MEWP

CARPENTERS INTERNATIONAL TRAINING FUND

Guide to the New ANSI A92- Mobile Elevating Work Platforms (MEWP) Supplemental Member Training

Published 08/15/19

Key Terms

Familiarization: ability to demonstrate an understanding of the necessary information regarding the features, functions, devices, limitations, and operating characteristics of a specific model MEWP.

Group A: machines that are designed so that the center of the main platform does not extend beyond the tipping line.

Group B: machines that have a platform attached to a long beam that extends beyond the machine's tipping point

Load Sensing System: safety device which prevents unintended overloading of a MEWP

Mobile Elevating Work Platform (MEWP): machine intended for moving persons, tools, and materials to working positions.

Tilt Sensing System: device for monitoring the moment, acting about the tipping, tending to overturn the MEWP.

Type 1 MEWP: MEWPs that only allow for travel in the stowed position

Type 2 MEWP: MEWPs that allow traveling with the work platform elevated and are controlled from a point on the chassis.

Type 3 MEWP: MEWPs that allow traveling with the work platform elevated and are controlled and driven from the work platform.

User: An entity that has care, custody and control of the MEWP.

Operator: An entity qualified to control the movement of a MEWP.

Occupant: An entity on the work platform.

Supervisor: An entity assigned by the user to monitor operator performance and supervise their work.

Guide to the New ANSI A92- Mobile Elevating Work Platforms (MEWP) Supplemental Member Training

The supplemental materials provided are intended to be used to assist instructors with the delivery of the new MEWP Operator Qualification and the new MEWP Operator Qualification Update. The new ANSI standards each instructor needs familiarize themselves with includes; A92.20, A92.22, and A92.24.

CURRENT STANDARDS

Standards are essential and establish requirements for the design of a product, process, or system. They can specify the performance of products or personnel. They can also define terms and definitions specific to the standard, so there is no misunderstanding among those using the standard.

The A92 standards provide uniform guidance in the design and manufacturing of equipment. They also address the planning and operation for the safe use of equipment and training requirements to aid users in achieving safe and effective use of the equipment. These standards assign responsibilities for various

tasks to entities based on their roles – manufacturer, dealer, owner, user, supervisor, operator, occupant, lessor, lessee, broker, etc. An individual or company may hold several roles; a user may also be an owner of a mobile elevating work platform (MEWP), resulting in responsibilities when acting in the role of an owner of the equipment and responsibilities of a user when as a user, authorizing employees to operate a MEWP.

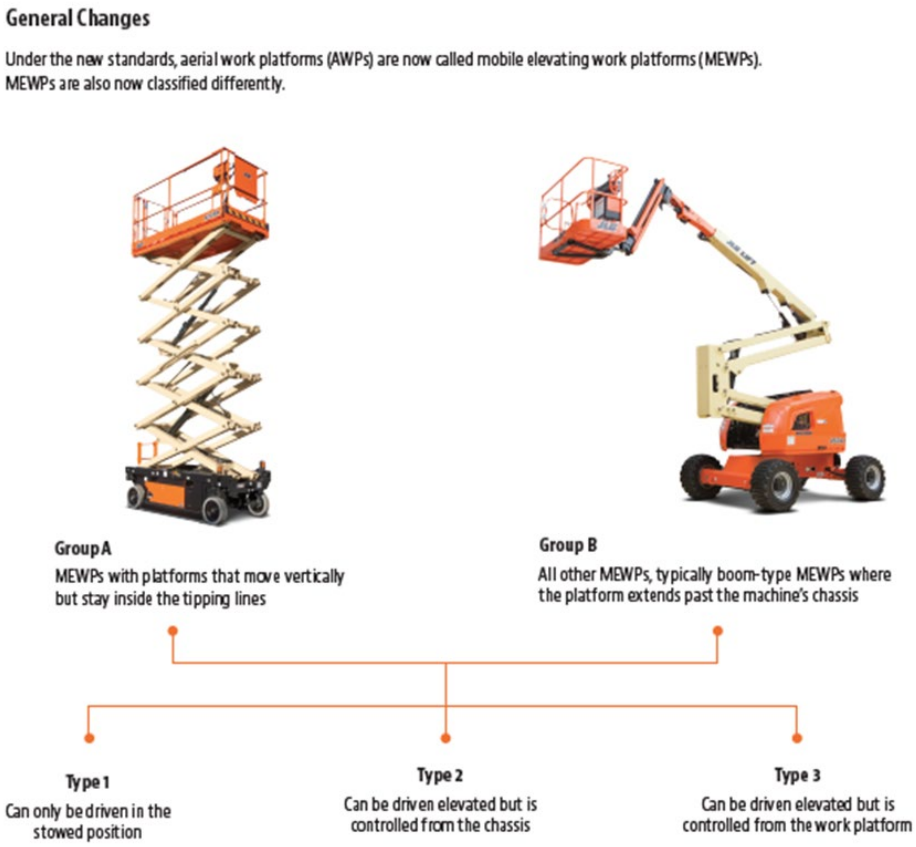
Currently, ANSI A92 standards requirements are specified by equipment classification: A92.3 for manually propelled platforms; A92.5 for boom-type platforms, A92.6 for scissor-type platforms and A92.8 for under-bridge inspection devices. Each standard included its requirements for the design, safe-use, and training to ensure the safe and effective use of each category of machine. These standards will be withdrawn in December 2019, although the A92.2 standard for vehicle-mounted platforms will remain in effect.

