GOOD PRACTICE GUIDE

Mobile Elevating Work Platforms

EWPA

Elevating Work Platform Association

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SECTION 1 INTRODUCTION

1 IN THIS SECTION:

Mobile Elevating Work Platforms (MEWPs) are useful but complex pieces of equipment that are often used for access in hazardous areas. When used correctly they provide a safe way to perform work at height. However, people have been seriously injured and killed in accidents involving MEWPs.

The causes of these accidents have included:

- not fully assessing the hazards and risks of the job, site and the equipment.
- not following the manufacturer's recommendations
- inadequate training and supervision
- equipment failure

The guidelines outline the safe work practices on how to use and maintain MEWPs safely and help duty holders meet their obligations under the Work (Occupational) Health and Safety Acts and Regulations in force in each state of Australia. Duty holders include employers, employees, principals, designers and manufacturers, hirers and suppliers engaged in work associated with MEWPs.

This document is based on the current state of knowledge for the safe use of MEWPs.

There may be other methods or processes that meet the requirements for providing a safe workplace under the WHS Act.

The Good Practice Guidelines for Mobile Elevating Work Platforms are non-industry specific. Some industries have guidelines that deal with specific problems faced in their working environments, such as the electricity sector or horticulture. When deciding how to do a job safely, make sure you check any industry specific guidance. These guidelines may apply to the following activities and industries:

- arboriculture
- building and construction
- bush and forest industries
- electrical supply and distribution
- film and television
- plant and machinery hire
- port operations
- sign writing and advertising
- stock picking
- railways
- telecommunications
- warehousing

1.1 SCOPE AND APPLICATION

The advice in these guidelines represents the current state of knowledge (the best available at the time of publication) on the safe design, use and maintenance of MEWPs.

It includes the principles and requirements for using MEWPs that are common across a broad range of industries and applications.

This document refers to other guidance material about MEWP safety and hazard control measures. This includes industry standards, codes of practice, guidelines, manufacturers' instructions and other material. This document does not repeat the information from these sources but incorporates their key principles where possible.

These guidelines apply to work platforms where the height of the platform can be adjusted by powered scissor mechanisms, telescoping vertical masts or towers, telescoping or articulating booms, or any combination of these. They can be vehicle-mounted, self-propelled, towed or moved by hand and used to access work above or below ground level.

These guidelines do not apply to the following:

- Forklift trucks with working platforms
- Cages or platforms attached to crane hooks
- Work platforms temporarily attached to a mobile crane
- Suspended scaffolds
- Lifts or elevators
- Telescopic handlers, except when configured as a MEWP. Refer AS10896.1, AS/NZS1418.10 and TSHA Information Sheet – Telehandlers with Work Platform attachments:

  TELEHANDLERS WITH WORK PLATFORM ATTACHMENTS INFORMATION SHEET

- Horticultural MEWP
- Building maintenance units.

1.2 LEGISLATION

Throughout this document reference is made to the Work Health and Safety Act and Regulations. In Australia, each state and territory has its own legislation. Where reference is made to the Act or Regulations it should be taken as referring to the equivalent legislation in each state or Territory. A list of the relevant legislation is contained in SECTION 10.5

1.3 STANDARDS

This Good Practice Guide has been developed based upon the following publications of standards:

AS/NZS 1418.10:2011

AS 2550.10:2006

References to other standards (outside of the above mentioned) are assumed to relate to the latest publications of the noted standards.

1.4 DISCLAIMER

Reasonable care has been taken by the Elevating Work Platform Association in the compilation of the information contained in this Good Practice Guide and in the verification of its accuracy when published, however its content is subject to change without notice due to factors outside the control of the Elevating Work Platform Association and therefore this Good Practice Guide should be used as a guide only. For example, the technology and know-how contained in this Good Practice Guide are continually improved through industry research and development and this may lead to information in this Good Practice Guide being altered without notice and/or being inaccurate for a period of time. The Elevating Work Platform Association makes no representations or warranties of any kind, express or implied, about the accuracy, reliability, currency, completeness and suitability of the information contained in this Good Practice Guide and readers should consult a professional before relying on the information contained in it.

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1.5 DEFINITIONS

Anemometer	*A device for measuring wind speed.*
Beaufort wind scale	*A method that relates wind speed to observed conditions.*
Chain of Responsibility (COR)	*A concept used to place legal obligations on parties in the transport supply chain or across transport industries generally.*
Chassis Inclination	*The permissible inclination of the chassis, defined by the manufacturer, when the MEWP is elevated. Note: there may be more than one permissible chassis inclination.*
Competent person	*A person who has acquired through training, qualification, experience or a combination of these, the knowledge and skill enabling that person to correctly perform the required task. Note: Different types of MEWPs require different competencies, including appropriate training and/or qualifications.*
Critical component	*One whose failure could result in a risk to the health and safety of persons using the MEWP or in its vicinity.*
Extending Structure	*The structure that is connected to the chassis to support the work platform and allow movement of the work platform to position.*
Fall Arrest System	*A fall arrest harness with a lanyard incorporating a short energy absorber or fit-for-purpose self-retracting lifeline (SRL) attached to a certified anchor point. If using an adjustable lanyard arrangement, the length will be adjusted to a length as short as practicable that will restrain the operator inside the platform.*
Familiarisation	*Demonstration of the machines control functions and safety devices to a trained operator. The familiarisation must be carried out by a trained operator/trainer - someone who has adequate knowledge of that particular machine*

Function Enable	*Function Enable: A control designed to be continuously activated in conjunction with another control in order for the function to operate. (Sometimes referred to as a dead-man control).*
Gradeability	*The maximum slope that a MEWP can negotiate when travelling in the lowered travel position.*
Manual force	*A side loading imposed on the machine by the operator pushing/pulling on an object outside the work platform.*
Mobile Elevating Work Platform (MEWP)	*A mobile machine (device) that is intended to move persons, tools and material to working positions and consists of at least a work platform with controls, an extending structure and a chassis.*
NHVL	*National Heavy Vehicle Law. Laws administered by the National Heavy Vehicle Regulator for heavy vehicles over 4.5 tonne gross vehicle mass.*
Operating Envelope	*The working range of the MEWP as defined by the manufacturer*
Operator	*A person who controls the movements of the MEWP.*
Outriggers	*Devices attached to the MEWP chassis to adjust its inclination to increase stability. (Also referred to as stabilisers)*
Overrun	*Controlled deceleration of a MEWP movement after the control is released.*
PCBU	*A person who conducts a business or undertaking whether alone or with others and whether or not the business or undertaking is conducted for profit or gain.* *A person does not conduct a business or undertaking to the extent that the person is engaged solely as a worker in, or as an officer of that business or undertaking.*
Personal energy absorber	*A device that reduces the deceleration force imposed when a fall is suddenly arrested, and correspondingly reduces the loadings on the anchorage and the person's body. The energy absorber may be either a separate item or manufactured as part of the lanyard.*
Rated capacity	*The maximum load, expressed in kilograms, for which the MEWP has been designed for normal operation, and includes persons, tools, materials, acting vertically on the work platform. Also referred to as Safe Working Load (SWL)*
Reasonably Practicable	*Defined in the Work Health and Safety Act as that which is, or was at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all relevant matters including—* *(a) the likelihood of the hazard or the risk concerned occurring; and* *(b) the degree of harm that might result from the hazard or the risk; and*

	(c) what the person concerned knows, or ought reasonably to know, about— *i. the hazard or the risk; and* *ii. ways of eliminating or minimising the risk; and* *(d) the availability and suitability of ways to eliminate or minimise the risk; and* *(e) after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.*
Safety observer	*A person specifically assigned the duty of observing and warning against impending hazards and who can undertake emergency procedures such as emergency retrieval if necessary.*
Shall or must	*Indicates a legal requirement.*
Should	*Indicates recommended best practice.*
Statement of Attainment (SoA)	*A statement issued to a person confirming that the person has satisfied the requirements of the unit/s of competency specified in the statement.*
Spotter	*A person specifically assigned the duty of observing and warning against unsafe approach of the MEWP to electrical apparatus.*
Spreader plates	*An item that may be constructed of a suitable material (steel, timber or other) to sit under outriggers that help distribute the weight of the MEWP on softer ground.*
Supply	*Defined under the WHS Act as a supply or resupply of a thing by way of sale, exchange, lease, hire or hire purchase, whether as a principal supply or agent.*
Suspension Trauma	*The physical effects from being suspended upright in a harness with limited movement for a period of time, which can rapidly lead to death if not properly recognised and treated.*
Transporting	*Delivery of the MEWP to or from the work site.*
Travelling	*Any movement of the chassis except transporting.*
Unit of Competence (UoC)	*The specification of the standards of performance required in the workplace.*
WHS Act	*Work (Occupational) Health and Safety Act applicable in the relevant State or Territory in Australia.*
WHS Regulations	*Work (Occupational) Health and Safety Regulation applicable in the relevant State or Territory in Australia.*
Work platform	*Movable component of the MEWP, other than the chassis, intended for carrying personnel (with or without material), e.g. cages, buckets and baskets.*

SECTION 2 SAFE WORK PRACTICES WHEN USING MEWPS

2 IN THIS SECTION:

Identifying hazards and putting control measures in place makes using MEWPs in the workplace safer.

Duty holders must choose the best MEWP for the task, given the type of work and the work environment. The work needs to be properly planned and hazards managed at the worksite. Proper planning not only involves those activities at the work site but also those tasks performed in getting the MEWP to the work site.

The EWPA provides a Supervisors course for those responsible for planning, supervising or managing the use of MEWPs to ensure that work is undertaken safely and suitable prevention strategies are implemented.

VIEW COURSE INFORMATION

Persons involved in the transport and handling of MEWPs must observe the obligations imposed under National Heavy Vehicle Law (NHVL) and the Chain of Responsibility (COR). See Section 5

Operators must be trained and competent before using the MEWP and must follow the manufacturer's operating instructions. Training requirements covered are in **Section 8** of this Guide.

MEWPs can seriously injure people in the following ways:

Entrapment: An operator can get trapped and crushed between the work platform and a fixed structure, such as when moving in tight overhead areas of steelwork, **operators can be trapped against the platform controls and, if this happens, they may not be able to stop the MEWP. Operator must keep body parts within the confines of the work-platform when it is moving. See Section 2.5.1**

Overturning: On an uneven or soft surface, the MEWP can overturn throwing the operator from the work platform. Overturning can also occur in high winds, if the MEWP is operating outside its operating envelope or if it is overloaded. See **Section 2.5.2**

Collision: The MEWP may hit pedestrians, nearby vehicles or structures. The MEWP may be hit by passing vehicles. See **Section 2.5.10**

Falling: An operator can fall from the platform while working. They can even be catapulted out if, for example, the wheels go into a sink hole or drop off a kerb. Operators should enter and exit from the platform through the gate. See **Section 6** for further information regarding working at height.

Electrocution: An operator, or personnel at ground level may suffer from an electric shock if the MEWP comes into proximity with live electrical apparatus (e.g. overhead powerlines). See **Section 2.5.12**. Electrical hazards can also arise from on-board electrical supplies (batteries, battery chargers, generators), working in storms, or static electricity.

2.1 RISK MANAGEMENT

Planning a safe way to do a job can help identify the hazards of any work using a MEWP. Planning safe work includes a risk management process, which is:

- **Identify** the hazards – find out what could cause harm.
- **Assess** the risks – understand the nature of the harm and what could be caused by the hazard, how serious it could be and the likelihood of it happening.
- **Control** the risks – implement the most effective control measures that are reasonably practicable in the circumstances. This includes selecting the right MEWP for the task and workplace.
- **Review** the control measures - ensure they are working as planned.

The following Codes of practice are useful tools to assist in managing risk:

MANAGING WORK HEALTH AND SAFETY RISKS

MANAGING RISKS OF PLANT IN THE WORKPLACE

The WHS Act requires you to consult with workers who carry out work for you. If workers are represented by a health and safety representative then the consultation must involve that representative. Further guidance is available in the code of practice: Work Health and Safety Consultation and Co-operation and Co-ordination.

2.2 IDENTIFY HAZARDS

Identify and assess all hazards for every job, site or task.

These are some ways to identify hazards while working with a MEWP:

- Consult the manufacturers operating manual – this will provide users with information on:
  - The intended use of the MEWP and operating specifications.
  - Residual hazards and precautions necessary to minimise the risk.
- Physical inspections - walk around the workplace using a checklist to identify and manage hazards.
- Task analysis - look at each task and identify the hazards involved.
- Process analysis - identify hazards at each stage of the project or piece of work.
- Review accident and incident investigations - identify hazards and see what caused any accidents using investigations of accidents on similar equipment or work. Information can be obtained from the EWPA and Regulators.

2.3 ASSESS THE RISK

2.3.1 ESTIMATE THE SEVERITY

- Estimate the severity of the harm that could occur. Could the hazard cause death, permanent injury, illness, or minor injuries needing first aid?
- What factors could influence the severity of harm? E.g. a fall from a significant height.
- How many people are exposed?
- Could the occurrence of an event escalate?

2.3.2 ESTIMATE THE LIKELIHOOD OF THE HARM OCCURRING

- How often are people exposed to the hazard?
- How long are they exposed to the hazard?
- Are there external influences that might increase the likelihood? E.g. hot conditions, high winds.
- Could the way people behave increase the likelihood of the risk?

2.4 CONTROL THE RISK

Risk controls must be implemented in the following order (See ***Reasonably Practicable*** and **Section 9.3.1**).

2.4.1 LEVEL 1 CONTROLS

Eliminate the hazard – for example perform work on the ground instead of at height.

2.4.2 LEVEL 2 CONTROLS

- Substitute the hazard with something safer. E.g. A different MEWP or scaffold.
- Isolate the hazard from people. E.g. Barricades
- Use engineering controls. E.g. Guards or interlocks.

2.4.3 LEVEL 3 CONTROL MEASURES

Use administrative controls e.g. work methods or procedures that are designed to minimise exposure to risk.

Use personal protective equipment.

First try and eliminate the hazard but if that's not possible, then isolate it, and as a last resort try to reduce the harm that could be caused by a hazard, by minimising it. A combination of controls may need to be used.

Develop ways to control the hazards that use ‘group controls' (such as edge protection) that protect more than one worker from a hazard. Group controls are better than 'individual controls', which protect only one person (such as a fall restraint).

2.5 MAIN HAZARDS ASSOCIATED WITH MEWPS

In this section some of the main hazards of using MEWPs are covered along with recommended control measures. For useful checklists see **Section 10**.

2.5.1 CONFINED OVERHEAD WORKING

Operators should:

- Be briefed on the risks of working in and around structures where they could be trapped or pinned between the platform and the structure.
- Be aware of their working environment at all times.
- Wear hardhats with a chin strap.

- When moving the MEWP:
  - Scan the area around and above the platform for obstructions. Allow sufficient clearance between the platform and obstructions.
  - Check the direction of platform movement with reference to the indicators on the chassis and the controls before movement.
  - Move at speeds that allow full control of the MEWP
  - Use controls that allow fine control of the work platform movements when moving close to obstructions.
  - Take account of overrun that may occur when controls are released.
  - Take account of platform movements due to the see-saw effect when travelling over uneven ground, potholes or kerbs.
- Isolate the power to the MEWP when working at height.
- Be aware of other occupants in the platform and communicate before moving.

