

11. Aerial Lifts

This applies to all owned or leased and or rented equipment which is designed to elevate personnel on a platform that is propelled by a powered lifting device, with the controls located on the platform itself. Examples of aerial platform lifts include single occupant lift, scissor lift and articulating boom type lifts.

11.01. Definitions:

- 11.01.01. Aerial Lift Work Platform: Any powered, mobile device that may elevate, telescopically extend, articulate and may (or may not) rotate around a substantial axis in order to raise and support personnel to elevated job sites.
- 11.01.02. Articulating Boom Aerial Lift: This aerial lift has at least 2 hinged sections which are used to increase mobility.
- 11.01.03. "Personnel Lift" and or "Cherry Picker": This piece of equipment lifts personnel vertically, but not horizontally.
- 11.01.04. Scissor Lift: This piece of equipment lifts personnel vertically, but not horizontally.
- 11.01.05. Extendable and or Telescoping Aerial Lift: This aerial lift has a boom that extends horizontally and vertically.

11.02. Shop Responsibilities

11.02.01. Responsibilities Upon Purchase:

- 11.02.01.01. Ensure that the operating and maintenance manuals have been received.
- 11.02.01.02. Should acquire repair and parts manuals within 60 days of acquisition.
- 11.02.01.03. Provide the manufacturer of the lift with the name and address of the assigned department along with the model and serial number of the lift.
- 11.02.01.04. Place the operating and maintenance manual in a pouch or compartment on the lift.
- 11.02.01.05. Have all employee operators of the lift review the operating manual, fill out and sign the form titled "Operating Manual Acknowledgment Form" and return it to the department supervisor for documentation of record filing.

11.03. Responsibilities Upon Lease and or Rental:

- 11.03.01. Ensure that the operating and maintenance manuals have been received.
- 11.03.02. Have all employee operators of the lift review the operating manual, fill out and sign the form titled "Operating Manual Acknowledgment Form" and return it to his/her supervisor for documentation.

11.04. Maintenance, Inspection, and Repair:

- 11.04.01. Maintenance: The shop responsible for each aerial platform lift shall arrange for maintenance that is appropriate for the lift. The shop shall establish a preventive

maintenance program based on the manufacturer's recommendations, the environment it is to be used in and the frequency at which it is to be used. Lift maintenance will be performed only by personnel qualified by education, training and or experience in aerial lift maintenance.

- 11.04.02. Inspection: The shop shall ensure that pre-start inspections, frequent inspections and annual inspections are being performed on the lift.
- 11.04.03. Repair: Defective items shall be tagged and placed out of service until the item(s) have been repaired and deemed safe for operation by a qualified entity. All replacement parts or components that are replaced shall be identical to or equivalent to the original parts based on information provided by the manufacturer or supplier.
- 11.05. Training:
 - 11.05.01. The "owning shop" is responsible for the completion and documentation of any training and qualification of all authorized users of the lift.
 - 11.05.02. Options include training from the manufacturer, vendor or other authorized training provider. No personnel shall operate an aerial lift unless qualified and authorized to do so. The shop supervisor is responsible for maintaining a record of each individual's training. FP&M training can assist with records verification.
- 11.06. Responsibilities Involving Contractors
 - 11.06.01. Shops shall not loan out lifts to contractors.
- 11.07. Record Retention for Owned Aerial Lift Platforms
 - 11.07.01. Each shop shall date and retain the following records for each aerial platform lift they own.
 - 11.07.02. Serial number and date of purchase (this shall be kept for as long as the department owns the lift).
 - 11.07.03. Written records of the frequent and annual inspections and repairs performed. This shall include deficiencies found, corrective actions taken and the identification of the person(s) who performed the inspection and repairs.
 - 11.07.04. Written records of repairs made on the lift.
 - 11.07.05. Training records for any employees trained in the maintenance of the aerial platform lift.
 - 11.07.06. Record Retention for Leased and or Rented Aerial Lift Platforms:
 - 11.07.06.01. Serial number and date of lease and or rental (this shall be kept for as long as the department leases and or rents the lift).
 - 11.07.06.02. Written records of the frequent and annual inspections and repairs performed. This shall include deficiencies found, corrective actions taken and the identification of the person(s) who performed the inspection and repairs.
- 11.08. Employee and or User Responsibilities

