



# Modern Adirondack Chair

A comfortable, contemporary take on the backyard classic

BY TOM McLAUGHLIN

Great for kicking back with a drink and lazing the time away, Adirondack chairs are pretty common on decks and patios and in yards. But they're often uncomfortable to sit in and hard to get out of, unsightly affairs made either of molded plastic or boards screwed shoddily in place. My version fixes those faults. Built to withstand years outdoors, it's made of cypress and constructed with solid, reinforced joinery. As for the design, subtle angles echo throughout, including on its arm, which is canted to provide both comfort and a perfect spot for a beverage. And how does it sit? Well, a number of people have remarked, "It's so comfortable, and I can actually get out of it!"

## Start with a full-size drawing and templates

Chairs with curves and angles like this are best made using a full-size drawing, which makes it easy to create accurate templates, precisely locate the mortises, and confirm the various dimensions and angles, which can all shift a bit during a build.

The main routing template is for the side rails, which also serve as the back legs. The template has guide slots for routing the seat rail mortises and the long, curved groove for the seat slats. To rout the guide slots for the rail mortises, clamp a straightedge to the template and use a  $\frac{5}{8}$ -in. bit and  $\frac{3}{4}$ -in. guide bushing (later, you'll use a  $\frac{5}{8}$ -in. bushing and  $\frac{1}{2}$ -in. bit to cut the mortises). To plunge-rout the guide slot for the seat-slat groove, make a second, curved template. Tack it to the main template to rout the guide slot.

## Curved side rails and front legs use router joinery

The chair's side rails, which are dadoed into the front legs, each have two mortises for the front and back rails, as well as a winding groove for the seat slats. Before cutting the joinery for these, bandsaw out and fair the parts. Then tack the template to the inside surface of each side rail. Plunge-rout the mortises and slot.

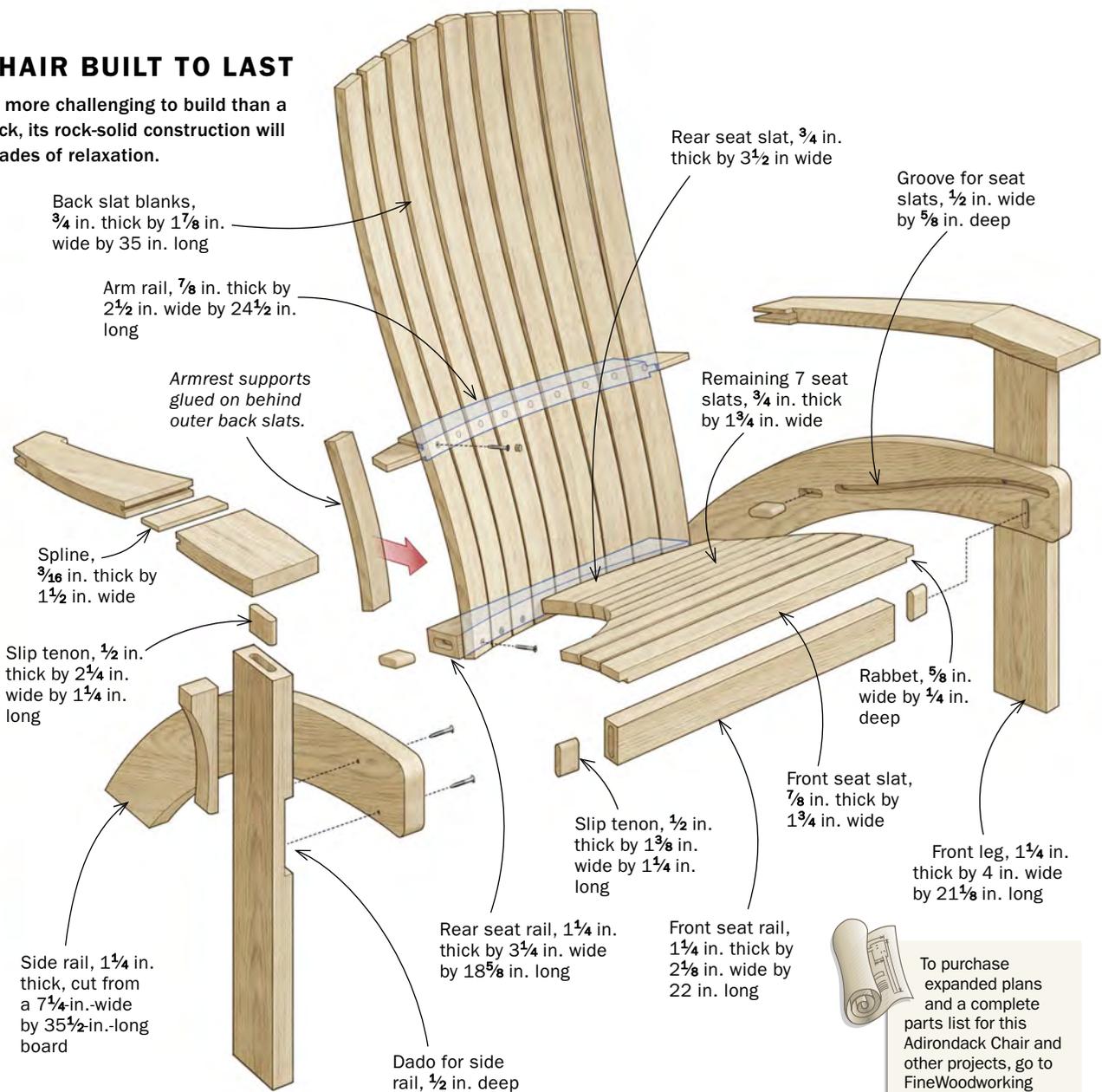
Marking the dado on the front leg where the side rail is let in can be tricky because of the curves, so I recommend using a registration jig that will accurately position and hold the pieces in place. You'll use the same jig during assembly.

