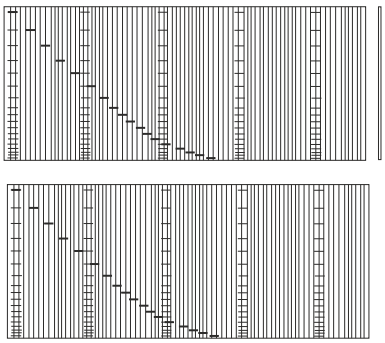
Tools and Tips:

As you build instructions will show in my many picture manual how to assemble. You can use your own methods as you desire, my results are very good.
A smooth, flat work surface is very important and the more space the better.
The photo on left is basic tools needed:
-A square and angle plates, also I use 123 blocks both to square and use as weights while glued parts dry.
- Hobby knifes and plenty of # 11 blades
- While majority if not all parts are laser cut some of kits will need parts cut. A zona saw & miter is handy as also a Chopper.
- A assortment of sanding blocks a must to touch up parts and make perfect fits.
-For glues, CA (cyanoacrylate and quick set) white glue, I like Aleene's Tacky Glue. And most important how you apply the glue, not to much but enough to make strong bond. Using syringes for water base glues and needle point applicators on CA a must.
- For clean up q-tips or micro tip brushes work great to clean excess glue.
Most all of these can found at good hobby shop or from Micro-Mark online.
For painting will depend on materials but for wood best to not use water base paints. For best results use Floquil solvent-based enamel. Apply with air brush is best but brushing works also. I will make suggestions when to paint and colors I used for model built. The important thing is to take your time, test fit parts, look over photos before you make the final bond. If ever not sure feel free to contact me for help my advice.

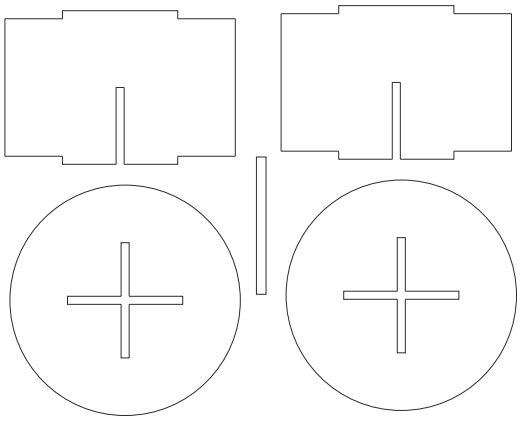
Bob Spaulding

24k Water Tower Parts

Next few page list parts for building water tower

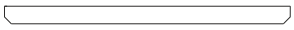


Tower wraps

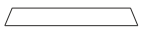


Inner tower structure

Group 3: Tower frame timber



x2

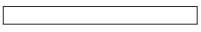


x8

octagon timber parts

x4

legs



x8

legs

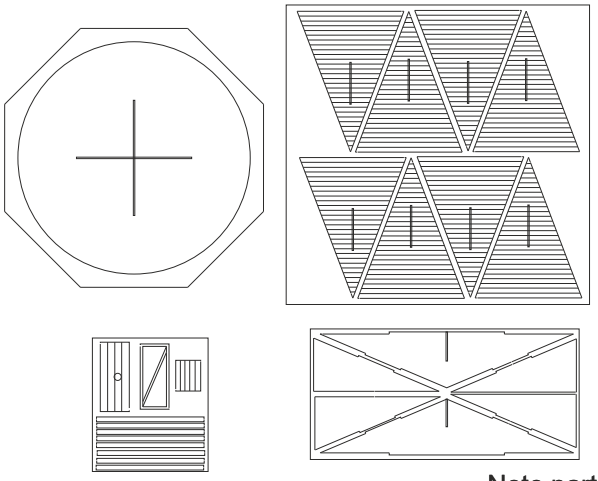
x8

braces

x16

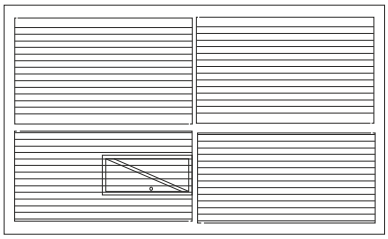
braces

Group 2: Tank roof

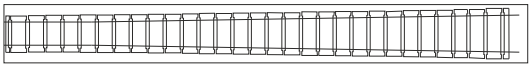


Note parts not to scale

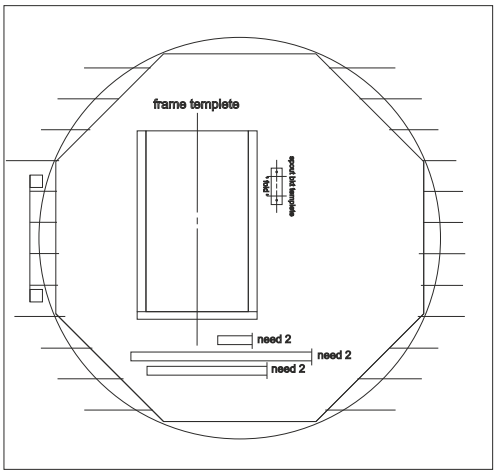
Group 4 :Tower frame details



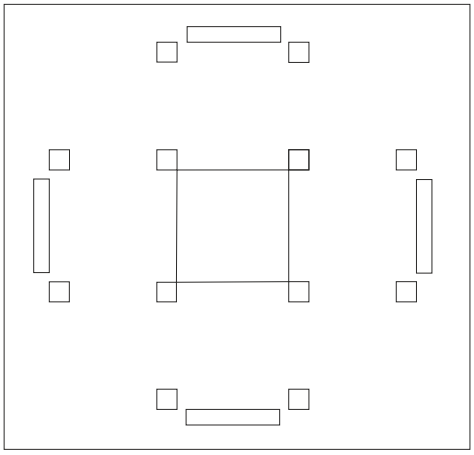
Note parts not to scale



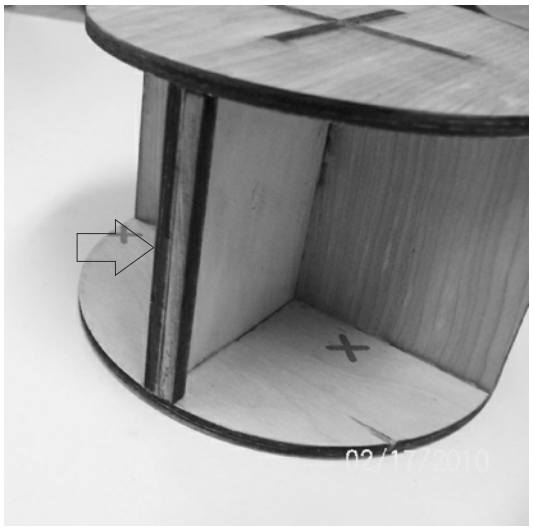
Ladder steps

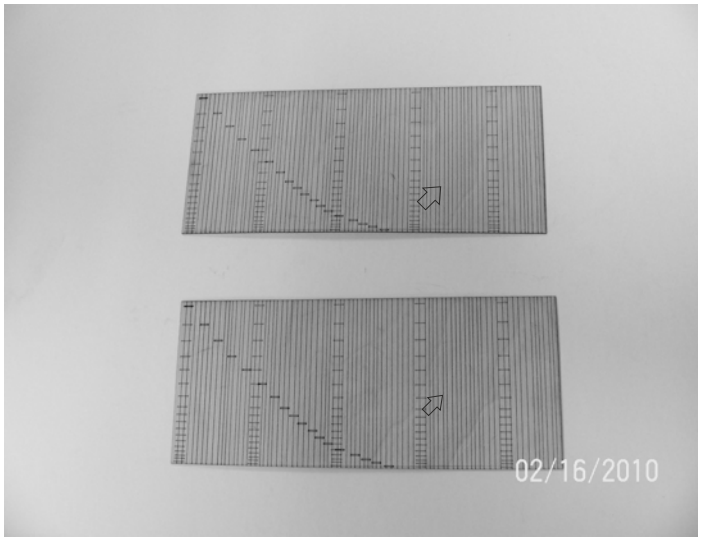


Templates

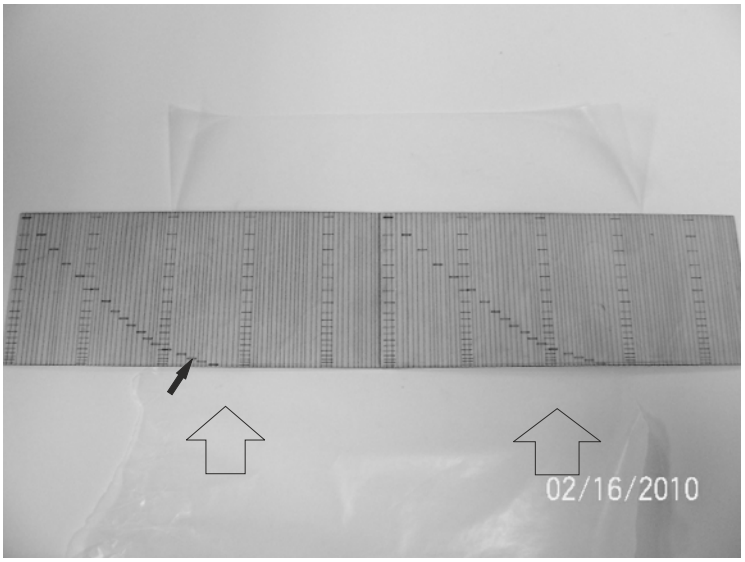


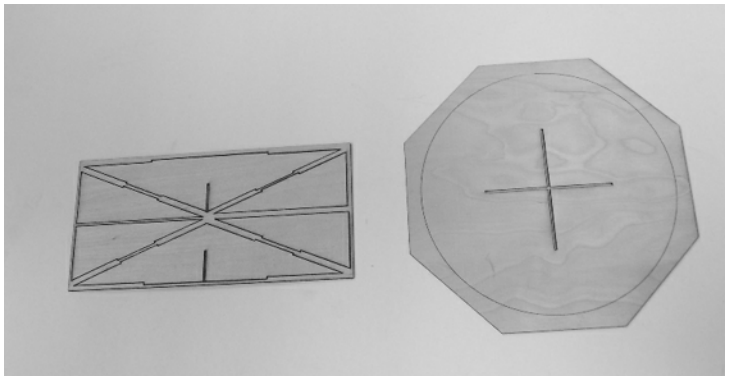
Locate inner structure parts and assemble as picture. Use white glue or I like Aleenes Tacky glue. Can be found at most craft stores.





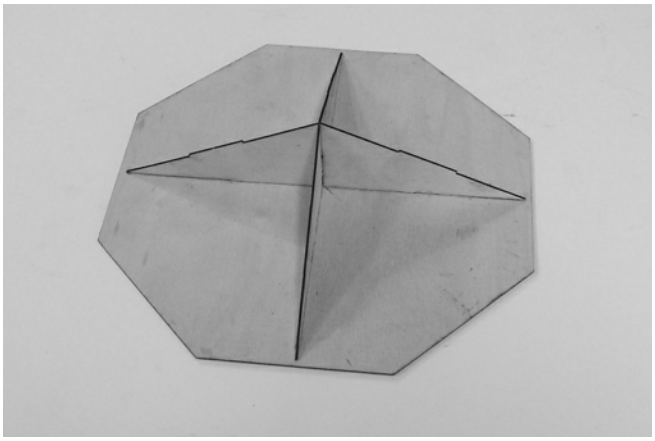
Add glue block for seem and let dry as pictured upper left. Lay siding wrap on bench and inspect. Below you see a arrow pointing to small scribed boxes these will be used to locate GranteLine cable turnbuckles later. These go down and are the lower cable wraps of tank.



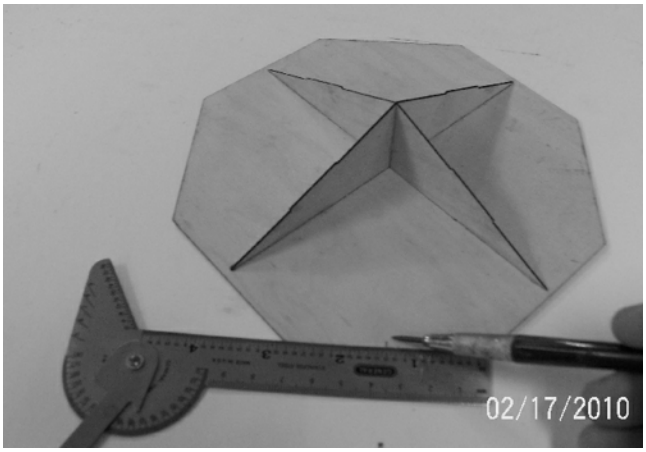


While siding drying locate roof parts above, remove & clean. Note scribe circle, lay this side down. This will locate roof to top of tank.

