

Prop Systems For Low Growing Tree Branches

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Props are rigid structures anchored in the ground that support tree branches or trunks from below. Props are used under horizontal or downward growing branches to keep them off of the ground or structures or to keep them above pedestrians' heads or vehicles. They may also be used to provide supplemental support to leaning tree trunks.

Props can be made from wood, steel, concrete or other materials. The structure must have sufficient strength to support the expected load. Branches typically weigh 50 to 80 pounds per cubic foot of volume depending on tree species. The load may be greater if the trunk leans toward the branch or if the branch is significantly affected by wind. Props constructed from wood and steel should be protected from deterioration, decay and rust.

Props need to be designed to keep the branch from moving laterally and falling off the top of the prop. Options for keeping the branch on the prop include a threaded rod or bolt into or through the branch, or a saddle below the branch. The prop should also be designed to allow future growth of the branch. Saddles and straps often end up damaging branches by girdling, so they should be avoided or adjusted frequently.

The prop must be anchored in the ground to keep it from moving excessively. A concrete footing is often the preferred anchor. It should be large enough to hold the expected load and deep enough to reduce frost heaving. When a hole is dug for a footing, care should be taken to minimize root damage.

Summary

Props can be an effective means for maintaining clearance height of branches. They should be designed to hold the intended load while not

restricting future growth. Props should be maintained and replaced if they deteriorate or no longer function as designed.

Figure 1: Angle prop system on a leaning tree



Figure 2: Finished "I" prop (left) and prop system showing anchoring and height adjustment (right)

