

## Night Stand Procedure



### **Operation 1 – Surfacing Lumber & Cutting Legs**

1. First, I arranged the preferred surface side and direction of travel on the planer by denoting the face with an arrow and marking an IF for this “in First”.

I had previously made sure the joiner faces were square and waxed. I also waxed the planer table and made sure the table saw was square and had a good blade.



2. I then connected the joiner to the vacuum system. The planer is set up at the garage door, so the sawdust will go outside.

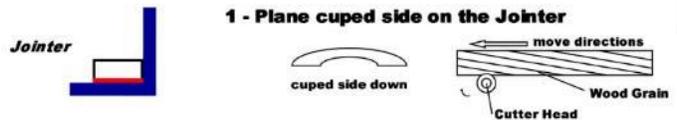




3. I made sure all support tables were level with the joiner table.



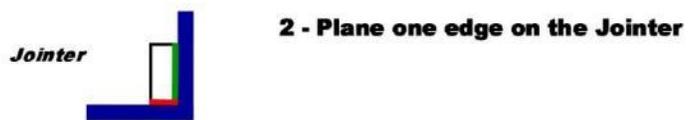
4. I planed the first surface with the joiner, per my marking above.



**Cutting edge or face**  
**Previous cut edge or face**



5. Then I planed the first edge on the jointer.



**Cutting edge or face**  
**Previous cut edge or face**



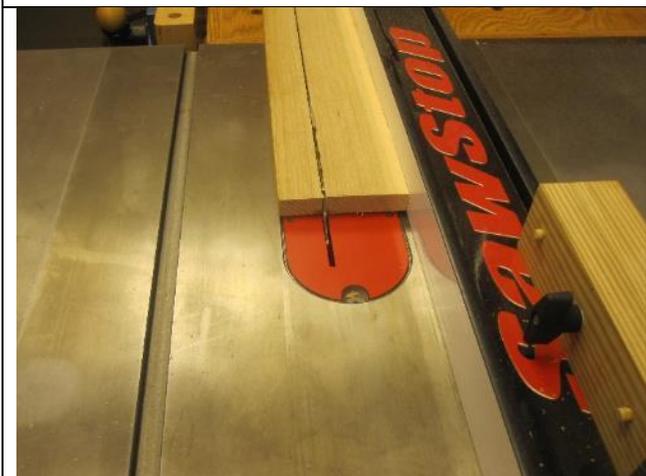
6. I then planed the opposite face on the planer.



**3 - Plane opposite face on the Planer.**



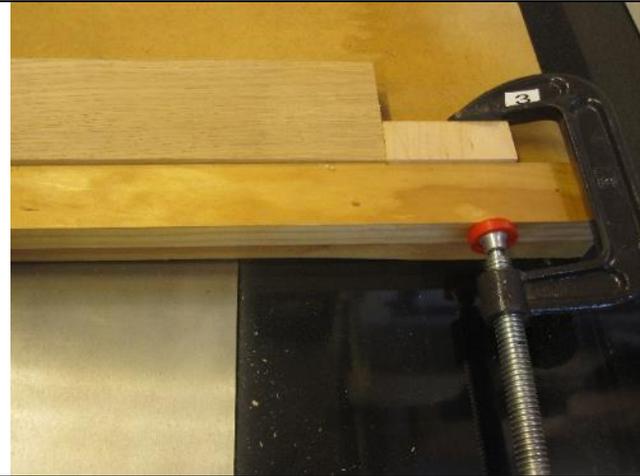
7. I then cut pieces that I would use for the legs (or stiles) to about 3" longer than the required length.



8. Then I cut the legs (or stiles) to about 1/16 to 1/8" wider than the required width. In step 12, I trimmed the legs to the exact width with the joiner.



**4 - Cut the opposite edge on the Tablesaw**



9. Next, I set up a stop block on the table saw panel cutting jig to the exact length of the legs.



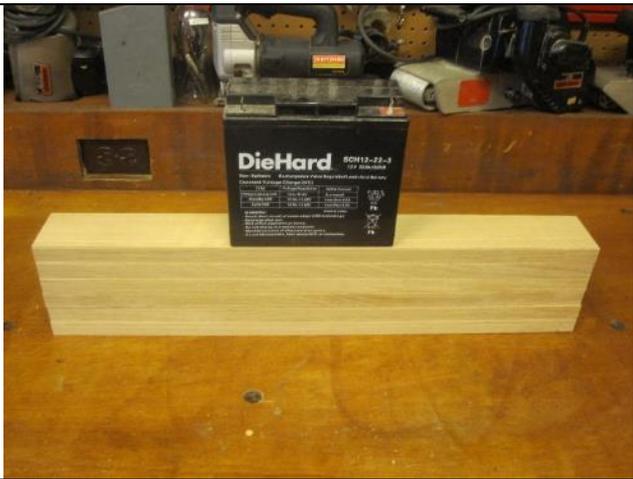
10. Then I cut all the legs (or stiles) to the required length with the table saw using the panel cutting jig.



11. When cutting long pieces, I use a spacer block the same thickness as the panel cutting jig to support the piece.



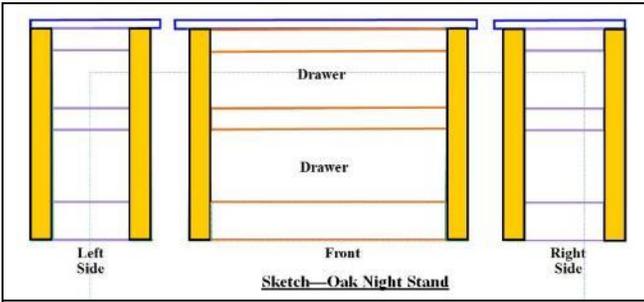
12. Trim the legs (or stiles) to the exact width by utilizing multi-passes on the jointer.



13. Lay a weight on the legs (or stiles) for temporary storage until needed.



14. And a whole lot of sawdust has been created. This is just the sawdust generated from the jointer. The table-saw and planer sawdust went into other devices.



15. Operation 1 – About 3 hours of work to surface and square all lumber and cut the legs (or stiles) as shown in yellow to proper width and length.

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

**Operation 2 – Cutting Cross Members or Rails**



16. With the table saw, cut upper cross members (or rails) to 35 inches wide.



17. With the table saw, cut lower cross members (or rails) to 5 inches wide.



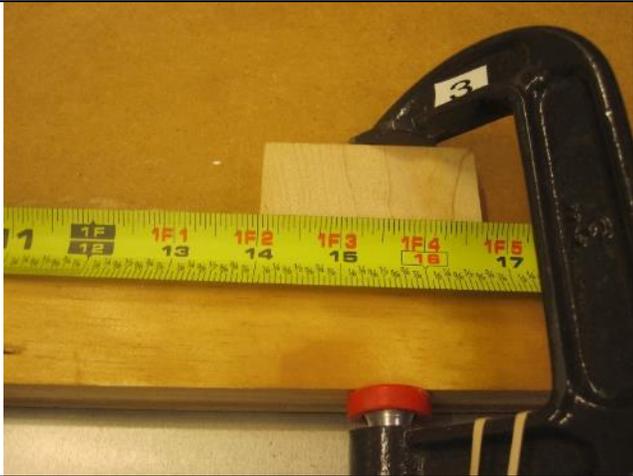
18. With the table saw and panel cutting jig, cut rough ends off both the 3.5 and 5 inches cross members (or rails).



19. Set the stop block to 16 inches on the panel cutting jig.



20. Cut both the 3.5 and 5 inches cross members (or rails) to 16 inches in length with the table saw and the panel cutting jig.



21. Set the stop block to 14 inches on the panel cutting jig.



22. Cut both the 3.5 and 5 inches cross members (or rails) to 14 inches with the table saw and the panel cutting jig.



23. Trim upper (3.5 inches) cross members (or rails) to the exact width by utilizing multi-passes on the joiner.



24. Trim the lower (5 inches) cross members (or rails) to the exact width by utilizing multi-passes on the joiner.



25. Lay weights on the cross members (or rails) for temporary storage until needed.



26. Sand edges of upper (3.5 inches) cross members (or rails).



27. Sand faces of upper (3.5 inches) cross members (or rails).



28. Sand edges of lower (5 inches) cross members (or rails).



29. Sand faces of lower (5 inches) cross members (or rails).



30. Sand both edges of side legs (stiles) with #120 sandpaper on the drum sander.

1



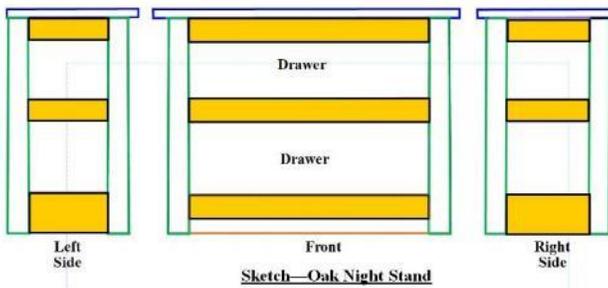
31. Sand both edges of front legs (stiles).



32. Sand both faces of front legs (stiles).



33. Sand faces of all legs and cross members with #120 sandpaper on the drum sander.



34. Operation 2 – About 2.5 hours of work today. Effort completed shown in yellow. Total work time to date is approx. 5.5 Hours.

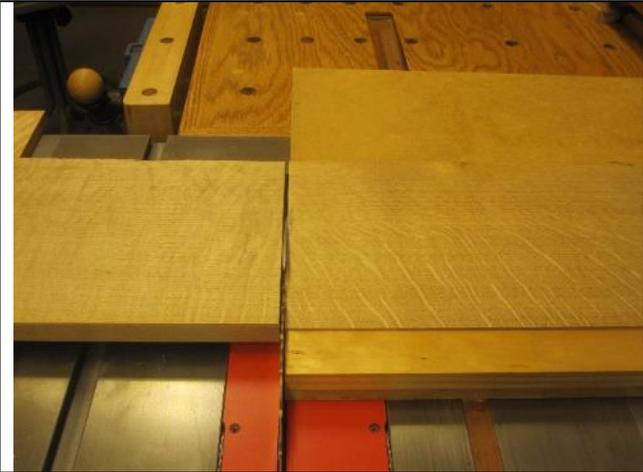
*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

### Operation 3 – Top Construction



35. Pick out a couple of boards with a good grain pattern for the top. Quarter-sawn white oak has a premium price and beautiful **pit rays**, or flakes or fleck or Botany lines or whatever you want to call them as shown here.

*Some people like this and others do not. It is different, and I will wait until I am through with the project to see if I like this material and to see if the price was justified.*



36. Cut multi top boards to oversize length.



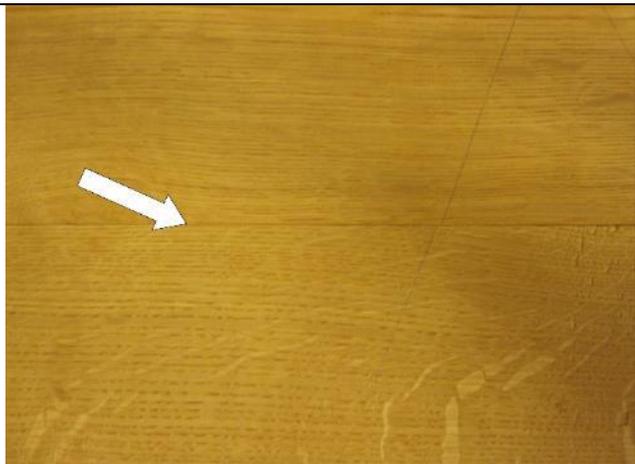
37. Trim the top boards to constant width keeping the previous surface edge against the fence. I can now appreciate taking the time to surface all boards the first day.



38. Find the best board for grain match and draw a triangle as shown.



39. Make multi-passes of the long edges with the joiner.



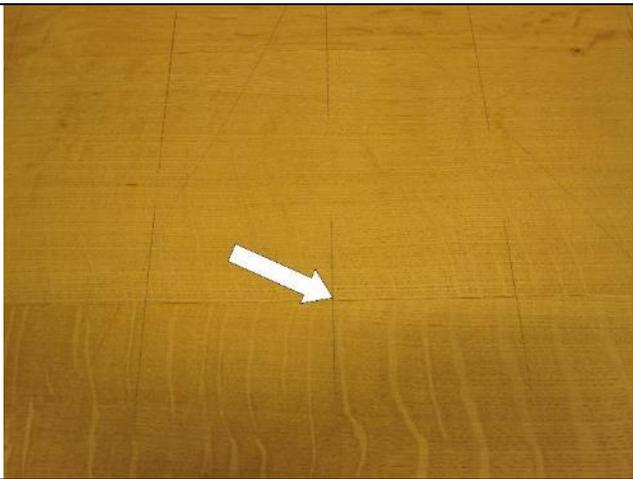
40. Keep checking the joints until you are satisfied.  
Make additional passes with the joiner if you are not satisfied with the joint.



