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2 Second 1/2A Fubar 600 - Revised Thrust Line

1 message

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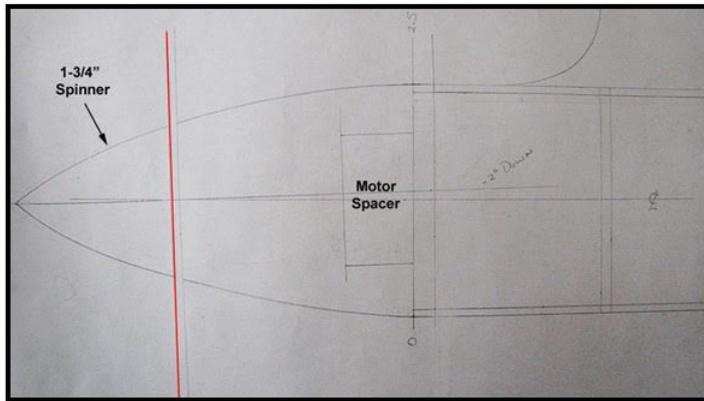
Fri, Jan 17, 2020 at 7:10 AM

Report No. 2

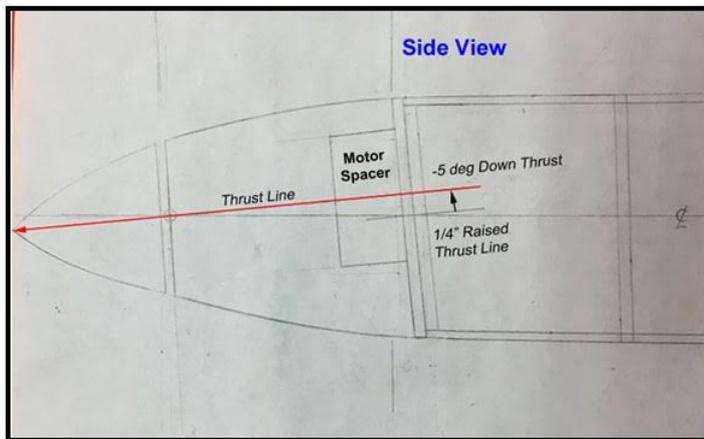
Second 1/2A Fubar 600

January 16, 2020

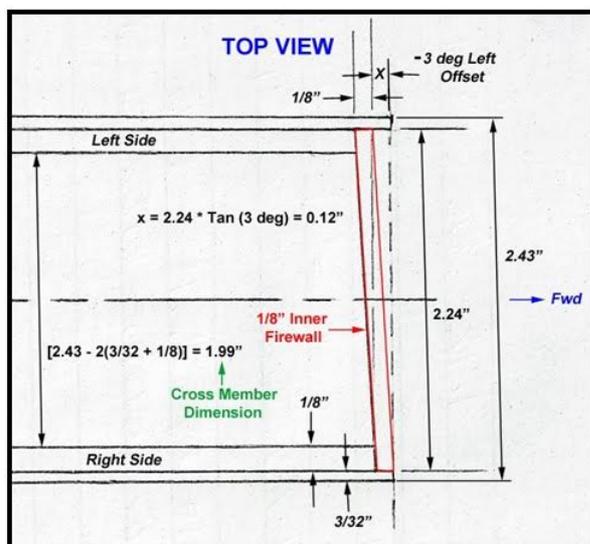
The thrust line on the first 1/2A Fubar 600 that I built had a -2° down thrust line as shown below and 0° side thrust. However, Jay Burkart and Jack Hiner both have determined through flight testing that -6° down thrust and -3° left thrust were about right for a hands off power climb on their 600 sq. in. Fubars including other sizes as well.



So the down thrust line was laid out for my second 1/2A Fubar 600 as shown below in the side view. Notice that the down thrust line passing through the fuselage's center line at the front of the cowl results in a $1/4''$ up shift of the thrust line at the firewall as shown below which helps maintain cowl symmetry. I reduced the recommended -6° down thrust to -5° as you can see. This should have roughly the same effect as -6° down thrust, if not a little more.



The geometry for the -3° left thrust is shown below. The total width of the fuselage from outside to outside had been scaled up to $2.43''$ for the 1/2A Fubar 600 as shown below. The calculations in the picture below show that to achieve a -3° left thrust, the front edge of the fuselage's left side needs to be shortened by $X = 0.12''$. In addition, the cross member dimension for the fuselage's forward constant width is $1.99''$ long.



This top view drawing shows the -3° left thrust line passing through the center line at the front of the cowl results in a 5/32" right shift of the thrust line at the firewall as shown below. This helps to keep the cowl almost symmetrical as shown in the top view below.....Tandy

