

ENVIRONMENTAL HEALTH & SAFETY  
THE UNIVERSITY OF TEXAS AT TYLER



PROGRAM FOR LIFT  
SAFETY (Mobile Elevated  
Work Platform)

2023

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**Introduction:**

The University of Texas at Tyler Environmental Health and Safety department has developed this Lift Safety Program to ensure a safe work environment and to protect the health and safety of University Staff and any contractors/vendors working on University property. This program was written with guidance from OSHA guidelines, the University of Texas System Construction Safety Program, and on-site Job Hazards Analyses.

**Purpose:**

The purpose of the Lift Safety Plan, herein referred to as the “Plan” is to ensure that work performed by any UT Tyler employee, student, or contractor who will be operating an aerial or scissor lift has the knowledge and tools to work safely. This program addresses the general use, inspection, maintenance and personal protective equipment associated with the use of aerial lifts.

**Application:**

This program applies to any personnel operating a mobile lift on UT Tyler’s Campus. Mobile lifts include a variety of equipment including, but not limited to, aerial lifts, scissor lifts, articulating boom lifts, truck mounted lifts, etc. Mobile lifts may be powered or manual and serve to elevate the worker to the required area while providing specific safety features to minimize/eliminate the risk of injury. This program applies employees or contractors that use University-owned or rented aerial platforms and scissor lifts designed to elevate personnel on a platform that is propelled by a powered lifting device, with the controls located on the platform itself.

**Notice:**

Personnel shall not operate a mobile lift on campus until the following requirements have been met:

- The lift has been inspected and tagged by EH&S;
- The Rescue Plan has been completed;
- All jobsites involving a lift must have at-least two qualified people on-site (operator and spotter);
- All other employees working on the job site must have a clear understanding of their responsibilities on the site;
- Proper personal protective equipment (PPE) has been selected and issued to affected employees (contractors must supply their own PPE);
- The vertical drop zone (VDZ) has been established and restricted to essential employees only.

A mobile lift may not be operated until every single requirement is met. If the following conditions cannot be met, the lift will be restricted to employees and others by erecting barriers, and/or posting warning signs until the requirements have been met.

**Definitions:**

**Aerial lift:** any device (vehicle-mounted; telescoping or articulating) used to position personnel.

**Anchor point/Anchorage:** secure point of attachment for lifelines, lanyards or deceleration devices.

**ANSI:** American National Standards Institute.

**Articulating Boom Lifts:** An aerial device with two or more hinged boom sections. They are designed to reach up and over obstacles; the boom may be maneuvered horizontally at one or more boom joint.

**Body harness:** straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

**A boom lift:** is named for the arm-like mechanism used to raise or lower the work platform. Boom lifts may sometimes be called a bucket lift or cherry picker when a bucket is used instead of a work platform. There are two main types of boom lifts found on campus: articulating and telescoping boom lifts.

**Certified operator:** a person who is trained to operate aerial lifts and utilize elevated work platforms.

**Competent person:** a person who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are hazardous to employees and has the authorization to take prompt corrective measures to correct them.

**Elevated work platform:** surfaces on which operators work as part of an aerial device.

**EH&S:** Environmental Health and Safety

**Fall arrest system:** a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.

**Fall restraint system:** fall protection system, which prevents an employee from approaching a fall hazard through the use of a lanyard and body harness.

**Lanyard:** a flexible line of rope, wire rope or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline or anchorage.

**Lifts:** may be defined as any aerial or scissor lift

**Mobile lift:** a combination of an aerial device, its vehicle and related equipment.

**Personal Protective Equipment (PPE):** is any specialized clothing or equipment worn by employees or students for protection against health and safety hazards associated with lift use.

**Scissor Lift:** is any powered, mobile device that has a personnel work platform which is mechanically raised vertically above the carriage by means of controls on the work platform.

**Telescoping Boom Lift:** An aerial device with two or more boom sections that extend from the main boom, which is usually mounted to a vehicle or trailer. The booms extend outward from each preceding section of boom. The base of the boom may be manipulated both vertically and horizontally.

**The University of Texas System** - is a government entity of the state of Texas that includes 14 higher educational institutions throughout the state including eight universities and six health institutions.

