

Dave Harding

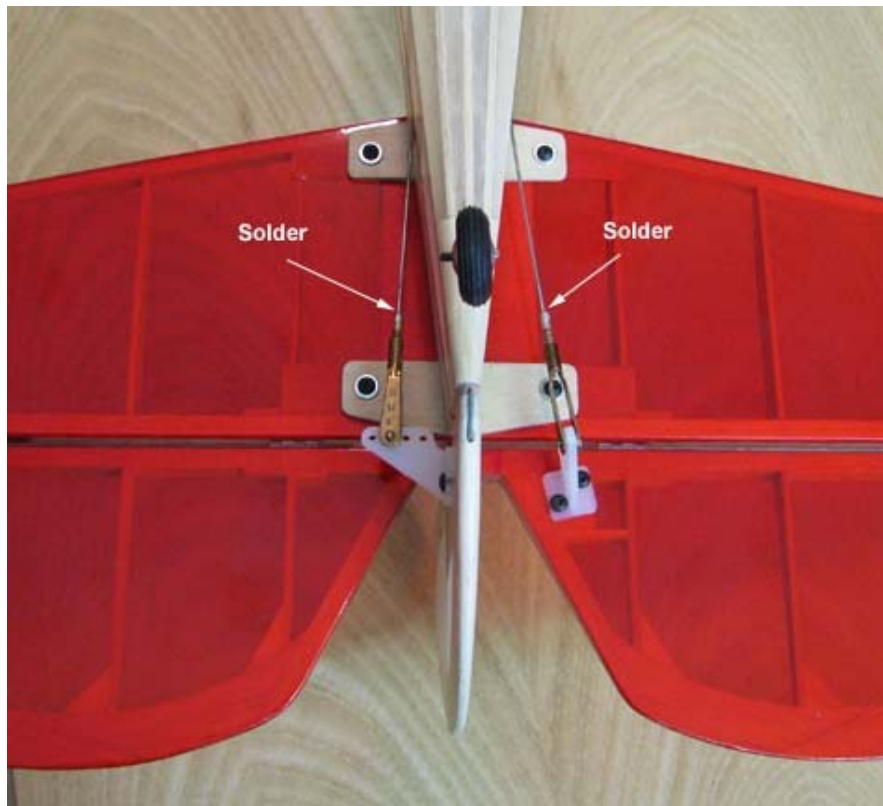
From: Tandy C. Walker [tandyw@flash.net]
Sent: Sunday, March 28, 2010 11:23 PM
To: Undisclosed-Recipient: ;@smtp109.sbc.mail.mud.yahoo.com
Subject: 92 Speed 400 Cloudster - Completion

Speed 400 Cloudster Project

This morning I had a few final details to finish up before performing the final weight and balance on the Cloudster. The first task involved gluing the wing's forward plywood hold down plate into the slot in the wing as shown below.



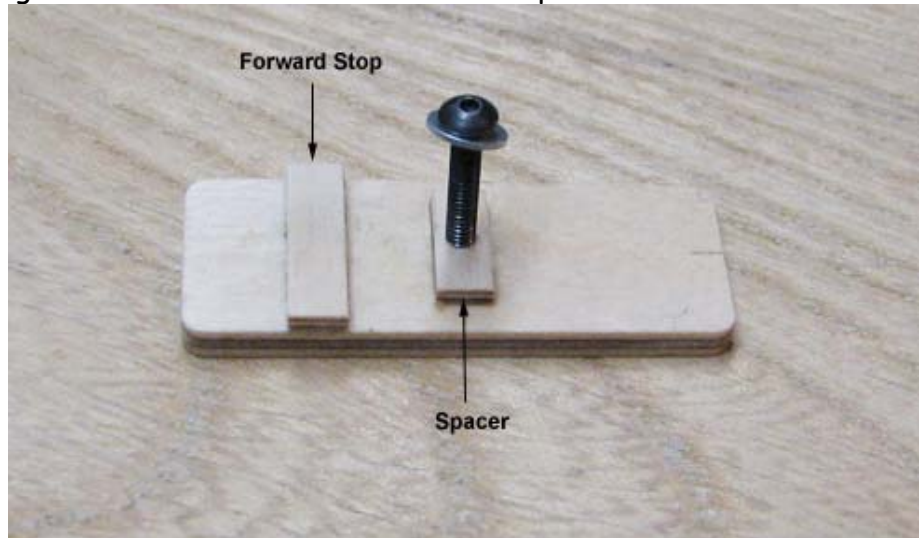
The rudder and elevator .032" piano wire push rods were inserted through the yellow sheath guides and threaded brass couplers were soldered onto the ends of the wires as shown below.



