



Don H. Mahaffey Drilling Co.

**AERIAL DEVICES AND ELEVATING
WORK PLATFORMS**



YOUR OSHA COMPLIANCE SOLUTION

Questions? Call 1-800-734-3574



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1 OBJECTIVE

Don H. Mahaffey Drilling Co. is committed to ensuring that a safe work environment is provided for all employees. This program has been created to direct safe work operations and is compliant with California Code of Regulations, Title 8, Sections 3637, 3638, 3642, 3646 and 3648.

2 ADMINISTRATOR

Ashley Mahaffey Tullius has been designated as the administrator for this program. Ashley Mahaffey Tullius will be responsible for:

- a. Ensuring that safe work practices are being utilized; and
- b. Regular safety training regarding aerial lifts and elevated work platforms is conducted for all personnel whose work involves aerial lifts or elevating work platforms.

3 PLATFORM EQUIPMENT

- 3.1 The platform deck will be equipped with a guardrail or other structure around its upper periphery that will be 42 inches high, plus or minus 3 inches, with a midrail. (Chains or the equivalent may be substituted where they give equivalent protection.) Where the guardrail is less than 39 inches high, an approved personal fall protection system will be used.
 - a. For mast-climbing work platforms used by glaziers, bricklayers and stonemasons, the inboard guardrail may be removed provided:
 1. The inboard edge of the work platform or platform extension is no more than 7 inches from the finish face of the building or structure on which the work is being performed; or
 2. Approved personal fall protection systems are used.
 - b. For all other mast-climbing work platforms not included in Section 3.1(a), the inboard guardrail may be removed provided:
 1. The inboard edge of the work platform or platform extension is no more than 12 inches from the building or structure wall; or
 2. Approved personal fall protection systems are used.
- 3.2 The configuration of an elevating work platform may include a ladder for personnel to use in reaching the platform deck. Any ladder device used in this way will have rungs located on uniform centers not to exceed 12 inches.
- 3.3 Any elevating work platform equipped with a powered elevating assembly and having a platform height exceeding 60 inches will be supplied with safe emergency lowering means compatible with the specific elevating assembly employed.

- 3.4 Any powered elevating work platform will have both upper and lower control devices. Controls will be plainly marked as to their function and guarded to prevent accidental operation. The upper control device will be in, or besides, the platform and within easy reach of the operator. The lower control device will have the capability to lower the platform where the operator's safety is in jeopardy.

EXCEPTION: Mast-climbing work platform controls will be located only on the platform.

- 3.5 An emergency stopping device will be provided at the upper controls of elevating work platforms.

- 3.6 Elevating work platforms will include:

- a. Toe boards at sides and ends which will not be less than 3-1/2 inches high;
EXCEPTION: Toe boards may be omitted at the access openings and on television and movie camera booms.
- b. A hinged trap access door, if applicable; and
- c. A platform whose minimum width will not be less than 16 inches.

- 3.7 Mast-climbing work platforms will include the following fire safety provisions:

- a. At least one-3A40BC fire extinguisher located not closer than 5 feet from the control panel; and
- b. When fuel-powered equipment is being used, the equipment fuel supply will be limited to no more than that required for a single shift.

4 EQUIPMENT INSTRUCTIONS AND MARKING

- 4.1 Each unit will have a manual containing instructions for maintenance and operations. If a unit is able to be operated in different configurations, then these will be clearly described, including the rated capacity in each configuration.

- The required manual(s) will be maintained in a weather-resistant storage location on the elevating work platform or aerial device.

- 4.2 a. Each aerial device or elevating work platform placed in service prior to December 23, 1999 will have a conspicuously displayed legible plate or other legible marking verifying the aerial device or elevating work platform is designed and manufactured in accordance with the following applicable specifications:

1. ANSI A92.2-1969 or 1979 for Vehicle Mounted Elevating and Rotating Aerial Devices
2. ANSI A92.3-1980 for Manually Propelled Elevating Work Platforms
3. ANSI A92.5-1980 for Boom Supported Elevating Work Platforms
4. ANSI A92.6-1979 for Self-Propelled Elevating Work Platforms
5. ANSI A92.7-1981 for Airline Ground Support Vehicle-Mounted Vertical Lift Devices
6. ANSI/SIA A92.9-1993 for Mast-Climbing Work Platforms

