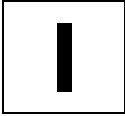


TABLE OF CONTENTS

437-007-0800	General Requirements	I-1
437-007-0805	Mechanical Falling.....	I-3
437-007-0810	Manual Falling	I-4
437-007-0815	Wedges	I-7
437-007-0820	Bucking Trees/Logs.....	I-7
437-007-0825	Tree Jacking	I-8
437-007-0830	Tree Pulling	I-9



437-007-0800 General Requirements.

(1) Any worker falling a tree or bucking a log must be located so their work will not endanger others.

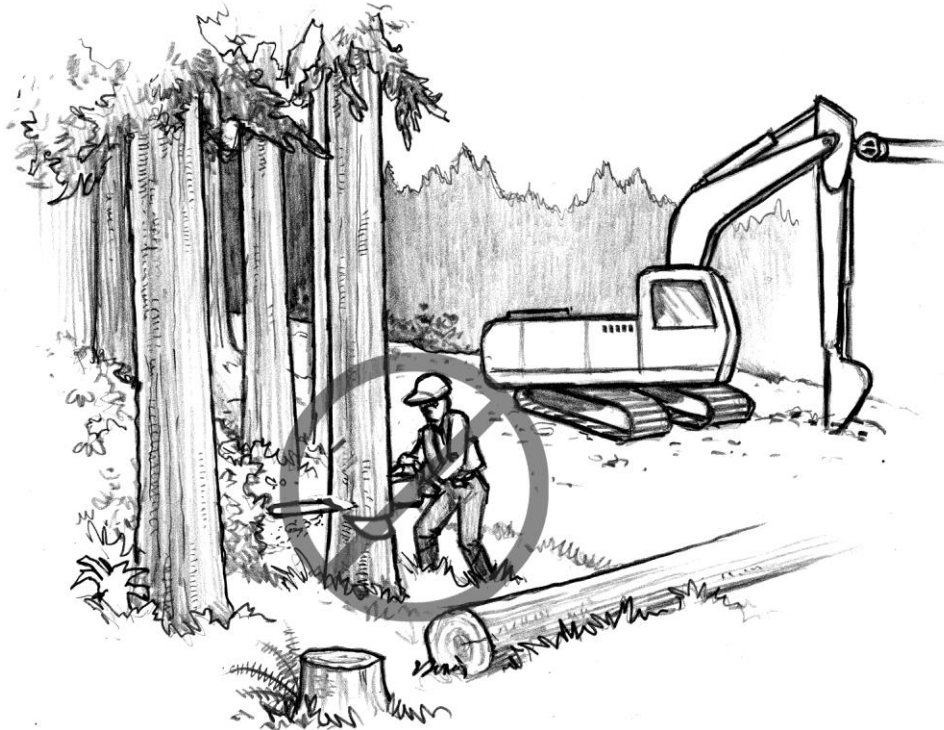


Figure 7-33 – Falling – Too Close

(2) Personnel must not approach within two tree lengths of a tree being felled without receiving a signal from the person falling the tree that it is safe to approach.

(3) The minimum distance between any worker(s) manually falling trees and any other personnel must be twice the height of the trees being felled.

EXCEPTION: This does not apply to a team of two or more working on the same tree.

