Mobile Elevating Work Platforms Operator’s Safety Guide
Introduction
This guide sets out recommended working practices for the safe operation of a wide range of mobile elevating work platforms (MEWPs) to include pre-use inspections, transport and positioning. The guidance will enable an operator to carry out the required task with safety and efficiency.

MEWPs Covered in this guide
1a - Static Vertical e.g. Vertical personnel platforms
1b - Static Boom e.g. Vehicle and trailer mounted platforms
3a - Mobile Vertical e.g. Scissor lifts
3b - Mobile Boom e.g. Self propelled booms

Note: Every care has been taken in the preparation of this booklet to provide accurate advice and guidance. However, neither Facelift GB Ltd, nor its employees, accept liability in respect of the information provided.
Fitness statement

The use of this type of equipment can be demanding both physically and mentally, so if you have any health problems such as impaired vision or hearing, or suffer from alcohol / drug abuse you must inform your employer, so that they can assess whether your condition will create a risk to yourself or others working with, or near, you when operating a MEWP.

You should not operate any MEWP if you suffer from vertigo or do not have a good head for heights.
Regulations and guidance

Health & safety at work act 1974 (HASWA 1974)

Employers must provide:
- Information, instruction and training.
- Safe systems of work and safe working environment.
- Safe transport and storage.
- Accept responsibility for unsafe actions of his or her employees.

Employee’s responsibilities:
- Responsible for own safety.
- Responsible for safety of any other person who could be affected by their actions or omissions.
- Must cooperate with employers.
- Must not interfere with or misuse any safety system provided for your safety or the safety of others.

Management of health & safety at work regulations (MHSWR1999)
- Risk assessments
- 5 or more people—record all significant findings.
- Hierarchy of measures, avoid, reduce and control.
- Implement health and safety measures from risk assessment.
- Appoint a competent person.
- Setup emergency procedures.
- Provide clear information and training to employees.
- Work together with other employers sharing the same work place.

Provision & use of work equipment regulations (PUWER 1998)
Work equipment is constructed or adapted to be suitable for the purpose for which it is provided.
- Equipment is in good working order maintained and repaired.
- Employee must be authorised to use the equipment.
- Equipment is inspected at suitable intervals to ensure it is safe to use.
- Employers must provide adequate training to operate.

Lifting operations lifting equipment regulations (LOLER 1998)
Every employer shall ensure that every lifting operation involving lifting equipment is properly planned, by a competent person, appropriately supervised and carried out in a safe manner.

For every MEWP the operator must know:
- Safe working load.
- Maximum number of persons it can carry.
- Maximum safe operating wind speed.
- Evidence of a thorough examination (6 monthly).

Working at height regulations (WAHR 2005)
Every employer shall ensure that work at height is:
- Properly planned.
- Appropriately supervised.
- Carried out in a safe manner.
- Includes the selection of appropriate work equipment.

Every employer shall ensure that no person engages in any activity including organisation, planning and supervision in relation to working at height or work equipment for use in such work, unless he or she is competent to do so.

If you have NOT been trained you must NOT operate.
Operator training and responsibilities

MEWP operators by law must have received adequate training for the category of machine they intend to use and be able to prove it.

Responsibility of the operator

Your first concern must be for the safe operation of the MEWP, the safety of the people working with you and also the safety of anyone else who could be affected by your actions.

You must always follow the manufacturer’s instruction manual and at no time attempt to or operate outside the recommended limits. Proper care of the MEWP is a major factor in maintaining safety. You must never ignore or interfere with any safety device provided on the machine.

Remember if driving on the public highway you must hold the relevant licence for that class of vehicle.

Hand over and familiarisation

This is a demonstration of all control functions, safety devices and special features of a particular make or model of MEWP to a trained operator by someone of demonstrator standard.

Machine specific familiarisation should follow on from basic training and cover manufacturer’s instructions, warnings and control functions. Safety devices and emergency lowering systems should be located and checked for operation.
The new IPAF MEWP categories, with abbreviations and brief explanations

Static Vertical (1a)
Vertical personnel platforms (static)

Static Boom (1b)
Trailers/push-arounds, vehicle-mounted platforms

Mobile Vertical (3a)
Scissor lifts, vertical personnel platforms (mobile)

Mobile Boom (3b)
Self-propelled booms
Structural parts

Various machines use different configurations of parts depending on the make and model. Always refer to the manufacturer’s instruction manual before operating.

Outriggers/stabilisers are intended to increase the support area at the base and also to level machine.

Spreaders/mats (sole boards) are used to increase the area under the stabiliser/outrigger foot plate to reduce the point pressure exerted on the ground.

