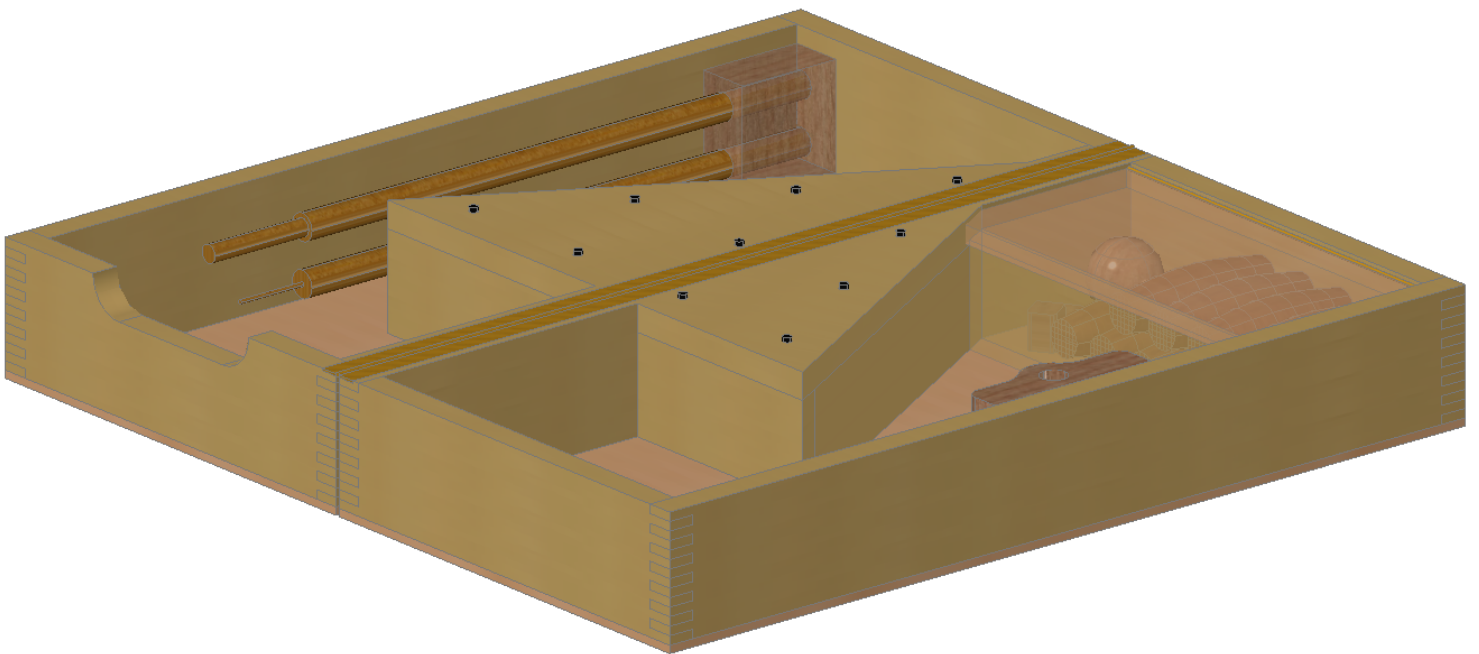
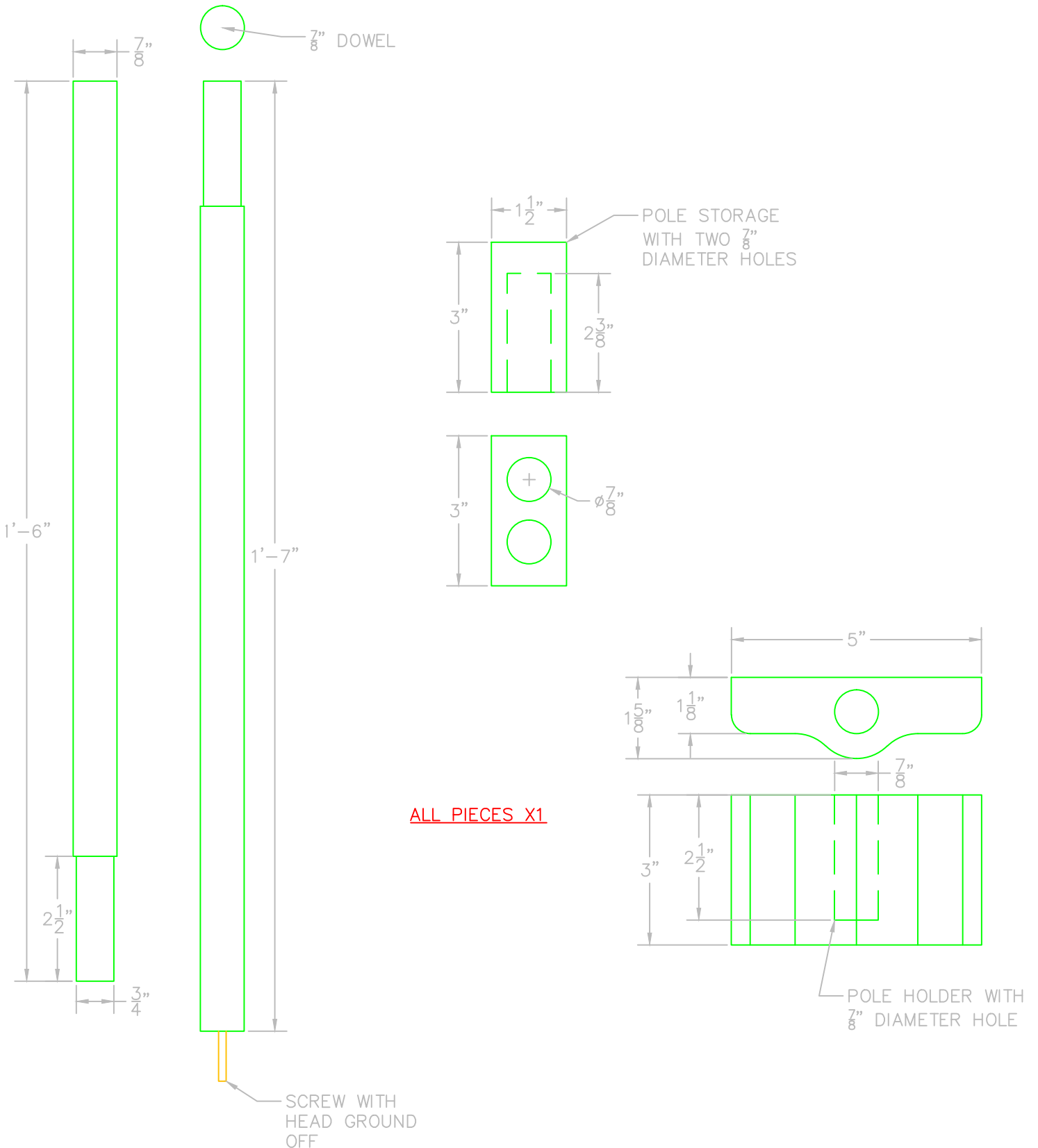