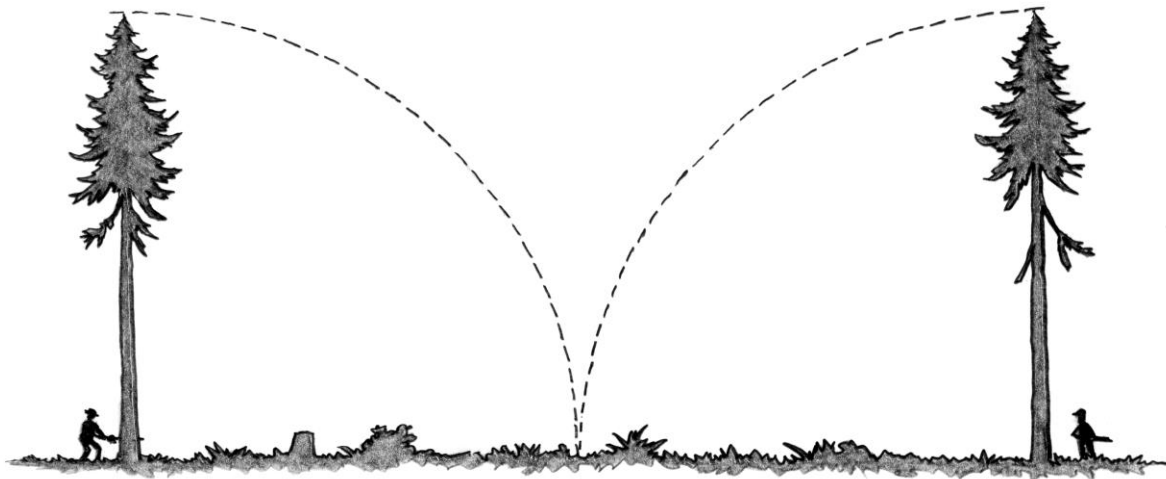


Figure 7-34 – Falling – Two Tree Lengths

(4) Workers who are single jacking must be positioned so they are close enough to render assistance to each other in case of an emergency. They must be:

- (a)** Within sight of each other, or
- (b)** Able to talk to each other by natural unassisted voice communication.

(5) Workers who are single jacking must work in compliance with 437-007-0215, Working Alone, and 437-007-0220, Medical Service and First Aid requirements.

(6) Workers whose primary job is to manually operate a chain saw for activities such as, falling and bucking trees, pre-commercial thinning, brush clearing and slashing must carry a shrill sounding whistle, such as a police whistle. The whistle must be used only to summon help in case of an emergency.

NOTE: This does not include chasers on active landings.

(7) Workers must not fall or buck trees within a unit of standing timber prior to any cutting operation if such falling or bucking creates a hazardous condition for subsequent cutters or operations.

(8) When hazardous conditions are created from tree cutting operation(s) next to roads, the requirements of OAR 437-007-0510 and 0515 apply.

GENERAL REQUIREMENTS / MECHANICAL FALLING

I

- (9) OAR 437-007-0230 applies when a tree could fall within 15 feet of a power line.
- (10) An inexperienced worker must not fall trees or buck logs unless they are working under the direct supervision of a qualified person.
- (11) When a worker is not sure how to safely fall or buck a tree, the tree must not be cut until the:
- (a) Worker confers with a supervisor or qualified person.
 - (b) Safest possible work method or procedure is identified to complete the job.
- (12) Workers must check for overhead hazards while falling, bucking or limbing trees.
- (13) Workers must not fall and buck trees when their vision is impaired by weather or darkness.
- (14) Spring poles and limbs under stress must be cut in a way that releases the tension and other personnel must be in the clear as the cut is being completed.
- (15) Workers must not operate a chain saw:
- (a) To cut directly overhead in a manner that would cause limbs, chunks of bark, or pieces of wood to fall on the operator.
 - (b) At a distance that would require them to lose a safe grip on the saw.

Stat. Auth.: ORS 654.025(2) and 656.726(4).
Stats. Implemented: ORS 654.001 through 654.295.
Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

437-007-0805 Mechanical Falling.

- (1) The minimum distance between mechanical falling machines or personnel must be twice the height of the trees being felled.

NOTE: Increase this distance where the operation of mechanical falling machines creates the possibility of thrown or flying objects.

- (2) Mobile tree falling machines must be designed or have attachments installed to cause the tree to fall in the intended direction.

Stat. Auth.: ORS 654.025(2) and 656.726(4).
Stats. Implemented: ORS 654.001 through 654.295.
Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

437-007-0810 Manual Falling.

