

Tree Work Safety Guide



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This document is not meant to be either a substitute for or a legal interpretation of the occupational safety and health regulations. Readers should refer directly to Title 8 of the California Code of Regulations and the Labor Code for detailed information regarding the regulation's scope, specifications, and exceptions and for other requirements that may be applicable to their operations.

Tree Work Safety Guide



Tree care operations include the trimming, pruning, felling, and removal of trees and bushes. They involve climbing trees, using portable ladders, working at heights while using hand and portable power tools, working near energized overhead or downed power lines, feeding chippers, and other hazardous operations.

Tree work accidents can result in severe traumatic injuries and deaths. The most commonly reported causes include falls, electrical shock, being struck by falling objects, and chain saw lacerations. Most are preventable through hazard recognition, hazard control, effective employee training, and the use of appropriate personal protective equipment.

This safety guide is intended to assist tree care companies by providing an overview of the regulatory requirements and safe work practices that can

safeguard employees from injury while performing tree work.

How to Improve Tree Work Safety

- Develop, implement, and enforce a comprehensive health and safety program that includes written rules and safe work procedures for all tasks performed.
- Ensure qualified tree workers direct tree trimming/removal/repair operations and immediately correct any identified hazards or improper work practices.

Qualified Tree Worker

An employee who, through related training and on-the-job training experience, has demonstrated familiarity with the techniques and hazards of tree maintenance, removal, and the equipment used in the specific operations involved.

- Create a culture of safety in your company for workers to establish safe work habits, emphasizing the importance of working safely, and not taking chances or shortcuts.
- Provide safety training to employees that addresses the hazards associated with tree work they perform. Safety training must be:

- Completed prior to a job assignment.
 - Provided in the language(s) workers understand.
 - Documented and additional refresher training must be given whenever necessary.
 - The training should also include a requirement that the employees can demonstrate safe work practices.
- Safety instruction must be provided on all relevant areas of tree work, including:
 - Hazards associated with tree work, including electrical hazards.
 - Safe work procedures and special techniques needed to perform tree pruning, trimming and felling.
 - Fall prevention
 - Methods of communication
 - First aid and cardiopulmonary resuscitation (CPR)
 - Roadway safety
 - Rescue procedures
-
- Employee practicing rescue procedures
- Proper use and maintenance of:
 - Safety equipment, including harnesses, belts, tree saddles, ropes, and lanyards. Safety equipment must be inspected before each use and immediately withdrawn from service if it is defective or damaged.
 - Personal protective equipment (PPE), such as hard hats, face shields, safety glasses and shoes, gloves, high visibility clothing, and hearing protection.
 - Equipment/tools, such as chippers, pole pruners, trimmers, and chain saws.
 - Conduct an initial job site inspection and perform daily hazard assessments before the start of each workday to identify all existing hazards and other potentially dangerous conditions.
 - Have a qualified tree worker conduct a job briefing to communicate and discuss with the crew:
 - The specific hazards associated with the job before starting work on the job.
 - New hazards observed while working on the job.
 - The appropriate work procedures to follow, e.g., safest method of entry into the tree.
 - Appropriate personal protective equipment needed to accomplish the work safely.

- Also, provide general safety information to employees, including:
 - Be attentive to other workers' activities as unexpected actions can trigger new hazards.
 - Stay alert to surrounding hazards especially uphill, where gravity can send hazards toward employees.
 - Wear high-visibility attire and take a position where they can be easily seen by others.



- Provide adequate supplies of potable drinking water for employees and encourage consumption.
- Control pedestrian and vehicular traffic effectively, as needed.



Drinking sufficient water can prevent heat illness



- Check for weather updates and storm warnings. Take into account the additional dangers that weather conditions—such as high winds, fog, ice, rain, high heat, thunder and lightning—can bring to the worksite and stop work, if necessary.

National Weather Service Website
<http://www.weather.gov>

Common Tree Work Safety Topics

There are many operations involved in tree work—trimming, cutting, pruning, repairing, removal, etc. Information on some of the most common safety topics in tree work is provided below.

Prevent Electrocutions

ALWAYS ASSUME THAT POWER LINES ARE ENERGIZED!



When work is near overhead or downed power lines, always assume that all power lines and any attached equipment, such as transformers, are energized. Before work begins, contact the utility company for immediate assistance.