A Safety observer should be available to warn operators of obstructions and perform emergency rescue.

MEWPs fitted with a Secondary Guarding System should be used where a risk of crushing has been identified. For information on secondary guarding systems see:

SECONDARY GUARDING INFORMATION SHEET

For more information on avoiding trapping and crushing see:

IPAF GUIDANCE DOCUMENT

BEST PRACTICE GUIDANCE FOR MEWPS

2.5.2 SETTING UP

- **Use the MEWP on firm and level ground where possible. Problems such as trenches, manholes and soft ground conditions can cause a MEWP to overturn**.
- Make sure any covers used to block holes are strong enough to take the whole weight of the MEWP, including the maximum rated capacity - that is the weight of the MEWP fully loaded with people, tools and equipment.

2.5.2.1 Outriggers

- Make sure all outriggers, if used, are firmly in contact with the supporting surface, and footplates are fully supported.

For further information on scissor stability on outriggers see here:

SCISSOR STABILITY ON OUTRIGGERS SAFETY GUIDELINE

2.5.2.2 Ground conditions

- Check the ground to confirm it is capable of supporting the loads applied by the wheels or outriggers.
- Use spreader plates when needed because of the ground conditions. They should be made of a material that gives good grip to both the wheel or outrigger foot and ground
- Periodically check the ground under wheels or outriggers to make sure it hasn't subsided or shifted.

NOTE: The maximum wheel or outrigger load (P_o)is displayed on the MEWP and specified in the operator's manual. [Figure 1] Use this load to establish whether the ground or support surface is able to support the MEWP.

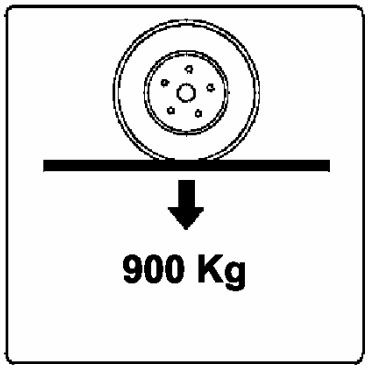


Figure 1

Table 1 gives the maximum permissible pressures that can be applied to various ground types.

Ground Type	Maximum Permissible Ground Pressure P_{MAX} (kg/m²)
Hard Rock	200000
Shale Rock or Sandstone	80000
Compacted Gravel	40000
Asphalt	20000
Compacted Sand	20000
Stiff Clay (dry)	20000
Soft Clay (dry)	10000
Loose Sand	10000
Wet Clay	10000

Table 1: Maximum Ground Pressures for Various Ground Conditions

To determine the minimum required area under a wheel or an outrigger foot:

$$A = \frac{P_o}{P_{MAX}}$$

e.g. The MEWP is situated on asphalt and the maximum outrigger load stated on the MEWP is P_o = 5000kg

The permissible ground pressure for Asphalt is P MAX = 20000 kg/m^2

The required area under the outrigger foot is $A = \frac{5000}{20000}$

= 0.25 m^2

Equivalent to a square pad of $= \sqrt{0.25}$ =0.5mX0.5m

For information on the use of MEWPs on soft ground see here:

VIEW OPERATING MEWPs ON SOFT GROUND SHEET

2.5.2.3 Setting up on slopes

> Make sure the MEWP is rated for any slopes it may face. Do not use a MEWP on a slope beyond the limits of the inclinometer or manufacturer's specifications. Do not position a Type 2 or 3 MEWP on packing to correct the chassis inclination – the MEWP may overturn if it is driven off the packing when it is elevated.

> Be careful when reaching out from the platform, going too far can affect stability, especially when working on slopes.

> When using outriggers, observe the manufacturer's instructions to set the outriggers before raising the platform.

> **When setting up a MEWP on-ramps or slopes using outriggers, extreme caution is required to prevent slipping down the ramp. Do not set up the outriggers' footplates on a slope.**

To avoid the MEWP sliding when setting up, place the braked wheels up the incline.

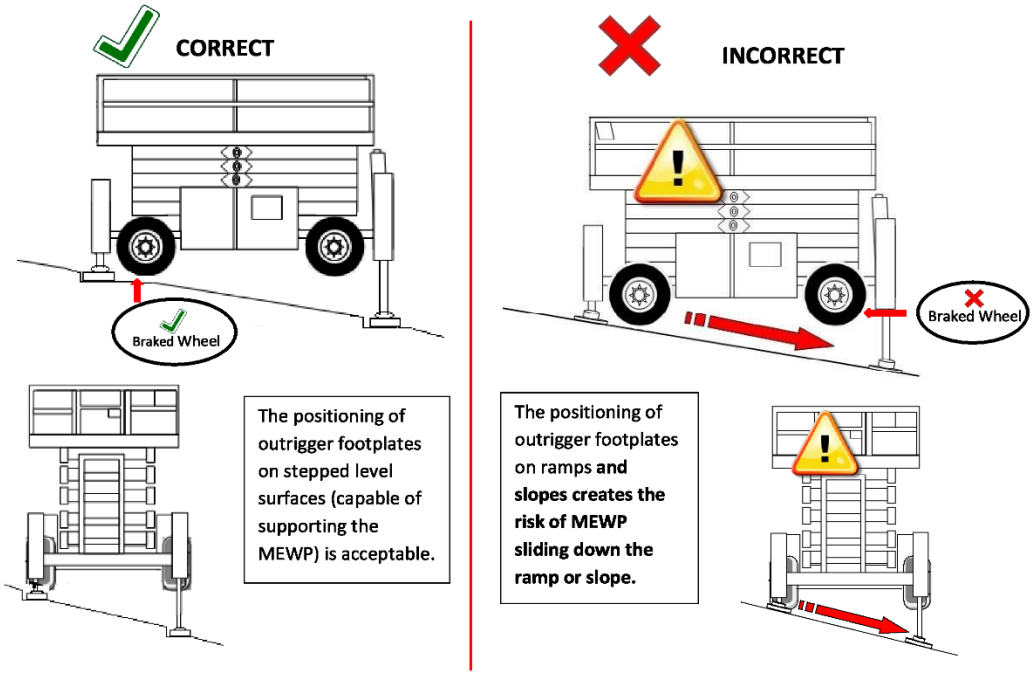


Figure 2: Outriggers on Slopes

For further information

VIEW MEWPs WITH OUTRIGGERS ON INCLINES DOCUMENT

2.5.3 UNCONTROLLED/UNEXPECTED MOVEMENT

All MEWP controls must:

> return to neutral when released

> be protected against inadvertent actuation (e.g. accidentally knocking the controls).

> be clearly marked with their function and direction of movement

> be located 50mm below a mechanical guard to prevent jamming the hand between the control and an overhead obstruction.

> tools or equipment should not be placed on the control panel as they may interfere (either mechanically or electrically) with proper operation.

For further information view **INTERFERENCE EFFECTS USING RADIO TRANSMITTERS IN MEWPs SHEET**

Take account of **Overrun** that may occur when controls are released.

Where a control can perform more than one function depending on the operating mode selected (e.g. raise or travel), check the selected mode before performing a movement.

Check the direction of travel with reference to the indicators on the chassis and the controls before movement.

2.5.4 WEATHER

All MEWPs (except those rated for indoor use) can work in wind, up to a maximum rating. The maximum wind speed rating must be clearly marked either on the machine or the manufacturer's serial plate. The MEWP must not be operated outside the maximum limits.

The minimum wind rating for outdoor MEWPs (i.e. those that are exposed to wind) is 12.5m/s (45km/hr).

A traditional method of assessing wind speed is using the Beaufort wind scale. This scale relies on an operator looking at their environment to figure out wind speed. This can lead to the operator underestimating the wind speed and its hazards. Wind speed increases with height and may be 50% faster 20 metres above ground.

An accurate way of measuring wind speed is by using an anemometer. This is a common tool used to assess weather conditions.

> Building cladding, sheet materials, panels and other such materials can act as sails and make a MEWP more likely to tip over, especially in gusty wind conditions. For the same reason, never attach signboards, banners and the like to the platform, even if it is for a short time. Poor weather can affect a MEWPs stability and make it unsafe to use.

> Only use a MEWP within the manufacturer's specified wind rating. The wind rating should be on the manufacturer's serial plate, and also on a decal fixed to the work platform.

> Wind speeds increase with height and can be amplified around obstructions such as buildings (funnelling effect) or over buildings. Beware of increased wind speeds when elevating above the side of buildings.

> Beware of gusty conditions; changes in wind speed can be up to 50% of the average.

> Bad weather and storms can also damage a MEWP. After severe weather, inspect the MEWP before using it again.

> Never operate a MEWP in storms.

> It is recommended that MEWPs should be in the stowed position when parked. If this is not practicable, weather conditions should be assessed before parking in an elevated position.

NOTE: The Beaufort Wind scale is a useful means of assessing the wind speed based on observation of the surrounding conditions. See:

THE EFFECT OF WIND AND SIDE FORCE

2.5.5 PREVENTING FALLS

> Make sure the work platform has effective guard rails and toe boards, if it is not fully enclosed by walls. Ensure that the access gate or rail is properly closed and locked or the rail is lowered.

> Do not climb on the guardrails and do not use ladders or stools in the work platform to increase the working height.

> Use an appropriate harness system that complies with AS/NZS1891.1 if someone could fall from the MEWP. Secure the harness to a marked anchor point within the MEWP. For further information see Section 6.2.

Figure 3: Secure the Lanyard to a Marked Anchor Point

For further information on the use and maintenance of harnesses see:

POLICY ON USE OF FALL ARREST SYSTEMS

2.5.6 FALLING OBJECTS

> Isolate the area around the MEWP so that falling tools or objects do not strike people below.

> Anyone working nearby should wear a hard hat.

CAUTION

Mesh protection to prevent falling objects must only be fitted to the work platform with the approval of the manufacturer. Refer “Installation of mesh protection on baskets and handrails” section of **THE EFFECT OF WIND AND SIDE FORCE**

2.5.7 HANDLING MATERIALS

If the MEWP is being used to install materials, check the weight, dimensions and distribution of the materials so it does not exceed the rated capacity of the MEWP.

- Do not use handrails to support loads. Loads should fit inside the confines of the work platform.
- Make sure workers can handle any materials safely.
- Use extra lifting equipment to move materials to the work position, if needed.
- Ensure that any materials or equipment do not impede safe access and egress from the work platform.
- Some manufacturers can provide brackets especially designed to carry loads such as pipes ducts and panels. These must only be fitted to MEWPs approved by the manufacturer or competent person.

For further information on carrying equipment:

VIEW CARRYING EQUIPMENT IN MEWPs INFORMATION SHEET

2.5.8 WORKING NEAR OR OVER WATER

When working over or near water, assess the hazards and risks to decide what personal protective equipment should be worn and what control measures should be in place. Personal protective equipment includes life jackets and harness systems.

- Have a rescue plan in place and take into account the extra hazards working near water can create.

For further information:

VIEW WORKING OVER WATER INFORMATION SHEET

2.5.9 NEARBY HAZARDS

Check the area for nearby hazards, such as overhead power lines, traffic or dangerous machinery. See Section 2.5.12 for electrical hazards.

- If working or travelling on public roadways implement a traffic management plan.
- Ensure that there is adequate lighting.
- Segregate the working area of the MEWP from vehicles. Position the MEWP so that it does not overhang into traffic, including configurations when slewed and when elevated. Take into account the height and size of trucks and buses that may pass by.
- Ensure vehicles are conspicuous (e.g. use flashing beacons/rear chevrons).
- Restrict access to pedestrians so that they cannot walk under the platform.

2.5.10 TRAVELLING BETWEEN WORK AREAS

- The operator should face the direction the MEWP is travelling in.
- Beware of overhead obstacles.
- Lower the MEWP when travelling between work areas.
- Lower any boom and point it in line with the direction of travel.

Always exercise caution when travelling through doorways or other wall openings.

For further information see:

VIEW WALKING SCISSOR LIFTS INFORMATION SHEET

The travel speed automatically increases when the platform is lowered. Always drive at speeds commensurate with the surrounding conditions.

2.5.11 WORKING NEAR OTHERS

> Use barriers to keep pedestrians and traffic separated from where MEWPs are working.

2.5.12 ELECTRICAL HAZARDS

Any hazard assessment must identify:

> All overhead power lines near the workplace

> All trees, structures and work positions that are within 6.4 metres from powerlines.

> Trees can conduct electricity if they are too close to or touch live power lines. All safety plans must include these identified hazards and give details of how the hazards are controlled.

> Treat all overhead power lines as being live, unless the power company that owns the power lines formally advises that the lines are safe.

MEWPs shall not be operated above, and any loads, attachments or equipment shall not approach closer than 6.4 metres from distribution lines on poles, or 10 metres from transmission lines on towers unless the electricity distributor has been notified and written permission from the distributor has been obtained. [Figure 4]

MEWPs operating within the spotter required zone must be electrically insulated in accordance with AS/NZS 1418.10 and a spotter performs spotting duties.

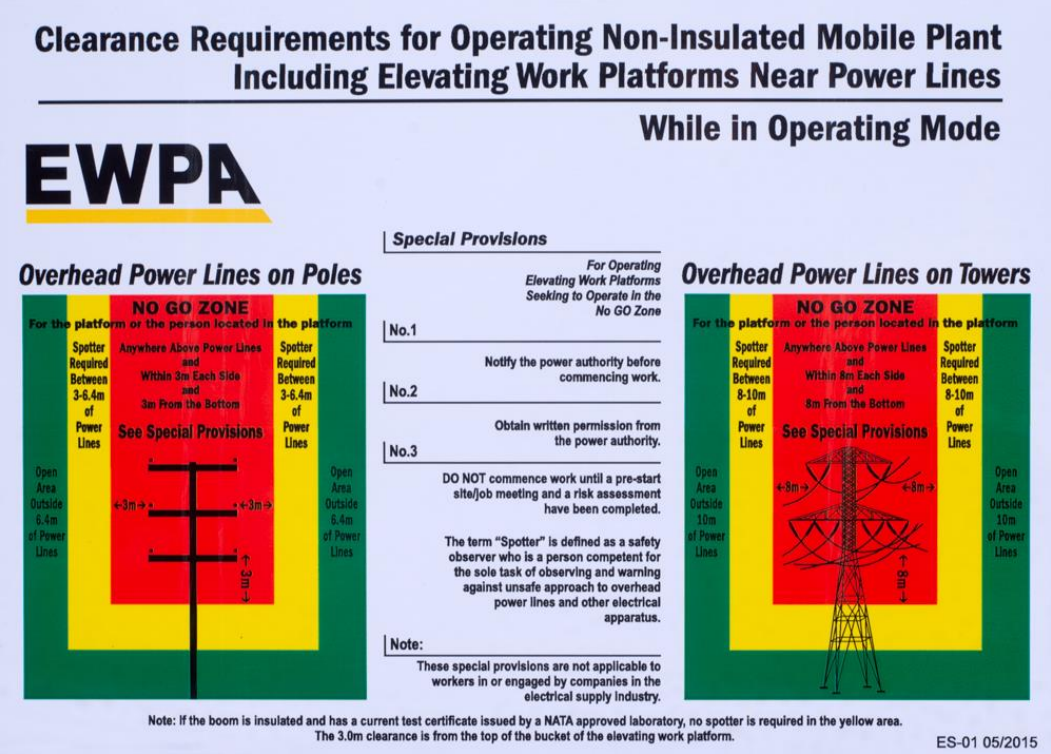


Figure 4: Power Line Clearance Requirement

For further information see

DISTANCE FROM POWERLINE INFORMATION SHEET

GENERAL GUIDE FOR WORKING NEAR POWERLINES

2.5.12.1 EMERGENCY PROCEDURES

If a MEWP does touch overhead power lines, anyone in the MEWP should stay there and warn any others nearby to stay clear. If it is safe to do so, operate the controls to break contact.

