PASMA®

prefabricated access suppliers' and manufacturers' association

training course notes

Work at Height Novice

Ver 2, Rev 0 0923

NO FALLS FOUNDATION

Working at height at height has always involved an element of risk, which is why it is important you follow the training and instruction you have received today to keep you and those for whom you are responsible safe.

Every year, literally millions of people work at height in a variety of industry sectors. What they all have in common is risk. The risk of a fall that might kill them or leave them with serious life-changing injuries with potentially devastating consequences for their families, friends and work colleagues.

Not just the most common cause of fatal injury, falls from height also accounted for an estimated tens of thousands non-fatal injuries each year - an average of 100 plus injuries every day.

The No Falls Foundation, in partnership with other stakeholders, has three aims:

1. To help keep people safe by creating greater awareness and understanding of the risks associated with working at height;
2. To better understand the causes of falls from height through research and the exchange of information and knowledge;
3. To support those people facing the aftermath and consequences of a fall from height.

PASMA supports the No Falls Foundation both through its contribution to its work and programmes but also by making a contribution for every delegate that is trained through the PASMA training scheme.

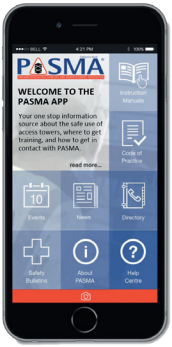
If you know anyone who has been affected by a fall from height, or if you are interested to learn more about the work of the No Falls Foundation, visit their website **www.nofallsfoundation.org**

THE PASMA MOBILE APP

Remember you can keep up to speed with everything to do with PASMA and towers by downloading our App, which features:

- Instruction Manuals;
- Operator's Code of Practice;
- Directory of PASMA Training Centres, Hirer Dealers, Hire and Assembly and Manufacturing Members;
- Industry News;
- Safety Bulletins;
- Upcoming Events.

Available on both iOS & Android from Google Play or the App Store.



NOTES TO DELEGATES

This Course Notes booklet forms an integral part of the PASMA course 'Work at Height Novice' and is not a stand-alone document. The course aims to equip you with the knowledge you need to work safely at height.

PASMA, the Prefabricated Access Suppliers' and Manufacturers' Association, is the lead industry body for all matters relating to mobile access towers. All members offer equipment that meets the current British / European Standard EN1004 (or international equivalents, such as SANS 51004) and have third party product conformity certification from an Approval Body such as the Test and Research Centre, BSI (or equivalent approved body).

PASMA training can only be carried out by PASMA approved training centres, who are subject to assessment and ongoing audit to ensure a consistent quality of training wherever PASMA training is delivered. The PASMA name and logo are UK and International Registered Trademarks of the Association, which can only be used by members and can only be used by approved training centres in respect of training.

You are encouraged to take as many notes as you wish, as this is a useful method for many in helping to remember important points.

The topics covered in this course are intended to ensure that the course meets the Aims and Objectives and that, on successful conclusion, you will be able to demonstrate the core competences.

If you have any difficulties, whether physical or with language or comprehension, you must bring this to the attention of your instructor.

The assessment and its requirements will be discussed before you attempt it and consist of multiple choice questions with all points being covered in the course. This is an open book course and you will be able to consult your notes while undergoing assessments.

The pass mark is 80%

Course documentation

As well as these Training Course Notes, your delegate pack also includes a copy of the latest PASMA Code(s) of Practice, and a Delegate Booklet which you are required to complete, and which will act as a record of your training and assessment.

PASMA training scheme

As well as the Work at Height Novice course, the PASMA training scheme also offers a range of other courses such as Low Level Towers for Users, Towers for Users, Towers for Managers, Cantilever Towers for Users, Towers on Stairways for Users, Towers with Bridges for Users, Linked Towers for Users, Large Deck Towers for Users, and Access Tower Specialists (formerly Towers for Professional Riggers).

Training modules are also available at different levels from Novice, User, Manager, Access Tower Specialist and Designer. Courses are being developed on a continuous basis, so please check with your Instructor or PASMA training centre for availability.

PASMA H&S health and fitness statement

Since the safe use of mobile access towers requires that you consult safety notices and read and thoroughly understand the current instruction manual, literacy and language comprehension are important requirements for any tower user.

Safe use of mobile access towers (and any other forms of access equipment) can be physically demanding, users should be physically fit and in good health, and should generally, not have problems with eyesight or hearing, heart disease, high blood pressure, epilepsy, fear of heights, vertigo, giddiness, difficulty with balance, impaired limb function, alcohol or drug dependence, or psychiatric illness.

You should also consider how the effects of extremes of temperature – heat and cold; lack of nutrition – fasting; and lack of water – dehydration, can affect your ability to work effectively.

If you have any problems with literacy or language comprehension, are pregnant, or have any doubts about your fitness to use work at height equipment, you must bring them to the attention of your employer. This need not preclude you from using work at height equipment, provided an assessment is conducted and adequate measures are put in place to take account of any difficulties you may have.

Course content

The PASMA Work at Height Novice course covers all the information you need to work at height safely. The course covers the roles and responsibilities of users, supervisors and managers, ensuring that work is properly planned and organised and that those concerned have the proper training and competence to complete the task.

Through this course you will learn about the importance of risk assessments, emergency and rescue plans, what you should watch out for in the working environment, and personal hazards you should be aware of.

The course concludes with an assessment to make sure you have understood all the important lessons.

SECTION 1 - AIMS AND OBJECTIVES

The aims and objectives of the PASMA Work at Height Novice Course are to equip you with the knowledge you need to work safely at height.

It also intends to give you an understanding of the legal and regulatory issues affecting work at height, safe and unsafe practices, and a thorough knowledge of the hazards when working at height.

