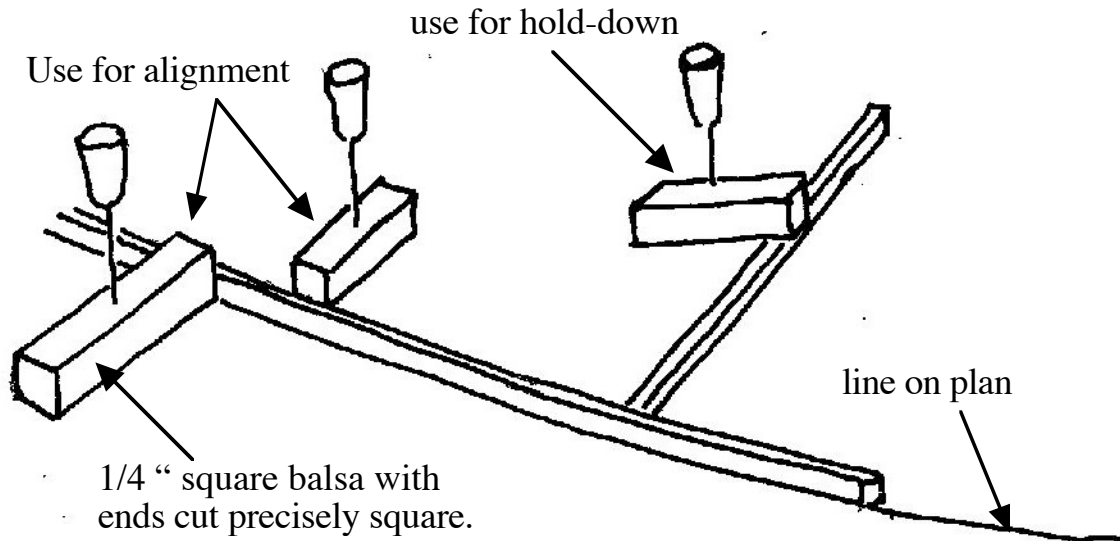


## Tom Ersted's Model Building Tips 2008

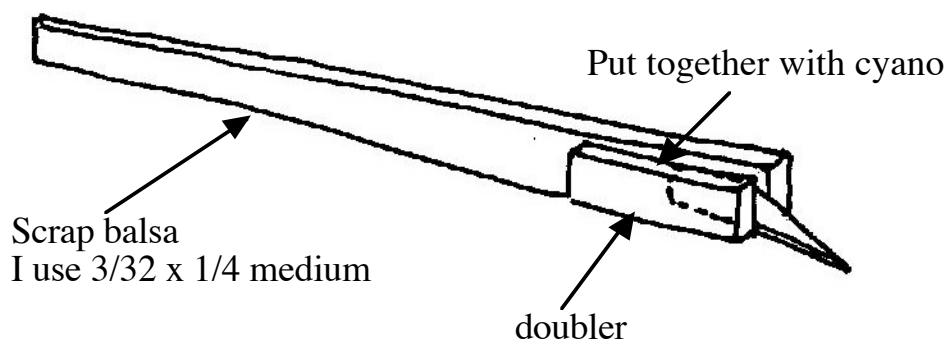
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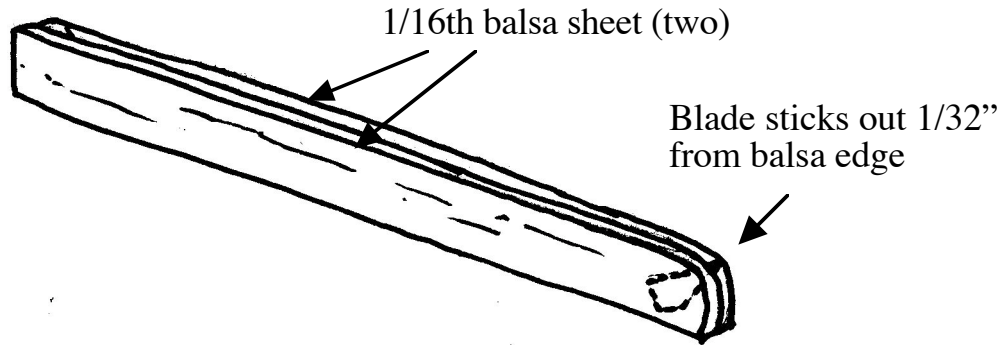


**Tip #1-- Use short blocks as above** to build all outlines, fuse sides, wings, tail. Fuse sides can be built one on top of the other using strips of wax paper to separate sides without moving blocks from first side. Sides will be perfectly the same. Suggestion- make end cuts in a mini-miter box.

