

BYU

BRIGHAM YOUNG
UNIVERSITY

Provo, Utah

Mobile Elevated Work Platforms (MEWP) Program

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1.0 Overview

Mobile elevated work platforms (MEWP) such as articulating boom-lifts, man-lifts, scissor-lifts, etc. are assets when working at heights. However, used improperly, or poorly maintained, these devices can cause serious injury or death. This document has been created to minimize the risk of injury to operators, bystanders, and to avoid damaging university property. Departments assigned this equipment will utilize this program to increase operator awareness of recognized safety standards. Qualified trainers will be used to provide all training activities. Written records will be kept in the respective departments and by Risk Management and Safety to document all training. Specific responsibilities for monitoring the effectiveness of this program are assigned to departments, supervisors, operators, and Risk Management and Safety. This document, will be reviewed annually by Risk Management and Safety, and those departments affected by its requirements. The annual review will assess the current level of program compliance, the programs effectiveness in reducing injuries and property damage, and address program improvements.

2.0 Policy

Departments assigned MEWP(s) must ensure that supervisors and operators of MEWP(s) comply with all aspects of this safety program. All university employees must successfully complete this training program, and receive certification prior to the operation of any MEWP. Contractors operating MEWP(s) on university projects are expected to meet or exceed the requirements found in this program, and comply with all applicable statues and regulations governing the use of MEWP(s) as listed in Section 3.0 of this document.

3.0 Requirements

- OSHA Standard 29 CFR 1910.67
- OSHA Standard 29 CFR 1926.453
- ANSI / SIA 92.6 Self Propelled Elevating Work Platforms
- ANSI / SIA A92.2-1900 Vehicle Mounted Elevating and Rotating Devices
- ANSI / SIA A92.3 Manually Propelled Elevating Work Platforms
- ANSI / SIA A92.5 Boom-supported Elevating Work Platforms

4.0 Purpose

This program has been developed to reduce the risk of physical injury or property damage in areas where MEWP(s) are in operation. It also brings the university into compliance with federal, state, and local law.

5.0 Scope

This program applies to the operation of all MEWP(s) by university employees and contractors, engaged in university projects.

6.0 Procedures

6.1 Pre-Use Inspection

- Prior to the operation of any mobile elevated work platform the Pre-Use Inspection Checklist found in Appendix B must be completed. This applies at the beginning of every work period, and whenever a new equipment operator takes control of the MEWP.
- Safety defects found during the inspection must be reported for immediate repair. They must also be locked and tagged, and placed out of service.
- Inspection forms specific to individual pieces of equipment may be created by the department which owns the equipment providing they are equal to, or more stringent, than the form in Appendix B.
- Inspection forms must be kept either on the equipment or in the department offices.
- A permanent inspection record file must be created and maintained for 3 years by the department responsible for the equipment.

6.2 Operation

- **Workplace Assessment:** Prior to, and throughout use, the user shall check the area in which the MEWP is to be used. This assessment shall include, but is not limited to:
 - Floor conditions
 - Housekeeping
 - Hazardous energy
 - Overhead Obstructions
- The elevating platform must be equipped with a standard guardrail system that has been installed according to manufacturer specifications, and that is in safe condition.

