

Vehicle-mounted elevating and rotating work platforms 29CFR1910.67





Purpose

The bucket truck safety training program is intended to help prevent accidents, injuries, and fatalities that may be caused by the improper and unsafe use of bucket trucks.

OSHA Requirements

General requirements:

- * Working in the bucket
- * Personal Protective Equipment
- * Boom and bucket load limits
- * Use of brakes, outriggers, and wheel locks; and
- * Securing the boom before moving the vehicle



Definitions

- * **Bucket Truck** – Any vehicle-mounted device, telescoping or articulating, or both, which is used to position personnel.



- * **Authorized employee** – One who has completed the company's required safety training for the safe operation of bucket trucks.

Overview of Bucket Trucks

Most Bucket Trucks have 4 major components:

- * Cab-chassis;
- * Stabilization system;
- * Truck body; and
- * Aerial device.



Overview of Bucket Trucks

Bucket depth requirements

- * Buckets or “baskets” are required to be at least 39” deep to put the lip above the waist of most workers and reduce the risk of falling out.
- * Some buckets are 42” deep



Do not hinder safety features

- * Safety features such as guards; outrigger interlock and ground fault interrupter circuits; and warning labels are included on bucket trucks.
- * These are designed to help prevent accidents and may not be modified or removed

Overview of Bucket Trucks

Insulated or non-insulated classification

- * Bucket trucks must be classified as insulated or non-insulated
- * Insulated models will not protect workers in the bucket from phase-to-phase or phase-to-ground contacts.



Electrocution hazard

- * Whenever bucket trucks are operated in the vicinity of utility lines the potential for electrocution exists.
- * Hose drops and telephone circuits can be energized with enough voltage to kill.

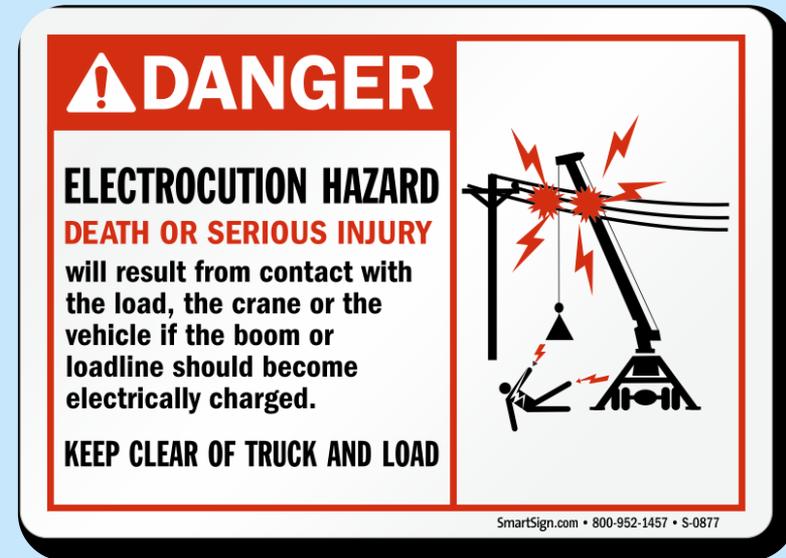
Overview of Bucket Trucks

Coating on wires is protection for wires

- * Coating on wires is not insulation, it is actually designed to protect wires from the elements.
- * It will not protect workers from electrocution

Indirect electrocution hazard

- * Trees and other objects may be electrified by contact with conductors and have caused many electrocutions.



Operator Training

Poor operator knowledge, due to lack of training or ineffective training, is a major cause of bucket truck accidents:

- * ***Do not operate an unfamiliar bucket truck***
 - * Bucket trucks differ enough that even trained workers should not operate a bucket truck they are unfamiliar with on the job
- * ***Read manual and practice first***
 - * Workers need to take the time to read the operator's manual and practice with the equipment before employing it.
- * ***Annual refresher training and emergency training***
 - * UNE requires annual refresher training, including instruction on what to do in case of an emergency

Personal Protective Equipment



Bucket truck workers are required to wear and use various kinds of personal protective equipment