> If it is not safe to break contact:
  - call for help, warning everyone to keep well clear of the machine;
  - stay put until the power company can de-energise the line and advise that it is safe to get off the MEWP.

If help is not immediately available, electrical contact cannot be broken and there is an urgent reason to get off the MEWP (such as fire):

> If possible, switch off the motor (do not approach the MEWP to turn it off)

> Remove any loose clothing

> If you are about 1 metre above the ground, jump so that you are well clear of the MEWP before any part of you touches the ground.

> Shuffle or take small jumps with the feet together to move away from the MEWP

> Do not touch the MEWP until the power company advises it is safe to do so.

MEWPs that have been in contact with a live aerial conductor must be withdrawn from service and checked by a competent person. See AS/NZS1418.10 for further guidance.

SECTION 3 PLANNING THE WORK

3 IN THIS SECTION:

Before starting the job, the first step is to plan how to do the work safety. The nature of the task and the hazards linked with it determine how much planning is needed.

At a minimum the following steps should be taken.

3.1 STAGES OF PLANNING

Follow the steps below when planning any job:

1. Identify the tasks to be done
2. Identify the hazards linked to each task
3. Pick the right MEWP for the job
4. Identify control measures
5. Develop your plan
6. Make a plan for what to do in an emergency
7. Record the planning, including any rescue plan
8. Involve people and talk to everyone working on the job about the plan
9. Review the plan before the job starts and add any changes.

The EWPA Safe Use Information Pack provides a ready reference to assist planning, selection, and pre-inspection of MEWPs

EWP SAFE USE INFORMATION PACK

3.1.1 IDENTIFY THE TASKS TO BE DONE

Identify exactly what work needs to be done, where and when.

> Visit the location and check the conditions of the worksite. Take along site staff who can identify hazards in the area and any problems with the ground where the MEWP will need to work.

> For simple tasks, planning could happen at the same time as the site visit. For more complicated jobs planning may need to be completed off site.

3.1.2 IDENTIFY THE HAZARDS ASSOCIATED WITH THE TASKS

Identify the hazards of each task. These might be caused by the location of the work, the type of MEWP or the people and equipment being carried.

3.1.3 PICK THE RIGHT MEWP FOR THE JOB

MEWPs vary in rated capacity, working height and reach. Manufacturers provide reach diagrams showing the overall dimensions and working range. **Figure 5** shows an example. The MEWP that best matches the particular work task should be chosen. The choice will be guided by the limits of the worksite, ground conditions, site access and how near the public or other workers will be. Consider all the available options before selecting a suitable MEWP.

> Beware of exhaust emissions. Use electric MEWPs for work indoors

> Select a MEWP that can comfortably reach the area where the task is to be performed. Some MEWPs have dual ratings (e.g. by limiting the number of people for use outdoors,

or by limiting the rated capacity at larger working envelopes), be aware of these restrictions.

> If the MEWP has to travel through doorways or under structures, choose one with a low stowed height or one with folding guardrails.

> If folding guardrails are required take precautions to prevent falls, select a MEWP where control can be achieved from the ground via a pendant or remote control.

> If the work area is above a ramp, choose a MEWP that can be situated on a level surface with the requisite reach to access the area.

> Choose a MEWP that can access as many areas as possible without the need to relocate it.

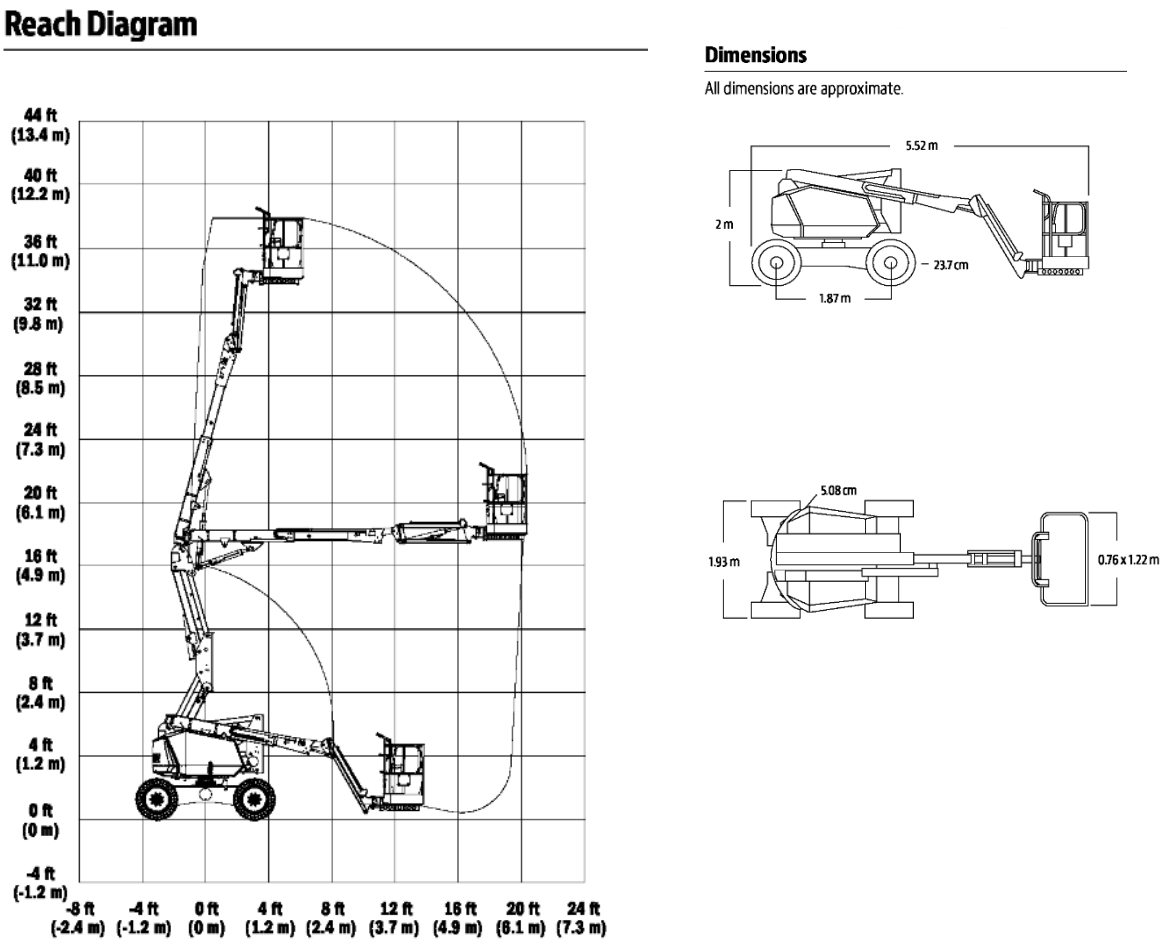


Figure 5: Refer to the MEWP Manual or Specification to Establish the Working Envelope.

3.1.4 IDENTIFY CONTROL MEASURES

Once the hazards and the risks are identified, control measures to eliminate, isolate or minimise the hazard need to be put in place.

Control measures will include any personal protective equipment to be used, such as hard hats and harness systems.

3.1.5 DEVELOP THE PLAN

Having identified the hazards, evaluated the risks and worked out the control measures needed to do the job safely, develop a safety plan.

3.1.6 PLAN WHAT TO DO IN AN EMERGENCY

The WHS Regulations require an Emergency plan to be prepared for the workplace. The plan must provide for:

- an effective response to an emergency
- testing of the emergency procedure;
- information training and instruction in relation to implementing the emergency plan.

> The plan needs to include how you will rescue anyone stuck on the work platform if the platform can't be lowered for any reason, such as a machine fault, triggering of the load sensing system, or the work platform gets tangled.

> The rescue plan should cover what to do in case someone is sick, injured or exposed to chemicals or fumes.

> Any rescue plan must take into account the reason the platform was stranded at height and any need for urgent action. Note: persons suspended in a harness must be rescued promptly to minimise the effects of **Suspension Trauma**.

> Wherever possible, a trained person should do the rescue using the machine's ground controls or secondary lowering system. If this is not possible, use another MEWP to carry out the rescue.

NOTE: When positioning the MEWP ensure that access to the emergency controls is available.

For information on emergency lowering systems see:

EMERGENCY LOWERING INFORMATION SHEET

All sites need an emergency plan in place.

> Before starting any rescue, do a hazard assessment.

> In most situations it should be possible for rescue to be performed by a **Safety observer** or the operator.

If it is necessary to use another MEWP to perform a rescue:

> The rescue machine needs to be placed so the people doing the rescue are not put at risk

> The work platforms of both machines need to be next to each other with as little gap as possible between them

> Switch off the engines on both machines during the transfer

> Where practicable, the person being rescued and the rescuer should wear full body harnesses with adjustable lanyards. Attach lanyards to certified anchor points on the rescue machine before starting the transfer

> Do not overload the rescue machine. More than one trip may be needed to make to complete the rescue.

- Caution - make sure the floor can take the weight of all machines used during the rescue operation.

Call emergency services if:

- There is an injury, illness or risk of exposure to toxic substances
- Someone has been hanging for any length of time - they might be suffering from **Suspension Trauma.**
- The operators on the work platform cannot communicate with rescuers on the ground.

3.1.7 RECORD THE PLAN, INCLUDING ANY RESCUE PLAN

Record the plan and keep a copy onsite where it can be easily accessed. The length and detail of the plan will depend on the complexity of the task and the risks involved.

A simple, low-risk task - such as routine maintenance work in a factory - might only need a brief safety plan; while a more complex and high-risk job will need a more detailed task specific plan.

3.1.8 INVOLVE PEOPLE AND TALK TO EVERYONE WORKING ON THE JOB ABOUT THE PLAN

A critical part of successful planning is making sure everyone knows what is in the plan. Make sure the plan can be understood by people with low literacy or for who English is a second language.

3.1.9 REVIEW THE PLAN BEFORE THE JOB STARTS

Just before the job starts, check that nothing in the tasks or the working environment has changed. If it has, assess what effect that could have on the safety of the job.

Communicate any changes to the plan to everyone involved.

SECTION 4 DESIGN

4 IN THIS SECTION:

All MEWPs must be designed using sound and accepted engineering practices and must be manufactured using the best methods and practices.

4.1 GENERAL REQUIREMENTS

The design, manufacture and testing of new or used machines first entering service should meet *AS/NZS 1418.10 Cranes, Hoists and Winches - Mobile Elevating Work Platforms.*

You can use materials, designs, methods of assembly, or procedures that are not covered in this guidance, if they achieve the same or better safety outcomes.

The standard commonly used in the design, manufacture and testing of MEWPs is:

> *AS/NZS 1418.10 Cranes, Hoists and Winches - Mobile Elevating Work Platforms*

There are some differences between AS/NZS 1418.10 and other international standards and it is necessary to exercise caution if MEWPs to other standards are used. MEWPs complying with other standards may not provide an equivalent level of safety to AS/NZS1418.10

The owner should register any used machines with the manufacturer (or their Australian representative), when selling or importing the machine. This ensures the new owner gets all service, and safety bulletins.

4.1.1 DESIGN REGISTRATION

All Boom type MEWPS must be design registered with a State Regulator in accordance with WHS Regulations.

All Scissor lifts and Vertical Mast lifts, intended for use in Victoria, must be design registered with Worksafe Victoria.

Continuous working records and maintenance records as specified in Section 6.6 of *AS 2550.10 Cranes, Hoists and Winches - Safe Use - Mobile Elevating Work Platforms* must also be maintained.

4.1.2 IMPORTED MEWPS OR SECOND HAND MEWPS

If an imported second-hand MEWP does not have evidence of a continuous service record, it must have a major inspection before use as described in **Section 7.3.6** of these guidelines.

4.1.3 MODIFICATION OF A MEWP

If a MEWP is altered or changed, the owner must get approval from the manufacturer or (if the manufacturer no longer exists) a report from a **Competent person** to confirm that the MEWP still meets the requirements of these guidelines. Significant modifications will usually require design registration as an alteration to the existing design. (See 4.1.1)

4.2 TYPES OF MEWPS

MEWPs are classified according to their Type and Group as follows

Type

> Type 1 MEWPs for which travelling is only allowed when the MEWP is in its stowed position.

> Type 2 MEWPs for which travelling with the work platform elevated is allowed and travel is controlled from a point on the chassis

> Type 3 MEWPs for which travelling with the work platform elevated is allowed and controlled from a point on the work platform.

Group

- Group A MEWPs where the centre of area of the work platform, in all configurations lies inside the tipping lines. E.g. most scissor lifts and vertical mast platforms
- Group B All other MEWPS that are not in group A. e.g. Most boom lifts

Although all MEWPs fall into the classification system, there is a huge variety available, ranging from the very simple to the highly sophisticated to suit all kinds of demands. Consult manufacturers or hire companies to determine the ideal MEWP for the kind of work being considered.