41. Lay out #20 biscuits locations, starting approx. 1 inch from the final edge cut line.



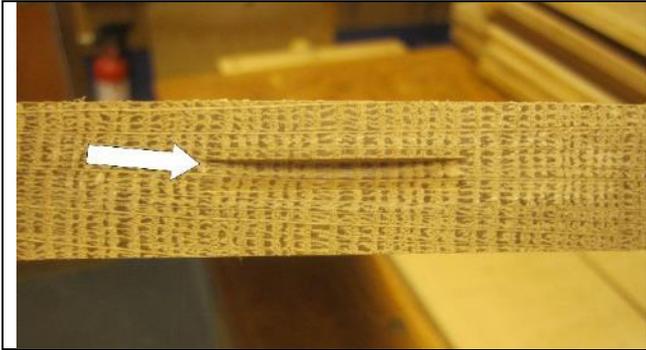
42. Run both sides of the top boards through the drum sander with #120 sandpaper. Make several passes using small depth of cut each time.



43. Mark the locations of the biscuits for each joint.

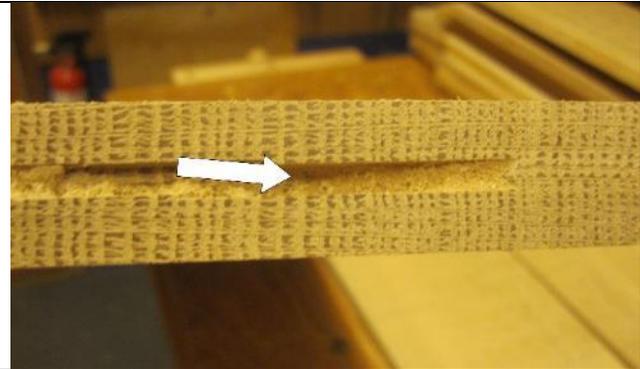


44. With the biscuit cutter cut a temporary #20 biscuit on the side that will be cut away when top is sized.



45. Check slot location. If not centered, then adjust biscuit cutter so that the slot is near the center.

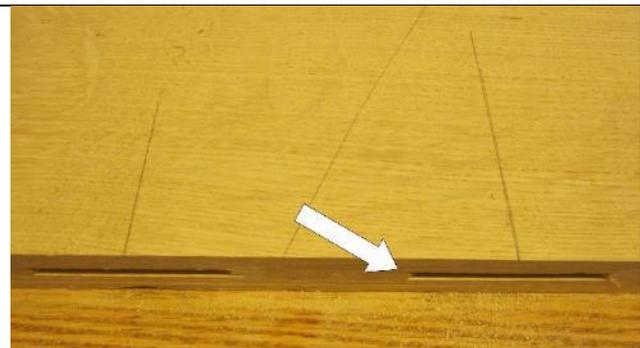
You can see the quarter-sawn rings clearly here.



46. Recheck slot location. Note the slot does not have to be in the exact center if all slots are cut from the same face of the boards.



47. Cut the biscuit slots.



48. No. 20 Biscuit slots shown.



49. Lay out top boards, clamp and glue.



50. Apply glue to the joints and slots.



51. Insert the #20 biscuits and spread the glue carefully.  
Do not use too much glue.



52. Start pushing the joints together.



53. Apply gentle taps with a wooden mallet to help close-up the joints.

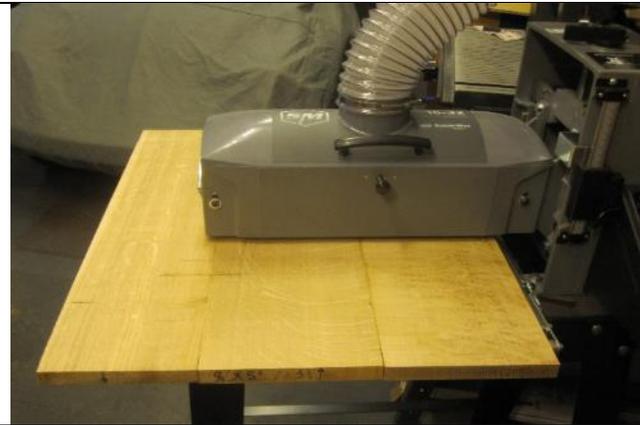


54. Attach clamps and tighten to close-up the joints.  
Wait at least 4 hours prior to taking off the clamps. I generally wait overnight to be on the safe side

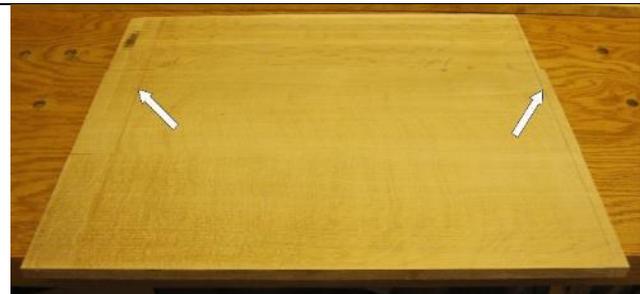
**Note:** *I was not happy with my new expensive Bessy clamps. I had to go get my old tried and true bar clamps to do the job and I thought I had good joints.*



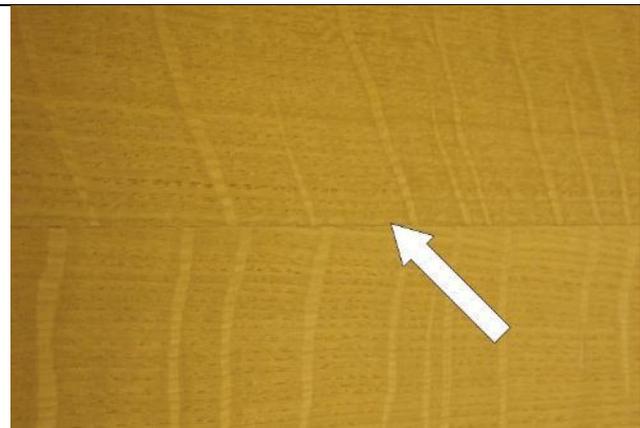
55. Top after removing the clamps. Not the best I have done, but better than some assembly's that I have made.



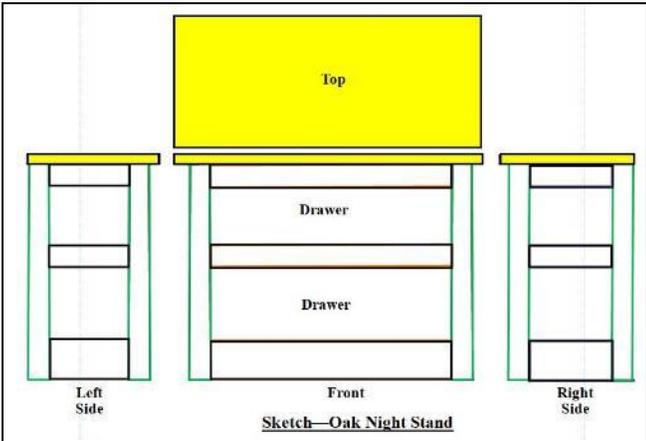
56. Top going through the Drum Sander. Right side first then the Left side. Sand with both #120 & #220 sandpaper on the drum sander.



57. Top after the drum sander. The pencil lines denote the final dimension of the top after final cutting down to size.



58. Again, Not the best I have done, but better than some assembly's that I have made.



59. Top complete except for cutting down to final size and a little more sanding. Operation 3 – About 3 hours of work today. Effort completed shown in yellow. Total work time to date is approx. 8.5 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

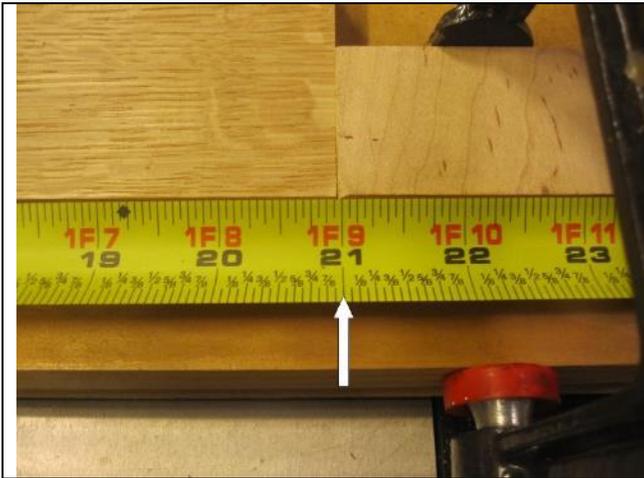
**Operation 4 – Dust Cover Frames Construction**



60. Cut lumber for inside dust cover frames down to 3.25 inches wide.



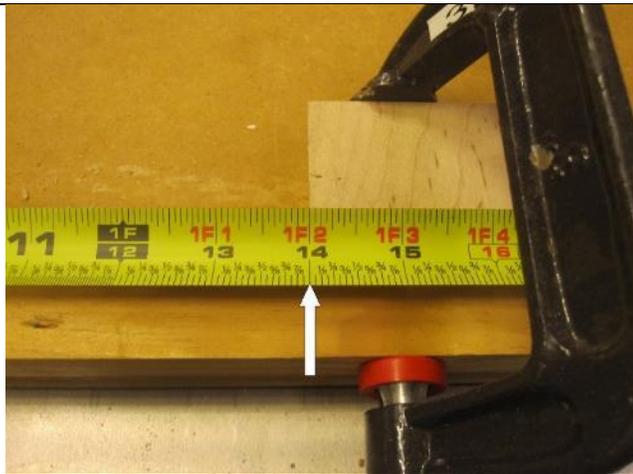
61. Square up one end of each board by cutting a little waste off with the cut-off saw.



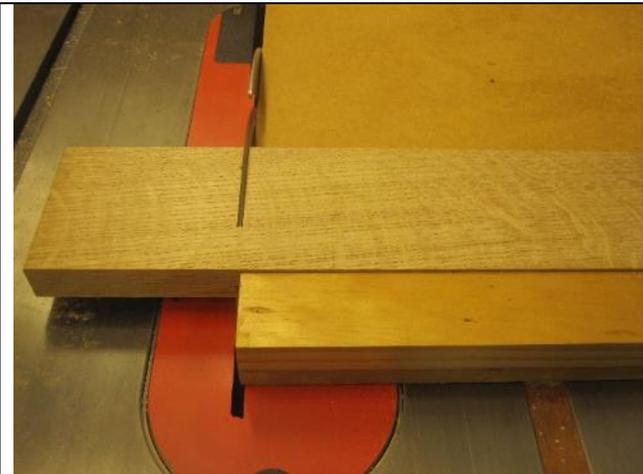
62. Set the stop block to 21 inches for the horizontal members width of the dust cover frame.



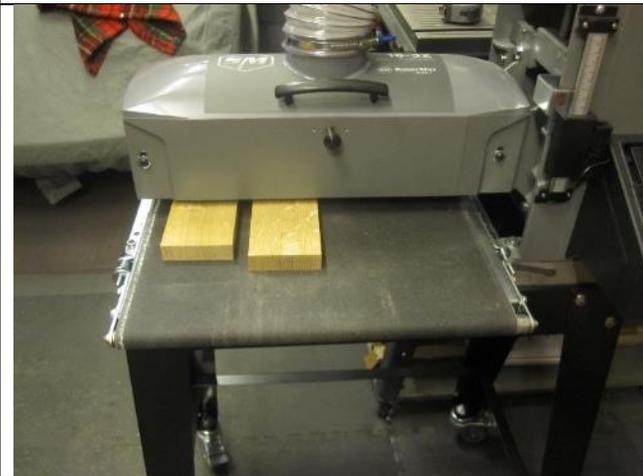
63. Cut 8 pieces at 21 inches for the horizontal members of the dust cover frame. (4 dust covers). Note: I ended up only using 3 dust covers since I needed the space to get my hands inside to tighten the drawer slides.



