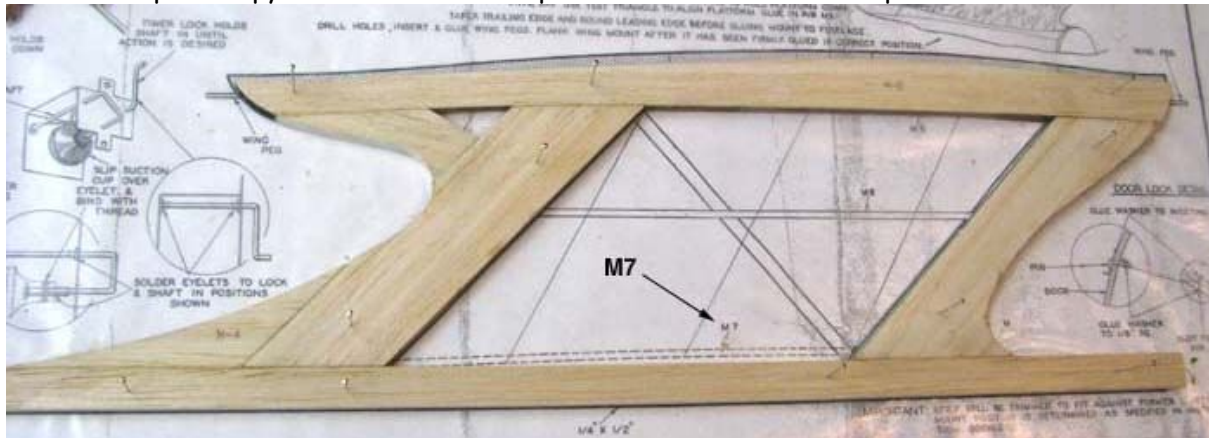


From: ["Tandy C. Walker" <tandyw@flash.net>](mailto:tandyw@flash.net)
 To: [Undisclosed-Recipient:](#)
 Date: 4/29/2009 9:28:49 AM
 Subject: 87 Sailplane Pylon Construction and Integration with the Fuselage

Comet Sailplane Project

The Sailplane's pylon core is framed up out of 3/16" sheet balsa pieces as shown below.



The fore and aft vertical members of the pylon core are overlaid on both sides with 3/16" doublers as shown below.



1/8" piano wire was used for the wing dowels as shown below. They were made removable by embedding pieces of 1/8" ID brass tubing into the ends of the pylon balsa core with epoxy.



This is a picture of the front brass tube epoxied into the pylon balsa core.



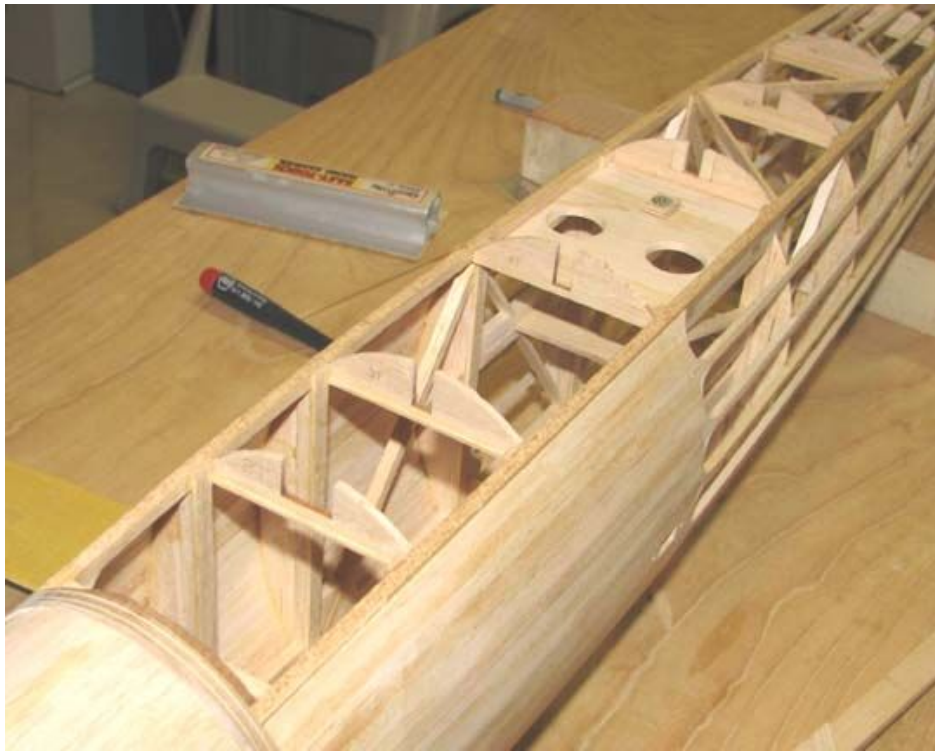
The 1/8" piano wire wing dowel is inserted into the brass tube as shown below.



