

# Build a Streamlined

# Woodshed

Designed to be erected in a day, this shed uses readily available materials and basic tools



BY ROB WOTZAK

A few years ago, I offered to help a friend build a woodshed in his yard. I imagined a simple rack made of 2x4s and a few sheets of metal roofing—but when I found out the shed would need to hold five cords of wood, I had to adjust my plans. The design I came up with is easy to scale up or down, as I did for the much smaller shed shown in this article.

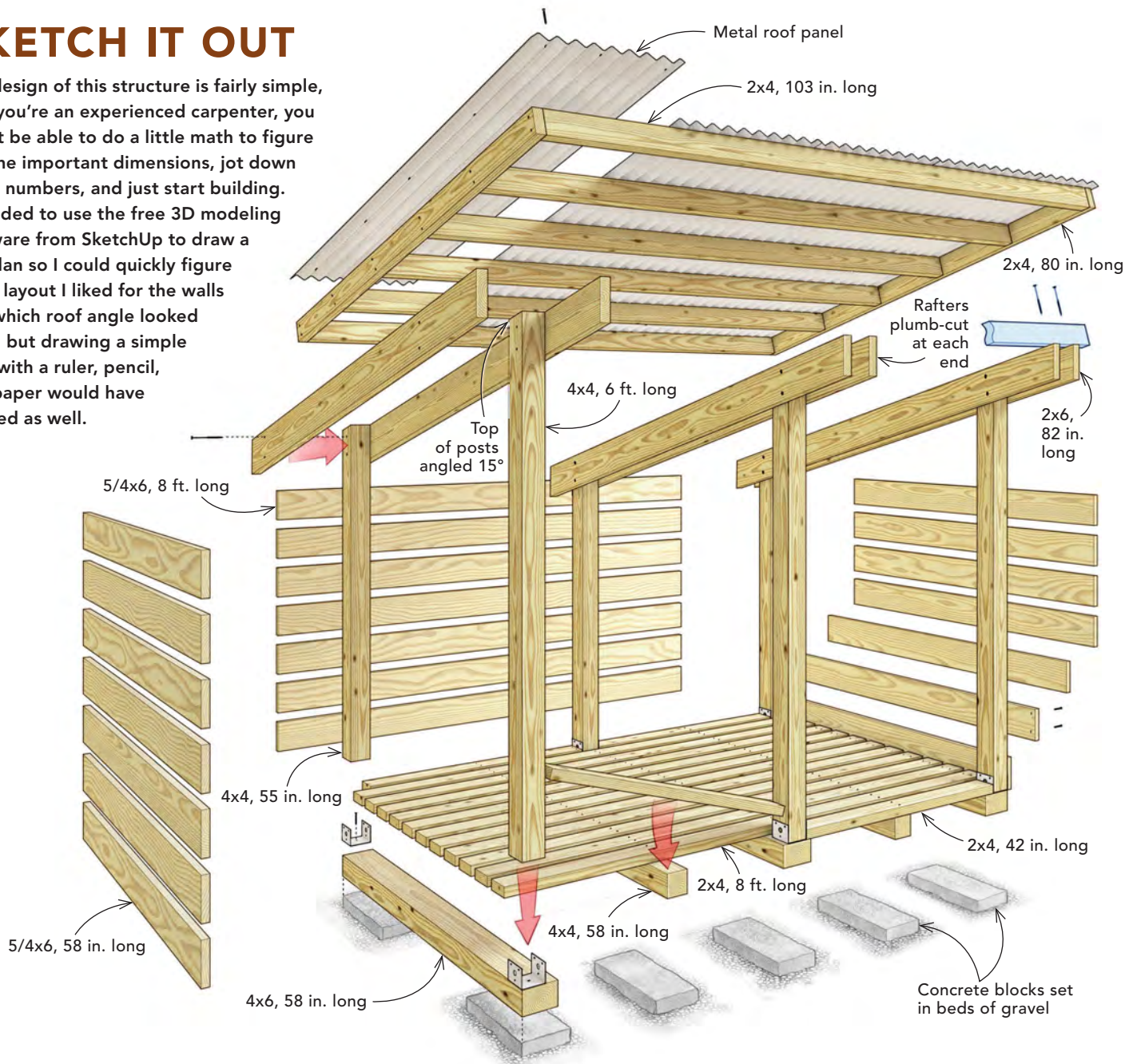
Ideally, a woodshed is sized just tall enough to comfortably walk inside to stack firewood. With a shed roof, the deeper the structure, the taller it needs to be. A cord of stacked firewood takes up 128 cu. ft.—basically a 4-ft. by 4-ft. by 8-ft. pile. When planning your own shed, choose a height and floor layout that works for you, but don't forget to consider adding a decent roof overhang on the front for extra protection from the elements.

