

Mobile Elevating Work Platform Safe Use Plan

Purpose

MEWP is an acronym for Mobile Elevating Work Platform. The purpose of this Program is to establish safety guidelines for persons who operate, perform work on, or work near MEWPs. Chapman University is committed to providing a safe work environment, and affected personnel shall be trained on the hazards of such work and the requirements of this Program.

Scope and Application

The operation of any Mobile Elevating Work Platform (MEWP) is subject to certain hazards that can be protected against only by the exercise of intelligence, care, and common sense; and not by any device. It is essential to have persons who are medically and physically fit for the task and be trained and qualified in the intended use, safe operation, maintenance, and service of this type of equipment.

It is critical to ensure that good job management, safety control, and the application of sound principles of safety, training, inspection, maintenance, repair, and operation are strictly adhered to.

All available information regarding the parameters of intended use and the expected work environment must be taken into consideration. Decisions on the use and operation of MEWPs must always be made with due consideration for the fact that the MEWP will be carrying persons whose safety is dependent on those decisions, as well as others in the operating vicinity.

This document sets the standards for safety and training and includes the following components:

1. Program Responsibilities
2. MEWP Workplace Inspection Requirements
3. MEWP Selection Requirements
4. MEWP Risk Assessment Planning
5. MEWP Rescue Planning
6. MEWP Training Requirements
7. MEWP Inspection, Maintenance, and Repair
8. Prevention of Unauthorized Use
9. Safety of Workers and General Public
10. Program Audit
11. Recordkeeping
12. References

1. Program Responsibilities

Management:

Management has the following responsibilities:

- To develop a MEWP Safe Use Plan and revise it when necessary.
- To provide MEWPs and other related equipment that are ANSI and OSHA compliant.
- To ensure persons affected by this Program receive the required safety training.
- To assign a trained and qualified supervisor to work areas with MEWPs in use.
- To provide the required Personal Protective Equipment (PPE) to personnel.
- To provide technical support to personnel for MEWP equipment concerns.
- To perform periodic audits to ensure compliance and effectiveness of this Program.
- To ensure only trained and authorized persons perform work on MEWPs.

Program Administrator:

The MEWP Program Administrator has the following responsibilities:

- To administer and supervise the MEWP Safe Use Plan in accordance with ANSI standards and OSHA regulations.
- To coordinate and/or provide safety training to personnel affected by this Program.
- To perform periodic audits to ensure compliance and effectiveness of this Program.

Inspection and Maintenance Supervisor:

The MEWP Inspection and Maintenance Supervisor has the following responsibilities:

- To manage the MEWP Maintenance and Repair Program.
- To coordinate and track inspections, preventative, and corrective maintenance, including recalls, in accordance with ANSI standards and manufacturer specifications.
- To collect and store all MEWP safety reports and inspection forms.
- To provide technical assistance to affected personnel.
- To ensure that documentation of the last annual inspection is present, and operator manuals are stored in good condition in a weatherproof compartment on the vehicle.

Supervisors:

Supervisors have the following responsibilities:

- To ensure that no person operates or performs work on MEWPs without receiving the required safety training.
- To ensure that affected personnel have available and use all required PPE.
- To monitor workers to ensure they are using safe work practices.

Workers:

Workers have the following responsibilities:

- To complete all required safety training before starting work with MEWPs.
- To wear all required personal protective equipment.
- To work in accordance with the rules of this Program.
- To immediately report any safety issues to a supervisor.

2. MEWP Workplace Inspection Requirements

Attachment 1: MEWP Workplace Inspection Checklist

Prior to moving the machine into the workplace, before any operation begins, and occasionally during use of the MEWP, it is critical that workplace inspections are performed in the area in which the MEWP is used.

The site must be walked and evaluated for all possible hazards including, but not limited to, the following:

- Drop-offs or holes, including those that may be concealed;
- Slopes;
- Debris;
- Bumps, floor obstructions, and cables;
- Overhead obstructions;
- Electrical conductors;
- Confined spaces;
- Hazardous atmospheres and/or hazardous locations;
- Traffic hazards;
- Surfaces inadequate to sustain the ground-bearing pressures imposed by the MEWP in all operating configurations; and
- The presence of personnel (authorized and unauthorized) and other equipment.

An important consideration of MEWP operation is the safety of workers and the general public who can be exposed to potential hazards in the work area. Always maintain a controlled area below and around the MEWP to prevent persons and objects from being struck by the MEWP itself or objects that may fall from the elevated platform.

When a MEWP is being loaded or unloaded from a transport vehicle on a public road, management and operators must ensure that appropriate measures are taken to protect everyone in or near the area. These measures may include, but are not limited to:

- Warning cones or caution tape, and
- Signs and signal personnel wearing reflective clothing to warn people and other vehicles of the presence of the MEWP and the transport vehicle.

3. MEWP Selection Requirements

MEWPs used in the workplace must meet the design and construction requirements of the American National Standards Institute (ANSI) A92-2018. The MEWP Program Administrator and supervisors will verify that vehicles used in the workplace meet these requirements and are in a safe working condition.

MEWP Selection:

The proper selection of an appropriate MEWP for the task is critical to the safety of the operator, occupants, and others in the work area. Using the wrong machine for the job could result in injury or death, damage to the machine itself, or damage to the work location.

MEWP classifications consist of a combination of two key distinguishing characteristics:

- A MEWP group is determined by where the platform location is in reference to the tipping line.
- A MEWP type is in reference to traveling.

There are two MEWP Groups:

- **Group A**
A Group A machine has a design that does not allow the main platform to extend beyond the tipping line. In other words, the platform does not go outside of the drive chassis envelope. An example of a Group A machine is a scissor lift.
- **Group B**
A Group B machine has a design that allows the platform to extend beyond the tipping line. An example of a Group B machine is an articulating or telescopic boom.

