Installing Desktop Leather

by John Coffey

In my restoration trade on Long Island, N.Y., I have found that the deterioration of desktop leather often makes restoration of that surface impossible and replacement of the leather becomes necessary. I had previously sent them to leather studios to have the work done. Unfortunately, there are only a handful of leather studios and most of them in New York City. The time it took to bring in a desk or desk top made the whole job expensive and time consuming. One of my regular antique dealers decided to buy some tooling and leather and set me up to do his tops. Ever since, I have been installing leather on desks, tables and library steps. The dealer is very happy as his costs are lower and there is no expense in bringing the tops into New York and waiting for them to be done.

At first I figured 'How hard could this be?' I soon found out. Laying the leather is the easy part. Getting perfect tooling would be elusive. Below is the procedure which I have developed, borrowing from other leather studios where I could, using bookbinding techniques and inventing as I needed.

Removal and reinstallation of leather is not difficult. It is the tooling which requires a certain touch and is acquired only after a number of tops have been completed. I still find putting down the gold tooling most nerve wracking as your concentration must be perfect, you have to hold the tool straight with plenty of pressure and roll it in a straight line. A lot to keep track of at the same time!

Leather comes from many different sources: cow, calf, goat, each source having a certain look. These leathers can be finished in a variety of ways and colors. The leather also comes in various thicknesses or weights and for many different purposes. It may be stiff or quite flexible. The restorer must find a source who will supply leather suitable for desktops. Upholstery leather can be suitable if thin enough. Two to three ounce leather is very thin (2/64"-3/64") and is appropriate for replacement purposes. Though most old leathers were finished with shellac and probably waxed, today the leather is often stamped with a texture and finished with a vinyl or other special, flexible lacquers. Most leather today is waterproof. Color choice will also be a prime consideration in choosing a line of leather. Many different shades of green should be sought as green leather compliments the natural wood tones they are to accompany. Black, burgundy, red and blue are also common colors found on antiques. An important criterion in choosing leather is the antiquing done during the finishing stage. Leather is often manufactured to have a consistent color and grain and this usually works against the aesthetic of old things. In fact some studios finish the leather themselves to customize the color to the top, showing signs of wear toward the middle and darkening toward the perimeter. If you are so inclined this can be done with aniline dyes, dry pigment mixed with shellac, and dark oil glazes.

When storing the leather it should not be allowed to be bent when rolled as this will place a line of wrinkles

in the leather that will run through the middle of the entire hide and may be difficult if not impossible to remove. The leather should be rolled on a cardboard tube with the finished side out to keep the finished surface stretched slightly and stored on a shelf, protected from accidents.

The tools used for applying the ornament are special rolls approximately four inches in diameter with a repeated pattern engraved on the edge. These patterns come in a great variety of sizes as well as motifs. However, only two or three of the patterns will be used at any one time. These rolls are bought from specialized manufacturers for the book binding trade. Initially the restorer needs one tool , 1/4" - 3/8" wide, for the edge, a few wider tools for the gold line, and a narrow tool for extra lines and partitioning the top. A few types of corner tools will round out the basic tooling needed. The restorer will want to expand his/her tooling to provide a wider variety of tooling to the client.

The gold comes as a ribbon in rolls of varying widths to accommodate the width of the tool. They come in various shades of gold, the best being 24 karat gold. The rolls are made of mylar with a layer of gold and a thermoset adhesive. The heat of the tool transfers the adhesive and gold to the top making an impression at the same time. A list of suppliers appears in the appendices. There are other ways to apply the gold as well. The impression can be made first and then a glare is used as an adhesive, brushed in the impression and then gold rolled into the impression with the tool. This is much more time consuming than with the ribbon gold.

The Process

The first step in re-leathering a top is to remove the old leather. Often it is accomplished by simply pulling up an edge and ripping it off. Stubborn leather may need to be sanded lightly to remove the finish and then wetted and allowed to stand for an hour or so until the glue has softened. This is rarely necessary. Finish cleaning up the wood ground by alternately wetting and scraping off the glue. This glue will likely be hide glue or wheat paste and will come off easily. Sometimes white glue has been used and this will require more effort. Allow the top to dry for 24 hours so that the top may recover its shape.

