

# Aerial Lift Safety

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SAFETY POLICY MANUAL - SECTION 1 - POLICY NO. SM 1.6



SAFETY DEPARTMENT | 6001 UNIVERSITY BOULEVARD MOON TOWNSHIP, PA 15108

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**I. PURPOSE:**

- A. Aerial lifts are commonly used in construction, maintenance, athletic events and during inspections to lift personnel to an elevated work position. Proper operation and use of aerial lifts can make completion of tasks at elevation, safer and more efficient. However, unsafe use, operation and aerial lift work practices can result in serious injury. This policy has been established to provide safe work practices for those individuals in and around this type of equipment. In addition, this program outlines general, operating, maintenance, inspection and training requirements governing safe aerial lift use at the University.
- B. This program has been developed to reduce the risk of physical injury or property damage in areas where aerial lifts are in operation. This policy is also consistent with the requirements set by federal, state, and/or local agencies.

**II. SCOPE & APPLICABILITY:**

- A. This program applies to the use of all aerial lifts owned or rented and otherwise operated by university personnel.
- B. RMU departments or personnel may include, but are not limited to, Facilities Management- Maintenance, ISC Operations- Ice Associates, and Athletics- Film Crew. Examples of various types of Aerial Lifts can be found in Appendix B.

**III. REFERENCES:**

- A. OSHA Standard 29CFR 1910.68 (Powered Platforms, Man lifts, and Vehicle-Mounted Work Platform).
- B. OSHA Standard 29CFR 1926.453 (Aerial Lifts).
- C. ANSI/SIA A92.6- 2006 (Self-Propelled Elevated Work Platforms)

**IV. DEFINITIONS:**

- A. AERIAL LIFT - for the purpose of this policy, aerial lifts shall include all vehicle mounted/bucket truck, articulating boom, man lifts, powered platforms, scissor lifts, extendable/telescoping lifts and similar equipment. Examples are illustrated in Appendix B of this policy.

**V. PROCEDURES:****A. GENERAL:**

1. Departments using aerial lifts must ensure that supervisors and operators comply with all aspects of this safety policy. All university employees must successfully complete a training program, and receive certification prior to the operation of any aerial lift.
2. Contractors operating aerial lifts on university projects are expected to meet or exceed the requirements of the Occupational Safety & Health Administration - Code of Federal Regulations.
3. Operators shall not wear any loose clothing or accessories that can catch in moving parts.

4. Before a lift is started, the operator must walk completely around the equipment to ensure everyone and everything is clear of the machine.
5. Articulating boom and extendable boom platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.
6. Modifications and additions that may affect the capacity or safe operation of an aerial/scissor lift are strictly prohibited without the manufacturer's written approval. Capacity, operation, and maintenance instruction markings will be changed as necessary if the manufacturer approves a modification.
7. The insulated portion (if applicable) of an aerial I scissor lift shall not be altered in any manner that might reduce its insulating value.
8. Any signs, plates, or decals which are missing or illegible must be replaced.
9. If the aerial/scissor lift becomes disabled, an "out of service" tag or similar shall be attached to the controls inside the platform in a conspicuous location.
10. Any aerial/scissor lift device with a noted or reported deficiency shall not be operated until such repairs are completed and equipment is authorized for use.
11. Operators must report all accidents, regardless of severity, to their supervisor.

#### **B. PRE-USE INSPECTION:**

1. Prior to the operation of any aerial lift the Pre-Use Inspection Checklist found in Appendix A must be completed. This applies at the beginning of every work period, and whenever a new equipment operator takes control of the aerial lift.
2. Any safety defects (such as hydraulic fluid leaks; defective brakes, steering, lights, or horn; and/or missing fire extinguisher, lights, seat belt, or back-up alarm) must be reported for immediate repair. They must also be locked and tagged, and taken out of service.

#### **C. WIND AND WEATHER CONDITIONS:**

1. Weather information provided by the National Weather Service or local news stations should be considered a guideline and not considered site or location specific. Weather condition evaluations such as wind speed should be conducted at the location where the lift is in use.
2. As a general rule aerial lifts shall not be operated in winds exceeding 25mph although this can vary depending on the model of equipment. RMU departments will purchase and use wind gauges to measure wind speeds during outdoor use of lifts
3. At 20mph wind speeds or anticipated gusts, lifts will be lowered to a maximum height of 20 ft.
4. At 25mph wind speeds or anticipated gusts, lifts will be grounded.

