Chapter 47: Mobile Elevating Work Platforms

Quick Start Summary

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URL: http://www-group.slac.stanford.edu/esh/eshmanual/references/mewpQuickstart.pdf

1 Who needs to know about these requirements

The requirements of Mobile Elevating Work Platforms apply to workers (as operators, spotters, and custodians), supervisors, and Fleet Services. They cover selecting, inspecting, maintaining, and using mobile elevating work platforms (MEWPs).

2 Why

The misuse of MEWPs can result in property damage, severe injury, or death from MEWPs falling over, collapsing, or coming into contact with nearby structures and utility lines or operators falling or being thrown from the MEWP or pinned to structures.

3 What do I need to know

Only workers who are physically and mentally fit and qualified may operate this equipment. Qualification includes thorough training, both classroom and practical, the latter emphasizing experience with specific types of MEWPs. A second person, capable of operating the descent device, must be designated and in visual or contact range when MEWPs are in use. A spotter, who is a qualified operator, is required when the MEWP is operating in an area with minimal clearance or where hazards are present.

MEWPs themselves must meet applicable standards, be maintained and stored properly, and pass an initial inspection, conducted by a custodian, when first brought on-site and a pre-use inspection, conducted by the operator, before each shift.

4 When

These requirements take effect 20 December 2013.

5 Where do I find more information

SLAC Environment, Safety, and Health Manual (SLAC-I-720-0A29Z-001)

- Chapter 47, “Mobile Elevating Work Platforms”

Or contact the program manager.
Chapter 47

Mobile Elevating Work Platforms

1 Purpose

The purpose of this program is to ensure mobile elevating work platforms (MEWPs) meet applicable standards, are kept in good working order, and are used safely and properly. It covers selection, inspection, maintenance, and use of MEWPs. It applies to workers (as operators, spotters, and custodians), supervisors, and Fleet Services.

2 Roles and Responsibilities

Functional roles and general responsibilities for each are listed below. More detailed responsibilities and when they apply are provided in the procedures and requirements.

The roles may be performed by one or more individuals and one individual may play more than one role, depending on the structure of the organizations involved, and responsibilities may be delegated.

2.1 Operator

- Has a valid California driver’s license or a California-recognized license issued by another state or by a foreign jurisdiction of which the operator is a resident if driving on-site (see Traffic and Vehicular Safety: Traffic Safety Requirements)
- Completes required training and demonstrates proficiency in safe MEWP operation
- Is knowledgeable of safety requirements and MEWP operation instructions and adheres to them
- Wears personal protective equipment (PPE) as required
- Inspects MEWP before use
- Reports operating malfunctions or problems to the MEWP custodian immediately and ensures equipment is tagged out of service

2.2 Spotter

- Is a qualified MEWP operator
- Is required when the MEWP is operating in an area with minimal clearance or where hazards are present
- Communicates with the operator on hazards
- Ensures no unauthorized personnel encroach on the work area
2.3 Custodian

- Has a valid California driver’s license or a California-recognized license issued by another state or by a foreign jurisdiction of which the operator is a resident if driving on-site (see Traffic and Vehicular Safety: Traffic Safety Requirements)
- Completes required training
- Secures MEWPs to prevent unauthorized use
- Conducts initial inspection when MEWP is first brought on-site and after service, maintenance, or repair
- Maintains a supply of blank inspection checklists and operator’s manual in a weatherproof container on each MEWP
- Maintains completed inspection checklists for 12 months
- Ensures maintenance records are kept for a minimum of three years and remain available upon request
- Ensures MEWPs that do not pass inspection are tagged out and removed from service
- Works with Fleet Services to ensure MEWPs are properly serviced and maintained

2.4 Supervisor

- Assigns training and authorizes workers to operate only MEWPs they are qualified to operate
- Revokes an operator’s authorization if he or she violates safety requirements. Operators in violation of safety requirements are not to be allowed to continue the operation of MEWPs until retrained and reauthorized.
- Designates qualified operators to provide on-the-job training
- Designates a qualified operator to act as spotter if required
- Designates a person, who has been instructed by the operator in the operation of the descent device or is a qualified operator, to be in visual or contact range to bring the basket or platform down in the event of equipment failure or operator problem
- Designates MEWP custodians and ensures that they maintain the necessary skills required for custodianship

2.5 Fleet Services

- Performs or arranges for all procurement, maintenance, and servicing of SLAC-owned MEWPs
- Ensures maintenance records are kept and available upon request

2.6 Program Manager

- Assists in the interpretation of standards in support of compliance and safety improvement efforts
- Identifies, develops, and maintains appropriate training
- Assists with the qualification and authorization of trainers
Maintains this chapter and associated documents
Periodically assesses program
Ensures that subcontractors have a compliant program