Usually there are cracks, dents and other defects which will need to be filled. Tops with breadboard ends will invariably have shrinkage cracks. A crack tool is used to remove old glue and form a shape where a tapered shim can be glued in. This tool is easily made by bending an old file tang and shaping it to form a long wedge. The tang should then be fire hardened and sharpened. A number of them can be made for various sized shims. The cracks should be shimmed using the same specie as the ground and glued in place. Difficult fits will benefit from using epoxy glue to fill any gaps that may be there. Hide or PVA glue will suffice for good fits. These shims are leveled and the rest of the ground is prepared with putty where voids may exist. Be sure to examine this surface carefully as this is the surface the leather will be glued onto and will show all faults in the ground. Any vinyl or spackle type putty is adequate.

Once all voids have been filled and the surface is smooth and free of defects, the surface should be sized with thin shellac. This will keep the glue from being soaked up into the ground and will allow easier removal of the leather in the future. It will also prevent the top from absorbing too much moisture and warping the top. The size should not form a gloss on the surface. Once the top has been sealed, take a knife and go around the perimeter of the top to make a groove for the knife to follow when the leather is being cut. This will facilitate getting a straight and accurate cut. The surface is ready for the leather.

Cut out of a hide enough leather so that there is at least an inch or two border around the top. Especially small hides or larger tops will require that the leather is pieced. The seam is best placed in an area next to or over tooling. A top can be partitioned with a small blind tool (no gold) to aid in disguising the seam. Again, cut out enough to overlap. Clean the top of <u>all</u> debris. Flip the hide and clean the underneath surface of the leather of all particles as well. Once the leather is glued down you don’t want to have to pull it up to get to a piece of wood

sticking up! Be careful with the leather so that the surface does not get wrinkles as they will be difficult to remove. If there are wrinkles in the leather try ironing them out with a hot iron. Test the iron on a scrap of leather to make sure it is not too hot where it will burn or mark the finish or curl the leather.

Before laying down the leather make sure the work area is set up well. A low, raking light will help to illuminate any air bubbles or debris caught underneath the leather. Mix up your glue. White glue thinned a little will work well (no more than 1/3 water). Wheat paste is a traditional adheasive though some restorers add a little white glue to make it stickier. Clean the ground of all debris using a whisk broom and be thorough. Using a large brush, spread the glue quickly over the entire surface. Unroll the leather and lay it on the surface. If the leather is flexible upholstery leather then it can be stretched at this point to remove wrinkles and provide tension on the top of the leather. Stretch the long way across the middle and clamp to hold it in place if need be.

Pull the leather tightly, perpendicular to the stretch and pull the wrinkles out working from the middle to the corners. Use a soft brush to push the leather down and work out the puckers and air bubbles. Do not use heavy pressure on the leather as this will squeegee out too much glue and starve the area. If the leather had to be pieced, lay two pieces down. You won't be able to stretch the leather as much. Using a straight edge, place it where the seam will be and cut through both thicknesses of leather at once. Remove the top waste and carefully peal back the bottom layer and remove the waste there. If the glue has dried too much add a little thin glue to the area and relay that which was pealed back. Do this for each piece.

Examine the top under a raking light and look for air bubbles or debris. If debris is found and it is not too far from an edge and the glue is still wet then you can pick up the edge and remove the offending particle. Otherwise it can be compressed with the head of a hammer latter. Once you are satisfied that the leather is laid properly go over the whole top with a 3" roller.

Use your fingernail and feel for the inside edge of the top where the leather will be trimmed and making a strong impression, trace it around the perimeter. Using scissors cut into the corner.Put a new blade into a craft knife or sheetrock knife and find the groove made earlier. Holding the waste end of the leather in one hand, trim along the perimeter following in the groove at the edge of the wood border. Don't throw this waste away. It can be used to test the heat of your tool to see if it leaves a good impression and give a little practice before working on the top. Clean glue off the border and any that may have gotten on the leather using water and a sponge. Dry with paper towels. The top should have no residue left on it. Allow the top to dry for a few hours before tooling. Often I press down the edge using a narrow tool to make sure the leather is below the level of the border.This can be done with a cold tool.

Keeping an eye that your in the groove!

The choice of tooling is an artistic decision. The only practical limitation will be how to deal with the corner next to the edge. It will be impossible to make a good impression here. This is why often the edge is tooled with a narrow blind tool and the gold is a bit out from this. But if a suitable corner tool is accessible, a neat corner can be made in gold. Look at other leather jobs and see what works as nice combinations of tools and how they were positioned.

Some of the tooling comes with a heat source integrated into the handle. Though the initial heating takes a bit longer than with an electric hot plate, it works very well and eliminates reheating the tool. Otherwise modify a simple hot plate with an aluminum block approximately 1/2" thick with a cut-out in it to accommodate the yoke on the tool so that the brass roll will lay flat on the block. Heat the tool under medium heat. The tool is hot enough if it sizzles when *quickly* touched with a wetted finger. Don't burn yourself!

