Modern Plant Stand

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Building the Modern Plant Stand

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It's Simple

This piece can be built with very little material and only a few tools.

The only challenging part of the build is drilling the holes for the ends of the cross pieces as well as the dowels that hold the project together. Centering these holes is very important.

Getting Started

Purchase your materials. In most cases you will want to use the same species of wood for the legs and the cross pieces. This example was made using poplar.

Gather your tools and make sure you understand how to use them.

Notes:

Be safe. Be sure to read, understand, and follow all the safety guidelines that come with your equipment.

The plans call for the cross pieces to be made from a 3/4" x 1" board. This is a non-standard size, so you can either buy a 1" x 2" board (3/4" x 1.5" actual dimensions) and rip it down to 1" wide, or you can adjust the measurements to use the 1" x 2" board.

You will need a 3/4" Forstner bit in order to drill the holes that form the ends of the cross pieces. Other style bits, like a spade bit, will not work as well.

Drilling precise, straight holes is important in this project. A drill press is a necessity. It would be very difficult to make this project with a handheld drill.

Cutting the center notch for the half-lap joint where the cross pieces meet is best accomplished on a table saw, however it is possible to accomplish using a hand saw and chisels.

It is also best to drill the holes for the dowel pins slightly deeper (by 1/8") than needed. This insures that the dowel pin won't "bottom out" in the hole and keep the pieces from coming together tightly.

Materials Needed

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Quantity	Dimension	Length	Notes
1	3/4” dowel	2 feet	for the 4 legs
1	1” x 2”	2 feet	for the cross pieces. I rip these down to 1” wide, leaving you with a board that is 3/4” x 1” x 24”.
1	1/4” dowel	12”	to attach the legs to the cross pieces. You really only need about 4”, but you will have to buy a longer length and cut what you need.

