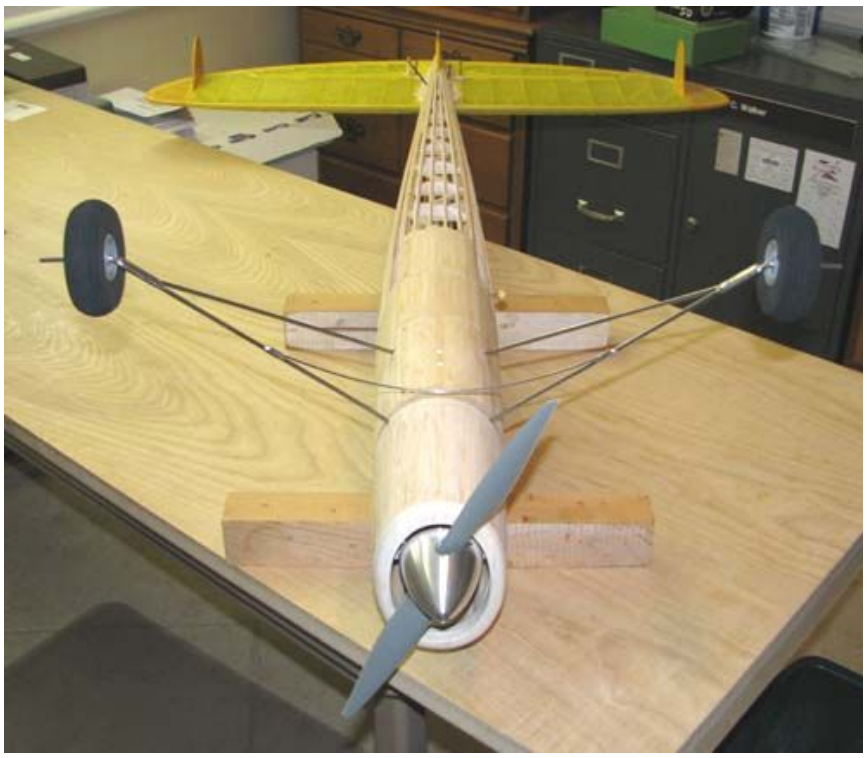
From:	"Tandy C. Walker" <tandyw@flash.net>
To:	Undisclosed-Recipient:
Date:	4/24/2009 4:09:06 PM
Subject:	85 Sailplane New Wing off Balance Point and Pylon Location Determination

Comet Sailplane Project

I spent the morning reinstalling the, servos, push rods, battery, receiver, switch, ignition unit, landing gear, engine, prop, spinner, cowl, and the complete covered and doped tail assembly along with the sub rudder as shown below.

This shows the top front view.

This shows the bottom front view.

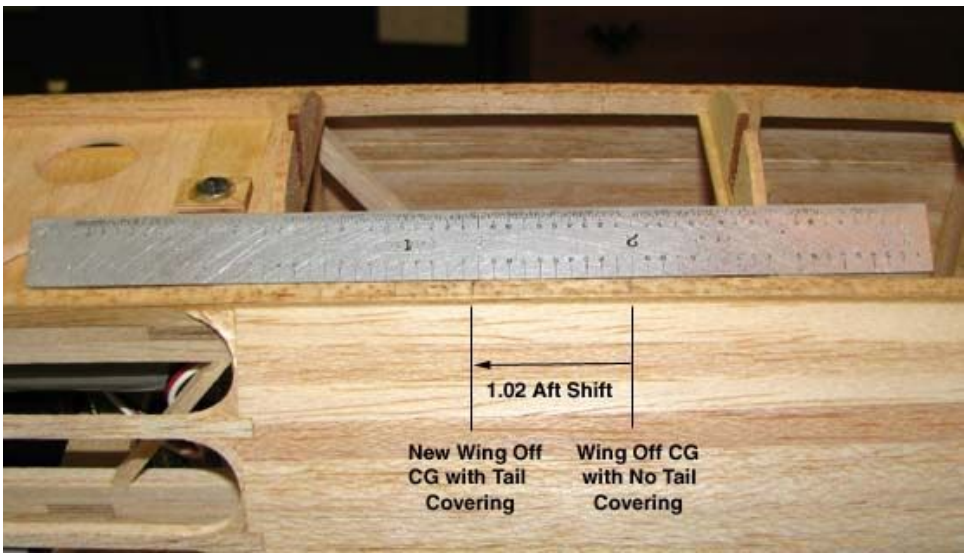


This shows a view of the bottom of the stab and the sub rudder (not yet glued in).

