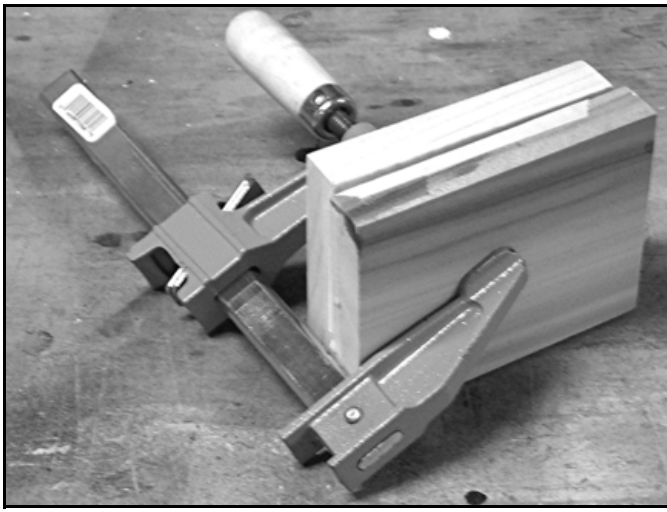


MIKE ASHEY PRODUCTIONS
PRESENTS
SCRATCHBUILDING SUPERSTRUCTURE PARTS
BY
MIKE ASHEY

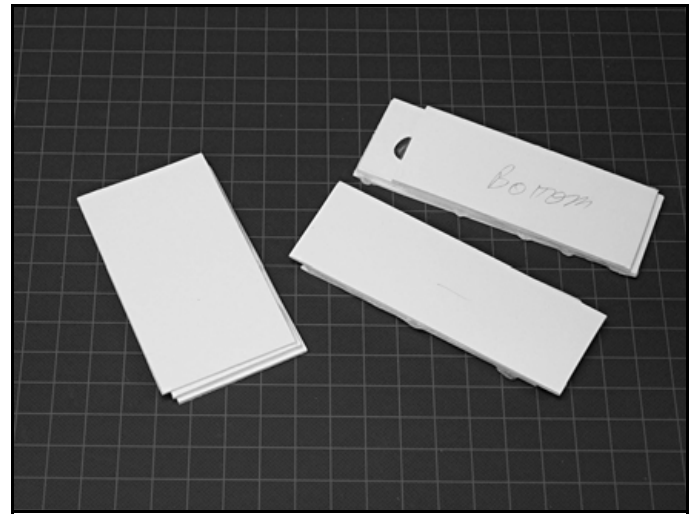
To make great looking scratchbuilt superstructure parts you will need to invest in a variable speed disk sander and a wood clamp. Depending on what scale you are working in, layers of plastic sheet equal to the height of the superstructure are laminated together with super glue. The wood clamp will tightly squeeze the layers of plastic together. It is important to make sure that each layer of plastic sheet that is laminated together has its surface covered with super glue so that there will be no pockets of air between the layers of plastic.

Planning is very important in scratchbuilding as it will greatly facilitate your efforts. I also make lots of notes of everything from the individual plastic sheet thickness to rough sketches and dimensions of the parts.

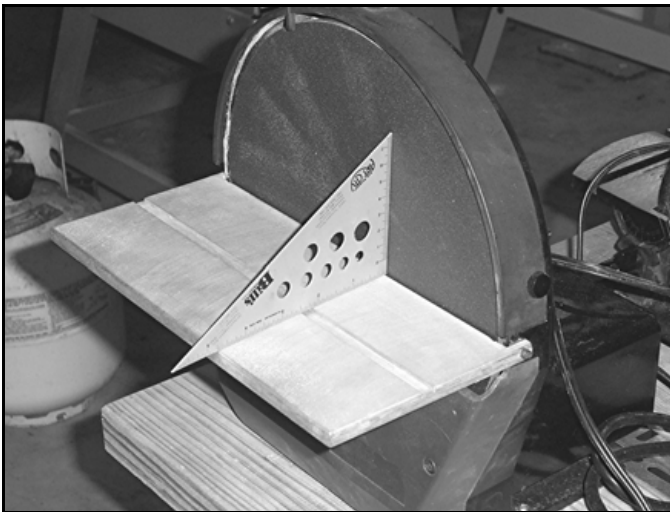
Making parts with multiple dimensions requires some basic geometry to lay out shapes that when glued together make the resulting part. This is also true for deck shapes that have different angles and widths. The superstructure of the 1/350 scale USS Pennsylvania pictured above was scratchbuilt and most of the pictures in this article are from this project.



