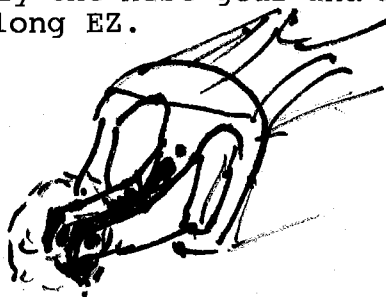
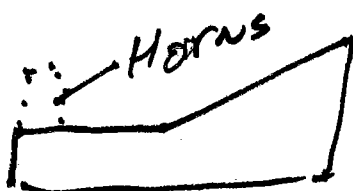


and ERIC COBB

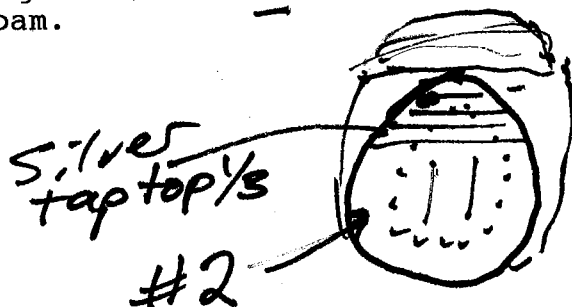
Original Design: RONNEBERG, DAVE H. 10948 National Blvd #10, Los Angeles, CA 90064 (Please send Dave \$10.00 for his art if you build a Ronneberg Nose.)

1. In essence, you strip back to the nose gear box, (On the Long EZ, we found it fine to cut the front horns off the top/front of the gear box.) leaving basically the nose gear and box sticking out from the F22 bulkhead on the long EZ.

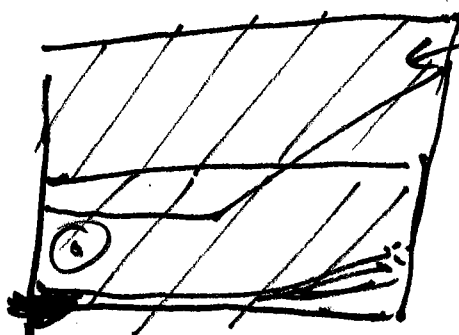


GOOD TIME TO
CONSIDER
ELECTRIC
NOSE

2. Then you either remove and replace the small nose bulkhead with this larger version or build it out to the new dimensions with dense foam.



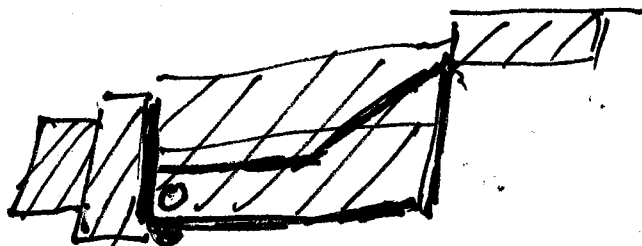
3. Then, get some blue foam cut in slabs about 2.5 to 3 inches thick and cut it into blocks to make the floor behind the new nose bulkhead. Then the walls built on that and then the nose top behind the nose bulkhead, realizing you will be carving first the outside then the inside.