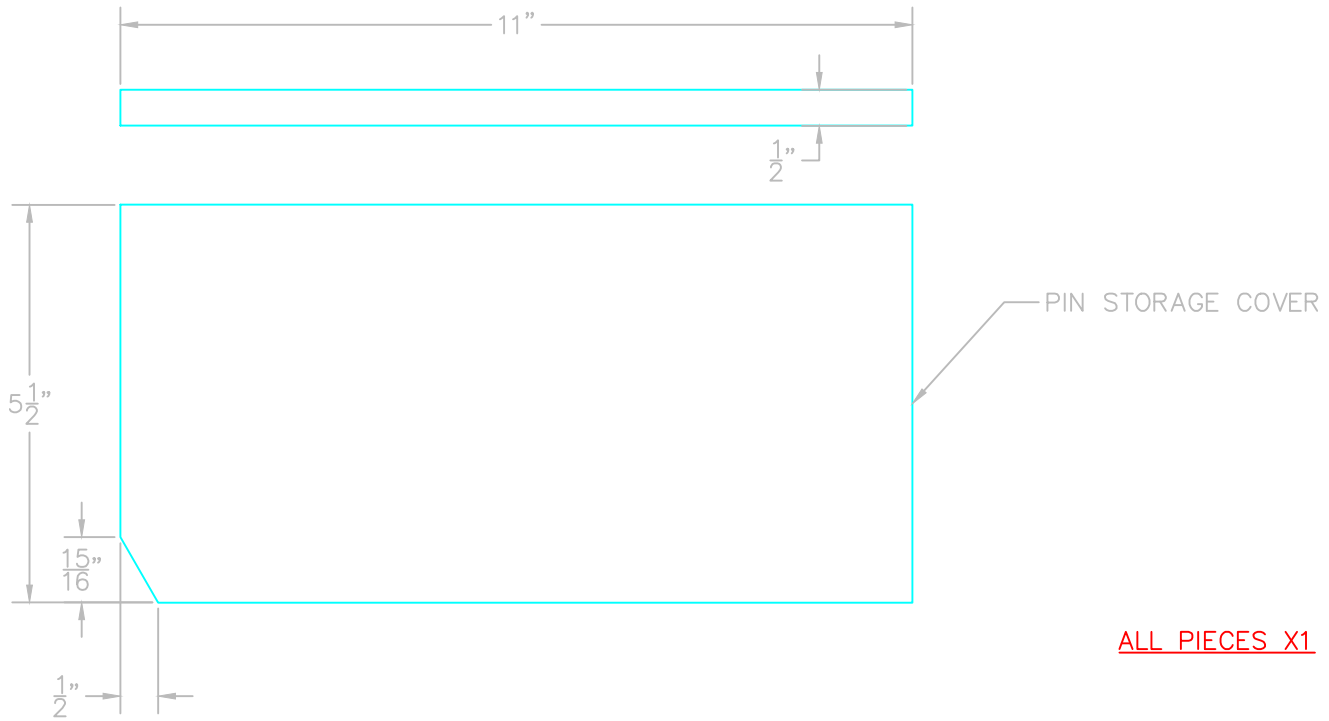
Collapsible Skittle Bowl Game

Build Video: <http://youtu.be/AdaJQbip90Y>

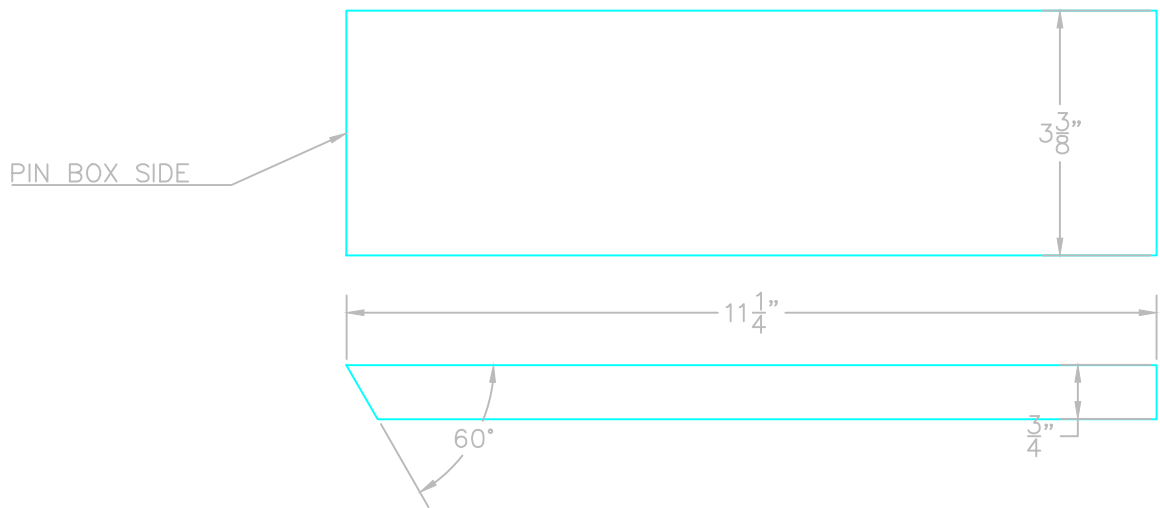
Build Article: <http://www.instructables.com/id/Collapsible-Tabletop-Bowling-Game/>

