

Step 11 Wing Shear Lugs

Cut a pair of 1.6 x 2.0 tabs from 1/2 inch thick styrofoam. Prepare the wing spar stub top and both sides for structural glass to glass bonding over the first 2 1/2 inches inboard of the root aerofoil (BL 12.5 to BL 10). Bond the tabs to the bottom spar cap as shown in the sketch with 5 min/micro dabs.

The outboard edge of the tabs should be 12.5 inches from the end of the spar.

After the 5 min hardens, flip the wing back to right side up. Go cut strips of glass cloth as noted below:

0° UNI Strips 2 Inches Wide

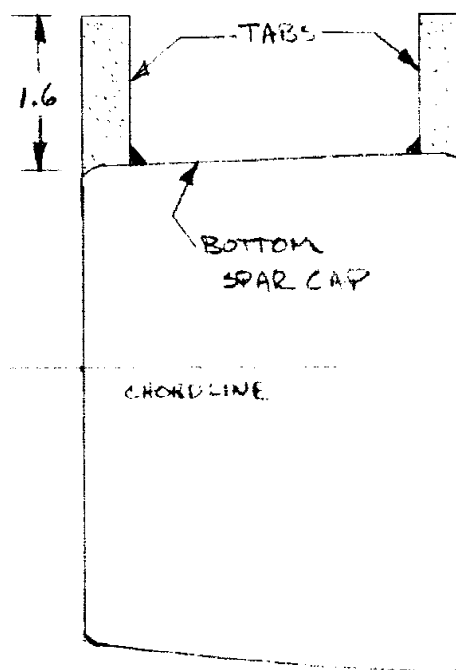
5 each 19 inches long
2 each 7 inches long
2 each 6 inches long
2 each 5 inches long
2 each 4 inches long
2 each 3 inches long

45° BID Strips 2 Inches Wide

2 each 19 inches long
2 each 7 inches long
2 each 5 inches long
2 each 3 inches long

0 - 90 BID Tape 2 Inches Wide

2 each 19 inches long
2 each 6 inches long
2 each 4 inches long
2 each 2 inches long



Also cut four 2 x 2 pieces of dacron peel ply and round up two 2 x 2 pieces of masonite. Cover the masonite with masking tape and tape the forward and aft faces of the foam tabs. The outer lug lay up starts with the longest glass strips and ends with the shortest. First paint the prepared spar with a coat of epoxy and fill any irregular areas (spar cap and shear web interface?) with a dab of floc. Lay up a piece of peel ply over the taped foam tabs forward and aft. Lay up the 9 long strips from one tab to the other in the following sequence: 45° BID, UNI, UNI, 0-90 BID, 45° BID, UNI, UNI, UNI, 0-90 BID. The next 11 plies start at the top corner of the forward and aft spar faces and run down over the tabs on each side. Each ply stops 1/2 inch lower on the spar giving a thickness taper to the lug. The sequence of plies from longest to shortest is as follows: UNI, 45° BID, UNI, 0-90 BID, UNI, 45° BID, UNI, 0-90 BID, UNI, 45° BID, 0-90 BID, peel ply. The last ply should just cover the tab on the rear face. The last ply should just cover the tab on the rear face. The tape covered masonite is then placed over the tab area and a spring clamp applied to provide a gentle pressure on the tab lay up while it cures. The pressure will result in copious epoxy squeeze out. Cure 24 hours then remove the masonite, the tabs, and all four pieces of peel ply. Saw trim the lugs to a uniform 2 inches x 1.6 inches rectangle with 3/8 radius on the corners.

Remove all traces of foam, tape, and 5 min from the bottom spar cap. Prepare the surface between the two outside lugs for structural bonding. Go cut two 2 x 2 pieces of dacron peel ply and the following glass cloth:

- 10 strips of 0° UNI 2 inches wide, 8 inches long
- 5 strips of 45° BID 2 inches wide, 8 inches long
- 4 strips of 0-90 BID tape 2 inches wide, 8 inches long

These strips are laminated in the following sequence: 45° BID, UNI, UNI, UNI, 0-90 BID, 45° BID, UNI, UNI, UNI, 0-90 BID, UNI, 45° BID, UNI, 0-90 BID, UNI, 45° BID, UNI, 0-90 BID, UNI, 45° BID, 0-90 BID, peel ply. A tape protected masonite pressure plate should be applied again with spring clamp pressure. Be sure not to open voids in the corners when applying the masonite plates. Cure 24 hours and then saw trim again.