

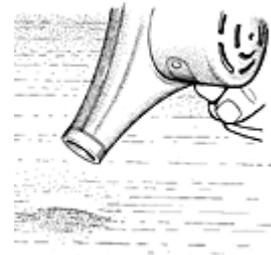


Repair Furniture Surfaces: Veneer

Furniture and cabinetmakers often apply a very thin layer of hardwood (veneer) over a less-expensive base material. On occasion, the glue bonding the veneer to the substrate can fail, causing it to delaminate at the edge or bubble (blister) in the interior; or the veneer can be damaged enough to require a patch. You can usually make these repairs yourself. Purchase wood veneer at craft stores and through woodworking mail-order catalogs. (We recommend that you have a particularly valuable piece repaired by an experienced professional.) Here are the basics for repairing damaged veneer.

Materials Needed:

- Very thin, sharp blade
 - Block of wood and weight
 - Flat metal ruler or other straightedge
 - Thin paper (tracing paper)
 - Hair dryer or household iron
 - # 2 lead pencil
 - Brown paper bags or Kraft paper
 - Matching veneer
 - Veneer roller or wallpaper seam roller
 - Cutting board
 - Matte knife or very sharp wood chisel
 - 120- and 220-grit sandpaper
 - Artist's palette knife
 - C clamps
 - Yellow carpenter's glue
 - Stain and finish with appropriate applicators and solvents
 - Wax paper
 - Artist's paintbrush and oil paints (optional)
- **Tip:** This project requires that you make very sharp cuts into veneer, but even the sharpest matte knife or single-edge razor can damage it. For best results use a scalpel (available by special order from pharmacies) or a double-edge razor blade, which is thinner and sharper than a single-edge razor. To stiffen the blade and cover the unused edge, sandwich and glue the blade between two small, thin pieces of wood or wrap all but one edge of the blade with numerous layers of tape.



To Fix a Veneer Blister or Bubble

1. Try to Reactivate the Glue: If the furniture is old, the glue may be reactivated with heat. To do this, use a very sharp, thin blade to cut a straight slit through the veneer in the direction of the grain from one edge of the bubble to the other. Then heat the surface with a hair dryer, or place several layers of brown Kraft paper (paper bags) over the area and use a household iron. When the glue is softened, immediately roll the area with a veneer roller or wallpaper seam roller.

Tip: To avoid overheating and softening nearby well-adhered areas, heat a little at a time and press-and-release the veneer to test whether the glue has become tacky.

2. Reglue the Veneer: If heat doesn't work (and it won't on modern glues), use a very sharp, thin blade to slit an elongated X through the veneer as much in line with the grain as possible. Then scrape as much old glue as possible off the substrate and the back of the veneer using a

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matte knife or very sharp wood chisel. Use an artist's pallet knife or similar tool to apply yellow wood glue between the veneer and the substrate. Roll the surface with a veneer roller or a wallpaper seam roller. Wipe off excess glue with a damp cloth. Cover the area with wax paper, a block of wood, and a heavy weight for at least one hour.

- **Tip:** These same two steps can be used to rebond veneer that has delaminated at an edge, except that it is not necessary to slit the veneer.

To Patch Damaged Veneer

1. Cut out the Damaged Veneer: Use a matte knife (with a brand-new blade) guided by a metal ruler to make an elongated diamond-shape cutout in the veneer around the damaged area. The patch will blend with the grain and figure of the wood better if you avoid making cuts across the grain, so cut so that the long points of the diamond are in line with the direction of the grain.

2. Remove Veneer and Old Glue: Remove the veneer inside the scored diamond using a matte knife and/or a very sharp wood chisel, beveled side facing down. Scrape off all the old glue to the bare wood.

3. Trace the Patch: Lay a piece of tracing paper over the cutout and lightly rub the perimeter with the side of a soft pencil. Tape a piece of matching wood veneer to a cutting board and tape the tracing paper over the veneer.

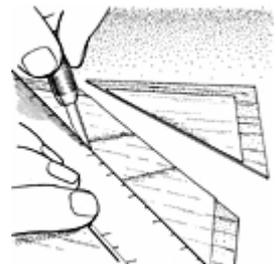
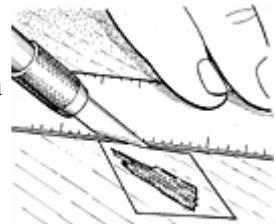
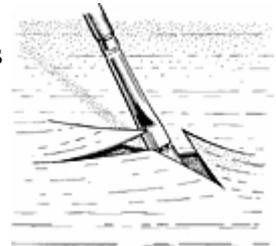
- **Tip:** Compare and match as closely as possible the wood grain and figure of the area to be patched with that of the veneer patch.

