AERIAL LIFT OPERATOR SAFETY PROGRAM (ALOSP)

IAW
29CFR1926.453, Subpart L,
29CFR1910.67, Subpart F,
ANSI/SIA A92.6-2006, Self-Propelled Elevating Work Platforms, and
ANSI/SIA A92.5-2006, Boom-Supported Elevating Work Platforms
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1.0 OVERVIEW

Arizona State University is classified as non-manufacturing employers where a select number of employees operate aerial lifts (AL) listed above and are trained in the safe operation of those lifts. Employee working at elevated positions is a significant safety concern. During the movement of personnel, products and materials, there are numerous opportunities for injuries and property damage. Aerial lifts are essential in general facilities maintenance. 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 the ASU Environmental Health and Safety (EH&S) Department 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 EH&S, and those departments affected by its requirements. The annual review will assess the current level of program compliance, the program’s effectiveness in reducing injuries and property damage, and address program improvements.

2.0 SCOPE AND APPLICATION

This program shall only apply to all Arizona State University (ASU) employees who operate Diesel, Electric, Gasoline and Liquefied Petroleum designated ALs designations. For the purpose of the ALOSP there are eleven different designations of AL as follows: D, DS, DY, E, ES, EE, EX, G, GS, LP, and LPS.

3.0 EH&S RESPONSIBILITIES

The overall responsibility to develop and implement occupational health and safety programs for the university falls with EH&S. Although it is the overall responsibility of EH&S to develop these programs, it is ultimately up to each department or unit supervisor to ensure that employees are provided the vital support and means to adequately carry out the provisions of each program and achieve regulatory compliance with all OSHA requirements. Responsibilities of EH&S related to the ASU ALOSP includes:

(1) Develop, implement and administer the Arizona State University ALOSP and written plan;

(2) Provide the technical expertise and training necessary to identify safe operator practices and equipment within ASU facilities where ALs are used;

(3) Inspect work areas and equipment when notified to provide the user training and to ensure safe operator practice is implemented and adhered to;

(4) Identify atmospheric hazard classification where combustion engines ALs are used to ensure and to determine the need for additional monitoring and/or the choice of appropriate ALs;

(6) Train employees on mandatory elements of the ASU ALOSP;

(7) Provide recommendations concerning the choice of ALs;

(8) To ensure no one under the age of 18 operates ALs and;

(9) Maintain training records of all ALs operators.
4.0 DEPARTMENTAL RESPONSIBILITIES

Departments Assigned ALs

- Must implement and administer the ALOSP.
- Review the ALOSP annually for compliance and effectiveness.
- Verify that all employees who operate or work near ALs are properly trained.
- Maintain written records of operator training on each model of ALs and the name of the trainer.
- Maintain written records of the frequent and annual inspections performed by the lift owner, including the date any problems found, the date when fixed, and the name of the person performing the repairs.
- Maintain written records of the name and purchaser of each lift.
- Make recommendations for revisions if necessary.

Supervisors

- Coordinate employee training, and certify that all operators receive training every three (3) years.
- Ensure that only trained and qualified individuals operate lifts.
- Verify employee compliance with the principles and practices outlined in the ALOSP.
- Provide specific operational training for each lift in their department.
- Observe the operation of lifts in your department, and correct unsafe practices.

Operators

- Complete the ALOSP.
- Complete a daily visual inspection before operating any lift.
- Observe the operation of lifts in your department, and report unsafe practices to your supervisor.

EH&S

- Annually review and update the ALOSP.
- Provide training as requested by university departments.
- Provide the general safety training requirements for program.
- Monitor the effectiveness of program by receipt of copies of inspection checklists.
- Upon request, evaluate work areas & employee work practices.
• Observe the operation of lifts, and report unsafe practices to the appropriate supervisor.

5.0 PROCEDURES

Pre-Use Inspection

Prior to the operation of any lift a visual inspection shall be completed. This applies at the beginning of every work period, and whenever a new equipment operator takes control of the lift.

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. The forklift shall be locked and tagged, and taken out of service.

Operation

• Operators must wear a full body harness with a non-shock absorbing lanyard protection system at all times when in articulating or extension boom lifts.

• Operators must wear hard hats in areas where overhead hazards exist.

• Operators must sound the horn and use extreme caution when meeting pedestrians, making turns, and cornering.

• Arms or legs may not be placed between the uprights of the mast, outside the running lines nor any portion of the boom swing.

• Persons are not allowed to stand or pass under any elevated portion of a lift.

• ALs shall not be driven up to anyone standing in front of a fixed object.

• ALs shall not be used as cranes.

• Travel-ways must be maintained free from obstructions, aisles must be marked, and wide enough (six-foot minimum) for vehicle operation.

• A safe distance must be maintained from the edge of ramps or platforms while on any elevated dock, platform, or freight car. Lifts shall not be used for opening or closing freight doors.

• Maintain sufficient headroom under overhead installations such as: lights, pipes, sprinkler systems, etc.