There are three MEWP Types:

- **Type 1**
Travelling is allowed only with the MEWP in its stowed position. An example of a Type 1, Group A (1A) MEWP is a manually-propelled vertical lift, while a trailer-mounted boom lift is an example of a Type 1, Group B (1B) MEWP.
- **Type 2**
Travelling with the work platform in the elevated or extended position is controlled from a point on the chassis. An example of a Type 2, Group B (2B) MEWP is an under-bridge inspection machine.
- **Type 3**
Travelling with the work platform in the elevated travel position is controlled from a point on the work platform. An example of a Type 3, Group A (3A) MEWP is an electric or rough terrain scissor lift, while articulating and telescopic booms are examples of Type 3, Group B (3B) MEWPs.

MEWP Selection Factors:

To identify the correct machine, the following factors must be considered and evaluated:

- **Required Elevation**
How high do the operator and occupants need to reach? How close does the MEWP need to be to the work being performed?

- **Horizontal Outreach**
What is the required horizontal outreach? What is the height of the object that needs to be reached over to access the work? Are there any obstacles on the ground that may limit the position of the vehicle?
- **Required Capacity**
How many people need to be lifted? What is required to be on the platform in addition to personnel? What is the maximum expected load of people, tools, and equipment?
- **Support and Driving Conditions**
What are the ground conditions of the work area? What terrain will the machine be travelling and elevating on? Will the ground hold the weight of the vehicle? Are there any subterranean structures beneath the support surface? What is the slope and condition of the support surface?
- **Hazardous Atmospheres**
Has a qualified person determined if any atmospheric hazards exist? Are the vehicles rated for this hazard? Have workers been trained on the hazards and provided proper protective equipment?
- **Indoor Work Areas**
Is buildup of vehicle emissions a concern? Is there enough lighting? Are there any obstacles that need to be maneuvered around? Will the floor support the load? What other work is going on in the area?
- **Access to the Work Area**
How will the vehicle be delivered? What is the access point? Are there any obstacles, such as stairs or ramps, that need to be maneuvered around? Are there pedestrian or vehicle traffic hazards? Will the vehicle be moved while in an elevated position?

4. MEWP Risk Assessment Planning

Attachment 2: MEWP Site Risk Assessment Form

Risk assessments are a critical element of worksite and worker safety. The risks associated with the task specific to MEWP operations must be identified before the work begins. 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.

This involves visiting the location where the work is to be performed, preferably with site personnel or their representatives who can identify the hazards associated with the area and the ground on which the MEWP will be required to operate.

Once the hazards and risks involved in the task have been identified, the procedures and measures required to eliminate or mitigate them must be identified and implemented.

Before a job starts, and periodically throughout a long-term job, the risk assessment must be reviewed to determine if any components of the tasks or the work environment have changed and the effect that it could have on the safety of the operation.

5. MEWP Rescue Planning

Attachment 3: Rescue Plan Template and Guidance Form

Rescue planning is a necessary component of a risk assessment when working at height. There are situations that require prior planning to ensure a safe and timely rescue.

MEWPs are designed and manufactured to include fall protection in the form of platform guardrails, and the ANSI A92.22-2018 standards also require Personal Fall Protection Equipment (PFPE) on all Group B MEWPs (boom lifts). However, there are situations where an individual may fall or be ejected from the platform, the platform may become entangled, or the machine may experience a breakdown. In the event of platform entanglement or machine breakdown that would prevent the operator from lowering the platform safely to the ground, it is critical to have a plan in place to ensure a timely rescue response.

All rescue procedures near electrical conductors must comply with ANSI A92.22-6.8.12 standards.

Options for Self-Rescue:

Platform Auxiliary Controls

In case the primary platform controls stop responding, the operator should first attempt to activate any platform auxiliary controls to lower the machine to the ground.

Suspension Trauma Safety Straps

These lightweight systems mount onto the side straps of the occupant's harness. In case of fall or ejection from the platform, the operator opens the case to release the straps, connects them at the proper length, and steps into the loop created by the straps. This allows the operator to stand up in their harness and relieve the pressure being applied to the arteries and veins around the top of the legs until they can be rescued.

Options for Assisted Rescue:

Primary Ground Controls

In case the operator cannot lower the platform to the ground by means of the primary or auxiliary platform controls, or if the operator has been incapacitated, a person on the ground who has been familiarized on proper use of the controls may use the primary ground controls to lower the machine.

Auxiliary Ground Controls

In case the primary ground controls are not responding, the person on the ground should attempt to activate the auxiliary ground controls. If all ground controls are not responding, the ground personnel should immediately contact onsite qualified personnel to assess the situation and provide further guidance.

Use of a Secondary MEWP

- Consideration must always be given to the rescue of MEWP occupants if the machine is unable to be lowered for any reason, such as complete machine malfunction or work platform entanglement.
- In case of platform entanglement, it is critical for the operator and occupants to be removed from the platform prior to attempts being made to free the platform.

- MEWPs that have tipped beyond their center of gravity must be stabilized and secured before attempting any rescue.
- Rescue using another MEWP should be carried out only after a thorough site review by a qualified person has been performed and a plan has been created. The plan should take into account the following:
 - The rescue machine should be positioned to allow the rescue to be performed without compromising the safety of personnel involved in the rescue;
 - The platforms of both machines shall be adjacent to each other with a minimal gap between them. The power on both machines should be shut off during the transfer;
 - Safeguards should be taken to prevent unintended movement of either platform during the transfer.
 - All personnel in the platform, including the person being rescued, must be wearing the proper fall protection equipment and the lanyard(s) must be attached to the anchor points on the rescue machine before the transfer takes place;
 - The rescue machine must not be overloaded at any time during the rescue. This could mean making more than one trip to complete the rescue; and
 - Always comply with the manufacturer's requirements stated in the operator's manual.

If there is injury, illness, or risk of exposure, emergency response personnel must be contacted immediately.

Options for Technical Rescue:

Technical rescue might also be necessary in the event of illness, injury or risk of exposure.