64. Set the stop block to 14 inches for the depth members of the dust cover frame.



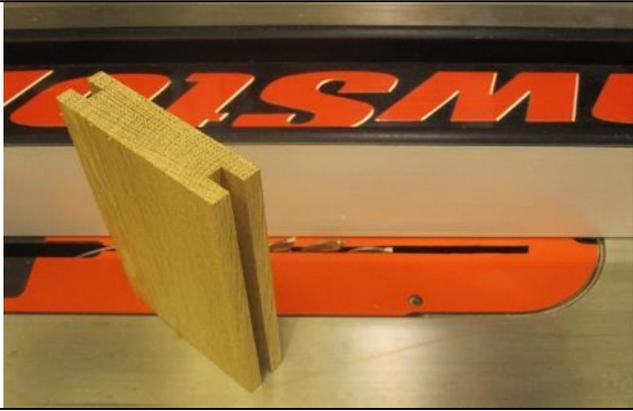
65. Cut 8 pieces at 14 inches for the depth members of the dust cover frame.



66. Send both sides of all member of the dust cover frame through the drum sander with #120 sandpaper.



67. Set blade height at  $\frac{3}{8}$ " & off-set at  $\frac{1}{4}$  inch using the bar gauges as shown.



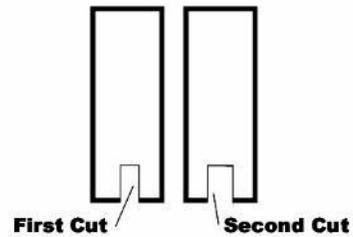
68. Make trial cuts on a piece of scrap block of wood of the same thickness as dust cover frame until you are satisfied with the groove.

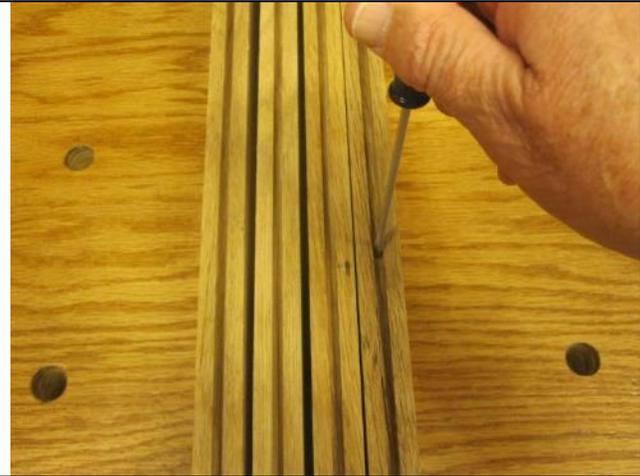


69. Got it!

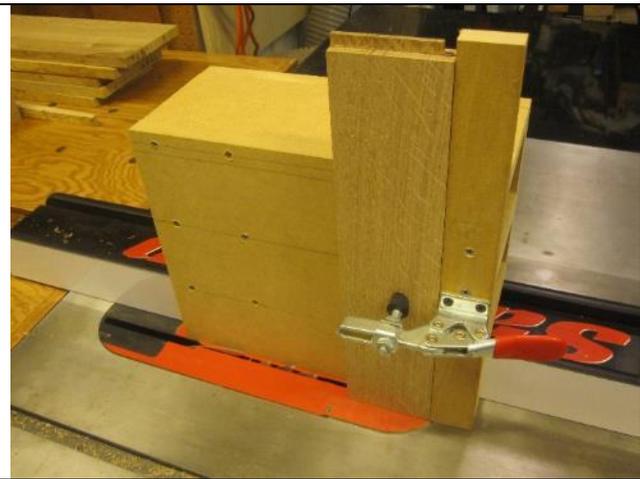


70. Cut first pass with the table saw then flip the board around for second pass to achieve a  $\frac{1}{4}$ " minus cut in the center of the edge of the board.

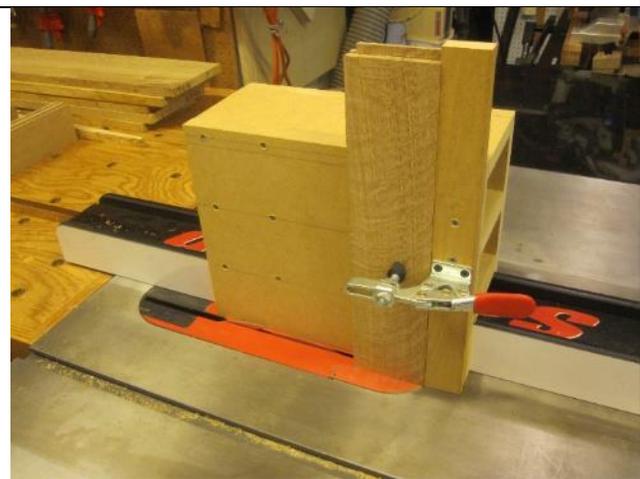




71. Knock out any debris left with a screwdriver.

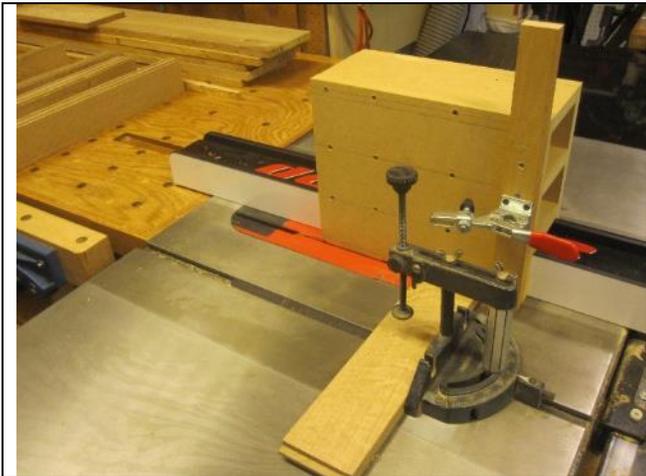


72. Cut one side of the tongue with the jig as shown.

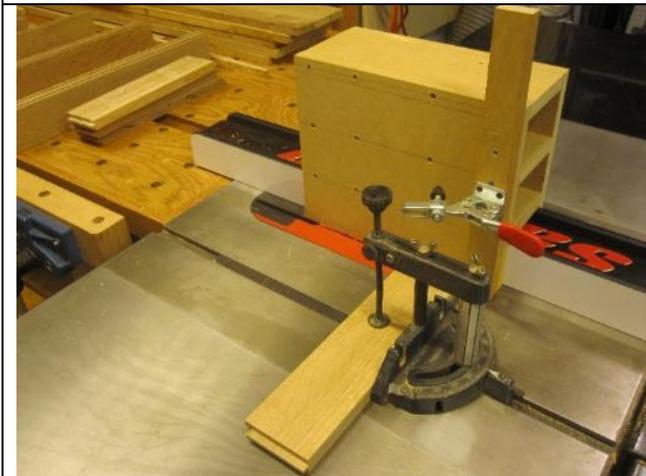


73. Flip around and cut the other side of the tongue with the jig as shown.





74. Cut excess waste off one side of tongue.



75. Cut excess waste off the other side of the tongue.



76. Make a trial fit.



77. Joint is good to use.



78. Cut all 16 pieces as shown.



79. Lay out frame and measure the horizontal dimension for the inset panel.



80. Measure the depth dimension for the inset panel.



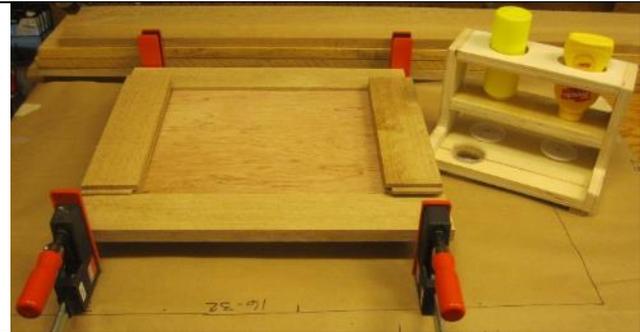
81. Cut  $\frac{1}{4}$ " (minus) plywood insert panel to width (15").



82. Cut the plywood insert panel to depth (13-  $\frac{7}{8}$ ").



83. All four, insert panel cut to size 15" wide x 13-7/8" depth.



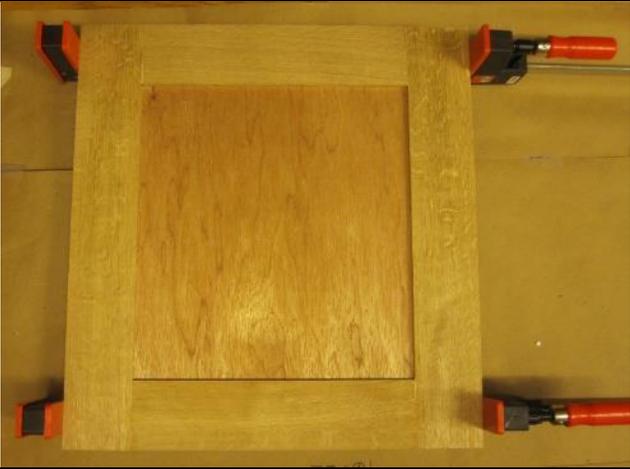
84. Put paper on workbench and lay out frame, clamps, insert panel and glue.

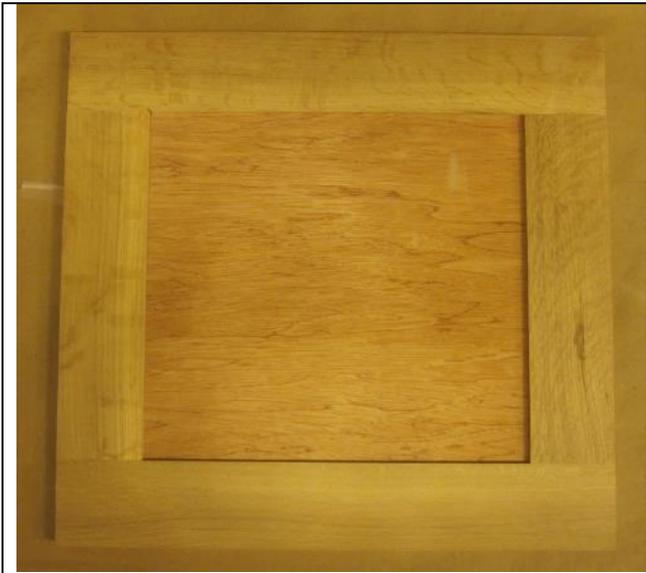


85. Add glue to the tongues.

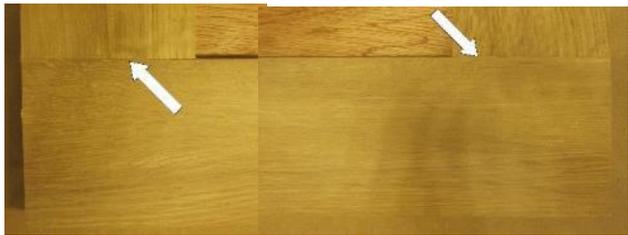


86. Clamp together. Do not use glue on the insert panel since they need to move freely.

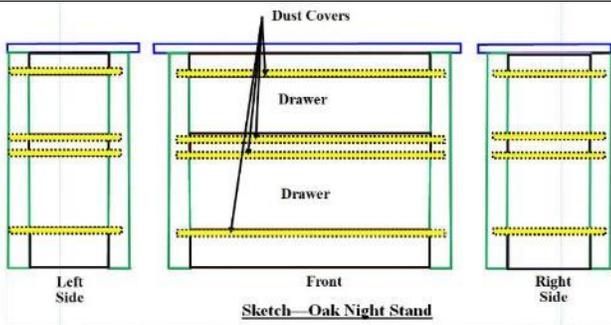
	<p>87. Wait for glue to dry. All 4 dust covers completed now.</p>
	<p>88. Dust cover after removing clamps and prior to sanding.</p>
	<p>89. Sanding the dust covers with the drum sander. Made multi passes on each side.</p>



90. Dust covers after sanding.



91. Typical dust cover joints.

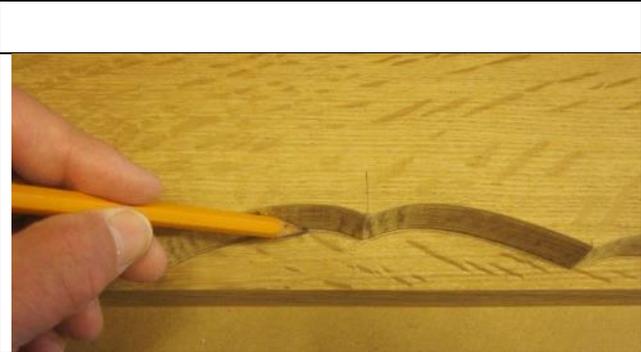


92. Dust covers completed except sanding and cutting down to exact final size. Operation 4 – About 7.5 hours of work today. Effort completed shown in yellow. Total work time to date is approx. 16 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*



93. These are the parts I have made this week. No work this weekend so hopefully I will start putting unit together next week.