- Electricity can jump from a power line to nearby objects. Electrocutation can occur even though the worker is not directly touching the power line because an arc can form between the power line and a nearby object, such as a pruning pole held by the worker.
- Electrocutation can also occur when a worker is standing on the ground near a downed power line even though the worker is not touching the power line.

Provide specialized training to workers on the dangers of electrical shock/ electrocutation and the critical importance of using PPE, special tools and techniques, and other safe work practices:

- Follow the 10-foot (minimum approach distance) rule. Never perform tree work where trees or branches (including leaves) are within 10 feet of high-voltage energized power lines and conductors.

Also, remind employees to keep body parts, clothing, tools, and equipment, such as ladders or aerial devices, beyond this minimum approach distance and as far away as possible from all overhead power lines. Greater minimum approach distances are required with higher voltage power lines and conductors.

- Never touch a power line or make any contact with an object (energized tool, tree limb, equipment, etc.) that is in contact with a power line. Any contact can be fatal.
- Be alert to changing weather conditions, such as strong winds, that can cause branches to fall onto power lines and then contact the worker, thereby bringing the worker into the electrical pathway, causing shock or electrocutation.
- Only use insulated (nonconductive) tools, ropes, ladders, etc., near power lines.
- Visually inspect the specialized personal protective equipment, e.g., insulating (rubber) gloves with leather protectors, for defects and damage prior to use each day, and follow proper procedures for examination, testing, cleaning, and storage to ensure it provides the needed protection.

Additional training, on-the-job experience and special skills are required for the following employees:

- Qualified tree workers are permitted to perform tree work within 10 feet of an energized low-voltage (600 V or less) power line, but cannot work less than 1 foot from the low-voltage power line.
- Qualified line-clearance tree workers are permitted to perform line-clearance tree work when high-voltage electrical lines and conductors exceed 600 V.

Working Safely at Heights



Disabling injuries and fatalities can occur when tree care workers fall from heights. Falls can be the result of climbing rope failure, climbing safety gear malfunction, unexpected tree limb breakage, or accidentally cutting through the climbing rope, as a few examples. Implementation of the following controls can help reduce these risks:

- Perform a hazard assessment of the work area before starting work.
 - Closely inspect the root collar, tree trunk, and limbs for strength and stability before climbing.
 - Consider using equipment such as aerial devices for trees that are unsafe to climb.
 - Postpone tree work under unfavorable weather conditions, such as high winds, rain or ice.
- Based on the hazard assessment, determine the safest method of entry into the tree.
 - Provide appropriate personal fall protection systems and instruct employees to follow manufacturer's recommendations on the use and limitations, inspection, and maintenance procedures.
 - Establish the following procedures and ensure workers integrate these work procedures into their daily work routine:
 - Check the condition of limbs before cutting them, climbing on them, or tying off safety equipment. Tie only to strong branches, limbs, or tree trunks that will not break off. If using a ladder, be sure it is tied to a secure branch.
 - Workers must be secured when climbing, working in, and descending the tree until they are safely back on the ground.
 - When working aloft, wear a tree worker's saddle and use at least a climbing line and a lanyard. Using additional anchor points provides greater support. You must be tied off to two anchor points when using a chain saw.
 - When climbing or changing positions, place hands and feet on separate branches and move only one hand or foot at a time.
 - Workers should position themselves on strong limbs (close

- to the trunk) that can fully support their weight.
- Do not carry tools by hand when climbing into a tree.
- Identify and remove dead or weakened branches from the tree so that they are not used for support.
- Do not inadvertently cut safety lines or the branch an anchor is tied to. Keep chain saws and other cutting tools away from all ropes, lanyards and harnesses.
- Communicate and coordinate work with other employees on the ground when climbing or working at heights of more than 12 feet.
- Pay attention when working on sloped surfaces.
- Have at least one other person nearby when a worker is working more than 12 feet high in tree or from ladders.

- Check the local weather report for visibility, wind direction and speed, etc.
- Evaluate the work area, including terrain characteristics and the location of nearby trees.
- Before climbing or working in trees, conduct a visual hazard assessment looking for the lean of the tree, loose limbs, signs of decay, lack of stability, etc.
- Establish a drop zone and communicate the location to workers.
- Instruct employees not involved directly in the pruning/removal work to maintain:
 - A safe distance from the drop zone until they are informed that it is safe to enter.
 - An even greater distance when trimming or felling on a slope where logs could roll or slide.
- If the drop zone interferes with vehicular traffic or pedestrians, place warning signs, barricades, and post flaggers, if needed.

