

The Process of Building Cabinets

As a result of the questions and input during the skill topic portion of the May and June meetings I've put this article together. It occurred to me (at least from where I sat) that many of the questions were about "in what order do I proceed" as much as they were about how to build them.

To help understand the content which follows, there are a few things that I must explain. First of all, these are not kitchen cabinets although the materials and construction methods are some of the same that I have used on cabinets. These cabinets have no doors but do have several drawers and finally, I did not do this job from beginning to end. By that I mean that I did not take the initial measurements nor did I install them so I am unable to share anything about cabinet installation as it relates to these cabinets.

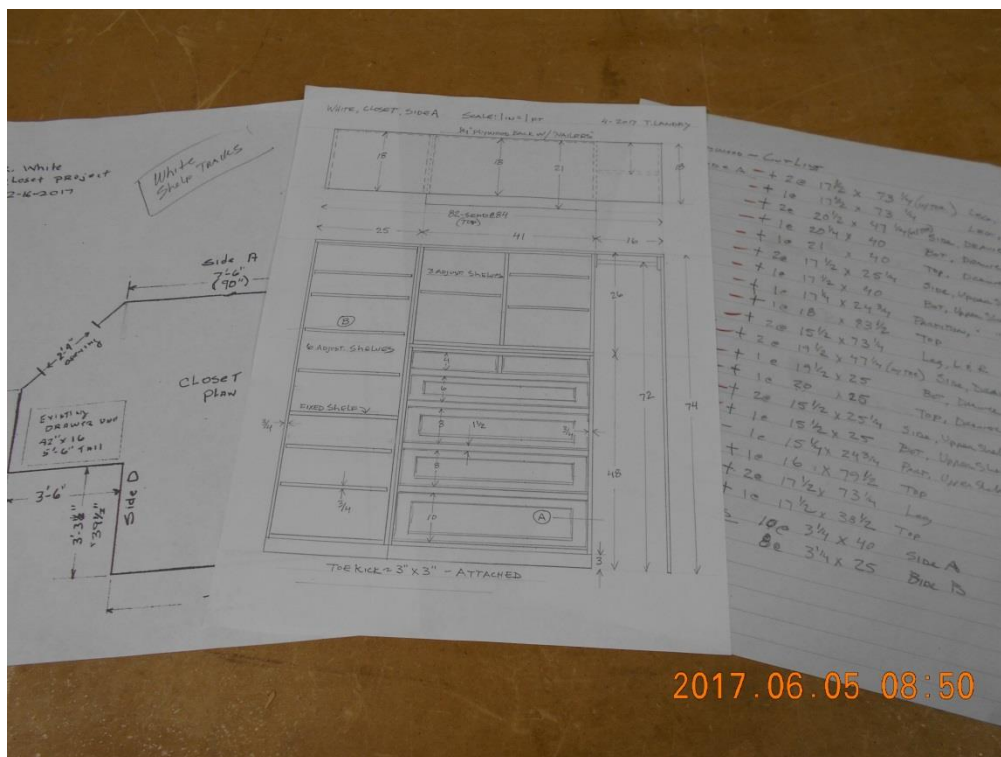
That being said, I've broken this article into four segments.

1- Planning

"If I had eight hours to chop down a tree, I'd spend the first six hours sharpening my ax."

The credit for that quote is given to Abraham Lincoln. I think that we can all assume that he wasn't really talking about rail splitting here as much as he was making reference to planning and preparation. I've read that, in woodworking, about 80% or more of your time is used in planning. Based on my own experiences I would have to agree. Now if Abe was being honest, he got it just about right (do the math). Unfortunately, it seems that many times this is the crucial step that folks want to skip.

Before cutting any lumber I sharpen my pencil, take measurements, draw plans, and make a cut list. I had several pages for this one job but below are the floor plan, front and top view for one wall and a partial cut list.



Before I bring the materials into the shop there are some other preparations that need to be made. If your shop shares space with the car or the washer and the dryer, you want to bear that in mind before hauling in ten sheets of plywood. In my case I must consider what other jobs do I have in progress and at what stage will this be when my class arrives on Sunday so that it's not in the way. When I do get the lumber (especially plywood) I plan to move it as few times as possible. With my cut list already in hand, each sheet of plywood is ripped on the table saw as it is removed from the truck and I've installed a fresh zero clearance insert on the table saw.