• A load backrest extension must be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.

• Lift capacity must be marked on all lift baskets.

• Operators must assure the load does not exceed rated weight limits.
• When a lift is left unattended (more than 25ft. away or out of sight), load engaging means must be fully lowered, controls neutralized, power shut off, and brakes set. Wheels must be blocked if the truck is parked on an incline.

• All modifications must be approved by the manufacturer, and new rated load capacities determined and posted on the forklift. Written approval is required.

• Operators must report all incidents/near misses, regardless of fault and severity, to their supervisor.

Loading

• Only handle loads within the rated capacity of the lift basket.

• Loads and personnel shall be safely arranged, stable, and centered – always use caution when handling loads.

• Lifts shall not be used as cranes.

Traveling

• All traffic regulations must be observed, including authorized speed limits and yielding to pedestrians.

• The right of way must be yielded to ambulances, fire trucks, or other vehicles in emergency situations.

• Do not pass other lifts traveling in the same direction at intersections, blind spots, or other dangerous locations.

• The driver must slow down and sound the horn (or have a walker provided) at cross aisles and other locations where vision is obstructed.

• If the load being carried obstructs forward view, the driver must travel with the load trailing.

• Railroad tracks must be crossed diagonally wherever possible. Parking closer than eight feet from the center of railroad tracks is prohibited.

• The driver must look in the direction of and keep a clear view of the path of travel.

• Grades must be ascended and descended slowly. Position the load uphill relative to the operator when ascending or descending grades.

• Stunt driving and horseplay are prohibited.

• Avoid running over loose objects on the roadway surface.

• While negotiating turns, reduce speed and turn the hand steering wheel in a smooth, sweeping motion. Except when maneuvering at a very low speed, the hand steering wheel must be turned at a moderate, even rate.
Fueling – *Appropriate Personal Protective Equipment (PPE) Shall Be Worn*

- Fuel tanks may not be filled while the engine is running. Avoid spillage.
- Spillage of oil or fuel must be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting engine.
- No truck can be operated with a leak in the fuel system.
- Open flames are not to be used when checking electrolyte levels in storage batteries, or gasoline levels in fuel tanks.

Changing/Charging Storage Batteries - *Appropriate PPE Shall Be Worn*

- Battery charging installations must be located in areas designated for that purpose.
- Facilities must 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.
- A conveyor, overhead hoist, or equivalent material handling equipment must be provided for handling batteries.
- Reinstalled batteries must be properly positioned and secured in the truck.
- A carbon filter or siphon must be provided for handling electrolyte.
- When charging batteries, acid must be poured into water. Not water into acid.
- Lifts shall be properly positioned and brake applied before attempting to change or charge batteries.
- Care must be taken to assure that vent caps are functioning. The battery (or compartment) cover(s) must be open to dissipate heat.
- Smoking is prohibited in the charging area.
- Precautions must be taken to prevent open flames, sparks, or electric arcs in battery charging areas.
- Tools and other metallic objects must be kept away from the top of uncovered batteries.
- Distracted operating such, but not limited to, cell phone use is prohibited.

**Maintenance**

- Any lift not in safe operating condition must be removed from service. Authorized personnel shall make all repairs.
- Those repairs to the fuel and ignition systems of lifts that involve fire hazards must be conducted only in locations designated for such repairs.
- Lifts in need of repairs to the electrical system must have the battery disconnected before such repairs.
- Only use replacement parts that are currently recommended by the manufacturer.
• Lifts must be examined before being placed in service, and must not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination must be made at least daily. Where lifts are used on a round-the-clock basis, the lifts must be examined before each shift. Any defects must be immediately reported and corrected.

• When the temperature of any part of any lift is found to be in excess of its normal operating temperature, thus creating a hazardous condition, the lift shall be removed from service and not returned to service until the cause for such overheating has been eliminated.

• Lifts shall be kept in a clean condition. All loose and non-essential materials shall be removed immediately.

6.0 TRAINING REQUIREMENTS

Employees who are authorized to operate lifts shall receive training prior to engaging in their duties, and at least every three (3) years thereafter. The training is to ensure that the ALOSP is understood.

The supervisor will also ensure that authorized lift operators have acquired the necessary practical skills required for safe operation. Training is offered by EH&S, and authorized department trainers.

Department trainers will be selected by their department, and approved by EH&S. Department trainers must be experienced operators who have the knowledge, training, and skills necessary to evaluate the competence of trainees.

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. All training shall be in compliance with, but not limited to, 29CFR1910.67, 29CFR1926.453, ANSI/SIA A92.5-2006, Boom-Supported Elevating Work Platforms and ANSI/SIA A92.6-2006, Self-Propelled Elevating Work Platforms.

New employees and/or employees not familiar with lift operation shall attend and complete ALOSP classroom training prior to being permitted to any “hands-on” practicing.

Initial Training

• Receive instruction on the intended purpose and function of each control.