- (1) Falling cuts must not be made in a standing tree while anybody is in the area where the tree could fall.
- (2) Trees must not be felled if the wind is strong enough to prevent the tree from falling in the desired direction.
- (3) Domino falling is prohibited.
- EXCEPTION:** A lodged tree can be dislodged by falling another tree into it.
- (4) A worker must not:
- (a) Work under a lodged tree.
 - (b) Cut a tree that another tree is lodged in.
- (5) When any lodged or standing tree with undercuts or back cuts is left unattended, the hazardous area must be distinctly marked by hazard identification ribbon as specified in OAR 437-007-0205.
- (6) Only qualified workers may fall danger trees.
- (7) When falling danger trees:
- (a) Use extra caution.
 - (b) Remove loose bark within reach from the ground before starting to fall the tree.
 - (c) Use a deep undercut with a wide face opening, and fall the danger tree in the direction of lean whenever possible to avoid vibration caused by wedging.
- (8) One worker must not fall a tree or danger tree when the assistance of another worker is necessary to minimize the risk of injury caused by overhead hazards, loose bark, loose or interlocked limbs, conditions of the tree, terrain or cutting conditions.
- (9) An escape route must be determined and arranged before a tree is fallen so the worker(s) falling the tree can move at least 25 feet away from and to the side of the base of the tree.
- (10) The escape route must be clear of brush, snow, tools and other material that would impede a quick escape.
- (11) Workers must not remain at the stump as the tree falls unless it is necessary to complete the backcut. Once the backcut is completed, the worker must immediately release the throttle and move a safe distance away from the tree.

- (12) Trees must be felled into the open whenever practical.
- (13) When manual falling or tree jacking, trees must not be felled directly uphill when the probability of the tree sliding back past the stump is likely.
- (14) When manual falling or tree jacking, trees felled uphill must be quartered to the slope, to minimize exposure to sliding or rolling trees.
- (15) When trees or snags are over 6 inches DBH:
- (a) Undercuts must not be less than 1/4 the diameter of the tree.
 - (b) Face openings must not be less than 1/5 the diameter of the tree.

EXAMPLE: Acceptable undercuts:

A. Conventional undercut. Can be made with parallel saw cut and axe diagonal cut or both cuts with the saw. Generally used on trees of small diameter.

Figure 7-35 – Falling – Conventional Face



B. Humbolt cut. Both cuts made with the saw. Same as "A" except that waste is put on the stump.

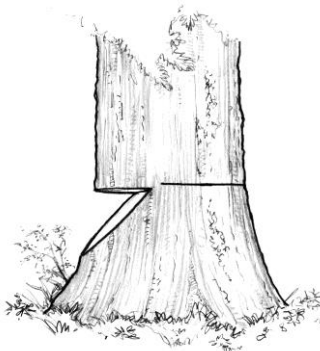


Figure 7-36 – Falling – Humbolt Face

C. Open face cut. Both cuts made with the saw. The top and bottom face cuts generally form a 90 degree angle when completed. Works best on small diameter trees.

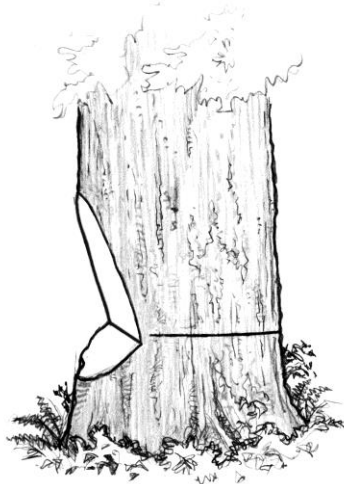


Figure 7-37 – Falling – Open Face

(16) Undercuts must be completely removed and cleaned out unless it is necessary to use a Dutchman on either side of the cut.