2- Cutting

There are many ways that one can go about cutting up sheets of plywood. I know that many people will "break it down" using a circular or "Skill Saw" and that works fine. As for me, I try to do it all on the table saw.

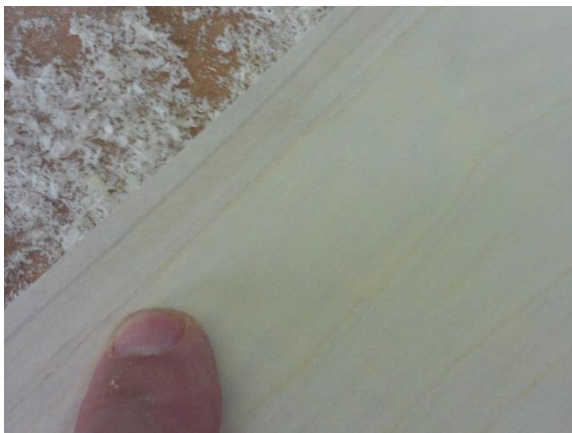
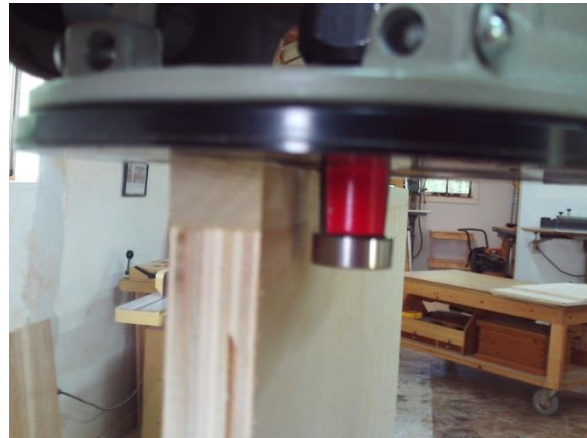
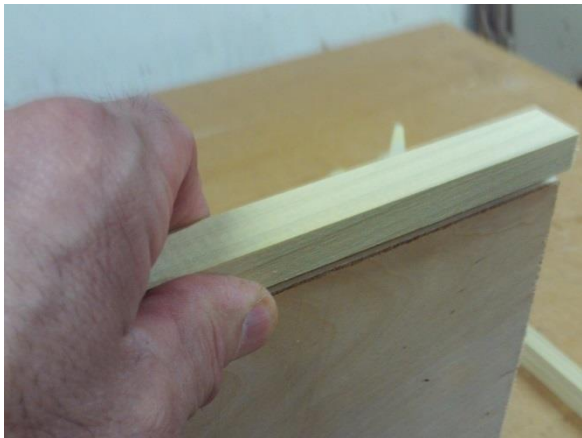


In the above two photos you see ten sheets of plywood ripped to the required widths and the crosscut sled on the table saw ready for the next step.

The next photo shows some parts cut to final dimensions, stacked and labeled accordingly as to which part and which cabinet (ie. side A, bottom B, etc.)



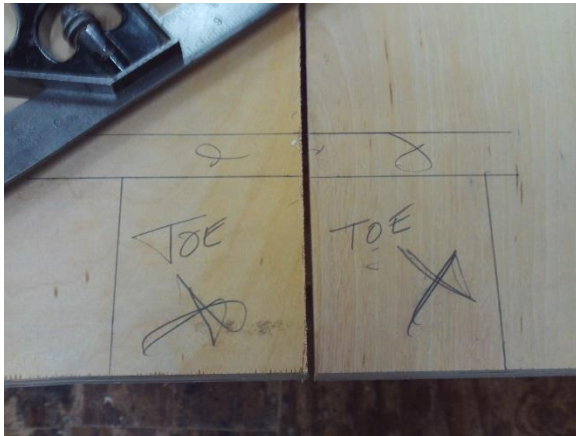
These cabinets do not have face frames but the visible plywood edges need to be dealt with. I ripped enough $\frac{3}{4}$ " thick poplar to $\frac{1}{2}$ " widths. This was used as edging which I applied with glue and a brad nailer. Because I left the poplar at $\frac{3}{4}$ " and the plywood is only 23/32nds, that gave me some overhang to easily trim flush with a router.