NEW STANDARDS OVERVIEW

The new ANSI A92 Mobile Elevating Work Platform (MEWP/AWP) Design, Safe-use, and Training suite of standards were published in December 2018. All industry stakeholders will have until December 2019 to become compliant with the requirements in the suite of standards. The new standards are ANSI A92.20: Design, Calculations, Safety Requirements and Test Methods for MEWPs; ANSI A92.22: Safe Use of MEWPs; and ANSI A92.24: Training Requirements for Operators of MEWPs.

The design standard specifies design calculations and stability criteria, construction, safety examinations, and tests and is predominately intended for manufacturers; the safe-use standard specifies requirements for application, inspection, training, maintenance, repair and safe operation of equipment and is predominantly intended for owners, users, and operators; the training standard provides methods and guidelines to prepare MEWP training materials, defines administrative criteria and delivers elements required for proper training to implement the safe-use standard requirements and is predominantly intended for individuals or companies offering training.

The safe use and training standards apply to both new and existing units and replace the inspections, maintenance, safe operating practices, and operator training requirements of the ANSI A92.3, A92.5, A92.6, and A92.8 standards. Compliance with the new standards can begin immediately after publication, but no later than their effective date.



GENERAL CHANGES

■ Terminology: Mobile Elevating Work Platforms or MEWPs will be the new universal term for this equipment, replacing Aerial Work Platform (AWP).

■ The new standards are written by the primary task of design, safe-use, and training to replace existing standards written by product type – manually propelled, self-propelled booms and scissors, under-bridge inspection devices.

■ New safe use and training requirements apply to new and existing MEWPs.

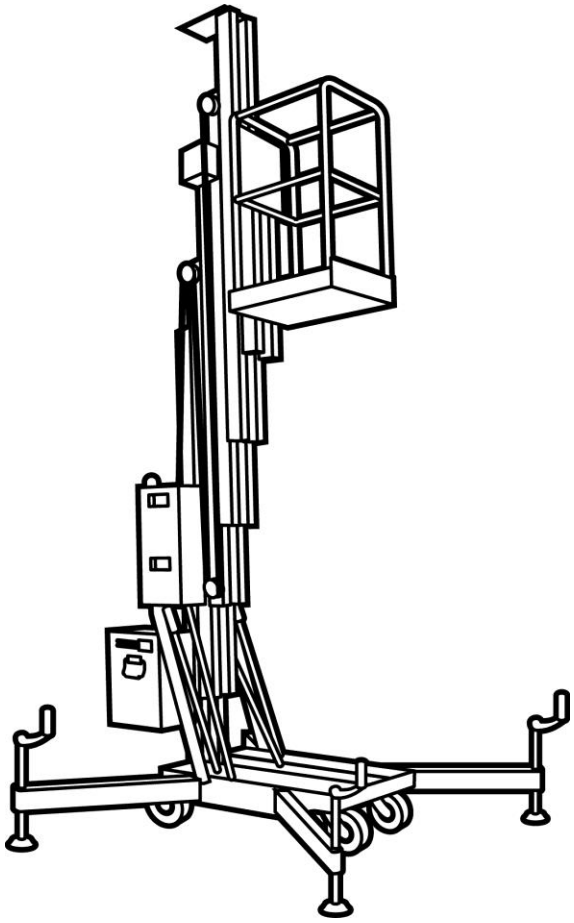
■ The design and manufacturing requirements apply to all MEWPs manufactured/remanufactured on or after the effective date.

