# 5111 MOBILE ELEVATING WORK PLATFORMS:
## *Safe Use and Requirements*
## FACT SHEET

**LENGTH: 23 MINUTES**

**PROGRAM SYNOPSIS:**
Mobile elevating work platforms, or MEWP's, are critical components of most maintenance and construction operations. When a worker must perform a task above ground, a platform, such as a scissor lift or boom lift is often utilized to complete the job in a safe and efficient manner. Also known as aerial work platforms, these powerful vehicles are available in many different sizes and configurations; however, all of them have one thing in common: They can be very dangerous. To better protect operators, other platform occupants and workers on the ground, the American National Standards Institute, ANSI, in conjunction with the Scaffold and Access Industrial Association, SAIA, has adopted revisions of its A92 suite of mobile elevating work platform regulations that focus on the design of these vehicles, their safe use and the training of all personnel who participate in aerial lift operations, including operators, occupants, maintenance workers and supervisors. This program reviews the important changes in the new standards and discusses the basic safe work practices platform operators must follow to prevent accidents and injuries.

Topics include platform classification, ANSI training requirements, site risk assessment, rescue planning, pre-operational inspection, work zone inspection, driving safety, raising and working on the platform and lowering and dismounting a lift.

**PROGRAM OBJECTIVES:**
After watching the program, the participant should be able to explain the following:
- How mobile elevating work platforms are now classified according to ANSI;
- What the training requirements are for all personnel involved in platform operations;
- How to conduct a site risk assessment;
- What factors to consider when selecting a platform;
- How to perform pre-operational and work zone inspections;
- Which hazards to consider when driving a platform;
- How to safely raise and work on a platform;
- How to lower and dismount a lift safely.

***INSTRUCTIONAL CONTENT:***

**NEW MOBILE ELEVATING WORK PLATFORM STANDARDS**

- Mobile elevating work platforms, or MEWP's, are critical components of most maintenance and construction operations. When a worker must perform a task above ground, a platform, such as a scissor lift or boom lift is often utilized to complete the job in a safe and efficient manner.
- Also known as aerial work platforms, these powerful vehicles are available in many different sizes and configurations; however, all of them have one thing in common: They can be very dangerous, even deadly, if the platform operator, its occupants or nearby workers fail to control the unique hazards presented by these lifts or don't follow the safe work practices required to prevent accidents and injuries.
- To better protect operators, other platform occupants and workers on the ground, the American National Standards Institute, ANSI, in conjunction with the Scaffold and Access Industrial Association, SAIA, has adopted revisions of its A92 suite of mobile elevating work platform regulations that focus on the design of these vehicles, their safe use and the training of all personnel who participate in aerial lift operations, including operators, occupants, maintenance workers and supervisors.
- The Canadian Standards Association group has similarly updated its mobile elevating work platform requirements in its standard CSA B354.

**MOBILE ELEVATING WORK PLATFORM CLASSIFICATION**

- The first thing you need to know about the new regulations is that mobile elevating work platforms are now classified by how they function and operate rather than the equipment type. This is important because your training will be specific to the mobile elevating work platform's classification.
- All mobile elevating work platforms now fall into one of two groups. Those in Group A have platforms that move vertically, but stay within the tipping lines. A scissor lift is an example of a Group A mobile elevating work platform.
- All other mobile elevating work platforms, such as boom lifts, are considered Group B. These lifts feature platforms that extend beyond the unit's chassis.
- Mobile elevating work platforms are further classified into one of three types. Type 1 vehicles can only be driven in the stowed, or lowered, position.
- Type 2 platforms can be driven while elevated, but may only be only controlled from the chassis while doing so.
- Type 3 lifts can also be driven elevated, but they may be controlled from the platform while doing so.