4. Cut the Patch: Use a very sharp, thin blade (such as a matte knife) guided by a metal ruler to simultaneously cut through the paper and replacement veneer. Test the fit and, if necessary, carefully reduce the edges by sanding *with the grain* against fine sandpaper on a hard, flat surface. Be very careful. The veneer will be delicate, especially at the points.

5. Install the Patch: Brush a thin coat of yellow wood glue on both the surface of the substrate and the backside of the veneer patch. Press the veneer in place with a roller and cover it with a piece of wax paper. Lay a block of wood over the wax paper and apply a C clamp or a heavy weight for about an hour.

6. Sand and Finish: Sand the patch until it is perfectly level with the surrounding area and apply stain and finish to match the existing surface.

- **Tip:** To make the patch even less evident, use an artist's brush and oil paints or permanent markers to extend grain lines from the surrounding area into the patch (or vice versa) before applying a finish.



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Old Furniture Masters

The old furniture masters all used the thinly sliced wood to add the natural beauty to their already fantastically crafted furniture. You probably would never find a Duncan Phyfe cabinet or table that wasn't veneered. Duncan Phyfe preferred to work with Mahogany. He would make a furniture piece out of solid Mahogany, then veneer it with Mahogany. He preferred the rich beauty and natural art that isn't available in solid wood. Many other well known furniture makers did the same thing, making furniture from a particular type of wood, then veneering with the same type.

Lots of other furniture makers used whatever kind of wood was locally available to hold down cost, then veneered for the prettier appearance. It's impossible to find the delicate swirls, sprays and rays in solid wood that you will find in veneer.

A table that has a top with a repeat design or a design with a mirror image beside it is without a doubt veneer. The mirror image is from slicing wood thinly then opening it like a book.

The thin wood overlay is fragile in it's natural state, because it's generally only 1/64 inch thick, but when it's properly glued to another surface it becomes a part of that surface and has considerable strength. You have to be careful when sanding, because it is so thin you can sand right through it, but it doesn't take much sanding to smooth it, because it is sliced with an extremely sharp knife.

Lumber manufacturers have taken pity on us and have made a product that is so easy to use that even the die hard furniture purists use it.

Veneering used to be only for the master craftsman and the stout of heart, but now modern technology has made it simple for even the most timid. They've glued a thin sheet of paper to the back to keep the thin wood from being unruly, making it possible to cut very evenly so that edges may be joined easily, then they put some very sticky glue on the paper and a protective sheet over the glue, so all you do is pull the protective sheet loose along an edge for a short distance, position the edge and carefully press it to hold it in place and remove the rest of the protective sheet.

Working from the center toward the outer edges with a roller or blade press the veneer tightly to the surface, then finish as you would any wood.

Repair Damaged Veneer

Problem: Many antiques are covered in a layer of wood called a veneer, but the beauty and value of these antiques can be reduced by damage to the wood veneer.

Solution: Damaged areas can sometimes be repaired, restoring the beauty and value of the furniture.

Cut out the damaged area with a utility knife.

1. Gently cut out the damaged veneer along the natural grain as much as possible.
2. Try to form a simple shape to replace, such as a triangle.

Make a template of the damaged area.

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1. Make a template of this shape by placing a piece of paper over the area and rubbing lightly with a pencil until the outline is visible on the paper. **(figure B)**
2. Cut out the template **(figure C)** to match the damaged area as closely as possible. Put the triangle piece in place to confirm match then trim as necessary. **(figure D)**

Make a replacement piece of veneer.

1. Transfer this shape to a new piece of veneer and cut it out.
2. Try to find a piece of veneer with the same grain and texture.
3. Sheets of veneer are available from woodworkers' catalogs or specialty stores.

Install the new piece of veneer.

