



### 1. Purpose

This program established Kennesaw State University's (KSU's) requirements for the safe operation of aerial lift equipment.

### 2. Scope

This program applies to all aerial lifts owned, used, and maintained at KSU. This program covers operator selection, training, equipment operations, and maintenance.

### 3. Definitions

**Aerial lift** – Devices used to elevate personnel to jobsites above ground; includes extensible boom platforms, aerial ladders, articulating boom platforms, vertical towers, and a combination of any such devices. Examples of types of lifts include scissor lifts, order pickers, and telescopic boom lifts.

### 4. Responsibilities

#### A. Supervisors

Supervisors have the following responsibilities under this program:

- Identify tasks that require an aerial lift.
- Ensure the correct equipment is purchased.
- Document workplace specific procedures that outline the operation and limitations of the equipment.
- Ensure only operators who are trained operate equipment.

#### B. Operators

Operators have the responsibility to maintain and inspect fall arrest systems as required. They will conduct documented pre-use inspections prior to use.

#### C. Environmental Health and Safety Department

The Environmental Health and Safety (EHS) Department will annually evaluate this program to ensure it is relevant and functioning properly.

### 5. Procedures

#### A. Aerial Lift Requirements

Aerial lifts must be used in accordance with the requirements and limits identified in the owner's manual. Your department should develop and document appropriate workplace specific rules and procedures, where required.

Aerial lifts must not be modified for uses other than those intended by the manufacturer, provided the modifications have been verified in writing by the manufacturer or any other equivalent entity to ensure

conformity with applicable provisions of the American National Standards Institute (ANSI) A92.2 – 1969: Vehicle Mounted Elevating and Rotating Work Platforms and OSHA 1926.453 and to be at least as safe as the equipment was before modification.

The insulated portion of an aerial lift must not be altered in any manner that might reduce its insulating value.

Articulating boom and extensible boom platforms designed as personnel carriers must have both platform (upper) and lower controls. Upper controls must be in or beside the platform within easy reach of the operator. Lower controls must provide for overriding the upper controls. Controls must be plainly marked as to their function.

The aerial lift must have a reverse signal alarm audible above the surrounding noise level or the vehicle is backed up only when a spotter is used.

Manufacturers' manuals should be made available and stored in the weatherproof containers on the lifts or in the mobile units.

## **B. Lift Operations**

Ensure that equipment is inspected each day prior to use to determine that controls are in safe working condition.

Fall arrest system lanyards must be used and attached to the fall arrest anchor point of the lift basket. Securing the lanyard to an adjacent pole, structure, or equipment, or to the railings of the basket while working from an aerial lift is not permitted.

Employees must always stand firmly on the floor of the basket and must not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

Full body harnesses (as part of a personal fall arrest system) will be worn, and a lanyard must be attached to the boom or basket when working.

The manufacturer's boom and basket weight limits must not be exceeded.

The brakes must be set and when outriggers are used, they must be positioned on pads or a solid surface. Wheel chocks must be installed before using an aerial lift on an incline provided they can be safely installed.

The base or body of the aerial lift truck must not be moved when the boom is elevated in a working position with employees in the basket, except for equipment which is specifically designed for this type of operation.

Climbers (or similar spiked shoes) may not be worn while performing work from the aerial lift.

Never allow an aerial lift to be used as a crane or material-lifting device.

A hard hat must be worn at all times when operating aerial lift.

Entry gates or chains must be closed before operating the lift.

For aerial lifts that have both upper and lower controls, the lower controls must not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

Before moving an aerial lift for travel, the boom must be inspected to see that it is properly cradled and the outriggers are in the stowed position.

When moving the vehicle in reverse, the signal alarm must be audible above the surrounding noise level or a spotter must be used to signal that it is safe.

