

General Guidelines on Tree Pruning

Tree pruning is the removal of unwanted branches from a tree such as those shown on **Fig. (1)** either for reducing risk and inconvenience to the public, maintaining or improving tree health and structure, or improving appearance of trees. Improper tree pruning is detrimental to the appearance and healthy growth of trees and may result in irrecoverable damage to trees. These general guidelines provide basic information on tree pruning and issues requiring particular attention during execution of works. Tree pruning should be carried out by trained personnel and under proper supervision by experienced person with expertise in horticulture, arboriculture and tree care.

Purposes of Tree Pruning

2. The objectives of pruning should be established prior to commencement of any pruning operation. The purposes of tree pruning are broadly grouped under the following three categories –

- (a) **Reducing Risk and Inconvenience to the Public**
 - (i) keeping the roads clear and safe by removing the branches which obscure sight line of motorists or physically obstruct the vehicular accesses, leaving insufficient head room for large vehicles or double-decked buses.
 - (ii) preventing interlacement with overhead cables by regular pruning of trees to maintain acceptable clearance from overhead cables.
 - (iii) protecting pedestrians and properties from damage by dead, hanging and detached twigs/branches falling from the tree. Twigs/branches with potential to fall should be removed once detected.
 - (iv) maintaining road lighting condition by removing the branches of trees blocking street lamps.
- (b) **Maintaining or Improving Health and Structure of Trees**

To maintain trees in healthy growing conditions by -

 - (i) controlling invasion of pests and diseases by removing dead or insect-carrying twigs and branches in order to eliminate the harbourage for pests and diseases.

- (ii) avoiding wastage of food reserve by removing weak branches and undesirable shoots originating from the tree base to save food reserve for healthy parts of the tree.
 - (iii) allowing more light and air in or through the crown by removing overcrowded leaves, twigs and branches.
 - (iv) minimizing the chance of damage under strong wind through reducing the weight of tree by pruning out overcrowded twigs and branches. This is essential particularly when the root anchorage of tree is not firm when the root system is disturbed by transplantation or adjacent construction work.
- (c) Improving Appearance of Trees
To maintain trees in their most desirable form and structure.

Types of Pruning

3. The types of pruning are broadly grouped under the five categories listed below –

- (a) Formative Pruning
Selective pruning of the lateral branches of a tree so as to develop a strong and straight trunk, a well-balanced crown with properly spaced scaffolding branches and a clear central leader.
- (b) Crown Lifting
Selective pruning to remove lower branches to increase vertical clearance from ground level.
- (c) Crown Reduction
Selective pruning to reduce the overall height and spread of the crown, leaving the tree in a well-balanced and natural form and shape.
- (d) Crown Thinning
Selective pruning to remove weak, thin, crossing and live branches to reduce the density of foliage. Crown thinning should not affect the overall height and spread of the tree.
- (e) Cleaning

Selective pruning to remove dead, withered, damaged or diseased branches.

Timing of Pruning

4. The best timing for pruning each species may vary and expert advice should be sought when necessary. In general, the following criteria apply -

- (a) Evergreen Tree
Pruning of evergreen trees just before spring is preferred due to faster healing in the coming growing season.
- (b) Deciduous Tree
Pruning of deciduous trees after shedding leaves in winter when trees are dormant is preferred. This can minimize the risk of pest problem associated with wounding and allowing trees to take advantage of the full growing season to close and compartmentalize wounds.
- (c) Young Tree
Suitable structural pruning of young trees would facilitate the development of a straight trunk.

5. Pruning for improvement on health of trees or reducing risk and inconvenience to the public may be conducted as and when required.

Safety Measures

6. The following safety measures are recommended for pruning operations to protect the operatives and public -

- (a) Avoid pruning trees on humid, windy and rainy days as far as possible.
- (b) Deploy adequate manpower to maintain traffic flow.
- (c) Clear and fence off the tree pruning area to prevent entry by others.
- (d) Place directional/warning signs to divert traffic/pedestrian, with approval from the authority, if necessary.

- (e) Operatives to put on proper protective clothing such as goggles, chainsaw trousers, safety boots, gloves and helmets.
- (f) Use appropriate tools for the job such as small chainsaws, polesaws, tubular saws, long pruners, ladders and ropes.
- (g) Remove objects attached to the trees which may hinder the pruning operation.
- (h) Bring along a first-aid kit for emergency.

Pruning Techniques

7. Pruning should be performed by trained personnel and under proper supervision by experienced person with expertise in horticulture, arboriculture and tree care to ensure that it is done safely and properly. Some common pruning techniques are listed below for reference.

