

# LOGGING CONTRACTOR'S WORK RULES

## SAFETY AWARENESS

Safety is a top priority. As a logging contractor, (also referred to "I", or the "contractor" or the "company", or the "owner/operator" or "employer"), I and all company employees must comply with all policies and work rules. Compliance will assure a safe and healthy work environment.

A safety and health program will effectively eliminate or control hazards faced by company employees. The success of a safety program hinges on clearly stated work rules, regularly scheduled and informative safety meetings, safety practices and policy review, a thorough self-auditing program, and the assistance and cooperation of all employees. As a logging contractor, I and all company employees must follow the standards and work rules set forth in the safety and health program. As a logging contractor I must follow a progressive disciplinary policy and use it to enforce the safety and health program. ADHERENCE TO THE SAFETY AND HEALTH PROGRAM WILL MINIMIZE THE RISK OF INJURY.

## PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment shall be worn by myself and all employees at all times to protect them from personal injury. Job description and work requirements will determine when, where and what specific equipment is to be used.

## GENERAL REQUIREMENTS

### PERSONAL PROTECTIVE EQUIPMENT

The employer shall assure that personal protective equipment, including any equipment provided by an employee, is maintained in a serviceable condition.

**Note:** "Serviceable condition" is defined as "a state or ability of a tool, machine, vehicle or other device to operate as it was intended by the manufacturer to operate."

The employer shall assure that personal protective equipment, including any personal protective equipment provided by an employee, is inspected before initial use and then at the start of each work shift. Defects or damage shall be repaired or the unserviceable personal protective equipment shall be replaced before work resumes.

The employer shall provide, at no cost to the employee, and assure that each employee handling wire rope wears hand protection.

The employer shall provide, at no cost to the employee, and assure that each employee



who operates a chain saw wears ballistic nylon leg protection or other leg protection the employer provides equivalent protection. The leg protection shall cover the full length of the thigh to the top of the boot on each leg to protect against contact with a moving chain saw. **Note:** It is recommended that leg protective garments meet or exceed the cut resistance performance standards outlined in *Standard Leg Protection for Chain Saw Users* (92-A-12) published by American Pulpwood Association, as measured by the ASTM F1414 standard test method.

The employer shall assure that each employee shall wear foot protection, such as heavy-duty logging boots, that are waterproof or water repellent, cover and provide support to the ankle, and provide cut resistance to chain saws. Calk-soled boots or other slip-resistant type boots may be worn provided that foot protection otherwise required by this paragraph is met. (It is recommended that foot protective devices meet or exceed the cut resistance performance standards outlined in *Standard Foot Protection for Chain Saw Users* (94-A-3) as published by American Pulpwood Association, as measured by the ASTM F1458 standard test method.)

The employer shall provide, at no cost to the employee, and assure that each employee who works in an area where there is potential for head injury from falling or flying objects wears head protection meeting the requirements of Subpart I of 29 CFR Part 1910.

The employer shall provide, at no cost to the employee, and assure that each employee who works in an area where there is a potential for injury due to falling or flying objects, wears eye and face protection meeting the requirements of Subpart I of 29 CFR Part 1910. Logger-type mesh screens are acceptable eye and face protection for chain saw users.

While the new logging standards do not specifically address hearing protection, OSHA Standard 29 CFR 1910.95 *Occupational Noise Exposure* requires noise level monitoring, audiometric testing of employees, and that employees have a choice of hearing protection – muffs or plugs – if exposure is higher than 85 decibels. Chain saw operators and logging equipment operators will fall within the OSHA hearing conservation standards.

This section lists personal protection equipment required for employees doing a certain job.

*Job Category:*

1. Supervisor/Foreman: Hard Hat and Safety Boots  
Any time a supervisor or foreman is working in any job category below they shall wear all personal protective equipment required for that job category.
2. Feller:



- Hard Hat - Leg Protection
  - Eye Protection - Safety Boots
  - Hearing Protection - Gloves
3. Skidder/Skidder Operator:
- Hard Hat - Leg Protection
  - Eye Protection - Safety Boots
  - Hearing Protection - Gloves
4. Yard/Yard Man/Bunch Man:
- Hard Hat - Leg Protection
  - Eye Protection - Safety Boots
  - Hearing Protection - Gloves
5. Loader/Loader Operator:
- Hard Hat
  - Hearing Protection
  - Safety Boots
6. Chipper/Chipper Operator:
- Hard Hat - Hearing Protection
  - Safety Boots - Eye and Face Protection
7. Truck/Truck Driver:
- Hard Hat
  - Safety Boots
8. Mechanic:
- Hard Hat (when exposed to hazards created by any of the above operations)
  - Eye or Face Protection (when appropriate)
  - Hand Protection (if applicable)
  - Safety Boots
9. Dozer/Dozer Operator:
- Hard Hat
  - Safety Boots
  - Hearing Protection

**Note:** Personal protective equipment other than foot protection – boots – must be provided by the employer at no cost to the employee. This requirement has not existed in the past.

## **MACHINES**

OSHA defines "machine" as a piece of stationary or mobile equipment having a self-contained power plant, that is operated off-road and used for the movement of material. Machines include but are not limited to tractors, skidders, front-end loaders, scrapers, graders, bulldozers, swing yarders, log stackers and mechanical felling devices, such as tree shears and feller bunchers.



