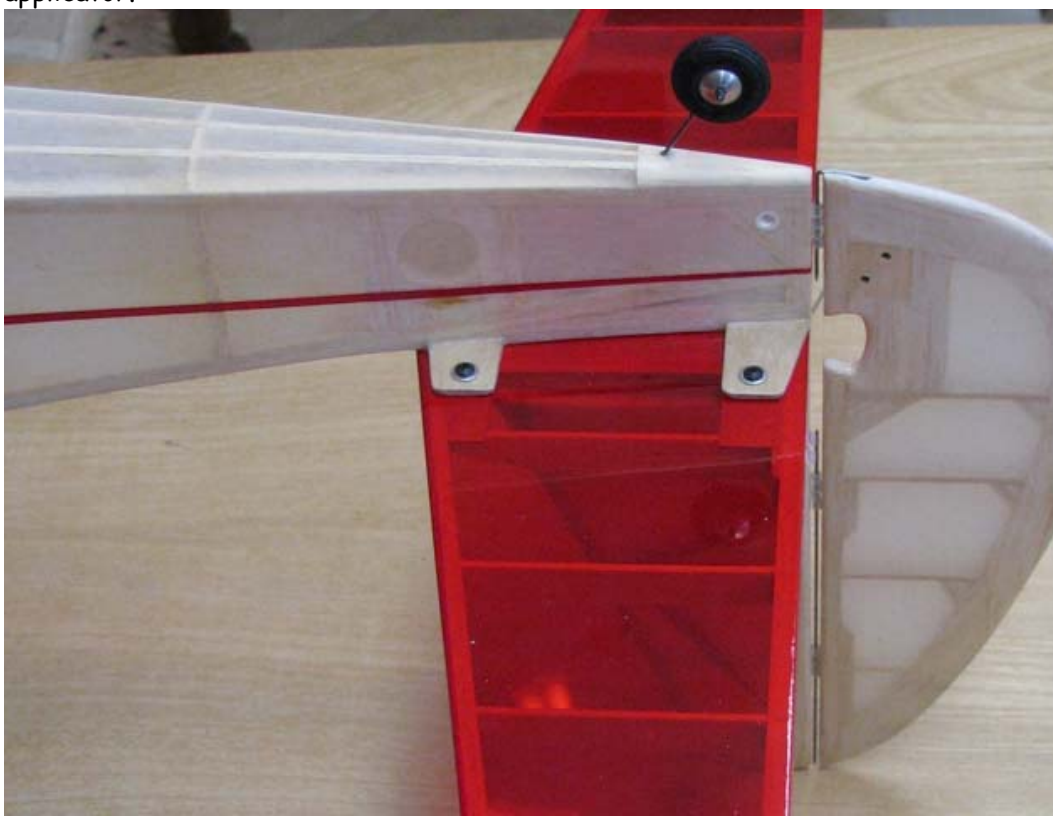
Dave Harding

From: Tandy C. Walker [tandyw@flash.net]
Sent: Thursday, March 25, 2010 11:53 PM
To: Undisclosed-Recipient: ;@smtp110.sbc.mail.mud.yahoo.com
Subject: 88 Speed 400 Cloudster - Tail Wheel, Rudder Hinges, and Windshield Material Test

Speed 400 Cloudster Project

The .032" tail skid wire was removed from the aluminum tube at the aft end of the fuselage. In Report No. 72, the tail wheel landing gear was bent up out of 0.032" piano wire for an aluminum hub 3/4" tail wheel. A slight zig-zag was put into the portion of the wire that slides up into the aluminum tube to make it fit snugly. The tail wheel wire was coated with thin CA and pushed down into the aluminum tube, being careful to make sure the tail wheel was straight with the center line of the fuselage as shown below. Additional thin CA was wicked down in between the wire and the tube using the sowing needle with the tip of the eye cut off as the applicator.



The fin and rudder hinge halves were also CA'd in place as you can see in the picture above. The procedure for doing this involves cutting the Polyspan/silk doped covering over the hinge slots and inserting the hinge halves into their slots. The fin was attached to stab and the stab was attached to the fuselage. The upper hinge wire was inserted in the two upper hinges and lower hinge wire was inserted into the lower hinge between the bottom of the rudder and the rear of the fuselage. The rudder was moved back and forth several time to realign the hinge halves with each other. Then the hinge wires were removed in order to permanently bond the hinge halves in their individual slots with CA as shown above.

