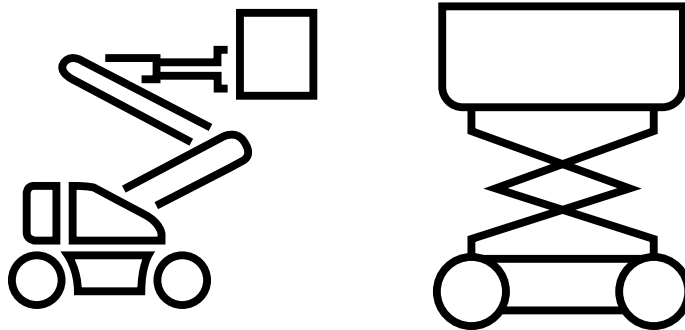


## Mobile Elevating Work Platforms and Fall Protection



Mobile Elevating Work Platforms (MEWPs) are often a vital element in many industries globally. This equipment is a common temporary access means for supporting workers in construction, shipbuilding, facility and building maintenance, transportation services, including truck and heavy equipment, aircraft and a broad variety of other occupational environments.

With these vehicles exposing workers to the hazards of working at height, the concern of falls from height are ever present. MEWPs can present many challenges for employee safety when operating. These concerns are present while employees are entering and exiting the platform, transitioning or maneuvering the equipment around the jobsite, unloading and loading the equipment from the transport trailer and working at height or during boom extension.

Although many regulatory agencies, voluntary consensus standards and professional trainings provide requirements and guidance regarding the necessity of “Fall Protection” in MEWPs, there continues to be a lack of clarity for the end-user or equipment operators due to differing requirements based on MEWP type, geographic location and the type of work being done from the MEWP.

### Some Common Hazards in MEWPs

- Falling over or off guardrails
- Falling while entering or exiting platform
- Tip-over and ejection
- Loading and offloading of MEWP
- Dropped objects

## What does OSHA consider an aerial lift?

An aerial lift is any vehicle-mounted device used to elevate personnel, including:

- Extendable boom platforms,
- Aerial ladders,
- Articulating (jointed) boom platforms,
- Vertical towers, and
- Any combination of the above.

## Standards that Apply

OSHA Standards: 29 CFR 1910.67, 29 CFR 1910.269(p), 29 CFR 1926.21, 29 CFR 1926.453, 29 CFR 1926.502.

American National Standards Institutes standards: ANSI/SIA A92.2-1969, ANSI/SIA A92.3, ANSI/SIA A92.5, ANSI/SIA A92.6.

OSHA regulations for aerial lifts can be found in 1926 Subpart L, Scaffolds, 1926.453(b) Aerial Lifts. Also, OSHA considers scissor lifts to be mobile scaffolds, not aerial lifts, therefore regulations for that equipment are provided in OSHA 1926.452(w), Mobile Scaffolds.




In 1926 Subpart L, employers must ensure that employees tie off at all times when working from an aerial lift (boom lift) [1926.453(b)(2)(v)].

The recently published ANSI/SAIA A92.22-2020, Standard for the Safe Use of MEWPs, states that wearing personal fall protection equipment is required when in a boom lift (Clause 6.8). ANSI/SAIA A92.20-2020 standard for MEWPs requires manufacturers to provide a single type of anchorage (additional anchorages may be required) for the connection of personal fall protection devices (Section 4.6.4.1).

Addressing the fall protection personal protective equipment (PPE) side, the ANSI/ASSP Z359 standards provide guidance on the use of full-body harnesses (ANSI/ASSP Z359.11), energy-absorbing lanyards (ANSI/ASSP Z359.13) and self-retracting devices (ANSI/ASSP Z359.14).

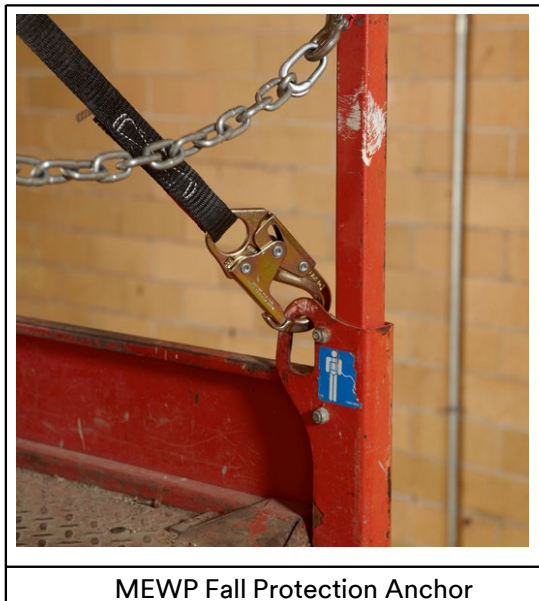
## Fall Protection - Fall Restraint, Fall Arrest or both?

When addressing fall protection equipment in the MEWP, the ideal system for effective protection against falls and potential ejection while operating MEWPs should include a combination of both fall arrest and fall restraint systems, which include an anchorage connector.