Oscillating axles are mostly on self propelled rough terrain lifts. They enable the machine to be used on uneven terrain and help ensure that all wheels remain in contact with the ground.

Extending axles are found mostly on larger self propelled booms and extend to increase the machines base dimension in its operating position.

Stabilisers are all devices and systems used to stabilise MEWPs by supporting and/or levelling the complete MEWP or the extending structure, e.g. jacks, suspension locking devices and extending axles.

Jacks are ideal for use in leveling a machine after it is driven onto sloping or uneven ground and before raising the platform.
**Power units**

Various types of power units are fitted to MEWPs all of which have their own hazards, so depending on the type simple precautions must be observed.

*Internal combustion engines* give off dangerous exhaust fumes. If used inside a building or confined space adequate ventilation must be provided.

*LPG* Liquid Petroleum Gas is used in some types of internal combustion engines. When the gas bottle needs replacing this can be done inside the building but must be at least eight metres away from any source of ignition. Never smoke whilst refuelling or changing a gas bottle. LPG is heavier than air and will sink to the lowest point. The slightest spark will cause an explosion.

*Battery electric power* units are used to power some MEWPs. Remember that battery acid is highly corrosive and can cause serious burns to the skin.

When charging lead acid batteries it should take place in a well ventilated area, free from any source of ignition as highly explosive hydrogen gas is produced.

**Pre-use inspections**

All MEWPs must be inspected by the operator before and after use, this is to ensure that it is safe and that there are no obvious defects. The inspection must always be carried out in accordance with the manufacturer’s instruction manual. It is also good practice to keep a record of all inspections.

You also need to see evidence that the MEWP has a current six monthly examination as required under LOLER.
Emergency controls

As part of the inspection both ground and cage controls should be checked to ensure they are working correctly. This should also include emergency lowering controls. These emergency lowering controls are on the machine solely to bring the machine down safely in the event of an emergency.

Check that all emergency stop buttons/switches are working correctly.

As part of a basic rescue plan you should ensure that a responsible person on site, who may not be working with you but who is in close proximity, has been shown how to use the emergency lowering system so that you have someone on the ground who knows exactly what to do if something were to go wrong.

Never attempt to climb out of an elevated MEWP if the emergency backup system fails to work.

Travel to the work area

The MEWP must be suitable for travelling over the ground conditions found on site.

Setting up

Points that need to be considered before travel, positioning or set-up of any MEWP:

- Machine type and weight
- Always walk the intended route
- Ground conditions
- Manholes, Basements, Underground service culverts or anything that may give way
- Overhead obstructions, power cables, building projections etc
- Slopes or ramps
- Ensure the machine is leveled within manufacturer’s specification
- Correct machine positioning
- Area barricaded and signed

Please remember that weather conditions can affect the ground for example; prolonged rain can make the ground soft so always use outrigger mats, sole boards or additional timbers, check machine level and adjust as required. The same precautions should be taken if setting up on frozen ground, which can appear much firmer than it really is.
Use of outriggers/stabilisers

Some types of MEWPs are fitted with outriggers or stabilisers which must always be used as recommended by the machine manufacturer.

The MEWP should be on a firm surface and leveled to within the limits set by the manufacturer, sole boards/outrigger mats should always be used to spread the load and reduce the risk of sinking.

You should always check that all outriggers are firmly in contact with the ground before you raise the platform and at regular intervals thereafter.

If you have any concerns about the suitability of the ground conditions you should consult your supervisor or manager.

Some MEWPs require the full weight of the machine to be on the outriggers i.e. the wheels must be clear of the ground. Always refer back to the instruction manual.

Safe working load

The safe working load (SWL) will be specified by the machine manufacturer, along with the maximum number of people allowed in the platform. This is the maximum load that the MEWP can safely carry, and includes personnel tools, equipment and anything else that is placed in the cage or platform. The safe working load (SWL) must never be exceeded.

Always ensure that the safe working load of the machine is sufficient for the job, allowance must be made for any additional loads that may have to be carried by the MEWP during the task.

Other hazards that could reduce stability

Uneven distribution of load in the cage or platform - High winds - Sudden impact - Side forces - Pulling or pushing on an object outside the cage or platform - Using the MEWP as jack or prop. Remember most MEWPs are not designed to be used as a crane.
Travelling with operator in an elevated platform

Always walk the intended route beforehand and only travel with the platform raised or extended if the machine is designed for the purpose. Jolting, caused by an uneven surface will be significantly exaggerated at the end of the boom and this could be a danger to the occupants in the cage or platform, it could also cause the machine to become unstable.

