



Safety Procedure: Aerial Lift / Bucket Truck

I. PURPOSE

- A. This procedure establishes Aerial Lift Bucket Truck Operation Procedures for the safe operation and the maintenance guidelines to be followed wherever any of the City of Corona employees work with bucket trucks. The rules are established to:
 - 1. Provide a safe working environment,
 - 2. Govern operator use of bucket trucks, and
 - 3. Ensure proper care and maintenance of bucket trucks

II. SCOPE

- A. This procedure applies to all employees assigned to operate bucket trucks and all maintenance procedures.

III. REGULATORY REFERENCES

- A. It is the intent of the City of Corona to comply with the requirements of CCR title 8, 3636-3648 Article, 24 and 29 CFR 1910.67, 1926.955 and ANSI A92.2, A92.6 and SIA A92.

IV. ASSIGNMENT OF RESPONSIBILITIES

A. City of Corona

- 1. The City of Corona is responsible for purchasing Aerial Lift Bucket Trucks that meet ANSI/ASME standards and maintain them in a safe, serviceable condition.

B. Safety Division

- 1. Safety Division has overall responsibility to provide training, evaluation, and certification of all bucket truck operators in accordance with the applicable California Code of Regulations. The Safety Division will also maintain training records and update this procedure as necessary.

C. Supervisors

- 1. Supervisors are responsible for enforcing the requirements and procedures of this Procedure. They shall ensure that the assigned operators conduct and document the daily pre-shift inspections prior to using bucket trucks and respond to reports of discrepancies. Supervisors shall observe the daily operations for procedure compliance and recommend retraining and evaluation as necessary.

D. Bucket Truck Operators

1. 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.
2. Operators shall immediately report any malfunctions to their supervisor and Fleet Maintenance.
3. The aerial lift shall not be put into service until it is made safe.
4. All accidents or near misses during inspection or use of the bucket truck must be reported to the supervisor immediately.

V. INSPECTION PROCEDURES

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

VI. OPERATING INSTRUCTIONS

- A. All City employees will follow the manufacturer's operator instruction manual.
- B. Only authorized persons 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 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.
- 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 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. Proper PPE, may include neutralizer line covers, insulated rubber gloves, with leather protectors, insulated rubber sleeves, insulated hard hats, hot line tools and eye protection.
- 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.
- T. Never exceed the rated work load carrying capacity of the work platform.
- U. All inspection records shall be maintained by Fleet Maintenance for at least three years and be made available to Cal/OSHA upon request.

VII. Annual Inspection

- A. An inspection of the bucket trucks shall be completed annually.
 - 1. The inspection shall be completed by a third party qualified inspector.
 - 2. Records of inspections shall document the date of inspection, any deficiencies found, the corrective action recommended and identification of the persons or company performing the inspection.
- B. Maintenance
 - 1. Any deficiencies found in the bucket trucks must be repaired, or defective parts replaced, before use.

2. No modifications or additions that affect the capacity or safe operation of the equipment may be made without the manufacturer's written approval.
3. 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.
4. In no case may the original safety factor of the equipment be reduced.
5. Fleet Maintenance is responsible for ensuring the bucket truck is capable of safe and reliable operation after any major repair or design modification.
6. Following the manufacturers recommended maintenance schedules and completing the proper records will increase bucket truck longevity and safety features.
7. Fleet Maintenance will complete a receiving or delivery inspection whenever the City of Corona purchases a bucket truck.
8. City of Corona employees will do "break in" inspections and Fleet Maintenance will perform the recommended maintenance.

C. Recordkeeping

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

D. Personal Fall Protection System

1. 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.

a. Fall Arrest

- i. A personal fall-arrest system is designed to stop (arrest) a fall as soon as possible or before contact with lower surface is made. The system consists of:
 - a) Full body harness
 - b) Self-retracting life line (SRL) connected to an individual anchorage point.

b. Fall-restraint

i. Designed to prevent a fall from occurring by not allowing the user to get close to an unguarded edge from which a fall could occur. The system consists of:

- a) Full body harness.
- b) Fixed tether or lanyard connected to an individual anchorage point.