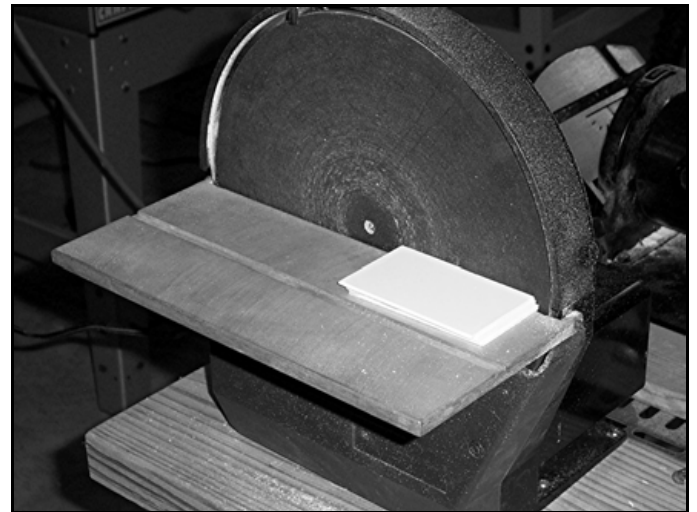
Sheets of plastic equal to the superstructure height are super glued together and then clamped between pieces of wood. The faces of the wood have wax paper on them so the squeezed out excess super glue will not stick to the wood.



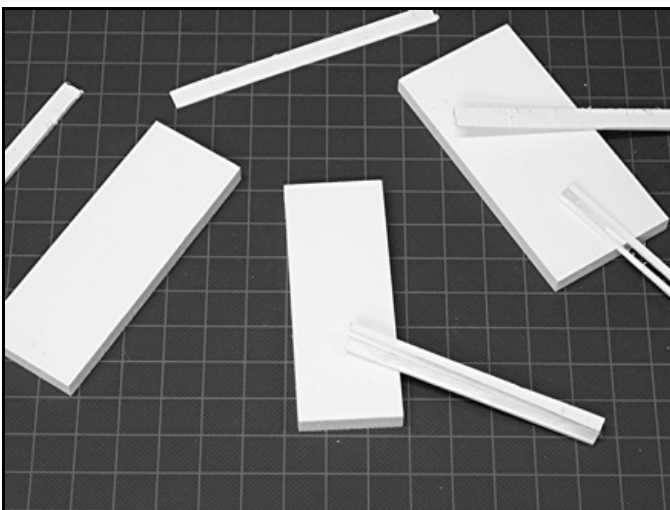
Be sure to coat the entire surface of the plastic sheets with super glue. The sheets will slide against one another as they are squeezed together with the clamp. Here you can see the excess blobs of super glue.



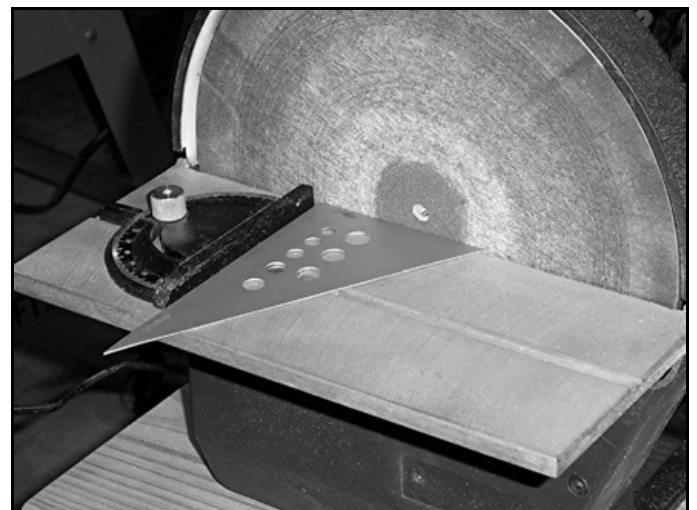
I always check to be sure the platform and the sanding disk are at 90 degrees before each use. This will ensure that each sanded surface is perfectly straight. This check should be done every time you use the sander.