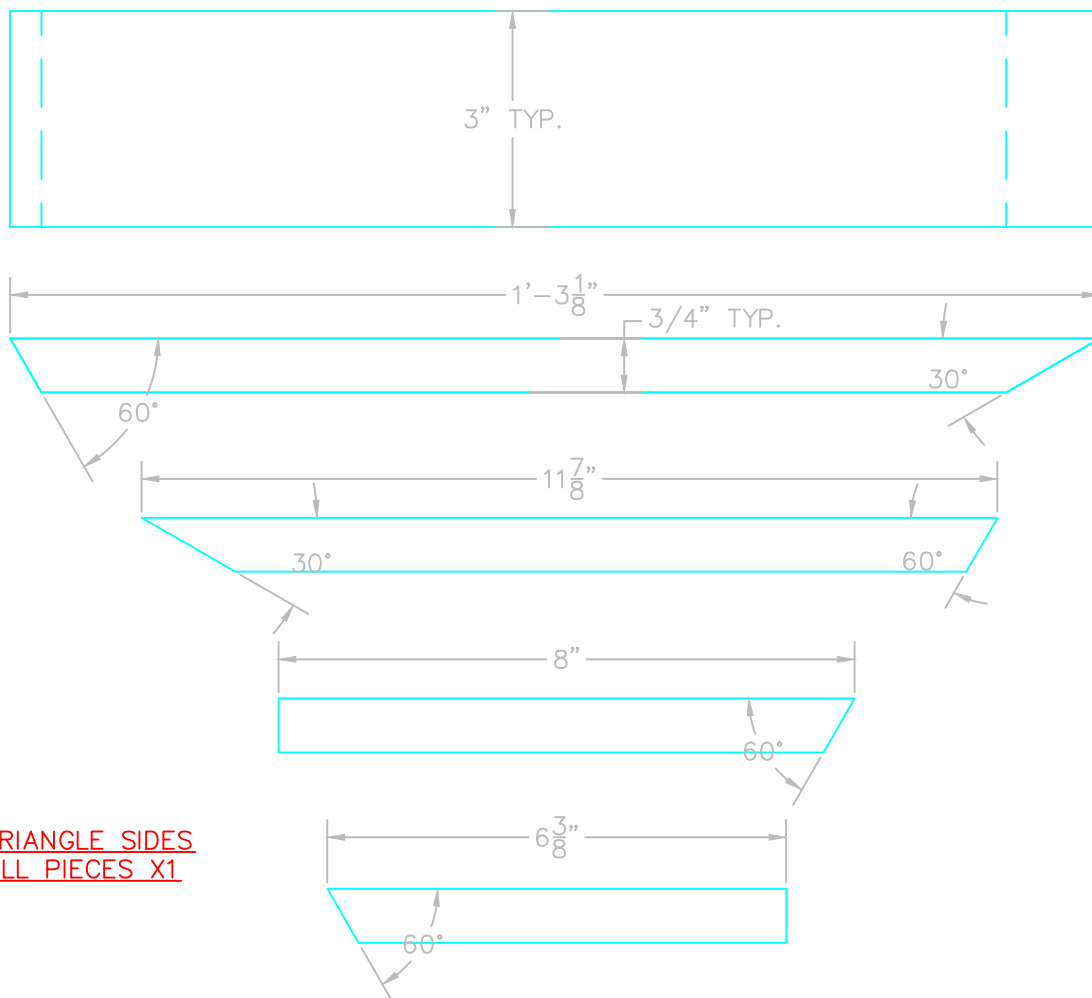




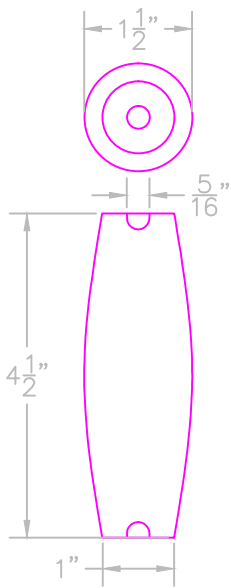


ALL PIECES X1

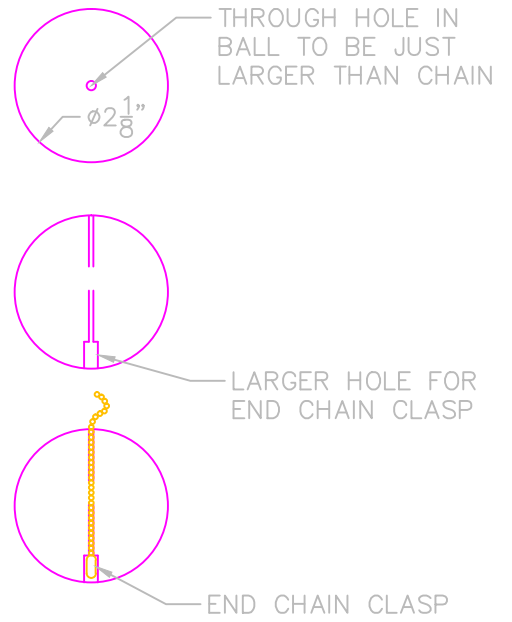
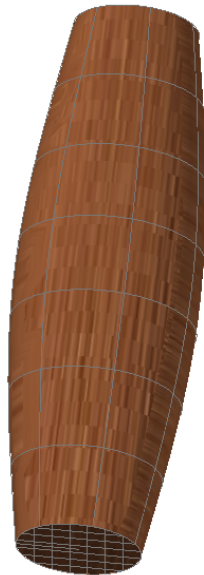




