

The City of
Redlands



Aerial Lift Program
Rev. March 2017

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Aerial Lift Program

I. Policy

This program establishes Aerial Lift Operation Procedures for the safe operation to be followed wherever City of Redland's employees work on bucket trucks or other aerial devices. The rules are established to:

- A. Provide a safe working environment;
- B. Govern operator use of aerial devices; and
- C. Ensure proper care and maintenance of aerial devices.

II. Authority

California Code of Regulations, Title 8, Sections 3636-3648

III. Scope

This procedure applies to elevating work platforms and vehicle mounted or self-propelled aerial devices which are used to position personnel, along with their tools and necessary materials, to work locations.

This program does not apply to:

- A. Mobile ladder stands and scaffolds (towers) (covered in Article 23).
- B. Powered platforms for exterior building maintenance (covered in Article 6).
- C. Vertically adjustable platforms used primarily to raise and lower materials or materials-handling equipment, or both, with their operating personnel necessary to transfer such materials between varying elevations (covered in Article 14, Construction Safety Orders).
- D. Industrial Trucks, Tractors, Haulage Vehicles, and Earth Moving Equipment (covered in Article 25).
- E. Fire fighting equipment.

IV. Responsibilities

FLEET SERVICES

- A. Fleet service is responsible for purchasing Aerial Lifts that meet ANSI/ASME standards and maintain them in a safe, serviceable condition.
- B. Maintain inspection records for at minimum three years.
- C. Fleet Service is responsible for ensuring the bucket truck is capable of safe and reliable operation after any major repair or design modification.
- D. Fleet Service will complete a receiving or delivery inspection whenever the City of Redlands purchases a bucket truck.

RISK MANAGEMENT

- A. Prepare and maintain a written program that complies with the requirements with CCR Title 8, Sections 3636-3648.
- B. Review and revise the Program:
 1. On an annual basis;
 2. When changes occur to CCR T8, that prompt revision of this document;
 3. When operational changes occur that require a revision of this document; and
 4. When there is an accident or near miss that relates to this section.
- C. Coordinate training to all potentially impacted employees.
- D. Maintain training records.
- E. Respond to inquiries from City employees regarding the aerial lift program.

DIRECTORS, MANAGERS, AND SUPERVISORS

- A. Supervisors are responsible for enforcing the follow through of this program.
- B. They shall ensure that the assigned operators conduct and document the daily pre-shift inspections prior to using aerial devices and respond to reports of discrepancies.
- C. Supervisors shall periodically observe the daily operations for procedure compliance and recommend retraining and evaluation as necessary.
- D. Maintain daily operation inspection records.

AERIAL LIFT OPERATORS

- A. Operators are responsible for following the safe operating rules of this procedure at all times. Operators shall perform and log a pre-use operational equipment inspection on all bucket trucks prior to use.
- B. Operators shall immediately report any malfunctions to their supervisor and Fleet Maintenance.
- C. The aerial lift shall not be placed in service until it is made safe.
- D. All accidents or near misses during inspection or use of the bucket truck must be reported to the supervisor immediately.
- E. Exercise proper care of issued aerial lift devices.

V. Program

INSPECTION PROCEDURES

- A. Operators must perform an operational equipment inspection on aerial devices prior to each use.
- B. The inspection form shall be turned in to the supervisor at the end of each workday.