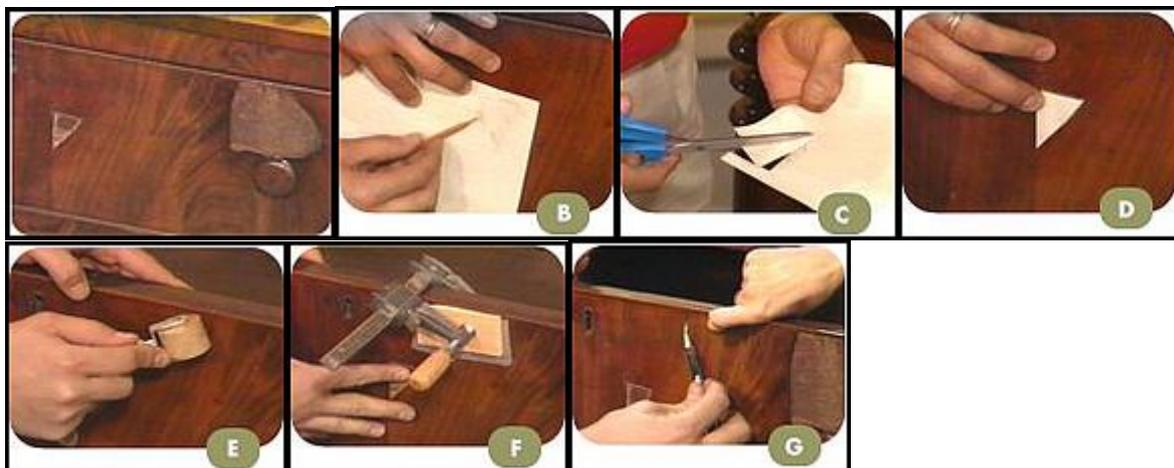
1. Swab a little glue onto the damaged area and onto the back of the new veneer.
2. Press the new veneer into place.
3. Roll the edge of the piece with a seem roller to press into place. **(figure E)**
4. Gently clean off the excess glue with a damp rag.
5. If possible, clamp it in place or weigh it down, using a piece of wax paper between the veneer and the clamp to prevent sticking. **(figure F)**
6. If the new veneer happens to be thicker, gently sand it down later.

Procedure for Repairing Buckling or Warped Pieces of Veneer

1. Cut or slit the warped area with a utility knife.
2. Apply a small amount of glue to a knife blade and work underneath the veneer. **(figure G)**
3. Press the veneer down, and clean off the excess with a damp rag.
4. If possible, clamp into place or weigh down while the glue dries.
5. Again, use a piece of wax paper between the veneer and the clamp.

The beauty value of antiques and can be reduced by damage to the wood veneer.

While the above repairs can work on small areas, larger areas or areas with more extensive damage are best repaired by professionals.



Another description of repairing veneer

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There is no easy way to go about this. Find a quiet and comfortable desk with very good light. Secure your veneer, a cutting surface (breadboard, cardboard, etc.), x-acto knife (I like the little disposable knives with the “breakoff” blades), metal straightedge, reading glasses and a high intensity light. Use your old wood as a pattern for large pieces. Study your new veneer carefully and choose sections that closely match the grain pattern, colour and direction of the old piece. Cut the new veneer carefully with fresh razor blades making multiple light passes until it separates. Cutting slightly oversized pieces is preferable as it allows for slight misalignment errors when gluing. Trimming of excess material is easily done once the glue has dried. Make damn sure you are satisfied with your new veneer pieces after you cut them. Place them over the old wood, step back and critically evaluate how well they are aligned. If you are not happy, cut another. Once you glue these down, you are committed, so now is the time to make sure you like what you see.

Finding the right glue was a concern. Eventually, I decided to go with “Weldwood” contact cement (alternative veneer glues are listed in the “materials” section above). The label directions seemed reassuring, and the other recommended glues were simply not to be found.

Contact cement is thinly applied to both the substrate wood and the veneer with a cheap disposable brush. Be mindful that the application and curing should be done in a moderate ambient temperature. Don’t let your wood sit out in your cold garage before you begin. Both pieces must be absolutely clean and free of dust. After waiting about 10 minutes, the glue is slightly tacky and has a glazed appearance. Don’t be fooled: When these two pieces meet up, they will stick like gangbusters. Next comes the moment of truth. You get one and only one shot at this: carefully align the veneer over the backing wood and when you are sure everything lines up properly, join the pieces. Lay a piece or two of writing paper over the veneer and then, using a small, hard rubber (or plastic) roller and lots of force, roll the veneer in several directions to assure good bonding. Then lay the piece on a flat surface and cover again with a sheet or two of writing paper and a magazine or book and finally, apply evenly distributed weights overnight (I used concrete blocks and water jugs). After the glue has thoroughly dried, remove the weights and admire the result. Next, trim away any excess veneer around the edges and then sand the edges to get a nice smooth and continuous appearance. You needn’t sand the new veneer surface unless you find small imperfections. Just give it a quick once-over with the 1500-grade sandpaper and the Scotchbrite.

If the new veneer is a good overall match to the shade of the older pieces, do not stain it. If however you must darken it a bit, do so carefully! Apply a good walnut shade, water-based stain very lightly with cheesecloth or better yet, a terrycloth wiping pad. Remember that a little goes a long way and it’s best to “sneak up on the correct colour” with multiple light applications of stain. Practice on a test piece and don’t soak the application pad. Be sure to quickly (seconds, not minutes!) wipe off the excess. Do the whole piece at once to get an even application. Continue the process as needed to get a match. Never use a pre-stain wood conditioner! These are supposed to tighten the grain but they also seem to have the ability to attack the glue. (I had a large bubble form under the veneer after applying the conditioner and I very nearly had to start over. Quick work with my handy rubber roller and some weights saved the day.) After staining, you will have to buff the piece lightly with 600 and/or 1500-grade sandpaper to knock down the raised grain.