## GENERAL REQUIREMENTS

- The employer shall assure that each machine, including any machine provided by an employee, is maintained in serviceable condition.
- The employer shall assure that each machine, including any machine provided by an employee, is inspected before initial use and before each work shift. Defects or damage shall be repaired or the unserviceable machine shall be replaced before work is commenced.
- The employer shall assure that operating and maintenance instructions are available on the machine or in the area where the machine is being operated. Each machine operator and maintenance employee shall comply with the operating and maintenance instructions.

## MACHINE OPERATION

- The machine shall be started and operated only by a designated person.

**Note:** A "Designated Person" is an employee who has the requisite knowledge, training and experience to perform specific tasks.

- Stationary logging machines and their components shall be anchored or otherwise stabilized to prevent movement during operation.
- The rated capacity of any machine shall not be exceeded.
- The machine shall not be operated on any slope which is greater than the maximum slope recommended by the manufacturer.
- Before starting or moving any machine, the operator shall determine that no employee is in the path of the machine.
- The equipment operator shall not operate movable elements (boom, grapple, load, etc.) close to or over personnel.
- The machine shall be operated only from the operator's station or as otherwise recommended by the manufacturer.
- The machine shall be operated at such a distance from employees and other machines such that operation will not create a hazard for an employee.
- No employee other than the operator shall ride on any mobile machine unless seating, seat belts and other protection equivalent to that provided for the operator are provided and used when the machine is traveling.
- No employee shall ride on any load.
- Before the machine operator dismounts, the machine brake lock or parking brakes shall be applied. Each moving element, such as but not limited to blades, buckets and shears, shall be grounded.
- After the machine engine is shut down, pressure or stored energy from hydraulic pneumatic storage devices shall be discharged.
- The rated capacity of any vehicle transporting a machine shall not be exceeded.



- The machine shall be loaded, secured and unloaded so that it will not create a hazard for any employee. **Note:** This requirement covers the loading, securing, and unloading of a machine on and off a transport vehicle.
- Equipment controls shall be checked to assure proper function and response before work is started.
- Stability limitations of equipment shall not be exceeded.
- Walking and working surfaces shall be kept free of any material which might contribute to slipping and falling.
- No flammable waste or debris may be kept on walking or working surfaces.
- Steel decks of machines and other machine work stations shall have safety tread or other slip-resistant material.
- A seat belt will be provided for each vehicle or machine operator.
- Each employee will use the available seat belt while the vehicle or machine is being operated.
- Each employee will securely and tightly fasten the seat belt to restrain the employee within the vehicle or machine cab;
- Each machine seat belt will meet the requirements of the Society of Automotive Engineers Standard SAE J386, June 1985, "Operator Restraint Systems for Off-Road Work Machines."

**Note:** Seat belts on 'machines' – tractors, skidders, front-end loaders, scrapers, graders, bulldozers, swing yarders, log stackers, and mechanical felling devices such as tree shears and feller-bunchers – should have tags of identification listing SAE J386, June 1985, or in the case of older machines SAE J386-1969).

- Seat belts will not be removed from any vehicle or machine. The employer shall replace or cause to be replaced each seat belt which has been removed from any vehicle or machine that was equipped with seat belts at the time of manufacture.
- Each seat belt will be maintained in a serviceable condition.

## **MACHINE MAINTENANCE**

The logging contractor shall develop and implement Lock Out/Tag Out procedures appropriate to their logging operation and equipment. (See Appendix B of the Work Rules).

- Each machine, vehicle and portable powered tool shall be shut off during fueling.
- Flammable or combustible liquids shall not be used to start fires.
- Equipment engines shall be shut down and the park brake set during servicing and repairs except where operation is necessary for adjustment.
- Each tractor, skidder, swing yarder, log stacker and mechanical felling device, such as a tree shear or feller-buncher, or other similar machine placed into initial service after February 9, 1995, shall be equipped with falling object protective structure (FOPS) and/or rollover protective structure (ROPS). The employer shall



replace or cause to be replaced FOPS or ROPS which have been removed from any machine. **Note:** This requirement does not apply to machines which are capable of 360-degree rotation.

- ROPS shall be installed, tested, and maintained in accordance with the Society of Automotive Engineers SAE J1040, April 1988, "Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry, and Mining Machines. **Note:** SAE J1040, April 1988, or prior applicable standard In the case of machines made before 1988, should be listed on the machine ROPS certification plate.
- FOPS shall be installed, tested and maintained in accordance with the Society of Automotive Engineers SAE J231, Jan. 1981, "Minimum Performance -Criteria for Falling Object Protective Structures (FOPS)." **Note:** SAE J231 should be listed on the certification plate.
- ROPS and FOPS shall meet the requirements of the Society of Automotive Engineers SAE J397, April 1988, "Deflection Limiting Volume-ROPS/FOPS Laboratory Evaluation." **Note:** SAE J397 should be listed on the certification plate.

