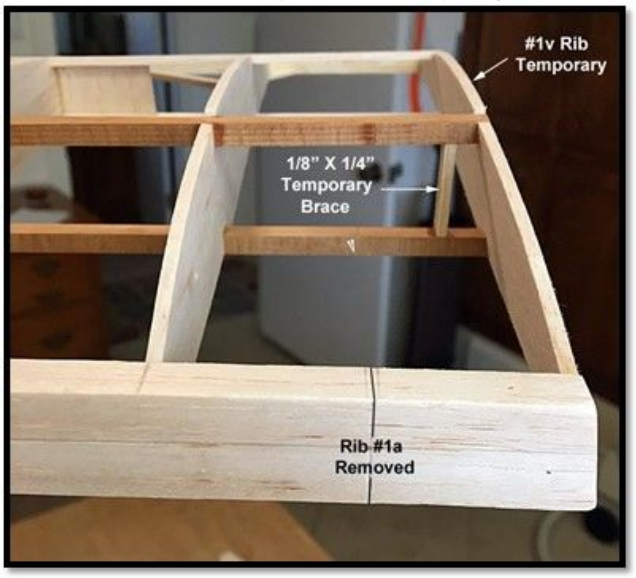
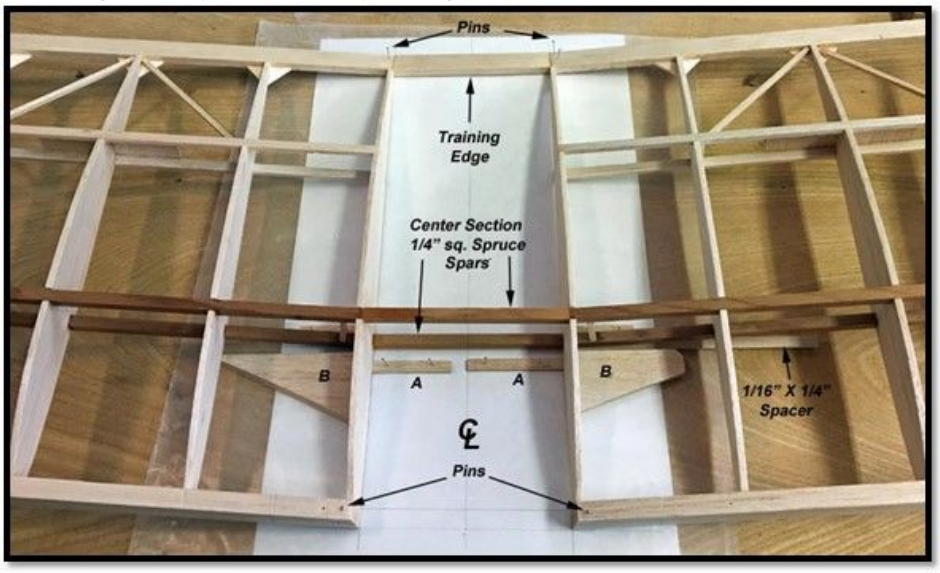
From: "Tandy Walker" <rdb435021@icloud.com>
To: "Tandy Walker" <rdb435021@icloud.com>
Date: 1/25/2018 2:32:59 PM
Subject: 44 Lancer 850 - Jig Approach for Joining Wing Panels (Part 2)