**TRAINING**

- Standard A92.24 of the ANSI mobile elevating work platform suite outlines the various training requirements for all personnel involved in platform operations.
- All service technicians must be properly trained and qualified to maintain and repair any mobile elevating work platform needing service or to perform frequent and periodic inspections.
- All supervisors who directly oversee mobile elevating work platform operators must be trained in the regulations and standards, how to select the proper MEWP for a task, the location and use of mobile elevating work platform operating manuals and how to recognize and reduce operational hazards.
- To become a qualified operator authorized by your organization, you will undergo training in three segments: theory, practice and evaluation.
- The theory portion of your training will focus on the ANSI Safe Use standard, A92.22 and how it applies to each vehicle you are learning to operate. Such training can be provided in a classroom setting or through online courses.
- You will be instructed on recognizing and controlling common hazards, how to perform a pre-operational inspection and the proper operation of all lift controls and emergency stops.
- You will also learn the location of all the manuals on the machine and the information they contain. This includes the manufacturer's operating manual and any other printed material provided by the manufacturer.
- The practice segment of your training will involve applying the safe use techniques you have learned during hands-on experience and vehicle operation.
- The evaluation segment of your training will properly document that you are able to demonstrate the knowledge and skills necessary to safely operate the specific type of mobile elevating work platform you will be using.
- You will be retrained by a qualified person whenever you are observed operating a mobile elevating work platform unsafely, preparing to operate a vehicle with different controls or features or if you haven't used a platform for an extended period of time or your operator's license has expired.
- No matter how much experience you have, familiarization training must take place whenever you plan to operate a different mobile elevating work platform than you usually use. This brief training will include location and presence of all manuals, a hands-on review of the controls, use of specific options and any other topics specified by the manufacturer.
- The updated mobile elevating work platform regulations also require "platform occupant" training. This is important to understand because you, as the platform operator, will likely be the person who provides this training to those co-workers who accompany you on the platform to perform work.
- In addition, ANSI 92 now requires that operators be trained in selecting the proper mobile elevating work platform for the work being performed and how to perform a site risk assessment.
- This training must include the proper use of fall protection where required, emergency procedures, working within the safe use program to avoid hazards and how to move and work on the platform without affecting its stability.

**SITE RISK ASSESSMENT**

- The new ANSI regulations require your organization to develop a mobile elevating work platform safe use program. You should learn what your facility calls this program and how it works to ensure everyone's safety during mobile elevating work platform operations.

- The safe use program begins with the performance of a site risk assessment to identify hazards, evaluate risk, develop control measures and communicate with all personnel involved.

***Step 1: Defining the Work***

- The first step in a site risk assessment is to define the work by spelling out which specific tasks must be done to complete the job, when the work must be finished and if there are any times during the day when mobile elevating work platform operations are infeasible.
- This will also include the preparation and maintenance of the work site, including an evaluation of the support surface to make sure it can adequately support the weight of the mobile elevating work platform.

***Step 2: Platform Selection***

- Step number two is selecting the appropriate lift for the task at hand.
- As a mobile elevating work platform operator, you must consider a variety of factors in determining which platform is best suited for the task at hand.
- First, you need to make sure if the platform or basket of the machine is large enough to hold all personnel who will occupy it.
- You also must estimate the load weight of the lift, which includes the weight of all workers, tools and supplies and ensure that it will not exceed the lifting capacity of the vehicle.
- The mobile elevating work platform's "working envelope," or range of vertical and horizontal motion must be taken into consideration when deciding if a platform can safely reach the work zone.
- If you are going to be working in "hazardous locations", which are defined as those areas that have atmospheres that are flammable or explosive or have the potential to become flammable or explosive, you must choose a vehicle that meets NFPA 505 Fire Safety Standard requirements.
- The work location and ground conditions are also key factors when selecting the appropriate machine. Some job sites have fixed obstacles that may require a specific platform to avoid. Also, mobile elevating work platforms that are noisy or emit harmful vapors may be restricted from use in indoor environments.
- The duration of the operation must also be considered. If you're undertaking a long-term project, you need to account for the capability to perform required maintenance and to charge batteries or refuel the unit.