Prevent Injuries from Falling Objects

Struck-by injuries involving tree work are caused primarily by falling trees, falling branches, and hand tools as well as “hangers” (cut branches) that become dislodged and suddenly drop onto workers below. Remember that even small objects falling great distances with accelerating force can cause a tremendous impact, which can result in serious or even fatal injuries.

Before the start of pruning and trimming operations:



Traffic warning cones establish drop zone

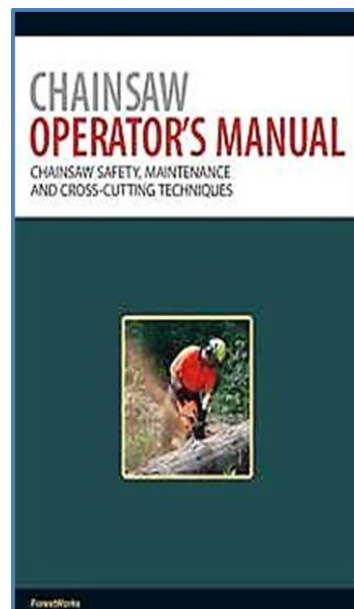
- Prior to each job assignment, have a qualified tree worker brief the crew on their duties and positions. Also, discuss with your employees the safe work procedures needed to prevent injury:

- Wear appropriate personal protective equipment.
- Maintain open communication between workers aloft and ground crew.
- Keep in mind that the actions of an employee must not create a hazard for any other worker.
- Do not throw tools from trees or between workers aloft. Instead carry tools in a bag or use lines to raise/lower hand tools and other equipment.
- Assume that there might be ground workers under the canopy of the tree. Before dropping branches or other debris, or using portable power tools, signal or communicate with ground crew for clearance.
- Do not leave cut branches in a tree. Plan each cut carefully so that the branch will either fall down safely within the expected drop zone, or will be lowered safely to the ground using utility ropes - **do not use climbing ropes for this purpose.**
- Before a tree or tree trunk is ready to fall, be attentive to the warning from the qualified tree person, provide audible warnings, or

communicate via prearranged two-way hand signals.

- Workers should not turn their backs to a tree where branches are being cut or a tree is being felled.
- Be alert and avoid objects thrown by a tree as it falls.
- Reassess a partially fallen tree that has lodged against another tree and not fallen completely to the ground.

Chain Saw Safety



**Take
Caution!!!**



**Chain saws
can be
extremely
dangerous.**

**They must
always be
operated with
both hands.**

Chain saws are very powerful tools used by tree care operators and loggers to trim, prune, and fell trees. Chain saws can be extremely dangerous due to the magnitude of its power. Users must be fully aware of the potential hazards involved, and the importance of always using safe work practices to prevent injury, death, and property damage.

To promote safe work, employers must involve all employees and provide them with effective training before they are assigned to work with a chain saw. Ensure that employees read and understand the manufacturer's instruction manual, observe all safety rules, precautions, and follow operating instructions.

Hazards

- Mechanical: death or injuries, e.g., lacerations or broken bones, are caused by unsafe work practices and/or faulty saws.
- Ergonomic: musculoskeletal disorders, such as back strains, shoulder and upper extremity pain resulting from overreaching, awkward postures, and vibration.
- Heat: burns caused by unsafe fueling practices, a damaged/leaky fuel cap, use of unapproved gasoline containers, and the presence of an ignition source, etc.
- Physical: hearing loss due to inadequate /lack of hearing protection.

Personal Protective Equipment

The use of personal protective equipment (PPE) helps to reduce the extent of the injury and includes:

- Protective eye wear, including adequate top and side protection to shield from debris, such as wood chips, snapping branches, and other flying objects. If a ventilated face

shield is worn, be sure to wear safety glasses underneath.



