

OAR 437, Oregon Occupational Safety and Health Division  
Oregon OSHA Administrative Order 3-2008  
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Division 7, Forest Activities

Subdivision A, General Requirements and Definitions

437-007-0010

Worker Protection Standard. Oregon OSHA administers and enforces the Worker Protection Standard (40 CFR 170). **It is part of this division.** All parts apply in addition to, and not instead of, any other part of Division 7, Forest Activities. Should any of the parts of these two standards conflict, comply with the part offering the most protection to workers.

Stat. Authority: 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.

**OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.**

437-007-0025

Definitions. The following definitions apply to terms used in this Division:

A-frame – A structure made of two independent columns fastened together at the top and separated by a reasonable width at the bottom to stabilize the unit from tipping sideways.

Alternative communication system – A system by voice, hand or media other than horn or whistle which provides a safe and reliable method of communication between crew members.

**Anchor Point (tree climbing) – A secure point capable of providing life support.**

Approved container – A metal or polyethylene (plastic) container that can be used to carry flammable liquids in quantities up to 5 gallons. These containers must be accepted as satisfactory to contain flammable liquids by a nationally recognized testing lab, such as Underwriters Lab (UL) or Factory Mutual (FM).

Aramid – The generic name for a high-strength, flame-resistant synthetic fabric used in the shirts and jeans of firefighters. Nomex, a brand name for aramid fabric, is the term commonly used by firefighters.

Arch – Any device attached to the back of a mobile vehicle and used for raising one end of logs to facilitate movement.

**Ascenders (Jumars, Gibbs) – Any climbing device used to ascend a fixed vertical rope. The term ascenders usually refers to mechanical devices.**

Authorized person – See “Designated Person.”

Backcut (falling cut) – The cut opposite of the face cut.

Ballistic nylon – A nylon fabric of high tensile properties designed to provide protection from lacerations.

Base of tree – That portion of a tree that is not more than 12 inches above highest ground level.

**Belay (snubbing) – A method of protecting a climber in case of fall. A safety rope tied to a climber is paid out or taken in as the climber moves by a second person (the belayer) or by the climber in a self-belay (using the 4-inch tie-in). By controlling the safety rope, the belayer can stop the climber from falling.**

**Below The Four-Inch Bole Diameter – Any point on the bole of the tree where the diameter is greater than 4 inches.**

Bight of the line – A hazardous zone created by one or more lines under tension, or a point on a line where a rigging chain is attached.

Binder – A hinged lever assembly for connecting the ends of a wrapper to tighten the load restraining devices (log trucks, flatbeds, lowboys, etc.).

Brow log – A log placed parallel to any roadway at a landing or dump to protect carriers while loading or unloading.

Buck – To cut a fallen tree into logs.

Butt – The bottom cut or the first log of a fallen tree.

Cable yarding – The movement of trees or logs from the area where they have been fallen to a landing by attaching them to a cable system that is supported by a metal tower (wood spar) and/or intermediate support or tail trees.

**Carabiner (Biners, Locking Carabiners) – An oblong metal ring with a spring loaded gate on one side used for various purposes in climbing, such as attaching equipment to the climber or securing the climber to a rappel system.**

**Chest Harness – Straps placed around the chest and shoulders only to secure the proper positioning for a chest attachment point.**

Chock – A block, often wedge-shaped, which is used to prevent movement; for example, a log from rolling, a wheel from turning.

Choker – Length of wire rope, chain or synthetic material with attachments for encircling a log to be yarded.

**Climber – A person qualified to climb a tree; the person climbing.**

**Climbers Belt (Lineman’s Belt, Body Belt, Safety Belt) – A wide padded belt having two large metal D-ring attachment points on the sides. A climbing belt does not have an attached chest harness or attached leg straps.**

**Climbing Harness – A type of harness that provides both pelvic and upper body support and can be adjusted to fit individual climbers. Climbing harnesses may be a one-piece design (full body harness) or any two-piece design that meets industry recognized standards. Climbing harnesses normally have separate leg loops. Tree climbing harnesses will usually have all of the above plus two large D-ring attachment points on the sides.**

**Climbing Helmet – Designed specifically for climbing, this helmet has a three-point chinstrap and is designed to remain in place during a fall. It is rated for the helmet’s ability to protect against side and top impacts.**

**Climbing Line – A 5400 pound minimum breaking strength rope used in tree climbing for ascending into a tree, descending from a tree, and/or working aloft in a tree.**

**Climbing Spurs (Climbers, Tree Climbers, Gaffs, Pole Gaffs, Spurs, Tree Spurs, Lineman’s Climbers, Spikes) – L-shaped metal shanks that attach to the foot and lower leg and are used to ascend or descend a tree bole by means of a sharp spike (gaff) that penetrates the tree bark and sticks into the wood of the tree.**

Competent person – A qualified person who has been authorized by the employer or employer representative to:

- (a) Identify existing and predictable hazards in the surroundings or working conditions which are hazardous or dangerous to employees, and
- (b) Eliminate the hazard or take corrective action.