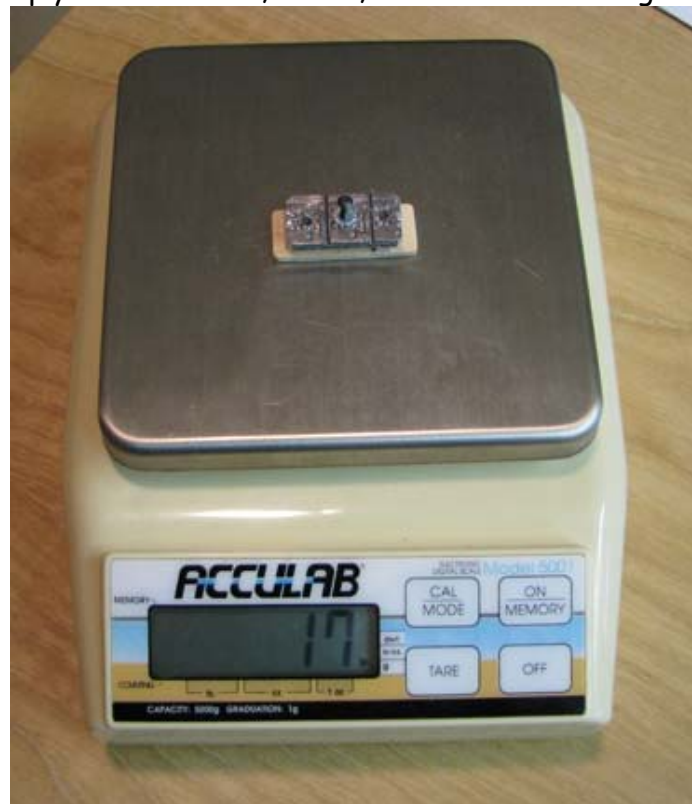
The model was completely assembled and placed on the AccuLab scales as shown below. The gross weight of the model was 437 grams (15.41 oz) as shown below. The balance point was still just slightly forward of the CG.



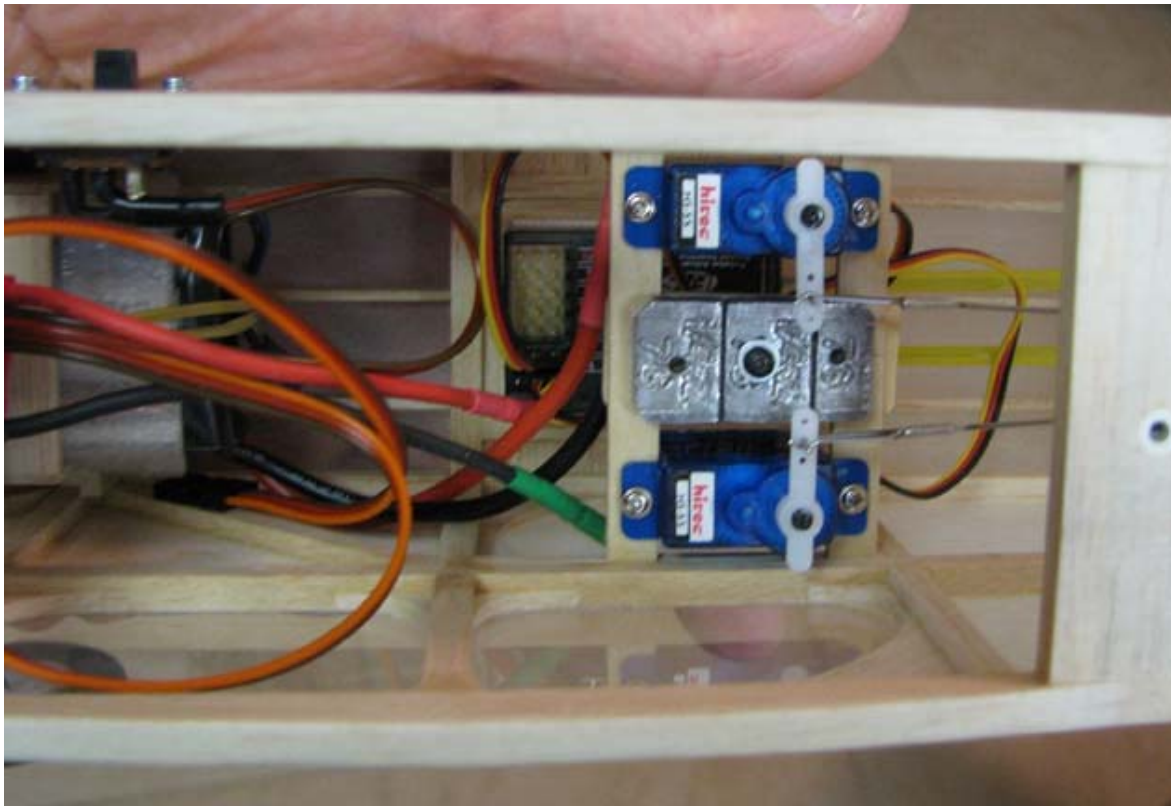
The minimum weight requirement for the SAM Speed 400 event is 16 ounces, which 453.60 grams. Therefore a ballast weight of $454-437 = 17$ grams must be added to the Cloudster. A retainer for the ballast weight shown below was made using a 3/32" plywood plate and a 2-56 cap screw and washer. This was designed to fit under the two 1/16" plywood servo rails and utilizes a stop against the forward rail and a center spacer.



