Job-Site Shack

A modular tool shed that's roomy, well lit and secure

by Bill Young

I sometimes envy my subs because they can practice their trades neatly out of their trucks, and drive blithely on to the next job after a week or two. As a general contractor, I'm married to the site. I build large custom houses, and my small crew does everything from complex hillside foundations through cabinet-grade finish work. We use a variety of hardware and tools, and often end up working at the same location for a year.

My situation calls for a job shack—a lockable outbuilding where tools and hardware can be stored. This means you don't have to haul your equipment back and forth on a day-to-day basis. It also safely houses the job telephone, and provides a place to tack up the building permit and the clean set of plans. Lastly, the job shack is a place to sip coffee and plan strategy when it's pouring rain.

The shack shown here grew out of my dissatisfaction with dark, low sheds that rarely survive more than one or two jobs. I wanted a durable job shack that was a manageable load for a standard pickup, and easy to assemble. Even more important, I wanted enough natural light inside so things wouldn't get lost on the backs of the shelves. The building also needed to be secure enough to discourage all but the most determined burglar.

The modular design that I came up with bolts together. It consists of ten 4x8 plywood panels edged with 4x4s, four roof trusses, two 5-ft. by 8-ft. pieces of expanded metal, and five 2-ft. by 10-ft. corrugated-fiberglass roof panels (see the materials takeoff on the facing page for the complete list).

My shack cost me about $700 to build, but there's little reason to think that I'll ever need to replace it. Considering how long we spend on the site over the course of a year, the two hours it takes to assemble the completed modules is well worth the result. The shack is secure enough that I can store things like my transit there, with little worry of theft. And it's big enough (over 60 sq. ft. of floor space, and 48 sq. ft. of shelf space) to store tools and materials that I don't use everyday—the same things that would normally send me scurrying back to my garage if the need arose. I've even stocked my shack with a cast-off refrigerator that makes pail lunches a little less boring, and keeps the Friday afternoon staple colder.

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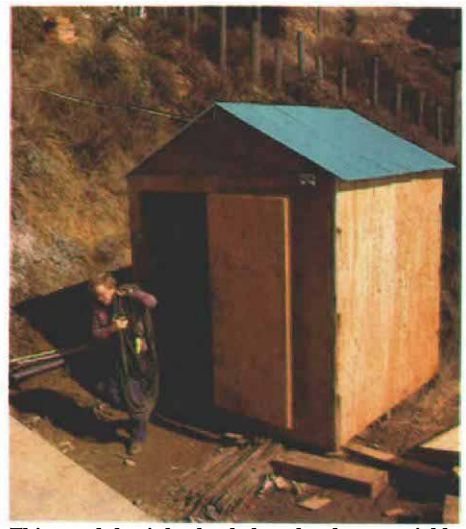


This modular job shack knocks down quickly and fits in the back of a pickup truck. Yet with over 60 sq. ft. of floor space and 48 sq. ft. of shelving, it holds the normal complement of tools and hardware, a wheelbarrow, a compressor and even a refrigerator. The translucent fiberglass roof panels keep the shack well lit, and the expanded metal screwed to the purlins and trusses helps keep burglars out.

Floor and walls—The floor is made of two 4x8 sheets of ¾-in. AC exterior plywood. I fastened fir 4x4s with glue and pneumatic staples flush with the four edges of each plywood sheet. After carefully aligning the two panels side by side, I joined them with three ⅝-in. by 8½-in. machine bolts that extend through the butted 4x4s.

I used 4x8 sheets of plywood for the walls also, but ½-in. AC exterior seemed sufficient. I fastened 4x4 ledgers back 4 in. from the top and bottom edges of all eight of these panels to form a lip. The top lip provides a positive seat for the ends of the roof trusses. The bottom lip overlaps the floor panel. The floor and wall panels aren't joined through this plywood lap, however. Instead I used two ⅝-in. by 8½-in. bolts through the bottom 4x4 on each wall panel and into the plywood and 4x4 of the floor panel.

The four wall panels that 1 used under the eaves on the two sides of the shack were identical, with 4x4s set flush with their long edges. I laid these panels out flat in pairs, drilling and bolting the two butting 4x4s in the same way I joined the floor panels. On the remaining two pairs of panels that form the gable-end walls, I inset the 4x4 on one edge of each by 3½ in. to allow for overlap with the side panels at the corners.