OPERATING INSTRUCTIONS

- A. All City employees will follow the manufacturer's operator instruction manual.
- B. Only authorized employees shall operate an aerial device.
- C. Aerial baskets or platforms shall not be supported by adjacent structure(s) when workers are on the platform or in the basket and while in an elevated position.
- D. Lift controls shall be tested in accordance with the manufacturer's recommendations or instructions prior to use to determine that such controls are in safe working condition.
- E. Belting off to an adjacent pole, structure, or equipment while working from an aerial device shall not be permitted.
- F. Employees shall not sit or climb on the edge of the basket or use planks, ladders or other devices to gain greater working height.
- G. Boom, basket, and platform load limits specified by the manufacturer shall not be exceeded.
- H. When elevating personnel, the braking system shall be set.
- I. Wheel chocks shall be used at all times.
- J. Outriggers shall be positioned on pads or a solid surface.
- K. Climbers shall not be worn while performing work from an aerial device.
- L. When an insulated aerial device is required the aerial device shall not be altered in any manner.
- M. An aerial device truck shall not be moved when the boom is elevated in a working position, or with employees in the basket/platform.
- N. Lower level controls shall not be operated unless permission has been obtained from the employee in the device, except in case of emergency.
- O. Before moving an aerial device for travel, the boom(s) shall be inspected to see that they are properly cradled and outriggers are in the stowed position.

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- P. An employee, while in an aerial device, shall be secured to the boom, basket or tub of the aerial device through the use of a full body harness or safety belt equipped with fall restraint lanyard.
 - Q. Operators and occupants of the platform and aerial device booms shall be properly protected, insulated or isolated from contact with electrical conductors, including neutralizer ground lines, poles, gross arms and guy wires.
 - R. Follow the manufacturer's instruction regarding operation in windy conditions.
 - S. Always position the truck as level as possible without raising the tires off the ground. Do not operate if ground slope exceeds 5 degrees. Never exceed the rated work load carrying capacity of the work platform.
 - T. All inspection records shall be maintained by fleet services for at least three years and be made available upon request.

ANNUAL INSPECTION

- A. A thorough inspection of bucket trucks shall be completed annually.
- B. Inspection, maintenance and repairs shall be performed by a qualified person in accordance with the manufacturers specifications.
- C. Records of inspection shall document the date of inspection, any deficiencies found, the corrective actions recommended and the identification of the person doing the inspection.
- D. Records of repairs shall include the date of any such repair, a description of the work accomplished and identification of the persons or entities performing the work.

MAINTENANCE

- A. Any deficiencies found in the bucket trucks must be repaired, or defective parts replaced, before use.
- B. No modifications or additions that affect the capacity or safe operation of the equipment may be made without the manufacturer's written approval.
- C. If such modifications or changes are approved by the manufacturer and made, the capacity, operation, and maintenance instruction plates, tags, or decals must be changed accordingly.
- D. In no case may the original safety factor of the equipment be reduced.
- E. Fleet Maintenance is responsible for ensuring the bucket truck is capable of safe and reliable operation after any major repair or design modification.
- F. Following the manufacturers recommended maintenance schedules and completing the proper records will increase bucket truck longevity and safety features.
- G. Fleet Service will complete a receiving or delivery inspection whenever the City of Redlands purchases a bucket truck.
- H. All maintenance shall be performed by qualified mechanics.

PERSONAL PROTECTIVE EQUIPMENT

- A. While in the bucket or platform of an aerial device all personnel shall wear a personal fall restraint system secured to an acceptable anchor point. In addition, the operator has direct responsibility to ensure that everyone on the platform is wearing the appropriate fall protection and safety gear. When working from a platform suspended over water of any depth, a personal buoyancy device (life jacket) must be worn instead of a personal fall protection system.
- B. Fall Restraint- Designed to prevent a fall from occurring by not allowing the user to get close to an edge from which a fall could occur. The system consists of:
 - 1. Full body harness or safety belt; and
 - 2. Fixed tether or lanyard connected to an individual anchorage point.

C. Inspection of personal fall protection system

1. Personal fall protection equipment must be visually inspected before each use.
2. Regular inspection by a competent person for evidence of wear on the equipment must be performed at least every six months.
3. Severe service or wear will require more frequent inspection. The inspection procedures should be written and each inspection should be documented.
4. Instructions should be stored in a location where they readily available to the users. While protected from the elements.
5. Inspect all equipment according to the manufacturer's instructions.
6. If required by manufactures, equipment must returned to the manufactures for inspection, repair, or recertification.
7. Remove equipment from service if a stress indicator or warning system has been activated. Follow manufacturer's instruction for disposition of the equipment.