■ The new training classifications are a combination of group and type. Group a and b are defined by the possible configuration of the MEWP, determined by the center of the platform in relation to the tipping line. If the platform is always inside the tipping line, then it is Group a (for example scissor lift,

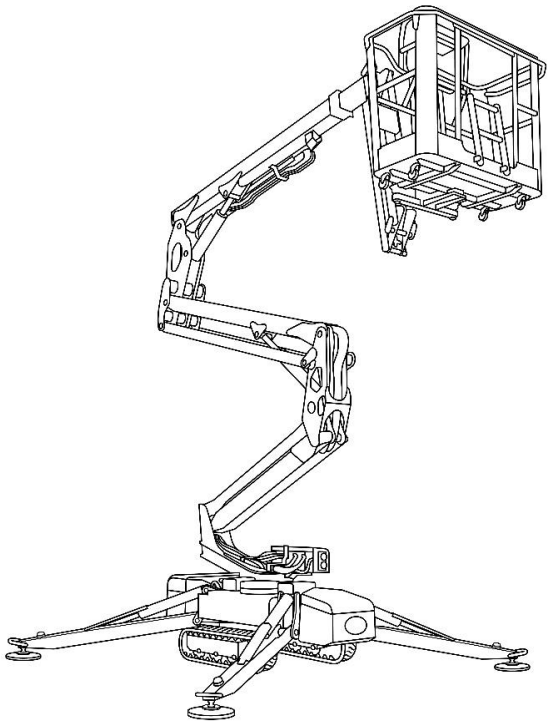
■ vertical lift) and if the platform can be positioned beyond the tipping line, then it is Group b (for example boom-lift). Types 1, 2 and 3 define traveling, with 1 not able to travel out of stowed position, 2 being where travel is controlled from the chassis and 3 able to travel when elevated.