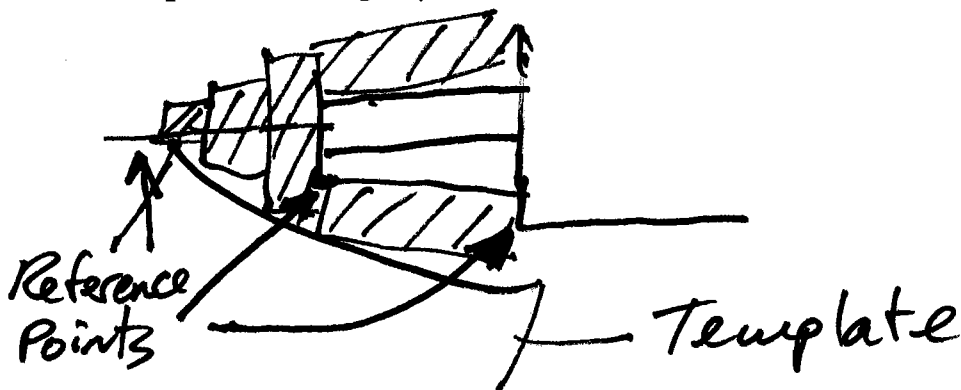
FOAM BLOCKS

Bill Dertel
makes good one
call for brochure

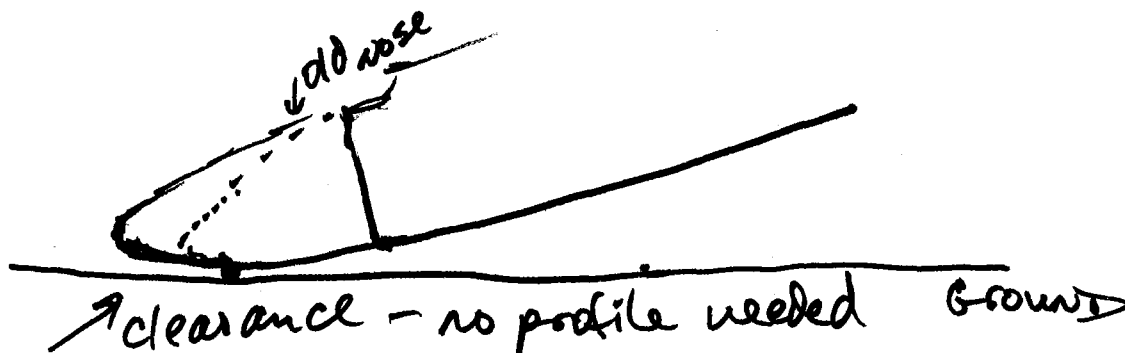
4. Then build out the front with blocks, as you did with the Rutan nose, only it is a lot bigger. You will have to fill out the area where the canard is missing too; you chose how much canard cover foam to take off; but leave the actual structural canard skin intact! We found that 3" long wallboard screws and power screw driver were good foam block tacking equipment, if you remove them before you cover their heads back up.



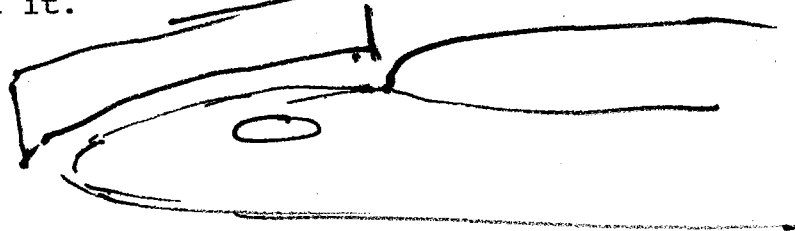
5. Cut out the side template (female template #3) which is drawn from the center of the nose to a point 10.5 inches below the top of the longerons on F22. The front tip of the line differs a little from plane to plane. Jay Green's nose from which this template was cut, has quite a wide front aspect, which is probably the prettiest, not unlike the proportions of a human chin. I haven't known of anyone who has shaped the nose perfectly the first time. You may have to glue some foam back in and carve again.



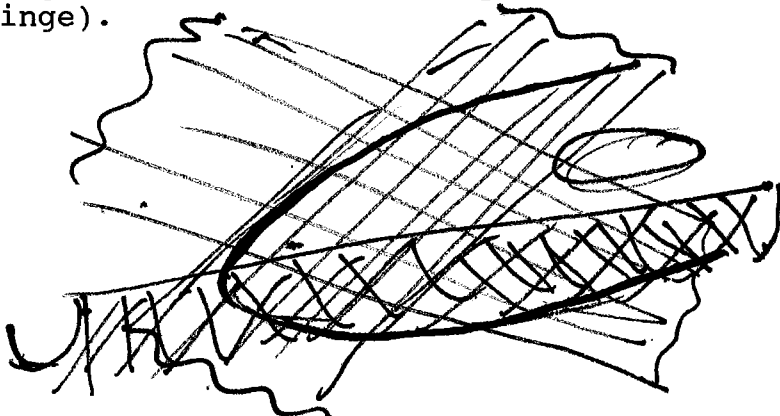
6. Carve the bottom in a nice smooth line, remembering that the nose stop will still need to be the first thing to touch down when you gear up. Further, the closer you get to the original profile under the nose gear, the less fill you will need on the nose gear leg when you are finished. There are some nose gear door plans which are better used if the gear leg is sunken in about .25 inches.