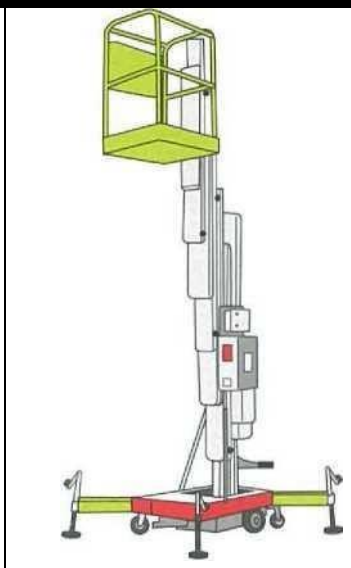
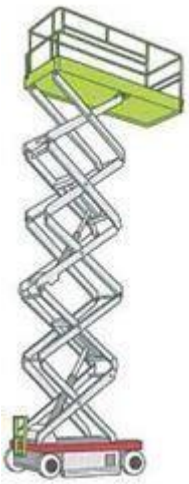
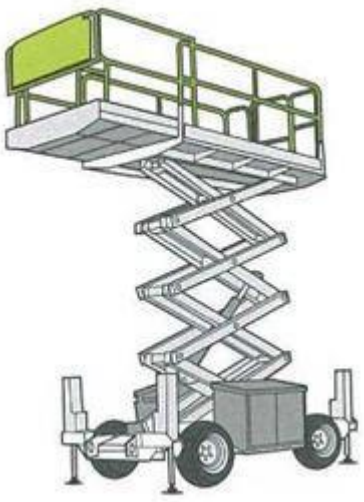
TYPES OF MOBILE ELEVATING WORK PLATFORMS		
Vertical mast lift (VL) ***Type 1, → 3 Group A*** Mainly used on flat solid surfaces. Manually operated or self-propelled units.		
Scissor lift (SL) ***Type 1,2,3 → Group A*** For operating on flat, solid surfaces or rough terrain surfaces		

Figure 6: Types of MEWPs

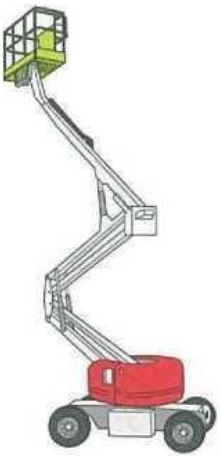
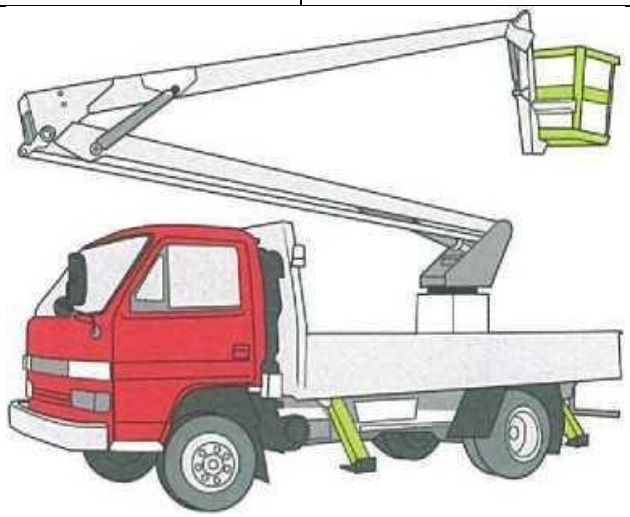
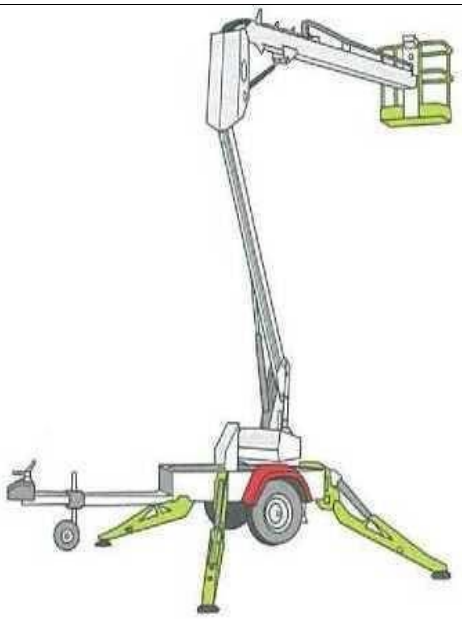
TYPES OF MOBILE ELEVATING WORK PLATFORMS		
Self-propelled boom lift (BL) ***Type 3 → Group B*** For driving on flat solid surfaces and rough terrain surfaces and hard to reach places. Other common names: knuckle boom, cherry picker.		
Truck mounted (TM) ***Type 1 → Group B*** Mainly used in the electrical or arborist industries. Other common names: bucket truck, cherry picker		
Trailer mounted (TL) ***Type 1 → Group B*** For getting to hard to reach places. Commonly called a cherry picker.		

Figure 6: Types of MEWPs cont.

4.3 MEWP SAFETY FEATURES

This section covers the minimum requirements for safety features outlined in *AS/NZS 1418.10: Cranes, Hoists and Winches - Part 10: Mobile Elevating Work Platforms*.

4.3.1 INDICATORS AND WARNING SYSTEMS.

MEWPs must have:

- A device to warn if the inclination of the chassis is outside the permitted range. For Type 3 MEWPs this device must prevent further travel movements in the selected direction. For Type 1 MEWPs that device may be a spirit level.
- A horn must be fitted on Type 2 and 3 MEWPs.
- Group A MEWPs must have an alarm that warns personnel when the work platform is being lowered over at least the last 2 metres.
- All MEWPs, unless they meet the criteria for Enhanced Stability (see below) must have a load sensing system that alarms and prevents further movement if the rated capacity is exceeded when the platform is stationary. To reinstate movement the load must be removed.
- MEWPs that meet Enhanced Stability criteria are exempt from requiring a load sensing system. i.e. the inside dimensions at any horizontal section of the platform must not exceed the following:
    - For one person: sectional area not greater than 0.6m^2 with no side greater than .85m
    - For 2 persons: sectional area not greater than 1.1m^2 with no side greater than 1.5m
- For MEWPs fitted with a moment sensing system, a visual warning showing when the permissible overturning moment has been reached.
- For MEWPs with more than one rated capacity a visual indicator showing the allowable rated capacity selected.
- A hydraulic oil level indicator.

Other indicators and warning devices such as motion alarms, and lights are optional.

4.3.2 INTERLOCKS

- Type 1 MEWPS must be fitted with an interlock to prevent travel when the work platform is out of the stowed position.
- MEWPs of type 2 and 3 must have a device to automatically restrict the travel speed when the work platform is out of the lowered position.
- Outriggers must be interlocked to prevent operation when the work platform is out of the stowed position. Operation of the outriggers is only allowed when the work platform is stowed.
- MEWPS that require outriggers to be set in order to maintain stability must be interlocked so that the work platform cannot be raised from the stowed position unless the outriggers are set in accordance with the manufacturer’s instructions.

4.3.3 OPERATING SPEEDS

The travel speed of Type 3 MEWPs, when the platform is elevated must be limited to the following:

- 1.5m/s (5.4km/hr) for vehicle mounted MEWPS
- 3m/s (10.8km/hr) for rail mounted MEWPs
- 0.7m/s (2.52km/hr) for all other Type 3 MEWPs

MEWPs must not exceed the following speeds:

- For raising and lowering and telescopic motions: 0.8m/s
- For slewing or rotating movements: 0.7m/s (at the maximum reach)

Operating speeds specified by the manufacturer may be less than the maximum limits specified above and must not be exceeded.

4.3.4 GUARDS

Guards must be provided to protect personnel from thermal and mechanical hazards e.g. sharp, hot or moving parts.

4.3.5 BRAKES AND SAFETY SYSTEMS

- Brakes on self-propelled platforms must be designed to fail safe.
- All safety signage must be in English and readable.
- The slewing mechanism must be fitted with a service brake or similar device and have a fail-safe design.
- The machine must have maintenance safety features, such as a safety bar, to support the extending structure if personnel are exposed to crushing or shearing hazards when performing routine maintenance.

4.3.6 HYDRAULIC SYSTEMS

- Hydraulic systems must be designed so the platform will not freefall if a hose or fitting fails. Do not use velocity valves.
- All hydraulic systems must have pressure relief valves and oil filters.

4.4 MACHINE CONTROLS

Detailed requirements for control systems are found in *AS/NZS 1418.10: Cranes, Hoists and Winches - Part 10: Mobile Elevating Work Platforms*.

- The operator must be able to see the direction of travel and the movement of the extending structure from the controls.
- The MEWP must only move when the controls are activated. Controls must automatically return to ‘off’ or ‘neutral’ when released and be protected to prevent someone accidentally turning them on.
- The operator must be safe from moving parts when using the controls.
- Controls must be strong enough to stand up to normal use.
- Each control station must have a clearly-marked, red emergency-stop control.
- An emergency-stop control must stop all movement or the engine when pressed.

4.4.1 DIRECTION OF MOVEMENT

All controls must have words or symbols that show the function and direction of the MEWP's movements. Controls must be protected against faults that could cause the MEWP to move in a direction other than that selected by the operator.

4.4.2 WORK PLATFORM CONTROLS: LOCATION, ACCESSIBILITY, PROTECTION

Controls must be on the work platform and in reach of the operator.

Motion controls must:

- Be protected against faults that could cause the MEWP to move in a direction other than the one selected by the operator
- Be protected from being accidentally activated (e.g. by a separate function enable switch requiring two actions to cause motion).
- Platform control boxes that are not permanently attached must be clearly marked to indicate the correct orientation.
- Foot controls should have non-slip surfaces and be easy to clean.

A guard must be fitted at least 50mm above the highest point of the hand controls.

4.4.3 DUPLICATE CONTROLS

Duplicate controls accessible at ground level must be provided so the platform can be retrieved in an emergency.

The controls must have a locking mechanism so the MEWP can only be operated from one, preselected control station. The ground level controls must override all other controls, including the platform emergency-stop control.

Where a key switch is used, it must only be possible to remove the key in the neutral or off position.

4.4.4 EMERGENCY STOPS

Every control position must have a red emergency-stop control, in accordance with the requirements of AS/NZS 1418.10. This standard references AS 4024.1604, Safety of Machinery - Design of Controls, Interlocks and Guarding - Emergency Stop - Principles for Design.

4.4.5 PROTECTION AGAINST UNAUTHORISED USE

A lockable switch must be provided to protect against unauthorised use.

4.4.6 OTHER REQUIREMENTS

MEWP controls should have:

- Devices to prevent movement in the event of power failure.
- There must be no movement on start up or return of power after a failure, unless through deliberate action by the operator.
- There must be an overriding emergency system, accessible from the ground that returns the platform to a safe position in an emergency.

4.5 INSTRUCTIONS

- Labels in the form of symbols or clear English must clearly list everything the controls do and show the direction of movement. All controls should be labelled indicating their function.

> For Type 3 MEWPs, decals (labels) on the chassis should show direction of travel or movement.

> The operation manual must be in English and stored in a weather-proof container.

> Emergency retrieval instructions must be in the operator manual and displayed next to the emergency controls.

> Warning notices alerting personnel to potential hazards must be fitted as necessary.

4.6 PLATFORM AND GUARDRAILS

The platform should have side walls or guardrails with mid-rails and toe boards. The guardrail must be at least 950mm high.

The platform floor must be non-slip and self-draining.

If equipped with guard rails:

> The platform must have a self-closing and self-latching entry gate.

> The gate must have kick-plates to stop debris falling under the gate.

> The gate must open inwards. A drop bar is enough as long as:

- a kick plate is used,
- the drop bar stops in line with the mid-rail, and
- the top rail is at the same height as the top hand rail.

A safe way to access the platform must be provided. If access is by steps or a fixed ladder, the gap between steps or rungs must be uniform and no more than 300mm, there must be a clear distance of 150mm from the front of each step.

The steps and rungs must be non-slip.

4.6.1 ANCHOR POINTS

> Anchor points must be marked with the number of persons that can be attached.

> Fall restraint anchors must be marked as restraint only and located no more than 750mm above the platform floor

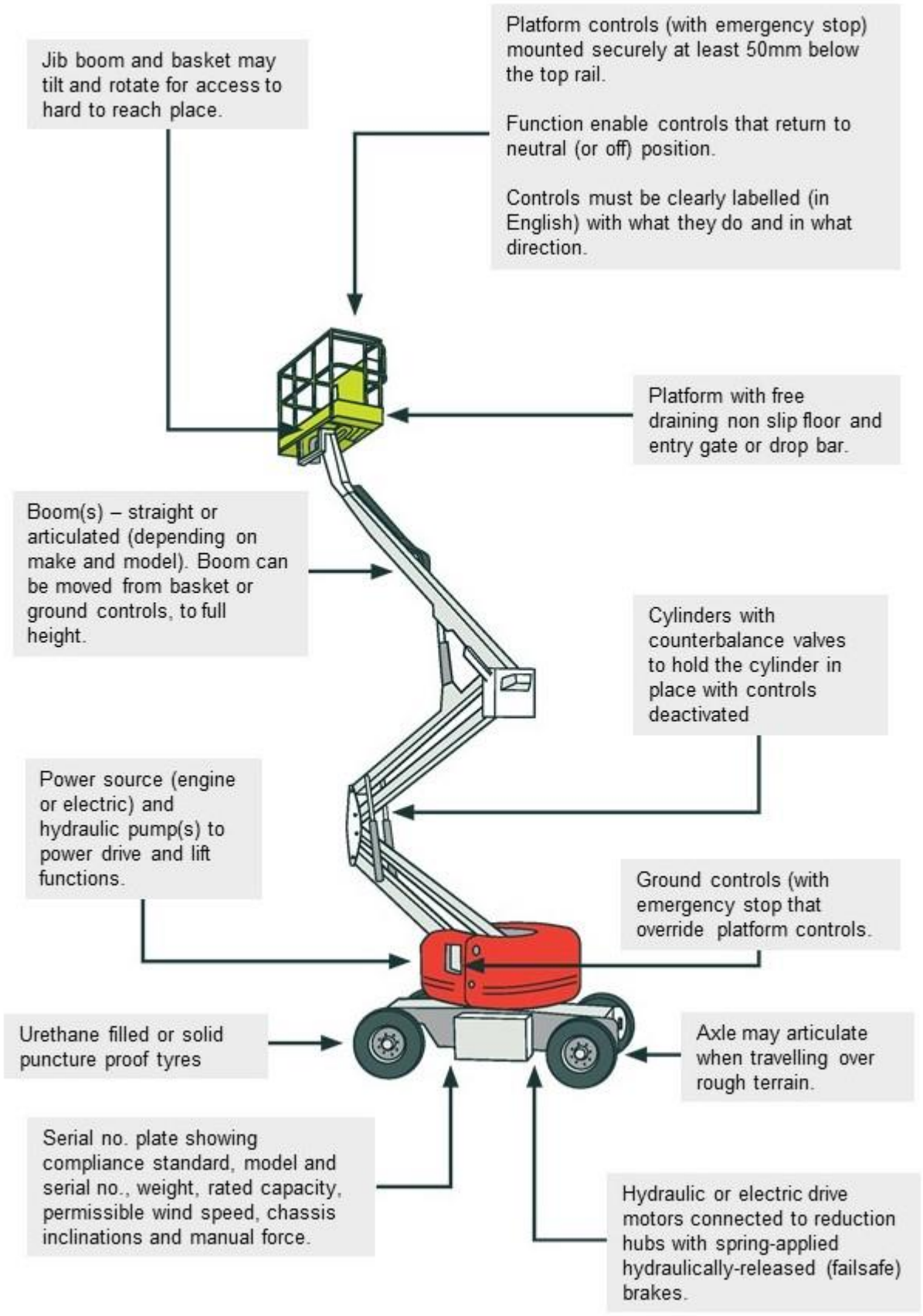


Figure 7: Typical Features of a Self-Propelled Boom Lift.