SECTION 2 - INFORMATION

The Access Industry Forum (AIF) represents the 10 principal trade associations and federations involved in work at height. Each organisation represents a different sector of the access industry and fosters and supports codes of good practice, equipment standards, training, education and knowledge. All members are committed to safety, best practice and the competency of all persons involved in work at height.

The AIF is a central point of contact for information and for liaising with all 10 associations.

Below is a brief introduction to each association. You can find out more about the AIF and its members, by visiting their website **www.accessindustryforum.org.uk**

ATLAS - The Association of Technical Lightning & Access Specialists has been representing the leading players in the lightning protection and steeplejack industry since 1946. At the forefront of all industry developments, ATLAS is committed to improving working practices, technical excellence and the skills of the workforce to provide the highest quality service to the industry's clients.

EPF - The Edge Protection Federation exists to provide the industry with a single, authoritative body to act as a representative voice and ensure that high standards in manufacture, supply and application of edge protection systems are maintained and advanced. The federation aims to offer a forum for the discussion of industry issues, liaison with governmental and other bodies involved in legislation and regulation across the construction industry, guidance on all developments that affect the industry sector, and training programmes and publications relevant to the industry.

FASET - Fall Arrest Safety Equipment Training is the international trade association and training body for the safety net rigging and temporary safety systems industry. It represents all the leading manufacturers and installers of temporary safety systems such as safety nets, edge protection, access towers and platform decking systems which are used to save lives and reduce injuries on site on a daily basis.

IPAF - The International Powered Access Federation promotes the safe and effective use of powered access equipment worldwide. It provides technical advice and information, influences and interprets legislation and standards, and runs safety initiatives and training programmes. It is a not-for-profit organisation owned by its members who include manufacturers, rental companies, contractors and users. More than 180,000 operators are trained each year through a worldwide network of over 750 IPAF-approved training centres.

IRATA - Industrial Rope Access Trade Association is the leading worldwide authority on industrial rope access. The IRATA rope access method has set the standard for safe working at height over the past 30 years with an unrivalled safety record. Its pioneers continually strive to promote global awareness of its efficient, safe and environmentally advantageous methods.

Ladder Association - The Ladder Association is the not-for-profit lead industry body dedicated to promoting the safe use of ladders and stepladders. The Association works closely with the Health and Safety Executive and the AIF to support codes of good practice, minimum standards for equipment, trained and qualified operatives and education in the work at height sector. Members include manufacturers, rental companies and training providers, the latter training in excess of 15,000 delegates each year.

NASC - National Access & Scaffolding Confederation is the national trade body for access and scaffolding in the UK – established 1945 and now serving a family of 400+ leading contracting firms, scaffolding suppliers and manufacturers. Nearly 80 years later, raising and maintaining safety standards remains at the heart of the NASC's objectives – driving every activity it undertakes. The Confederation produces a wide range of industry-recognised guidance, accepted as the industry standard by HSE, Build UK, CITB and principal contractors alike.

PASMA - Prefabricated Access Suppliers' and Manufacturers' Association is the recognised focus and authority for mobile access towers. PASMA advances safety, standards and best practice across a wide range of sectors and represents the interests of its members in the UK, South Africa, South East Asia and the Middle East. Whatever the need, the association has tower information, facts and expertise to impart at a level to suit everyone – from first time users to major contractors. Through a network of approved training centres, over 70,000 operatives are trained in the safe use of mobile access towers.

SAEMA - Specialist Access Engineering and Maintenance Association members are recognised experts in the design, installation and maintenance of both temporarily and permanently installed facade access systems that provide safe places of work for tradesmen involved in working at height. SAEMA's innovative online suspended access equipment User Training scheme provides cost effective training for anyone who uses their equipment and is supplemented by on site training on the equipment.

WAHSA – Work at Height Safety Association is the lead authority on personal fall protection equipment used for work at height and rescue. WAHSA and its members are the unquestionable experts in the field and provide a benchmark in high standards for the manufacture and subsequent use of members' products, taking a lead role in the setting of standards and codes of practice for the use of such equipment within the UK and Europe.

SECTION 3 - ROLES AND RESPONSIBILITIES

The Health & Safety at Work Act places duties and responsibilities on classes of people engaged at work. Breaches of the Act could result in prosecution, leading to substantial fines and even imprisonment.

The Health & Safety at Work (etc) Act (HASAWA)

The Health & Safety at Work (etc) Act is the overarching legislation which sets out the framework for health and safety in the workplace. The Act also gives the authority to the HSE, in consultation with relevant industry bodies, to lay down Regulations which give a more detailed interpretation of the Act and how it applies in certain sectors or activities.

The Health and Safety (Fees) Regulations – Fee For Intervention (FFI)

There is a regulatory duty on HSE to recover its costs for carrying out its regulatory functions from those found to be in material breach of health and safety law. This shifts some of the cost of health and safety regulation from the public purse to those businesses and organisations that break health and safety laws.

The fee includes the costs covering the time of the entire original visit. The total amount recovered will be based on the amount of time it takes HSE to identify the breach and help you put things right (including associated office work), multiplied by the hourly rate.

Your fee may include the inspector's time:
- at your business or workplace
- preparing reports
- getting specialist advice
- talking to you after the visit
- talking to your workers

The fee can vary depending on:

- how long the original visit was
- the time the inspector spent helping you put things right
- the time it took the inspector to investigate your case
- any time HSE spend on taking action against you.

Management of Health & Safety at Work Regulations

Every employer shall:

- Make suitable and sufficient assessment of Health and Safety risks to employees and others who may be affected by their works
- Put in place appropriate control measures arising from these assessments (Method Statements)
- Take into account the capabilities of employees with regards to health and safety
- Ensure employees are provided with adequate health and safety training.