Never travel any MEWP up or down a slope with the platform raised, it is also good practice to use a banksman or responsible person at ground level to give directions.
Barricade the work area
If you are using a MEWP in any location used by other workers or vehicles you must ensure that the entire area is barricaded by means of cones and warning signs. Never allow anyone to walk under a raised platform.

Working on the public highway
If your task involves using a MEWP in an area used by other vehicles or pedestrians, for your own safety and the safety of anyone who could be effected by your work, you must ensure that the whole of the working area is barricaded by using cones, warning signs, flashing beacons etc.

Under no circumstances should any part of a MEWP obstruct or swing into a lane of live traffic.

Arrangements may have to be made to control or divert traffic using temporary traffic lights, signs and cones. Site managers or supervisors are legally responsible for this.

It is illegal for anyone other than authorised personnel to direct traffic on the public highway. Advice from the police may have to be sought.

Operations carried out during the hours of darkness in areas where the public have access require the use of suitable barriers, signage and lighting.

If a MEWP is left on the public highway overnight, relevant permission must be obtained from the highway authority or police.
Travel on the public highway

You must know all clearance dimensions of any road legal MEWP i.e. height, width etc. which should be marked in the cab of the MEWP.

Ensure all outriggers, extendable axles etc. are fully retracted and locked in place, if a slew lock is fitted you must make sure that it is engaged.

Transport vehicles used for the transportation of MEWPs must be suitable for the purpose and used in accordance with the manufacturers instruction manual. Operatives carrying out load / unload activities must be properly trained in the correct and safe procedures to include securing the load without causing damage to the equipment.
Working in close proximity to overhead power cables

Operators must always be aware of the dangers of overhead power cables. Remember:

• The safe recommended set up distance from wooden poles carrying power cables is 9 metres.
• The safe recommended set up distance from steel pylons is 15 metres.

But in both instances with a fully extended boom

Always recheck the recommended safe setup distance if the MEWP is to be relocated on the same site, remember high winds can cause cables to sway which could reduce the safe distances.

Never travel under any power cable with any part of a MEWP raised or extended.

Emergency procedures in the event of contact with electric power cables

Do not attempt to exit the cage or platform.

Inform all personnel of the situation and advise them not to touch any part of the machine.

Get someone to raise the alarm and inform site management of the situation, if possible get someone at ground level to stand guard and keep all persons away from the machine.

Try if possible with extreme caution to gently move the MEWP away from the hazard.

If it is not possible to move the MEWP away from the power cable, you must remain inside the cage or platform. Inform the local power supply company immediately. Do nothing more until it has been made safe i.e. the power has been switched off, this must be confirmed.

Barriers, markers must be observed these are erected to mark out safe working distances.
**Wind and weather**

All MEWPs have a manufacturers recommended wind tolerance. The most commonly quoted wind tolerance is force six which is a strong breeze 28 to 31 mph or 12.5 metres per second, however some MEWPs will have no wind tolerance because they are designed for indoor use only.

Always check the recommended wind speed for the machine you are using. This information can be found in the operators manual and it should also be on a decal (information sticker) on the machine.

Designed wind speeds are based on three second gusts, more exposure could cause the machine to become unstable. Wind speed should be checked at the working height by means of a hand held wind meter (anemometer) which is the only method considered reliable.

Remember that the wind speed can increase by as much 50 percent at 20 metres above ground level. Funnel effect between buildings where the wind speed will be greater through the narrow section can also affect the stability of a MEWP.

