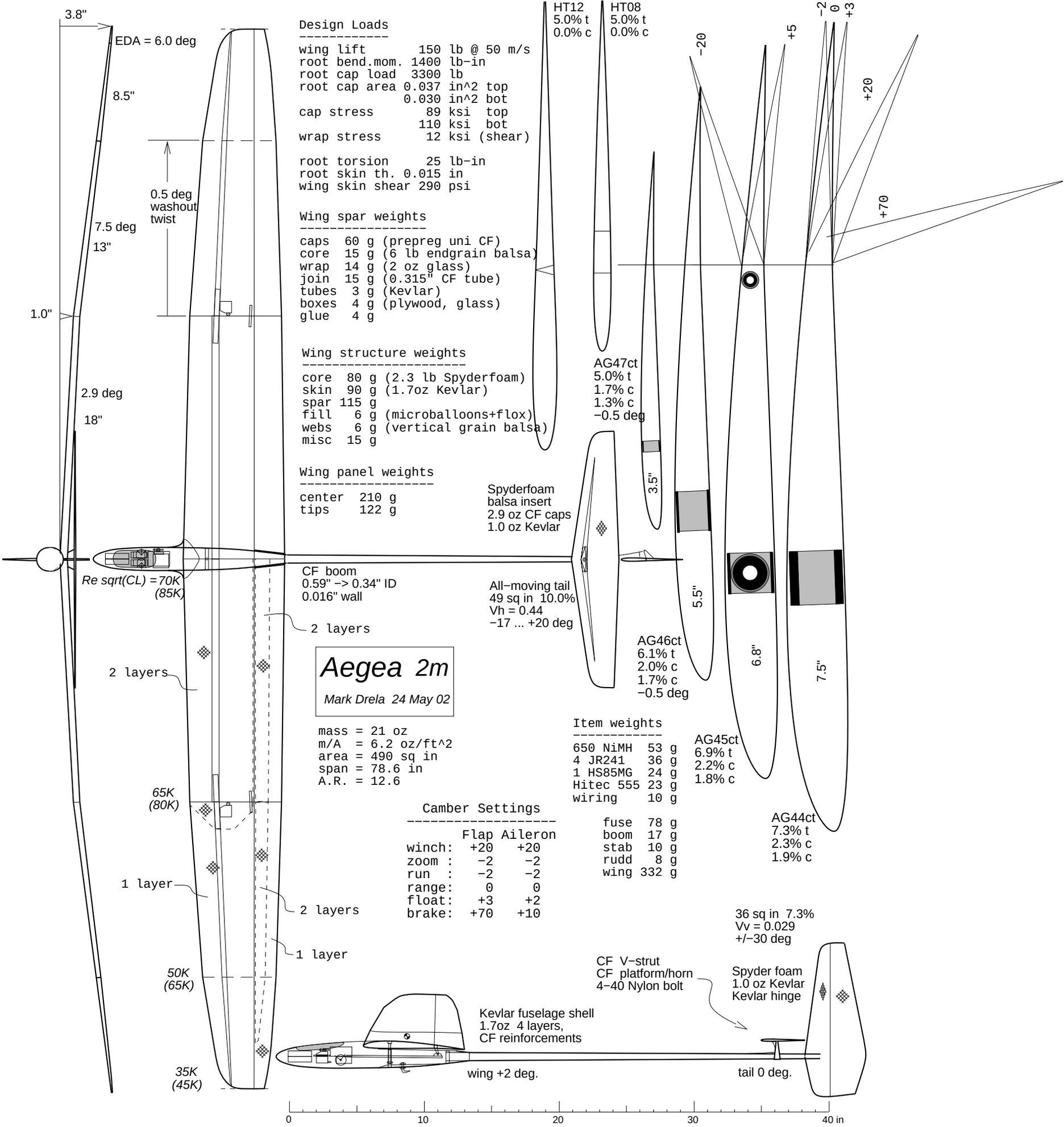

Design Loads

wing lift	150	lb @ 50 m/s
root bend.mom.	1400	lb−in
root cap load	3300	lb
root cap area	0.037	in^2 top
	0.030	in^2 bot
cap stress	89	ksi top
	110	ksi bot
wrap stress	12	ksi (shear)
root torsion	25	lb−in
root skin th.	0.015	in
wing skin shear	290	psi

Wing spar weights

caps	60 g	(prepreg uni CF)
core	15 g	(6 lb endgrain balsa)
wrap	14 g	(2 oz glass)
join	15 g	(0.315" CF tube)
tubes	3 g	(Kevlar)
boxes	4 g	(plywood, glass)
glue	4 g	

Wing structure weights

core	80 g	(2.3 lb Spyderfoam)
skin	90 g	(1.7oz Kevlar)
spar	115 g	
fill	6 g	(microballoons+flox)
webs	6 g	(vertical grain balsa)
misc	15 g	

Wing panel weights

center	210 g
tips	122 g

Aegea 2m

Mark Drela 24 May 02

mass = 21 oz
m/A = 6.2 oz/ft^2
area = 490 sq in
span = 78.6 in
A.R. = 12.6

Item weights

650 NiMH	53	g
4 JR241	36	g
1 HS85MG	24	g
Hitec 555	23	g
wiring	10	g
fuse	78	g
boom	17	g
stab	10	g
rudd	8	g
wing	332	g

Camber Settings

	Flap	Aileron
winch:	+20	+20
zoom :	−2	−2
run :	−2	−2
range:	0	0
float:	+3	+2
brake:	+70	+10