- Any rescue procedure must take into account the reasons why the platform may be stranded at height and any need for prompt action.
- Although firefighters and other rescue professionals are trained in technical rescue, their response time and the equipment they use may not be the best option to meet the ANSI and OSHA requirements for prompt rescue after a fall arrest, and should be considered to be a last resort.

6. MEWP Training Requirements

All operators, occupants, and maintenance and repair personnel must be trained on the safety requirements of vehicle operation and demonstrate proficiency at operating and performing work on the machine. This training consists of both theory and a practical demonstration of competency.

MEWP Authorized Trainers:

The MEWP Program Administrator will designate trainers to train and certify workers. Trainers must have the knowledge and experience to train workers to operate safely.

MEWP Operator Training:

Theory Training Requirements

Operators must be trained on:

- The selection of an appropriate MEWP from the different classifications.
- Validation that the annual inspection is current and present on the MEWP.
- Understanding workplace inspections and completing them prior to beginning work.
- Performing pre-use inspection and completing them before beginning work.
- Understanding applicable regulations, standards, and safety rules.
- Demonstrating familiarity with the requirements for operators.
- Recognizing and avoiding hazards associated with operation.
- Knowledge and understanding of factors affecting stability.
- Understanding the intended purpose and function of the MEWP controls, including platform, ground, and emergency descent controls.
- General knowledge of MEWP features and devices including physical characteristics and other machine options.
- Responding to problems or malfunctions affecting the operation of the MEWP.
- The use of PPE appropriate to the task, worksite, and as required by the manufacturer.
- Understanding of hazardous locations including flammable or explosive atmospheres.
- Awareness and understanding of wind hazards and other weather conditions.
- The dangers associated with high pressure systems.
- Issues associated with transport.
- Safe traveling practices.
- Securing the MEWP from unauthorized use.
- The requirement for familiarization in addition to training.
- Understanding that authorization by management is required to operate MEWP.
- The responsibility of operator to inform platform occupants of applicable regulations, safety rules, and ANSI A92.24-7.4 standards.
- Understanding that operation manuals are an integral part of the MEWP and should be properly stored in the weather-resistant compartment on the vehicle.
- Warnings and instructions affixed to the vehicle.
- Other items required by the MEWP manufacturer.

Practical Training Requirements:

Once the operator has completed their safety theory training, they may be taught by a qualified person to operate and perform work on the MEWP. Once a qualified person has certified an operator's operational proficiency, the operator may operate MEWPs of the same classification indicated on their training certificate. Practical training must include:

- Walk around and familiarization of the MEWP.
- Identification and function of major components.
- Perform daily pre-use checks and inspections.
- Operation and function of all controls.
- Parking and securing the MEWP.

Training for Unfamiliar Equipment:

When a trained operator is directed to operate a MEWP they are not familiar with, the operator, prior to operating, shall receive instruction on:

- The location of the manuals.
- The purpose and function of all controls.
- Features, limitations, and devices associated with the MEWP.
- Operating characteristics specific to the specific model of MEWP.

Retraining Requirements:

The operator must be retrained when:

- Their valid training period expires.
- There is a deterioration of operator performance.
- An extended period passes with no operation of a MEWP.
- The operator is introduced to a new or different MEWP classification.
- The operator has been involved in an accident or near miss.

MEWP Occupant Training:

MEWP occupants perform work on the platform but are not responsible for operating the machine. MEWP occupants must be trained on:

- The requirements for fall protection and fall protection anchor points.
- The safe use of MEWP accessories assigned for use.
- Knowledge and understanding of factors affecting stability.
- General understanding of the purpose and function of MEWP controls, emergency controls, and the knowledge necessary to lower the MEWP to the ground.
- Site-specific work procedures related to the operation of the MEWP.
- Hazards related to the task at hand and their avoidance.
- Manufacturer's warnings and instructions.

MEWP Supervisor Training:

MEWP supervisors oversee MEWP operators. MEWP supervisors must be trained on:

- Proper selection of the correct MEWP for the task.
- The rules, regulations, and standards that apply to MEWPs.
- Potential hazards associated with the use of MEWPs.
- The means to protect against identified hazards.
- Understanding that operation manuals are an integral part of the MEWP and should be properly stored in the weather-resistant compartment on the vehicle

7. MEWP Inspection, Maintenance, and Repair

The Inspection and Maintenance Supervisor will establish and maintain routine inspection and maintenance schedules in accordance with the applicable ANSI standards and manufacturer recommendations. In addition to routine annual inspections and maintenance, pre-use and frequent inspections may also be required.

Pre-Use Inspections:

Before the start of each day or work shift, the operator will perform and document a pre-use inspection that includes:

- Operating and emergency controls.
- Cleanliness and general signs of damage.
- Loose, damaged, worn, or missing parts.
- Structural items including the extending structure, stabilizers, and outriggers.
- Pins, securing devices, and visible damage to the support of the work platform and extension.
- Work platform including guardrail system, floor, anchorages, and mounting.
- Operation of stabilizers, outriggers, extendable, and oscillating axles.
- Brake operation and performance.
- Tires, tire pressure, wheels, and wheel fasteners.
- Fluid levels including engine coolant, engine oil, and hydraulic oil.
- Air, hydraulic, and fuel system leaks.
- Electrical cables and wiring harness.
- Audible and visual alarms and beacons.
- Instructions, warnings, control markings, and operator's manual(s).
- Personal protection devices worn while operating and/or occupying the MEWP.
- Any additional item specified by the manufacturer.

