

WRITTEN SAFE WORK PROCEDURES

FALLING

SUGGESTED GUIDELINES FOR FALLING SAFE WORK PROCEDURES

Note: As of July 31, 2006 fallers must be registered or certified to fall timber in BC

These are suggested guidelines for falling for interior ground skidding operations. *(they may not cover all possible situations and are only a suggested format).*

- Where falling and **bucking** takes place in an area for cable or helicopter logging the written procedures **must** include safe bucking procedures and procedures for working the falling face.
- Each operation must review these suggested procedures and select what is applicable for their own operation.
- Each operation **must** have specific written procedures and man-check procedures as required by Occupational Safety and Health Regulation, Sections 4.21, 26.6, 26.23(f), and 26.27(1)(2).
- The firm's written falling and (bucking) procedures must be reviewed with each new faller before the faller starts working and periodically with all existing fallers employed by the firm.

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PERSONAL PROTECTIVE EQUIPMENT

- Hard hats in good condition and of a high visibility orange or red color must be worn.
- Caulk boots in good condition. Safety toes are recommended for summer logging operations; may not be necessary for winter when wearing snowshoes.
- Suspenders, allowing freedom of movement; staged trousers prevent snagging and tripping, shall be worn. Other clothing that will provide protection against the natural elements must be worn, or be on hand.
- Leg protective devices, meeting the WorkSafeBC standards must be worn when operating a chainsaw.
- Eye protection must be worn by fallers. Screens or safety glasses. Both devices are recommended- the screen protects the face and the glasses provide protection when filing.
- Hearing protection must be worn when operating chainsaws.
- It is a requirement that fallers wear a hi-vis vest or equivalent, so they are easily seen by skidding crews and for man-check purposes.

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EQUIPMENT

- A means of signaling for assistance in the event of an emergency must be carried. A minimum acceptable means is a “pea whistle”. Other workers must be made aware of what to do in the event of an emergency or if they hear a whistle.
- A personal First Aid kit must be available; not in the hard hat, between the suspension and shell, as this defeats the purpose of having this space to absorb impact shock.

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TOOLS

- Proper caution must be taken when transporting, loading and unloading tools in vehicles.
- Gas, oils or tools are not to be carried in crew compartments of buses or pick-up trucks.
- Fallers shall ensure that all equipment is in good operating condition.
 - Axe heads shall be well secured (pins are suggested).
 - File ends must be covered by a handle to prevent puncture wounds.
 - Wedges and other tools must be carried in a pouch or other safe means.
 - Power saw fuels must not be carried on a person's body, except in approved puncture proof containers.
- Chain saws must be adjusted so that chains will not run or move when the motor is idling. It is suggested that the chain saw motor be shut off when moving from tree to tree.
- No falling shall be undertaken unless wedging tools are immediately available. A minimum of three wedges must be available at the tree being felled and additional wedges should be available in the faller's pack. Winter conditions require special wedges.
- Chainsaws must be equipped with a functioning chain braking device.

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MAN-CHECK OR BUDDY SYSTEM

- An effective man-check system must be in place at every operation to ensure the well being of fallers. Man-checks must be made at minimum every half-hour.
- One of three systems to be used:
 - Ideally, fallers should be arranged so that one man is in a position to either give or receive assistance from the other.
 - In operations where fallers are assigned to check on each other, the minimum distance between fallers shall be no less than two tree lengths, the maximum distance should be no more than 800 feet. The prime consideration for determining the maximum distance should be the means of signaling used. Fallers must not be placed where this would be rendered ineffective.
 - In some ground skidding operations, having fallers checking on each other may not be possible or practicable. Fallers and skidding equipment operators should be assigned to check on each other.
- The responsibility of who is checking on who must be assigned and this responsibility must be carried out.
- Where a skidding machine operator is operating from more than one faller, a means must be in place to ensure that all fallers are being checked on at intervals that would ensure their well being.
- Where it is not possible for co-workers to check on each other, the responsibility of checking on the well being of all fallers must rest with the supervisor. He must ensure that checks are of such a frequency that qualified assistance will be immediately available in the event of injury or emergency. A time frame of no more than one-half hour is required especially where hypothermia may be a factor.
- This is the least desirable of systems as an accident could occur shortly after the last check, leaving a worker in distress until the next check is made.
- Many times, the supervisor is called upon for other matters and fallers then are often left with no man-check system. In this event, the supervisor must designate another worker to assume the responsibility of carrying out the man-check system.

