

Wood-Cornice Restoration, Part II

by Larry Jones

Decorative wood trim and moldings often warp and pull away from the surface of the cornice. Nails rust off or the wood decays around the fasteners, allowing them to pull out. Loose trim can often be reattached after you clean out the debris behind it. After removing the trim, cut the remaining original nails and reposition the piece. If you use nails to reattach the trim, blunt their ends or predrill pilot holes to reduce the chances of splitting. Renail through new holes in sound wood.

Use only high-quality, long-lasting fasteners to reattach loose pieces:

- Hot-dipped galvanized finishing nails, or brass or stainless-steel marine wood screws.
- Self-starting drywall screws. These can rust, so use them only where they can either be countersunk and plugged over, or covered with another element.
- Galvanized screws for use with a screw gun. Be sure the heads aren't visible from the surface of the cornice.

• Monel "Anchorfast" boat nails. They have the holding strength of similar-sized screws (due to their ring-shank design) and won't corrode or rust.

Replacement parts are best fashioned out of the same wood originally used (although some restorations have used parts cast in fiberglass-reinforced plastic or high-



Epoxy filler, properly applied, can reproduce proper cornice contours.

density foam). New wood replacement parts should have the grain running in the same direction as the original, ideally with no end grain exposed to the weather. Weldwood phenol resorcinol is an excellent waterproof exterior wood glue for repairing splits or attaching decorative pieces. (It shrinks on setting, so use it only as a glue, not as a filler.)

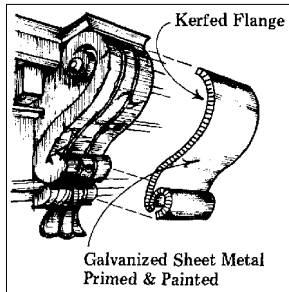
Wood and Metal Patches

Covering problems with a metal patch sounds seedy, but with cornices it's not always a bad idea. Perhaps the cornice has missing pieces and the holes are letting in birds, animals, or water. Maybe a full-blown cornice restoration isn't in the budget. Consider using reversible metal patches.

The most common patching

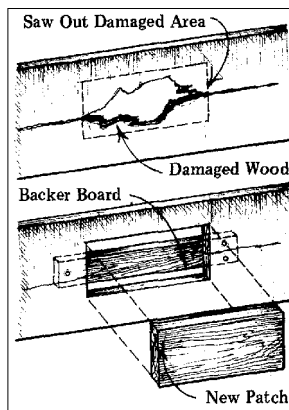
material is galvanized steel. It will last indefinitely if it's kept painted. Terne, terne-coated stainless steel, and copper are also good patching materials. (If the patch will touch metal flashing, they both must be made of the same metal to avoid galvanic corrosion.)

The patch should overlap the hole by at least one inch all around—more if necessary to reach sound wood.



Predrill holes in the patch 1/2 inch in from the edge, and an inch or less apart; this helps the patch follow the contour of the area being repaired. (Use galvanized nails to refasten a galvanized or terne patch, copper for a copper patch.) Prime the back of the patch and set it in a bed of high-quality, paintable, exterior-grade caulk before nailing. Wipe off excess caulk, then prime and paint the front of the patch.

A carpenter's dutchman is a long-lasting and good-looking repair. It involves hand-sawing or chiseling out a damaged area, then cutting a wood piece to fit the opening exactly. Glue the patch in place with epoxy or waterproof glue, secured with dowels or screws. Properly sanded and painted, a dutchman is a smooth and almost invisible repair.



Damaged, split, and even missing wood cornice elements can be repaired, filled, and reconstructed using two-part, high-performance epoxies. Epoxies allow you to patch in place. They're quick, easy to apply, tool, and finish—but they're not cheap. However, unlike the less expensive auto-body fillers and latex wood fillers, they adhere well and stay put.

As a rule of thumb, if 40 percent

or more of a wooden piece has rotted, it's more cost-effective to replace it. Below that percentage, epoxies are an excellent way to retain many original pieces that otherwise would have to be removed.

(Millworks have never been keen on tooling up to make a 12-inch length of crown molding, and there's no point in replacing all 30 feet when only one foot has deteriorated.)

