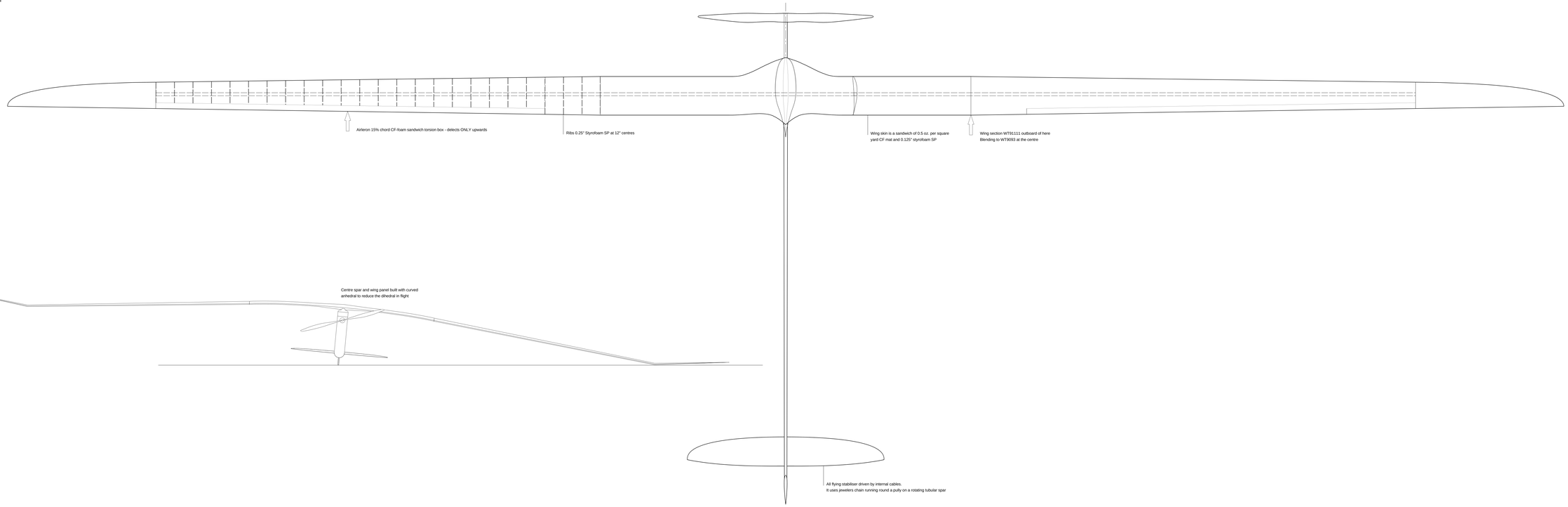
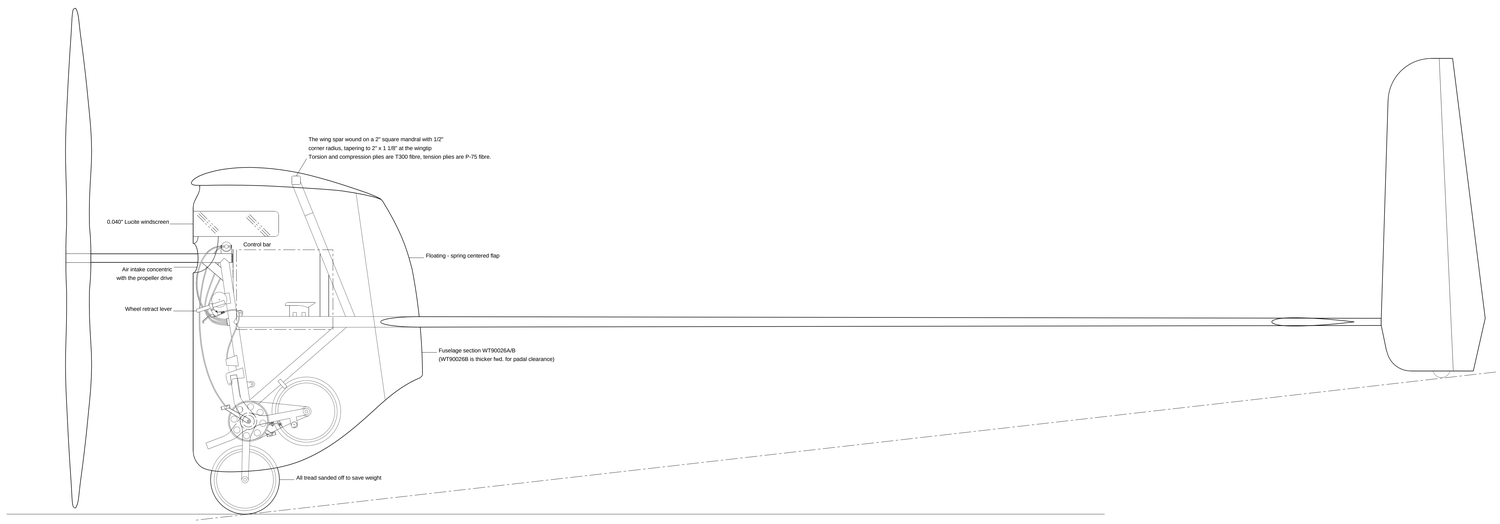
Designed and built by Wayne Bliesner

Wing span: 25.9 m
Wing area: 13.3 m2
Aspect ratio: 50.3
Airframe weight: 40.5 kg
Design speed: 11.2 m/s
Design power: 300-330 W in level flight
Wing airfoil: WT90093, WT91111
Propeller airfoil: E193
Propeller diameter: 2.87 m
Propeller speed: 138 rpm





Side view showing internal structure. Scale: 1:12.5

I drew this plan because it represents one corner of the state of the art which I thought should be better documented. However this plan is not as accurate as the drawings of the other human powered aircraft I have drawn.
It was drawn using a mixture of known measurements, the airfoil coordinates, scaling from photographs, notes, memory, information in letters from Wyane Bliesner and some guessing.
I had the propeller geometry. (My brother Mark made it and the mould still exists.)
I had printouts of the meshes used for CFD and some of the results of the CFD. I had the airfoil coordinates and many photographs.
I did not have a detailed drawing or measurements of the aircraft.
The fuselage structure is scaled from photographs and I would not be surprised if it contains errors of between 25-50 mm.
The stabiliser and rudder are only roughly scaled from photographs and the tail boom length is little better than an informed guess.
The wing plan, structural layout and all notes are accurate.
The aircraft flew many times. Its performance was close to that predicted.
It was crashed in a turn on a windy day over a dry lake. (The aircraft landed, banked with the wheel up.)

Marathon Eagle Human Powered Aircraft

Scale in m - 1:25

0.0 0.5 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0