

AERIAL LIFTS

IDENTIFY

Aerial lifts are used widely in both industrial and construction settings because they are versatile and relatively easy to operate. However, fatalities and serious injuries result each year from the improper use of these devices.

Owner or supplier responsibilities

Ensure that the machine meets the following requirements:

- It complies with regulations.
- It is maintained in good condition.
- It conforms to the appropriate CSA Standard B354/ANSI A92.
- It includes the correct load rating chart.

Employer and supervisor responsibilities

- Ensure that the operator is competent.
- Ensure that the machine has the correct load rating capacity for the job.
- Maintain the equipment and all its protective devices.
- Maintain a logbook for each platform.
- Ensure that workers use appropriate personal protective equipment.
- Keep the manufacturer's operating manual on site.
- Train workers on each class of equipment being used.

Worker or operator responsibilities

- Receive adequate training to be fully competent.
- Only operate the machine when competent.
- Operate the machine in a safe manner, as prescribed by the manufacturer and company safety and health policy.
- Inspect the equipment daily before use.
- Perform function tests before use.
- Report any defects to the supervisor.
- Read, understand, and obey the manufacturer's safety rules, including the operating manual and warning decals.

Electrocutions, falls, and tip overs are the most frequent incidents. Others include being struck by falling objects and being caught between the lift bucket or guardrail and objects such as steel beams or joists. A worker can also be catapulted out of a bucket if it or the boom is struck by something.

There are numerous types of aerial lift equipment:

- Bucket trucks and cherry pickers contain a bucket-like platform attached to a long arm (boom). As the arm unfolds, the platform rises.
- Scissor lifts use criss-cross braces that extend and stretch upward. They are also considered to be mobile scaffolds.
- Articulating boom lifts are able to extend up and over machinery and other obstacles to reach elevated positions not easily approached by a straight boom lift.
- Telescoping boom lifts are used for applications that require high reach capability.
- Man-lifts are electric or air-powered compact lifts that allow units access through standard doorways and operation in narrow corridors.

COMMUNICATE AND CONTROL

Anyone who operates an aerial lift should receive proper training, and that means knowing not just how the machine functions, but how to inspect it and recognize potential hazards. Operators must always abide by applicable safety regulations in their jurisdiction and wear required personal protective equipment (PPE), including fall arrest.

Lifts should be inspected at the beginning of each shift.

Here are some key things to check:

- Welds between cylinders and booms for cracks or wear.
- All pivot pins for security of their locking devices.
- All exposed cables, sheaves, and levelling devices for wear and secure attachment.
- Hydraulic system for any sign of deterioration, frayed hoses, or leaks.

COMMUNICATE AND CONTROL

- Lubrication and fluid levels.
- Boom and basket for cracks or abrasions.
- Load capacity posting, and other operational and instructional markings.
- Emergency controls and safety devices.
- Fall protection guardrails should be inspected pre-use.

Aerial lifts should only be used on a level surface that won't shift and is within slope limits listed by the manufacturer. Outriggers, brakes, and wheel chocks should be set even if the surface is completely level.

Here are some ways to prevent the most serious aerial lift hazards:

- **Electrocutions** – Non-electrical workers should stay at least three metres (10 feet) away from overhead power lines. Electrical workers must de-energize or insulate power lines or use proper PPE and tools.

Insulated buckets protect from electrocution due to electric current passing through a person and the boom to ground. An insulated bucket does not protect you if there's another path to ground.

- **Falls** – To help stay inside guardrails or in buckets, use either a full-body harness or a positioning device on bucket trucks or boom-supported lifts.

For scissor lifts, fall arrest should be worn as per site-specific rules or policies, when travelling horizontally in a scissor lift or if in the scope of work, the guardrail is out of the scope of line.

Work should only be performed in areas that can be reached from inside the basket of the lifting device. Never attempt to climb outside the basket or extend the upper body beyond the railing of the basket.

- **Obstacles** – In addition to being vigilant for power lines, operators should keep at least three metres away from other vehicles, tools and equipment, trenches, pits, potholes, and debris.
- **Tip-over** – Avoiding collisions and uneven or steeply-sloped surfaces are obvious precautions, but other precautions include the following:
 - Do not exceed the manufacturer's rated load capacity limits. This means allowing for the combined weight of workers, tools, and materials.

- Avoid unnecessary travel with the lift in an elevated position.
- Do not elevate the lift on a slope or drive onto a slope when it is elevated.
- Do not use the lift in windy conditions. An aerial lift boom or basket should never be positioned above pedestrians or other workers. If a lift is to be used near pedestrian traffic, isolate the work area by establishing a perimeter and diverting the pedestrian traffic. Signs, caution tape, and barriers should be used to create the perimeter.

Legislation – refer to the Workplace Safety and Health (WSH) Regulation Part 28.37 to 28.44 for details on the guidelines for self-elevating work platforms.

THE QUIZ

1. Electrocutions, falls, and tip-overs are the most frequent incidents causing injury or death with aerial lifts:

TRUE _____ FALSE _____

2. Are there more than two types of aerial lifts?

YES _____ NO _____

3. Which of these are important to check before using an aerial lift?

- a) Exposed cables, sheaves, and levelling devices
- b) Hydraulic system
- c) Emergency controls and safety devices
- d) Lubrication and fluid levels
- e) All of the above

4. Slope limits are not usually specified by aerial lift manufacturers:

TRUE _____ FALSE _____

5. Aerial lifts not engaged in electrical work should be no closer than what distance from power lines?

- a) 1.5 metres (five feet)
- b) 3 metres (10 feet)
- c) 10 metres (33 feet)
- d) None of the above

6. Work should only be performed in areas that can be reached from within the bucket or basket of an aerial lift:

TRUE _____ FALSE _____

7. Which of these are ways to keep an aerial lift from tipping over? (Choose all that apply.)

- a) Operate only on surfaces that are level and won't shift
- b) Do not exceed manufacturer's load limits
- c) Avoid driving onto a slope with the lift elevated
- d) Use the aerial lift in windy conditions
- e) Always use the lift with outriggers, brakes and chocks set

8. Is a checklist always available for pre-use inspection of all aerial lifts in your workplace?

YES _____ NO _____

9. Full body harnesses should be inspected pre-use:

TRUE _____ FALSE _____

10. List two owner responsibilities:

- a) _____
- b) _____

11. List two supervisor responsibilities:

- a) _____
- b) _____

12. List two worker responsibilities:

- a) _____
- b) _____

13. Where in legislation does it refer to aerial lifts/powered lift trucks? List the legislation.

1. TRUE; 2. YES; 3. e; 4. FALSE; 5. b; 6. TRUE;
7. a,b,c,e; 8. Site-specific answer; 9. TRUE; 10. Equipment
is in good condition and complies with regulations;
11. Competent Operator and maintain in the log book;
12. Receive training and inspect equipment pre-use;
13. WSH Regulation Part 28.37 to 28.44

ANSWERS: