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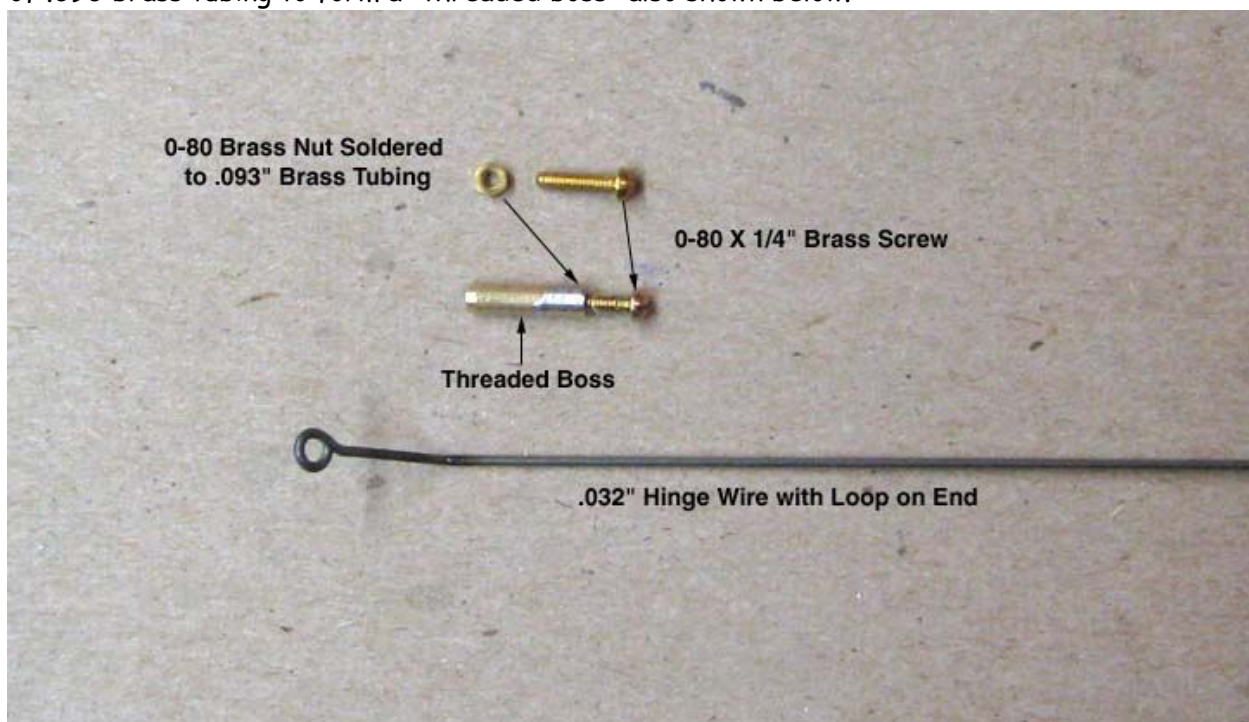
Date: 3/16/2009 10:26:48 PM

Subject: 58 (REVISED) Sailplane Completed Fin/Rudder

I decided to reinforce the rudder tiller's brass tube bearing at the base of the fin's trailing edge. So I took one additional picture to help illustrate what was done, which I have included herein. If you are saving these reports, please delete the No. 58 and replace it with this No. 58 (REVISED).....Tandy

Comet Sailplane Project

I decided to use my standard method for the hinge wire retainer on the fin/rudder, except that I used a smaller 0-80 screw for the first time (*I generally use a 2-56 screw*). First, I bent a small loop on the end of a piece of .032" piano wire with a very hole diameter that a 0-80 screw would just slip through. With a second bend, this formed the continuous hinge wire shown below. Next I soldered an 0-80 brass nut to a short length of .093" brass tubing to form a "threaded boss" also shown below.



I located the position of the hinge wire loop on the top edge of the fin and carefully hand drilled an .089" hole in the edge of the fin with a No. 43 drill bit. The inside of the hole was coated with epoxy as was the outside of the .093" brass tube and then the threaded boss was pushed into the hole in the edge of the fin and the excess epoxy was wiped off with alcohol as shown below.



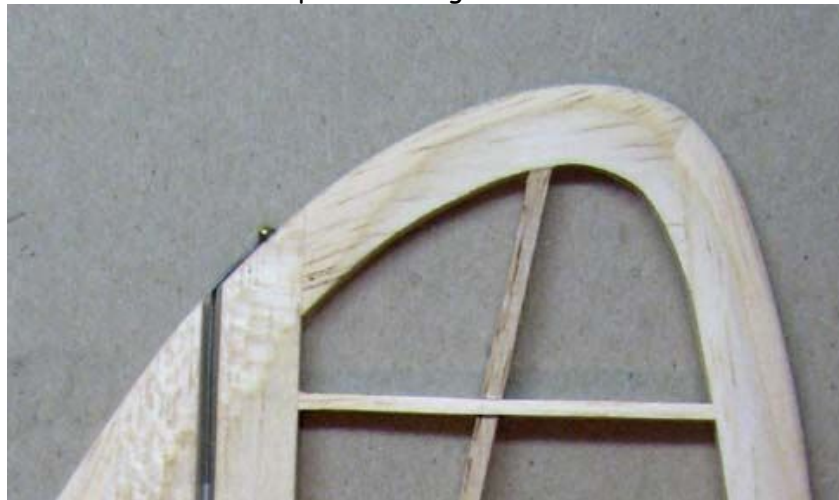
Once the epoxy had cured, the continuous hinge wire was inserted down through the hinge halves, which coupled the rudder to fin as shown below. The final step of course was to screw in the 0-80 X 1/4" brass screw onto the threaded boss to retain the hinge wire.



This picture shows the planform view of the vertical tail



This is a close up of the hinge wire retention screw.



I did one additional thing to reinforce the rudder tiller's brass tube bearing at the base of the fin's trailing edge. I glued in cross grain balsa fillets on either side of the brass tube as shown below.



This completes the vertical tail except for covering. I got to again put the project aside for several days and actually start our taxes this time, so there will be no more Sailplane construction reports for a while.....Tandy