When required to exit or climb out of an elevated aerial lift to a location not otherwise protected by guardrails, floor, or other continuous means of fall protection, operators must use a second shock-absorbing lanyard to connect to the new location before disconnecting from the aerial lift. When entering an aerial lift from an unprotected location, operators must connect a shock-absorbing lanyard to the anchorage point in the aerial lift before entering.

Employees should not position themselves between overhead hazards, such as joists and beams, and the rails of the basket. If such positioning is required, the fall protection system must account for the shorter distance to the hazard in case of a fall.

Never override hydraulic, mechanical, or electrical safety devices.

Always treat power lines, wires, and other conductors as energized, even if they are down or appear to be insulated.

Operators must maintain safe distances from electrical power lines and conductors. Operators must allow for boom or platform movement or electrical line sway or sag. Operators must follow minimum safe approach distances (MSAD). At no time will an operator position the bucket closer than 10 feet from any electrical source.

#### MSAD to Energized (Exposed or Insulated) Power Lines

Voltage Range (Phase to Phase)	Minimum Safe Approach Distance
0 to 300V	10'
Over 300 to 50KV	10'
Over 50KV to 200KV	15'
Over 200KV to 350KV	20'
Over 350KV to 500KV	25'
Over 500KV to 750KV	35'
Over 750KV to 1000KV	45'

## 6. Safety Information

Fuel tanks may not be filled while the engine is running.

Fuel caps must be in place before starting.

Liquid fuels such as gasoline and diesel fuel must be handled in accordance with the National Fire Protection Association (NFPA) standards for flammable and combustible liquids.

Conduct a safety check of the vehicle and a worksite inspection to determine hazards.

Perform electrical system safety tests on aerial lift devices per ANSI/SIA A92.2 requirements.

Inspect hydraulic and pneumatic system components (Busting Safety Factor) on aerial lift devices per ANSI/SIA A92.2 requirements.

Conduct welding operations on aerial lift devices per Automotive Welding Society (AWS) Standards.

## 7. Training and Information

Training must occur before operators are allowed to operate an aerial lift unsupervised, and such operations may not endanger either the operators or the trainee. Training must include initial information and evaluation and instruction on the operation of the aerial lift at the workplace. Only trained and authorized persons are allowed to operate an aerial lift. Training should include:

- Explanations of electrical, fall, and falling object hazards.
- Procedures for dealing with hazards.
- Recognizing and avoiding unsafe conditions in the work setting.
- Instructions for correct operation of the lift (including maximum intended load and load capacity).
- Demonstrations of the skills and knowledge needed to operate an aerial lift before operating it on the job.
- When and how to perform inspections.
- Manufacturer's requirements.

Workers should be retrained if any of the following conditions occur:

- An accident occurs during aerial lift use.
- Workplace hazards involving an aerial lift are discovered,
- A different type of aerial lift is used.

Employers are also required to retrain workers who they observe operating an aerial lift improperly.

## 8. Records and Documentation

Workplace specific training (initial and retraining) records. An Operator Evaluation Form must be retained.

Training records for current operators must be retained for the duration they will operate the lift. Records should be retained for 3 years after this point.

Documentation of daily lift inspection must be maintained.

