specific)                      Basic legislation awareness                      Health and Safety Awareness                      Safety systems and emergency procedures                      Hazard Assessment guidance</p>
Operator (mobile)	<p>Competent to operate MCWP's and complete familiarity with safety systems                      Complete knowledge of all emergency and safety decent systems                      Complete knowledge of SWL and load distribution parameters, as defined in load charts                      Complete knowledge of daily and weekly MCWP inspection procedures and requirements                      Technical Competence                      to transfer mobile units on site                      dismantle and reinstall masts and ties of mobile MCWP to original configuration</p>	<p>Fully physically fit                      Basic construction and health and safety awareness</p>	<p>Basic user familiarization                      Basic inspection and testing                      Safety systems and emergency procedures                      Mechanical instruction on handling components                      Basic engineering parameters instruction, with emphasis on stability and ground conditions                      Hazard Assessment guidance</p>
User	<p>Competent to operate each specific MCWP and complete familiarity with safety systems                      Complete knowledge of SWL and load distribution parameters, as defined in load charts</p>	<p>Fully physically fit                      Basic construction and health and safety awareness</p>	<p>Basic user familiarization                      Basic inspection and testing                      Safety systems and emergency procedures</p>

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Job Title	Responsibilities	Basic Skills Required	Training Needs
Supplier Competent Person	<p>Technical Competence:                      to undertake appropriate job risk assessment to specify and design MCWP configurations to survey site and identify obstacles to plan installation of MCWP's on site to specify/design anchors/ties required to prepare method statements for all aspects of the installation to induct others in safe operation and use to induct and instruct others in daily/weekly inspection and servicing</p>	<p>Minimum of 2 years practical experience                      Fully physically fit                      Basic mechanical/electrical awareness                      Basic construction and health and safety awareness</p>	<p>Manufacturers model specific training                      Complete understanding of manufacturers training manuals                      Model specific tie/load chart awareness                      Awareness and competence to licensed installer level of training                      Health and Safety Awareness                      Hazard Assessment guidance</p>
User Competent Person	<p>Technical Competence:                      to comprehend basic mechanical/electrical parameters of MCWP installation to plan all aspects of work scheduled to be done from MCWP's to prepare method statements for individuals and materials, working from MCWP to plan all aspects of general site safety and risk awareness</p>	<p>Minimum of 2 years practical experience                      Fully physically fit                      Basic mechanical/electrical awareness                      Basic construction and health and safety awareness</p>	<p>General site (personnel and materials) planning                      Health and Safety Awareness                      Awareness and competence at least to user level of training                      Hazard Assessment guidance</p>
Installer	<p>Technical Competence:                      to plan jobsite to erect/dismantle safely including anchor/tie technology and pull/torque testing to understand MCWP configuration parameters (manufacturer/models specific) of inspection and servicing requirements including motor generator and basic electrics (general and manufacturer/model specific) of testing requirements after erection (general and manufacturer/model specific) to operate machine and have thorough knowledge of all emergency/safety systems instruction competence to familiarize users in safe operation and use, including all emergency/safety systems</p>	<p>Minimum of 2 years practical experience                      Fully physically fit                      Basic mechanical/electrical awareness                      Basic construction and health and safety awareness</p>	<p>Basic erection/dismantle course (model specific)                      Basic servicing/electrical course (model specific)                      Basic engineering parameters course (model specific)                      Basic legislation awareness                      Safety systems and emergency procedures                      Hazard Assessment guidance</p>



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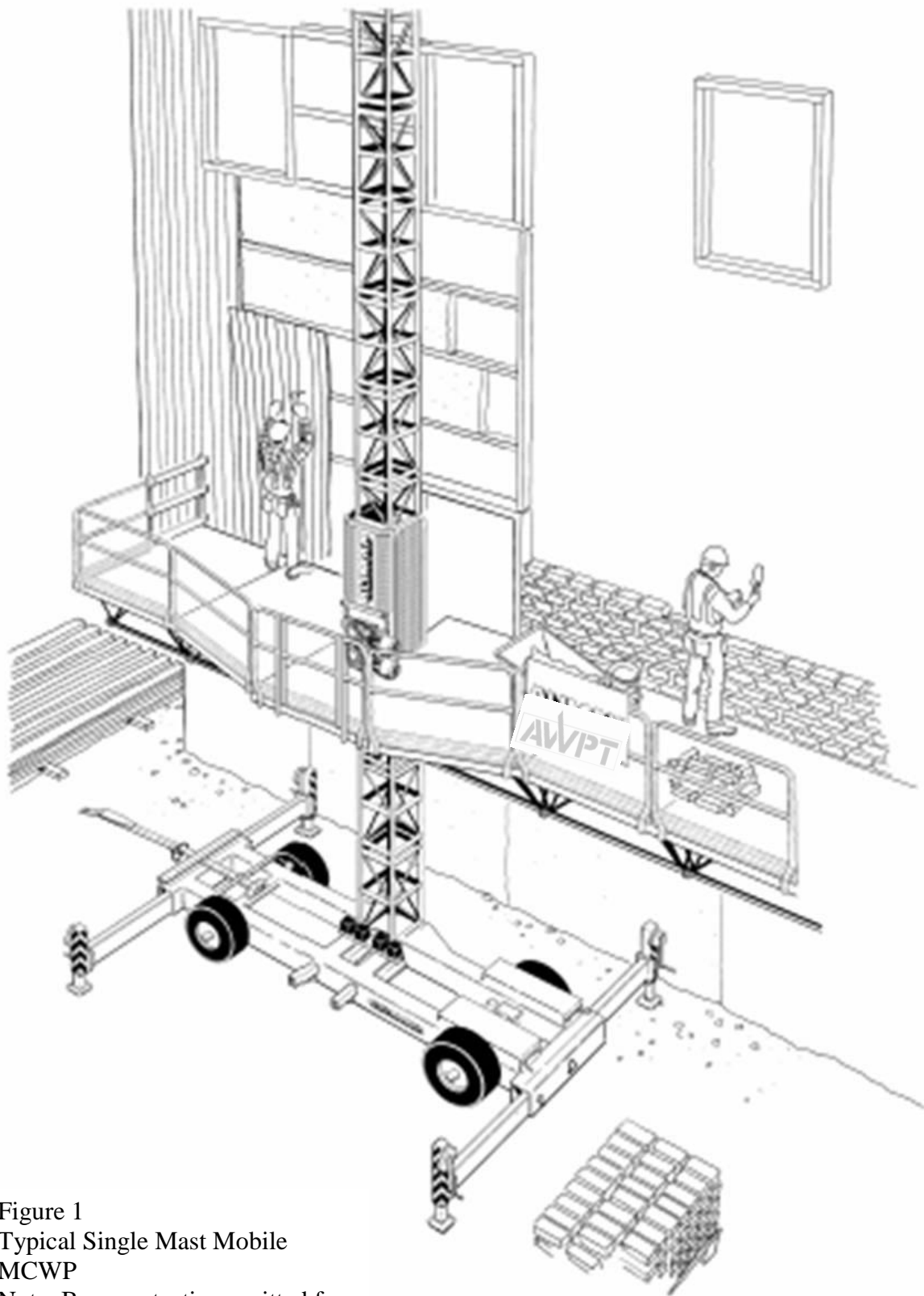