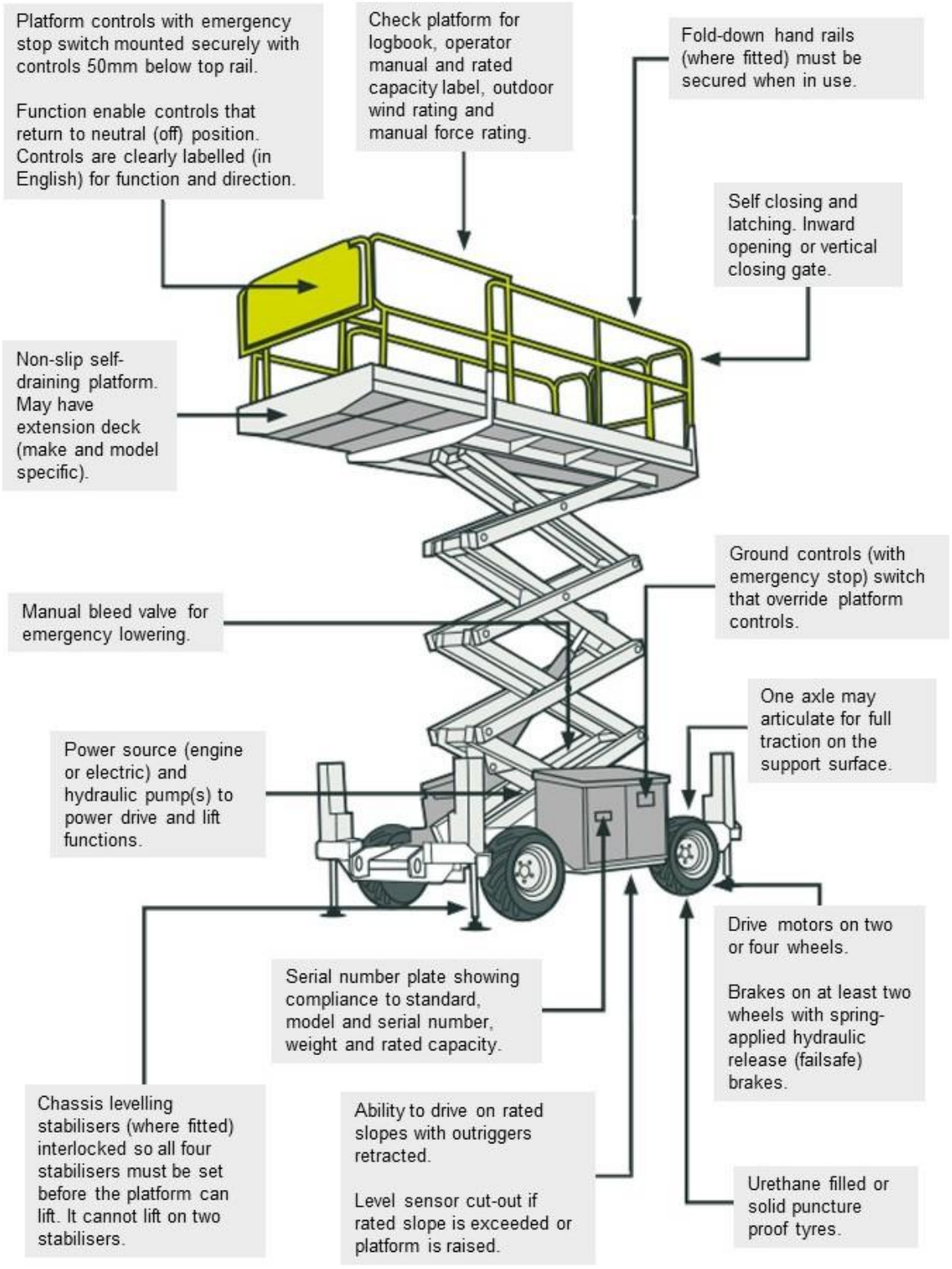


Figure 8: Typical Features of a Self-Propelled Scissor Lift.

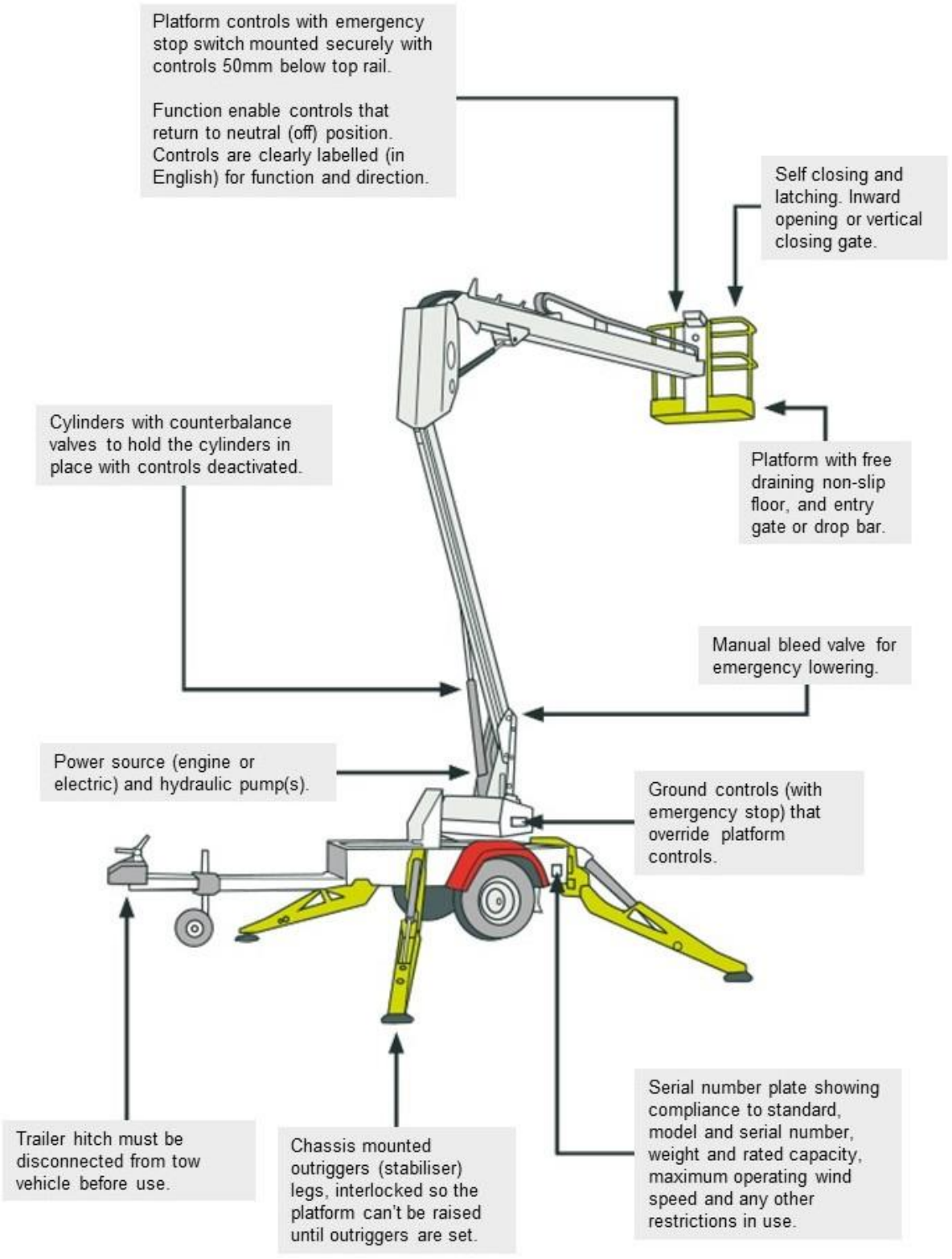


Figure 9: Typical Features of a Trailer Mounted Boom Lift.

4.7 MARKING DOCUMENTATION AND RECORDS

The following are minimum requirements for markings, labels, signage, documentation and records of maintenance and inspection for MEWPs.

All MEWPs must have:

a. A compliance plate with the following information in permanent lettering (Figure 10);

> Make, model, serial number, and manufacturer's name and address

> Date of manufacture and, if different, commissioning date

> Design standard

> Rated capacity in kilograms

> The maximum number of persons

> The gradeability (for type 3 MEWPs)

> Maximum permissible wind speed (0m/s, 12.5m/s or greater than 12.5m/s)

> Permissible chassis inclinations

> Maximum manual force (200N for one person and 400N for more than 1 person)

> For electrically insulated machines, the insulation rating

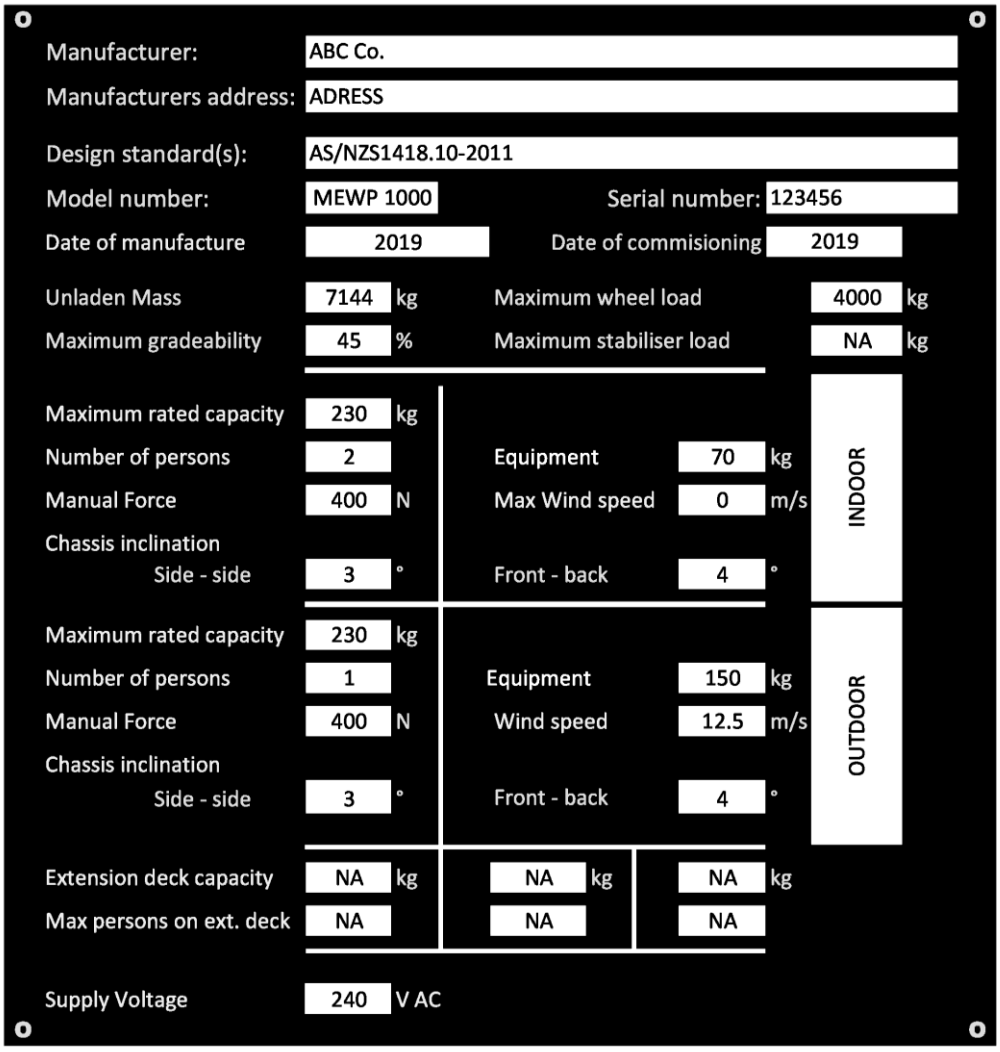


***Figure 10:* MEWP Manufacturers Compliance Plate**

b. Additional information such as:

> Any special warnings, cautions or restrictions needed to use the MEWP safely

> The rated capacity for each configuration must be shown, such as:

- Where a work platform has different capacities at different heights or reaches
- Outrigger settings

c. Manuals: Manufacturers, importers that are suppliers or agents for imported MEWPs, (new or second-hand) must provide a comprehensive operating and maintenance manual (or manuals), in English, to customers. If the MEWP was designed and manufactured to an international standard it must have manuals available in English, certified or produced by the manufacturer. The manual must include the following:

> Full operating instructions

> Restrictions on the use of the machine

> Advice on any matter that could affect the safe use of the machine

> Lubrication schedule

> Routine checks

d. Essential operating instructions must be permanently displayed or stored in an obvious place on the MEWP.

Owners must keep continuous working records and maintenance records for the MEWP in line with Section 6.6 of *AS 2550.10 Cranes, Hoists and Winches - Safe Use - Mobile Elevating Work Platforms*. This information should also be in the MEWP's logbook, refer to **Section 7** of this guideline.

Figure 11: Before starting work, operators must be familiar with the type of MEWP they are using.

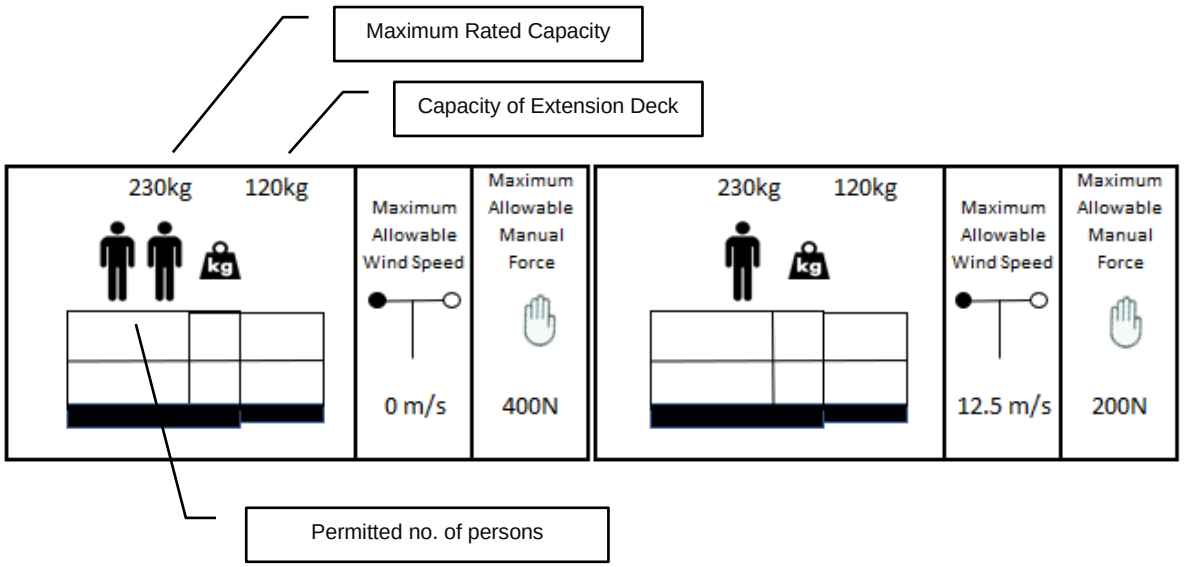


Figure 12: Decals for Rated Capacity Displayed on the MEWP.

SECTION 5 TRANSPORTING MEWPS

5 IN THIS SECTION:

5.1 TRANSPORTING MEWPS

Accidents and injuries can happen when getting MEWPs to and from sites. Health and safety planning should cover the hazards of moving machinery to and from sites. **Everyone involved in the transport supply chain has obligations under Heavy Vehicle National Law (HVNL) to ensure the safety of their transport activities. A person may be a party in the supply chain in more than one way and legal liability can apply to their actions, inactions and demands.**

For further information on the **Chain of Responsibility** see:

CHAIN OF RESPONSIBILITY CHECKLIST

Transport operators must be competent if they need to drive the MEWP to load or unload it from a truck. Always read, understand and follow the manufacturer's instructions for loading and unloading the MEWP and the tie down and lifting procedures.

For more information on loading transport vehicles.

VIEW THE TRANSPORTING INCIDENTS INFORMATION SHEET

- Never elevate a MEWP when it is on the vehicle.
- When loading onto or off a truck or float, consider operating the MEWP via a pendent control from the ground (if equipped).
- When operating via a pendent always maintain at least 1 metre clearance from the wheels.