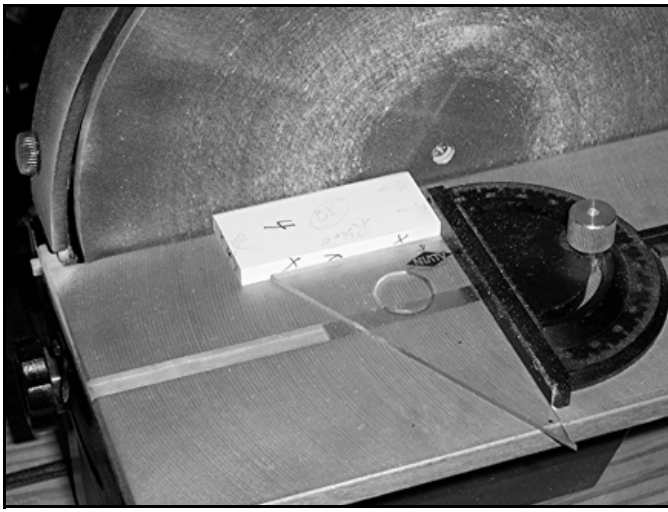
I sand one face of the assembled sheets and get it perfectly flat.



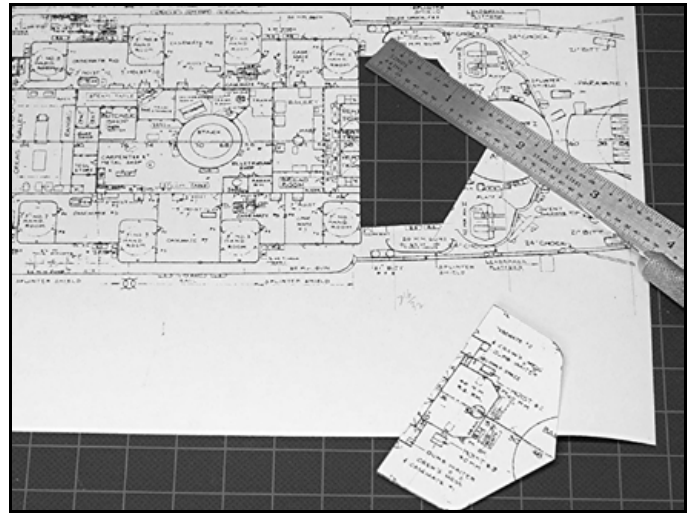
To speed up the sanding process on the other three faces I cut the rough surfaces with a band saw. I make sure the guide on the saw is at 90 degrees to the blade when I cut. You can also use a miter box and razor saw.



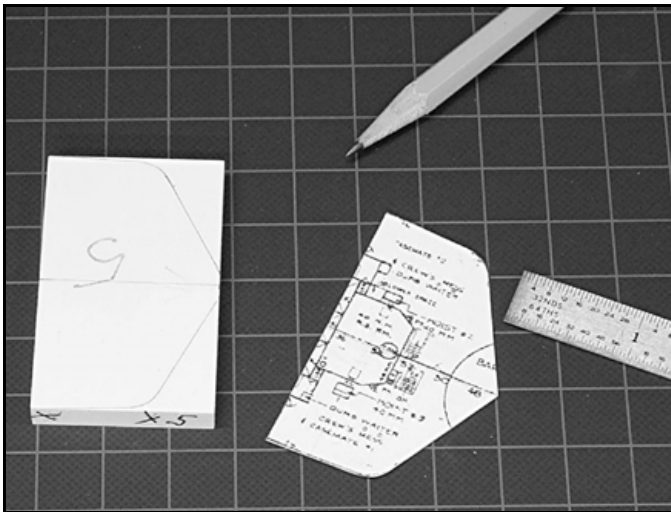
Next I ensure that the miter is set at 90 degrees to the sanding disk so that when I sand the other three faces the finished shape will be perfectly square.



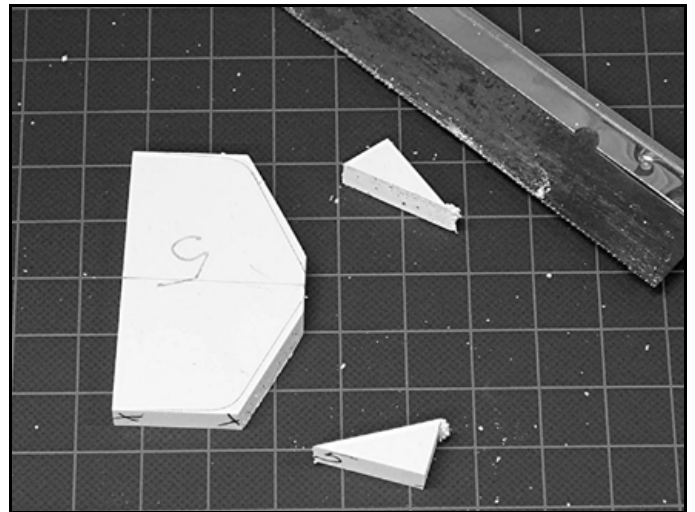
I mark the edge that was sanded first and then proceed to sand the other three faces making sure that the edges are tight against the miter guide. For narrow lengths I use a drafting triangle to push the plastic and keep it straight.



