

Dave Harding

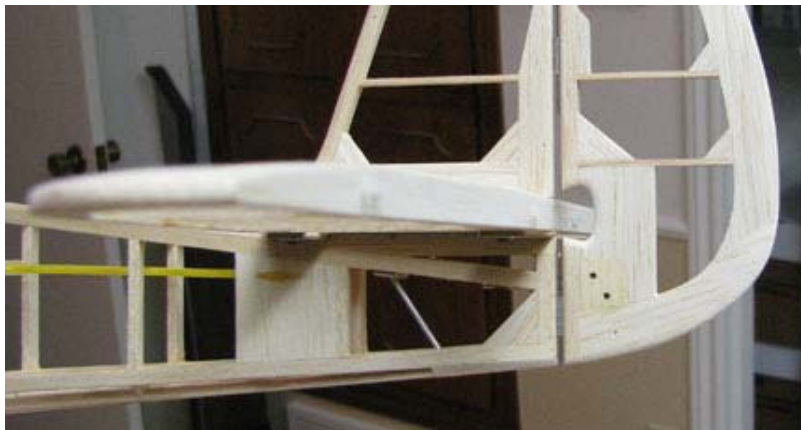
From: Tandy C. Walker [tandyw@flash.net]
Sent: Wednesday, February 24, 2010 12:43 AM
To: Undisclosed-Recipient: ;@smtp102.sbc.mail.mud.yahoo.com
Subject: 70 Speed 400 Cloudster - Trial Assembly for Weight and Balance Check

Speed 400 Cloudster Project

When I made and hinged the rudder back in Report No. 18, you probably do not remember that I left the bottom of the rudder structure extending below the bottom of the fuselage structure as shown below. This was done so that later the rudder could be faired into the bottom line of the fuselage after the bulkhead/stringer structure was added.



After the bulkhead/stringer structure was added to the bottom of the fuselage, the rudder was faired in as shown below.



To perform a preliminary weight and balance, the entire model was assembled

including the Speed 400 motor, cowl, prop, spinner, ESC Li-Po battery, 2.4 GHz receiver, both servos, push rods, and wheels. This is everything except the covering, trim, and decals. The assembled model was hung from the ceiling in the model room and the two pictures were taken for you to see.

Right Front View



Right View



Next the complete model was weighed on the AccuLab scales. The total weight was 389 grams as shown below. This is 13.72 ounces, which is 2.28 ounces under the SAM Speed 400 minimum weight of 16.00 ounces. Hopefully the model covering will weigh no more than 2.28 ounces.



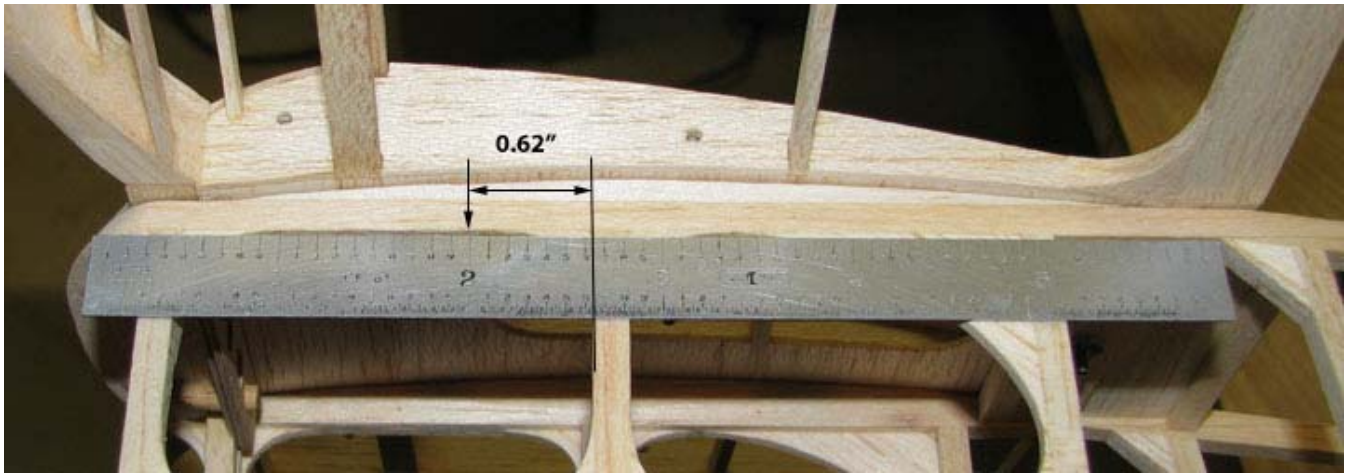
The model set up for checking the balance is shown below. Two one-gallon Randolph clear dope cans were placed on either side of the fuselage. A piece of 3/8" brass tubing was slid through the front window under the wing saddle and used to balance the model on.