# OUTDOOR CHAIR BUILT TO LAST

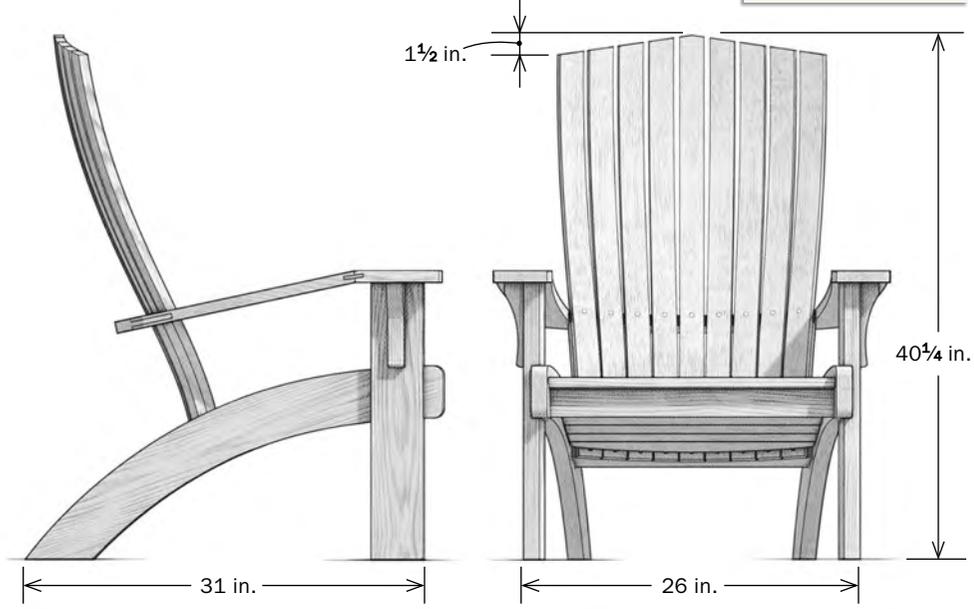
While this version is more challenging to build than a traditional Adirondack, its rock-solid construction will reward you with decades of relaxation.