Serious accidents have occurred during loading and unloading – when driving onto or off a truck or float. A method of risk control is to have a safety observer to assist in guiding the MEWP.

5.2 GETTING READY TO TRANSPORT

Complete a hazard assessment of the site and decide the best method for loading the MEWP.

- Remove all loose items, tools and equipment from the platform, deck or tray.
- Check and secure all engine and access covers, ensure battery box trays and doors are secure. Secure tool bin lids.
- Ensure turntable lock pins are engaged (slew lock pin, if applicable).
- Ensure boom lockdowns are in place (pins/ straps/over centre buckles).
- Secure the boom and platform of any self-propelled booms using the manufacturer's instructions.

5.3 METHOD OF LOADING MEWPS

- Park the truck safely and legally. Apply the parking brakes.
- Before loading the MEWP, do a full hazard assessment to identify any soft or uneven ground, overhead power lines, sufficient lighting, traffic and public access.
- Make sure the operator is wearing the right personal protective equipment, such as high visibility gear, gloves and a total restraint system.
- Put hazard control measures in place where needed, such as flashing lights, marker cones and traffic management.
- Check how steep an angle the MEWP can work at to decide how to load it.
- Where more than one machine is loaded, consider loading methods, weight distribution and restraint methods.

- Follow safe operating procedures for loading, such as placing the MEWP ready to load, drive on, winch and drive, or free wheel and winch.
- Once the MEWP is on the truck, secure it with strops, chains and load restraints (using the right tie-down points). Follow the manufacturers specifications. Do not use webbing straps and never rely on the winch rope as a means of securing the MEWP.
- When loading a slide bed, have chains in place. Pre-tensioning them is optional while lifting the tray.
- Once the tray is packed up and or the ramps are lifted and secured with pretension chains with dogs, secure the boom platform with the ratchet strap,
- Check the height and width of the load so the maximum rated capacity is not exceeded.

See the National Transport Commission's (NTC) Load Restraint Guide for further guidance:

VIEW NTC LOAD RESTRAINT GUIDE

Do one final check of the loading area, truck, load, chains, dogs and straps before leaving the site.

5.4 METHOD OF UNLOADING MEWPS

- Park the truck safely and legally.
- On arrival, check the drop-off area and conditions for hazards (such as wet or dry ground conditions, overhead power lines, sufficient lighting, traffic, people, uneven ground).
- Make sure the operator is wearing the right PPE, such as high visibility gear, gloves and a total restraint system.
- Put hazard control measures in place, such as flashing lights, marker cones and traffic control.
- When unloading alongside a road make sure that it is segregated from traffic.
- Ensure that working areas are well lit.
- Release the platform ratchet strap, chains and twitches and remove rear chains. If driving the MEWP off the truck to unload, leave the front chain for safety. Only remove the chain once the tray is tilted. If using a winch, pre-tension the cable before tilting the tray.
- Tilt or lower the tray or ramps safely.
- Engage the free wheel hubs or brakes before releasing winch cable.
- Drive the MEWP to a safe place then park and secure it. Remove the key to prevent unauthorised use.
- Once the truck is packed up and the ramps are lifted and secure, make a final check of the unloading area and truck before it leaves the site. Make sure chains, twitches, straps and truck outriggers have been packed and stowed away.

SECTION 6 WORKING AT HEIGHT

6 IN THIS SECTION:

6.1 WORKING AT HEIGHT GENERALLY

To prevent falls from height:

- Ensure that the guardrails are securely attached to the work platform and in proper working condition
- People must work inside guardrails and not reach or climb over the rails.
- Workers need to keep both feet on the work platform – do not use ladders or steps in platforms to gain additional height.

6.2 USE OF HARNESS SYSTEMS

All personnel in the platform of a boom type MEWP must use a fall arrest system or fall restraint device secured by a lanyard equipped with an energy absorber to a marked fall arrest anchorage provided for this purpose.

Operators must be harnessed inside the platform because the platform can tip suddenly when elevating (such as if it hits something or the levelling system fails) or the operator can be catapulted out when driving.

When a fall arrest system is used the emergency plan must cater for emergency retrieval if the wearer becomes suspended in the harness.

For further information on the application, use and maintenance of harnesses see:

POLICY ON THE USE OF FALL ARREST SYSTEMS

6.3 GETTING ON AND OFF THE PLATFORM WHEN IT IS ELEVATED

Scissor lifts and other elevating work platforms can be used to access work areas provided that a risk assessment indicates that it is safer than all other means of access.

Where the MEWP's platform is next to the work area landing and the MEWP is used to access the work area, the landing and platform must be no more than 100mm apart.

Put tags on the base controls to show that the equipment is in use. A **Safety observer** should be employed to prevent operation or interference.

See the EWPA Policy on the use of Fall Arrest Systems in Elevating Work Platforms for further guidance.

POLICY ON THE USE OF FALL ARREST SYSTEMS

SECTION 7 MAINTENANCE AND INSPECTION

7 IN THIS SECTION:

People maintaining MEWPs and the competent person must have access to the current versions of the following standards, AS 2550.10 and AS/NZS 1418.10.

The MEWP logbook and register is a record of pre-operation inspections and routine inspections. It must also record any maintenance. The logbook and register must be kept with the MEWP and be readily available for inspection.

7.1 RECORDS

The MEWP owner must keep all records in the way described in Section 6.6 of AS 2550.10.

At a minimum, keep a summary of the following in the logbook:

- Daily pre-operation reports for at least the last 14 days of operation, or since the last 90-day inspection.
- For MEWPs subject to hire, a summary statement of the pre-hire (run-up) inspection.
- A summary statement of the last routine (90-day) inspection.
- A summary statement of the last major inspection (if applicable).
- Action taken or repairs carried out to fix faults or damaged parts.

The owner must have available documentation stating the MEWP has been inspected by a **Competent person** (including their identity and qualifications) and is safe to use. The owner must record all checks, adjustments, replacement of parts, repairs and inspections done and all irregularities or damage affecting the machine's safe use.

Records must be kept to show that the MEWP meets all maintenance requirements.

AS 2550.10 requires that MEWPs without continuous working and maintenance records need a major inspection.

Any external service provider working on MEWPs should also keep records of work they have undertaken.

7.2 MAINTENANCE

Use the MEWP manufacturer's approved maintenance manual (or a certified translation) for all maintenance. A competent person must complete all elements of the manufacturer's prescribed maintenance schedule.

Latest editions of manuals are available from the manufacturer.

If there is no manual, follow the inspection and maintenance schedules outlined in *AS 2550.10: Cranes, Hoists and Winches - Safe Use - Mobile Elevating Work Platforms*.

Establish a preventive maintenance program, based on the working environment, how often the MEWP is used and the severity of conditions in which it is used.

When replacing parts use identical or equivalent parts for the specific type of MEWP.

If a fault with a MEWP develops, repair it with advice from the manufacturer.

Correct any safety related faults before using the MEWP again.

7.3 INSPECTION

All inspections must be performed by a **Competent person**. If inspection is performed when the platform is elevated always ensure that the safety props is installed to prevent unexpected descent.

Figure 13 Always install the safety prop when working under the platform.

7.3.1 PRE-OPERATION INSPECTION

The operator must give the MEWP a visual inspection and functional test before using it. This is called a pre-operation operator safety check. The checks should include the items listed in the operator's manual, the logbook and in the table below. This inspection and test should be performed at the beginning of each shift or every change of operator.

COMPONENT	*VISUAL INSPECTION*	*FUNCTIONAL TEST*
Check 90-day, routine inspection current	✔	
Platform and base controls (including a test of every function to ensure that they return to neutral when released.☐	✔	✔
Emergency controls and retrieval system	✔	✔
Visual and audible alarms		✔
Personal protective equipment, including anchor points	✔	
Air, hydraulic and fuel system leaks	✔	
Cables and wiring harness for security and damage	✔	
Loose and missing parts	✔	
Brakes		✔
Tyres, wheels	✔	
Placards, labels, warnings, control markings and operating manuals are on the MEWP	✔	
Outriggers, stabilisers	✔	✔
Guardrail system including gates with self-closing action	✔	✔
Control descent devices where fitted	✔	
Slew brake system		✔
Safety switches and interlocks		✔
Structural defects or damage	✔	
Drive and speed functions work correctly, including speed-limiting devices	✔	✔

Table 2: Table 6.4.2 of AS 2550.10: Cranes, Hoists and Winches - Safe Use

Figure 14: The operator checks the MEWP's controls before starting work.

Inspection does not mean ticking boxes in a check list. It means actually INSPECTING the MEWP using the checklist and following the manufacturers recommendations. Where fitted, secondary guarding systems should be checked.

7.3.2 ROUTINE INSPECTION

The owner, hirer and supplier must do routine inspections on all MEWPs at least every 90 days (as described in Section 6.4.3 of *AS 2550.10: Cranes, Hoists and Winches - Safe Use - Mobile Elevating Work Platforms*). If the MEWP is for hire, then a safety inspection between hires should be completed.

A **Competent person** must complete all routine inspection and maintenance, based on the severity of use of the MEWP, and as recommended by the manufacturer.

The inspection procedure should include a check that the current logbook and operator's manual are up-to-date and kept with the MEWP in a weather proof container.

For full inspection requirements refer to the manufacturer’s service manual.

Examples of items an inspection should cover are:

- All functions and their controls for speed, smoothness of operation and limits of motion.
- All emergency and safety devices, including interlocks and emergency lowering devices.
- Base or ground controls, including the provisions for overriding of upper platform controls.
- Adjustment, wear and damage on all chain and cable mechanisms.
- Lubrication of all moving parts, inspection of filter elements and fluid levels.
- Visual inspection of structural members and welds.
- Corrosion (rust).

- Visual inspection (and measurements as necessary) of **Critical component** parts, such as brakes, gears, fasteners, pins, shafts, wire ropes, sheaves, locking devices, all guardrails and guarding, anchor points, all attachments and connections, electrical contractors and all other equipment.
- Signage, including warning signs, decals and control markings.
- Wear on tyres and damage to wheel rims. For guidance on the inspection of tyres see

GUIDANCE DOCUMENT ON TYRE DEGRADATION

A written report must be provided after the inspection. Do not use the MEWP until any safety-related faults are fixed.

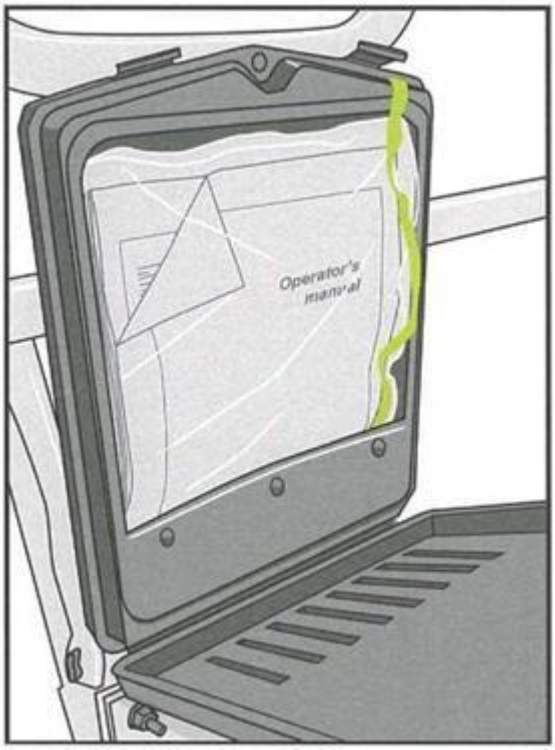


Figure 15: The operator's manual must be kept with the MEWP in a weather proof container.

Figure 16: The operator's logbook should be kept in a pouch located within the platform on the machine.

7.3.3 INSPECTION AND TESTING OF POWER SUPPLIES

Any MEWP with parts powered from 240v mains electricity (such as battery chargers, AC motors, ground to platform AC power extension, and residual current devices (RCDs)) needs an inspection and a portable appliance test (PAT).

The MEWP must be tested and tagged in line with AS/NZS 3760: In-Service Safety Inspection and Testing of Electrical Equipment.

AS/NZS 3012: Electrical Installations - Construction and Demolition Sites outlines the testing and tagging needed for equipment used on construction sites.

Both the above Standards require a competent person, or a suitably qualified and licensed electrical worker, (such as an electrician) to carry out the testing and tagging. Clearly display all tags.

For further information on safe use of battery charging and power to platform supply extension leads,

VIEW INFORMATION SHEET

7.3.4 ELECTRICAL INSULATION TESTING

Electrically Insulated MEWPs are used for work in close proximity to electrical networks. Where a MEWP is electrically insulated, electrical insulation tests must be carried out at least every 6 months to validate the working voltage. The testing certificate should be clearly displayed.

Complete these tests as specified in *AS 2550.10 Cranes, Hoists and Winches – Safe Use – Mobile Elevating Work Platforms*, *AS/NZS 1418.10 Cranes, Hoists and Winches – Part 10: Mobile Elevating Work Platforms* and their referenced standards. Section 7.1 of AS 1418.10 gives the testing standards used in Australia.

7.3.5 PERIODIC (ANNUAL) INSPECTIONS)

A Competent person must complete periodic inspection and maintenance, based on the severity of use of the MEWP, and as recommended by the manufacturer. For all MEWPs that remain in-service, the inspection interval shall not exceed 12 months.

The inspection procedure should include all routine inspections and any additional items recommended by the manufacturer, a check to confirm that all safety related bulletins have been completed should be confirmed. The inspection should include the following additional items as applicable:

(a) Hydraulic oil and mechanical components oils free of contaminants (may include oil analysis).

(b) Hydraulic pressures properly adjusted.

(c) Load Management Systems tested per Manufacturers Instructions

(d) Load test (creep)

(e) adequacy of safety instructions and manuals for operation and maintenance e.g. not superseded by another manual.

The competent person shall identify components that require particular attention in subsequent periodic inspections.

A written report shall be furnished on completion of the inspection. The report shall include an assessment of the reasonable practicability of applying the requirements of the latest edition of AS 1418.10(Int) and list any items requiring particular attention in subsequent inspections.

The MEWP shall not be returned to service until all safety-related malfunctions and problems have been corrected.

For vehicle-mounted MEWPs, entirely or partly supported on wheels and axles with flexible suspension, a stability test shall be performed as part of the fifth periodic inspection and every 2 years thereafter.

NOTE: A stability test is not required on vehicle-mounted MEWPs that are fitted with four outriggers and have an interlock that prevents the boom operating unless the outriggers are set.

7.3.6 ENHANCED PERIODIC INSPECTIONS

After 5 years and before 10 years the MEWP must have all critical parts inspected and tested, where appropriate, to meet *AS 2550.10: Cranes, Hoists and Winches - Safe Use - Mobile Elevating Work Platforms*. These enhanced periodic inspections must be done in line with the manufacturer's inspection program.

MEWPs that have been in service for 10 years, and for every 5 years thereafter must have had all inspections, including a major inspection, to stay in service.

This regime can be changed with instructions from the manufacturer that meet the criteria in Appendix C of AS 2550.10 and where an enhanced periodic inspection regime has been implemented.