D. Cleaning

1. Manufacturers recommend that textile harness, belts/harness and lanyards should be cleaned with mild, soapy water and dried in the open air. Machine washing, dry cleaning, or use of organic solvents is generally not recommended as these methods will reduce the strength of the textile fibers. Mechanical safety equipment is generally designed to be cleaned with water and wiped dry. Wire rope may be cleaned periodically with an oily rag to remove moisture, dirt, grit or grease. Always consult the cleaning directions provided by the equipment manufacturer and consult the manufacturer with question on cleaning materials or methods not specifically mentioned in the product literature.

E. Maintenance

1. Always maintain personal protection equipment according to the manufacturers' service requirements. All manufacturers require that fall protection equipment be removed from service after exposure to the forces of arresting a fall, or equivalent forces. Equipment should be removed from use and labeled "UNUSEABLE" until disposition is made by a Competent Person. Textile products such as harnesses and lanyards generally should be destroyed after arresting a fall, as specified by the manufacturer.

F. Storage

1. When not in use, personal protection equipment should be stored in a cool, dry and clean place, out of direct sunlight. Avoid areas where heat, moisture, light, oil, chemicals (or their vapors) or other degrading elements may be present. Equipment that is damaged or in need of maintenance should not be stored in the same area as usable equipment. Heavily soiled, wet or otherwise contaminated equipment should be properly cleaned and dried prior to storage. A formal inspection shall be conducted Prior to using equipment which has been stored for long periods of time.

G. Minimum required PPE while using an aerial lift:

1. Fall restraint system;
2. Hard hat for overhead impact and/or electrical hazards;
 - a. Class E must be worn for any electrical hazards
 - b. Type I is fine for overhead impact only.
3. Eye Protection;
4. Gloves chosen for job hazards expected; and
5. Protective footwear.

H. Additional PPE may include:

1. Hearing protection, high visibility safety apparel, face shields, insulated rubber sleeves, hot line tools, etc.
2. Use all that apply to mitigate work task hazards.

POWERLINE SAFETY

- A. Determine whether there are power lines in the area before starting any job.
- B. Minimum Clearance required for energized power lines
 1. 0 to 50 kV 10 ft.
 2. Over 50 to 200 kV 15 ft.
 3. Over 200 to 350 kV 20 ft.
 4. Over 350 to 500 kV 25 ft.
 5. Over 500 to 750 kV 35 ft.
 6. Over 750 to 1000 kV 45 ft.
- C. Only operate around power lines in accordance with Federal, State, Local, ANSI and City work rules and regulations when working on or near energized power lines. 'Near' is defined as within 10 ft. plus 2 x insulator length for operator or any portion of aerial device.
- D. Always maintain proper clearance from energized power lines.
- E. An aerial device cannot protect you from phase to phase or ground to phase contact.
- F. Always allow for platform sway, and rock. Occupants of the platform and aerial device booms shall be properly insulated or isolated from contacts with electrical conductors, including neutralizer ground lines, poles, gross arms and guy wires, by utilizing proper line covers, insulated rubber gloves, with leather protectors, insulated rubber sleeves, insulated hard hats, hot line tools and eye protection.
- G. Never position platform or men between energized conductors or energized conductors and a ground or grounded conductor.
- H. Ground personnel should never touch the aerial device, the vehicle or any attached trailer while the aerial device is in operation near electrical power lines, even though the aerial device has an insulated boom and lower boom insert.
- I. Never rely on fiberglass platform insulation when working near electrical power lines. The fiberglass may contain small, unseen cracks that allow an electrical path into the platform. Use a platform liner.
- J. Never operate the aerial device in an electrical environment if the fiberglass components are damaged, contaminated by moisture or dirt, or otherwise not maintained properly. Under these conditions, the fiberglass components may conduct electricity.
- K. At a minimum, daily inspection, and annual dielectric testing of all fiberglass components is absolutely necessary to maintain the integrity of the insulation.
- L. Always keep tools and accessories contained within the platform when working near electrical power lines.
- M. Never touch the controls or boom tip area while at the same time holding any conductors, neutrals or other structures without proper protection (rubber gloves).
- N. Periodic testing, daily or annually, of the upper boom and lower boom insert is absolutely necessary to insure the integrity of its insulating components.
- O. When working on or near energized lines or equipment the vehicle should be grounded and/or barricaded and considered as energized equipment.
- P. Always use tools equipped with orange hoses marked "Non-Conductive" in addition, the hoses should be kept clean, dry, and check periodically for dielectric integrity.