**VDZ** – Vertical Drop Zone

**Pre-use inspection:**

Each aerial lift will be inspected prior to use by an EH&S representative. The purpose of the pre-use inspection is to ensure there are no deficiencies related to the lift equipment and no additional hazards associated with the task being completed using the lift. Additional hazards include adverse weather, electrical, vehicular and pedestrian traffic control and surface conditions and are covered in detail in the “Hazard” section of this plan.

- The pre-use inspection will identify conditions, which may render the use of the equipment unsafe. If any condition is noted during the pre-use inspection, which may render the equipment unsafe, the equipment will be tagged “out of service”, EH&S will notify their supervisor of the deficiency and the equipment will not be utilized until deficiencies are corrected.
- Pre-use inspections will consist of visual and operational checks of all components of the aerial lift system and associated work conditions. Manufacturer recommendations should be followed to address specific items to be included during the pre-use inspections. Appendix A provides an example of an aerial lift pre-use inspection checklist. At a minimum, the inspection process should address the following areas:
  1. Visual checks:
    - A. Cracked welds
    - B. Bent or broken structural components
    - C. Hydraulic and fuel lines
    - D. Controls and cables
    - E. Wiring
    - F. Tire condition
    - G. Fuel
    - H. Platform condition
    - I. Personal protective equipment
    - J. Guardrail systems
  2. Operational checks: platform and ground controls should be operated while in a lowered position to ensure they perform their intended functions.
  3. Work condition checks: this portion of the inspection deals with the conditions in which the lift will be operated and the surrounding environment. Specific details

regarding hazards associated with aerial lift use are provided the “Hazard” section of this plan and includes:

- A. Uneven surfaces
  - B. Ditches, drop-offs, and holes in the driving surface
  - C. Debris
  - D. Overhead obstructions, including electrical lines
  - E. Safe clearance
  - F. Adverse weather
  - G. Vehicular and pedestrian traffic control
4. The Rescue Plan Section is complete and has identified the:
- a. Hazards associated with the operation
  - b. Type of Rescue
- Completed inspection checklists will be maintained by the EH&S department and kept on file in the department office.

### **General requirements for use:**

It is the responsibility of the operator to review the manufacturer specifications for the aerial lift being used and be familiar with the safe operation of the equipment. The Operator is responsible for verifying all occupants are aware of:

- Personal Fall Protection requirements.
- How their actions in the platform could affect the stability of the machine.
- Discuss all hazards related to the task.
- Review the manufacturer’s warnings and instruction for the MEWP being operated.
- Review the function of the MEWP platform controls, emergency shut down procedures and how to safely lower the platform.

The following general requirements for use of an aerial lift should be followed at all times:

- Operators will not wear loose clothing or accessories, which may become caught in moving parts. Long hair must be tied back to avoid being caught-in moving parts.
- Guardrails must be installed, and an access gates or openings must be closed prior to raising the platform.
- The manufacturer’s load capacity will not be exceeded.
- The operator(s) will maintain footing on the lift floor during operation. The use of railing, planks, ladders or any other devices on the platform for achieving additional height is prohibited.
- Appropriate fall protection (lanyard and body harness) will be made available to the operator and used by the operator when working at heights greater than 6 feet. Refer to the UT Tyler Fall Protection Program for details on fall protection, PPE requirements and use.
  - 1. Use of railings or points outside the lift cage as an anchor point is prohibited. Operators must use the anchor-points that are provided on the mobile lift.
- The operator will not exit the work platform while elevated unless the elevated work area is inaccessible by other means; exiting is being used as an anti-fatigue measure; it is a safer method of reaching an elevated work area; and the operation is approved by the EH&S.

