

Repairing Storm Damage to Shade and Ornamental Trees

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Many shade and ornamental trees periodically sustain considerable damage from high winds, heavy snow and freezing rain or ice storms. Depending on the causative factor, damage may occur at nearly any time of the year. Small amounts of damage occur annually, usually resulting from winds associated with summer thunderstorms. Occasionally more severe storms result in severe local or wide-spread damage. In this publication various types of storm-caused injury and procedures for treating them are described.

TYPES OF INJURY

Often damage is relatively minor with only the smallest branches of certain species of trees being damaged. Fast growing trees such as Chinese elm, silver maple, boxelder, and poplar have brittle wood which is easily broken. At other times, severe damage can result on trees of all species, especially from high winds or heavy amounts of ice on the trees. Small and large limbs may break and splinter while weak crotches in many trees will split. Occasionally some trees may be uprooted.

When damage is relatively minor and only very small branches are affected, little repair work needs to be done. Oftentimes, however, severe damage occurs and a considerable amount of cleanup and repair should be completed on individual trees to avoid further damage by diseases and/or insects which may infest weakened trees through wounded tissue. Occasionally, injury can be serious enough to warrant removal of the tree.

TREATING THE TREE

The first decision to be made regarding damaged trees is: "Is the tree worth keeping?" Efforts to save a tree should be made only if a substantial portion of the tree remains intact and if it has high value to the property owner. Careful consideration should be given before spending considerable sums of money attempting to save brittle, fast growing, low value trees which are likely to incur additional severe damage from future storms. Factors to consider include condition, age, species, location, value to property, sentimental value, etc. It may often be more desirable to remove the damaged tree and replace it with another tree. Persons having doubts should consult their local nurseryman, a professional tree service, or a consulting or urban forester. If the tree is not salvageable it should be removed as soon as possible.

If the tree can be salvaged, certain procedures are suggested which will assist in it making a more rapid recovery. In addition, the overall appearance and form of the tree can be improved.

To begin, all damaged branches should be removed. Some will be broken and simply hanging in the tree; others will be partially attached. When damaged branches are smaller than one-half to three-quarters of an inch in diameter, removal can be done with a pruning shears or a pole-pruner. A sharp, properly aligned shears or pruner should be used which will make a clean cut and not crush the branch. Removal of all branches should be made at the nearest lateral branch or bud or at the main stem (Fig. 1).

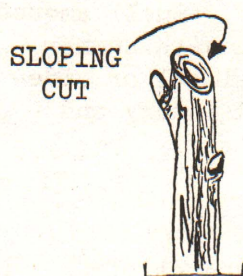


Figure 1. Location of cut when removing back to bud or lateral branch.

Larger branches should be cut out with a saw. The removal cut should be made in the natural depression flush with the trunk (Fig. 2c) or at the next larger branch. If the branch is 3 inches or larger in diameter a 3-cut procedure should be followed to avoid further damage to the tree (Fig. 2). The procedure is as follows. First, make an undercut 1 to 1-1/2 inches deep on the branch at a distance of about one foot from the trunk. Then, on the upper side of the branch some 2-3 inches beyond the undercut, cut down 1 to 2 inches. When the cut is about half-way through, the limb will break loose and fall. The remaining stub can then be cut off by sawing flush with the main stem. This procedure will reduce the likelihood of tearing bark on the main stem.

Other injuries which occur as a result of storms include tearing of the bark on the larger limbs or on the main trunk of the tree and the splitting or breaking away of forks and main branches. Torn bark should be carefully trimmed with a sharp knife to facilitate healing. Care must be taken to cut only the bark and

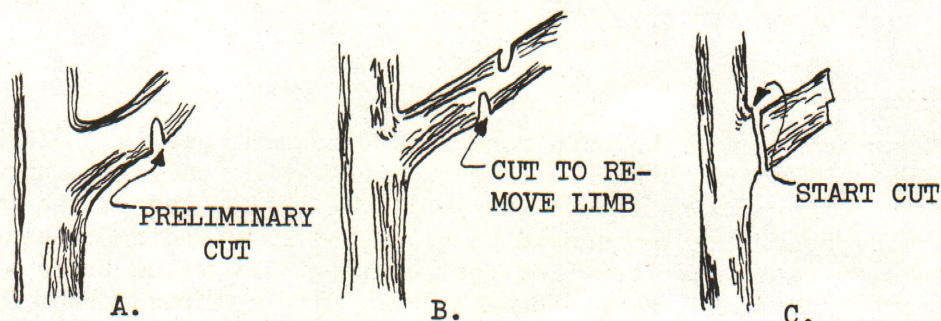


Figure 2. All branches larger than 3 inches in diameter should be removed in a 3-cut process.

not to cut too deeply into the wood of the tree. This cutting of the bark is referred to as a bark tracing. All bark wounds should be shaped so a pointed area is present at the top and bottom of the wound (Fig. 3). Shaping the bark in this manner will encourage much faster healing.