3 Procedures, Processes, and Requirements

These documents list the core requirements for this program and describe how to implement them:

- **MEWP: Operating Requirements** (SLAC-I-730-0A21S-008). Describes requirements for use of mobile elevating work platforms
- **MEWP: Equipment Requirements** (SLAC-I-730-0A21S-058). Describes requirements for mobile elevating work platforms
- **MEWP: Inspection Procedures** (SLAC-I-730-0A21C-008). Describes process for initial and pre-use inspections of mobile elevating work platforms

4 Training

4.1 Operator

An operator must be authorized by his or her supervisor and complete all required classroom, on-the-job and practical training before using a MEWP. Courses and equipment-specific operational proficiency evaluation must be completed a minimum of every three years to maintain qualification.

An operator must complete the course(s) appropriate to the type of device he or she will be operating:

- ESH Course 162, Boom Lift Operator Training ([ESH Course 162](#))
- ESH Course 162PRA, Boom Lift Operator Practical Training ([ESH Course 162PRA](#))
- ESH Course 163, Scissor Lift Operator Training ([ESH Course 163](#))
- ESH Course 163PRA, Scissor Lift Operator Practical Training ([ESH Course 163PRA](#))

Course credit from an approved program (such as from a MEWP leasing company) is transferable subject to MEWP program manager review, but a practical evaluation for the equipment to be operated must be taken at SLAC. For course credit, the applicant must have passed a written exam with a score of 70 percent or higher, and course topics must have included, at minimum

- MEWP operational safety, including limitations of use
- Operator duties, including pre-use inspections (equipment and area)
- Maintenance requirements (including battery charging)
- MEWP-specific safety precautions
- Safe working load or capacity (persons and materials) determination
- Barrier and sign requirements
- Condition of and control over work area
4.1.1 Fall Protection

Operators who 1) work with articulating boom aerial devices, 2) use fall protection equipment, or 3) access unprotected elevated work surfaces must complete the following course before performing such work. The course must be retaken every three years.

- ESH Course 200, Fall Protection / Authorized Training (ESH Course 200)

4.2 Custodian

Custodians must complete the classroom or web-based training above for the device in question but are not required to pass a performance evaluation.

5 Definitions

*Boom.* An elevating member; the lower end of which is so attached to a rotating or non-rotating base that permits elevation of the free or outer end in vertical plane

*Custodian.* A person who is responsible for a MEWP (whether SLAC-owned, rented, or leased)

*Device, aerial.* Any vehicle-mounted or self-propelled device, telescoping extensible or articulating, or both, which is primarily designed to position personnel

*Inspection, pre-use.* A thorough inspection of equipment and area conducted before each shift, before using equipment

*Lift, articulating boom.* An aerial device with two or more hinged boom sections

*Override.* When platform control functions are bypassed by the lower (base) controls

*Platform, elevating work.* A device designed to elevate a platform vertically (vertical tower, scissor lift)

*Platform, extensible boom.* An aerial device (except ladders) with an extensible boom. Telescopic booms with personnel platform attachments are considered to be an extensible boom platform.

*Platform, mobile elevating work (MEWP).* A general term used for scissor lift, aerial platform, or an extensible or articulating boom aerial device (either self-propelled or vehicle-mounted) used for the purpose of positioning personnel, their tools, and necessary materials to elevated work locations. Not included in this definition are ladder stands, scaffolds, or industrial trucks.
Platform. Any personnel-carrying device, such as a bucket, basket, cage, stand, or tub that is a component of a MEWP

Spotter. A person designated to monitor conditions for any health or safety impacts

Stability. A condition of a work platform in which the sum of the moments tending to overturn the unit is less than the sum of the moments tending to resist overturning

6 References

6.1 External Requirements

The following are the external requirements that apply to this program:

  - Section 3209, “Standard Guardrails” (8 CCR 3209)
  - Section 3210, “Guardrails at Elevated Locations” (8 CCR 3210)
- American National Standards Institute (ANSI)/Scaffold Industry Association (SIA)
  - ANSI/SIA A92.3-1990, “Manually Propelled Elevating Aerial Platforms” (ANSI/SIA A92.3-1990)

6.2 Related Documents

SLAC Environment, Safety, and Health Manual (SLAC-I-720-0A29Z-001)
- Chapter 13, “Traffic and Vehicular Safety”
- Chapter 41, “Hoisting and Rigging”
- Chapter 45, “Fall Protection”
Chapter 48, “Powered Industrial Vehicles”

Other

None
Chapter 47: Mobile Elevating Work Platforms

Operating Requirements

1 Purpose

The purpose of these requirements is to ensure mobile elevating work platforms (MEWPs) are operated safely. They cover the use of MEWPs. They apply to workers (as operators, spotters, and custodians), and supervisors.

