

# Aerial Lifts



# Aerial Lifts

- Training Objectives
  - Types of Aerial Lifts
  - Safety information
  - Operations/Pre-Operation Inspection
  - Work place Inspection
  - Set-up
  - Standard Features
  - Safe Work Practice
  - Two Major Safety Hazards
  - Personal Protective Equipment
  - Hazards/Precautions

# Aerial Lifts

## ■ Types of Aerial Lifts and locations

### – Scissor Lifts

Platform heights 15' – 53'



### – Telescopic Boom Lifts

Platform heights 45' – 125'



# Aerial Lifts

- Safety Information:
  - Work platform is to be used by trained and authorized operators only.

# Aerial Lifts

## ■ Operations:

- Only Authorized persons can operate lifts (Classroom, Hands-on competency is required).
- Aerial Lifts are checked out or reserved by authorized persons only.
- Ground personnel must be properly trained and authorized for lift operation.
- Inspection of the lift must be performed before use.

# Aerial Lifts

- Pre-Operation Inspection
  - Be sure that the manuals are legible and in the storage container located on the platform
  - Be sure that all decals are legible and in place
  - Check the hydraulic power unit oil level
  - Platform and Ground Control Panel must be tested prior to use to determine that such controls Panel are in safe working condition.

# Aerial Lifts

- Work Place Inspection
  - Do a visual inspection of the work area prior to beginning work
    - Hazardous locations
      - Drop-offs or holes
      - Bumps, floor obstruction or debris
      - Inadequate surface support to withstand all load forces imposed by the machine
    - Clearance
    - Overhead obstructions
      - High voltage conductors
    - The presence of unauthorized personnel
    - Other possible unsafe conditions

# Aerial Lifts

- Set up
  - Position machine below desired work area
  - Insert key and turn to the ground control position
  - Pull out the red Emergency Stop buttons at the ground and platform controls



# Aerial Lifts

## ■ Safe Work Practices

- Ground controls shall not be operated during use, unless instructed to do so by person in the platform or in an emergency.
- Never elevate platform unless all four (4) outriggers are properly installed, leveling jacks contact floor and base is level.
- Never adjust leveling jacks while platform is occupied.

# Aerial Lifts

- Safe Work Practices Cont.
  - Employees shall always stand firmly on the floor of the basket.
    - Do not stand, sit or climb on edge of the basket or guard rails.
    - Do not use planks, ladders, or other devices for a work position.
  - Keep the platform floor clear of debris.
  - Do not override safety devices.
  - Learn and practice the principles of safe machine operation contained in the operator's manual.

# Aerial Lifts

- Two Major Safety Hazards:
  - Electrocution Hazards - Caused by operating close to power lines.
    - It is easy to accidentally contact energized power lines.
    - This machine is not electrically insulated and will not provide protection from contact with electrical current.
    - If lift comes in contact with energized lines, personnel on the ground or in the platform must not touch or operate the machine until energized power lines are shut off.
    - Do not operate the machine during lightning or storms.

# Aerial Lifts

- Two Major Safety Hazards Cont.
  - Fall Hazards - Caused by improper operation and/or improper set up.
    - Fall hazard due to the potential for being bounced out of lift or from climbing out of the basket.
    - Over reaching
    - Swinging under over hanging limbs, structures or lines.
    - Stumbling over tools inside the basket.

# Aerial Lifts

- Personal Protective Equipment
  - Hard hats and Safety glasses are required whenever working from an aerial lift.
  - A full body harness and lanyard shall be worn
  - Lanyard needs to be attached to anchor provided in platform when working from an aerial lift.
  - All Aerial Lift operators must visual inspect the body harness & lanyard before each use.

# Aerial Lifts

## ■ Hazards / Precautions

### - Tip-Over Hazards

- Do not drive or position lifts near the edge of loading docks drop-offs or holes.
- Do not raise platform on uneven or soft surfaces
- Do not drive onto uneven or soft surfaces when elevated
- Do not raise platform in windy or gusty conditions
- Do not use the platform as a crane (the TMZ-34/19 has a cargo hook that can be used in place of the platform to lift 500 pound loads).
- Do not place or attach overhanging loads to any part of the platform.

# Aerial Lifts

## ■ Hazards / Precautions Cont.

### – Tip over Hazards Cont.

- Do not place ladders or scaffolds in platform or against any part of this machine.
- Be sure all tires are in good condition and lug nuts are properly tightened.
- Do not push the machine or other objects with the boom.
- Do not contact adjacent structures with the boom.

# Aerial Lifts

## ■ Hazards / Precaution Cont.

### – Collision Hazards

- Be aware of boom position when rotating.
- Do not lower the boom unless the area below is clear of personnel and obstructions.
- Check work area for overhead obstructions or other possible hazards.



# Aerial Lifts

- Hazards/Precaution Cont.
  - Component Damage Hazards
    - Do not fully lower the booms unless the booms are aligned with the tongue. The booms must be lowered onto the boom rests.

# Aerial Lifts

## ■ Hazards / Precaution Cont.

### – Lifting Hazards

- Use proper lifting techniques to move, load or unload the machine.
- Use proper lifting techniques when installing or removing the platform.

### – Damaged Machine Hazards

- Do not use a damaged or malfunctioning machine.

# Aerial Lifts

## ■ Hazards / Precaution Cont.

### – Battery Safety

- Burn Hazards

- Batteries contain acid. Always wear protective clothing and eyewear when working with batteries.

- Explosion Hazards

- Do not contact the battery terminals or the cable clamps with tools that may cause sparks.

- Electrocuting Hazards

- Inspect daily for damage cord, cables and wires. Replace damaged items before operating

- Lifting Hazard

- Use the appropriate number of people and proper lifting techniques when lifting batteries.

# Aerial Lifts - Ground Panel Controls



- 1 – Secondary boom raise/lower buttons
- 2 – Horn
- 3 – Jib boom raise/lower buttons
- 4 – Stop indicator light
- 5 – Emergency Stop Button
- 6 – Outrigger interlock display lights

- 7 – Key Switch for ground/off/platform selection
- 8 – Battery charge indicator
- 9 – Speed select buttons
- 10 – Power indicator lights
- 11 – Turntable rotate left/right buttons
- 12 – Primary boom raise/lower buttons