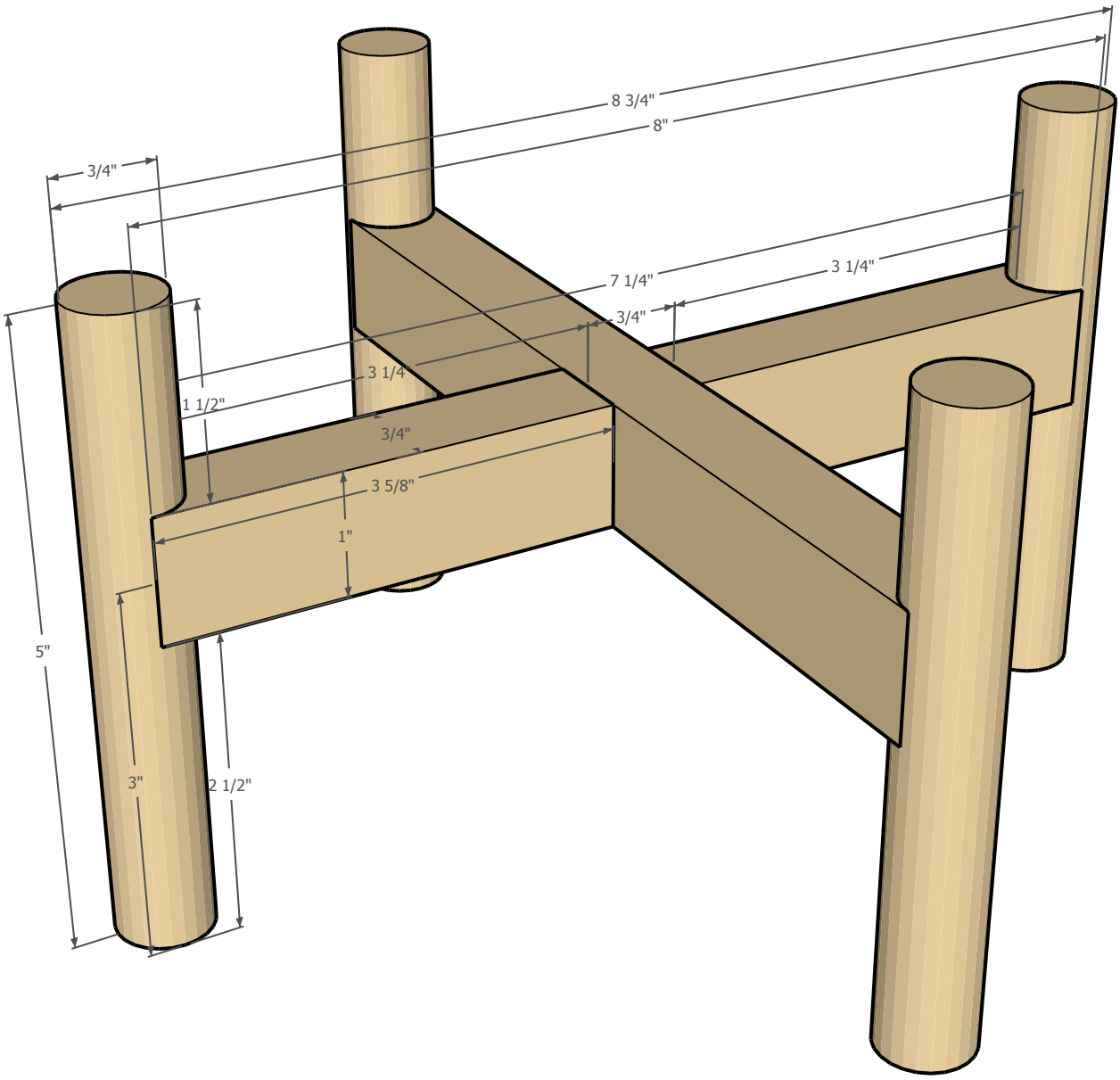
Cut List

Quantity	Dimension	Length	Notes
4	3/4” dowel	5”	for the 4 legs
2	3/4” x 1”	8”	for the cross pieces (*see instructions prior to cutting)
4	1/4” dowel	3/4”	to attach legs to cross pieces

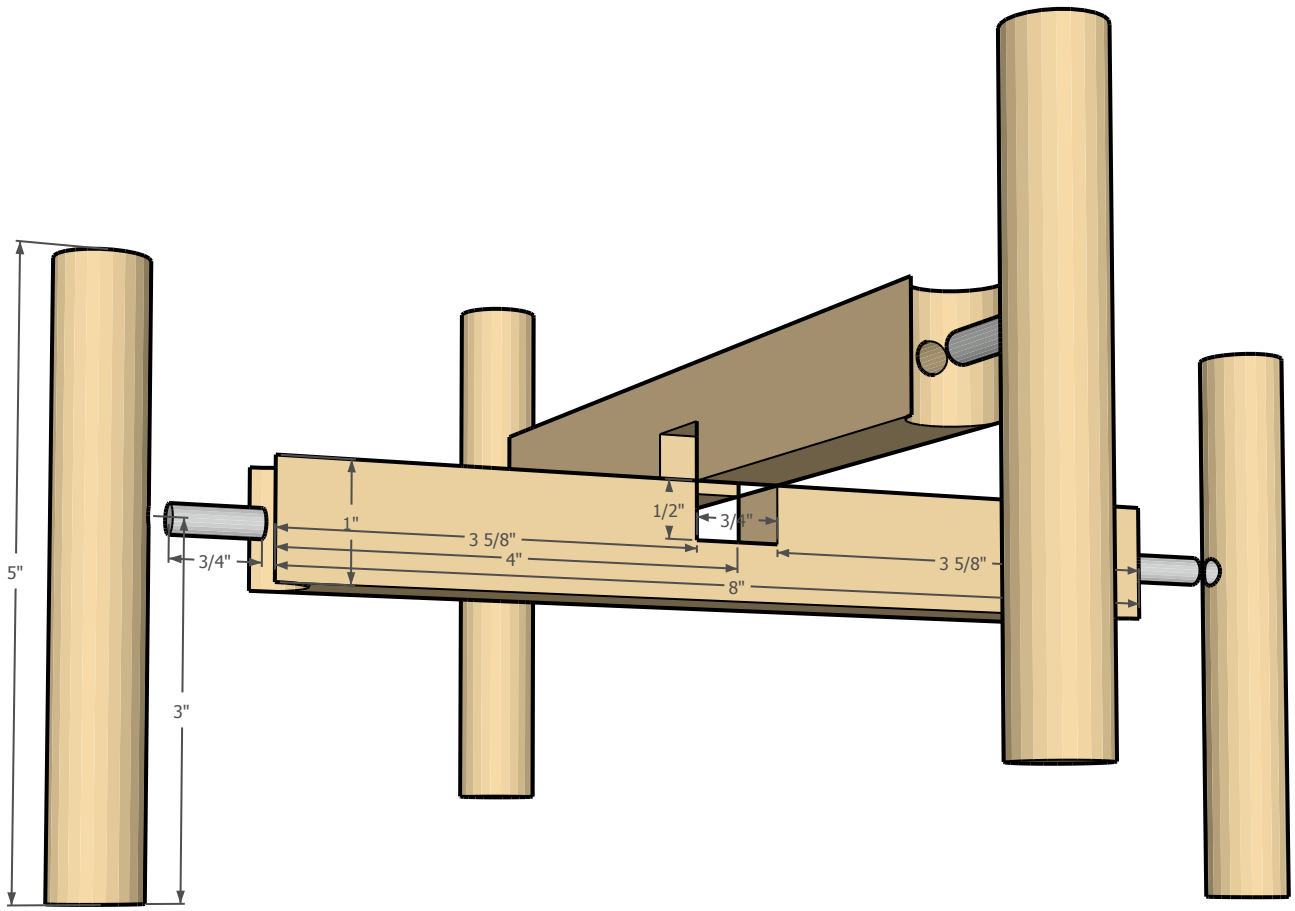
Tools Needed

3/4” Forstner bit
1/4” drill bit
table saw (or hand saw and chisels)
drill press (this would be very difficult to do with a handheld drill)