I carefully cut out the shape from actual ship drawings or from drawings that I make.



The cut out shape is transferred to the plastic block.



To reduce sanding time I remove as much scrape plastic as possible.



I glue the cut out paper shape to a piece of plastic and make the plastic match the shape so that the resulting section can be used to set the proper angle on the miter guide. I use .040 inch thick plastic sheet for these templates.



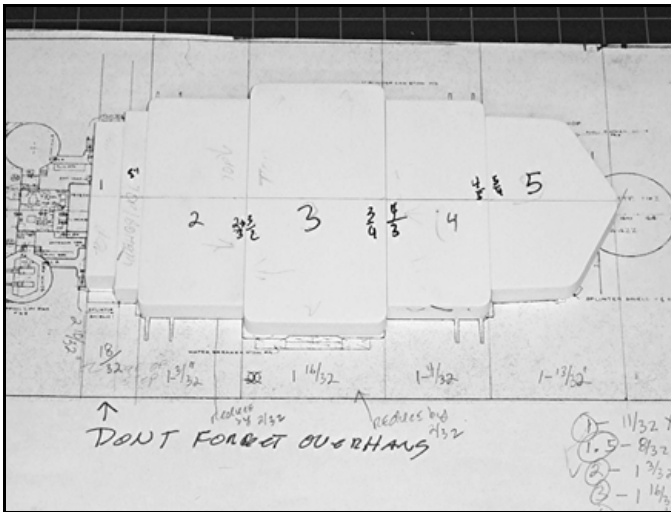
I then sand the part and for small parts I use an extension so that my finger tips will not get sanded.



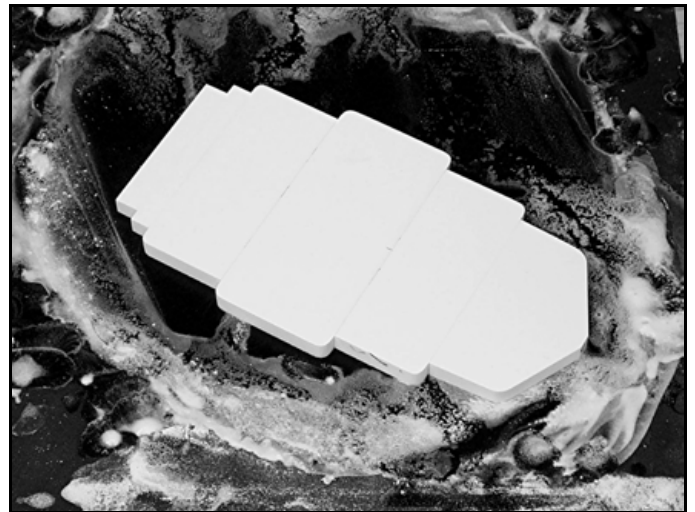
The block is now shaped to the dimensions of the superstructure part. To smooth the surfaces I run them across waterproof sandpaper from 400 to 600 grit and I wet sand the plastic.



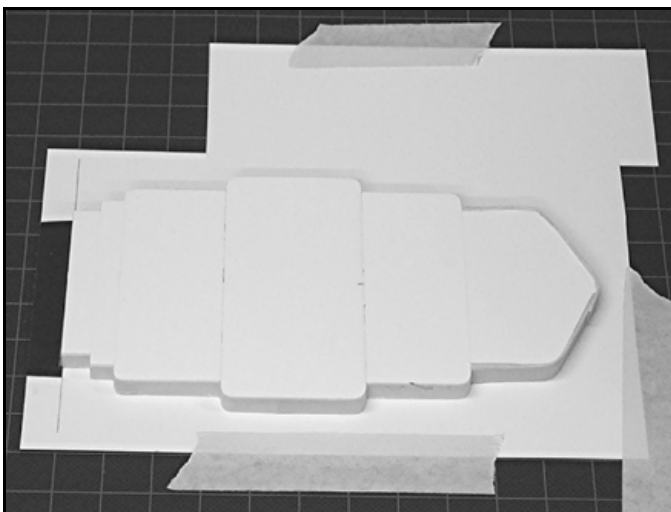
Narrow sections can be shaped with the help of blocks of wood and drafting triangles.