<p style="text-align: center;"><b>Operation 5 – Front Face Assembly</b></p>	
	<p>94. Mark all lower front cross member for cut out.</p>
	<p>95. Carefully cut curves with the bandsaw.</p>
	<p>96. Sand cut edge.</p>
	<p>97. Lay previously cut side over the remaining side and mark the cut line.</p>



98. Carefully cut the curves with the bandsaw. Note: I could not put my hands on the cutout pattern that I generally use so I quickly marked up a new pattern. Afterwards, I wish I had searched a little more for my cutout pattern that I generally use.



99. Tape both sides together and sand the edges as shown.



100. Cut all lower front cross members (rail) as shown.



101. Drill pocket holes on the BACK Side of all front cross members.



102. Add glue to the legs (stiles) where the cross members (rails) will make contact as shown.



103. Use Kreg self-tapping “Fine” 1-1/4” pocket hole screws (for 3/4” thick material). Note if construction was made of soft wood then use “Coarse” screws. Use length based on material thickness below.

Material Thickness	Screw Length
1/2"	1"
5/8"	1"
3/4"	1-1/4"
7/8"	1-1/2"
1"	1-1/2"
1-1/8"	1-1/2"
1-1/4"	2"
1-3/8"	2"
1-1/2"	2-1/2"



104. Add clamp at each joint and then screw in the pocket hole screws.



105. Front face assembly assemble. Let dry about 4 hours or overnight.



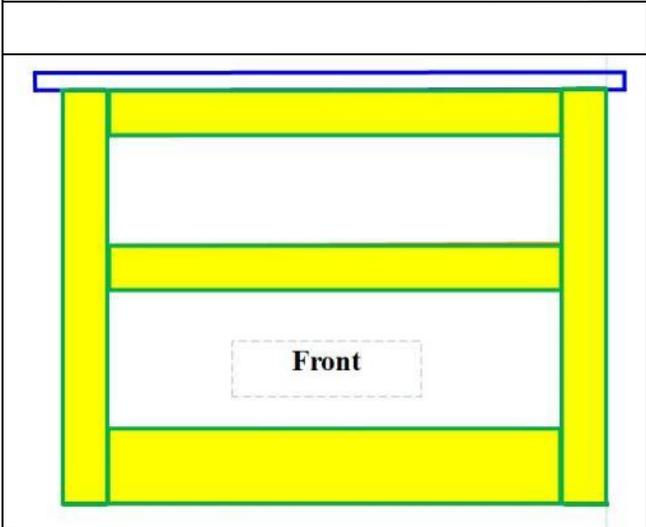
106. Front face assembly prior to sanding.



107. Front face assembly being sanded with the drum sander.



108. Front face assembly after sanding



109. Front face assembly as shown in yellow completed. Operation 5 – About 6 hours of work today. Total work time to date is approx. 22 Hours.

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

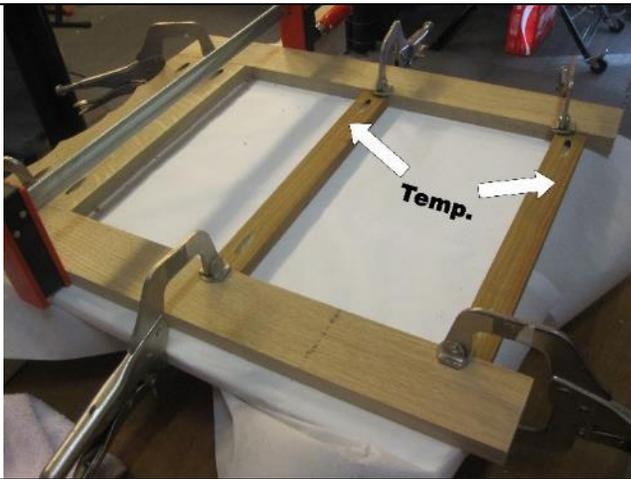
**Operation 6 – Right & Left Face Assembly**



110. Construction of the right frame is very similar to the steps of construction of the front face #101 thru #108 so the pictures and information will not be duplicated here.



111. The left frame does have a different design, so I will only show pictures of these difference as I proceed since most #101 thru. #108 applies here also. The temporary cross members for the left side are to hold the left side at a constant width until the unit is put together which you will see why later.



112. I decided to go ahead and use pocket hole screws without glue on the temporary cross-members, so they can be removed later.



113. Assemble and sand the left frame with the drum sander.



114. Left, front & right frame shown.



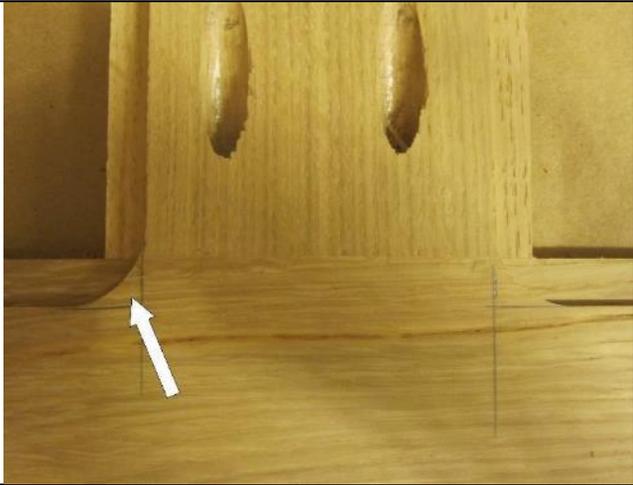
115. Normally I put the insert panel in the center of the rails, as I did on the dust frame, but since I am doing something different that you will see later, I chose to put the insert panel on the backside of the frame, so I needed to cut an rabbet.



116. I often forget about using my workbench vice as a hold-down.



117. I then made a second pass with the router so that the depth of cut was equal to the thickness of the plywood panel.



118. The large bit I was using left a big radius in the corners as shown.



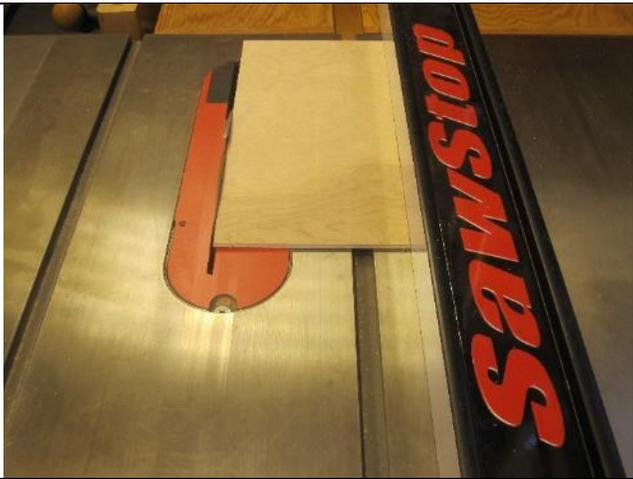
119. I switched to my small router with a smaller bit.



120. And then trim the corner out with a 1/4" straight bit in my small router.



121. I cut the insert panels down to an oversize width with the table saw.



122. I then cut the insert panel down to exact length and width with the table saw.



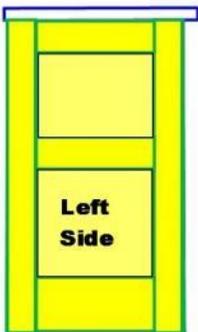
123. I then inserted the panels into the back side of the side frames.



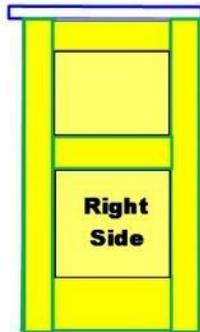
124. I added small pin-nails to hold the panels in place until the dust frames are added which will do the final holding. No glue can be use here due to possible shrinkage.



125. Front side of the right panel shown.



**Left Side**



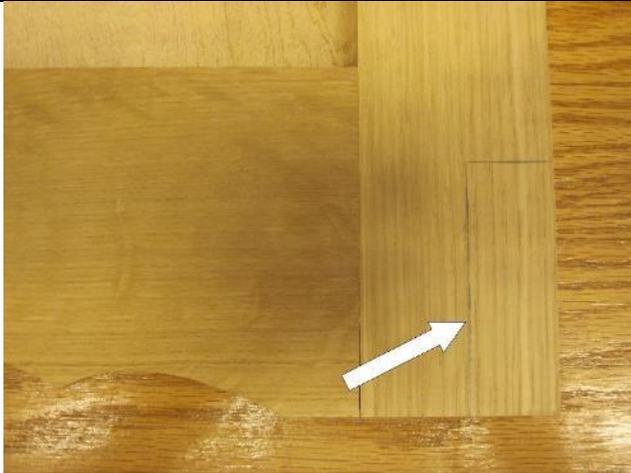
**Right Side**

126. Both the left and right side completed. Operation 6 – About 8 hours of work today. Total work time to date is approx. 30 Hours. This is too many hours a day, it beginning to feel like work, so I will slow down a little tomorrow.

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

**Operation 7 – Miscellaneous Cut-outs**

127. Mark outline of sides cutout on rear of sides for house shoe molding.

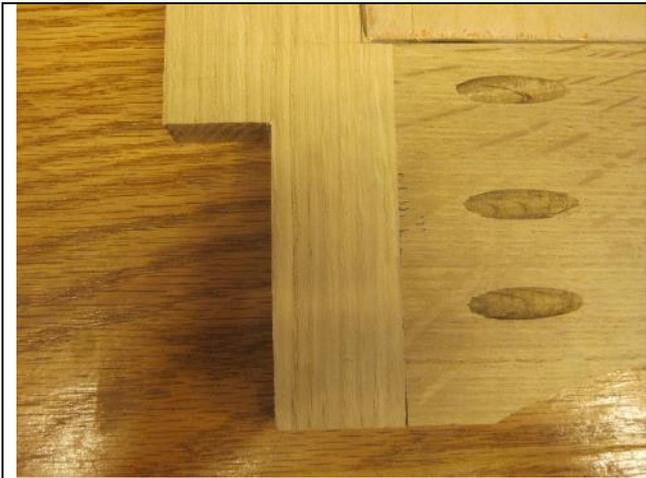


128. With bandsaw make cutout in the vertical direction.



129. With bandsaw make cutout in the horizontal direction



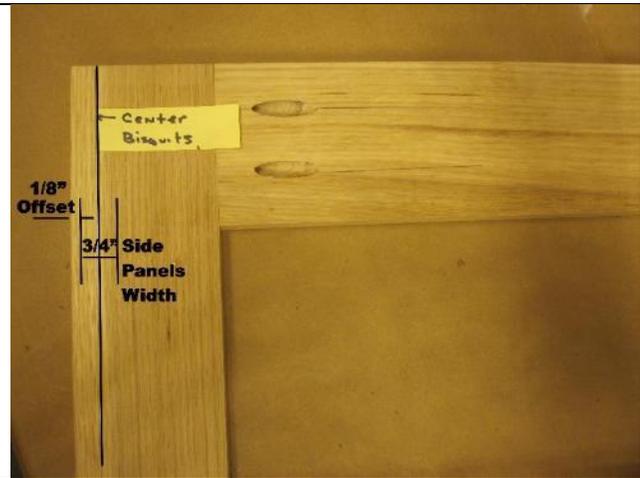


130. Rear cut-out complete on both sides.

Operation 7 – About 2 hours of work today. Total work time to date is approx. 32 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

### Operation 8 – Put Sides together



131. Mark a line on the inside of the front face for the biscuits slots. Use 1/8" offset for the sides as shown.



132. Locate and mark biscuits on the front face connection with the sides.



133. Locate and mark biscuits on the side faces at the same location as marked on the front face.



134. With the router cut a rabbet at the rear on the inside of each side to the same depth as will be used for the back panel.



