

Comet USS Perch Build by R.F.Bennett 02/21/09



Illustration 1: Comet Submarine Kit Number J4 Box top



Illustration 2: Comet Submarine Kit Number J4 end plate, Note ; .75c



Illustration 3: Out of the box, Donated by Steve Winn



Illustration 4: The Restored plan

http://smm.solidmodelmemories.net/Gallery/displayimage.php?pos=-52



Illustration 5: Balsa Pre-cut hull and deck sheet



Illustration 6: 1 of 2 small parts sheets

Since the hull was pre-cut to a fairly close tolerance, I simply rounded out the squared off corners and glued the balsa deck sheet in place. More shaping would take place later.



An odd and ill-conceived way to put a conning tower together. The three top blocks are even different thicknesses. I believe it was done this way to facilitate wrapping the paper window and rail piece around the upper part of the sail. Had I not wanted to stick to the plan and the kit parts I would have used a solid block with the grain running from the base of the sail to the top. Then scribed away enough material to insert the 1/32 birch ply surround that I eventually used instead of the paper one. I'm sure if I cut it with a band saw or a coping saw then paired away the grain with a whittler it would have gone much faster and required much less fit and finish work.



Illustration 8: Sail from Starboard Quarter Aft

The sail was faired with a small trim plane the a sanding block. I did some fill work with a water based balsa filler called Micro-Fill and found that the old balsa parts sucked the water right out of it before it could harden properly. I did not have any of my preferred filler, Nitro-Stan Spot and Glazing White Putty 9002. Very similar to Tamaya Green of which I had a squashed-out wrinkled up tube of in my trash. It was pulled out and cut open later in the build. Ultimately I mixed the Micro-Fill with a touch of carpenters glue and water but it took DAYS for each fill to harden. So this was done sparingly.



Illustration 9: Bridge Surround

The bridge surround was printed on the plans and meant to be cut out and pasted in place. I didn't cherish the idea of cutting the plans so a copy was made on several types of paper. The idea was then discarded entirely as being impossible (For Me Anyway) and I substituted two strips of 1/32 birch plywood. Starting in the center of the front of the sail and gluing and bending as it would hold toward the point at the back of the sail. Then wrapping with masking tape for a few hours before doing the other side. I used thick, gel cyano.



Illustration 10: Shaped and filled Surround

After a days drying I used a Dremel with a small sanding cylinder to cut away the ply. The diameter was just perfect for the for and aft cutouts. After cleaning up the seams between the balsa and ply, being sure to remove any loose dust, I filled any voids with gel cyano. I used a $\frac{1}{4}$

inch wide flat file clean up the outside of the surround. Much less delicate than a paper surround! I f I had been able to do it I don't think it would have survived the rest of construction. I recommend this method instead.



Illustration 11: First fill

Grain fill completed and ready for a thinned coat of Krylon Acrylic Latex Enamel (KDH5000) Applied sparsely with a sponge brush. Normally ,at this point, I would coat a balsa model with either a thinned coat of shellac or some other sanding sealer to harden it more. In the case of the 60 year old Perch Balsa, I would have preferred to do this with some epoxy or polyester resin. None in the shop, not in the budget at the time. BIG mistake!



Illustration 12: Primed



Illustration 13: Disaster!





Illustration 14: Hump Back nose syndrome Note the all too bulbous bow, this after a 180 grit sanding too highlight the "Pockmarks" and shave off the barnacles.

My only recourse was to sand to bare wood and try a different sealer. I needed something hard, something off my shelf. I thinned carpenters glue with water and re- coated the Perch. Still not recommended as the best, but it worked. I re-cut the bow and cutwater only to be thwarted by the spongy, old balsa once again. I couldn't get it to come to a sharp point!



Illustration 15: Ready to fill again

My solution to the crumbling bow was to cut it down the center line with a fine back saw and insert a piece of 1/32 inch birch plywood about $1\frac{1}{2}$ inches into the bow. Then shape it too the plan.



