

Porch-Post Rescue

Even on a limited budget, you can make things right by pouring new footings and replacing the posts

BY SCOTT GRICE



Given the range of things that can go wrong, a house that's standing after 100 years must be resilient. But even if resilient houses don't fall down, they do bend, especially their porches. Weather, water, bugs, and general wear and tear all contribute to a sagging porch. More to the point, peer behind the fascia of an old porch roof, and you may find that the only thing carrying the roof's load is a built-up beam made of 2x blocks on 24-in. centers. The columns holding up the beam might be compromised, too, and often aren't supported by a suitable footing. It's a wonder that these porches are still standing at all.

Every once in a while, I am asked to rehabilitate one of these porches. Sometimes I get to rebuild a porch, but other times, the homeowner has just enough money to keep the roof from falling into the dirt. This job was of the latter category.

The porch's columns consisted of two parts: an enclosed porch railing wall framed with 2x4s and tapered Craftsman-style box columns that sat on top of the railing wall. Years of settling had caused the intersection of the railing and the post to articulate in a way the original builder hadn't intended. If ignored, the porch would soon have fallen down.

The good news was that the beam supported by the columns was sound and out of level by only a bit. Preventing the porch from collapse only meant installing new posts. First, though, I would have to jack up the roof to relieve the load on the posts,



THINK SAFETY BEFORE DECONSTRUCTION

The jacking assembly consists of a carrying beam, screw jacks, and temporary jacking posts. Because the jacking posts will be under load, it's critical that everything stay in place in the event that one part fails. To that end, make sure that the following parts are secured.



Secure the beam. The 6x8 beam used to carry the roof corner is held in place with blocking and screw clamps. Scrap 2xs were nailed together at right angles and screwed to the inside of the porch beam, just above the 6x8, then screwed to the 6x8 from above. The clamps were left in place as a backup. When choosing material for jack posts, 4x4s or larger are usually sufficient. Single 2x stock should not be used. (If 2x stock is doubled, the strongest configuration is to nail the boards together to create a T-shaped cross section.) Place the post on top of the jack, locate the post top, and toenail it in place. Position the jack so that the post is plumb, then raise the jack until the post is under full compression.



Brace the jack posts, too. After the posts are plumbed and tight, brace the lower end of the posts in two directions to keep them from accidentally getting kicked out. Here, a 1x4 is screwed to the post and to the beam above, while a second is run at 90° from the first to a stake driven into the ground.



Jacks need a solid base. Jacks are positioned under each end of the carrying beam. Because soil conditions vary from site to site, it's important to choose a base that can support the load of the jack and keep it from sinking or tipping over. Soft soils require a wide base. Here, a pair of 4x6 blocks was sufficient to form a stable base.

A POSITIVE CONNECTION FROM GRADE TO ROOF

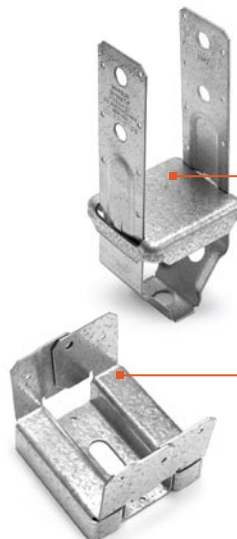
Hang the posts to locate the holes. Once the old posts have been removed, measure and cut the new posts so that they hang plumb about 4 in. above grade; then toenail them in place. After the footing location is marked, remove the post, and dig the hole deep enough to satisfy local code. Excavate enough width to allow adjustment of the location of the builder's tube.



Tube size is determined by the post base. Manufacturers specify the amount of concrete that must surround a post hanger. In this case, the specs call for a minimum of 3 in. on each side, so the author used a 10-in.-dia. builder's tube. He cut the length so that its top would be just below the bottom of the post for good drainage.



Fasteners for a no-rot wood-to-concrete connection



Galvanized post bases provide an attachment between the post and footing that resists uplift and that elevates the post's end grain so that it can't absorb water.

There are two basic types, and each is available in various configurations. The first is meant to be sunk into wet concrete. The post is either nailed or through-bolted to the base. I used this type because the 5/8-in. bolts gave it greater resistance to uplift.