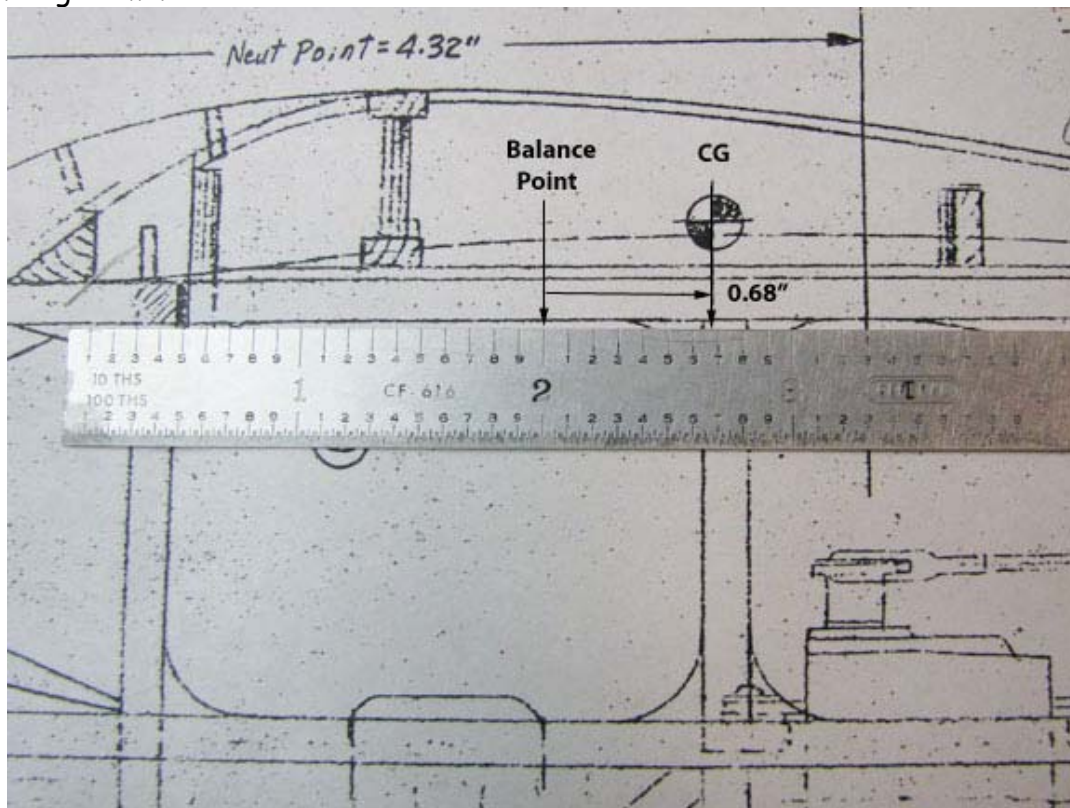
The balance point was marked as shown below.



This balance point lies 0.62" ahead of the front edge of the window frame as shown on the steel ruler below.



The balance point was then determined to be 0.68" ahead of the desired CG as shown on the plan below. The majority of the covering material will be behind this balance point and the covering material weight will move the balance in the direction of the desired CG. Just how close is unknown at this time. However, the results of this interim weight and balance check looks very promising to me.



I will stop work on the Cloudster in the morning as it is time to start doing our annual taxes. :O<
 "BARF" While I am not looking forward to doing the taxes, the break from the Clouster project will be good for me to get away for awhile. Then when I come back, I will be fresh to start the covering process.....Tandy

