

# **INSTRUCTIONS FOR ASSEMBLING AND MOUNTING BAGGAGE PODS FOR THE VARIEZE AND LONG-EZ**

(Author Unknown)

## **ASSEMBLING THE PODS**

1. The two tail cones marked "1" go together and the two marked "2" go together.
2. Sand the finish dull in the recessed seam area on the outside of each half of the pods and the tail cones. Also, sand 2" in from the edge on the inside of each half of the pods and the tail cones, and on the pylons 2" from the front and rear edges, both inside and outside.
3. Cut the edges of the pods and tail cones to the trim line for length.
4. When putting the halves of the pods and tail cones together, run a piece of duct tape along the seams on the outside to hold the halves together while doing the lay-up on the inside. Hot glue also works very well.
5. Assemble the tail cones first, and with the pods duct taped together, trial fit the tail cones to the pods.
6. Lay-up 1 ply BID cloth inside and 2 plys outside of each seam of the pods, tail cones and pylons.
7. "C" clamp two pieces of thin plywood to hold the pylons in shape when they are filled with foam.
8. Duct tape a piece of poster board over the opening of the pylon inside of the pod.
9. Mix approximately ½ cup (?) each of A and B portions of 40X foam and pour into the pylons. Hold the poster board on top while the foam cures.
10. After the foam has hardened, remove the poster board from inside and top of the pylons, sand the foam flush with the inside of the pods, sand the glass dull around the foam, micro the foam and lay-up 1 ply BID lapping over 1" onto the pod's glass. Peel ply the lay-up.
11. Fit the tail cones to the pods lining up the top and bottom seams. Be sure the tail cone is mounted properly to maintain the airfoil. Drill three 3/16" holes in the 2, 6 and 10 o'clock positions for mounting camloc fasteners. Use a #4 camloc in the 2 and the 10 o'clock positions, and a #7 camloc in the 6 o'clock position.

## **MOUNTING THE PODS**

1. Put plumb lines on the nose and on the center of the prop hub.
2. Run a line on the floor from the nose plumb to the prop hub plumb.
3. Underneath each wing, measure out 50" for the VARIEZE and 61" for the LONG-EZ from the nose/prop hub plumb line and draw a line that extends beyond the leading and trailing edges of each wing.
4. Run plumb lines from the leading and trailing edges of each wing to line up with the lines on the floor that are 50" or 61" out from the nose/prop hub line.

5. Put duct tape 8" wide on the bottom of the wings and ailerons and lap the tape over the wing leading edges 6".
6. Draw a line on the duct tape from the front of the rear plumb lines.
7. Lay-up 7 plys BID 7" wide, long enough to extend from 1/2" on the front of the aileron up and over the leading edge by 3" to form the mounting strip. Wet the 7 plys of BID and roll it up. Unroll the wet BID starting at the aileron. After about 6" of the BID has been unrolled, use duct tape to hold the 7 plys in place and continue to unroll the BID up and over the leading edge, centering the BID over the plumb line on the duct tape. As the BID comes up over the leading edge, it will have a tendency to follow the flow of the wind and should be pulled to line up with the plumb line on the top of the wing. On the LONG-EZ, you can put in two more inserts per pod and shorten the 7 ply BID strap to 4" behind the back of the pylon.
8. Mount the leading edge of the pylons at the leading edges of the wings.
9. Construct a cradle to hold the pod up to the wing on the plumb line.
10. Using a Sears degree finder attached to a fuselage longeron determine how many degrees up the nose of your plane is in level flight. On the ground, raise the nose of the plane to match the flight degrees.
11. Locate the water line on the pods by running a line from the tip of the tail cone to the nose of the pod. Bondo a small block of wood on the water line and mount the degree finder on the wood block. Position the pod in the cradle so that the nose is 1 degree nose high.
12. With a marking pencil and a block of wood the thickness of the gap between the front top edge of the pylon and the 7" mounting strip, mark a line on each side of the pylons from the front to the back. This will mark the curve that needs to be cut in the top of the pylon to fit the mounting strip. Trial fit the pylon to make sure the pod's pitch is correct. Then cut 1/2" more off the first pylon. This gives you a little leeway on the next one.
13. Five minute the pylon to the mounting strip, then lay-up two plys BID, lapping 2" onto the pylon and onto the mounting strip. Sand the pylon and the mounting strip dull where the BID overlaps.
14. With the mounting strip in place, drill six 3/16" holes through each mounting strip and wing, two on top of the wing 1-3/4" back from the leading edge, 2" on either side of the center line; two on the bottom of the wing in front of the spar-cap and two 1/2" in front of the trailing edge of the wing where fiber nut plates are to be mounted in the aileron cavity.
15. Remove the pod from the win, using paint stir sticks so that the paint job is not ruined. Trim the 7 ply mounting strip to a 6" width and feather the edges smooth.
16. Fabricate 8 aluminum inserts for 3/16" screws. DO NOT drill the hold all the way through the insert.
17. Drill the two holes on the top of the wing and the two holes in front of the spar-cap up to 3/8". Use a 3/4" spot facer with a 3/8" pilot and go 1-1/8" deep into the wing. Put a 2" piece of duct tape over the hole and cut out the tape over the hole. Put a piece of duct tape on a large washer and mount onto the insert. Put slow flox into the hole (be careful not to put too much flox into the hole or it will push out

- the insert). Weight or tape the insert in place and let cure. When the flox has cured, remove the washer and duct tape.
18. The pod can now be mounted permanently. If the pods are removed, the screws can be inserted into the inserts and the heads will show or the screws can be left out and the 3/16" holes will show.
  19. After mounting the first pod, run a piece of 1/4" clear plastic tubing from its nose to the nose of the second pod. Fill the tube with water and adjust the second pod until the water is level. Repeat the process along the tips of the tail cones.

