

Building a Sam Maloof Style Chair Seat

First, I would like to say that this construction process is all Sam Maloof. Taunton Press published a video, *Sam Maloof, Woodworking Profile*, which I used to build my first rocker. This DVD was invaluable in learning his techniques, and while every aspect of the construction is not covered, there is enough there to give a good start.

Tools used:

Table saw

Biscuit joiner

4 1/2" angle grinder

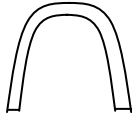
5" random orbit sander.

Band saw (optional)

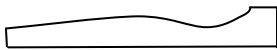
Homemade thickness measuring caliper

Templates used:

Seat depression. The radii of the inside curves should be just over 2 1/2" to fit the sander.



Curve for center board (optional)



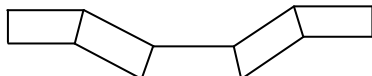
Both of these are made from 1/4" plywood.

Five boards for the seat

The seat is made from five pieces of 8/4, each 4 1/4" wide by about 21" long. 3° angles are cut in the long sides in the following configuration.



When glued, these boards form the seat, and the angles create a start on the shape. The center and 2 outside pieces are horizontal, and the other two are angled up at 6°. See figure below.



To start, select and cut the five pieces and arrange them as to grain as if you were looking at the seat from the top, with the rear away from you. Knot free wood should be used. Label them 1 through 5 so you can keep them in the correct orientation while sawing the angles. Angle your table saw blade to 3° and rip the 2 outside pieces and one angle each on the other three. **PAY ATTENTION HERE.** Move the fence in slightly and rip the remaining angles.

The next step is to cut the slots for the biscuits. I use the configuration illustrated in the figure below.



The two slots go on the rear of the seat, and slots are about $\frac{1}{2}$ " from the bottom of the board. The second slot at the back provides a little insurance. You may choose to put more in if you wish.

You will have to adjust the angle on the fence of the biscuit joiner to 3° in both directions to complete this step. Set the angle to the acute angle, cut all the appropriate slots, change to the obtuse angle and finish the job.

At this point, you will need to make the joinery for the legs. Sam's joinery is shown in his video, but I have also drilled holes for Windsor style legs, and made dadoes at the back for a George Nakashima Conoid Chair. Specific leg joinery is not covered in this paper or the demonstration.

Dry fit all of the pieces with biscuits and clamp. It's a little tricky to get all of the parts in proper alignment, so practice a few times before gluing up the seat.

Precut the pieces on the band saw (optional)

This procedure requires great care and some skill with the bandsaw. Sam warns against trying this at home, as do I. It is not necessary for the completion of the seat, but everything cut out prior to grinding will not have to be ground. Just don't come crying to me with bleeding hands.

Clamp the boards together and scribe (Sharpies are good) the outline of the depression using the depression template. Next, scribe the center board curve onto each side of the center piece. The angle cut on the side of this board is just right to leave a high center down the board. Turn the board on edge and cut outside the scribed line. Flip the board and do the same on the other side. When cutting the front part of the board, I'll tilt it over a little more to leave a higher center. It's always better to leave extra than to cut too much off.

Next, stick a couple of biscuits in and transfer the cut line to pieces 2 and 4. These parts are trickier to cut, because the angle is wrong for the edge to be flat on the table and you have to hold the angle as you make the cut. If you're not comfortable doing this, skip it and remove the rest of the material with the grinder.

If your cuts took any off of the outside edges of boards 2 and 4, transfer those lines to boards 1 and 5 and cut them as well. On these, you will have to watch 2 faces of the board at the same time to make sure you don't cut past the seat depression line.

Now you can glue the seat up. Put clamps on top and bottom of the seat and make sure that all the joints on both sides have glue squeeze out. Scribe a center line from the front of the board back about halfway to lay out the center peak.

Grinding the seat

I use a 4 1/2" angle grinder for the rough grinding. I don't have the nifty Lancelot chain saw type cutter and use 24 grit abrasive disks, called flap disks. I have found that moving to a finer grit before using the sander to be a waste of time and follow with 60 to 80 grit on a random orbit sander.

As you are grinding, stay at least 3/16" away from the scribed seat depression line. You'll work in up to the line in the next step.

Practice is the only way to learn grinding out the seat. Check the bottom thickness frequently. I've found that closing my eyes and feeling the depression will give you a good sense of symmetry and smoothness. There will be high spots and ridges, which will be removed in the next step.

After rough grinding, use the sander to remove tool marks, smooth irregularities in the surface and carry the grind up to the scribed line, starting, of course with coarse and working up to the final grit. With a little practice, you should be able to create a nice sharp transition from the flat sides of the seat and the depression. Don't sand the flat area until you have worked up to finer grit abrasive. There will be inevitable mishaps that will round over the sharp line. Toward the end of the process, take a little off the top, then a little off the sides until you have your sharp line back.

Conclusion

While building any chair should certainly be considered an advanced project, Sam has developed a straightforward method of making these seats. With some practice using inexpensive 2x4s you should be able to create a very dramatic seat that will amaze your friends and set the ladies' hearts aflutter.