**Note:** The machine owner must rely on the FOPS/ROPS certification plate placed on the machine by the manufacturer.

- Guards shall be provided for exposed moving elements such as shafts, pulleys, belts, conveyors and gears. The guards must comply with 1910.266 (d)(3).
- Mufflers provided by the manufacturer or their equivalent shall be in place whenever the machine is in operation.
- Stability, boom reliability, and inspection procedures shall comply with 1910.266 (d)(6).
- The operator shall determine that no personnel are endangered before starting or moving equipment. The equipment operator shall walk completely around the machine and assure that no obstacles or personnel are in the danger area before startup.
- The skidder operator, loader operator and the operator of any other equipment shall maintain a distance of at least two tree lengths from other equipment and personnel so as not to create a hazard to employee safety.
- Elevated equipment components (e.g. blades, booms, etc.) shall not be moved or held over personnel, or close to personnel.
- Elevated loads shall not be moved or held over personnel, or close to personnel.
- Riders or observers shall not be permitted on loads at any time.
- Riders or observers are not permitted on machines unless seating and protection are provided; such protection must be equivalent to that provided to the operator.
- There will be no gasoline or diesel fuel containers carried inside or attached to a skidder that is not installed by the manufacturer of standard equipment.



- Where signal men are being used, the equipment operator shall operate the equipment only on signal from the designated signal man, and then only when the signal is distinct and clearly understood.
- Equipment shall not be operated so as to place undue shock loads on wire rope.
- When equipment is operated in the vicinity of electrical distribution lines, there shall be at least 10 feet (3m) of clearance between the lines and any part of the equipment or load. If the electrical transmission lines are rated 50kv or more, or if the rating is unknown, special precautions are necessary and the operator shall stop work and notify the foreman.
- Equipment transported from one job location to another shall be transported on a vehicle of sufficient rated capacity, and shall be secured in such a manner as not to endanger personnel.
- Load limits shall not exceed the stated capacity of pallets and trailers.
- Towed equipment, such as skid pans, pallets, arches and trailers shall be attached to the vehicle in a manner which will allow a full 90-degree turn; prevent overturning of the towing vehicle; and assure the operator is always in control of the towed equipment. The load should not contact the rear tire or the rear of a track assembly.
- The vehicle and load shall be operated with safe clearance from all obstructions. An approved, charged fire extinguisher shall be kept on each vehicle and machine.
- An approved first aid kit shall be kept in each vehicle and piece of mechanical equipment.
- A stuck or inoperative vehicle shall be towed.
- A loaded pallet shall not be pushed.

## **VEHICLES**

A "vehicle" is defined by OSHA as a car, bus, truck, trailer, or semitrailer that is used for transportation of employees or movement of material.

- The employer shall assure that each vehicle used to transport any employee off public roads or to perform any logging operation is maintained in serviceable condition.
- The employer shall assure each vehicle used to transport any employee off public roads or to perform any logging operation is inspected before initial use and during each work shift. Defects or damage shall be repaired or the unserviceable vehicle shall be replaced before work is commenced.
- The employer shall assure that the operating and maintenance instructions are available in each vehicle. Each vehicle operator and maintenance employee shall comply with the operating and maintenance instructions.
- The employer shall assure that each vehicle operator has a valid operator's license for the class of vehicle being operated.



- Mounting steps and handholds shall be provided for each vehicle wherever it is necessary to prevent an employee from being injured when entering or leaving the vehicle.
- The seats of each vehicle shall be securely fastened.

**Note:** The provisions in these rules which apply to machines also apply to vehicles to transport any employee off public roads or to perform any logging operation, including any vehicle provided by an employee.

- The rated capacity of any vehicle shall not be exceeded.
- Before starting or moving any *vehicle*, the operator shall determine that no employee is in the path of any *vehicle*.
- The vehicle shall be operated at such a distance from employees and other machines (and vehicles) such that operation will not create a hazard for an employee.
- Before any vehicle is left unattended, the vehicle brake locks or parking brakes shall be applied. Each moving element, such as but not limited to blades, buckets and shears, shall be grounded.
- The vehicle shall be loaded, secured and unloaded so that it will not create a hazard for any employee.
- Each *vehicle* shall be equipped with a park brake braking system which shall be effective in maintaining parking performance, regardless of the direction of travel or whether the engine is running.

## FLAMMABLE AND COMBUSTIBLE LIQUIDS

- Flammable and combustible liquids shall be stored, handled, transported, and used in accordance with the requirements of Subpart H of 29 CFR Part 1910.

**Note:** Subpart H details size and specifications of fuel containers ranging from those used to carry chain saw fuel to the felling site to portable tanks for diesel fuel for logging equipment. These requirements are the same that have been in force for many years. Refer to 29 CFR 1910.106(2).

- Flammable and combustible liquids shall not be transported in the driver compartment or in any passenger-occupied area of a machine or vehicle.