- b. Each aerial device or elevating work platform placed in service on or after December 23, 1999 will have a conspicuously-displayed legible plate, or other legible marking, verifying the aerial device or elevating work platform is designed and manufactured in accordance with the following applicable specifications:
 - 1. ANSI/SIA A92.2-1990 for Vehicle-Mounted Elevating and Rotating Aerial Devices
 - 2. ANSI/SIA A92.3-1990 for Manually Propelled Elevating Aerial Platforms
 - 3. ANSI/SIA A92.5-1992 for Boom-Supported Elevating Work Platforms
 - 4. ANSI/SIA A92.6-1990 for Self-Propelled Elevating Work Platforms
 - 5. ANSI/SIA A92.7-1990 for Airline Ground Support Vehicle-Mounted Vertical Lift Devices
 - 6. ANSI/SIA A92.9-1993 for Mast-Climbing Work Platforms
- 4.3 The above plates will contain the following data, when applicable:
 - a. Make, model and manufacturer's serial number;
 - b. Rated capacity at the maximum platform height;
 - c. Maximum platform travel height;
 - d. Maximum recommended operating pressure of hydraulic or pneumatic system(s), or both;
 - e. Basic cautions or restrictions of operation, or both;
 - f. Basic operating instructions and/or instructions referring users to the manufacturer's operating manual;
 - g. Rated line voltage (if applicable); and
 - h. Alternative configurations will require, in addition to the above:
 - 1. Chart, schematic or scale showing capacities of all combinations in their operating positions; and
 - 2. Caution or restrictions, or both, of operation of all alternate, or combinations of, alternate configurations.
- 4.4 Employees will be instructed in the proper use of the platform in accordance with this program, the manufacturer's operating instructions the Injury and Illness Prevention Program.
- 4.5 All aerial devices and elevating work platforms will be assembled and erected by a qualified person in accordance with the manufacturer's specifications and will be maintained in safe operating condition.
 - If the manufacturer is no longer in business and instructions are no longer available, assembly and erection will be performed by a qualified person under the direction of a registered professional engineer experienced in the design of elevating work platforms or aerial devices.
- 4.6 Work performed when using elevating work platforms or aerial devices in proximity to energized high voltage lines will be in accordance with Article 37 of the High-Voltage Electrical Safety Orders.
- 4.7 All electrical tests will conform to the requirements of the applicable ANSI Standard or equivalent dc. voltage test approved by the equipment manufacturer or equivalent entity.

- 4.8 Modifications to equipment will not be made without written approval from the equipment manufacturer.

5 OPERATING INSTRUCTIONS

5.1 General

- 5.1.1 Motor vehicle equipment having an obstructed view to the rear will not be used unless:
- a. The vehicle has a reverse signal alarm audible above the surrounding noise level; or
 - b. The vehicle is backed up only when an observer signals that it is safe to do so.
- 5.1.2 Only those persons authorized by Don H. Mahaffey Drilling Co. operate equipment.

5.2 Aerial Devices

- 5.2.1 Aerial baskets or platforms will not be supported by adjacent structure(s) when workers are on the platform or in the basket while in an elevated position.
- 5.2.2 Lift controls will be tested in accordance with the manufacturer's recommendations or instructions prior to daily use to determine that such controls are in safe working condition.
- 5.2.3 Belting off to an adjacent pole, structure or equipment while working from an aerial device will not be permitted.
- 5.2.4 Employees will not sit or climb on the edge of the basket or use planks, ladders, or other devices to gain greater working height.
- 5.2.5 Boom and basket and platform load limits specified by the manufacturer will not be exceeded.
- 5.2.6 When elevating personnel with the vehicle stationary, the braking systems will be set.
- 5.2.7 Provided they can be safely installed, wheel chocks will be installed before using an aerial device on an incline.
- 5.2.8 When used, outriggers will be positioned on pads or a solid surface. All outriggers will be equipped with hydraulic holding valves or mechanical locks at the outriggers.
- 5.2.9 Climbers will not be worn while performing work from an aerial device.
- 5.2.10 When an insulated aerial device is required, the aerial device will not be altered in any manner that might reduce its insulating value.