Confine a fire – To restrict the fire within determined boundaries established either prior to the fire or during the fire.

Contain a fire – To take suppression action, as needed, which can reasonably be expected to check the fire's spread under prevailing conditions.

Control a fire – To complete control line around a fire, and spot fires therefrom and any interior islands to be saved; burn out any unburned area adjacent to the fire side of the control lines; and cool down all hot-spots that are immediate threats to the control line, until the lines can reasonably be expected to hold under foreseeable conditions.

Cut-up-tree/snag – A tree/snag, left standing, with the falling cuts started or completed.

Cutter – One whose primary job is to manually fall, buck or limb trees.

Danger tree – A standing tree, alive or dead, that presents a hazard to personnel due to deterioration or physical damage to the root system, trunk (stem), or limbs, and the degree and direction of lean.

DBH – Diameter at breast height.

Deadman – Buried log or other object used as an anchor.

Deck – A stack of trees or logs.

**Descenders – Any rappelling device used to descend a vertically fixed rope.**

Designated person – An individual who has been assigned by the employer or the employer representative to perform a specific duty or duties.

Direct supervision – Supervision by a competent person who watches over and directs the work of others who are within sight and unassisted natural voice contact.

NOTE: Direct supervision may be achieved by radio contact when an untrained runner is enroute to or from an operational area where there may be exposure to wildland fire hazards, provided there is a competent person at both the pick-up and drop-off points.

Domino falling – The partial cutting of several trees which are left standing and then pushed over with a pusher (driver) tree. This definition of domino falling does not include the falling of:

- (a) A single danger tree by falling another single tree into it.
- (b) Two or more trees at the same time because their limbs are interlocked.

Double tree intermediate support system – A system for supporting a loaded skyline in a support jack suspended on a single piece of wire rope that is supported by two trees in a manner that provides for sharing the load between the two trees. (See Figure 7-15.)

Dutchman (as used in falling) – A method used to pull a tree against its lean by leaving a section of the undercut on one corner of the face.

Dutchman (as used in yarding) – A block used to change direction of line lead (sideblocking).

**Dress a knot – To orient the rope parts of a knot so they are properly aligned, straightened, or bundled. This is often necessary for proper operation of the knot or to reduce rope stress.**

**Dynamic Rope – A rope that has an elongation of 40 to 60 percent at the breaking strength and typically a 2 to 8 percent elongation at a working load of 200 pounds.**

Emergency care – Care provided by a person who is first aid and CPR trained.

Emergency medical service – Care provided by a medically trained person such as in a hospital, clinic, ambulance or rescue vehicle.

Emergency scene – The site where the suppression or control of a fire or an emergency exists.

Equipment – See “Vehicle and Machine.”

Equipment protection designations – The listing of specific guarding requirements for specific logging machines.

Escape route – A planned and understood route firefighters take to move to a safety zone or other low-risk area.

Experienced person – A person who has sufficient training, experience and skill in a given process to be knowledgeable of all aspects of that process.

Extreme weather conditions – Includes, but not limited to:

(a) Strong winds (applies to timbered areas only) – Wind velocity that reaches sufficient force to blow limbs from standing trees, cause windfalls, or prevent cutters from falling trees in the desired direction;

(b) Impaired vision – Conditions such as falling snow, sleet, mist, fog, rain, dust, or darkness which substantially impairs visibility to the extent that employees cannot clearly see signals, moving vehicles, equipment and lines, falling trees or other hazards;

(c) Hazardous snow or ice conditions – Snow or ice conditions which prevent escape from hazards such as falling trees, moving logs, vehicles, or similar hazards; or

(d) Lightning.

Fairlead – Sheaves, rolls or a combination thereof arranged for receiving a line coming from any direction to minimize the line from burning and aid proper line spooling onto a drum.

Fall – To cut down trees.

Faller – A person who falls (cuts down) trees.

Fire camp – A geographical site(s) equipped and staffed to provide sleeping, food, water and sanitary services to fire personnel.