Overview of measurements



Exploded view of measurements

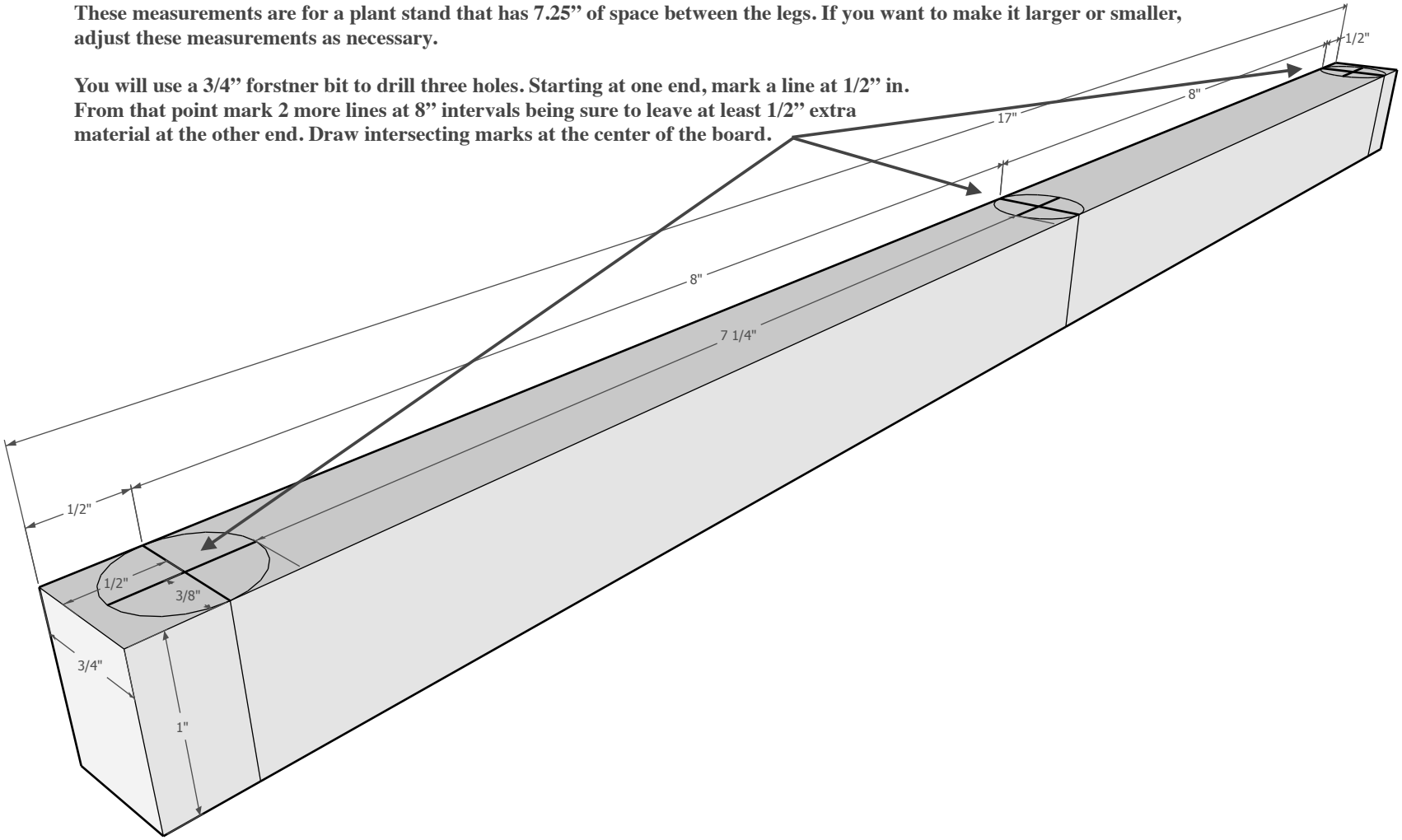


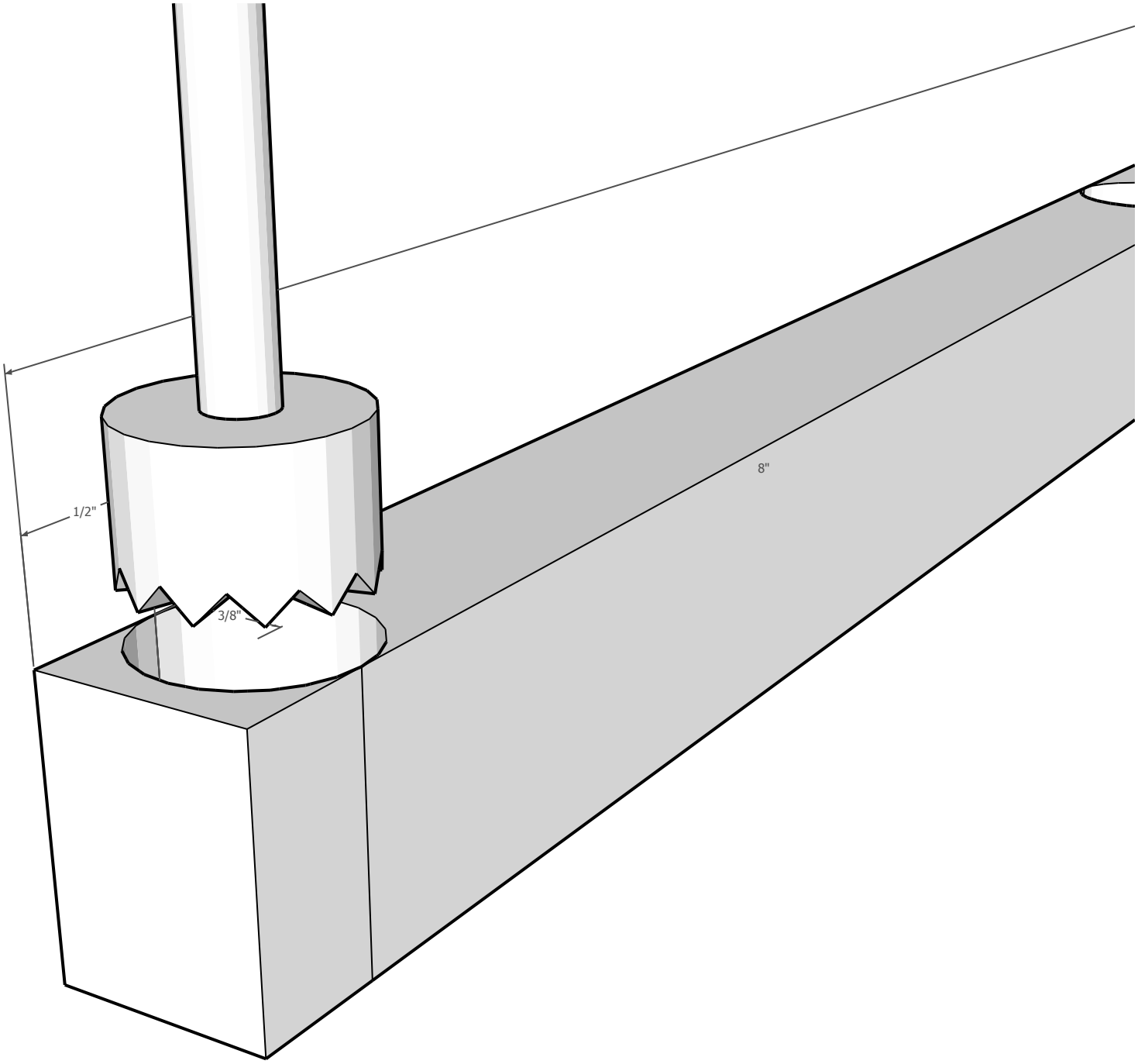
Cutting the cross pieces

The cross pieces for this can be made by ripping a 1” x 2” board down from 1.5” to 1” in width.

These measurements are for a plant stand that has 7.25” of space between the legs. If you want to make it larger or smaller, adjust these measurements as necessary.

You will use a 3/4” forstner bit to drill three holes. Starting at one end, mark a line at 1/2” in. From that point mark 2 more lines at 8” intervals being sure to leave at least 1/2” extra material at the other end. Draw intersecting marks at the center of the board.



