

# A Safe Workplace

## A Workplace Safety and Health Manual for Your Community

Section: III-C	Rules Procedures, Practices and Guidelines	Page 1 of 6 Approved By: Harvey Bostrom
Subject: G-20	Tree Removal	Effective: December 31, 2007 Revised: April 1, 2011

**PPE Required:** Chainsaw boots, chainsaw pants or chaps, hearing protection, leather gloves, hard hat with face shield, forestry screen or safety glasses,

### General:

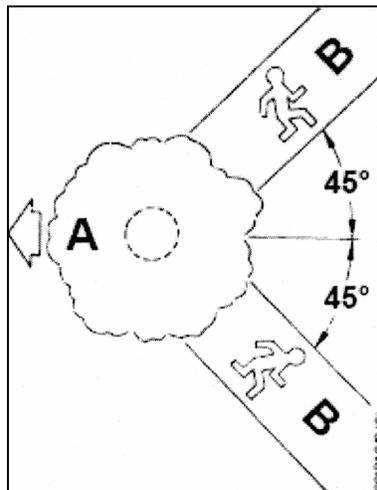
#### Proper Felling Procedure

Consider all conditions which may affect the intended direction of fall, including:

1. Inclination or lean of the tree.
2. Shape or loading (i.e. snow) of the crown. Is it more weighted on one side?
3. Wind direction.
4. Obstacles within tree range: e.g., other trees, power lines, roads, buildings, etc.

Determine escape path prior to cutting:

1. Clear the tree base and work area from interfering limbs and brush and clean the lower portion,
2. Then, establish two paths of escape (B) and remove all obstacles. These paths should be generally opposite to the planned direction of the fall of the tree (A) and about at a 45° angle.



3. Place all tools and equipment a safe distance away from the tree, but not on the escape paths.

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### 4. Safe Work Area:

- a) Ensure the area surrounding the tree to be felled is clear of all people - if necessary (in areas of high traffic) post signs indicating for people to stay clear of the area.
- b) Ensure all co-workers are aware of the plan for felling direction, escape, and attention during the felling procedure. No one other than the feller should be within two tree-lengths of the tree to be felled.

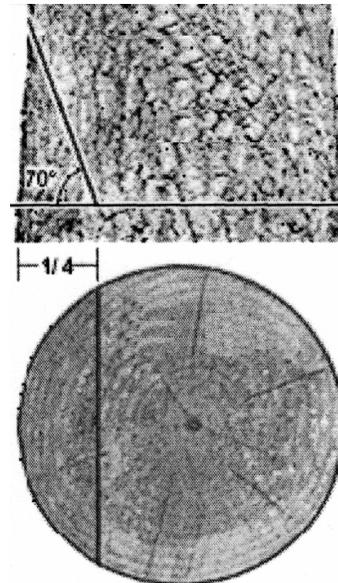
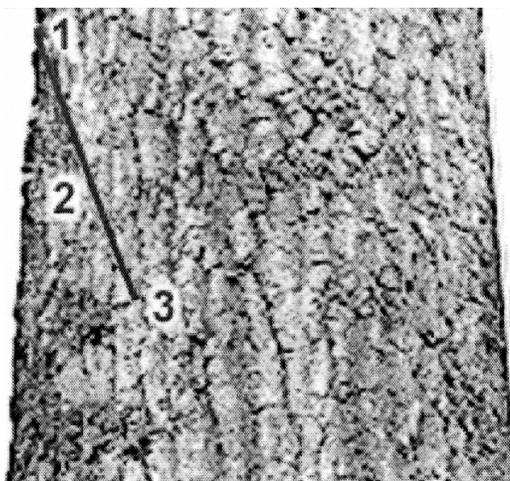
### Steps:

Felling consists of two main cutting operations - notching and the felling cut.

Notching - The Open-faced Notch:

The top cut is the first of two cuts that result in an open faced notch. The notch is made on the side of the tree that faces the direction you want it to fall.

1. Starting Point -- Important -- begin at any height as long as you allow enough room for the undercut
2. Angle of Attack -- Important -- cut downward at an angle of 70 degrees
3. Ending Point -- Stop when the cut reaches 1/4 to 1/3 of the trunk's diameter or when the cut reaches 80% of the tree's diameter at breast height.
- 4.



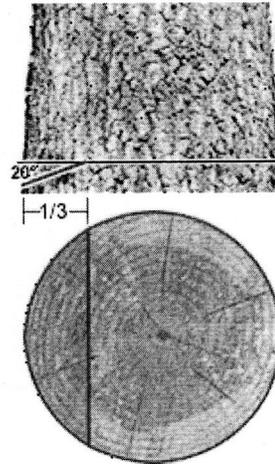
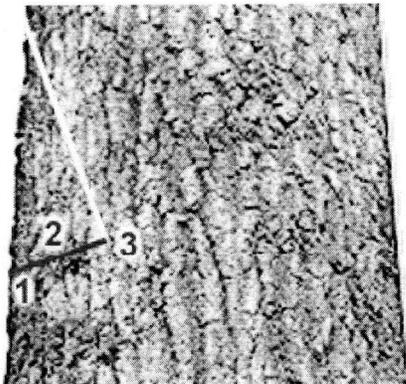
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The undercut is the second of two cuts that result in an open faced notch.