The second type is captured with a nut and washer on a J-bolt embedded in concrete. A large hole in the bottom of the base allows some degree of location adjustment before the nut is tightened. Both types of bases cost between \$10 and \$15.

remove the old structure, and pour adequate footings. In the end, I also rebuilt the enclosed railing walls.

First, brace the roof

Because the enclosed railing wall that supported the columns was to be rebuilt, I had to replace the columns in pairs. Because the beam was about an inch out of level, I started on the low side of the porch. I wanted to support as much of the beam as I could while I replaced the columns, so I used an 8-ft. 6x8 beam to pick up the corner of the porch roof. This 6x8 was supported at each end by 4x4 posts standing on screw jacks. I used 20-ton screw jacks from Jet (www.jettools.com) that cost about \$100 each. You can rent these jacks, but because they may be in use for a week or more, it's less expensive to buy them. Screw jacks are old-fashioned, are simple to operate, are reliable, and don't have the complications of bleeder valves or hydraulics associated with bottle jacks. In addition, these screw jacks have wide mounting plates that fit 4x4s perfectly.

For safety, I temporarily anchored the beam to the roof and cross-braced the posts. With this structure in place, I then engaged the jacks enough to take the load off the existing columns. I would usually stop here, but because this side of the porch beam was on the low side of level, I jacked it up more to see if I could level it. My key concern was

to maintain the porch's structural integrity, so I stopped raising the jacks when I heard the first creaks. The last thing I wanted to do was compromise the ledger nailed to the house's exterior wall. The temptation is always to make a structure level, plumb, and true, but given the nature of old houses, there was a greater chance that surrounding finishes would be damaged if I overtook the jacking process.

New footings give the roof the support it needs

Next, I dismantled the existing columns and railing walls. Because my client didn't want to pay for new trim, I wanted to salvage as much of the existing trim and siding as I could. Removing that brittle stuff takes patience and a light touch. It helps to label the location of each piece as it is pulled, even if you're going to replace the removed piece with new stock.

My plan was to run the new posts up through the railing walls to the roof and to trim them above the railing with the old columns. The interiors of the hollow columns were considerably bigger than the 4x4 posts, so I had some leeway when I located the post footings. I also could plumb the post and still have it work within the existing porch.

To position the hole, I cut each post to length (about 4 in. above grade) and temporarily toenailed it to the beam. Plumbed, the post hung over the right location for the hole. After removing the post and digging the hole, I cut the builder's tube so that it would extend a couple of inches above grade. Because I live in the western part of the country, the pressure-treated wood I often use is incised Douglas fir whose preservative treatment doesn't penetrate all the way through the lumber. When I cut the top of the post, I treated the end with a wood preservative (www.coppergreen.com), then attached a Simpson CB44 base (www.strongtie.com). I toenailed the post to the beam once more with exterior-grade screws and used braces to hold the post plumb while the footing was poured. With the post in its final position, I fine-tuned the builder's tube so that it was centered below the post.

I kept the final height of the builder's tube lower than the post bottom so that I could mound the concrete slightly to drain water away from the post. When the concrete had set, I used galvanized lag bolts to attach the post to the base.

REPLACE THE IMPORTANT PARTS



Tend to the frame first. After the new posts were installed, the enclosed railing wall was reframed with new pressure-treated lumber (photo above). In addition, any rotted or suspect deck joists were replaced. As a money-saving measure, the old siding and trim were reused whenever possible. One column too far gone to save was reproduced from factory-primed 5/4 cedar. Blocking was ripped and nailed to the post (inset photo right) to align the new column to the correct location. After assembling the column around the post, band and cap moldings were installed.

In some more visible areas, the original molding was replaced by new stock (photo right).



Under the gun, think conservation when replacing trim

The original railing wall was built of untreated 2x4s that were rotting due to water and insect damage. I ran a pressure-treated 4x4 bottom plate between the new posts 2 in. above grade. From there, I rebuilt the railing wall out of pressure-treated 2x4s to the original wall dimensions.

With the frame in place, I reinstalled the trim and siding. I pulled the nails from the

back of the trim with lineman's pliers to avoid blowouts on the finished side of the wood, then scraped off the multiple coats of paint that had accumulated over the years. One column was too badly cracked to repair, so I replaced it with one I made from primed red cedar that will probably outlive the rest of the porch. □

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