**** ANSI-approved hard hats***

- * ANSI-approved hard hats designed to reduce the danger of exposure to electrical shock must be worn by all personnel.***

**** Eye protection and fire resistant clothing***

- * Eye protection and fire-resistant clothing are mandatory if electrical arcs, flashes, explosions, or flying objects might be present***

**** Fall-restraint belt or harness system***

- * Bucket workers must wear a fall-restraint safety belt system or a full-body harness, fall arrest system.***
- * Full-body harnesses minimize trauma if a worker falls or is ejected from the bucket***

Fall arrest harnesses

* **Non-conductive hardware**

- Fall-arrest harnesses designed for bucket truck work usually feature hardware made out of non-conductive material such as Kevlar.

* **One per worker**

- To ensure proper fit, each worker should have his or her own fall-arrest equipment and be trained in its proper adjustment, use, and care.

* **Shock-absorbing lanyard**

- The accompanying shock-absorbing lanyard is attached at the center of the wearer's back, between the shoulder blades



Fall arrest harnesses



* ***Attach to the boom or basket***

- OSHA requires the other end to be attached to the boom or basket; belting off to an adjacent pole, structure, or equipment is prohibited
- ANSI recommends that the lanyard be connected to the aerial device at the platform position.

* ***Fall-arrest equipment inspection***

- Fall-arrest equipment must be thoroughly inspected before each use.
- Look for cuts, holes, tears, abrasions, frays, burns, chemical damage, and other signs of wear.
- Examine hardware to make sure it is in proper working order.

Harness life expectancy

- * It's important to realize that bucket truck work regularly exposes fall-arrest equipment to the elements including
 - * Ultraviolet sun radiation
 - * Deterioration might occur that is not revealed by normal inspections.
 - * Refer to manufacturer's manuals to find out the life expectancy of the harness you are using.
 - * Consider the conditions you are working in.



Fall arrest equipment

- * ***Retiring fall-arrest equipment***

- * To be on the safe side, some manufacturers and industry experts recommend destroying and discarding fall-arrest equipment that gets heavy outdoor use after four to five years.

- * ***Re-certification in the event system prevents a fall***

- * Whenever a fall-arrest system prevents a fall, it must be examined by a competent person and certified sound before it is re-used.

- * ***Additional safety equipment***

- * Additional safety equipment is required for qualified personnel working on or near exposed conductors and circuit parts.
- * This might include insulated gloves, sleeves, cover-up, and hot sticks.

Bucket Truck Inspection and Maintenance

Keeping equipment and tools in good working order is a major factor in safety and primary responsibility of bucket truck owners and operators

** Initial inspection and test*

- * Whenever new equipment is acquired, owners are required to perform an initial inspection and test based on the manufacturer's manual.*

** Modifications*

- * Modifications that might affect the safe operation of a bucket truck are not permitted without the written approval of the manufacturer.*

Bucket Truck Inspection and Maintenance

Daily vehicle inspection

- * Must be accomplished according to the manufacturer's manual for each truck
- * Some manufacturers include checklists with their truck



Typical daily vehicle inspection

- * Tire pressure;
- * Beacons;
- * Vehicle fluid levels;
- * Outriggers & outrigger pads;
- * Emergency brake;
- * Leveling system;
- * Hydraulic & lubricating systems for leaks
- * Pin retainers;
- * Structural & mechanical integrity;
- * Communications equipment;
- * Jib boom & other material handling equipment;
- * Boom and boom rest;
- * Tie downs;
- * Bucket;
- * Bucket tilt; and
- * Electrical circuits, including ground fault interrupter, start-stop, and auxiliary circuits.