2 Requirements

2.1 Personnel

Only qualified and authorized workers may operate a MEWP.

A person who has been instructed by the operator in the operation of the descent device or is a qualified operator must be designated and in visual or contact range of the MEWP operator to bring the basket or platform down in the event of equipment failure or operator problem.

A spotter, who must be a qualified operator, is required when the MEWP is operating in an area with minimal clearance or where hazards are present. A spotter should be located for the best view and can be on the work platform or on the ground. The spotting function need only be performed during vertical or horizontal movement. The spotter may be the person designated to operate the emergency descent device.

2.2 Pre-use Inspection

Before each shift a pre-use inspection must be conducted (see MEWP: Inspection Procedures).

2.3 Fall Protection

On a vertical-only work platform with guardrails, such as a scissor lift, use of a fall arrest system is not required unless recommended by the manufacturer. In this case, use the manufacturer-installed rated anchorage points within the basket.

Anyone who will be in the basket of a MEWP classified as an aerial device (for example an articulating boom lift) must use an approved fall restraint or arrest system, and the fall restraint must be connected to an approved anchorage point within the basket.
Equipment designed by the manufacturer for exiting at heights must comply with all pertinent regulations and SLAC requirements.

**Important** Wearing fall restraint or arrest equipment does not permit the wearer to climb out of the basket onto another surface, stand on the basket’s railings, or use planks or other unapproved methods to gain higher elevation.

For details on fall protection systems and requirements, see Chapter 45, “Fall Protection”.

### 2.4 Hazard Control

- Assess if electrical hazards are present. A MEWP used near unprotected or exposed electrical systems must be electrically insulated. In addition, work must comply with SLAC electrical work requirements as outlined in Chapter 8, “Electrical Safety”, which includes guidance concerning the limited approach or arc flash boundary. The maximum distance applies.
- Do not use a MEWP during storm conditions of any kind, including high wind, or when equipment or materials are covered with ice or snow.
- Stabilize the MEWP before operating it: ensure that it is on stable, flat, and structurally sound flooring or ground. Unless designed for such use, MEWPs must not be operated on inclined surfaces.
- If traffic is present in the work area, implement traffic control measures such as placing safety cones or barricades or roping the area off.

### 2.5 Proper Use

- Remain inside the protective guardrails of any elevated fixed platform, elevating work platform, or aerial device. Do not sit or stand on railings, or use planks or boards to gain access to a higher elevation or to climb off the MEWP.
- Close the mid and top chains, railing, and gate enclosures before elevating the device.
- Do not exceed the maximum operating weight capacity (including personnel, equipment, supplies, and tools).
- Do not move the MEWP while the basket is elevated and occupied unless the equipment is designed for this activity. Such travel must be conducted in accordance with all applicable regulations and standards.
- Do not use a MEWP as a crane.
- Do not allow unstable objects such as barrels, boxes, loose brick, tools, debris to accumulate on the floor of the MEWP.
- Make sure proper ventilation is provided when operating internal combustion equipment indoors.
- Keep the operator’s manual in a weatherproof container on each MEWP.

### 2.6 Storage / Parking

The person in charge of the MEWP (operator or custodian) must ensure the following:
The MEWP is parked in its designated space. If there is none, the MEWP must be parked away from high traffic areas.

The MEWP is secure and stabilized, as necessary, with the basket positioned to prevent unauthorized access to the basket and controls. During inclement weather the basket must be lowered to prevent damage.

The keys are returned to the MEWP custodian or designated key repository.

3 Forms

The following are forms required by these requirements:

- None

4 Recordkeeping

The following recordkeeping requirements apply for these requirements:

- None

5 References

SLAC Environment, Safety, and Health Manual (SLAC-I-720-0A29Z-001)

- Chapter 47, “Mobile Elevating Work Platforms”
  - MEWP: Inspection Procedures (SLAC-I-730-0A21C-008)

- Chapter 8, “Electrical Safety”

- Chapter 45, “Fall Protection”

Other Documents

- None
1 Purpose

The purpose of these requirements is to ensure mobile elevating work platforms (MEWPs) meet applicable standards and are maintained in good working order. They cover design, marking, inspection, maintenance, and modification of MEWPs. They apply to workers (as operators and custodians), and Fleet Services.