11.08.01. Because the user has direct control over the application and operation of aerial platform lifts, conformance with good safety practices in this area is the responsibility of the user and the operating personnel. Decisions on the use and operation of the lift shall be made with the understanding that the platform will be carrying personnel whose safety is dependent on those decisions. Users and operators of aerial platform lifts have responsibilities involving the following:

11.09. Inspection

11.09.01. Users shall inspect the aerial platform as required by their shop to ensure proper operation.

11.09.02. All users shall perform pre-start inspections on the lift prior to each day's use of the lift.

11.09.03. Documentation of the pre-start inspections shall be done by completing an "Aerial Platform Lift Pre-Start Inspection Form". Aerial platform lifts that are not in safe operating condition shall be immediately removed from service and reported to the appropriate shop supervisor. Keys shall be returned to the supervisor and a CAUTION: "Do Not Operate" tag shall be affixed to the unit stating, who tagged the unit, why it is tagged and who to contact for additional information.

11.10. Workplace Inspections

11.10.01. Prior to setting up the lift at each new location the user shall conduct a workplace inspection to identify potential hazards. See "Inspections" section of this procedure.

11.11. Training

11.11.01. Only trained employees shall operate or use aerial platform lifts.

11.11.02. Likewise, only trained and authorized employees shall perform maintenance duties on the lifts.

11.11.03. Operators: Operators shall be trained, qualified and authorized on the safe operation of aerial platform lifts prior to use. Only employees who successfully completed training and become authorized are allowed to operate aerial lifts.

11.11.04. Trainers: The training can be conducted by either a qualified trainer and or by a vendor who specializes in aerial lift training.

Note: A qualified trainer is someone who by either education and or experience is knowledgeable with the construction, inspection, hazards associated and the safe operation of aerial equipment.

11.11.05. Training Content: The training will consist of both classroom and hands-on. The format and content will include the following:

11.11.05.01. The purpose and use of manuals.

11.11.05.02. Pre-start inspection process.

11.11.05.03. Identification of malfunctions and problems.

11.11.05.04. Factors affecting stability.

- 11.11.05.05. Purpose of placards and decals.
- 11.11.05.06. Workplace inspections.
- 11.11.05.07. Safety rules and regulations.
- 11.11.05.08. Authorization to operate.
- 11.11.05.09. Operator warnings and instructions.
- 11.11.05.10. Demonstrated operational competency of the aerial platform.

11.12. Re-Evaluation:

- 11.12.01. Documented re-evaluation of each aerial lift operator shall be completed at once every three years.

11.13. Refresher Training:

- 11.13.01. The operator has been observed to be using the aerial lift in an unsafe manner.
- 11.13.02. The operator has been involved in an incident or near-miss incident.
- 11.13.03. The operator has received an evaluation that reveals the operator is not using the aerial lift safely.
- 11.13.04. The operator is assigned to operate a different type of aerial lift.
- 11.13.05. A condition in the workplace changes in a manner that could affect safe operation of the aerial lift.

11.14. Inspections

- 11.14.01. The inspection process is a critical step in preventing aerial lift incidents that are caused from faulty or worn out equipment. Aerial platform lifts that are not in proper operating condition shall be removed from service until the problems have been corrected by a qualified maintenance technician.

11.15. Pre-Start Inspection:

- 11.15.01. If the aerial lift is used daily, it is to be completed every day or shift. If the aerial lift is not used daily, it is to be completed prior to use. The purpose of the pre-start inspection is to make sure the aerial lift is in good working condition prior to use.
- 11.15.02. The pre-start is both a visual and functional inspection.
- 11.15.03. The prestart Inspection will include the following criteria:
 - 11.15.03.01. Operating and emergency controls.
 - 11.15.03.02. Safety devices.
 - 11.15.03.03. Personal protective devices.
 - 11.15.03.04. Air, hydraulic and fuel system leaks.

- 11.15.03.05. Cables and wiring harness.
- 11.15.03.06. Loose or missing parts.
- 11.15.03.07. Tires and wheels.
- 11.15.03.08. Placards, warnings, control markings and operating manuals.
- 11.15.03.09. Outriggers, stabilizers and other structures.
- 11.15.03.10. Guardrail system.
- 11.15.03.11. Other items specified by manufacturer.
- 11.15.03.12. The pre-start inspection is to be documented and can be documented using the inspection form in the Appendices of this program manual.