New Cyclone Lancer 850
January 25, 2018

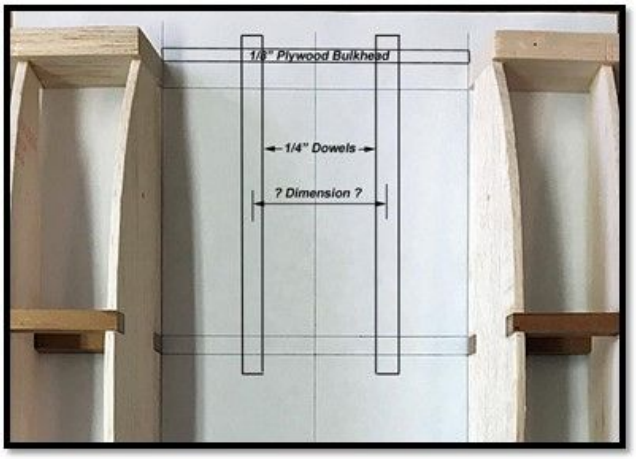
Before conducting the wing panels final jigging, rib #1a was removed as shown below. Also a temporary 1/8" X 1/4" balsa brace was put on between the top and bottom main spruce spars to maintain their separation later on when the #1v temporary rib is remove. In addition, the ends of the LE, TE, and spars were all pre-glued with aliphatic glue.



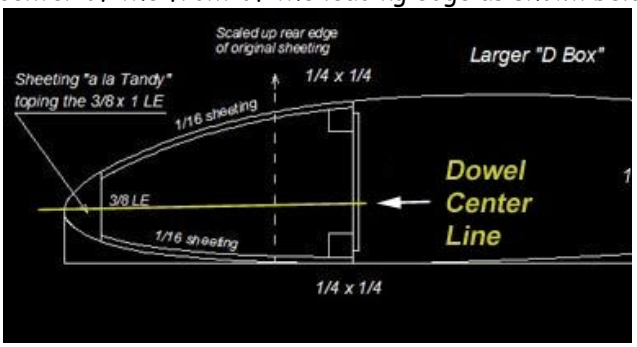
This picture shows the final jigging used to hold the positions of the two wing panels during the installation of the center section's two main spars and the trailing edge. A 1/16" X 1/4" balsa spacer was placed under the bottom main spar across the center section. The two "A" pieces are root rib stops that set the 4.30" center section width. The two "B" blocks hold the root rib against the two inside A stops. The leading and trailing edges were pinned down to the work table. Then the two main spars and the trailing edge were cut to fit and glued in place with aliphatic glue as shown below.



The decision was made to use two 1/4" wooden dowels to attach the wing's leading edge to the fuselage as shown below. These dowels will be inserted into the fuselage's 1/8" plywood bulkhead in front of the leading edge also shown below. However, spacing between the dowels needed to be determined based on the shape of the bulkhead.

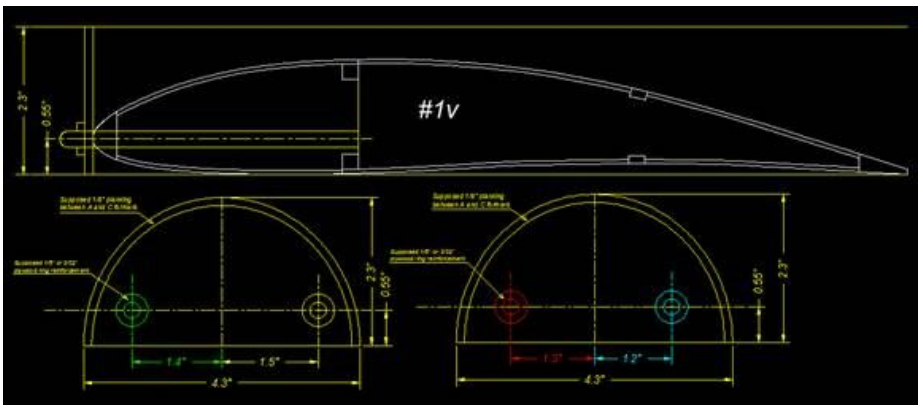


In this drawing of the wing's cross section, the dowels are to be positioned vertically such that they exit the center of the front of the leading edge as shown below.

