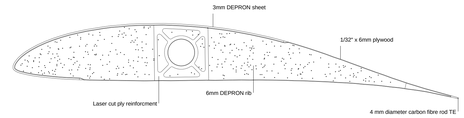
Built by David Barford, Designed by David Barford, Peer Frank and Chris Roper

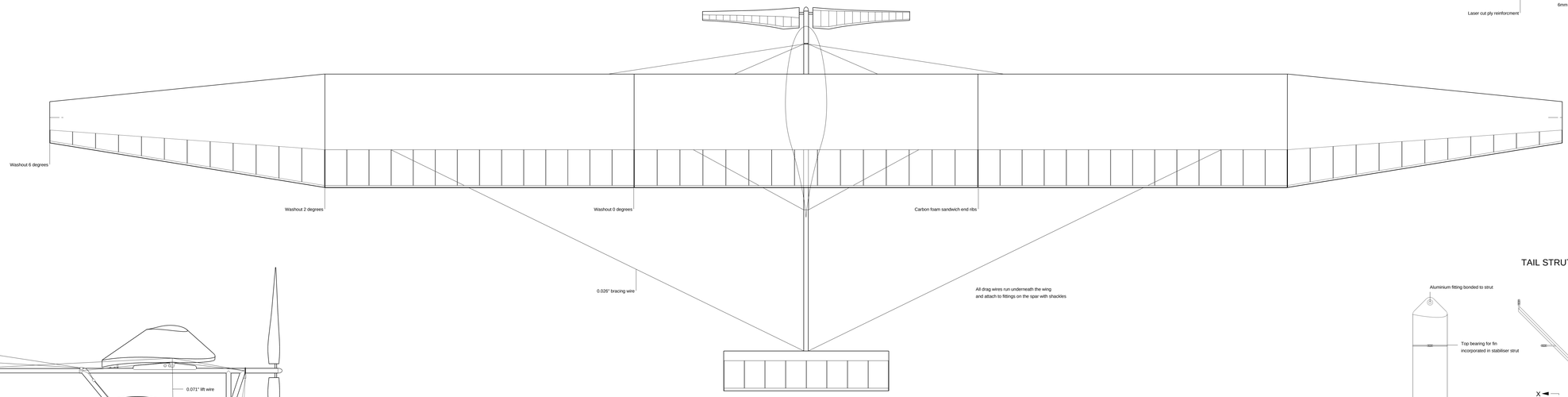
span: 22 m
wing area: 33.1 square meters
aspect ratio: 14.62
empty weight: 43 kg on first flight, Now 56.6 kg
design speed: 6.5 m/s
design power: 278 W (pilot: 70kg 3.98 W / kg)
wing airfoil: PF25
stabiliser airfoil: PF9
rudder airfoil: PF9
prop airfoil: FX 60-100
prop diameter: 3 m
gear ratio 54/25 = 2.16

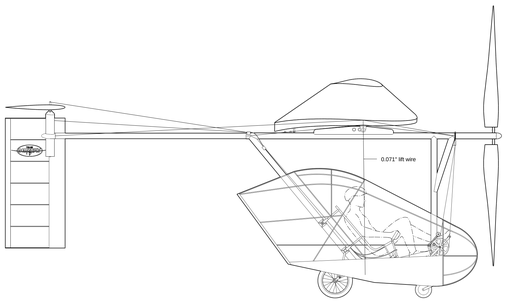
Betterfly weight 17.8.15

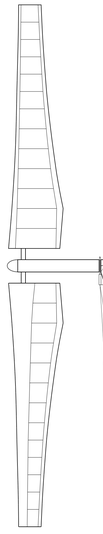
Item	Weight kg
Fuselage section	14.4
Tail boom	2
Rudder	1
Elevator	1.5
Propeller	1.5
Wing centre	10
Wing mid port	8
Wing mid starboard	8
Wing tip port	5
Wing tip starboard	5
Bracing wires	0.2
Total	56.6

WING RIB
Airfoil: PF25
Scale: 1:8

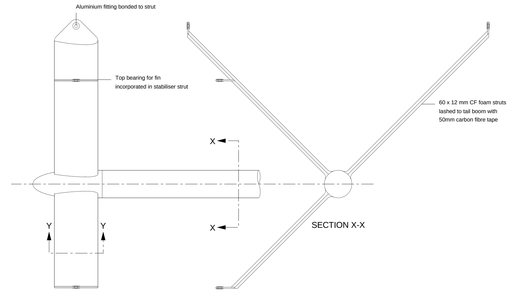




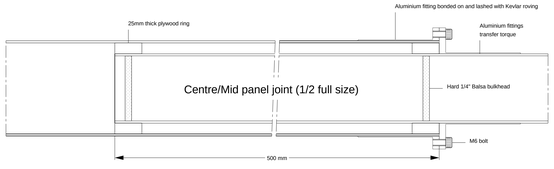




TAIL STRUTS (scale 1:5)



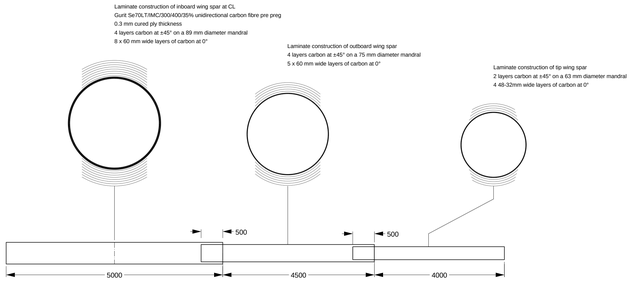
Wing Panel Joints



Sketch of Aluminium torque transfer fittings

Side view showing internal structure. Scale: 1:12.5

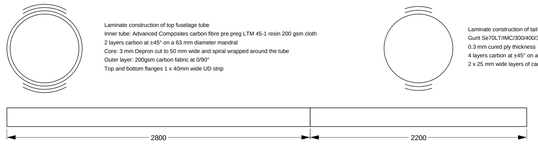
Wing Spar Laminate



Tailplain spar laminate

Fuselage top tube and tail boom lay ups

All the carbon tubes (except the wing spar and the tail boom)
were made from Advanced Composites Pre-preg LTM 45-1 resin 200g/m
cloth with a cured thickness of 0.13mm.
The cloth was cut to provide the +/- 45 or 0/90 direction.



Betterfly 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