Place the top on a work bench or on trestles. Because the tooling requires heavy pressure to make a good impression, the top needs plenty of support under it to keep it from bending. The tooling on the edge is the first line to be made. If without gold, roll with heavy pressure and with the tool straight up so that the impression is even. Don't tool directly against the border but out a 1/16" or so. It will look better and will disguise any miscuts made when trimming the leather. Sometimes a gentle back and forward motion aids in making a deep impression. Alternating left and right over the same area insures that impression is good on both sides. Narrow tools 3/8" or less won't require this little wiggle left and right. You will not get all the way into the corner but it will not matter. Only a small area will have no impression. If using gold however, this will be noticeable and some other technique will have to be employed to tool this area. A piece of brass with a shape to it can be heated and used to imitate the tooling.

Pressing in the edge.

Once the edge has been tooled the top must be laid out for the next line, usually gold. This is the most difficult part of the whole job. The line of tooling must be straight and the impression must be made on both sides of the tool. Since most gold lines use a wide tool, keeping it in contact on both sides is difficult. Although there are repair techniques, you only get one good shot at this impression. Lay out the next line with a chalk line. Do the whole perimeter. The layout lines on round tops will need to be done with a compass and a piece of chalk shaved to fit. This line will be the outside guide for the gold ribbon and the tooling will be in the center of this ribbon. Your layout should take these measurements into account.

Because the tools are made by hand and each repeat of the motif may be slightly different from the next and because you may need to go over an area where the gold did not transfer, the tools should be marked to facilitate getting the same part of the tool on the impression. Make a pencil mark on the tool on a place where a raised part of the engraving is on the edge. I have marked most of the larger tools, numbering the motifs.

Tool with registration marks. Note aluminum heat sink.

Heat the tool so it sizzles and test it by rolling the gold on a scrap. Pull off the mylar carrier and check to see that the gold or mylar is not burned (too hot). If the gold does not leave a full impression it may need more heating. Practice on scraps moving the tool back-and-forth and side-to-side while following a straight chalk line until you achieve a technique that works consistently. It is most difficult to get a good, straight impression.

Cut the end of a gold ribbon as to miter it and place it on the corner where you will start the gold tooling. Register the tool on that spot by deciding how you want the miter to look and adjusting what part of the tool will begin the line. Use the pencil mark on the tool so you know what part of the tool was used to start the line. Place the tool on the ribbon near the corner but don't worry if it isn't exactly there. You can back up the tool. Hold the gold with one hand while holding the handle pressed down on your shoulder with the other hand. Press down on the tool and roll it back and then forward. Keep the handle straight up rolling the gold with a back and forth motion. Wide tools are difficult to get an impression on both sides unless the tool is absolutely straight. Sometimes backing up the tool and alternately pressing on one side then the other will help in getting a full-width impression. Roll straight until you get close to the other layout line. When you get to one width of the gold to the next layout line, lean the tool so that only the outside of the tool will make an impression. This will allow you to go back and make a neat miter on this corner. Alternately, you could place a piece of mylar across the miter protecting the other side. Once that line has been rolled, pull off the mylar carrier and check your work. Return the tool to the hot plate for a minutes before you roll the next side.

Rolling the gold, start and finish. This is intense!

The engravings on some tools are symmetrical and will let you make a neat miter that forms an attractive pattern. Though only the first miter can be planned, the rest of the corners will still look better if you try to preserve the symmetry at the miters.To do this you must register the tool so that the beginning looks the same as the end of the line you just rolled. This will make a mirror image (with the imaginary mirror on the miter). Check where the pencil mark on the tool is so you know where you have started. Again miter the gold ribbon and start to roll the gold.

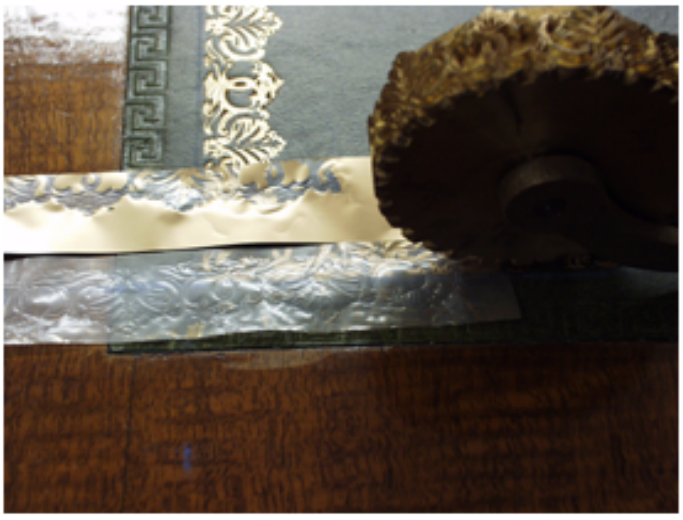
Marking for laying out the miter.