This shows the center pylon rib and 3/16" square diagonal installed.



This picture shows the notches in the fuselage's five top bulkheads for the pylon frame.



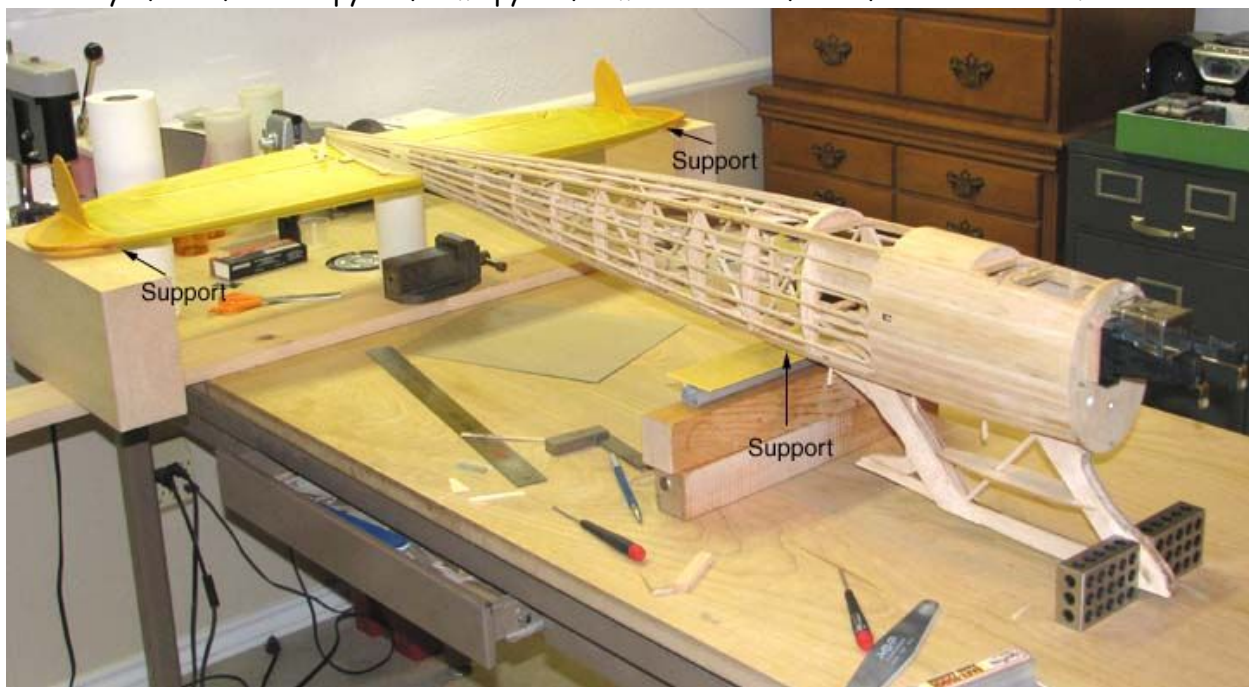
The lower pylon member was cut to length and the frame inserted into the fuselage bulkhead notches as shown below, but not glued in yet.