## Appendix

<b>AERIAL LIFT OPERATOR CHECKLIST</b>			
<b>Items to Be Inspected</b>			<b>OK</b>
Emergency controls are in proper working condition (emergency stop and emergency lowering)			<input type="checkbox"/>
Safety devices are functional (foot pedal, spring lock, etc.)			<input type="checkbox"/>
All safety indicator lights work properly, and notion alarms are functional			<input type="checkbox"/>
Fire extinguisher on platform			<input type="checkbox"/>
All controls function properly, are clean and clearly labeled			<input type="checkbox"/>
Ground operating controls successfully over-ride the aerial controls			<input type="checkbox"/>
Fuel level is acceptable, and the system is not leaking			<input type="checkbox"/>
Hydraulic level is acceptable, and the system is not leaking			<input type="checkbox"/>
Are there any loose or missing parts (Bolts, fasteners, braces, brackets, etc.)			<input type="checkbox"/>
Work platform is clean, dry and clear of debris			<input type="checkbox"/>
Tires, wheels, and lug nuts are in good condition			<input type="checkbox"/>
No defects such as cracked welds, damaged wire harness, or other obvious damage			<input type="checkbox"/>
Slide pad is not worn down			<input type="checkbox"/>
Braking devices are operating properly			<input type="checkbox"/>
The manufacturer's operations manual is stored on the lift (in all languages of the operators)			<input type="checkbox"/>
Boom and lift pivot pins are in good working order			<input type="checkbox"/>
All switch and mechanical guards are in good condition and properly installed			<input type="checkbox"/>
Platform gate and guardrails are in place and in good condition			<input type="checkbox"/>
Other personal protective devices are in good condition			<input type="checkbox"/>
Stabilizers, outriggers, and extending axles function properly			<input type="checkbox"/>
Working lights are operational			<input type="checkbox"/>
Control markings are in place and legible			<input type="checkbox"/>
All manufacturer required inspections of all hydraulic control relief valves and other manufacturer requirements have been completed within the required time period (check inspection sticker on equipment for validation)			<input type="checkbox"/>
Battery indicator shows an acceptable level remaining			<input type="checkbox"/>
The total load is within the rated capacity			<input type="checkbox"/>
<b>AERIAL LIFT INSPECTED BY:</b>			
<b>Signature:</b>		<b>Date:</b>	
<b>Is aerial lift safe to operate?</b>		___ <b>Yes</b>	___ <b>No</b>
<b>Comments:</b>			

## Preoperational Electronic Aerial Lift inspection

The preferred method of Aerial lift inspection is the QR code below. Scan QR code with phone or appropriate scanning device and complete all questions. First and last name are required.



The inspection notification will be emailed to Supervisors and managers per department requirement via teams' application. Pre-inspections will be monitored by EHS periodically. If it is determined that Operators are not documenting the lift inspection as required, (Meaning no inspection has been performed). EHS will notify the effected department of the delinquent activity. If operation deficiencies are noted per OSHA standards the forklift must be taken out of operation until fixed.

A QR code and a designated Lift Number must be placed on disengaged locations for all forklifts.

If a QR code is not available for lift inspection Operator will complete the forklift Operator Daily inspection checklist below. Or checklist that has the equivalent.

It is the department's responsibility to fix and maintain Aerial lift equipment per OSHA standards.

## AERIAL LIFT OPERATOR EVALUATION ASSESSMENT

*This form (or its equivalent) must be retained for records management*

Equipment Operated (make/model):					
Name of Operator:			Employee Identification#:		Date:
Signature of Operator:			Signature of Evaluator:		
<b>YES</b>	<b>NO</b>	<b>Activity</b>	<b>YES</b>	<b>NO</b>	<b>Activity</b>
<input type="checkbox"/>	<input type="checkbox"/>	Performs pre-shift checks			
<b>UNDERSTANDS CONTROLS</b>					
		Forward/reverse			Service brake
		Steering technique			Instrumentation
		Parking brakes			Attachment
<b>TRUCK HANDLING</b>					
		Smooth starts/stops			Smooth/controlled turns
		Inching/plugging			Clears obstacles safely
		Approach is square			Proper maneuvering speed
		Proper traveling height			Looks in travel direction
<b>PARKING PROCEDURES</b>					
		Lowers lift to lowest level			Dismounts safely
		Truck in neutral			Uses wheel chocks on ramps
		Applies parking brake			Turns off fuel supply
		Power shut off			
<b>LOAD HANDLING</b>					
		Lift/lower technique	Comments:		
		Smooth starts/stops			
		Proper truck speed			
<b>SAFETY</b>					
		Uses horn as required			Uses proper operational speed
		Wears PFAS, as needed			Stops at major intersections
		Uses intersection mirrors, as			Yields right-of-way