		
<p><b>Restraint Lanyard</b></p>	<p><b>Self-Retracting Lanyard</b></p>	<p><b>Combination Fall Arrest and Restraint</b></p>

Most MEWPs are equipped with either an approved floor or rail-mounted anchorage connector for a personal fall protection system. Where required and approved, additional anchorages may be identified as suitable connection points for the personal fall protection system, and can be located inside the platform or on the outer edges of the platform or boom.

The fall protection anchorage installation must be engineered and or approved by or in consultation with the MEWP equipment manufacturer, and fully documented.



This would include anchorage of a personal or small SRL (with consideration of sharp or leading edges), a work restraint lanyard of the shortest reasonable length that permits no fall distance, and an appropriate full body harness with proper connection points for fall arrest and fall restraint applications.

## Selection of appropriate personal fall protection system

- Determine what level of protection is required for use with the specific MEWP being operated.
- Option 1: For smaller utility type platforms or baskets, a standalone Fall Restraint system can be selected. This, when properly sized and anchored for the application, will restrict the operator from any exposure to falling. For a secondary layer of protection, the operator may also incorporate a personal fall arrest system. Once at height or for added maneuverability, the worker can transition to the personal fall arrest system only. It is important to understand leading edge exposures and the fall clearance required for the personal fall arrest system when considering transitioning to only a fall arrest system. Caution should always be taken to maintain 100% connection when transitioning.
- Option 2: For larger platforms or baskets where the operator may be expected to transition to a different area within the work platform, the use of a personal fall arrest system of the shortest length necessary would be appropriate. It is important to understand and address the risks of leading edge exposures. Additionally, the use of a fall restraint lanyard should be used while operating the vehicle, and when at lower elevations where there is not adequate fall clearance and a greater risk of making contact with a lower level or the ground.

## MEWPs in the scope of new ANSI/ASSP Z359.14-2021

In the United States, the newly revised ANSI/ASSP Z359.14-2021 introduces new SRL classifications based on the SRL anchorage installation height.

With most MEWP designs, the fall protection anchorages are located below dorsal D-ring height. Therefore, Class 1 SRL devices will be restricted for use based on current anchorage height locations in MEWPs.

For below dorsal D-ring anchorage applications, use of a Class 2 rated ANSI/ASSP Z359.14-2021 compliant SRL will be required in order to maintain ANSI/ASSP Z359 compliance, and compliance with the Class 2 device manufacturer's user instructions.

Class 2 devices are approved and certified to be connected below the user's dorsal D-ring height, and additionally, are approved for use in leading edge exposures and increased free fall heights which are quite common in MEWP environments.



## Moving forward

3M Fall Protection fully supports the direction of the published and effective ANSI/ASSP Z359.14-2021 standard. As such, we do not authorize the use of a Class 1 device for MEWP applications, or any application where the anchorage connection is terminated below the operator's harness dorsal D-ring.

There have been recent communications distributed by select fall protection manufacturers that instruct and authorize a potential misuse of ANSI/ASSP Z359.14-2021 Class 1 devices. These authorizations instruct that it is appropriate to connect a Class 1 device up to five feet (5 ft.) below the operator's dorsal D-ring. This application and direction is in direct conflict with the published ANSI/ASSP 359.14-2021 standard.

As published in the ANSI/ASSP Z359.14-2021 standards document, the below language represents the official requirements. As also stated in this document, no exceptions or deviations are permitted. Note: The requirements of this standard do not apply to self-retracting devices used for arresting loads when handling materials or similar devices used in sport and recreational activities.

## 1.4 Self-Retracting Device Classes

**1.4.1 Class 1.** Self-retracting devices which shall be used only on overhead anchorages and shall be subjected to a maximum free fall of 2 feet (610 mm) or less, in practical application.

**1.4.2 Class 2.** Self-retracting devices which are intended for applications wherein overhead anchorages may not be available or feasible and which may, in practical application, be subjected to a free fall of no more than 6 feet (1.8 m) over an edge prescribed in Section 4.

**1.4.3** Any of the device types in 1.3 may be qualified according to the requirements of these classes. Before a device may be qualified according to the requirements of Class 2, it shall first meet the requirements of Class 1.

3M has contacted the administrative leadership at ANSI/ASSP Z359, formally requesting their support to reinforce their published standards document. We are awaiting a formal response to these inquiries.

In 3M's effort to address these potentially misleading industry communications more broadly, 3M is working diligently to address the MEWP fall protection applications. Today, these options remain available to help employers maintain ANSI/ASSP Z359 compliance:

1. Transition to a fall restraint system when feasible. Not all platforms or baskets require the use of a personal fall arrest system. Restraint systems are an approved method of personal fall protection.
2. Continue to use your previously certified ANSI/ASSP Z359.14-2014 products per the manufacturer's Instructions for Use issued at the time of product manufacture.
3. Use ANSI/ASSP Z359.14-2021 Class 2 (3M™ DBI-SALA® Nano-Lok™ Edge series).
4. For Arc Flash exposure applications, the user may temporarily transition to a 3M arc flash rated shock absorbing lanyard of the shortest length required to perform the task at hand.

3M recognizes the complications that this direction is presenting to the occupational sector. We are urgently working to address this matter with the responsible parties at ANSI/ASSP Z359.

If you have any additional questions or concerns regarding the information presented in this bulletin, please contact 3M Fall Protection Technical Services at 1.800.323.6146.



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