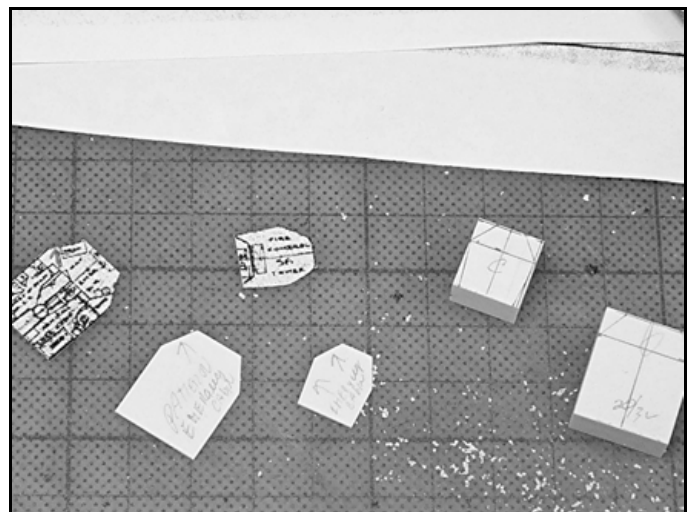
Multiple shaped parts like this 01 superstructure for the USS Pennsylvania were made from several sections that were then glued together. To make sure the heights were the same all the parts were cut from the same laminated block.



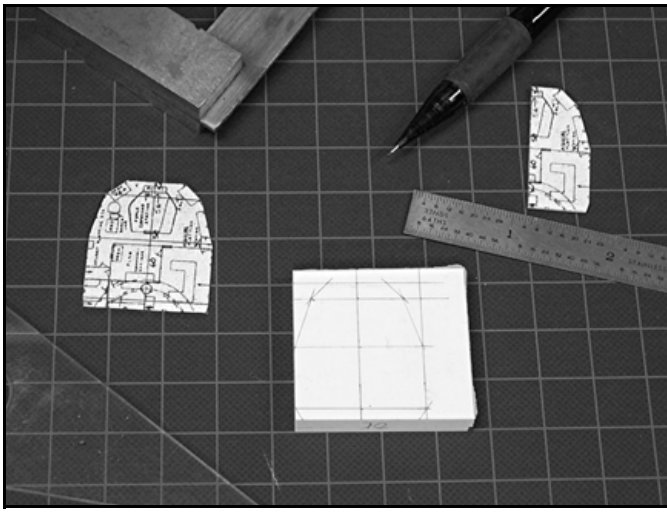
To smooth out the glue joints I ran the completed assembly across a stationary piece of waterproof sandpaper using 400 grit and then 600 grit.



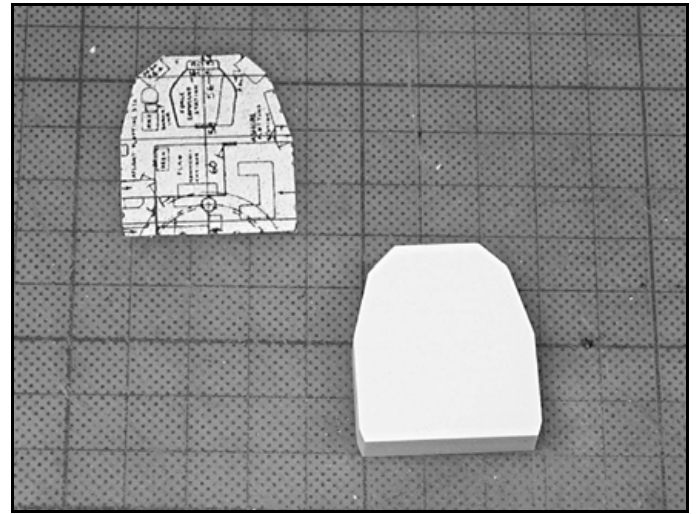
As a final step I laminated Evergreen scribed plastic on the top surface to simulate a wood deck. The edges of the superstructure were protected from super glue overflow with masking tape.



