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FW: 3 Scaled Up 1/2A Fubar 600 - Wing Design and Drawings

1 message

Tandy Walker <rdb435021@icloud.com>
 To: Trevor Boundy <trevor@boundy39.com>

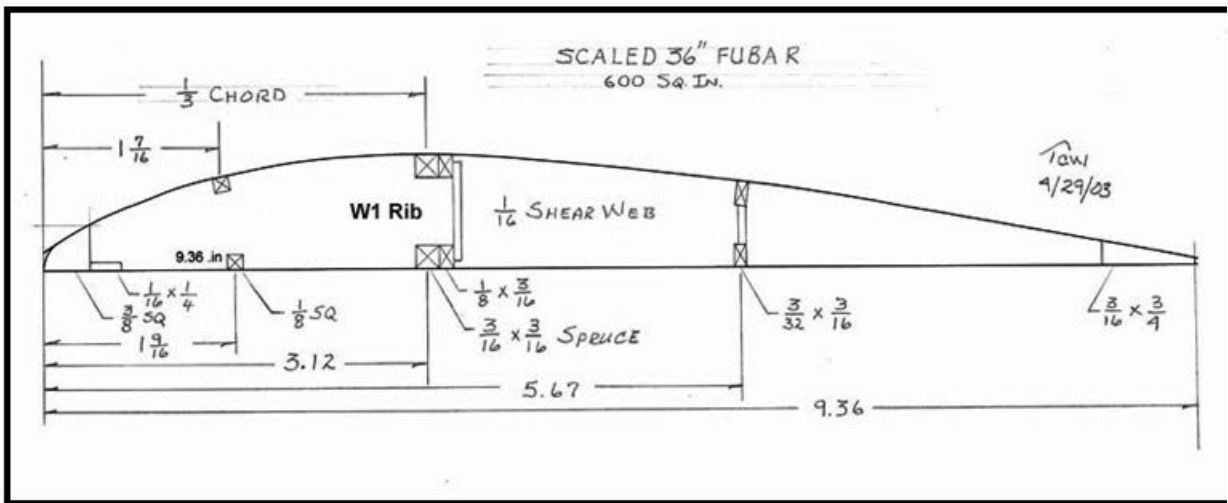
Fri, Ap

From: Tandy Walker [mailto:aerotan1503@outlook.com]
Sent: Saturday, March 19, 2016 11:46 AM
Subject: 3 Scaled Up 1/2A Fubar 600 - Wing Design and Drawings

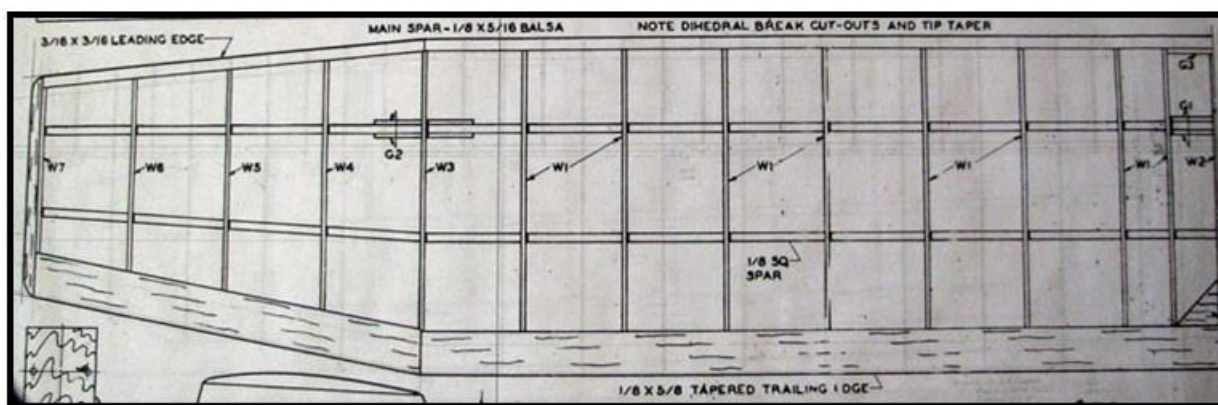
Scaled Up 1/2A Fubar 600

March 18, 2016

The final spar design shown below on the W1 rib that was approved for NFFS Nostalgia competition was e-mailed to Alfredo Herbon in Argentina to be used in develop a new accurate wing planform drawing.