**D. SAFE OPERATION DURING USE:**

1. If at any time, personnel feel that conditions and/or operations related to the lift are unsafe, they may ground the lift and cease operations.
2. Guardrails must be installed and access gates or openings must be closed before raising the platform.
3. Boom and platform load limits specified by the manufacturer shall not be exceeded.
4. Before moving an aerial lift for travel, the boom(s) shall be inspected to see that it is properly cradled and outriggers are in stowed position (if equipped).
5. Consideration shall be given to the protection of bystanders via barricading, having another employee keep bystanders at a safe distance or by other means.
6. Attention shall be given towards the direction of travel, clearances above, below and on all sides.
7. Employees shall not sit or climb on the guardrails of the aerial lift.
8. Planks, ladders or other devices shall not be used on the work platform.
9. An aerial lift shall not be moved when the boom is elevated in a working position with employees in the basket.
10. Aerial lift shall not be placed against another object to steady the elevated platform.
11. Aerial lift shall not be used as a crane or other lifting device.
12. Aerial lift devices shall not be operated on grades, side slopes or ramps that exceed the manufacturer's recommendations.
13. The brakes shall be set and outriggers, when used, shall be positioned on pads or a solid surface.
14. Speed of aerial lift devices shall be limited according to the conditions of the ground surface, congestion, visibility, slope, location of personnel and other factors that may cause hazards to other nearby personnel.
15. Stunt driving and horseplay shall not be permitted.
16. Booms and elevated platform devices shall not be positioned in an attempt to jack the wheels off the ground.
17. The area surrounding the elevated platform shall be cleared of personnel and equipment prior to lowering the elevated platform.
18. All equipment must be secured on the inside of the aerial lift.
19. Operators are to call for assistance if the platform or any part of the machine becomes entangled.

**E. SAFETY PROCEDURES I PRACTICES FOLLOWING USE:**

1. Safe shutdown shall be achieved by utilizing a suitable parking area, placing the platform in the stowed position, placing controls in neutral, idling engine for gradual cooling, turning off electrical power, and taking the necessary steps to prevent unauthorized use.
2. Aerial lifts shall be shut off prior to fueling. Fueling must be completed in well ventilated areas free of flames, sparks or other hazards which may cause fires or explosions.

**F. CHANGING & CHARGING BATTERIES:**

1. Battery charging installations must be located in areas designated for that purpose.
2. Facilities must be provided for: flushing and neutralizing spilled electrolyte, fire protection, protection of charging apparatus from damage by trucks, adequate ventilation for dispersal of fumes from gassing batteries.
3. Precautions must be taken to prevent open flames, sparks, or electric arcs in battery charging areas.
4. Employees charging and changing batteries shall be authorized to do the work, trained in the proper handling, and required to wear protective clothing, including face shields, long sleeves, rubber boots, aprons, and gloves.

**G. GENERAL MAINTENANCE:**

1. Any aerial lift not in safe operating condition must be removed from service. Authorized personnel must make all repairs.
2. Repairs to the fuel and ignition systems of aerial lifts that involve fire hazards must be conducted only in locations designated for such repairs.
3. Aerial lifts in need of repairs to the electrical system must have the battery disconnected before such repairs.
4. Only use replacement parts that are currently recommended by the manufacturer.

**VI. RESPONSIBILITIES:****A. DEPARTMENTS UTILIZING AERIAL LIFT EQUIPMENT:**

1. Must implement and administer the Aerial lift Safety program.
2. Review the Aerial lift Safety program for compliance and effectiveness.
3. Verify that all employees who operate or work near aerial lifts are properly trained.
4. Maintain written records of operator training on each model aerial lift and the name of the trainer.
5. Maintain written records of all inspections performed by the aerial lift owner, including the date any problems found, the date when fixed and the name of the person performing the repairs.
6. Maintain written records of the name and purchaser of each aerial lift.
7. Establish expected operating conditions for aerial lift and review with RMU Environmental Health & Safety and Safety Committee.
8. Make recommendations for revisions to this policy as necessary.

**B. DEPARTMENT MANAGER/SUPERVISORS:**

1. Coordinate employee training, and certify that all operators receive required training including, but not limited to, the items listed in Section 7.0 of this document.
2. Ensure that only trained and qualified individuals use aerial lifts.
3. Verify employee compliance with the principles and practices outlined in the Aerial Lift Safety Policy.
4. Provide specific operational training for each type aerial lift being used by employees.
5. Observe the operation of aerial lifts and correct unsafe practices.

**C. OPERATORS:**

1. Read and comply with the Aerial Lift Safety Policy.
2. Complete the Daily Pre-Use Inspection Checklist before operating any aerial lift.
3. Attend required training including a review the procedures outlined in Section VI of this document.
4. Observe the operation of the aerial lift and report unsafe practices to your supervisor.

**D. SAFETY COMMITTEE AND DEPARTMENT OF ENVIRONMENTAL HEALTH & SAFETY:**

1. Review and update the Aerial lift Safety Program as necessary.
2. Assist with orientation and initial training as requested by university departments.
3. Provide the general safety training requirements for program.
4. Monitor the effectiveness of program by receipt of copies of inspection checklists.
5. Evaluate designated areas for aerial lift use.
6. Define appropriate eyewash facilities for battery changing/charging areas.
7. Observe the operation of aerial lifts, and report unsafe practices to the appropriate supervisor.

**VII. TRAINING & EDUCATION**

Employees who are authorized to operate aerial lifts must receive training prior to engaging in those duties which require the use of such equipment. The training is to ensure that the Aerial lift Safety Policy and equipment use is understood. The supervisor will also ensure that authorized aerial lift operators have acquired the necessary practical skills required for safe operation.

