

## TREE/SHRUB PRUNING (ACRE)

CODE 660

MONTANA TECHNICAL GUIDE

SECTION IV

### DEFINITION

Removing all or parts of selected branches from trees and shrubs.

### PURPOSES

- Improve the intended function of the plant.
- Improve appearance and health of trees or shrubs.
- Improve the quality of the wood product and tree/shrubs.
- Reduce a safety hazard.
- **Improve recreational value of the area.**

### CONDITIONS WHERE PRACTICE APPLIES

This practice applies on the following conditions:

- On crop trees of high-value species (e.g., trees grown for select lumber, veneer, or Christmas trees);
- On trees where removing all of parts of branches enhances the beauty and/or safety of an area;
- **Where removal of lower limbs from all or part of the trees/shrubs enhances the beauty and recreational use of the area;**
- **On trees/shrubs to remove dead, broken, or diseased portions of the woody plant.**

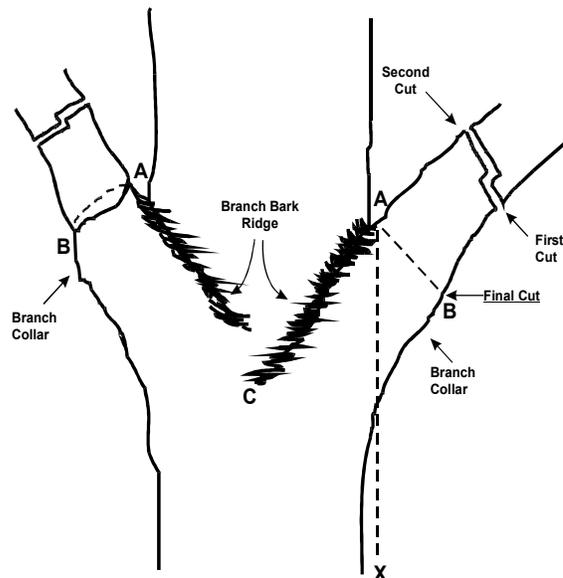
### CRITERIA

#### General Criteria Applicable To All Purposes Named Above

Prune trees according to the following steps:

1. Locate the branch bark ridge.
2. Find **A** (outside edge of branch bark ridge).
3. Find **B** (swelling where branch meets branch collar). If **B** is difficult to determine draw a perpendicular line from **A**: the angle  $\angle XAC$  is equal to the angle  $\angle XAB$  (See FIGURE 1). Stub the branch to be pruned using a first cut from below and a second cut from above.
4. Make the final cut on line **AB**.
5. Do not cut behind the branch bark ridge.
6. Do not leave stubs.
7. Do not cut into the branch collar.

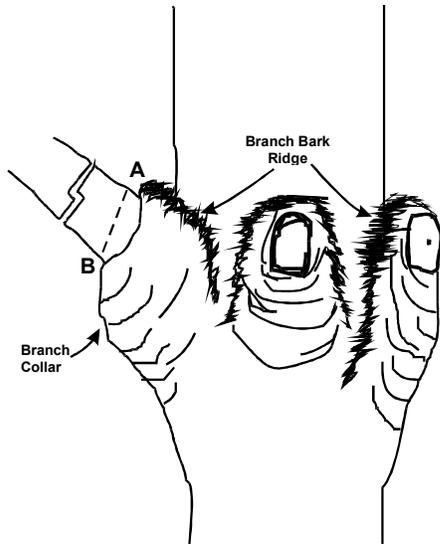
Timing of shearing, branch removal and corrective pruning of high value tree species will be described to accomplish the intended purpose.



### Hardwoods

FIGURE 1. — Hardwood pruning

**NOTE:** This type of font (AaBbCcDdEe 123..) indicates NRCS National Standards.  
This type of font (AaBbCcDdEe 123..) indicates Montana Supplement.



## Conifers

FIGURE 2. — Conifer pruning

Use any appropriate, properly sharpened and maintained pruning tools including pruning shears, loppers, pole saws, bow saws, and chain saws. The preferred tools for small and medium sized limbs are loppers, pruning shears, or a hand or pole saw with a curved blade that cuts on the down stroke.

Avoid pruning when tree/shrub is actively growing except for spring flowering shrubs.

Do not remove over one-third of the live crown in any one application and the resulting pruned stems should not exceed one-half the total height of the tree/shrub.

It is not necessary to paint or treat pruning cuts.

### Additional Criteria To Improve the Intended Function of the Plant

Pruning or shearing for quality Christmas trees:

Good crown density is one of the principal requirements of quality Christmas trees. Trees with poor crowns resulting from rapid growth can sometimes be improved by two methods:

- 1) Pruning—lower branches from the live crown are removed to the extent that the rate of growth will be severely checked;
- 2) Shearing—the leader and the tips of the branches are cut back to shorten terminal growth, stimulate lateral growth, and improve the symmetrical form of the tree.