Employee Wearing Protective Equipment

- Earmuffs/earplugs
- Safety hardhat to protect against branches or other objects that can fall on the worker
- Heavy duty gloves to protect against abrasion, cold temperatures and vibration.
- Steel-toed shoes or boots with nonslip soles.
- Cut-resistant pants or protective leg chaps
- Reflective safety vest for high visibility

Note:

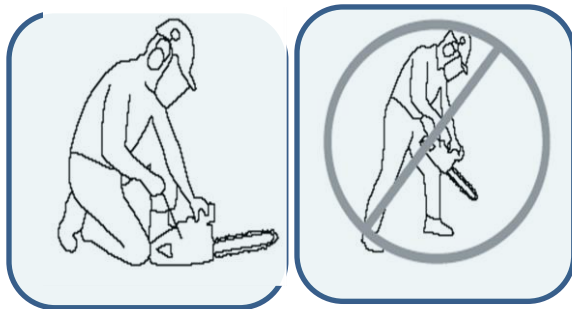
There are specialized “all-in-one helmets” that feature a face shield, earmuff, and hardhat as a single unit.

Training

Due to the magnitude of the power of chain saws, the seriousness of the hazards involved, and the devastating consequences, it is critical that employers provide specialized training on chain saws to their employees. Employees can avoid injuries only when they fully understand the potential hazards of working with the chain saw.

Starting a Chain Saw

- Always start the chain saw on the ground. Never start it against your body.



YES
Start a chain saw
on the ground

NO
Never start a
chain saw against
your body

- Don't start the chain saw on the ground when the ground has debris, or snow or other obstructions.

Handling a Chain Saw

- Always **use both hands** to handle the chain saw.
- Never use one handed-operation for starting and cutting.
- Always keep in mind that that single-handed chain saw use is a major cause of accidents.

Understanding Kickback and Gravity Forces

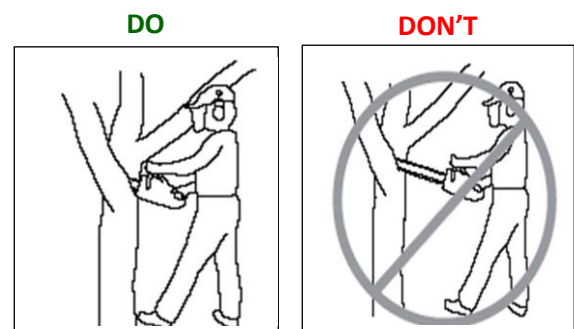
Kickback forces are extremely dangerous and the cause of many injuries, as it happens quickly, taking the operator by surprise.

There are two types of kickback:

- Rotational kickback occurs when the saw's upper nose contacts a solid object, such as nails, rocks, adjacent logs, branches, or stumps, causing the tip to be driven upward in an arc toward the operator.
- Linear kickback is also a sudden reaction that occurs when the chain along the top rail gets pinched in a cut. This causes the chain saw to be pushed straight toward the operator.

Prevent kickback by training employees:

- Not to cut using the tip of the saw.



- When cutting, always hold the saw with both hands, thumbs encircling the handles and left elbow extended, body to the side—out of the path of potential kickback—visually seeing that the nose of the saw does not make contact with solid objects or dip into the ground while the chain is rotating.

- Use a saw with an anti-kickback device.

Gravity forces and follows through. This is why you shouldn't cut above shoulder height. Train employees to be prepared to operate the chain saw with an understanding of how gravity affects the work. During a cutting operation, the weight of the chain saw is supported mainly by the wood being cut. However, after the cut is completed, the saw is no longer supported, and the operator must be prepared to control the downward momentum of the chain saw plus the weight of the saw.

Other Chain Saw Training Topics

- The importance of wearing personal protective equipment.
- How to safely operate, care, and maintain the saw following manufacturer's recommendations, covering specific work practices and safety tips.



Never start a chain saw against your body.

- Emergency and first aid procedures and supplies.

- Operator safety including:
 - Physical condition (sick/fatigued/taking medication or other substances, or being under the influence of alcohol can affect mental alertness, judgment, balance, vision, or dexterity).
 - Not wearing loose clothing/shorts or anything that could snag the chain saw.
 - Communication with coworkers and reporting to supervisor.
 - The use of "devices" for effective real-time communication, such as two-way radios, walkie-talkies, and cell phones.
 - Periodic rest breaks.
 - Drinking sufficient water.
 - Working with a straight wrist, and knowing signs and symptoms of musculoskeletal disorders, such as discomfort and swelling of the fingers, numbness, and lack of grip strength.
- Prior to starting the chain saw:
 - Check for nearby buildings, roads, bystanders, pets, and overhead hazards, such as power lines and dead or hanging limbs. Set warning signs and install barriers as needed.
 - Be aware of sloped and uneven ground.
 - Ensure the work area around the tree to be cut and surrounding grounds is free of obstructions. Clear brush and remove other obstacles around the work area, if needed.
 - Always wear the appropriate personal protective equipment.

