Rejuvenating an Old Porch

PVC rails and fiberglass columns keep the look classic and the maintenance minimal

BY KEITH J. MAZZARELLO



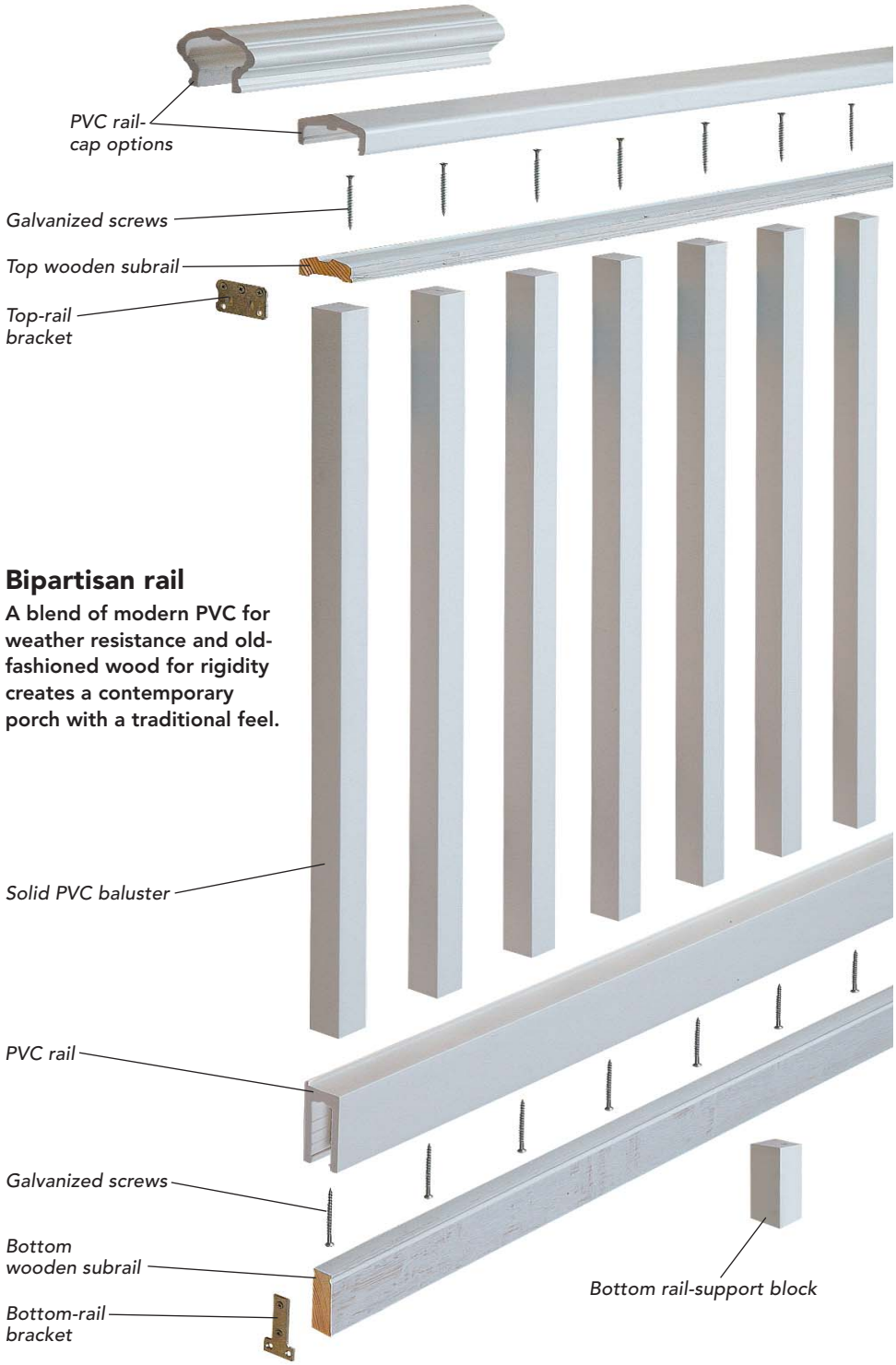
Preserving a traditional look with PVC. *Reinforced polymer-composite columns and PVC railings make for a maintenance-free, architecturally correct restoration.*

When my longtime friends Vito and Stella called to tell me their daughter Lena was getting married, I knew they wanted more than my RSVP. They were looking at their house, and before the wedding celebration could begin, they would have to rebuild their 75-year-old front porch. It was a prime gathering spot; but the old posts were rotting, the ¾-in. decking was lifting, and the railing was teetering. The architrave, the finished horizontal beam that spans from column to column resting directly on their capitals, and roof were sound, but everything else had to go.