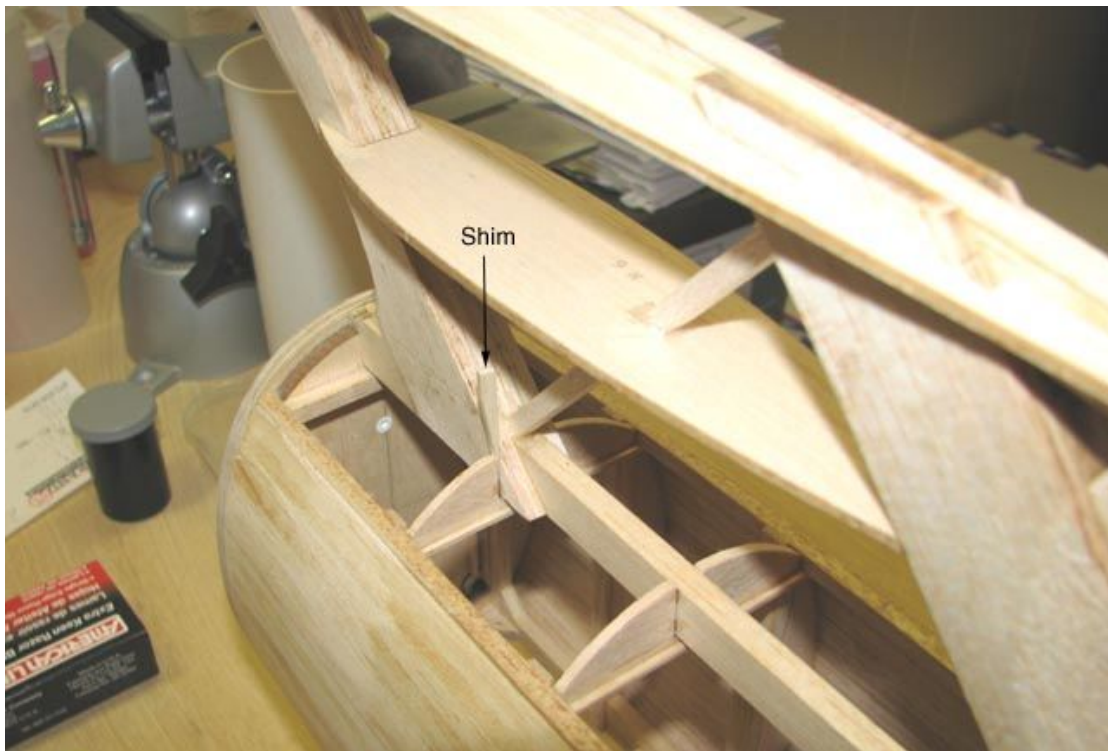
In the picture below, the pylon's lower frame member fits down onto the bottom of each of the five notches, insuring the proper incidence alignment. This a testimony to the accuracy of the laser cut parts.



In order to align the pylon frame vertically, the stab was attached to the fuselage, which was inverted on the work table and supported in three places. The pylon frame does not contact the work table as shown below. The stab was supported parallel to the top of the work table and two steel squares were used to check the perpendicularity of the forward pylon frame to the surface of the work table.



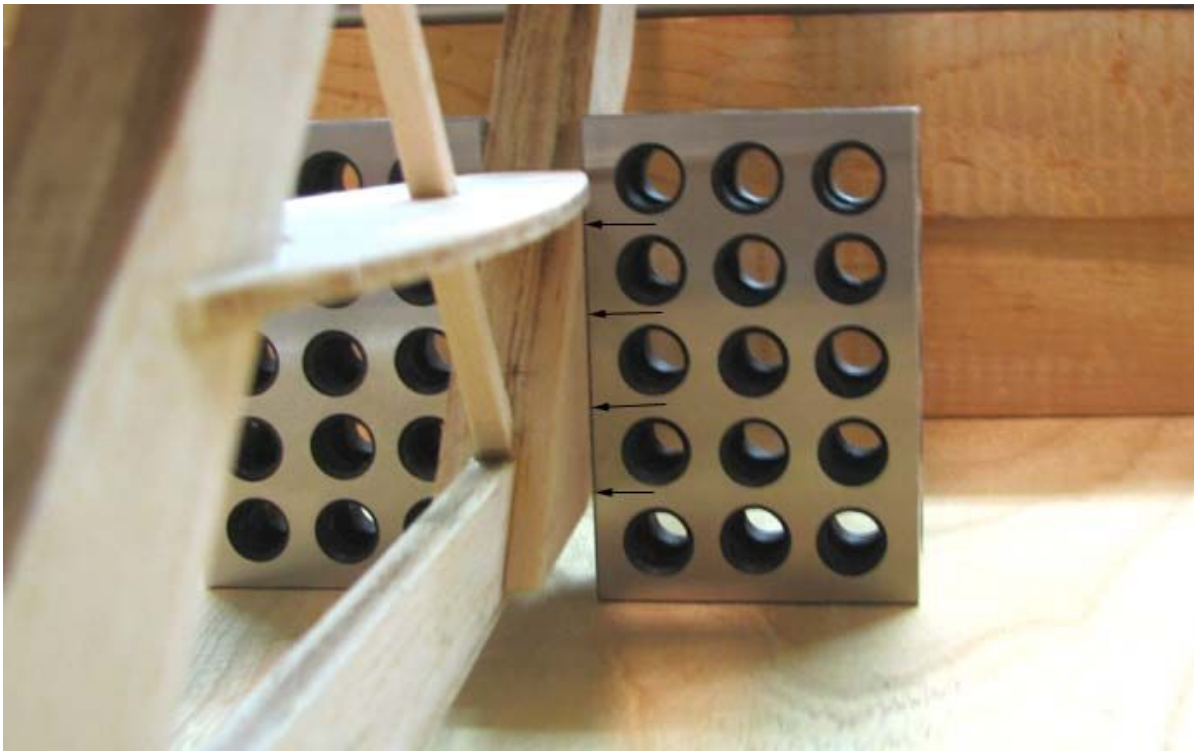
Only slight shimming was required to align the pylon vertically as shown below.