7.3.7 MAJOR INSPECTIONS

Major inspections and the related maintenance are described in Section 6.4.5 of AS 2550.10. The following MEWPs need a major inspection, unless they have already had an enhanced periodic inspection (as described in Section 6.4.4.2 of AS 2550.10):

- a MEWP that has been in use for 10 years and hasn't had an enhanced periodic inspection
- a MEWP that is being re-commissioned or imported, whatever age, that does not have continuous working and maintenance records, as required by Section 6.6 of AS 2550.10

- a MEWP that has been in use for 5 years since its 10-year major inspection.

Seek guidance from the manufacturer before starting a major inspection and keep evidence of this request with the MEWP's records. This must include advice on any safety or engineering upgrades and safety bulletins.

AS 2550.10 states a major inspection involves examination of critical components as identified by the manufacturer or a competent person. Where necessary, strip down the MEWP and remove paint, grease and corrosion from critical components to allow a complete and thorough inspection.

A component is critical if its failure would risk the health and safety of people using or near the MEWP. A competent person should identify the critical components using the definition in AS 2550.10.

“Where necessary” means, if needed to make sure the critical component can be thoroughly inspected.

A complete and thorough inspection means looking at each part, and doing other non- destructive tests as needed.

For further guidance on Major Inspections see:

GUIDANCE DOCUMENT ON MAJOR INSPECTIONS

7.4 REPAIRS

Carry out all repairs in a way that ensures the MEWP meets the current specifications for the particular model and meets the criteria in *AS 2550.10: Cranes, Hoists and Winches - Safe Use - General Requirements*.

Seek the manufacturer’s advice for all critical repairs, including welding, on the correct repair procedure. Keep proof of this request with the MEWP’s records. Do all repairs in accordance with the manufacturer’s instructions and the MEWP’s operational manual. Modern structural materials have specialised repair procedures. Some parts cannot be repaired and must be replaced instead.

Qualified welders must do all welding repairs on a MEWP and a qualified and competent person must inspect the welds.

Where the manufacturer’s advice is not available, a competent person should sign off the repair work.

Manufacturer’s spare parts should be used. The manufacturer must approve the use of any non-manufacturer structural components unless the manufacturer no longer exists, in which case a **Competent person** must approve the component. Keep the verification reports on record.

SECTION 8 OPERATOR TRAINING REQUIREMENTS

8 IN THIS SECTION:

An employer or principal, who tells someone to use a MEWP, must make sure that the operator is adequately trained by a competent person and can demonstrate their competency before using any equipment.

The operator must get training on the type of MEWP they will be using. The operator must be supervised during the training period until the person is considered competent to operate the MEWP.

8.1 GENERAL TRAINING

The MEWP operator training should cover at least:

- Legal requirements
- Getting to know the operator's manual
- Hazard management - identifying, assessing and controlling hazards
- Equipment and safety features
- Prestart (pre-operational) inspection
- Control facilities and positions
- Limits of the machine - rated capacity, wind rating - and machine weight
- Moving and positioning a MEWP
- Transporting - including loading and unloading (where required)
- Working near overhead power lines
- Using a harness
- Refuelling tools and battery charging
- Reporting problems and incidents
- Emergency retrieval systems
- Emergency rescue plan.

For the purposes of operating a MEWP, a competent person is a person who has achieved and demonstrated competency in the safe use of a particular type of MEWP.

One means of demonstrating competency is through completing industry training that allows for a **Statement of Attainment (SoA)** to be issued for a **Unit of Competency (UoC)** for Nationally Recognised Training. e.g. EWPA Yellow Card which can be issued with an SoA for the *RIIHAN301E Operate elevating work platform* which is a Nationally Recognised Training Unit of Competency (UoC) under ASQA. Any course must cover the requirements of *AS 2550.10: Cranes, Hoists and Winches - Safe Use - Mobile Elevating Work Platforms* and course providers should be able to offer evidence of this. Competency should also be assessed through supervision during the use of the equipment.

A MEWP operator must also be able to demonstrate that they have the knowledge and skills needed to do effective hazard and risk assessment in their operating location.

Only a competent person (with machine and training experience) should deliver any on-the-job training; operators must be supervised until they are judged to be competent.

The EWPA offers Yellow Card courses through EWPA Accredited Trainers for the following types of MEWPs.

- Vertical Lifts (VL)
- Scissor Lifts (SL)
- Self-Propelled Boom Lifts (BL)
- Trailer Lifts (TL)
- Truck Mounted Boom Lifts (TM)
- Advanced Boom (AB)

EWPA Accredited Trainers are competent MEWP operators who not only meet the formal training and education requirements for the Vocational Education and Training (VET) sector but also possess significant MEWP industry experience.

For more information see

INFORMATION SHEET ON EWPA YELLOW CARD COURSE

8.2 HIGH RISK WORK LICENCE (HRWL)

All operators of Boom Type MEWPs with a boom length over 11 metres must hold a High-Risk Work Licence (WP Class).

For more information on licensing requirements see:

EWPA LICENSING REQUIRMENT INFORMATION SHEET

8.3 FAMILIARISATION

Employers or principals are also responsible for making sure operators are familiar with each type and model of the MEWP that they will use.

Familiarisation is the demonstration of the machines control functions and safety devices to a trained operator. The familiarisation must be carried out by a trained operator/trainer - who has adequate knowledge of that particular machine.

They need to check that the operator:

- Has made sure the correct manuals are kept on the MEWP.
- Understands the manuals and refers to them as needed.
- Knows the purpose of all controls and what they do.
- Knows what safety devices are installed and the operating differences of that particular model of the MEWP.
- Knows how to use the MEWP's emergency retrieval systems.

8.4 REFRESHER TRAINING

Operators need regular refresher training that covers the requirements in **Section 8.1** and **Section 8.3** of these guidelines. The length between training sessions should not exceed five (5) years.

SECTION 9 ACTS, REGULATIONS AND CODES OF PRACTICE

9 IN THIS SECTION:

9.1 LEGAL FRAMEWORK

The WHS Act is supported by Regulations and approved codes of practice. Everyone must obey the WHS Act and its Regulations or equivalent legislation.

As mentioned in **SECTION 1.2**, any reference to WHS legislation should be taken as referring to the WHS or OHS legislation applicable for each relevant state or territory. A full list of applicable legislation is contained in **SECTION 10.5**.

9.2 THE WHS ACT

9.2.1 OBJECTIVE OF THE ACT

The general requirement for managing a safe work environment is outlined in the WHS ACT the object being:

To

1. Protect workers and other persons against harm to their health, safety and welfare through the elimination or minimisation of risks arising from work or from specified types of substances or plant.
2. Facilitate fair and effective workplace representation, consultation, co-operation.
3. Encourage unions and employer organisations to take a constructive role in promoting improvements in work health and safety practices.
4. Promote the provision of advice, information, education and training.
5. Secure compliance with the Act.
6. Ensure appropriate scrutiny of actions taken by persons exercising powers and performing functions under the Act.
7. Providing a framework for continuous improvement.
8. Maintain and strengthen national harmonisation.

9.2.2 MANAGEMENT OF RISK

The Act requires a person who has a duty to ensure health and safety to:

(a) eliminate risks to health and safety, so far as is **Reasonably Practicable**; and

(b) if it is not reasonably practicable; eliminate risks to health and safety, to minimise those risks so far as is reasonably practicable.

9.3 THE WHS REGULATIONS

The regulations provide more detail within the framework of the Act. Regulations address the following:

> Matters relating to the way in which duties imposed by the Act are to be performed.

> Duties imposed on persons in relation to any matter provided for under the regulations.

> Matters relating to incidents at workplaces including:

- regulating or requiring the taking of any action to avoid an incident at a workplace or in the course of conducting a business or undertaking; and
- regulating, requiring or prohibiting the taking of any action in the event of an incident at a workplace or in the conduct of a business or undertaking.

- Matters relating to hazards and risks including:
  - the prescribing of standards relating to the use of or exposure to any physical, biological, chemical or psychological hazard; and
  - matters relating to safety cases, safety management plans and safety management systems (however described); and
  - matters relating to measures to control risks.

9.3.1 DUTIES UNDER THE REGULATIONS

The Regulations specify duties to:

- **Identify** hazards,
- Manage risks to health and safety by **eliminating** risks to health and safety so far as is reasonably practicable. If it is not reasonably practicable; to implement **the hierarchy of risk controls** as follows:
  - substitute (wholly or partly) the hazard giving rise to the risk with something that gives rise to a lesser risk;
  - isolate the hazard from any person exposed to it;
  - implement engineering controls.
- If a risk then remains, the duty holder must minimise the remaining risk, so far as is reasonably practicable, by implementing administrative controls. (Regulation 36(4))
- If a risk then remains, the duty holder must minimise the remaining risk, so far as is reasonably practicable, by ensuring the provision and use of suitable personal protective equipment.

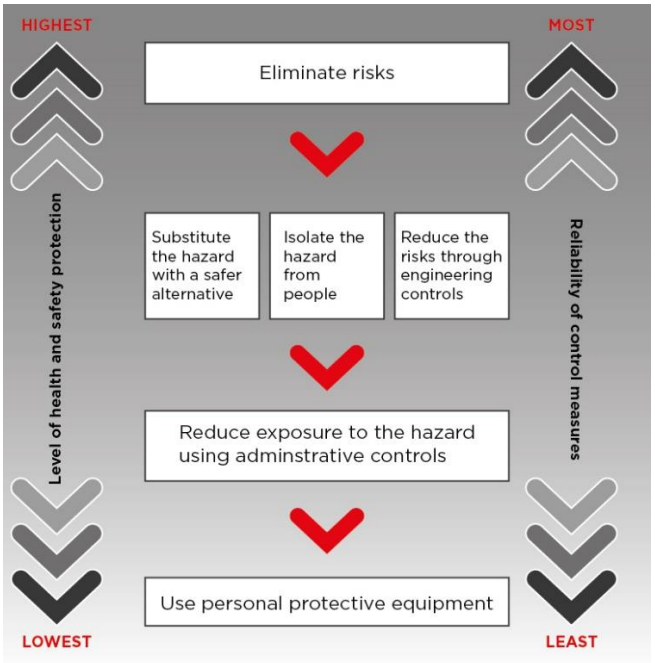


Figure 17: Hierarchy of Risk Controls[1]

[1] Safe Work Australia: Model Code of Practice: How to manage work health and safety risks, May 2018

9.4 CODES OF PRACTICE

An approved code of practice provides practical guidance on how to achieve the standard of work health and safety required under the Act and the Regulations and effective ways to identify and manage risks.

A code of practice can assist anyone who has a duty of care in the circumstances described in the code of practice. Following an approved code of practice will assist the duty holder to achieve compliance with health and safety duties in the WHS Act and Regulations.

Failure to comply with a Code of Practice can be used in a court as evidence of non-compliance with the Act.

9.5 EMPLOYERS OR BUSINESSES

[2]Employers or businesses, or anyone who falls under the definition of a 'person conducting a business or undertaking' (a PCBU), has legal obligations under work health and safety laws.

- Identify hazards in the workplace.
- Assess the risk those hazards create.
- Eliminate or minimise them as much as possible.

An employer and/or PCBU has a legal duty to eliminate or minimise risks to health and safety of workers at work in their business or undertaking.

The person with management or control of a workplace also has a legal duty to make sure, so far as is reasonably practicable, that there are no health and safety risks to anyone working in or visiting the workplace. This includes when people are entering or exiting the workplace. It generally does not include residences, unless the residence is occupied for the purpose of conducting a business.

A workplace can include a vehicle, vessel, aircraft, mobile structure or any installation on water that a worker might be at while at work.

Ways that a business can manage their hazards and health and safety risks include:

- Consult with workers about safety, hazards, and risk control.
- Implement a safety management system and a risk management process that are regularly reviewed.
- Consult, cooperate and coordinate with any other duty holders who have a responsibility for health and safety.
- Maintain the workplace and facilities in a safe condition.
- Provide appropriate training.
- Implement appropriate procedures for workers who work in remote or isolated worksites.
- Provide first aid equipment and prepare, implement and practice emergency plans for evacuations in emergencies.

9.6 DIRECTORS AND OFFICERS

[3]You are an officer of a corporation or entity if you:

- Are appointed as a director or officer of a corporation.

[2] SafeWork NSW: https://www.safework.nsw.gov.au/legal-obligations/employer-business-obligations/managing-hazards-and-risks

[3] SafeWork NSW: https://www.safework.nsw.gov.au/legal-obligations/employer-business-obligations/directors-and-officers

- Have influence over decisions that affect the business or undertaking of the corporation or entity, including financial and administrative decisions.
- Can instruct other officers or directors about the business or undertaking of the corporation or entity.
- Are a liquidator of the business or undertaking.
- Are a trustee of the business or undertaking.

As an officer, you must ensure the business complies with its work health and safety obligations.

9.7 WORKERS

[4]A worker is a person who carries out work in any capacity for a business or employer or 'person conducting a business undertaking' (PCBU). They can be:

- An employee
- A trainee, apprentice or work experience student
- A volunteer
- An outworker
- A contractor or sub-contractor
- An employee of a contractor or sub-contractor
- An employee of a labour hire company

While at work a worker must:

- Take reasonable care for their own health and safety.
- Take reasonable care for the health and safety of others.
- Comply with any reasonable instructions, policies and procedure given by their employer, business or controller of the workplace.
- Ask if you're not sure how to safely perform the work.
- Use personal protective equipment (PPE) in the way you were trained and instructed to use it.
- Report injuries and unsafe and unhealthy situations to your supervisor or to your health and safety representative (HSR).

If you are employed as a contractor or sub-contractor, or through a labour hire recruiter or agency, you are a worker and have the same obligations to ensure your own and your co-workers' health and safety.

[4] SafeWork NSW: https://www.safework.nsw.gov.au/legal-obligations/worker-obligations

SECTION 10 APPENDICES

10 IN THIS SECTION:

10.1 HAZARDS WHEN USING MEWPS

Mechanical Hazards	- *Crushing* - *Entanglement* - *Impact* - *Friction or abrasion* - *Cutting or severing* - *Ejection of parts or people* - *Loss of stability or rolling over* - *Mechanical/Structural failure* - *Unexpected/Uncontrolled movement* - *Contact with moving parts during testing, inspection, maintenance, operation or repair.* - *Slip, trip, fall hazards*
Electrical Hazards	- *Electrical contact or arcing* - *Poorly maintained/damaged electrical components* - *Electrostatic* - *Thermal radiation* - *External influences on electrical equipment (e.g. power surge or lightning strike, electromagnetic radiation)*
Environmental Hazards	- *Noise* - *Weather* - *Heat or cold* - *Fumes, vapours, flammable substances* - *Wind* - *Hazardous substances*
Ergonomic Hazards	- *Constrained postures* - *Poor lighting* - *Mental overload/underload* - *Poor control condition or orientation*

Operational Hazards	- *Poor ground conditions* - *Overloading caused by sail effect of objects on windy days* - *Hazardous environment* - *Excessive manual force* - *Poor visibility* - *Start/moving self-propelled machinery* - *Movement from pedestrian-controlled machinery* - *Uncontrolled movement* - *Rolling over* - *Noise* - *Poor access* - *Loading/Overloading lifting materials or people* - *Falls from working at height* - *Falling objects*
Other Hazards	- *Failure of energy supply* - *Failure of the control system* - *Failure to select plant suitable for its intended purpose* - *Operational error* - *Lack of operator competency*

10.2 EXAMPLE: CHECKLIST TO PICK THE RIGHT MEWP

The information in this section will help you pick the best MEWP for each job, site, operator competence/training requirements and hazard assessment.

