Aerial-Lift



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WHAT'S AT STAKE?

Aerial lifts have replaced ladders and scaffolding on many job sites due to their mobility and flexibility. But what are aerial lifts? They are vehicle – mounted devices telescoping or articulating, or both, which are used to position personnel.

1. Aerial Equipment may be made of metal, wood, fiberglass, reinforced plastic (FRP), or other material.
2. Aerial equipment may be powered or manually operated.
3. Aerial equipment is deemed to be aerial lifts whether or not they are capable of rotating about a substantially vertical axis.
    - This includes aerial ladders, extensible boom platforms, articulating boom platforms, vertical towers, or any combination of these.
4. It is also important to note that aerial lifts do not include manlifts, scissor lifts, forklifts, or firefighting equipment.

WHAT'S THE DANGER?

But there are deadly consequences that have occurred in aerial lifts operations.

- Falls from elevated level,
- Objects falling from lifts,
- Tip-overs,
- Ejections from the lift platform,
- Structural failures (collapses),

- Electric shock (electrocutions),
- Entanglement hazards,
- Contact with objects, and
- Contact with ceilings and other overhead objects.

HOW TO PROTECT YOURSELF

There are procedures to observe and follow in aerial use.

A. Inspections – Pre start

Vehicle components

- Proper fluid levels (oil, hydraulic, fuel and coolant).
- Leaks of fluids.
- Wheels and tires.
- Battery and charger.
- Lower-level controls.
- Horn, gauges, lights and backup alarms.
- Steering and brakes.

Lift components

Do not operate any aerial lift if any of these components are defective or not repaired by a qualified person.

- Operating and emergency controls.
- Personal protective devices.
- Hydraulic, air, pneumatic, fuel and electrical systems.
- Fiberglass and other insulating components.
- Missing or unreadable placards, warnings, or operational, instructional and control markings.
- Mechanical fasteners and locking pins.
- Cable and wiring harnesses.
- Outriggers, stabilizers and other structures.
- Loose or missing parts.
- Guardrail systems.

Work Zone Inspections

Employers must ensure that work zones are inspected for hazards and take corrective actions to eliminate such hazards before and during operation of an aerial lift.

HAZARDS:

- Drop-offs, holes, or unstable surfaces such as loose dirt.
- Inadequate ceiling heights.
- Slopes, ditches, or bumps.
- Debris and floor obstructions.
- Overhead electric power lines and communication cables.
- Other overhead obstructions.
- Other hazardous locations and atmospheres.
- High wind and other severe weather conditions, such as ice.
- The presence of others in close proximity to the work.

B. Operation Imperatives

Fall Protection:

- Ensure that access gates or openings are closed.
- Stand firmly on the floor of the bucket or lift platform.
- Do not climb on or lean over guardrails or handrails.
- Do not use planks, ladders, or other devices as a working position.
- Use a body harness or a restraining belt with a lanyard attached to the boom or bucket.
- Do not belt-off to adjacent structures or poles while in the bucket.

Operation/Traveling/Loading:

- Do not exceed the load-capacity limits. Take the combined weight of the worker(s), tools and materials into account when calculating the load.
- Do not use the aerial lift as a crane.
- Do not carry objects larger than the platform.
- Do not drive with the lift platform raised (unless the manufacturer’s instructions allow this).
- Do not operate lower level controls unless permission is obtained from the worker(s) in the lift (except in emergencies).
- Do not exceed vertical or horizontal reach limits.
- Do not operate an aerial lift in high winds above those recommended by the manufacturer.
- Do not override hydraulic, mechanical, or electrical safety devices.

Overhead Protection:

- Be aware of overhead clearance and overhead objects, including ceilings.

- Do not position aerial lifts between overhead hazards if possible.
- Treat all overhead power lines and communication cables as energized, and stay at least 10 feet (3 meters) away.
- Ensure that the power utility or power line workers de-energize power lines in the vicinity of the work.

Stability in the Work Zone:

- Set outriggers on pads or on a level, solid surface.
- Set brakes when outriggers are used.
- Use wheel chocks on sloped surfaces when it is safe to do so.
- Set up work zone warnings, such as cones and signs, when necessary to warn others.

Insulated aerial lifts offer protection from electric shock and electrocution by isolating you from electrical ground. However, an insulated aerial lift does not protect you if there is another path to ground (for instance, if you touch another wire). To maintain the effectiveness of the insulating device, do not drill holes in the bucket.

C. Training

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.

Retraining

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.

D. Safety Tips – The Finale

Inspect the lift prior to utilizing it. Walk around and ensure there are no leaks and check all the controls.

- Never walk under the boom to gain access to the platform.
- Only utilize the lift on level ground.
- Only stand on the platform floor. Never stand or sit on the railing.
- Always look in the direction the machine is moving.
- Do not rest the boom or basket on a steel structure of any kind.
- Wear safety harnesses and tie-off to the manufacture provided anchorage point within the platform at all times when you’re in the basket. This includes when you are lowered and moving the equipment to another location.
- Keep your hands the external portion of the basket when raising or lowering the basket.
- This includes when you are lowered and moving the equipment to another location.
- Ensure that a fire extinguisher is mounted in the basket when performing activities that present a fire hazard such as welding or grinding. Ensure you have a fire watch person below.
- Except in a case of an emergency, ground controls shall not be operated on an occupied lift (lift occupant shall be in full control of the lift at all times).

FINAL WORD

Like the forklift, aerial lifts have made work easier in the industrial plant matrix. But deadly consequences flow if proper training and understanding of aerial applications is not followed.