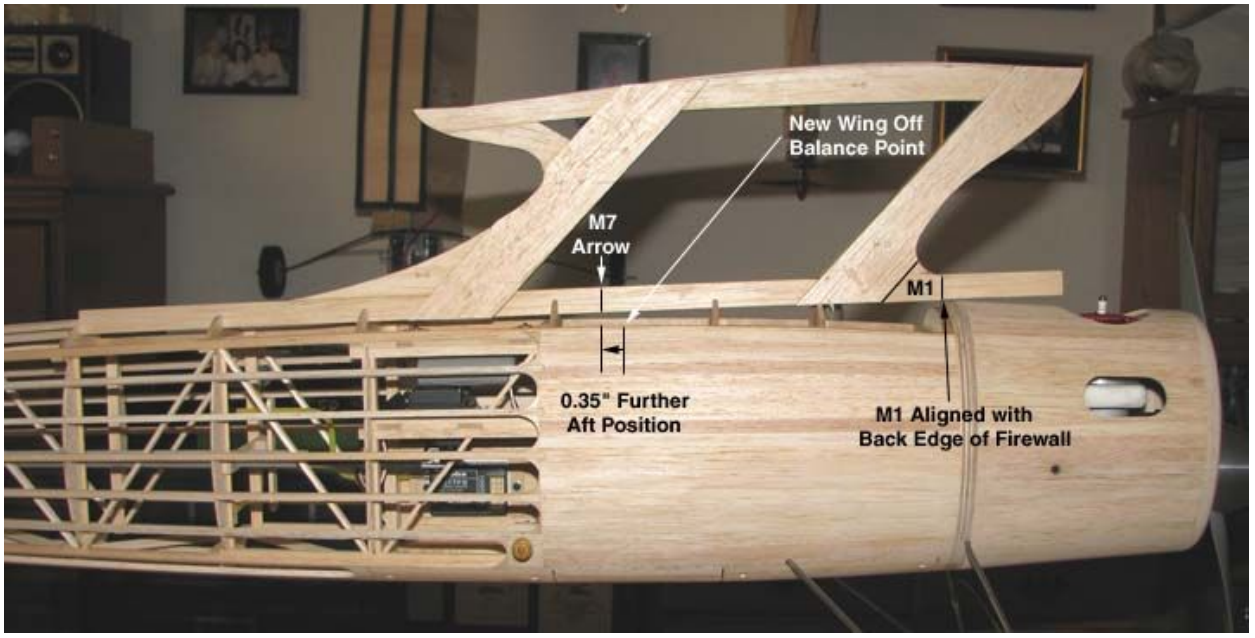
The picture below shows the sling made to determine the balance point of the model. A piece of 3/16" birch dowel was cut to length so that it would fit down inside and under the two 3/16" top longerons. A waxed cord doubled four times was attached to the dowel on either side and used as a bridle to pick the model up with. As you can see, the dowel can be slid fore and aft to locate the wing off balance point.

I asked Sue *(my wife)* to take this picture with me holding the sling that is freely suspending the model above the work table with the model in balance.

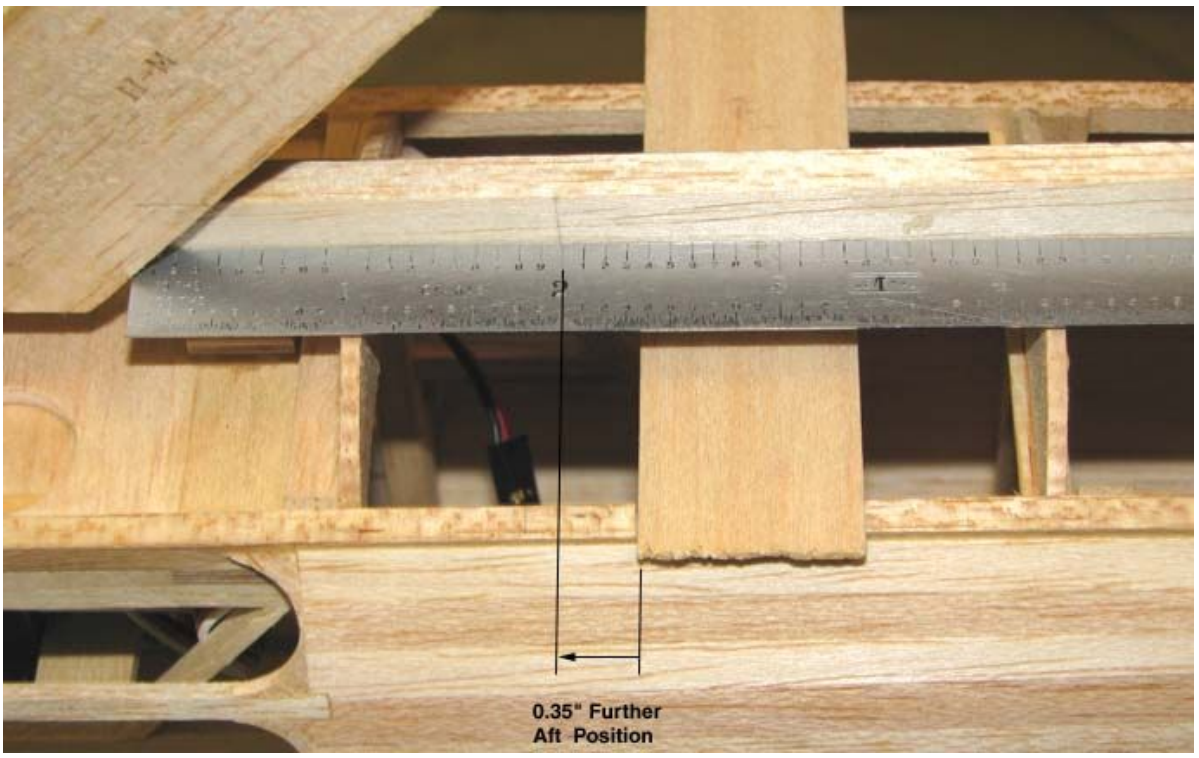
The picture below shows a 1.02" aft shift in the wing off balance point due to the additional covering and doping of the tail assembly.



If you recall from Report No. 45, the M1 doubler on the pylon frame was positioned at the rear face of bulkhead No. 1 (back edge of the firewall), which is the pylon's most forward on the fuselage without having to cut into M1 doubler as shown below. Now the fuselage's wing off balance point is only 0.35" forward of the rib M7 arrow location.



The M7's 0.35" aft position is shown with the scale below.



Rather than moving the pylon forward, I decided to leave it at the 0.35" aft position as a contingency or margin on not being tail heavy. After all I do not have the fuselage double covered and doped yet which will add some additional aft weight to the fuselage. The picture below shows where the location of the pylon is going to be on the fuselage.....Tandy