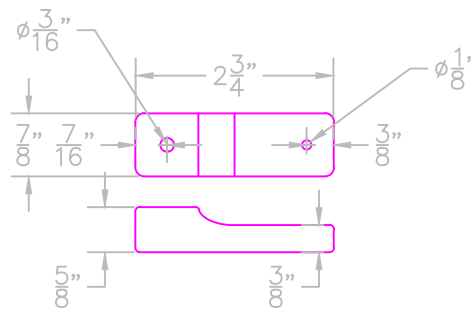
TRIANGLE SIDES
ALL PIECES X1



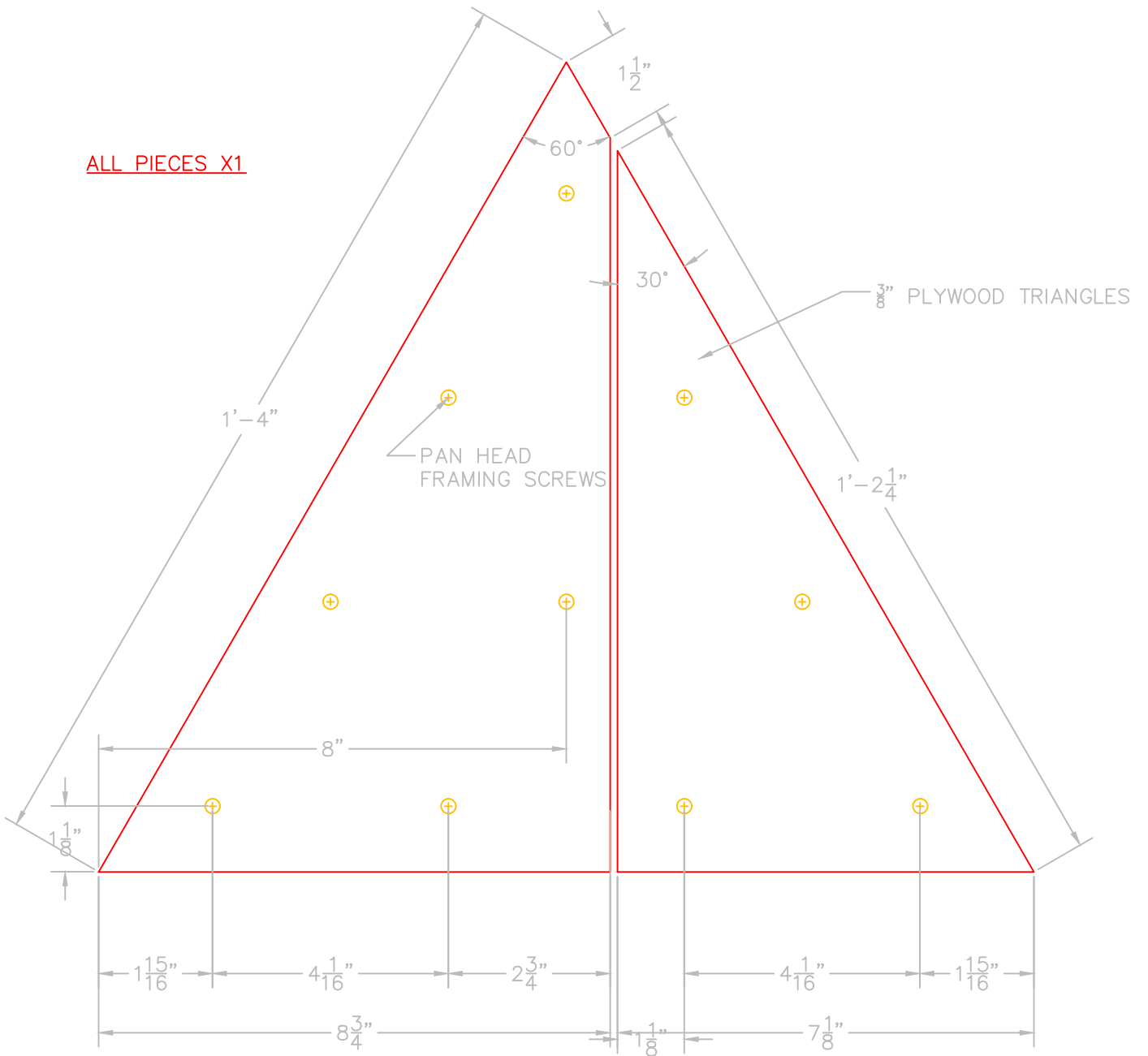
PIN X10



BALL X1

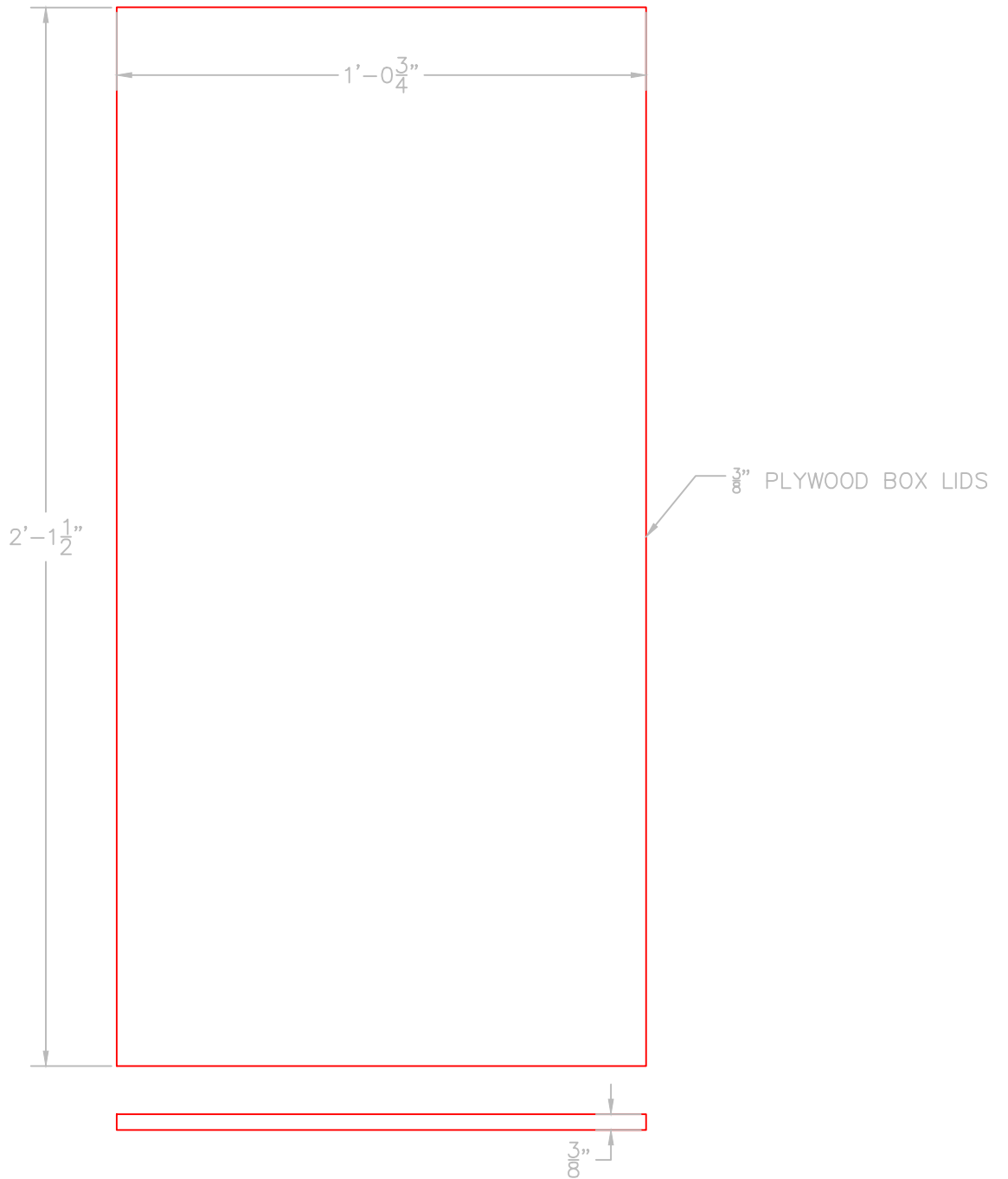


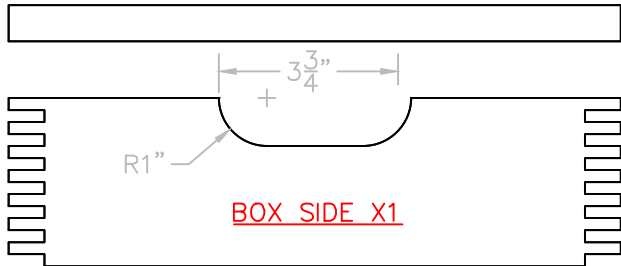
CHAIN HOLDER X1