➤ Conduct a pre-start check and document your findings:

- Examine the chain saw for damage or alterations.
- Ensure the chain saw is in good working condition (e.g., chain is sharpened, lubricated and tensioned correctly, air filter is clean, and controls and brake function properly).
- Be sure to report any bent or loose parts, cracks, and other problems and tag it for repair. Do not use a defective chain saw.

- When refueling, place the saw on a stable surface and be sure to keep all ignition sources at least 10 feet away.
- Follow all the manufacturer's operating instructions.

Additional Safety Tips

- Provide effective supervision, particularly to new workers.
- Do not work alone. Use a "buddy system" or team so that a supervisor/ designated person and coworkers can watch each other and respond in case of an emergency.



Coworker watching

- Communicate in advance with your buddy/ team to discuss the work and individual responsibilities.
- Work at a safe distance from other workers and always be alert to the entire work environment.
- Work only when there is adequate illumination.
- Be sure to stand on something solid with a good footing and open stance for greater stability. Avoid slippery ground.
- When cutting, stand on the upward side of a hill.
- Do not reach to cut overhead, as the material/chain saw can fall on you, causing serious injuries. Keep the saw below chest height.
- Position your body to the side of the chain saw so that you are out of the cutting plane.
- Keep body parts away from a moving chain saw at all times. Do not attempt to reach or grab material you are cutting while the chain is still moving.
- For a good working height, when cutting firewood, position logs between knee and waist height.
- Cutting a "loaded" branch or tree (with tension) may cause it to suddenly spring back, thereby striking with tremendous force, which can also cause serious or fatal injuries.
- Small chain saws can be carried by tree workers hooked to the ring on their belt. Saws weighing more than 15 lbs. must be supported by a separate utility line or lanyard - **do not use climbing line for this purpose.**

- Check the tension of the chain frequently and tighten it as needed.
- Carry the chain saw with the engine off at the side of your body with the chain facing the rear for distances greater than 100 ft. or set chain brake for distances of more than 10ft.
- Allow the saw to cool down before refueling.

Wood Chipper Safety



Employee carrying a tree branch for chipping. Load the chipper from the side of the feed, instead of the front.

Mobile wood chippers and shredders commonly used in tree work operations are powerful and efficient mechanical devices designed to quickly chop and grind wood materials, such as tree limbs, brush, and scrap lumber.

Wood material is normally fed by hand through a loading chute, which draws it to a cutting assembly. Here, sharp rotating blades spinning at very high speeds cut the material into tiny pieces, which are immediately discharged from the machine.

Chippers can be very dangerous devices that have caused serious injuries, such as cuts, amputations, crushing injuries, and death. To advance safety in the workplace, employers must ensure that employees read and understand the manufacturer's instruction manual and must provide effective training. Employees must be made aware of the hazards involved in chipping and must always follow safe work practices and procedures.

Hazards

- Chipper's moving parts, where hands, clothing, etc. can get caught, pulled in, and cut by the blades.
- Missing or unsecured guards, such as an unlatched hood that could fly open and injure/kill the operator.
- Not waiting for the chipper to come to a complete stop and inserting hands to clear a jam.
- Kickback resulting in debris or objects that become flying projectiles and strike the operator.
- Hearing loss due to lack of/ inadequate hearing protection.

Personal Protective Equipment

- Safety goggles to protect from debris, such as wood chips, snapping branches, and other flying objects. If a ventilated face shield is worn, be sure to wear safety glasses underneath.
- Earmuffs/earplugs.
- Safety hardhat to protect against

materials that may be kicked out of the chipper.

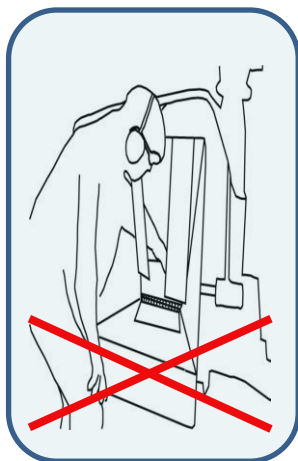
- Snug-fitting leather gloves to protect against injuries to the hand, such as splinters, thorns, cuts, and cold temperatures.
- Steel-toed shoes or boots with nonslip soles.
- Reflective safety vest for high visibility.