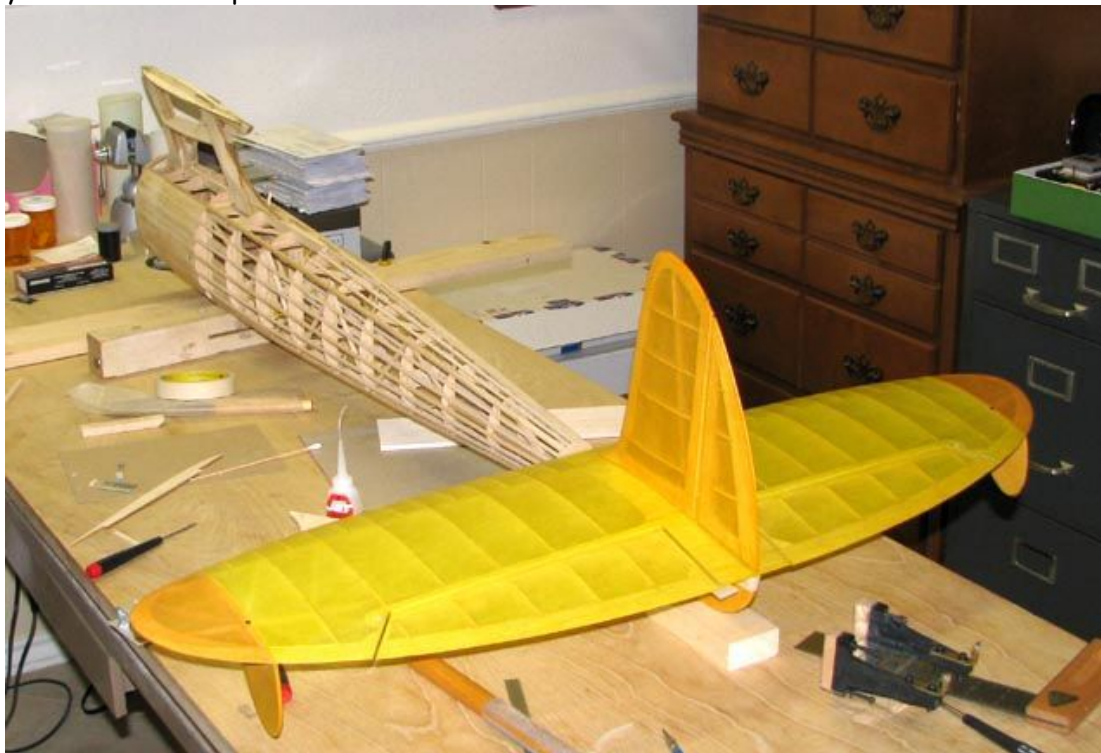
A second perpendicularity check was made with the steel squares on the rear pylon frame to the surface of the work table. In the picture below, notice the rear pylon frame contact all along the steel square's vertical surface as the arrows show.



In the picture, the other side of the rear pylon frame also contacts all along the steel square's vertical surface as the arrows show.



The picture below shows the pylon frame tacked glued in place on the fuselage structure. Notice that the top rib has been installed on the pylon frame. The bottom pylon rib will not be installed until the fuselage planking around the pylon frame is completed.



I will close with this picture of the fuselage with the tail, pylon, and cowl in place.....Tandy

