BY JOHN LATORRE

Photos: Dan Bugsch

Building a Freestanding Wall

Several years ago I built a popular restaurant in Sonora, Calif., called the Diamondback Grill. My client, the owner of the restaurant, contacted me at the beginning of last winter. He'd been getting comments from diners about the cold air coming in the front door, so he asked me to build two small half-walls to separate the dining room from the entry area.

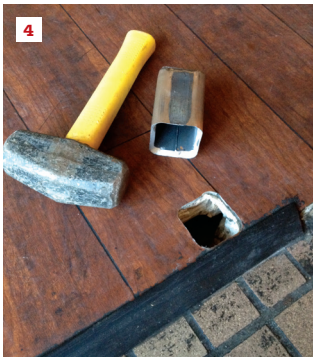
The restaurant's interior features a lot of bare steel, and for the room dividers the owner envisioned something simple and streamlined yet strong enough to meet code requirements. We chose a straightforward design: ¾-by-6-inch ipe decking boards stacked between two steel posts to create thin, elegant dividing walls.

The only catch was that these walls had to be independent structures with no other walls to tie into for rigidity. Fortunately there was a basement below the dining area with good access. So I planned to use the floor structure to give the posts their strength.

The 2-inch-square tubes made of 3/16-inch-thick steel came from Trotter Welding and Steel Supply in Sonora. I mounted a 7 ¼-inch Diablo 48-tooth "Steel Demon" blade on my table saw and ripped a channel in each post, using a short length of the decking to gauge the width of the channel. The blade cut through the steel almost as easily as a regular saw blade cuts through wood.

Cutting steel produces a shower of tiny, very sharp shards exiting at a rather high velocity, so you need to protect your eyes and any exposed skin while cutting. And although the steel "sawdust" is supposed to be warm but not hot, I cleaned out the wood dust from under the table saw before I started cutting the steel, as a precaution against fire. I ripped all four posts—more than 40 feet of rips—easily using the same blade.

I welded a small steel plate and a ½-inch nut to the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bottom of each post for attachment **(1)** and used a flap wheel and an angle grinder to remove burrs from the edges of the ripped channels **(2)**. I also smoothed over the welds on the bottom ends of the posts to ensure that they didn't stick out past the edge of the tubes.

To send the posts through the floor with a perfectly tight fit, I needed to cut holes the exact shape and dimensions as the steel tubing. These square tubes have rounded corners with ⅜-inch radii, and I could have created the holes by drilling the four corners with a ¾-inch drill bit and then chiseling out the material in between those holes. But to get the closest fit, I fabricated a square chisel from a short section of the tubing. Inspired by hollow chisel mortisers for making square holes on a drill press, I ground and filed the inside of the tube section to create a sharp cutting edge around the perimeter. I welded a plate on the other end so that I could drive it with a hammer **(3)**.

After driving through and removing the top layer of linoleum, I drilled holes just inside my initial cut and continued to drive the square chisel all the way through the floor, alternately driving and drilling as necessary **(4)**.

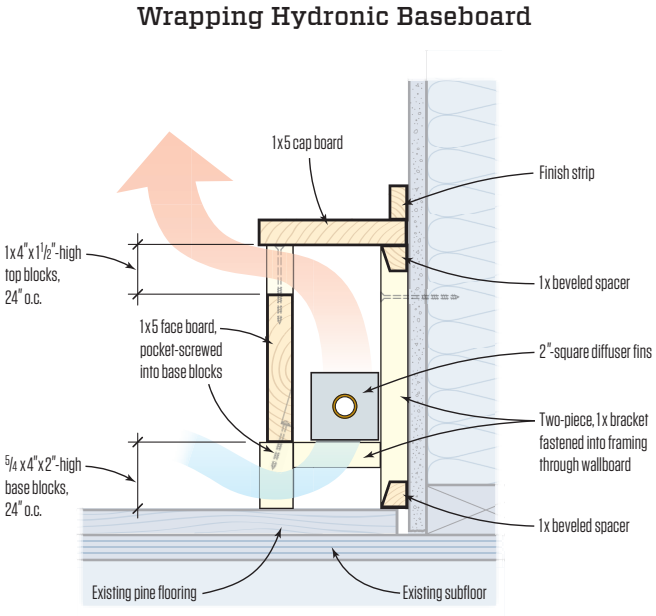
I slipped each post through a finished hole and held it at the proper height using a C-clamp **(5)**. In the basement, my helper bolted a 2x8 block to the bottom of each post. While I kept the posts perfectly plumb with a level, he screwed the blocks to the bottoms of the floor joists **(6)**. The channel in the post was great for running an extension cord into the basement. When finished, I tightened the bolts until the washers slightly compressed the surface of the block **(7)**.