Training



YES

Use a push stick to feed small pieces of brush



NO

Never push brush into the chipper/shredder with your arm or leg.

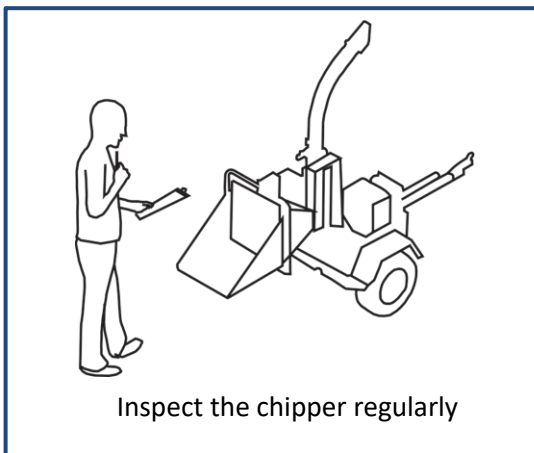
In addition to training employees on the topics listed below, it is also important to demonstrate the safe use of a wood chipper, provide the opportunity for employees to practice and ask questions. You may review the most important points again, if needed.

Training Topics Include:

- Hazard recognition when working with chippers and shredders, such as nip/crush and shear points on the machine.
- The importance of wearing personal protective equipment.
- How to safely operate, care, and maintain the chipper following manufacturer's recommendations. Emphasize the operation of safety devices and controls, especially the emergency shutoff switch.
- Additional safe work procedures and practices to help workers develop safe work habits. For example, letting go of material right away as it begins to be pulled into the chipper.
- Emergency and first aid procedures and supplies.
- Operator safety including:
 - Physical condition: sick/fatigued/being under the influence of alcohol or drugs. If you are taking medication, be sure to discuss with your doctor whether you are capable of operating the equipment safely.
 - Not wearing loose or dangling clothing, jewelry or hair to avoid snagging and the chance of being pulled in.
 - Not wearing ropes, body belts, harnesses and lanyards while operating chipper.
 - Being attentive and concentrating on working safely.
 - Communicating with coworkers and reporting concerns to supervisor.
 - Taking periodic rest breaks.
 - Drinking sufficient water.

Other Wood Chipper Training Topics

- Prior to starting the chipper:
 - Check for nearby people, pets, buildings, roads, and other hazards, etc. If needed, set warning signs and install barriers to keep the public away from the work area.
 - Always be sure to have a good footing. Avoid slippery ground. Instead, select a grassy or earthen surface that is firm and level to operate the chipper.
 - Ensure the work area around the chipper is clear of tripping hazards, including wire or objects that could potentially become entangled with the moving parts of the machine.
 - Always wear the appropriate personal protective equipment.
- Perform a pre-start safety check before each use:
 - Inspect the chipper for damage, leaks or alterations. Check for broken, missing or malfunctioning pins, latches, and hinges. Be sure machine parts are replaced before use. Report leaks to supervisor immediately. Any alterations to the chipper can potentially create new safety hazards.



- Ensure that chipper guards and cover shields are in place and secure and that no objects are present in the in-feed area.
 - Check the quick stop and reversing device (in-feed system) to ensure they are in good working order.
 - Position discharge chute away from people and roadway.
- Know and follow all the manufacturer's operating instructions.

Additional Safety Tips

- Provide effective supervision.
- Do not work alone. Use a "buddy system" or "chipping team." Communicate in advance with your buddy/team to discuss the work and individual responsibilities.
- A team of two working together provides greater chipping efficiency and safety, as workers watch out for one another, and at least one person has immediate access to the shutoff device in case of an emergency.
- Work only in daylight or with adequate illumination.
- Organize materials to be processed so there is enough room to work and employees do not need to walk in front of the feeding area or discharge chute.
- Inspect the piles of material to be fed to the chipper to make sure there are no nails, stones, or entangled rope.

- Trailer chippers detached from trucks must have their wheels chocked.
- Before refueling, be sure that the engine is shut down and cooled, and no sources of heat, flame, or sparks are present.
- Only operate the chipper outdoors due to the potential for carbon monoxide poisoning from engine exhaust.
- Never place hands or any part of the body near rotating parts or on the feed table when the chipper is in operation or the rotor is turning.