BUCKET TRUCK DAILY PRE-USE INSPECTION CHECKLIST
(Revised 7/05)

Name _____ Date _____
 Unit No. _____ Company _____
 Location _____
 Operator/Inspector Signature _____

		PASS	FAIL
1. Pre-trip vehicle inspection completed			
2. Bucket truck operator qualified			
3. Outriggers and outrigger pads			
4. Emergency brake, wheel chocks			
5. Hydraulic system, fluid levels, hoses			
6. Controls operate properly			
7. Check boom, bucket, and turret for damage			
8. Frame and mounting hardware			
9. Decks, steps and walking surfaces clear and clean			
10. Pins and pin retainers			
11. Bucket, bucket liner, and attachments			
12. Bucket cradle and tie downs			
13. Electrical circuits			
14. Warning devices			
15. Communication system, radios			
16. Fall protection and attachment points			
17. Safety warning stickers			
18. Traffic control devices			
19. Manufactures operators manual			
20. Annual inspection completed within 12 months			
21. Insulated boom tested within 12 months			
22. Insulating area clean / undamaged			

If an unsafe condition is found, do not operate the bucket truck. Notify the Foreman, Area Superintendent or Safety Manager immediately. They will make arrangements to replace or repair the equipment. Red tag the controls and the steering wheel to warn other employees not to operate the equipment.

REPAIRS REQUIRED:

Repairs Completed By _____ Date _____

WHITE – Company Office YELLOW – Stays With Bucket Truck

Bucket Truck Inspection and Maintenance

- * **Controls and consoles**

- * Make sure all controls are properly marked and working.
- * Make sure consoles are free of tools

- * **Hazards associated with carelessly stowed tools**

- * Tools can jam levers or buttons and cause accidents or prevent the prompt use of controls during emergencies.

- * **Stow tools properly**

- * Verify tools and equipment are accounted for and stowed properly and that other standard equipment is present on the truck.

- * **Have problems corrected before operating truck**

- * Any problems found during an inspection must be corrected before the bucket is operated.



Bucket Truck Inspection and Maintenance

- * ***Periodic minor and major maintenance***

- * Owners are responsible for ensuring that periodic minor and major maintenance is performed.
- * Check manufacturer's manual for each truck to determine what is required.

- * ***Keep bucket truck free of contaminants***

- * It is vital to keep bucket trucks free of clutter, dirt, oil, grease and other contaminants
 - * Clutter creates tripping hazards.
 - * Oil and grease can cause slippery conditions on pedals and other work surfaces



Bucket Truck Inspection and Maintenance

- * ***Hazards associated with debris and spilled petroleum products***
 - * Increase the risk of fire because flammables such as hydraulic fluid under pressure and gasoline are present.
 - * If a fire starts, the boom may serve as a chimney that takes the flames directly to the bucket worker
- * ***Practice good housekeeping***
 - * Bucket workers should always clean contaminants from their shoes when boarding the truck

Driving and Setting Up at Work Sites

* ***Before driving a bucket truck***

- * Perform a “walk-around” inspection to make sure the boom is cradled and tied down and all other equipment is secure
- * Never move a bucket truck with the boom in an elevated position

* ***Fasten seat belts***



- * Driver and passengers should always put on his or her seatbelts.
- * Drive with care according to conditions

Driving and Setting Up at Work Sites



- * ***Watch for low-hanging obstructions***

- * Watch for branches, wires, canopies, and other low-hanging obstructions.
- * Necessary clearances will be listed in the manufacturer's manuals
- * Many companies post clearance information on the vehicle's dash-a good practice!

- * ***Approaching the work site***

- * As you approach the work site, turn on the beacon lights, and park with the flow of traffic, if possible

Driving and Setting Up at Work Sites

- * ***Put transmission in proper position; set parking brake***
- * ***Survey the site prior to positioning the truck to perform work***
- * ***Avoid tip-over hazards that may set the stage for a tip-over accident***
 - * Pot holes;
 - * Weak pavement;
 - * Unstamped earth fills;
 - * Mud, sand, ruts;
 - * Ditches; and drop-offs.



Driving and Setting Up at Work Sites



- * Avoid setting up on slopes and always check for overhead obstacles and utility lines.*
- * Whenever maneuvering a large bucket truck in to position, a signalperson should help direct positioning to guard against collisions.*
- * Both driver and signalperson must check continually to make sure other personnel are clear of the vehicle.*

Driving and Setting Up at Work Sites

- * ***Stabilizing and securing the vehicle for work***

- * Place the transmission in the appropriate position
- * Apply the emergency brake, and chock the wheels.
- * Verify that the tires are firmly positioned for lifts within the vehicles on-rubber capacities.



