

# Aerial Lift Safety in Tree Care Operations

By Stephen Chisholm Sr.

**A**erial lift safety in tree work can be relatively easy to achieve, provided you follow the manufacturer recommendations for inspecting and maintaining the aerial unit, follow OSHA regulations and ANSI standards, and follow recommended safe operating procedures.

## Equipment

Aerial lift safety begins with purchasing the equipment. If you purchase a new unit, you can be confident that it was built and tested to ANSI A92.2 Standards. If purchasing a used unit, be sure to get documentation of maintenance from the seller, as well as lists of any replacement components and copies of the most recent inspection and testing records.

Once you own your aerial lift, it is your responsibility to inspect and maintain it according to the manufacturer's recommendations. At a minimum, refer to your manual for operator training, unit inspection and maintenance intervals. As the driver of a truck, you are also required to do a pre-trip inspection. As an aerial lift operator, there are inspection requirements, generally broken down into frequent and periodic inspection intervals. These are categorized as visual inspection, operational testing, stability and structural testing and dielectrical testing.

The aerial lift should be inspected by the manufacturer or an approved repair and service center at least once a year. A copy of the aerial lift certification should be kept in the vehicle in case of an OSHA inspection.

## Standards & Regs

Once you have made yourself aware of all the inspection and maintenance requirements, you should also be aware of the



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regulations and standards that apply to tree care operations and aerial lifts. OSHA regulations that apply are: 1910.67 Vehicle Mounted Elevating and Rotating Platforms; 1910.266 Logging Operations; 1910.269 Electric Power Generation, Transmission and Distribution; 1910.333 Selection and Use of Work Practices; 1926.601 Motor Vehicles, and; 1926.952 Mechanical Equipment. These and other applicable regulations can be viewed at the OSHA Web site [www.OSHA.gov](http://www.OSHA.gov).

When working along a roadside, U.S. Department of Transportation regulations apply as defined in the Manual on Uniform Traffic Control Devices (MUTCD). More information can be found at [www.mutcd.fhwa.dot.gov](http://www.mutcd.fhwa.dot.gov).

OSHA has developed Quick Cards with English on one side and Spanish on the other side. The OSHA Quick Card on Aerial Lift Safety Tips says: "The major causes of fatalities are falls, electrocutions and collapses or tip-overs." They also list 11 bullet points under Safe Work Practice.

**OSHA QUICK CARD**

**Aerial Lifts  
Safety Tips**

Aerial lifts include boom-supported aerial platforms, such as cherry pickers or bucket trucks. The major causes of fatalities are falls, electrocutions, and collapses or tip-overs.

**Safe Work Practices**

- Ensure that worker's who operate aerial lifts are properly trained in the safe use of the equipment.
- Maintain and operate elevating work platforms in accordance with the manufacturer's instructions.
- Never override hydraulic, mechanical, or electrical safety devices.
- Never move the equipment with workers in an elevated platform unless this is permitted by the manufacturer.
- Do not allow workers to position themselves between overhead hazards, such as joints and beams, and the rails of the basket. Movement of the lift could crush the worker(s).
- Maintain a minimum clearance of at least 10 feet, or 3 meters, away from the nearest overhead lines.
- Always treat powerlines, wires and other conductors as energized, even if they are down or appear to be insulated.
- Use a body harness or restraining belt with a lanyard attached to the boom or basket to prevent the worker(s) from being ejected or pulled from the basket.
- Set the brakes, and use wheel chocks when on an incline.
- Use outriggers, if provided.
- Do not exceed the load limits of the equipment. Allow for the combined weight of the worker, tools, and materials.

*OSHA Quick Card.*

Other useful Quick Cards include:

- ▶ Work Zone Traffic Safety
- ▶ Chain Saw Safety
- ▶ Crane Safety
- ▶ Chipper Safety
- ▶ Motor Vehicle Safe Driving Practices
- ▶ Tree Trimming and Removal

You can view the Quick Cards on the OSHA Web site by going to the alphabet at the top of the home page ([www.osha.gov](http://www.osha.gov)) and clicking on the letter "Q."