Since the 600 sq. in. scaled up wing span came out at 67.92", the rib distribution was modified by add more full ribs and half ribs as shown below.



All of the critical measurements shown below that were required to define the 600 sq. in. wing planform were made on the left half of the wing scaled up plan above.

- Tip Thickness 1/4"
- Tip Span 11-1/4"
- Inner Span 22.46
- Half Span 33.96"
- Total Span 67.92"
- Root Chord 9.36"
- Tip Chord 6-5/16"
- Rib Spacing ~ 2.8"
- Sub Rib Spacing ~ 1.4"

The wing area and aspect ratio were checked based on these measurements as follows:

$$\text{Area} = 2X\{22.46X9.36+11.25X[(9.36+6.31)/2]+6.31X.25\}$$

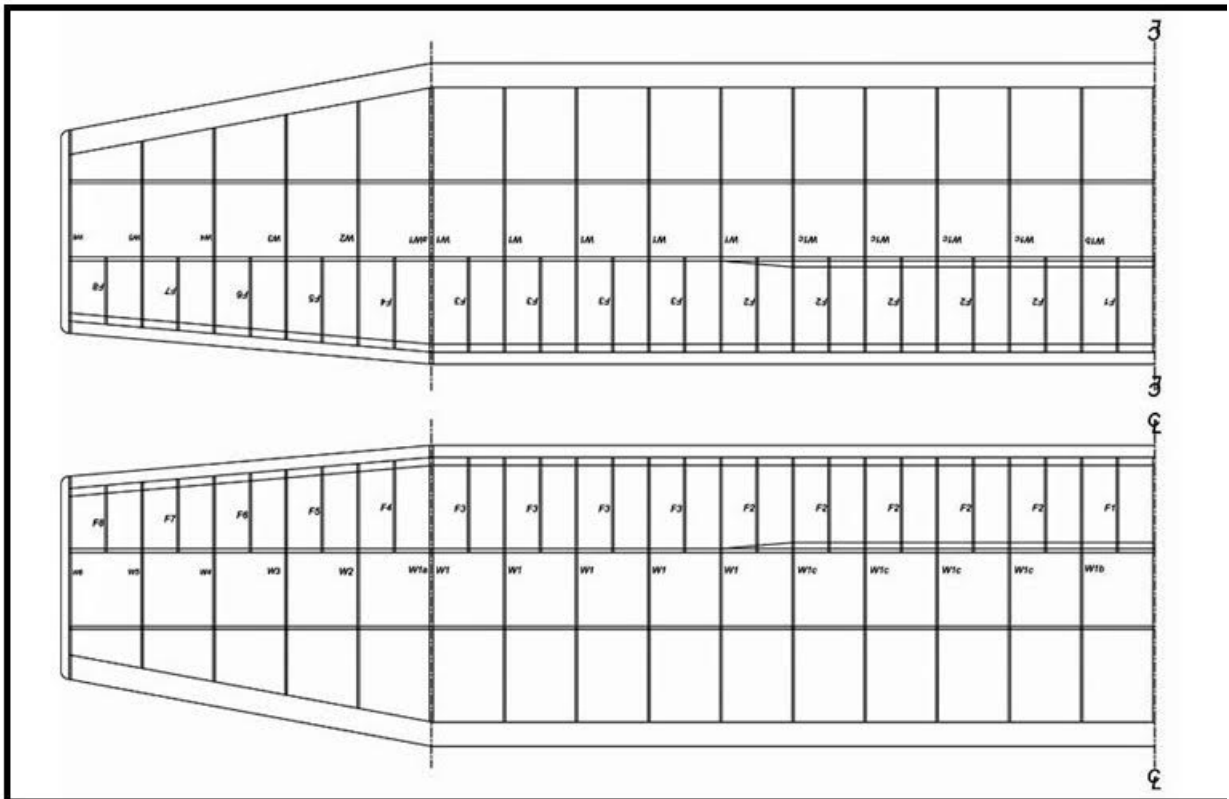
$$\text{Area} = 2X(210.226+88.1438+1.5775) = 599.9 \text{ sq. in.}$$