MEWP Classifications

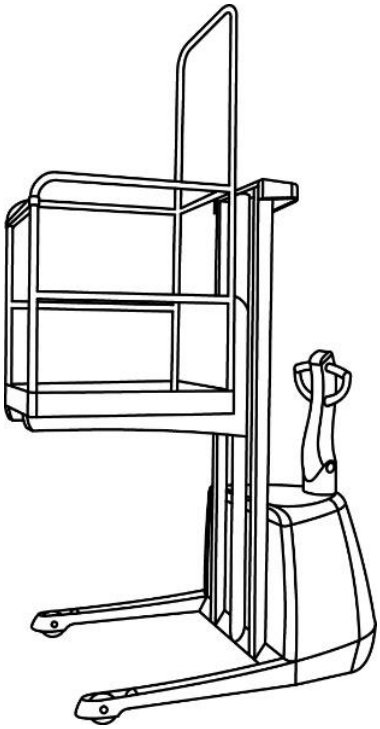
Examples of Type 1, Group A MEWPs



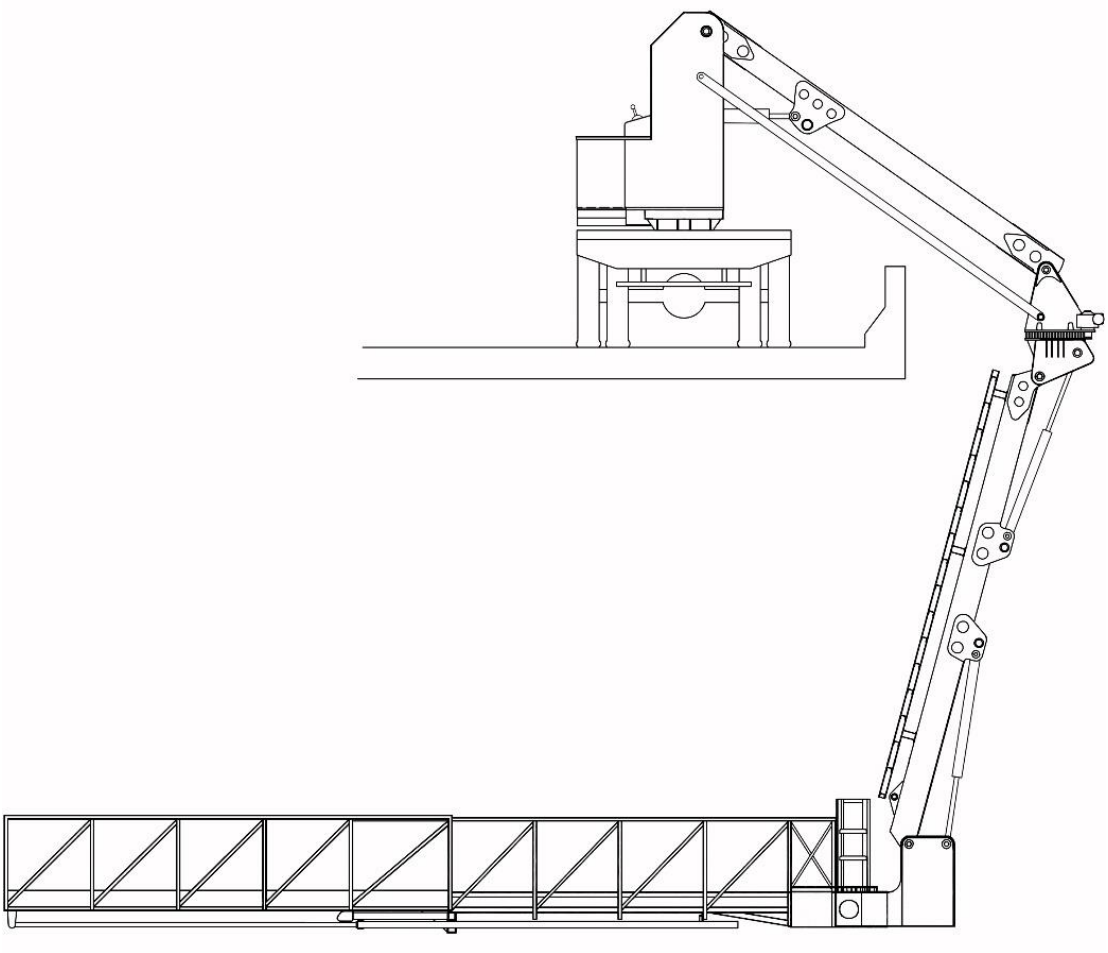
Examples of Type 1, Group B MEWPs



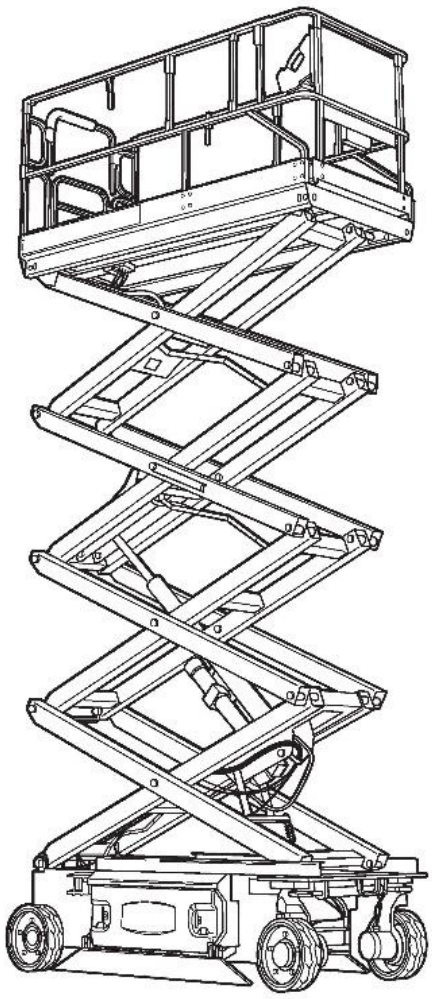
Example of Type 2, Group A MEWPs



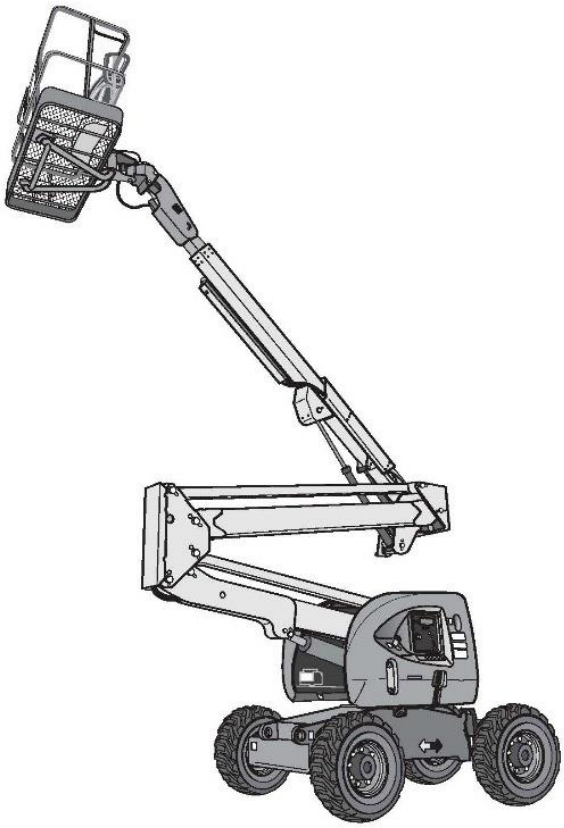
Example of Type 2, Group B MEWPs

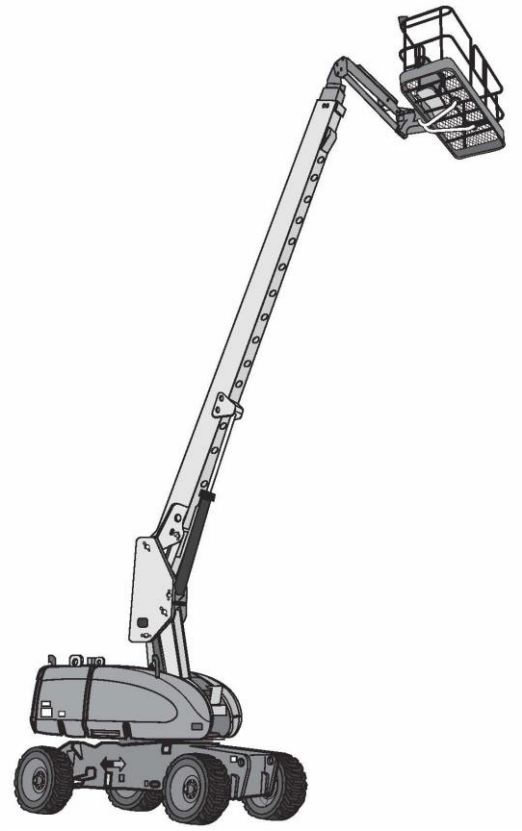


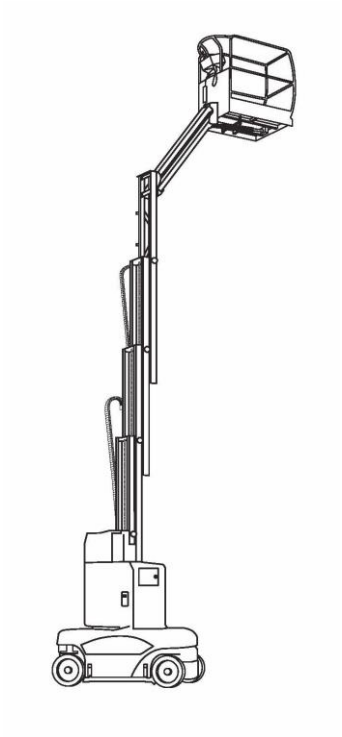
Examples of Type 3, Group A MEWPs



Examples of Type 3, Group B MEWPs







DESIGN (MANUFACTURE) CHANGES

This section identifies some typical outcomes that will impact users:

■ Platform load-sensing: Most machines will monitor load and will not operate with normal control functionality when overloaded beyond rated capacity, except emergency controls.

■ New wind force requirements: Maximum Wind Rating must be visible on the MEWP's work platform. MEWPs shall not be used when windspeed exceeds 28 mph (45 km/h). There is potential for reduced capacity on scissors and vertical platform lifts or limitation to indoor use only. MEWPs can be designed for indoor use only with zero exposure to wind and must be clearly marked as such.

■ New stability test requirements: Results in foam-filled tires and reduced accessibility to pneumatic tires on the majority of rough- terrain scissors or booms.

■ Chain entrances on scissors and vertical platform lifts are no longer allowed and will be replaced with automatic closing gates. Toeboards will now be required at entrances on all MEWPs and will be 4" tall (.1 m).

■ Top Guardrail shall be at a height of 43.3" (1.1 m). Guardrail will be collapsible to allow access through doors.

■ In addition to the existing required alarm for tilt sensor, MEWPs will be prevented from movements except for corrective action when reaching allowed limits of chassis inclination of 5° maximum.

SAFE-USE CHANGES

■ Safe-use planning requires a plan specific to MEWPs to be developed by users to include tasks such as a risk assessment, the selection of the proper MEWP for application, and access, preparation and maintenance of the worksite prior to using the MEWP.

■ Another new requirement is performing a risk assessment to include identification of task to be undertaken, selection of appropriate MEWP, assessing risk, developing control measures, and identifying safe work procedures. It is important to recognize that this is required for all MEWP operations.