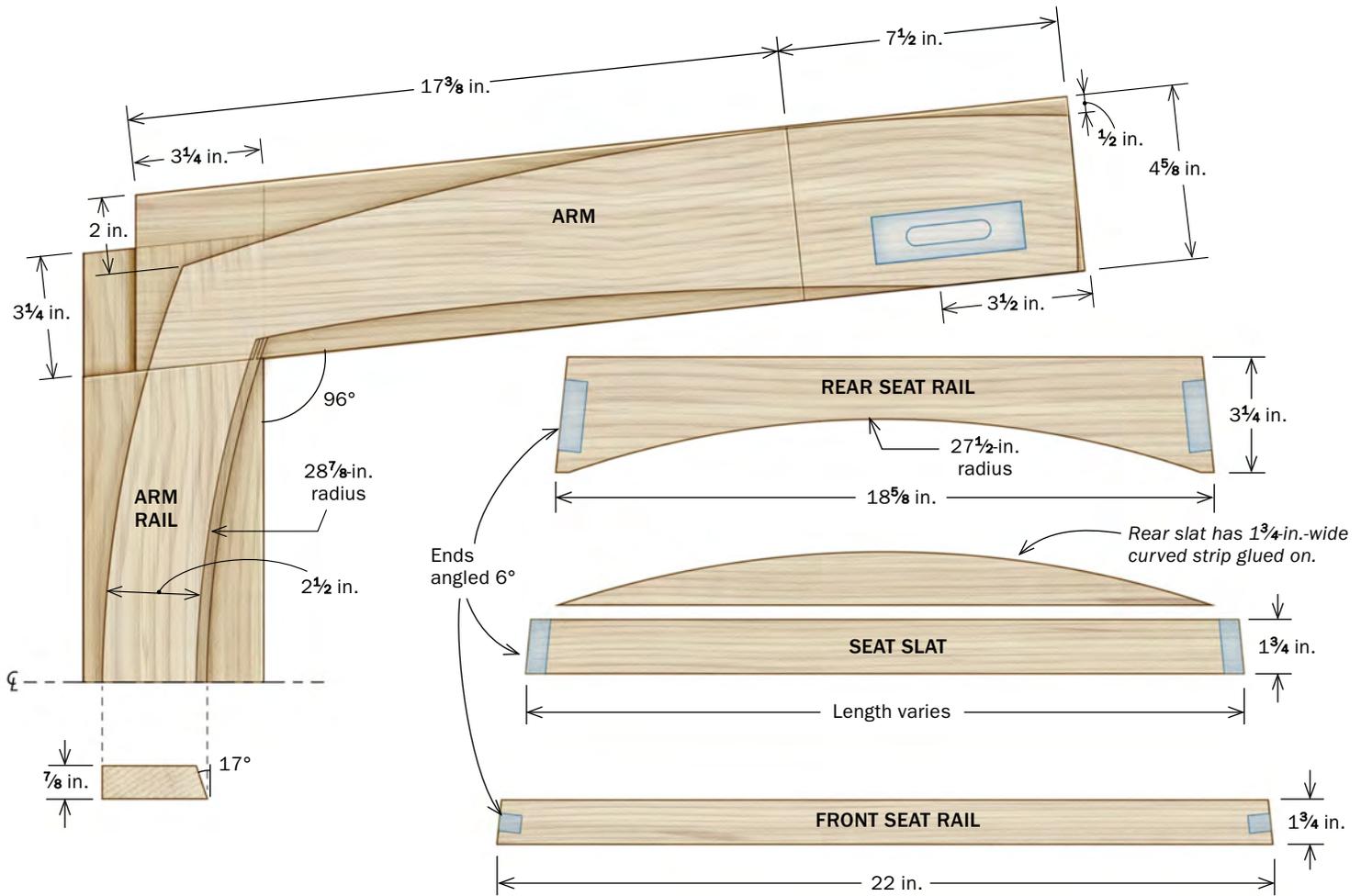


**BACK-SLAT PROFILE**  
1 square = 1 in.

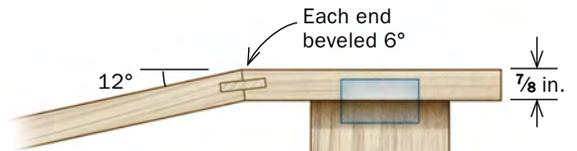


To purchase expanded plans and a complete parts list for this Adirondack Chair and other projects, go to [FineWoodworking.com/PlanStore](http://FineWoodworking.com/PlanStore).