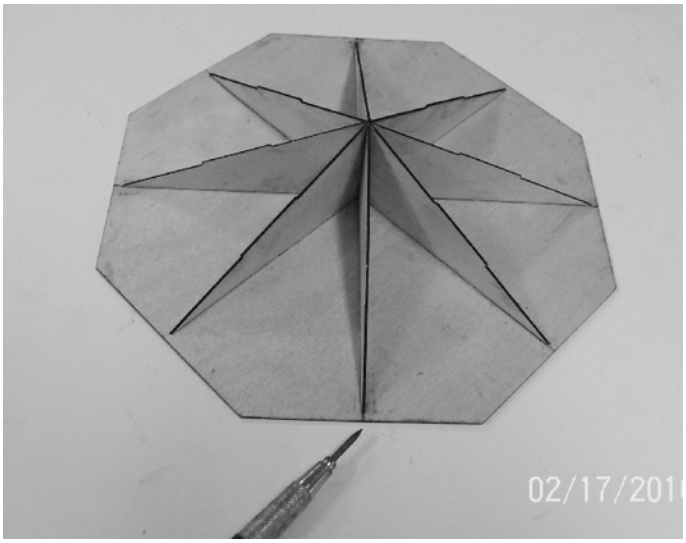
Next lets bond siding to form one continuous piece. Use CA here, remember lightly sand edge for better bond. Also wax paper on table so not to bond plywood to table .Also note the tighter spaced scribes go down.

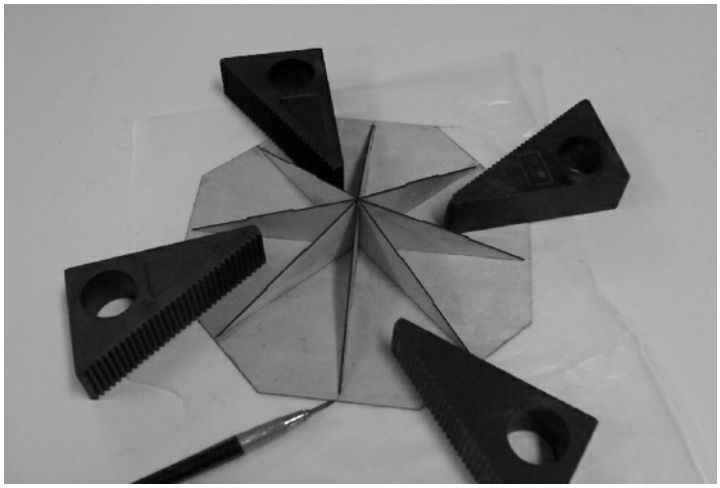


Bond roof parts as shown above snap in place and check for good fit. I use CA here to bond.

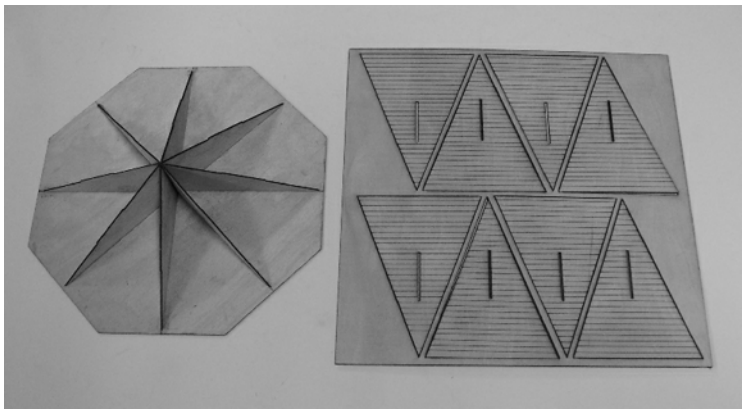


Next w/ruler mark next 4 sides of octagon. Make mark half the distance of the length, this will locate end of final 4 roof parts.

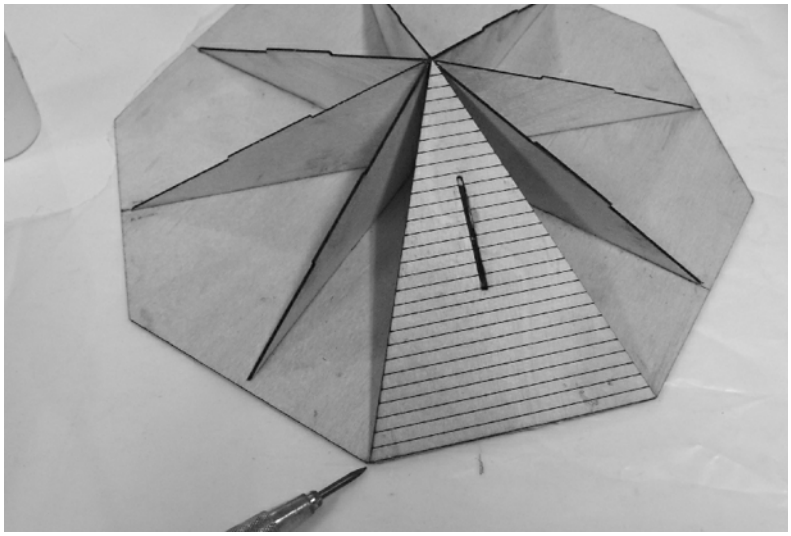




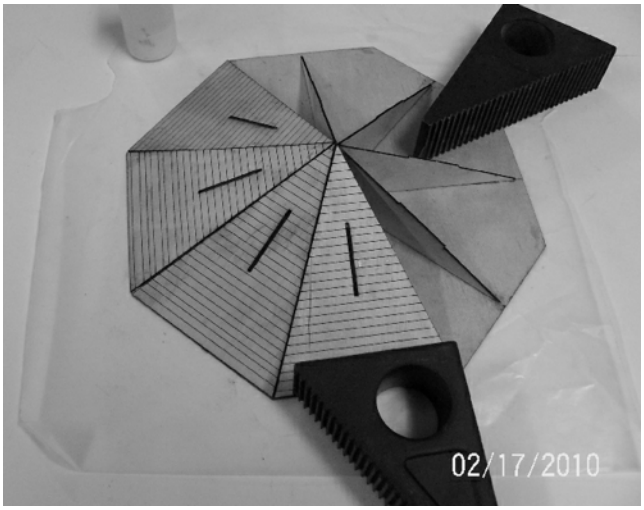
Bond the last 4 triangle parts line up ends to marks. Make sure this assembly stays flat while you build, if needed use weights on outer edges to keep flat as shown above right. If you use CA may not be require.

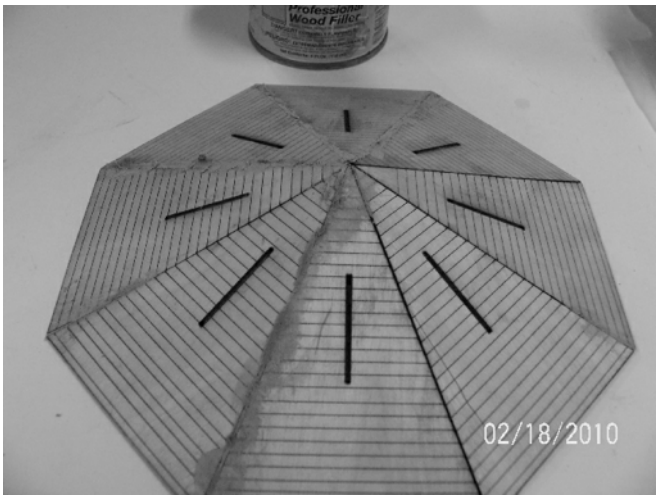


Next locate roof parts, remove and clean edges for best bond. Again I like to use sanding board 220g lightly scuff edges.

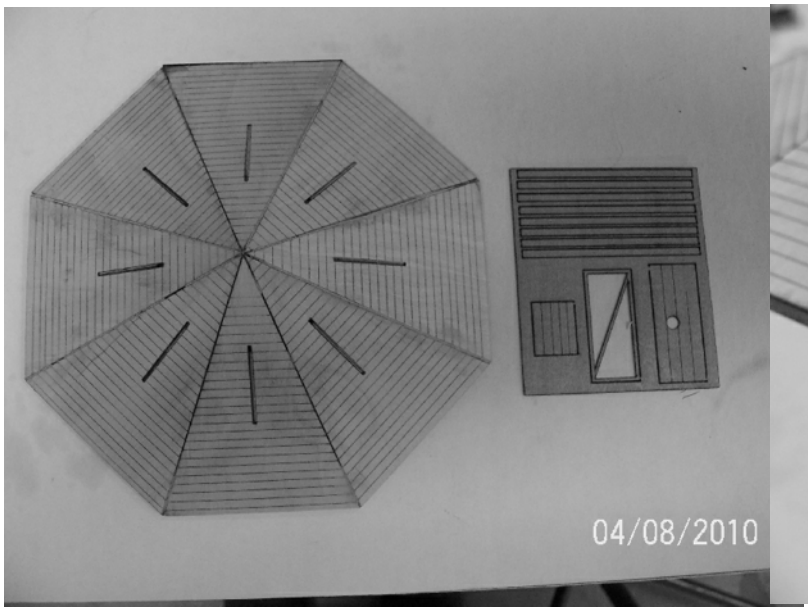


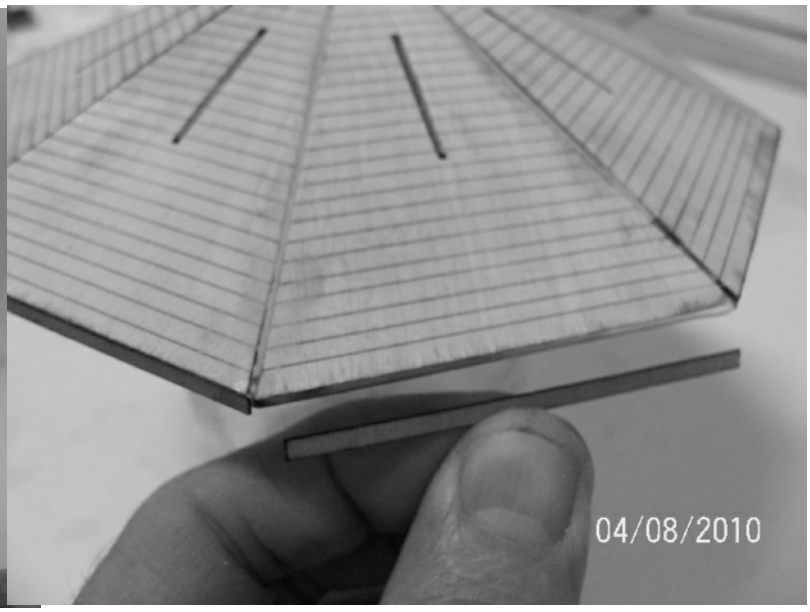
Next bond first roof triangle part always check fit, match corners up as shown above. Use CA, you may need to CA wood twice. Or use CA accelerator.



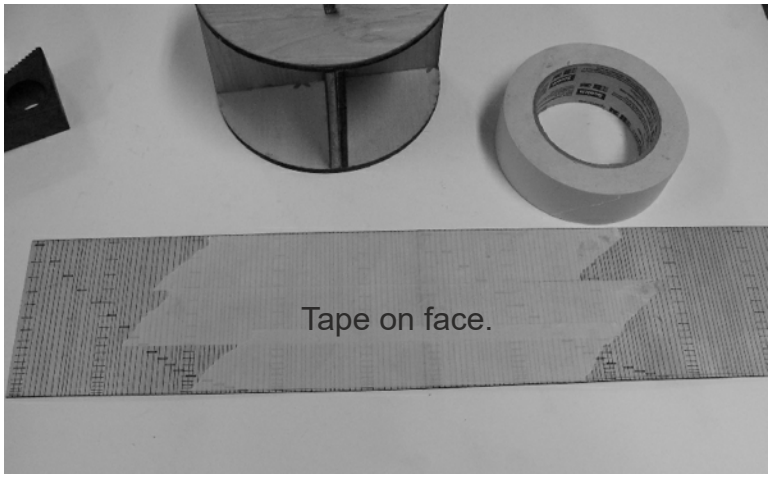


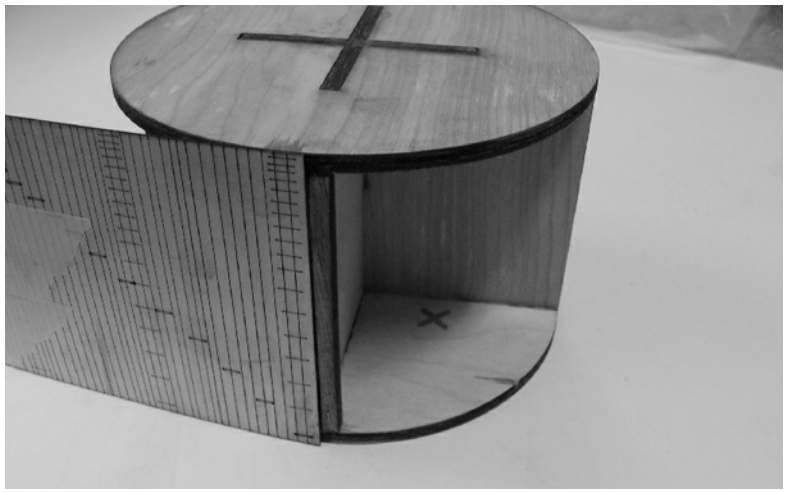
Continue attaching roof segments check fit for each part before bonding adjust if required. Use weights as needed to hold down also wax paper under roof a good idea. After complete and glue dries I use wood putty to fill any gaps or bad joints. Sand smooth when putty dries.