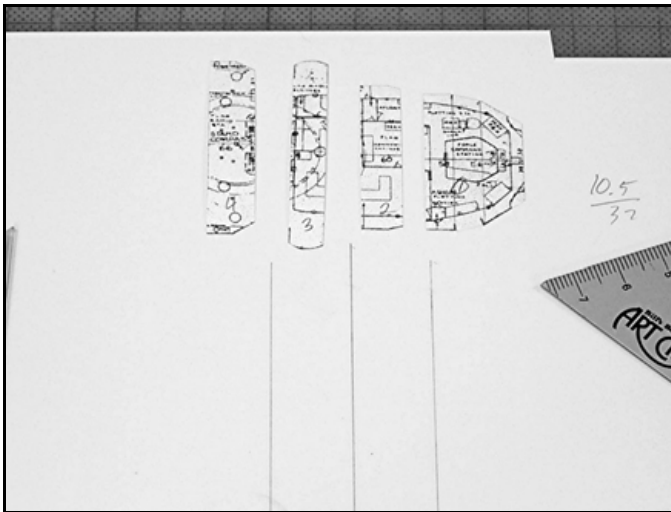
These small superstructure shapes along with their miter guide templates are ready for final shaping.



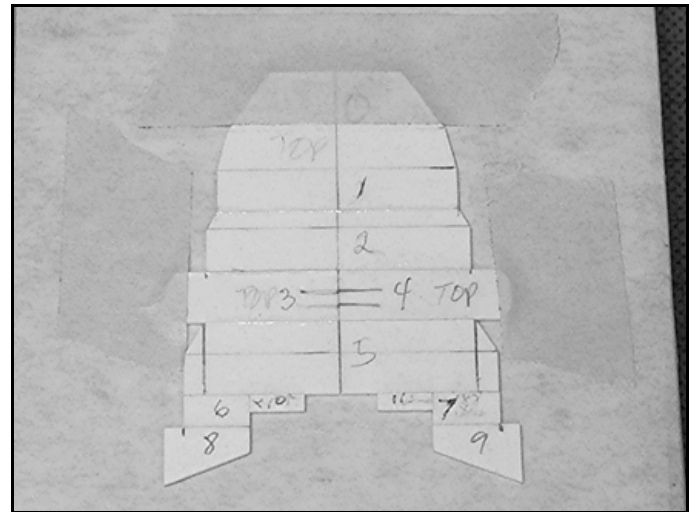
I used a combination of the drawing cut-out plus careful measuring and line placement to get the angles on this shape correct.



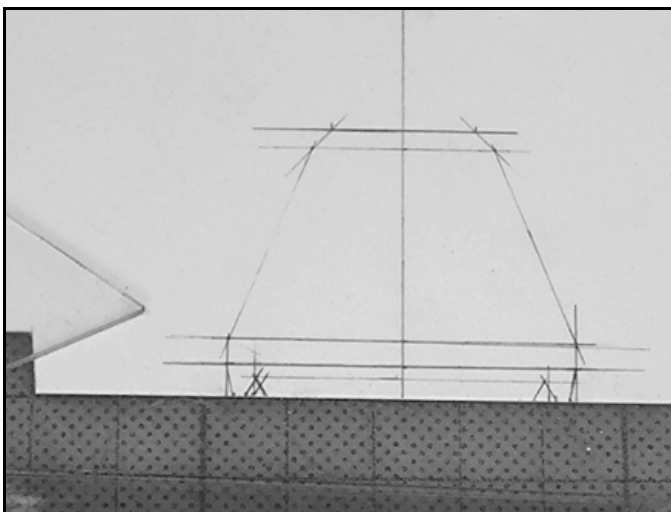
When sanding shapes with multiple angles you need to take extra care to be sure that the angle edges are symmetric on both sides of the part.



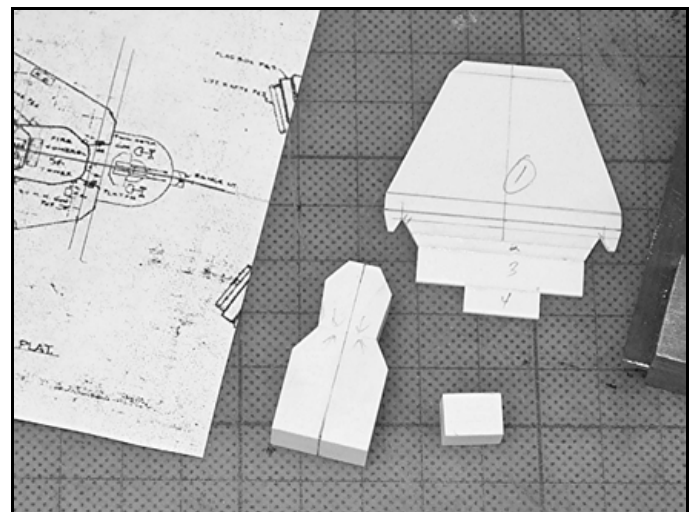
To make a deck shape with multiple angles and lengths cut out the individual shapes, trace them and then cut them out.