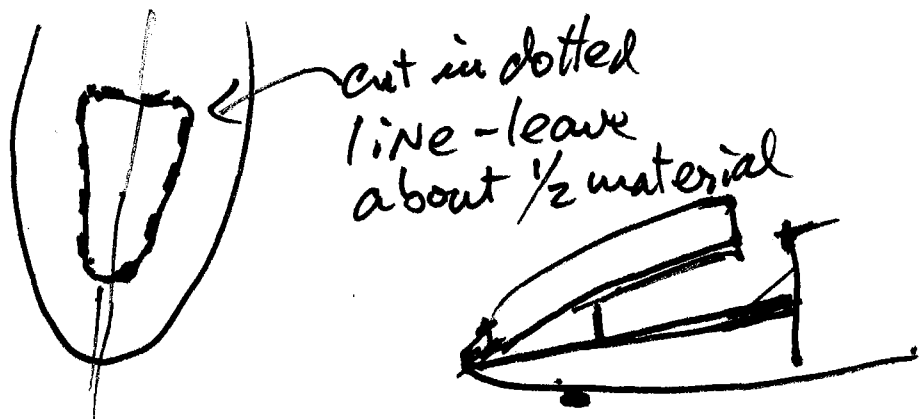
7. Carve the top freehand or using the top template (female template #4) and also keep the notes you have cut off the template to show the profile of the interior of the top of the nose and nose door. Now, the NG31 will either be cut off inside your door or you must make provisions to leave it intact, which I prefer. I suggested you lay silver tape over the top of the NG31 down each side so it does not attach to the nose top when you later cut it off and play with it.



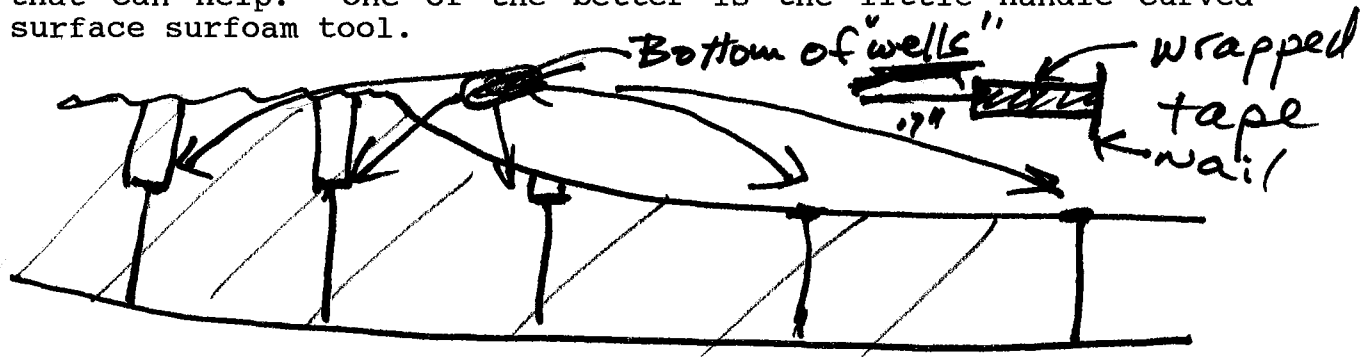
8. Lay up the number of plies of Bid as an outer skin you think B. Rutan would approve, based on weight and strength considerations. (Maybe 3 plies where you like to rub the nose on the ground.) If you must replace the nose stop, try to avoid the innovations rumored to be good (like roller skate wheels or teflon (which provide no braking assistance when you dump the nose, and possible create poison gas) steel plates which transmit the dumping shock right into the structure you have connect to, like the nose gear hinge).