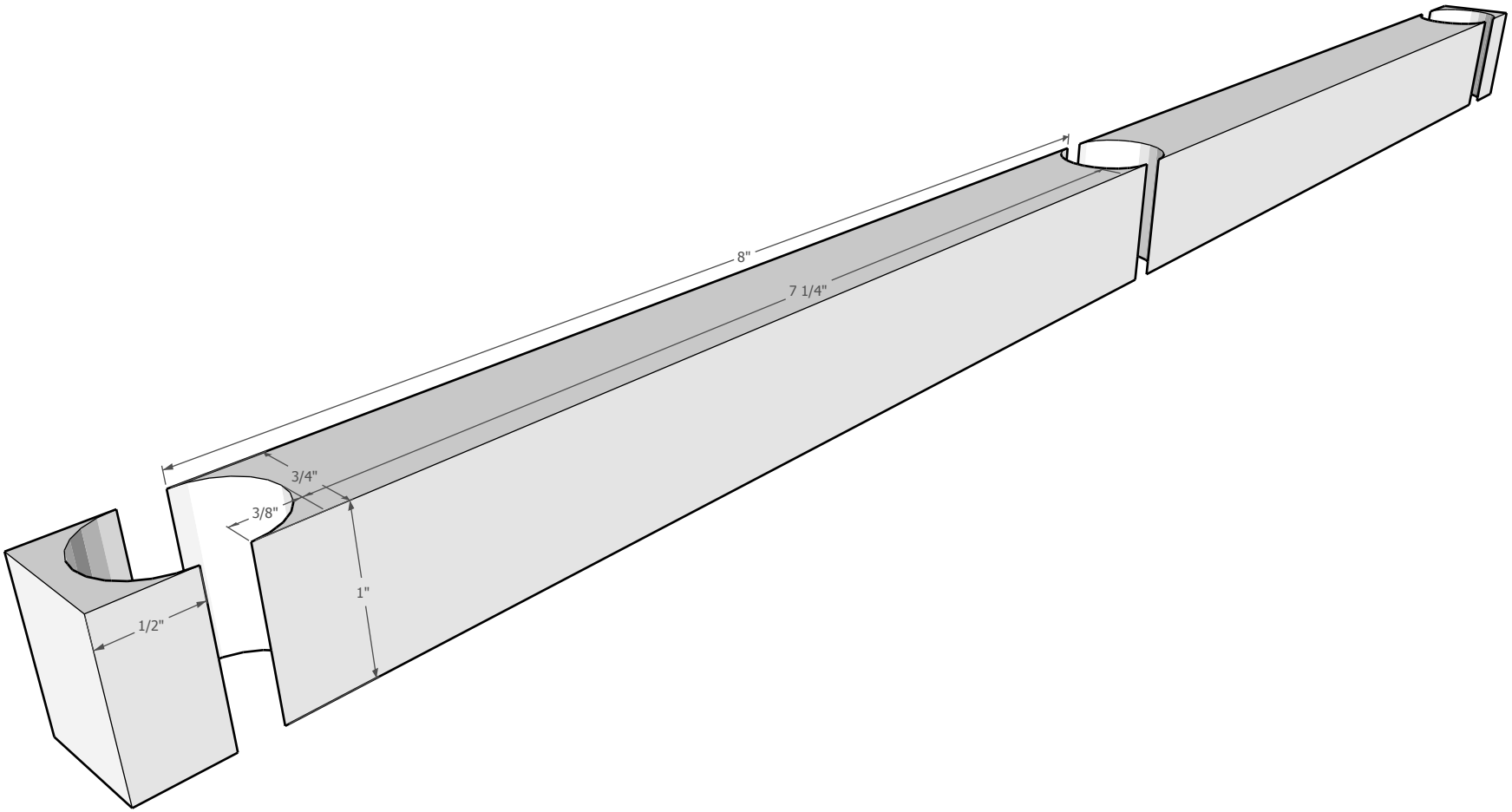


Drilling the holes that form the ends

Using a 3/4" Forstner bit, carefully drill the three holes you just marked. Be sure to center the drill bit on the marks you just made. Once you have aligned the bit, clamp the piece in place prior to drilling each hole.

You will need a drill press for this step. Do not attempt this with a handheld drill. Make sure the table on your drill press is at 90 degrees to the bit. Use a scrap piece of lumber underneath the cross piece as you are drill all the way through the piece and this will prevent chip out on the bottom side.

The reason for drilling the first hole 1/2" in from the end is because it is very difficult to drill when the bit partially overlaps the material you are drilling. In such cases, the material tends to move or the the bit deflects. It is much easier to waste a little material in order to insure that your bit will be drill straight and true.



Once drilled, the pieces should be separate. If you were off centered slightly, use a fine tooth hand saw to finish separating the pieces. The small end pieces can be discarded.