## Pruning

- Trees should not be too tall to work conveniently from the ground.
- At least the lower two-thirds of the live crown should be removed, or high enough to give good basal whorl, and severely enough—usually 1/2 to 2/3 of the live crown—to slow the growth. This may also be dependent on the shearing operations planned.
- Trees on better sites with inherently thin crowns generally do not respond well to pruning.

## Shearing

- Shearing should be done to improve crown symmetry and crown shape.
- Begin shearing when trees are 3 to 5 years old (approximately 3 feet in height) and terminal leader growth exceeds 12 inches. Continue shearing, usually every other year, until the trees are marketed.
- The best period for shearing is:
  - Pines—July through August
  - Spruces and Firs—November through March
- Side shearing should be done to produce a taper of about 40 to 70 percent. Taper is the base width in relation to the height.
- Cut the leader as necessary to control height growth to about 8 to 12 inches. Shear above a bud at a 45-degree angle to the stem.
- All extra leaders shall be removed.
- Basal pruning should be done to form a handle to assist in handling the tree when harvested.

### Additional Criteria To Improve Appearance and Health of Trees and Shrubs

The ideal time for pruning is during the dormant season before new growth starts. Trees may be pruned at any time for hazard situations or to repair storm damage.

Dead and diseased branches should be removed to enhance appearance and improve health of the trees/shrubs.

When pruning plants with fungal disease infections, sanitize pruning tools between each cut.

Prune shrubs to improve their shape without changing their natural form to stimulate blooming and improve growth.

Spring flowering shrubs should be pruned immediately after they have bloomed to stimulate wood growth through the current growing season and abundant blooms the following spring.

Summer flowering shrubs should be pruned during the dormant season before new growth starts.

#### **Additional Criteria To Improve the Quality of the Wood Product**

Native species in order of priority for pruning are:

- a. Ponderosa pine
- b. Lodgepole pine, 15 to 25 years old
- c. Western larch
- d. Douglas fir

Western larch and Douglas fir do not respond well to pruning because of their tendency to resprout along the stem where live branches have been removed. Dead branches can be removed with only a slight chance of resprouting.

Give priority to the most productive sites.

Prune 50 to 100 crop trees per acre that have a high potential value and that will be left to grow to maturity.

Select straight, dominate or co-dominate trees free of disease, forks, or other defects and properly spaced.

Remove the lower branches when tree diameters are 4 to 10 inches diameter breast height (DBH). All branches will be removed to a height of 18 feet.

Do not remove over 1/3 of the live crown in any one operation.

Pruning shall be done in conjunction with practice standard 666—Forest Stand Improvement. (See Field Office Technical Guide, Section IV, Practice Standards and Specifications.)

Pruning shall be done during the dormant season before new growth starts.

Pruned branches will be cut into smaller pieces and scattered away from the base of the tree.

Disease branches should be burned.

#### **Additional Criteria To Reduce A Safety Hazard**

Limbs shall be pruned to a height of 8 to 12 feet to facilitate movement.

Do not prune trees touching or near utility lines. Contact the appropriate local utility authority for assistance.

#### **Additional Criteria To Improve The Recreational Value Of An Area**

Limbs shall be pruned at campsites, trails, and other recreational use areas to a height of 8 to 12 feet to aid in personal movement at such sites.

Prune limbs to needed heights to obtain necessary scenic views on recreational and personal property.

## **CONSIDERATIONS**

Consider removing pruned or fallen branches away from the base of the tree or shrub to reduce the potential damage from fire and insects.

Consider the expense of pruning forest stands. For pruning to be cost effective, it should be done on those trees which have the best form, are growing well, and have the ability to produce a quality veneer or sawtimber product.

Consider timing of forest pruning to coincide with thinning or other activities that manage from maximum growth. Hold crop trees at least 20 years after pruning.

The timing of pruning should consider the nesting and breeding requirements of arboreal species.

In urban areas special considerations need to be given for safety hazards.

## **PLANS AND SPECIFICATIONS**

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, **and** narrative statements in the conservation plan, or other acceptable documentation. Species, site limitations, methods, equipment, season of year, and guides to pruning for the applicable purpose shall be considered.

## **OPERATION AND MAINTENANCE**

Reinspection and re pruning as needed for the prescribed purposes.

**Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.**

UNITED STATES DEPARTMENT OF AGRICULTURE  
 NATURAL RESOURCES CONSERVATION SERVICE

**TREE/SHRUB PRUNING (ACRE)**

**CODE 660**

**MONTANA CONSERVATION PRACTICE SPECIFICATION/JOB SHEET**

DEFINITION: Removing all or parts of selected branches from trees and shrubs.

