

ATLB-1050: AERIAL LIFT AND FORKLIFT REFRESHER

Cuyahoga Community College

Viewing: ATLB-1050 : Aerial Lift and Forklift Refresher

Board of Trustees:

2017-05-25

Academic Term:

Spring 2019

Subject Code

ATLB - AIT-Construct/Hazard Material

Course Number:

1050

Title:

Aerial Lift and Forklift Refresher

Catalog Description:

Basic overview of the safety standards for the operation and work functions of aerial platform lifts and forklifts as prescribed by the Occupational Safety and Health Administration (OSHA).

Credit Hour(s):

1

Lecture Hour(s):

1

Requisites

Prerequisite and Corequisite

Departmental approval: admission to Laborer's apprenticeship program.

Outcomes

Course Outcome(s):

Identify the OSHA standards including hazard recognition and operator responsibilities with respect to aerial platforms.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Discuss the OSHA and American National Standard Institute (ANSI) standards that pertain to aerial lifts.
2. Identify and discuss the manufacturers operating specifications regarding machine modification and limitations.
3. Recognize potential worker hazards with respect to aerial lift operation.
4. Discuss the responsibilities of the equipment user and/or operator.
5. Identify the different types of aerial lifts and discuss the respective uses of the equipment.
6. Demonstrate the ability to safely operate an aerial lift.

Course Outcome(s):

Review the General Industry standard of OSHA as it pertains to powered industrial trucks, also known as rough terrain forklifts and demonstrate proper operating procedures of the respective vehicle.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Review manufacturer's specifications with respect to safe operating procedures and rated capacities.

2. Identify different types of industrial trucks and discuss the use of each.
 3. Review common hand signals used to position forks under loads at pick points and landings.
 4. Demonstrate the ability to safely operate industrial forklift trucks on a construction site.
 5. Identify the potential jobsite hazards with respect to the use of forklifts in the construction industry.
 6. Compare the principles of simple machines and physics with respect to the operation of industrial trucks.
 7. Discuss the importance of safe load carrying based on ground conditions and the location of the center of gravity of the machine.
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Methods of Evaluation:

1. Tests
2. Quizzes
3. Classroom participation

Course Content Outline:

1. Aerial lifts
 - a. OSHA regulations
 - i. General requirements
 1. Modifications
 2. Limitations
 - ii. Specific requirements
 1. Securing equipment
 2. Controls operation
 3. Load limits
 - iii. Training requirements
 1. Operation
 2. Hazards
 - b. Manufacturers operating procedures
 - i. Testing
 - ii. Guidelines
 - iii. Lifting capacity
 - iv. Uses
 - c. Worker hazards
 - i. Falls
 - ii. electrocution
 - iii. Pinch points
 - iv. Physical
 - v. Tip point
 - d. Responsibilities
 - i. User
 1. Job management
 2. Maintenance
 3. Inspections
 - ii. Operator
 1. Operating instructions
 2. Training
 3. Inspections
 4. Workplace hazards
 - e. Types
 - i. Articulating
 - ii. Extension boom platform
 - iii. Aerial ladder
 - iv. Aerial platform
 - f. Operation
 - i. Inspection
 1. Tires
 2. Fluids
 3. Hydraulic lines
 4. Visual
 - ii. Controls
 - iii. Machine operations

1. Raising
2. Lowering
3. Forward/reverse
- iv. Positioning
- v. Booming
2. General industry standards
 - a. Terminology
 - i. Momentum
 - ii. Lever
 - iii. Center of gravity
 - iv. Pick point
 - v. Landing point
 - vi. Pivot
 - vii. Teeter totter effect
 - viii. Forward tipping
 - ix. Axel width
 - x. Wheel base
 - b. Hazards
 - i. Tipping
 - ii. Roll over
 - iii. Dropped loads
 - iv. Refueling
 - v. Run over
 - vi. Pinch points
 - vii. Electrical
 - c. Load carrying
 - i. Ground condition
 - ii. Secure load
 - iii. Steering effects
 - iv. Operating speed
 - v. Weight
 - d. Manufacturer specifications
 - i. Routine inspections
 - ii. Rated capacities
 - iii. Operator safety
 - iv. Coworkers
 - v. Machine weight
 - e. Types
 - i. Extended reach
 - ii. Straight mast
 - f. Hand signals
 - i. Boom up
 - ii. Boom down
 - iii. Extend boom
 - iv. Retract boom
 - v. Fork tips up
 - vi. Fork tips down
 - g. Physics and simple machines
 - i. Lever
 - ii. Center of gravity
 - iii. Boom angle
 - iv. Boom length
 - v. Speed
 - vi. Momentum
 - h. Operation
 - i. Inspection
 1. Tires
 2. Fluids

- 3. Hydraulic lines
- 4. Visual
- ii. Controls
- iii. Positioning
- iv. Booming
- v. Travel

Resources

Drexel J. Thrash Training Center. *"Aerial Lift Safety"*. first. Drexel J. Thrash Training Center Howard, Ohio, 2003.

Drexel J. Thrash Training Center. *"Forklift Safety"*. first. Drexel J. Thrash Training Center Howard, Ohio, 2001.

MacDonald, Joseph. *Rigging Equipment Maintenance and Safety Inspection*. second. McGraw Hill NY,NY, 1997.

Resources Other

1. "Boom Lift Safety" video
2. "Construction Forklifts: Extending Your Reach" video
3. "Rough Terrain Forklift" video

<http://www.OSHA.gov>

<http://www.masoncontractors.org>

Top of page

Key: 395