## HAND TOOLS

- The employer shall assure that each hand portable powered tool, including any tool provided by an employee, is maintained in serviceable condition.
- The employer shall assure that each tool, including any tool provided by an employee, is inspected before initial use during each work shift. At a minimum, the inspection shall include the following:



- Handles and guards, to assure that they are that they are sound, tight fitting, properly shaped, free of splinters and sharp edges, and in place.
  - Controls – to assure proper function.
  - Chain-saw chains – to assure proper adjustment;
  - Chain-saw mufflers – to assure that they are operational and in place.
  - Chain brakes and nose shielding devices – to assure that they are in place and function properly.
  - Heads of shock, impact-driven and driving tools – to assure that there is no mushrooming.
  - Cutting edges – to assure that they are sharp and properly shaped.
  - All other safety devices – to assure that they are in place and functioning properly.
- The employer shall assure that each tool is used only for purposes for which it has been designed.
  - When the head of any shock, impact-driven or driving tool begins to chip, it shall be repaired or removed from service.
  - The cutting edge of each tool shall be sharpened in accordance with manufacturer's specifications whenever it becomes dull during the work shift.
  - Racks, boxes, holsters, or other means shall be provided, arranged and used for the transportation of tools so that a hazard is not created for any vehicle operator or passenger.
  - Hand Tools shall be sheathed or boxed if transported in a vehicle with personnel. If not contained in a box, the sheathed tools shall be fastened to the vehicle.
  - Proper storage facilities shall be provided for hand tools. Tools shall be stored in the provided location at all times when not in use.
  - Periodic inspections shall be made to assure all tools are serviceable and others removed from use.
  - Explosives and blasting agents shall be stored, handled, transported, and used in accordance with the requirements of Subpart H of 29 CFR Part 1910.
  - Only a designated person shall handle or use explosives and blasting agents.
  - Explosives and blasting agents shall not be transported in the driver compartment or in any passenger-occupied area of a machine or vehicle.

## **CHAIN SAW OPERATIONS AND SAFETY**

Personal protective clothing, including gloves, ballistic pads or chaps or other approved chain saw leg protection, steel-toed boots with chain saw cut-resistant protection, hard hat, hearing protection and eye protection must be worn at all times when operating any chain saw.

## **CHAIN SAWS**

Every chain saw placed into initial service shall be equipped with a chain brake and shall otherwise meet the requirements of the ANSI B175-1.1991 "Safety Requirements for



Gasoline-Powered Chain Saws". Each chain saw placed into service before February 9, 1995, shall be equipped with a protective device that minimizes chain saw kickback. No chain saw kickback device shall be removed or otherwise disabled.

- Removing or disabling anti-kickback devices is prohibited.
- Each gasoline-powered chain saw shall be equipped with a continuous pressure throttle control system which will stop the chain when pressure on the throttle is released.
- The chain saw shall be operated and adjusted in accordance with the manufacturer's instructions.
- The chain saw shall be fueled at least 10 feet (6 m) from any open flame or other source of ignition.
- The chain saw shall be started at least 10 feet (3 m) from the fueling area.
- The chain saw shall be started on the ground or where otherwise firmly supported.
- The chain saw shall be started with the chain brake engaged.

**Note:** The chain saw starting rules have been interpreted to permit starting a chain saw with the rear handle firmly gripped between the legs, the front handle firmly gripped with the arm straight and locked at the elbow, and the chain brake engaged.

- The chain saw shall be held with the thumbs and fingers of both hands encircling the handles during operation.
- The chain saw operator shall be certain of footing before starting to cut. The chain saw shall not be used in a position or at a distance that could cause the operator to become off-balance, to have insecure footing, or to relinquish a firm grip on the saw.
- Prior to felling any tree, the chain saw operator shall clear away brush or other potential obstacles which might interfere with cutting the tree or using the retreat path.
- The chain saw shall not be used to cut directly overhead.
- The chain saw shall be carried in a manner that will prevent operator contact with the cutting chain and muffler.
- The chain saw shall be shut down or the chain brake shall be engaged whenever a saw is carried farther than 50 feet (15.2 m). The chain saw shall be shut down or the chain brake shall be engaged when a saw is carried less than 50 feet if conditions such as, but not limited to, the terrain, underbrush and slippery surfaces may create a hazard for an employee. **Note:** Many Professional Logging Trainers require that the chain brake be engaged anytime a logger takes two (2) or more steps.
- The chain saw operator shall make frequent inspections (more than once per day) to ensure that:
  - Chain saw handles and guards are in place and tight. This includes having an operational chain brake.



- All chain saw controls function properly. This includes having saw equipped with a safety throttle which shuts off power after pressure on the throttle is released.
- The cutting chain is properly adjusted, and that the saw chain will not continue to be driven after the throttle is released.
- The muffler is operative (and equipped with a spark arrester).
- Chain brakes and all other manufacturers' safety features remain operational.
- Chain saws without all safety devices operational or in need of repair or parts or otherwise not safe for use shall immediately be tagged out and marked "out of service".
- Manufacturer's instructions for operation and adjustment shall be followed and worker training must include specific details in the chain saw operator's manual.
- Fuel for Chain saws shall not be used for starting fires or as a cleaning solvent.
- Fellers shall have felling aids, including a felling lever and wedges.

### **TREE HARVESTING – FELLING OPERATIONS 1910.266 (G)(1)**

- Each employee in the immediate work area in the forest shall work in a position or location that is within visual or audible contact with another employee. Motor noise is not an acceptable signal.
- Employees shall be spaced and duties organized such that the activity of one employee will not create hazards for other personnel.
- Work areas shall be assigned so that a tree cannot fall into an adjacent occupied work area. The distance between adjacent occupied work areas shall be at least two (2) tree lengths of the trees being felled. The distance between adjacent occupied work areas shall reflect the degree of slope, the density of the growth, the height of the soil structure, and other hazards reasonably anticipated at that work site. A distance of greater than two tree lengths shall be maintained between adjacent occupied work areas on any slope where rolling or sliding of trees or logs is reasonably foreseeable.
- While manual felling is in progress, no yarding machine shall be operated within two tree lengths of trees being manually felled.