Figure 1  
Typical Single Mast Mobile  
MCWP  
Note: Base protection omitted for  
clarity

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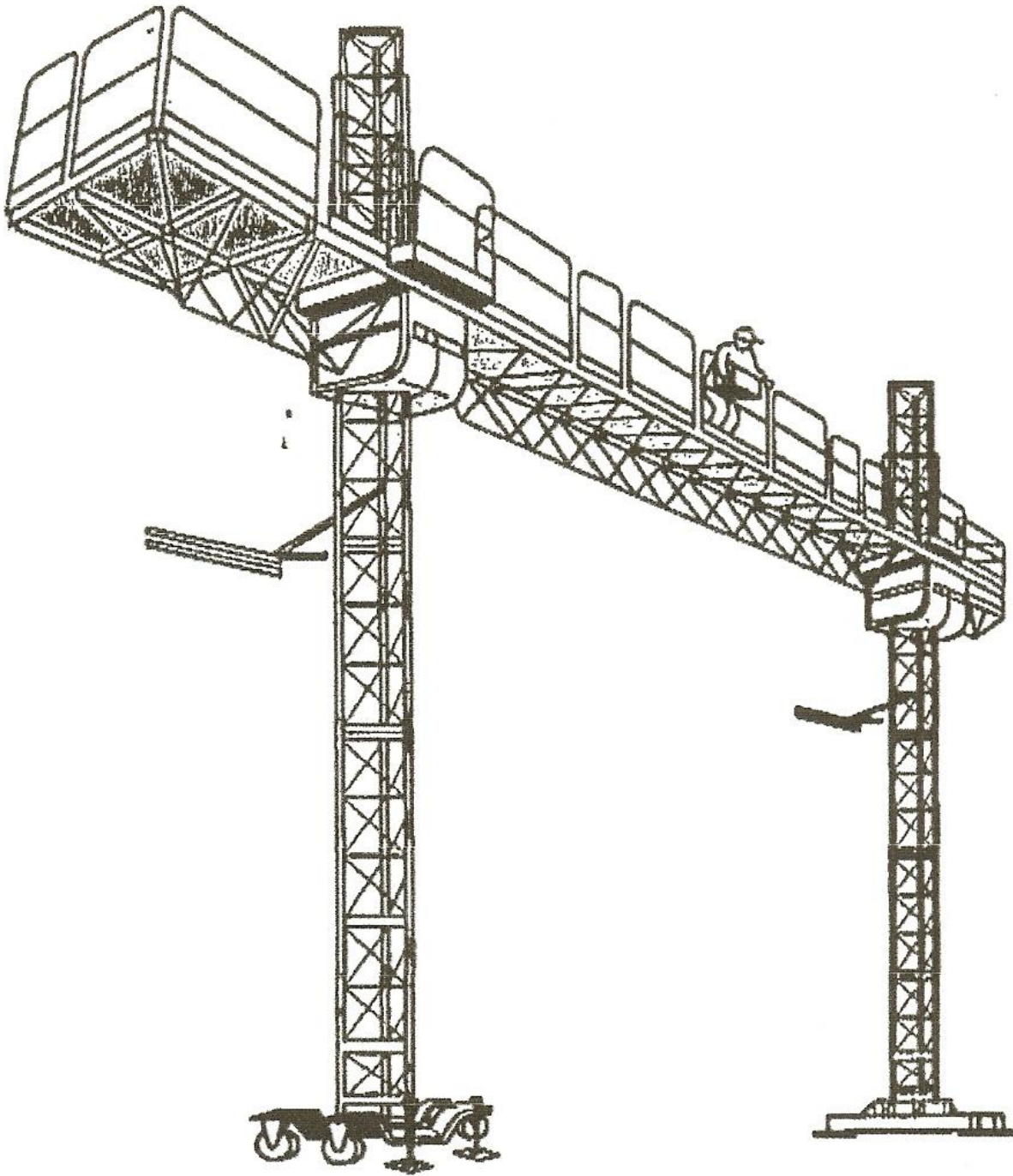


Figure 2 – Twin Mast MCWP illustrating one fixed and one mobile chassis  
Note: Base Protection Removed For Clarity

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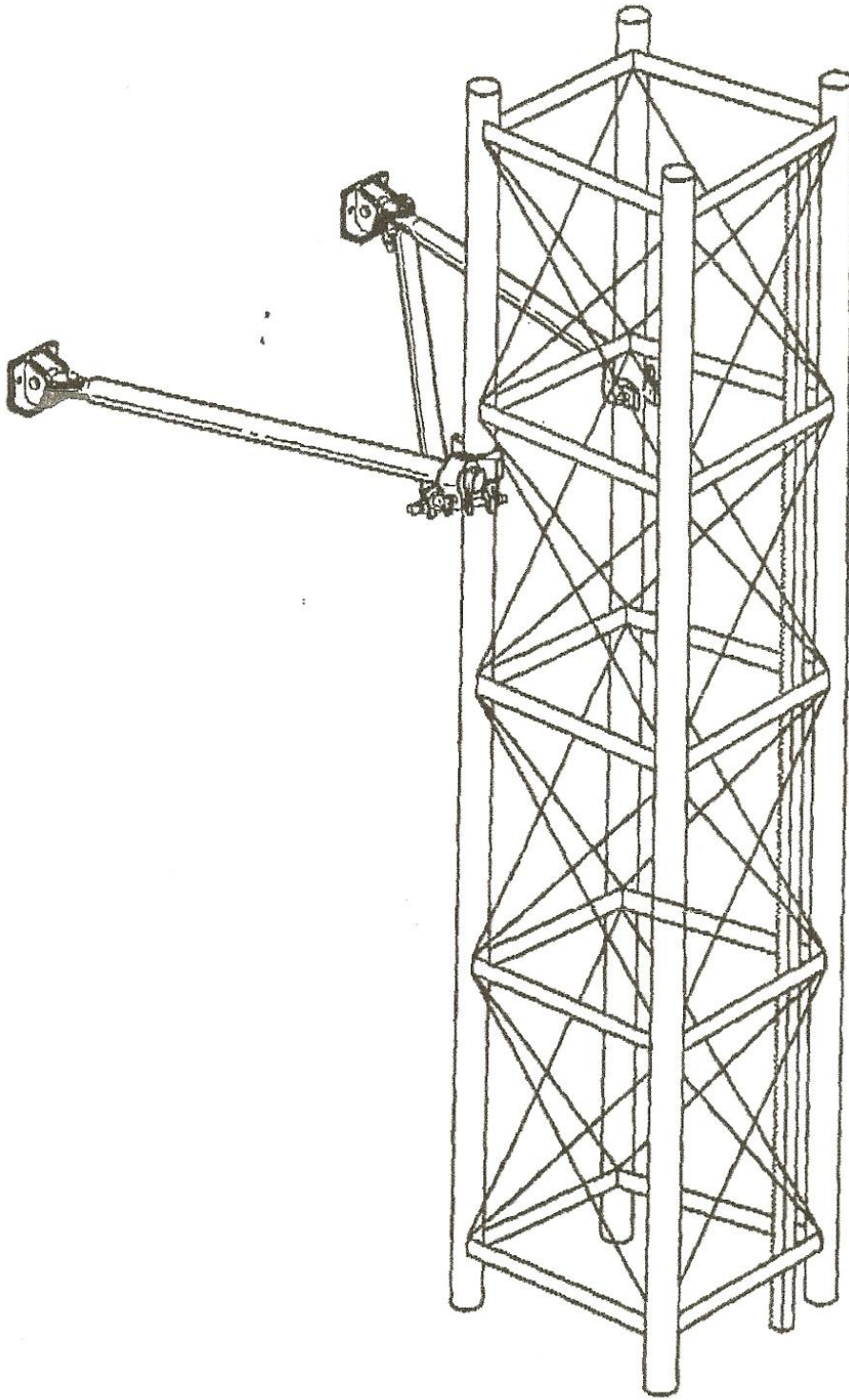


Figure 3 – Typical Mast Tie Arrangements

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## **4. Hazards Associated with MCWP Working**

### **4.1 General**

Section 4 is intended to assist those persons undertaking risk assessments of the installation planning, erection, dismantling and use of MCWPs.