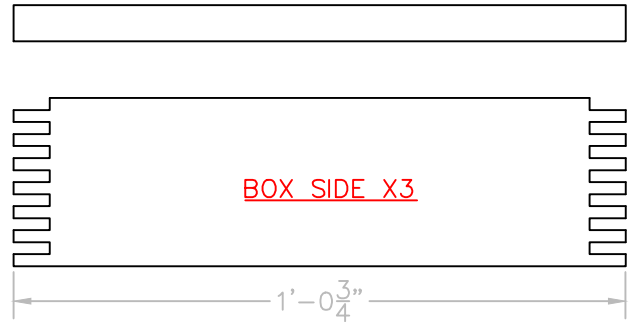


BOX LID X2

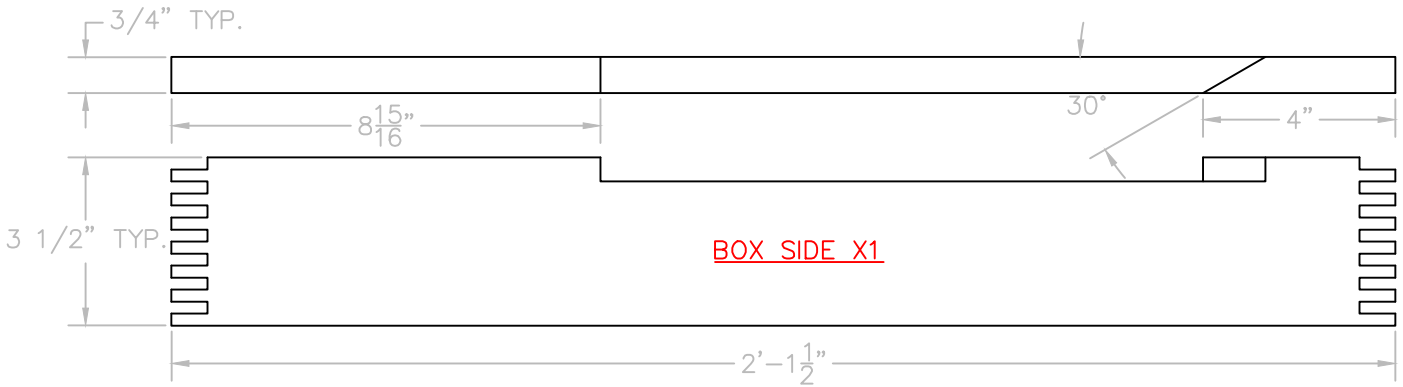




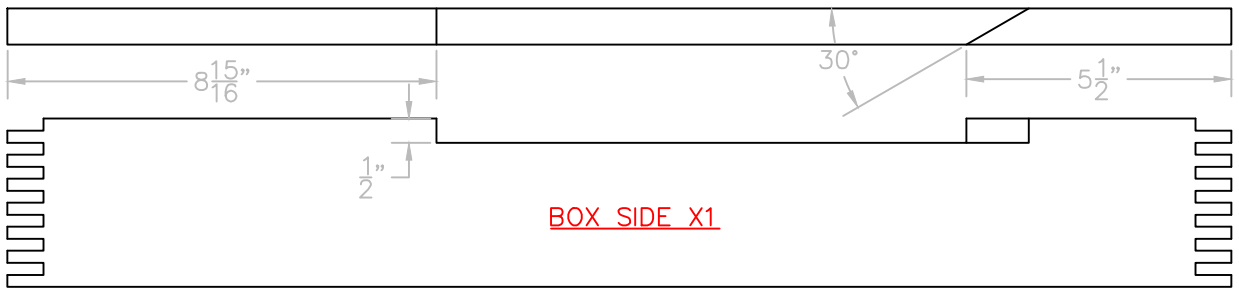
BOX SIDE X1



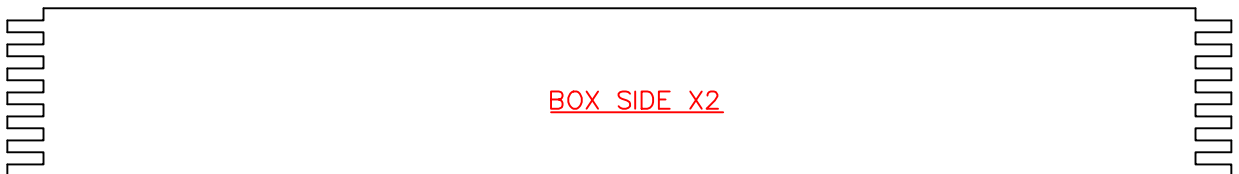
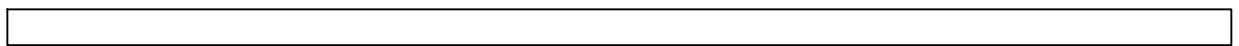
BOX SIDE X3