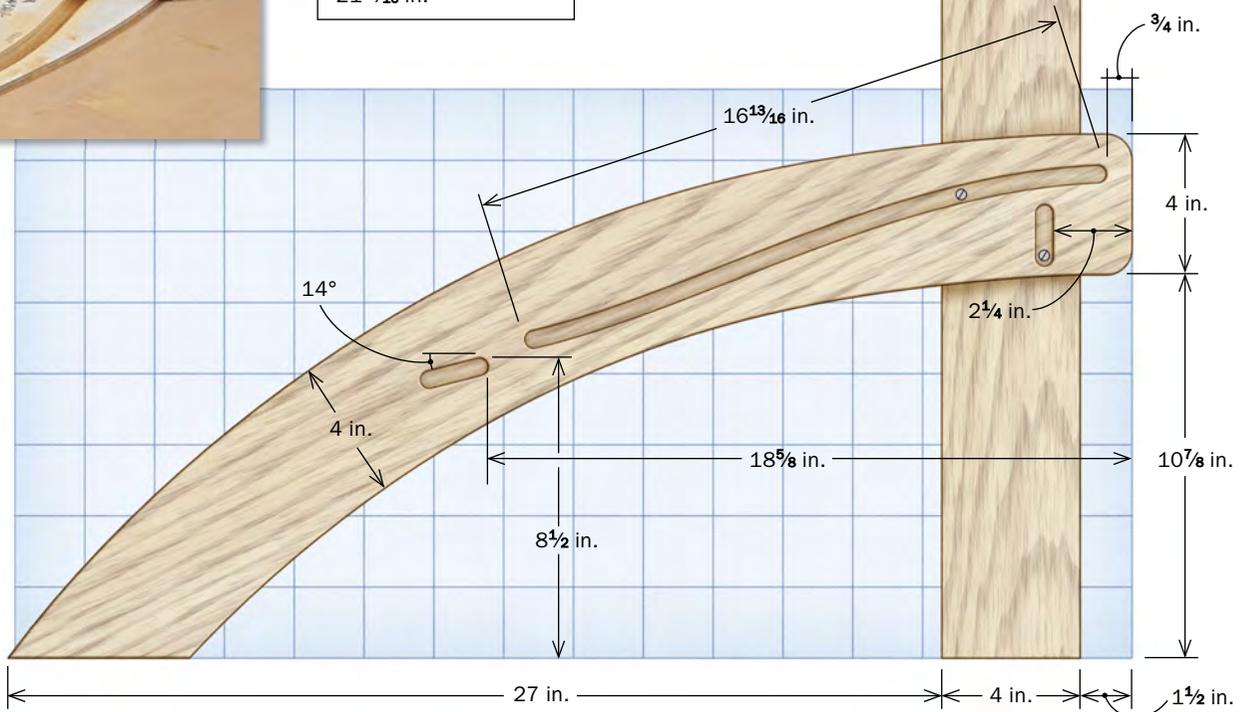




SEAT SLAT LENGTHS	
23 <sup>9</sup> / <sub>16</sub> in.	21 <sup>7</sup> / <sub>16</sub> in.
23 in.	21 <sup>1</sup> / <sub>16</sub> in.
22 <sup>9</sup> / <sub>16</sub> in.	20 <sup>11</sup> / <sub>16</sub> in.
22 <sup>3</sup> / <sub>16</sub> in.	20 <sup>5</sup> / <sub>16</sub> in.
21 <sup>13</sup> / <sub>16</sub> in.	