This shed measures 5 ft. deep, 8 ft. wide, and 8 ft. tall, so I was able to use standard-size framing lumber with minimal waste, but you can build whatever size fits the number of cords you want to store and the space you have in your yard. □

Rob Wotzak is digital brand manager. Photos by Kiley Jacques, except where noted.

# SKETCH IT OUT

The design of this structure is fairly simple, so if you're an experienced carpenter, you might be able to do a little math to figure out the important dimensions, jot down some numbers, and just start building. I decided to use the free 3D modeling software from SketchUp to draw a full plan so I could quickly figure out a layout I liked for the walls and which roof angle looked right, but drawing a simple plan with a ruler, pencil, and paper would have worked as well.



## MATERIALS LIST

### Foundation

- (8) 50-lb. bags of gravel
- (10) 4x8x16 solid-concrete blocks

### Floor

- (1) 4x6x16, PT
- (1) 4x4x10, PT
- (13) 2x4x8, PT
- (6) 4x4 galvanized post bases
- (1) Box Simpson Strong-Tie #9 1½-in. Structural-Connector Screws (100-count)
- (1) 5-lb. box 3-in. galvanized deck screws

### Posts/rafters

- (3) 4x4x12, PT
- (6) 2x6x8, PT

- (1) Box FastenMaster Headlok 4½-in. Heavy-Duty Flathead Fasteners (50-count)

### Walls

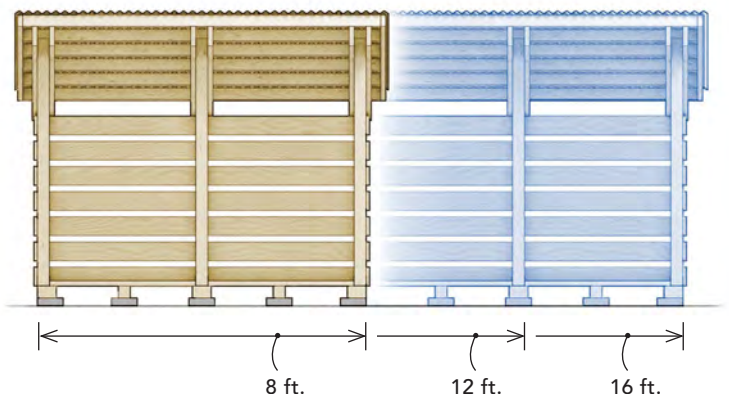
- (7) 5/4x6x8 PT deck board
- (7) 5/4x6x10 PT deck board
- (1) 5-lb. box 2½-in. galvanized deck screws

### Roof

- (6) 2x4x10, PT
- (2) 2x4x8, PT
- (5) Union Corrugating 2.16-ft. by 8-ft. Corrugated Metal Roof Panels
- (1) Box Tek's #9 Self-Drilling Roofing Screws (400-count)

## MODULAR METHOD

The design can be scaled up or down. Making additional bents is simplified by the assembly-style approach.