The poplar edging trimmed flush.

3- Joinery and Assembly

Next I will mark locations for toe kicks, dados and rabbets. The dado blade is installed on the table saw and the fence is set. This will be done in steps. By that I mean this... every side requiring a dado for a bottom 3 inches up will be done with the saw at that setting. When done with that, the saw will then be set for perhaps a 1/4" rabbet for the backs and all parts requiring that will be done before the saw is adjusted for the next operation. I am usually at this point working from a check list. Whatever method you use, you must keep track as you progress. If not, unlike "Honest Abe", you may end up "sharpening your ax for another 6 hours" or worst yet come to the realization that you have "chopped down the wrong tree".



The drawer units have dividers between drawers. I used a router fixture to cut stopped dados to attach plywood stiffeners for those dividers. The stiffener will be behind the poplar face.



Now that all joinery has been cut, I will start to assemble each cabinet. The next few pictures simply show construction in progress.



Nailers on top and back.



Stiffener for drawer divider going into place.



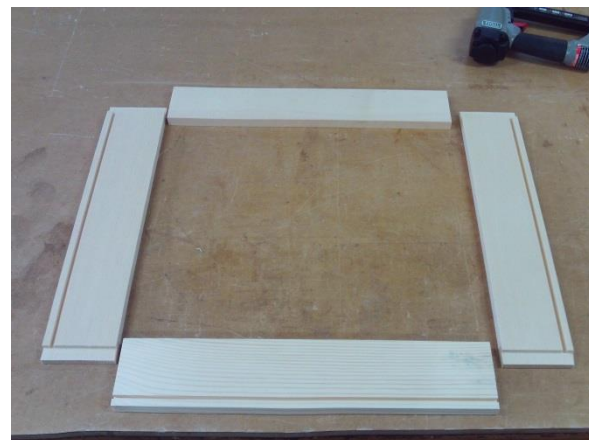
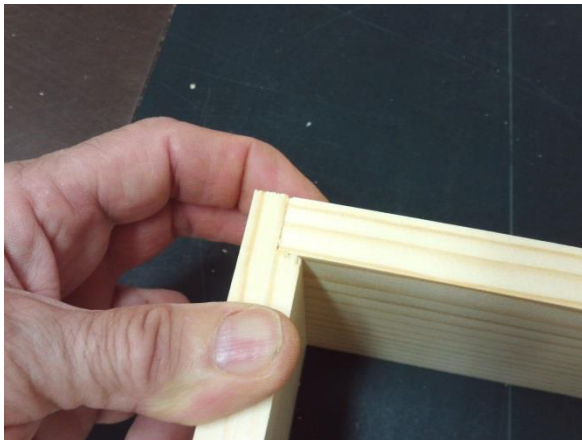
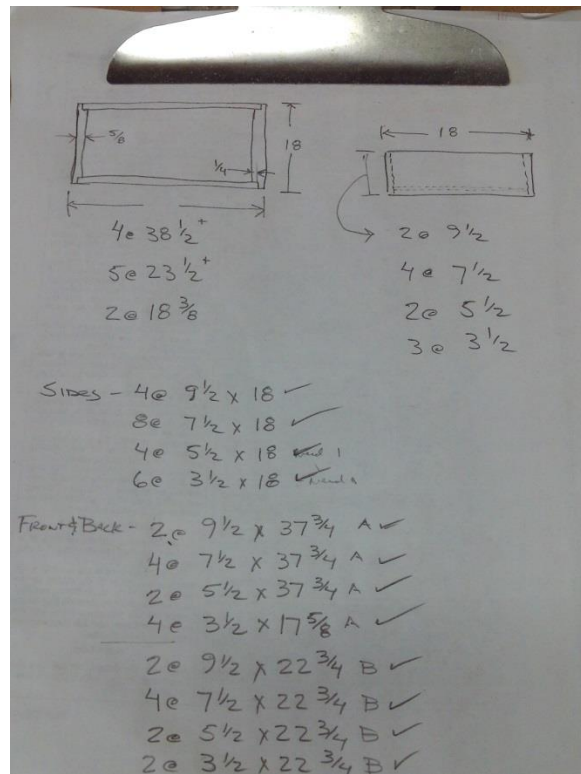
Drawer divider in place with poplar edging.



The carcass minus the top and back. They will go on after the drawers have been installed.

