



MIOSHA Fact Sheet

Consultation Education & Training Division

Tree Care Industry

The hazards of the tree care industry can be great, and in many cases, they may result in death. Contact with overhead power lines, struck by fallen tree sections, and faulty and/or defective equipment increase the dangers associated with tree care/removal. In an attempt to raise the awareness of those who work in and around the tree care industry MIOSHA has compiled this fact sheet which outlines training and education services available, tree care industry safety and health program related topics, and tree care industry injury and illness statistics.

Summary of 2016 Fatalities

Fall from Elevation

- 28-year-old male fell approximately 40 feet after equipment failure after ascending a tree to perform trimming and cable installation – 2/29/2016.
- 65-year-old male fell approximately 15 feet from the bucket boom truck while performing tree trimming – 3/21/2016.
- 46-year-old male fell approximately 35 feet after rope failure while performing tree trimming for line clearance – 9/19/2016.
- 75-year-old male fell approximately 20 feet after the branch broke to which he was secured – 9/21/2016.
- 49-year-old male fell approximately 55 feet from the bucket of a boom truck after the limb being cut struck the bucket – 10/03/2016.
- 40-year-old male fell approximately 40 feet after rope failure while performing tree trimming – 11/10/2016.

Struck By

- 63-year-old male was crushed when a 45-foot section of tree trunk fell on the cab of his excavator while land clearing for a construction project – 3/22/2016.

MIOSHA Standards

Part 53. Tree Trimming and Removal

This standard defines the minimum requirements for tree trimming work. Of particular concern are:

Employer responsibility

- **Rule 5311(b):** An employer shall not allow a tool or equipment to be used which is not guarded according to state standards, has a defective guard or is otherwise unsafe.
- **Rule 5311(c):** An employer shall develop rescue procedures such as, but not limited to, removal of injured, stricken or electrically shocked employees from work positions aloft.

Personal Protective Equipment

- **Rule 5313(3):** A safety belt, safety strap, tree trimming saddle belt, or rope saddle shall be provided to and used by an employee when working aloft in a tree. A saddle or safety belt made unsafe by damage, defect, or alteration shall not be used.

Climbing

- **Rule 5331(1):** An approved safety belt, tree trimming saddle belt or rope saddle shall be used by an employee when aloft.
- **Rule 5331(3):** The climbing employee shall remain tied in until the work is completed and he has returned to the ground.

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- **Rule 5331(4):** If it becomes necessary to recrotch, the employee aloft shall retie in or use a safety strap before releasing the previous tie.

Pruning and Trimming

- **Rule 5332(2):** A separate work rope, controlled by an employee on the ground, shall be used to lower limbs which cannot be dropped. The work rope shall not use the same crotch over which the climbing rope is run.
- **Rule 5332(4):** Whenever an employee is aloft in excess of 15 feet, a second employee or supervisor shall be within vocal hearing distance of the treed employee.

Part 58. Aerial Work Platforms

This standard defines the minimum requirements, when using elevated and rotating platforms while doing tree-trimming work. Of particular concern is Rule 5836(2) and (3) which addresses fall protection. The employer shall provide a safety harness that has a lanyard which is in compliance with construction safety standard Part 45. "Fall Protection", R 408.44501 to R 408.44502 and which is affixed to attachment points provided and approved by the manufacturer. Any occupant of an aerial work platform described in R 408.15802(a) and (c) and figures 1 and 3 shall use a safety harness. A fall arrest system shall only be used where the aerial lift is designed to withstand the vertical and lateral loads caused by an arrested fall. An employee may use a body belt with a restraint device with the lanyard and the anchor arranged so that the employee is not exposed to any fall distance. An employee is required to use a restraint device where the aerial lift cannot withstand the vertical and lateral loads imposed by an arrested fall.

Part 380. Occupational Noise Exposure and Hearing Conservation

Noise exposure is a health concern. Engineering and administrative controls must be used to the extent feasible to reduce exposures below the permissible exposure limit (PEL) for noise (i.e., 90 dBA as averaged over an 8-hour workshift). Where such controls are not feasible or sufficient to reduce employee exposures below the PEL, a selection of hearing protection must be provided and required for employee use.

Employers must also institute a hearing conservation program when employees are exposed to high levels of noise on the job. A hearing conservation program consists of noise monitoring, baseline and annual hearing tests, annual noise training, provision of a selection of hearing protection (i.e., at least two different types of devices), posting a copy of Part 380, and proper maintenance of exposure and hearing test records. The requirement for the hearing conservation program applies when employee noise exposures equals or exceeds the action level (AL) for noise (i.e., 85 dBA as averaged over an 8-hour workshift).

Other Important Facts to Consider

Electrical: Know the qualifications of employees who work on tree trimming. There is a difference between a tree worker and a qualified line clearance tree trimmer. A qualified line clearance tree trimmer is an employee trained in working in the proximity of electrical conductors. Understand clearances from energized lines and conductors found in Table 1 for the tree worker when approaching energized conductors and Table 2 governs qualified line clearance workers.

Personal Protective Equipment: Eye and head protection shall be provided and used. If employees are exposed to vehicular traffic, orange colored jackets or vests must be provided at no cost to the employee. Understand and follow safe operating procedures and wear appropriate protection when operating a chain saw.

Clear the Area: When felling, before the cut is started, the feller shall check for other employees, dead limbs, angle of tree, wind conditions, and plan a path of retreat. Assisting employees shall be instructed on exactly what they are to do. Other employees are to be cleared away at a distance to twice the height of the tree being cut. Just prior to the tree falling an audible warning shall be given.

Chipper Concerns: When removing brush and using brush chippers, feed the chipper from the side of the centerline of the opening. Employees shall turn away when brush is taken into the rotor chamber. Where applicable, the chipper shall be fed from the curb-side. Wear appropriate clothing; you cannot wear loose sleeves, gauntlet gloves, watches or rings.

Additionally, the brush chipper shall be equipped with a locking device on the ignition system. Access panels for maintenance and adjustment shall be closed. The infeed hopper or table of the brush chipper shall be of such a design to prevent an employee reaching into the rotor blades or knives.

Mobile Equipment: Before backing up any mobile equipment, the operator shall check the rear area of the vehicle. In areas of congestion or obstructed view, a backup alarm or an employee will assist the operator. Maintain appropriate clearances from energized conductors.

Use Best Safe Work Practices: Read the equipment manuals; be trained for your job responsibilities; pre-plan – meet and discuss the job; know the hazards, identify them at the job site and do a walk-around; and know where all members of the crew are located before and during felling and trimming.

Create a Pre-Start Checklist to Identify:

- Condition of trees, limbs to be cut - splits, cankers, cracks;
- Equipment needed – eye and head protection, harness, clips, belts;
- Condition of equipment - damage, defects or alterations;
- Personal protective equipment requirements;
- Powered hand tools; and
- Location of power lines, slope of the work area, cone requirements, warning signs.

Training & Education Services/Resources

MIOSHA Consultation, Education and Training (CET) Division: www.michigan.gov/cet

International Society of Arboriculture: www.isa-arbor.com

Tree Care Industry Association (TCIA):
www.treecareindustry.org

Arboriculture Society of Michigan (ASM)
www.asm-isa.org

Michigan Green Industry Association (MGIA):
www.landscape.org or 1-800-354.6352

Occupational Safety and Health Administration (OSHA): www.osha.gov

National Institute of Occupational Safety & Health (NIOSH): www.cdc.gov/niosh

American National Standards Institute (ANSI):
www.ansi.org

- A300-2001: Tree Care Operations
- Z133.1-2006: Safety Requirements