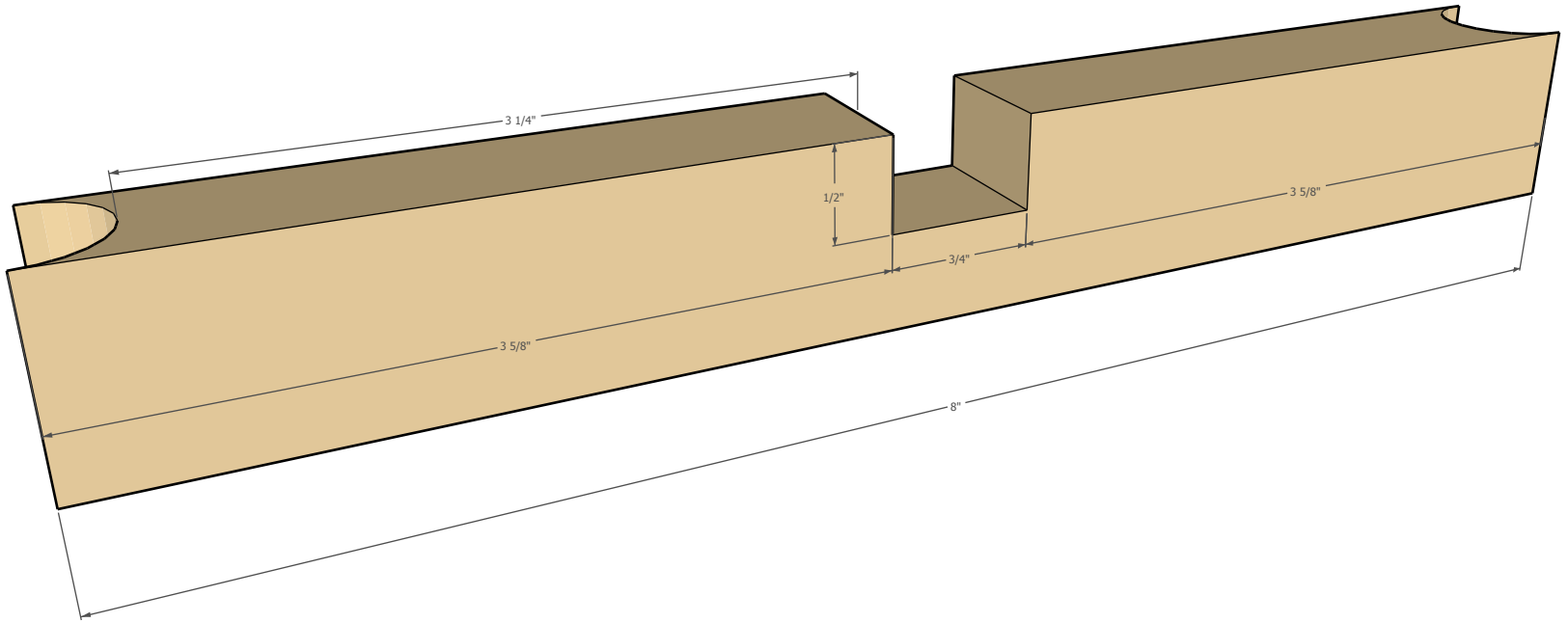
Cutting the notch in the cross pieces

Mark both cross pieces in order to create the center notch that will form a half lap joint once assembled.

The notch will need to match the thickness of the cross pieces (3/4”) and will need to be cut 1/2 the depth of each piece (1/2”) and be centered lengthwise.

To cut the notch, set the height of your table saw blade to 1/2” and using your miter gauge set to 90 degrees, carefully make several passes over the blade removing a little material each time. Use a sharp chisel to clean out any extra material.

Alternatively, you could use a fine tooth hand saw and a sharp chisel to create each notch.



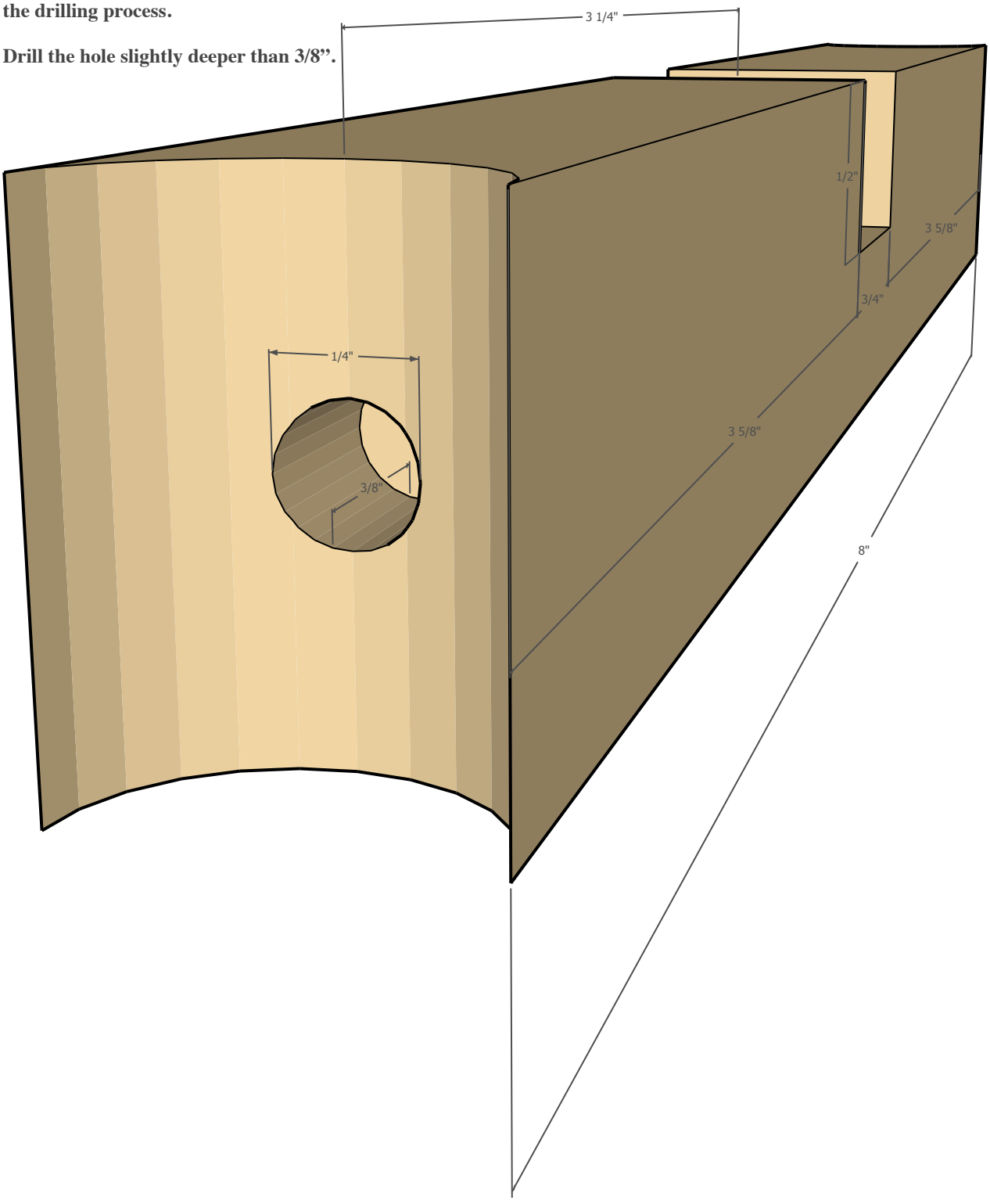
Marking and drilling cross pieces for dowel pins