135. Cut biscuits on the front edge of the right side.



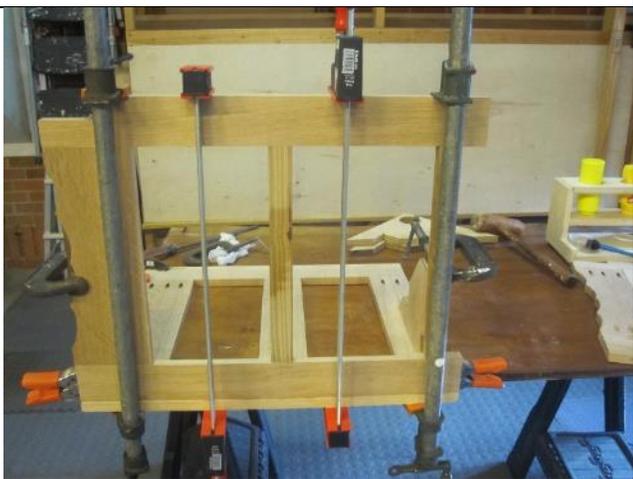
136. Cut biscuits on the front edge of the left side.



137. Cut biscuit on front on the inside left & inside right.



138. Add glue and biscuits to the inside of the left front and add glue to the left side edge.



139. Clamp left side to the front.



140. Use right triangles to maintain square.



141. Follow the same procedure as used for the left side for the right side.



142. Use the right triangles on the right side to maintain square as you did with the left side.

Operation 8 – About 4 hours of work today. Total work time to date is approx. 36 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

**Operation 9 – Complete Sides and Install Dust Panels**



143. Remove clamps and check unit for square and measure inside dimensions. Width 20-3/8" and depth 19-1/8".



144. Remove the lower temporary connection on the left side.



145. Measure left side lower insert panel height.



146. Cut left side lower inside panel to size.



147. Sand left side lower insert panel to exact size.



148. Pin-nail the left side lower insert panel in place.





149. Remove the left side upper temporary brace and repeat the step #145-148 as used for the lower panel.



150. Sides and front shown completed. Measure the exact inside width again.



151. Cut half of the cut-off from one side for all 4 dust panels.



152. Cut the remaining difference off the other side on all 4 dust panels. By cutting half off one side and the other half of the difference on the other side then the insert panel remains in the center.



153. With this fresh cut on each dust panel check out the joints. Not bad, I have done better but I have also done much worst.



154. Make a trial fit inside the cabinet. Fits looks good.



155. Project a line on the back of the sides on the rabbet previous cut, down to the panel to determine the depth of dust panels.



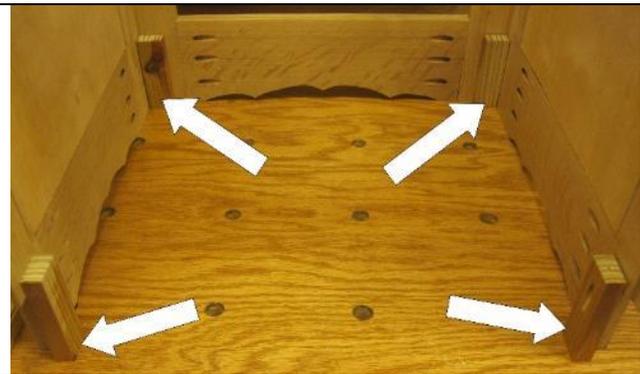
156. Measure inside depth and cut half on one side and then half on the other side. Again, by cutting half off one side and the other half of the difference on the other side then the insert panel remains in the center.



157. Measure panel location and cut a spacer block.



158. Completing the cut for spacer blocks.



159. Set the locations of the spacer blocks.



160. With a spacer blocks add the distance to center of the dust panel and mark on the outside of the cabinet for guidance of the nail-gun.



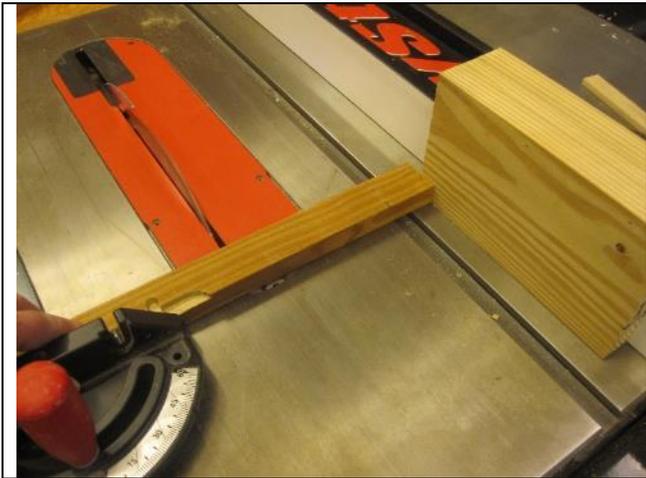
161. In lieu of glue, pin the sides together with a nail-gun using 18GA x 1-1/4" nails as shown below.



162. In lieu of glue, pin the front to the sides with a nail-gun.



163. Measure the length of the spacer block for the next dust panel location and set the rip fence to this cut width.



164. And cut one spacer block for trial.



165. Check length of the spacer block.



166. Cut the other 3 spacer blocks.



167. Install the second dust cover using the same procedures as the first dust cover.

Operation 9 – About 3 hours of work today. Total work time to date is approx. 39 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

**Operation 10 – Install Drawer Slide Holders**



168. Cut drawer slide holders to width.



169. Cut drawer slide holders to length.



170. All Drawer slide holders cut to length and width.



171. Drill a recessed hold for the screw heads.



172. Drill hole for screw shank at both ends of slide holder.

	<p>173. Locate center and add temporary spacer blocks and glue.</p> <p><b>Note:</b> Case is turned on the side.</p>
	<p>174. Add hex-head screws. Make sure they are not too long that will come through the sides.</p> <p><b>Note:</b> Case is turned on the side.</p>
	<p>175. Slide holder in place and flush with the inside frame.</p> <p><b>Note:</b> Case is turned on the side.</p>



176. I also added clamps until the glue dried.

**Note:** Case is turned on the side.



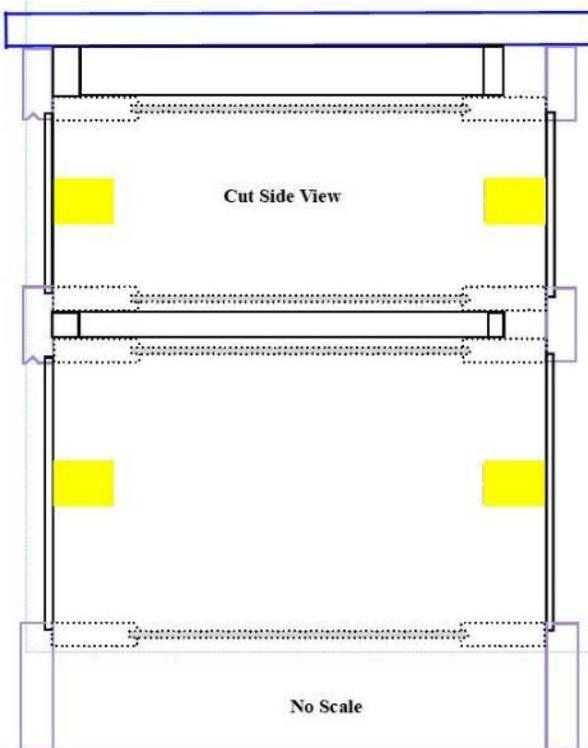
177. Assembly Line speeds up the process of making the remaining slide holders.



178. Glue and clamp the remaining slide holders, including the hidden rails.



179. I also add pin nails to keep the slide holders in place. Shown below is what happens when you hit a pocket hole screw. **REMEMBER** where they are.



180. All slide holder are now in place. Now if you look at the yellow slide holders, you will only see 4 slide holders. It is time to let the cat out of the bag, there are 4 more that you don't see in this view, which are for *hidden drawers*. Yes, I said two small *hidden drawers*. I bet if you look closely, you can see the drawers.

Operation 10 – About 9 hours of work. Not all in the same day but scattered out over a three-week period, since there was a lot of activity going on and I had the crud and did not want to work on it when I was not enjoying the work. Total work time to date is approx. 48 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

**Operation 11 – Installing Metal Slides**

181. Mark all slide holder's centers as shown.

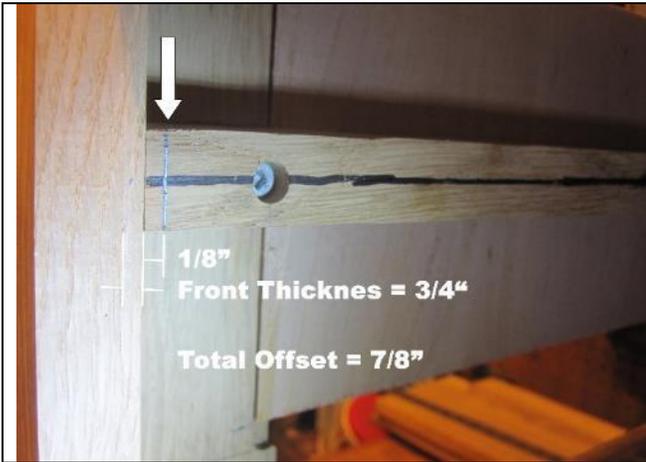


182. Center of slide holders highlighted.



183. Mark a line on all slide holders offset 7/8" for Inset Drawers which is equal to the Drawer Thickness + 1/8"





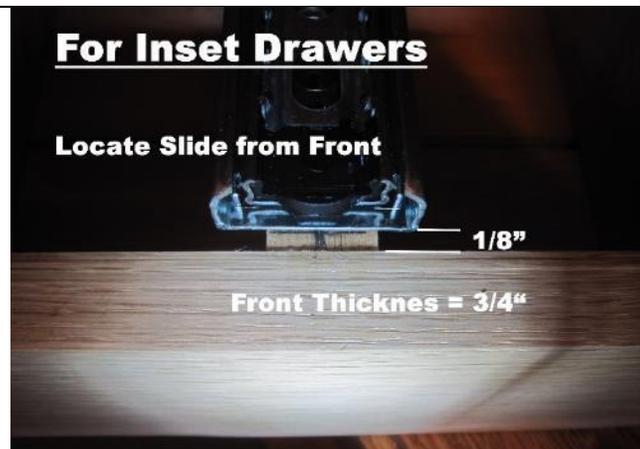
184. Close up of offset.



185. Turn cabinet over on the side.



186. From Rockler, I purchased 8 Center Line drawer slides, Low Profile and full extension. Take the metal slide apart by depressing the plastic leaver and separate the cabinet portion from the drawer portion.

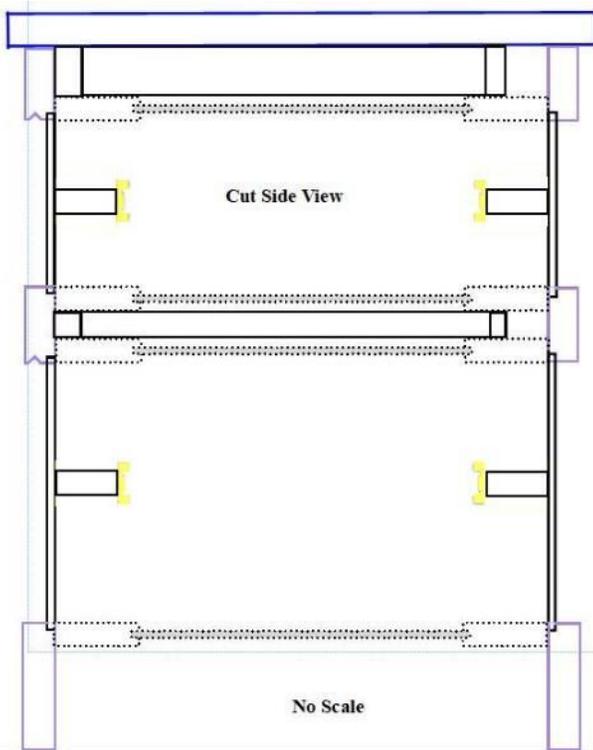


187. Locate the front of the slide at your offset line.

 <p><b>Make Starter Hole in Horizontal Slot</b></p>	<p>188. Use a punch or ice pick and make a starter hole in the front horizontal slot on your previously marked horizontal line, making sure that the front offset mark is maintained. Note the screws are self-tapping but in this hard oak, I needed a starter hold.</p>
 <p><b>Add Screw And Tighten</b></p>	<p>189. Add a screw while maintaining the slide on the front offset mark.</p>
 <p><b>Move to back &amp; Align Horizontal Slot on Line</b></p>	<p>190. Turn the cabinet around so that you can get to the back of the drawer slide.</p>



191. Make a starter hole on the rear horizontal slot on the line and add a screw.



192. Repeat steps 187 – 191 for the other 7 drawer slides.

**Comment:** I probably would have been better off with this solid oak cabinet to have **not used** metal slides but instead used convention wood slides. Another thing is I have never built a cabinet with flush insert drawers but wanted to try something different, more on that next on drawer construction.