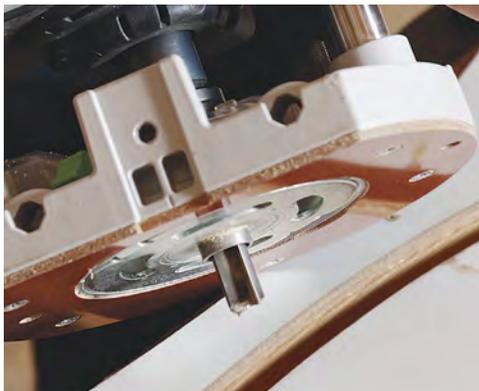


**A template for a template.** To rout the guide slot for the seat slats, McLaughlin tacks a curved template onto the side rail template. He uses a 5/8-in.-dia. bit and a 3/4-in. guide bushing. End stops are added to determine the length of the slot.



# Begin with the base

## LEG/SIDE-RAIL ASSEMBLY



**A template for the side rails.** To rout the mortises for the back and front seat rails, as well as the winding slot for the seat slats, McLaughlin uses a template, tacked in place, and a guide bushing for repeatable results.



**Notch the leg for the side rail.** McLaughlin built a simple layout jig to help register the side rail and front leg and hold them in place while he uses a knife to mark the dado for the rail. He routs the waste freehand, staying away from his knife lines. He then chisels to the lines until the side rail fits snugly.

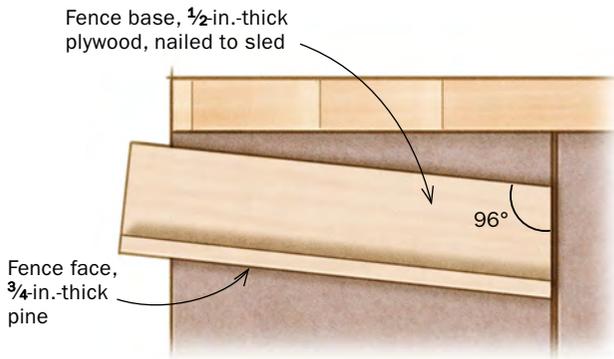


**Mortise the top of the front leg with a plunge router.** This template uses centerlines to align the mortise and is tacked in place.



**Glue and screw the assembly.** Instead of clamping, run screws from the inside, concealing them at the bottom of the slots. Using the same layout jig is a boon here. Set this assembly aside until later.

## SEAT RAILS NEED ANGLED ENDS



**Angled fence guides the cuts.** The base of the fence is tacked to the sled at the seat rail angle. The tall face is tacked to the base, providing sturdy support for the stock.



With the parts in place, use a sharp marking knife to scribe the curved shape of the side rail across the inside of the front leg. Rout to just shy of the knife lines. I draw a pen line 1/16 in. inside the knife lines to make it easier to see where to rout. Then I chisel cleanly to the knife lines.

The top of each front leg is mortised for a slip tenon using a template and plunge router. This tenon will join the leg with the arm.

After routing the mortise, glue and screw the side rails to the legs using rustproof screws and waterproof glue, which you should use throughout the project. The registration jig again helps here.

### The seat rails and slats get angled ends

The chair's front and rear seat rails are angled at each end, as are the seat slats. The rear seat rail is also tilted, making that a compound-angle cut. This geometry is easy to tackle with an angled fence in your crosscut sled and a 14° wedge (see photos, below). When the front and rear rails are done, plunge-rout their



**Cut the front seat rail to length.** Hold the stock tight to the fence when making these cuts.



**Back seat rail needs a wedge.** This cut's a compound angle. To reduce the headache, put a 14° wedge under the stock. When cutting the other end, you'll need to flip the wedge so the low side is against the fence.



# Assemble the armrest

## ANGLED JOINERY



**Miter the arms.** Tilt the sawblade to 6° to form the arms' 12° slant. McLaughlin cuts and rejoins a single board for each arm, so the grain flows continuously along the arm's length.



**Angled cuts for the spline.** To create a slot 90° to the miter, keep the blade tilted to 6° when cutting grooves for the splines. Register the inside faces of the parts on the fence.



**Wedge angles arm assembly.** Use a 6° wedge while cutting both halves of the bridge joint. Be sure to flip it for opposing cuts to keep the joint angled appropriately.