■ Included in a risk assessment is the user requirement to develop a rescue plan for workers who may require rescue from a platform in an elevated position. This includes prior planning to ensure a safe and timely rescue. This must address rescues caused by MEWP malfunction and falls from the work platform.

■ Requirements for modifications have been expanded to include more details concerning record keeping and communication (labels, instructions, serial plates). Modifications must only be performed if approved by the manufacturer or their successor, or if they are no longer in business, an engineer with expertise in MEWPs. Additionally, only the MEWP owner can authorize a modification to a MEWP.

■ Detailed guidance and requirements are provided for specific requirements of operation such as wind, storm and ground condition consideration, ventilation, and transporting and traveling on public roads, etc.

■ The requirement that exiting a MEWP at height is only permitted through a procedure provided by the manufacturer now includes “or qualified person”, whose procedures must address requirements defined in the standard. If the risk assessment determines that exiting at height is the safest method of work, then this procedure shall be followed when the exit at height is conducted.

■ Electrical hazard avoidance offers new language to require an operator to stay at least ten feet away from power lines with any part of their body, conductive object or any part of the MEWP (closer only if allowed by a qualified person).

■ Users have the ultimate responsibility to ensure operators are trained and familiarized prior to authorization to operate a MEWP. The new language states that if a user requests familiarization from a dealer (rental company) they are required to deliver the training to the person designated to receive the MEWP. This is a departure from prior language stating it must be provided by a dealer whenever a MEWP is provided. Additionally, a user is required to allow operators sufficient time after familiarization to achieve operational proficiency. Self-familiarization by an operator is now possible under the standard if authorized by the user/employer.

■ The user shall ensure prior to each operation that the MEWP operator provides instruction or otherwise ensure that all occupants have a basic level of knowledge to work safely using the MEWP.

RISK ASSESSMENT

The risk assessment is an evaluation used to forecast hazards in the workplace. These evaluations are used to identify existing or potential hazards and helps with determining how to eliminate or reduce hazards. The risk assessment should include the following:

- Tasks to be performed
- Worksite Inspection
- Associated Hazards
- Control Measures
- Safe Work Procedures
- Rescue Plan

IDENTIFY THE HAZARDS ASSOCIATED WITH THE TASK BEING PERFORMED

■ To begin a risk assessment each operator needs to identify the task he or she will be performing. A worksite inspection should be conducted as part of a Job Hazard analysis (JHA). A Job Hazard Analysis (JHA) is a document designed by the employer to help and encourage safer work practices. A JHA is completed by a supervisor/worker and used for identifying hazards related to the task and determine how to mitigate those hazards to work safely**.** When using the JHA the supervisor/worker will list all of the hazards associated with the task, such as, cutting, lifting and dust. Once the hazards have been identified the supervisor/worker needs to identify how to control them. Using gloves for cutting, proper ergonomics for lifting, and dust mask for dust are examples of hazard controls**.** The risks associated with the task specific to MEWP operations shall be identified. These might be associated with the location where the work is to be carried out, the nature of the MEWP or the personnel, materials and equipment to be carried. A fall from the platform when using a fall arrest system shall require a rescue plan to determine how the affected worker will return safely to the platform or ground. The plan must be written and become part of the company's safe use program. All occupants must receive training that explains procedures to follow if they fall and are awaiting rescue or witness another worker's fall. Ideally this plan will limit the time that an occupant is suspended after an arrested fall.

■ A rescue plan should include the following:

- Self-rescue – by person involved
- Assisted rescue – by other personnel in the work area
- Technical rescue – by emergency services

■ A written rescue plan may include technical rescue by outside sources but cannot be solely relied upon. As part of the plan, consideration must be given to the rescue of the occupants if the machine is unable to be lowered for any reason, such as complete machine malfunction or work platform entanglement. Certain situations require prior planning to ensure a safe and timely rescue. In the case of platform entanglement, the operator and occupants must be removed from the platform before attempts are made to free the platform. The possibility of stored energy caused by pressure on the boom during entanglement may cause uncontrolled machine movement and occupants to be ejected upon release. If a MEWPs center of gravity has passed its tipping point it must be stabilized and secured before attempting rescue. Technical rescue might also be necessary in the event of illness, injury or excessive exposure to hazardous material. Rescue procedures must take in to account the reasons why the platform may be stranded at height and the need for prompt action. Rescue should always be carried out by appropriately trained personnel, using the machine's auxiliary power unit or manual emergency descent control valve when feasible. All rescue procedures near electrical conductors must comply with the applicable standard and safety procedures.

TRAINING CHANGES

■ Training delivered prior that is compliant with previous standards will require supplemental training to address the new requirements.