- (a) Dead branches must be cut back to live tissue/growing point as shown on **Fig. (2)**.
- (b) Single top cut resulting bark tearing should be avoided and instead under cut technique should apply as shown on **Fig. (3) and (4)**.
- (c) Where removal of a whole lateral branch is required, do not cut flush to the main trunk or leaving a stub as shown on **Fig. (5) and (6)**. The final cut shall be made close to the trunk or parent limb, without cutting into the branch bark ridge or collar as specified in **Fig (7) and Fig (8)**. Long and heavy branches should be cut in sequence of section by section.
- (d) Avoid topping (i.e. cutting the trunk and branches between nodes leaving stubs) on mature trees as shown on **Fig (9)**. Topping would damage the tree form and structure as well as initiate decay in trunk and branches.

Points To Note

8. Some general good practices are listed below for reference -

- (a) Over pruning would affect the healthy growth of trees. A good practice is to limit the removal of crown to not more than one quarter of the original coverage in each pruning operation. Also, the crown should be kept in a well-balanced and natural form and shape after pruning.
- (b) Pruning prior to flowering seasons of trees should be avoided.
- (c) Clean and sharp tools should be used to produce smooth and clean cuts to facilitate healing and reduce the risks of attack by insects and fungi.

ETWB
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Unwanted Woods on a Tree

