# TREE CABLING AND BRACING

## by Robert Felix

Among the many services that the truly professional arborist has available for his clientele, cabling and bracing are the least appreciated until their need is demonstrated. After a storm, fallen trees, broken leaders and split crotches make tree owners very much aware of what might have been prevented had their trees been properly cabled or braced.

Is it the fault of the tree owner or the arborist? Many times a cabling and bracing job could have been provided as a preventative if the arborist had taken the time to diagnose the need and make the proper presentation to the tree owner.

Color photos of storm ravaged trees provide a good basis, not as a scare technique but as an illustration of what can happen. Diagrams illustrating how a Vee-shaped crotch becomes weaker as a tree grows are also helpful.

The use of threaded rods to add support to cavities or other weak structures is also well illustrated with photos.

Although preventative cabling and bracing is important, remedial treatment can be a valuable service available from the true professional. Needless to say many trees are critical to a particular landscape. If they are damaged in a storm it is imperative that every attempt be made to restore them.

Several years ago in early summer a tornado-like wind storm swept through a golf course in the northeast. An eastern red oak that had been guarding a green was badly twisted resulting in a three-inch opening in at the base of a vee crotch tapering down for about four feet. The top of the tree was somewhat broken but most of it remained intact. The tree was about 18 inches in diameter.

Without this tree the golf hole would be a simple drive and a wedge shot to the green. However the tree was positioned about 220 yards from the tee at the apex of a slight dog leg to the right. The spread of the tree was about forty feet providing an interesting hazard that made the hole a good par four.

If there was any possibility of saving this tree the golf club management was interested. There was no way that they wanted to lose this tree or attempt to replace it. A professional arborist was called in immediately and remedial steps were undertaken.

First a rope sling was installed about two thirds of the way up the tree between the two major leaders. A come-along was then attached and the two leaders slowly pulled together. When the leaders were pulled as tightly as possible, a ⅝-inch hole was drilled into the trunk every 12 inches from the base of the crack on up. Then a ⅝-inch wood screw rod was installed and firmly anchored on each end with large washers and nuts which were countersunk.

As the nuts were gradually tightened the fissure began to close at which point additional pressure was exerted with the come-along. This process was repeated until such time as the fissure was entirely closed. A 5/16 cable was then installed where the rope sling and come-along were attached to the two leaders. This cable was attached to ⅝-inch by 12-inch drop forged eye bolts which had been installed. These eye bolts were firmly anchored with washers and nuts which had also been countersunk. The cable was seven strand, soft lay, galvanized cable that was spliced through 5/16 thimbles running through the eyes of the eye bolts. No turnbuckle was used. The standard, two turn splice method was used.

As tension was exerted on the cable, the nuts at the ends of the threaded rods were tightened until all could be tightened no further. At this point an additional threaded rod was installed for added support about six inches above the crotch. However, the method of installation was entirely different. Although the same ⅝-inch threaded rod was used, the hole drilled was only 9/16-inch and did not protrude through the opposite leader. The rod was dead ended. The length that rod had to be was then determined by using a lesser diameter rod and the threaded rod to be inserted was cut ¾ of the way through so that it could be broken off inside the hole and the cambium could readily grow over it.

One end of the threaded rod was then inserted in the chuck of a low speed, ¾-inch drilled and threaded into the hole with the protruding threads locking into the sides of the smaller diameter hole. The scars resulting from the split were then backtraced and treated, the tree cut back, fed and nature left to take its course.

The tree recovered beautifully and is still thriving. Had a cable been installed previously perhaps the extensive damage might not have occurred.

Several years ago the National Arborist Association developed standards for bracing, cabling and guying shade trees. The purpose was to establish the classes and types of bracing cabling and guying used in the maintenance and repair of shade trees. These standards are available from the National Arborist Association, 3537 Stratford Road, Wantagh, New York 11793 for $1.25 each.

The situation and remedy described above illustrate the highly complex repair jobs that can be done using cabling and bracing techniques. Surely even more extensive repair jobs have been successfully completed.

When diagnosing a tree care situation keep cabling in mind. It is an important service as a preventative as well as a remedy. □

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