Operation 11 – About 4 hours of work. Total work time to date is approx. 52 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

**Operation 12 – Cutting out Drawers**

193. Measure drawer opening width at 16”.

Drawer Width = Opening – 2(1/2”) for Slides

Front & Back Dimension:

= Opening – 2(1/2”) - 2(Side Thickness) + 3/4”



194. Measure drawer opening height at 6.5”.

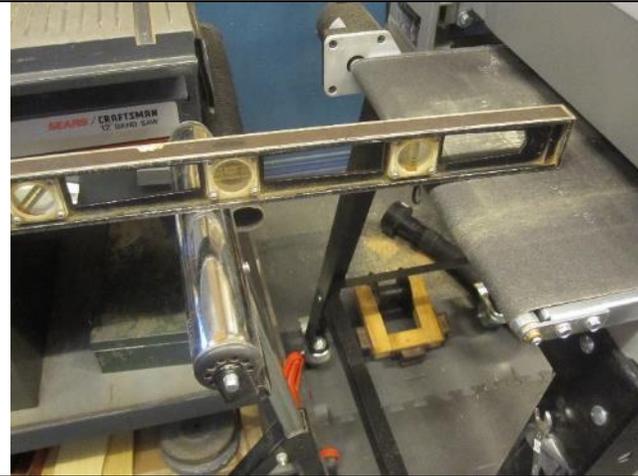
Drawer Height – Opening – 1/4”

Note: if I ever make inset drawers again I will use 1/2” for this dimension, since it really does not matter the false front does matter.



195. Measure drawer maximum depth or drawer sides length.





196. I probably did not need to, but I decided to send the drawer boards through the drum sander. I set my support roller at the same height of the drum belt.



197. I checked to make sure both support stands were level.



198. I sanded both side of the boards that I would use for drawer construction.



199. I then cut the side, front and back of the drawers to the calculated height dimension.

I set this dimension to opening height – ¼”

Note: if I ever make inset drawers again I will use ½” for this dimension, since it really does not matter the false front does matter.



200. I squared one end of each board with the cut-off saw. Normally I would use dovetail joints for this type of drawer construction, but I have been experimenting with this piece of furniture, so I thought I would use a supposedly quick and easy method of drawer construction which is called false front drawers all cut on a table saw. I will use metal guides with ¼” plywood bottom and 3/8” dado on the front and back of the drawers.



201. I set the stop block to the calculated length of drawer sides and cut all of them.



202. With the stop block set to the calculated drawer front & back length I cut all Front and back pieces.

Front & Back Dimension:

$$= \text{Opening} - 2(1/2'') - 2(\text{Side Thickness}) + 3/4''$$



203. With the measuring gauge, I set the blade height to 3/8''



204. I moved the 3/8'' measuring gauge to the stop block and cut one pass on each end of the front and back.



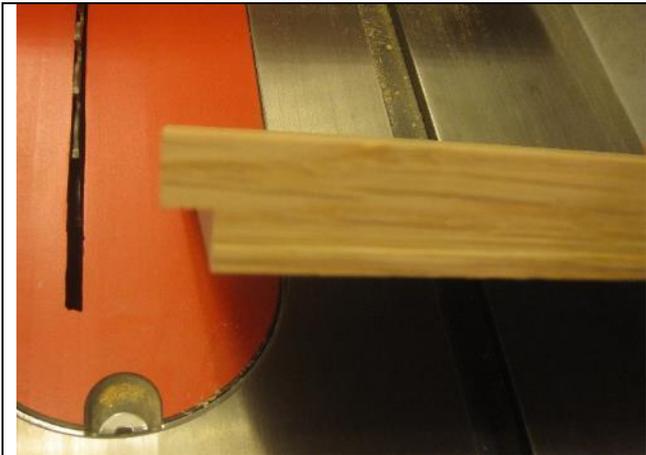
205. Front or back shown after one pass has been made.



206. All front and back boards with single pass made on each end.



207. I then nibbled away at the remainder of the tongue on the front and back.



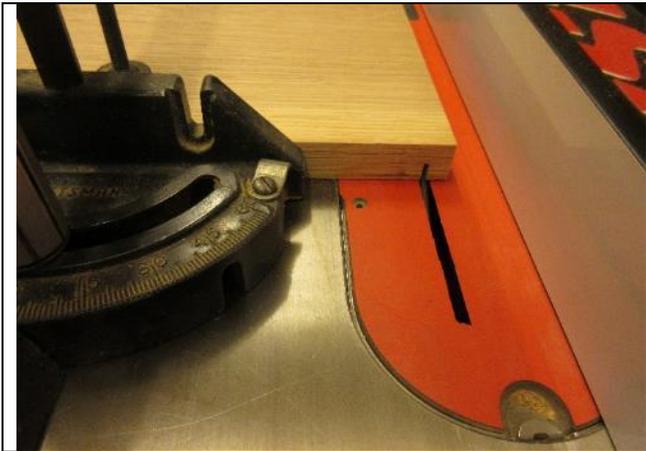
208. Completed tongue shown.



209. Tongue completed on all front and back of drawers.



210. Set up rip fence to cut groove ends on both ends of the drawer sides.



211. Continue through with the cut.



212. After completing all outside cuts for all sides I then mark offset line with spacer block and move the guide to the new marked line.



213. Inside cut and outside cut for the sides shown. Then nibble away the wood between the cut marks.

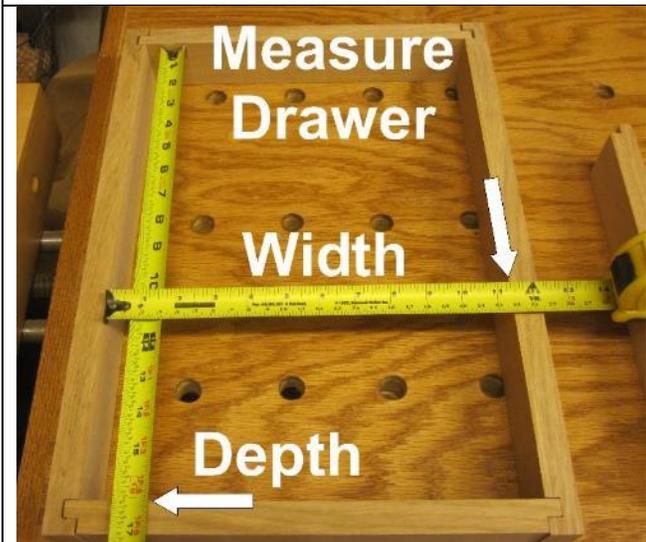


214. Make a trial fit and sneak up of the dado width.



Cut Narrow  
Drawer  
Width

215. Cut narrow drawer width (hidden drawer) by repeating steps 199 thru 214.

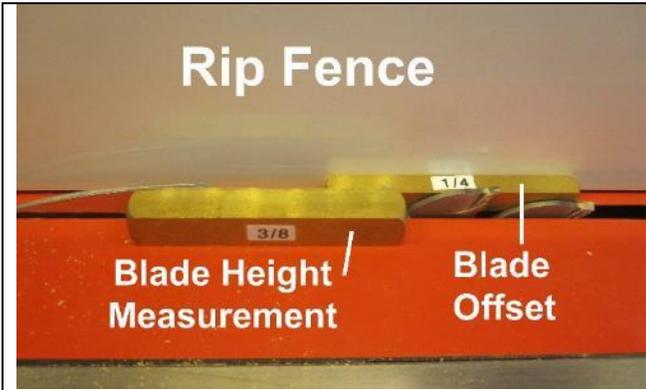


Measure  
Drawer

Width

Depth

216. Temporary put drawers together and measure inside drawer width and depth. Drawer Bottom is  $\frac{1}{2}$ " wider than the inside width and depth dimensions.



217. Set blade height to 3/8" and rip fence offset to 1/4" for groove cut insides of front, back & sides of drawers for drawer bottom.



218. Make a cut on a scrap piece of wood.



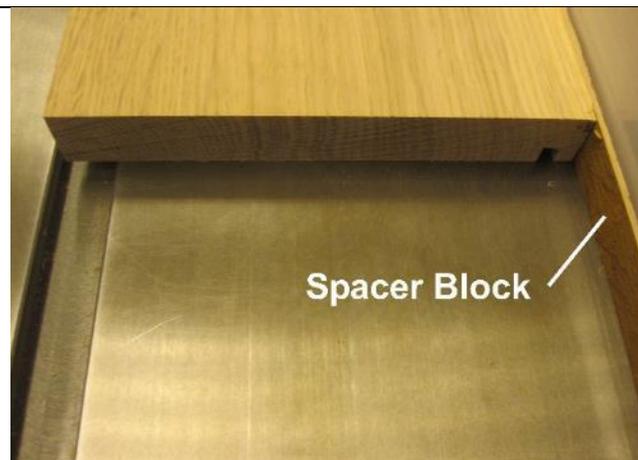
219. Lay out drawers and make sure you cut groove on the inside of drawer side, front and back.



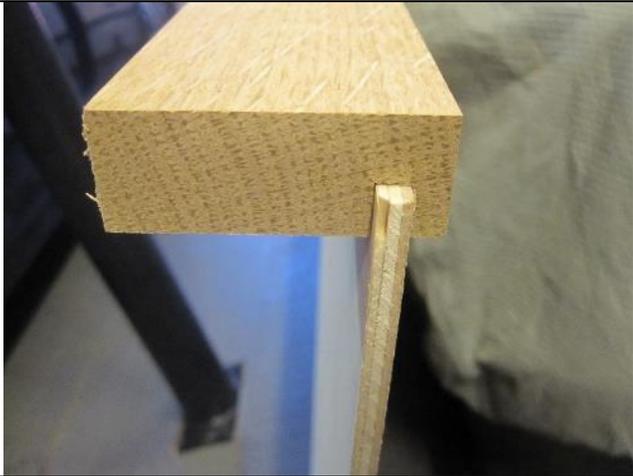
220. Make first cut of groove with standard blade for all pieces. Note: you could take the time and put a dado blade set to  $\frac{1}{4}$  wide) in lieu of steps 221 – 222.



221. Move rip fence over and make second cut of groove for all pieces.



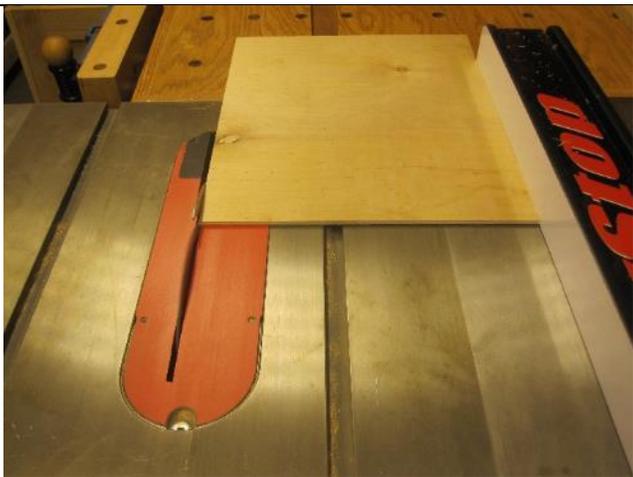
222. If required use a small spacer block to cut out any remaining wood in the groove for all pieces.



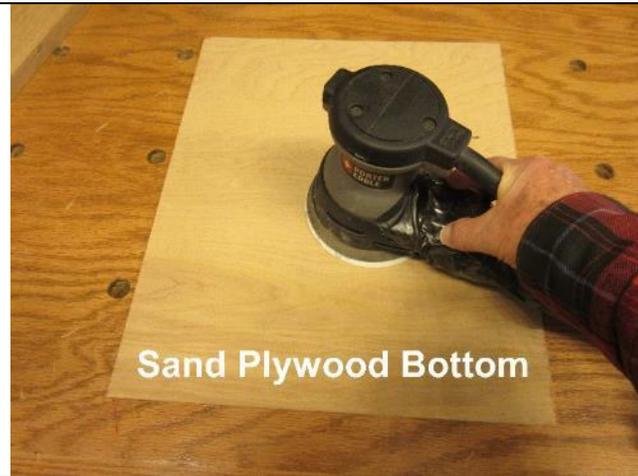
223. Make a trial fit of plywood bottom.