■ Operator training is required for each MEWP classification.

■ The user shall ensure that training is presented in a manner that trainees can understand.

■ Personnel directly supervising MEWP operators shall receive supervisor training. This shall include proper MEWP selection, user and operator requirements, how to identify known hazards and the means to manage risk, and how to follow the requirements of the operator's manual.

■ If delivering training internally, users must comply with administration of training defined in the training standard to include training content, trainer qualification, training environment, testing, and documentation.

■ Examples, when retraining is required, are provided.

TRAINING

■ Training shall include classroom training, practical training, evaluation and retraining. The classroom training shall include the ANSI or CSA standards. The user shall ensure that the training is presented by a qualified person or entity. A qualified person is an individual who has a degree, certificate, professional standing or extensive knowledge, training and experience related to the subject matter. The entity shall present the training in a manner that participants can understand. This workshop provided by the UBC meets the classroom and practical training requirements of ANSI and CSA. Operators are required to be trained on the ANSI or CSA standard, and be familiarized on the specific model of MEWP. The results of both the classroom and practical training shall be documented and retained. The standards provide detailed guidelines of these requirements.

CLASSROOM TRAINING

■ Classroom training is considered the information portion and is a prerequisite to practical training. Classroom training is the lecture, discussion, content and evaluation of operator knowledge. Examples of topics covered during classroom training include:

- MEWP classifications
- Training requirements
- Regulations
- Inspections
- Component identification
- Control functionality
- Safety

PRACTICAL TRAINING

■ Practical training is considered the hands-on portion of participant training. The operator must operate the MEWP under the direction of a qualified person for a sufficient period of time to demonstrate proficiency. This must take place in a controlled environment conducive to learning.

■ The major topics covered during practical training include:

- planning the route of travel and worksite inspection
- perform equipment inspection
- setting the MEWP for work, if applicable
- navigation of the driving course, ensuring proper use of controls
- parking and securing the MEWP

■ After participants receive hands-on training, they are now ready to be evaluated. The evaluation must be performed under the direct supervision of a qualified person. The evaluation is a hands-on demonstration of MEWP operations by the participant. Upon successful completion the UBC participants will receive a record of training.

RETRAINING

■ The operator must be retrained when directed by the user/supervisor or when the operator feels mentally or physically incapable of operating a lift. Examples of when retraining would be necessary include:

- expiration of the operator's valid training period
- deterioration of the operator's performance due to complacency
- the operator's extended period of time with no operation of a MEWP;
- the operator's introduction to new or significantly different MEWP technology;
- the operator's involvement in an accident or near miss with the MEWP.

ROLES AND RESPONSIBILITIES

■ ANSI and CSA standards clearly define responsibilities in relationship to four affected parties: users, supervisors, operators, and occupants. It is possible for one UBC member to be any or all of these simultaneously. It is for this reason that this workshop will satisfy the requirements for all. All parties have responsibilities, as follows:

USER RESPONSIBILITIES

■ An employer who directs or authorizes an employee to operate a MEWP assumes the role of the user. The user is the entity that has care and custody of the MEWP. The user must retain records of training and familiarization. Familiarization is the ability to demonstrate an understanding of the necessary information regarding the features, functions, devices, limitations, and operating characteristics of a specific model MEWP. The user has the responsibility to only allow personnel who have received general instruction and training in the inspection, application, limitations, and operation may maneuver a MEWP. The user has the responsibility to develop and implement a safe use program. A safe use program are written instructions that are developed by the user to help identify hazards, evaluate risk, develop control measures, maintenance, and familiarize operators with the MEWP. The user shall designate a qualified person to monitor, supervise and evaluate operators on a regular basis to ensure proficiency, to be accomplished through visual observation at a minimum, which shall be documented for retention by the user. Personnel directly supervising MEWP operators require training as defined in ANSI A92.24.

FAMILIARIZATION

■ Prior to user's authorization of an operator to use a specific model of MEWP, user shall give the operator time to review the operator's manual on the following:

- Identification of the location for the operator's manual(s) storage.
- Requirement for confirmation that the required operator's manual(s) specified by the manufacturer are within the MEWP;
- Purpose and function of the controls specific to the model of the MEWP to be used;
- Accessories in use;
- Operating characteristics and limitations specific to the model of the MEWP.
- Operator must operate the MEWP for sufficient period of time to demonstrate proficiency.

RECORD RETENTION

■ Upon completion of the training program, the user shall provide proof of training by the training entity referencing compliance with the applicable standard.