Frequent Inspections:

Frequent inspections are required prior to placing a machine into service, when a machine has been out of service for more than three months, or if required by environmental conditions. The MEWP may not be placed into service until all malfunctions and problems are corrected. A frequent inspection must be made by a person qualified to inspect the specific make and model of MEWP. Frequent inspections must include:

- All functions and their controls, including controls for normal operation, emergency operation, speed, and limits of motion.
- Ground level controls, including the provision for overriding additional controls.
- Visual inspection of structural components and other critical items such as fasteners, pins, shafts, turntable attachment devices, and locking devices.
- Drive systems, brakes, steering, and speed controls for proper operation.
- Wheel fasteners are in place and properly tightened.
- Tires for damage and proper inflation.
- All chain and cable mechanisms for adjustment and worn or damaged parts.
- All guards are in place and in good working order.
- Lubrication of all moving parts, inspection of filter element(s), hydraulic oil, engine oil, and coolant.
- Hydraulic or pneumatic systems for proper fluid or pressure levels and inspected for proper operation, damage, leaks, or external wear.
- Batteries are checked for adequate fluid level and connections are secure and free from damage and corrosion.
- Electrical systems for signs of damage, deterioration, dirt, or moisture accumulation.
- Lights for proper operation and illumination.
- Audible and visual alarms or beacons for proper operation.
- Instructions, warnings, and control markings are in place and legible.
- Any communication system between platform and ground is working properly.

Annual Inspections:

Annual inspections must occur no more than 13 months after the date of the previous annual inspection. Annual inspections must be performed by a person qualified to inspect the specific make and model of MEWP. The annual inspection must include:

- All frequent inspection items.
- Annual inspection items specified by the manufacturer.
- All open safety bulletins and recalls have been addressed.

Documentation of the last annual inspection must be kept on the vehicle. The MEWP may not be placed into service until all malfunctions and problems are corrected.

Maintenance and Repair Safety Precautions:

Before MEWP maintenance or repair, take these precautions, as applicable:

- Read and understand the instructions and precautions provided by the MEWP manufacturer.
- Stop power plant and render means of starting inoperative.
- Confirm all controls are in the off or neutral position, and all operating systems are secured from inadvertent motion.
- Lower work platform to the full down position, if possible, or otherwise secure the platform to prevent motion.
- Relieve hydraulic oil pressure from all hydraulic circuits before loosening or removing hydraulic components.
- Use safety props or latches used as required and instructed by the manufacturer.

8. Prevention of Unauthorized Use

Measures to prevent unauthorized use of MEWPS must be implemented and documented in the risk assessment. These measures may include, but are not limited to:

- Key custody or card lock-out.
- Securement of equipment.

9. Safety of Workers and General Public

Personnel in the vicinity of MEWPs must know of the operation and be protected from any associated hazards. A controlled area must be maintained below and around the MEWP to prevent people and objects from being struck by the MEWP or falling objects. Precautions must be documented in the risk assessment and may include:

- Informing bystanders (authorized or unauthorized) of MEWP operations in the area, and providing guidance to avoid the work area unless immediately required for work.
- Warnings, markings, or guidance from supervisors to identify MEWP travel areas.
- Posting signs warning of the possible danger of falling objects.
- Providing hard hats to protect bystanders from falling objects.
- Providing bystanders with high visibility gear.

10. Program Audit

This MEWP Safe Use Plan will be reviewed on an annual basis or when an incident brings in to question the effectiveness of this Program. In collaboration with the Program Administrator, supervisors, and workers, management will evaluate this Program to ensure it continues to meet ANSI standards, manufacturer requirements, and to correct any deficiencies that may be discovered.

11. Recordkeeping

Documentation of record is required for the following:

- Transfer of ownership
- Frequent and annual inspections
- Pre-delivery preparation, service, and repairs
- Training and familiarization

All above records must be maintained for four years, or longer in accordance to Chapman University's document retention policy.

12. References

American National Standards Institute (ANSI)/Scaffold & Access Industry Association (SAIA) 9.22. 2018 Safe Use of Mobile Elevating Work Platforms (MEWPS). 2018.

ANSI/SAIA 92.24. 2018 Training Requirements for the Use, Operation, Inspection, Testing and Maintenance of Mobile Elevating Work Platforms (MEWPs). 2018.

Canada, Canadian Standards Association. CAN/CSA-B354.8:17 Mobil elevating work platforms-Operator (driver) training (ISO 18878:2013, MOD). 2013.

Canada, Canadian Standards Association. CAN/CSA-B354.7:17 Mobile elevating work platforms Safety principles, inspection, maintenance and operation (ISO 18893:2014, MOD). 2014.

United States Occupational Safety and Health Administration (OSHA) Standards, 29 Code of Federal Regulations (CFR) 1910.67.

OSHA. 29 CFR 1910.269(p).

OSHA. 29 CFR 1910.21.

OSHA. 29 CFR 1910.453.

OSHA. 29 CFR 1910.502.

Workplace Inspection Checklist

Contact Information			
Company Name:	Date:		
Jobsite Location:			
Task:			
Primary Assessor(s):			
Has a risk assessment been performed? (circle) No Yes If Yes, review the risk assessment before completing this sheet. If No, immediately stop all operations until a proper risk assessment has been performed and documented by a qualified person and has been communicated to everyone involved on the jobsite.			
Item – Check if Applicable	Yes	N/A	Notes
Have all hazards on the site been identified and the methods to eliminate or mitigate them been documented?			
Has an assessment been made to verify that the support surface can support the weight of the MEWP, occupants, and materials?			
Has the risk assessment been reviewed by everyone involved with the work to be performed, taking into consideration the safety of those not involved with the operation?			
Has a rescue plan been developed and communicated to everyone on the site?			
Has MEWP access been limited to trained and authorized personnel who will operate and/or occupy the MEWP?			
Have the requirements for fall protection and location of anchors been reviewed?			
Have operators selected the correct MEWP(s) for the work and been familiarized on the specific MEWP(s) they will be operating?			
Does the MEWP have entrance gates and toe boards? MEWPs manufactured from June 1, 2020 may not use an entrance chain.			
Have all occupants received instruction on how to work safely on the MEWP?			
Has the operator been informed of local site requirements and provided the means to protect against identified hazards?			
Are the operation manuals available, legible, and stored in a weather resistant compartment?			
Is there a trained and qualified supervisor to monitor the performance and the work of the operator to verify compliance?			
Have all maintenance and inspections been performed on the machine as required?			
Is there an Annual Inspection decal and is it up to date?			
Have personnel received instructions on how to prevent unauthorized use of the MEWP?			
Workplace Check Sheet Performed by:			
Name (print):	Signature:		
Name (print):	Signature:		

