

NEGLECTED AREAS IN SCALE MODELING

by Bill Henn

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Becoming a successful scale model competitor is just like succeeding in any other activity. One must apply himself totally and try to learn everything about the hobby. Here are a few often neglected areas that you must attend to thoroughly in order to put yourself in the middle of all the action at FAC meets.

Weight control by using the right balsa density

Wing loading is probably the most important aspect of building a winning rubber scale model. Modelers must learn to use just enough wood of the proper density in the right places. Just about all the wood used in my models is 6# balsa with the only exception being with wing spars and fuselage longerons. If such light balsa is distributed in strategic locations in the model, it will be adequately strong for even windy conditions. Since good, reasonably priced strip wood is almost impossible to find, the only alternative is to strip your own wood.

There is no need to use "C" grain balsa on our relatively small scale models so sheets of "A" grain can be used. A good wood stripper is essential. Several good ones are being sold here in the US. Get yourself a good one (yes, they are expensive) if you're serious about building light airplanes. Don't waste your money on the cheaper units because you'll never be happy with them. When buying balsa look for sheets with uniform grain patterns and no spots or blotches. Sheets that are 1/16" thick or thinner can be held up to a strong light source to check that the density is uniform throughout the entire sheet.

Care must also be used not to over-dope the model. The "apply two coats of dope" advice given in many construction articles requires clarification. Holding the spray gun close to the model will drown it in dope and add a lot of unnecessary weight. Holding the nozzle further away and simply "dusting" on a few coat of dope (or Krylon) is all that is needed to seal the tissue.

Proper choice of stab airfoils

Of course there is more to being successful at FAC contests than just building models with good wing loading. Another thing that's not given much attention to by many scale modelers is stabilizer cross section. In my opinion, it very often makes the difference between winning and being an also ran. It is incredible in my mind that the overwhelming majority of scale flyers in the US still use flat stabs. All my models, even Peanuts, are equipped with flat-bottom cambered airfoils which have many advantages. Such stabs will increase the tail volume thereby enabling the CG to be set further rearward. Models with the CG way forward are at a disadvantage because they require more incidence in the wing which will create more drag and increase chances of looping during the power burst.

Launching correctly

Finally, little has been written regarding the great importance of correctly launching your model, especially in the mass launch events. Many models crash directly after leaving the modeler's hand because they are thrown in the wrong direction to the wind or at the wrong angle to the ground. The latter problem is often caused by the model rotating in the launcher's hand at the moment of release. This is usually because the model is held behind the CG. If the model is held ahead of the CG, this is much less likely to occur.

(Tailspin Editor's Note: This article was adapted from a much longer piece in Bill's new 76 page, soft cover book *The Art of Bill Henn*. It can be ordered from *Free Flight Quarterly* magazine, 37 Windsor Street, Kingston Beach 7050, TAS Australia. Cost is \$20 US, and this includes postage. Believe me when I say that it is a bargain at that price because it is jam packed with photos and plans of all of Bill's models and expert advice on how to build and fly them.)

(PFFT Editor's Note: For many years, Bill Henn was a dedicated SAM flyer. He took those skills and is now one of the best scale flyers in FAC)