- The floor of the work platform must be kept in a clean and orderly fashion (i.e. free of trash, materials, tools, etc.) Use of planks, ladders, or any other device on the MEWP for achieving additional height or reach is **prohibited**.
- Loads are not to exceed manufacturer load ratings, which have been established by the manufacturer. Additionally, all loads are to be distributed as recommended by the manufacturer. MEWP's shall not be used as a crane, (i.e. transport of materials, hoisting tools and equipment, etc.)
- Adequate clearance must be maintained between the MEWP and overhead obstructions to prevent personnel from becoming caught between the MEWP and any overhead obstructions. Personnel must remain within the confines of the guardrail system any time the platform is elevated (i.e. personnel shall not lean out over the handrail during vertical movement).
- To prevent inadvertent movement of the MEWP after it has been moved into the final work position, the control panel shall be de-energized (turned off).
- All MEWP control panels are required to be designed so that two-hand actuation or equivalent is required in order to operate the directional controls. The two hand activation must be designed so that an operator must maintain physical contact with the controls while operating the MEWP. Time-delay (Ramping Feature) activation controls are not permitted.
- Work platforms must be lowered to their base position before the platform is moved horizontally, unless the MEWP is designed for movement while elevated. However, horizontal movement of 10 feet, or less, of the work platform in the elevated position is only allowed for the final positioning of the lift.
- All movements performed in congested work locations must be performed with the aid of a spotter. Under all travel conditions, the operator shall limit travel speed according to conditions of ground surface, congestion, visibility, slope, location of personnel, and other factors that may create hazards related to travel. Personnel must maintain a firm footing on the platform floor while traveling.
- The operator and/or the spotter must ensure that the area surrounding the MEWP is clear of personnel and equipment before lowering the platform. Care shall be taken to prevent rope, electric cords and hoses from becoming entangled in the MEWP.
- No MEWP may be operated within 30 feet of overhead, energized lines without an approval from a supervisor or Risk Management and Safety representative.
- Altering or disabling interlocks or other safety devices is prohibited and is grounds for disciplinary action, up to and including termination.
- The engine shall be shut down while fuel tanks are being filled. Fueling shall be done in a well-ventilated area free of flame, sparks, or other hazards.
- Batteries shall be charged in a well-ventilated area free of flame, sparks, or other hazards that may cause fire or explosion.
- MEWP shall not be operated while positioned on trucks, trailers, railway cars, floating vessels, scaffolds, or similar equipment unless the application is approved in writing by the manufacturer or appropriate Environmental Health and Safety representative.

- The outriggers, stabilizers, extendible axles, or other stability enhancing means, shall be used as required by the manufacturer.
- Unsafe driving and horseplay is prohibited.
- The MEWP shall not be driven on grades, side slopes or ramps exceeding the rated capacity of the MEWP as stated by the manufacturer.
- If the MEWP basket or supporting assembly becomes caught, snagged, or otherwise prevented from normal motion by adjacent structures or other obstacles such that control reversal does not free the platform, all personnel shall be removed from the platform/basket before attempts are made to free the platform using ground station controls.
- Depending on the location and local work environment, safety spotters may be required during the use of MEWP.
 - Spotters shall be required when there is a potential for operator injury due to physical contact with facility systems or structures.
 - Spotters shall also be required when there is a potential for damage to sensitive facility systems or structures. Such as:
 - 1) Congested work locations with overhead piping/mechanical chases above ceiling grids.
 - 2) Operating manufacturing areas.
 - 3) Areas of poor visibility.
 - 4) Locations adjacent to hazardous production materials.
 - 5) Areas containing energized electrical equipment.
 - A safety spotter may be another co-worker located on the work platform or on the ground depending on area to be observed during movement.
 - The spotter shall work in conjunction with the operator to ensure the MEWP is utilized in a safe manner.
 - Spotters shall be in a visual line of site with the MEWP and be able to lower the MEWP in an emergency.
 - Spotters shall monitor all horizontal and vertical movements and provide guidance to the operator.
 - A spotter may spot for multiple lifts.
 - The spotter is not an additional person for the sole purpose of observing the lift.
 - The spotter is meant to be a productive worker who can be called on to observe the MEWP during the vertical or horizontal movement.
 - The spotter shall conduct a workplace hazard assessment survey for potential hazardous operating conditions prior to all horizontal or vertical movements of the MEWP.
- Hazard warnings and signage shall be used when other moving equipment and or personnel are present in the work area, special precautions shall be taken. Warnings such as, but not limited to, flags, roped-off areas, flashing lights, safety cones or barricades shall be used.