Carefully mark the center point on each end of each cross piece. If you are using a 3/4” x 1” board according to the plans, the center mark will be 3/8” in and 1/2” down.

Setup your drill press with a 1/4” drill bit. You will have to drill into the end of the piece, so it is best to use scrap material to create a brace to which you can clamp the cross piece vertically at a perfect 90 degrees.

It is also recommended to set each cross piece on a small scrap of 3/4” dowel so that the other end isn’t damaged during the drilling process.

Drill the hole slightly deeper than 3/8”.



Cut your pieces for the legs

Cut four 5” long pieces from your 3/4” dowel to form the legs.

If you want your stand to be shorter or taller, adjust these measurements to you liking.

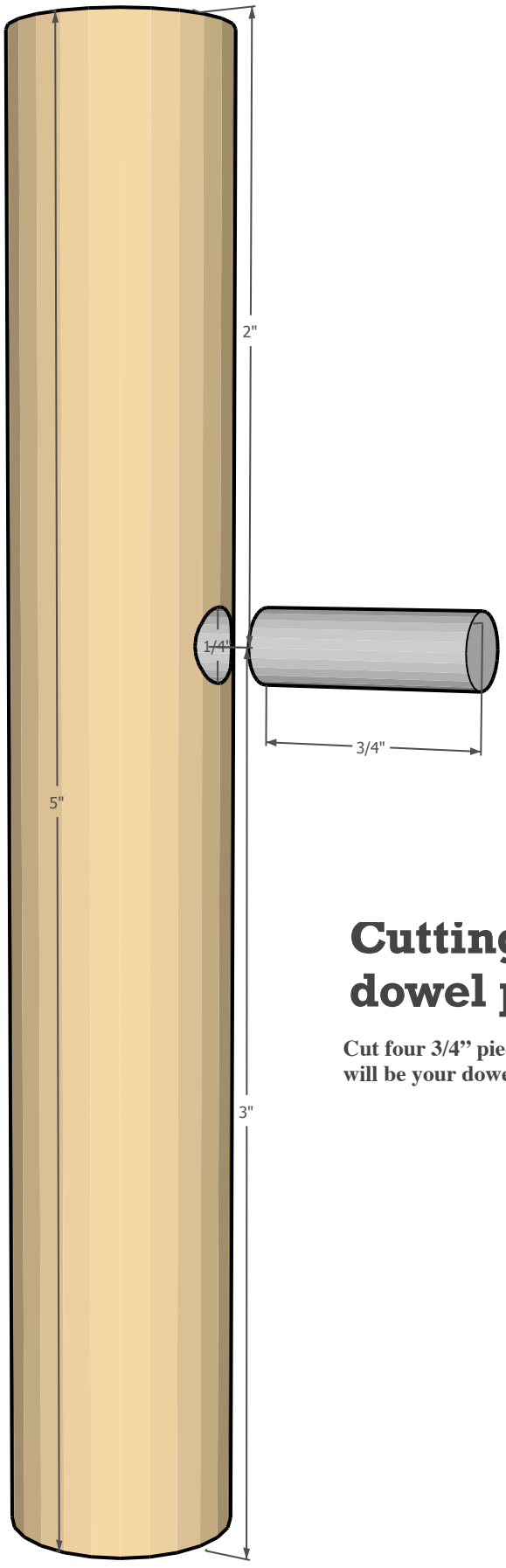
Marking and drilling the legs for dowel pins

Mark a line that is 2” from one end and 3” from the other on all four leg pieces.

