



ELEVATING WORK PLATFORM ASSOCIATION OF AUSTRALIA INC

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POLICY ON THE USE OF FALL ARREST SYSTEMS IN ELEVATING WORK PLATFORMS

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1. INTRODUCTION

The following policy has been developed by the EWPA Inc as guidance for members in each State and Territory in the use of Fall Arrest Systems in Mobile Elevated Work Platforms (MEWPs). Fall protection is an important issue for those who use MEWPs. While the guardrail system is the primary fall protection, a fall arrest system is required with all boom type elevating work platforms unless it can be demonstrated that the risk of them being ejected from the platform through a component failure or other eventuality, eg catapult effect is controlled (refer to AS2550.10 Cranes, hoists and winches – Safe use – Mobile elevating work platforms).

Australian State and Territory regulatory authorities and Australian Standards require users of fall arrest systems to ensure there is adequate clearance under the system so that in the event of a fall the user of the system will not strike the ground or will suffer minimal consequences from striking, any other obstacle beneath the system.

The issue facing MEWP users is to determine the appropriate system or systems to use. This policy is not intended to cover all the aspects of fall prevention but rather be a targeted guide for use of fall arrest systems and devices used with MEWPs.

2. FALL ARREST SYSTEMS AND FALL RESTRAINT DEVICES

- 2.1. All personnel in the platform (or basket) of a boom type MEWP must use a fall arrest system or restraint device which is secured by a lanyard to an approved anchor point provided for this purpose. Boom type MEWPs can include self-propelled booms, knuckle booms, trailer lifts, cherry pickers, truck mounted booms, MEWPs that operate with a Z type of lifting arm and telehandlers fitted with EWP baskets.
- 2.2. Fall arrest systems or restraint devices are not required on other types of MEWPs such as scissor lifts or vertical personnel lifts, unless a risk assessment indicates that they should be worn for risk control purposes, in which case the policy of boom type MEWPs will apply.
- 2.3. All fall arrest systems or restraint devices, must conform to the requirements of the following Australian Standards:
AS/NZS 1891.1 2007: Industrial Fall Arrest Systems & Devices: Harnesses and Ancillary Equipment
AS/NZS 1891.4 2009: Industrial Fall Arrest Systems & Devices: Selection, Use and Maintenance
- 2.4. All snap hooks and karabiners shall be self-closing and shall be capable of being opened only by a minimum of at least two consecutive actions.
- 2.5. **Inspection of Fall Arrest System Before Use**
The operator must inspect their fall arrest system or restraint device before use as per manufacturer's instructions. The inspection should include checking for damage to the webbing through burns, chemicals, etc, and damage to buckles, hooks and attachment hardware. Ensure the harness and lanyard are within their test period (this is stamped on the harness and lanyard).

2.6. Repair of Fall Arrest System or Restraint Device

Any piece of equipment, including both personal and permanently installed items (including the anchorage point), which has been used to arrest a fall or which shows any defect during operator or periodic inspection shall be withdrawn from service immediately and a replacement obtained if necessary. It should be examined by a height safety equipment inspector who will decide whether the equipment is to be destroyed or repaired if necessary and returned to service. Experience shows that repair of harnesses and lanyards, even when carried out by a competent person, is unacceptable as it raises safety issues in the testing requirements and subsequent use.

2.7. Correct Use

- 2.7.1.** Always use the fall arrest system or restraint device in accordance with manufacturer's instructions.
- 2.7.2.** Ensure the full body harness is correctly fitted and adjusted before entering the basket and ensure the lanyard is securely attached to the approved anchor point before using the MEWP. Incorrect adjustment can cause major injury.
- 2.7.3.** The attachment hook on the lanyard must not be hooked back on itself – use the correct mounting point.
- 2.7.4.** The practice of permanently attaching fall arrest systems or restraint devices to the approved anchor point in the MEWP platform is discouraged as it inhibits correct inspection of the fall arrest system or restraint device. In addition the system or device is unnecessarily exposed to all weather conditions even when not in use and may suffer consequent deterioration.

2.8. User Beware

There are many different types of full body harness and lanyards. Correct selection is essential for safety and a competent person should be consulted if in doubt.

3. LANYARDS AND HARNESSSES

3.1. Harness Type

A full body harness is the most appropriate harness type when operating a MEWP.

3.2. Lanyards

A lanyard which will absorb energy in the event of a fall and limit the impact force to a maximum of 6kN must always be used. An example of this is a lanyard used with a 'personal energy absorber' as defined in AS1891.1. A lanyard with an energy absorber should always be used regardless of the length of the lanyard.

The lanyard must be attached to the harness at the designated ring on the harness, usually at neck/shoulder height on the back or chest height on the front. Do not use the side harness rings.

3.3. Lanyard Length

3.3.1. Maximum Lanyard Length

The maximum length of the lanyard, including the personal energy absorber, shall not exceed 2.0m.

3.3.2. Determining Adequate Free Fall Clearance

An adequate free fall clearance is the minimum height the platform floor must be above the ground (or other surface) that would prevent an ejected operator from striking the ground. To determine an adequate free fall distance the following must be considered:

- Length of the lanyard
- Height of the operator
- 'Tear out' length of the personal energy absorber
- Height of the lanyard attachment point in the platform

Taking these factors into consideration, an adequate free fall clearance would **typically** be achieved when the floor of a MEWP platform is at a height of more than 3.5m above the ground (or other surface) but may be as low as 1.5m.

- 3.3.2.1.** When performing work tasks in a MEWP platform at heights where an adequate free fall clearance is obtained (ie approximately 3.5m and above), an 1800-2000mm lanyard is the recommended lanyard to be used.