**Note:** OSHA defines "yarding" as the movement of logs from the place where they are felled to a landing; synonymous with "skidding and prehauling."

**Note:** Two tree-lengths is considered equivalent to twice total tree height.

- No employee shall approach a feller closer than two tree lengths of trees being felled until the feller has acknowledged that it is safe to do so, unless the



employer demonstrates that a team of employees is necessary to manually fell a particular tree.

- Logging operations near overhead electric lines shall be done in accordance with the requirements of 29 CFR 1910.333(c)(3).

**Note:** The text of 29 CFR 1910333(c)(3) provides guidance for operations near overhead electrical lines. The requirements are highly technical, and we recommend consultation with the power company prior to initiating operations within 20 feet or prior to transporting equipment which will have a clearance of less than 20 feet from a line.

**Note: Contact with Power Line:** The employer shall notify the power company immediately if a felled tree makes contact with any power line. Each employee shall remain clear of the area until the power company advises that there are no electrical hazards.

- Trees shall not be felled in a manner which will endanger any person or strike any rope, cable, line (including power lines) or equipment.
- The immediate supervisor shall be consulted when conditions appear unusually hazardous so as to require his decision before commencing the cut.
- All work shall terminate and employees shall move to a place of safety during electrical storms, periods of high winds or other weather conditions which are dangerous to personnel. Each foreman shall be in possession of a device to measure wind velocity. Any employee who questions whether the environmental conditions are otherwise hazardous so as to warrant stopping work, shall stop work immediately and consult with the foreman or safety director before resuming work.
- Employees shall remain clear of any mechanical felling operation.
- All employees shall be accounted for at the end of each work shift.
- Each tree shall be checked for accumulations of snow and ice.
- Accumulation of snow and ice that may create a hazard for an employee shall be removed before felling is commenced in the area, or the area shall be avoided.

**Note:** "Danger tree" is defined by OSHA as "a standing tree that presents a hazard to employees due to conditions such as, but not limited to, deterioration or physical damage to the root system, trunk, stem or limbs, and the direction and lean of the tree." Set back trees – and sound trees which by reason of heavy lean are hazardous to fell manually – are easily within the definition of "danger tree", along with snags and lodged trees.

- Each danger tree shall be felled, removed or avoided. Each danger tree, including lodged trees and snags, shall be felled or removed using mechanical or other techniques that minimize employee exposure before work is commenced in the area of the danger tree. If the danger tree is not felled or removed, it shall



be marked and no work shall be conducted within two tree lengths of the danger tree unless the employer demonstrates that a shorter distance will not create a hazard for an employee.

- Each danger tree shall be carefully checked for signs of loose bark, broken branches and limbs or other damage before they are felled or removed. Accessible loose bark and other damage that may create a hazard for an employee shall be removed or held in place before felling or removing the tree.
- Felling on any slope where rolling or sliding of trees or logs is reasonably foreseeable shall be done uphill from, or on the same level as, previously felled trees.
- Domino felling of trees, including danger trees, is prohibited. **Note:** "Domino felling" is defined by OSHA as the partial cutting of multiple trees which are left standing and then pushed over with a pusher tree.
- Before felling is started, the feller shall plan and clear a retreat path. The retreat path shall extend diagonally away from the expected felling line unless the employer demonstrates that such a retreat path poses a greater hazard than an alternative retreat path. The feller shall use the retreat path.

**Reminder:** Before each tree is felled, conditions such as, but not limited to, snow and ice accumulation, the wind, the lean of tree, dead limbs, and the location of other trees shall be evaluated by the feller and precautions taken so a hazard is not created for an employee.

- Other hazards not specified include snags, butt defects, tying vines, and dead tops.
- Lodged trees shall be pulled to the ground at first opportunity with mechanical equipment or animal. If such a tree is left unattended, it shall be flagged or marked.
- Snags, dead limbs, the lean of tree to be cut, wind conditions, locations of trees and other hazards shall be appraised and proper precautions taken before a cut is started. When in doubt, an employee shall resolve the doubt in favor of the safest course of conduct.
- The owner/operator shall cruise each Cutting area and flag danger trees including dead, broken or rotted limbs or trees that are a hazard and must be removed before cutting operations begin. All such danger trees shall be felled or otherwise removed before logging operations begin within two tree lengths of the flagged tree. No employee shall work within two tree lengths of any tree which he believes to be hazardous even if that tree has not been flagged by the owner/operator. Such danger trees shall be immediately flagged by the employee and brought to the attention of the owner/operator.
- Dead, broken, or rotted limbs or danger trees that are a hazard (widow makers) shall be felled or otherwise removed before commencing logging operations, building roads, trails or landing in their vicinity.



## NOTCHING

An undercut shall be made in each tree being felled unless the employer demonstrates that felling the particular tree without an undercut will not create a hazard for an employee. The undercut shall be of a size so the tree will not split and will fall in the intended direction.

**Note:** Undercuts are also called notches, snipes, or face cuts. An undercut consists of two cuts, an upper and a lower one. It has been recommended that (1) these two cuts meet exactly in the wood to avoid bypass or weakening the hinge; (2) the angle between the two cuts be at least seventy degrees, to control the fall of the tree most of the way to the ground; (3) the depth of the undercut be between one quarter and one third of the diameter of the tree; (4) the feller use the sight line on the body of the saw to aim his undercut in the intended direction of fall and the apex of the undercut should be perpendicular to the intended direction of the fall.

