

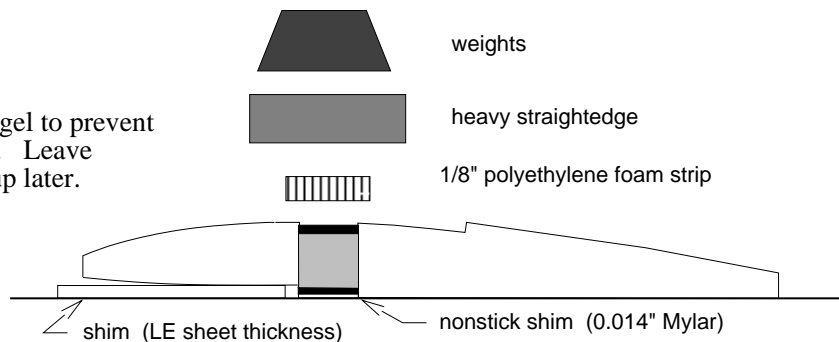
Wing building sequence

Spar cap / spar web / rib assembly

Assemble with slow epoxy, thickened to a gel to prevent excessive absorption into web endgrain. Leave oozed-out beads alone for easier cleanup later.

Include any joiner boxes at end of panel, leaving off panel end ribs.

Web must not be narrower than spar caps, but it can be slightly wider.



Spar wrapping

Clean off oozed-out epoxy beads when still rubbery, and round off spar cap edges, leaving web sides slightly bulged if web is wider than the spar caps.

Wrap two layers of +/-45 2 oz glass around joiner boxes (if any), retaining with 3M-77.

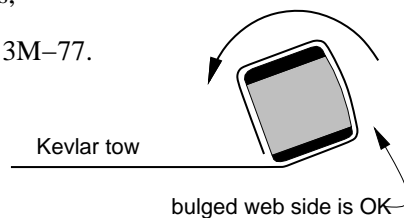
Wrap whole spar with 3k Kevlar tow, about 6 wraps/inch.

Untwist and spread out the tow to a 1/8" wide ribbon to keep it thin.

Anchor Kevlar spool far away to allow holding spar with both hands.

Saturate glass and Kevlar with resin, blot off excess.

Glue on end ribs over the glass/Kevlar wrap. Reinforce joint.



LE, TE, filler installation

Notch TE strip.

Bevel bottom edge of LE strip.

Glue LE, TE strips onto spar/rib assembly.

Glue filler strip on top of spar and weight down.

Sand down top of filler strip flush with ribs, using airfoil templates where possible.

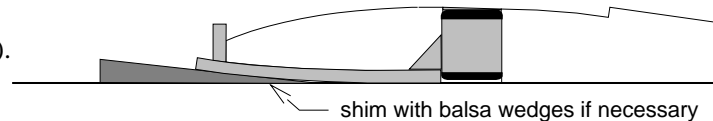


Bottom LE sheet installation

Pre-curve LE sheets by wetting and pressing against large-diameter form to dry (optional).

Glue bottom LE sheet to ribs and LE strip.

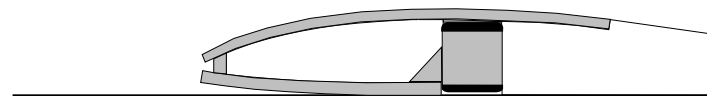
Install balsa fillets (critical for D-tube torsion), using microballons/epoxy on wrapped spar.



Top LE sheet installation

Sand off top of LE strip flush with ribs.

Glue top LE sheet to ribs, LE strip, and filler strip.



Completion

Sand LE sheets flush with LE strip.

Glue on outer LE strip.

Fit and install support strips between ribs.

Glue on filler strip to bottom of spar.

Sand filler strip flush with wing bottom.

Shape outer LE strip to airfoil contour.