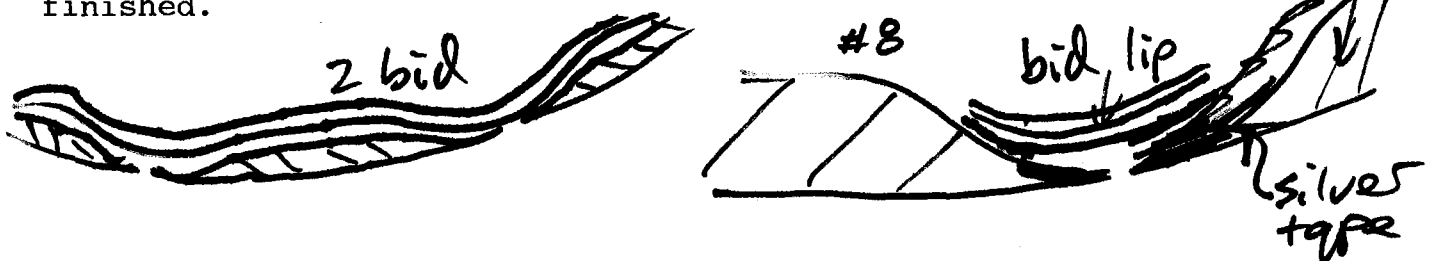
9. Now, lay the template for the nose door on the top of the new nose (template #5). Then cut around the line providing a partial cut line, leaving about 25% of the line uncut, just like a dashed line. Then, having created such a beautiful nose, you cut off the whole top (not just cut open the door) like taking the top off a boiled egg. Try not to destroy the mating surfaces or the NG31 surfaces through the next steps.



10. Now, you need to hog out all the extra foam and leave about .7" of blue foam around the entire skin. One way is to create a collared nail, put about 1/4" of tape around a nail leaving the point and .7" of bare nail sticking out. Fill the area up the shaft of the flat head so that the collar does not move as you push it into the blue foam (sketch #6), you can push the nail in until you feel it touch the outer skin. This creates a set of wells in the blue foam to serve as a depth gauge for cutting back the blue foam. You trim back the blue foam on both the nose top and bottom to about .7". We find that there are all kinds of tools that can help. One of the better is the little handle curved surface surfoam tool.



11. Now, push some longer nails straight through the foam from the nose door partial cut line and mark out the inside of the door on the inside foam. Next sand down and taper the blue foam back from that line leaving bare glass about .7" back from each side of that partial cut line (both door and nose sides of the line). Make provisions for the NG31 to fit, my preference is to leave the NG31 nearly full height, and notch the door to go over it (sketch #9). This provides the best mating by canopy seal to avoid battery gasses venting into the cabin. Then lay up two plies of bid on the back of the entire door and nose top (sketch #7). Do not lay up the nose bottom yet, instead wait until the door is finished.



12. When the epoxy is dry, renew the nose door cut line so that there is only about 1/4 of the line still attached. Then carefully lay up silver tape on the door side of the cut line and lay up an interior 3 ply bid lip (sketch #8) on the nose top.

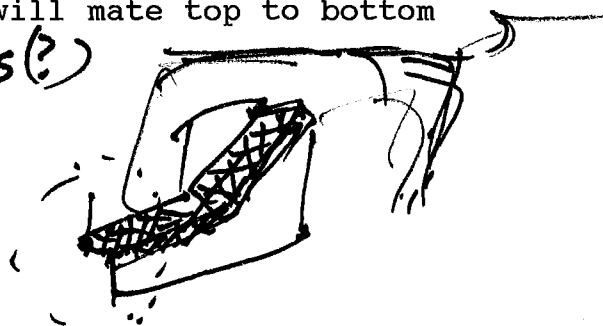


13. When the lip is dry, cut the door loose carefully avoiding the lip and pop the nose top into position and check to see the way the battery slides in ahead of the NG31. This may need some notching of the lip. Then check the fit of the battery in the bottom of the nose ahead of the NG31. This may take some special cutting to form a tray, bottom vent and battery strap.



14. While you are there, you can lay up the new interior of the nose with 2 ply of bid, laying onto the fuselage bottom, onto NG30, NG31 and particularly the reinforcement tabs to the front of the F22 which you removed in step 1. Then create a new nose gear cover which will now go all the way to the NG31. Put in the nose brakes, possible nose light, wiring, some bungee tie downs behind the NG31 for front luggage etc. You may want to paint, if you like to do that, but leave the area where you will mate top to bottom clean.

Rig Rudders/Brakemasters(?)



15. Now cut out two aluminum hinges using template (template #10). Then play with it until you are comfortable with where it will fit. Then build a pair of angle aluminums for the nose and bid tabs for the door end using 4 ply bid tabs with two nuts and bolts each (sketch #11) which makes the door removable. See how the hinge and door are arranged inside the nose top (sketch #12) with the battery in place. Then figure out your own door top latch (sketch #13).

