
11 AEROTAN BIPLANE -Preliminary Drawing of the Top Wing Planform

1 message

Tandy Walker <rdb435021@icloud.com>
To: Tandy Walker <rdb435021@icloud.com>

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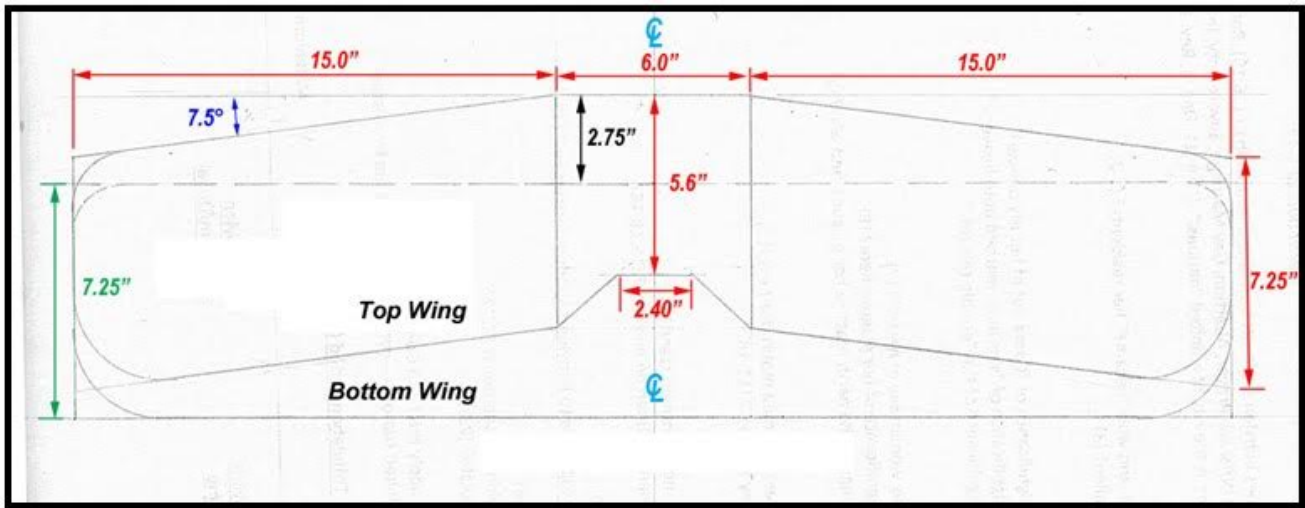
Report No. 11

AEROTAN BIPLANE*November 15, 2022*

The heavy duty Wilton vise shown below used to bend piano wire is mounted on the work bench out in our unheated garage. My plan was to start bending up the 1/8" piano wire cabane struts now that I have Alfredo's pattern drawings, but the weather here in north Texas has suddenly turned cold with intermittent rain. So I have decided to wait until it warms up some. In the mean time I have started the detail design of the AEROTAN's top wing.



This report presents most of the structural design of the AEROTAN's top wing. Report No. 8 presented the initial planform outlines shown below for both the top and bottom wings.



Details for the structural design of top wing shown on the left half of the top wing's drawing below are as follows:

- Wing span: 36.00"
- Wing panel span: 15.00"
- Wing center section span: 6"
- Wing chord: 7.25"
- Front wing tips area loss: ~ 0.490 sq.in.
- Rear wing tips area loss: ~ 2.250 sq.in.
- Center cut out area loss: 7.013 sq.in.
- Total area loss: ~ 9.753 sq.in.
- Top wing area: $(36.00 \times 7.25) - 9.753 = 251.247$ sq.in.
- Aspect Ratio: $36.00^2 / 251.247 = 5.158$
- The spacing for the wing panel's seven (7) ribs is $15/7 = 2.143$ "
- The spacing for the wing's center section five (5) ribs is $6/4 = 1.5$ "
- The rear face of the forward cabane mount is $7/8$ " aft of the LE.
- The Spacing between forward and rear cabane mount is $3-7/6$ "

This drawing is somewhat faint and drawn on the back of another plan. The right half of the top wing's drawing will be added this afternoon.....Tandy

TOP WING PLANFORM DRAWING