224. Cut plywood bottom to length.



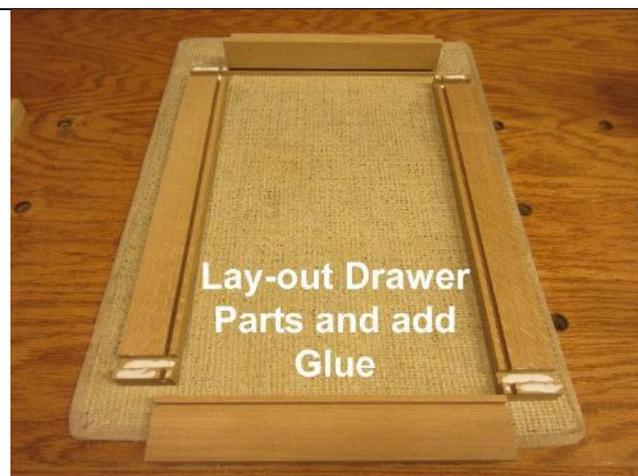
225. Cut plywood bottom to width.



226. Sand the plywood bottom with #150 or #220 sandpaper.



227. Sand drawer parts, especially the interior side since it will be hard to sand the inside after the drawer is put together.



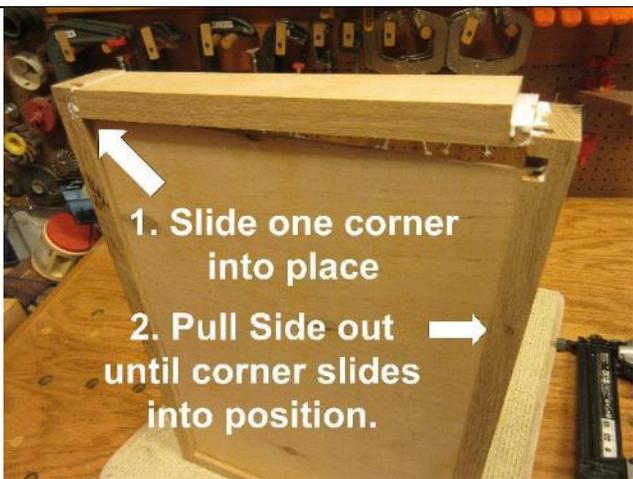
228. Lay-out the drawer parts and put glue on the appropriate joints.



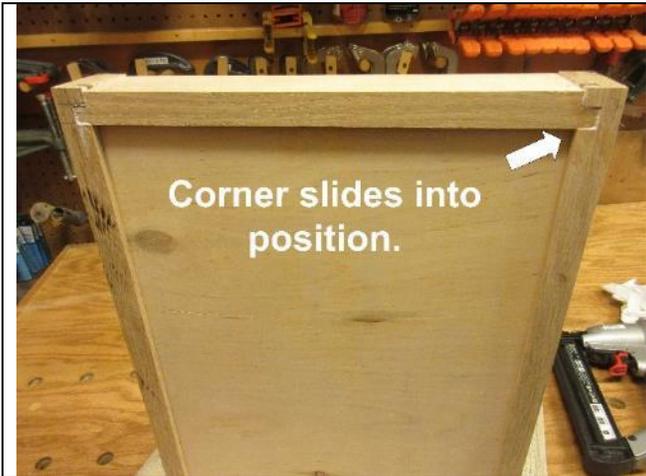
229. Pin nail one end of the drawer together.



230. Slide the bottom into the grooves in the frame.



231. Ease the opposite end into the frame and slowly pull apart one side to get the end piece to slide into the slot.



232. Opposite end slid into place.



233. Pin nail all joints and let the glue dry.



234. Small drawer box complete.



235. Drawer boxes complete, except for exterior sanding and installing the slide rails and the false front.



236. Sand exterior of all drawers.

Operation 12 - (Completed over several days so I should call it Operation 12) – About 14 hours of work for this operation. Total work time to date is approx. 66 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

**Operation 13 – Installing Slides on Drawers**



237. Draw a line at midpoint of drawer and an offset line 1/8” from front of drawer.



238. Make a screw starter hole with an ice pick since I am using quarter sawn oak. The self-starting screws would not self-start in this hard oak.



239. Insert screw in the vertical slotted hole and tighten lightly.



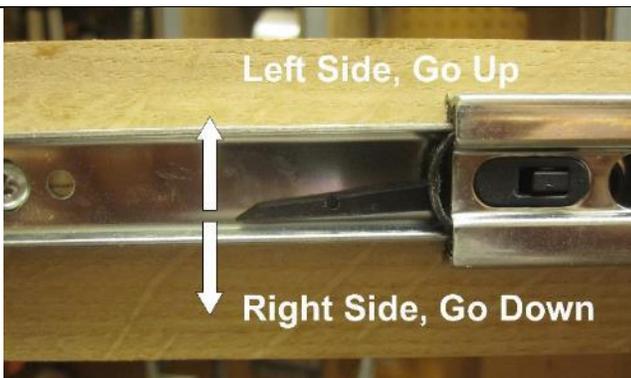
240. Move to the other end of slide and insert a screw in the vertical slotted hole and tighten lightly. Recheck that the slide is on the center of the line and tighten both screws. Insert another screw at the midpoint vertical slot and tighten the screw.



241. Move to the other side of the drawer and repeat steps 237-240.



242. Check drawer for fit.



243. The latch disconnect for the slide is confusing since if the slide is on the right side of the drawer, you depress the black plastic lever down and if the slide it is on the left side of the drawer you depress the lever up.



244. See if adjustments are needed.



245. Make adjustment to the slide location on the drawer if the drawer needs to be moved up or down and make adjustment to the slide location on the frame if the drawer needs to be moved in or out.



246. Double-check the drawer opening width. I decided to use a 1/8" gap so the drawer face will be 16" - 2x (1/8") or 15-3/4" wide.



247. Double-check the drawer opening height. I decided to use a 1/8" gap so the drawer face will be 6-1/2" – 2x (1/8") or 6-1/4" high.



248. Cut the drawer false front to a width of 16" – 2x (1/8") or 15-3/4" wide.



249. Cut the drawer false front to a height of 6-1/2" – 2x (1/8") or 6-1/4" high.



250. Dimension look good.



251. Drill holes in the False Front for the drawer handles.



252. Counter sink the handle holes on the back side of the false front for the screw heads.



253. Temporary attach the false front to the drawer using the drawer handle holes.



254. From within the drawer, drill two holes for attaching the false front to the drawer.



255. Attach the false front to the drawer with wood screws.



256. Remove the false front from the drawer and attach the handles and then reattach the false front to the drawer.



257. Repeat similar steps for the hidden drawers. All drawers need final adjustments but since it is recommended that all hardware be removed for finishing, I think I will wait for final adjustments until after the cabinet has finished.

Operation 13 - 2 hours of work for this operation.  
Total work time to date is approx. 76 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

#### **Operation 14 – Wrap up Construction**



258. Use double side tape to temporary hold the false front drawer face.

**Drill Hole with tape as depth gauge**



259. Drill hole from inside of the drawer to hold the false front drawer face.



260. Add screws from inside of the drawer to hold the false front drawer face.



261. Cut the plywood back down to size.



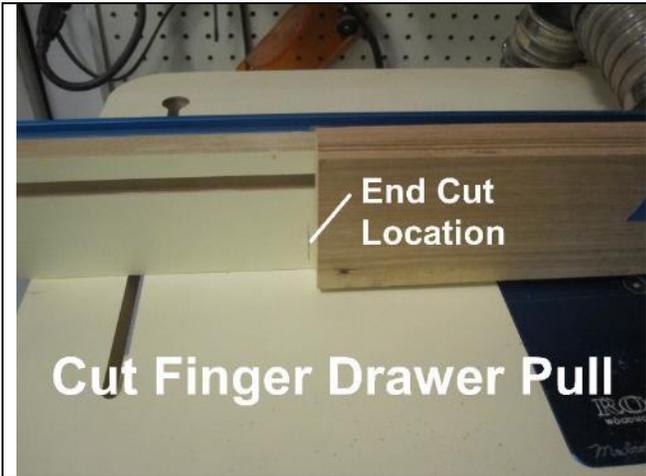
262. Cut the Oak top down to size.



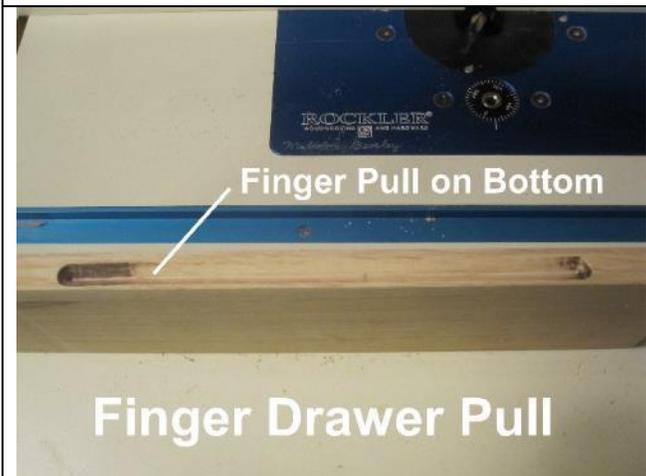
263. Make a trial fit of Top.



264. On router table cut a vee groove on bottom of drawer face. Ease face into router bit at one location and raise face at the opposite location.



265. Raise face at the end location.



266. Finger pull shown on bottom of front face.



267. Side view with hidden drawers closed.



268. Side view with hidden drawers open.



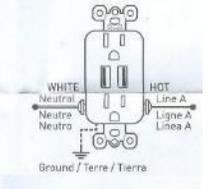
269. Install an electrical connection with 2 USB ports on back side.

**DESCRIPTION:** This device is a radiant™ Duplex USB charger. The USB ports provide 3.1A total DC power at 5 volts for charging USB devices. USB ports are for charging purposes only and are not intended for data transfer.

**DIRECTIONS:**

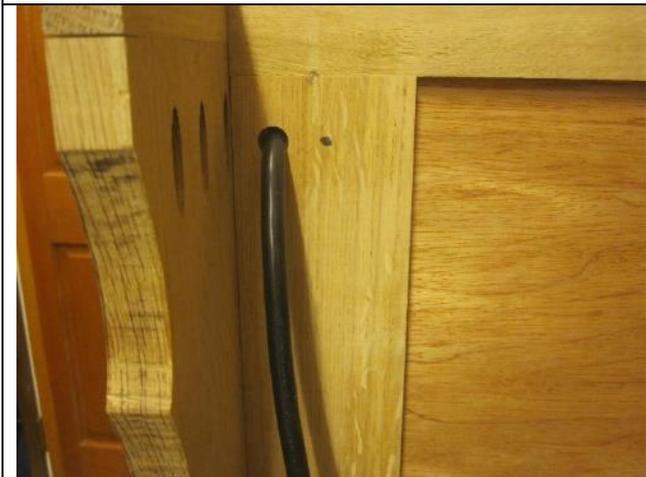
1. Disconnect power to circuit by removing fuse or turn circuit breakers OFF before installing. Before wiring verify that power has been removed by testing with a circuit tester at the outlet box.
2. To replace existing device, remove wall plate and pull device from box.
3. Label wires connected to existing device.
4. Disconnect existing device.

5. Strip wires to length of 1/2" using gauge located on device strap. Use #10 - #14 AWG solid or stranded wire.
6. Install device per corresponding wiring diagram. See Figure 1.
7. Torque terminal screws to 12-14 inch-pounds.
8. Mount the device to the wall box.
9. Attach wall plate, then restore power to circuit.





270. Temporary install the back panel.



271. Drill hole and add Electrical Wire.



272. Add pigtail for electrical connection in the lower hidden drawer where you want the electrical connection not visible.



273. Drill oversize holes for top hold down screws.



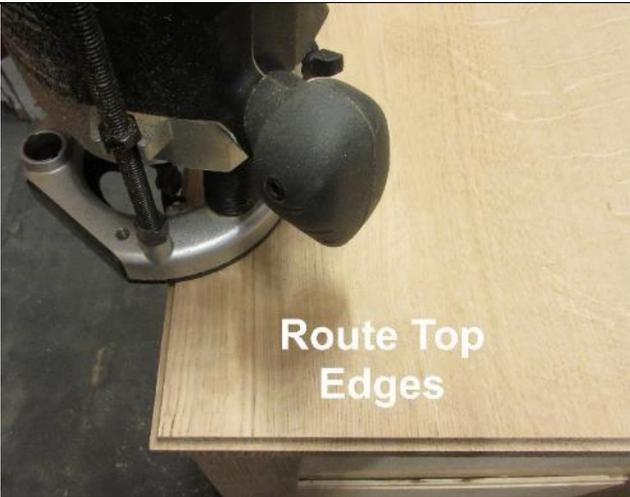
274. Top hold down screws.