Three 1/4 oz segments of the Great Planes ballast lead weights was trimmed and drilled so that the weight including the plywood retainer, screw, and washer was 17 grams as shown below.



The ballast weight assembly was carefully positioned on the two servo rails between the two servos and screwed down tight as shown below. The weight's aft position put the balance point right on the desired CG.

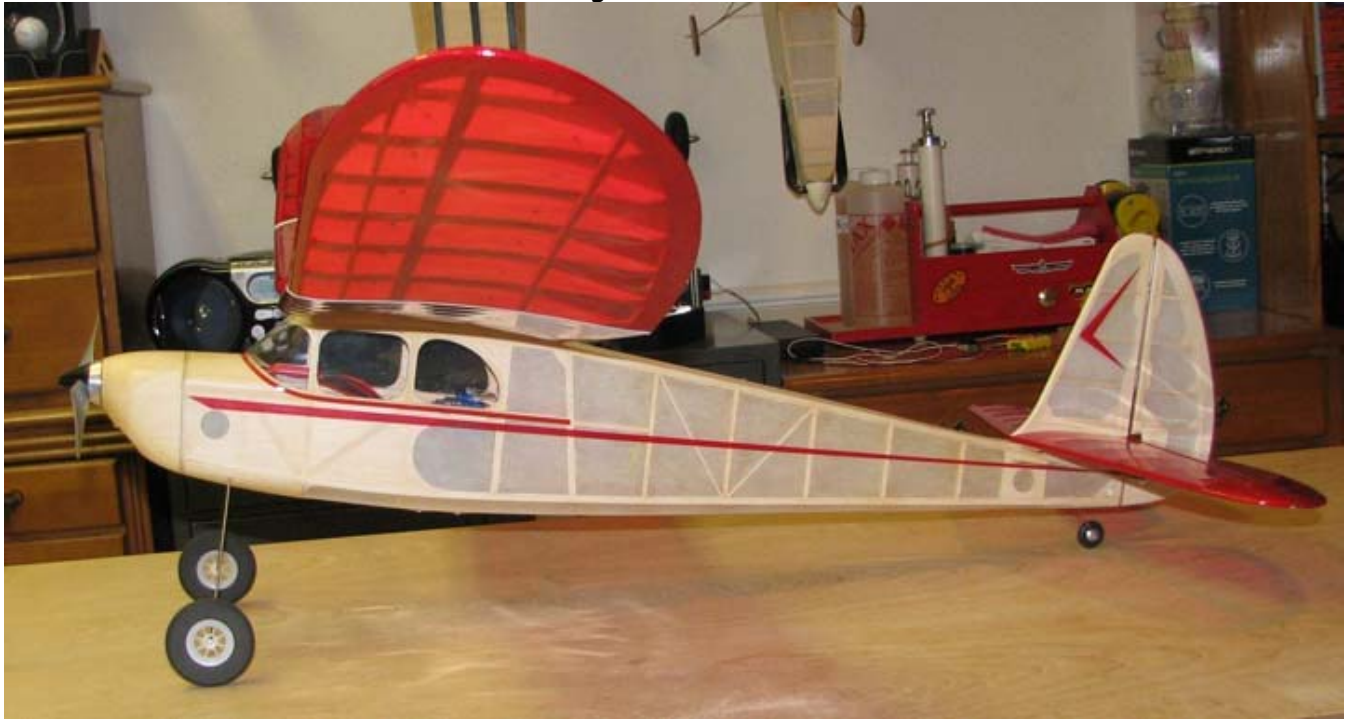


For confirmation, the finished model, including the ballast weight, was again weighed on the AccuLab scales as shown below. The Cloudster weighs exactly 454 grams (16.01 oz) and is perfectly balanced.