(17) Undercuts and back cuts must be made at a sufficient height above the highest ground level to enable the person falling the tree to:

- (a)** Safely make the cut.
- (b)** Control the tree.
- (c)** Have freedom of movement for a quick escape.

(18) Back cuts must be made above and on a horizontal plane with the face cut.

(19) Holding wood must not be completely cut through.

NOTE: When completing a swing cut, sufficient holding wood must be maintained to guide the tree during most of its fall.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

WEDGES / BUCKING TREES/LOGS

437-007-0815 Wedges.

- (1) Wedges must be driven with a hammer or other suitable tool.
- (2) Two wedges must be immediately available when falling trees over 15 inches DBH.
- (3) Wedges must be used when falling trees that:
 - (a) Are over 15 inches DBH.
 - (b) Do not have a predictable lean.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

437-007-0820 Bucking Trees/Logs.

- (1) Fallers and buckers working as a team must keep each other informed of their location.
- (2) When a worker is bucking, they must give a timely warning to others within range of any log that may move after being cut off.
- (3) Only qualified workers must buck windfalls.
- (4) Before workers start bucking, they must carefully examine the tree or log to determine which way logs will roll, drop or swing.
- (5) A worker must not buck a tree or log on the downhill side unless they:
 - (a) Are in a safe location.
 - (b) Block or secure the tree to prevent rolling.
- (6) Before a worker starts to buck a tree or log they must:
 - (a) Clear away brush and other material which might interfere with a quick escape.
 - (b) Establish firm footing.
- (7) Logs that are not completely bucked through must be conspicuously marked with hazard identification ribbon as required by 437-007-0205(1) through (5).
- (8) Two or more persons must not buck the same tree or log at the same time.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

437-007-0825 Tree Jacking.

(1) Hydraulic tree jacks must have:

(a) An internal operable load check valve, velocity fuse or equivalent device. When using hoses with a jack, the device must be installed between the ram and the first piece of hose out from the jack.

(b) An operable pressure gauge.

(2) If two or more tree jacks are used and operated with one pump, a one-way flow valve must be used to isolate the hydraulic fluid from one jack to another jack should a failure in the system occur.

(3) A qualified person must determine if it is safe to jack a tree.

(4) Hydraulic tree jacks must have enough lift power for the trees to be jacked and felled.

(5) Two workers, one of whom must be qualified in the use of jacks, must be present at the tree when using hydraulic tree jacks.

(6) The jack seat of hydraulic tree jacks must be level.

(7) A metal plate or pad must be placed between the ram and the saw cuts when using a hydraulic tree jack. The metal plate or pad must be of sufficient area and have a surface design to prevent the plate or pad from sinking into the wood or from slipping.

(8) The hydraulic tree jack seat must be on solid wood inside the bark ring.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

TREE PULLING

I

437-007-0830 Tree Pulling.

- (1)** A qualified person must determine if it is safe to pull a tree.
- (2)** Positive communications must be maintained at all times between the tree-pulling machine operator and the person falling the tree. Citizens' band radios are not considered positive communications.
- (3)** An audible signal must be sounded when the initial pull is made on the tree and the line is tightened.
- (4)** A choker, choker bell or a line with a sleeve shackle must be used as the means of attachment around the tree when tree-pulling. The bight on the line must be only that necessary to hold the choker or line around the tree.
- (5)** The tree-pulling machine must be equipped with a torque converter, fluid coupler or an equivalent device to ensure a steady, even pull on the line attached around the tree.
- (6)** The tree-pulling line must have as straight and direct a path from the machine to the tree as possible. Physical obstructions which prevent a steady, even pull on the tree-pulling line must be removed or the line must be rerouted.
- (7)** The use of a siwash, in lieu of using a block and strap for the purpose of changing the tree-pulling lead, is prohibited.
- (8)** In tree pulling operations, the back cut may be below and on a horizontal plane with the face cut.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.