**Note:** For best results, it has been recommended that the upper cut of the undercut be made first. The feller can then sight down through this cut and, when making the lower undercut, see the saw chain as it joins the upper cut, thereby making the two undercuts meet exactly.

**Note:** If maintaining the quality of the butt of the tree is necessary, the upper cut of the undercut may be made level and the lower cut angled upwards to meet it (i.e., Humboldt cut).

**Note:** The responsibility for not using an undercut on a specific tree is placed on the employer. In our experience, an undercut should be used on trees which are too large or heavy to push manually in the direction of fall.

A back cut shall be made in each tree being felled. The back cut shall allow for sufficient hinge wood to guide the tree and prevent it from prematurely slipping or twisting off the stump.

The back cut shall be above the level of the horizontal cut of the undercut in conventional and Humboldt cutting. In open face felling the back cut shall be level and at or above the meeting point of the two cuts in the notch.

***Exception: The back cut may be at or below the horizontal cut in tree pulling operations.***

**Note:** When pulling a tree (winching it), making a back cut lower than the apex of the undercuts serves to prevent the butt from kicking out and allowing the tree to fall away from the direction in which it is being winched.



- *THE DUTCH CUT NOTCH IS PROHIBITED.*

**Reminder:** Undercuts are required and shall be of a size to guide the tree to fall in the intended direction AND to minimize the possibility of splitting. Backcuts are required and shall provide sufficient hinge wood to guide the tree AND prevent it from prematurely slipping or twisting off the stump.

- The hinge shall be preserved and shall not be cut through during felling.
- The following notches are acceptable, but shall be made as follows:
  - *Conventional:* A 45-degree angle cut and a straight cut at least one third depth of the tree or approximately 80% of the diameter of the tree being cut, and the back cut shall be level and above the horizontal cut in the notch.
  - *Open Face:* The notch shall be approximately 90%, but not less than 70%, and the back cut shall be level and at or above the meeting point of the two cuts in the notch.
  - *Humboldt:* Bottom cut slants up at 45% angle toward the back of the tree, back cut shall be level and above the horizontal cut in the notch.
    - The cutter shall be able to identify the kind of notch being used and shall be able to describe the holding wood or hinge being used.
    - Improper notching shall result in immediate, on the spot, discipline in accordance with the safety and health program and shall be documented in the employee's personnel file thereafter for a period of one (1) year.

## LIMBING AND BUCKING

- Bucking and limbing on any slope where rolling or sliding of trees or logs is reasonably foreseeable shall be done on the uphill side of each tree.
- Before limbing or bucking wind thrown trees, precautions shall be taken to prevent the root wad, butt or logs from striking an employee. These precautions include, but are not limited to, chocking or moving the tree to a stable position.
- Start limbing from the butt end of the tree and work toward the top.
- Walking on trees while limbing is prohibited.
- When a spring pole or other tree under stress is cut, no employee other than the feller shall be closer than two tree lengths when the stress is released. Tension shall be released gradually. If tension cannot be released gradually, and when the employee is in the clear, the tension must be released by mechanical means.
- Cut the last supporting limbs with extreme caution, as the tree may roll. When cutting large limbs, be alert for the chain binding and kicking back.
- Exercise caution while limbing with the top of chain as kickbacks may result.
- Trees yarded for bucking shall be safely located and placed in an orderly (parallel) manner so they are stable when worked on.



## YARDING

**Note:** In common logging terminology, "yarding" is a term used in the West. For OSHA purposes, "skidding" and "prehauling" are synonyms with the term "yarding."

- No log shall be moved until each employee is in the clear.
- Each choker shall be hooked and unhooked from the uphill side or end of the log, unless the employer demonstrates that it is not feasible in the particular situation to hook or unhook the choker from the uphill side.
- Each choker shall be positioned near the end of the log or tree length.
- Each machine shall be positioned during winching so the machine and winch are operated within their design limits.
- No yarding line shall be moved unless the yarder operator has clearly received and understood the signal to do so. When in doubt, the yarder operator shall repeat the signal as it is understood and wait for a confirming signal before moving any line.
- No load shall exceed the rated capacity of the pallet, trailer, or other carrier.
- Towed equipment, such as, but not limited to, skid pans, pallets, arches, and trailers shall be attached to each machine or vehicle in such a manner as to allow a full 90-degree turn; to prevent overrunning of the towing machine or vehicle; and to assure that the operator is always in control of the towed equipment.
- The yarding machine or vehicle, including its load, shall be operated with safe clearance from all obstructions.
- Each yarded tree shall be placed in a location that does not create a hazard for an employee and an orderly manner so that the trees are stable before bucking or limbing is commenced.

## WOOD YARD SAFETY

- The transport vehicle shall be positioned to provide working clearance between the vehicle and the deck.
- Only the loading or unloading machine operator and other personnel the employer demonstrates are essential shall be in the work area during loading and unloading.
- No transport vehicle operator shall remain in the cab during loading and unloading if the logs are carried or moved over the truck cab, unless the employer demonstrates that it is necessary for the operator to do so. Where the transport vehicle operator remains in the cab, the employer shall provide operator protection, such as, but not limited to, reinforcement of the cab.
- Each log shall be placed on a transport vehicle in an orderly manner and tightly secured.
- The load shall be positioned to prevent slippage or loss during handling and transport.