### **4.2 Erection and Dismantling**

Potential hazards that should be considered when installing or dismantling MCWPs, these hazards include but are not limited to the following:

- a) Handling heavy items
- b) Improper mast bolt connections
- c) Exposure to dust and particles during the drilling of mast tie anchorages
- d) Improper mast tie installation
- e) Improper mast installation
- f) Moving parts
- g) Improper dismantling procedures
- h) Fall hazards on building or platform

### **4.3 Use**

Potential hazards that should be considered when using MCWPs, these hazards include but are not limited to the following:

- a) Fall hazard from the work platform
- b) Falling objects
- c) Crushing hazard beneath a MCWP
- d) Trapping of persons between the work platform and fixed obstructions, such as the building or scaffolding
- e) Instability of a free standing MCWP
- f) Loss of power or control circuit failure
- g) Contact with live electrical conductors
- h) Improper inspections
- i) Overturning hazard during the transfer of mobile MCWPs

## **5. Specification, installation planning, erecting and dismantling of MCWPs**

### **5.1 General**

One person, the supplier competent person (see 3.18), should be appointed to act on behalf of the supplier to have overall control of the specification, installation planning, erecting and dismantling of MCWPs. The person appointed may have other duties and need not be an employee of the supplier organization, but should have adequate training and experience to enable these duties to be carried out competently.

### **5.2 Responsibilities of Supplier Competent Person**

The Supplier Competent Person should establish and follow a safe system of work for every installation of an MCWP, whether it is an individual machine or a group of machines. The same principles should be applied to both fixed and mobile MCWPs.

The safe system of work should include the following:

- a) Assessment of hazards
- b) Planning the installation and providing a suitable MCWP
- c) Planning the erection and dismantling of each MCWP
- d) Provide instructions for the operation and maintenance procedures for MCWPs
- e) Preparation of a project plan, including the requirements for:

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- 1) Any necessary preparation of the jobsite
- 2) Erection
- 3) Frequent inspection and, where necessary, testing
- 4) Provision instructions for operations
- 5) Dismantling
- f) Ensure that there are properly trained and competent personnel for the installation and demonstration of MCWPs, who have been made aware of their statutory responsibilities
- g) Ensuring that all necessary instructions, manuals, test certificates, load charts and other documents are available
- h) Effective communication with the User Company

The safe system of work should be communicated to all parties concerned, and monitored.

### **6. Management and control of MCWP operation**

#### **6.1 General**

One person, the User Company Competent Person (see 3.19), should be appointed to act on behalf of the user organization to have overall control of each specific MCWP operation. This appointment does not remove any legal responsibility from the management but enables them to use his or her expertise to fulfill their responsibilities. The person appointed may have other duties and need not be an employee of the user organization but should have adequate training and experience to enable these duties to be carried out competently.

The training requirements for the User Company Competent Person are given in Table 1.

#### **6.2 Responsibilities of the User Company Competent Person**

The User Company Competent Person should establish and follow a safe system of work for every use of a mast climbing work platform, whether it is an individual machine or a group of machines. The same principles should be applied to both fixed and mobile MCWPs.

The safe system of work should include the following:

- a) Assessment of hazards
- b) The familiarization of the operators of the MCWP
- c) The preparation of a project plan for the work to be carried out on the platform, including emergency egress
- d) The inspection and maintenance of MCWPs in accordance with the suppliers instructions
- e) Provide for adequate supervision by properly trained and competent personnel having the necessary authority
- f) Prevent unauthorized use or movement of MCWPs at all times
- g) Consideration for the safety of personnel working near the MCWP
- h) Arrangements for the effective monitoring of wind speed
- i) Effective liaison with the supplier competent person.

The safe system of work should be communicated to all parties concerned, and monitored

### **7. Personnel and Training**

#### **7.1 Selection**

Suitable personnel, who are competent to carry out all duties required, should be selected to carry out the operations safely. Records of training and experience of persons should be consulted to assist in selection. Persons responsible for selection of personnel should ensure that personnel are effectively organized to ensure good teamwork. Personnel should not be under the influence of alcohol, drugs or other impairments to efficiency. All personnel should be aware of their duties. Personnel undergoing training should be properly supervised.

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## **7.2 Minimum attributes of personnel**

All personnel should be:

- a) Competent to perform tasks required of them
- b) Trained and/or evaluated
- c) Able to present a record of training and/or evaluation
- d) Physically able to undertake appointed tasks

## **7.3 Training requirements**

Every employer is responsible for determining the training requirements of, and providing safety equipment for, and training to, all personnel.

Training will include, but is not limited to:

- a) MCWP specification/configuration
- b) Installation planning
- c) Erection and dismantling
- d) Operation, use and inspection
- e) Maintenance
- f) Testing and examination

Table 1 gives the training needs analysis relating to the above tasks.

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## **8 Planning the Installation**

### **8.1 General**

No one should be responsible for specifying MCWPs, or planning an installation, or alteration to an installation, unless they are competent in this work. Such competence will have been gained by appropriate training and relevant experience under supervision, and may be verified by entries in their record of attainment.

Plans should be periodically reviewed in the light of changing site circumstances.

### **8.2 Planning**

In selecting an MCWP and planning the installation, the Supplier Competent Person should refer to the MCWP operating specification and installation instructions provided by the manufacturer. A site survey is necessary.

A checklist for the site survey should include the following:

- a) Establish primary purpose that MCWPs will be used for with the client at the outset, together with any other additional requirements there might be for the unit, e.g. prevention of falling debris
- b) Length of work platform required and the work platform configuration, including any edge extensions, for the full duration of the installation.
- c) Mast positions
- d) Maximum height of travel
- e) Work platform loading capacity and method of loading, to be agreed with the management/user
- f) Access and egress of personnel and materials
- g) Ground/supporting base conditions (levels and load bearing capacity)
- h) Area conditions around base with particular relevance if an MCWP is mobile and is to be moved while on site
- i) Tie fixing point strengths and fixing point details on the structure, including suitable means of access to such points for installation and dismantling
- j) An assessment (by the User Competent Person), will be necessary, of the strength of the structure both horizontally and vertically to support MCWPs.
- k) Uninsulated electrical conductors in the vicinity of MCWPs should be adequately shielded/moved.
- l) Windows or doors opening into path of work platform. Will an MCWP block any fire escape routes?
- m) Balconies or voids that necessitate special guarding methods or create special trapping hazards
- n) Are the power supply and connection arrangements (if applicable) suitably located with adequate earth protection and power capacity?
- o) Extent of ground level fencing of MCWP requirements, when required by risk assessment
- p) Access provisions to and from site for MCWPs – details/obstacles. In addition suitable task lighting should be available for these operations
- q) Transfer clearances for mobile MCWP movement
- r) Are there any cable snagging hazards (if applicable)?
- s) Access provision for maintenance

### **8.3 Method Statement**

Details gained during the site survey should be used to compile a clear written method statement describing the safe system of work for erection and dismantling. This should be a comprehensive, job-specific procedure for the work to be carried out, and should include such information, explanations, detail and diagrams that all concerned with the authorization, erection and dismantle are clear of their specific duties. It should also include or make reference to the risk assessments for all activities connected with the delivery, site handling, erection, use, dismantling and collection of MCWPs. This method statement should be issued and understood by all involved in the installation/dismantling of MCWPs.