## GLUE AND TRIM

**Cauls direct pressure.** Blocks temporarily glued to the arm parts ensure clamping pressure is square to the joint. Orient the spline's grain so that it follows the grain of the arms.



**Arm assembly comes together with a bridge joint.** When gluing up the arm assembly, which consists of the arms and arm rail, horizontal clamps close up shoulders while vertical clamps pinch the mortise walls to the cheeks of the tenon. Cut the arm rail's angled inside arc before assembly.

## Online Extra

To follow along as Tom McLaughlin makes the angled arms of this chair, go to [FineWoodworking.com/273](http://FineWoodworking.com/273).

mortises using a template in the same way as you did the tops of the front legs.

As for the rabbets at the end of the seat slats, I cut them on the tablesaw using a miter gauge and a dado set. The slats will be nailed in place, so a little end-to-end wiggle room is fine—except on the front one. The front seat slat is more structural, so it is crucial that its shoulders are tight to the side rails. Also, it is  $\frac{1}{8}$  in. thicker than the others and glued in place. Lastly, the rear slat needs to be wider than the rest so its back edge can be sawn to a curve to fill in the negative space where the vertical back slats are attached along the arc of the rear seat rail.

## Splines add strength to mitered arms

The arms are flat for about  $7\frac{1}{2}$  in. at the front and angle down 12° from there. A miter cut makes this possible. To make the miter, angle the tablesaw blade to 6° and crosscut both ends of the joint.



**Bandsaw to shape.** After the glue dries, cut the arms and back of the rail to shape at the bandsaw. Clean up these cuts with hand tools.

# Tackle the slats

## BACK SLATS



**Pivot fence lets you follow the curve.** To bandsaw parallel to the curve, clamp a pivot fence just ahead of the blade. Keep the section being sawn approximately 90° to the pivot point while moving through the cut (1). After each cut, tack a template onto the board, setting it slightly back from the sawn edge (2), and trim flush to the pattern using a bearing-guided bit at the router table (3). This will leave you with just one face to clean up after sawing. Repeat this process for each of the back slats.



Since this is a butt joint, I use splines for reinforcement. To make the spline grooves 90° to the miter, hold each piece vertically and cut them with the sawblade still at 6°. The grain of the splines should run in the same direction as that of the arms. When assembling this miter, glue temporary clamping blocks to the arm to keep clamping pressure square across the joint. The arms connect to the arm rail with a bridle joint cut at the tablesaw. Be sure to bandsaw the angled curve of the rail's inside edge before gluing the parts together. When the glue is dry, bandsaw the rest of the arm assembly's shape. Clean up these cuts by hand.

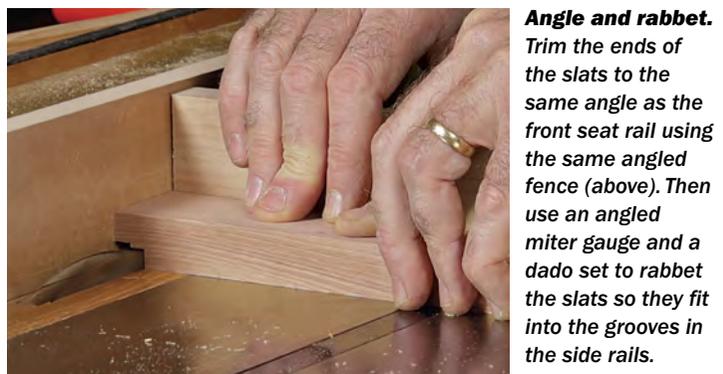
### Bandsaw and router team up on curved back slats

For consistent grain across the nine curved back slats, saw them from a single board milled to 17/8 in. thick by 10 in. wide by 38 in. long. This board is longer than the slats; you will cut the slats to length later.