- Operating and maintenance manuals must be available for each MEWP located on BYU property. Operating manuals must be obtained or provided with each rental, lease or sale delivery and shall be stored in a weather resistant storage compartment located on the MEWP.
- Fall Protection – Aerial Boom Lift
 - A full-body harness with a fall arrest lanyard must be worn at all times by those workers located within the lift cage. The fall arrest lanyard must be secured to the aerial boom lift fall protection attachment point.
 - Tying off to an adjacent pole, facility structure, or equipment while working inside the cage of an aerial boom lift is **prohibited**.
 - Personnel required to climb out of an elevated boom lift onto an elevated facility structure shall utilize 100% tie off procedures during the transition from the boom lift cage to the elevated work location. (i.e. personnel shall tie off to a fall rated facility anchorage point prior to disconnecting their lanyard attached to the aerial boom lift cage).
- Fall Protection – Scissor Lift
 - A full-body harness with a fall arrest lanyard will be worn if the manufacturer has supplied tie-off points on the lift and there are warning signs stating that fall protection must be worn. If attaching fall arrest systems to an overhead tie-off point that point must be able to support 5,000lbs or twice the arresting force.
- Operators shall immediately report any problems or malfunctions that become evident during operation to their supervisor. Any lifts with problems or malfunctions that affect the safety of operations shall be immediately removed from service, locked and tagged, and repaired prior to continued use.
- The operation/maintenance of MEWP shall comply with safety-related bulletins as received from the manufacturer, dealer, or owner.
- Only MEWP approved for use in hazardous locations or atmospheres as defined by ANSI / NFPA 505-1987 shall be used in ANSI / NFPA defined hazardous locations. Operators shall immediately cease work in and report to a supervisor any potentially hazardous location(s) or environment that become evident during operation.
- All operators shall carry a certification card or card sticker which indicates they are qualified operators of the MEWP. The certification card and or a card sticker shall be renewed or reissued annually. MEWP shall be sufficiently controlled to prevent the use of the MEWP by unauthorized persons.

7.0 Responsibilities

7.1 Departments Assigned MEWP(s)

- Must implement and administer the MEWP program.
- Review the MEWP program annually for compliance and effectiveness.

- Make recommendations for revisions if necessary.
- Maintain written records of operator training on each model of MEWP and the name of the trainer.
- Maintain written records of the frequent and annual inspections performed by the MEWP owner, including the date any problems found, the date when fixed, and the name of the person performing the repairs.
- Maintain a record of the Pre-Acceptance Inspection Checklist (Appendix D).
- Maintain written records of the name and purchaser of each MEWP.

7.2 Supervisors:

- Complete the Quarterly Assessment Checklist found in Appendix C. Supervisors will retain the original, and send a copy to Risk Management and Safety. The Quarterly Assessment Checklist must remain on file for 3 years.
- Coordinate employee training, and certify that all operators receive annual training including, but not limited to, the items listed in Section 8.0.
- Verify employee compliance with the principles and practices outlined in the MEWP program.
- Provide specific operational training for each powered industrial truck.
- Observe the operation of MEWP(s) in the department, and correct unsafe practices.
- Ensure that only trained and qualified individuals use a MEWP.

7.3 Operators:

- Be responsible for operating MEWP in accordance with this program and the machine specific safety training.
- Complete the MEWP training.
- Responsible for conducting and documenting pre-use use inspections.
- At least annually, review the procedures outlined in Section 6.0 of this document.
- Observe the operation of MEWP's in your department, and report unsafe practices to your supervisor.

7.4 Risk Management & Safety Training Coordinator

- Annually review and update the program as necessary;
- Monitor the effectiveness of program by receipt of copies of inspection checklists.
- Provide orientation and initial training as requested by university departments and/or contractors.
- Provide the general safety training requirements for program.
- Upon request, evaluate work areas and employee work practices.
- Observe the operation of MEWP's and report unsafe practices to the appropriate supervisor.

8.0 Training Requirements

All MEWP operators shall be trained in accordance with the manufacturer's operating and maintenance manual, the user's work instructions, and the requirements listed in this specification before operating the MEWP. Only properly trained and authorized personnel shall be permitted to operate the MEWP.

The operator shall be trained either on the same model of MEWP or one having operating characteristics and controls consistent with the one to be used during actual work site operation. Under the direction of a qualified person, the trainee shall operate the MEWP for a sufficient period of time to demonstrate proficiency and knowledge in the actual operation of the equipment. Care shall be taken to ensure the area of such operation has a minimum of obstacles and is conducive to training.