Where many intricate wood replacement pieces would require many hours to produce and install, consider patching with epoxy thickened with compatible fillers (available from the epoxy supplier).

Epoxies can be used to consolidate even rotted wood, reducing its tendency to soak up moisture. This is particularly handy for the decorative millwork on cornices, which tends to trap moisture and lose paint. For proper adhesion, paint and varnish have to be removed from wood before treating; if it's wet, the wood will have to dry out.

Low-viscosity epoxy can be brushed, poured, or injected into rotted wood until it's fully saturated. For best adhesion, pre-wet deteriorated wood with either low-viscosity or regular epoxy before you apply the epoxy filler. Filling large areas usually requires several applications. (Epoxy gives off heat as it cures, so apply only a thin layer at a time. *Don't* apply in direct sunlight; watch it, and keep a hose or fire extinguisher close by.)

Cornice Roof and Flashing Repair

Examine the condition of the cornice roof and flashing. Most water damage can be traced to deteriorated, ill-designed, or nonexistent roofing and flashing. The least satisfactory cornice-roof coverings are granulated

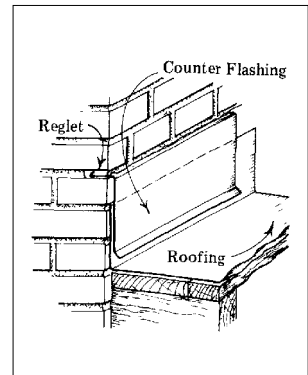


building felt, asphalt shingles, and mopped-on coatings.

Good metals to use for cornice roofs, coping, and flashing are: copper (16 to 20 ounce); lead-coated copper (16 to 20 ounce); terne-coated stainless steel (24 to 26 gauge); terne metal (1X 40#); and galvanized steel (22 to 24 gauge);

also, 3-pound hard lead, or 4- or 6-pound chemical grade, antimonial, or copper-bearing lead. (Six-pound lasts the longest.)

Flashing on masonry buildings is often set into a reglet. If the joint packing (usually mortar or caulk) fails, the flashing may pull out and allow water to enter behind it, resulting in moisture damage. Often, it's possible to clean out the joint and re-anchor the flashing in the reglet by



installing lead wedges, then repacking the joint with mortar that matches the original.

Be sure to install an effective drip edge along the front of the cornice where the crown molding meets the roof; this forces water to drip free rather than run down the front of the cornice.

Caulk and Putty

Wood putty, fillers, and doughs are misused cure-alls. Exterior fillers work fine for small nail holes, but shouldn't be used to fill joints or seams. They can't expand and contract with the wood, so larger patches usually fail in short order—wrecking a good paint job, forming a trap for moisture, and opening up the wood to further decay.

Sealants, more commonly referred to as caulks, come in four common varieties: polysulfides, silicones, acrylics, and butyls. Polysulfides tend to provide the greatest elasticity without breaking away from the seam or joint. They're also sandable. Their disadvantage is that they're slow to dry (up to 10 days). They usually can be painted just after installation, but can't be sanded until dry. Polysulfides work best with two-sided seams; if the sealant is attached to three sides, one side may pull loose. For best adhesion the seam should be a minimum of 1/8 inch wide and 1/4 inch deep.

Compared to polysulfide, the other sealants dry quickly—in 24 to 48 hours. Silicone rubber can't grip nearly as strongly or take as much expansion and contraction as polysulfide can, and although some varieties can be painted, it can't be sanded. Acrylics are less expensive, shorter-lived polymers; limit their use to tight, narrow joints. Butyls work in applications similar to acrylics. They're somewhat stringy to apply,

can't be sanded, and may be painted when cured to a rubber.

Sealants are indispensable for sealing joints and seams on cornices where expansion and contraction will occur, where dissimilar materials meet, or where two or more objects are joined together. Horizontal seams and joints on cornices are notorious for opening up and trapping debris and moisture, so allow plenty of time to caulk every open seam. It's also a good idea to bed elements being reattached to the cornice in sealant, at least around the perimeters. But don't use sealants as fillers or adhesives.

Primer/Paint

Painting is the last step, and one of the most important. Here are some things to keep in mind:

- Prepare the surface properly.

Remove flaking paint, dirt, oil, etc.