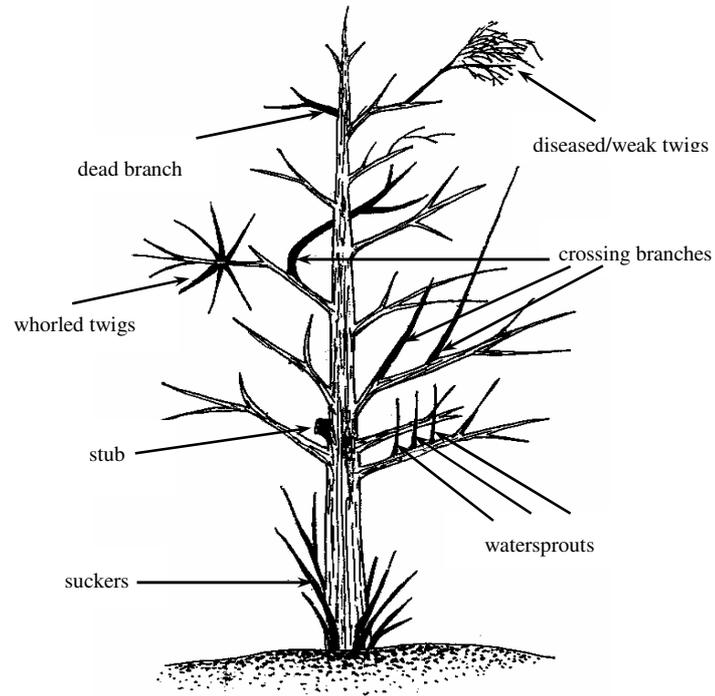


Fig. (1) Unwanted woods on a tree

Removal of Dead Twigs and Branches

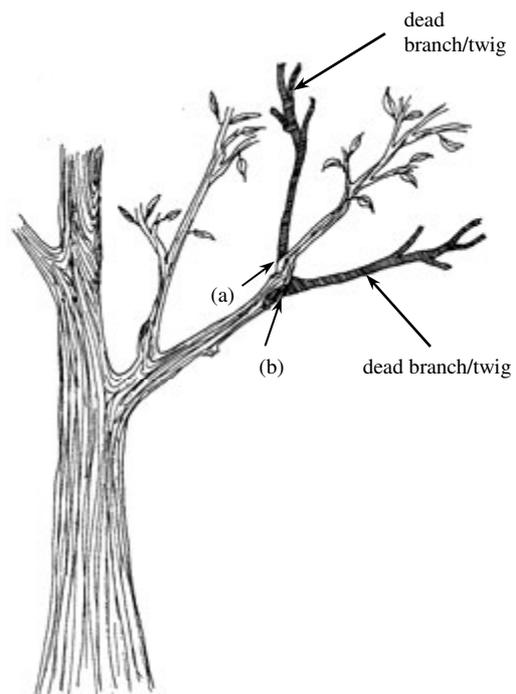


Fig. (2) (a) and (b) are ideal positions of cuts

Avoid Bark Tearing

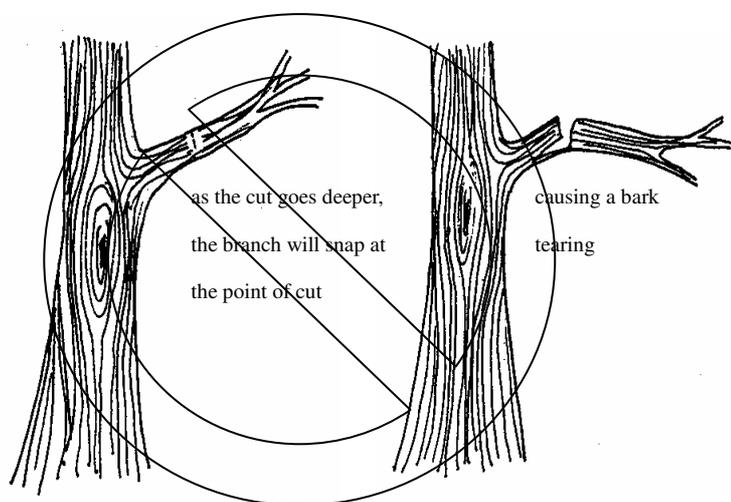


Fig. (3) A single top cut resulting bark tearing

Using Under Cut Technique

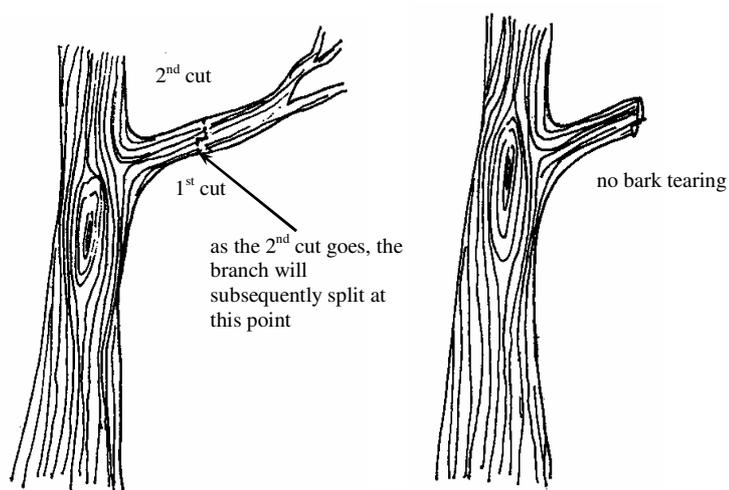


Fig. (4) Using under cut technique to avoid bark tearing. If the branch is a long and heavy branch, it should be cut in sequence of section by section. The final cut shall be made close to the trunk or parent limb, without cutting into the branch bark ridge or collar as specified in Fig (7) and Fig (8).

Do Not Leave a Stub

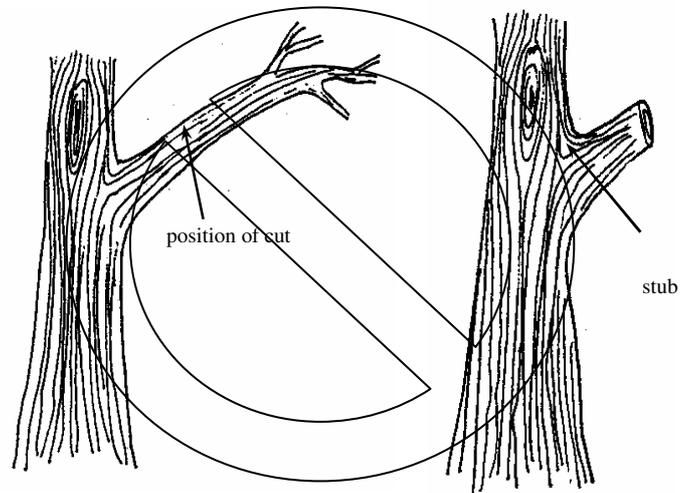


Fig. (5) The final cut has been poorly positioned leaving a stub.