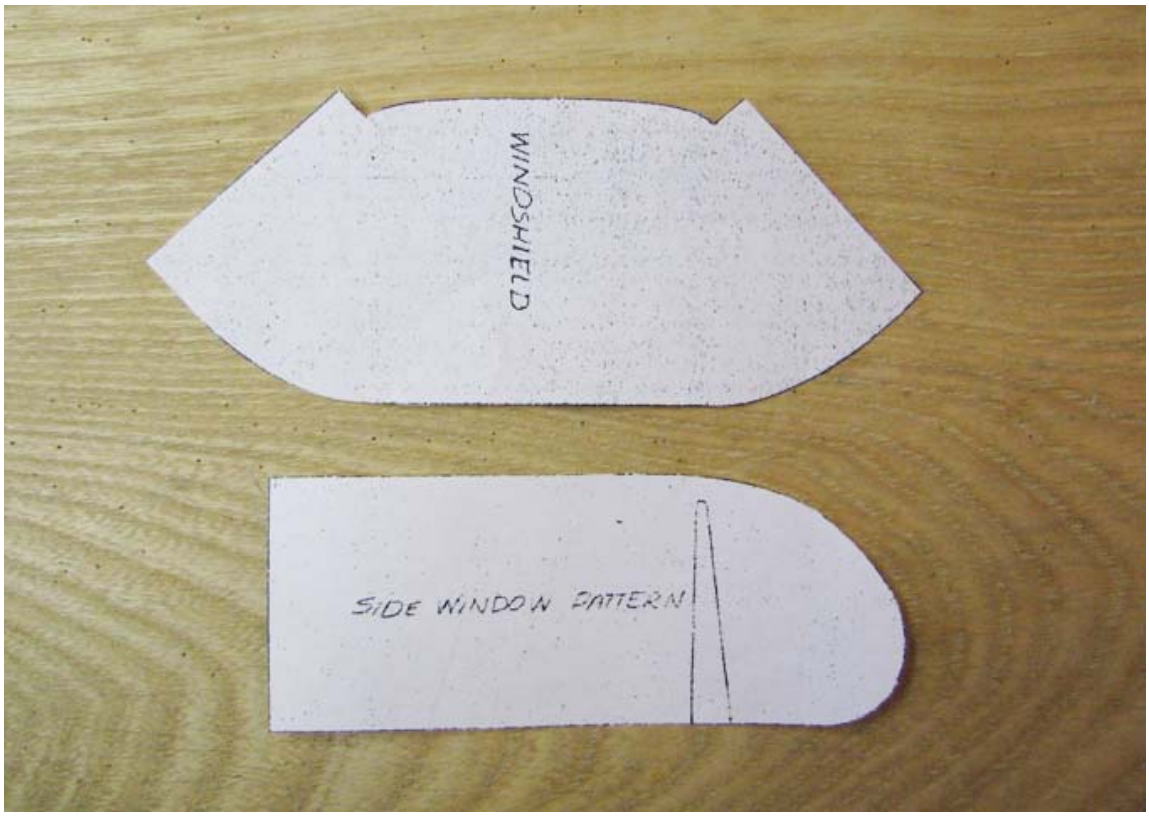
The Cloudster's "Lost" label was installed on the top of the fuselage just behind where the wing's trailing edge will be as shown below.

The Great Planes ballast lead weights I ordered from Tower Hobbies arrived in today's mail. The six ounce package comes in 12 individual 1/4 oz segments shown below with self sticking tape on the bottom. It looks like I am going to have to use three segments plus a part of one of the segments to get the Cloudster up to 16 ounces.