No placing of your body (or any part of the body) inside or near the moving parts.

immediately turn away from the feed table as soon as the brush is taken into the rotor.

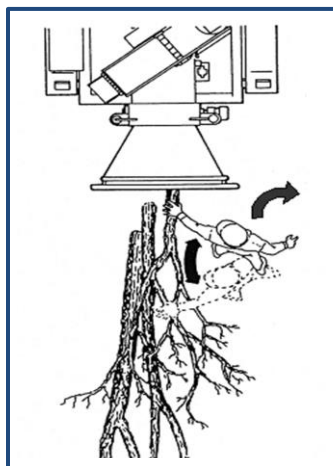
- Always feed the large end of the branch first into the chipper.
- When feeding shorter branches, use a long and sturdy push stick to get the branches to the rollers or you may place the shorter branches on top of longer ones being fed into the chipper.
- If a blockage occurs, pull the emergency stop bar forward to activate the reverse gear.
- The chipper must be locked out and the key removed from the ignition when it is left unattended or before performing service/maintenance.

Palm Tree Work



Palm tree work, including pruning and trimming the palm fronds, poses serious hazards. Special measures and extreme caution must be taken while performing palm tree work.

- Never stand directly in front of the feed area. To avoid being struck by any loose debris, the operator must position his body to one side and



Standing away from the feed area

Palm Frond Pruning and Trimming

Palm trees typically retain their dead fronds in large quantities and for long periods of time. The unstable fronds make pruning and trimming palm trees extremely dangerous. Some important safety measures are:

- Always consider the dead, decayed, or damaged fronds as loose and ready to fall at any time.
- All chain saws used around dry fronds must have mufflers and spark arresters in good working order.
- Keep both hands on the chain saw, and be very attentive to the location of your safety lanyards and climbing line.
- When trimming fronds, a climbing line must be used or an aerial device provided.
- Whenever possible, use elevating work platforms or aerial devices in lieu of climbing.
- Whenever possible, position yourself at the top of the palm without working under the skirt of fronds.
- If you have to work under the skirt of fronds, rig the climbing line and lanyards to avoid the fronds sliding down, or sloughing onto you. Just a few feet of fronds can instantly and completely suffocate and immobilize you.

Fall Protection

Fall protection is critical in palm tree pruning and trimming work. Working at

height demands special fall protection measures. Safety measures include:

- Working at heights exceeding 7 1/2 feet requires fall protection.
- Protect against falling by using proper fall protection systems, equipment, or devices.
- Always be aware that you are working at greater heights and take extreme caution.
- Be sure to keep two points of tie-in at all times as you will be moving around the palm tree to gain access to all the fronds.
- Qualified Person must conduct a job specific briefing before each work assignment begins.
- Qualified Person must inspect fall protection equipment prior to each use.
- Date palm saddles must be approved by a Competent Person, and are limited to use as part of a positioning device or system.
- Wire rope lanyards used in the fall protection system must meet the 5,000 lbs. requirement, and chains used must have a safety factor of at least 10.

Heat Illness Prevention

Employers need to follow the Cal/OSHA requirements, and take precautionary measures to protect their employees from heat illness. The Cal/OSHA requirements, guidelines, training materials, and other resources to prevent heat illness include:

- Have a written Heat Illness Prevention Program (HIPP).
- Train employees and supervisors on the HIPP.
- Check the weather forecast ahead of time.
- Provide at no cost to employees fresh, pure, and suitably cool potable water for the entire work shift.
- Make sure shade structures are set up in advance when the temperature exceeds 80°F.
- Make sure employees are acclimatized, and provide cool down rest periods.
- On hot days, take measures such as modifying work schedules, increasing number of water and rest breaks or stopping work early, as needed.
- During high heat (above 95°F) heat illness can develop even faster. Take additional measures:
 - Communicate more frequently with employees working outdoors.
 - Use a buddy system so employees are watching each other.
 - Supervise newly hired employees even more closely.
- Refer to these online resources for detail requirements, guidelines, and measures for heat illness prevention:

- Cal/OSHA’s Heat related illness prevention website
www.dir.ca.gov/DOSH/HeatIllnessInfo.html
- Cal/OSHA’s heat illness prevention eTool
www.dir.ca.gov/dosh/etools/08-006/index.htm

Key Cal/OSHA Requirements

Title 8 California Code of Regulations (T8CCR) has many requirements that apply to tree work and related operations. Below are selected applicable regulations. Refer to [T8CCR](#) for complete set of requirements.

