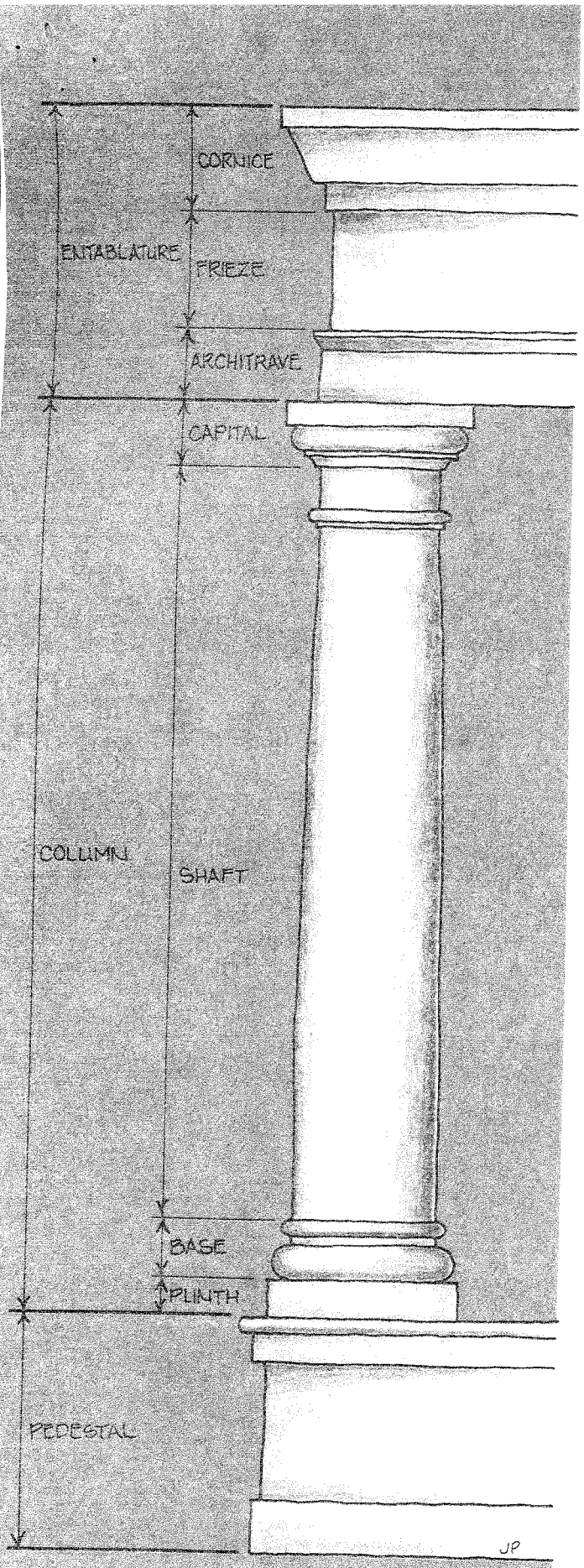


Installing Architectural Columns

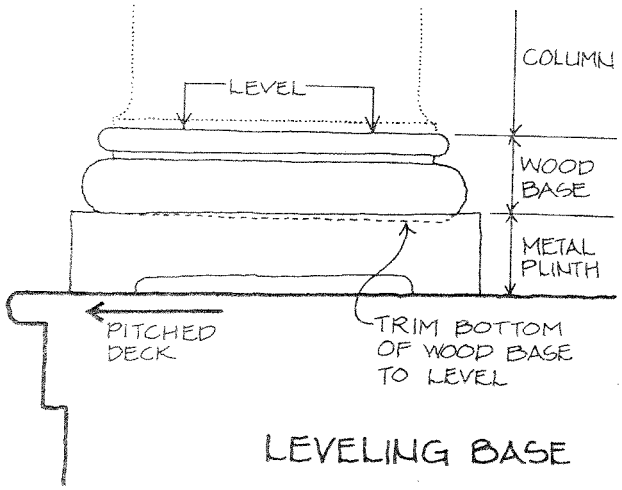
Whether they've been meticulously restored or purchased brand new, exterior columns cost a bundle. Here are some expert installation tips that will make them last.

by John Lecke

I'VE HAD TO REPAIR or replace many columns that rotted because they weren't installed well to begin with. In this article, I'll describe the fine points of installing exterior architectural columns. The installation methods here are suitable for use with all hollow columns, be they round, square, or octagonal. Some of the hints will help if you're installing solid columns or porch posts, too.