Raising the roof before the party started

I needed to disassemble the old porch but leave the architrave and roof in place. So I positioned three pipe jacks between 2x8 plates on the decking and architrave to distribute the weight, and I lifted the roof with ease (photo facing page). I then supported the architrave with four 4x4 posts. These posts were snugged into place with a small sledge and affixed so that they would not shift. Where possible, I braced the posts against stationary items like the wrought-iron railing. Now I could remove the old columns and the pipe jacks safely, and dismantle the rest of the porch.

Drawings: Christopher Clapp



Bipartisan rail

A blend of modern PVC for weather resistance and old-fashioned wood for rigidity creates a contemporary porch with a traditional feel.

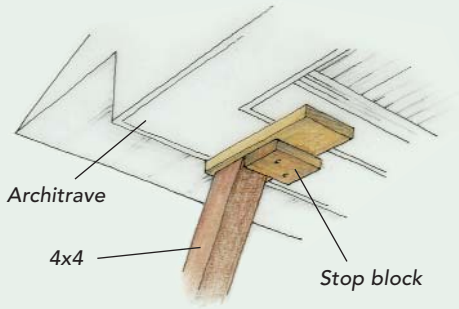
The existing architrave determined the construction of the new porch. The capitals, columns and bases that I would install needed to align with the front and side architrave. So I drew a full-scale sketch showing the measurements of the base, framing, trim, face and deck overhang in relation to this centerline (drawing p. 66) to determine the layout.

All the framing was done with CCA-treated lumber. The ledger was attached to the house first. The two end joists were attached to the ledger but left long, resting on some temporary blocking, so I could transfer the centerline to them using a long straightedge and level. Once I did this, I installed the remaining double end joist and triple front rim joist in accordance with my layout measurements. I now had the complete perimeter of the framing and could locate the foundation piers. So I plumbed down from the architrave

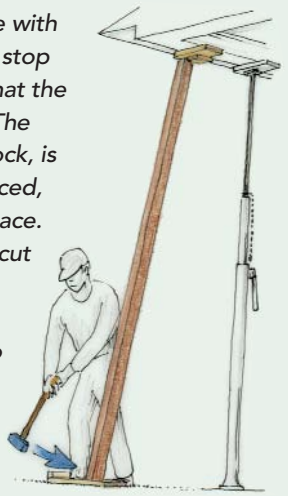


RAISING THE ROOF

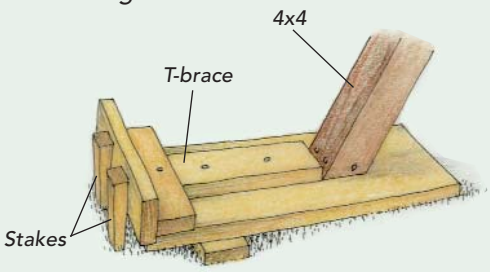
This bracing system won't slip or sag during the building process, and it installs quickly.



The top plate is secured to the architrave with 16d nails, and a stop block ensures that the 4x4 won't slip. The base, a 2x10 block, is chocked, or braced, and staked in place. The 4x4 post is cut and wedged in with a sledge, then screwed to the 2x10.