- Use paintable sealants.
- Use primer that is compatible with the top coat; primer and top coat from the same manufacturer is best.
- Back-prime all decorative elements before you install them.
- Never leave primed wood exposed to the weather for more than 48 hours before applying the top coats.
- High-gloss alkyd enamel works well as a top coat. High-gloss paints are slightly more weather resistant than those with lower sheens. You can get good results with a semigloss alkyd or latex paint, though.



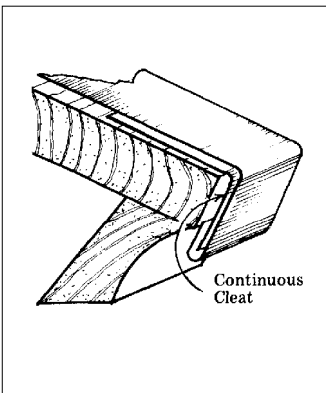
The missing consoles and brackets had surfaces that trapped water, dooming them to failure. What's left are sparrow motels.

- Don't use cheap paint, and don't apply only one top coat—always apply two.

- Don't spray-paint a cornice; it has too many sharp angles and recesses. Brush paint carefully, making sure to get into every nook and cranny.

Once the cornice is restored, you may be surprised to find that your efforts have set off a trend of cornice restoration in the area. No one seems to notice the beauty of cornices until one gets restored. ■

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REPAIRING GALVANIZED STEEL

Galvanized steel is the most common coping and flashing material found on old cornices. Left unpainted, it eventually rusts.

Rusting is the most common type of sheet-metal deterioration (although wind and thermal stress can pull joints apart and work anchors loose).

Repair rust-outs in galvanized steel by soldering a patch over the damaged area:

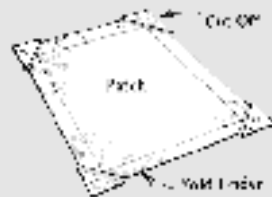
- Thoroughly clean the area to be patched of all rust and/or roofing cement—get down to the

clean, shiny metal

- Cut a patch from the same galvanized metal, about two inches larger than the hole.
- Fold the edges under 1/2 inch and snip off the corners; this makes the patch stronger and takes off easily damaged sharp corners.
- Place a weight (a brick is good) over the patch to hold it firmly to the metal. If the patch is on a vertical surface, clamp or tack-solder it in place.
- Brush rosin flux around the

patch edges.

- With a 3- to 5-pound propane-heated soldering copper, or a 200-watt electric soldering iron, melt 50/50 lead-tin solder into and over the seam. The patch must not move until the solder cools, or the solder will start to break. If the patch moves, start over.
- After the solder cools, wipe the patched area with mineral spirits, then prime all the bare metal with a suitable metal primer.



- Don't try to weld on a patch, and don't try to solder with a blowtorch. High-heat methods can damage light-gauge metal and start fires in a wood cornice.
- Don't use asphalt roofing compound or cheap aluminum based roof coatings. These repairs seldom last one summer, and are hard to undo. ■

The following list of suppliers of epoxy systems for wood consolidation has been gleaned from *The Old-House Journal Catalog*. For those of you who do any remodeling, rehab, renovation, or restoration work (whether residential or light commercial), this catalog is essential and inexpensive—\$13.95 postpaid. Write to *The Old-House Journal*, 69A Seventh Ave., Brooklyn, NY 11217.

Abatron, Inc.

141 Center Dr.
Gilberts, IL 60136
312/426-2200

Allied Resin Corp.

Weymouth Industrial Pk.
East Weymouth, MA 02189
617/337-6070

Beta Timber Restoration System

Dell Corp.
P.O. Box 1462
Rockville, MD 20850
301/279-2612

E&B Marine Supply

980 Gladys Ct.
P.O. Box 747
Edison, NJ 08818
201/287-3900

Gougeon Brothers, Inc.

P.O. Box X-908
Bay City, MI 48707
517/684-7286

Life Industries

205 Sweet Hollow Rd.
Old Bethpage, NY 11804
516/454-0055

Philadelphia Resins Corp.

Box 454, 20 Commerce Dr.
Montgomeryville, PA 18936
215/855-8450

Poxywood, Inc.

P.O. Box 4241
Martinsville, VA 24115
703/638-6284