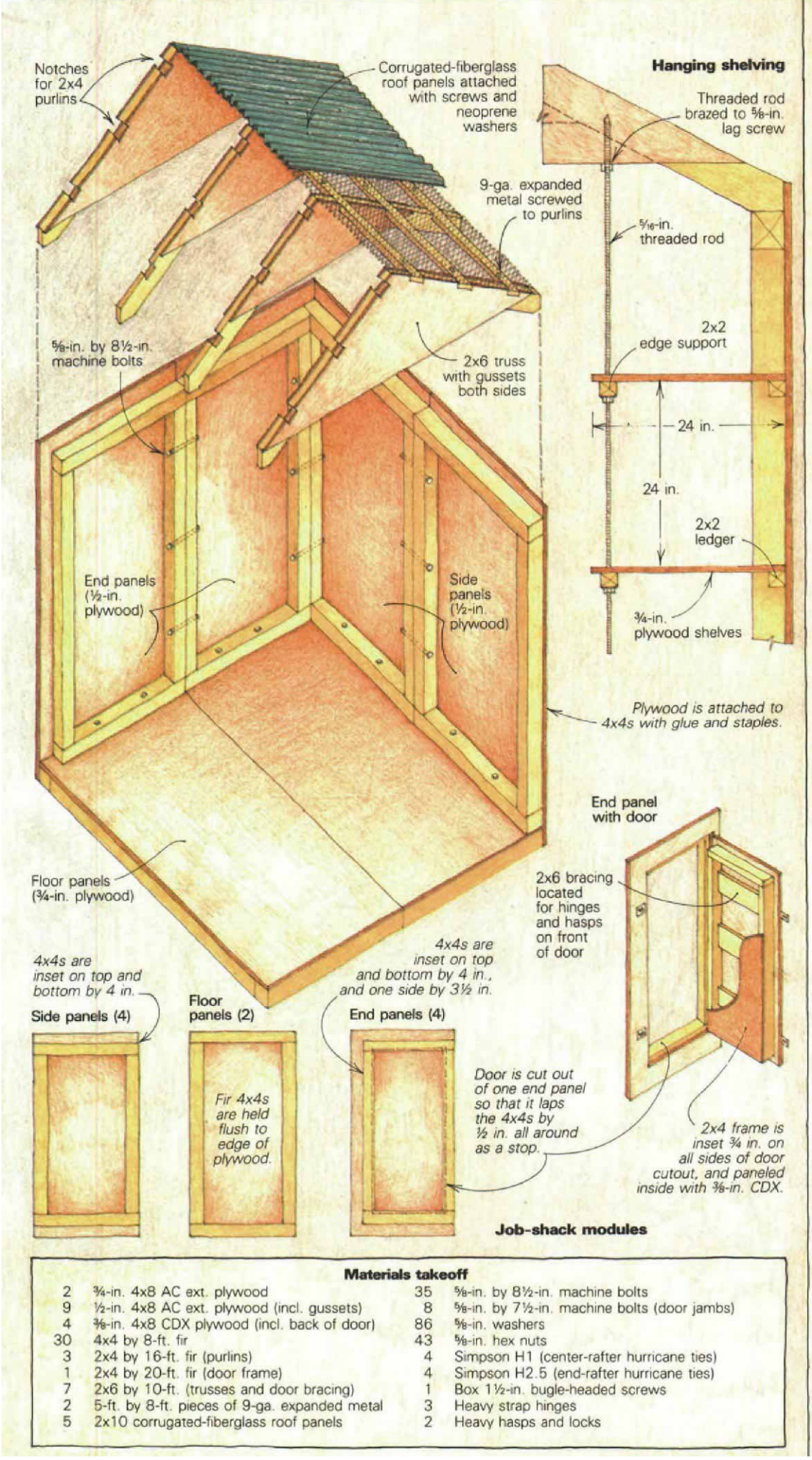
To make the door, I laid down one of the end panels with its plywood side facing up, drew the dimensions of the door, set my saw depth for ½ in. to avoid ripping into the 4x4s and cut free the rectangle. This door panel overlaps the inside edge of the 4x4 perimeter by ½ in. on all sides, forming a kind of stop. I reinforced the plywood door face with an inner frame of 2x4s, holding the frame shy of the edge of the plywood by ¾ in. all around to accommodate the overlap. Then I braced the door with horizontal 2x6s laid flat to add strength and to provide solid backing for the carriage bolts that secure the hinges and hasps. I nailed ⅜-in. shear panel on the inside of the frame for rigidity. The heads of the ⅝-in. by 7½-in. machine bolts that secure the panels on either side of the doorway were set in counterbores so the extra-thick door would clear the bolt heads in the 4x4 jambs.