Site Risk Assessment Form

Contact Information

Company Name:	Date:
Jobsite Location:	
Task:	
Type of MEWP(s) used:	
Primary Assessor(s):	
Does this risk assessment replace a previous assessment? (circle) No Yes	
If Yes, date of previous assessment _____	

Assessment

Hazard	Risk	Control Measure

Site Risk Assessment Performed by:

Name (print):	Signature:
Name (print):	Signature:
Name (print):	Signature:
Name (print):	Signature:
Name (print):	Signature:

Risk Assessment Guidance

Risk assessments are a critical element of jobsite and worker safety. The risks associated with the task specific to MEWP operations **must be identified before the work begins**. Risks might be associated with the work area, the nature of the MEWP, or the personnel, materials, and equipment to be carried.

The risk assessment involves visiting the work site, preferably with site personnel or their representatives who can identify the hazards associated with the area and the surface where the MEWP will operate.

Once the hazards and risks involved in the task have been identified, **the procedures and measures required to eliminate or mitigate them must be identified and implemented**. The risk assessment results are used to plan safe work procedures, **including any contingencies required** to complete the tasks.

Rescue planning is a necessary component of a risk assessment when working at height. Advance planning can aid a safe and timely rescue. A separate form for Rescue Planning should be completed as a part of the risk assessment.

The user, which is most commonly the employer, is responsible for communicating the results of the risk assessment to everyone involved in the operation.

CHANGES: Before a job starts and periodically throughout a long-term job, the risk assessment must be reviewed to determine if tasks have changed or the work environment has changed and how these effect operational safety. If any modifications to the risk assessment are required, these must be communicated to everyone involved prior to resuming the job.

Completing the Risk Assessment:

Before MEWP operation and during MEWP use, the user must verify that the operator performs a workplace inspection in the MEWP work area.

The workplace inspection should be performed prior to moving the machine to the site.

The site must be walked and checked for all possible hazards, such as, but not limited to:

- Overhead power lines (electrical conductors) for electrical energy supply or communications purposes
- Drop-offs or holes, including those concealed by water, ice, mud, etc.
- Slopes
- Bumps, floor obstructions, and electric cables
- Confined spaces
- Debris
- Overhead obstructions
- Hazardous atmospheres and/or hazardous locations
- Surfaces inadequate to sustain the ground-bearing pressures imposed by the MEWP in all operating configurations
- Wind and bad weather conditions
- Traffic hazards
- The presence of personnel (authorized and unauthorized) and other mobile equipment

Safety of Workers on the Ground and the General Public

During MEWP operation it is important to keep workers and the general public safe, so they are not exposed to potential hazards in the work area. Maintain a controlled area below and around the MEWP to prevent persons and objects from being struck by the MEWP or falling objects. Look for these hazards and add them to the risk assessment.

When a MEWP is being loaded or unloaded from a transport vehicle on a public road, the users and operators must verify that appropriate measures are taken to protect everyone in or near the area.

These measures may include, but are not limited to:

- Warning cones or hazard tape
- Signs and signal personnel wearing reflective clothing
- Flag personnel to warn people and other vehicles of the presence of the MEWP and the transport vehicle

Examples of Hazards

Hazard		Risk	Control Measure
1.	MEWP equipment is operated on a slope, grade, ramp, etc., that exceeds the rating by the manufacturer.	Tip-over	<ol style="list-style-type: none"> 1. Read and understand the manufacturer's operator's manual and be aware of the limitations of the MEWP equipment. 2. Do not operate outside the allowable range as defined by the manufacturer. 3. Perform a workplace risk assessment. Identify and barricade unsafe work areas. 4. Have operator properly trained to know the appropriate travel speed and direction of travel on sloped surfaces.
2.	The load can make the MEWP equipment unstable or damage the equipment.	Tip-over	<ol style="list-style-type: none"> 1. Read the manufacturer's operator's manual and know the rated capacity prior to operation. 2. Monitor and supervise to verify compliance. 3. Select the most appropriate MEWP equipment for the work that needs to be accomplished. 4. Verify MEWP equipment operator/occupant(s) are aware of the weight of all materials to be carried in the MEWP equipment, including personnel. Do not exceed the additional maximum load allowed.
3.	Ropes, cords, hoses, etc., are hanging from the MEWP equipment or in the work area, creating potential for entanglement with the work platform and/or damage to property.	Tip-over	<ol style="list-style-type: none"> 1. Avoid hanging any material outside the work platform. 2. Maintain a clean and orderly work area; do not allow hanging objects in the work area of the MEWP equipment.
4.	Platform is overloaded from the ground or at height.	Tip-over	<ol style="list-style-type: none"> 1. Always be aware of the work requirements and select the appropriate MEWP equipment to support the maximum allowable rated workload. 2. The operator must read the manufacturer's operator's manual in order to be aware of the rated working load (RWL) of the MEWP equipment prior to operation and know the total weight of all personnel and materials being placed on the platform. 3. Verify that the load is appropriately placed on the platform and platform extension as defined by the manufacturer for proper load distribution. 4. Extra precautions must be made if a load is introduced to the MEWP equipment while the platform is elevated (e.g., lowering equipment for replacement). Specific knowledge of the total weight must be known prior to operating.
5.	MEWP equipment is being used like a crane to lift items even though the MEWP equipment is not designed to lift materials except in the platform and within the manufacturer's RWL. Lifting items on the guardrails or by attaching, in any manner, to the MEWP equipment (not approved by the manufacturer) may result in damage or failure of the machine. The damage may not be obvious at time of loading, but fatigued components could fail in the future.	Tip-over	<ol style="list-style-type: none"> 1. Never allow the MEWP equipment to be used except as designed and approved by its manufacturer. 2. Never add frameworks, mounting of attachments for holding/lifting tools and materials or other modifications without the prior written permission of the MEWP equipment manufacturer. 3. Never exceed the RWL defined by the MEWP equipment manufacturer.