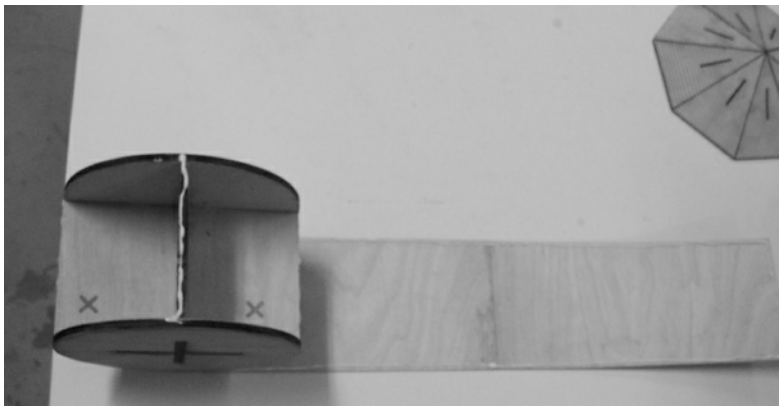


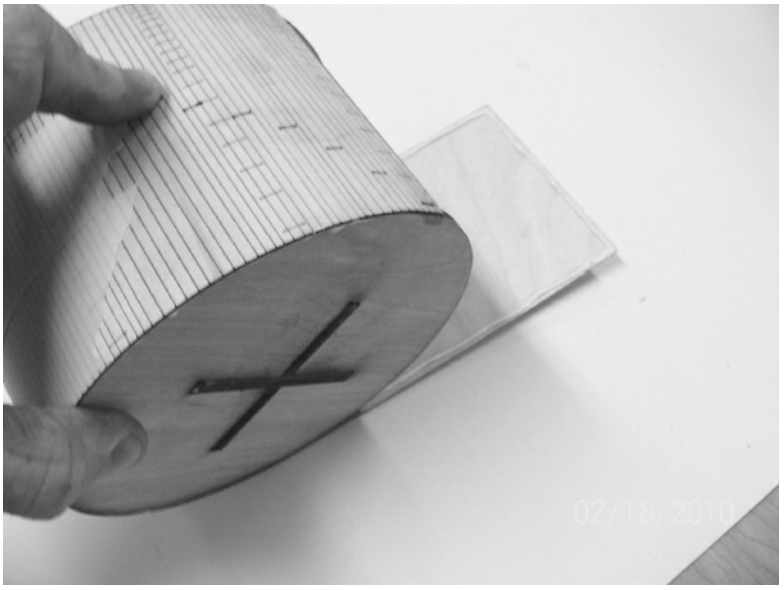
Next locate trim sheet with fascia boards, cut tabs and clean up. I us tacky glue here, line boards up and flush at top. When in place use a small block to push tight against edge and top flush ends even. Install next piece after each sets up.



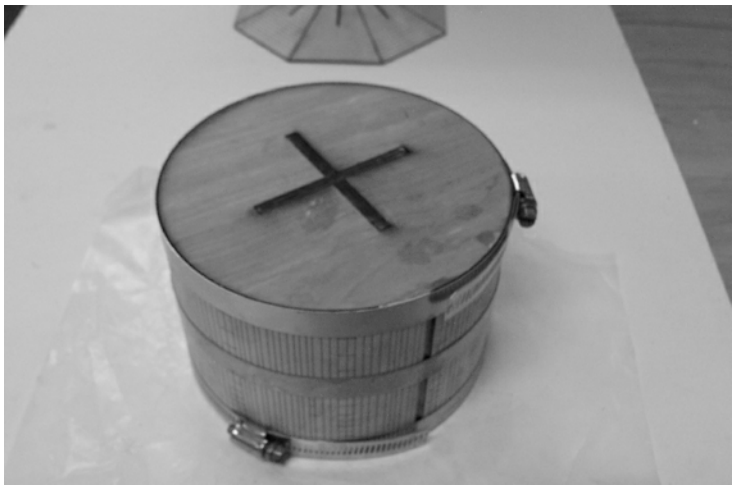


Next prep to build the tank, we will need 1 ½” 3m tape, and three 6” hose clamps. Start by lightly sanding edges of tank frame, also back of plywood planking. Now tape surface of plywood as above, this keeps plywood from breaking at joint. On flat table set up as picture below, glue only 1/4” but total vertical length on frame just left of glue block install on page 5. All should be square and flat as plywood is to the left bottom edge flat on table. Glue with CA, let cure.



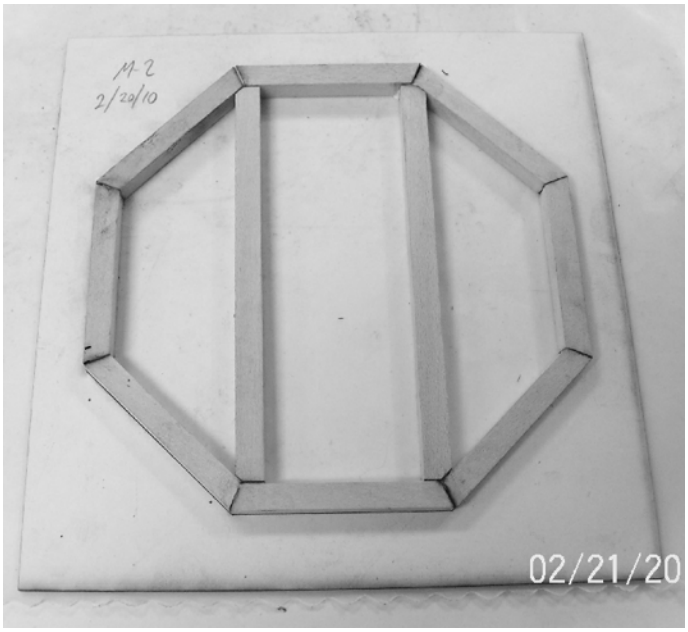


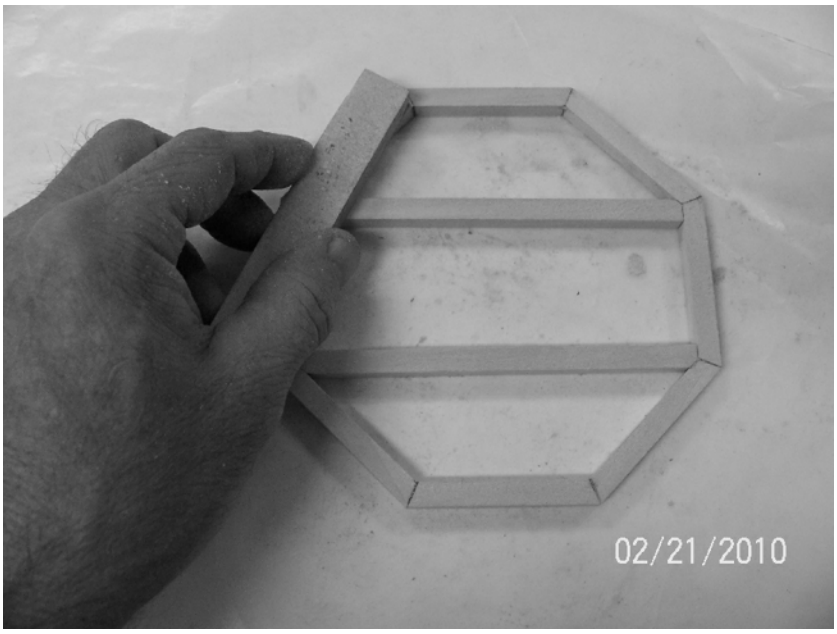
Next lay out on table as above, use white glue here time will be needed to roll up plywood on frame. Glue both edges of frame and plywood where makes contact then roll on to frame. Take care to roll on square and tight, keeping edges flush as picture below. As you close up tape at seem pulling tight. You will notice a space for one more plank that you will hand fit later. Next slide 6” hose clamps on and snug up.



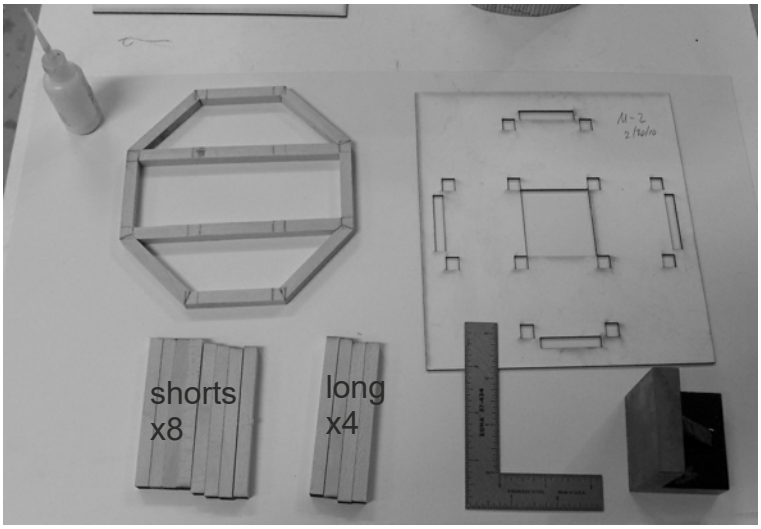
After clamping and not to tight, tank should look as picture above. Let set over night to dry.

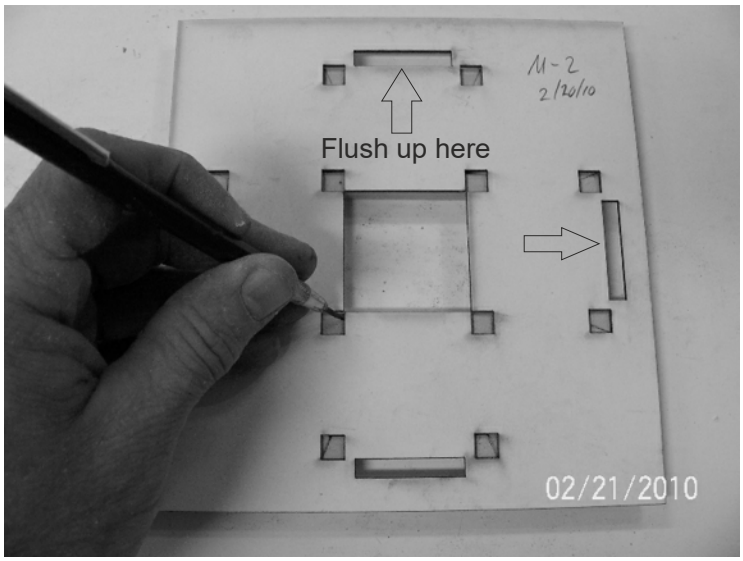
Next start frame work, locate octagon template & pre cut wood. Here use tacky glue, gives you time to adjust parts. Again use wax paper under most glue processes. Layout parts inside of template to check fit then glue them up as below. If required use weights to push joints tight..



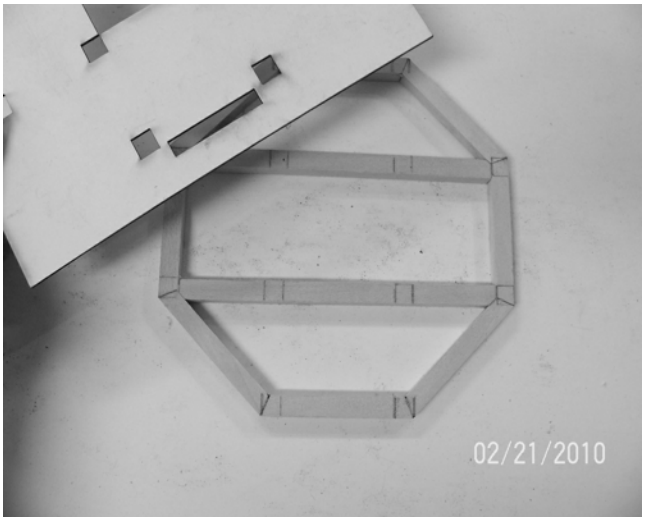


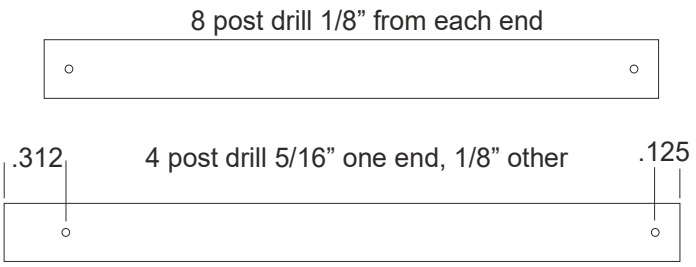
Next glue long supports as picture above again check fit. Some little adjustments maybe needed with sanding block. After glueing clean up excess glue with wet q-tip. Once dry remove from template and sand flat and sides even. If any open joints push a little glue into cracks for strength and sand when dry.