I took the final six pictures of the finished Cloudster for you to see below.

Right Side View



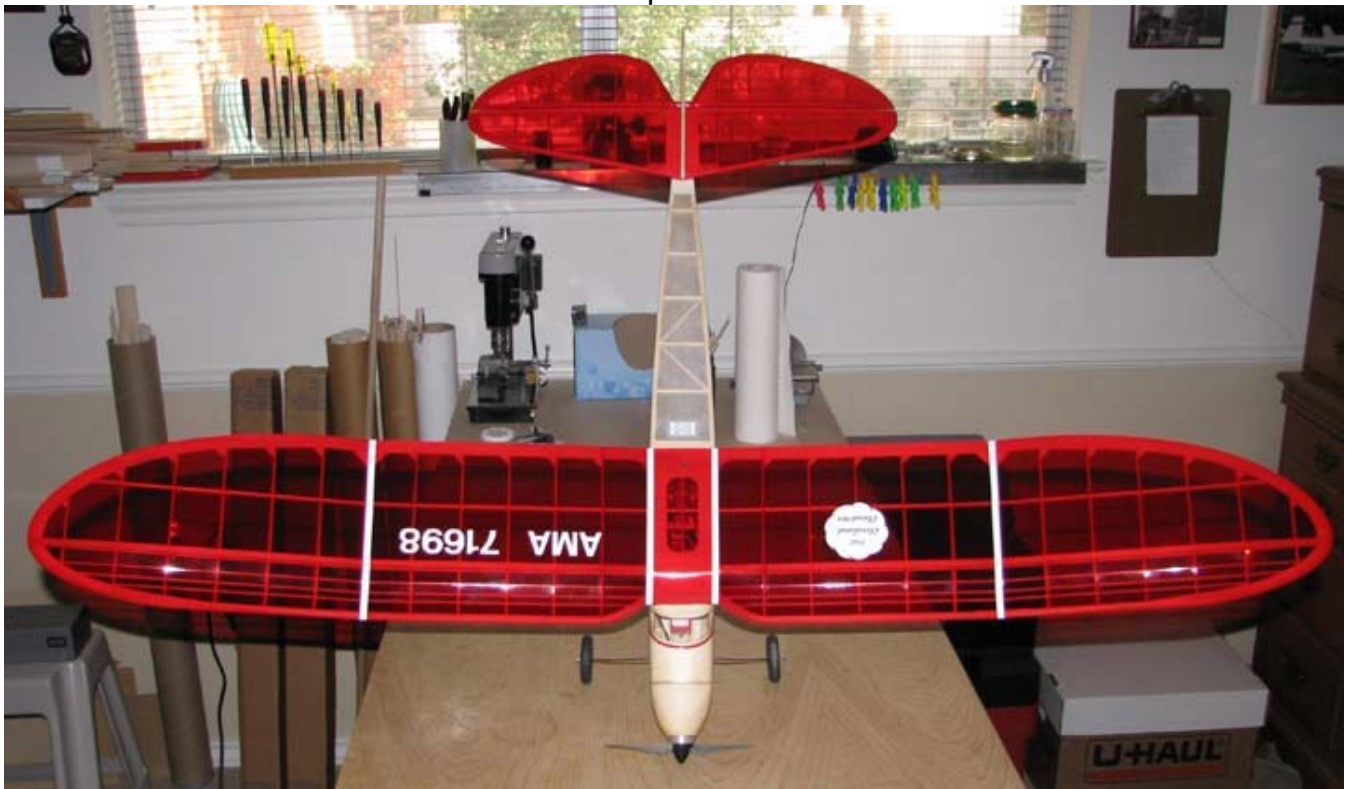
Left Top View



Right Frontal View



Top View



Left Rear View



Left Frontal View.



As this construction project draws to a close tonight, this is the 92nd and final Cloudster's construction report. I began this Speed 400 project on October 27, 2009, over five months ago and completed it this evening. I truly hope you have enjoyed my efforts on this project as much as I have sharing them with you. There will be one more follow up report later on in the spring after the weather gets good to present the results of the Cloudster's flight testing. So for now, good night and goodbye.....Tandy