Examples of Hazards

Hazard		Risk	Control Measure
6.	MEWP equipment is being used on a barge, truck bed, floating vessel, scaffolding or similar type of equipment. The supporting equipment may be unable to support the load, not provide a level base that may result in shifting loads/exceeding allowable slope, etc., of the MEWP equipment in use.	Tip-over	<ol style="list-style-type: none"> 1. Only allow MEWP equipment to be used on unusual support equipment/locations when the application has been approved in writing by the manufacturer or a qualified person.
7.	Site conditions, such as the support surface, congestion, visibility, slope, etc., when driving the MEWP equipment. Higher travel speed limits the control the operator has under these conditions and exposes personnel to collisions or injuries.	Tip-over	<ol style="list-style-type: none"> 1. MEWP equipment operator must follow safe-use guidelines for travel as defined by the manufacturer in the operator's manual. 2. Always travel at the low travel speed when working at elevation or when appropriate for conditions. 3. Always maintain a safe distance from obstacles, holes, slopes, etc., to verify safe travel.
8.	<p>The work platform becomes caught or snagged on a structure or object that prevents it from normal motion of operation.</p> <p>The power of the hydraulic systems on the MEWP equipment can create significant forces if the platform is stuck and the control functions are used. Great potential harm to personnel can occur in this instance.</p>	Tip-over	<ol style="list-style-type: none"> 1. Immediately stop the operation of the MEWP equipment from the platform and remove the operator/occupant(s) prior to any attempts to free the platform by using the lower ground controls.
9.	Work to be performed requires significant side or horizontal force. Increasing the side load or horizontal force beyond the rated horizontal force set by the manufacturer can result in a tip-over. This can become even more likely if not situated on a hard-level surface.	Tip-over	<ol style="list-style-type: none"> 1. Read the manufacturer's operator's manual prior to operation. Know the required side force for the task and select the most appropriate MEWP equipment for the project or change the work process to be within the limits of the machine's horizontal forces.
10.	<p>The ground condition in the work area varies during the project.</p> <p>MEWP equipment is dependent on a hard, level surface that is capable of supporting its load in all working configurations.</p>	Tip-over	<ol style="list-style-type: none"> 1. Have a qualified person verify that the surface the MEWP equipment will travel across and rest upon is capable of supporting the load as defined by the manufacturer for the MEWP equipment in all configurations. Be aware that in certain configurations, up to 80 percent of the MEWP equipment's weight maybe on one tire or outrigger. 2. Operator is to perform a workplace inspection before and during use to check for possible hazards. 3. Site supervisor additionally should perform workplace inspection and verify the operation is performing to compliance.
11.	<p>The ground conditions are unlevel and irregular.</p> <p>Some MEWP equipment are designed to operate on limited slopes.</p>	Tip-over	<ol style="list-style-type: none"> 1. Select the most appropriate MEWP equipment with a rated slope for the work area. 2. Select a machine with outriggers and leveling devices that can address the workplace conditions.

Examples of Hazards

Hazard		Risk	Control Measure
			3. Outriggers, stabilizers, extendable axles, oscillating axles, or other stability-enhancing devices must be deployed and locked as required by the manufacturer.
12.	Rough terrain or poor ground conditions exist. MEWP equipment may exceed manufacturer's recommended slope.	Tip-over	1. Select only MEWP equipment that is designed to operate on rough-terrain surfaces and use it in compliance with the manufacturer's recommendations.
13.	MEWP equipment is struck by vehicle or mobile equipment.	Tip-over or fall from height	<ol style="list-style-type: none"> 1. Identify and comply with local ordinances or safety standards established for the workplace. 2. Restrict the work area around the MEWP equipment, placing warnings, such as flags, a roped-off area, flashing lights, barricades, etc., around the area. 3. Assign a spotter to control and warn operators of other moving equipment. 4. Schedule work to eliminate potential conflicts.
14.	Drivable boom lift hits a bump or drives over a curb.	Tip-over or fall from height	1. A workplace risk assessment must be done before and during work to verify a safe travel route.
15.	Guardrail is not installed or damaged.	Fall from height	<ol style="list-style-type: none"> 1. Verify a daily prestart inspection occurs and any missing, damaged or non-functioning components are repaired before operation. Apply accident-prevention tag. Verify it stays on until the equipment is repaired to proper operation. 2. Verify that access gates or openings are closed per manufacturer's instructions.
16.	<p>Operator/occupant(s) are:</p> <ul style="list-style-type: none"> Not wearing proper PFPE. Not properly connected to the anchorage. Not using proper PFPE for task. Using damaged PFPE. For instance, the PFPE has cuts, the stitching is worn, etc. 	Fall from height	<ol style="list-style-type: none"> 1. Verify that all MEWP equipment operators/occupant(s) are trained on use and inspection of PFPE. Always comply with manufacturer's recommendations. 2. Monitor to verify that only manufacturer-supplied anchorages are used for fall protection system. 3. Provide operator/occupant(s) correct PFPE when required (always on boom-type MEWP equipment) and monitor to verify that they use it as required. 4. Verify daily prestart inspection includes personal protective devices.
17.	Operator/occupant(s) attempt to reach beyond the capacity of the platform by climbing on guardrail or using planks, ladders or other devices to achieve additional height.	Fall from height	<ol style="list-style-type: none"> 1. Verify proper training and supervision for compliance. 2. Always maintain firm footing on the floor of the platform. Never use ladders or other devices to gain additional height. 3. Verify most appropriate MEWP equipment is selected to perform the work required. 4. Reinforce with operators that safety cannot be compromised by shortcuts. 5. Verify proper PFPE is used. 6. Make sure management monitors, supervises and warns.
18.	Operator/occupant(s) vacate or enter an elevated platform.	Fall from height	<ol style="list-style-type: none"> 1. Train operator/occupant(s). 2. Verify supervision and monitoring are in place. 3. Choose appropriate MEWP equipment for the work to be performed. 4. Use proper PFPE as required.