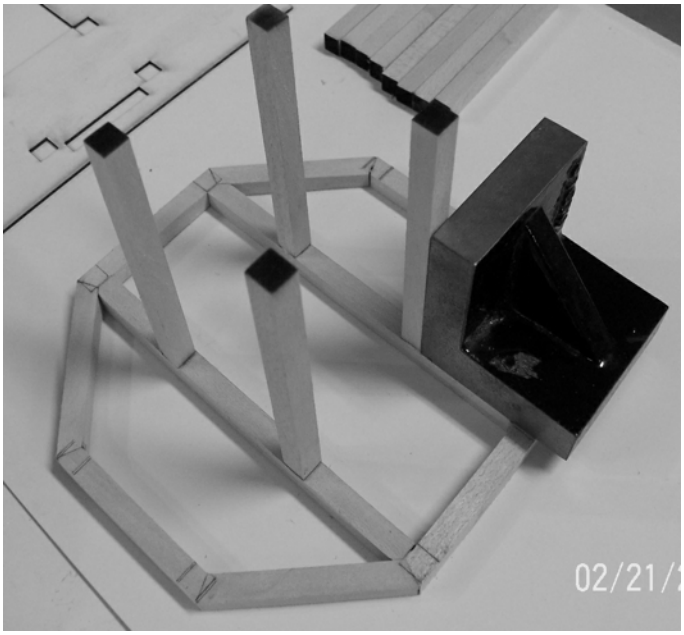


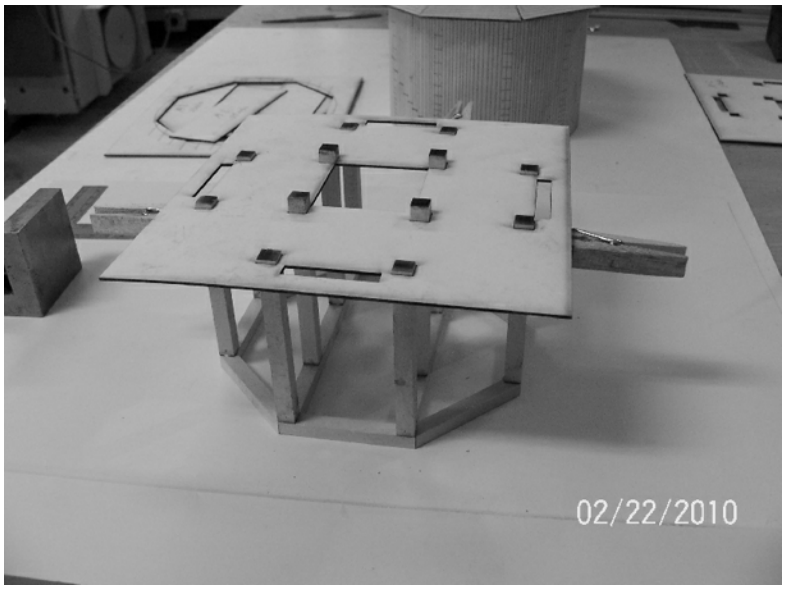
Next locate legs and template and some of tools above. Lay template on octagon frame as above picture, line out side flush though open areas as noted below. Then with sharp pencil trace out square openings, these are locations of vertical post. You have 4 legs in center that are 5/16” longer than the 8 outside post. But before we can glue they must be drilled with .028 drill as shown next page. Drill each end 1/8” from end both sides.
But note, on 4 long post 5/16 from one end.



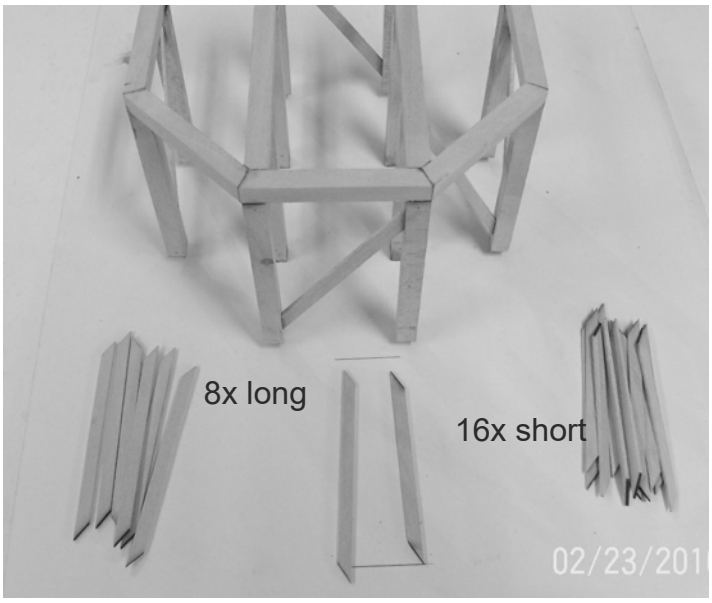


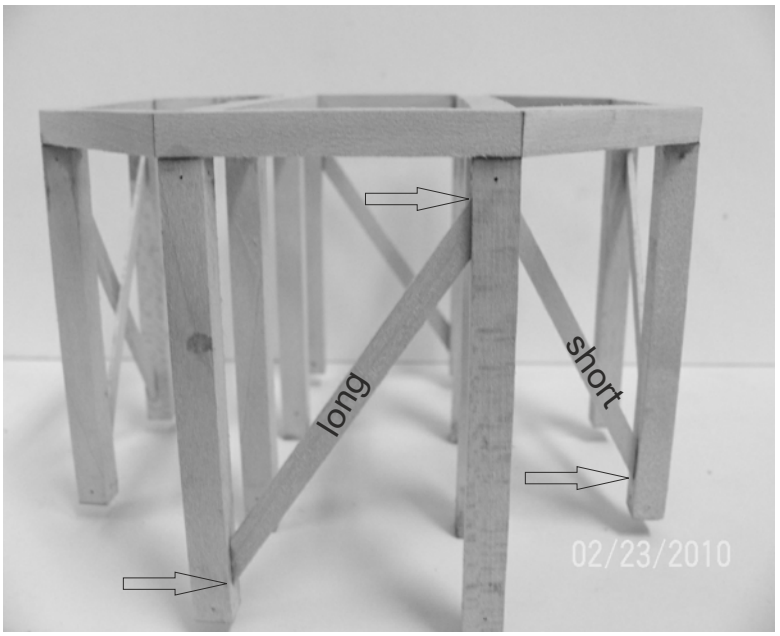
Here is full size drawing of drill locations, I use small drill press and vise as stop gauge to locate. Remember drill though .028 both sides of wood. These will be used for wire bracing and needs to be drilled now. Pin vise or dremel will work fine.



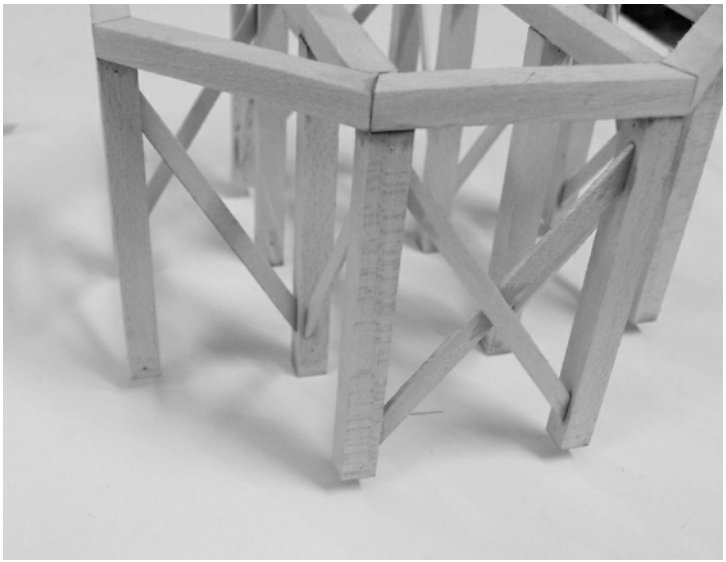


Next step glue 4 long post with .312” distance hole on to cross supports. Here I like white glue. Take your time and locate inside of pencil marks and square up, I like using this small angle plates. You can find these from Micro-Mark or Enco Tool Supply. Then slide on same template as you used to mark post locations. If any of 4 off fix now. I use laundry pins to hold, then slide on rest of 8 short post and glue. This holds them plumb and provides a good fit to plaster footings later.

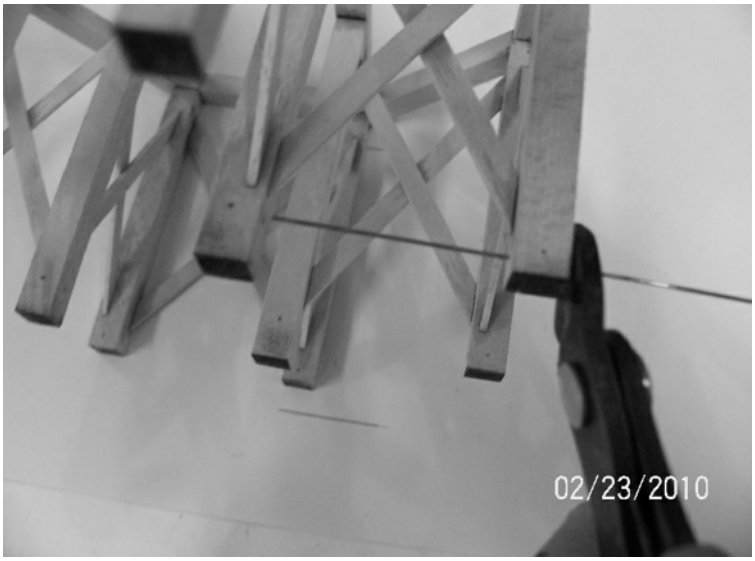




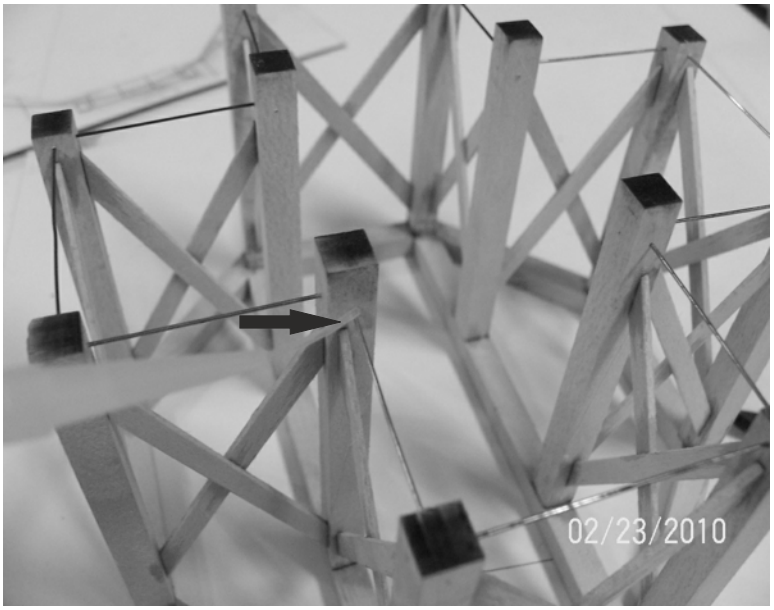
Next locate bracing , 8 long and 16 short lengths. These as most all parts in my kits laser cut for good fit. As picture above right shows long braces on very outside of octagon post and shorts outside post to inside. To locate these I use eye and keep up about 1/8”up from bottom holes. And just off center of post. Use CA & accelerator here, work your way around one brace per opening. Notice the center 4 legs no braces, scribe plywood planks go in this area. Look at next pages if not sure. Note arrow for starting locations.



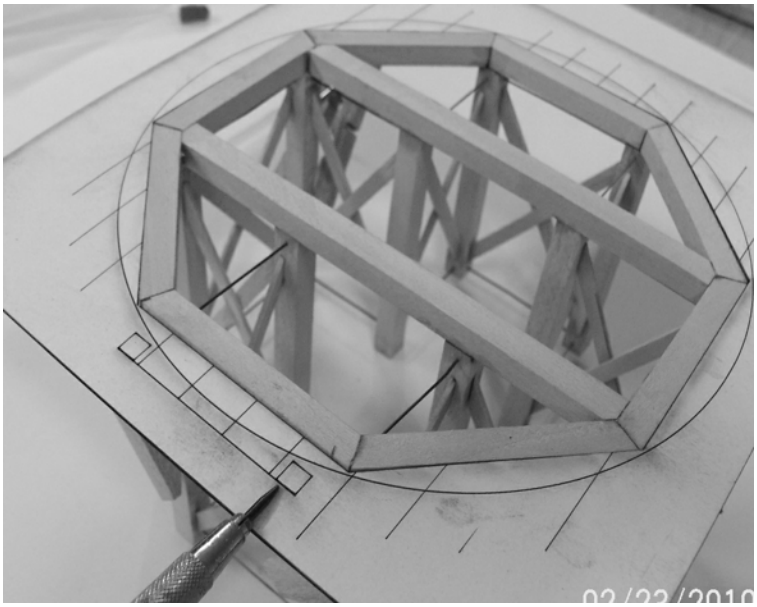
Here you can see we are coming down to home base, this picture shows .Note holes in post try keeping them clean for next process.