<table>
<thead>
<tr>
<th>Description of Wind</th>
<th>Specifications for use on land</th>
<th>mph</th>
<th>m/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Calm</td>
<td>Calm; smoke rises vertically</td>
<td>0-1</td>
<td>0-0.2</td>
</tr>
<tr>
<td>1 Light Air</td>
<td>Direction of wind shown by smoke</td>
<td>1-3</td>
<td>0.3-1.5</td>
</tr>
<tr>
<td>2 Light Breeze</td>
<td>Wind felt on face; leaves rustle; ordinary vanes moved by wind</td>
<td>4-7</td>
<td>1.6-3.3</td>
</tr>
<tr>
<td>3 Gentle Breeze</td>
<td>Leaves and small twigs in constant motion; wind extends light flag</td>
<td>8-12</td>
<td>3.4-5.4</td>
</tr>
<tr>
<td>4 Moderate Breeze</td>
<td>Raises dust and loose paper; small branches are moved</td>
<td>13-18</td>
<td>5.5-7.9</td>
</tr>
<tr>
<td>5 Fresh Breeze</td>
<td>Small trees in leaf begin to sway; crested wavelets form on inland waterways</td>
<td>19-24</td>
<td>8.0-10.7</td>
</tr>
<tr>
<td>6 Strong Breeze</td>
<td>Large branches in motion; whistling heard in telephone wires; umbrellas used against wind</td>
<td>25-31</td>
<td>10.8-13.8</td>
</tr>
<tr>
<td>7 Near Gale</td>
<td>Whole trees in motion; inconvenience felt when walking against wind</td>
<td>32-38</td>
<td>13.9-17.1</td>
</tr>
<tr>
<td>8 Gale</td>
<td>Breaks twigs off trees; generally impedes progress</td>
<td>39-46</td>
<td>17.2-20.7</td>
</tr>
<tr>
<td>9 Strong Gale</td>
<td>Slight structural damage occurs (chimney pots and slates removed)</td>
<td>47-54</td>
<td>20.8-24.4</td>
</tr>
</tbody>
</table>
Other hazards involving weather conditions

Sun can cause glare, sunburn and tarmac to melt.

Rain can cause flooding and hide other hazards; it can also cause the surface to become slippery, soft and unstable.

Snow and ice will make the surface slippery and hide other hazards, extreme cold could also affect the ability of the operator.

Always ensure suitable Personnel Protective Equipment (PPE) is used.

There are two main weather conditions that can ground this type of equipment, one is wind speed the second is electrical thunder storms, you must remember most MEWPs are not insulated so if you use a MEWP in lightning you are effectively a big steel pole waiting to be struck. If lightning is imminent the machine should be grounded until the hazard has passed.

“if you use a MEWP in lightning you are effectively a big steel pole waiting to be struck...”
Use of safety harnesses

Full body harnesses with short adjustable restraint lanyards are strongly recommended in all boom type platforms i.e. vehicle, trailer (1b) and all self-propelled MEWPs (3b).

It is not normally necessary for persons working from vertical platforms i.e. static verticals (1a) or mobile verticals (3a) to wear fall protection equipment other than in exceptional circumstances.

Decisions regarding fall protection equipment selection must come from a job specific risk assessment carried out before work begins, and also takes into consideration the manufacturer’s instruction manual.

Correct PPE

The correct Personal Protective Equipment (PPE) should always be worn. This may include hard hat with chin strap, high visibility clothing, steel toe cap footwear, safety harness, gloves and eye protection as required.

PPE should always be the final stage in the hierarchy of prevention measures. The potential operating risks can be greatly reduced by good planning and safe operating practices carried out by well trained operators.

Safety harnesses should be inspected by a competent person and the information logged under a regular regime to ensure they are safe. They should also be inspected by the operator prior to use.

Never attach your harness to any building or structure outside the cage or platform, only attach to suitable anchorage point inside the cage.
Employer’s responsibilities

Some of the factors that should be considered by an employer before any MEWP operations take place:

Ensure operators are trained in the safe use of harnesses
What type of MEWP would be most suitable for the task to be carried out?
Does the selected MEWP have designated lanyard anchorage points in the cage or platform?
What type of task is going to be carried out?
What are the MEWP manufacturer’s recommendations?
Do you have a rescue plan in place?

Parking

Before leaving the MEWP at the end of a job always top up the fuel tank, if the machine is powered by batteries, plug it in to a suitable power supply.

Carry out a post operation check of the MEWP and report any defects.

Ensure the MEWP is stowed correctly and is safe and secure. Isolate against unauthorised use by ensuring all stop buttons are in and all keys are removed.
Always ensure the Telescoping Function is:
- The last function used when going up or out.
- The first function used when coming down or in.
By using this method you will reduce boom flex and not be reliant on out reach limit switches.
Always enter and exit facing the platform using all steps and handrails provided, maintaining three points of contact at all times. This will reduce the risk of slipping or tripping.
Always know where the emergency lowering controls are, how they work and that they actually do what they are designed to do.
Always have a rescue plan in place i.e. a responsible person at ground level who knows how to lower the MEWP if an emergency situation were to arise.

Always use the control functions smoothly.
Always be aware what is going on around you, constant observation is a key part of safe operation.
Always be aware of overhead hazards, building projections, cables and even windows that have the ability to be opened etc. There may be many more than you think.
Always keep all of your body parts inside the cage to reduce the risk of crush injuries.
Always ensure that no objects fall from the cage or platform.
Never exit the machine at height unless there is no other possible safe way of doing the job, a full risk assessment and method statement must be conducted prior to any such operations taking place.