Young people at work

There are special provisions within the Management of Health & Safety at Work Regulations in respect of young people. These require that employers take account of young people's inexperience, particularly in high risk activities such as working at height and make special provisions for training and supervision.
Learn more at https://www.hse.gov.uk/youngpeople

Construction Design & Management Regulations (CDM)

Identifies a number of key elements to securing construction health and safety. These include:

- Managing the risks to health and safety by applying the general principles of prevention which set out the principles duty-holders should use to direct their approach to identifying the measures necessary to control the risks to health and safety in a particular project. CDM requires Designers, Principal Designers, Principal Contractors and Contractors to take account of the principles in carrying out their duties
- Appointing the right people and organisations at the right time
- Making sure everyone has the information, instruction, training and supervision they need to carry out their jobs in a way that secures health and safety
- Dutyholders co-operating and communicating with each other and co-ordinating their work and consulting workers and engaging with them to promote and develop effective measures to secure health, safety and welfare.

Provision and Use of Work Equipment Regulations (PUWER)

General Requirements:

- Suitability of work equipment
- Maintenance and Inspection of work equipment
- Training requirements, information, and instruction for the use of work equipment
- Stability of the work equipment.

Reporting of Injuries, Diseases & Dangerous Occurrences Regulations (RIDDOR)

These regulations require the reporting of any injuries, fatalities or dangerous occurrences including:

- The collapse or partial collapse of any scaffold structure (including towers) over five metres high
- Collapse or partial collapse of a scaffold structure that is assembled over or adjacent to water where there would be a risk of a person drowning who fell from the scaffold

- Contact with overhead power cables
- Injury to a member of the public
- Seven-day absence from normal duties
- Major Injuries
- Fatalities

Manual Handling Operations Regulations

Avoid the need to undertake manual handling operations where practicable. Where manual handling operations cannot be avoided, assess health and safety risks associated with the task.

Personal Protective Equipment at Work Regulations

Most work situations require you to wear some sort of PPE. Assembling, working on and dismantling towers is no different. The likely minimum requirement is safety shoes/boots, hard hat, and gloves. An assessment by your employer may indicate different and/or other site-specific requirements.

Employers: Section 2 (2) Training, Equipment, Environment

Employers must provide:

- Safe plant, equipment and safe systems of work
- Necessary information, instruction, training and supervision
- A safe place of work, with safe access and egress
- Safe handling, storage, maintenance and transport of articles and substances, including plant and equipment.

Employees: Section 7 & 8 own safety, safety of others by acts/omissions

Employees must take reasonable care of their own health & safety and that of others who may be affected by their acts or omissions.

Employees must co-operate with their employers. It is an offence for anyone to intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety & welfare.

Supplier: Section 6 Information on safe use, equipment adequately inspected / tested

Suppliers must provide:

Information for the use of the equipment. Equipment that is safe when being used. Adequate inspection of equipment.

HSE Inspectors have the right:

- of entry without an appointment
- to investigate and examine
- to take photos, samples or equipment
- to see documents and take copies
- to dismantle and take away substances
- to have assistance
- to ask questions

If they consider they do not have sufficient authority to carry out their duties, they can assume it.

Penalties for non-compliance

These can be severe and apply not only to corporate bodies, but also to individuals and employees. Substantial fines and imprisonment for up to two years if found guilty.

Duties of an Employer

As a manager/supervisor who manages, plans, supervises and oversees the use of work equipment, they must provide adequate health and safety information to employees, and where appropriate written instructions as to the use of the work equipment.

Employers should consult with employees about the work to be undertaken. The information they provide should be easily understood and include details on:

- how the work equipment may be used
- any potential abnormal occurrences, and the action to be taken in such an event
- any lessons to be learnt from experiences using work equipment

Instructions must be provided in writing examples may include safety data sheets, warning labels, training manuals or drawings. Whatever the form used it should be appropriate for the employees, such as in the correct language, illustrated where appropriate, and it should account for the level of skill of the workers, and the level of supervision provided.

Information and written instructions should cover:

- health and safety aspects relating to the use of the work equipment
- limitations on usage
- any foreseeable difficulties
- how to deal with them

Everyone who uses manages/supervises the use of work equipment, should be given adequate health and safety training covering work methods and details of the risks and precautions to be taken.

It is particularly important that young people receive adequate training since, due to their relative immaturity and lack of familiarity with the working environment, they may be at greater risk. Training is essential on recruitment, but it should also be considered when:

- tasks change and so do the risks to which employees are exposed
- new technology or equipment is introduced
- work systems change

Duties of a Manager

As a manager or supervisor responsible for overseeing/ controlling the work of operatives who will be working at height, they will need to ensure the work is properly planned and organised, and that those involved in carrying out the work are competent, properly trained and the towers are correctly assembled, maintained and inspected.

Managers must be able to demonstrate that they have had sufficient professional or technical health and safety training, knowledge, experience and authority to enable operatives to:

- carry out their assigned duties at the level of responsibility allocated to them
- identify and understand the nature of any potential hazards related to the work or equipment (i.e. working at height) under consideration

- detect any technical defects or omissions in the work (or equipment) recognise any implications for health and safety caused by those defects or omissions, and be able to specify a remedial action to mitigate those implications.

NB: authority here means authority allocated to the individual by their employer to carry out certain functions or duties.

Section 37 Offences by bodies corporate

(1) Where an offence under any of the relevant-statutory provisions committed by a body corporate is proved to have been committed with the consent or connivance of, or to have been attributable to any neglect on the part of, any director, manager, secretary or other similar officer of the body corporate or a person who was purporting to act in any such capacity, he as well as the body corporate shall be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

(2) Where the affairs of a body corporate are managed by its members, the preceding subsection shall apply in relation to the acts and defaults of a member in connection with his functions of management as if he were a director of the body corporate.

As stated above – duties including neglect of managers at work.

Duties of an Employee

It is extremely important employees follow the current instruction manual when assembling, inspecting, using or dismantling a mobile tower.