TRAINING

- A. All aerial lift operators shall be trained under the following guidelines:
 - 1. Training shall be performed before employees are assigned duties with aerial devices;
 - 2. Retraining will be performed when work site inspections indicate that an employee does not have the necessary knowledge or skills to safely operate aerial devices;
 - 3. When an accident or near miss occurs involving an aerial lift; or
 - 4. New equipment is introduced that triggers additional training.
- B. Training will be offered via classroom lecture and hands on equipment evaluation.
- C. Practical evaluations will be administered on a three-year basis.
- D. Training records will be maintained by the Safety Specialist, and shall include:
 - 1. Date of the training program;
 - 2. Name(s) of the instructor(s) who conducted the training;
 - 3. A copy of the written material presented; and
 - 4. Name(s) of the employee(s) who received the training.

TRAFFIC CONTROL

- A. The following controls shall be implemented for work in or around roadways for the protection from vehicular traffic.
 - 1. Develop and use a site plan that provides traffic flow details including any suitable combination of the following:
 - a. Use flaggers, traffic cones, and/or channeling devices to steer traffic away from work area;
 - b. Use standard road signs or message boards to warn approaching vehicles of work area;
 - 2. Pre-warning signs shall be placed at a distance that will provide suitable warning to oncoming traffic.
 - 3. A good rule of thumb is to multiple the speed by 6 and that should be the distance of the first warning sign (e.g. 45 MPH road should have the first warning sign at minimum 270 feet from work area).
 - 4. All traffic control plans shall be in compliance with the Manual on Uniform Traffic Control Devices (MUTCD).

VI. Records

Fleet Service will maintain all maintenance/repair and inspection records related to the bucket truck for at minimum three years.

All training records prepared in association with the Aerial Lift Program will be maintained by the Office of Human Resources/Risk Management.

VII. Additional References

<https://www.dir.ca.gov/title8/sb7g4a24.html>

Aerial Lift Pre-use Inspection

Operator: _____

Department: _____

Unit Type: _____

Unit Identification #: _____

Location: _____

Date: _____

1.Walk-around	Status			2.Powered Checks	Status		
	Yes	No	N/A		Yes	No	N/A
Wheel, tires, and axles - condition/inflation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Engine - starts/oil pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydraulic components - condition/leaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gauges & instruments - hour meter/warning light	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data plate - accurate/legible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ground and platform controls:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annual inspection certification - valid/legible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Boom/Lift Arm- raise/lower/extend/retract	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Engine - fluids/filters/belts/hoses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drive – forward and reverse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Batteries - clean/dry/secure/caps-cables/level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steer - left and right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel tank/level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Platform- tilt/rotate extend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydraulic oil level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Outriggers/stabilizers/pothole protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Placards/labels/decals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Deadman pedal/switch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Articulated joints - wear/cracks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Safety interlocks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Platform- guard rails/toe/board/anchorage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Workplace Inspection	Status		
Weather resistant storage compartment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drop-offs or holes or unstable floor conditions	Yes	No	N/A
All controls - clearly marked/hold to run	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Overhead obstructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate Manuals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wind and weather conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:				Energized power lines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Operator Signature: _____