Never allow an untrained or unauthorised person to operate the MEWP. Operation of the MEWP is your responsibility.

Never misuse, abuse or override any safety systems. These systems are provided to protect both you, the machine and those around you.

Never use steps, ladders, or stand on guardrails to gain additional height, if you need additional height you need a larger machine.

Never use your MEWP as a jack or prop, hoisting loads under the cage is not permitted unless the machine is designed to do so by the manufacturer.

Never attempt to exit the cage by climbing down the boom or scissor stack.
Accidents, near misses and dangerous occurrences

An accident is defined in the regulations as any unwanted, unscheduled or unplanned event or occurrence that causes an injury or death to any person or damage to any equipment or property.

A near miss is defined as an accident or incident which almost happened and could have had severe consequences.

All companies should have procedures in place for reporting such events.

There are a number of ‘dangerous occurrences’ listed under the regulations. Here are some relating to this type of equipment: collapse or overturn, failure of any load bearing part of any lift, hoist, crane, derrick or mobile work platform.

Procedures to be followed in the event of an accident, near miss or dangerous occurrence

All accidents, near misses or dangerous occurrences must be reported to your employer immediately.

Following any accident or incident, nothing must be moved especially the machine, until authorised to do so by your employer.

Always follow company and site procedure on reporting methods.

You must report any cases of severe machine shock loading to your employer, so the machine can be inspected to ensure it is safe.
Make sure you’re trained

This guide is not a replacement for training, if you or your staff require training, please get in touch to discuss how we can help you. Opposite are the details of some of the courses available.

We offer a friendly and flexible approach to training as we understand that everybody has slightly different needs and levels of experience.

We want everyone who trains with us to enjoy the experience, so that they leave feeling confident with the knowledge and practical skills they have gained.

IPAF Training Courses with Facelift

IPAF (the International Powered Access Federation) is the UK’s most established powered access platform training programme. The IPAF PAL card is awarded on successful course completion, this confirms identity of the bearer and clearly states which categories of MEWPs that the person is trained to operate.

**IPAF Static vertical personnel platform (1a) one day course**

**IPAF Static boom (1b) one day course**

**IPAF Mobile vertical (3a) one day course**

**IPAF Mobile boom (3b) one day course**

**IPAF Spider Training (1b) two day course**

**IPAF Safety harness user and inspection training half day course**

**IPAF MEWPS for Managers one day course**

An essential training programme instructing managers on the responsibilities and knowledge they require to deal with the constantly changing demands related to working at height on site and the use of MEWPs.

**IPAF MEWPS Instructor Assessment Programme* five day course**

IPAF instructors’ licence training course. Course objective is to train and assess the candidates to understand the working of the IPAF training programme and assess their knowledge on both the machines and their ability to convey information to candidates. *Entry to course is subject to criteria being met

IPAF Courses can take place at your own premises or at one of our IPAF training centres, situated at Hickstead, Basildon, Liverpool, Southampton and Birmingham.

Please call 0800 072 55 72 for more information, email us at training@facelift.co.uk or visit us at www.facelift.co.uk to view these courses online
Additional working at height safety training courses

PASMA Tower Training
All users of mobile scaffold towers are required to have appropriate training for their safe assembly, alteration or dismantling. This is a requirement of the 2005 Working at Height Regulations. The PASMA course is the UK’s industry standard for tower training.

The Ladder Association (LA)
Inspection and Safe Use of Ladders & Step Ladders. This course provides successful delegates with a nationally recognised certification enabling them to safely use ladders & step ladders and to carry out, and document, periodic statutory inspections. For more information on this course call us on 0800 072 55 72

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Thanks to our authors

This guide has been written and produced by Facelift’s senior instructors, who have been training workers in the theory and practice of working safely at height for more than 25 years. They bring with them a wealth of knowledge and experience and have captured it in this short guide so that it is both thorough and practical.

We’d also like to thank Vertikal for their support and the editorial rigour they have brought to the project.

Facelift has trained more than 30,000 people to work safely at height and have worked with IPAF for more than 20 years to continually improve the levels of safety in the powered access industry.

This guide is not a replacement for training, if you or your staff require training, please get in touch to discuss how we can help you.

Training freephone - 0800 072 5572
Email - training@facelift.co.uk

Below are some helpful reference resources for further information and legislation on safe practices for working at height.

www.ipaf.org
www.hse.gov.uk/falls/mewps
www.vertikal.net

Order copies of this guide online

Further copies of this guide can be ordered online at: www.facelift.co.uk/mewpsguide

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