Positioning Base Elements

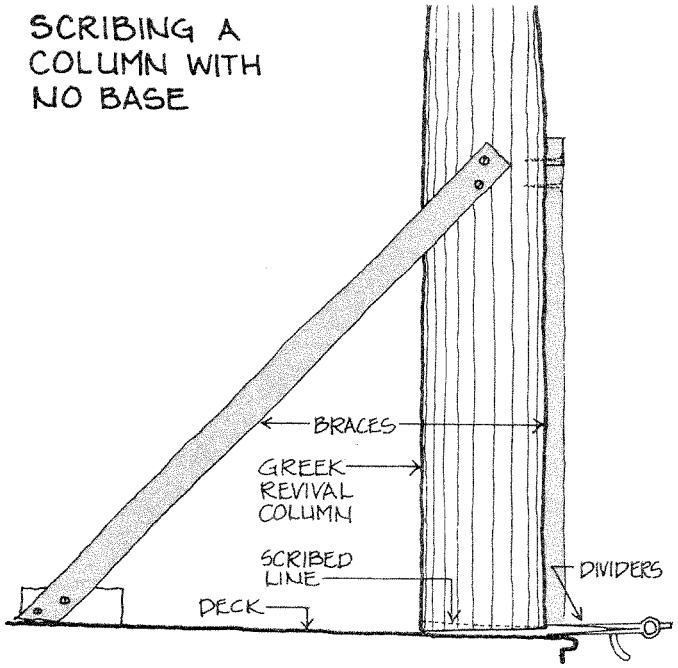
SET THE PLINTH in its approximate position and see if it's level. (If you're installing all new columns with no point of reference for placement of the plinth, drop a plumb line under the entablature to line up the right location.) If the porch floor pitches, as it should, the plinth will be out of level. The shaft must rest on a level surface, so you will have to plane away some of the plinth or the round base that sits on top of it. Do whatever is least noticeable. I usually plane the bottom side of the round base. The plinth is often made of aluminum nowadays and is more difficult to cut. Whatever you do, DON'T carve out a depression in the top of the base or plinth, because it will collect water. Use a plane rather than a chisel to ensure flatness.



LEVELING BASE

WHEN THE BASE is level, cut the shaft at the top just enough so that it fits in place on the base without its capital.

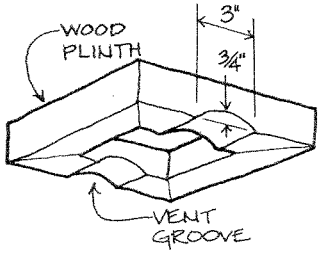
YOU MUST ASSURE even loading of the shaft around the perimeter of its lower end. If the shaft rocks back and forth, the base or plinth surfaces are not flat and should be trued. Be sure there's full contact between each part of the base.



GREEK DORIC columns don't have a base or plinth, and will sit directly on a lead plate on the porch floor. Hold this type of column in its final vertical position with braces, and scribe the bottom of the shaft with dividers. Cut the bottom of the shaft to the scribed line--but keep the trimming minimal, tapering to nothing. Then test the shaft in position to see if it aligns with the plate above.

Venting

INTERNAL VENTILATION of the columns is extremely important: Unvented columns rot. Provision for venting both top and bottom of each column should be designed before the columns are installed.

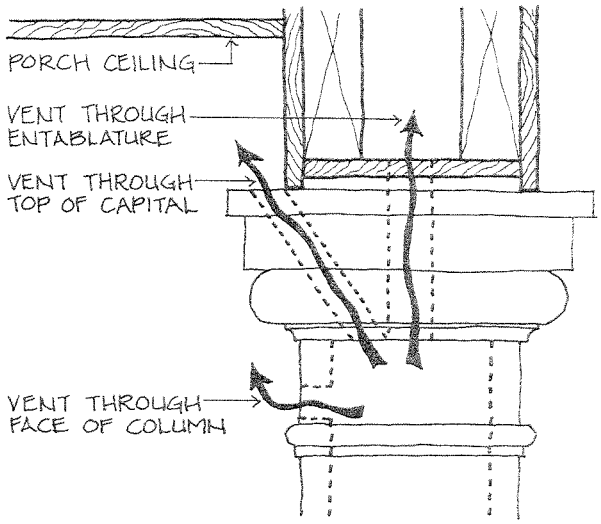


VENTING A WOOD PLINTH (UNDERSIDE)

CAST-ALUMINUM, prefabricated plinths usually have gaps along their bottom edges. Wood plinths should be vented with grooves cut along the bottom. Place the grooves to follow the pitch of the porch floor. Any water that collects inside the column can then drain away easily.