Fire fighting equipment – All portable and fixed fire suppression and control equipment.

Fire season – That period during the year when the State Forester declares fire season in any part of the state, as required by ORS 477.505.

Fire shelter – A personal protection item carried by firefighters which when deployed unfolds to form a pup-tent shelter of heat reflective materials.

Firefighter – Any employee whose primary duty is fire suppression and control of fires on or around wildland areas.

Flame resistance – The property of material, or combinations of component materials, to retard ignition and restrict the spread of flame.

FOPS (Falling Object Protective Structure) – Structural members arranged in such a way to reasonably protect operators from falling objects such as trees, rocks, etc.

**Four-Inch Tie-In – A self-belay (snubbing) system usually consisting of a rope, webbing, and carabiners. It is used as a safety line to secure the climber to the tree below the 4-inch bole diameter and at 3-foot intervals along the bole when climbing above the 4-inch bole diameter.**

Frequent review or inspection – A review or inspection that is conducted at intervals which are necessary (conducted on daily to monthly intervals) to gain a desired assessment of conditions, practices, policies or procedures.

Grounded (Cutting) – Placement of a tree on the ground.

Grounded (Electrical) – A method to dissipate static or electrical charges.

Grounded (Machines) – The placement of a machine component on the ground or device where it is firmly supported.

Guarded – Covered, shielded, fenced, enclosed, or otherwise protected by means of suitable enclosures, covers, casings, shields, troughs, railings, screens, mats, or platforms, or by location to prevent injury.

Guyline – A standing line used to support or stabilize a spar, tail tree, intermediate support tree, machinery or equipment.

Health care provider – A health care practitioner operating within the scope of their license, certificate, registration, or legally authorized practice.

High lead – A system of logging where the mainline is threaded through the mainline block which is located near the top of the spar or metal tower to obtain a lift of the logs being yarded and is returned to the vicinity of the logs by a haulback line.

High visibility colors – Bright or fluorescent white, lime green, orange, yellow, red, or aqua colors that stand out from the surrounding background color so as to make them easily seen.

In the clear – A position within the work area where the probability of hazardous contact with vehicles, machines, falling trees, moving logs, rootwads, chunks, material, rigging, and equipment is minimized by distance from the hazards and/or use of physical barriers, such as stumps, trees, terrain, or other objects providing protection.

Initial attack – The control efforts taken by all resources which arrive at the fire during the first burning period (first 24 hours).

Kicker (as used in cutting) – A piece of the face, or an equivalent object, placed in one side of a face cut to pull the tree from its lean as it falls.

Landing – Any designated place where logs are laid after being yarded and are awaiting subsequent handling, loading and hauling.

Landing chute – The head of the skid trail or yarding road where the logs are temporarily placed and are awaiting subsequent handling, loading, and hauling.

**Lanyard (Climbing rope, Safety Lanyard, Adjustable Lanyard, Prusik Lanyard, Flip Line) – A short piece of 5400 pound minimum breaking strength rope or webbing that secures the climber to the tree.**

Lay (cutting) – The desired direction of fall for a tree.

Lay (wire rope) – A unit of measure to describe the straight-line distance in which a strand of wire rope makes one complete spiral around the core of a rope. The way wires have been laid to form strands and the way strands have been laid around the core (i.e., regular, lang lay, etc.).

**Life support line (rope) – Any 5400 pound minimum breaking strength line, such as but not limited to, a climbing rope, flip strap or lanyard used to support or secure a climber in a tree.**

Limbing – To cut branches off trees.

Lodged tree (hung tree) – A tree leaning against another tree or object which prevents it from falling to the ground.

Log – A segment sawed or split from a fallen tree, such as, but not limited to, a section, bolt, or tree length.

Log dump – An area in which logs are removed from a truck or rail car. May be either dry land or water, parbuckled over a brow log or removed by machine.

Logging – All operations relating to the falling of trees, cutting the fallen trees into suitable lengths, yarding, limbing, debarking, grading, loading, hauling, unloading, storing in decks or ponds until processed from timber to wood products.

Machine – Equipment used or intended for use in forest activities operations such as but not limited to building or maintaining roads; felling trees; processing trees or fiber; yarding, moving or handling logs, trees, chunks and other material; stream restoration; forest operations for wildlife enhancement or other management objectives; and wildland fire suppression.

Mainline (yarding) – The line that moves the turn of logs toward the yarder in any given system.

Mechanized falling – Falling of standing timber by a self-propelled mobile-wheeled or tracked machine equipped with a shear or other powered cutting device.