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## **9 Positioning of MCWPs**

### **9.1 General**

MCWPs should only be used on suitable surfaces that are level and firm, and within the tolerances specified by the manufacturer. Where the ground is other than well made concrete (or similar) in good condition, suitable load spreading plates should be used under base, and these should be specified in the method statement and verified by a competent or qualified person. A suitable supply of metal or cribbing should be included in the inventory of parts to be sent to site with MCWP', or agreed for the site to provide.

Special care should be taken in assessing the strength of roof/floor members, and spreading the load adequately, if MCWPs are to be supported other than directly on the ground.

If MCWPs are to be supported on cantilevered I-beam arrangements or 'shelf brackets', which are not designed and installed by the manufacturer, the base support should be evaluated and approved by a person qualified in structural engineering, with due consideration of all gravity and lateral loads.

Platform weather enclosures, tarps, signs, or any other construction which could affect the wind load on the platform, outwith the pre-determined manufacturers specifications, should be authorized only by the manufacturer.

If the MCWP is to be placed on concrete floors/roofs requiring additional structural supports underneath (e.g. underground car park levels), a 'competent' or 'qualified' person should provide:

1. Calculations showing the specific ground load(s) to be shored for the configuration in question.
2. The type, amount and load rating of the shoring posts.
3. A shoring plan, detailing the exact position of each post, for each level, relevant to column lines.
4. A means of making sure that the posts are protected against inadvertent removal or damage (e.g. signage, 'safety tape' etc refer to section 13.13 for more detail).

In specifying the base frame or chassis, care should be taken to ensure that it will provide adequate stability before the mast ties are secured during erection, and after the mast ties have been removed during dismantle.

The mast(s) should be tied to structural members of the building unless adequate strength of alternative tie locations can be assured (typical tie fixings are shown in fig. 3). The building or structure should be assessed to ensure that it can withstand the loads imposed by MCWPs, the load parameters to be provided by the Supplier Competent Person to the User Competent Person.

The possible effects, on MCWPs, of all reasonably foreseeable weather conditions (i.e. high winds) for the duration of the installation and erection and dismantling, should be taken into account. Additionally, MCWPs should not be positioned where they are likely to be struck by site or other vehicles or by unrestrained swinging loads. Protection of installed MCWPs from interference by unauthorized personnel should also be considered.

If designated fire escapes will be obstructed, this should be reconciled with the local Fire Authority (see also section headed 'Safety at the Work Site' below).

### **9.2 Access to the platform at the boarding point**

#### **9.2.1 General**

Safe and convenient means of access should be provided to the work platform. This should be from one level only. If a raised fixed landing is provided for access to the work platform, then care should be taken not to create a foot-trapping hazard. If this landing is at height and the possibility of falling exists then it should be protected when a MCWP is not at the access landing position.

#### **9.2.2 Sites accessible to the public**



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Where MCWPs are erected in a place accessible to the public, access to the MCWPs should be prevented by fencing at ground level to a height of at least 6ft. The User Competent Person shall ensure that the fencing is properly maintained and kept in place.

### ***9.2.3 Sites not accessible to the public***

#### ***9.2.3.1 General***

Where MCWPs are erected within a construction site bounded by perimeter fencing that prevents public access, the User Competent Person, with the assistance of the Supplier Competent Person, shall conduct a risk assessment to determine the safeguarding arrangements required to prevent and/or reduce the risk of injury of:

- a) Being trapped and/or crushed by the descending platform
- b) Being struck by falling debris

The User Competent Person should consult with the Supplier Competent Person and review the risk assessment whenever there is any change of work practice at the base of the platform for the duration of the installation.

#### ***9.2.3.2 Risk of crushing and/or trapping***

The risk assessment shall take into account the following factors:

- a) How frequently is it intended that the platform will descend to ground level?
- b) For mobile MCWPs, how frequently will the machine be transferred to a new location?
- c) The location of any trapping points between the descending platform and the structure, and the severity of the injury that could occur.
- d) The safety devices provided on an MCWP: MCWPs constructed in accordance with ANSI A92.9 are provided either with adequate guarding or where that is not possible, operate an audible alarm during the final descent. The User Competent Person's risk assessment should take into account the effectiveness of any such alarms fitted. Will workers at ground level hear the audible alarm above the background noise, such as passing vehicles?
- e) Will the MCWP user have good visibility of the area underneath the length of the platform?

Where the risks are assessed to be low, for instance where the frequency of descent of the platform to ground level is less than once per hour, the machine alarms are assessed as satisfactory, and the MCWP user has unobstructed visibility, then localized low barriers can be provided to deter access. These barriers should be robust, such as scaffold frames or proprietary systems similar to those used for protecting around road works. Caution tape and rope or chains is not suitable. Signs warning of the descent of the platform should be erected.

The User Competent Person shall ensure that the fencing is properly maintained and kept in place.

#### ***9.2.3.3 Risk of being struck by falling objects***

Prevention of objects falling from the work platform is best addressed in the system of work adopted on the platform and will vary depending on application. For example, concrete spraying/chipping would require the platform to be fitted with solid or mesh platform sides.

There can be a risk of falling objects to the personnel working in the platform, which should be assessed. Devices such as nets and fans can be utilized either on the platform or at other levels to collect falling objects.

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## **9.3 Traffic Access**

If the base of an MCWP is erected in an area accessible by vehicles, arrangements should be made to divert traffic and secure the area against vehicle incursion, if this is reasonably practical. If not, then suitable curbs, barriers, cones, lights, signs etc, should be provided in accordance with the method statement prepared by the User Competent Person.

## **10 Installation**

### **10.1 Installation personnel**

No one should be allowed to erect or dismantle an MCWP unless they are trained and authorized to do so, or are undergoing formal training under supervision. Training and assessment should be carried out to a formally documented scheme (see clause 7).

All personnel carrying out the erection or dismantling of MCWPs should be physically and mentally fit to undertake this work. This should be assessed at the pre-employment stage with the advice of an occupational health professional.

### **10.2 Erection**

Personnel carrying out the erection of MCWPs should ensure that they obtain a clear method statement produced by the Supplier Competent Person who planned the job. They should familiarize themselves with the task to be carried out, raising any areas of concern or lack of clarity with the method statement originator. Before starting work they should also ensure that they have the required information, tools and equipment, and that any safety measures such as exclusion zones around the work area are in place. If any guarding is required to be removed during erection, a safe system of work should be adopted with particular attention to hazards.