- Each stake and chock which is used to trip loads shall be so constructed that the tripping mechanism is activated on the side opposite the release of the load.
- Each tie down shall be left in place over the peak log to secure all logs until the loading lines or other protection the employer demonstrates is equivalent has been put in place. A stake of sufficient strength to withstand the forces of shifting or moving logs shall be considered equivalent protection provided that the logs are not loaded higher than the stake. **Note:** The standard applies to in-woods unloading. Safe unloading practices at sawmills and pulp mills are detailed in other OSHA standards.
- Each tie down shall be released only from the side on which the unloading machine operates, except as follows:
  - a. When the tie down is released by a remote control device, and
  - b. When the employee making the release is protected by racks, stanchions or other protection which the employer demonstrates is capable of withstanding the force of the logs.
- **Transport** – The transport vehicle operator shall assure that each tie down is tight before transporting the load. While en route, the operator shall check and tighten the tie downs whenever there is reason to believe that the tie downs have loosened or the load has shifted.
- **Storage** – Each deck shall be constructed and located so it is stable and provides each employee with enough room to safely move and work in the area.
- There shall be at least two safety chains (binders) in place to bind tree length loads while being transported to the wood yards.
- Upon arrival at that yard, the safety chains (binders) shall not be released by the driver until the truck carrying the tree-length pulpwood is in position so that the clamp from the unloading equipment holds the tree-length and/or four-foot pulpwood in place. Chains, cables and load binders on trucks carrying four-foot pulpwood shall not be released until the truck has left the scales and is in the wood yard.
- The rear safety chain (binder) shall be released first.
- No vehicle will be unloaded unless the driver has dismounted from the loaded vehicle and is at least two tree-lengths away.
- Drivers of vehicles being unloaded must stand at least two tree-lengths away and remain in view of the unloader operator.
- There shall be no riders in the crane.
- Riders in incoming trucks shall remain at the scale house and not go to the unloading area.
- The truck driver is responsible for any movement of his truck while it is being loaded or unloaded. Brakes must be set and the engine shut off prior to loading and unloading.
- No log shall be moved until each employee is in the clear and at least two tree-lengths away.
- Spar trees shall be carefully examined for defects before being rigged.



- Yarding lines shall not be moved unless the signal to do so is clearly understood. When in doubt, the yarder operator shall repeat the signal as understood and receive a confirming signal before moving any line.
- Unstable trees and spars shall be guyed to ensure stability. Logging equipment not specifically designed for guyless operation shall be guyed to ensure stability.
- Guylines shall be arranged so that stresses will be placed on not less than two guylines.
- Stumps used for anchoring guylines shall be carefully chosen as to both position and strength.
- Guylines shall be tied back if necessary. Standing trees shall not be used to tie back guylines.

## **SKIDDER OPERATION**

- The skidder operator shall maintain a distance of at least two tree-lengths from other equipment or personnel when skidding, winching or otherwise operating the skidder so as not to create a hazard to employee safety.
- The skidder operator shall inspect cables and chokers before commencing work and at least twice per day thereafter. Cables or chokers which have broken strands or cuts sufficient to materially increase the risk of failure shall be replaced at the earliest opportunity.
- The skidder operator shall apply all brakes and locks and lower the blade before dismounting.
- When the skidder operator is shutting off the machine before dismounting, the skidder operator shall apply brakes and locks and lower the blade.
- The skidder blade shall be raised high when traveling.
- The skidder operator shall discharge all pneumatic, hydraulic or other pressurized system before dismounting.
- Only designated, trained operators shall operate machines.
- Workers shall hook and unhook chokers from the uphill side or end of the log where feasible, unless the log is securely blocked to prevent rolling or swinging.
- Chokers shall be positioned near the end of the log or tree length.
- Equipment shall be positioned during winching so that the winch line is as near in alignment as possible with the long axis of the machine, unless the machine is designed to be used under other conditions of alignment.
- No logs shall be moved until each employee is in the clear and at least two tree-lengths away.
- Skidder and machine operators shall not approach to within two tree-lengths of the trees being felled until the feller has acknowledged the approach.
- The operator shall keep an approved fire extinguisher on the skidder at all times. It shall be kept clean, secure and active at all times.
- Absolutely no riders shall be allowed by the skidder operator. A skidder is a one-man machine.



- Keep hands, feet and clothing at a safe distance from moving parts. Do not work around moving parts with loose fitting clothing. All manufacturers' guards shall remain in place.
- All moving parts which are required to be guarded by OSHA Regulations shall be guarded.
- To alleviate slips and falls, the operator shall keep steps and all walking and work surfaces free from oil, mud, grease, snow, ice or other debris.
- Skidder trails shall be kept free from spring poles, spears, jill pokes, lodged trees, stubs and downed wood at all times.
- Skidder operators shall not operate their equipment within 300 feet of the discharge side of felling saw heads on operating mechanical feller-bunchers
- Skidder operators shall not begin winching until all personnel are at least two tree-lengths from the twitch.
- All chain saws transported on skidders shall be sheathed.
- The skidder operator shall operate the skidder only from the operator's station.
- Maintenance or repair of a skidder shall be performed in accordance with the lock out/tag out procedures established by the company.
- The operator shall securely fasten and protect all tools and material on the skidder.
- The operator shall start and operate the winch only from the operator's station.
- Skidders may be operated only by employees whose duties call for it, or who are otherwise specifically authorized by their supervisor to do so.
- All work rules set forth entitled "Machines" shall be followed during skidder operations.