8.1 Operator:

- Prior to operating any MEWP the trainee will read and understand the manufacturer's operating instruction(s) and user's safety rules, or receive training by a qualified person on the contents of the manufacturer's operating instruction(s) and users safely rules.
- eceive instruction on the intended purpose and function of each control.
- Understand by reading or having a qualified person explain all decals, warnings, and instructions displayed on the MEWP.
- Be informed of the MEWP operating limitations and restrictions as defined by the manufacturer.

8.2 Spotter

- Each spotter shall be trained to perform their assigned roles/responsibilities as defined. Spotters shall be trained to understand basic operating procedures of each MEWP they monitor. Each spotter shall be trained in the operation of the MEWP ground station controls and possess complete understanding of the overriding capability of the work platform controls.

8.3 Maintenance Personnel:

- All personnel performing maintenance on MEWP shall be trained in accordance with manufacturer requirements.

8.4 Training Records

- Each department must maintain a record of all individual training, including:
 - Subject of training.
 - Date of training.
 - Names of those trained.
 - Name of the trainer.
- Training records must be maintained by the department for a minimum of three years.

9.0 Monitoring

9.1 Departments Assigned MEWP(s)

- Review documents prepared by individual supervisors. Documents may include, but not be limited to:
 - Employee evaluations
 - Annual visual operating observations
 - Daily Pre-Use Inspection forms including the resolution of any deficiencies noted by the operators.
 - Quarterly Assessment Checklists

9.2 Supervisors

- Review documents prepared by operators to ensure accuracy and consistency.
- Review all requests for repairs, and document completed repairs.
- Ensure that an MEWP does not remain in use if safety concerns are noted on the Daily Pre-Use Inspection form.
- Visually observe each MEWP operator at least annually to assess their driving competence and compliance with this program. Supervisors will place the following information in each operator's file to document their observations: operator's name, date, time, location, and supervisor's comments relative to the performance observed.

9.3 Risk Management and Safety

- Review all records received, and evaluate them for completeness and accuracy.
- Monitor the submission of required records and reports.
- Maintain a permanent record of all documents received.
- Provide additional training as may be necessary to ensure compliance with the MEWP program.
- Review and respond to all comments and suggestions received from departments, supervisors, or operators pertaining to the MEWP program.

10.0 Appendices:

APPENDIX A DEFINITIONS

Authorized Personnel (Authorized Person) - Personnel approved as assigned to perform a specific type of duty or duties at a specific location or locations at a work site.

Competent Person - One who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Delivery - Transfer of care, control, and custody of the MEWP from one person or entity to another person or entity.

Directional controls - Controls that initiate functions that affect movement of the platform or the MEWP.

Guardrail system - A vertical barrier erected to prevent personnel from falling to lower levels.

Hazardous location - Any location that contains, or has the potential to contain, an explosive or flammable atmosphere as defined by ANSI/NFPA 505.

Instability - A condition of an MEWP in which the sum of the movements that tend to overturn the unit exceeds the sum of the movements tending to resist overturning.

Interlock - A control or mechanism that, under specified conditions, automatically allows or prevents the operation of another control or mechanism.

Manufacturer - A person or entity that makes, builds, or produces an MEWP.

MEWP (Mobile Elevated Work Platform) - A mobile device that has an adjustable work platform that can be elevated in order to perform work above the ground level. Examples of MEWP's include scissors lifts, aerial boom lifts, articulating boom lifts, etc.

Modification - To make a change(s) to an MEWP that affects the operation, stability, safety factors, rated load or safety of the MEWP.

Operator - A qualified person who controls the movement of the MEWP.

Outriggers - Devices that increase the stability of the MEWP and that are capable of lifting and leveling the MEWP.

Override - To take over MEWP movement control functions of the work platform control station by personal at the ground station controls.

Owner - A person or entity that has possession of an MEWP by virtue of proof of purchase.

Platform - The portion of an MEWP intended to be occupied by personnel and tools.

Qualified Person - A person, who by reason of knowledge, experience, or training, is familiar with the operation to be performed and the hazards involved.

Shall: The word "shall" is to be understood as being mandatory.

Stabilizers - Devices that increase the stability of the MEWP but are not capable of lifting or leveling the MEWP.