Examples of Hazards

Hazard	Risk	Control Measure
		<ol style="list-style-type: none"> 5. Vacate/enter an elevated platform only if approved by the manufacturer and then only by following the manufacturer's recommended procedure.
<p>19. The requirement to drive through openings, access areas with overhead structures, work between steel structures, etc.</p>	<p>Crushing</p>	<ol style="list-style-type: none"> 1. Whenever possible, restrict MEWP equipment's activity where overhead obstructions are present. 2. Work with a partner when high-risk work is involved. 3. Have a ground person familiar with the ground controls available in case of an emergency. 4. Verify that the MEWP equipment operator is experienced, thoroughly trained, and familiar with all control functions when exposed to known overhead clearance work.
<p>20. Personnel or equipment may be hit by the lowering of MEWP equipment/structure.</p>	<p>Crushing</p>	<ol style="list-style-type: none"> 1. The operator must verify that the work area of operation is clear prior to lowering or driving the MEWP equipment. 2. If personnel are expected to be in the work area, flag off the MEWP equipment work area. 3. If the MEWP equipment is always in a work environment, select one fitted with a motion alarm to make sure personnel are aware of the MEWP equipment's movements.
<p>21. Proximity in work area to energized conductors (power lines)/electrically energized conductors.</p>	<p>Electrocution</p>	<ol style="list-style-type: none"> 1. Identify all potential electrocution hazards before starting work and take appropriate action to prevent any contact with a power source, disconnect and tag out power. 2. Clearly mark the minimum approach distance for the MEWP equipment, including the reach of a boom beyond the base. 3. Place markers on the ground to identify them and remind MEWP equipment operators of any overhead power source. 4. As electrical work requires a qualified person to perform the work, verify only qualified individuals assess the risk and determine the appropriate action for safe use in the work area.
<p>22. Loud noise(s), falling objects or flying debris from sawing/cutting. For example, foot injuries from falling items or being hit by moving objects, acid spill injuries from checking a battery, welding, etc.</p>	<p>Environmental hazards to workers in the work area</p>	<ol style="list-style-type: none"> 1. Provide and verify all workers are utilizing proper PPE such as a hard hat, eye and ear protection, gloves, steel-toed shoes, etc. 2. Monitor personnel for compliance.
<p>23. Operator identifies problems or malfunctions with the MEWP equipment but continues to operate the machine. When the MEWP equipment ceases operation, creating a malfunction that results in machine failure.</p>	<p>Damaged machine hazard</p>	<ol style="list-style-type: none"> 1. Operator performs daily prestart inspection and reports issues immediately. 2. Operator's supervisor monitors that prestart inspections are being performed. 3. MEWP equipment is tagged out of service and secured until service/repairs are completed. 4. Operator addresses machine issues immediately during use.
<p>24. Workers are exposed to a health risk from the material in the atmosphere and/or there is the potential of fire.</p>	<p>Hazardous atmosphere</p>	<ol style="list-style-type: none"> 1. Verify a competent person has assessed the work area before authorization to work in the area and that the area is marked approved for operation. 2. Verify that a properly equipped MEWP equipment is used for the hazardous classification intended. 3. Provide workers with an understanding of what to look for if there is potential exposure in the work area and what action to take during an incident.

Examples of Hazards

Hazard	Risk	Control Measure
		<ol style="list-style-type: none"> Operators will immediately report any potentially hazardous location that becomes evident during operation.
<p>25. Fueling or charging the battery introduces hazardous fumes into the work area, creating potential for fire or harm to workers.</p>	<p>Hazardous atmosphere</p>	<ol style="list-style-type: none"> Fuel or charge batteries in a well-ventilated area, free from flames, sparks, or other hazards that may cause a fire or explosion.
<p>26. Multiple workers are in the general work area of the operating MEWP equipment.</p> <p>The MEWP equipment may hit and injure workers on the ground when moving and/or the operator/ occupant(s) of the MEWP equipment may drop objects on workers who are below.</p>	<p>Collision</p>	<ol style="list-style-type: none"> Operator must verify that the work area is clear of personnel and equipment before moving (driving, lowering, etc.) the MEWP equipment. If the potential for dropping tools or equipment exists, either restrict the work area below the elevated operator/ occupant(s) or prevent tools and equipment from dropping to lower areas (e.g., tether tools, use workplace netting, etc.). All workers must be aware of the potential movement of equipment such as sounding a horn prior to driving or installing a motion alarm.
<p>27. Others in the work area or unauthorized individuals attempt to use the MEWP equipment.</p> <p>Only authorized personnel who have been trained and familiarized can operate MEWP equipment. Non-authorized individuals can be exposed to all known hazards, which could damage the equipment, place themselves and others in harm's way, and cause property damage.</p>	<p>Unauthorized use</p>	<ol style="list-style-type: none"> Always secure and implement means to prevent unauthorized use of the MEWP equipment such as elevating the work platform at the end of the shift and removing the key. Verify that the operator is aware not to allow anyone not authorized by his employer to use the MEWP equipment, even for a few minutes.
<p>28. Interlocks or other safety devices are tampered with or disconnected to allow operator to maneuver MEWP equipment in manner restricted by the manufacturer, such as disconnecting the noise from warning alarms, etc.</p> <p>Modification or alterations to MEWP equipment in any manner can create unintended hazards and risks for the operator/ occupant(s) and personnel in the work area.</p>	<p>Unauthorized modification</p>	<ol style="list-style-type: none"> Never alter or disable any safety device. Verify that the device has not been altered or disabled by completing the required daily prestart inspection and function test and checking that the safety devices are operating correctly. No modifications may be made without the prior written permission of the manufacturer to verify compliance with standards and regulations.

