

On the Job

All-Terrain Material Cart

by Tom Hanson

We have limited access on a lot of our jobs; it's not unusual for us to have to park out on the street and haul tools and materials back and forth between our trucks and the work area. After searching in vain for some sort of material hauler with large wheels that would navigate turf as well as dirt, I finally decided to build my own.

The design was determined in part by the scrap metal that was available in the recycle area of my local salvage yard. I used several pieces of 2-inch by 4-inch steel tubing with $\frac{1}{16}$ -inch-thick walls to make the cart's frame. The 26-inch-long crosspieces are supported by 60-inch-long stringers, one of which I positioned on the flat when

I welded the pieces together, so that the bed tilts slightly (1, 2). This helps keep lumber tight against the upright arms when the cart bounces over bumps.

The cart rides on a pair of wheelbarrow wheels fastened to a $\frac{5}{8}$ -inch-diameter axle welded to the frame. It's 35 inches wide, so it fits through a typical exterior door, and I sized the 32-inch-long uprights so it would fit under the cap of my pickup after I remove the wheels.

One of the cart's key features is a long extension handle that I made out of 1 $\frac{1}{4}$ -inch-square tube; it slides into 1 $\frac{1}{2}$ -inch-square receiver tube welded to the uprights 20 inches above the bed (3). The handle can be positioned so that the operator is directly behind the cart, or it can be flipped over so that we can walk off to the side when we haul longer items like 12-foot dry-wall or 16-foot 2x4s.

I originally built the cart with a simple plywood bed, but soon replaced the plywood with a 17 $\frac{1}{2}$ -inch by 60-inch by $\frac{1}{8}$ -inch-thick piece of diamond plate welded to the frame. Even though the metal deck and the stretch metal between the vertical uprights make the cart heavier, smaller items like tools or garbage cans are much less likely to fall off.

To help hold materials that don't stack nicely — like old studs or siding riddled with nails — I welded brackets to the frame to support removable 1-inch-diameter poles (4).

At 120 pounds, the cart can be loaded into a truck by one man and can easily handle 300- to 400-pound loads, about as much as one man can push on soft ground. Altogether, it took eight to 10 hours of labor and \$200 in materials to build this cart, but it's become one of our most valuable tools.

Tom Hanson is a partner in Hanson Carlen Construction in Spokane, Wash.



Transforming a Fireplace

by Brian Cinski

I recently had the opportunity to design and build a colonial-style mantel. The homeowner had removed the earlier woodwork and glass doors and had a tile hearth and marble slip installed. I spent some time looking through my collection of books on the period, and had my supplier fashion router bits for two of the profiles I wanted to use; I got the rest from a stock multi-cutter that I already owned.

After making all the pieces in the shop, I started installation by attaching plywood backing to the brick with masonry screws, using a plumb laser and shims to get everything in the same plane (1). Next I installed the foundation layer — five separate pieces of ¾-inch MDF, with mitered L-shaped returns on the vertical end pieces for scribing to the walls. I used Dominos to join the pieces, placing the seams where they would be covered by pilasters. I attached the MDF to the backing with short square-drive screws, and used longer screws to hit the studs across the top.

I then installed the four pilasters and a quirk-and-bead around the marble slip, shown shimmed into place while the glue was setting (2). The center bump-out is two separate pieces and sits a little proud of the pilasters; the bottom piece is wrapped with ¼-inch MDF and hangs from the two pieces of plywood backing seen in the photo (3).

Coping was impossible for the detailed molding profiles, so I mitered inside corners. I started with the large cove molding at the top (4), then used gauge blocks cut to the width of the reveals to make sure the moldings below ran parallel. A bit of glue and 18-gauge brads hold the pieces in place. To install the mantel shelf I drove 2½-inch square-drive screws into the foundation layer, then plugged the countersunk holes. The mantel took about four days to install and paint (5).

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