Metal tower – A vertical or leaning metal tube or boom used for yarding logs by various methods of cable logging.

NRTL (Nationally Recognized Testing Laboratory) – An organization which is recognized by OSHA in accordance with OAR 437, Division 2/A, §1910.7, Appendix A, OSHA Recognition Process for Nationally Recognized Testing Laboratories.

OPS (Operator Protective Structure) – Structures or enclosures whose primary purpose is to minimize the possibility of operator injury from hazards, such as whipping saplings, branches, jill-poking and snapping winch lines with the least adverse effect on operator visibility, comfort, and protection from other hazards. Specific standards and tests exist and are referenced in many national and state codes.

Pass line – A small line threaded through a block at or near the top of a wood tree or metal tower to assist the high climber.

Periodic review or inspection – A review or inspection that is conducted at predetermined intervals (conducted on 1 to 12 months intervals).

Personal protective equipment – Clothing or equipment worn to protect the head, body, feet and extremities from chemical or physical hazards.

Potential failure zone – An area that could be impacted by the failure of any part of a standing tree anchor, tail or intermediate support tree as the result of forces or loads imposed on the tree by guylines, running lines or skylines. The boundaries of the zone encompass the area into which the tree, or parts of the tree, could fall, slide or roll and all trees, logs, lines and material impacted by the tree failure.

Prescribed Fire – Any fire burning under predetermined conditions to meet specific objectives related to fuels reduction or habitat improvement.

Qualified first aid person – Has evidence to show valid first aid and CPR training within the last 2 years.

Qualified person – A person who has:

(a) A recognized degree, certification, professional standing, knowledge, training or experience.

(b) Successfully demonstrated the ability to perform the work, solve or resolve problems relating to the work, subject matter, or project.

**Qualified Tree Climber – An individual having the physical capabilities, training, work experience and job assignment authorized by the employer to climb tree.**

Rated capacity – The load identified by the manufacturer that a system, vehicle, machine or piece of equipment can lift or move.

**Rappel Rope (Main Line, Prusik Rope, Descent Rope) – A 5400 pound minimum breaking strength rope used to rappel or descend from a tree.**

Reach – Usually a rectangular steel tube which slides in the trailer tunnel and is used as a connection between a log truck and the trailer.

Reforestation – All forest management operations relating to the planting and nurturing of trees. The nurturing of trees includes: fertilization, pre-commercial thinning, mulching, pruning, animal control measures, application of chemicals, and stand inventories.

ROPS (Roll-Over Protective Structure) – Framing and support for machinery that reduces the possibility of a seat belted operator from being crushed should the machine roll over. Specific standards and tests exist and are referenced in many national and state codes.

Root wad – The root ball and dirt that is pulled from the ground when a tree or stump is uprooted.

Rub rails – Guarding on the exposed sides of elevated bridges, ramps or runways to prevent wheeled equipment from going over the edge.

Rub tree – A tree used to guide a turn around a certain area.

Runner – A person who delivers supplies, materials or relays information.

Running line – Any moving line in a cable yarding system.

**Saddle (Sit Harness) – A type of work harness specifically designed to support the climber for long periods in a sitting position. A saddle differs from a safety harness by not having a chest component and may have either two separate leg loops or a single wide strap that encircles the climber below the buttocks.**

Safety factor – The ratio of breaking strength to safe working strength or load.

**Safety Line (Safety Rope, Belay Rope) – A 5400 pound minimum breaking strength rope that is either attached to a climber and used for belaying by a ground person or is attached to an anchor point and adjusted by the climber (such as with the 4-inch tie-in).**

Safety pin (shackle) – A threaded shackle pin secured by a nut that is secured with a cotter key, latchpin or molly.

**Safety Strap (Sling) – A length of rope or webbing used as a protection point in a belayed ascent by either the ground person or the climber in a self-belay (as in the 4-inch tie-in). These straps are placed around the tree bole and secured by either a knot or carabiner, then secured to the belay rope with a carabiner.**

Safety swede – A device that is designed for the specific purpose of making a positive connection to binders that are being closed (tightened) or opened.

Safety Zone (fire) – A designated area of sufficient size and suitable location that is expected to protect fire personnel from known hazards without using fire shelters, such as but not limited to an already burned area, previously constructed safety area, a meadow that won't burn, manmade or natural rocky area that is large enough and sufficiently devoid of fuels to take refuge without being burned.