OSHA requires that employers train their employees. Certainly training to operate an aerial lift safely and efficiently should be a priority. Altec Industries is one manufacturer that offers a training manual and CD-Rom program to become certified. Go to [altec.com](http://altec.com) and click on the Safety First logo. Check with the manufacturer of your aerial lift to see what additional training information they may provide. Knowing the safe operations of all equipment is a must.

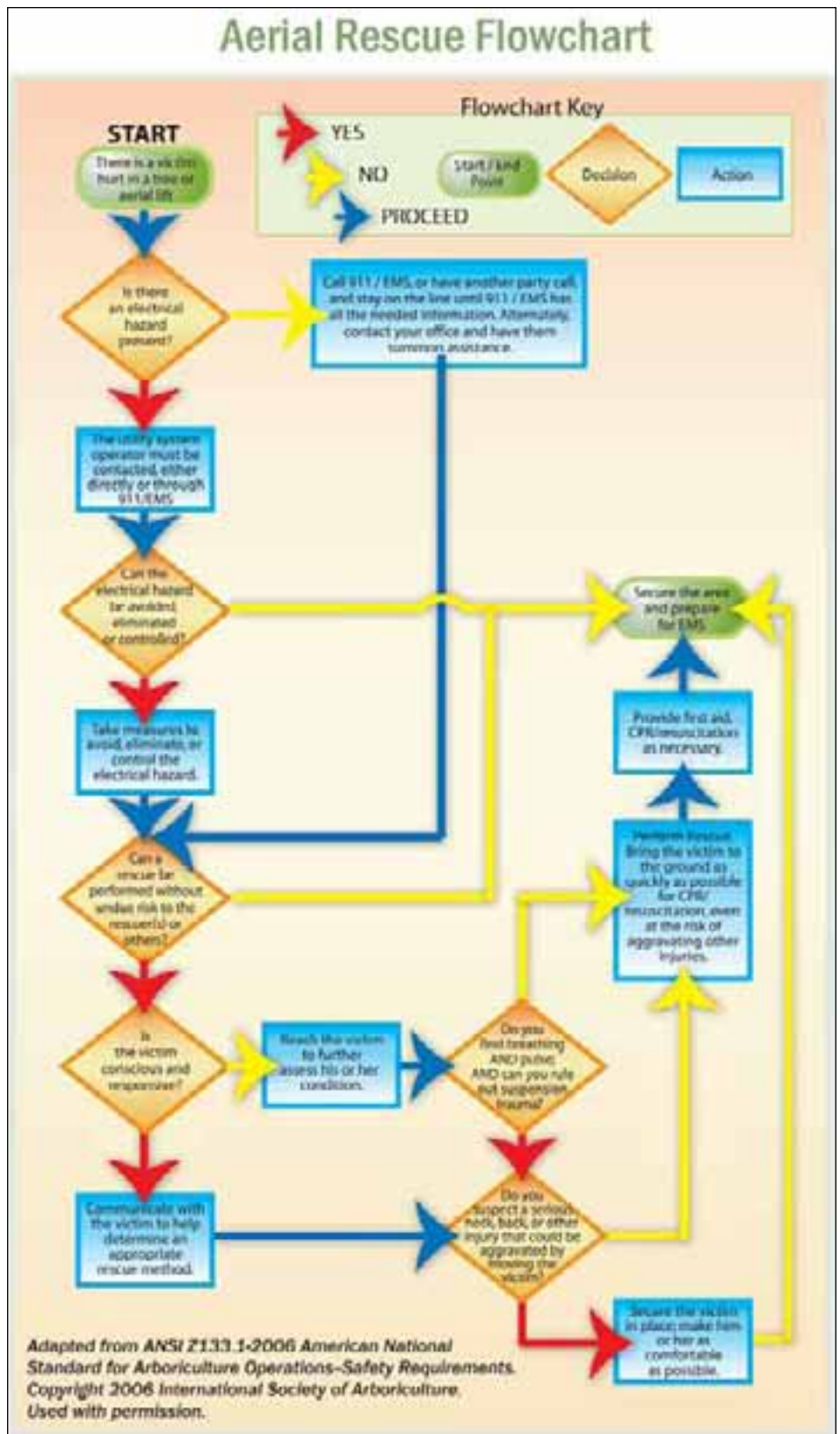
The ANSI Z133.1 2006 has many sections that would apply to tree care operations and aerial lifts. The entire safety standard applies to the tree care industry, but particularly Section – 4 Electrical Hazards; Section 5 – Safe Use of Vehicles and Mobile Equipment Used in Arboriculture (with 5.2 dealing specifically with aerial devices); Section 6.3 – Chain Saws; Section 8.4 – Rigging, and; Section 8.5 – Tree Removal. You will find that following the new and expanded Z133.1 Standard will help you achieve a safer workplace.