Illustration 16: Insetted plywood cutwater Bow on view of the cutwater, The lower hull still needs shaping.



Illustration 17: View from the bottom. The ply can clearly be seen.



Illustration 18: Cutwater from the Deck The view from the deck, I've highlighted the ply insert do to the overexposure.



Illustration 19: Fillers

I mixed some Elmer's with Micro-Fill to the consistency of peanut butter. It's not ideal, it got stringy and developed some hard lumps in it (chemistry?) after pressing it through a fine screen I had a "Usable" filler. I filled for days!



Illustration 20: Finishes test block

If you haven't used a product in the past or a combination of products.

Fillers, glue, primers, paints and so on. Even different color combinations of the same product. Do a paint test block! Before you paint your model.

This will help you determine not only compatibility of the product but how they look together. Notice the red looks different over the light gray than it does over the dark gray. The dark gray "Puddles" on top of the red. The dark gray is not very opaque it will need to go of in several, thin coats then the red on top of it. All on top of the gray primer. You can also get an idea of drying time and between coat prep. You'll also notice that you can see every bit if grain in this piece of wood. That is a good clue as to how the finish will behave in relation to the wood, not just the other products. Even the brush makes a difference. I use my $\frac{1}{4}$ sable for all of my finishing.



Illustration 21: The Paints

Krylon Acrylic Latex Enamel Gray Primer KDH5018 Krylon Acrylic Latex Enamel Gloss Black HDH5000 Model Masters Acrylic British Crimson No. 4609

The dark gray is actually some of the primer with a few drops of the Gloss black in it. Mix to taste !



Illustration 22: Smooth as glass TA DA !...

> Flow the paint on, then DON"T TOUCH IT! Sand. . .

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Sand with progressively finer and finer grit finishing with about 800 grit before you apply detail, markings and a spray, on clear coat. A good Artists low odor fixative, matte, gloss or semi gloss. I used a semi gloss.



Illustration 23: Laying the Keel

I used some really fine spruce planking I found in the supplies box. Taped down then aligned, followed by a few strategic drops of cyano. The paint will glue it down, then I'll sand it to hight and fair in the ends.



Illustration 24: Mounting Holes

Holes to mount the Perch were drill then reinforced with a plastic sleeve. Note that they are offset from the keel. This will give a "floating" effect when she's on the mount. I would prefer a fine, brass tube, but had none. Also note the dab of cyano holding down the keel. That is all that is needed, the paint will hold it down.



Illustration 25: Mount Alignment

Sewing needles inserted into the mounting holes with a dab of red paint serve to mark where to place the posts on the mounting board. The disparity in length is due to the curve of the hull. Bear in mind that they are also slightly offset to compensate for the "floating mount". With this method if you put then directly down the centerline of the mount, Perch would be offset and not over the center of the mount. You only want the posts to be offset.



Illustration 26: Stabilizers Side stabilizers in place, the same material as the keel.



Illustration 27: Periscope

Two plastic tubes and bent wire for the periscope and searchlight mount. Disks cut from sheet styrene using a hole punch made the three deck hatches. Music wire from the kit used for the aerial stanchions. The gun was impossibly small for my big, shaky hands. As was the set of aerial wires depicted in the plan. They were inaccurate anyway. No propellers and rudder for the same reasons. I prefer to preserve the nice line of the hull that to mess it up with junk I couldn't do well.



Illustration 28: Rigging Waiting for final paint, Decals, rigging and detailing of the mount.



Illustration 32: Port Bow

Rigged and ready for sea. I am really disappointed with the forward rigging and the torpedo tubes. I used the kit dive planes backed with 1/32" inch birch ply and pinned them in place just as the plan showed.



Illustration 33: Torp Tubes, Dive planes and rigging



Illustration 34: Port Quarter Aft





Illustration 36: Showing Limber Holes at the waterline bow. 18







Illustration 39: USS Permit Aft Starboard Quarter



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