***Step 3: Evaluating Potential Hazards***

- The third step in the site risk assessment is to evaluate all the potential risks of the planned operation, including the weight capacity limit of the platform, overhead obstacles such as power lines, accessing hard-to-reach areas, keeping workers on the ground safe and preventing unauthorized use of the equipment.
- You must inspect the work zone and the route you will travel to reach it for obstacles and hazards. This should be performed before putting the platform into motion.
- If your path to the work site is outdoors, look for drop-offs or holes. Check for bumps and other floor obstructions if traveling indoors.
- Be sure that you can navigate on or around any sloped surfaces. Look for unstable or slippery surfaces as well so you can avoid them.
- Make sure that wind and other weather conditions won't affect the platform's stability during travel or during the task at the work zone.
- It's critical to account for all overhead hazards to make sure you can clear them. Be especially wary of any power lines in the area and make sure you can maintain a proper clearance of at least 10 feet.
- If the path of an overhead crane lies in the travel path or work zone, it must be locked and tagged out of service to prevent collisions with the platform.
- At the site of the work zone, inspect the surface to ensure it can withstand all of the load forces presented by the mobile elevating work platform.
- Also, make sure to inform unauthorized personnel in the area of your intentions and have them clear the area.

***Step 4: Identifying Hazard Controls***

- Step number four is to identify the controls to be used to mitigate the hazards. This includes the correct use of PPE and fall arrest systems, ensuring all personnel have been properly trained, scheduling the work to occur during the least hazardous times and ensuring a rescue plan is in place.
- Your organization must develop a written rescue plan that will be implemented in the event of an equipment malfunction, a platform entanglement or a fall from the platform.
- This plan must be incorporated into your facility's mobile elevating work platform training manual and all workers on site are allowed access to the rescue plan.

- Everyone working in or around a mobile elevating work platform must receive training on how to respond if they witness someone fall from a platform or they fall themselves.
- The plan must set a time limit for how long a properly restrained worker can hang suspended in the air. A hanging person awaiting rescue can suffer serious bodily injury after 15 to 20 minutes.
- Rescue plans may include self-rescue by the fallen person, assisted rescue by others in the work area or technical rescue by emergency services.
- The rescue plan should also detail the proper procedures to follow when freeing an entangled or "snagged" platform.

***Step 5: Communication***

- The final step in the process is communication. Communication means making sure the operator is trained and authorized, that any occupants are aware of their responsibilities, monitoring of the operation by the supervisor and ensuring maintenance has been performed by a technician in accordance to the manufacturer's requirements.
- Before a job begins and periodically during a longer lasting job, the risk assessment must be reviewed to determine if any of the conditions have changed so that modifications may be implemented to maintain the safety of the operation.

**PRE-OPERATIONAL INSPECTION**

- After you have selected the right mobile elevating work platform for the job, you must verify that the equipment is in safe operating condition by performing a pre-operational inspection.
- If your organization uses a checklist for conducting such an inspection, make sure to check all of the items listed on the form.
- First, make sure that the operator's manual and any other required printed materials are located in the storage container on the platform. These must stay onboard at all times so they can be consulted when needed.
- Then, walk around the unit and check for fluid leaks, loose or broken parts, structural damage or any other signs of unsafe conditions. Also, be on the lookout for excessive rust, corrosion or oxidation.
- Make sure all safety decals and placards are legible and haven't been damaged or removed from the platform.
- Leaks are a common problem on mobile elevating work platforms. Make sure to inspect all cables, lines and hoses to make sure they are in good condition and not leaking.
- Check the tread of the tires and look for cuts or embedded objects. If the tires are inflatable, make sure they have the manufacturer's recommended air pressure.
- Make sure oil, fuel, hydraulic fluid, coolant and any other fluids are at the appropriate level.
- The guardrails and gates on the machine should be checked to make sure there are no cracked welds or missing parts.
- If the mobile elevating work platform has a swinging gate, confirm that it can only swing inward. Gates that swing outward are unsafe and must be repaired.
- If the lift is a Group B vehicle equipped with outriggers or stabilizers, make sure they work properly and aren't damaged.
- If you discover any damage or defects during your inspection, do not operate the platform. Follow your organization's policies for removing it from service and having it repaired.