My biggest veneer challenge was in replacing the horizontal surface at the top/centre of my dash around the ash tray cavity. This section was missing altogether and although flat, required some complex cutting and was not easy to match to the surrounding wood. Nor did it easily lend itself to the roller and weights necessary to assure a good bond, but eventually,

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ingenuity won out. I did cut this piece slightly oversized and I was pleased at how easily I was able to trim and sand it (after the glue dried) to match the contours of the adjoining wood.

Minor repairs to veneer are tricky. They require that you cut small, irregularly shaped pieces of veneer in an iterative fashion until they match the scar you are trying to disguise. Always pick a piece of veneer with the appropriate colour and pattern first. I found that I had to grip the patch with tweezers as I carved it to size and that I had to start over on more than one occasion. Once pleased with the veneer patch, it can be glued, rolled and lightly sanded to conform to the surrounding veneer. Sometimes a bit of wood filler is necessary to fill small voids. Where colour match is a bit off, you may find it necessary to apply some stain with an artist's brush or q-tip. If so, apply the stain then wipe off quickly lest you over-darken the work. Continue this process until a good match is achieved. I am told that experienced restorers are adept at recreating veneer patterns with paints applied with an artist's brush. This seemed beyond my skills, so I did not attempt it.

In some pieces, I left deep imperfections, as fixing them would risk the veneer or my sanity. Besides - they add a little romance! For example, I found a deep (through the veneer and into the hardwood below) burn mark on the passenger doorjamb trim. It was impossible to completely remove. Rather than re-veneer the entire piece, I opted for cleaning it up as best as possible and letting the polyurethane blend and mute the scar. It's still visible, but it's not ugly. One might say that it adds a bit of character or romance. I like to imagine that the burn was made by a heavily-accented European countess in a fur coat who got careless with her cigarette holder as she was being willingly (yet uncomfortable) ravaged by the Earl of Turgidson while they were parked aside a country road in Yorkshire. Oops, there I go again....

Application of Polyurethane Finish

Surgical cleanliness was my watchword for the application of the polyurethane. I chose my den as a dedicated room for brushwork. I kept the room warm; but hours before I was to apply the finish, I closed all doors and windows and kept the forced air system off to avoid stirring up dust that might settle onto wet surfaces. I NEVER sanded or cleaned my wood in the den, only while in the garage. To further avoid contamination, I frequently changed clothing before doing brushwork – especially after sanding. I only used the best, natural bristle brushes and thoroughly cleaned them in mineral spirits between coats and I often discarded them and used new brushes. Also, do not apply the coating to wood that has not been at room temperature for at least 8 hours.

As stated above, I chose clear, gloss, oil-based polyurethane for its durability, longevity, ease of maintenance, and ease of application. I also came to appreciate that it ultimately serves as a strong glue in that it assures no future de-lamination problems provided you apply some of it to the sides and back of the pieces.

Each coat was left to dry 24 hours in my warm "surgical room". Between coats, I sanded with 1500 sandpaper (600 if a blemish needed to be knocked down) and the Scotchbrite, then cleaned with a damp diaper. Don't be alarmed or shy when sanding. It appears to irreparably scar the dried polyurethane, but you will find that the next coat "wets away" all trace of the sanding.

I bought my polyurethane in small 8-ounce cans. After the second or third coat, I threw out the first can (this stuff is cheap) as dried product was forming under the lid and I feared

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contamination. Always apply the product under a good high-intensity lamp so that you can assure even application and detect missed spots, bubbles, etc. Never shake or stir the product. Using a new or thoroughly clean brush, apply the product in a light and even coat with your final strokes all going in the same direction. A light touch on the final pass should remove any small air bubbles that form on the surface. You will be relieved at how gravity will smooth out brush marks just moments after you finish brushing. After application, lay each piece flat (wet surface parallel to the ground to prevent running) on a clean sheet of newspaper. When each piece has received its coat, retire. Don't try to go back and brush again a few minutes later as the product will already be setting up, and disturbing it in any way will mar the finish. Fix any blemishes in the next sanding cycle.

Apply as many coats as needed to achieve the look you want. I was satisfied after three or four, depending on the piece. Be patient. Always allow at least 24 hours between coats. If you wait only 4 hours or so (as Minwax suggests) you will find that when you sand the surface, large sticky clumps will roll off the surface (as opposed to a powder) and you'll have some extensive rework to do.