

8 AEROTAN BIPLANE - Revised Wing Planform Geometry
1 message

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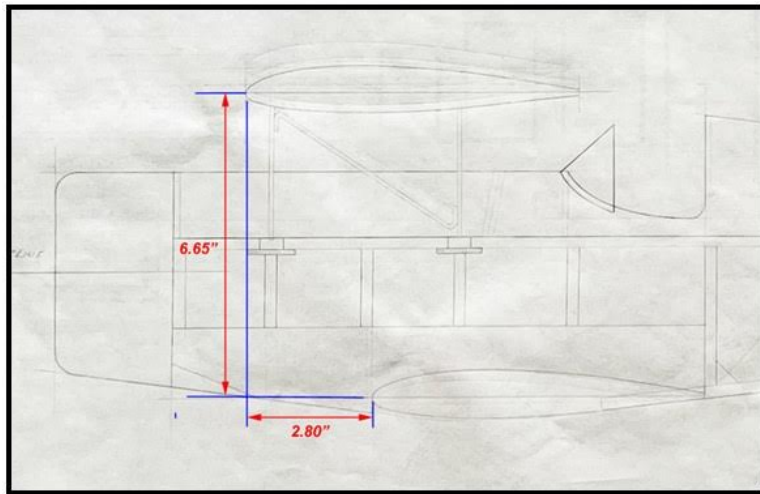
Report No. 8

AEROTAN BIPLANE

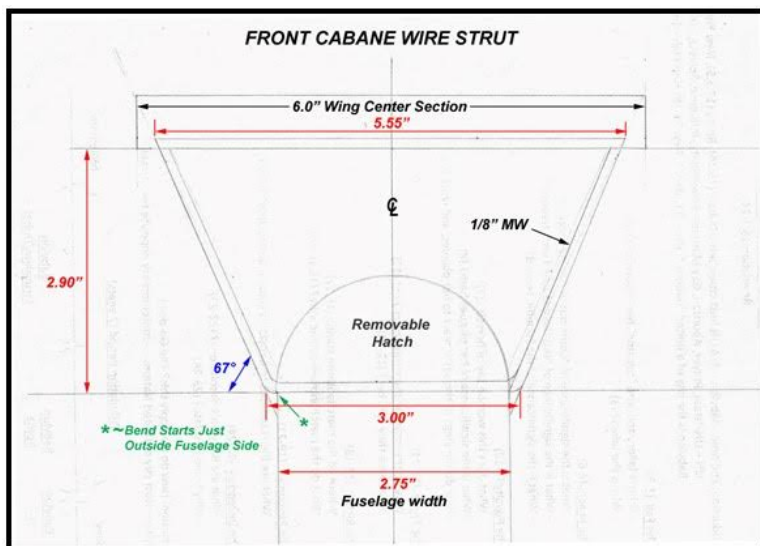
November 3, 2022

In Report No. 2, the wing's approximate area was 487 sq.in. neglecting wing tip curvature and center section cut out. I felt the wing area should be increased so yesterday was spent working through some design iterations on the upper and lower wing planform geometry.

The wing's 6.65" gap and 2.80" stagger were established earlier with the fuselage profile design shown below.



The span of the upper wing's center section was set at 6.00" to provide for a nominal 67° cabane strut angle as shown below.



The results of these design iterations increased the span of both wings to 36" and chords to 7.25". The upper wing's 6.00" center section leading edge is positioned 2.80" forward of the lower wing's leading edge as shown in the first figure above. The upper wing panels have an increase span of 15.00" to provide a total span of 36.00" for both wings. A nominal 7.5° leading edge swept was selected for the upper wing's panels while the leading edge of the lower wing remains straight as shown below. Tentatively the upper wing center section's cut out starts 5.60" aft of the leading edge with a width of 2.40" as shown below, but may be modified once the actual wing drawings are completed. Neglecting wing tip curvature and center section cut out, the total wing area was increased from 487 sq.in. to 522 sq.in. A more accurate wing area calculation will be done once the actual wing drawings are completed.....Tandy