Next came the ipe boards, which I cut about ⅛ inch short so that they wouldn't bind as they slipped into place. Because I'd cut the channel in the tubing for a friction fit, no mechanical attachment was necessary. I simply slipped the boards into the channels at either end, stacking them on top of one another **(8)**. I cut a slot in the center of each board with a biscuit joiner and used a single biscuit to keep the boards aligned with one another. I dry-fit the biscuits without glue so that the boards could be removed and replaced easily in the event of damage **(9)**.

I topped each post with cast steel caps from Trotter Welding & Steel Supply, in Sonora, Calif. **(10)**. These are designed to be welded in place and have a fairly loose fit. But I wanted them to be removable, so I peened the top of each post with a hammer and cold chisel just enough to create a friction fit. I then tapped the caps into place and made sure that they couldn't be removed by hand.

I finished the ipe with two coats of tung oil and left the steel bare to acquire a patina of scratches and a light coating of rust over time. That evening my wife and I were the first customers to enjoy dining in the newly protected area. The walls did their job of fending off the cold and the food tasted better than ever.

John LaTorre Jr. is a carpenter in Tuolomne, Calif.



Wood Covers for Hydronic Baseboard

BY RANDAL PATTERSON

Recently a friend asked me about making covers for the hydronic baseboard heat in his art studio, located in a converted 1920s barn. When he bought the place, the barn had been used as retail space for flooring products and the walls had been covered with ugly gray carpet glued to CDX plywood—literally wall-to-wall carpeting. When he went to remove the carpet, he discovered that the sheet-metal covers for the existing baseboard heat had been installed after the wall carpeting, so they would have to come out first. The covers were in poor shape, so he didn't reinstall them. Instead he asked me to help him design and build new wooden covers.

Our design for the covers was easy to build and called for stock-size lumber for the major components (see illustration, above). The covers start with simple right-angle brackets made from scrap 1-by pine that support the heating element. Each bracket consists of an 8-inch vertical with a 2 ¾-inch horizontal piece glued and screwed to it (2 inches for the element plus a ¾-inch ventilation space). The brackets attach to the wall with a single screw at the top and are screwed to ¾ base blocks that are in turn screwed to the floor. Stock 1x5 boards screw to the blocks for the vertical component, with 1-by blocks screwed to the top edge of the 1x5 to create the top ventilation slots. We also put bevel-edge spacer strips between the brackets: The bottom strip covered the gap between the flooring and the wall, and the top strip served as a cleat to support a second 1x5 board that screwed down on top to complete the cover.

Before beginning the assembly, we made a pile of base blocks and top blocks, each cut to 4 inches and pre-drilled for the attachment screws. The plywood walls in the studio meant that we could attach the brackets exactly where we wanted them. (With ordinary drywall, attachment would be through the wall and into the studs).