2 Requirements

Any MEWP brought on-site – SLAC-owned, leased, rented, and equipment owned by subcontractors – must be designed and manufactured in accordance with applicable standards (see Section 5, “References”) and marked, inspected, maintained, and modified following the requirements below.

2.1 Controls

All controls must be clearly labeled. MEWP control panels must require dual activation by the operator to activate the directional (horizontal or vertical movement) controls. Time-delay ramping feature activation controls are not permitted.

Authorized controls include the following:

- Joystick equipped with an enable switch that has a time-out function of 10 seconds or less (non-locking or spring loaded)
- Joystick with guarded trigger mechanism
- Joystick with a separate enable switch (continuously pressed)
- Joystick with a pull-up trigger
- Joystick and foot pedal

Controls not on this list must be approved by authorized ESHQ personnel.

2.2 Marking

A plate or other legible marking verifying that the MEWP is designed and manufactured in accordance with the applicable standard must be conspicuously displayed and bear the following information:

1. Make, model, and manufacturer’s serial number
2. Rated capacity, including maximum capacity at the platform’s maximum height
3. Platform height, including maximum travel height
4. Maximum recommended operating pressure of any hydraulic or pneumatic system(s)
5. Any applicable operation restrictions and cautions
6. Operating instructions
7. Manufacturer’s rated line voltage (dielectric capability)
8. Alternative configurations require, in addition to the above:
   – Chart, schematic, or scale showing capacities of all combinations in their operating positions
   – Caution or restrictions or both of operation of all alternate or combinations of alternate configurations

2.3 Inspection

MEWPs must pass an initial inspection, conducted by a custodian, when first brought on-site and a pre-use inspection, conducted by the operator, before each shift (see MEWP: Inspection Procedures).

2.3.1 Non-SLAC Equipment

Before bringing a non-SLAC-owned MEWP on-site, the custodian will verify that the vehicle meets the minimum requirements of this program.

2.4 Maintenance

Custodians in coordination with Fleet Services will establish and follow a program of regular maintenance to ensure that MEWPs remain in safe operating condition. Custodians will ensure maintenance records are kept for a minimum of three years and remain available upon request.

Only employees of Fleet Services or a third-party approved by it are permitted to maintain or repair MEWPs.

2.5 Modification

No modifications or additions to MEWPs will be performed without written authorization from the manufacturer.

3 Forms

The following are forms required by these requirements:

- None
4 Recordkeeping

The following recordkeeping requirements apply for these requirements:

- The custodian will ensure maintenance records are kept for a minimum of three years and made available for inspection upon request.

5 References

**SLAC Environment, Safety, and Health Manual** (SLAC-I-720-0A29Z-001)

- Chapter 47, “Mobile Elevating Work Platforms”
  - MEWP: Inspection Procedures (SLAC-I-730-0A21C-008)

Other Documents


- American National Standards Institute (ANSI)/Scaffold Industry Association (SIA)
  - ANSI/SIA A92.3-1990, “Manually Propelled Elevating Aerial Platforms” ([ANSI/SIA A92.3-1990](https://wwwags.ca.gov/industrialsafety/8CCR3636-3648))
# Mobile Elevating Work Platforms

## Inspection Procedures

The purpose of these procedures is to ensure that a mobile elevating work platform (MEWP) is safe to operate before it is used. They cover initial inspections, when the MEWP is first brought on-site and immediately after service, maintenance, or repair, and pre-use inspections before each shift. They apply to workers (as operators and custodians).

## 2 Procedures

### 2.1 Initial

<table>
<thead>
<tr>
<th>Step</th>
<th>Person</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Custodian</td>
<td>Conducts initial inspection when MEWP is first brought on-site and after service, maintenance, or repair, using the <a href="http://www-group.slac.stanford.edu/esh/eshmanual/references/mewpProcedInspect.pdf">MEWP: Inspection Checklist</a> or a device-specific checklist.</td>
</tr>
</tbody>
</table>
| 2.   | Custodian | If MEWP does not pass inspection:  
|      |         | - Tags it **DANGER – DO NOT OPERATE**  
|      |         | - Removes it immediately from service  
|      |         | - Contacts Fleet Services for repair |
| 3.   | Custodian | Keeps checklist for a minimum of one year and makes available upon request. |