ii. Inspection of personal fall protection system

- a) Personal fall protection equipment must be visually inspected before each use.
- b) Regular inspection by a competent person for evidence of wear on the equipment must be performed at least every six months.
- c) Severe service or wear will require more frequent inspection. The inspection procedures should be written and each inspection should be documented.
- d) It is also important to follow any specific instruction that is provided with the equipment at the time of purchase.
- e) Instructions should be stored in a location where they readily available to the users. While protected from the elements.
- f) Inspect all equipment according to the manufacturer's instructions.
- g) If required by manufactures, equipment must returned to the manufactures for inspection, repair, or recertification.
- h) Remove equipment from service if a stress indicator or warning system has been activated. Follow manufacturer's instruction for disposition of the equipment.
- i) If a fall has been arrested, components of the system should be removed from service. The manufacturer's instruction for disposal should be followed.

iii. Cleaning

- a) 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.

iv. Maintenance

- a) Most personal fall protection equipment is not designed to be repaired in the field. Routine maintenance is generally limited to cleaning and lubrication, as specified by the manufacturer. Some manufacturers require periodic factory service on mechanical devices such as self-retracting lanyards, hoists and descenders.
- b) 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.

v. Storage

- a) 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. Prior to using equipment which has been stored for long periods of time, a formal inspection shall be conducted.

VIII. Power Line Safety

- A. Determine whether there are power lines in the area before starting any job.
- B. 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.
- C. Always maintain proper clearance from energized power lines.
- D. An aerial device cannot protect you from phase to phase or ground to phase contact.

- E. 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.
- F. Never position platform or men between energized conductors or energized conductors and a ground or grounded conductor.
- G. 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.
- H. 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.
- I. 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.
- J. At a minimum, daily inspection, and annual dielectric testing of all fiberglass components is absolutely necessary to maintain the integrity of the insulation.
- K. Always keep tools and accessories contained within the platform when working near electrical power lines.
- L. 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). Periodic testing, daily or annually, of the upper boom and lower boom insert is absolutely necessary to insure the integrity of its insulating components.
- M. When working on or near energized lines or equipment the vehicle should be grounded and/or barricaded and considered as energized equipment.
- N. 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.

IX. **ATTACHMENTS**

- A. Appendix A – Aerial Lift Inspection Checklist
- B. Appendix B – Minimum Approach Distance (MAD) to Energized Power Lines



Aerial Lift Pre-use Inspection Checklist

Appendix A

Operator _____
 Unit Type _____
 Location _____

Department _____
 Model _____
 Date _____

1. Pre Start-up Walk-around	Status			2. Powered Checks	Status		
	OK	NO	N/A		OK	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"/>	Battery - charge level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data plate - accurate/legible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gauges & instruments - hour meter/warning light	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annual inspection certification - valid/legible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ground and platform controls:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Battery tray - opens/closes easily, latches shut	<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"/>
Turret turntable - gears/lock-pin/stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Turret rotate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Counterweight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drive - forward and reverse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cover panels - open/close easily, latch/lock shut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steer - left and right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Engine - fluids/filters/belts/hoses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Platform - tilt/rotate extend	<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"/>	Horn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel tank/level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Outriggers/stabilizers/pothole protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydraulic oil level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Extendable axles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lights & strobes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Function-enable (deadman) pedal/switch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Placards/labels/decals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manual/auxiliary controls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boom valley/under platform - leaks/debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Safety interlocks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessory plugs and cables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other:			
Boom lift arms - general condition / wear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Workplace Inspection			
Hydraulic cylinders & pin locks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Articulated joints - wear/cracks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drop-offs or holes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Power track - lines/hoses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bumps and floor/ground obstructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Platform - guard rails/toe/board/anchorage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weather resistant storage compartment	<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"/>	Energized power lines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All controls - clearly marked/hold to run	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hazardous locations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:				Ground surface and support conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Pedestrian/vehicle traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Wind and weather conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Other:			
Comments:							

Operator's Name: _____

Operator's Signature: _____

Please Print

Appendix B

Minimum Approach Distance (MAD) to Energized Power Lines

Normal Voltage (phase to phase)

Minimum Clearance Required

0 to 50 kV	10 ft (3 m)
Over 50 to 200 kV	15 ft (4.6 m)
Over 200 to 350 kV	20 ft (6 m)
Over 350 to 500 kV	25 ft (7.6 m)
Over 500 to 750 kV	35 ft (10.7 m)
Over 750 to 1000 kV	45 ft (13.7 m)