RMU Departments will conduct operational training with each employee to determine if operators have the knowledge, training, and skills necessary to use the aerial lift. Operational training will consist of a combination of general safety instruction, practical/operational training (demonstrations performed by the trainer, and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace. All operational training must be conducted under close supervision.

**A. INITIAL TRAINING:**

1. Receive instruction on the intended purpose and function of each control.
2. Prior to operating any Aerial lift. the trainee will read and understand the manufacturer's operating instruction(s) and aerial lift procedures (Section 6.0), or receive training by a qualified person on the contents of the manufacturer's operating instruction(s) and users safety rules.
3. Be informed of the Aerial lift operating limitations and restrictions as defined by the manufacturer.
4. Understand by reading or having a qualified person explain all decals, warnings, and instructions displayed on the Aerial lift.
5. During operational training, trainees may operate an aerial lift only under the direct supervision of authorized trainers, and where such operation does not endanger the trainee or other employees.



6. All training and evaluation must be completed before an operator is permitted to use an aerial lift without continual and close supervision.

**B. REFRESHER TRAINING** - will be provided with new equipment or as determined necessary for the individual(s) and must include at least the following:

1. Review of the Aerial Lift Inspection & Maintenance Record.
2. Review of Section 6.0- Procedures.
3. Updated information on new equipment.
4. Review of university written program.

**C. TRAINING RECORDS:**

1. Each department must maintain a record of all individual training including:
  - a) Subject of training.
  - b) Date of training.
  - c) Name of individual trained.
  - d) Name of supervisor or qualified person providing the training.
  - e) Training records must maintained by the department for a minimum of 3 years.

**VIII. PROGRAM EVALUATION**

A. The aerial lift policy should be evaluated on an annual basis. The evaluation team will consist of a department representatives and the Safety Management Committee. Occupational Health and Safety will define the scope of the evaluation. All deficiencies or opportunities for improvement will be addressed with appropriate corrective action/procedures added to the policy.

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**Implementation Date:** October 2012

**Last Reviewed/Revised:** February 2021

Attachment A: Pre-Use Inspection Checklist for Aerial Lifts

Attachment B: Examples of Aerial Lifts



**Attachment A**

**Pre-Use Inspection Checklist for Aerial Lifts**

**Instructions:** The operator shall inspect aerial lifts prior to placing the machine in service at the beginning of each work shift. Deficiencies noted on the inspection form shall be corrected prior to operation. If the deficiencies cannot be corrected, the aerial lift shall not be used and lock-out/tag-out procedures initiated according to the Aerial Lift Policy.

Aerial Lift Make: \_\_\_\_\_ Model: \_\_\_\_\_

S/N: \_\_\_\_\_

Date Completed: \_\_\_\_\_ Inspected By: \_\_\_\_\_

- Operating and emergency controls
- Safety devices
- Structural and other critical components present and all associated fasteners and pins in place
- Personal protective devices (harness, lanyard etc)
- Fluid levels checked (hydraulic oil, engine oil, coolant etc)
- Hydraulic power unit, reservoir, hoses, fittings, cylinders, and manifolds
- Electrical components, wiring harness, and electrical cables
- Loose or missing parts
- Tires and wheels
- Placards, warnings, and control markings
- Owner’s manual legible and stored inside container located on platform
- Outriggers, stabilizers and other structures
- Guardrail system
- Cracks in welds or structural components
- Dents or damage to machine
- Other items specified by manufacturer





### Work Area Inspection Checklist for Aerial Lifts

**Instructions:** Before an aerial lift is used and during use, the operator shall check the area in which the aerial platform lift is to be used for possible hazards such as, but not limited to:

- ✓ Drop-offs or holes
- ✓ Slopes
- ✓ Bumps and floor obstructions
- ✓ Debris
- ✓ Overhead obstructions and high voltage conductors
- ✓ Hazardous locations and atmospheres
- ✓ Tools and/or other equipment
- ✓ Inadequate surface and support to withstand all load forces imposed by the aerial platform lift
- ✓ Wind and weather conditions:
  - ✓ At 20 mph wind speeds or anticipated gusts, lifts will be lowered to a maximum height of 20 ft.
  - ✓ At 25mph wind speeds or anticipated gusts, lifts will be grounded
  - ✓ Lightning, potential for lightning, lifts will be grounded
- ✓ Presence of unauthorized people
- ✓ Other possible unsafe conditions: \_\_\_\_\_

## Attachment B Examples of Aerial Lifts

	<p><b>Vehicle Mounted Aerial Lift / Bucket Truck</b> The lift platform is an integral part of an over the road vehicle.</p>
	<p><b>Articulating Boom Aerial Lift</b> This aerial lift has at least 2 hinged sections which are used to increase mobility.</p>
	<p><b>Man Lift / Cherry Picker</b> This piece of equipment lifts personnel vertically, but not horizontally.</p>
	<p><b>Scissor Lift</b> This piece of equipment lifts personnel vertically, but not horizontally</p>



**Extendable / Telescoping Aerial Lift** This aerial lift has a boom that extends horizontally and vertically.