

ADVENTURE NEWSLETTER #8
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Tullahoma 1980 saw the Adventure prototype inattendance for the second year and a grand time was had by all. The flyby pattern was enjoyable as it usually is, watching most everybody else eat dust! With the exception of a few veteran formula racing airplanes, we haven't met anyone in the flybys that can even stay close to us in speed that doesn't have at least twenty more horsepower than we do. It's amusing to think of those fellows spending \$3.50 per hour more than we do just to follow us around the pattern.

More Engine Woes The old timers will remember the great discourse in newsletter 2 and 3 on engines and how to avoid getting the shaft when buying one. Well, I should have listened to my own advice. My "bargain" engine has begun to turn yellow and smell of citrus. The latest failure was a broken crankshaft on the way home from Tullahoma in October. The failure occurred between #1 and #2 connecting rod journals and appears to be the result of a crack which originated in the radius of the #2 rod journal. This crank had been reground to .020 undersize as described in newsletter #3. The crankshaft failed in a manner which allowed me to continue the flight for about 15 minutes before making a normal but somewhat nervous landing. This failure was the final straw in a continuing series of problems that have plagued this engine since I first flew it. The experience is a classic example of a "bargain" being a bag of worms. The "Bargain" has now cost me more than a genuine "cadillac" engine that I elected not to buy because I thought it to be a bit overpriced. Oh, Well live and learn (expensively).

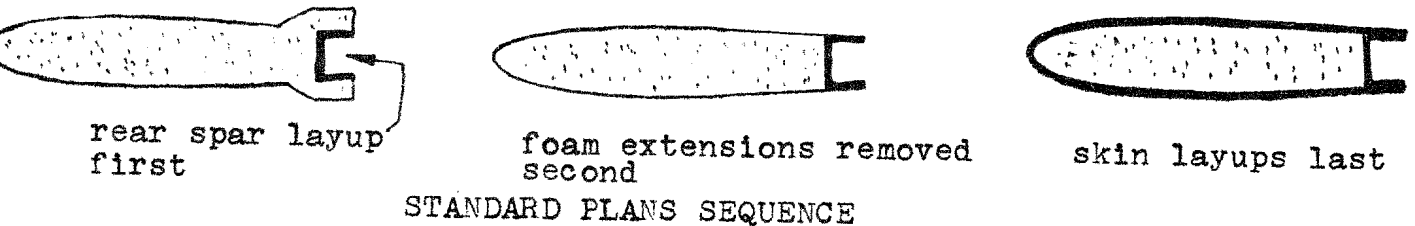
Cost Improvement A new 6 lb/cu ft foam has been located and tested which is more uniform in quality, has a higher heat tolerance, works more easily, and best of all cost much less than the red PVC form called out in the Adventure bill of materials. Aircraft Spruce and Specialty Company is now stocking the new material and will be shipping it in any Adventure kits after mid November. The new 6lb/cu ft white urethane foam is a direct replacement for all of the red PVC in the Adventure and is used in exactly the same fashion. The good news is that the new material is only about $\frac{1}{4}$ the price of the PVC and has allowed a reduction in the kit price of \$144.

Safety Epoxy Update In Newsletter #4 I gave a thumbs down report on the new low toxicity "Safe-T-Pox" resin system. The APCO troops have been busy and have brewed up an improved version of the material that I tested last winter. The current generation of "Safe-T-Pox" is judged to be satisfactory for building the Adventure. I'm still not enchanted with the smell, but that is a minor problem unless you are working in the kitchen. If you want to absolutely minimize your risk of resin sensitization, specify Safe-T-Pox when you order materials. Please note that the mix ratio for Sate-T-Pox is different from the 2426/2177 system.

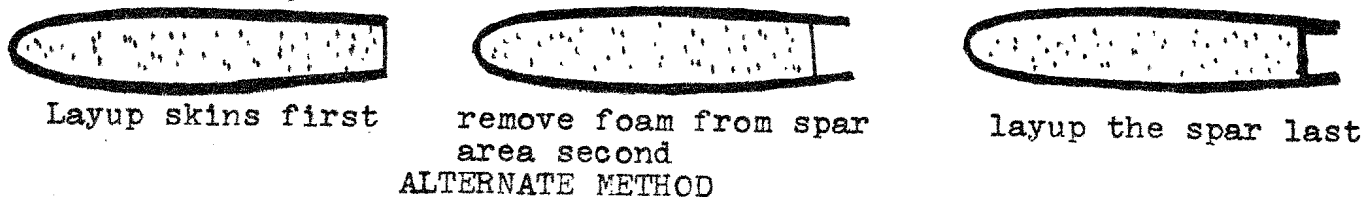
Lead Balance Weights If you are looking for a source of conveniently sized lead weights, you can buy wheel balance weights for Mag Wheels at your local auto parts store. These little jewels are strips of adhesive backed lead which is about 3/16 by 4 inches by 1/2 inch in dimension. Remove the adhesive backing and group these strips together as required. The price is kind of high but the convenience is considerable.

Horizontal Stabilizer - An Alternative Method

The Adventure plans show the horizontal stabilizer rear spar as the first layup in the sequence of construction. Refer to pages 49 thru 55 of the plans. The stabilizer hot wire templates (page A-1) are provided with extension tabs (that look like the stabilizing fins on a V-2 rocket) at the rear spar. The extensions leave enough foam around the rear spar cutout to support and shape the spar layup, after curing, the extensions are sanded off. The sketches below briefly depict the construction sequence:



The alternative method skins the stabilizer first, and adds the rear spar last. The alternate method reduces the potential for mismatching of the spar and exterior foam cuts. The alternate sequence is shown in the second set of sketches.



The alternate method will also allow deepening the rear spar locally (BL 4L to BL 4R) so you can retain the glass to glass bond of spar and skins rather than using the floc corners shown in section A-A of page 55. The glass on glass bond is superior to the floc joint. Smoothly deepen the spar from 1 inch to $1\frac{1}{2}$ inch between BL 4 and BL 2.5 left and right.

