Aerial and Scissor Lifts

PURPOSE

The purpose of this document is to outline safety policy and procedures for the use of aerial and scissor lift devices for **Fisher Systems Inc.**; hereafter referred to as "The Company."

The hazards of potential falls at heights of 6 feet and above will be addressed in this document. This instruction describes a systematic approach that must be used to protect and prevent people from falling. This instruction also lists some of the most common fall hazards and provides recommendations and guidelines for selecting fall arrest systems.

OSHA 1926.453 1926.500-503, 1926.502(j)

RESPONSIBILITIES

The Company/Management

- Perform annual reviews of this safety policy and any corresponding training programs/records
- Ensure all worksites are protected from aerial/scissor lift injury by providing the necessary PPE
- Enforce the contents of this policy and procedure
- Ensure all aerial lift devices are properly operated by competent persons
- Ensure all aerial lift devices used are designed and constructed in conformance with the requirements set forth by the American National Standards for Vehicle Mounted Elevating and Rotating Work Platforms ANSI A92.2 - 1969
- Active management team to ensure that all aerial lift devices are properly operated by trained personnel

POLICY

Inspections

All aerial lift equipment shall be inspected at the beginning of each work shift to verify that all components of the equipment are in safe operating condition. Workers shall not operate any aerial lift equipment if any component of the pre-shift/job checklist are defective. Any equipment found defective or in need of repair shall be marked as defective and in need of repair, until repaired by qualified personnel prior to operating the defective piece of equipment. In addition to this routine inspection, all lift controls, brakes, and operating systems shall be tested each day prior to use, in order to verify that they are in safe working condition.

Worksite inspections shall be performed at the start of each shift or job to verify the area is safe for the operation of aerial lifts and other devices.

The worksite inspection shall cover the following:

- Drop-offs, holes or unstable surfaces such as but not limited to lose dirt, slopes, ditches, bumps, or oil and chemicals that may cause a slip.
- Inadequate ceiling heights or other low hanging obstructions such as but not limited to trees or power lines.
- High winds and or severe weather conditions such as but not limited to ice.
- The presence of other workers and personnel in the operation.

All inspections that take place shall be documented.

FALL PROTECTION/CONTROLLED ACCESS ZONES

If Fall Protection Plans are utilized, the following requirements need to be met:

- When used to control access to areas where leading edge and other operations are taking place the controlled access zone shall be defined by a control line or by any other means that restricts access.
  - When control lines are used, they shall be erected not less than 6 feet (1.8 m) nor more than 25 feet (7.7 m) from the unprotected or leading edge, except when erecting precast concrete members.
  - When erecting precast concrete members, the control line shall be erected not less than 6 feet (1.8 m) nor more than 60 feet (18 m) or half the length of the member being erected, whichever is less, from the leading edge.
  - The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.
  - The control line shall be connected on each side to a guardrail system or wall.
- When used to control access to areas where overhand bricklaying and related work are taking place:
  - The controlled access zone shall be defined by a control line erected not less than 10 feet (3.1 m) nor more than 15 feet (4.5 m) from the working edge.
  - The control line shall extend for a distance sufficient for the controlled access zone to enclose all employees performing overhand bricklaying and related work at the working edge and shall be approximately parallel to the working edge.

To prevent falls from aerial lift devices, the following rules shall be followed at all times, **except when the device is a Scissor Lift.**

- Use a body harness or a restraining belt with a lanyard attached to the boom or bucket.
- An approved fall restraint system shall be worn when working from an aerial lift device. The fall restraint system must be attached to the boom or to the basket.

- Never tie-off, or "belt-off" to any adjacent structure or pole while in the bucket of the device.
- Never use ladders, planks, or other material/device as a brace or standing platform as a working position.
- Never climb or lean over guardrails or handrails, and always stand firmly on the floor of the basket or platform.
- Always stand firmly on the floor of the bucket or lift platform.
- Ensure that access gates or openings are closed at all times.
- The load capacity may never, under any circumstance, be exceeded. The combined weight of the workers, tools and materials must be taken into account when calculating the load.
- Boom and basket load limits specified by the manufacturer shall not be exceeded.
- Be aware of overhead clearance and overhead objects at all times. The minimum clearance between electrical lines and any part of the equipment shall be 10 (ten) feet for all power lines rated 50 kV or below.
- Never use an aerial lift device as a crane or use the aerial lift device to transport objects larger than the platform.
- Always communicate with the worker(s) in the bucket/platform before engaging any of the lower-level controls. Always obtain permission from persons in the bucket before moving the lift, except in the case of an emergency.
- All aerial lift devices operated shall have a working back-up alarm audible above the surrounding noise level. If the specified device is not equipped with a back-up alarm, the device may only be backed or in the reverse position when accompanied by a spotter or observer to ensure safe backing.
- Aerial lift devices may only be field modified for uses intended by the manufacturer. All manufacturer recommendations for device modification must be in writing from the manufacturer or an equivalent entity. Said written consent must also be kept on file at least one of The Company's locations.
- Never operate the device in winds higher than recommended by the manufacturer.
- Never override hydraulic, mechanical or electrical safety devices.