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**Tip #2-- Make small knives (below)** using broken Double Edge Steel razor blades. Get old style blades (not stainless), as available from Peck Polymers. These blades are much thinner and cut cross-grain on soft balsa much better than scalpels.





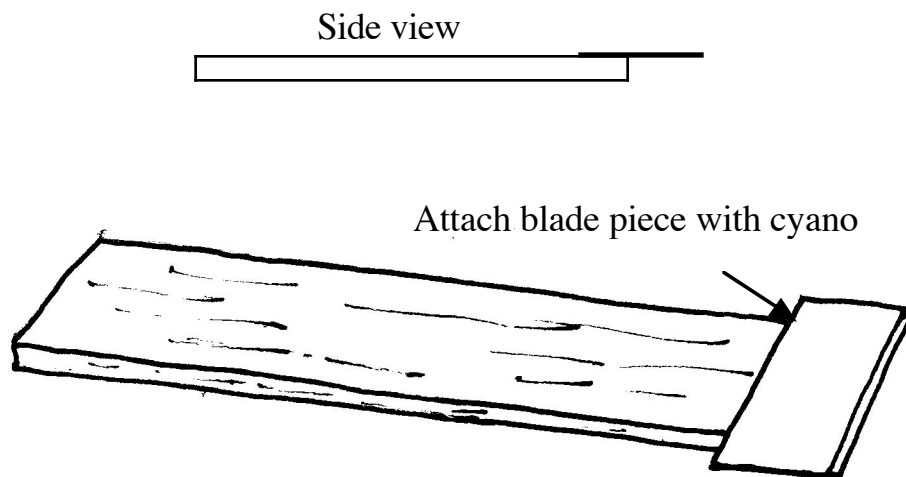
**Tip # 3-- Tissue trim tool, as above,** you make from those old-time (steel) Double Edge Razor Blades (others of stainless won't snap to perfectly sharp point).

This makes a 1/16'' trim tool but by using other thickness's of balsa you can make other sizes. Use to trim tissue around edges so you can get a uniform overlap of top and bottom coverings.

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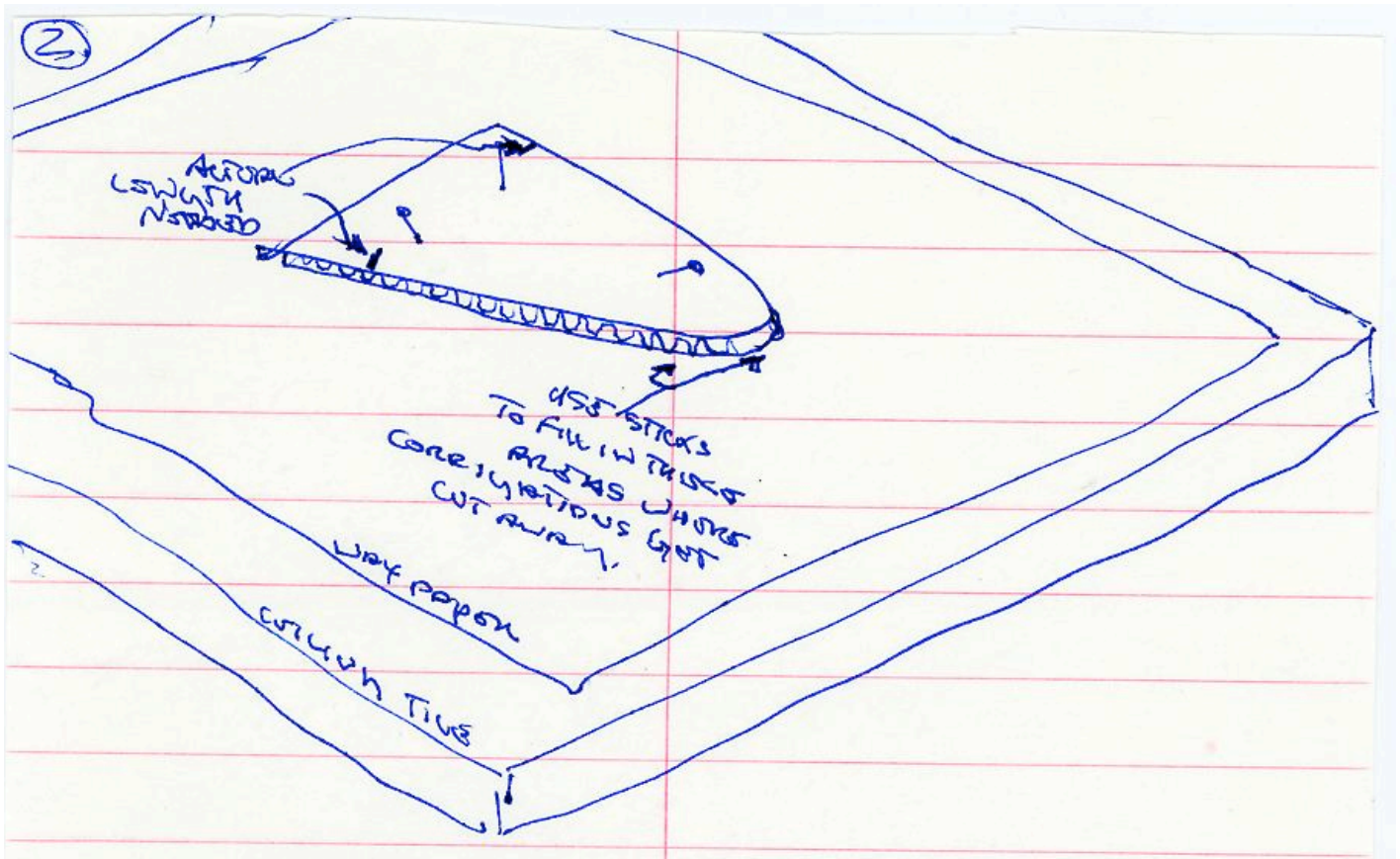
**Tip # 4-- Cutting tool, below.** Also use those old style carbon steel razor blades to make some straight cutters with different widths for cutting the vertical pieces for fuselage sides. I use one with 3/16'' to 1/4'' wide blade to frame up 1/16 Sq or 1/20 Sq peanut fuses. Also makes it super simple to accurately cut the infill pieces for nose and around rear rubber peg. These will require a larger width cutter though and I usually just use the marks I make with this tool to run one of the small homemade knives in the actual cut.