■ The user has the responsibility to retain records for at least four years. An example of a training record.

- The user shall retain the following records:
  - Name of person(s) receiving training and the MEWP make and model
  - Name of person(s) delivering training
  - Name of the entity providing training or retraining;
  - Clear identification of the classification of MEWPs covered in training;
  - Date of training;

SUPERVISOR RESPONSIBILITIES

- Supervisors are the persons assigned and trained by the user to oversee operator performance and know the following.

  - Operating manuals are an integral part of the MEWP and need to be stored properly in the weather-proof compartment on the MEWP when not in use
  - Proper selection of the correct MEWP for the work being performed
  - Potential hazards associated with use of the MEWP and the means to protect against them
  - Rules, regulations and standards that apply to MEWPs, including provisions for safe use as defined by ANSI, training and familiarization, and the work being performed.

OPERATOR RESPONSIBILITIES

- Operators are the persons qualified to control the movement of a MEWP.

- Operators have the responsibility to:

  - Read and understand the manufacturer's operating instructions and the user's safe use program.
  - Know applicable standards, regulations, safe practices and familiarization
  - Understand the inspection process.
  - Know the location of the weather-proof compartment for storage of the operator's manual.
  - Recognize adverse conditions, which can limit the use of a MEWP
  - Understand the intended purpose and function of the MEWPs controls, safety devices, and operating characteristics
  - Ensure that all occupants of the MEWP wear appropriate equipment for the conditions
  - Ensure that personnel vacating or entering a raised MEWP follow any written guidelines and instructions provided by the manufacturer
  - Select appropriate MEWPs from the various classifications
  - Validate that the annual inspection is current.
  - Understand that authorization by the user(employer) is required to operate the MEWP
  - Know the responsibilities of the operator to inform the occupants of applicable regulations, standards, and safety rules
  - Factors affecting stability

RECORD RETENTION

- Upon completion of the training program, the operator will receive proof of training by the training entity or user referencing compliance with the applicable standard.

- The operator should retain the following records:

    - Name of person(s) receiving training and the MEWP make and model
    - Name of person(s) delivering training
    - Name of the entity providing training or retraining;
    - Clear identification of the classification of MEWPs covered in training;
    - Date of training;

OCCUPANT RESPONSIBILITIES

- Occupants include anyone on the work platform during operation.

- Occupant responsibilities must include:

    - Must meet the requirement to use equipment.
    - Understand stability factors of the MEWP pertaining to the occupant's actions
    - Understand safe use of MEWP accessories.
    - Site specific procedures the occupants must follow related to the operation of the MEWP
    - Hazards related to the task at hand and avoidance of such hazards including any site risk assessments
    - Manufacturer's warnings and instructions.
    - General knowledge of the intended purpose and function of the MEWP controls and safety related items
    - Occupants may only operate the MEWP when the operator cannot, during an emergency.

MEWP Practical Examination

Procedure

Below is a procedure intended for practical training evaluation. As the participant you will be required to complete this evaluation in compliance with ANSI A92.24 training requirements.

Equipment Manipulation

1. Inspect the operations site.
2. Inspect the MEWP.
3. Properly start the MEWP and switch the security key to the platform controls.
4. Access the work platform while maintaining 3-points of contact. (with fall protection if applicable)
5. Locate the enabler switch.
6. Perform Functionality check on all controls to full extension.
7. With the MEWP facing forward in position #1, drive around between cones on course, through the door frame/opening to position #2.
8. Travel in reverse backwards through the course, drive around between cones on course, through the door frame/opening to position #1.
9. Parallel park MEWP at position #1.
10. Raise the MEWP platform, while at height extend and retract the platform extension.
11. Lower the MEWP platform.
12. Exit and secure MEWP correctly.

REFERENCES

IPAF. (n.d.). Guide to new design, safe-use and training standards for MEWPs. Retrieved from https://www.ipaf.org/en-us/resource-library/user-guidance-ansi-a92-standards

JLG. (n.d.). Your essential guide to understanding ANSI & CSA standard changes. Retrieved from https://www.jlg.com/en/destination/ansi/training

Job Hazard Analysis

Pre-Task Hazard Analysis

Task: _____ _____ Description of Work:	Date: _____ Project: _____ Supervisor: _____ Site Safety Contact: _____

Task Breakdown	Identify & Analyze the Hazards	Identify Hazard Controls

Job Hazard Analysis (JHA)

Job or Task:	Location:	Date:
Analysis Done by:		Title:

Job of Task Step	Hazard	Protection or Prevention