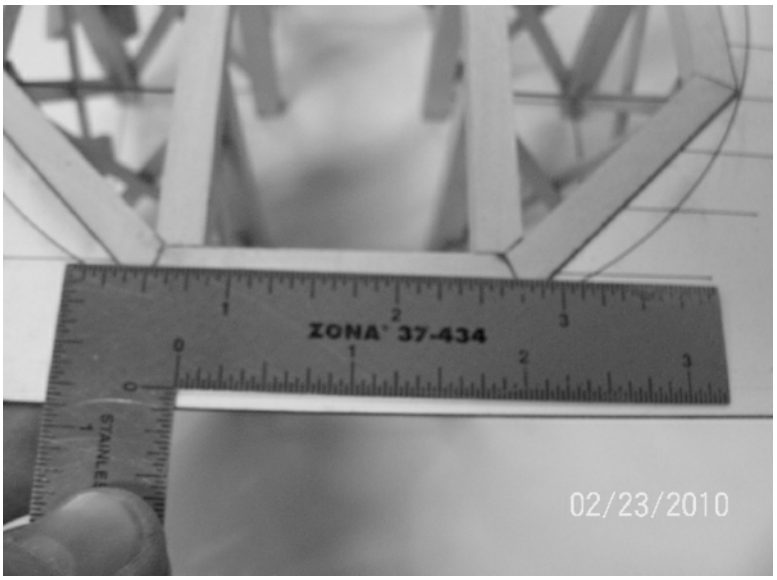


Next locate .026 wire you can cut to length of openings plus add 1/4”or do this. As picture below, I slide through post till wire almost touches other side then cut flush. Then pull back half way into post in direction wire was moving. Do this to all location as following pictures shows, top and bottom. Once done a drop of CA at each intersection.

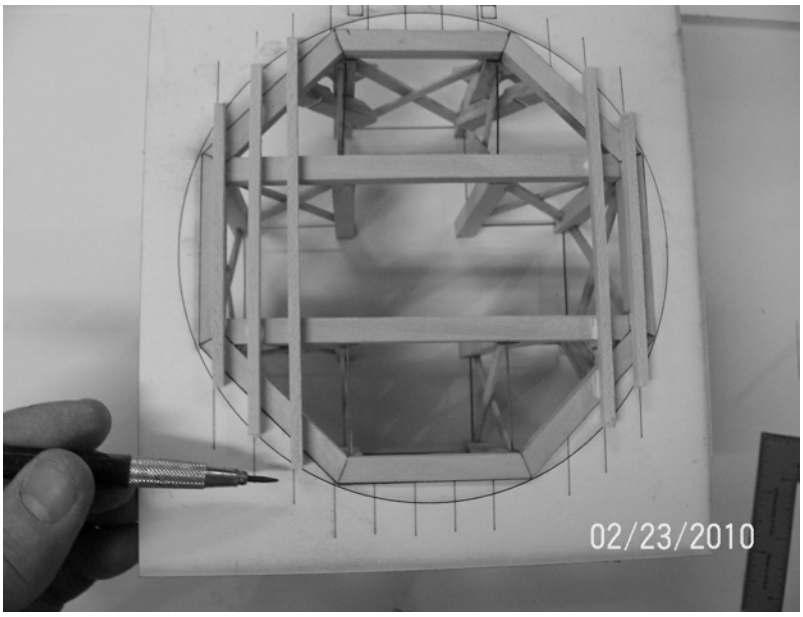


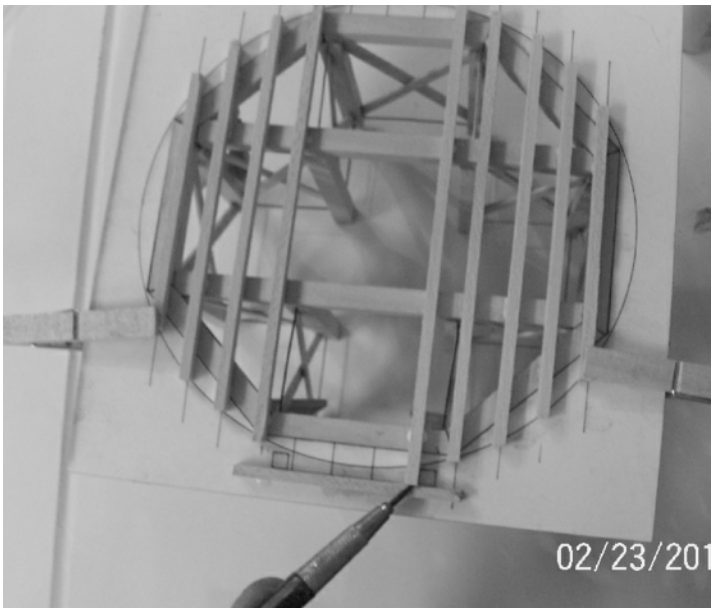
Here with fine point on CA bottle apply a drop. Once wires at top and bottom installed frame becomes very strong and looks great. Above frame is nearly complete and ready for tank supports. I put these in now and then plywood scribe boards last. It makes easier job to glue tank support timber.



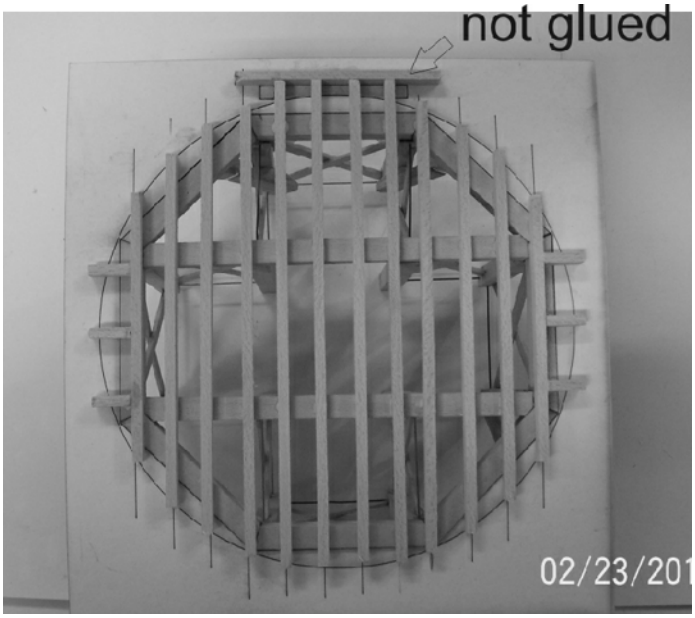


Next lets find above template locate to position as shown above left. The 2 squares locate water spout up rights. Also notice the center lines of where tank supports locate. Now find wood for this step, 12” long x .130” x .190” tall. You get to cut these your choice of method I like zona saw and box. As you see above right measure to circle add around1/16” to that number cut 2, one for each side. Glue and go to next location.

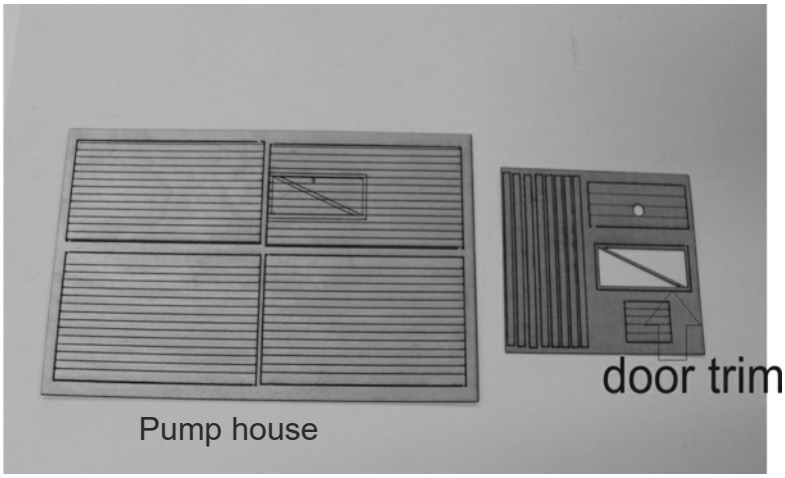


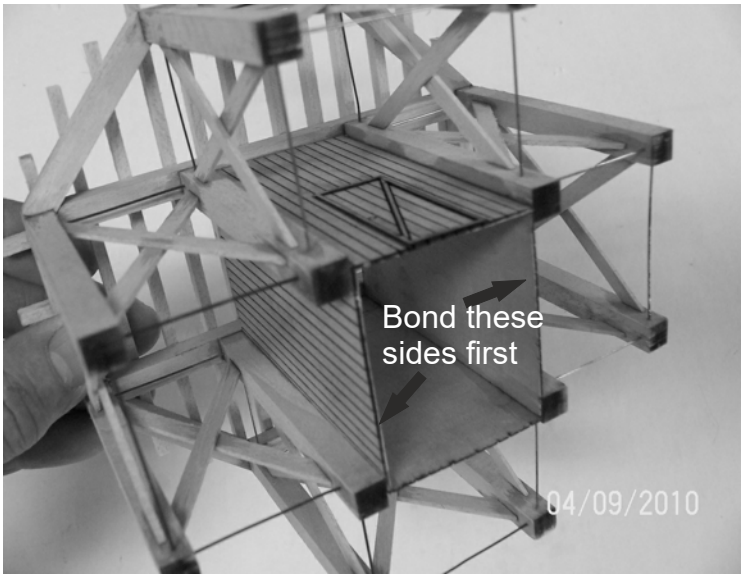


As you see above I started on outside in but if I did again would cut longs first on inside. Look at photo above right at water spout upright locations. The pencil points to a important location, note do not put timber over square or post will not fit later. Also note I used a lose piece of wood under pencil to line up face of timber do not glue to this. The water spout face support goes here later. I used white glue also during this process, note next pages for more detail.

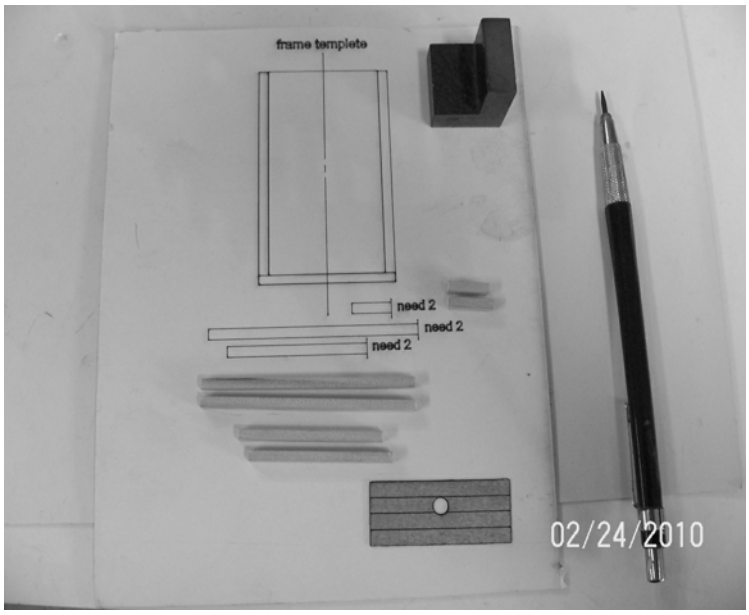


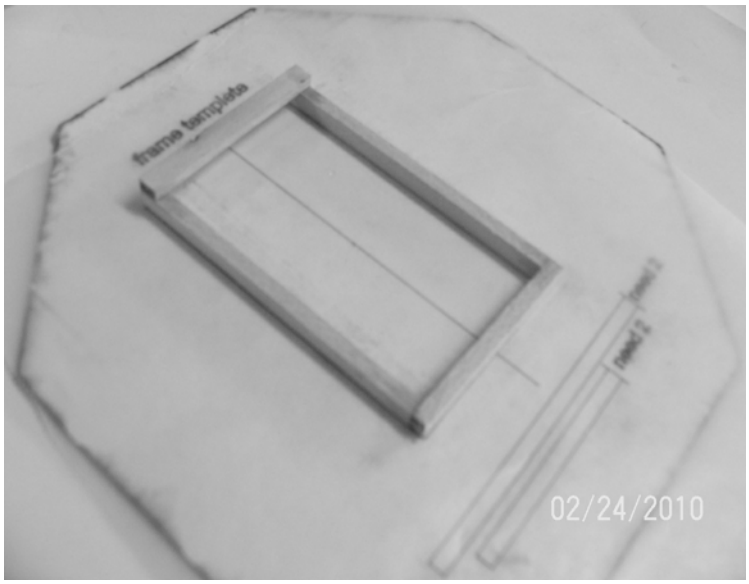
Finished tank supports should look like above photo left. You can remove template it should slide off bottom if all is clean and square. Or cut it off is fine. See photo above right, this is where water spout face mounts. This is where above wood was used to keep face even. Next glue pump house scribed plywood panels in center.