**Secured – When the climber is safeguarded from unintended movement utilizing a climbing system that is attached to the climber and connected to the tree. Examples of being secured include, but are not limited to: (1) when tied in (2) when using a lanyard (3) when on belay (4) when ascending a climbing line using the footlock technique while utilizing a Prusik loop or ascenders.**

Serviceable condition – That quality of a tool, machine, vehicle, equipment, or other device to operate as it was intended to operate by the manufacturer.

Short log (chunks) – Any log or fiber less than 27 feet long.

Single jack – One cutter, in an area or portion of standing timber, who falls and bucks.

Single tree intermediate support system – A system for supporting a loaded skyline in a support jack suspended from a single tree. The tree may be an upright single-rooted tree or a leaning tree severed or partially severed from the stump.

Siwash (intentional) – The use of a natural physical object, such as a tree or stump, that changes the direction of a line rather than with a block.

Siwash (unintentional) – When a line is incorrectly routed through standing timber or other objects or, as often occurs in side-hill yarding, the turn of logs pulls the bight of the line downhill and it hangs up on a stump, root wad or other object, changing the lead and creating a hazardous area.

Skidder – A self-propelled machine, of the wheel or crawler design, or an animal used to move logs or trees to a landing.

Skidding – The movement of logs or fiber on the surface of the ground toward the place where they can be further processed or loaded.

Skyline – The line which is hung between two or more supports on which a carriage or block travels.

Slackline – A system of logging where a carriage travels on a skyline that can be raised or lowered. The carriage is pulled to the landing by the mainline (skidding line) and is returned to the vicinity of the logs by the haulback line or gravity.

Slash burning – The use of prescribed fire as a method of forest management.

Slope (grade) – The increase or decrease in altitude over a horizontal distance expressed as a percentage. For example, change of altitude of 20 feet (6 m) over a horizontal distance of 100 feet (30 m) is expressed as a 20 percent slope.

Snag – Any standing dead tree or portion thereof.

**Snap Catch (Rope Snap, Snap Link, Snap Hook) – A metal device with a ring on one end that usually attaches permanently to a rope or cable. The other end has a spring-loaded, locking gate. As opposed to a carabiner, the gate on a snap link does not lock into the body of the snap link and does not offer any additional strength when closed.**

Snubbing – Retarding or controlling the movement of logs or machines by attachment to another vehicle or stationary object.

Spring pole – A tree, segment of a tree, limb, or sapling which is under stress or tension due to the pressure or weight of another object.

Square lead – A horizontal angle of up to 90 degrees formed by the projected lines of the mainline from the drum of the logging machine through the block or fairlead and the yarding road.

Stability (machine or vehicle) – The capacity of a machine or vehicle to return to equilibrium or to its original position after having been displaced.

**Steel-Core Lanyard (Climbing rope, Flip Rope, Spur Rope, Cable-Core Lanyard) – A manila or synthetic rope with a steel cable core in which a snap hook or eye has been spliced at one end. This rope is used as a lanyard when spur climbing and when cutting, trimming, or pruning in a tree.**

Strip – A stand of timber or area of fallen and bucked timber in a predetermined location on which employees work in a planned pattern.

Supervisory personnel – Agent of the employer (such as a manager, superintendent, foreperson, hooktender, rigging slinger, or person in charge of all or part of the place of employment) who directs the work activities of one or more employees.

Swede connection – A line configuration consisting of wrapping two choker lines in the same direction around a tree or log and connecting the line nubbins to opposite line bells.

Swing cut – A back cut in which the holding wood on one side is cut through.

Swing radius (machines) – Is that distance equal to actual working radius of machines capable of upper structure rotation plus the length of the attachments, logs, and materials being handled.

Tail hold – An anchor used for making fast any line or block other than a guyline.

Tail tree – The tree at the opposite end from the landing area on which rigging is hung.

Tight line – When a force is exerted on both main line and haulback at the same time.

Timber cutting – The falling and/or bucking of trees by hand or mechanical means.

Topping – Cutting off the top section of a standing tree prior to rigging the tree for a spar or tail tree.

TOPS (Tip-Over Protective Structure) – Framing and support for machinery that reduces the possibility of a seat belted operator from being injured should the machine tip over on its side. Specific standards and tests exist and are referenced in many national and state codes.

Tractor – A self-propelled machine of wheel or crawler design used to exert a push or pull force through mounted equipment to move objects or material.

