

# INSTALLING A TENON CORK

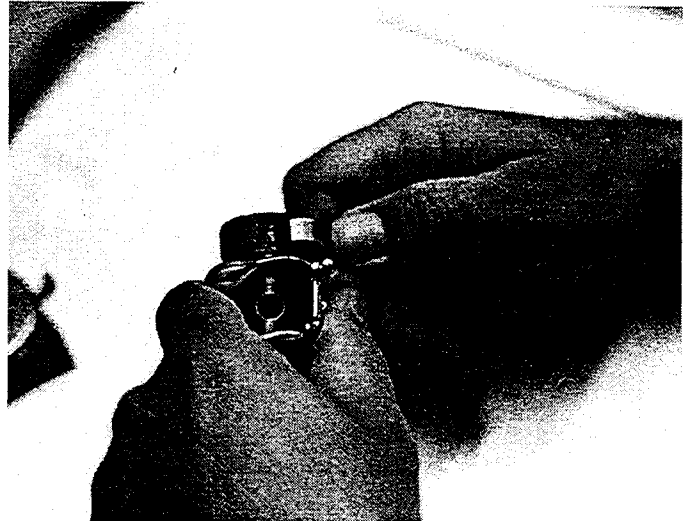
by Lars Kimser

## CORK

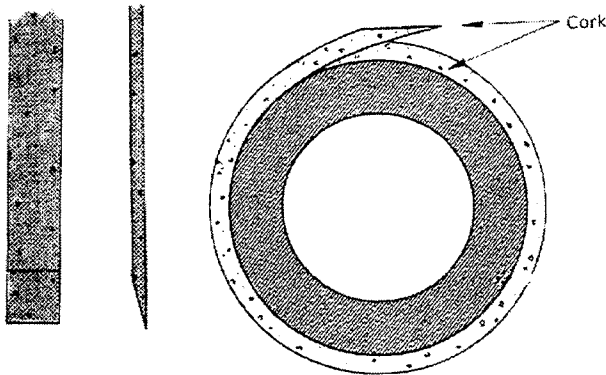
Cork is the spongy outer bark of the cork oak tree, which grows principally in Spain, Portugal and Northern Africa. It is of a cellular structure, each cell comprising a strong, unpenetrable pithy skin, enclosing air. The uses of natural cork are limited by the variability of the raw material, by structural flaws and by the irregularity in size, thickness and shape. These limitations have been overcome by some manufacturers who have developed a material of greater uniformity and structural strength. This material is generally referred to as *composition cork*. Composition cork is finely ground cork, combined with various binders to form materials having nearly all the desirable qualities of natural cork. This type of cork is usually less expensive and sometimes makes an acceptable substitute for many uses in the instrument repair shop. Because of the great demand for good quality natural cork, manufacturers are constantly trying to develop synthetic materials with those same qualities found in natural cork, yet more easily available and less expensive.

## INSTALLATION SEQUENCE

1. Remove all keys or parts of the key mechanism that may conflict with the recorking operation.
2. Carefully remove all traces of the worn cork and old shellac or contact cement from the tenon.
  - A wide tenon scraper works well for this.
  - Care must be taken so as not to damage the tenon itself (such as chipping the narrow rail portion of the tenon).
  - Thoroughly clean the tenon with an appropriate solvent (on a clean, soft cloth) to remove any remaining grease or residue (avoid using alcohol on plastic bodies).
3. Select a sheet of cork of the proper thickness.
  - 1/16" (.0625") is usually the correct thickness to use in most situations, however, the prescribed thickness may vary depending upon the age and model of a specific instrument.
  - Natural cork is preferred. However, composition cork or synthetic cork may be adequate in some situations. Composition cork will tend to render a harder and less flexible tenon than natural cork; synthetic cork works particularly well on student clarinets where the younger player lacks the strength necessary to assemble a firm cork tenon.
4. Cut a strip of cork the exact width of the tenon groove and slightly longer than its circumference.
  - The exact width can be easily determined by carefully measuring the groove with a steel rule and cutting the cork accordingly. Allow for an extra inch or so in the length of the strip.
  - When using expensive cork sheets ALWAYS cut the cork strip along the short length of the sheet.
5. Cut a 30 degree bevel on one end of the cork strip.
  - Use a single edged razor blade and/or a piece of #220 sandpaper to achieve a smooth, even 30 degree bevel.
  - This bevel eliminates the possibility of getting a radical bump when the cork strip overlaps itself.
6. Compress the cork strip firmly between two pieces of masonite in the large bench vise to reduce its chances of splitting when wrapped around the tenon.
  - This step compresses the "pithy" cells of the cork structure together to help eliminate some of its brittle tendencies. Repair technicians fondly refer to this step as squeezing the "pith" out of the cork.
7. Apply an even coat of contact cement to one side of the cork as well as to the top of the prepared bevel; allow the adhesive to dry thoroughly (until it is only slightly tacky to the touch).



*Removing the old tenon cork with a wide scraper*

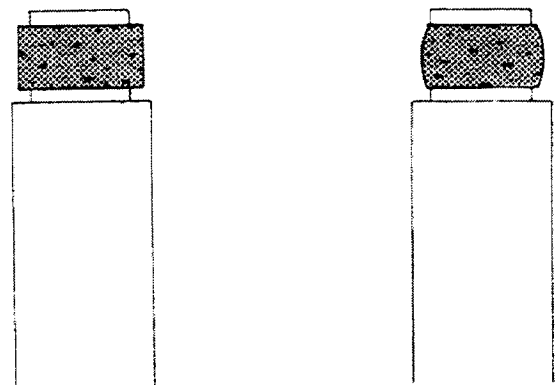


Beveled cork strip before and after it is overlapped

8. Apply an even coat of contact cement to the tenon cork groove and allow it to dry thoroughly as well.
9. Affix the cork strip (bevel side up) to the backside of the tenon, and, while exerting a firm pressure, wrap the strip around the tenon, overlapping the bevel. Avoid touching the adhesive on the bevel.
10. Trim off the extra cork and 'feather' the overlapped seam.
  - Sand the cork to the desired shape and size with #150 3M 'Fabricut' mesh emery cloth. Care must be taken not to remove too much cork too quickly, or to leave cut lines on the cork surface.
  - Check the fit periodically as you sand the tenon cork down. Always use cork grease when fully assembling the tenon into its corresponding socket. However, if you are required to continue sanding the tenon, wipe the cork grease from the cork before resuming the sanding process.
  - A newly corked tenon should fit snugly into its corresponding socket with an absence of 'wobble'. The relative tightness of the tenon may have to be reduced when the instrument will be utilized by a youngster.



Shaping the tenon cork with 'Fabricut' on the bench peg



Before shaping

After shaping



Trimming the extra cork

11. Lubricate the new tenon cork with cork grease
  - Prior to putting the final application of cork grease on, wipe the tenon completely clean with alcohol (on a soft cloth) to remove all cork dust and dirt that may have accumulated in the course of recorking the tenon.

**NOTE:** Because of the superiority of contact cements, no mention was made of the method whereby shellac is used to affix the cork to the tenon. Not only is the shellac method more time consuming, it is also less effective.