- * ***Outriggers***

- * Follow the manufacturer's operating recommendations regarding their use
- * Outrigger pads may be necessary to assure firm footing.

- * ***Follow applicable work zone regulations to warn motorists***

Working in the Bucket

- * **Bucket capacity, one worker at a time**
 - * Single buckets have a weight limit of 300 pounds, including gear.
 - * Only one worker at a time may occupy the bucket.
- * **Double-sized buckets and two-bucket configuration**
 - * Two workers may occupy double buckets
 - * Weight limit of 550 pounds with gear
- * **Two buckets are employed on some units**
 - * Capacities may vary so check manufacturer's manuals to be sure.



Working in the Bucket

- * **Remove climbers or “gaffs”**
 - * Metal objects contribute to the electrocution hazard
- * **Put on fall-arrest equipment and adjust and secure it properly**
- * **Board Safely**
 - * Do not carry tools or other items in your hands when boarding.
 - * Place needed items on the truck deck, hand them up to a co-worker, or use a rope to hoist them up once aboard.
- * **When climbing onto the truck, use handrails if available, and maintain three points of contact at all times.**
 - * Either two feet and one hand, or two hands and one foot
- * **Always use anti-slip surfaces, and never jump to or from ladders, steps, or walkways.**

Working in the Bucket

- * ***Upon entering the bucket***

- * Close and latch the door
- * Attach the fall-arrest lanyard

- * ***Before raising the boom***

- * Make sure no personnel are below or near the intended path
- * Check carefully for overhead obstructions such as trees and utility lines

- * ***Continue watching for obstructions when raising the bucket.***

- * ***Stay “boxed in” when performing work***

- * Stand firmly on the floor with both feet
- * No sitting or climbing on the bucket lip
- * Never lean out of the bucket!



Working in the Bucket

- * ***Achieving additional working height with railings, planks, ladders, or other means is also prohibited***
- * ***Never violate safe working procedures***
 - * Violations of safe working procedures cause accidents and lead to tragedies.
- * ***Some booms have material handling devices that may be used to lift equipment***
 - * Before attempting a lift, consult and follow the weight restrictions shown on the truck's load chart.
 - * Check load lines periodically across their entire length
 - * Look for nicks
 - * Look for signs of wear
 - * Always replace damaged lines



Working in the Bucket

- * ***Always verify that the load line is level-wound on the winch drum and at least four wraps of line are visible***
- * ***Use approved rigging techniques***
 - * Position devices such as slings, ties, and hooks properly
 - * Never attempt to lift more than one load at a time
 - * Combined weights are unsafe, even if their total is within rated capacity
 - * The boom and jibs are designed for vertical hoisting only!
 - * Never use aerial devices to pull or push loads or move objects horizontally
- * ***Once a load is rigged securely***
 - * Lift slightly, and recheck its stability before continuing

Working in the Bucket

- * ***Lift slowly and carefully***

- * Watch the load at all times
- * Proceed slowly and carefully
- * Never move a load over ground personnel

- * ***Lower suspended load if work stops, never leave a load suspended in the air***

- * ***Observing the bucket worker***

- * Ground workers are required to observe bucket workers at all times
- * Be prepared to take action if something goes wrong

- * ***Lower Controls***

- * Never operated without permission of the bucket worker-except in emergencies





Emergencies are complex and hazardous, both to those that may need rescuing and to rescuers

Contact emergency help as soon as possible.

Post emergency numbers in a convenient place on the truck and make sure all crew members know where they are.

UNE bucket truck



Decals on UNE bucket truck



Decals on UNE bucket truck



Electrocution hazard decal on UNE bucket truck



The bucket of the UNE bucket truck:



This includes employees and their equipment/tools!



Hydraulic tank
shut off

Safety lighting

Wires and cables

Questions, problems, concerns?

If you have any questions or concerns regarding safety items with the vehicle itself, please bring them to the attention of the UNE mechanic and have the truck tagged “Out of Service”.

If you have concerns about employees operating the truck in an unsafe manner or disregarding safety protocol, please report to your Supervisor or the EHS staff.