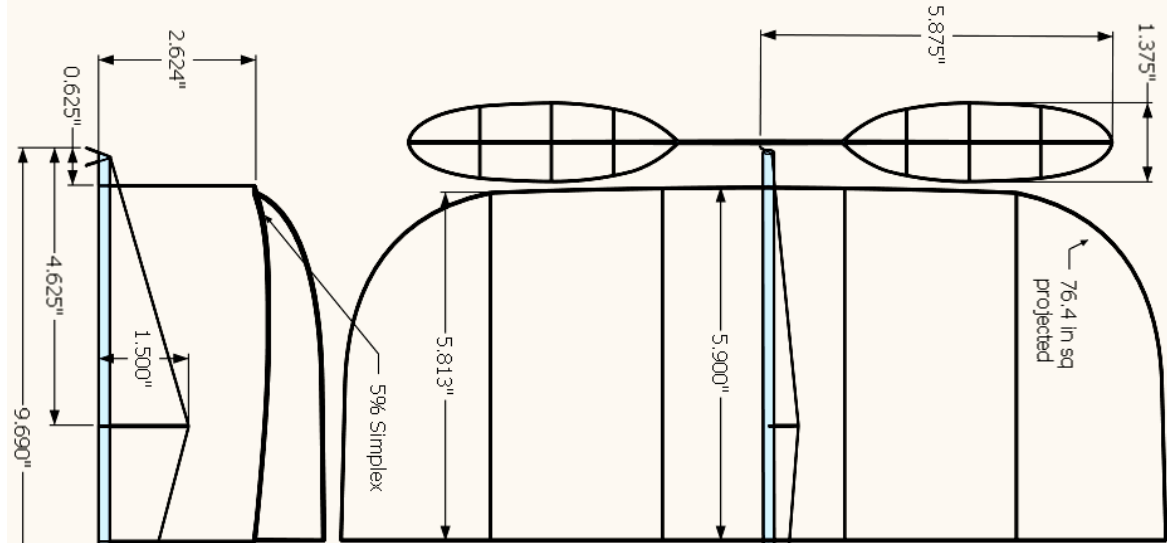
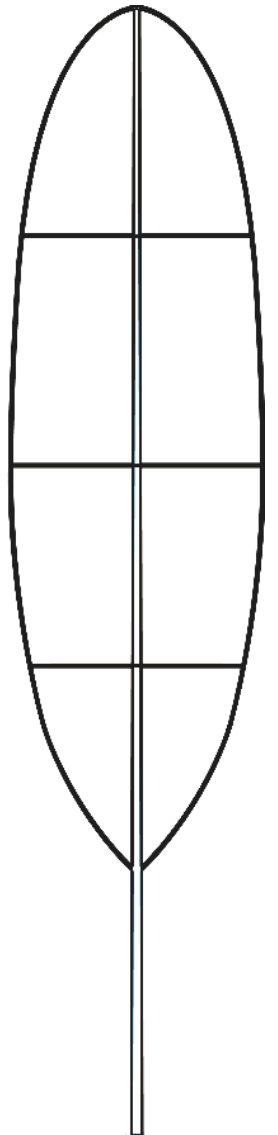
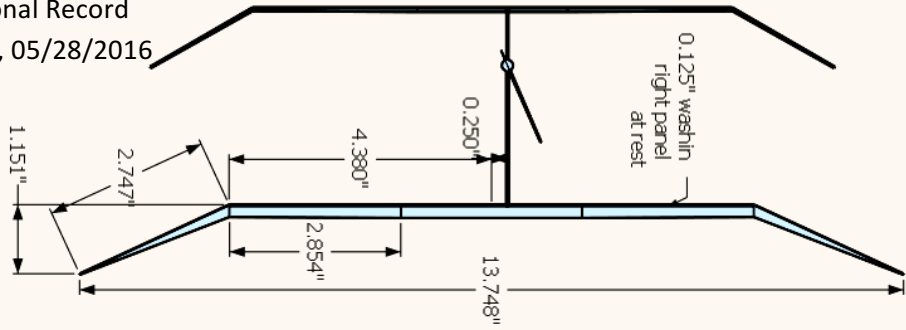


