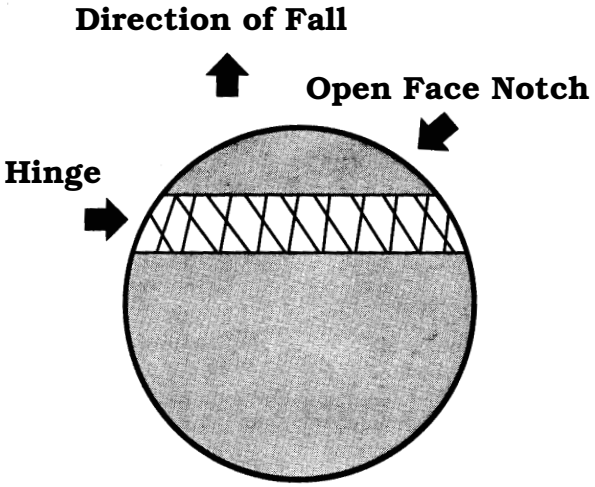
Tim Ard, GOL instructor.

Tim's tips

Setting up The Hinge

The hinge is the single most important part of the felling cut. It controls the felling direction, reduces the chance for hang-ups, and can increase productivity. If a proper notch has been formed, the hinge will control the fall of the tree all the way to the ground.

Hinges should be the same thickness all the way across the stump. If the hinge is faced in the proper direction, using the site line of the saw, the tree will fall correctly.



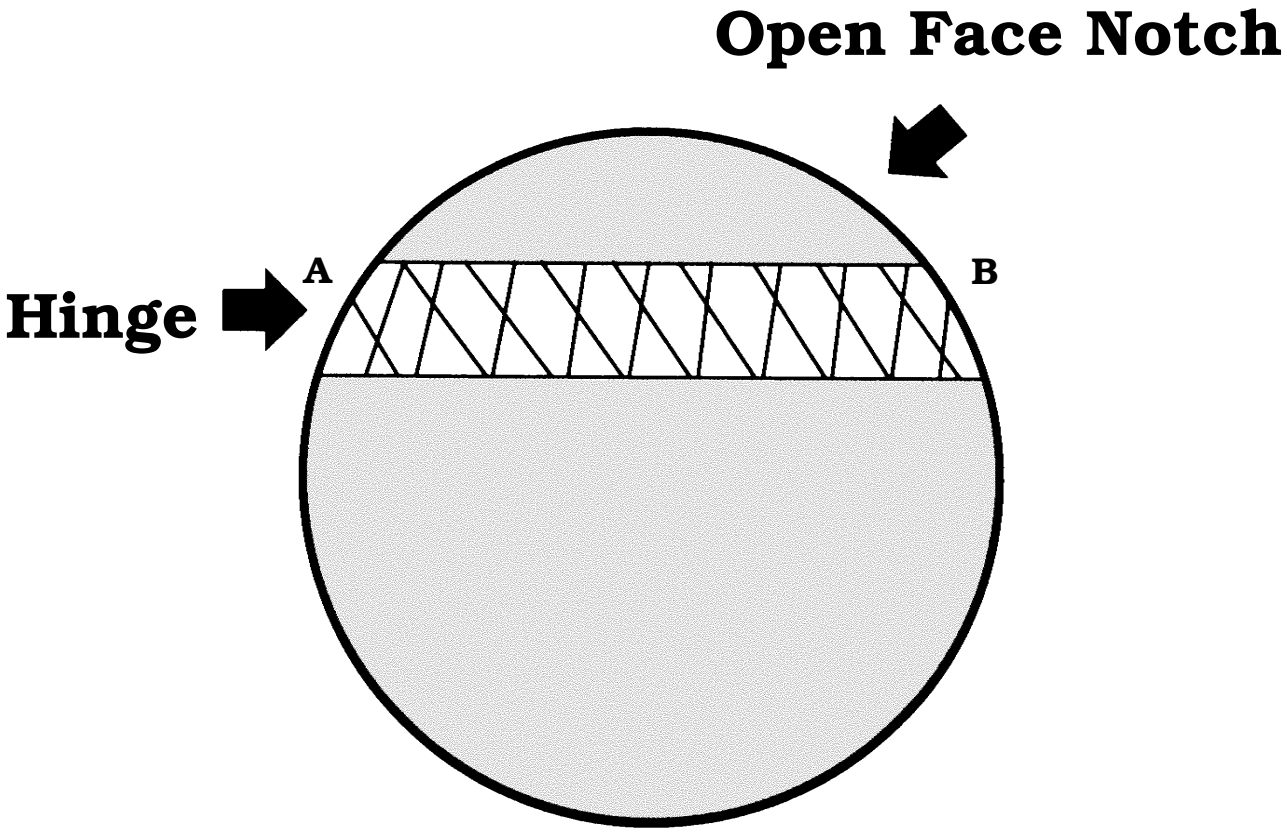
Loggers often attempt to swing trees into openings by cutting the hinge off on one side. Efforts to swing trees into openings often result in hung trees. This is because it is difficult to guess how much of the hinge should be cut off to swing a tree. It is much more accurate to aim or sight the tree and have it fall exactly in the intended direction.

It should also be noted that the fibers of the hinge tend to break from the back. As the tree falls, fibers along the back of the hinge will break first. After the tree reaches a certain point in its fall, only the fibers at the front of the hinge are left to finish steering the tree. Therefore, making a hinge thin on one side will not accomplish any steering function.

Cutting off all or any part hinge is considered a safety violation. The only time a hinge can be cut is if the tree does become hung up. It may become desirable to cut off one side or all of the hinge so the tree will roll out.

The length and thickness (width) of the hinge are dependant on the the species of tree and its DBH (diameter at breast height, 4 1/2 feet above the ground). A good rule of thumb for the thickness (width) of the notch is 10% of the tree's DBH. This can be increased or reduced depending on the species. For example, hickory will likely pull fiber if the hinge is too thick. Something less than 10% of DBH would be appropriate for hickory.

The length of the hinge is also calculated from the tree's DBH. Again a good rule of thumb to use is 80% of the tree's DBH. This means the logger will have to visualize how far back he will have to cut the notch to achieve a hinge width of 80% of the tree's DBH. Refer to the diagram below for an example of these two hinge calculations.



The width of the hinge (A to B) is 80 percent of the tree's diameter at 4.5 feet above the ground (D.B.H.) The thickness of the hinge is 10 percent of the tree's D.B.H.