**Tree Bole (Bole, Tree Stem, Tree Trunk) – The main vertical part of a tree.**

**Tree Climber Trainee – An individual who is receiving training and on-the-job instruction from a qualified tree climber.**

**Tree Climbing Work – Any task performed in or on a tree where access is accomplished by means of unsecured climbing, friction knots or mechanical ascenders, bole gripping systems, permanently or temporarily mounted steps, stacked sectional ladders, vehicle or machine hoisting, or climbing spurs.**

Tree jack (shoe) (other than for directional falling use) – A grooved saddle of wood, soft metal or rollers contained within two steel side plates attached to a tree with a strap as a guide for a skyline, sail guy or similar static line.

Tree plates – Steel bars sometimes shaped as elongated “J”s which are fastened to a tree to hold the guylines and prevent the rigging from cutting into the tree when tightened. The hook of the “J” is also used to prevent the mainline block strap from sliding.

Turn – Any log or group of logs or other material usually attached by chokers, grapples or other means and moved from a point of rest to the landing or landing chute area.

Undercut (face) – A notch cut in a tree to guide the direction of the tree fall and help prevent splitting or kickback.

V-lead – A horizontal angle of less than 90 degrees formed by the projected lines of the mainline from the drum of the logging machine through the block or fairlead and the yarding road.

Vehicle – A car, bus, truck, trailer or semi-trailer owned, leased or rented by the employer that is used for transportation of employees or movement of material. Any carrier that is not manually propelled.

Watcher/Firewatch – A person who visually observes the area on which operation activity occurred for the out-break of fire.

Wildland Fire – Any non-structure fire, other than prescribed fire, that occurs in the wildland.

Wildlands fire fighting – All activities, operations, and equipment of employers and employees involved in the suppression or control of fires on wildlands. Does not include interior structural fire suppression or control.

Wildlife tree – A live, partially dead, or snag tree in the forest riparian zone, or in a cutting unit that is left for wildlife habitat. May also be a danger tree.

Winching – The winding of cable or rope onto a spool or drum.

Within the stakes – When the log center is below the top of the stakes.

Work area – Any area frequented by employees in the performance of assigned or related duties.

Wrapper (tie down) – A chain, cable, steel banding, synthetic rope or fiber webbing assembly used to contain a load of logs.

Yarder – A machine with a series of drums used to yard logs.

Yarding – Movement of logs or trees from the place they were felled to an area where they can be further processed.

Stat. Authority: 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.

OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.

**OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.**

## **Subdivision G – Rigging And Rigging Practices**

### **~~437-007-0685 Climbing Equipment and Climbing.~~**

~~(1) Defective climbing equipment must be immediately removed from service.~~

~~(2) The climber must be equipped with a climbing equipment assembly having a breaking strength of not less than 5,000 pounds. The equipment must include:~~

~~(a) A safety belt with double “D” rings; and~~

~~(b) Steel spurs long and sharp enough to hold in any tree in which they are used; and~~

~~(c) A high quality steel safety chain of 3/16 inch size or larger or a wire rope core climbing rope.~~

~~(3) A wire rope core climbing rope or chain must be attached to both of the “D” rings at the side of the belt or passed through the “D” rings and around the body. A secondary safety device must be used when snap hooks are used.~~

- (4) All climbers must be trained in safe rigging procedures for each applicable climbing duty.
- (5) Personnel with climbing experience and an extra set of climbing equipment must be available at the worksite to render assistance to the climber in an emergency.
- (6) Climbers must select the place for hanging rigging before topping a tree, with no more than 16 feet nor less than 6 feet of the topped tree above the top guylines.
- (7) Yarding of any type must not be conducted within reach of the tree or guylines of a tree in which a climber is working.
- (8) When machines are used to hoist rigging:
  - (a) A person must be assigned to transmit the climber's signals.
  - (b) The signal person and machine operator must not perform other duties when the climber is in the tree.
- (9) Noisy equipment, such as power saws, tractors and other logging machines, must not be operated around the area where a climber is working when such noise will interfere with the climber's signals.
- (10) Lines attached to a tree in which a climber is working must not be moved except on a signal from the climber.
- (11) A climber's rope (chain) must encircle the tree before the climber leaves the ground.
- (12) While the climber is working in the tree, employees must keep a sufficient distance from the tree to be clear of falling objects.
- (13) The climber must give warning when any equipment or material is in danger of dropping, or is dropped deliberately.
- (14) Loose equipment, rigging, or material must either be removed from the tree or securely fastened.