BOX SIDE X1



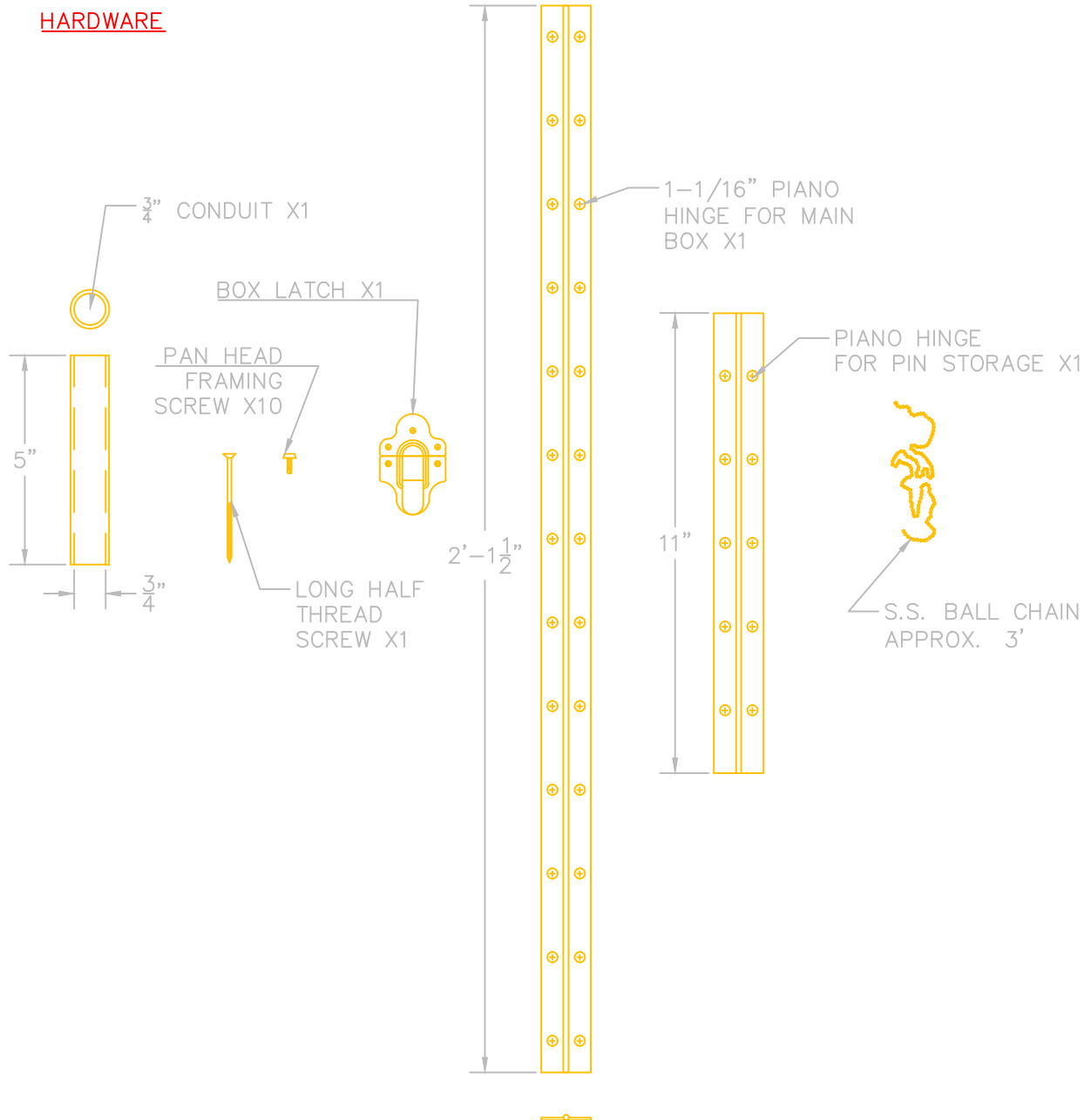
BOX SIDE X1

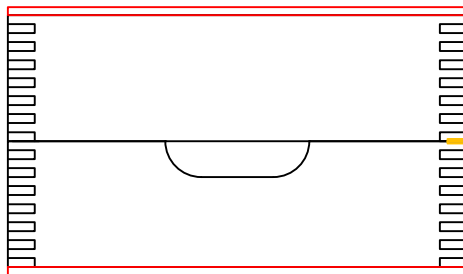
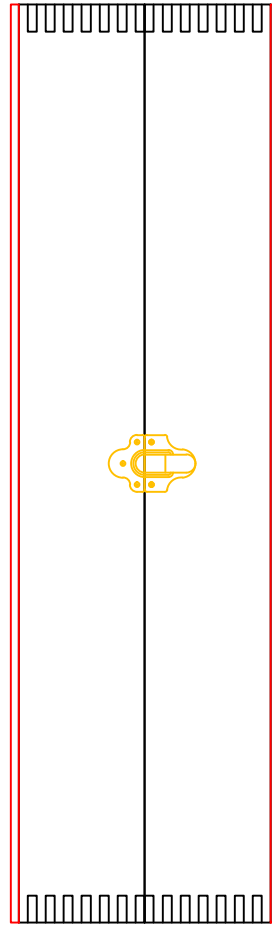


