

Stabilizing Tail Trees and Intermediate Support Trees

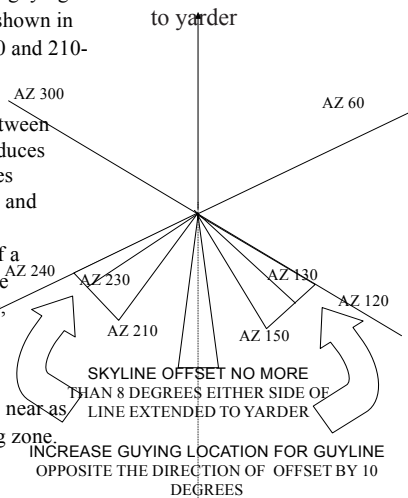
Trees used to support lines and loads will usually need guylines to keep them stable. The diameter of trees needed to support loads is given in Appendix 7-B of the Division 7 Forest Activities Code. There are conditions when trees do not need guylines for tail trees or single intermediate support trees. Guylines are not required when at the point of rigging attachment the tree does not move more than its diameter in the direction of load as shown in the figure.



In addition, the tail tree cannot be within reach of workers and the resulting line movement must not pose a hazard to workers if the tail tree failed.

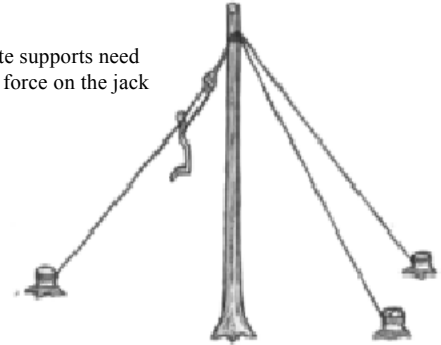
A minimum of two guylines must be used on tail trees and located within guying zones to oppose the forces as shown in Figure 7-16 (azimuths 130-150 and 210-230 degrees).

When the angle of the lines between the tail tree and a tail hold produces an offset of more than 8 degrees between the lines as they enter and leave the tail tree, then at least three guylines are required. If a suitable anchor is not available within a specified guying zone, two guylines may be used in lieu of one guyline for that zone, provided a guyline is placed on both sides of, and as near as possible, to the affected guying zone.

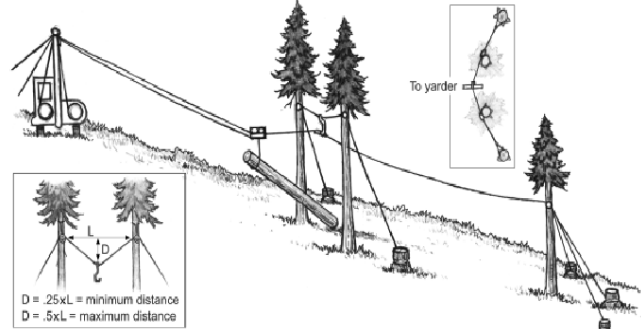


When guylines are required to stabilize the tree, they must be of the size and same material to support the line in tree: 5/8 inch line requires 3/8 inch guylines or larger; for lines greater than 5/8-inch and less than 1-inch, guylines must be at least 1/2-inch; and for 1-inch and larger, guylines must be at least 5/8-inch. Guylines made of synthetic materials, including the end connectors, must have the equivalent strength capacities of wire rope.

Single tree intermediate supports need guylines opposing the force on the jack when it is loaded.



Double tree intermediate supports are designed to be stable without guylines unless a support tree moves more than two feet at the point of rigging attachment.



Prepared by John J. Garland, PE, Oregon State University with financial support from OR-OSHA Training Grants