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.~~

— ~~OR OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.~~

## **Subdivision P, Tree Climbing**

### **437-007-1500**

#### **Tree Climbing General Requirements.**

**(1) The employer must develop rescue procedures that include:**

**(a) Adequate personnel and equipment to perform the rescue.**

**(b) Training in procedures to rescue a climber from a tree.**

**(2) When rescuing a climber, use procedures or equipment that will:**

**(a) Provide support to the climber's upper body (chest) and pelvis,**

**(b) Maintain the injured climber in an up-right position during rescue.**

**NOTE: Rescues may be accomplished using standard, familiar equipment, not special gear designed solely for rescue, as long as it supports the body as stated above.**

**(3) When the injured climber is wearing only a climbing belt, before rescue starts, provisions must be made to prevent the climber from slipping through the climbing belt.**

**NOTE: A climbing saddle or sit harness is designed to prevent slipping.**

**Stat. Authority: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.**

**437-007-1505**

**Climbing Equipment General Requirements.**

**(1) Before leaving the ground, the climber must:**

**(a) Visually check their climbing equipment,**

**(b) Immediately remove defective or damaged climbing equipment from service.**

**(c) Check hardware for secure closure before placing their weight on the lanyard or life support rope.**

**(d) Tie, dress and set all climbing knots.**

**(2) Splices must be made according to cordage manufacturer's recommendations.**

**(3) Life support ropes (climbing line) that are in service must:**

**(a) Be easily identifiable.**

**(b) Have a minimum breaking strength of 5,400 pounds.**

**(c) Be used only for climbing.**

**(4) Remove life support rope from climbing service when:**

**(a) It has been subjected to a shock load.**

**(b) There is excessive wear or damage detected during inspection.**

**(5) Webbing used for life support must be applied in a manner that provides a minimum breaking strength of 5,400 pounds.**

**(6) Climbing hardware must have a minimum breaking strength of 5,000 pounds.**

**(7) Lanyard snap hooks must be self closing and self locking.**

**(8) When a cutting tool is used in a tree, the climbing rope (lanyard) must be a high-quality steel safety chain of 3/16-inch size or larger or a wire core rope.**

**Stat. Authority: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.**

**437-007-1510**

**Climbing Procedures General Requirements.**

- (1) Before climbing a tree, assess the tree and immediate area for any potential hazards that could affect the climbing activity.**
- (2) When stopping to rest or work, the climber must be secured to the tree.**
- (3) When using a knot to adjust the length of a cable core lanyard, use a “cats paw” (Becket Hitch), friction hitch or mechanical friction device attached to a compatible size eye splice or D-ring of a climbing belt, saddle or harness.**
- (4) Don’t use climbing belts by themselves for rappels, ascender use, or friction hitch climbing.**
- (5) While climbing operations are active, personnel on the ground must be positioned where they will not be struck by falling objects.**
- (6) When it is necessary for ground personnel to work directly below the climber, the climber must not be engaged in any activity where tools, rigging or other objects could be dropped or dislodged from the tree.**
- (7) The climber must give warning when any equipment or material is in danger of dropping, or is to be dropped deliberately.**

**Stat. Authority: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.**

**437-007-1515**

**Rigging Trees For Cable Logging Systems.**

- (1) Yarding of any type must not be conducted within reach of the tree or guylines of a tree in which a climber is working.**
- (2) When machines are used to hoist rigging:**
  - (a) A person must be assigned to transmit the climber's signals.**
  - (b) The signal person and machine operator must not perform other duties when the climber is in the tree.**
  - (c) Noisy equipment, such as power saws, tractors and other logging machines, must not be operated around the area where a climber is working when such noise will interfere with the climber's signals.**
- (3) Lines attached to a tree in which a climber is working must not be moved except on a signal from the climber.**
- (4) Unsecured equipment, rigging, or material must not be left in the tree.**

**Stat. Authority: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.**

**437-007-1520**

**Four Inch Tie-In Systems.**

**(1) Use a belay (snubbing) system, with dynamic rope, when climbing above the 4-inch bole diameter in conifers or above the last secure tie-in point capable of providing life support in hardwoods.**

**(2) Install 4-inch tie-in system protection (rigging points) at least every 3 feet along the bole or branch to limit falls to no more than 6 feet.**

**(3) Climbers must not:**

**(a) Place side loads on the carabiner gate.**

**(b) Use static cordage for applications where dynamic loading could occur.**

**Stat. Authority: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.**

**437-007-1525**

**Belayed (Snubbing) Climbing System.**

**(1) The belay line must be a dynamic rope with a minimum 5400 pounds breaking strength.**

**(2) Do not use a body belay.**

**(3) Do not use a chest harness as the tie-in point.**

**(4) Follow the requirements of Appendix 7-K.**

**Stat. Authority: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.**

**437-007-1530**

**Three Point Climbing System.**

**(1) Use a three-point climbing system (three-points of contact) when tree climbing.**

**NOTE: A three-point system is not required when using an approved rappel or ascender system.**

**(2) While tree climbing, three-points of contact must be firmly in place on a secure surface before moving to another point.**