Note that these cutting tools make it much easier to get nice square cuts on ends than when using an X-acto or single edge blade. The larger flat surface helps judge the squareness of the cut.

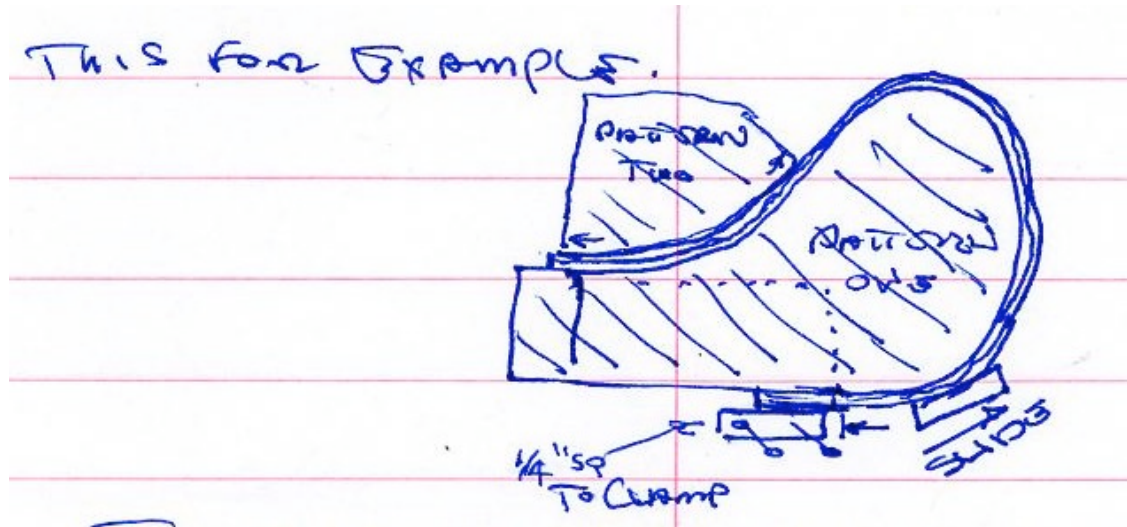


### Tips # 5-- Laminated Outlines

A couple of things I have learned about making laminated outlines. Never use ammonia in the water, basswood doesn't need it and balsa doesn't have enough lignin in it to soften. [Ed note: also seems ammonia can cause problems with Titebond glue not setting]. I just put the wood strips in tap water in a Tupperware container and leave it for a couple of hours or overnight and it works perfect. [Ed note: I use a long section of plastic pipe plugged at the bottom]. Second, don't thin the glue too much or it will give you a weak lamination. For patterns I use corrugated cardboard and fill the cross grain that need it with 1/16th or 3/32 sq balsa strips-(and/or a little filler). I save almost all the little pieces of scrap balsa and regularly build whole airframes from it, especially peanuts, embryos, NoCals. It's hard to find good wood so conserve what you've got and use every bit of it. For a surface to do this on, I use a square of ceiling tile. The kind without all the little holes in it. Put a square of wax paper down and pin your pattern on top of that. **See drawing below:**