• Prior to operating any lift 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 safety rules.

• Be informed of the lift operating limitations and restrictions as defined by the manufacturer.

• Understand by reading or having a qualified person explain all decals, warnings, and instructions displayed on the lift.

• During operational training, trainees may operate a lift only under the direct supervision of authorized trainers, and where such operation does not endanger the trainee or other employees.

• All training and evaluation must be completed before an operator is permitted to use a lift without continual and close supervision.
General Training Requirements - Only personnel, who have received general instructions regarding the inspection, application and operation of aerial platforms, including recognition and avoidance of hazards associated with their operation, shall operate an aerial platform. Such items covered shall include, but not necessarily be limited to, the following issues and requirements:

1. The purpose and use of manuals.
2. That operating manuals are an integral part of the aerial platform and must be stored properly in the weather resistant compartment when not in use.
3. A pre-start inspection.
4. Responsibilities associated with problems or malfunctions affecting the operation of the aerial platform.
5. Factors affecting stability.
6. The purpose of placards and decals.
7. Workplace inspection.
8. Safety rules and regulations.
10. Operator warnings and instructions.
11. Actual operation of the aerial platform. Under the direction of a qualified person, the trainee shall operate the aerial platform for a sufficient period of time to demonstrate proficiency in the actual operation of the aerial platform.

Evaluation - Each lift operator's performance shall be evaluated at least once every three years.

• Evaluations shall include classroom study with open note written test with passing score of 80%.
• Evaluations shall also include successful completion of a hands-on performance obstacle course.

Re-Training

Re-training will take place prior to continued equipment operation if the supervisor observes safety violations and must be provided when:

• The operator has been observed operating the vehicle in an unsafe manner.
• The operator has been involved in an accident or near-miss incident.
• The operators appear unfamiliar with their equipment, procedures, or appear to have inadequate knowledge concerning what is required by this program.
• The operator has received an evaluation that reveals that the operator is not operating the lift safely.
• A condition in the workplace changes in a manner that could affect safe operation of the lift.
• There is a change in job assignments, change in equipment or process, or whenever there is a change in the ALOSP.
• Re-training will take place prior to continued equipment operation if the supervisor observes safety violations.
Training Records

Each department must maintain a record of all individual training, including:

a. Subject matter of the training (classroom, test and obstacle course performance).
b. Make/model/type of aerial lift.
c. Date of training.
d. Name of individual trained.
e. Name of supervisor or trainer providing the training.
f. Training records must maintained by the department for a minimum of 5 years.

7.0 MONITORING

Departments Assigned Lifts

Review documents prepared by individual supervisors. Documents may include, but not be limited to:

a. Employee evaluations
b. Annual visual operating observations
c. Weekly Inspection forms including the resolution of any deficiencies noted by the operators.

Supervisors

• Review documents prepared by operators to ensure accuracy and consistency.
• Review all requests for repairs, and document completed repairs.
• Ensure that all operators receive annual
• Ensure that lifts do not remain in use if safety concerns are noted on the Weekly Inspection form, Appendix A, page 11 of this ALOS.

EH&S

• Review all records received, and evaluate them 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 ALOS.
• Review and respond to all comments and suggestions received from departments, supervisors, or operators pertaining to the ALOS.
## APPENDIX A

### Weekly Inspection Checklist

Inspector: ____________________________ ; Date: ____________________________

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<th>Item</th>
<th>Pass</th>
<th>Fail</th>
<th>Corrective Action</th>
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<td>1) Inspect the mast for broken or cracked weld points and any other obvious damage.</td>
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<td>2) Ensure roller tracks are greased and that chains are free to travel.</td>
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<td>3) Forks must be equally spaced and free from cracks along the blade and at the heels.</td>
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<td>4) Check hydraulic fluid levels.</td>
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<td>5) Check each hydraulic line and fitting for excessive wear or crimping.</td>
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<td>6) Check lift and tilt cylinders for damage or leaking fluid.</td>
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<td>7) Inspect mounting hardware on the cylinders.</td>
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<td>8) Check tires for excessive wear, splitting or missing tire material.</td>
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<td>9) Check pneumatic tires for proper pressure indicated on the tires.</td>
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<td>10) When applicable, inspect batteries for: Note: thick nitrite gloves, splash goggles, and long sleeves must be worn when working with batteries.</td>
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<td>a. Cracks or holes.</td>
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<td>b. Securely sealed cells.</td>
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<td>c. Frayed cables.</td>
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<tr>
<td>d. Operator and Manufacturer Safety Manuals.</td>
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<td>e. Tight connections</td>
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<td>f. Clogged vent caps.</td>
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<td>11) When applicable check propane power supplies for:</td>
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<td>a. Tanks having cracks, broken weld points, and other damage.</td>
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<td>b. All valves, nozzles, and hoses</td>
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<td>12) Fire Extinguisher</td>
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<tr>
<td>13) Lights and Horn</td>
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