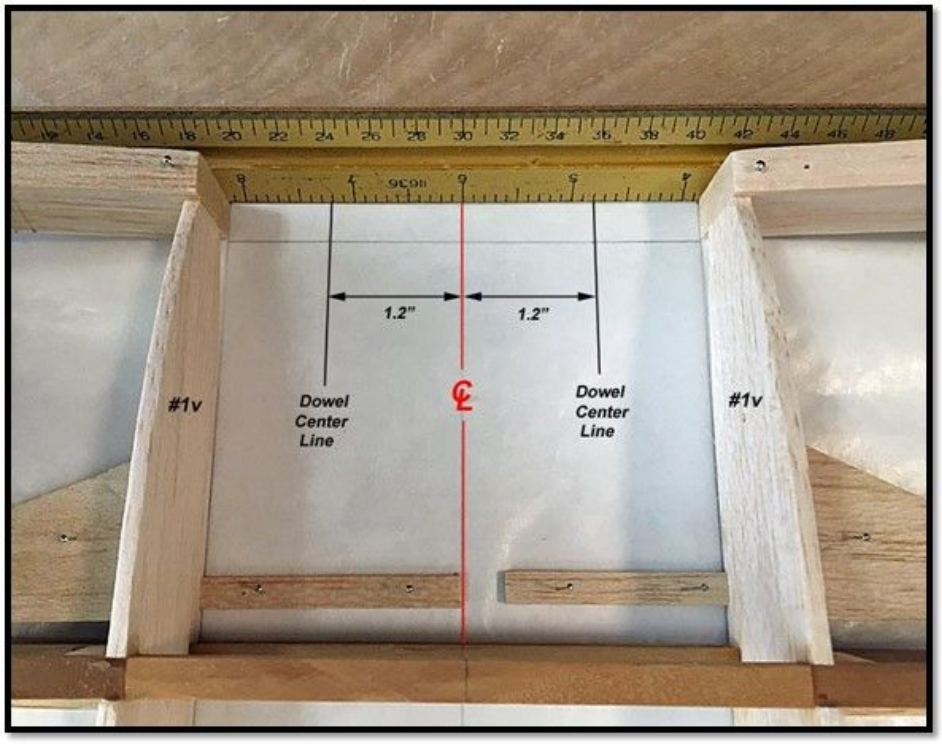


I asked my friend Alfredo Herbon to provide me with his recommendation for the spacing dimension of the 1/4" dowels. He responded as follows:

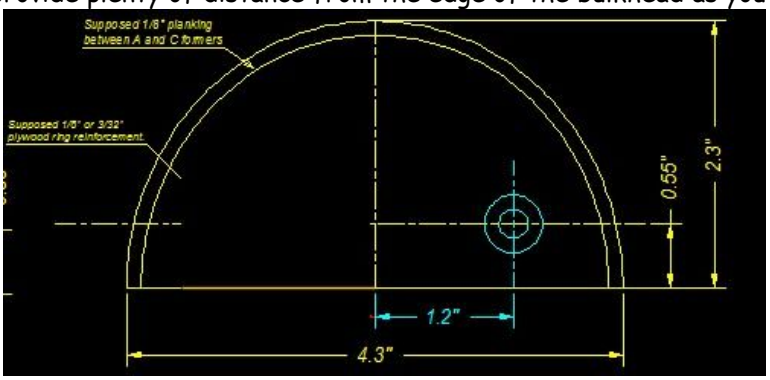
> *Tandy, I put the ACAD drawing used for the measurement of some possible positions with different colors for the pair of 1/4" dowels for your selection. According the plan, between formers A and C, there exist a lightly composed curvature made with 1/8" sq. sticks or more properly 1/8" pieces of balsa plank sanded in arch. I supposed that probably you would prefer a planked surface, around 1/8" thick for structural and handling reasons……Alfredo*



The 4 dowel position options provided varied in increments of 0.1" from 1.2" out to 1.5". A scale was placed on the front of center section's leading edge to consider what dimension to choose. The desired spacing between the dowels needed to be wide as possible, but not too close to the edge of the front plywood bulkhead. In the end, the selection of the 1.2" dimension shown below was completely subjective……



……but does provide plenty of distance from the edge of the bulkhead as you can see below.



Several design decisions have to be made concerning the support of these wing dowels before the center section's leading edge is pre-drilled……Tandy