**FUNCTION TESTS**

- After completing the pre-operational inspection, you must then perform functions tests to ensure there are no malfunctions in the controls before putting the machine into service.
- Choose a test area that is firm, level and free of obstructions.
- Always begin function testing at the ground controls. Test each device and control through the full range of motion.
- Also, verify the emergency stop is functioning properly.
- If all ground controls function properly, proceed to the platform controls. Test the forward, reverse, steering and lifting controls. Then ensure the brakes are working.
- If the lift features a two-hand control system, check to see that the controls cannot be activated unless the controlling button or foot pedal is depressed.
- Be sure to check the platform emergency stop button as well.
- Keep in mind that if you are testing a self-propelled or trailer-mounted boom, you must wear the proper personal fall arrest equipment during the test.

**DRIVING SAFETY**

- If you determine your mobile elevating work platform safe for operation, you may mount the lift and drive it to your destination.
- Make sure to notify nearby co-workers of your intentions, then mount the lift using three points of contact. Close the access gate and secure any guardrails or chains.
- If fall protection is required, attach your lanyard to an approved anchor point. Tying off to a guardrail is unsafe and prohibited.
- When driving the vehicle, keep the platform fully lowered if possible and maintain a safe speed that allows you to avoid obstacles and pedestrians.
- If the mobile elevating work platform has a speed restrictor switch, put it in "slow mode" when operating in hazardous areas or while elevated.
- Frequently check clearances around, above and below the platform while driving. Have a co-worker below serve as a spotter if your view is obstructed so you can safely maneuver around obstacles in your path.
- Make sure to slow the unit down if you need to turn or stop. Avoid sudden stops and sharp turns, even at slower speeds.
- Before traveling up or down an incline, make sure it isn't too steep to navigate safely. Keep in mind that the platform must be in the stowed position when driving on these surfaces.
- When you reach the work destination, make sure to park the vehicle on a firm, flat surface.

**PREPARING TO RAISE THE PLATFORM**

- There are several practices and precautions that must be taken before raising the platform. Don't forget to deploy the outriggers or other stabilizers if the unit is equipped with them. Make sure the feet are placed on a firm surface and are adjusted to keep the lift level.
- Be aware that the tilt alarm will activate if the mobile elevating work platform is more than five degrees out of level. Never attempt to raise a platform on an incline.
- You also need to account for windy conditions if working outdoors. Don't raise the platform if wind speeds exceed levels indicated in the operator's manual.
- Confirm that the total weight of all supplies, tools and personnel does not exceed the unit's weight capacity. This weight limit is listed in the operator's manual and on the platform's data plate.
- You must also verify that no obstructions or personnel are within the lift's range of motion before raising the platform.

**RAISING THE PLATFORM**

- While elevating the platform, or any other time it is in motion, keep all body parts inside the railings to avoid crush or pinch injuries. Make sure any occupants also keep their body parts inside the platform.
- Also, scan the area above the platform as it moves upward to make sure you are a safe distance away to avoid contact.
- Exercise extra caution when raising the platform near power lines or other energized electrical equipment. You must maintain a clearance of 10 feet or more from energized parts up to 50,000. The operator's manual will specify clearance distances for higher voltages.