$$\text{Aspect Ratio} = (67.92X67.92)/599.9 = 7.69$$

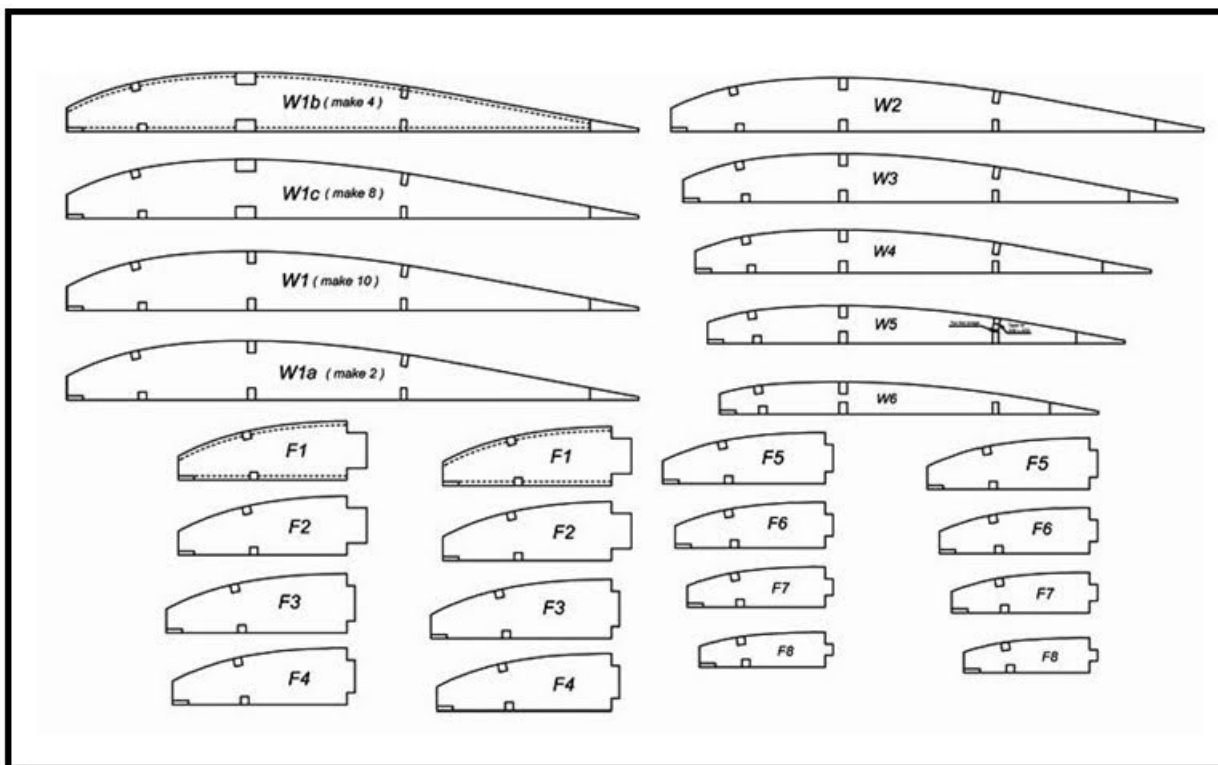
Alfredo used these measurements in his ACAD program to generate a preliminary proof drawing shown below for check out.



Once these wing measurements were checked and verified, Alfredo generated a ".dwg" file of the wing planform drawing shown below on his ACAD program that the copy center can use to print drawing out full size.



I had Alfredo develop the five wing tip panel rib patterns (*W2 thru W6*) using the same thickness-chord ratio of .010 of the standard *W1* pattern shown above, but maintaining 3/8" LE height and 1 3/16" TE height. He also developed all of the sub rib patterns as well. These patterns are shown in picture below. He provided duplicate patterns for the ribs and sub ribs for my convenience, but only one set of duplicates of the sub ribs are shown below.



Alfredo has saved me at least a week's worth of work developing the planform and all of these patterns to an accuracy that I could have never achieve.....Tandy