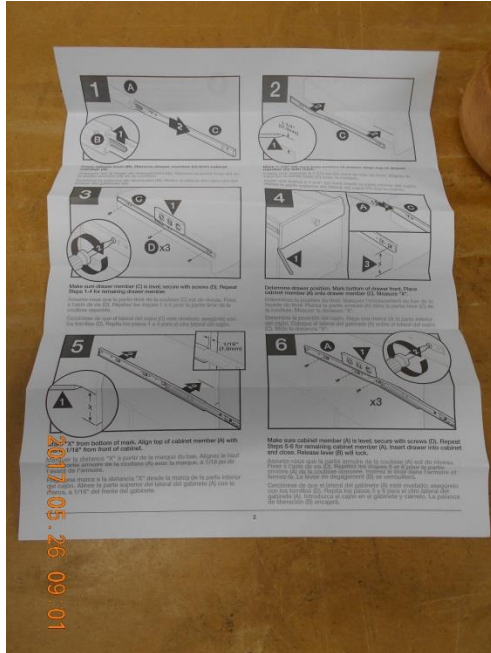
4- The Drawers, Making and Installing

Now that the box is built I can get some serious measurements for the drawers and once again I'll make a cut list.



When using metal drawer guides, I typically just use rabbets for drawer construction. These drawers will have false fronts applied on later so now that all the drawer boxes have been built it is time to install drawer guides. In this case I am using full extension drawer guides. I am a firm believer in reading and following instructions but I have no idea how many drawer guides and different types of drawer guides I have installed over the years so I generally don't bother with the instructions. In this case I thought that (for the sake of this article) I would go ahead and read the instructions. Wow, that was a truly pleasurable experience.

Whoever was given the task of putting this instruction sheet together evidently has never built anything, much less attach drawer guides to a drawer. Their instructions were to use a level to make certain that the guide on the side of the drawer was level (level to what?). I guess they'd have me use a plumb bob if I were on a boat. Anyway, here are my instructions for following the instructions... see below.



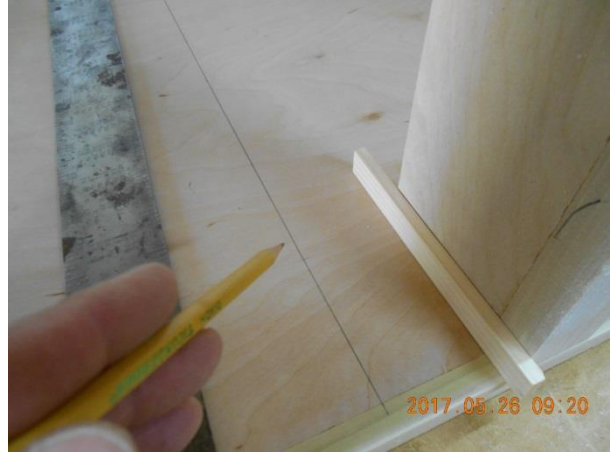
Instructions.



Instructions after slight modification.

Now that we've got that out of the way, we'll move on. These drawers are different depths, top to bottom. I'll start by putting a pencil line parallel to the bottom edge of the drawer. In this case that line is 2 inches up from the bottom on all drawers. That line will become the center line of the drawer guide where the attachment screws will go.





Using the 2 inch wide blade of a framing square with a $\frac{1}{4}$ " thick spacer, I then put a line on the cabinet side. That will become the center line of the cabinet half of the drawer guide. That will also place the bottom edge of the drawer $\frac{1}{4}$ " above the divider. These drawers will be inset so in order to assure that the guides are "set back" the right distance I simply use a spacer the same thickness as the false drawer fronts.



When all the drawers are installed I then move on to attaching the false fronts. I want about a $\frac{1}{16}$ " gap all around the drawer front so I just cut two strips to that thickness to use as spacers at the bottom edge of the drawer front. Those spacers help hold the false front in the correct position as I attach it with screws from inside the drawer.



Drawer boxes in place.



Spacers set in place, one on each end, will locate the front.



Attaching with screws from inside the drawer and the bottom two fronts attached. This set of cabinets will be painted white and installed in a large closet. They are constructed of birch plywood, poplar and white pine for the drawer boxes. I hope that in reading this you have found it to be of helpful.

Terry Landry