The installer must be aware of the maximum load capacity of the work platform during all stages erection/dismantling and take into account the number of persons, mast sections, ties and other equipment on the deck at any time. It is essential that the maximum load is not exceeded in any circumstance.

If at any stage during the erection process, the installer encounters any problems with the prescribed method, or is concerned about any aspect of the method statement, they should consult the method statement originator (usually the Supplier Competent Person) before proceeding any further. In any case, no significant change to the planned method should be made unless it has been considered and agreed by a person competent to plan MCWP installations.

It is vital that installers do not allow their attention to be distracted from any unsecured mast section on the mast assembly until that section has been completely bolted (or otherwise fixed) in place. A number of accidents have occurred in the past where mast sections have been left unsecured or partially secured, and the platform has been subsequently driven onto the unsecured mast with disastrous consequences.

After the installation has been completed and before an MCWP is taken into use, the installer should ensure the following:

- a) That the installation is complete
- b) That the MCWP is not fouling the structure anywhere in its travel
- c) That all mast sections and mast ties are secure
- d) That all safety interlocks, including limit switches, are working correctly
- e) That all electricity supply cable is coiling or reeling correctly (if applicable)
- f) That the MCWP is responding correctly to the controls
- g) That the MCWP has been thoroughly examined and tested in accordance with section 12
- h) That the correct rated load for the configuration is clearly and durably marked on the work platform
- i) That all guards are re-installed correctly

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## **10.3 Alteration**

Once the initial installation has been completed in accordance with the method statement, no modification to the installation should be allowed without a reassessment by a competent and authorized person (usually the Supplier Competent Person). This should include a full study of the proposed modification, implications for safety during the remainder of the MCWP's planned use, and its subsequent dismantling.

Before starting any alterations to the installation the installers should be in possession of written authorization, or, where appropriate, a new method statement from the person making the reassessment.

## **10.4 Dismantling**

Before dismantling an MCWP, the persons carrying out the dismantling operation should check the following:

- a) That there have been no significant changes from the original installation that might adversely affect the safety of the dismantling operation (e.g. missing or loose mast ties or fixing bolts, changed ground conditions or alterations to the base frame).
- b) That there are no visible signs of stress or weakness in the MCWP or ties which might affect the safety of the dismantling operation.
- c) That the base frame or chassis will provide sufficient stability, in all directions, when the last mast tie has been released.
- d) That the maximum number of mast ties and additional equipment that can be carried by the work platform, and their required distribution such as not to exceed the rated load, is known by all those taking part in the dismantling.

During the dismantling, special care should be taken to ensure that the load building up on the work platform from dismantled components does not exceed the rated load (see clause 3.1).

## **11 Operation, use, maintenance and inspection of MCWPs**

### **11.1 Operation and use of MCWPs**

No one should be allowed to operate or work from an MCWP unless they are familiar with its correct operation. In particular they should be able to:

- a) Interpret the maximum loading and load chart correctly
- b) Estimate with sufficient accuracy for safety, the weight of any loads that they might place on the work platform
- c) Lower the work platform safely, using the emergency descent device to the next safe exit level
- d) Carry out routine checks and inspections
- e) Awareness of wind speed criteria

MCWP users should be familiarized into a formally documented scheme (see section 7).

### **11.2 Transfer**

The transfer of MCWPs involves a serious risk of overturning that should be suitably addressed.

The following factors should be considered as a minimum:

- a) The load bearing capacity and evenness of the surface to be transferred over
- b) The wind speed during this operation
- c) Proximity hazards to the path of transfer, e.g. high voltage lines, protrusions etc.
- d) Whether the outriggers or stabilizers can be correctly positioned during the full distance of the transfer
- e) The frequency of movement, and the training and experience of those undertaking the transfer

MCWPs should not be transferred unless they are specially designed for that purpose and then only while the work platform is at its lowest position.

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Note: The manufacturer's instructions may require the outriggers or stabilizers to be left fully or partially extended during transfer and may place restrictions, amongst others, on the height of the erected mast, or the amount of mast carried on the platform itself.

### **11.3 Pre Start Inspection**

At the beginning of each shift or working day, the User Competent Person should ensure MCWPs are checked to ensure that they are in a fit condition to start work. If the person who conducts the checks is unsure of the effect of a defect to the safety of the machine, they should consult the User Competent Person.

Note: For typical checklists for daily checks see Annex A

### **11.4 Weekly inspections**

Once a week MCWPs should be inspected to ensure that no damage or wear has occurred and that all safety systems are functioning correctly. This inspection should be carried out by a person who has been assessed as competent to carry out the task.

Note: For typical checklists for weekly checks see Annex A.

Consult Operators Manual for any other specific items.

The results of the weekly inspection should be recorded in a retrievable form.

### **11.5 Maintenance of MCWPs**

MCWPs should be maintained in accordance with the manufacturer's instructions. Maintenance should be carried out at intervals that take into account the intensity of use, operating environment, variety of operations and the consequence of malfunction or failure. Maintenance should only be carried out by persons who are both familiar with the equipment and competent to carry out the work, or who are in the process of gaining experience and are working under supervision. Maintenance schedules should be based on the manufacturer's instructions. The schedules should aim to prevent deterioration of safety-critical parts, and ensure their replacement before failure occurs.

It is generally more appropriate to carry out major maintenance on MCWPs while they are not erected or in use. MCWPs therefore should only be erected if they have recently been serviced and inspected, have any defects rectified, and are known to be in good condition. It is however also necessary to properly maintain MCWPs while they are installed and in use, and sufficient time should be allowed in the site program, for maintenance to be carried out effectively.

Comprehensive records should be kept of all maintenance and servicing carried out on MCWPs, and be made available to the competent person carrying out a frequent inspection.

### **11.6 Use of safety harnesses**

The work platform of an MCWP is provided with guardrails and toe boards to protect the occupants from falling. Consequently the use of harnesses is not required during use of MCWPs unless any part of the guardrail system has been removed (if the front edge of the platform is within the required distance from the structure, see OSHA 1926.451(b), (f)3, and (g)1), in which case a risk assessment should be carried out to ascertain the need for, and specification of, fall arrest/work restraint equipment. Similarly, the risk of installers falling during erection and dismantling operations should be assessed.

Before attaching fall protection equipment to the work platform it is important that the User Competent Person should ascertain both the location and suitability of anchor points.

## **12 Frequent inspection and testing of MCWPs**

### **12.1 General**

A Frequent Inspection (including testing, see ANSI A92.9, 6.4) of MCWPs should be carried out by a competent person after erection and before being taken into service, and after the occurrence of a dangerous incident, and before being put back into service, and at least once every three months thereafter, or has been out of service for more than three months.

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The Frequent Inspection is to determine whether MCWPs can be taken into service following installation and subsequently used with safety until at least the date of the next frequent inspection. It also indicates whether MCWPs are being adequately maintained. While a frequent inspection may form an important part in monitoring standards of maintenance, it is not a substitute for such maintenance, and it does not relieve the supplier of his continuing duty to maintain MCWPs in a safe condition.

The frequent inspection should include a visual inspection (see Annex B).

### **12.2 MCWPs tied to the building or structure**

#### **12.2.1**

When tying an MCWP to a structure the Supplier Competent Person should, via the method statement, advise the installation staff of the job specific procedure.