Category I National Record
 F1R (Event 224), 05/28/2016
 Joshua Finn



Girder Grabber V
 Joshua Finn

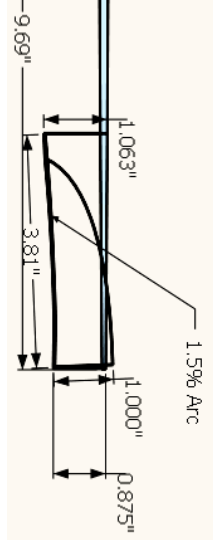
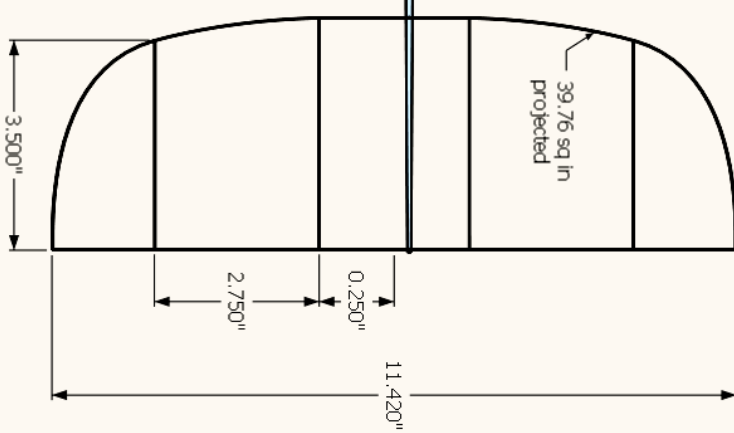
Cat I F1R Record
 Dunwoody, GA
 28:07, 09/16/2017
 13.9" x 0.546 g,
 10/97 Tan II
 2970 Turns at 0.19 in-oz
 Back off 150 turns to
 0.12 in-oz
 250 turns remaining

Wing
 0.027x0.057 spars
 taper to .027x.035
 0.014x0.038 center
 ribs
 0.014x0.049
 dihedral ribs
 .020x.031 tips
 YZK cover

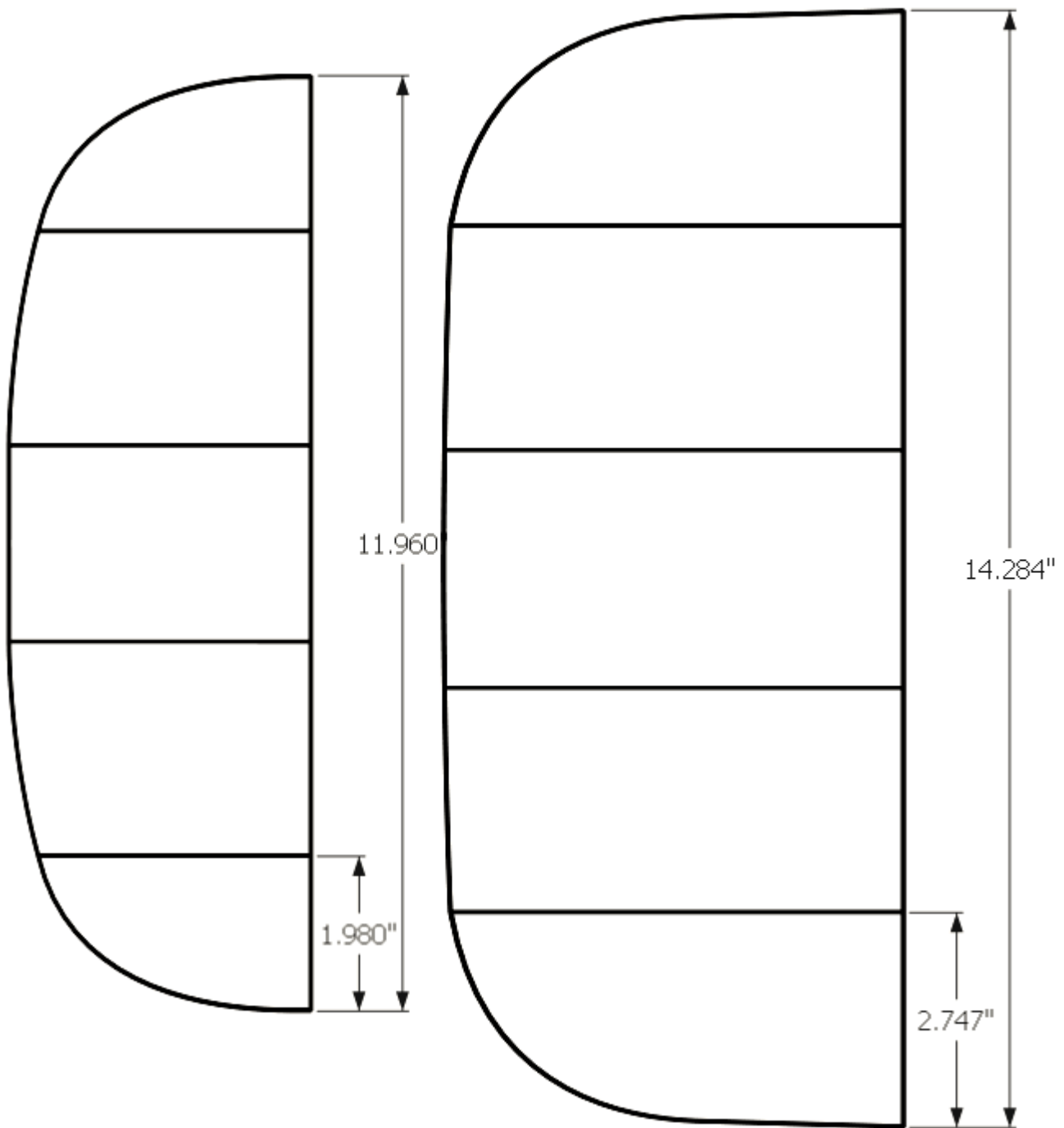
Motorstick
 0.011" sheet, 1/8" ID
 0.027x0.040 posts (7 lb)
 0.008 J8H bearing and hook
 0.030 sq bracing post
 0.010 webs and cap
 Boom
 0.006 sheet, 1/8" ID
 taper to .050" ID
 0.025 sq posts (8 lb)