### 2.2 Pre-use

<table>
<thead>
<tr>
<th>Step</th>
<th>Person</th>
<th>Action</th>
</tr>
</thead>
</table>
| 1.   | Operator | Before using checks that MEWP has been inspected before each shift, and if no inspection has been done, conducts one using the [MEWP: Inspection Checklist](http://www-group.slac.stanford.edu/esh/eshmanual/references/mewpProcedInspect.pdf) or a device-specific checklist:  
|      |         | - If MEWP passes inspection, places completed checklist in a waterproof enclosure on the MEWP, where it must remain throughout the shift, and skips to step 4.  
<p>|      |         | - If the MEWP does not pass inspection, tags it <strong>DANGER – DO NOT OPERATE</strong>, removes it immediately from service, and contacts the custodian |
| 2.   | Custodian | Checks that MEWP has been properly tagged out and contacts Fleet Services for |</p>
<table>
<thead>
<tr>
<th>Step</th>
<th>Person</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>Custodian</td>
<td>Conducts initial inspection after repair</td>
</tr>
<tr>
<td>4.</td>
<td>Operator</td>
<td>Performs work and returns completed checklist to MEWP custodian once work or shift is completed</td>
</tr>
<tr>
<td>5.</td>
<td>Custodian</td>
<td>Keeps checklist for a minimum of one year and makes available upon request</td>
</tr>
</tbody>
</table>

### 3 Forms

The following forms are required by this procedure:

- MEWP: Inspection Checklist (SLAC-I-730-0A21J-011). Form for documenting initial and pre-use inspections of mobile elevating work platforms

### 4 Recordkeeping

The following recordkeeping requirements apply for this procedure:

- The custodian keeps inspection checklists for a minimum of one year and makes them available upon request.

### 5 References

SLAC Environment, Safety, and Health Manual (SLAC-I-720-0A29Z-001)

- Chapter 47, “Mobile Elevating Work Platforms”
Mobile elevating work platforms (MEWPs) must be inspected by either the custodian or operator before each shift and by the custodian when first brought on-site and immediately after service, maintenance, or repair (see MEWP: Inspection Procedures [SLAC-I-730-0A21C-008]). This checklist is to be completed to document the inspection. The completed checklist is to be kept in a weatherproof enclosure on the MEWP, where it must remain throughout the shift, and delivered to the custodian at the end of the shift. The custodian keeps it for one year from date of inspection.

**Contact name:**

**MEWP type:**

**Date/time:**

**Contact number:**

**Model #:**

**Shift:**

**Inspected by:**

**Vehicle #:**

---

<table>
<thead>
<tr>
<th>Inspection Item</th>
<th>Result</th>
<th>Comment</th>
<th>Reported to (name)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer’s operations manual is stored on MEWP</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety decals are in place and readable</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control panel is clean and all buttons switches are clearly visible (no paint over spray, etc.)</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All safety indicator lights work</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motion alarms are functional</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All guardrails are sound and in place, including basket chains and gate door</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All switch and mechanical guards are in good condition and properly installed</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On models with extension platforms, work platform extension slides in and out freely with safety locking pins in place to lock setting</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work platform and extension slides are clean, dry, and clear of debris</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free of defects such as cracked welds, fuel leaks, hydraulic leaks, damaged control cables or wire harness</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating and emergency controls are in proper working condition, including EMO button or emergency stop</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both upper and lower controls are adequately protected from inadvertent operation</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive controls function properly and are accurately labeled (up, down, right, left, forward, back)</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency lowering function operates properly</td>
<td>Pass</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Chapter 47 | Inspection Checklist

<table>
<thead>
<tr>
<th>Inspection Item</th>
<th>Result</th>
<th>Comment</th>
<th>Reported to (name)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower operating controls successfully override the upper controls</td>
<td>✔️ Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper drive controls interlock mechanism is functional (foot pedal, spring lock, or two hand controls)</td>
<td>✔️ Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tires and wheels are in good condition, with adequate air pressure (if pneumatic)</td>
<td>✔️ Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braking devices are operating properly</td>
<td>✔️ Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery and hydraulic equipment in good condition</td>
<td>✔️ Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grounding strap is in place and operational</td>
<td>✔️ Pass</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Work Area Survey

Survey work area for potential hazardous operating conditions and ensure hazards are mitigated.

<table>
<thead>
<tr>
<th>Floor/ground conditions: drop offs, holes, uneven surfaces, sloped floors, unstable ground, other:</th>
<th>Present</th>
<th>Not present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housekeeping: debris, floor obstructions, cords, construction materials, supplies, other:</td>
<td>Present</td>
<td>Not present</td>
</tr>
<tr>
<td>Hazardous energy: electrical power cables or panels, chemical/gas/drain lines, utilities, other:</td>
<td>Present</td>
<td>Not present</td>
</tr>
<tr>
<td>Overhead obstructions: tight working conditions, adjacent structures, pipe racks, beams, ceiling grids, other:</td>
<td>Present</td>
<td>Not present</td>
</tr>
</tbody>
</table>