Employees should never work at height whist under the influence of alcohol or drugs even prescribed drugs if they affect an individual's judgement or have any other adverse effects such as drowsiness, giddiness or impaired perception or vision.

Employees should not misuse, abuse, remove or interfere with any type of equipment especially if it has been provided for their safety (e.g. guardrails, or other devices provided).

Employees should follow training and instruction unless they think it would be unsafe to do so in the circumstances. They should raise their concerns with their supervisor/line manager. They should also report any safety hazards that could affect them or their work colleagues or others.

PASMA reserves the right to suspend or withdraw the user's certificate in appropriate or dangerous activity whilst working at height on mobile access towers or low level work platforms.

Duties of Suppliers

A supplier can be a manufacturer, distributor, retail outlet or a hirer of equipment. All equipment supplied must conform to the design standards and specifications by the manufacturer and comply with any legislative requirements. Checks should be made to ensure the correct type, and the correct number of components have been supplied with the equipment, together with a copy of the current instruction manual. It is important to note that whilst standards may not be regulations, compliance with the requirements of the standard can be taken as an assurance that the equipment has been designed and manufactured to a minimum standard for safety and quality.

Although there is no definition of competence given in The Work at Height Regulations (WAHR), the Advisory Committee on Work at Height Training (ACWAHT) which was formed and chaired by the HSE, and comprised all the lead organisations involved in work at height, gave the following definition of competence for people who are to work at height:

A person with sufficient professional or technical training and knowledge, actual experience and authority* to enable them to carry out their assigned duties at the level of responsibility allocated to them; recognise potential hazards related to the work (or equipment) under consideration and detect any defects or omissions in that work (or equipment), recognise any implications for health and safety caused by those defects and omissions, and be able to specify a remedial action to mitigate those implications.

*Note: "authority" here means the delegated authority to the individual by his employer to carry out a certain function or duty."

This has previously been defined in other Regulations as simply "a combination of training, technical knowledge and / or experience".

PASMA training aims to address these requirements and ensure the delegate meets this definition of a "competent person". Particularly in relation to mobile access towers, this definition of a competent person implies:

- To know and understand the specific legal duties under the Work at Height Regulations which apply to them as an individual
- To understand who controls their work at height activity and the lines of communication to use
- To understand the principles of fall protection that the regulations required to be used
- To be able to recognise safe and unsafe situations /activities
- To understand how to deal with the hazards associated with the task allocated to them
- To have adequate training in the correct use and limitations of any work equipment allocated to them for the task
- To understand the need for and the ability to check the adequacy of the safety equipment allocated to them
- If that equipment has been issued to them on a personal basis, an understanding of the correct procedure for storage, maintenance and inspection
- To understand safe procedures of work and state the correct procedure for the task, the emergency (including rescue) procedures in place for the work and their role in it
- To know the procedure for reporting any defects, hazards or unsafe procedures they detect.

PASMA training aims to equip you with the necessary training to allow you to meet these criteria and this is recognised, on successful completion of the course, by the PASMA Certificate of Competence and PhotoCard, which is the recognised proof of competence for those who manage the activities of others who work at height using mobile access towers.

Levels

U - User: this is accompanied by a category, the category that denotes the equipment that the card holder is considered competent to use and/or assemble, alter, dismantle, move and inspect.

I – Instructor: for those who deliver PASMA Courses, this is followed by letters and characters that denote the categories they can instruct (see categories below).

M - Manager: is intended for those candidates who are in charge of or supervise others who work at height.

S – Access Tower Specialist (*formerly R - Professional Tower Rigger*): is the most advanced tower training course. A five-day intensive course covering the practical and theory required to create tower structures in compliance with BS 1139-6. It is intended for advanced users who build towers and tower structures (both standard and non-standard configurations) in the course of their occupation.

Categories

W	Work at Height (Novice)
L	Low Level
T	Tower
A5	Towers on Stairways
A6	Towers with Cantilever
A7	Towers with Bridges
A8	Towers with Links
A9	Towers with Large Decks

The Work at Height Regulations (WAHR)

Introduced in 2005 and superseding the provisions of other regulations in respect of working at height, the Work at Height Regulations have the most significant impact on the use of mobile access towers, and these will be reviewed in some detail below.

The first question we should address and understand is:

"What is work at height?"

Work at height is defined as: Work in any place, including a place at, above or below ground level, where a person could be injured if they fell from that place.

Example:
Work below ground level could be work at height if a hole has been excavated and someone may fall either from an unprotected edge or whilst descending.
Work at ground level could be work at height, if it is alongside an empty swimming pool.
You may be able to add to these examples, instances where work is "at height", even if it is at or below ground level.

Where do the Regulations apply?

Unlike previous regulations which covered work at height activities which were confined to particular activities, such as construction, the WAHR apply everywhere, in all industries and in every work activity at height, where there is a risk of fall liable to cause personal injury.

The Regulations set out a framework that ALL duty holders must: Avoid > Prevent > Protect, in that order. The main objective which applies to all work at height is that you must do all that is reasonably practicable to prevent anyone falling.

Firstly, avoid work at height. This can be achieved at planning and design stage by, for instance prefabricating and installing prefabricated units at height, rather than assembling at height where those assembling are at risk of fall.

Next, if there is an existing safe place with suitable fall prevention measures, use it in preference to work equipment.

This is preferable because whilst assembling or positioning work equipment such as low level work platforms, MEWPs or ladders, the operative is at risk of fall during the assembly / installation / dismantle processes.

If neither of these is possible, you should select suitable work equipment with fall prevention measures.

The hierarchy also requires that priority is given to collective measures - that is, measures which prevent or protect any and everyone, over personal measures which prevent or protect only the individual, such as harnesses.

Although the Work at Height Regulations are non-prescriptive or goal setting regulations, minimum dimensions are set for example, for guardrails and toe-boards on mobile access towers, or other equivalent fall prevention methods. These dimensions are also required by the product standard.