### Safety procedures

For safe operations, job briefings are a must. You should develop a plan and operate according to that plan.

When traveling to and from job sites be sure the booms are stowed correctly, and plan your trip to avoid any possible overhead obstructions, such as low bridges.

When arriving at the job site you need to be aware of any hazards. When working roadside you need to control pedestrian and vehicle traffic, not only for their safety, but for yours as well.



*Editor's note: Due to editing errors during its adaptation by TCIA, this chart was published in the September 2006 TCI magazine and in the August 2006 TCIA monthly newsletter, TreeWorker, with errors in some of the text.*

When setting up the aerial device and setting your outriggers, you need to be mindful of the slope. Generally ANSI A92.2 limits the rated capacity for aerial

devices to set up on a maximum of a five degree slope. Unless you can use blocking or cribbing, as is done with crane set up, you should never operate an aerial lift on a



Always use non-conductive equipment when working near energized conductors.

slope of greater than 5 degrees, especially when working over the side of the unit. Also, be sure your wheel chocks are in place and the outriggers are set appropriately before operations begin.

When setting up off-road be sure to check for any soft areas, manholes, old septic tanks or any other possible hazards. Use planks and outrigger pads for stabilization.

Are there any electrical hazards that need to be considered? If so, you must be a line-clearance certified arborist, or a qualified line-clearance arborist trainee, to work where electrical hazards exist. When working near electrical conductors you must maintain minimum approach distances. Always keep your eyes on the conductors – never turn your back to them. You should, when necessary, cut your way into your work, cutting small pieces at a time so that you can see the conductors clearly. You must always use non-conductive equipment when working near energized

conductors. You should keep your equipment and your insulated boom clean. A good way to clean your boom is with something like “Spray Nine” – you could then apply a layer of wax to the boom.

For more information on aerial lift safety, you can refer to TCIA’s Tailgate Safety Manual.

Other things to be aware of during removal operations or during large limb removal:

- ▶ Is the tree safe to set up rigging points to it, or do you need to set up rigging lines to another tree or possibly use a crane in conjunction with the aerial lift?
- ▶ If you overload a rigging point, or if the tree cannot withstand the load, and your upper boom is under that failed load, you may come to the ground, be thrown from the basket, or the boom may experience catastrophic failure.
- ▶ Never use your aerial device as a crane or a hoist unless it is designed by the man-

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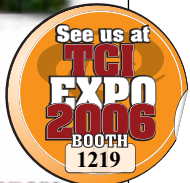
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Never use your aerial device as a crane or a hoist unless it is designed by the manufacturer to do so. Continued operations that exceed the load limit of the basket will lead to failure of the upper boom.

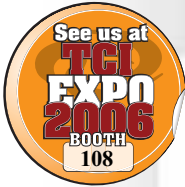
ufacturer to do so. Continued operations that exceed the load limit of the basket will lead to failure of the upper boom.

Aerial devices can provide safer, less fatiguing operations than climbing – as long as they are maintained and inspected according to manufacturer’s specifications. To be safe, operate according to the safety standards and regulations listed in this article. And adding a heavy dose of plain old common sense wouldn’t hurt one bit!

Remember, your co-workers also count on you to work safely. Maintain safety awareness as you work, and always follow correct procedures. Shortcuts can create hazards and lead to accidents. Be safe. As Cynthia Mills, TCIA’s president and CEO, says so well and so often, “Let’s create a culture of safety.”

*Stephen Chisholm, Sr. is president of Aspen Tree Expert Co., Inc. in Jackson, N.J., and a member of the Committee for Advancement of Arboriculture.* ⚡

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