1. If exiting the lift platform is approved, appropriate fall protection must be provided.
  2. Exit from an elevated platform will occur only through a gate.
  3. Fall protection must be transferred from the aerial lift to the elevated work area prior to exiting the lift platform.
- Aerial lifts should be moved in the lowered position. Only aerial lifts equipped with manufacturer installed platform controls for horizontal movement may be moved while in the elevated position.
    1. If the lift is to be moved in an elevated position, the operator will ensure a clear path of travel and safe clearances from ground and overhead obstacles.
    2. A ground level spotter should be utilized during elevated movement operations.
  - If the aerial lift is equipped with outriggers or stabilizers, they will be used as per the manufacturer's specifications.
  - Surface slope should be taken into consideration when using an aerial lift and operation should only occur on smooth level surfaces or within the slope limitations provided by the manufacturer specifications.
  - Vehicle mounted aerial lifts will have the brakes set and wheels chocked prior to elevating the platform.
  - Altering, modifying or disabling safety devices on the aerial lift are prohibited.
  - At no time should the work platform be positioned against another object to steady the platform.
  - **Two qualified employees will be present during lifting operation.**
  - Prior to lowering the work platform, the operator will ensure appropriate clearance below the work area.
  - Horseplay and/or stunt driving is prohibited.

### **Aerial lift maintenance:**

Aerial lifts utilized from an equipment rental company should be appropriately maintained by the equipment owner. The department renting the equipment will ensure any equipment rented is appropriately maintained. Aerial lifts owned by the department will be maintained as required by the equipment manufacturer by a competent individual assigned by the department.

- UT Tyler owned equipment will be certified annually by a competent individual as per the manufacturer's specifications.
- Deficiencies noted during pre-inspection or during operation will be addressed by the competent person prior to placing the equipment back in service.

### **Personal Protective Equipment:**

Fall protection will be used when operating aerial lifts.

- When an anchor point is provided on the lift by the equipment manufacturer, an appropriate fall arrest or fall restraint system must be utilized by the operator. The operator will be trained in the safe use of a fall protection system prior to operating the lift.

- In some cases, the guardrail system installed on the lift is suitable fall protection equipment. If the lift is equipped with an anchor point in addition to a guardrail system, fall arrest/restraint devices including lanyards and body harness/belt will be used by the operator.
  1. Tying a lanyard off to an adjacent pole, structure, or equipment while operating the lift is prohibited.
- It is the responsibility of the supervisor to develop rescue operations for situations when a fall occurs. Refer to the UT Tyler Fall Protection Program for fall protection rescue procedures on the UT Tyler Website. <https://www.uttyler.edu/safety/construction-safety/fall-protection-program/>

Other types of personal protective equipment including head, eye and hand protection will be utilized based on the work being performed by the operator.

### **Hazards**

When elevated work is being conducted, the operator must take additional hazards into consideration, which may affect the safety of the individual performing the work. The following hazards will be addressed prior to and during the use of elevated work equipment. It is the policy of UT Tyler to minimize the risk of injury to employees and contractors utilizing these systems. Their use is not permitted if the following hazards are not appropriately addressed or controlled.

- Inclement weather - Elevated work equipment for use outdoors must address inclement weather as a prerequisite of operating the elevated work equipment. It is the department's responsibility to maintain "on-call" individual(s) for all activities when outdoor use of elevated work equipment is conducted. It is the responsibility of the on-call individual to monitor the weather and determine if changes occur, which may create unsafe work conditions and to alert aerial lift/elevated work platform users when these conditions arise.
  1. Wind: Aerial lifts must have a posted wind speed limitation. The equipment manufacturer is responsible for supplying this information to the department. If wind speeds exceed 25 miles per hour, use of an aerial lift or elevated work platform is not recommended. Refer to the manufacturer's specifications or design criteria for specific wind limitations.
    - A. All operators and users of aerial lift/elevated work platforms will be informed of these limitations and have suitable means for detecting elevated wind speeds prior to performing elevated work through approved wind gauges, up-to-date weather reports or other approved methods.
  2. Precipitation: Rain, snow, hail, sleet or fog, which may adversely affect the safe use of aerial lifts/elevated work platforms, will be appropriately addressed prior to elevated work being performed. If these conditions cannot be appropriately addressed, work will not be performed until weather conditions improve.
  3. It is the responsibility of the aerial lift operator or elevated work platform user and their supervisor to determine when inclement weather will render elevated work platforms unsafe.