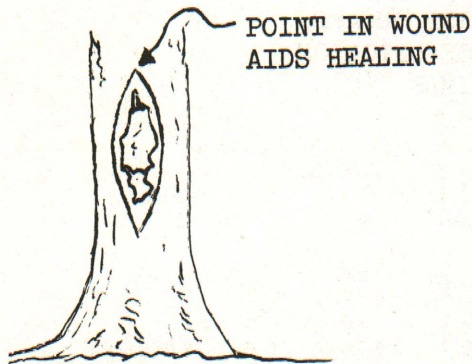


Figure 3. Shaping bark wound to form football shaped area will promote rapid healing.

to compensate for the loss of other branches. While the overall size of the tree will usually be reduced, a symmetrical appearance can often be obtained.

After pruning is complete all wounds larger than 1-1/2 to 2 inches in diameter should be treated with a wound dressing. Commercial compounds are available. However, a coat of orange shellac applied to the cut followed by an application of pine tar or pruning paint will provide satisfactory results. Areas of torn bark where bark tracings have been made should also be treated.

WASTE DISPOSAL

Materials from fallen or salvaged trees can be used in several ways. The larger branches can be cut and used for firewood. Smaller branches and twigs can be added to the compost pile or cut up for kindling. Branches can be converted into chips for use as compost, ground cover or other landscape purposes if chipping equipment is available. In some areas landfills or other waste disposal facilities are available to local residents to dispose of this material.

Some forks and main branches that are split or broken can be pulled together and bolts and cables used to secure them (Fig. 4). This procedure is recommended only in certain cases where adequate tissue is present on both halves of the split crotch to justify the effort. This procedure will normally require the services of a professional tree service company.

Where the fork or main branch cannot be pulled together it should be removed (Fig. 5). If the break extends into the trunk the loose splintered wood should be removed and the wound shaped as above. Any grooves or depressions in the wound which might hold water should be removed.

Following the removal of all broken branches and stubs, and treatment of bark wounds, some additional pruning may be necessary to develop a balanced appearance and shape in the tree. Pruning should attempt

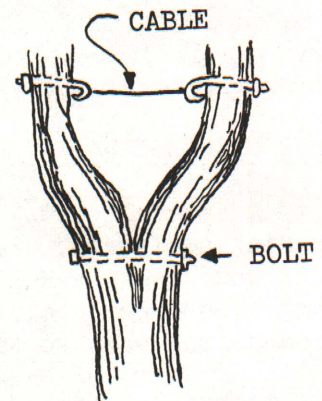


Figure 4. The use of restraining cables and bolts through the crotch can prevent further breakage.

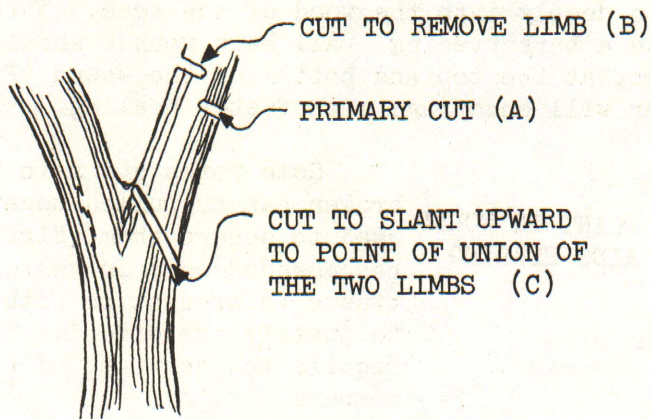


Figure 5. To avoid tearing the bark and wood, pruning to remove one branch of a crotch should follow a 3-cut procedure.

TREE REPLACEMENTS

Following recovery and clean-up of storm damaged trees many individuals may wish or need to make some new plantings. Several suggestions can be offered. Future maintenance problems may be reduced by planting the right kinds of trees. Make certain the tree is hardy for the area. It should also be determined that when mature it will not be too large for the location it is placed in. Species may be selected for their spring flowers, autumn color, or general overall appearance in addition to their ability to provide shade. Some recommended species for Michigan include white ash, lindens, various oaks including English oak, selections of honeylocust, Norway maple and many varieties of flowering crabs and cherries.

PRECAUTIONARY NOTE

A special word of caution should be made about working in trees and using pruning equipment. Be aware of the location of utility lines. Most pruning equipment is an excellent conductor. The use of power saws may be particularly dangerous when footing is unsure. At all times follow all special safety precautions when working in and around trees.

ADDITIONAL INFORMATION

Additional information on tree pruning can be found in Extension Bulletin 804. Information on species recommendations can be obtained from Extension Bulletin 710. These publications can be obtained from any county Extension office or the M.S.U. Bulletin Office.