I always mark the pattern where the ends of the part I'm making fall and make the pattern a little longer on both ends. This insures the pieces you make 1.) are long enough and 2.) are a constant cross section all the way around from end to end after they are cut off. Use an old wax candle (not the new waxless ones) and rub the edges of the pattern down well. **Now**, measure around the pattern to find out how far off your eyeball really is. Don't forget to add those little bit longer parts to the total. Now cut your pieces and put them away to soak. This seems a good place to explain about concave parts or areas of a part that are concaved. Take a vert:stabilizer/ rudder like this for example:

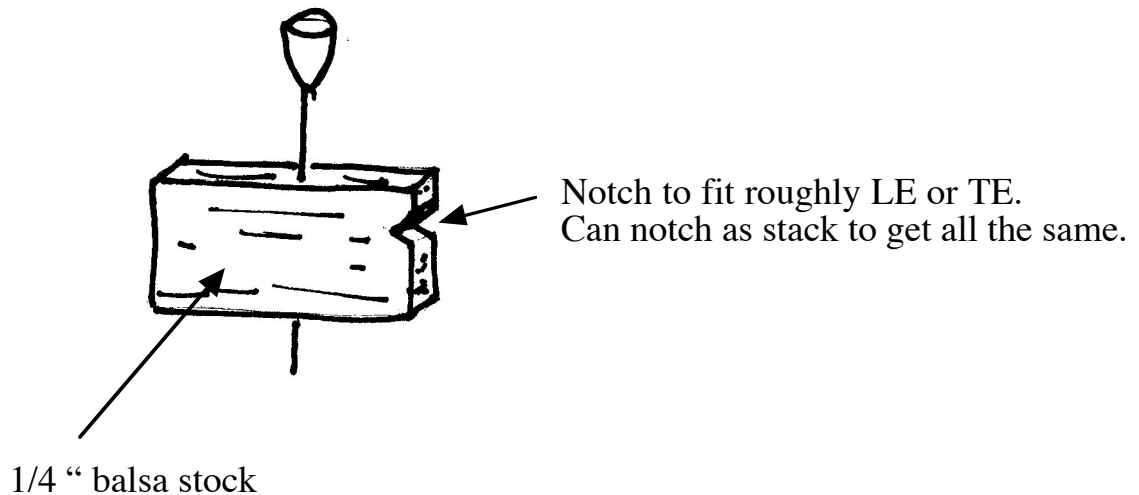


This part could be made with two convex parts and then joined but this defeats the whole beauty of this system to say nothing of the compromise in strength. What I do is make a normal inside pattern and a smaller one for the upper front. Use the smaller one to hold the laminations into the concave area and insert it last in the forming process.

When I am all ready to go, I use a toothpick to put the glue on the wiped down sticks and stack them together into one piece. Wipe excess glue off and use one of my 1/4 in sq pieces to clamp the bundle against the form. I take another 1/4" sq block and start right next to the one holding my pieces against the form and SLIDE it around the pattern with the pieces inbetween, keeping pressure but not too much that the formed pieces are pulled out of the the clamp. This sliding process is what makes the process a sure thing for me. The only other thing you must watch is that the formed pieces stay down on the covered tile/wax paper surface. They can get away from you and that may not be obvious until you try to use them. Finally, pin the sliding block in place at the other end of the piece and you are done. Don't mess with it for at least a few hours, overnight is best. Carefully remove pieces from the form. Clamping block and sliding block may stick to the piece but just cut away any sticks and you have it done.

**Tip # 6- Blocks to Hold framing surfaces like wings, stab, rudder, while curing the dope/paint.**

Blocks as shown **below**, to hold framing surfaces in alignment while curing. Use blocks to suspend part off board for air access for curing. Can make so washout is incorporated in blocks or shim blocks for washout. Need ones for leading edge, Trailing edge, (and TE Washout). I allow surfaces to cure 2 weeks for good cure while pinned (with blocks) to flat surface.



**Tom Ersted, July 2008**

(edited by Stu Cummins).

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