For mobile access towers, the principal guardrail must be not less than 950mm. There shall be no gap of more than 470mm toe-boards shall be not less than 150mm.

The maximum gap of 470mm is intended to ensure that you cannot fall through an exposed gap, and although 950mm is the minimum guardrail height, the goal setting nature of the regulations require that a risk assessment take account of the need to add extra guardrails if necessary, if for example the tower is being used by particularly tall operatives, or if there are other factors which mean that the guardrail height will not be effective in preventing falls at 950mm.

Hazards and Risk

You must consider all hazards present before work commences. Survey the site, look at the ground conditions, look out for any overhead hazards, traffic, people and such like.

It is important that users of towers fully understand the Risk Assessment, which we will address below, and follow their employer's Method Statement, which we will cover shortly.

In order to do so, you must firstly identify the hazards, that is, anything which has the potential to cause harm to someone or something. Next you must assess the risk, that is, the chance, high or low, that someone or something could be harmed by a hazard, together with an indication of how serious the harm could be. In other words, the consequences.

Risk Assessment is a term used to describe the process or method where you: Identify hazards and risk factors that have the potential to cause harm. You must determine appropriate ways to eliminate the hazard or control the risk when the hazard cannot be eliminated.

Risk Assessment

It is important that users of towers fully understand the Risk Assessment, which we will address below, and follow their employer's Method Statement, which we will cover shortly.

In order to do so, you must firstly identify the hazards, that is, anything which has the potential to cause harm to someone or something. Next you must assess the risk, that is, the chance, high or low, that someone or something could be harmed by a hazard, together with an indication of how serious the harm could be. In other words, the consequences.

So far as is reasonably practicable (SFAIRP) involves weighing a risk against the trouble, time and money needed to control it.
Source: www.hse.gov.uk/risk/theory/alarpglance.htm

In other words, an employer does not have to take measures to avoid or reduce the risk if it is technically impossible or if the time, trouble or cost of the measures would be grossly disproportionate to the risk.
Source: www.hse.gov.uk/pubns/hsc13.pdf

What the law requires is what good management and common sense would lead employers to do anyway: that is, to look at the risks and take sensible measures to reduce them to a level as low as reasonably practicable (ALARP). Source: www.hse.gov.uk/pubns/hsc13.pdf

All work activities, including work at height, require a competent person to create a plan of how the work is to be carried out, based on a risk assessment. This is usually known as a Method Statement.

The Method Statement must also consider an plan for emergencies and (where appropriate rescue. Source: INDG163 Risk assessment A brief guide to controlling risks in the workplace, www.hse.gov.uk/pubns/indg163.pdf

This leaflet aims to help you identify, assess and control health and safety risks associated with workplace hazards.

It is mainly aimed at employers, managers and others with responsibility for health and safety, and will also be useful to employees and safety representatives.

The guidance makes clear that only significant findings need to be recorded and emphasises the importance of controlling the risks identified. However, the guidance still suggests that you should identify the hazards, think about who might be harmed, evaluate the risks, record your significant findings and review your risk assessment.

Employers as part of managing the health and safety of their business must control the risks in the workplace. In order to do this, employers need to think about what might cause harm to people and consider whether reasonable steps have been taken to prevent that harm:

Identify the hazards – identifying potential hazards e.g. proximity hazards when using mobile access towers.

Who might be harmed – employees, contractors, visitors, members of the public.

For each hazard it needs to be clear who could be harmed to identify the best way of controlling the risk.

Evaluate the risks – make sure you are aware of the main risks and what you would need to do for them to be managed responsibly. It is important that as an employer, manager or supervisor that you are satisfied that the risk assessment is appropriate to the work being undertaken.

Record your findings - records need to be kept and should focus on the control measures that have been put in place. All paperwork needs to be accurate and up to date and should help communicate and manage the risks in your organisation.

Guidance on Rescue and Emergency Planning during work at height

Planning must include planning for any emergencies or rescue. In general, the following should be considered:

- The need for a rapid response. The need to plan for emergencies and rescue i.e. agree a set of procedures for evacuation.
- Each work site and situation will be different and formal and adequate training is required to carry out emergency and rescue procedures. Consider foreseeable situations and make sure employees are fully up to date with emergency procedures.

Employers cannot just rely entirely on the emergency services for rescue in their plan. A written procedure, detailing responsibilities in the event of a rescue must be prepared.

Safety Issues and Considerations

The rescue plan should be regularly assessed and updated where necessary. All rescue planning and operations should address the following issues:

- the safety of the persons carrying out or assisting with the rescue
- the method that will be used to attach the casualty (where necessary) to the rescue system
- the direction the casualty needs to be moved to get them to the point of safety (raising, lowering or lateral)

- the first aid needs of the casualty in respect to injury and who will carry this out
- the possible needs of the casualty following the rescue
- If the tower structure has been damaged as a result of an incident which has resulted in a person or persons being injured or stranded

When carrying out a rescue on a Mobile Access Tower, the anticipated loads that will be encountered during the rescue situation should be within loadings specified in the current instruction manual.

Types of Rescue

When producing your rescue plan you might consider:

Self-Rescue: In this situation where a person who is incapacitated or injured but is still capable of being able to descend safely under their own effort and using the built-in access. Some assistance may be necessary e.g. holding open a trapdoor, but descent is made by the person using their own physical effort.

Assisted Rescue: Where, with the physical effort and help of others, the person in need of rescue may be safely assisted in a descent of the tower using the built-in access or other equipment.

Professional Rescue: Where the medical condition of the person or the condition of the tower requires the assistance of a professional rescue team - that might be the emergency services.
In assessing methods of rescue consider at least the following:

- Medical condition of the person or persons being rescued and their needs in terms of First Aid or Medical Assistance - on the tower or after rescue
- Condition and capacity of the tower – its stability and strength
- Number of persons needed to assist
- The need and capability to call the emergency services

Self and Assisted Rescues should be carried out following the written plan and stopped if it becomes unsafe to carry on. If the medical condition of the persons to be rescued, or the condition of the tower means that Self Rescue or Assisted Rescue would be unsafe then it is likely that only the professional medical or rescue emergency services would have sufficient knowledge and skills to effect a safe and successful rescue.