Roof—The roof trusses are pitched for a 6-in-12 gable. I used 2x6 rafters with nearly full ⅜-in. CDX plywood gussets on each side. By setting the end rafters out to the edge of the frame, the plywood on the trusses serves as gable-end sheathing.

The tops of the trusses were notched to receive flat 2x4 purlins, three on each side of the slope. I used bugle-headed screws to secure them. I held the trusses down on the walls with sheet-metal angles called seismic-hurricane ties. The ties I used for the end trusses were Simpson H2.5s (Simpson Co. 1450 Doolittle Drive, San Leandro, Calif. 94577), with a Simpson H1 on each of the middle trusses.

Although I wanted a roof that gave me good natural light, security was just as important, and the 9-ga. expanded metal I used fits the bill. I was able to get 5-ft. by 8-ft. pieces, one for each side of the roof. I attached them to the purlins with screws and fender washers. An even more secure method would be to weld short pieces of angle iron to the underside of the steel fabric that could be screwed to the rafters from below.

The corrugated-fiberglass roofing keeps the rain out and allows good natural lighting. I overlapped the panels a few corrugations and attached them to the purlins with screws and neoprene washers to prevent leaks. ❑



Materials takeoff

2	¾-in. 4x8 AC ext. plywood	35	5/8-in. by 8½-in. machine bolts
9	½-in. 4x8 AC ext. plywood (incl. gussets)	8	5/8-in. by 7½-in. machine bolts (door jambs)
4	3/8-in. 4x8 CDX plywood (incl. back of door)	86	5/8-in. washers
30	4x4 by 8-ft. fir	43	5/8-in. hex nuts
3	2x4 by 16-ft. fir (purlins)	4	Simpson H1 (center-rafter hurricane ties)
1	2x4 by 20-ft. fir (door frame)	4	Simpson H2.5 (end-rafter hurricane ties)
7	2x6 by 10-ft. (trusses and door bracing)	1	Box 1½-in. bugle-headed screws
2	5-ft. by 8-ft. pieces of 9-ga. expanded metal	3	Heavy strap hinges
5	2x10 corrugated-fiberglass roof panels	2	Heavy hasps and locks

Illustration: Frances Ashforth

Supporting utility shelves

Utility shelves that will take a keg of nails dropped off a laborer's shoulder are usually so cluttered with 2x4 supports that the nails end up being stored out in the rain. The shelving system I use takes lots of weight, allows for any number of shelves at adjustable heights, can be easily disassembled, and leaves the floor space under the bottom shelf completely open.

My system doesn't depend on a frame resting on the ground. Instead, the shelves rest on ledgers along the back, and are suspended at the front from the ceiling by 5/16-in. threaded rod. The front edge of the shelf is stiffened with a 2x2 and supported by a washer and nut.

What makes this top-hung system work is the connection between the all-thread and the 5/8-in. by 5-in. lag screw that is driven into an overhead framing member designed to take the load. I drill out the head of the lag screw about ½-in. deep, and then nickel-silver braze the all-thread to it. If long pieces of threaded rod become cumbersome, you can always buy shorter lengths and use unions.

On the job-shack shelving shown in the photo below, I ran two vertical threaded rods 32 in. apart that were lag-screwed to the bottom chord of the trusses. The rods support the front edges of ¾-in. plywood shelves that are 2 ft. deep and 8 ft. across, and drilled out for the rods. The back edges are supported by 2x2 ledgers screwed into the shack walls. In this case, I left a little less than 2 ft. of clearance between shelves. Leveling the shelves is easy—you just give the nut another turn. ***—B. Y.***