Using your drill press and a 1/4” drill bit clamp one leg piece in place, centered on the mark you just made. Take extra time to make sure the bit is centered on the dowel so that the hole is perpendicular.

Carefully drill a 1/4” hole 3/8” deep.

Repeat this for each leg.



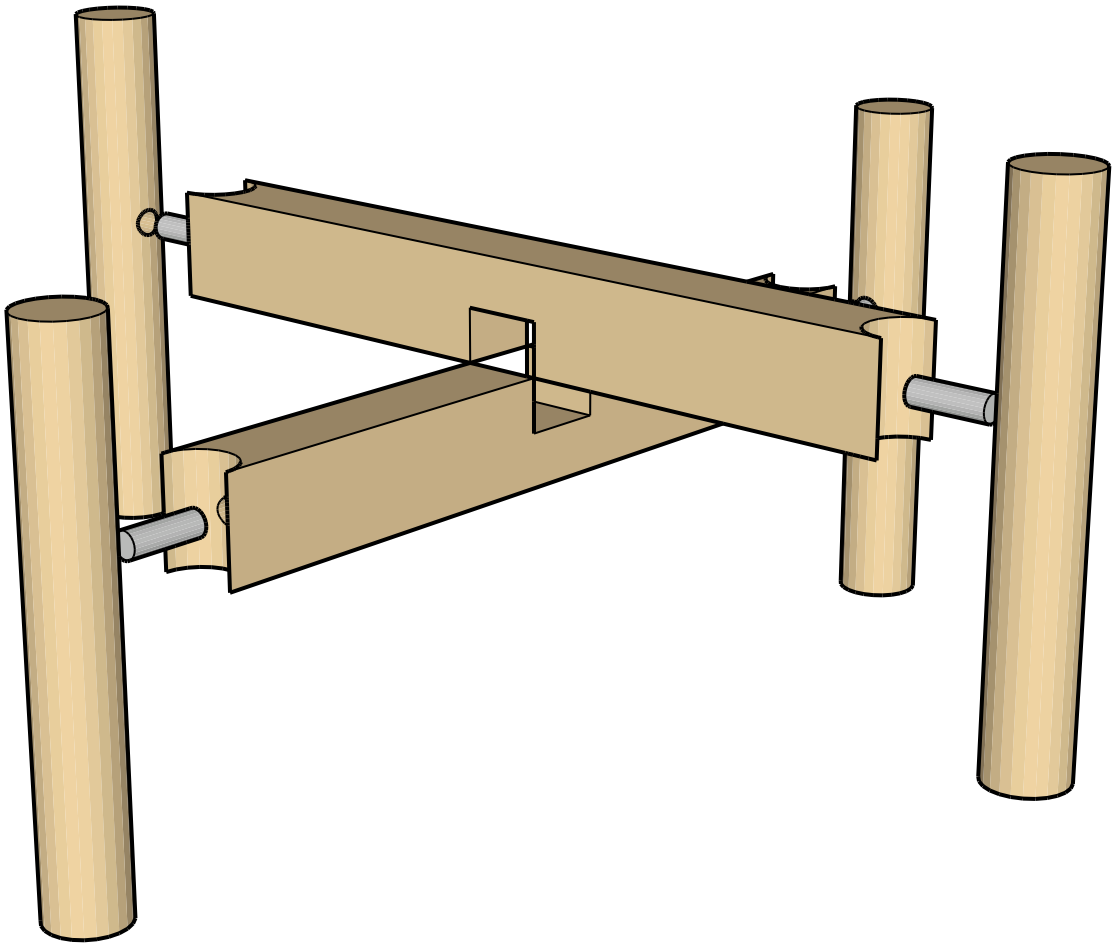
Cutting the dowel pins

Cut four 3/4” pieces of 1/4” dowel that will be your dowel pins.

Test fit, fine tune, and glue

Test fit your pieces prior to gluing. Make the necessary adjustments to insure that all the pieces will come together tightly.

Once you are satisfied with your dry fit, apply glue to each connection, assemble, and clamp. Let the glue dry overnight or according to the instructions on the bottle.



Remove excess glue, sand, and finish

Using a sharp chisel, remove any glue that squeezed out and sand with 120-150 grit, and then again with 220 grit or slightly higher.

Finish to your liking. For an indoor plant stand, polyurethane will do. If you plan on using your plant stand outside, use an exterior grade finish.