The method statement should take account of the following:

1. The type of structure, and its ability to withstand the loads that will be imposed.
2. The presence of rebar, cavities, post tension cables, psi rating of concrete, embedment depth, anchor spacing, edge distance, or any other aspect which could affect the performance of the anchoring system.
3. The type of tie bracket arrangement and specification of anchor, which will counteract the tensile and shear loads being imposed.

The method statement should therefore include:

1. Dimensions of the tie bracket and distance from the slab
2. The number of tie plates per tie and their dimensional characteristics from a measurable point (e.g. the mast)
3. The number, size and type of anchor(s) required for each tie plate
4. The embedment depth of the anchor(s)
5. The minimum distance between anchors
6. The minimum distance between the anchor(s) and the slab edge(s)
7. The curing time for chemical anchors (if applicable)
8. The torque value for the effective tightening of the tie plate to the structure via the anchor(s)
9. The torque value or pull value for testing the anchor(s) as applicable.

Consideration must be given to the first tie and second tie positions, dependant on stability and base type.

The work platform should be elevated to the first tie, and then lowered to the base position. Checks should be made to ensure that MCWPs respond properly and show no signs of distress, and that the base or chassis is stable.

**12.2.2** The work platform (unloaded, or lightly loaded), should be run through its full range of travel and all limit switches checked to ensure that they are working and are correctly set. Checks should also be made to ensure that the 'work platform to building clearances' are adequate and that there are no voids through which persons could conceivably fall. The audible alarm (if fitted) should be checked to ensure that it functions with the work platform at the correct elevation, and that there is no indication of structural distress anywhere on an MCWP or with the supporting building or structure.

**12.2.3** The anchors should be tested in accordance with the instructions in the method statement, and manufacturers's recommendations.

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## **12.3 MCWPs free-standing**

**12.3.1** Ensure that the maximum safe height of mast(s) in respect of stability is accurately known, and is not exceeded

**12.3.2** The work platform (unloaded or lightly loaded), should be run through its full range of travel and all limit switches checked to ensure that they are working and are correctly set. Checks should also be made to ensure that the 'work platform to building clearances' are adequate and that there are no voids through which persons could conceivably fall. The audible alarm (if fitted) should be checked to ensure that it functions with the work platform at the correct elevation, and that there is no indication of structural distress anywhere on an MCWP or with the supporting building or structure.

**12.3.3** The stability of the chassis should be ascertained, i.e. the outrigger configuration should be verified as conforming to the method statement/manufacturers recommendations, and that the chassis is level, with all jacks bearing load, and the wheels off the ground.

## **12.4 Extent of frequent inspection**

The competent person (see 12.6) may require the frequent inspection to be augmented by additional tests and/or examinations, dismantling or access to, or removal of, hidden parts.

The competent person may employ specialists to carry out specific parts of the frequent inspection that the competent person may consider necessary, e.g. Non Destructive Testing or assessment of the safety related parts of the electrical control system. It is the responsibility of the competent person to specify precisely what is required, and to ensure that such work is effectively managed and that the result of such work is assessed accurately in relation to its significance to the MCWP.

## **12.5 Frequent Inspection reports**

The results of the frequent inspection should be reported and recorded in a suitable form. In the report, the competent person (see 12.6) should state clearly if the installation is safe to be used or to continue in use.

## **12.6 Competent persons**

A person chosen to act as a competent person in the frequent inspection of MCWPs should have sufficient practical and theoretical knowledge and actual experience of the machines to enable them to detect any defects or weaknesses, and to assess their importance in relation to the strength, stability and function of the MCWP.

## **13 Safety at the Work Site**

### **13.1 Clearances and warning notices**

After erection, a check should be made to ensure that clearances are sufficient and do not create trapping hazards. It should also be checked that windows cannot be opened into the path of the work platform and that warning notices are clearly displayed on balconies etc, where persons could lean into the path of the work platform.

Where two or more MCWPs are operating adjacent to each other or an MCWP is operating adjacent to a hoist, suspended scaffold, or other machine with separate controls, the minimum guaranteed clearance between possible shear points is 18". Where this is not reasonably practical additional guarding should be provided to prevent entry of the upper body into the crushing zone. Where MCWPs are operating against fixed scaffolding, or where there are possible whole body shear points between a work platform and the building or structure against which an MCWP is working, a clearance of 4-6" should be provided, where this is reasonably practical. If it is not reasonably practical to provide such a clearance, then physical safeguards against the trapping hazard should be provided. If it is not reasonably practical to provide reliable physical safeguards, then clear and durable warning notices should be affixed in order to draw attention to the shear hazard.

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Suitable, clear and durable notices warning of the danger and instructing persons to keep clear should be conspicuously displayed on ground level enclosures.

## **13.2 Maintenance of barriers**

If used, all barriers, enclosures, notices etc, should be properly maintained for the duration of the installation.

## **13.3 Electrical hazards**

Adequate precautions should be taken to ensure that persons on the work platform are not at risk from live electrical conductors. (Attention is drawn to ANSI A92.9 and local fire regulations)

### **13.3.1 Electrically Powered MCWPs**

Manufacturers' guidelines shall be followed with respect to care, maintenance and of safe use of electrical power.

### **13.3.2 Gas Powered MCWPs**

Manufacturers' guidelines shall be followed with respect to care, maintenance and of safe use of gas powered MCWPs.

## **13.4 Use with other construction equipment**

Where MCWPs are to operate near to other construction equipment such as cranes, and especially where any part of the construction equipment or load can occupy the same space that is traversed by the work platform of an MCWP, suitable arrangements should be made to ensure safety. In particular, each operator should have an adequate field of vision and be able to communicate reliably with other operators, so far as this is reasonably practical.

## **13.5 Removal of guard rails and toe boards**

The guard rails adjacent to the structure should only be removed if the building will effectively prevent anyone from falling through the gap (see 11.6)

## **13.6 Use as shores or jacks**

MCWPs should not be used as shores or jacks.

## **13.7 Rated load**

The rated load for MCWPs should be separately calculated (with reference to the manufacturer's instructions) for each installation, and then clearly and durably displayed on the MCWP. It should not be exceeded (except during authorized testing). Attention should be paid to the hazard presented by the build up of debris, snow, ice, water etc.

## **13.8 Alterations and additional fixed loads**

MCWPs should not be altered, or additional fixed loads (such as advertising signs etc) added, unless approved by the manufacturer in writing, and the rated load has been reduced where necessary.

## **13.9 Restriction**

MCWPs are normally operated within the scope of the manufacturer's intended use; they are not designed for the transference of persons, materials or equipment into the structure.

Where the User Competent Person has considered all the alternatives and the risk assessment demonstrates that the use of an MCWP is outside the scope of work, but is the most practical and safe means of working, he or she should ensure that the following actions are carried out.

- a) The Supplier Competent Person should consult the MCWP manufacturer to establish whether the platform and masts can withstand the forces, moments, and vibration imposed

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- b) The Supplier Competent Person should ask the manufacturer if any additional maintenance and inspection is required
- c) If an MCWP is used outside of the manufacturer's intended use, the Supplier Competent Person should draw up an explicit individual method statement that is communicated to all those involved in carrying out work on or near the platform. Special attention should be given to the provision of safeguards to prevent persons and goods falling during transfer from platform to building, and a failsafe method of immobilizing the unit during transference.