- 5.2.11 An aerial device truck will not be moved when the boom is elevated in a working position with employees in the basket or platform except when all of the following are complied with:
- a. The equipment is specifically designed for this type of operation in accordance with the provisions of Section 4;
 - b. All controls and signaling devices are tested and are in good operating condition;
 - c. An effective communication system will be maintained at all times between the basket or platform operator and, where applicable, the vehicle operator;
 - d. The route to be traveled is surveyed immediately prior to the work trip, checking for overhead obstructions, traffic, holes in the pavement, ground or shoulder, ditches, slopes, etc., for areas other than paved, a survey should be made on foot;
 - e. The speed of the vehicle does not exceed 3 miles per hour;
 - f. Only one employee is in the basket; and
 - g. Both the driver and/or the elevated employee have been specifically trained for this type of work (towering) in accordance with the manufacturer's recommendations.
- 5.2.12 Lower level controls will not be operated unless permission has been obtained from the employee in the device, except in case of emergency.
- 5.2.13 Before moving an aerial device for travel, the boom(s) will be inspected to see that it is properly cradled and outriggers are in stowed position, except as provided in Section 5.1.12.
- 5.2.14 An employee, while in an elevated aerial device, will be secured to the boom, basket, or tub of the aerial device through the use of a safety belt, body belt or body harness equipped with safety strap or lanyard.
- a. The fall restraint system will be attached to the boom or basket;
 - b. Safety belts/body belts are prohibited for use in personal fall arrest systems, but may be used as part of a fall restraint or positioning device system;
 - c. Safety belts/body belts used as part of a positioning device system will be rigged such that an employee cannot free fall more than 2 feet;
 - d. A body harness may be used in a personal fall restraint, positioning, or fall arrest system. When a body harness is used in a fall arrest system, the lanyard will be rigged with a deceleration device to limit maximum arresting force on an employee to 1,800 pounds and prevent the employee from hitting any levels or objects below the basket or platform, and will limit free fall to a maximum of 6 feet.

5.3 Elevating Work Platforms

- 5.3.1 No employee will ride, nor tools, materials or equipment be allowed on a traveling elevated platform unless the following conditions are met:
- a. The travel speed at Maximum Travel Height does not exceed 3 feet per second;
 - b. Self-propelled units will be equipped with electrical or other interlock means which will prevent driving them with the platform height greater

- than the Maximum Travel Height or at speeds greater than permitted at Maximum Travel Height; and
- c. The surface upon which the unit is being operated is level with no hazardous irregularities or accumulation of debris which might cause a moving platform to overturn.
- 5.3.2 Units will be assembled, used, and disassembled in accordance with the manufacturer's instructions.
- 5.3.3 Units will be inspected for damaged and defective parts before use.
- 5.3.4 Units will not be loaded in excess of the design working load and will be taken out of service when damaged or weakened from any cause. They will not be used until repairs are completed.
- 5.3.5 Employees will not sit, stand, or climb on the guardrails of an elevating work platform or use planks, ladders, or other devices to gain greater working height or reach.
- 5.3.6 Employees will not work on units when exposed to high winds, storms or when they are covered with ice or snow (unless provisions have been made to ensure the safety of the employee).
- 5.3.7 Employees climbing or descending vertical ladders will have both hands free for climbing.
- NOTE: Employees will remove foreign substances, such as mud or grease, from their shoes.*
- 5.3.8 Where moving vehicles are present, the work area will be marked with warnings such as flags, roped off areas or other effective means of traffic control will be provided.
- 5.3.9 Unstable objects such as barrels, boxes, loose brick, tools and debris will not be allowed to accumulate on the work level.
- 5.3.10 In operations involving production of small debris, chips, etc., and the use of small tools and materials, and where persons are required to work or pass under the equipment, screens will be required between toeboards and guardrails. The screen will extend along the entire opening, shall consist of No. 18 gage U.S. Standard Wire 1/2-inch mesh, or equivalent.
- 5.3.11 Mast-climbing work platforms will not be used as construction personnel hoists or material hoists.

EXCEPTIONS:

1. *Theatrical and Television Motion Picture Industry.*
2. *This does not prohibit the transfer of tools, materials and/or workers using personal fall protection at the location where the work is being performed.*

6 WORKING NEAR OVERHEAD LINES

When work is to be performed near overhead lines, the lines will be deenergized and grounded, or other protective measures will be provided before work is started. If the lines are to be deenergized, arrangements will be made with the person or organization that operated or controls the electric circuits involved to deenergize and ground them. If protective measures, such as guarding, isolating or insulating are provided, the precautions will prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools or equipment.

6.1 Unqualified Persons

- 6.1.1 When an unqualified person is working in an elevated position near overhead lines, the location will be such that the person and the longest conductive object he/she may contact cannot come closer to any unguarded, energized overhead line than the following distances:
- For voltages to ground 50kV or below – 10 feet;
 - For voltages to ground over 50kV – 10 feet plus 4 inches for every 10kV over 50 kV.
- 6.1.2 When an unqualified person is working on the ground in the vicinity of overhead lines, the person may not bring any conductive object closer to unguarded, energized overhead lines than the distances given in Section 6.1.1.

6.2 Qualified Persons

When a qualified person is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person may not approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in Table S-5 unless:

- The person is insulated from the energized part;
- The energized part is insulated both from all other conductive objects at a different potential and from the person; or
- The person is insulated from all conductive objects at a potential different from that of the energized part.