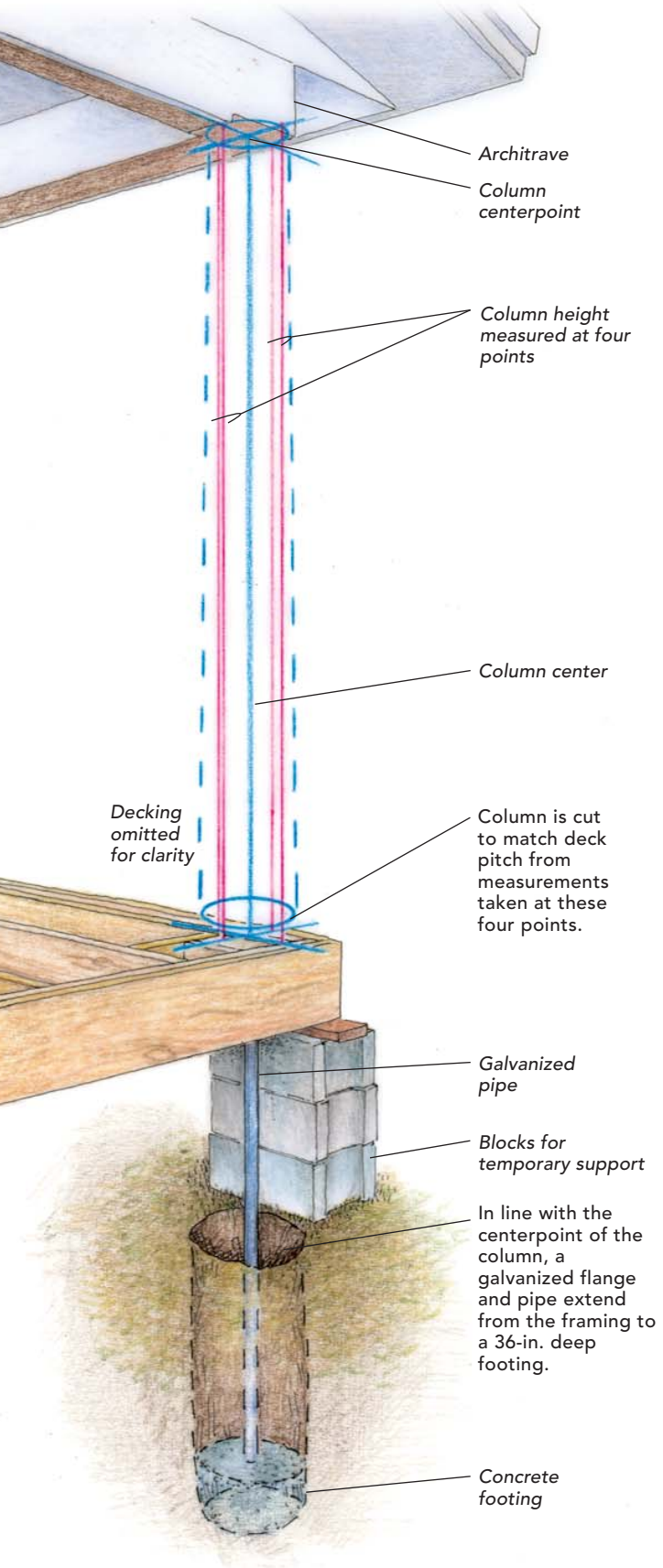


A T-brace is cut a bit long, snapped into place and screwed down so that it can't budge.



EVERYTHING BUT THE ROOF HAD TO GO

Plumbing down from the architrave defined the framing perimeter and allowed the author to locate the foundation piers directly under each column.





Measuring the column in four places. *By marking four compass points on the column, it's easier to plumb the columns and to transfer the height measurements, which vary because the floor pitches.*



Cutting the base. *With the height marked at four points, the base of the column can be cut with a circular saw to match the floor's pitch.*



Wrestling the column into place. *It takes two to place the column, but positioning it is easy by aligning the four points of the column to those on the deck. Note that the base is duct-taped out of the way.*



Structural element with a finishing touch. *With the base lifted out of the way, pilot holes are drilled into the column. The column is secured with galvanized screws. The base slides into place, covering the screw holes.*

to determine where each column would stand and dug the 36-in. deep footings directly under this point. At each footing, a 2-in. galvanized pipe was attached to the frame with a galvanized flange and screws, and extends to about 8 in. from the footing bottom. Concrete was poured into the hole, and once it cured, I removed the temporary blocking, cut the long joist tails and finished framing.

Preserving a traditional look with modern materials

I used a traditional porch flooring, 5/4 tongue-and-groove vertical-grain Douglas fir. To prevent decay, all the undersides, tongues and grooves of the decking were primed with an exterior oil-based primer before installation. This step is time-consuming. But I have installed decks where the clients did not want to pay for back-priming, and the resulting deterioration cost them more in the long run. After installation, the surface of the decking was sanded clean and finished with two coats of exterior primer and solid stain.