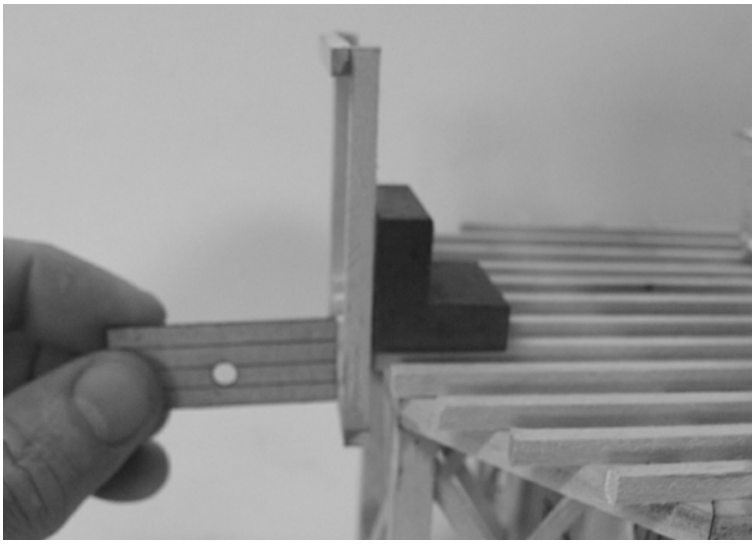


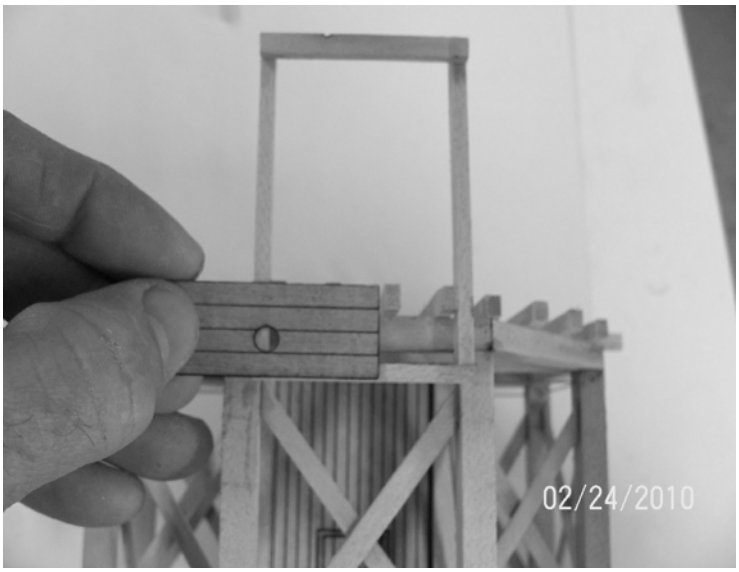
Locate above parts remove and clean, bond door trim scribe to outline on panel. The door should face the water spout side which is the timbers on last photo. Bond door side and opposite side last .Dry fit pieces first and sand a little for tight fit. Use CA here, see photo above right.



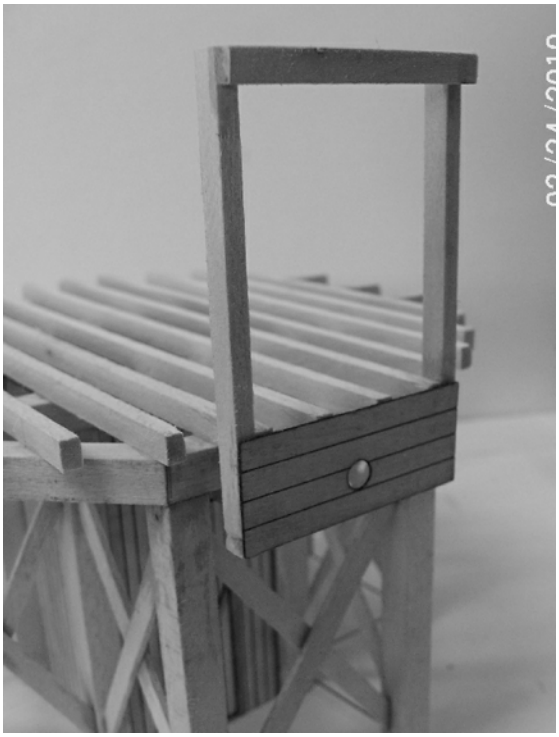


Next build water spout weight bracket and face. Find above template and cut wood parts to fit template. Build the bracket as shown on picture above right. Be accurate as you can, parts will fit best. Use CA here or white glue.

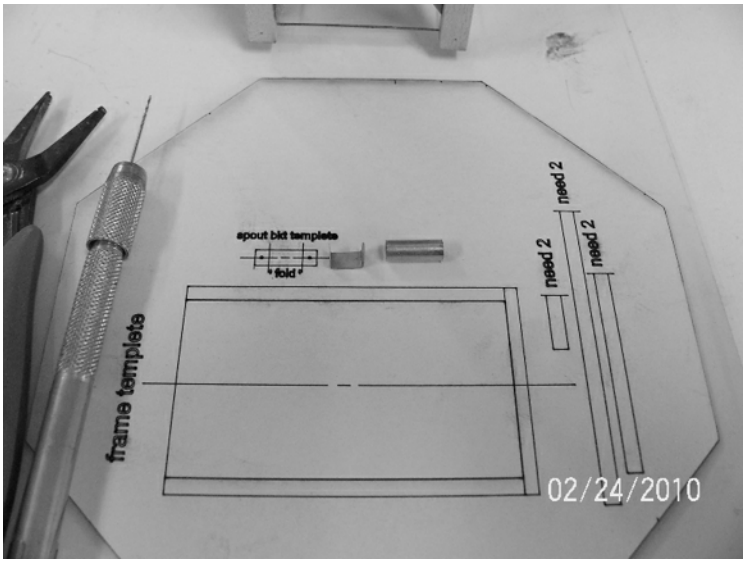


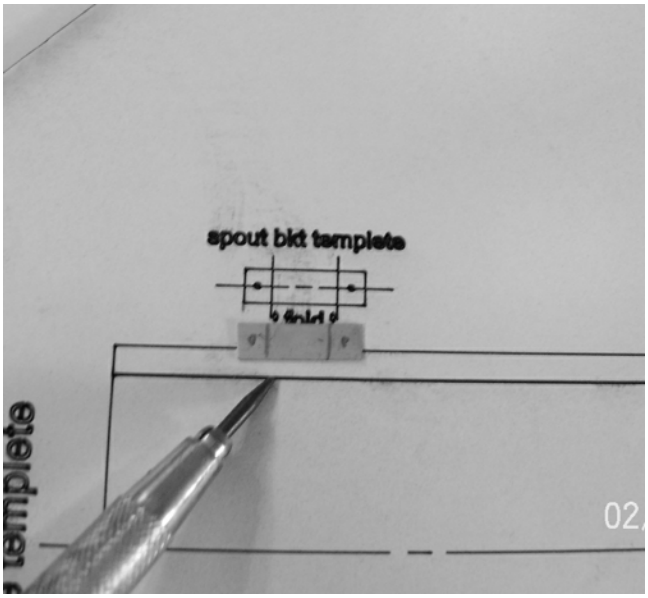


Mount bracket as shown above, test fit until your sure of location. Use the plywood face to adjust height of frame. As above right use square to plum frame. But don't glue plywood face yet the small wood cut from template needs to be bonded after bracket.



The picture above right shows location of small timber, bond in after test fit. Then if needed lightly sand face flush then bond scribed plywood face. Finish assembly should look like above right.

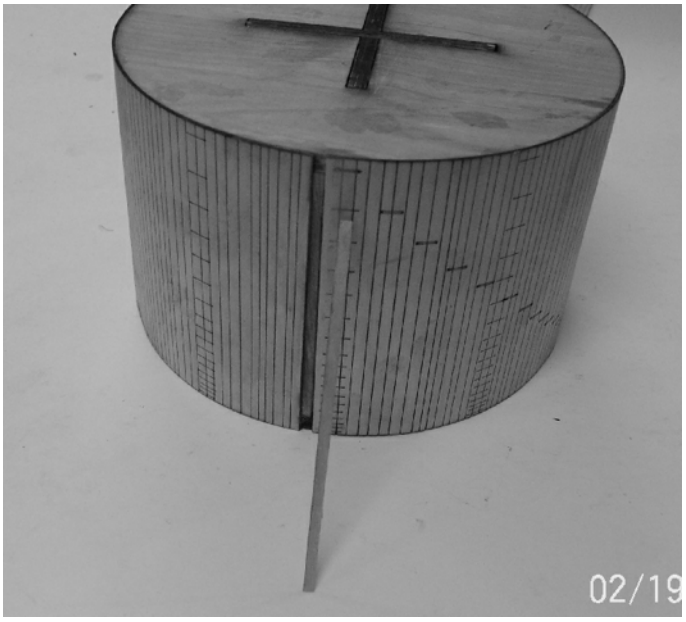


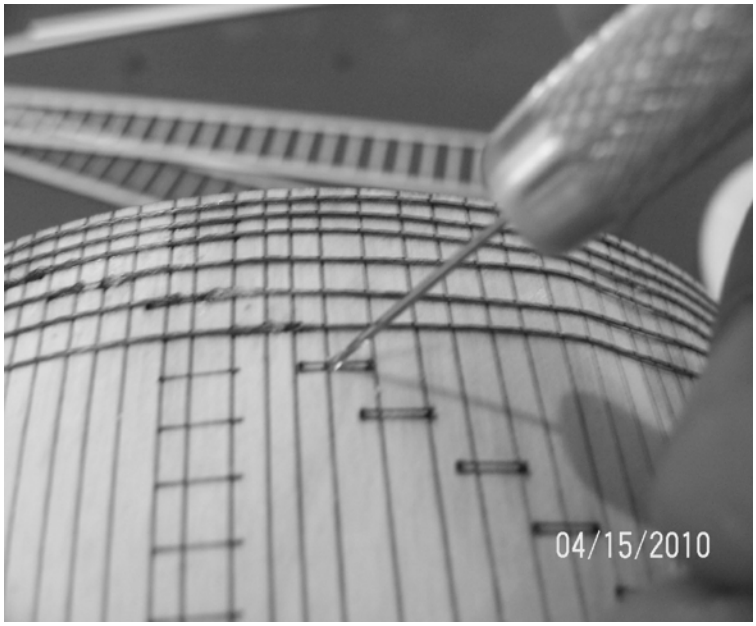


Next find brass parts as above. You need to drill flat stock first then bend on lines as template shows above right. Drill .028 this will be hinge point for spout. Below shows location of parts. Use CA or epoxy to attach parts.

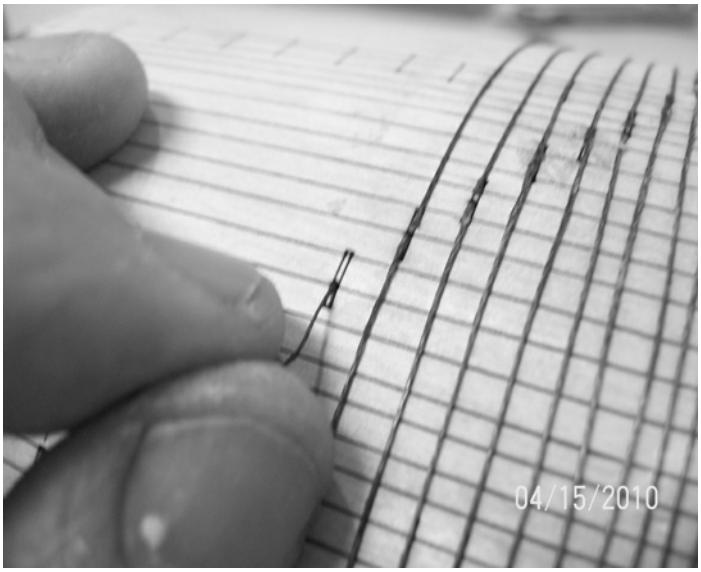
This picture shows location of parts, I like to lightly sand brass parts for best bond. I use CA here or epoxy Next locate plaster footing and set frame on and lightly bottom of post til perfect fit then make base.