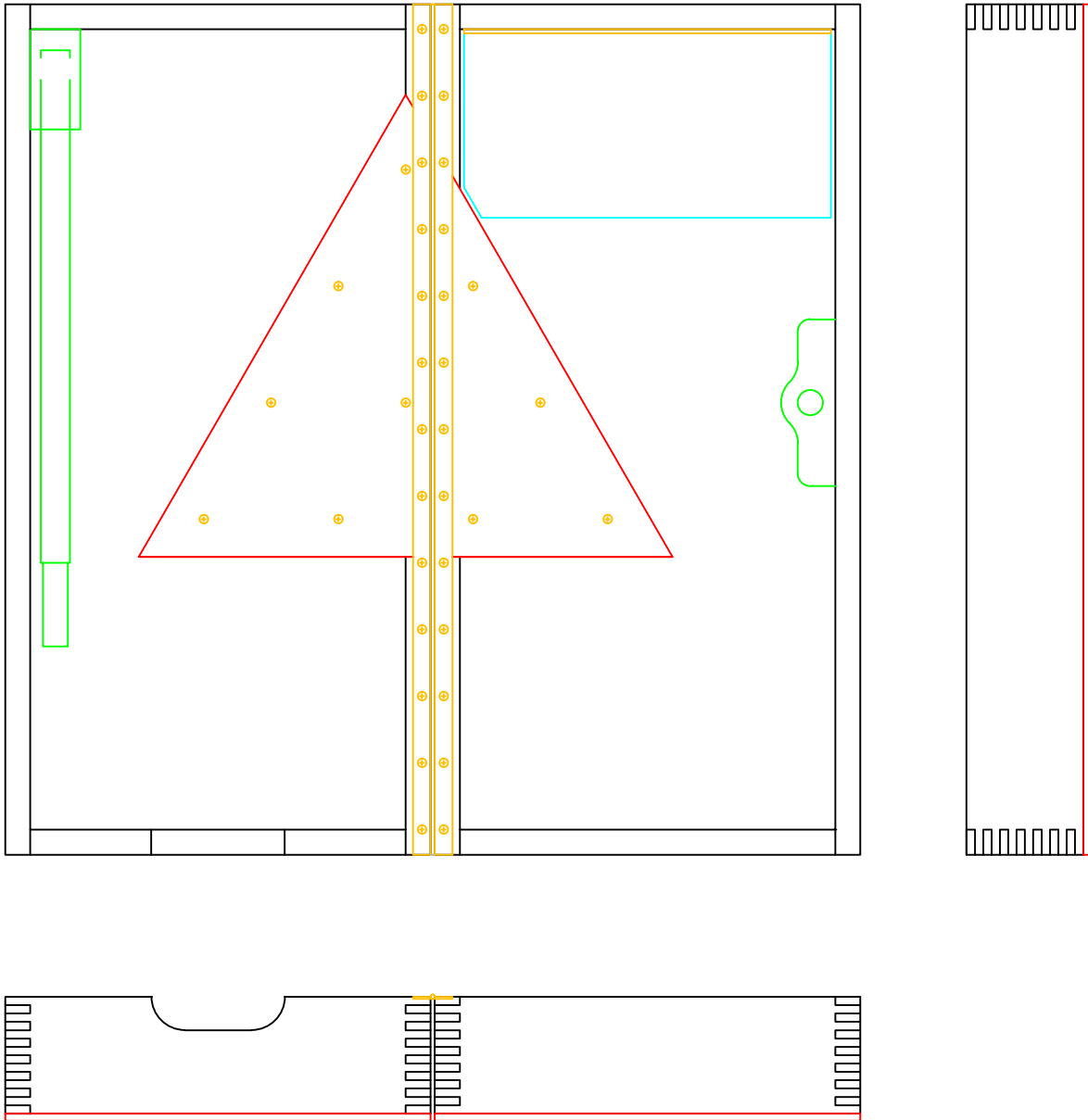
BOX SIDE X2

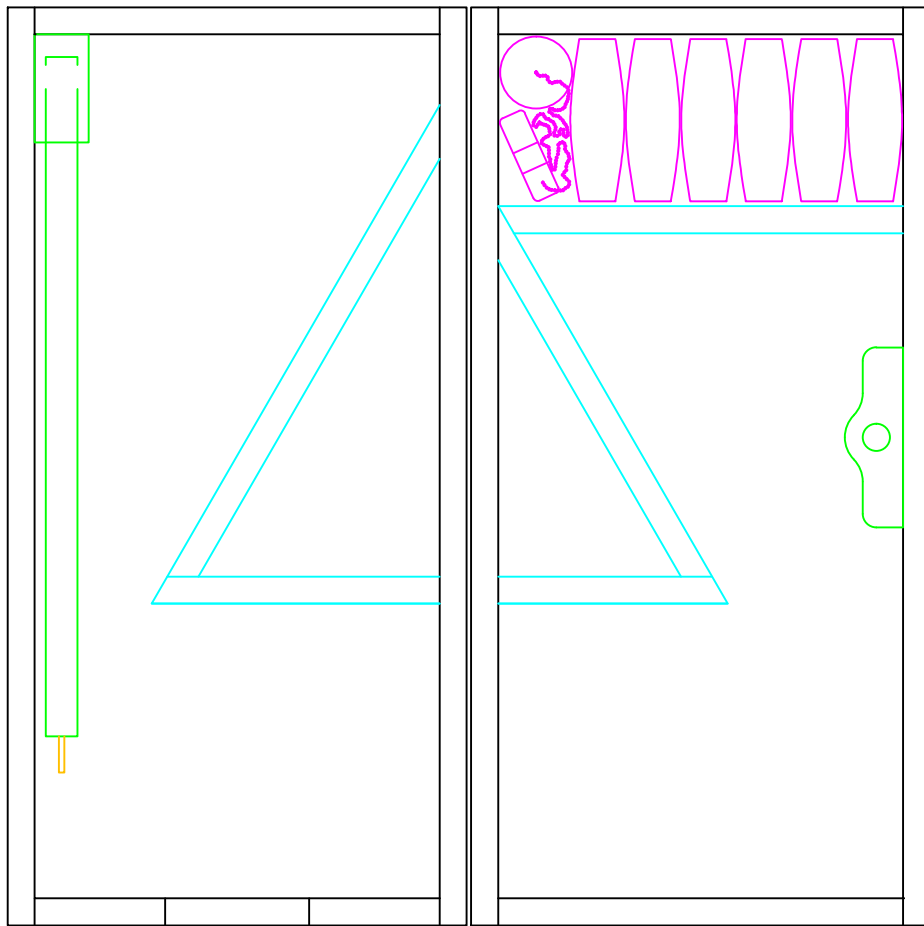


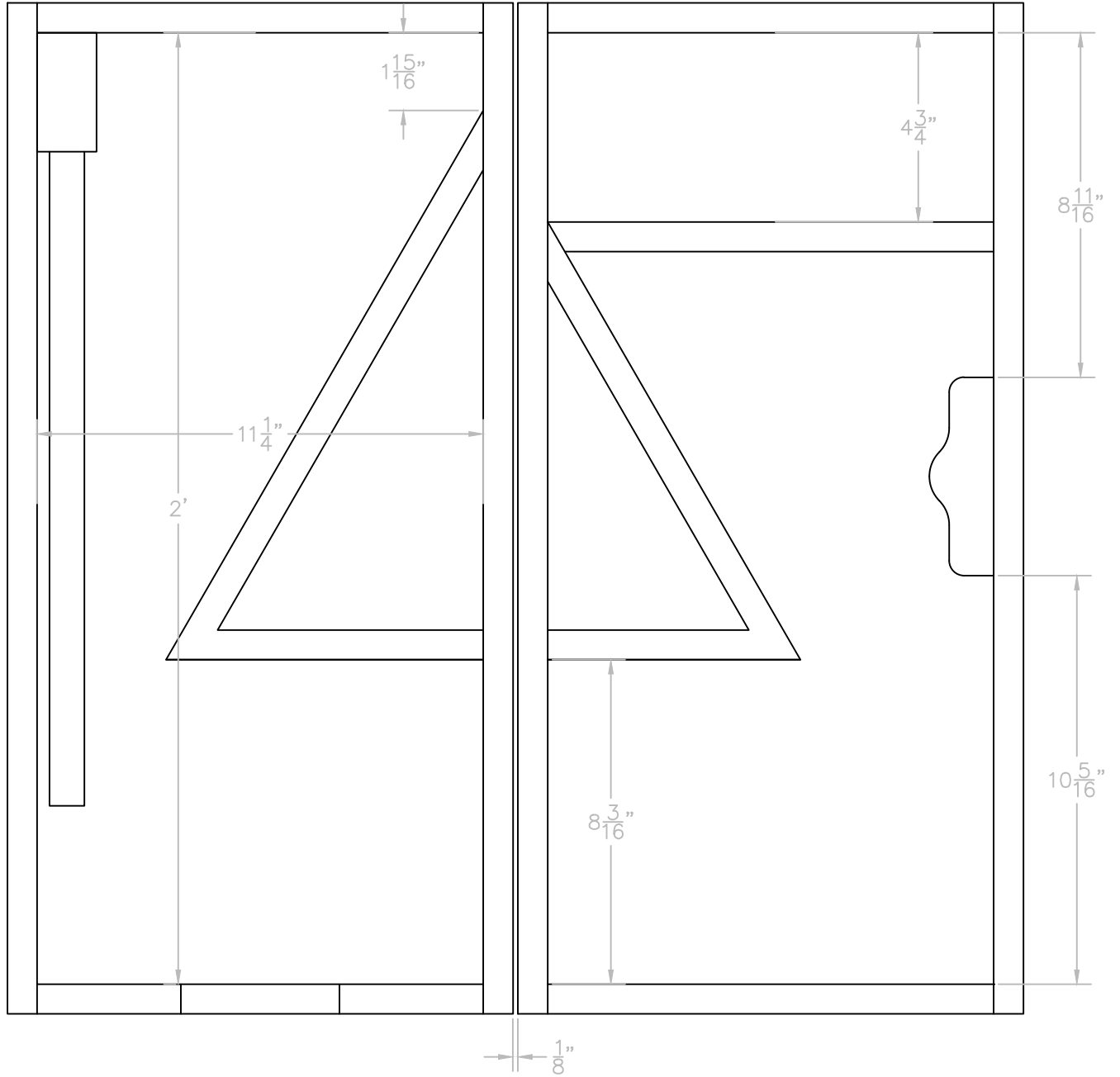
HARDWARE











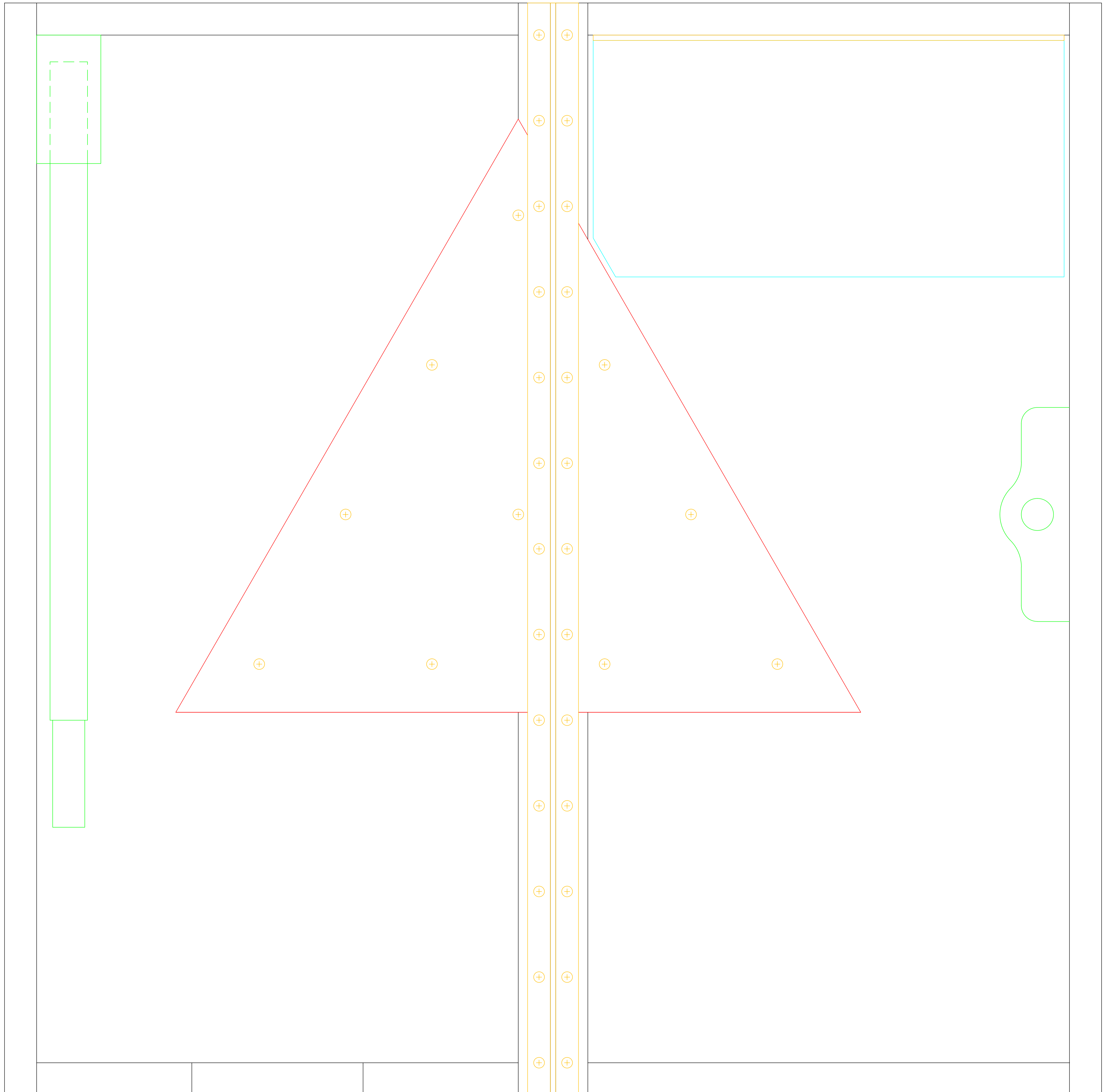


1. Start by cutting the 4 sides of the box to length, leave a little room to cut your finger joints a little long and sand these down after assembling the box. Double the width of the sides, add for your saw kerf, and add a little fluff - cut to final width after glue-up (double the width of the sides shown on the plan and add your table saw blade kerf to give you the final width of the sides).
2. Cut box joints (or your choice of joint) on the ends of each side then assemble and clamp, making sure that the box is square. Once dry, sand the fingers smooth and sand the inside of the box - now is the easiest time to do this.
3. Cut your box lids to rough size (leave ~ 1/2" extra on each side) then glue and clamp to each side of the box. Once dry, use a flush trim bit to cut the plywood flush with the edge of the box. Then cut the box in half.
4. Use the cut list to mill all of the triangle parts, triangle cover, and pin storage cover. Assemble your two triangle halves and use these to mark the inset on the side of the box, then cut this out. I use a circular saw for this along with a hand saw to finish the cut. Glue and clamp the triangles in place.
5. Once these assemblies dry, cut the dadoes for your piano hinge that runs the length of the box. Make sure that this is not too deep, otherwise your box will be hinge bound and won't close - it's best to take a little off at a time. Cut the piano hinge to length and install. It's best to attach a couple of screws on each side and fine-tune the fit or use hot glue to temporarily hold it in place while the box is closed, then attach the screws.
6. The two pole holders are next - cut these to size and drill the holes for the poles as shown in the plans. I install these using glue and screws with a countersunk hole, then plug the holes with wood plugs. After this is complete I run a 1/8" round-over bit in the router around all of the corners.
