

## Nicholson Workbench

Another workbench? Does this guy have nothing better to do than build one workbench after another? First off, this one is not for me. I recently received a commission to build a Nicholson style bench. The bench needed to break down so as to be able to go into an apartment. Being the workbench building fool I seem to have become I had to give it a try. Here is an overview of what I built.



I started with the top first on this bench. The whole bench is made from lumber yard yellow pine 2 in x 12 in x 16 ft framing lumber. After letting the lumber acclimate in the shop for a few weeks, I picked out the two flattest and straightest 8 ft pieces for the top. I jointed the edges and glued them together. Once the top was glued I could determine the maximum width I could get out of the two boards, in this case was about 21 ½ in.



I then moved on to the legs assemblies. The legs are simply three pieces of 1 ½ in x 4 ¼ in stock glued up, planed and jointed to 4 in x 4in. I then laid out 1 in x 3 ¼ in mortises for an upper and lower stretcher that connects the legs.





These are pretty straight forward mortise and tenon joints. The upper stretcher's tenons are set down from the top of the legs about 1 ½ in. The lower stretcher is placed about 3 in from the bottom of the leg. I used a 7/8 in auger and bored out the majority of the waste and then squared up the mortise walls with a chisel.



The stretchers are  $21 \frac{1}{2}$  in long by  $1 \frac{1}{2}$  in thick. The upper stretcher is 5 in tall, the lower 4 in tall.

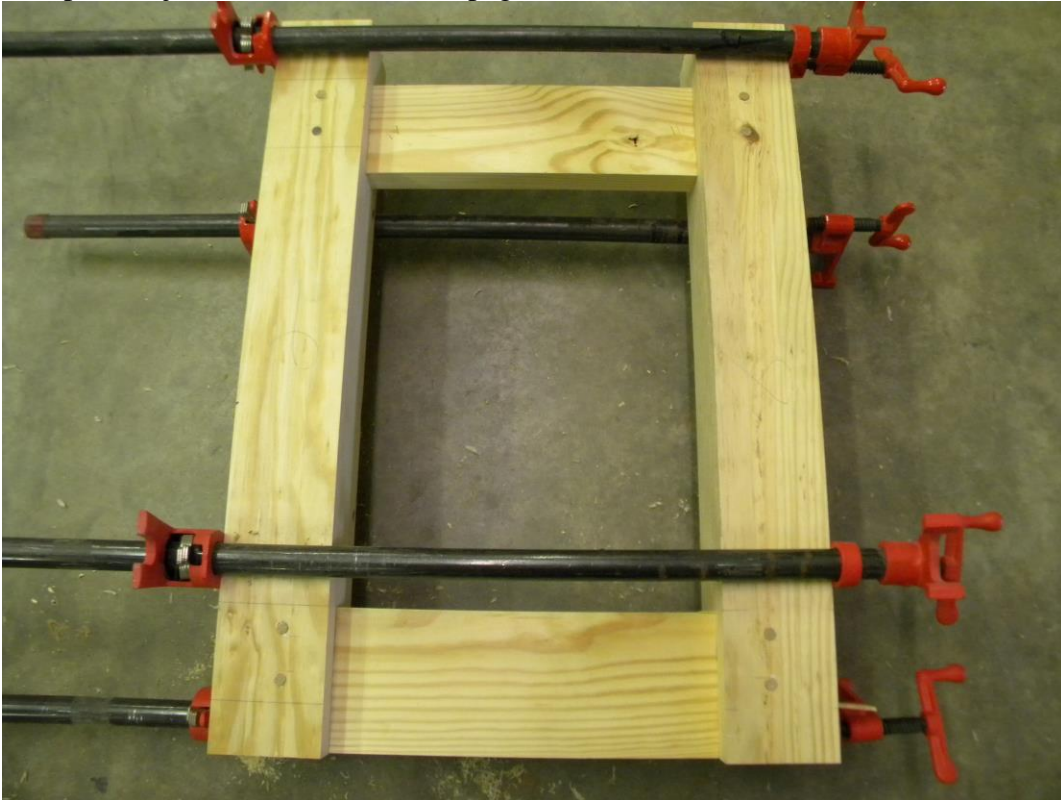




Using a mortise gauge I scribed the 1 in. tenons on the end and a cutting gauge to lay out the shoulders. I then sawed the cheeks and shoulders, once that was complete I cleaned them up with a chisel and a plane.



With the joints fitted I bored two 3/8 in peg holes in each mortise then bored the tenons with the peg hole moved toward the shoulder slightly to drawbore the joint. I glued and clamped the joints then drove in the pegs.



You really don't have to clamp these. The drawbored joints pull the joints up tight; the clamps are just a little extra help and maybe habit on my part as well.

The next step is the skirts that go underneath the top. The skirts on this bench I made 1 1/2 in thick x 9 1/2 in tall. After getting the skirts cut to width, I jointed the edge that will later be glued to the top as straight as possible.



