

Main Spar Material:
 0.680 x 0.752 x 72 inch
 RockWestComposites.com
 SKU: 45354
 Wt: 0.3lb/72"

Center section span:
 (6.5x6)+6" sheeted mid-
 section = 45"
 Tip section span:26" (x2)
 Total wingspan: 97"
 Dihedral, 11.3 Deg, (2 plcs)
 Aspect ratio: 97/12.5= 7.76

Estimated wing weight: 50oz.

CG of wing alone is 1.7" aft
 of front of spar.

The airplane's GC shall be at
 30% of chord. This is at 3.75"
 behind the LE, at the front of
 the CF spar.

Foward cell tilt = 3 deg.
 Rear cell tilt = 9 deg.

Rib spacing approx. 6.5" to
 accommodate 5" cells with
 minimal rib shadowing.

28-cell wing will use approx.
 34 ribs including doubled tips,
 doubled ribs at wing breakpoints,
 skid sheeting supports, and
 root doublers.

Sheeted ribs in center wing
 center & 4-ea skid support
 sections must be trimmed
 down.

Optional 0.060" Dia
 carbon fiber
 stringer for cell
 protection

Sunpower C60 Solar Cells (blue)
 with solder lands shown in red.
 5.00 x 5.00 x 0.0065"
 Wt. 6.3 grams
 Voc= 0.684V
 Isc= 6.26A
 Vmp= 0.577V
 Imp= 5.87A
 Pout= 3.38W
 Eff= 22.1%

Trailing edge is Tower Hobbies
 balsa aileron stock,
 5/16 x 1 x 36"
 #L5JD2102

Notch TE
 for ribs

S-marked holes are 0.264" dia.
 They are for 3/16 x 3/16" balsa
 cell-mounting stringers (4ea).

W-marked holes are for wiring
 access through ribs.

Cut ribs from 3/32 x 4 x36" balsa,
 Tower Hobbies #LXJC89.
 Full sheet Wt. is ~1.16oz
 1 sheet yields 6 ribs
 Wt per rib: ~0.16oz
 34 ribs will weigh ~5.5 oz

Covering: Coverite 21st Century
 Microlite Clear, 72" x 27-3/4" roll,
 0.6oz (17g) per square yard.
 Area to be covered: ~27" x 97"
 = 2.0sq yd@0.6oz/sq yd = 1.2 oz.
 Airfoil perimeter is 25.6"

Clark YH
 Average covered airfoil thickness is 11.9% at 30% chord
 Rib thickness is 13% at 30% chord
 Chord is 12.5 inches (1250 pixels)

Mid-Wing Rib Design

Printer scaling 5.000"

- Leading edge is Revell balsa, 7/16 x 3/4 x 36" Tower Hobbies #LXCGEJ, notched 1/16" for ribs.
- Bottom sheeting is 1/16 x 4" balsa, #LXJC86
- Springer above LE is 1/4 x 1/4" balsa, #LXJD04
- Spar-to-sheeting fillers are 3/16 x 3/16 balsa, #LXJD02

Target Airspeed:
 ~ 9M/s (20MPH)

File: Clark_YH_Detailed_12r5inPrint_O.psd