Unrestricted rated work load - The maximum designed carrying capacity of the MEWP allowed by the manufacturer in all operating configurations.

User - A person(s) or entity having care, control and custody of the MEWP. This person or entity may also be a dealer, owner, leasor, leasee, or operator.

APPENDIX B

DAILY PRE- USE INSPECTION CHECKLIST

Name/Type of MEWP:		Model or Equip No.:					
Shift:							
Inspectors Initials:							
Date(s):							
Is the operator trained to operate this MEWP and does the operator have a valid operators license/card?		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
Inspection Item & Description		P/F	P/F	P/F	P/F	P/F	P/F
Pass Fail Status							
1	Operating and emergency controls are in proper working condition, EMO button or Emergency Stop Device						
2	Functional upper drive control interlock (i.e. foot pedal, spring lock, or two hand controls)						
3	Emergency Lowering function operates properly						
4	Lower operating controls successfully over ride the upper controls						
5	Both upper and lower controls are adequately protected from inadvertent operation.						
6	Control panel is clean & all buttons/switches are clearly visible (no paint over spray, etc.)						
7	All switch & mechanical guards are in good condition and properly installed						
8	All Safety Indicator lights work						
9	Drive controls function properly & accurately labeled (up, down, right, left, forward, back)						
10	Motion alarms are functional						
11	Safety decals are in place and readable						
12	All guard rails are sound and in place, including basket chains						
13	Work platform & extension slides are clean, dry, & clear of debris						
14	Work platform extension slides in and out freely with safety locking pins in place to lock setting on models with extension platforms.						
15	Inspect for defects such as cracked welds ,fuel leaks, hydraulic leaks, damaged control cables or wire harness, etc.						
16	Tires and wheels are in good condition, with adequate air pressure if pneumatic						
17	Braking devices are operating properly						
18	The manufacturer's operations manual is stored on MEWP (in all languages of the operators)						
19	<u>Floor conditions:</u> Drop offs, holes, uneven surfaces, and sloped floors.						
20	<u>Housekeeping:</u> Debris, floor obstructions, cords, construction material and supplies.						
21	Electrical power cables or panels, chemical lines, gas lines, drain lines, and utilities.						
22	<u>Overhead obstructions</u>						

APPENDIX C

Quarterly Assessment Checklist

(Use this checklist as a quarterly assessment of each MEWP in your area of responsibility)

If any answer is no, please describe the plan you have to remedy the situation.

1. Did you ensure that only properly trained and authorized personnel used the MEWP you are responsible for?

Y N

2. Did you ensure that the proper manuals were located on each machine at all times?

Y N

3. Did you ensure that a daily or pre-use safety inspection was conducted and documented?

Y N

4. Did you ensure that the proper fall protection was used when required?

Y N

5. Did you ensure that trained spotters were used when required?

Y N

6. Did you ensure that all maintenance was done by authorized personnel?

Y N

APPENDIX D

Pre-Acceptance Inspection Checklist		
To be completed upon delivery, but prior to acceptance of any new MEWP		
	If all answers are "Yes" then the MEWP can be allowed on the site.	If any answer is "No" then the MEWP is not allowed on the site until the deficiency is corrected.
MEWP Checklist	YES	NO
Are the MEWP controls adequately labeled to indicate direction of movement?		
Does the MEWP move steady?		
Does the MEWP stop smoothly?		
The MEWP shows no signs of electrical or mechanical malfunctions?		
Does the emergency stop function properly?		
Do the MEWP movement controls require two points of contact for vertical or horizontal movement?		
<u>Has the potential for an object to inadvertently activate both points of contact been eliminated?</u> Have two hand actuating safety devices or equivalent been adequately guarded or separated?		
If one of the vertical or horizontal movements is controlled by a toggle switch, is the toggle switch spring-loaded to a neutral position to prevent a by-pass of the dual control?		
<i>Note: The acceptance of this lift on this site does NOT qualify it for operation.. The owner of the lift and the operator MUST still ensure that ALL requirements of ANSI, state, local, site and federal programs have been met prior to operation including the daily use inspection form.</i>		