Stab
 0.020x.031 spars
 taper to .020 sq
 0.009x.028 ribs
 YZK cover
 Prop
 11.75" diameter
 Form at 16" pitch
 0.050 sq -> 0.030 spar
 0.020 sq outline
 0.018x.020 ribs
 OS cover

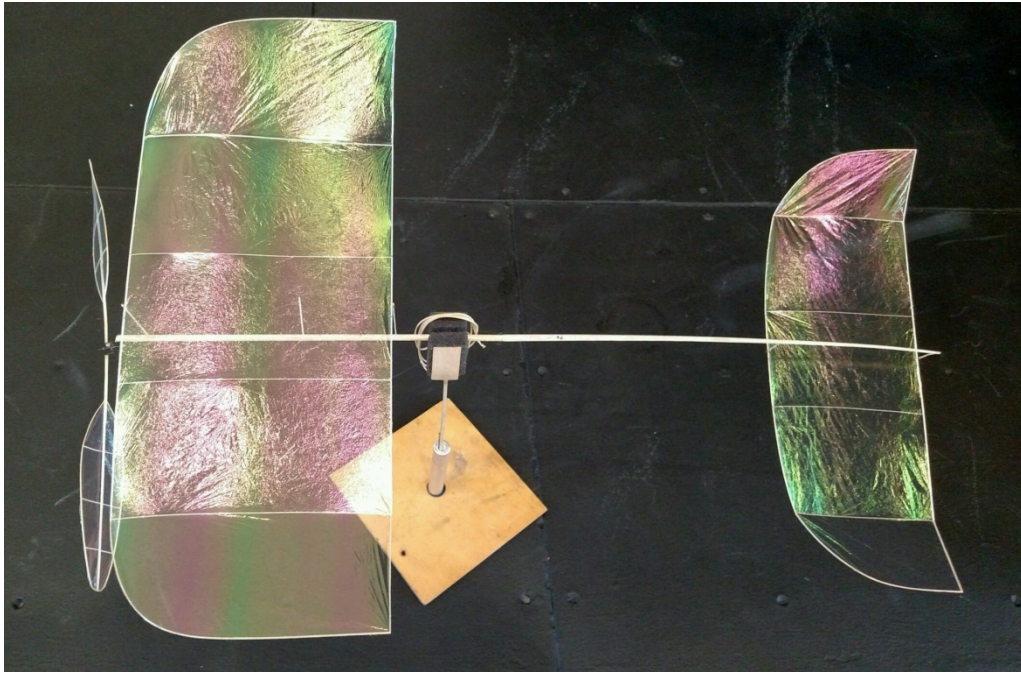
Schedule of Weights
 Fuselage: 167
 Wing: 117
 Stab: 56
 Prop: 96
 Total: 436 mg



Flat outlines of control surfaces



Girder Grabber V is a radical departure from the successful Girder Grabber III airframe. These changes were primarily made to address the previous model's inability to perform in high ceilings. Some of this was undoubtedly a function of wing loading, but the twin stab tips help produce a much better climb pattern. The prop is the same one used since early 2016. Covering was switched to Y2K to save a little weight, resulting in a 24% reduction in wingloading. The motorstick is now quite long and perhaps too vulnerable so that the wing twist at launch is actually excessive.



Like the modifications implemented in the previous model, I have further extended the tailboom and increased the stab area. The result is a very stable model that seems relatively oblivious to mildly choppy conditions. The required stab incidence seems "just right". On the record flight, Girder Grabber V climbed all the way to the peak of the roof in less than 2 minutes, bumping until the 5 minute mark. It descended to 18' before beginning a second climb around 10 minutes, reaching the peak again around 18 minutes. The last ceiling bump occurred at a staggering 23:30, indicating that a huge amount of energy is still being wasted.

Unlike the previous models, this is a pure performance machine. If you build one, be prepared to increase the wood sizes if you aren't prepared for a light model this large.