VENTING NEAR THE CAPITAL needs a little more thought. A two-inch vent hole can pass straight up through the capital and soffit if the interior of the entablature is hollow and well vented. It often isn't and there are two alternatives.

A HOLE can be drilled from the middle bottom of the capital diagonally through to the top, where the hole is protected from the weather on the inside of the porch. If that's impractical, a hole can be bored in the neck of the shaft on the side facing the house. This method creates a vent that isn't well hidden, but it doesn't interrupt the flashing over the capital. Vent holes should be screened on the inside.

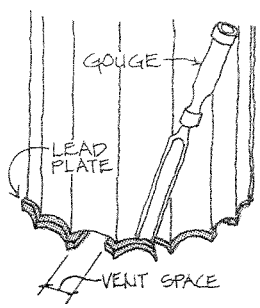


THREE METHODS OF VENTING

Flashing

CAPITALS ARE FLASHED before installation with copper or lead-coated copper that turns down over all four edges. You need very little copper, so don't worry about the small extra expense. Some labor is involved, but the flashing is your insurance that a leak overhead won't rot out the capital and eventually the shaft. I've had to replace columns (at a cost of several hundred dollars each) that would have been salvageable had there been copper flashing above.

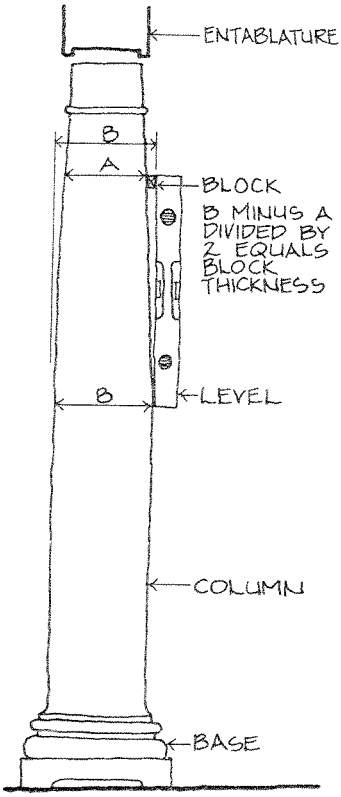
THE BOTTOMS of wood shafts, bases, or plinths resting directly on masonry should be flashed with lead plate that is 1/4 to 3/4 inches thick. Greek Doric columns that don't have a plinth or base should have such flashing, with gaps to provide a space for ventilation. The gaps should not line up with stave joints. Cut the plate slightly oversize and then trim flush with the shaft, using a woodworking gouge or chisel.



MANY PURCHASED CAPITALS can be ordered with flashing. Read the manufacturer's brochure. Aluminum and fiberglass columns don't need flashing.

Positioning the Shaft

BEFORE FINAL ASSEMBLY, the vertical position of the shaft should be determined while the shaft is standing free, not yet fastened at the top. If the columns are being installed as part of new construction or on a fairly plumb and level porch, they can be positioned exactly vertical. Assemble plinth, base, shaft, and capital without fasteners and set in place. Usually, the lower third of the shaft has straight, parallel sides, so a level can be held against it to determine the true perpendicular.



PLUMBING A COLUMN

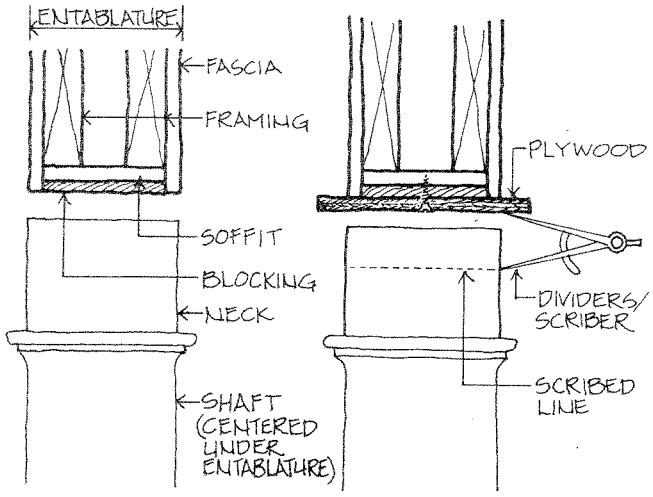
IF THE SIDES are curved throughout, cut a small block that is half as thick as the difference between the diameters of the two points where the level will be set against the shaft. (The drawing at left is clearer than the words.) Add another block 90° around the shaft. Using the two blocks and an accurate level, the column can be set truly vertical, held in place with diagonal braces while the plate is built or set down from above during assembly.

