

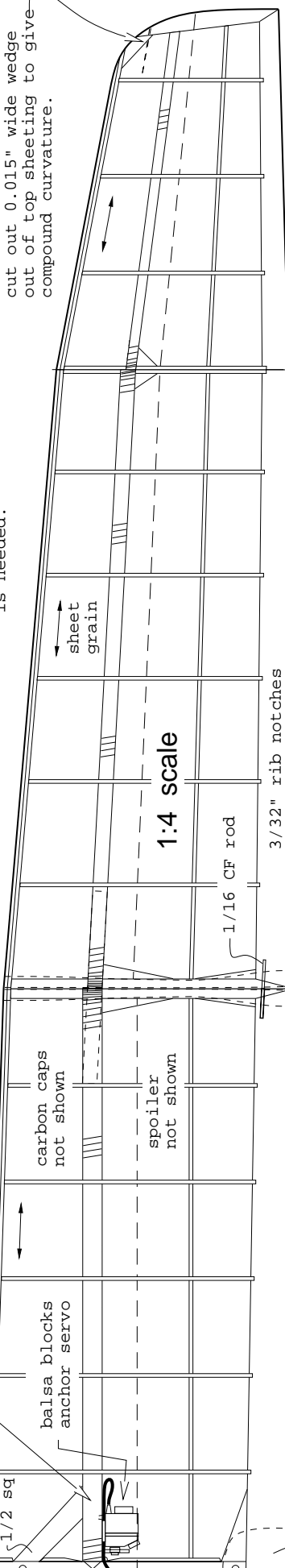
Allegro-Lite Wing Structure

M.Drela 11.20.00

Wrap spar tightly with 3k Kevlar tow, wet out with resin. About 40ft of tow is needed.

2 wraps +/-45 2 oz glass under Kevlar. Extra Kevlar at end to prevent bursting (rod applies 180 lb vertical load at end).

extra center wraps to transfer 150 lb winch load



1.4 scale

cut out 0.015" wide wedge out of top sheeting to give compound curvature.

- 17 1/2 sq
- 11 3/32 ribs 12#
- 11 1/4 end ribs 12#
- 11 3/32 ribs 10#
- 11 1/8" tip 10#

Note: Ribs are highly stressed on zoom. Make 1/8" or thicker if wood lighter than 10# is used.

3/32 support strips cut piecewise (no rib notches)

AG38 7.04% 2.07% c 4.38"

AG37 7.74% 2.18% c 6.0"

AG36 8.18% 2.24% c 7.5"

AG35 8.73% 2.38% c 8.0"

spoiler Monokote with integral hinge

Monokote continuous under spoiler

1/4 x 1 1/4 Aileron stock

2 layers 1.5oz glass top & bottom (transfer torsion moment across joint)

3/32" balsa (front piece harder)

Tangent point slopes for sanding LE strips

web 0.191"

web 0.341"

web 0.462"

web 0.508"

Monokote hinge

14mm servo horn, trim and epoxy into spoiler with glass patches

JR 241

Monokote hinge

1.50 2.06 3.00 4.78

1.72 2.49 6.21 11.1

3 mm

10 mm

1.36 1.89 2.61 4.18

162 g	Center panel	100 g	Mid panels	26 g	Tip panels
32 g	glue, misc	10 g	glue, misc	2 g	glue, misc
22 g	Kevlar wrap	20 g	CF rods	5 g	sheeting 4#
24 g	transp. Monokote	4 g	ply boxes	2 g	CF caps
7 g	spoiler core	2 g	Kevlar wrap	1 g	Kevlar wrap
6 g	bolt beam	10 g	UltraLite	4 g	UltraLite
6 g	glue, misc	10 g	glue, misc	2 g	glue, misc
22 g	CF caps	2 g	CF caps	2 g	CF caps
19 g	CF caps	2 g	CF caps	2 g	CF caps
23 g	sheeting 8# balsa	6 g	TE 6#,20#	5 g	webs 7#
11 g	LE 8#,20# balsa	8 g	LE 8#,12#	5 g	ribs 10#
11 g	TE 8#,20# balsa	8 g	sheeting 6#	3 g	TE 6#,20#
3 g	LE 8#,20# balsa	6 g	webs 7#	3 g	ribs 10#
17 g	ply boxes	17 g	webs 7#	5 g	ribs 10#
12 g	brass tubes	17 g	ribs 10#	5 g	TE 6#,20#
6 g	ply boxes	9 g	CF caps	1 g	LE 6#,10#
22 g	Kevlar wrap	20 g	CF rods	5 g	sheeting 4#
24 g	transp. Monokote	4 g	ply boxes	2 g	CF caps
7 g	spoiler core	2 g	Kevlar wrap	1 g	Kevlar wrap
6 g	bolt beam	10 g	UltraLite	4 g	UltraLite
6 g	glue, misc	10 g	glue, misc	2 g	glue, misc