The load-bearing columns I used are from HB&G (www.hbgcolumns.com; 800-264-4424). They are a fiber-reinforced polymer composite and are rot- and insect-resistant. The stuff's pretty easy to work with, cuts well with a masonry blade in a circular saw and takes paint. These columns can hold 5000 lb. each. What's best is that they cost one-third the price of wooden columns.

To install the columns, I raised the architrave with the pipe jacks parallel with the decking so that each column would be the same size and removed the 4x4 posts. I transferred the centerpoint of the architrave to the deck where the columns would rest. From the centerpoint on the deck and architrave, I drew one line to designate front and back, and another line to designate right and left of the column base and capital. These reference points allowed me to locate each column accurately while incorporating the ⅛-in.-per-ft. pitch of the deck (photo facing page).

I transferred these measurements to the columns and cut them using a masonry blade in a circular saw so that the plumbed column rested flush on the sloping floor (photo facing page). As I lowered the jack, the roof weight held the column assembly in place, and I secured it with galvanized screws (photo facing page). The base and capital were set in place with construction adhesive and stainless-steel finish screws. To make the base look right, I shimmed it level, not pitched like the deck, and caulked the seams between the columns, bases, capitals and deck with white exterior oil-based caulk. Once the columns were in place, I installed the PermaPorch PVC railing system (also from HB&G).

A little ingenuity goes a long way

The railing system is made up of PVC rails and balusters that are snapped onto a wooden subrail for rigidity. It's supposed to be installed fully assembled, but I found it easier to do a section at a time.

I first measured my opening and cut the wooden subrails ¼ in. shorter to make room for the fastening brackets. I scribed the bottom wooden subrail to the column base and used a jigsaw to cut the profile. To attach it to the column, I inverted the T-bracket, screwed it to the rail, buried the bottom (T-hat) of the bracket in the base and toe-screwed the subrail in place (drawings right). I cut the bottom PVC rail with my miter-box saw and carefully molded it to the column base using a jigsaw and belt sander.

The bottom PVC rail was predrilled so that the balusters could be attached by screwing through the interior of the rail. Once this was done, I clamped a strip of wood to the balusters to keep them from swaying when I lifted the assembly and snapped it over the bottom wooden subrail.

I predrilled the top wooden subrail and set it on the balusters. Using the fastening bracket to attach it to the columns, I squared the balusters to the rail and screwed them in. The top PVC rail was cut to length, scribed and snapped over the wooden subrail. Then I caulked the tight end joints with a thin bead of oil-based caulk and inserted short pieces of baluster to keep the bottom rail from sagging.

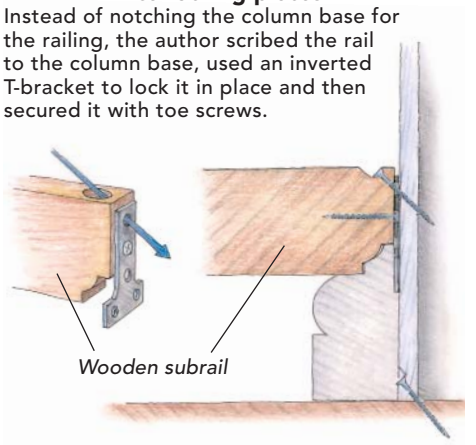
A 4x4 PVC post was used where the railing met the house. Each post was kept 1 in. off the house because it would look odd if I placed it directly on the siding. Two lag bolts secured it to the deck from underneath, and a countersunk lag bolt through the post at the height of the top rail attached it to the house.

I was concerned about how PVC would react to heat and expansion, but last summer, the temperature rose into the 90s for days on end, and the rails still look perfect. Now, Vito and Stella are ready for the wedding. Congratulations, Lena and Anthony! □

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RAILING INSTALLATION

Interlocking pieces
Instead of notching the column base for the railing, the author scribed the rail to the column base, used an inverted T-bracket to lock it in place and then secured it with toe screws.





By clamping a wood strip to both sides of the balusters, the author was able to pick up and place this now-rigid section of railing without it racking or swaying.



Squaring up the balusters
Clamping a framing square to the railing frees the author's hands to square and secure each baluster quickly.