IF YOU'RE replacing just a few columns among others still existing, they should align with the old columns even if that means installing them slightly out of vertical. The leveling method described above can be used to match the tilt of the new columns to the old. Often you can simply eyeball it. Look past the edge of the shaft, moving your line of vision until the edge is lined up with that of another column. Because old buildings have settled and porches are so often out of plumb, I usually trust my eye in the end. Sometimes a new column can be perfectly vertical yet look way off. So you have to compensate. This trial fitting is important to assure even loading at the top.

Cutting to Length

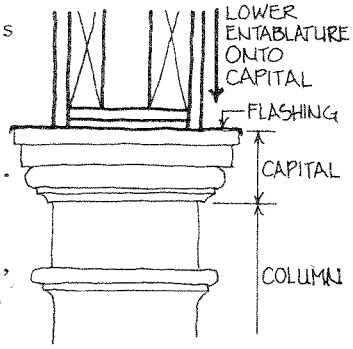
USE THIS PROCEDURE to get the exact length of the column shaft, before you install the capital. During this procedure, the plate or entablature above is being held 1/8 inch above its final position with screwjacks or temporary posts.

(1) Fill the slight recess at the soffit with solid wood blocking. This will transfer the load from above directly to the capital and keep the edge of the fascia boards from being crushed.



(2) Screw a piece of 3/4-inch plywood to the bottom of the blocking as a temporary flat surface against which to scribe. Set the shaft in position on top of the base and plinth.

(3) Holding one leg of the dividers or scriber against the plywood, scribe a line on the neck of the shaft, with the scriber set to the height of the capital less 5/8 inch (which is the thickness of the plywood less the distance the plate is jacked up above its final position: 3/4 in. minus 1/8 in.).



(4) Mark the relative positions of floor to plinth, plinth to base, and base to column shaft with reference marks that can be aligned later when you are finally installing the parts. Punch or scratch little dents against each other across the joint.

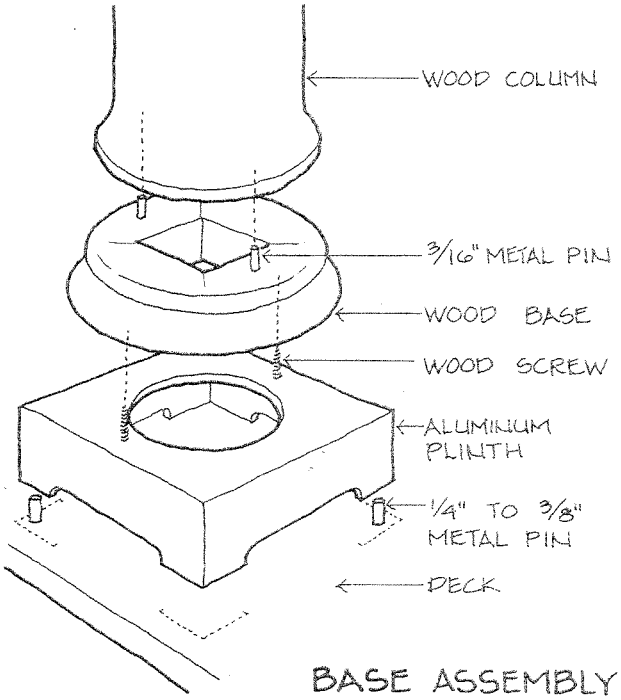
(5) Take the shaft down and cut to the scribed line in the neck.

REMEMBER THAT there's a limit to how much the shaft can be cut off without spoiling the proportions of the column. (That's why it's important to accurately order your columns. See "Shopping for Columns," May 1984 issue.)

Assembling

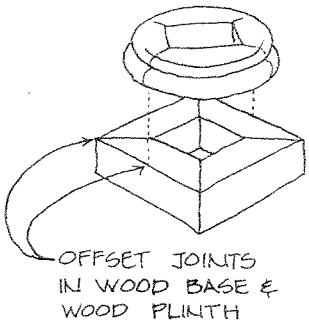
IF YOU'VE PURCHASED new wood columns from a reputable maker, they will undoubtedly be made of rot-resistant wood or pressure-treated stock and will be shipped to you with a coat of primer already on them. Any end-grain you expose should be dipped in wood preservative, then primed with a high-quality oil-based paint. Prime all parts of the capital, and don't forget the ends of the shaft.