Photos: Roe Osborn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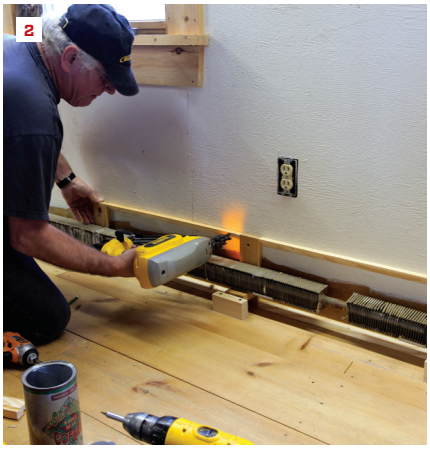
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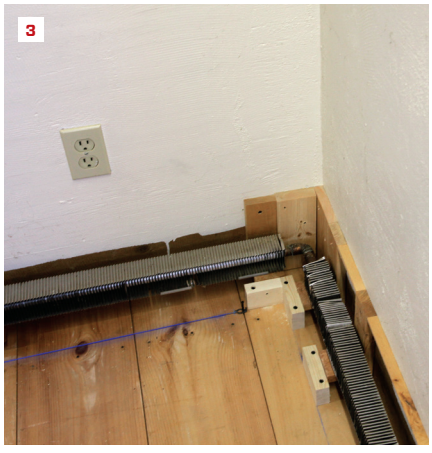
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We snapped a chalk line on the floor to align the base blocks **(1)**, which we spaced 24 inches on-center starting at the end of the first run. After installing the first bracket and base block, we pulled the 24-inch layout to the corner. We put the next block and bracket on the layout and cut spacer strips to fill in to the end bracket. The bracket stock was 2 ½ inches wide, so for the remaining brackets that would fall 24 inches on-center, we cut pairs of strips 21 ½ inches long, which would automatically put the brackets at the proper spacing. Then it was just a matter of screwing each base block to the floor on its layout, nailing in the spacer strips, then sliding the next support bracket over to the strips and screwing it to the wall **(2)**.

Because my friend's studio was in a converted barn, he had established a rustic aesthetic of exposed fasteners with unfinished #2 pine trim. So after positioning and installing each base block and bracket, we drove a single trim-head screw through the block and into the horizontal component of the bracket to join them. Where the heater continued onto an adjacent wall, we cut and joined two base blocks at right angles to form a corner with equal legs **(3)**. We had a space of about 4 inches left between the last base block on the layout and the corner, so we used that same spacing to begin the layout for the adjacent wall. From there we installed base blocks and brackets along that wall using the same process as before.

For simplicity, we made the face boards out of 1x5 stock straight from the supply house. Because space behind the corner face boards would be tight, we opted to pre-assemble them and work out from there. We began by cutting each leg of the corner to a length that would fall between brackets. Then we set both face boards on their base blocks to mark the locations for the pocket screws. After drilling the pocket holes, we screwed the two boards together to form the corner and positioned the assembly on the base blocks **(4)**. To deal with the tight quarters in back of the face boards, we drove the pocket screws into the base blocks using a 6-inch driving bit chucked into a right-angle drill **(5)**. To complete the run of face boards on each side, we pieced in the remaining lengths, joining the boards with butt joints and backer blocks **(6)**.

The next step in the assembly was installing the top blocks. Because they sat flush with the face board below, I opted to

glue them in place and let the glue begin to set up before driving the screws. (The glue keeps the blocks from moving if the screws start to wander as they're being driven.) I positioned each top block by butting a square against the base block below **(7)**. I glued the top blocks onto both legs of the entire run before going back and securing them permanently with screws **(8)**.

For the cap board, we again started in a corner, joining the lengths of 1x5 with butt joints. But this time we landed the joint over a block and bracket for support. We secured the cap board to each of the top blocks as well as to the top of each bracket along the wall with trim head screws **(9)**, letting the outside edge of the cap overhang the block by ¼ inch. We also screwed the cap to the upper spacer strip between the bracket positions.

We didn't try to scribe the top board to the wavy walls of the barn. Instead, we nailed in a thin finish strip to cover any gaps caused by the uneven walls **(10)**. In the end, we were able to construct around 40 feet of baseboard cover in less than five hours. The heat has been on constantly for almost three months and there has been no wood movement at all.

The design was perfect for this rustic studio, and it would be easy to upgrade the design using just about any type of wood to match a home's interior. But to make baseboard covers with a more finished look, I would seal or finish every surface of the components before assembly.

Randal Patterson is a licensed remodeler who lives and works on Cape Cod.