Rescue Plan Template and Guidance Form

Contact Information

Company Name:		Worksite Location:	
MEWP Type:		Date of Rescue Plan Implementation:	
Ground personnel who have received familiarization and are authorized to operate the ground controls:			
Name:	Location:	Phone/Radio/Page:	
Name:	Location:	Phone/Radio/Page:	

Pre-Operation

- Verify that the ground key is available
- Designate ground rescue personnel (received familiarization training on MEWP)
- Verify the method or raising alarm / notification communication needs
- Confirm the rescue sequence
 - Operator
 - Ground Staff
 - Another MEWP

Emergency Scenarios

Emergency Situations		Proposed Response
1	Primary platform controls are not responding	Operator should activate platform auxiliary controls to lower the machine to the ground.
2	Auxiliary platform controls are not responding, or the operator is incapacitated or unable to function	Person on the ground who is familiar with the machine ground controls should use the primary ground controls to lower the machine.
3	Primary ground controls are not responding and operator cannot operate controls	An appointed person familiarized in the use of the 'ground' controls will use the ground auxiliary controls to safely lower the platform.
4	All ground controls are not responding	Immediately contact a competent and authorized service engineer to assess the situation and provide further guidance.
5	Operator suspended from fall arrest harness	<ol style="list-style-type: none"> 1. Self-rescue: provide details 2. Assisted rescue from those in the work area: provide details 3. Technical rescue: by emergency responders
6	Operator incapacitated	Person on the ground who is familiar with the machine ground controls should use the primary ground controls to lower the machine.

Onsite Qualified Personnel

Name:	Location:	Phone/Radio/Page:
Name:	Location:	Phone/Radio/Page:

Guidance on Rescue Plans for Mobile Elevating Work Platforms

1 Self-Rescue (by the person involved):

Platform Auxiliary Controls: If the primary platform controls stop responding, the operator should try to activate the platform auxiliary controls to lower the machine to the ground.

Platform-Installed Self-Rescue System: If the platform controls are not responding and there are no other workers in the area who can provide assistance, a platform-installed self-rescue system should be used. These after-market devices can be mounted in the platform. This allows the operator to self-rescue by attaching the system to the front D-ring on their harness, exiting the platform, and using the device to lower themselves to the ground.

Operators must receive extensive training on the use of the system and machine manufacturer approval before installing the system on the machine. Whenever an individual is suspended in air, it is critical that they continuously pump their legs (as if riding a bicycle) to minimize the likelihood of suspension trauma injury. **Suspension trauma could** be fatal within 30 minutes of the initial fall. This 30-minute window refers to when the fall protection plan must contain plans for a "prompt" rescue.

Personal Self-Rescue System: These systems can be used to lower the individual from the platform, or to self-rescue after experiencing a fall or ejection from the platform. These after-market devices can be mounted directly onto the operator's full-body harness. The PFPE lanyard is then attached to the device before starting work. The system allows the operator to self-rescue by exiting the platform and activating the device to lower themselves to the ground or to within rescue range from another MEWP. Operators must receive extensive training on the use of the system and approval from their employer before installing the system on their harness.

Suspension Trauma Safety Straps: These lightweight systems mount onto the side straps of the operator's harness. In the case of fall or ejection from the platform, the operator opens the case to release the straps, connects them at the proper length, and steps into the loop created by the straps. This allows the operator to stand up in their harness and relieve the pressure being applied to the arteries and veins around the top of the legs until they can be rescued.

2 Assisted Rescue (by others in the work area) *Please note: Rescue should only be carried out by appropriately trained personnel.*

Primary Ground Controls: If the operator cannot lower the platform to the ground by the primary or auxiliary platform controls, or if the operator has been incapacitated, a person on the ground who has been familiarized on proper use of the controls may use the primary ground controls to lower the machine.

Auxiliary Ground Controls: If the primary ground controls are not responding, the person on the ground should try to activate the auxiliary ground controls. If all ground controls are not responding, the ground personnel should immediately contact onsite qualified personnel to assess the situation and provide further guidance.

Use of a Secondary MEWP

Sometimes a MEWP is unable to be lowered, for example during a complete machine malfunction or work platform entanglement. During platform entanglement, the operator and occupants must be removed from the platform before trying to free the platform.

MEWPs that have tipped beyond their center of gravity must be stabilized and secured before rescue attempts.

Rescue using another MEWP should be carried out only after a thorough site review by a qualified person has been performed and a plan has been created. The plan should consider the following:

- Position the rescue machine to allow the rescue without compromising the safety of personnel involved in the rescue.
- Place the platforms of both machines adjacent to each other with a minimal gap between them. The power on both machines should be shut off during the transfer.
- Implement safeguards to prevent unintended movement of either platform during the transfer.
- Verify all personnel in the platform, including the person being rescued, are wearing the proper fall protection equipment. The lanyard(s) must be attached to the anchor points on the rescue machine before the transfer takes place.
- Verify the rescue machine is not overloaded during the rescue. Make more than one trip to complete the rescue if necessary.
- Comply with the manufacturer's requirements stated in the operator's manual. Immediately contact emergency personnel if there is injury, illness or risk of exposure.

3 Technical Rescue (by emergency personnel):

Technical rescue might also be necessary in the event of illness, injury, or risk of exposure.

- Consider the reasons why the platform may be stranded at height and any need for prompt action.
- Contact firefighters and other rescue professionals as a last resort. Their response time and the equipment may not be the best option to meet the OSHA requirement for prompt rescue after a fall arrest.

The rescue agency must advise the employer in writing of its availability and capability, any limitations on the types of rescue it can perform, and detailed instructions regarding how they are to be called and if they need to be advised when certain activities are planned or certain conditions exist so that they are able to respond appropriately.