A call to the emergency services must then be made and the attendance of the ambulance and/or fire service requested. The person calling will need to provide:

- the location of the emergency
- medical condition of any injured persons
- details of the incident including the information that the persons are on a mobile tower and at what height
- the information that the condition of the persons or the condition of the tower means that they are unable to effect a self-rescue or an assisted rescue

When considering Professional Rescue in a rescue plan consider the time it may take for the professional rescue services to arrive depending on the location of the work site.

Consider the adequate provision of competent First Aid under those circumstances.

SECTION 4 - SAFE AND UNSAFE PRACTICES

A safe place of work applies to any elevated surface from which work is carried out. Specifically included are: Scaffolds, Roofs, Mobile Elevating Work Platforms (MEWPs), Mobile Access Towers and Suspended Cradles. If using MEWPs there will be a current inspection certificate under Lifting Operations Lifting Equipment Regulations (LOLER). This inspection is carried out every six months. If using mobile access platforms you would use a PASMA Tower Inspection Record. If working from ladders or steps you should use a Ladder Inspection Record.

Don't forget the regulations are there to protect you. Do not work at height unless you are protected from the consequences of a fall. You have a personal legal duty to use safety equipment provided for your use and not to put yourself or others at risk.

Nobody is paid enough to risk your life, so don't.

Safety cannot be compromised by the need "to get the job done" or "for the show to go on". Never be afraid to stop working until the area beneath you is clear or safe enough to continue the task. Never allow yourself to get rushed; nothing is important enough to make you put your life or others at risk. A good work at height operative works calmly, unhurriedly and in a controlled manner.

PASMA Code of Practice

Delegates will receive a copy of the Code of Practice in their delegate pack. The PASMA Code of Practice is the definitive stand-alone reference document for good practice in the use of Mobile Access Towers.

In addition to its function as a stand-alone document for users, their supervisors and managers and health and safety professionals, it is also intended to supplement PASMA approved training courses by serving as a worthwhile reminder of the good practices that delegates have learned during training and work experience.

INDG401 – Working at Height – A brief guide

Simplified guidance from the HSE which describes what you need to do to protect employees, yourself and others from falls from height. Following this guidance is normally enough to comply with the Work at Height Regulations (WAHR). You are free to take other action, except where the guidance says you must do something specific.

The PASMA website is a useful resource for anyone who has an interest in mobile access towers and contains lots of helpful and current information, including news, upcoming events, guidance, downloads, videos and other resources to inform and educate those who use mobile access towers.

You can also check the validity of a PhotoCard by using the check a card function of the website:
https://pasma.co.uk/check-a-card/

You will need to know the first name, last name and certificate number of the user. When you submit this, you will see an image of the PhotoCard. whereby you can then check the qualifications and expiry date of the card of the user.

PASMA Mobile App

PASMA also have a mobile phone App which you can download for free. It places in your hand a huge range of practical information that can be used on a day-to-day basis.

By using the App you get invaluable access to instruction manuals, the opportunity to check or verify advice in the PASMA Code of Practice, an easy and fast route to finding PASMA training centres, manufacturers and hirers and the opportunity to keep up to date with the latest news and developments.

The functionality and usability of the App is under constant development and your suggestions for new or improved features is always welcome.

Scaffolds and Towers

Only load materials on the working platforms as instructed and don't exceed the safe working load. Always report any defect or hazards you see, re-inspect towers after bad weather or any incident that could affect its stability.

Only assemble, dismantle, move or use mobile access towers if you have received the relevant training. A mobile access tower should only be moved with manual effort by pushing at or near the base.

Check all castor wheels are locked, stabilisers are fitted correctly, and are all in contact with the ground. Check the instruction manual ensuring all components are in the correct place and the tower is at the correct height for the task before ascending.

You should only ever work on a tower when there is a fully guarded platform that has been assembled following the dimensional requirements of the Work at Height Regulations.

Mobile access towers should only ever be climbed using the access method described by the manufacturer's instructions, never use a ladder on the outside of the tower as this could cause it to topple injuring you and anyone in the near vicinity. You should never attach a harness and lanyard to a mobile access tower, there are no anchor points, and the tower has not been tested for this use.

Tower Inspection Record

The Work at Height Regulations require that mobile access towers are inspected after assembly and before use by a competent person, that a written report of that inspection is completed before going off duty, and that a copy of the report is given to the person for whom the report was completed within 24 hours.

PASMA, in consultation with the HSE, have developed the PASMA Tower Inspection Record for this purpose. As well as providing a visual indicator of the tower's inspection status, it also acts as a written report, and by affixing the Record to the tower you satisfy the requirement to "give to the person for whom it was completed within 24 hours".

When the record is full, it is removed from the tower (if the tower is still being used, a new Tower Inspection Record is commenced) and retained as a record of the inspections until the work is completed, and thereafter at your office for a further three months, as required by the Regulations. The HSE Guidance indicates, in addition to the 7 day frequency of inspections, that a tower should be inspected after any event likely to have affected its stability or structural integrity, such as adverse weather conditions. You may be able to think of other events which could have such an effect.

Finally, it is important to note that the Regulations do not require a written report each time a tower is moved or relocated on the same site.

PASMA Tower Inspection Records are available in packs of 50 from PASMA Member Services (Tel. +44 (0) 345 230 4041) or from **www.pasma.co.uk**

As well as being suitable for recording inspections, the reverse side of the PASMA Tower Inspection Record can also be used as a visual indicator and record that a tower is not to be used because it is incomplete, damaged, or otherwise unsafe.