Table S-5	
Approach Distances for Qualified Employees – Alternating Current	
Voltage range (phase to phase)	Minimum approach distance
300 V and less	Avoid contact
Over 300V, not over 750V	1 ft. 0 in. (30.5 cm)
Over 750V, not over 2kV	1 ft. 6 in. (46 cm)
Over 2kV, not over 15kV	2 ft. 1 in. (61 cm)
Over 15kV, not over 37kV	3 ft. 0 in. (91 cm)
Over 37kV, not over 87.5kV	3 ft. 6 in. (107 cm)
Over 87.5kV, not over 121kV	4 ft. 0 in. (122 cm)
Over 121kV, not over 140kV	4 ft. 6 in. (137 cm)

6.3 Vehicular and Mechanical Equipment

- 6.3.1 Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines will be operated so that a clearance of 10 ft. (305 cm) is maintained. If the voltage is higher than 50kV, the clearance will be increased 4 in. (10 cm) for every 10kV over that voltage. However, under any of the following conditions, the clearance may be reduced:
- a. If the vehicle is in transit with its structure lowered, the clearance may be reduced to 4 ft. (122 cm). If the voltage is higher than 50kV, the clearance will be increased 4 in. (10 cm) for every 10kV over that voltage.
 - b. If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not a part of or an attachment to the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.
 - c. If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance may be reduced to the distance given in Table S-5.
- 6.3.2 Employees standing on the ground may not contact the vehicle or mechanical equipment, or any of its attachments, unless:
- a. The employee is using protective equipment rated for the voltage; or
 - b. The equipment is located so that no uninsulated part of its structure can come closer to the line than permitted in Section 6.3.
 - c. If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding may not stand at the grounding location whenever there is a possibility of overhead line contact. Additional precautions will be taken to protect employees from hazardous ground potentials, depending on earth resistivity and fault currents, which can develop within the first few feet or more outward from the grounding point.

7 EMPLOYEE TRAINING

- 7.1 Employees will be instructed by a qualified person in the safe use of the work platform in accordance with the manufacturer's operating instructions and Don H. Mahaffey Drilling Co.'s Injury and Illness Prevention Program.

- 7.2 Instruction for employees who erect, disassemble, move, operate, use, repair, maintain or inspect elevating work platforms will include, but not be limited to, training in:
- a. The provisions of this program;
 - b. The correct procedures for performing their assigned duties;
 - c. The nature of hazards associated with the equipment, including electrical hazards, fall hazards, and falling object hazards in the work area and correct procedures for dealing with those hazards;
 - d. The safe operation and use of elevating work platforms and the proper handling of materials on the work platform; and
 - e. The maximum load capacity of the work platform based upon installed configuration.

APPENDIX 1 – DEFINITIONS

Aerial device – any vehicle-mounted or self-propelled device, telescoping extensible or articulating, or both, which is primarily designed to position personnel.

Aerial ladder – an aerial device consisting of a single or multiple section extension ladder.

Articulating boom – an aerial device with 2 or more hinged boom sections.

Boom – an elevating member, the lower end of which is so attached to a rotating or non-rotating base that permits elevation of the free or outer end in vertical plane.

Elevating work platform – a device designed to elevate a platform in a substantially vertical axis. (Vertical tower, scissor lift, mast-climbing work platform)

Extensible boom platform – an aerial device (except ladders) with an extensible boom. Telescopic booms with personnel platform attachments will be considered to be extensible boom platforms.

Insulated aerial device – an aerial device designed for work on energized lines and apparatus.

Mast-climbing work platform – a powered elevating work platform or platforms, supported on one or more vertical masts, for the purpose of positioning personnel, along with necessary tools and materials, to perform their work.

Orchard man-lift (pruning tower) – an aerial device designed to elevate and position personnel for the purpose of harvesting and/or pruning fruit and nut trees.

Override – the taking over of primary control functions from a secondary location.

Pin-on platform – a platform other than basket or tub, without a guardrail which is attached to a boom by hinge or pivot connection allowing movement in the vertical plane, including such hinge down platforms used at the upper end of aerial ladders.

Platform – any personnel-carrying device (bucket, basket, cage, stand, tub or equivalent) which is a component of an aerial device.

Rated work load – the safe design live load carrying capacity of the work platform.

Stability – a condition of a work platform in which the sum of the moments, which tends to overturn the unit, is less than the sum of the moments tending to resist overturning.

Work platform, adjustable – any device that has a platform which is vertically, horizontally or rotationally adjustable and supported by a structure.