4. Suitable means of communication between the aerial lift/elevated work platform user and the spotter must be maintained and available for use at all times to convey pertinent information.
- Electrical hazards.
    1. Only personnel certified to work on electrical lines will be permitted to approach electrical lines during aerial work platform operations.
    2. Elevated work equipment will not come within 10 feet of overhead electrical lines at any time unless the operator is certified to work on powerlines.
    3. Electrical lines carrying voltages greater than 50 kV will be addressed by a certified individual prior to elevated work being performed.
    4. It is the responsibility of the employee to ensure overhead electrical lines are addressed prior to elevated equipment use and avoided during use.
  - Vehicular and pedestrian traffic - at all times during the use of elevated work equipment, the employee will ensure vehicular and pedestrian traffic does not create additional hazards.
    1. During the use of mobile lifts, the operator will ensure the path of travel is not made unsafe due to excess vehicular or pedestrian traffic.
    2. Stationary elevated work platforms will be constructed and protected to ensure vehicular and pedestrian traffic is restricted.

#### **Vertical Drop Zone:**

1. Only employees essential to the operation are permitted in the vertical drop zone (VDZ).
2. Vertical drop zones must be tapped off or barricaded to control entry. The vertical drop zone should be set by using a 45-degree angle from the lift. Ex. A lift 15 feet in the air, must have an area of 15 feet in all directions tapped off.
3. No employee must be directly under the lift, NO EXCEPTIONS!
4. HARD HATS MUST BE WORN AT ALL TIME WHEN INSIDE THE VERTICAL DROP ZONE!

#### **Ground Conditions:**

1. The equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the equipment manufacturer's specifications for adequate support and degree of level of the equipment are met. The requirement for the ground to be drained does not apply to marshes/wetlands.
2. The controlling entity must:
  - Inform the user of the equipment and the operator of the location of hazards beneath the equipment set-up area (such as voids, tanks, utilities) if those hazards are identified in documents (such as site drawings, as-built drawings, and soil analyses) that are in the possession of the controlling entity (whether at the site or off-site) or the hazards are otherwise known to that controlling entity.
  - Ensure that ground preparations necessary to meet the requirements in paragraph (1) of this section are provided.
3. There are five variables when checking for proper ground conditions, they include the following:
  - Visual inspection of area

- Degree of level
- Bearing Capacity of soil
- Controlling entity identification
- Evaluate ground preparation

### **Training**

All employees and users of elevated work equipment will receive training prior to any use of this equipment.

- Aerial/mobile lift training consists of classroom instruction, hands-on training and practical evaluation. Training will be provided by a competent trainer, the equipment manufacturer or training consultant.
  1. Training should address the following areas of safe use:
    - A. Review of equipment manuals
    - B. Pre-use inspections
    - C. Operator responsibilities
    - D. Stability
    - E. Warning signs
    - F. Safe use
    - G. Fall protection
    - H. Equipment limitations (wind, occupancy, surface slope, etc.)
  2. Hands-on training should provide the trainee with the experience to allow them to safely operate the lift.
  3. Practical evaluations will be provided to the trainee as a certification step in the training process
  4. Upon successful completion of training, operators will be certified to operate aerial lifts.
  5. Training records must be maintained by EHS.
  6. Operator recertification will be completed every three years or when one of the following occurs:
    - A. The operator is observed using the lift in an unsafe manner
    - B. The operator is involved in an accident or near miss
    - C. The equipment changes
    - D. Workplace conditions change resulting in unsafe work conditions.
- Stationary elevated work platform training will be provided to all personnel utilizing/maintaining the platforms. Training should be conducted by a competent individual and address the following topics
  1. Safe equipment uses
  2. Equipment limitations (wind, precipitation, occupancy, etc.)
  3. Restricting access when in use and not in use

### **Record-Keeping**

A pre-operation inspection will be completed, signed and dated by a designated member of the Environmental Health and Safety department. EH&S shall maintain the original permit on file for a minimum of three years. A copy of the Inspection will be forwarded to any department which required a permit.

### **Annual Compliance Review**

The Safety Organization will review the program annually to determine how the program can be improved. EH&S will strive to keep all programs up to date, with accurate information that employees, and outside contractors can rely on.

### **Revisions**

<b>Date</b>	<b>Author/Reviewer</b>	<b>Description/Reason for Change</b>
5/3/2021	T Bay/ P Tate	Reviewed for latest revision/updated year/added revision section
9/8/2021	T Bay/ P Tate	Updated information to include Mobile Elevated Work Platform references & details on a rescue plan
6/13/2022	T Bay/P Tate	Reviewed/updated year
7/7/2023	T Bay/K Stapp	Updated logo, date & formatting.