T8CCR Sections on Tree Work, Maintenance or Removal

3420	Scope and definition
3421	General requirements
3422	Tree workers' saddles
3423	General electrical hazards
3424	Mobile equipment
3425	Portable power hand tools
3426	Hand tools
3427	Safe work procedures
3458	Fall Protection for Date Palm Operations

Other Commonly Applicable T8CCR Sections

In addition to these specific requirements, many other requirements that may apply to tree work operations are covered within other sections of [T8CCR](#). Some of the most common ones are:

2940.2	Clearances from high-voltage power lines
3203	Injury and Illness Prevention Program
3328	Machinery and equipment
3380	Personal Protective Devices
3395	Heat Illness Prevention
3648	Fall protection while working with aerial device

Requirements for Tree Work in High-Voltage Line-Clearance Work

Electrocution is a key concern in tree work operations during high voltage line-clearance work. [T8CCR](#) sections [2950](#) and [2951](#) provide requirements for this operation.

The table on the right column specifies the minimum approach distances to energized conductors for persons other than qualified line-clearance tree trimmers and trainees. See the note for exceptions applicable to qualified tree workers.

Note for table below:

A qualified tree worker as defined in Section [3420](#)(b) may perform tree work activities within 10 feet, but no closer than 1 foot, of energized low-voltage (600 V or less) power lines and conductors, provided the provisions in Section [3423](#)(b)(2) related to such work are met.

Nominal Voltage (kV)	Distance	
	Ft-in	Meters
0 to 1	10-00	3.05
1.1 to 15	10-00	3.05
15.1 to 36.0	10-00	3.05
36.1 to 50.0	10-00	3.05
50.1 to 72.5	10-09	3.28
72.6 to 121.0	12-04	3.76
138.0 to 145.0	13-02	4.00
161.0 to 169.0	14-00	4.24
230.0 to 242.0	16-05	4.97
345.0 to 362.0	20-05	6.17
500.0 to 550.0	26-08	8.05
785.0 to 800.0	35-00	10.55

Other T8CCR sections may apply to tree work depending on the type of work, tool and equipment used, work environment, hazard exposure, and other considerations.

In addition, for most tree work, a D-49 Tree Service Contractor license from the Contractors State License Board (CSLB) is required. For more information on this license, visit CSLB's website at www.cslb.ca.gov.

Resources for Safety and Health in Tree Work Operations

The following websites provide helpful information on various topics related to safety and health in tree work operations:

Cal/OSHA: Title 8 California Code of Regulations
<http://www.dir.ca.gov/samples/search/query.htm>

NIOSH Publication: Preventing Falls and Electrocutions during Tree Trimming
www.cdc.gov/niosh/docs/92-106/

OSHA Publication: Tree Trimming Safety
www.osha.gov/OshDoc/data_Hurricane_Facts/trim.pdf

OSHA Publication: Chipper Machine Safety
www.osha.gov/OshDoc/data_Hurricane_Facts/chipper_machine.pdf

OSHA Publication: Working Safely with Chain Saws
www.osha.gov/OshDoc/data_Hurricane_Facts/chainsaws.pdf

OSHA Publication: Using Aerial Lifts
www.osha.gov/OshDoc/data_Hurricane_Facts/aerial_lifts.pdf

State Fund's Tree Trimming Safety webpage:
www.statefundca.com/safety/safetymeeting/SafetyMeetingArticle.aspx

International Society of Arboriculture: www.isaarbor.com

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

MIOSHA Fact Sheet: Tree Care Industry
www.michigan.gov/documents/dleg/wsh_tree_factsheet_256977_7.pdf

NCDOL Publication: Tree Trimming Safety; Tree Care Industry - Job Planning, Equipment Inspection and Maintenance Are Essential to Employee Safety
<http://www.nclabor.com/pubs.htm>

Tree Trimming Safety for the Landscaping and Horticultural Services Industry
https://www.osha.gov/dte/grant_materials/fy09/sh-19503-09/tree_trimming_manual.pdf

Onsite Assistance Program Area Offices



Your call will in no way trigger an inspection by Cal/OSHA enforcement

Research and Education
Sacramento, CA 95825
(916) 574-2528

Voluntary Protection Program
Oakland, CA 94612
(510) 622-1081