SCOPE: This practice applies on the following conditions:

- On crop trees of high-value species (e.g., trees grown for select lumber, veneer, or Christmas trees);
- On trees where removing all or parts of branches enhances the beauty and/or safety of an area;
- Where removal of lower limbs from all or part of the trees/shrubs enhances the and recreational use of the area;
- On trees/shrubs to remove dead, broken, or diseased portions of the woody plant.

CONSERVATION MANAGEMENT SYSTEM: Tree/Shrub Pruning is used concurrently with other practices as part of a conservation management system. For example, Tree/Shrub Pruning shall be done in conjunction with FOTG practice standard 666–Forest Stand Improvement to ensure trees/shrubs are properly spaced apart.

OPERATION AND MAINTENANCE: Reinspection and repruning as needed for the prescribed purposes.

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**TREE/SHRUB PRUNING—SPECIFICATION**

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<b>LANDOWNER</b>	<b>FIELD NUMBER</b>
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**PURPOSE (CHECK ALL THAT APPLY)**

- Improve the intended function of the plant.
- Improve appearance and health of trees or shrubs.
- Improve the quality of the wood product and tree/shrubs.
- Reduce a safety hazard.
- Improve recreational value of the area.

**PRUNING TECHNIQUES**

Pruning tree/shrubs according to the following steps:

1. Locate the branch bark ridge.
2. Find A (outside edge of branch bark ridge).
3. Find B (swelling where branch meets branch collar.)  
If B is difficult to determine, draw a perpendicular line from A: the angle XAC is equal to the angle XAB (See FIGURE 1.) Stub the branch to be pruned using a first cut from below and a second cut from above.
4. Make the final cut on line AB.
5. Do not cut behind the branch bark ridge.
6. Do not leave stubs.
7. Do not cut into the branch collar.

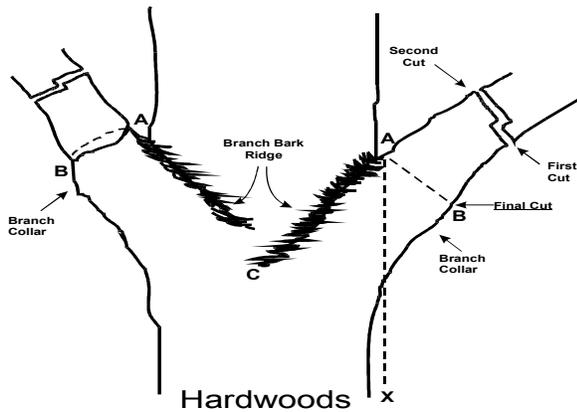


FIGURE 1. — HARDWOOD PRUNING

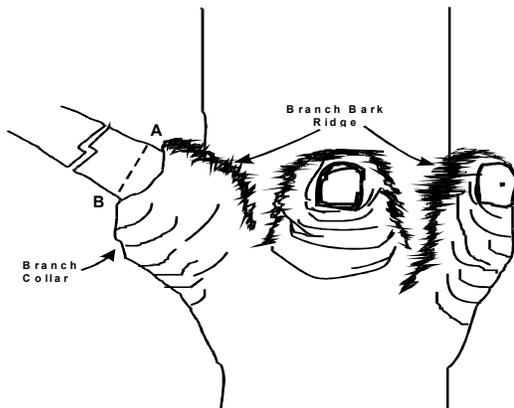


FIGURE 2. — CONIFER PRUNING.

## WOOD PRODUCT SPECIFICATION—LUMBER/VENEER

Native species in order of priority for pruning are:

1. Ponderosa pine
  2. Lodge pole pine, 15 to 25 years old
  3. Western larch
  4. Douglas fir
- Prune 50 to 100 high potential value crop trees per acre.
  - Remove the lower branches when tree diameters are 4 to 10 inches diameter breast height (DBH) to a height of 18 feet.
  - Do not remove over 1/3 of the live crown in any one operation.
  - Pruning shall be done during the dormant season before new growth starts.

## CHRISTMAS TREE SPECIFICATIONS—SHEARING

- Begin shearing when trees are 3 to 5 years old. Continue shearing, usually every other year, until trees are marketed.
- The best period for shearing is:
  - Pine—July through August
  - Spruces and Firs—November through March
- Side shearing should be done to produce a taper of about 40 to 70 percent.
  - Taper is the base width in relation to the height.
- Cut the leader as necessary to control height growth to about 8 to 12 inches.
  - Shear above a bud at a 45-degree angle to the stem.
- Basal pruning should be down to form a handle to assist in handling the tree when harvested.