*Note: Three possible out-of-scope applications could be, to use MCWPs to:*

- a) Provide edge protection during roof work on a high rise building*
- b) Transfer of large awkward materials into the structure*
- c) Transfer of windows and frames into the building prior to fitting from the inside*

It is vital to remember that, when an analysis of the risks is undertaken, due consideration should be given to the presence of front-edge extension planking, the fact that these are only designed and intended to take minimal load, and the probability that personnel carrying heavy loads on to, or from the building may not be aware of this risk.

### **13.10 Tandem mountings and bridges between work platforms**

Work platforms should not be mounted in tandem or joined with bridges unless:

- a) The arrangement has been evaluated by a person competent and authorized to plan MCWP installations, with the approval of the manufacturer or other competent designer.
- b) At all times the control arrangements are such that the work platforms and bridges automatically remain in their correct relative positions, and are horizontal.
- c) Bridges are positively connected to both work platforms.
- d) All masts are parallel.
- e) The MCWPs are of identical design and type, or are designed for that purpose.

### **13.11 Emergency contingency**

While it is possible that a platform may become stranded, at height, with persons on board, it is strongly recommended that, at all times, adequate means of communication or signaling are to hand, to allow those persons to alert others, to facilitate safe egress. Provision of such means is the User Competent Person's responsibility.

### **13.12 Climbing the mast**

Climbing the mast, in order to facilitate access or egress to the platform is necessary on some equipment.

The safety aspect of climbing a mast can be hazardous in many varying circumstances, such as:

- In inclement weather, i.e. rain, wind, snow, ice
- The risk of a person falling from the mast
- The risk of a person falling from the mast, and colliding with another person climbing the same mast
- The risk for someone climbing the mast to be injured through unauthorized use of the platform by another person
- The risk of objects falling from the platform, or the structure, and colliding with someone climbing the mast
- The risk of 'repetitive strain' injuries to those who may regularly have to climb masts

Climbing the mast is acceptable only in the given circumstances:



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1. When the platform is incapable of safe downward movement (e.g loss of power, damage etc) and when an emergency situation exists. Consideration must always be given to the possibility that, inconvenience aside, the safest place to be might still be inside the confines of the platform.
2. When it is the specifically designed method of access by the manufacturer.

In both circumstances the following should be adhered to:

1. The MCWP must be effectively immobilized, and under control of the ascendant/descendant.
2. Unless in an emergency, the platform should have an integral trap door for access to/from the mast, which can be opened from both above and below.
3. Unless in an emergency, the mast should have an integral ladder with minimum tread size, depth and spacing as determined by relevant ANSI/OSHA standards, and should have integral rest platforms which conform to applicable standards.
4. Only one person should climb the mast at a time.
5. Ascendant/descendant should be wearing a full body harness, with double lanyard, and one hook should be attached to the mast at all times, at a location specified by the manufacturer.
6. Unless in an emergency the MCWP unit should be fitted with a fully functional ascent/descent alarm.
7. In inclement weather, except in an emergency, the User Competent Person should assess the risk(s) posed by wind, rain, snow, ice, and the physical condition of the ascendants/descendants.

### **13.13 Temporary Support Structures**

In instances where the weight of the mast climber requires to be supported because of:

- a) Non-load bearing roofs, or roofs or floor slabs where the load bearing characteristics cannot be ascertained or verified
- b) Presence of underground trenches or basements, vaults, or existing lower level buildings
- c) Units which are mounted on I-beam arrangements, or 'chair-stands' or 'shelf brackets'

The 'Qualified' or 'Competent' Person should follow this procedure:

1. The maximum load should be determined by using manufacturer's information. This information should include the weight of the mast climber, the maximum rated load for the specific configuration, the live or dynamic load for the specific configuration.
2. The distribution of this load should be ascertained using manufacturers information.
3. The support structure, with the exception of 'shoring posts' being used to support a unit(s) which is above a basement or underground car park (see below), must be approved by a person qualified in structural engineering. The subsequent structure, when complete, must be inspected and verified by the structural engineer before erection of the mast climber can commence.
4. The integrity of the support structure should be inspected weekly by a competent person, and the results recorded and 'signed-off' by the competent person.
5. During dismantle, the unit must be inspected by a competent person prior to the removal of the second last tie, and the unit should be supported by a crane before the second last tie is removed.

#### **Shoring Posts**

Where a mast climber is to be erected on a concrete slab, or suitable ground, which is above an underground void such as a basement or underground car park, the following procedure should be adopted by a competent person:

1. The concrete or ground should be treated as having no load resistance value.
2. Obtain the correct point loads under each jack leg, direct from the manufacturer for the specific configuration.
3. Produce installation drawings, indicating the minimum rated shoring post for each position (only shoring posts which have an identified, rated, load bearing capacity should be used, if there is doubt about the capacity of a post it should not be used), and the dimensional characteristics of every post from a central point (e.g. a column line).
4. Also indicate an orientating aid, such as column numbers which match to structure blueprints.
5. Assess and protect against any unauthorized removal of, or accidental damage to, the shoring posts (e.g. warning signs, anchors to hold the posts in place etc.).
6. The completed installation should be inspected by a competent person, and signed-off, before erection of the mast climber can commence.
7. The shoring post installation should be inspected and signed-off weekly by a competent person.

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## **Annex A (informative) Typical checklists for daily and weekly inspections**

### **A.1 Pre Start Inspection**

At the beginning of each shift or working day, the User Competent Person should make certain that MCWPs are checked for obvious defects to ensure that they are in a fit condition to start work. If the person who conducts the checks is unsure of the effect of a defect to the safety of a machine, they should consult the User Competent Person.

Pre Start Inspection should encompass the following:

- a) Cleanliness and general indications of damage
- b) Functioning of controls and safety devices (emergency stops, anemometers, two-way communication systems, overload/moment detecting and indicating devices, if fitted)
- c) The means for emergency lowering and/or raising the work platform
- d) Condition of rack and pinion drive system, or hydraulic drive system, and engine (as fitted)
- e) Condition of guards
- f) Ground support conditions, including packing beneath stabilizers
- g) Electric (trailing) cables, load information plates
- h) Work platform gates, guard rails, toe boards and floor
- i) Guide rollers between work platform and mast(s)
- j) Any additional checks as specified in the manufacturer's manual and/or during training by the competent person.

Check for possible obstructions in the path of MCWPs, e.g. scaffolding or newly erected structures.

### **A.2 Weekly inspections**

Once a week, the User Competent Person should make certain that the MCWP is inspected, to ensure that no damage or wear has occurred, and that all safety systems are functioning correctly. This inspection should be carried out by a person who has been assessed as competent to carry out this task.

Weekly inspections should include all the above listed daily checks plus the following:

- a) Efficiency of chassis brakes (when fitted)
- b) Pressures and condition of tires (when fitted)
- c) Safety gear (when fitted)
- d) Condition of mast(s) and racks, including the presence and effectiveness of the devices used to secure together adjacent mast sections
- e) Correct functioning of limit switches, and interlocks on work platform gates and stabilizers
- f) Any additional inspections as specified in the manufacturer's manual and/or during training by the competent person.