11.16. Workplace Inspections:

11.16.01. Before an aerial platform lift is used and during its use, the operator shall check the area in which the aerial platform lift is to be used for possible hazards such as, but not limited to:

- 11.16.01.01. Drop-offs or holes.
- 11.16.01.02. Slopes.
- 11.16.01.03. Bumps and floor obstructions.
- 11.16.01.04. Debris.
- 11.16.01.05. Overhead obstructions and high voltage conductors.
- 11.16.01.06. Hazardous locations and high voltage conductors.
- 11.16.01.07. Hazardous locations and atmospheres.
- 11.16.01.08. Inadequate surface and support to withstand all load forces imposed by the aerial platform lift.
- 11.16.01.09. Wind and weather conditions.
- 11.16.01.10. Presence of unauthorized people.
- 11.16.01.11. Other possible unsafe conditions.

11.17. Frequent Inspections:

- 11.17.01. To be completed quarterly.
- 11.17.02. To be completed by a qualified mechanic on that specific type of aerial lift. A qualified mechanic is one who, by possession of a recognized degree, certificate, or professional standing, or by extensive knowledge, training and experience, has successfully demonstrated the ability to solve or resolve problems related to the subject matter.

11.18. Includes the following:

- 11.18.01. All functions and their controls for speed(s) smoothness, and limits of motion.
- 11.18.02. Lower controls including the provisions for overriding of upper controls.
- 11.18.03. All chain and cable mechanisms for adjustment and worn or damaged parts.
- 11.18.04. All emergency lowering controls means and safety devices.
- 11.18.05. Lubrication of all moving parts, inspection of filter element(s), hydraulic oil, engine oil, and coolant as specified by the manufacturer.
- 11.18.06. Visual inspection of structural components and other critical components such as fasteners, pins, shafts and locking devices.
- 11.18.07. Placard, warnings and control markings.
- 11.18.08. Additional items specified by the manufacturer.
- 11.19. Annual Inspections:
 - 11.19.01. An annual inspection shall be performed on each aerial platform lift each year. The inspection shall be performed by a qualified mechanic who is authorized to perform maintenance duties on the lift. The inspection shall include all items specified by the manufacturer for an annual inspection.
- 11.20. Safe Operation of Aerial Platform Lifts
 - 11.20.01. To ensure safe practices, the following general procedures shall be followed when an authorized operator uses an aerial platform lift:
- 11.21. Safe Operating Procedures:
 - 11.21.01. Obtain any necessary authorization to use the lift.
 - 11.21.02. Check the last pre-start inspection for any comments or notes.
 - 11.21.03. Perform a pre-start inspection on the lift, document the inspection and place it in the reserved waterproof storage location on the lift.
 - 11.21.04. Perform a workplace inspection in the area that the lift will be used.
 - 11.21.05. Extend and adjust the outriggers, stabilizers, extendible axles, or other stability enhancing means if so equipped.
 - 11.21.06. Ensure that the guardrails are installed and are in place.
 - 11.21.07. Ensure that the load being placed on the lift is within the rated capacity of the lift.
 - 11.21.08. Test the controls of the lift.
 - 11.21.09. If there are mechanical or safety issues that make the use of a lift unsafe discontinue use. Notify the department supervisor immediately and tag the unit out of service.
 - 11.21.10. Ensure that all personnel on the lift have been trained and authorized to operate or work on the platform.

- 11.21.11. Ensure the lift operator has either a radio, cell phone or other person on the ground to communicate with, in case the lift has mechanical problems.
- 11.21.12. When using lifts in high traffic areas (pedestrians or vehicles), the area around the base of the aerial lift shall be cordoned off as well as the area below the platform or basket.

11.22. Fall Protection:

- 11.22.01. All lifts designed to the required ANSI standard have fall protection systems to anchor to incorporated into their design.
- 11.22.02. Top and mid rails shall never be altered without expressed written permission from the manufacturer.
- 11.22.03. Movable chains or bars provided at access points shall be attached or properly placed in order to maintain the protective system.
- 11.22.04. The operator shall always be within the protective system (i.e. feet on the floor and not overreaching beyond the guardrail system).
- 11.22.05. Fall arrests systems (full body harness and shock absorbing lanyard) are required for boom and articulating lifts and if specified by the lift's operating manual.