**WORKING SAFELY ON THE PLATFORM**

- There are also practices and precautions to follow while working on the platform. This ensures your safety, the safety of any occupants and the safety of any coworkers below.
- Supplies, tools and any power cords should be arranged on the platform in a manner in which they won't cause a slip or trip hazard. Good housekeeping is critical when working above ground.
- Always keep both feet on the platform floor while performing your task. You must reposition the platform accordingly if you can't reach the work.
- Standing on the guardrails or using makeshift ladders or other objects to access the work is strictly prohibited.
- Keep in mind that your lanyard is not designed to break a fall from a mobile elevating work platform. Its function is to keep you inside the platform. For this reason, you should never tie off to anything inside or outside the platform besides an approved tie-off point.

- Tip-overs are a primary concern as one in four fatalities involving aerial lifts results when a vehicle overturns. To prevent a mobile elevating work platform from tipping over, avoid side loading the platform excessively.
- Every platform has a side load capacity that the operator and occupant must be aware of. Side loading is the lateral or sideways force exerted by people or loads in the platform when they are pushing or pulling something. If the force is too much, the mobile elevating work platform will likely tip over.
- Also, never use the platform as a crane or to hoist loads. This common, yet prohibited, practice can easily decrease the stability of the platform and cause it to overturn.
- Many tip-overs occur when ropes, hoses and cables become snagged while the lift is in motion. Stay alert and make sure such items don't get entangled.

**LOWERING AND DISMOUNTING**

- When your work is complete, scan the area around the vehicle to ensure it is clear of obstructions, equipment and personnel before lowering the platform. Be aware that the lifting mechanisms create a dangerous pinch point hazard to people below when they are in motion.
- As the platform descends, make sure you and any occupants keep your body parts inside the guardrails.
- Also, ensure that hoses and cables remain clear of entanglement hazards as the lift lowers.
- When the platform has reached the stowed position, return it to its appropriate storage location.
- To dismount the lift, face the vehicle and use three-points of contact as you climb down to the ground or floor.
- Always follow your organization's policy for securing the platform from unauthorized use before leaving the area. This may include removing the key and/or disconnecting and locking out the battery.

**MOBILE ELEVATING WORK PLATFORMS:**
***Safe Use and Requirements***

# ANSWERS TO THE REVIEW QUIZ

1. a
2. b
3. a
4. c
5. c
6. b
7. b
8. a
9. a
10. b

## MOBILE ELEVATING WORK PLATFORMS: *Safe Use and Requirements*
## *REVIEW QUIZ*

***The following questions are provided to determine how well you understand the information presented in this program.***

**Name**_____**Date**_____

1. A scissor lift is an example of a _____ mobile elevating work platform.

a. Group A
b. Group B

2. _____ platforms can be driven while elevated, but may only be only controlled from the chassis while doing so.

a. Type 1
b. Type 2
c. Type 3

3. No matter how much experience you have, familiarization training must take place whenever you plan to operate a different mobile elevating work platform than you usually use.

a. True
b. False

4. _____ is most likely to provide occupant training for workers who accompany operators on a platform.

a. A supervisor
b. A service technician
c. The operator

5. The first step in a site risk assessment is to _____.

a. Select the appropriate platform for the job
b. Evaluate the job's potential risks
c. Define the work by spelling out specific tasks to be done

6. When selecting a platform for a job, you first need to _____.

a. Estimate the load weight of the lift
b. Make sure the platform or basket can hold all personnel who will occupy it
c. Decide if the platform can safely reach the work
d. Determine how long the operation will take

7. If a platform has a swinging gate, you should confirm that it can only swing outward during your pre-operational inspection.

a. True
b. False

8. When testing the functions of a self-propelled or trailer-mounted boom, you must wear the proper personal fall arrest equipment during the test.

a. True
b. False

9. When raising the platform near power lines or energized parts up to 50,000 volts, you must maintain a proper clearance of at least _____.

a. 10 feet
b. 15 feet
c. 25 feet

10. You should only use a platform as a crane when you are sure that the vehicle's weight capacity won't be overloaded.

a. True
b. False