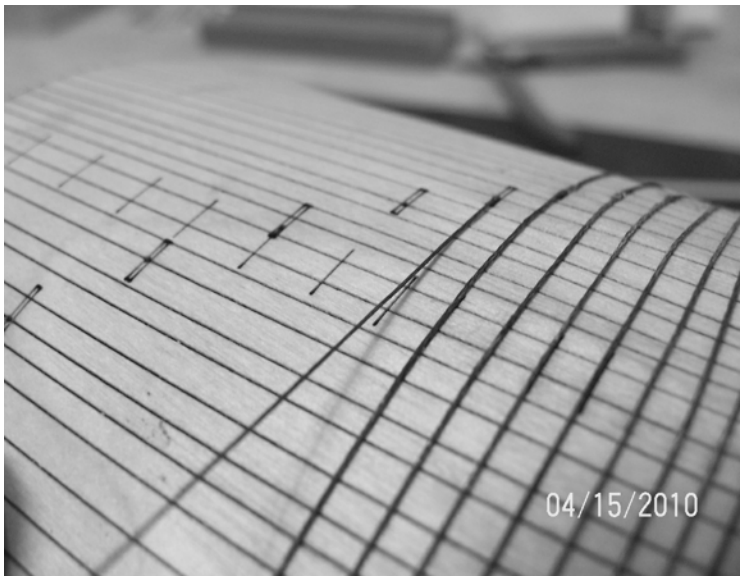
At this point I paint this part of structure before I add details such as water spout weights, chains and bolt detail. I like floquil Tie Brown. I usually air brush every thing but found brushing on best here. Then weather to your likes with airbrush. We will add details later after paint drys. But I don't bond structure to footing. Paint footin to your desires and install on layout and blend ground cover on to it. Structure can just set on footing lose. Makes for easy maintenance and cleaning of Water Tower at later date. But that's your choice.



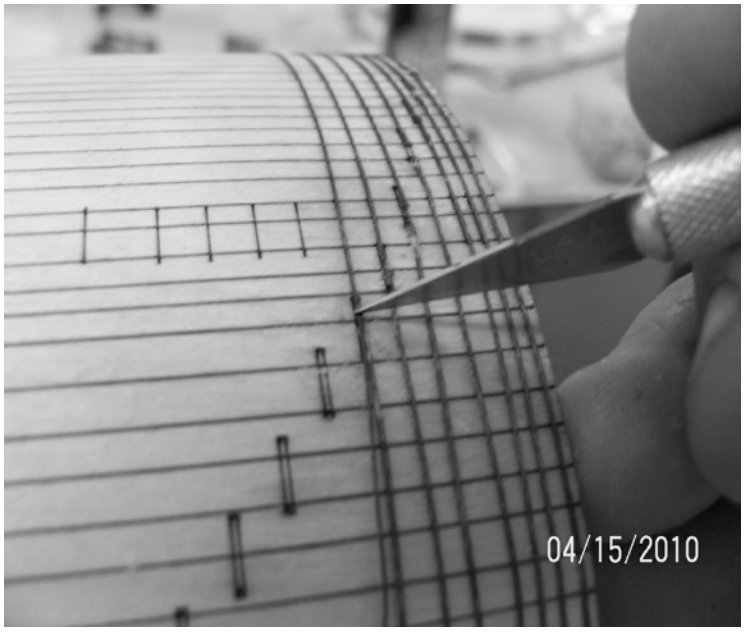


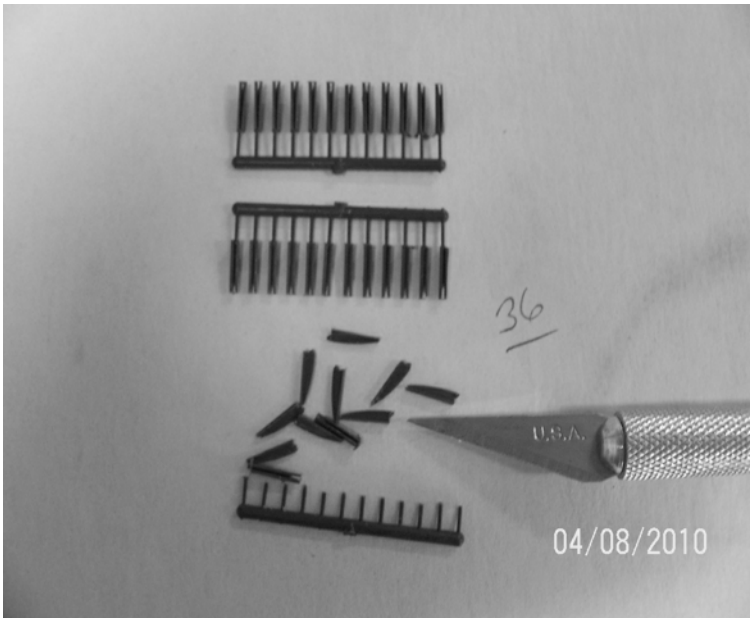
Next go back to tank and finish up, locate the lose board and bond into gap. Sand basswood to fit opening, then CA in place. After dry lightly sand smooth and inspect and finish up any others areas. Next add banding straps. I use fishing mono, .013 dia so find .014 drill. With pin vise drill hole in center of rectangle as shown in picture above right, angle as shown. Test fit line should be snug not lose. A drop of CA to bond, I like using accelerator to speed things up here.



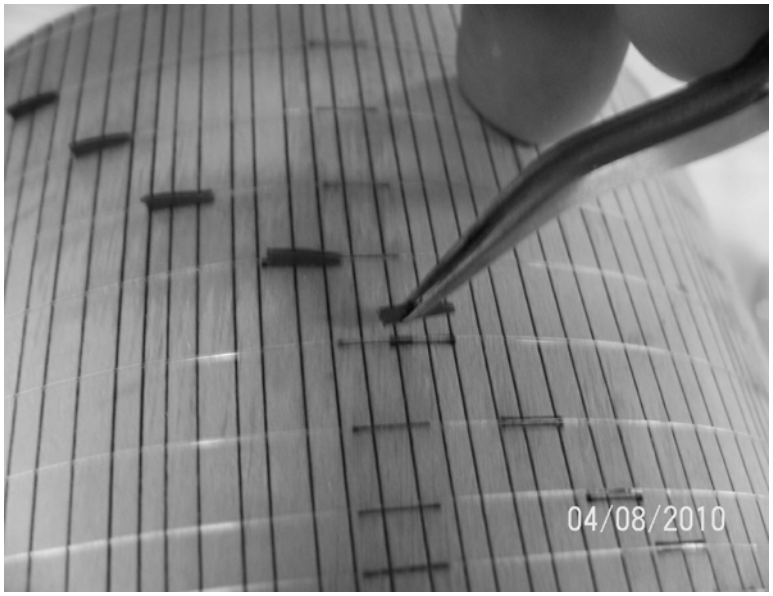


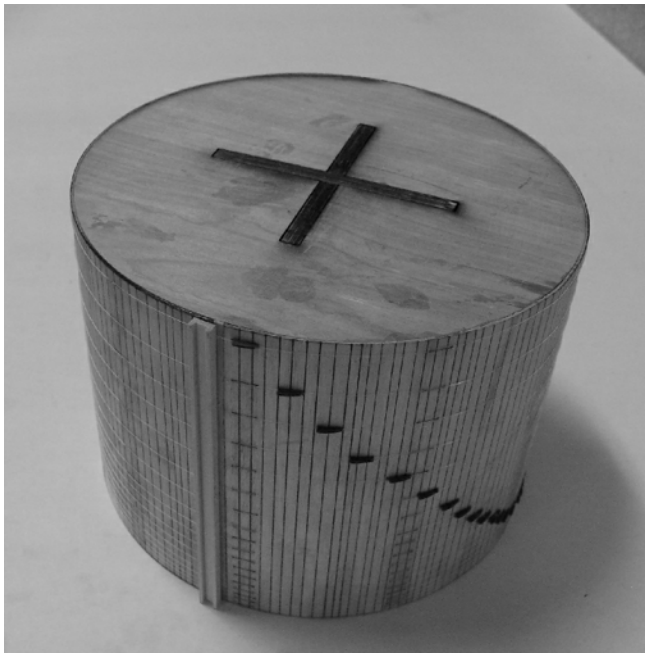
After CA cures pull on top of small straight lines to guide line around tank. I put a drop of CA about every 3/4” as you work your way around barrel. Use thin CA it soaks in to wood and is invisible when time to paint. Start at top of barrel and work down to tighter spacing. This will be easier than bottom up as I did in pictures here.



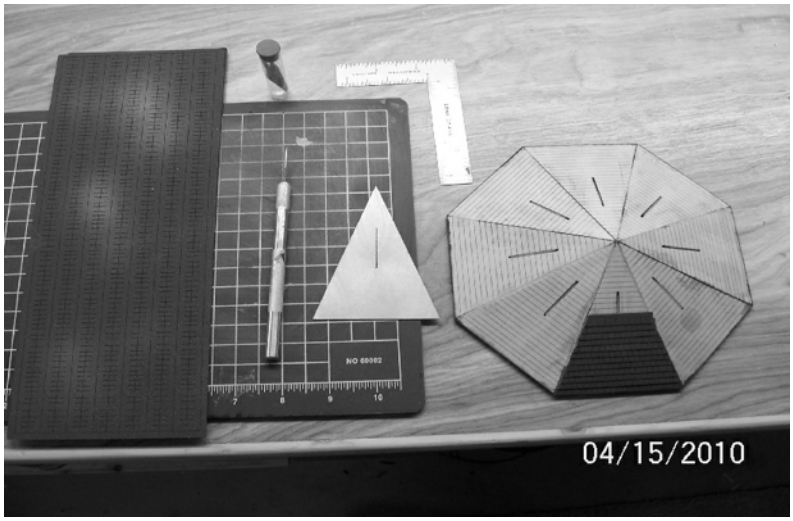


As you pull line around to starting point match up line to other and cut just short. Ca to match other end. If gap don,t worry the hoop fasteners cover this up. Note the hoops go over scribed boxes, the scribed lines are covered by mono. Take your time it goes faster as you do each line. But it may take a couple of evenings here. Next locate Hoop fasteners and cut off 36 parts.

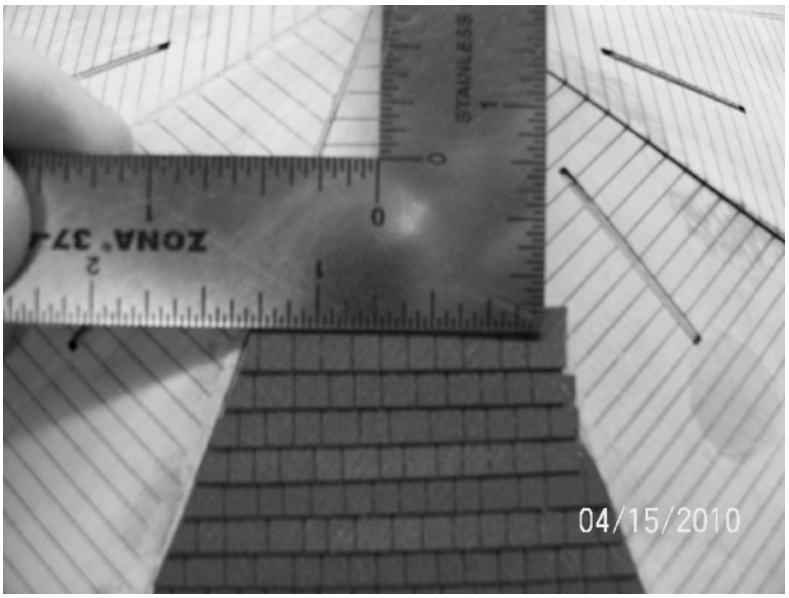




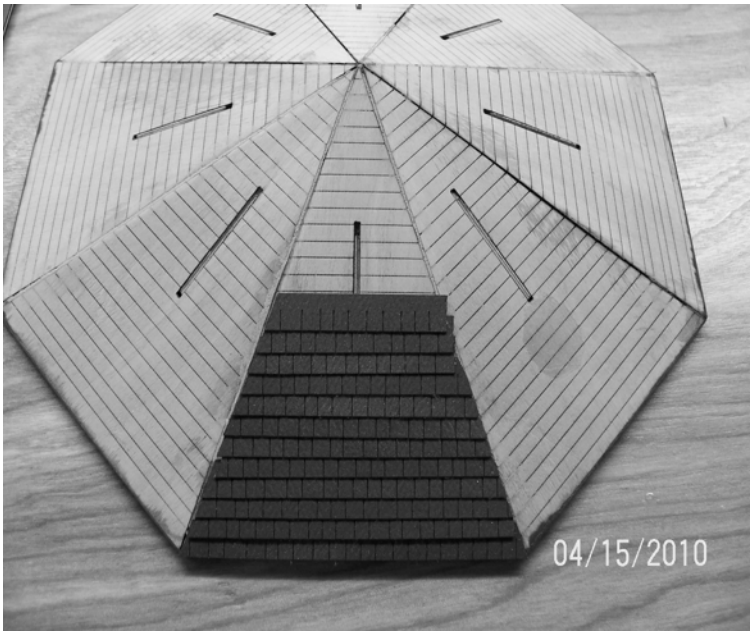
As picture above put drop of CA on bottom of hoop part and place on the rectangle scribed area.
Next locate basswood water marker, you may want to sand smooth and paint. Also paint the water tank.