AERIAL LIFT TRAINING

Any persons operating an aerial lift device must be trained as a competent person prior to operation and all training must meet or exceed OSHA requirements as set forth in the Code of Federal Regulations (C.F.R.)

Training may be obtained from the rental company or other certified training facility.

Retraining shall occur annually or when an employee shows a lack of understanding of aerial lift safe operating procedures.

AERIAL LIFT EQUIPMENT

Aerial lift devices shall conform to ANSI standards applicable to the type of equipment being used – bucket truck, under-bridge inspection vehicle, portable and or self-propelled personnel lift. Aerial lift devices shall only be used for the purpose intended by the manufacturer. All manufacturer maintenance recommendations, warning regarding operation, capacity and safety precautions shall be strictly followed at all times. Permanent labeling must be conspicuously posted to indicate lifting capacity and travel height.

Only devices approved for lifting personnel shall be used as aerial lifts. Loaders, forklifts and other material lift devices shall not be used to transport employees to elevated locations nor as work platforms. Forklifts and cranes may only be used as a last resort, and then only with approved personnel baskets.

The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.

Before moving an aerial lift for travel, the boom(s) shall be inspected to see that it is properly cradled, and outriggers are in stowed position.

An aerial lift truck may not be moved when the boom is elevated in a working position with men in the basket, except for equipment which is specifically designed for this type of operation.

Before the truck is moved for highway travel, aerial ladders shall be secured in the lower traveling position by the locking device above the truck cab, and the manually operated device at the base of the ladder, or by other equally effective means.

Modifications shall not be made to any aerial lift device without the express written authorization from the manufacturer. Buckets and bucket liners shall not be drilled, cut, welded on etc.

Dual Controls

Articulating boom and extensible boom platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

Braking/Choking

The brakes shall be set and when outriggers are used, they shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline, provided they can be safely installed.

Bursting Safety Factor
The provisions of the American National Standards Institute standard ANSI A92.2-1969, section 4.9 Bursting Safety Factor shall apply to all critical hydraulic and pneumatic components. Critical components are those in which a failure would result in a free fall or free rotation of the boom. All noncritical components shall have a bursting safety factor of at least 2 to 1.

SCISSOR LIFT

POLICY

Only trained workers are allowed to use scissor lifts.

Scissor lifts provide a safe and reliable platform for workers to perform job tasks when used according to the manufacturer's instructions. When not used properly, scissor lifts can present a serious hazard to workers. Employers are responsible for keeping workers safe. This Hazard Alert highlights specific hazards present in workplaces where scissor lifts are used, and controls employers must implement to prevent injuries or fatalities.

Introduction
Scissor lifts are work platforms used to safely move workers vertically and to different locations in a variety of industries including construction, retail, entertainment and manufacturing.

Scissor lifts are different from aerial lifts because the lifting mechanism moves the work platform straight up and down using crossed beams functioning in a scissor-like fashion.

Although scissor lifts present hazards similar to scaffolding when extended and stationary, using scissor lifts safely depends on considering equipment capabilities, limitations and safe practices.

Over a one-year period, OSHA investigated ten preventable fatalities and more than 20 preventable injuries resulting from a variety of incidents involving scissor lifts. OSHA's investigations found that most injuries and fatalities involving scissor lifts were the result of employers not addressing:

- Fall Protection
- Stabilization
- Positioning

HOW TO SAFELY USE SCISSOR LIFTS

Safe scissor lift use includes:

- Properly maintaining the equipment
- Following the manufacturer's instructions

- Providing workers training and needed PPE
- Implementing safe work practices

The worksite safety coordinator shall assess each worksite to identify all possible hazards to select the appropriate equipment for the task.

The worksite safety coordinator shall evaluate and implement effective controls that address fall protection, stabilization and positioning, prior to initial assignment.

FALL PROTECTION FOR SCISSOR LIFTS

Scissor lifts must have guardrails installed to prevent workers from falling 29 CFR 1926.451(g) or 29 CFR 1910.29(a)(3)(vii).

The Company will train all workers to:

- Check to see that a guardrail system is in place before working on the scissor lift.
- Only stand on the work platform; never stand on the guardrails.
- Keep work within easy reach to avoid leaning away from the scissor lift.

STABILIZATION FOR SCISSOR LIFTS

The Company will ensure that scissor lifts are stable and will not tip over or collapse.

Stable conditions for scissor lift use include:

- Follow the manufacturer's instructions for safe movement – this usually rules out moving the lift in an elevated position.
- Isolate the scissor lift or implement traffic control measures to ensure that other equipment cannot contact the scissor lift.
- Select work locations with firm, level surfaces away from hazards that can cause instability (e.g., drop-offs, holes, slopes, bumps, ground obstructions, or debris).
- Use the scissor lift outside only when weather conditions are good. Scissor lifts rated for outdoor use are generally limited to wind speeds below 28 miles per hour.
- Ensure that safety systems designated to stop collapsing are maintained and not bypassed.
- Never allow the weight on the work platform to exceed the manufacturer's load rating.
- Never allow equipment other than the scissor mechanism to be used to raise the work platform (e.g., using a forklift to lift the work platform).
- Keep the lift from being struck by other moving equipment on the worksite.