NOW THE PARTS can be assembled. I use corrosion-resistant fasteners made of monel, silicon bronze, or stainless steel, because they will not rust and cause deterioration. (You can find non-rusting fasteners at marine supply houses or any shop that does some boat work.) Steel or electro-plated fasteners absolutely must not be used; in my opinion, even hot-dipped galvanized (zinc-coated) fasteners are barely adequate.



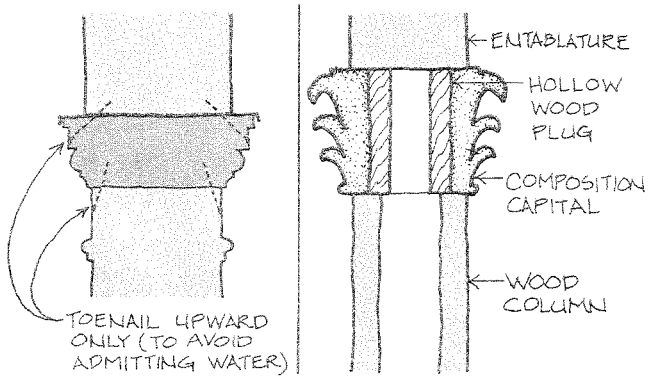
BASE ASSEMBLY

IF YOU'RE using a cast-aluminum plinth, first screw the wood base to it from underneath.



These plinths are hollow and held in place with two 1/4- to 3/8-in. diameter metal pins sets into holes in the porch floor at opposite corners inside the plinth. (Refer to the assembly instructions that come with the plinth.) The shaft should not be toenailed to the base. If the nails get loose through moisture expansion of the shaft, the holes will provide an entry for water. Instead, use two 3/16-in. metal pins set in the end of the shaft and in the base. As the plinth, base, and shaft are put together for the final time, the joints between them should be sealed, preferably with silicone caulk.

THE CAPITAL and its flashing are installed after the base and shaft are in place. Solid, load-bearing capitals are slipped into position between the bottom of the plate and the top of the shaft. The plate or entablature is lowered to its final position; the weight holds the capital in place while the shaft is toenailed to it. Nail up through the capital and flashing into the plate. This will make



the hole in the flashing less likely to leak than if the nails came down from above. Composition capitals (see above) are not load-bearing and must be filled with a hollow plug.

Painting

WOOD COLUMNS should be given two coats of a high-quality oil-based paint immediately after installation, and certainly before it rains. I have found that it's well worth searching for true oil-based paint, for both the primer and finish coats. Alkyd paints don't seem to be as vapor-permeable as linseed-oil paints, while latex paint does not have the bonding characteristics or longevity of oil. (The large, well established column manufacturers apparently agree with me, calling for oil-based paint to finish their wood columns. One company continues to recommend white lead in oil!)

ONCE A YEAR, the lower part of columns should be checked and treated for cracks and obvious deterioration. Every other year, take a close look at the paint film for evidence of peeling or tiny cracks. If the failure is localized, scrape, prime, and paint only that area. Give a full coat of paint as seldom as possible--every 5 to 10 years is often enough--to avoid excessive buildup of the paint film. Spot-priming and a soap-and-water wash now and then will keep a properly applied paint job looking good and working hard for many years.

IF THE FILM is thicker than four pages of OHJ (.015 in.) and beginning to crack or peel, remove it, then prime the wood and give it three top coats. Regular maintenance is a simple once-a-year activity that ensures long life for your expensive and hard to replace columns.

If you go to the average hardware or paint store and ask for "oil-base paint," you're likely to get alkyd paint. True linseed-oil-based paint is hard to come by in some areas. Brands that offer linseed oil paint include Lynch and Dutch Boy. NuBrite Chemical Co. (1 Hill St., Dept. OHJ, Taunton, MA 02780, 617-824-4124) sells linseed oil paint throughout New England. And if you can't find it locally, a store in the author's hometown will ship it to you. Call Timothy Bragdon at Paints 'n' Papers, 107 Brook St., Sanford, ME 04073. 207-324-9705.

John Leeke, a woodworker and restoration craftsman in Maine, has written about columns for us in the past.