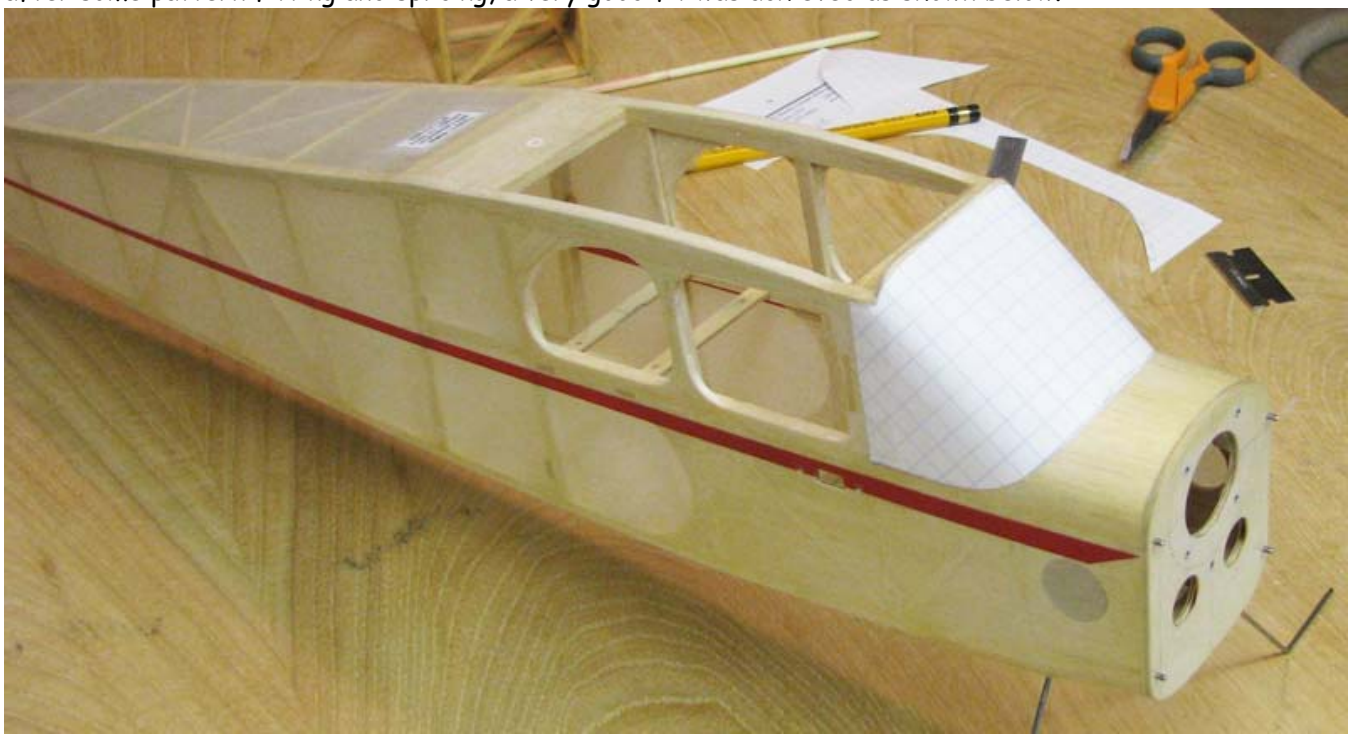
The four window openings were cut out on my Cloudster fuselage after lunch today, which is shown below. After a careful rim sanding, the openings are quite crisp and sharp!

From the right side, you can see that I also cut out the ECS switch opening and holes on the other side as well in the picture below. However, I had to cut into the red trim strip after all, which I was trying to avoid, but it could not be helped. Notice that I have not cut out the fore and air ventilation holes on the sides yet.

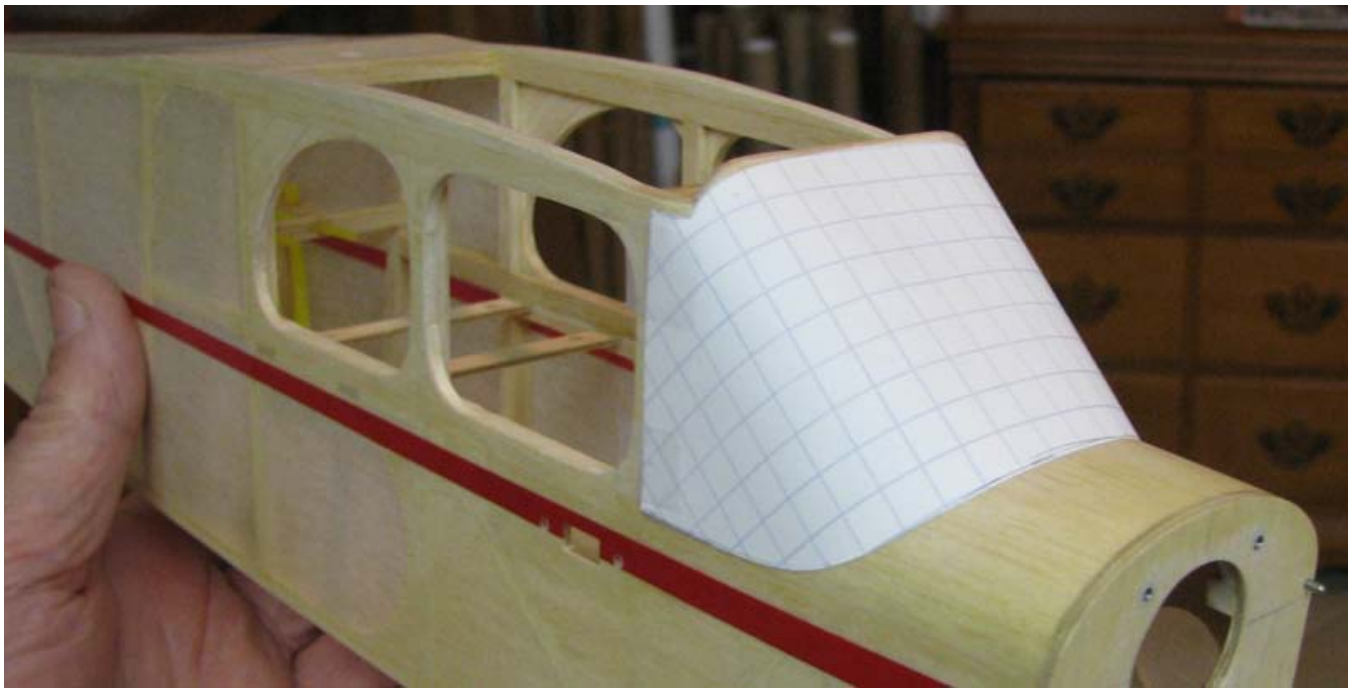
I cut the scaled down plan patterns for the windows and the windshield as shown below. They fit pretty closely, but some tailoring is required to get an acceptable fit to the fuselage framework.