## PREP THE SITE

There are a few different ways to prepare the shed base. For the shed featured here, which is small in size, I opted for a grid of concrete blocks set in gravel. Another option is to lay a bed of tamped gravel, which provides a dry, mud-free site to build on. (Plus, you don't have to get fussy when raising and leveling the shed—if one sill beam is a little low, just lift it and rake some gravel under it.)



**Dig footings.** Set and level solid concrete blocks on compacted gravel to support the ends of each of the floor beams.

## CUT THE PARTS



**Figure out post lengths.** Mark and cut the tops of the front and rear posts to match the height and pitch of the roof. If you did an accurate drawing, you should be able to pull the lengths and cut angles right from it, but you can also lay the posts out on the ground with a sill beam, a rafter, and a tape measure and mark your cuts in place.



**Cut floor beams to length.** The shed depth and resulting beam length are based on how many courses of firewood you want to fit in the shed—in this case, three. Consider the proportions that will look good and use a common board length that will leave little waste after being cut to size. Make two passes with a circular saw for the cuts.

**Cut posts.** Flush-mounted rafters are held in place with TimberLok screws because the rafters are just supporting a lightweight metal roof. If this method won't pass code where you live, mark and cut 1½-in. notches at the tops of the posts.

# ASSEMBLE THE BENTS



**Attach post bases.** Fasten the bases to the ends of the beams. Put them all the way to the edge for the side beams and center the hardware on the center beam. To keep things simple, these post bases are installed with screws rather than bolts.

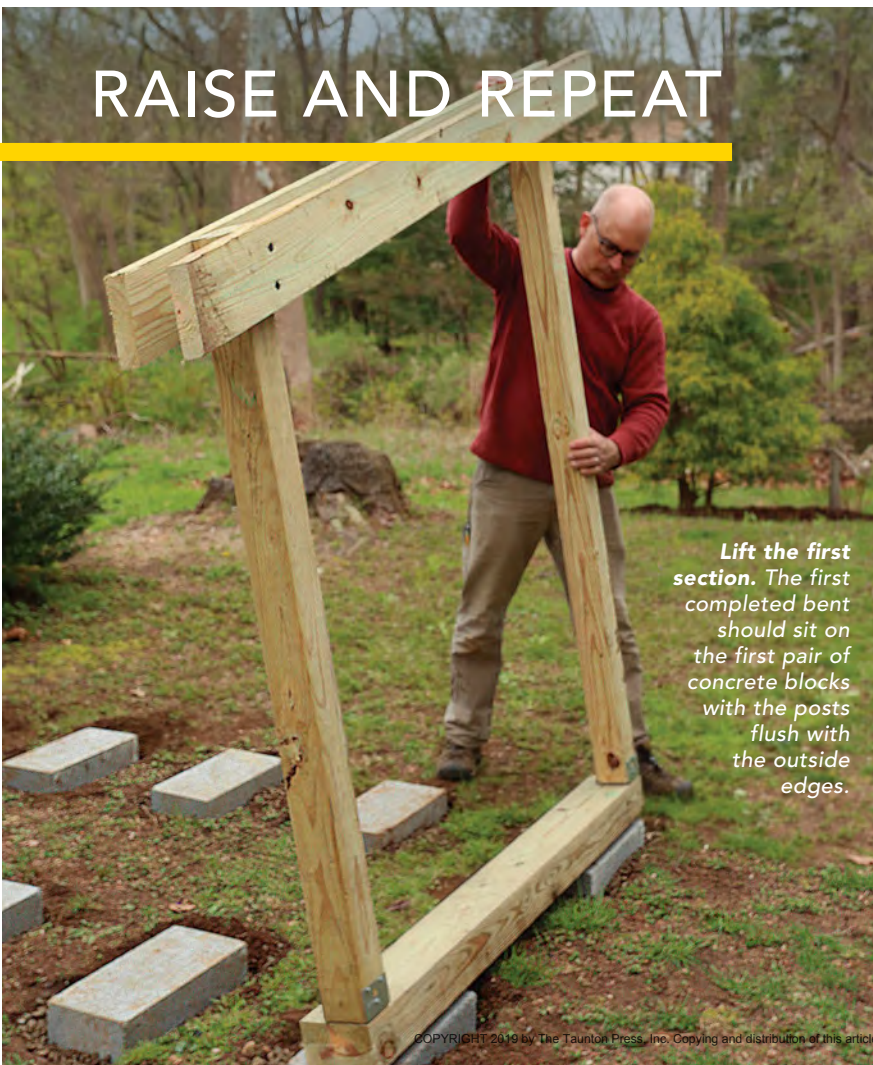
**Cut and secure rafters.** Once the posts are squarely attached to the beams, cut the rafters to length and fasten them at the top of the posts, leaving the desired overhang on each end.