POSITIONING FOR SCISSOR LIFTS

Positioning the scissor lift to avoid crushing or electrocution hazards is important for safe use.

Crushing hazards are present in workplaces using scissor lifts and may expose workers nearby, even those not working on the scissor lift.

Scissor lift presents crushing hazards similar to vehicles and other mobile equipment at worksites.

The Company will train workers to be watchful when:

- A moving scissor lift is near a fixed object.
- A moving vehicle and the scissor lift are operating closely.
- The scissor lift passes under a fixed object, such as a door frame or support beam.

SCISSOR LIFT USE NEAR ENERGIZED POWER LINES

The Company will ensure scissor lifts are not positioned within close proximity of energized power lines, because electrocution can occur even if neither the scissor lift nor the worker touches the power line.

Position the scissor lift to avoid electrocution, arc flash, and thermal burns.

The Company will use the following safe work practices to ensure that scissor lifts are safely positioned:

- Implement traffic control measures around the scissor lift to prevent other workers or vehicles from getting too close.
- Use ground guides when operating or moving the scissor lift around the workplace.
- Operators must maintain a minimum clearance distance of at least ten feet between overhead powerlines that are 50kV or less and any part of the equipment or load unless the lift is insulated for the voltage involved, and the work is performed by a qualified person, then the clearance distance between the uninsulated portion of the aerial lift
- If the job task requires work near an electrical source, ensure that the worker is qualified and has received the required electrical training. (29 CFR 1910.269, 29 CFR 1910.333, and 29 CFR 1926 Subpart V).

SCISSOR LIFT EQUIPMENT MAINTENANCE

The Company will regularly maintain scissor lifts to ensure that they are safe to use (e.g., Prevent the lifting mechanism from collapsing).

The Company will regularly:

- Test and inspect controls and components before each use.
- Ensure that guardrail systems are in good working condition.
- Verify that brakes once set will hold the scissor lift in position.

TRAINING FOR SCISSOR LIFTS

The Company will provide workers training on hazards including how to work safely with or near scissor lifts. (Ref: 29 CFR 1926.454) Training will, at a minimum, include:

- Manufacturer's instructions for operating the scissor lift vertically and while in transit.
- How to handle materials on the scissor lift, including weight limits.
- Other worksite hazards workers may encounter when working on a scissor lift (e.g., contact with electrical wires.

IMPORTANT INFORMATION REGARDING SCISSOR LIFT COMPLIANCE

The Company will comply with the following OSHA standards (29 CFR) to protect workers from hazards associated with scissor lifts:

General Industry

- 29 CFR 1910.23 – Guarding Floor and Wall Openings and Holes
- 29 CFR 1910.28 – Safety Requirements for Scaffolding
- 29 CFR 1910.29 – Manually Propelled Mobile Ladder Stands and Scaffolds (Towers)
- 29 CFR 1910.333 – Selection and Use of Work Practices

Shipyards

- 29 CFR 1915.71 – Scaffolds or Staging

Construction

- 29 CFR 1926.21 – Safety Training and Education
- 29 CFR 1926.451 – General Requirements
- 29 CFR 1926.452 – Additional Requirements to Specific Types of Scaffolds
- 29 CFR 1926.454 – Training Requirements

Note: Many scissor lifts are covered under OSHA's Scaffolding Standard.

The American National Standards Institute (ANSI) has standards for manufacturing, owning and operating scissor lifts. They can be found in ANSI A92.3-2006 (Manually Propelled Elevating Aerial Platforms) and A92.6-2006 (Self-Propelled Elevating Work Platforms.)

DEFINITIONS

Aerial Lift - As defined by OSHA, as any vehicle-mounted device that may be used to elevate personnel, including:

- Extendable boom platforms;
- Aerial ladders;
- Articulating (jointed) boom platforms;
- Vertical towers, and any combination of the above.

Dual Controls – Articulating boom and extensible boom platforms primarily designed as personnel carriers shall have both platform (upper) and lower controls.

- Lower-level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of an emergency.

Aerial lifts may be made of metal, fiberglass or reinforced plastic, and they may be powered or manually operated. The device is classified by OSHA as an aerial lift device whether or not they can rotate around a primary vertical axis.

Construction Industry 1926.501(b)(1) - Unprotected sides and edges. Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet (1.8 m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.

American National Standards Institutes:
ANSI/SIA A92.2 – 1969
ANSI/SIA A92.3
ANSI/SIA A92.5
ANSI/SIA A92.6

OSHA
29 CFR 1910.67
29 CFR 1910.269(p)
29 CFR 1926.21
29 CFR 1926.453
29 CFR 1926.502