Scissor Lift Safety Training

Working Safely on Scissor Lifts

29 CFR 1926 450-452 OSHA Scaffolding Safety Requirements
Introduction
Objectives

- Understand the training requirements for performing work on and operating scissor lifts.
- Understand the general structural requirements for scissor lifts.
- Understand the safe work practices for working with scissor lifts.
The Importance of Safety

- There are an average of 8 scissor lift fatalities each year in the United States.

- 40% of these fatalities are from tip-over of the scissor lifts, which is the most common cause of fatalities from scissor lift work.

A worker was hospitalized after this scissor lift tipped over.
Top 10 Causes of Fatalities

1. Operating on an uneven surface.
2. Encountering holes, debris and drop-offs while operating elevated.
3. Climbing above or leaning over the 42-inch minimum top rail.
4. Overloading and collapsing the boom (i.e. using a manlift as a material crane).
5. Making contact with electrical conductors with an uninsulated portion of the lift.
6. Neglecting to deploy outriggers or brace sufficiently against tip-over.
7. Making body contact with electrical conductors or entering the induction field.
8. Operating the lift in inclement weather or low visibility conditions.
9. Inexperienced or untrained operators.
10. Unobserved, uncorrected mechanical or structural defects in equipment.
OSHA Scissor Lift Requirements

- Although most people consider scissor lifts to be a type of aerial lift, they are covered in the OSHA Standard 1926 for Scaffolding.

- The use of scissor lifts must comply with this section.
Working on Scissor Lifts
Scissor Lift Capacity

- Never exceed the rated load of a scissor lift!
- Lifts must be capable of supporting its weight and at least 4 times the maximum intended load.
- The stall load on the hoist mechanism must not exceed 3 times the rated load.

What is the rated load of the scissor lift you are working on? They can be found on the name plate.
User Manuals

- Workers must review the scissor lift user manuals before using the scissor lift for the first time.

- Employers must keep the user manuals available to employees.

Every worker must be familiar with the operational requirements discussed in the user manuals.
Electrical Hazards

- Workers or metallic portions of the scissor lift contacting live electrical components is a common cause of injury or death.

- Workers must be made aware of all electrical hazards in the work area, and the work practices and PPE required to keep them safe.

- Elimination of the electrical hazard must be prioritized.

On July 17th, 1991, a worker was electrocuted while working on a scissor lift when he contacted a live 480 volt bus wire.
Scissor lifts must be kept clear of electrical lines.

### Insulated Lines

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Minimum Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 300 v</td>
<td>3 Feet</td>
</tr>
<tr>
<td>300 v to 50 Kv</td>
<td>10 Feet</td>
</tr>
<tr>
<td>50Kv+</td>
<td>10 Feet + .4 inches for 1Kv over 50 Kv</td>
</tr>
</tbody>
</table>

### Non Insulated Lines

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Minimum Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 50 Kv</td>
<td>10 Feet</td>
</tr>
<tr>
<td>More than 50 Kv</td>
<td>10 Feet + .4 inches for 1Kv over 50 Kv</td>
</tr>
</tbody>
</table>
Portable Electric Tools

- Scissors lifts can conduct electricity.
- An insulation failure in a power tool can electrify the whole structure.
- All portable electric equipment must be protected by a ground fault current interrupter (GFCI) or a company Assured Equipment Grounding Conductor Program.

A ground fault current interrupter is a critical safety device.
Working on Scissor Lifts

- Never work on a lift that is covered with ice, snow or other slippery materials.

- Employees may not work on lifts during high winds or storms unless:
  - A competent person determines it is safe.
  - Employees are protected by wind screens or fall arrest systems.

- Debris should not be allowed to accumulate on platforms.
Working on Scissor Lifts

- Makeshift devices, such as boxes and barrels, cannot be used to increase the working level height of employees.

- If loads are being hosted near the lift, tag lines must be used to prevent the load from contacting the scissor lift.
Protection from Falling Objects

- Employees must wear hard hats.

- If there is a danger of falling objects from the scissor lifts, the area below must be barricaded and employees prevented from entering.

- If employees need to access the areas beneath scaffolding, toe boards, screens and canopies must be used to protect employees from the falling object hazards.

What work behaviors lead to falling object hazards? How can they be avoided?
Scissor Lift Inspections

- Scissor lifts must be inspected in accordance with the manufacturers instructions.
- They must be inspected by a competent person for visual defects before each work shift.
- Workers should perform a quick visual inspection before each use.
- They also must be inspected after any event that may affect the lifts integrity.
Scaffolding Fall Protection Requirements

- Scissor lifts with compliant guardrails do not require fall protection.

- Employees on a lift platform must be protected by guardrails that:
  - Have a minimum 200 lbs top rail capacity.
  - Have a top rail height of 38 inches to 45 inches.

- Work that requires leaning, heavy lifting, or other circumstances may require fall protection even with adequate guardrails.

- Personal fall arrest systems used on scaffolds must be attached to a vertical lifeline, horizontal lifeline, or to a scaffold structural member.
Moving Scissor Lifts

- Must be stabilized to prevent tipping during movement.

- Employees may not ride on scissor lifts while moved unless they are made aware of the move and the scaffold meets the requirements of 1926.452(w)(6).
Moving Scissor Lifts With Employees On The Platform

- Occupied scissor lifts should not be moved unless absolutely necessary.

- If occupied scissor lifts must be moved, the following requirements must be met:
  1. The surface on which the lift is being moved is with 3 degrees of level, and is free of pits, holes, and obstructions.
  2. The scissor lift is moved at a speed no greater than 1 foot per second.
  3. No employee is on any part of the lift that extends beyond the wheels.
  4. The height to base width ratio of the scaffold during movement is two to one or less, unless the scaffold is designed and constructed to meet or exceed nationally recognized stability test requirements.
  5. The employee is aware that the lift will be moved.
It is important to follow the manufacturers recommended maintenance program.

Maintenance records should be maintained for at least three years.
Training Requirements
Scissor Lift Training Requirements

- All employees who perform work on scissor lifts must be trained by a person qualified in the subject matter.

- The training must include:
  1. The requirements of the OSHA Scaffolding subpart.
  2. Electrical hazards, fall hazards, and falling object hazards in the area.
  3. The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling fall protection and fall object protection systems.
  4. Proper use of the scissor lift, and proper handling of materials on the scissor lift.
  5. Maximum loads and load carrying capacities of the scissor lift.
Scissor Lift Certification

- Employees need to be trained on the specific hazards and requirements of using scissor lifts in their work area.

- After completing this training, they should complete a certification specific to their work area.
Summary

- Workers may not exceed the lift capacity of a scissor lift.

- Electrical tools used on scissor lifts must have a GFCI or be part of a company grounding program.

- Employees may not stand on boxes or other items to raise the working level on the platform.

- Employees must wear hard hats and the company must take protective measures to prevent falling object hazards.

- Scissors lifts should not be moved with workers on the platform unless absolutely necessary.
Questions?