If your tower is incomplete or is in a dangerous condition, you must let other people know. You should affix a Tower Incomplete, Tower Damaged or Tower Unsafe sign in a prominent position or adjacent to an access point, so that any potential users are aware of its condition and do not attempt to use it.

MEWPs and Suspended Platforms

You must understand the importance of the manufacturer's instructions and what information is available from them. Know the importance of how to access and egress from the work platform, and how to communicate with other workers at height through the use of mobile phones, banksman or other technology that is available.

Know where to find the manufacturer's data plate giving information such as machine weight, number of operatives in the platform, and allowable wind speed.

Correctly choosing what PPE you require is important, harness training would be beneficial for MEWP users.

As a user, you will need to know the safe working load (SWL), working load limit (WLL) or rated load (RL) of your MEWP or platform - this should never be exceeded.

Ensure that the MEWP has a current thorough examination certificate, this will be located at a prominent position at the base and will require the machine to be re-inspected every six months.

Only use a safe means of access and always follow designated access routes. Lift and lower equipment following safe practices ensuring all guardrails and edge protection are in place. Follow your approved method of work and risk assessments.

Personal Protective Equipment (PPE)

PPE is an important part of everyday use around the workplace (hard hats, safety shoes, hi-viz jackets, gloves etc). There is also equipment that you must be trained in before using, eg. harnesses. Work restraint should be used rather than fall arrest in a boom-type platform, as it prevents a fall. Fall arrest is normally the last resort as it does not prevent a fall and only protects the individual.

All work restraint or fall arrest must have:

- A strong anchor point - guttering and drainpipes are not suitable.
- A properly designed system - for work restraint, users cannot reach any edge from which they can fall
- Fall arrest with enough clearance for deployment with a rescue system in place.
- Trained users, to understand how to inspect and use the equipment and what to do in an emergency.

Do not use inertia devices horizontally and over an edge, unless they are specifically designed for this, check with the manufacturer. Most inertia devices are designed and tested for use when anchored vertically above the user.

Working from Roofs & Fragile Surfaces

If work is to be carried out on roofs, always make sure you follow your risk assessment and method statement specific to the task. Treat every roof, suspended ceiling, and covered openings as fragile unless you have been advised otherwise. Ensure you have been trained on all work and safety equipment. Where possible avoid walking on roofs, if there is a defined access route, use it.

Regulation 9 of the Work at Height Regulations covers Fragile surfaces.

Every employer shall ensure that no person at work passes across or near, or works on, from or near, a fragile surface where it is reasonably practicable to carry out work safely and under appropriate ergonomic conditions without his doing so.

Work safely on the roof, including checking if:

- The roof is suitable to stand on and has no fragile areas
- The roof can support other loads, e.g. materials and equipment
- Weather conditions mean it is unsafe to carry out the work, e.g. high or gusting winds or icy surfaces.

By using competent people to help you answer these questions, you should be able to set out a safe method of work that competent workers will be able to follow, which will reduce the risk of an accident.

For accessing a roof, if possible, you should use suitable existing fixed access (stairs or ladders) rather than temporary equipment. Otherwise, as a minimum, use tower scaffolds or similar systems. These provide edge protection and a platform where you can install crawling boards. Secured ladders will often be the preferred method for domestic pitched roof work. For other work, they should be the last resort used, e.g. where there is not enough space to use anything else.

As a reminder fragile surfaces kill around 10 people every year.

Working with Safety Nets

If the work involves any likelihood of access within 2m of any gaps they should be covered with a material that is fixed in position and sturdy enough to take the weight of a person. If this is not possible, provide edge protection around the gap or as a last resort install safety netting beneath the gap. If there are any gaps greater than 100mm, this will require the netting to be overlapped by at least 2m. Check the netting has an annual inspection certificate, this will be noted by a tag attached to the net.

Safety Nets & Testing

Safety netting is the preferred method of fall protection as it provides collective protection and does not rely on individual user discipline to guarantee acceptable safety standards. Using nets can simplify systems of work and protect both roof workers and others.

If safety nets are used make sure they are installed as close as possible beneath the roof surface, are securely attached, will withstand a person falling onto them, and are installed and maintained by competent personnel. Make sure all debris is cleared from the netting as this could harm personnel if they fell into it.

Personnel safety nets manufactured to EN1263-1 must be tested annually. This involves removing a sample and testing for residual strength with a test report issued. If the test advises that the product has passed a tag will be issued and attached to the net certifying the net for a further 12 months.

In addition to the test report on the sample area, the entire safety net is inspected and any allowable repairs can be undertaken, certified by the attachment of a net test result tag. Any nets that fail shall be permanently removed from service.

Nets, airbags and bean bags are in place for a purpose so make sure that they are inspected regularly and that no one has tampered with them. Do not store any materials or equipment on them as this could lead to an injury if a fall occurred.

Personal Fall Protection Systems

You must first try to avoid - and then prevent - a fall before using measures that will only miminise or limit the consequences. Airbags and safety nets are examples of such measures, because they should minimise the risk of injury if someone falls. Fall arrest equipment will also minimise injury if someone falls, providing the equipment is set up correctly, users know how to look after it and they understand its limitations. You should only use personal fall protection equipment if you have been trained in its use.

Personal Protection

Personal protection applies to any 'active' measure used by an individual worker that prevents a fall or protects against the consequences of a fall from where work is carried out.

Equipment specifically included: all harnesses and lanyards, inertia reels, ropes, personal work restraint system, personal work positioning system, rope access and positioning techniques.

Industry sectors covered: arboriculture, industrial rope access, entertainments, steeplejacks, adventure activities covered by WAHR, any sectors using Personal Protective Equipment (including MEWPs and suspended access).

Some equipment may ALLOW a fall to take place, mitigating the consequences. In a fall, equipment requires space to deflect / deform to work properly.

