

Wildland Fire Chain Saws, S-212

Unit: Appendix E – Advanced Chain Saw Tasks and Techniques (**optional**)

OBJECTIVES:

Upon completion of this unit, students will be able to:

1. Describe two methods for directional felling of small trees.
2. Define two procedures for removing leaners.
3. Describe four methods for mitigating hangups.
4. Describe the method for creating a simulated limb exercise.

I. DIRECTIONAL FELLING OF SMALL TREES

To directionally fell small trees, wedges are needed; however, the small diameters of the trees make it difficult to use wedges.

Two common methods that can enable the use of wedges to directionally fell small trees are the quarter cut/back cut and by making the back cut first. These cuts may be attempted after gaining experience with other cuts.

A. Quarter Cut/Back Cut

A procedure can be employed where half of the back cut is made at a time. This allows wedges to be placed without interfering with the guide bar.

Plan your back cut to provide for adequate stump shot. Start your back cut on the side opposite your escape route, and stand parallel with your hinge wood.

Using the attack portion of the bar nose, make a horizontal cut, removing only one-half of your back cut. Take care not to cut into your holding wood, but cut until your bar is parallel to the backside of your hinge.

Before removing the saw, the nose can be pushed in further, parallel to the back of the hinge wood, to ensure the center of the tree is removed and adequate space for the first wedge exists.

Remove the saw, and place one wedge in this kerf. This action should stabilize the tree while you finish the cut on the other side of the tree. Now go to your exit side, stand again at the side of the tree, and cut the remaining half of your back cut.

This cut does not need to be made in the same kerf as the first half of the back cut; instead, you can go one kerf up to make the second cut. This prevents unnecessary damage to wedges, because the wood in between the two kerfs snaps easily as the tree goes over.

At this point, the tree may go over; if not, remove the saw and insert a second wedge. Now this wedge can be used to drive the tree over.

For this cut, it is desirable to use a chain saw equipped with a full-wrap front handlebar, making it easier to use the bottom corner of the guide bar nose, and reducing the chance of kickback.

Immediately notify your supervisor in the case of sit-backs and other felling difficulties to determine methods and skill level required to resolve the problem.

Before you leave a hazard tree, be sure to clearly mark the area with flagging or with a written warning. Give a verbal warning to others working in the area.

B. Back Cut First

Doing the back cut first is another procedure that can be used on smaller trees where a wedge will not fit at the same time as the bar.

The first cut in this case is the back cut. The back cut should be made no deeper than 50 percent of the tree thickness.

Next, place a wedge in the back of the tree and seat it lightly. Seating the wedge too much can lift the tree and cause your saw to get pinched on the next step.

After the wedge is in place, do a small undercut, ensuring adequate holding wood remains.

The tree can be driven over using the wedge after the saw is turned off and placed out of harm's way.

This should never be done on a tree that has a favorable lean or questionable holding wood.

II. REMOVING LEANERS

Leaners do not need as deep an undercut; cutting too deep on a leaner can pinch your bar. Leaners are also more prone to barber chairing.

Two methods for removing leaners are a boring back cut and a triangle cut. You should gain experience before attempting these cuts.

A boring back cut is one method that can be used to prevent barber chairs. By boring through the tree, the portion of the tree that splits during a barber chair is removed first, reducing the risk of a vertical split. After your undercut is in, plan your back cut to provide for adequate stump shot.

Standing at the side of the tree, bore through the tree at approximately the center point, cut towards your holding wood to establish your hinge. Then remove the saw, flip it over, and cut out the back of the tree.

This technique should not be used on a tree that needs wedging because the lift of the wedges can cause the hinge to snap.

A second recognized method for removing leaners is the triangle cut. If the center of your tree is rotten or hollow, cut only up to the back of your hinge wood. The corners of your hinge are the only thing supporting your tree. As you make your last cut, the tree will go over.

III. HANGUPS

- Hangups are very dangerous; they account for a high percentage of cutting injuries every year.
- Analyze any hangup you encounter, and consult with a more experienced faller before making any cuts.

Methods for mitigating hangups:

- Chunking down
- Accordion
- P-cord
- Explosives
- Driving trees over with other trees
- Rigging
- Equipment

IV. SIMULATED LIMB

Watch the Sim Limb video and do the exercise.