

Wing Pre-Cover/Covering Checklist

1. Inspect wing for proper assembly.
2. Verify nutplates are installed in Univair stamped butt rib and corner nutplates in pitot tube bracket.
3. Install aileron carry-thru cable and tie up tight to N strut.
4. Varnish tip bow attachments.
5. Fill tip bow attachments with Superfil.
6. Vacuum and blow out dust and debris from spar caps, ribs, braces etc.
7. Square ribs and install inner rib bracing tape, 40'.
8. Tape of protrusions with 3M 233+
9. Brush two coats of Poly-Brush on aluminum watching for brush bristles and runs.
10. Pop chalk lines for glued seam on leading edge. Use VG layout tool to mark top seam and measure 2" below for bottom seam.
11. Pre-coat all cut lines with Poly-Brush or glue to eliminate frayed edges.
12. Cover outboard aileron bay tip rib between false spar and tip bow.
13. Cover top first so overlap seam is on the top of the wing.
14. Lay 8' straight edge to mark leading edge fabric cut line to eliminate selvage seam (rough factory cut).
15. Glue leading edge, glueing around landing light but cover over it to be cut out after final painting.
16. Glue false spar.
17. Glue over butt rib with scrap, between spars, nose and aft with separate pieces.
18. Glue butt rib.
19. Cut an X in tank bay and glue fabric to top and bottom of tank cover lip on outboard tank bay rib and clothespin until completely dry.
20. Glue tank lid joggle in leading edge and false spar skins extending 90 degrees down where skins screw to spar cap.
21. Glue tip bow.
22. Shrink to 250 degrees.
23. Iron all seams smooth prior to gluing over them. 225 degrees but over sheet metal may require more heat as it absorbs the heat.
24. Flip wing trailing edge down to eliminate debris from getting between the leading edge skin and fabric.
25. Glue down bottom fabric leading edge, false spar and butt rib same as top.
26. Trim tip fabric with some overlap to pull on. Shrink some using cardboard as a backing to better shape the tip.
27. Glue the bottom half of the tip bow and heat form to fit.
28. Use a compass to mark the top seam around the tip bow, cut with pinking shears and glue.
29. Shrink bottom fabric to 250 degrees.
30. Glue over any protrusions and allow to dry.

31. With sharp razor blade cut along jury strut fittings, strut attach fittings and top aileron pulley fitting.
32. Slit aft of front strut attach fitting at fairing that allows fabric to attach inside of wing for front aileron pulley bracket clearance and glue to fairing.
33. After glue has dried, shrink top and bottom fabric to 350 degrees staying off of glued seams. Go over everything at least 3 times to assure complete shrink.
34. Install top aileron pulley and aileron. Layout teardrop grommet by using measurements on grommet placement drawing and using pulley cover with welding rod running from the pulley to the aileron bellcrank. Make sure the cable cutout in the teardrop pulley cover is centered over the welding rod and the top of the pulley does not contact the cover. The aileron cable does not run perpendicular to the false spar and many covers have wallowed out slot for proper cable clearance. Trace around the grommet and glue down.
35. Glue patches around both jury strut fittings and over pitot tube attachment.
36. Form and glue down grommets around strut attach fittings. (I use the aluminum ones I make and sell because they are easily formed to fit.)
37. Lay out rib stitching and pop chalk lines. Extend the tighter rib stitching spacing out 2-5 ribs when using a long prop.
38. Cut reinforcing tape $\frac{1}{2}$ " past the first and last rib stitch.
39. Tape the back of the outboard tank bay rib capstrip to avoid cutting the rib stitches.
40. Rib stitch the wing. Use a curved needle to stitch two stitches to the bottom of the ribs at the outboard flap false spar skin.
41. Layout and glue inspection grommets per inspection grommet layout drawing.
42. Layout and mark all tapes including tapes where the fabric contacts the spars at the tip.
43. Mark where all inspection grommet doilies.
44. Pre-coat all areas where tapes and doilies will be attached with 2 coats of Poly-Brush allowing each coat to dry prior to applying the next coat.
45. Apply chord wise tapes starting from the trailing edge, and around the leading edge.
46. Apply span wise tapes including 3" tapes at false spars to help eliminate future cracking in these areas.
47. Install doilies over inspection grommets by applying Poly-Brush inside of the grommet and allowing it to dry prior to sticking down the area outside of the grommets. This eliminates bubbles at the edges of the grommets.
48. Apply tip bow tape last using a compass to mark tape alignment.
49. Go over all tapes and doily edges with 225 degree iron.
50. Brush remaining raw fabric with one coat of Ply-Brush.
51. Burn drain holes in trailing edge with soldering iron.
52. Spray two coats of Poly-Brush.
53. Iron any pinks that popped up with an iron at 225 degrees with a piece of parchment paper between the iron and the fabric. **Do Not** pull the parchment paper up until it has cooled or it will peel all of your Poly-Brush down to raw fabric with it.
54. Spray three cross coats of Poly-Spray ironing with a 225 degree iron and parchment paper as noted above if any imperfections appear.

55. Sand edges of all tapes and open bays of fabric avoiding screw head, rib stitches and any other protrusions.
56. Spray one more cross coat of Poly-Spray. If any problems come up that require sanding they can be spotted in with Poly-Spray.
57. Clean with Isopropyl Alcohol on a clean painters rag.
58. Tach surface twice.
59. Spray white Poly-Tone if top coat is a light color for better coverage over the silver Poly-Spray.
60. Spray top coat, I prefer Ranthane because of the way it sprays, coverage and durability.