Making the curved back slats involves some back-and-forth between the bandsaw and router table. Using a template, trace the shape of the slat along one side of the board and then bandsaw to it. Then set the template slightly back from the sawn edge, tack it down, and flush-trim to the pattern. You'll need a flush-trimming bit at least 2 in. high. After removing the template, bandsaw out the curved slat using a pivot fence. To be sure the curve is sawn parallel, guide the routed surface against the fence, keeping the section being sawn approximately 90° to the pivot point.

Repeat this sequence—tacking the template slightly back from the sawn curve, routing flush along the template, and bandsawing

## SEAT SLATS



**Angle and rabbet.** Trim the ends of the slats to the same angle as the front seat rail using the same angled fence (above). Then use an angled miter gauge and a dado set to rabbet the slats so they fit into the grooves in the side rails.

# Dry-fit for final trimming and mortising

**Attach the back slats.** Pre-drill and use rustproof screws to attach the slats to the rear seat rail. Make sure the slats are evenly spaced and flush with the bottom of the rail.



against the pivot fence—until all nine slats are done. The bandsawn surface on the back side of each slat can be quickly cleaned up with a spokeshave and block plane. Also, it's helpful to make the two rear arm supports now, since they need the same curve as the slats. These get glued to the back of the two outer back slats and fit between the rear seat rail and the arm rail, strengthening the arm assembly.

Finally, crosscut each back slat to length by trimming the bottoms. The tops will be trimmed to shape later.

## Fit the arm assembly and then add the back slats

While the arm rail simply rests on the two arm supports, the arms connect to the front legs via a slip tenon. Despite having a full-size drawing, I save the layout of this mortise until now so I can dry-fit the chair and trace around where the legs meet the arms in the actual chair, not my drawing of it. Use the same template for this mortise as you did for the mortise into the top of the leg.

With these slip tenons in place, dry-fit the chair again so you can mark where to pre-drill for the screws that secure the back slats to the arm rail, as well as for the plugs that will cover the screws.

Now you can temporarily screw on the back slats to mark their upper peaked profile with a straightedge. Disassemble the chair to cut the tops of the slats on the bandsaw.

## Put it together one last time

The pre-assemblies are done and it's time for the real deal. I recommend following a few steps here.

First, re-screw the back slats to the rear seat rail. Then apply glue to the tenons of the front and rear seat rails, but don't install them fully. For now, partially insert these pieces into the leg/side rail assembly, with



**Mark and rout the arm mortise.** Dry-fit the chair and clamp the arm assembly to the front legs. Then trace around the leg to locate the mortise position. Center the mortise within the leg outline and use the same template to rout this mortise as you did for the leg's mortise.



**Draw the back slats' profile.** With the chair dry-fitted again, use a pencil and straightedge to mark the top of the slats for final trimming.

## Final assembly



**Assemble the sides and slip the slats into place.** Glue the parts and bring them part way together, but don't clamp yet. With the front and back seat rails loose, you'll be able to pivot the seat slats into place one by one. Afterward, clamp across the rails and let the glue dry. Use shims to space the seat slats equally. Glue only the front slat in place. The others are simply nailed in from underneath.



the front more open than the back, allowing you to slide the seat slats into the channel. Add glue only to the front, thicker slat.

With all these slats in place, clamp across the front and rear seat rails. Space the seat slats evenly and drive nails up through the bottom of the rabbeted ends.

Now glue and clamp the front legs to the arm assembly. Screw the back slats to the arm rail. Then glue in the plugs and trim and sand them flush.

The last pieces are the corbels, which help support the part of the arm that overhangs the outside of the leg. Simply glue these in place. □

### Finish is not really needed

Finish is optional with a wood that weathers as well as cypress. It will oxidize in the sun and naturally turn a pleasing gray. However, if you don't prefer the natural look, you can paint the chair or apply a clear outdoor finish. But bear in mind this comes with a price, as the chair will require nearly annual recoating to keep it looking good. □

*Tom McLaughlin is a furniture maker, woodworking teacher, and host of Fine Woodworking's show on public television.*



**Arms and back.** With the arms glued and clamped to the front legs, screw the back slats to the arm rail with small brass screws. Conceal these with long-grain plugs. Make them with a plug cutter from leftover slat stock, and orient the grain vertically to match the slats.