## APPENDIX A (AERIAL LIFT INSPECTION FORM)

### Aerial-Lift Pre-use Inspection Form

This form must be completed for all non-crane man or fork-lifts including, but not limited to, spider lifts, telescopic boom lifts, scissor lifts, articulating boom lifts, bucket trucks, telescopic forklifts, etc. **IMPORTANT:** Operator makes a service request if any item fails inspection.



**Project:**

**Lift Type:**

**Location:**

**Model:**

**Type of work:**

**Serial #:**

<b>Pre-Start Inspection</b>	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
Operating Controls (in good working condition)			
Emergency Controls (shut off switches etc.)			
Safety Devices (anchor point, notification alarms, etc.)			
Person Protective Devices			
Pneumatic, Hydraulic and Fuel System (leaks)			
Telescoping boom exhibits no damage to structure, wear pads, boom stops, or cylinder			
Cables in good condition/no excessive wear or fray			
Wiring harness free of fraying, damage, bare wires			
Tires/wheels in good operational condition			
Any Loose or missing parts			
Placards and warning signs are in place			
Outriggers in good condition/support plates present			
Handrails/locking gate in place and not damaged			
Operator's manual in vehicle			
Charged fire extinguisher in place			
<b>Work Area Inspection</b>	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
Drop offs or holes			
Slopes			
Bumps/floor obstructions			
Debris			
Overhead obstructions and high voltage conductors			
Hazardous locations/atmospheres			
Tools and other equipment			
Inadequate surface and support to withstand all load forces imposed by the aerial lift platform			
Wind and Weather Conditions: <b>NOTE: operation of aerial lifts outdoors is prohibited when wind speeds reach 28mph, when there is a wind warning in effect for 28 mph or greater, when lightening is visible, or when thunderstorm warnings are in effect</b>			
Presence of unauthorized persons			
Other possible unsafe conditions			
Additional Comments:			

Inspected By: \_\_\_\_\_

Date: \_\_\_\_\_

<b>MEWP Rescue Plan</b>
<b>1. Self-rescue by operator</b>
a. Use of upper platform controls with the engine running.
b. Auxiliary controls when the engine has stopped.
<b>2. Assisted rescue</b>
a. Use trained and authorized personnel on ground to lower platform by ground control panel or emergency lowering system.
Name: _____
b. Qualified mechanic(s) available on site in case of breakdown.
YES ___ NO ___ Telephone number: _____
c. Other MEWPs available for platform to platform evacuations.
YES ___ NO ___
YES ___ NO ___
Personnel able to conduct rescue: _____
<b>3. Emergency services rescue</b>
Emergency Contact #: _____
If unable to reach the worker, if there is an injury, illness, or if someone has been suspended in a harness.
Any other comments: _____ _____ _____
Signature: _____
Rescue shall be given to the MEWP occupant(s) if the machine is unable to be lowered for any reason, such as complete machine malfunction or work platform entanglement.
*In the case of platform entanglement, the operator and occupants shall be removed from the platform prior to attempts being made to free the platform.
*MEWPs which have tipped beyond their center of gravity shall be stabilized and secured before attempting rescue.
*Rescue procedures near electrical conductors shall comply with local Minimum Safe Approach Distance (MSAD) Standards.
Other MEWPs available for platform to platform evacuations as a last resort
Rescue using another MEWP should be carried out only once a site review has been carried out. The plan should take into account the following:
a. The rescue machine should be positioned to enable the rescue procedure to be carried out without compromising the safety of personnel involved in the rescue.
b. The platforms of both machines shall be adjacent to each other with minimal horizontal/ vertical gap between them. The power to controls on both machines should be switched off during the transfer.
c. The person being rescued should be fitted with proper fall protection equipment and maintain 100% tie off until the transfer is completed.
d. The rescue machine shall not be overloaded during the rescue. This could mean making more than one trip to complete the rescue.
e. Always comply with the manufacturer's requirements stated in the operator's manual.

**CALLING 911 IS NOT CONSIDERED A RESCUE PLAN!**