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MAN-CHECK OR BUDDY SYSTEM Continued

One of the three systems must be in place in the operation.

- The minimum two-tree length must always apply and a practicable maximum distance must be observed.
- On right-of-ways it is suggested that two fallers be employed. One faller to open up and other to follow two tree lengths behind and fall the right-of-way to its normal width or the “leap frogging” method may be used. This way, one faller will be in a position to give assistance to the other in the event of an emergency.
- Where only one faller is employed on right-of-way, an effective man-check system must be in place to ensure that qualified assistance will be available without undue delay.
- Right-of-way fallers should not work more than twenty minutes walk from transportation or First Aid facilities.
- Fallers and/or other workers designated in a checking system should, wherever possible, eat lunch together.
- A checking system must be in place to ensure that all workers are accounted for at the conclusion of each shift. Radio communication is also recommended, but should not be relied on as a sole method of checking.
- Man-checks on fallers must be a visible check on the worker. The noise of a faller’s chainsaw only does not constitute a man-check.
- Qualified assistance must be readily available to fallers in case of difficulty, emergency or injury.

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THE WORKPLACE

- Proper planning – taking into account the ground conditions, type of logging equipment to be used, location of skid roads/trails and landings, lean of timber, etc., is a management responsibility and must be a prime consideration when laying out a logging plan.
- Fallers are responsible for ensuring that no one will be endangered by their falling activities and that all workers are clear of the hazard area before falling activities commence.
- The hazard area is defined as an area within a circle centered on the tree being felled and having a radius not less than twice the height of that tree.
- The hazard area will be extended where sliding or rolling trees or logs may cause additional hazards.
- Careful assessments must be made of each tree to be felled and when opening up, or starting a quarter or strip. Look for obvious overhead hazards, hang-ups and tree defects, which may create a hazard. Trees which are considered too hazardous to fell must be felled by other means.
- When opening up in standing timber, the work area must be inspected for snags and other hazards. Care must be used to fall trees into natural openings. Deliberate and unnecessary brushing of timber shall not be tolerated.
- Notify workers in the event of a change in agreed upon plans.
- Be familiar with the closest point of communication and man-check system in place on the operation.
- Only workers having duties associated with falling activities shall be allowed entry to the falling area; and then only after obtaining permission from the faller. They then must inform the faller when leaving the hazard area.
- Timber shall be felled with consideration for efficient skidding, but the safety of the faller must be the major consideration.

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THE WORKPLACE Continued

- When mechanical or hand falling operations are conducted within two tree lengths of a traveled roadway the road must be physically blocked. Signs stating “Danger, Active Falling – Do Not Enter Without Permission” shall be displayed to stop traffic.
- If it is necessary to maintain the traffic flow, flagmen or other effective means must be employed to ensure that falling ceases and it is safe for traffic to proceed.
- All falling cuts that are started must be completed. In the event that the felling of a tree is started and cannot be completed, the faller must mark the tree with brightly colored plastic tape (not used for other purposes). Move far enough away from the hazardous area and report the incompletely felled tree to the supervision.
- Falling must stop when windy conditions affect the control of the fall of the tree.
- Fallers must establish adequate access/egress trails into the falling area.

