

## Step 5.

### Select temporary branches.

Temporary branches should be selected and retained for several years in order to maintain adequate foliage in the crown. Temporaries should be smaller and less vigorous than the permanent scaffold branches to avoid competition. It may also be useful to prune temporary branches back to the third bud to minimize competition. Leaving several temporary branches below the lowest permanent branch will help to maintain diameter growth in the lower part of the trunk. Doing so serves to increase stem taper, providing the tree with a base that is more stable under high winds and heavy loads of snow and ice. Branches on the lower stem can also help reduce vandalism and other mechanical injuries.

### Helpful Tips

- As a general rule, no more than 25% of the living crown should be removed in one year. Large defective limbs or exceptionally vigorous trees may warrant more aggressive pruning.
- Roughly 1/2 of the foliage should be on branches originating from the lower 2/3 of the main stem. This rule can be useful in guiding your selection of permanent branches.
- Prune during the winter months while trees are dormant. Branches that are dead, diseased or damaged can be removed anytime.



- Use proper pruning techniques. Incorrect pruning is certain to do more harm than good. Information on proper pruning techniques is available through the VT Urban & Community Forestry Program.

This photo illustrates the three cut pruning method for branches more than 1 inch in diameter. The first partial cut is made from below to prevent the bark from tearing, then the branch is removed with the second cut. The third cut removes the stub cleanly and without damaging the branch bark ridge or any bark on the trunk.

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The text in this brochure was adapted from *Five Steps for Training Young Trees*, a Continuing Education Unit in the International Society of Arboriculture publication *Arborist News*.



This document is available upon request in large print, braille and audio cassette.

[www.vtcommunityforestry.org](http://www.vtcommunityforestry.org)

# Training Young Trees



## A Basic Guide To:

- Why Train?
- Five-Step Pruning Method
- Helpful Tips



VT Urban & Community Forestry Program

# Training Young Trees

## Why Train?

Training young trees refers to a pruning method to establish good form and improve branch structure at an early age. Properly trained trees are not only more aesthetically pleasing, but structurally stronger. This can significantly reduce the likelihood of limb or trunk failure as the tree matures and the need for corrective pruning and other maintenance over time. This means a longer life span for the tree and a better return on your investment. To reduce the stress on newly planted trees, training should not begin until 3 years after planting, except for Step 1, which can be done at any stage. **Before you begin pruning, thoroughly review each of the five steps and pay careful attention to the helpful tips.**

## 5-Step Pruning for Form and Structure

### Step 1.

#### Remove broken, diseased, dying or dead branches.

Broken or damaged branches provide an entry point for insects, rot and diseases. Pruning of diseased branches can often prevent the infection from spreading to other parts of the tree.



### Step 2.

#### Select a central leader and remove competing branches.

Most tree species benefit from having one central stem that tapers to a single leader at the top of the crown (see diagrams below). If there are multiple leaders competing with each other, select the most vigorous and vertically oriented, and remove the rest. Don't worry if the leader you selected is not perfectly straight or vertical, this will be corrected as the tree grows.



**Note the selected leader before (left) and after (right) competing leaders were removed. This leader is now dominant and will direct the vertical growth of the tree as it matures. The slight crook in the new leader will be corrected as the tree grows, forming a single straight and vigorous stem.**

### Step 3.

#### Select the lowest permanent scaffold branch.

The height of the lowest permanent branch that you select will be determined by the use and location of the tree. Check local ordinances for minimum branch height mandates (e.g. 8' over sidewalks). This branch should be strongly joined with the trunk and have a maximum diameter of 1/2 the stem diameter at the point of attachment. In areas that require higher minimum branch heights (e.g. along streets), it may be necessary to wait until the tree grows taller before determining the branch.



### Step 4.

#### Select scaffold branches and cut back or remove competing branches.

Scaffold branches are those that will remain permanently and dictates the overall form of the tree. All scaffold branches should share a strong union with the main stem, and their maximum diameter should be no more than 1/2 the diameter of the trunk at the point of attachment. All weakly joined branches should be removed or cut back significantly to direct growth to scaffold branches. Vertical spacing between scaffold branches should be roughly 18' for large trees (mature diameter > 12") and 12' for smaller trees. As the tree matures, it may be necessary to prune and/or remove some of the original scaffold branches.



**The left branch is weakly attached to the main stem and should have been removed when it was much smaller. Note the large seam (arrow) developing as a result of bark becoming included in the branch union. The right branch departs from the stem at a wider angle allowing the existing bark to be pushed upward as the branch grows in diameter. This process forms the branch bark ridge, usually visible as a dark patch of rough bark directly above the branch union.**