11.23. Scissor Lift Fall Protection

- 11.23.01. Employees using this type of lift shall use fall protection. It is not a regulatory requirement, but requires consideration when working aloft from any aerial lifts.
- 11.23.02. Fall protection is provided by employees maintaining firm footing on the lift and using guardrails. Under no circumstances are employees to place ladders or other items on the lift to extend their reach. Use of these items negates the value of the guardrail system and may possibly exceed the scissor-lift's design limits for stability.
- 11.23.03. Personnel shall not to tie off to items adjacent to the lift.

11.24. Electrical Hazards:

- 11.24.01. Aerial lifts shall not be operated within 25 feet of overhead power lines unless the operator is a qualified person in electrical activities and has the training, knowledge, applicable electrical protective equipment and tools necessary to work in close proximity to energized electrical equipment.
- 11.24.02. This 25-foot clearance applies to any part of the lift, the furthest extent of the operator, and any extendable tools, materials, and equipment in use.
- 11.24.03. When electrically qualified persons are operating within the 25-foot clearance area, personnel on the ground shall not be in contact with any part of the aerial lift.
- 11.24.04. If the boom is insulated, it shall be maintained in accordance with manufacturer recommendations and insulating qualities verified by annual dielectric testing.
- 11.24.05. Six 36 inch orange safety cones with "Warning - Equipment May Become Energized" notification labels shall be distributed around the perimeter of the aerial lift until the activity is completed.

- 11.24.06. In high traffic areas, an attendant should be present to control traffic and assist as a “ground person” to the employee working aloft.
- 11.25. Adverse Weather Conditions:
 - 11.25.01. Aerial lifts operated outdoors should not be used in adverse weather conditions, such as approaching thunderstorms, high winds, or lightning in the area.
 - 11.25.02. See the aerial lift manual for high wind restrictions.
- 11.26. Fueling/Battery Charging
 - 11.26.01. Fueling or battery charging of the lift shall be conducted according to the manufacturer’s recommendations.
 - 11.26.02. No sparks or open flames in the area, and adequate ventilation shall be available.
 - 11.26.03. An ABC fire extinguisher shall be readily available.
- 11.27. Battery Charging
 - 11.27.01. When filling the water level of batteries the following personal protective equipment (PPE) at a minimum shall be worn: Safety goggles or face shield with safety glasses, acid resistant gloves and acid resistant apron.
 - 11.27.02. When filling the water level of batteries an emergency eye wash shall be readily available.
- 11.28. LP Fueling
 - 11.28.01. Signs shall be posted at fueling and or storage locations that state: “Danger – Propane, No Smoking or Open Flames” (or equivalent).
 - 11.28.02. Liquid Petroleum (LP) cylinders shall only be stored outside in a secured and protected designated rack or storage area.
 - 11.28.03. When removing and attaching the connection to the LP cylinder, the following PPE (at a minimum) shall be worn: Safety glasses and work gloves (leather or equivalent).
 - 11.28.04. LP cylinders shall be secured to the aerial lift before operating.
 - 11.28.05. LP cylinder connections shall be checked for leaks by the sound or smell of escaping gas.
- 11.29. Marking and Decals
 - 11.29.01. In addition to any other markings or decals that are placed on the lift by the manufacturer, the following information shall be displayed on all aerial platform lifts in a clearly visible, accessible area and in a durable manner:
 - 11.29.02. The make, model, serial number, and manufacturer’s name and address.
 - 11.29.03. The rated workload, including rated number of occupants.
 - 11.29.04. The maximum platform height.

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11.29.05. The shop which is assigned the lift and a shop point of contact with phone number.

11.30. 12.30. Record Retention

11.30.01. Maintenance, inspections and training records shall be maintained for equipment and operators.

11.30.02. Training records shall be maintained for a period of 5 years.

11.30.03. The following records shall be maintained by each shop who is assigned lift:

11.30.03.01. Workplace inspection documents shall be maintained for a period of one month after completion.

11.30.03.02. Pre-start inspection documents shall be maintained for a period of one month after completion.

11.30.03.03. Frequent inspection documentation shall be maintained for one year after completion.

11.30.03.04. Annual inspection documentation shall be maintained for five years after completion. The "Operating Manual Acknowledgement" form can be found in the Appendices of this program manual.