Note the failed impression. This will be fixed later.

When you have rolled the entire perimeter you will see that the miters are incomplete and there will be areas where the tool was not straight and an impression was not made. Place a small piece of ribbon only where you wish to make an impression, put a piece of cleaned mylar (no gold or adhesive) where you don't want the tool to burn the gold and, registering the tool on the impression, roll over the gold. Do this on any area where the gold failed to print.

Failed impression.

Setting up the repair with the gold foil and mask.



Rolling the repair.

Completed repair. Note the bridging of the gold.

Successive lines of tooling can be made using various tools and patterns. Only your imagination is the limit. However, each period of furniture would have patterns and motifs peculiar to them. Victorian pieces might be very elaborate in tooling, whereas earlier pieces might be more understated.

There will be areas where the gold is very shinny and where normally it is supposed to be the leather showing through. The gold has bridged over an impression and is slightly stuck. Sometimes this looks very nice when it is evenly done. But normally it is removed by rubbing the entire gold line using oil and rottenstone on a piece of linen. Paper towel the oil off the surface.

Once the leather has been tooled, the blind impressions need to be accented or antiqued. This is done by mixing some dark, dry pigment with damar varnish. Black with raw umber work well for this. Make the mixture dark enough to be fairly opaque and brush this mixture into the tooling. Let it dry for a half hour or so and wipe off all the excess with a white cloth dampened with mineral spirit. This will take time. Make sure that the leather around the tooling is perfectly clean. The white cloth will show you whether you have cleaned it all off. Another layer of clear damar may be applied to the antiqued tooling to give the color a little gloss. This too needs to be wiped off the leather perfectly. The gold tooling may be antiqued in the same way though a less opaque layer of colored damar is used.

Basically the job is done except for any final finish you may wish to apply to the leather. What you can use as a polish will depend on the type of finish used in the manufacturing process. Wax will almost always work. A light French polish can also work though you must be careful as some finishes are soluble in alcohol and you will remove the color if not careful. Consult with the manufacturer for advise on finishing the leather. Experiment on a piece of scrap. You'll have plenty once you start doing tops regularly. I try not to put anything on the surface if it can be helped.

The tooled leather top is the first visual impression a desk makes. If complimentary colors are used, the wood tones will be enhanced. If similar colors such as red or brown are used, the wood tones will appear less red, more green. The next time you see a desk check out the colors and the tooling and patterns used. They may give you ideas for the next job. Subdividing the top, adding extra lines or inside and outside corners can greatly add to the complexity and formality of a given piece. Let your imagination and aesthetic guide you.

Finished top, gold rubbed and glaze in blind tooling

Sources for Leather and Tooling:

Leather:

Freebridge Leathers (previously Spectrum Leather), 17 Bannard St. Bldg. 10, Freehold, NJ 07728. Tel. (723) 625-0930.

Froelich Leather Craft (tooled and untooled leather), 63-20 Austin St., Rego Park, NY 11374. Tel. (718) 897-7000. catalog available.

Tandy Leather (leather, dyes and finishes),

Tooling suppliers: These companies cater mostly to the bookbinding trade. In fact books on bookbinding are a great source for how-to info.

Ernest Schaefer Inc., 721 Lehigh Ave., Clinton, NJ 07083, (908) 964-1280 (brass rolls, gold mylar.)

J. Hewit & Sons Ltd.(leather, brass rolls and hand tools), Unit 28, Park Royal Metro Centre, Britannia Way, off Coronation Rd., Park Royal, London NW 19 7PR. London Tel. 0181-965-5377, in Scotland: Kinauld Leather Works, Currie, Edinurgh EH14 5RS. Tel. 0131-449-2206.

Reference

Young, Laura S., *Bookbinding & Conservation by Hand*, Oak Knoll Press, 1995, New Castle, Delaware, ISBN#: 1-884718-11-6 (pbk), or -10-8 (cased)