The person responsible for using MEWPs safely in the workplace should do the assessment **before** any MEWP is chosen.

SITE AND/OR LOCATION DETAILS	
Company:	
Site Name and Location:	
Assessment Conducted by (name):	***Date:***
Position/Title:	***Phone:***
How will the MEWP be used? (site conditions) *This section asks you to consider where you are using the MEWP and what type of work you are doing, such as surface conditions, indoor or outdoor use, suspended surfaces etc.*	

HAZARD OR CONSIDERATION	***TICK***	***CONSIDER THE FOLLOWING***
MEWP size (height, reach etc)		> *How high does the MEWP need to reach?* > *Can people get in and out at height safely, if they need to?*
Rated capacity		> *Can the MEWP support the required number of personnel (including an operator), tools, equipment, and materials?*
Load dimensions		> *Can the entire load fit inside the platform?* > *If not, are there approved load carrying attachments, such as pipe racks?*
Indoor use (fully enclosed flat surface)		> *Usually an electric slab terrain MEWP is most suitable.* > *If the MEWP has an engine, is the area well ventilated?*
Outdoor use		> *Is the MEWP rated for outdoor use? (min wind rating for outdoor use is 12.5 m/s)* > *Determine the maximum slope the MEWP will be operating on.*
Hard, level surface e.g. concrete, asphalt (minimal slope)		> *Is a slab or rough terrain MEWP suitable?*
Soft surface, rough terrain or sloping surface		> *What rough terrain gradeability/slope needed?*
Suspended surfaces		> *Ask the supplier for the MEWP's static wheel load.* > *Ask the responsible engineer what the maximum floor loadings are.*

Hot work		> *Is the MEWP platform suitable for hot work, such as welding? (Do not carry gas cylinders in fully enclosed platforms).*
Use harness systems		> *Fall Arrest systems must be used on a boom-type MEWP.* > *All harness systems must be:* - *Manufactured and tested in accordance with AS/NZS 1891.1: Industrial Fall Arrest Systems & Devices: Harnesses and Ancillary Equipment.* - *Tested to the standard.* - *Maintained to the standard in AS/NZS 1891.4: Industrial Fall Arrest Systems & Devices: Selection, Use and Maintenance.*

Training/Competence

This section details the competence levels needed to use different types of MEWPs and the training options available.

MEWP TYPES & SPECIFIC PROCEDURES	***TICK***	***COMMENTS***
All MEWPs – *Operators must be trained and competent to use the particular MEWP on site.*		
Emergency procedures – *Suitable qualified staff (who can retrieve the platform using the controls at ground level), or the emergency retrieval system, must be available in an emergency (e.g. loss of normal power, operator injured).*		

THE CHOSEN MEWP THAT MEETS THE ABOVE CRITERIA

Name of Supplier

The MEWP Type (tick one)

Vertical Lift	***Scissor Lift***	***Boom Lift***	***Trailer Lift***

Make:	***Model:***
Plant Number:	***Serial Number:***
Date of Manufacture:	***Commissioned Date:***
Date of Last Service:	

10.3 EXAMPLE: MEWPS HAZARD ASSESSMENT CHECKLIST

Information in this section will help identify and control the hazards of working with MEWPs, including site conditions, operator competence/training. The person or people responsible for the safe use of MEWPs in their workplace should do the assessment before a MEWP is chosen.

SITE AND/OR LOCATION DETAILS	
Company:	
Site Name and Location:	
Assessment Conducted by (name):	***Date:***
Position/Title:	***Phone:***
How will the MEWP be used? (site conditions) *This section asks you to consider where you are using the MEWP and what type of work you are doing, such as surface conditions, indoor or outdoor use, suspended surfaces etc.*	

HAZARD OR CONSIDERATION	***TICK***	***CONSIDER THE FOLLOWING***
MEWP size (height, reach etc)		> *How high does the MEWP need to reach?* > *Can people get in and out at height safely, if they need to?*
Rated capacity		> *Can the MEWP support the required number of personnel (including an operator), tools, equipment, and materials?*
Load dimensions		> *Can the entire load fit inside the platform?* > *If not, are there approved load carrying attachments, such as pipe racks?*
Indoor use (fully enclosed flat surface)		> *Usually an electric slab terrain MEWP is most suitable* > *If the MEWP has an engine, is the area well ventilated?*
Outdoor use		> *Is the MEWP rated for outdoor use? (min wind rating for outdoor use is 12.5 m/s)* > *Determine the maximum slope the MEWP will be operating on.*
Hard, level surface e.g. concrete, asphalt (minimal slope)		> *Is a slab or rough terrain MEWP suitable?*
Soft surface, rough terrain or sloping surface		> *What rough terrain gradeability/slope needed?*
Suspended surfaces		> *Ask the supplier for the MEWP's static wheel load* > *Ask the responsible engineer what the maximum floor loadings are.*

Hot work		> *Is the MEWP platform suitable for hot work, such as welding? (Do not carry gas cylinders in fully enclosed platforms).*
Use harness systems		> *Fall Arrest systems must be used on a boom-type MEWP.* > *All harness systems must be:* - *Manufactured and tested in accordance with AS/NZS 1891.1: Industrial Fall Arrest Systems & Devices: Harnesses and Ancillary Equipment* - *Tested to the standard* - *Maintained to the standard in AS/NZS 1891.4: Industrial Fall Arrest Systems & Devices: Selection, Use and Maintenance.*

Training/Competence

This section details the competence levels needed to use different types of MEWPs and the training options available.

MEWP TYPES & SPECIFIC PROCEDURES	***TICK***	***COMMENTS***
All MEWPs – *Operators must be trained and competent to use the particular MEWP on site.*		
Emergency procedures – *Suitable qualified staff (who can retrieve the platform using the controls at ground level), or the emergency retrieval system, must be available in an emergency (e.g. loss of normal power, operator injured).*		

THE CHOSEN MEWP THAT MEETS THE ABOVE CRITERIA			
Name of Supplier			
The MEWP Type (tick one)			
Vertical Lift	***Scissor Lift***	***Boom Lift***	***Trailer Lift***
Make:		***Model:***	
Plant Number:		***Serial Number:***	
Date of Manufacture:		***Commissioned Date:***	
Date of Last Service:			

10.4 EXAMPLE: MEWP PRESTART INSPECTION CHECKLIST

Use the following checklist if you need a separate record of the Logbook Pre-operation inspection (safety checks) done by the operator (or other site workers) before using a MEWP.

SITE AND/OR LOCATION DETAILS		
Company:		
Site Name and Location:		
Assessment Conducted by (name):	***Date:***	
Position/Title:	***Phone:***	
Plant Supplier Details:		
MEWP Type (tick one)		
Vertical Lift	***Scissor Lift***	***Boom Lift***
Make:	***Model:***	
Plant Number:	***Serial Number:***	
Date of Manufacture:	***Commissioned Date:***	

BEFORE CHECKING AND USING THE MACHINE	***TICK***	***COMMENTS***
1. Disconnect 240v power (battery charger/extension cords etc).		
2. Read the manufacturer's operating instructions (or equivalent) before using the machine.		
PRE-START CHECKS	***TICK***	***COMMENTS***
3. Check chain and cable mechanisms for correct adjustment and damage.		
4. Check chassis, scissor boom sections, outrigger/stabiliser legs for cracks, damage, security (incl. keeper plates, keeper pins, bolts, nyloc nuts etc). Check level bubble(s) not damaged (as fitted).		
5. Check tyres for correct inflation, steering linkages, tyres, wheels, wheel nuts, castors for damage and security. Note: Most self-propelled MEWPs have solid or foam-filled tyres.		
6. Check hydraulic hoses and fuel system for leaks and damage (look for drips or puddles on ground).		
7. Check all fluid levels (engine oil to main/aux engines, radiator, fuel and hydraulic tank etc.)		
8. Check cables, wiring, visible limit switches, battery charger (as fitted) for damage. Conduct earth leakage circuit breaker (ELCB) 'Push Button' Test (as fitted). Test tag and date.		

9. Are all warning, operation and safety legible, including electrical hazard, controls, wind rating?		
10. Check the condition of personal protection equipment (PPE) (e.g. Harnesses, lanyards, personal energy absorbers). Ensure attachment points are secure, and there are no cracks or damage.		
11. Platform and handrails – ensure: ***a. There is no damage*** ***b. Handrails are 100% secure*** ***c. Self-closing action of doors is working*** ***d. There is no grease or debris on floor*** ***e. Slide out deck(s) (as fitted) work smoothly*** ***f. Latches are OK.***		
12. Check controls are not damaged and return to neutral or central position when released. Emergency stops, dead-man, upper and lower controls.		
13. Perform any other pre-start checks recommended or specified by the manufacturer.		
14. Visually check all fibreglass components for cracks especially where bonded to boom.		
OPERATIONAL CHECKS – MACHINE STARTED	***TICK***	***COMMENTS***
15. Check operation of following: *Beware! Allow for 'overrun' (time delay) when testing controls and brakes (check manufacturer operator instructions)*		
16. Emergency stops and dead-mans fitted at both upper and lower controls (machine should stop when dead-man button or foot control is released).		
17. Controls at ground (raise/lower/slew etc).		
18. Controls at platform (forward/reverse/raise/lower/slew etc).		
19. Safety features and lockouts including outriggers, drive/elevation cut out, high/low speed change over, pothole protection system, secondary guarding (if fitted) etc.		
20. Brakes, check no excessive run on (incl. slew brake as fitted). *Beware! Some machines have a time delay before brakes apply**.***		

21. Check platform emergency descent and/or operator retrieval system (as fitted) work. Ensure valves/control returned to 'normal operating' position (as per manufacturer's manual).		
22. Check flashing lights and alarms work.		
23. Perform any other functional checks recommended or specified by the manufacturer.		
FAULTY EQUIPMENT PROCEDURE *If the MEWP was found to have any faults*	***TICK***	***POSSIBLE CONTROL MEASURES***
1. Tag the equipment with a 'DO NOT USE' tag to warn others that the equipment is faulty.		
2. Advise your supervisor of the faults with the equipment.		
3. Advise the owner of the equipment that it is faulty and need attention.		
4. Record details of fault in the logbook provided with the MEWP.		

10.5 PUBLICATIONS AND REFERENCE MATERIAL

LEGISLATION
The Work Health and Safety Act 2011 (ACT) *https://www.legislation.gov.au/Series/C2011A00137*
The Work Health and Safety Act 2011 (QLD) *https://www.worksafe.qld.gov.au/laws-and-compliance/workplace-health-and-safety-laws/laws-and-legislation/work-health-and-safety-act-2011*
The Work Health and Safety Act 2011 (NSW) *https://www.legislation.nsw.gov.au/#/view/act/2011/10*
The Work Health and Safety (National Uniform Legislation) Act 2011 (NT) *https://legislation.nt.gov.au/Legislation/WORK-HEALTH-AND-SAFETY-NATIONAL-UNIFORM-LEGISLATION-ACT-2011*
The Work Health and Safety Act – 2012 (SA) *https://www.legislation.sa.gov.au/LZ/C/A/WORK%20HEALTH%20AND%20SAFETY%20ACT%202012.aspx*
The Work Health and Safety Act – 2012 (TAS) *https://www.legislation.tas.gov.au/view/html/inforce/current/act-2012-001*
The Occupational Health and Safety* Act *2004 (VIC) *http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/PubLawToday.nsf*
The Occupational Health and Safety* Act *1984 (WA) *https://www.commerce.wa.gov.au/worksafe/about-occupational-safety-and-health-act-1984*
The Work Health and Safety Regulation 2012 (ACT) *https://www.legislation.gov.au/Series/F2011L02664*
The Work Health and Safety Regulation 2011 (QLD) ***https://www.worksafe.qld.gov.au/laws-and-compliance/workplace-health-and-safety-laws/laws-and-legislation/work-health-and-safety-regulation-2011***
The Work Health and Safety Regulation 2017 (NSW) *https://www.legislation.nsw.gov.au/#/view/regulation/2017/404*
The Work Health and Safety (National Uniform Legislation) Regulations (NT) *https://legislation.nt.gov.au/Legislation/WORK-HEALTH-AND-SAFETY-NATIONAL-UNIFORM-LEGISLATION-REGULATIONS-2011*
The Work Health and Safety Regulations – 2012 (SA) *https://www.legislation.sa.gov.au/LZ/C/R/Work%20Health%20and%20Safety%20Regulations%202012.aspx*
The Work Health and Safety Regulation 2012 (TAS) *https://www.legislation.tas.gov.au/view/html/inforce/current/sr-2012-122*
The Occupational Health and Safety Regulations 2017 (VIC)

http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/PubLawToday.nsf	
The Occupational Health and Safety Regulations 1996 (WA) *https://www.slp.wa.gov.au/statutes/regs.nsf/(DownloadFiles)/Occupational+Safety+and+Health+Regulations+1996.pdf/$file/Occupational+Safety+and+Health+Regulations+1996.pdf*	
STANDARDS	***STANDARD NUMBER***
Industrial Fall-Arrest Systems and Devices Harnesses and Ancillary Equipment	***AS 1891.1***
	AS 1891.4
Cranes, Hoists and Winches – Safe Use – Mobile Elevating Work Platforms	***AS 2550.10***
Safety of Machinery – Design of Controls, Interlocks and Guarding – Emergency Stop – Principles for Design	***AS 4024:1604***
AS/NZS 3012: Electrical Installations - Construction and Demolition Sites	***AS/NZS 3012***
Cranes, Hoists and Winches – Part 10: Mobile Elevating Work Platforms	***AS/NZS 1418.10***
In-Service Safety Inspection and Testing of Electrical Equipment	***AS/NZS 3760***
Acoustic Emission Testing of Fiberglass Insulated Booms on Elevating Work Platforms	***AS 4748***
CODES OF PRACTICE	
How to Manage Work Health and Safety Risks *https://www.safeworkaustralia.gov.au/doc/model-code-practice-how-manage-work-health-and-safety-risks*	
Managing Risks of Plant in the Work Place *https://www.safeworkaustralia.gov.au/doc/model-code-practice-managing-risks-plant-workplace*	
Managing the Risk of Falls in the Work Place *https://www.safeworkaustralia.gov.au/doc/model-code-practice-managing-risk-falls-workplaces*	
Managing Electrical Risk in the Work Place *https://www.safeworkaustralia.gov.au/doc/model-code-practice-managing-electrical-risks-workplace*	
Construction Work *https://www.safeworkaustralia.gov.au/system/files/documents/1901/code_of_practice_-_construction_work.pdf*	
Consultation, Coordination and Coordination *https://www.safeworkaustralia.gov.au/doc/model-code-practice-work-health-and-safety-consultation-cooperation-and-coordination*	

OVERSEAS STANDARDS
BS EN 280 Mobile Elevating Work Platforms. Design Calculations. Stability Criteria. Construction. Safety. Examinations and Tests
ANSI/SIA A92.2 Vehicle-Mounted Elevating and Rotating Aerial Devices
ISO 16368 Mobile Elevating Work Platforms – Design, Calculations, Safety Requirements and Test Methods
ISO 18878 Mobile Elevating Work Platforms – Operator (driver) training.

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