To minimise the risk, equipment should be used in work restraint where possible, therefore preventing any fall.

If a fall can occur, the attachment should be as high above the user's head as possible. Work using ropes (e.g. work involving arboricultural, industrial rope access and steeplejack techniques) is a specialist activity and must not be attempted unless you have been correctly trained.

Leaning Ladders and Stepladders

Ask yourself:

- How long will it take to complete the task? As a guide, ladders and stepladders can be appropriate access equipment for short duration and low risk tasks in one position for a maximum of 30 minutes
- Is there a handhold available on the ladder or stepladder?
- Can you maintain contact (hands and feet) at the work position?

Your ladder angle must be set at 75 degrees, or by the '1 in 4 rule' (1 unit out for every 4 units up).

On a ladder where you cannot maintain a firm handhold, other than for a brief period of time, other measures will be needed to prevent a fall or reduce the consequences. On stepladders where a handhold is not practicable, a risk assessment will have to justify whether it is safe or not.

Establish the ladders condition before using it. As a guide, only use ladders or stepladders that:

- Have no visible defects. They should have a pre-use check each working day.
- Have a current detailed visual inspection. These should be done in accordance with the manufacturer's instructions. Ladders that are part of a scaffold system still have to be inspected every seven days.

Make sure that they have been maintained and stored in accordance with the manufacturer's instructions.

The work is 'light work' - they are not suitable for strenuous or heavy work. If a task involves a worker carrying more than 10 kg (e.g. a bucket) up the ladder or steps it will need to be justified by a detailed manual handling assessment.

Remember you should have three points of contact at all times, and never stand or work on the top three rungs of a ladder.

The most common cause of accidents on ladders and stepladders is caused by over-reaching, or overstretching. This places considerable side force on the ladder and could result in it toppling. To avoid this, make sure your belt buckle (navel) stays within the stiles, keep both feet on the same rung or step throughout the task, and avoid working side-on (always face the ladder or stepladder during the task).

Falling Objects and Danger Areas

You must never throw objects from height.

Make sure all platforms are clear of tools, equipment and materials prior to moving a tower.

Avoid accidental dropping of tools, equipment or materials from towers (or other access equipment) by utilising toe-boards, or other equivalent measures.

Identify danger areas and introduce physical barriers or other suitable means which prevent unauthorised entry to the danger area. Where there is an increased risk of falling objects, consider this for all work at height activities.

Your Responsibilities

Delegates should be aware that the training and good practice learned during PASMA training courses does not end when you leave the training centre. We hope and are confident that the vast majority of users will take the lessons with them.

However, you should be aware that for those delegates who do not continue to exercise the good practices and assembly methods taught in PASMA centres, PASMA reserves the right to suspend or withdraw certification if the user engages in inappropriate or dangerous activity while working at height on mobile access towers.

We spoke about our aims and objectives at the start of the course, and we will now re-visit them at the end of this presentation to see if they have been attained.

SECTION 5 - GROUP EXERCISE

In this exercise you were tasked with changing light bulbs in a high school corridor. Part of the task was to select the correct equipment for working at height, along with inspecting the components prior to use, assembling the equipment and inspecting the completed structure, depending on the equipment selected. You also conducted a risk assessment and considered rescue or emergency situations that may have arisen.

SECTION 6 - PERSONAL HAZARDS

PASMA actively supports health and safety initiatives and works closely with health and safety authorities to bring campaigns to the attention of delegates who attend PASMA training courses.

Go Home Healthy centres on a website that links to HSE guidance, case studies, videos and thought leadership, on the three focal themes. There are also "partner pages" where web users can download collateral from other organisations:

- ***Lung Disease*** **-** Breathing in dust, gases, vapours and fumes at work can cause life-changing lung disease or make existing conditions worse. Do the right thing and protect your workers from work-related lung disease.
- ***Work-Related Stress*** **-** Excessive pressure and demands at work can cause stress. This can lead to chronic physical and mental health conditions. Do the right thing and protect your workers from work-related stress.
- ***Musculoskeletal Disorders (MSDs)*** **-** As defined by the HSE, musculoskeletal disorders – or MSDs – refer to any injury, damage or disorder of the joints or other tissues in the upper/lower limbs or the back. Work-related MSDs are those caused by the work a person undertakes. The HSE report that 8.9 million working days are lost each year as a result of work-related MSDs, with a total of 507,000 cases in the last year alone.

SECTION 7 - ASSESSMENT

Assessments and exercises are an essential element of the PASMA Training Scheme.

The assessment is 20 multiple choice questions. It is by successful completion of the assessment that you can demonstrate you have understood all of the important lessons contained in the PASMA course, and our Training Centres and Instructors can demonstrate that they have given you all the information you need to work at height safely.

If there are any questions you do not understand, or any elements of the assessment you would like to be explained further, ask your Instructor. Instructors cannot assist you in answering questions, but can give a further explanation of questions if you are in doubt.

You are now requested to review the aims and objectives to make sure that you now have all the knowledge you need to work safely at height.

PASMA is to committed to ensure a consistently high quality of delivery in its training courses. Your honest feedback in respect of the standard of equipment, facilities, hand-outs and course delivery are invaluable in ensuring this, and in assisting us in future development.

PASMA Training Centres and Instructors are required to operate in accordance with written procedures and are subject to on-going independent audit by PASMA Regional Auditors, so you can be assured that any comments or feedback you offer will be taken seriously by your Instructor.

Please remember our final message and take it back to your workplace:

NEVER ALLOW ANYONE TO STAND ON AN UNPROTECTED PLATFORM!

Training Course Notes – Work at Height Novice – Ver 2, Rev 0 0923

PASMA, P.O. Box 26969, Glasgow G3 9DR
T: +44(0)345 230 4041 | W: www.pasma.co.uk | E: info@pasma.co.uk