Aerial Lift Safety
Session Objectives

- Identify aerial lift hazards
- Understand OSHA equipment requirements
- Know how to inspect equipment
- Take necessary precautions when working in or near an aerial lift to prevent accidents and injuries
Aerial Lift Hazards

- Falling out of the lift
- Tipping vehicle over
- Power lines
- Falling objects
Know Your Equipment

- Warnings, cautions, and restrictions
- Manufacturer’s information
- Operating and maintenance manual
Know Your Equipment (cont.)

- Rated workload
- Maximum platform height
- Electrical insulation and level of protection
- Test-operate the equipment
- Drainage holes
Equipment Construction And Design Requirements

- Must be designed to prevent free-fall descent of work platform
- Electrical equipment must meet required standards
- Hydraulic and pneumatic components must meet “bursting safety factor”
- Welds must meet specific standards
- Cables must meet certain requirements
Load Capacity

- Rated workload is clearly displayed
- Multiple configurations with multiple ratings
  - Outriggers extended vs. not extended
  - Large work platform vs. small platform
  - Boom elevated vs. boom lowered
  - Boom retracted vs. boom extended
Interlock Devices

- Driving interlocks prevent moving until lift is lowered.
- Outrigger interlocks limit lift height until stabilizers are extended.
- Tilt interlocks prevent raising the lift when the base is on a slope.
Maintenance

• Equipment must be inspected, maintained, and repaired according to manufacturer’s instructions

• Unsafe equipment must be removed from service

• All repairs must be made by qualified personnel
Lift Safety Features

- Skid-resistant stepping, standing, and working surfaces
- Access way with slip-resistant surfaces
- Sides or top guardrail must be high enough to prevent worker from falling out
- The lift must be kept clear of debris
- Attachment point provided for a full-body harness
Controls

- Controls both in lift and on vehicle
- Controls within easy reach of operator
- Controls plainly marked as to function
- Lower controls can override lift controls
- Except for emergencies, lower controls only operated with permission from worker in lift
Power Lines

- Insulated portion not altered to reduce insulating value
- Insulating blankets, covers, line hose, gloves, sleeves
- Look for holes, tears, embedded objects, swelling, softening, hardening, stickiness, inelasticity
- Damage caused by light, temperature, corrosive materials and solvents, humidity
OSHA Requirements: True or False?

F The primary hazard of aerial lifts is eye injuries.
T The rated load capacity must be displayed on the equipment.
F Interlock devices are used to protect operators from electrocution.
T Lower controls must be able to override upper controls.
OSHA Requirements

Do you understand:
• Aerial lift hazards?
• OSHA design and construction requirements?
• Load capacities?
• Maintenance requirements?
• Protections against contact with power lines?
Trained and Authorized Operators

- Only operate aerial lifts if trained and authorized
- Understand operating instructions and safety rules
- Receive hands-on training from a qualified person
- Know how to inspect equipment and work area
- Demonstrate how to safely operate equipment
Fall Protection

• Wear a full-body harness
• Use a lanyard attached to boom or lift
• Inspect fall protection equipment before use
• Never belt off to adjacent pole, structure, or equipment
• Use belt for restraint only
Equipment Inspections

• Look for:
  – Cracked welds
  – Hydraulic leaks
  – Damaged control cables
  – Loose wire connections
  – Tire damage
• Check electrically insulated items
• Perform a control check and lift test
• Correct unsafe items before using lift
Work Area Inspections

Look for:

- Untamped earth fills
- Ditches, drop-offs, or holes
- Bumps and floor obstructions
- Debris
- Overhead obstructions and high-voltage conductors
Vehicle Setup

- Set brakes
- Chock wheels
- Position outriggers on solid surface
- Never move truck with boom elevated and worker in lift
Before Elevating The Lift

- Conduct inspection
- Put on fall protection
- Ensure load is within rated capacity
- Make sure vehicle is on a solid surface
- Designate employee to watch
Working in the Lift

- Always stand firmly on the lift floor
- Don’t sit or climb on the edge of the lift
- Never use a ladder
- Never use a plank between the lift and another structure or work surface
- Always keep fall protection lanyard attached
Before Moving the Vehicle

Make sure:

- Boom is properly cradled
- Outriggers are in stowed position
- Wheel chocks removed
- Travel path is clear, firm, and level
Safety While Driving

- Look in the direction of travel and keep a clear view of the path of travel
- Watch out for pedestrians
- Maintain a safe distance from ground obstacles
- Maintain a safe distance from overhead obstructions
- Limit travel speed
Safe Work Practices

• Keep at least 10 feet away from power lines
• Report defects or malfunctions immediately
• Never disable a safety device or interlock
• Prevent ropes, cords, and hoses from entangling with lift
• Before lowering the lift make sure the area underneath is clear
• Never engage in stunt driving or horseplay
Working Safely On the Ground

- Warn operators when too close to power lines
- Don’t touch equipment if lift is close to power lines
- Watch for falling objects
- Be careful when lift is lowered
- Know emergency response procedures
Safe Work Practices: Make the Safe Choice

Fall protection for lift operators is:
- a. Optional
- b. Required

Aerial lifts must be inspected:
- a. Weekly
- b. Daily

Before moving a vehicle, the boom should be:
- a. Extended
- b. Cradled

Workers on the ground near aerial lifts must wear:
- a. Hard hats
- b. Gloves
Safe Work Practices

Do you understand:

- Fall protection requirements?
- Inspection procedures?
- Vehicle setup rules?
- Safe work practices for employees in the lift and on the ground?
- Safe driving rules for vehicles equipped with aerial lifts?
Aerial lifts are useful but can also be hazardous.

Only operate an aerial lift if trained and authorized.

Inspect equipment and the work area before each use.

Understand and follow safe work practices, including wearing fall protection.

Be especially careful around power lines.