7. Next you want to install the pin storage box - first install the front cover of the box and then the top. To install the top you need to mortise the piano hinge into the lid, then attach it to the side of box.
8. This is a good time to install the latch on the edge of the box and also cut out the handhold on the end of the box. Now install the 10 pan head screws on the triangle - be sure these aren't too close to the hinge or the pins might not stand up.
9. For the poles, cut a 7/8" dowel down to length first and install the screw "pin" in the end of one then grind the head of the screw off - this will be used to hold the ball and "chain holder". To complete the poles, cut a 3/4" piece of conduit down to length and mortise the ends of each pole to fit inside - I do this with a screw in the end of the pole and run it through the table saw on my miter gauge. Make one side fit snug and the other slightly looser (but not so much that the pole will wobble).
10. Turning time - the pins are cut from a piece that is just larger than 1-1/2" square and the ball is from a 2-1/2" square. You need to bore out both ends of the pin so they fit on the pan head screw. The ball is drilled with a hole all the way through, just wide enough to fit the ball chain. In one side of the ball, drill a slightly larger hole to fit the clasp inside the ball. Then the last piece to make is the chain holder.
11. Finish is next - I choose a few coats of lacquer. Also, use paste wax inside each of the pole holder holes to make it easier to insert and remove the poles. Paste wax should also be used on the screw that is in the pole to help the chain spin around.
12. Lastly you need to install the stainless steel ball chain. Do this by running the chain through the ball with a clasp on one end, then run the other end through the chain holder at the top of the pole. You want the length of the chain to make it so the ball just reaches the outer-most pin but doesn't hit the top edge of the box.

Have fun!



Full size template is printable from this sheet to a plotter with a 30" roll or use the BigPrint program from woodgears.ca with an ordinary printer





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