**NOTE 1: Each hand and foot (or climbing spur) is considered a potential point of contact.**

**NOTE 2: Other parts of the body, such as a hooked knee or armpit, may be considered contact points if the body part is physically capable of supporting the full body weight.**

**NOTE 3: A lanyard around the tree bole or appropriate limb that is secured to the safety harness or climbing belt on both ends counts as two points of contact.**

- (3) Do not use unsound branches or stubs for support.**
- (4) Climbing without being secured to the tree is not allowed except in conifers when, in the judgment of the qualified climber, the density of branches growing from the stem would require so many limb-overs, attaching and reattaching the lanyard, as to become a greater hazard than simply climbing that section of the tree.**
- (5) Climbing in conifers without being secured is not allowed above the 4-inch bole diameter.**

**Stat. Authority: ORS 654.025(2) and 656.726(4).**  
**Stats. Implemented: ORS 654.001 through 654.295.**  
**OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.**

**437-007-1535**

**Storage and Transportation of Climbing Equipment General Requirements. Do not store or transport climbing equipment:**

- (a) Near extreme heat sources.**
- (b) In contact with gas, oil, chemicals, chemical vapors, battery and other acids.**
- (c) In contact with sharp or pointed objects and other items that can damage the climbing gear.**

**Stat. Authority: ORS 654.025(2) and 656.726(4).**  
**Stats. Implemented: ORS 654.001 through 654.295.**  
**OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.**

## **Appendix 7- K (Mandatory)** **Forest Activities Tree Climbing**

### **Belayed (Snubbing) Climbing System**

- (1) Single tree anchors used for a ground belay system must be:**
  - (a) Straight sided or the belay line located above extreme butt swell, and**
  - (b) At least 12 inches in diameter and free of rot.**
- (2) When an adequate single tree anchor is not available for a ground belay system, use multiple smaller boles with a self-equalizing anchor system.**
- (3) Locate ground belay climbing system anchor(s) so the belayer is:**
  - (a) In the clear of falling object(s), and**
  - (b) Able to attend the climber at all times.**
- (4) Climbers and belayers must:**
  - (a) Be in constant communication with each other, and**
  - (b) Know and use agreed-on signals.**

(5) The belayer must attend to the climber at all times until the climber signals “off belay.”

(6) The belayer’s brake hand must not be taken off the rope when a climber is on belay.

(7) The belayer must be able to secure the belay at all times.

### Belay Voice Signals

Both climber and belayer must use an agreed upon sequence of signals, commands, and reactions for a smooth, safe climb. The following is an example of signals that could be used:

Climber: “On belay” Meaning: I am about to climb. Are you ready to arrest my fall?

Belayer: “Belay on” Meaning: I am ready to arrest your fall.

Climber: “Climbing” Meaning: I am starting to climb.

Belayer: “Climb” Meaning: Go ahead.

Once a climber is at a location where a belay is no longer needed:

Climber: “Off belay” Meaning: I am in a secure place and no longer need a belay.

Belayer: “Belay off” Meaning: I am no longer belaying you.

Some additional signals can assist communication between the climber and belayer. None of these signals requires a verbal response from the belayer, only the action asked for by the climber.

Climber: “Slack” Meaning: There is too much tension on the rope, feed me some rope.

Climber: “Take in” Meaning: There is too much slack in the rope. Belayer needs to take some rope away from the climber.

Climber: “Tension!” Meaning: Take up all slack and hold the rope tightly until I signal differently.

Climber: “Falling!” Meaning: I am falling. Prepare to receive my full weight.

In the event that the belayer has problems and cannot maintain the belay:

Belayer: “Secure” Meaning: I cannot maintain the belay. Secure a lanyard around the tree and attach the lanyard to the safety harness.

Climber: “Secured” Meaning: I have secured a lanyard and am in a safe position.

If a belay is lost, the belayer should reestablish the belay or secure the belay rope to a firm anchor as quickly as possible. The climber and belayer should discuss the situation and take appropriate action. Appropriate action may include terminating the climb.

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

Stats. Implemented: ORS 654.001 through 654.295.

OR-OSHA Admin. Order 3-2008, f. 3/7/08, ef. 7/1/08.