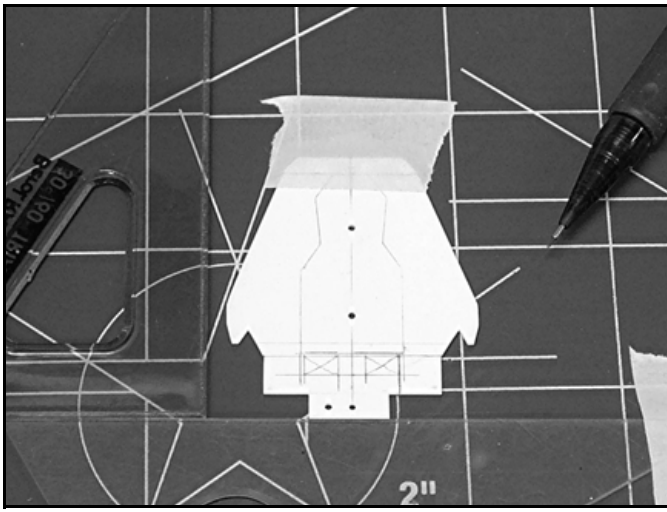
To glue the cut out deck shapes place them on wax paper and carefully glue one section at a time. To smooth out the surfaces run the part across 400 and 600 grit waterproof sandpaper and be sure to wet sand.



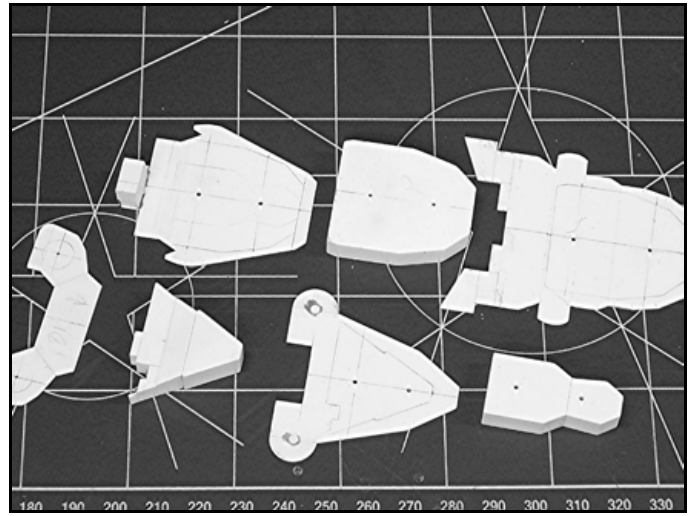
This deck had a really odd shape which was hard to cut out from the drawing. I transferred the dimensions on the plastic and carefully drew the shape.



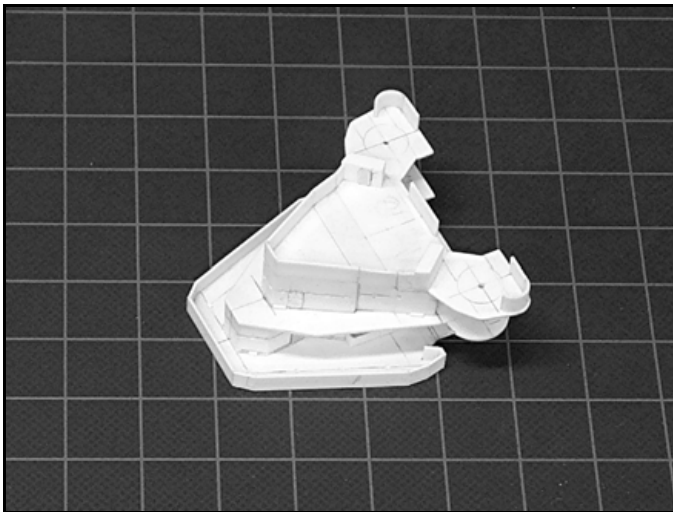
The same odd shape has been cut out and the small rectangular shape glued to the end. The superstructure is also oddly shaped and it will sit on top of the deck when completed.