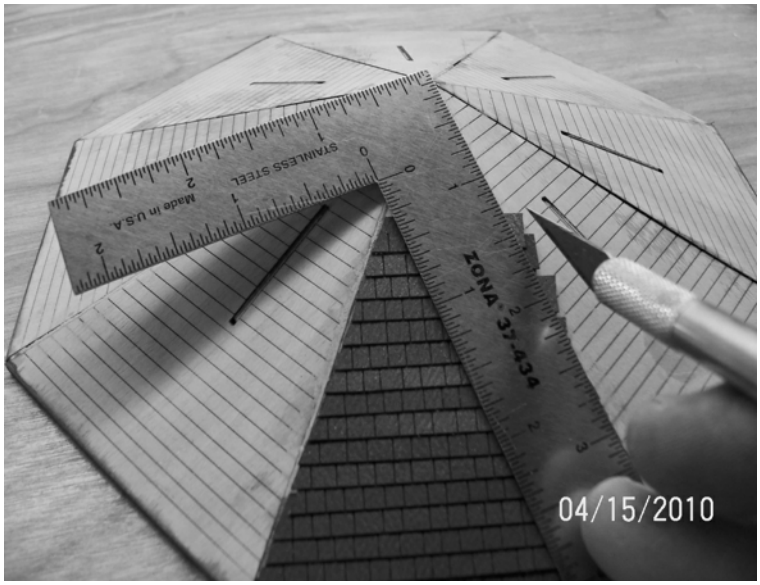


Now it's time to paint, inspect parts carefully. Sand and fix any defects, I use wood putty or white glue in syringe w/needle applicator to fill gaps. After fixes completed blow off surfaces w/air, I paint frame work with floquil tie brown, and edges of roof cap, brushing here OK. The tank air brush with color you desire but also floquil enamel base paint, no water base paints on tank. On plaster base water type paint best. Then add details and weather. Next shingle a roof.

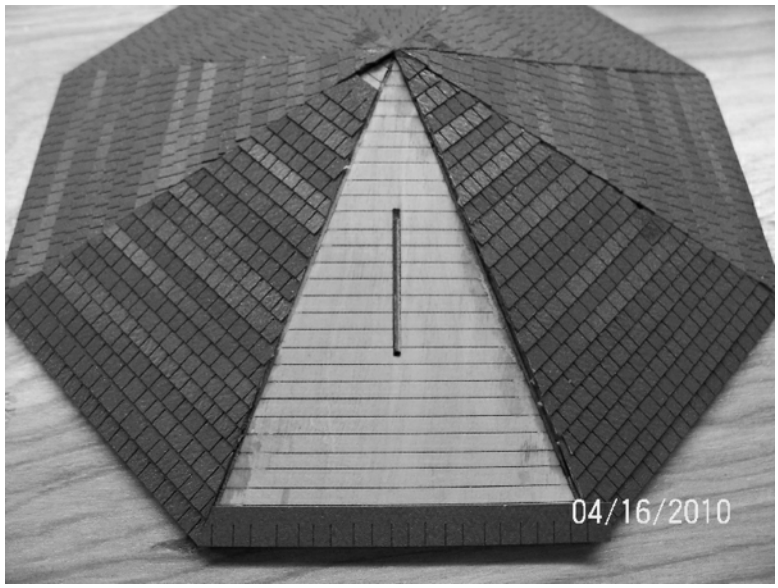


Before we start its best to air brush 2 sheets of singles. Use floquil roof brown, 2-3 light coats till covered, then spray a few light areas silver, finish with black and gray. This will give the roof real weathered look. Next as above use template to cut left side angle. Work left to right as you lay singles down, theses are peel and stick shingles. Measure and cut each row as you work your way up. Lay singles on scribe line as you work your way up. You will cut excess off every so often rows on right.

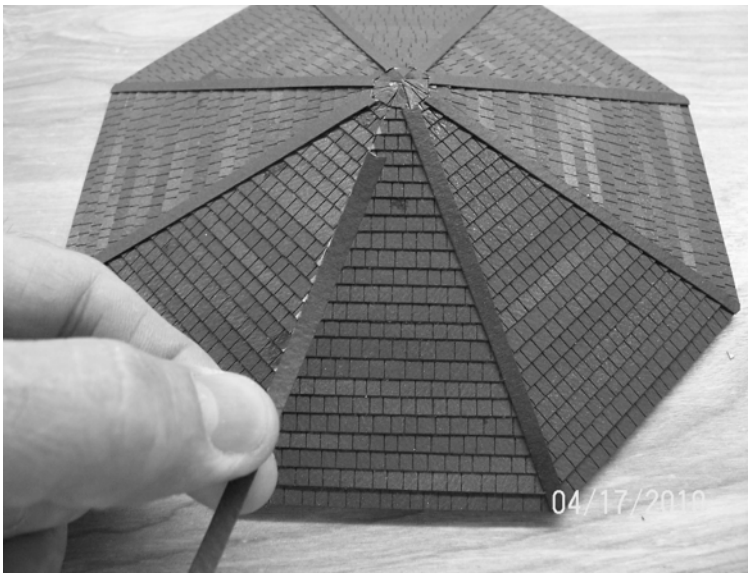


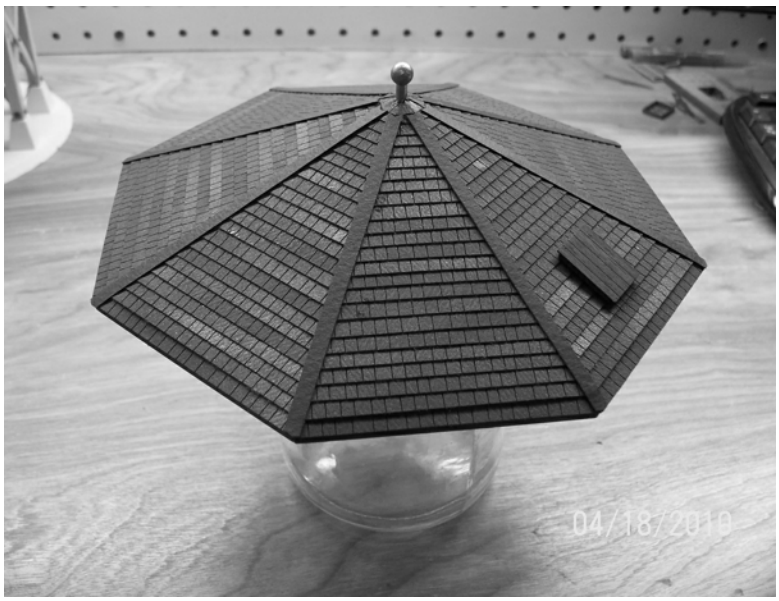


As we see here you have a straight line on left which is the angle cut and over run on right upper side which is cut every 4-6 rows. When cutting keep shape blade on hand, make several light cuts to get through shingles. Never force your cuts light passe along straight edge works best.

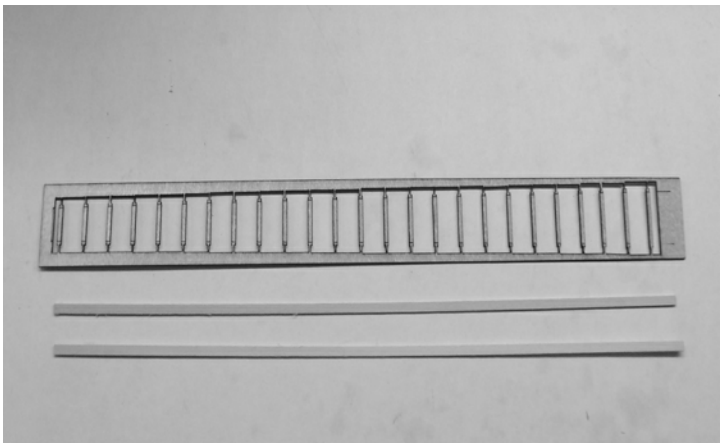


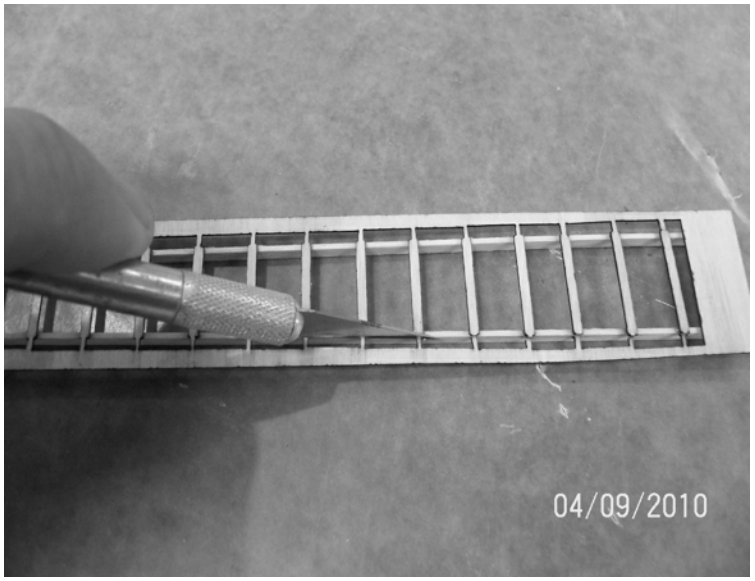
As seen above put a drop of CA every inch or so on seems this will lock them tight. I found it best to cut each row on right side as you work your way up. The top is a little tricky but just smaller triangular cuts.



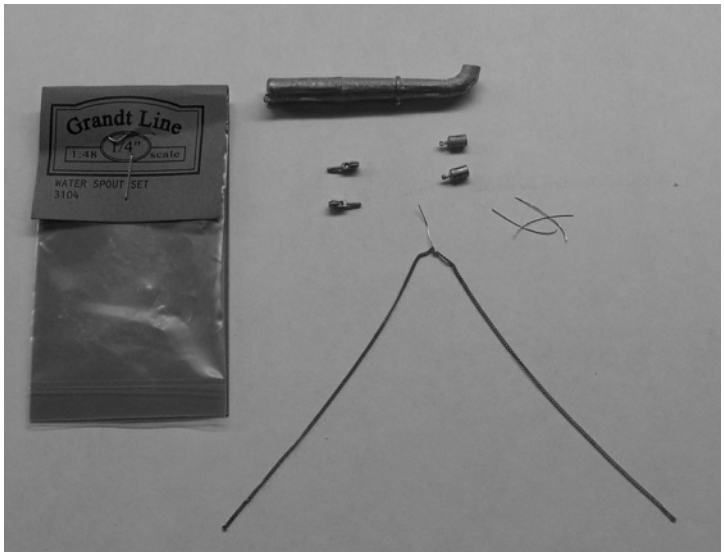


Next with trim sheet cover peaks I found lightly fold center before pulling sticky back and applying. Also the round piece is used around post at top, cut a small pie shape out then apply to top . Also notice the decorative top has been installed also water hatch.

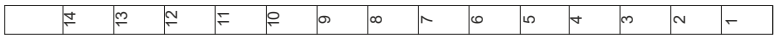




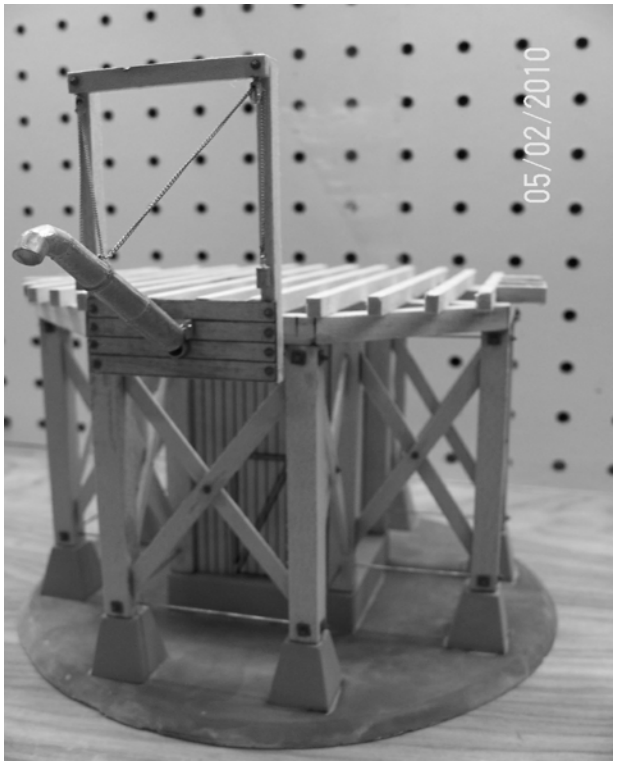
Next find parts to build ladder as above. One side of laser cut ladder has scribe lines for locating 2x6 scale brass wood. Use CA here and wax paper under parts you may find accelerator good here to. Once complete cut away outside and lightly sand edges and clean up.



Next locate detail parts, as above. You first will need to clean up castings and drill out holes required. Look at picture above left for layout of parts. Drill holes for pulley tight so they can angle in just right. I use small wire to attach chain to spout and weights. A drop of CA here and there locks it all in place. Next find bolt details and bond with CA. You may need to clean hole out for bolts to fit.



Cut water mark and bond in channel.



Above parts are ready for paint use floquil, or types you have worked with are fine. I found sealing wood with 50% thinned floquil glaze works well before painting. Again avoid water base paint on wood, on plaster base they are best. Picture shows details added, spout, chains, bolts, etc, but I would add bolts after painting structure then weather.