## **MECHANICAL FELLING & DELIMBING**

- The operator shall keep an approved fire extinguisher on the machine at all times. It should be kept clean, secure and active.
- Absolutely no riders shall be allowed by the operator.
- The operator shall apply all brakes, locks, ground or return the boom or arm to its cradle, and shut down the engine before dismounting.
- Keep hands, feet and clothing clear of all moving parts. Do not work around moving parts with loose clothing. All manufacturers' guards shall remain in place. All moving parts which are required to be guarded by OSHA Regulations shall be guarded.
- The boom or arm shall never traverse over people or other equipment.
- All controls shall be checked at the start of each day to be sure of proper operation.
- Never move the machine in any direction you cannot clearly see. Assure yourself that all personnel are clear of the area and at least two tree-lengths away before you move the machine.



- The operator shall keep the cab, engine compartments and other work and walking surfaces clean of oil, grease, trash and flammable materials and other debris.
- Before making adjustments the operator must make sure all moving parts are resting on the ground or are securely blocked up to prevent falling resulting in injury to the operator or damage to the machine.
- Maintenance or repair of a feller buncher or delimeter shall be performed in accordance with the lock out/tag out procedures established by the company.
- Guarding shall be provided to protect employees from flying wood chunks, logs, chips, bark, limbs and other material. Guarding shall also be provided to prevent unintended contact with moving machine parts, such as rotating shafts, belts and wheels.
- The operator shall discharge all pneumatic, hydraulic, or other pressurized systems before dismounting. **NOTE:** If a hydraulic or pneumatic storage device can move the moving elements such as, but not limited to, blades, buckets, saws and shears, after the machine is shut down, the pressure or stored energy from the element shall be discharged as specified by the manufacturer.
- The operator shall determine that no people or equipment are within the striking distance of the tree being felled or the strike distance of the tree or parts thereof being delimbed before beginning felling or delimiting operations. This distance is assumed to be at least two tree-lengths of the tree being felled or delimbed.
- All work rules set forth in the section entitled "Machines" shall be followed during mechanical felling and delimiting operations.
- All drivers shall have a valid license for the class of vehicle being operated.
- Flammable liquids shall not be transported in driver compartments nor in occupied passenger compartments of personnel carriers.
- Seats shall be securely fastened.
- A seat belt shall be provided for the operator.

## **ADDITIONAL GENERAL SAFETY RULES**

- All employees must observe speed limits, paying attention to changes in weather and road conditions. They must adjust speeds to accommodate changes in these conditions.
- Employees assigned new or unfamiliar tasks shall undertake these new assignments only under the close supervision of a person who is experienced with the safe performance of the task. This supervision shall continue until it is determined that the employee is able to work in a safe manner. If an employee is uncertain of any aspect of a task, they shall ask for help from the supervisor or other qualified personnel.
- Employees shall not smoke in the following situations:
  - In areas posted with No Smoking signs;
  - While fueling machinery or Chain saws;
  - While around any flammable liquids or compressed gases;



- While boosting or charging batteries;
  - While using starting fluids or combustible aerosol containers.
- In work situations where jewelry, such as rings, necklaces or earrings, may heighten the risk of injury, these items shall not be worn by employees.
- When employees are approaching machinery working on roadway (such as delimiters, slashers, loaders, or graders), the following rules should be observed when attempting to pass through the work area:
  - Stop vehicle at least 200 feet away, and outside the strike area of the working machinery.
  - Be sure the machine operator is aware of your presence before attempting to pass through the work area; and
  - Be sure the machine operator has given a clear signal to pass before doing so.
- Consumption of alcohol or controlled substances are strictly prohibited at any time at any job site or while operating company vehicles or equipment. No employee under the influence of alcohol or other non-prescription drugs shall be allowed on the job. Any employee using prescription or non-prescription drugs which are assigned warnings against the operation of equipment, or performing other hazardous tasks, shall not be allowed to work except in accordance with the warnings. Employees taking these kinds of medication shall report this to their foreman or immediate supervisor.
- Only company employees and authorized personnel are allowed at work sites or at company logging camps.
- All employees are required to conform to company policies, safety standards and work rules.
- All employees shall be subject to disciplinary action by the company for failure to comply with company policies, safety standards and work rules.
- Approved, portable fire extinguishers shall be provided at locations where machines and vehicles are operated and/or on each vehicle.
- Fuel shall be stored and dispensed in accordance with 29 CFR Part 1910, Subpart H.

## **SHARPENING OF DELIMBER AND FELLER-BUNCHER SAW OR BLADES**

- The lock out/tag out procedure shall be followed. The cutting head shall be grounded if feasible.
- If the saw or blade to be sharpened cannot be sharpened with this cutting head on the ground, the cutting head shall be chocked or otherwise supported so as to prevent the head from moving should the hydraulic system fail.