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## **Annex B (informative) Typical check lists for frequent inspections**

The following items should be examined for integrity, condition and correct functioning (see definitions after list)

- a) Base frame/chassis:
  - 1) Enclosure fencing/barriers
  - 2) Outriggers
- b) Work platform:
  - 1) Basic structure
  - 2) Floor
  - 3) Guard rails
  - 4) Toe boards
  - 5) Access gates
  - 6) Edge extensions
  - 7) Debris collection devices
- c) Drive system:
  - 1) Motors/brake unit, engine
  - 2) Gear boxes
  - 3) Racks and pinions, hydraulic climbing mechanism
  - 4) Counter rollers
  - 5) Guide rollers
  - 6) Guards
- d) Control system:
  - 1) Control panels
  - 2) Limit switches/proximity switches
  - 3) Cabling
  - 4) Trailing cable
  - 5) Overload monitoring system (when fitted)
  - 6) Control station (when fitted)
- e) Mast:
  - 1) Rack security
  - 2) Connecting bolts
  - 3) Top section (rack removed)
  - 4) Upper/lower travel limit switches
- f) Mast ties:
  - 1) Tie member
  - 2) Mast fixing
  - 3) Supporting structure fixing
- g) Safety Devices:
  - 1) Safety gear
  - 2) Twin mast leveling system
  - 3) Emergency descent system
  - 4) Load chart/diagram information
  - 5) Other safety devices
- h) Mobile MCWP:
  - 1) Brakes
  - 2) Tyres and wheels
  - 3) Steering
  - 4) Drive system
  - 5) Control system

### **Integrity**

Is the item in position, secure and complete?

### **Condition**

Is the item free from excessive corrosion, wear, cracks or deformation?

### **Correct function**

Does the item function correctly over its full range of operating parameters?

NOTE: CHECK FOR ANY ADDITIONAL ITEMS REQUIRED BY THE MANUFACTURER.

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### **Information on IPAF MCWP Templates**

IPAF has published three standard forms/templates with the aim of promoting safety and best practice in the use of mast climbing work platforms (MCWPs) on work sites.

The **MCWP Handover Certificate** is designed to ensure that the equipment has been assembled according to the manufacturer's instructions and in conformity with applicable design standards and that the user has been informed about the safe use and emergency procedures of the MCWP.

The **MCWP Load Chart** is a visual reminder that the loads indicated should never be exceeded and that all users must be aware of the load restrictions and be familiarized in the safe operation of the MCWP before they use the unit.

The **MCWP Thorough Examination** is a form/checklist covering all elements required to ensure that the equipment has been properly examined and is safe for use.

The templates are available in English and requests for other languages can be directed to [mcwp@ipaf.org](mailto:mcwp@ipaf.org). All three MCWP templates can be downloaded from the Publications/Technical Guidance section of [www.ipaf.org](http://www.ipaf.org)

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**IPAF MCWP Modular Training Matrix**

Training Modules		IPAF MCWP PAL CARD				
		Operator	Demonstrator	Mobile Operator	Installer	Advanced Installer
<b>Number of trainees</b>		<b>6</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>4</b>
<b>Expected duration</b>		<b>4 hours</b>	<b>1 to 2 days</b>	<b>1 to 2 days</b>	<b>Dependant on experience</b>	<b>Dependant on experience</b>
1	Basic Health & Safety Awareness training	X	X	X	X	X
2	Basic MCWP awareness, Regulations & Guidance	X	X	X	X	X
3	Product Specific - Operational Controls	X	X	X	X	X
4	Product Specific - Emergency Systems	X	X	X	X	X
5	Pre use / Daily Checks	X	X	X	X	X
6	Weekly Inspections	X	X	X	X	X
7	Retrieval of Information	x	X	X	X	X
8	Demonstrational Ability		X			X
9	Ground Conditions and base setup			X	X	X
10	Manoeuvre Machine			X	X	X
11	Mast section erection/dismantle			X	X	X
12	Stability /Top Tie Installation			X	X	X
13	Regulations and guidance				X	X
14	Understanding Risk Assessments and Method statements				X	X
15	Platform Assembly				X	X
16	Platform Levelling Systems				X	X
17	Handrailing & Guarding				X	X
18	Platform electrical connections, control panel, limits etc.				X	X
19	Tie Installation				X	X
20	Basic erection and dismantle procedures				X	X
21	Final appraisal – installation				X	X
22	Final Assembly visual and Functional Checks				X	X
23	Planning MCWP Use		X			X
24	Undertaking Hazard and Risk Assessments					X
25	Compiling Method statements					X
26	Special Platform arrangements (outside scope of manual)					X
27	Advanced Tie Installation and anchor specification					X
28	MCWP Thorough Examination					X

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**IPAF MCWP Operator Training Program**

**AIM**

To instruct the trainee to safely operate and use various types of Mast Climbing Work Platforms (MCWP), subsequent to being locally familiarized on a particular machine type and the individual job site, taking into account the specific operating and safety features of the model designated for use, and the specific hazards identified, and subsequent safe methods of work . This includes familiarization with pre-operational checks, safe operating procedure and the limitations of MCWPs.

**APPLICATION CRITERIA**

At present there are no specific requirements other than all applicants should be at least 18 years old. It is, however, desirable (but not mandatory) that applicants should ideally be literate and have had driving experience, as an indication of dexterity.  
If any modules required for this application have been completed more than two years prior to application, then the theory tests for those modules (if any) should be retaken and re-assessed.

**TRAINING MODULES**

A total of 7 modules are required as listed on 3.1.1.

**COURSE DURATION**

It is suggested that training and assessment of the required modules would take no less than 4 hours for trainees with no previous experience of both working from, or knowledge of, MCWPs.

**ASSESSMENT**

Will be by both theoretical and practical tests, with a pass requiring an achievement of at least 80% in each assessment. The assessments from each module will be reviewed with the candidate at the end of training to allow feedback and comments.

**OBJECTIVES**

At the end of the course the candidate will be:-

Aware of the relevant local OSHA regulations, standards, codes and guidance for the design, supply, use and management of MCWPs

Capable of demonstrating the safe operation of a MCWP to the instructor

Capable of the use of and demonstrating the correct emergency procedures and systems of a MCWP to enable its safe operation in an emergency.

Capable of carrying out and demonstrating pre-use/daily checks

Capable of carrying out weekly inspections

Able to retrieve information from user/manufacturers manuals/safety guidance.

***IPAF Guidelines for the Safe Use of Mast Climbing Work Platforms:  
US Edition 2010***



**INTERNATIONAL POWERED  
ACCESS FEDERATION**

The International Powered Access Federation (IPAF) promotes the safe and effective use of powered access equipment worldwide. IPAF is a not-for-profit members' organization that represents the interests of manufacturers, distributors, users and rental and training companies.

Training in the US is provided through American Work Platform Training (AWPT), the North American subsidiary of IPAF. Find your nearest training center at [www.awpt.org](http://www.awpt.org)  
In the US: IPAF, 255 Placid Drive, Schenectady, NY, 12303 USA

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The Scaffold Industry Association (SIA) is a non-profit trade 501(c)(6) association committed to raising the standards of professionalism within the scaffold and access industry. The SIA is also the secretariat for the American National Standard, SIA ASC A92 standards.

For more information, call 816-595-4860 or visit the official SIA website at [www.scaffold.org](http://www.scaffold.org).

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