This length lanyard is also suitable when raising the platform from the ground to a height above that which adequate free fall clearance is achieved as the period of time the operator is exposed to the risk is limited (typically less than 10 seconds).

- 3.3.2.2.** When performing work tasks in a MEWP platform at heights where an adequate free fall clearance is NOT obtained (eg less than approximately 3.5m), the following should be considered:

- Use the shortest possible lanyard which enables the work tasks to be completed. This may include an adjustable lanyard.
- Where possible, clear movable obstructions, structures, projections etc, from underneath the MEWP platform before commencing work tasks.
- Implement site specific Safe Work Procedures that prevent the operator from driving the MEWP, eg the operator would have to either lower the platform as close to the ground as possible or raise it to a height where an adequate free fall distance is obtained before driving the MEWP.
- Consider other methods of conducting the work tasks.

- 3.3.2.3.** While an adequate free fall clearance would be obtained at a lower platform height by using a shorter lanyard (eg 1200mm) consideration needs to be given to the fact the operator may sustain severe injuries from striking the outside of the platform in the event of being ejected. An 1800-2000mm lanyard allows the operator to hang beneath the bottom of the platform following a fall.

3.4. Other Lanyard Options

3.4.1. Retractable Reel Lanyards

May only be used if the retractable reel lanyard manufacturer approves the use of the lanyard with the specific MEWP model.

3.4.2. Twin Tail Fall Arrest Lanyards

Where this special type of lanyard is to be used they should be designed to AS1891.1 and used in accordance with AS1891.4.

3.4.3. Adjustable Lanyards

Adjustable lanyards allow the operator to use them as part of a fall arrest system or as part of a fall restraint device depending on the adjusted length of the lanyard. When using an adjustable lanyard as part of a fall arrest system an energy absorber must be used and the maximum length of the lanyard shall not exceed 2.0m.

3.5. Approved Attachment Points

The approved attachment point on the platform must be marked as such and must be capable of sustaining 15kN (1529kg) force without failure. Unless designated otherwise each anchorage point shall be considered suitable for attachment of one device.

3.6. Guardrails

These are fitted for operator safety and are NOT to be used as an anchorage point for the safety lanyard.

3.7. Powerlines

Where the boom type MEWP is required to work around live wires (using an appropriately insulated MEWP) then a full body harness with an additional facility to connect a CDD (controlled descent device) or EDD (emergency descent device) is required.

This requirement for the full body harness is because the operator will need to support their full body weight and control their descent down a special rope line attached to the basket or platform in the event of an emergency.

3.8. Working Over Water

Where the operator of a MEWP is working over water additional consideration must be taken into account to ascertain the appropriate fall restraint/arrest system.

3.9. Unloading/Loading Boom Type MEWPs

Unless a risk assessment determines otherwise, then a full body harness must be worn by the operator of the boom type MEWP when loading or unloading the unit for transportation, complete with an appropriate length lanyard and shock absorber.

4. TRAVELLING IN A MEWP

When travelling in a boom type MEWP (ie moving from one location to another) the following should be considered:

- Where practical the boom should be retracted and the platform should be kept as low to the ground as possible (without striking the ground) and the MEWP driven at a speed appropriate to the ground conditions, eg select 'slow drive speed' when driving on rough, uneven ground.
- Where it is not practical to travel with the platform low to the ground, the platform must be raised to a height where an 'adequate free fall distance' is obtained (ie approximately 3.5m and above).
- Travel with the platform elevated shall only be permitted on firm surfaces free of obstructions and potholes.

5. ACCESS / EGRESS FROM MEWPs AT HEIGHT

AS 2550.10-2006

Clause 5.9 – Access to and Egress from the Platform in the Elevated Position

Personnel shall not enter or leave the platform when elevated (except in an emergency) unless each of the following conditions is met:

- a) Risk analysis shows that this means of access is safer than all other means of access.
- b) The structural adequacy of the landing area has been established, and the landing area is clear.
- c) The risk of falling from the landing area is considered and controlled.
- d) The working envelope of the MEWP is at least 1.2 times greater than that required to access the landing (eg if the landing is positioned 10m vertically and 5m horizontally from the support surface, then the work platform shall be able to access a point located 12m vertically and 6m horizontally. This requirement is specified to ensure that the MEWP is working within its operating envelope at all times.
- e) The work platform floor is capable of being located within 300mm vertically of the landing.
- f) Where the work platform is located over the landing, the landing point is not less than 2m from the edge of the structure, unless a safety harness is properly worn and attached to a suitable anchorage, where any potential fall is in excess of 2m.
- g) Where the work platform is located adjacent to the landing, the maximum gap between the platform and landing does not exceed 100mm, and access and egress does not take place unless a fall arrest system is used and attached to a suitable anchorage on the structure.

NOTE: When egressing from a MEWP, where a person is required to use a fall arrest system and remain connected to an anchorage at all times, a double lanyard should be used.

- h) The base controls are tagged to indicate the equipment is in use and to caution against interference.
- i) The resulting deflection that occurs when access and egress is performed at elevated positions is assessed and allowed for.

NOTE: To avoid excessive deflection, scissor lifts should be placed end on, when the work platform is positioned adjacent to a landing.

6. SIGNAGE ON MEWP / BASKET

The following signage wording on the platform/basket is recommended:



7. SUSPENSION TRAUMA

Refer to Suspension Trauma and First Aid guidelines on EWPA website under Accredited Trainers.

DISCLAIMER

This document entitled “Policy on the Use of Fall Arrest Systems in Mobile Elevating Work Platforms” (the Policy Document) is issued as guidance solely for the use of members of the Elevating Work Platforms Association of Australia Inc (EWPA).

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