I then cut two  $\frac{1}{2}$  in deep by 4 in. wide dados about 11  $\frac{1}{2}$  in. in from the ends of the skirts. The leg assemblies will slide into these and be secured by bolts a little later. These are simple to make, I cut the shoulders with a back saw to the exact width of the legs and

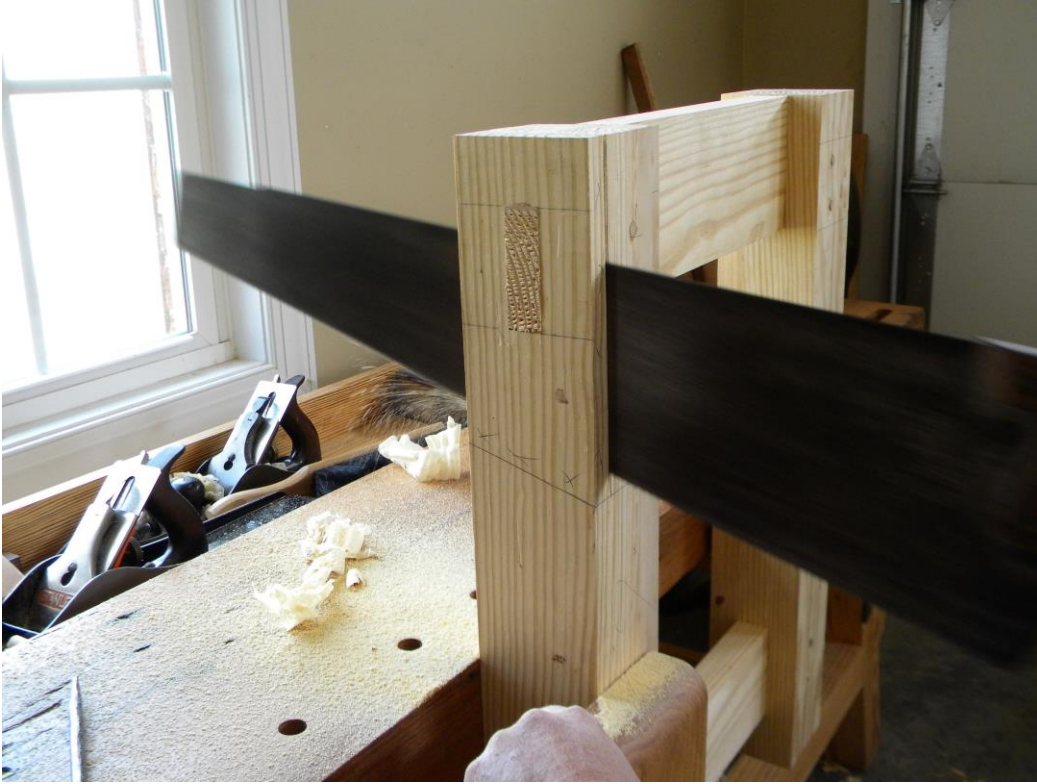
made a saw cut down the center of the waste. Then chopped out the majority of the waste with a chisel and cleaned it up with a rabbet plane.



Next I made an angled cut out at the bottom of the dado that will set on a shoulder cut into the legs. It also gives it the classic Nicholson leg joint look.

With the dados and angles cut I then set the legs in the dado with the top flush to the top of the skirt and marked the angled cuts location on the leg.





I then used a marking gauge to lay out a line on the legs the depth of the shoulder needed to be; in this case about 1 in deep. I used a rip saw and cut to this line down to the angle.



I used a plane to finish up the shoulder, stopping when the front of the leg and skirt were flush.



When the legs were all fitted to the dados in the skirts I bored holes for two 3 in. lag bolts

in each leg. I then bolted the legs to the stretchers making sure everything lined up. This joint receives no glue; just the bolts.



I then glued the skirts to the underside of the top and clamped it all up. By bolting the leg assemblies in beforehand they will hold the skirts square to the top and keeps the spacing for the leg assemblies is perfect.



With the top and skirts assembled I then added four stiffeners evenly spaced under the top. These are 1 ½ in x 3 in pieces of wood attached with screws only; no glue. I enlarged the screw holes in the stiffeners a bit to allow for seasonal expansion and contraction.





I also added two 2 x 2 in stiffeners at the top of each leg assemblies. These also capture the top stretcher of the leg assemblies to help support them as well.



Once everything was assembled, I did the final flattening and smoothing on the top and skirts.



Last thing was to bore the 2 5/8 in holes for the vise screws and I made vise chop from a piece of 1 1/2 x 31 in stock. The wooden vise screws are from Lake Erie Toolworks; they were perfect as always.



The finished dimensions of this bench are 90 in long x 21 ½ wide x 30 in tall. Overall weight is 200 lb.

I did not get to use this bench much before it went home so I don't have much of a review. The bench does have a nice solid feel even thou the top was not as thick as I am

used to. There was absolutely no racking or shaking either. Another nice thing about this bench is the materials are cheap and readily available. It could also be built with a minimum of tools if need be. If you do not have clamps you could use screws and glue to assemble it. The ability to unbolt the leg assemblies and remove them is also helpful at getting the bench in and out of tight quarters.

Thanks for reading!

Will Myers  
March 2013