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FALLING THE TREE

- All brush, debris or windfalls that would interfere with the falling process must be cleared away.
- A getaway path to a safe location, preferably behind cover, must be brushed out and used. Establishing and using an escape route is an essential step in falling a tree. A faller must move back at least ten feet from the stump.
- Where practicable, snags must be felled:
 - progressively with the falling of other trees;
 - before falling adjacent live trees;
 - into open areas
- No falling shall be done in an area made hazardous by a leaning snag or a snag that has been brushed by a falling tree, until the snag has been removed.
- Pushing of snags with another tree is allowed only if no other practicable, safe means can be employed.
- Snags must be assessed to ensure they can be safely wedged.
- All snags and dangerous trees that could reach or fall into the work area and endanger workers, must be felled before yarding or skidding starts. Snags shall be felled progressively with the falling of other timber.
- Care must be used when falling snags. They should be felled in the direction of the lean, using as deep an undercut as necessary to minimize wedging and resultant vibration.
- Determine before falling:
 - the condition of tree or snag;
 - any loose material overhead;
 - snow load – frozen timber, etc.
 - if any other trees or snags will be involved;
 - that all workers are clear of the hazard area
- No falling cuts shall be undertaken unless wedging tools are readily available.

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FALLING CUTS

- A proper undercut shall be used on all trees greater than 6" DBH.

Fallers must ensure that:

- undercuts are complete and cleaned out;
 - no unintentional “dutchman” or sloppy mismatched undercuts are used;
 - “dutchman” are used only to overcome a specific falling difficulty (the use of a “dutchman” is not recommended);
 - the minimum undercut opening must be at least one-half of the undercut depth;
 - the suggested depth of the undercut is between one-quarter to one-third of the diameter of the tree, in most cases.
- The backcut must be above the undercut to prevent the tree from kicking back off the stump in the event of inadvertently brushing another tree.
 - Sufficient holding wood must be maintained to control the fall of the tree.
 - It is prohibited to hang one tree in another, for the purpose of holding, to eliminate wedging while working on the forward tree.
 - Excessive pushing or “domino falling” is prohibited.
 - The pushing of one tree with another must only be done to overcome a specific falling difficulty and tree or trees being pushed must have wedges driven tight into the backcut to prevent them from setting back towards the pusher tree.
 - Trees that are limb bound or tied together should be felled together.
 - When pushing a tree, be on the lookout for material being thrown back toward you.
 - Wedges should be placed in the backcut of a tree being felled unless the tree has a pronounced lean:
 - saw chains should be stopped when inserting wedges;
 - saws should be shut off when wedging dangerous trees or snags.

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FALLING CUTS Continued

- When a tree starts to fall, the faller must move to a predetermined safe position, at least 3 meters away from the base of the tree where possible, and take cover if available.
- In the event of falling or bucking difficulties contact the supervisor or another qualified faller for assistance in dealing with the problem.

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WINTER FALLING

- Winter conditions can create many additional hazards to a faller.
- Watch for accumulations of snow on the limbs of the trees.
- Fallers must watch for ground debris located under the snow that can pivot or fly back when the falling tree strikes the ground.
- To reduce the stump heights, fallers are required to trample snow down or shovel snow around the base of the tree. The maximum depth allowed for this depression is 18 inches (45 cm.).
- Snowshoes assist fallers in moving around in the work area. Snowshoes can also hang up on branches and debris hidden under the snow thereby restricting his movement at critical times.
- Dry, powder snow in the trees can cause white outs when the tree falls.
- Frozen wood becomes brittle and can result in loss of control in directional falling. Wedges can “pop” out when the tree is frozen. Special grooved wedges can reduce this.
- Winter conditions increase the hazard of slipping and falling.
- Fallers must dress accordingly for the winter elements.
- When snow shovellers are employed, the faller must know the shovellers’ whereabouts. The shoveller must be at least two tree lengths from the faller at all times and wear hi-vis hard hat and hi-vis vest.

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A FALLER'S SAFETY ATTITUDE AND HABITS

- Be familiar with all safe work procedures and the Workers' Compensation Board Occupational Health and Safety Regulation.
- Always consider alternate possibilities.
- Study your surroundings before making each cut.
- Visualize what is going to take place when a cut is made.
- Expect the worst and be able to handle it.
- Make periodic appraisals of your work habits. Be intelligent enough to admit your shortcomings and ingenious enough to correct them.
- Don't be afraid to ask for help or advice. False pride can be a killer.
- Be accountable for your activities by knowing and always following the basic safe work procedures. If you encounter situations which you consider to be unsafe or if you are unsure of the solution, do not continue.
- Contact your supervisor or another qualified faller for assistance.