The windshield pattern was traced onto a sheet of quadrille paper to preserve the original pattern. Then after some pattern fitting and splicing, a very good fit was achieved as shown below.



This picture shows a close up of the tailored windshield pattern taped in place for trial fit.



I saw the picture below of Albert Pardue's "Eugene III" rubber model with that beautiful windshield installation.

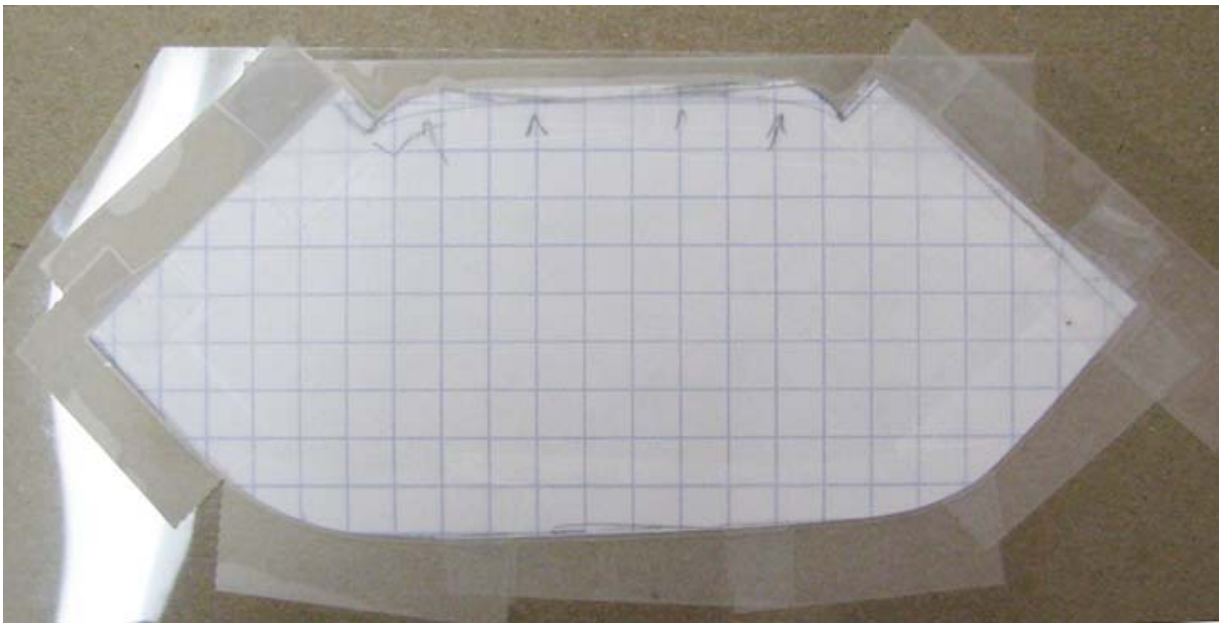
So I contacted Albert and he told me that he uses a material called DURA-LAR by Grafix for his windshields. It is very similar to mylar, but different. It comes in a 9" X 12" pad of 25 sheets as shown below. It is made in three thickness'; .003", .004", and .005". You can get it at your local Hobby Lobby Arts and Craft store and it cost $12.99 a pad, which is really only a little over fifty cents a sheet. As you can see, I bought the .005" thickness.

Albert uses Weldbond glue to install his windshields with. He said to try either Lowes or Home Depot, but neither one had the Weldbond glue. I finally found mine at one of our large privately owned hardware store here in Arlington for $2.99 a bottle.

Never having used either one of these products, I made a window mock-up this afternoon to use as a test

case for bonding DURA-LAR on with the new Weldbond glue as Albert recommended. As you can see in the picture below, the Weldbond glue dried completely clear and really has the DURA-LAR stuck down tight. I outlined the piece of DURA-LAR so you could see where it stops, otherwise, you couldn't tell.

I think these products are going to work well for me. Thank you Albert for sharing products with me. This evening, before I quit working, I taped the tailored windshield pattern down on a sheet of the DURA-LAR as shown below.



Tomorrow, I plan to cut out the DURA-LAR and tackle the installation of the windshield.....Tandy