275. Begin sanding again.



276. Accident – No I did not cry, but I wanted to. I added a line on the photo where the top cracked when it fell off my workbench. How it fell I do not know. Saturday evening, I had just completed putting the top on it and made a good sanding with the sander and stopped for the night thinking I was complete except for the hand sanding. When I got home after church it was laying on the floor with a crack in the top as shown. I put glue in the crack the best I could and let it set over night and put pin nails as shown prior to taking off the clamps.



277. I routed the top edges as shown.

Operation 14 - 10 hours of work for this operation.  
Total work time to date is approx. 86 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*

### Operation 15 – Final Prep and Finishing



278. Begin hand sanding.



279. Remove top so that access is available to the top hidden drawer slide.



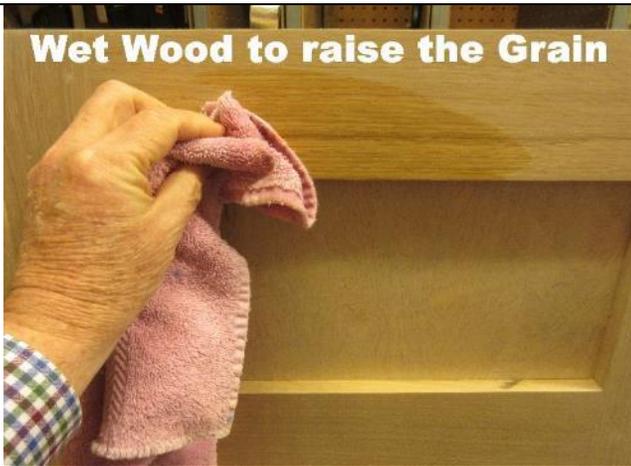
280. Remove and label all drawer slides, so they can be put back on at the same locations.



281. More Hand Sanding. In this operation, I hand sanded with 100 grit, 120 grit and 180 grit sandpaper.



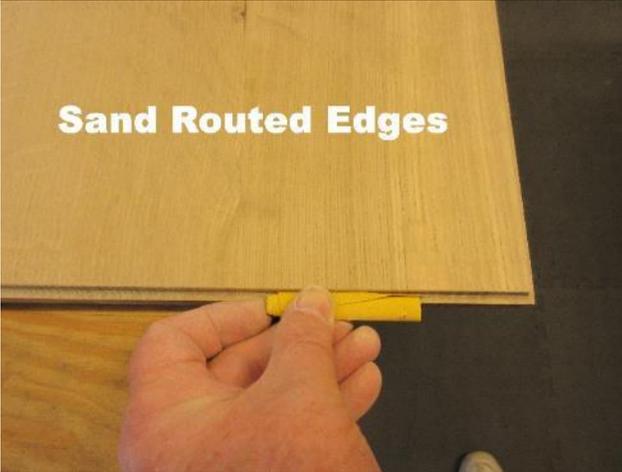
282. My Temporary air filter while I was sanding. Yes, I had a dust mask on and glasses also.



283. Wet wood to raise the grain and let dry overnight.



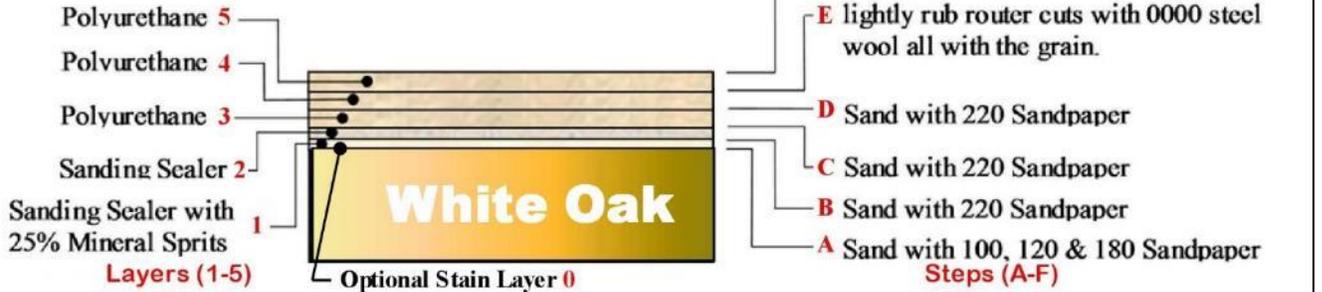
284. The next day when the grain has been raised, sand again with 220 grit sandpaper.

 <p><b>Sand Routed Edges</b></p>	<p>285. Also sand the routed edges.</p>
 <p><b>Wipe down with a Tack Rag</b></p>	<p>286. Wipe down with a clean tack rag/cloth.</p>
 <p><b>Sign and Date</b></p>	<p>287. Sign and add the completion date on the back.</p>

## Malcolm's Old Fashion Finishing Procedure

Used Since the Early 1970's

**Note:** Previously, I have often used Shellac, in lieu of the Sanding Sealer



289. I had planned on just adding a clear finish on the white oak but after preparing the story board at left, I decided to add a coat of Golden Oak Stain 210B for the optional Layer "0" shown above.



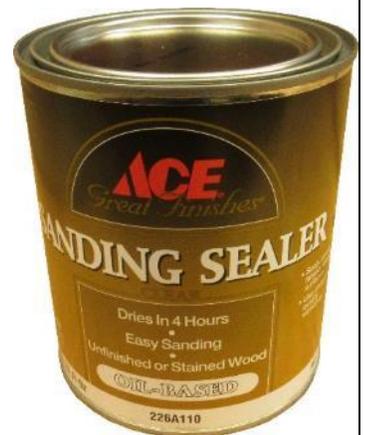
290. Top & drawer fronts after adding stain to both sides.



291. Nightstand after adding stain. Wait a minimum of 24 hours.



292. Thin sanding sealer by adding 25% paint thinner and apply (Layer 1 as shown above) to the inside and outside surfaces of all pieces including the drawers.



293. Drawers shown after reduced sanding sealer has been applied. Wait minimum of 24 hours.



294. Sand with 220 grit sandpaper and then dust with a tack cloth and then apply layer #2 (from detail above) of full strength sanding sealer with a brush. Wait minimum of 24 hours.



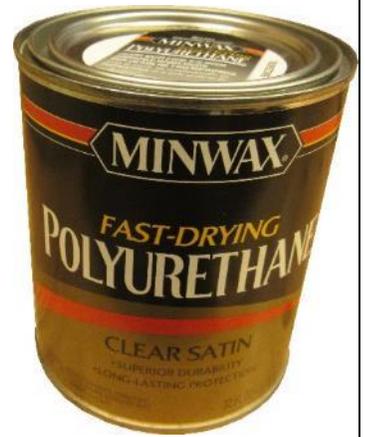
295. Sand unit with 220 grit sandpaper, clean-up and filter the air if possible. Wait about 1 hour for all dust to settle and set up a moveable light so you can move it around the unit, so you can see if there are any spots you have missed or any runs of polyurethane in the painting process.



296. I always strain my polyurethane especially since I generally mix my new can with an old can if I have any on hand of the same type of finish.



297. Apply the first coat of polyurethane at full strength which is layer #3 shown on above detail. Wait a minimum of 24 hours.



298. Repeat steps 295, 296 & 297 and apply a second coat of polyurethane at full strength which is layer #4 shown on above detail.



299. Apply a third coat of polyurethane at full strength which is layer #5 shown on above detail and when dry, sand with 320 & 400 grit wet/dry sand paper.



300. Sand with pumice and water with the grain of the wood.



301. Drill a 5/64" hole and hammer in furniture guides at all four corners.



302. Sand with rotten stone and Linseed Oil.



303. Wipe off oil with rags, It is a Messy Job but somebody got to do it.



304. Hang out rags on a fence to dry prior to disposal since Wilma WILL NOT wash them.

**Note:** I need to add a caution from a past experience in February 2011, linseed oil rags, will cause a fire by *spontaneous combustion* so lay them out separately on a surface to dry prior to discarding in a trash can.

Malcolm Beasley Sr.



305. The finish is complete except for the final wipe-down.



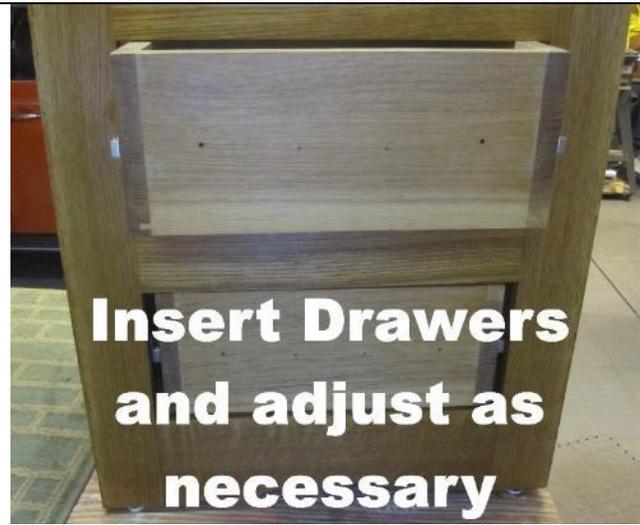
306. The finishing is complete except for the final wipe-down.



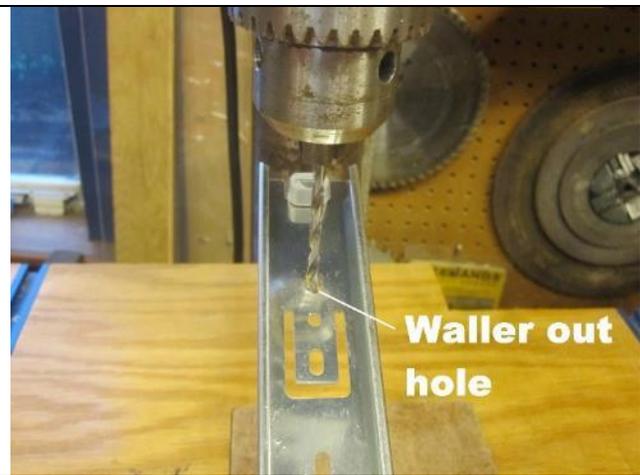
307. Add slides to drawers similar to steps 238 thru 245.



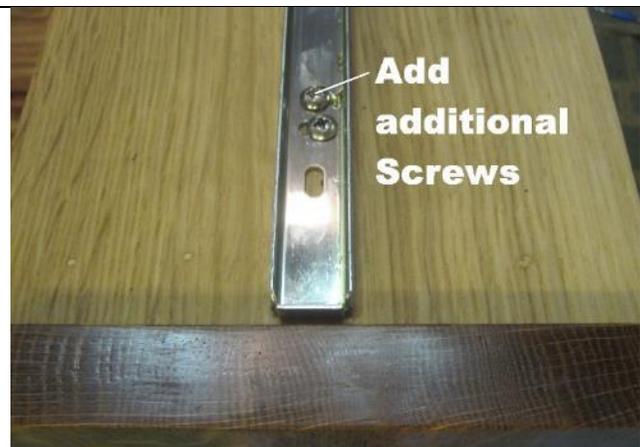
308. Add slides to frame similar to steps 188 thru 191.



309. Insert drawers into frame and adjust as necessary. Make adjustment to the slide location on the drawer if the drawer needs to be moved up or down and make adjustment to the slide location on the frame if the drawer needs to be moved in or out as discussed in step 245.



310. Yes, I had to waller out oblong hole in drawer slide to make the necessary drawer adjustment.



311. Add additional screws to drawer slides.



312. Additional Screws to False Front.



313. Add drawer liner.





315. Completed – Hidden Drawer View.



316. Completed – Front & Right Side, View.



317. Completed - Right side, View.



318. Completed – Rear View.



319. Completed



320. Completed in 3 Months and 4 Days, Yes I took my time and enjoyed most of it (98%).

Operation 15 - 29 hours of work for this operation.  
Total work time to date is approx. 115 Hours

*Work time shown is actual work time and includes normal clean up but does not include major clean-up or planning or designing plans and preparing this document.*