1. Starting Point -- Very Important --- begin at the level that will create at least a 70 degree notch opening.
2. Angle of Attack -- Important -- cut upward at a 20 degree angle.
3. Ending Point -- Very important - stop when the cut reaches the end point of the face cut.  
Ideally, you have created a 90 degree notch opening
- 4.



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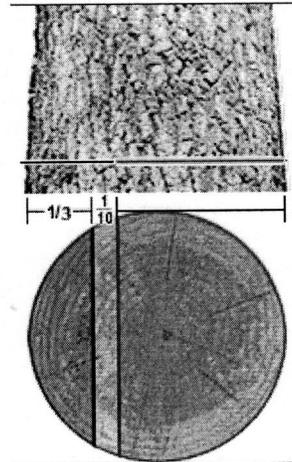
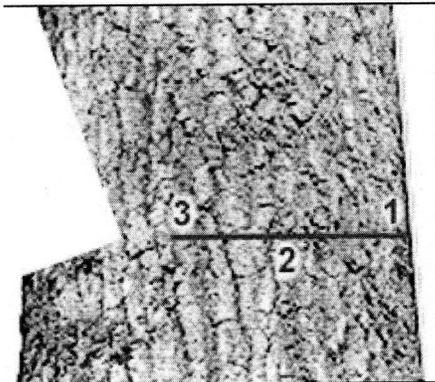
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### Felling-The Back-Cut:

The back cut is the third and final cut and is made on the opposite side of the notch. The back cut disconnects almost the entire tree from the stump leaving a hinge that helps to control the tree's fall.

1. Starting Point -- Important -- begin on the opposite side of the notch at the same level as the notched corner.
2. Angle of Attack -- Important -- cut flat along a horizontal plane.
3. Ending Point -- Very important -- stop at the point that will leave a hinge width that is  $\frac{1}{10}$  the tree's diameter
- 4.



This is the simplest of all back cuts. Other back-cutting techniques may be required for felling difficult trees.

### **IMPORTANT**

- Never saw completely through the trunk. Always leave a hinge. The hinge guides the tree. If the trunk is completely cut through, you will lose control over the felling direction.
- Insert a wedge or a felling lever in the cut well before the tree becomes unstable and starts to move. This will prevent the guide bar from binding in the felling cut if you have misjudged the falling direction.
- Refer to Operating a Chain Saw (section III-D, TSE-6) prior to operation of a chain saw.

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### Lodged Trees

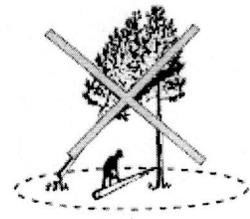
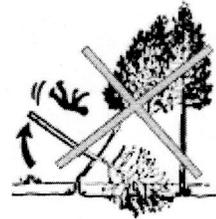
A lodged tree is a dangerous situation.

Do not try to fell a tree in which another tree is lodged

Do not fell another tree onto a lodged tree.



Do not work inside the danger area of a lodged tree and do not allow people inside danger area



### Taking Down a Lodged Tree

If the tree you have felled gets hung up, do nothing hastily. Take a rest and give some thought to the situation. Consider various alternatives and always choose a safe method even if it takes a little longer.

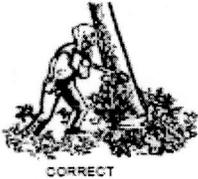
#### Simple Hang-Ups Rolling the Tree

1. Determine direction tree can most easily be rolled down.
2. Cut tree loose from hinge, leaving a little on the side you intend it to roll down on.
3. Using a cant hook or similar tool, roll the tree away from you.
4. Lift with a straight back.

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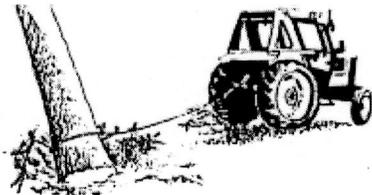
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- CAUTION - If you are not properly positioned when the tree starts to move, you might get caught by the cant hook or the tree itself.

### More Difficult Hang-Ups

- Use a portable or tractor-mounted winch and pull the tree down.
- Only mobile equipment having appropriate operator protective structure is to be used in this manner.
- Never place yourself in greater danger attempting to dislodge the tree by operating the tractor inappropriately.
- Never operate a tractor on a side slope.
- Special care is required in wet weather, and may require waiting until ground is dry to dislodge the hung tree.
- Rope should not be used for dislodging a tree. A heavy duty chain, at least 1.5 times as long as the tree to be dislodged should be used.



- CAUTION - Do not abandon a leaning, hung or lodged tree. It must be taken down, or it can become a danger to other people. Mark off the area if you temporarily have to leave to get assistance.