**In hindsight...** You will attach the posts while the sill beams are lying on their sides, so learn from my mistake and orient the hardware so the fastening flanges are on the front and back instead of the sides—otherwise you will have to flip the whole assembly over to drive the screws on one side of the base.



# RAISE AND REPEAT



**Lift the first section.** The first completed bent should sit on the first pair of concrete blocks with the posts flush with the outside edges.



**Plumb the posts.** Attach temporary diagonal bracing to keep the shed frame plumb and square until there are enough floor and wall boards attached to lock everything in place. Keep the bracing completely inside the perimeter of the shed on the back posts so it won't be in the way when installing the walls.

# LAY THE FLOOR

I've found that if I choose appropriate spacing for the floor beams, then 2x4s are plenty strong for a shed floor. Because this shed sits right on the ground with nothing to hold each of its beams in position, the floor boards keep the base square.

**Lay intermediate floor beams.** There is no beam on the front or back of the shed and no true floor joists. With this system, you raise the main frame sections, drop the additional beams in between, and screw down the 2x floor boards to tie everything together.



**Fasten floor boards.** Attach the 2x4s at the front and back, putting two 3-in. screws into the boards where they cross each beam. Infill with enough floor boards to leave 1-in. gaps for airflow to help dry the firewood. Use 1-in.-thick scraps to space them out as you fasten them down.

# ERECT THE WALLS

Because everything is locked in with temporary bracing, it doesn't matter which side you put up first. I'm using 5/4 PT decking for the walls because it provides a good balance of strength, thickness, and board width. Plus, it's nice-looking and straight boards are generally easy to find compared to PT 2x4s or 1x4s. I planned this shed to be exactly 8 ft. long so I could buy 8-ft. boards for the back wall without having to cut them to length.

**Put on the sides.** The wall boards go up in the same fashion as the floor boards. Put a 2x4 scrap at each end to create a 1½-in. gap and lay the next course, then fasten the boards with 2½-in. screws at each post. Using spacer blocks means there's no need to measure when laying out the courses. Plan the height so the top of the wall will finish with a full-width board.

# INSTALL THE ROOF

It's easiest if you design your shed to use standard-length metal roofing panels. My local lumberyard carries galvanized metal in 8-ft. and 12-ft. panels, which are ideal, but for this project I needed to cut sheets on-site.



**Fasten purlins.** Set each 2x4 purlin on edge and then fasten them into the tops of the rafters with HeadLok structural screws. Because the shed's metal roofing runs from front to back, the rafters act more like beams to support the horizontal purlins.



**Trim detail.** Fasten a 2x4 board to the ends of the purlins to finish off both sides of the roof framing.



**Cutting sheets on-site.** Clamp a board or other straight edge onto the entire stack of panels and use a metal-cutting blade in a circular saw to make quick and clean cuts in the roof panels.

**Screw sheets to framing.** Use self-tapping metal-roofing screws to fasten the panels to the purlins. These screws have silicone or rubber gaskets to prevent leaks. Refer to the manufacturer's fastening schedule for the ideal spacing.



**Add remaining panels.** Work from one end of the roof to the other, following the roofing manufacturer's guidelines for panel overlap and fastener layout.