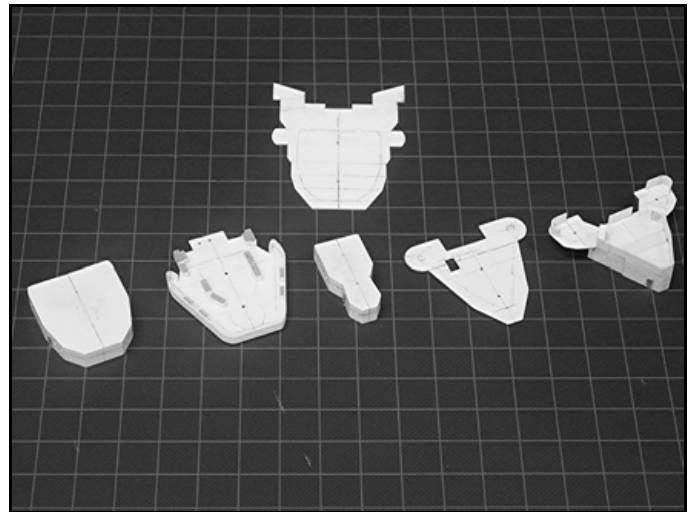
To help set superstructure parts onto deck surfaces, I use the pin method using .060 or .080 diameter plastic rod and corresponding holes.



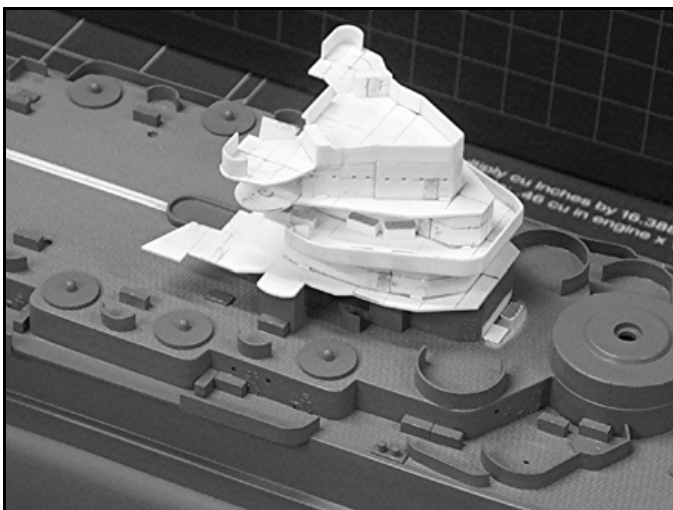
These superstructure and deck shapes are now ready for adding splinter shields and other details.



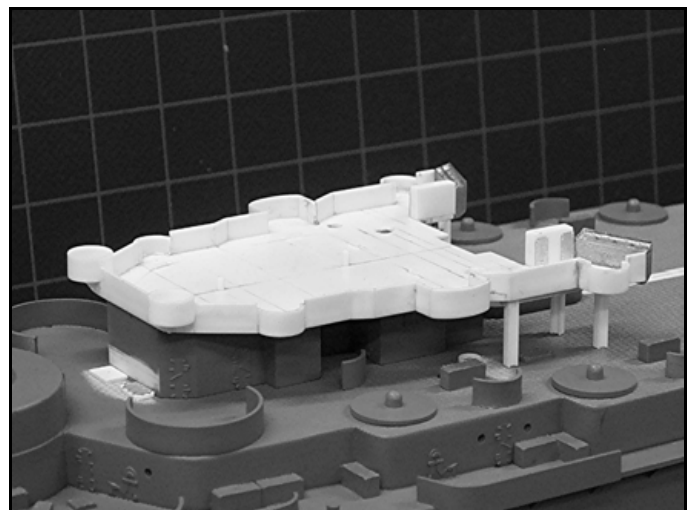
Creating superstructure and deck shapes is not hard to do but you have to have the right tools, drawings, and patience.



These scratchbuilt parts have had surface detail added and they are almost ready for their first coat of primer.



Fit checks are an important part of scratchbuilding to be sure that all the parts fit together and they appear to be accurate in shape to one another. Final fit checks on the lower deck are now complete and splinter shields are the last step.



The lower scratchbuilt deck shapes have been completed, installed, and primed. The splinter shields have been added to the deck along with other supports and surface detail.