

FROST CRACK

The Condition

Cracks and splits in tree trunks are fairly common and may occur for various reasons. Splits can occur on the trunk of the tree as well as on branches. Trees most susceptible to this type of injury are those which are thin-barked, newly planted (under 5 years in the ground), planted in open isolated winter sun exposed sites, installed in heavy or wet clay soils, suffered some minor trunk injury from weed whips or lawn mowers, been severely pruned of lower branches, been fertilized in late spring producing excessive new late season growth, suffered root damage due to improper watering (running lawn sprinklers too often), or were drought-stressed the previous season.

When growing under a lot of stress many trees, including sycamore, ornamental crabapple, ash, beech, tulip trees, all fruit trees (apples, peaches, pears and cherries), almost all varieties of maples (Norway, sugar, Red Sunset, and even Autumn Blaze) will crack.

One of the most common reasons for cracks and splits on tree trunks is cold temperature. These cracks are caused when the inner and outer wood in the tree's trunk expands and contracts at different rates when temperatures change. This happens when winter temperatures plummet below zero after a sunny period when the tree's trunk was warmed by unseasonably warm winter days. The different expansion rates between the inner and outer wood can cause such a strain on the trunk that a crack develops. Frost cracks often do not seriously hurt trees although they provide openings where certain disease organisms may enter, particularly if a tree may be growing in a stressed location. Many of these situations were addressed in the opening paragraph. For large, serious cracks a professional arborist can bolt the cracks shut with a technique called "lip bolting."



A frost crack can develop on any side of a tree, but the south or west are the most common. Frost cracks are ideal hiding places for insects such as carpenter ants or wood borers. These insects do inflict serious damage to a tree.

Wrapping trunks on newer trees with light colored paper tree wrap may help prevent cracking. Some homeowners who have trees in new developments where protection is minimal will "top" the paper tree wrap with one of the expandable plastic protectors that are almost always white in color to help reflect the winter sun's heat. Always remove the wrap by April 15th. Fertilize trees only after foliage has colored and/or dropped from the tree. Use either Fertilome's *Tree and Shrub Food* or *Milorganite*. Auger holes into the ground 8-10" deep and space 18" apart. This concept will deliver the fertilizer to the roots where it is stored until spring growth begins.

SUN SCALD

The Condition

Sun scald is another form of injury that can result in cracks and splits. It occurs in the winter usually on the south or west side of the trunks and branches. The damage takes place when the cells in the living tissue beneath the bark break dormancy on warm, sunny days and then rupture and die when night temperatures drop below freezing. The tree is injured when enough cells in a given area are killed. The following spring these dead areas will appear discolored and sunken. In time the bark killed by sun scald will split and peel. These areas also provide entry points for insects and diseases.

Young trees with a thin bark are the most susceptible to sun scald injury. The following trees may be subject to sun scald if they are planted in open areas where no sun protection during the winter months exists: honey locust, linden, maples such as sugar and red, beech, flowering crabs and all fruit trees. Trees growing in wet compacted soils are also vulnerable to sun scald. Trees that are fertilized in spring and have a sudden burst of new growth in the summer have tissue that is easily damaged.

To reduce or eliminate sun scald injury, wrap the trunks of the susceptible trees each fall with tree wrap paper. Do this each year in late fall (October) until the trees mentioned above develop some "character" or roughness to the bark. It is very necessary to remove the wrap each April 15th so that the trunk is not damaged by being too wet. It can also become a hiding place for damaging insects. Another way to protect trees with thin bark is to place plants nearby that will shade the south side of the trees trunk during the winter months.



A vigorous healthy tree can survive a sun scald injury if it is able to grow inner bark on the edges of the split. A sharp, sterilized knife (dipped in a 10% bleach solution or 70% alcohol for several minutes) could be used to remove loose bark from the split, which will speed up the healing process. The resulting bare patch on the trunk should be left untreated. Tree wound paints and tars do not help in wound healing, and should NOT be applied. Encourage good tree vigor with late fall applications (late October) of tree fertilizer, and provide adequate water in hot dry weather. Ensure that the tree is watered well in early December, before the ground freezes.