Do Not Make a Flush Cut

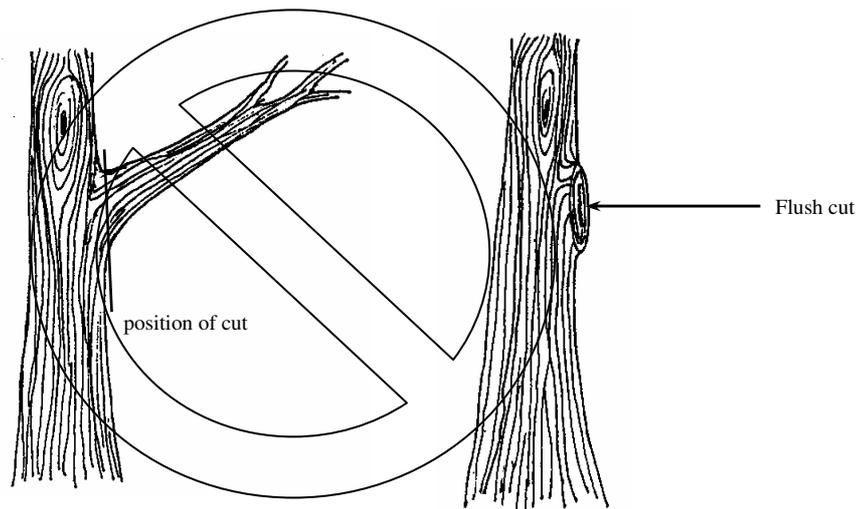


Fig. (6) The final cut has been positioned too close to the trunk and damaged the branch collar.

Removal of Branch with Visible Branch Collar

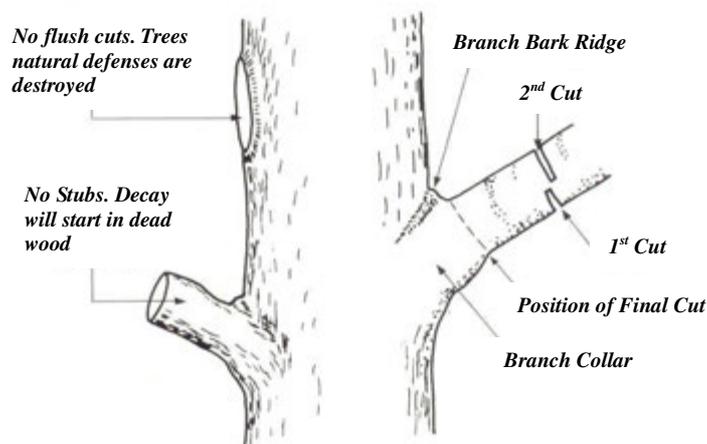


Fig. (7) Removal of branch with visible branch collar, the 1st cut is an under cut to avoid bark tearing, the 2nd cut is to remove the branch and the final cut is to remove the remaining stub without cutting into the branch bark ridge or collar.

Removal of Branch Without Visible Branch Collar

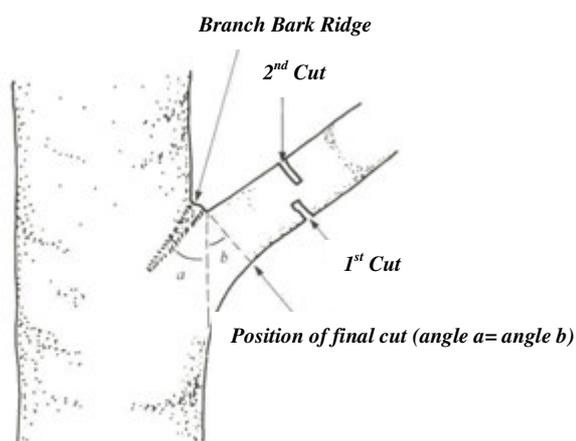


Fig. (8) The position of the cuts using branch bark ridge as guide where angle $a = \text{angle } b$. The 1st cut is an under cut to avoid bark tearing, the 2nd cut is to remove the branch and the final cut is to remove the remaining stub without cutting into the branch bark ridge or collar.

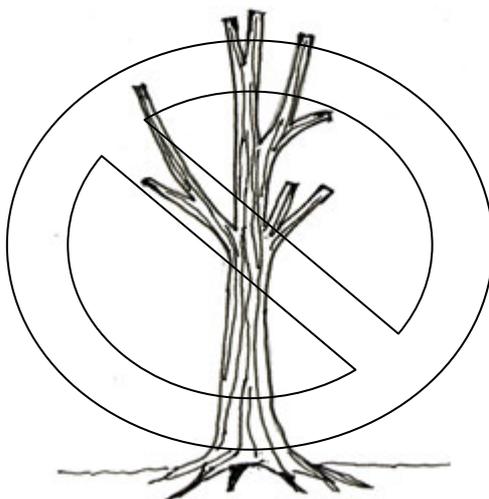
Do not Top a Tree

Fig. (9) No topping of tree trunk and branches