TANDY WALKER'S 2nd A CLASS BOMBER-21 to 29

FW:21 Class A Bomber

Here are some construction shots during the left wing tip panel assembly.................Tandy
I have finished the shear webs and anti flutter bracing on both of the wing tip panels. I will be jointing the tip panels to the center section at the 23.5 degree dihedral angle after I shape the tip panel leading edges first (*an earlier suggestion provided by Gene Wallock*).
Then there has to be dihedral bracing added and the center section planking has to be added on top and bottom. Once this is all completed, then I have to do a final sanding of the entire wing before it is ready to cover.

I have taken a few digital pictures this this morning for you guys to see the status of the wing:

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FW:23 Class A Bomber

The three pictures below shows my set up for joining the inclined left wing panel to the center section.................Tandy

FW:24 Class A Bomber Dihedral Joint Structure

During the joining of the left wing tip panel to center section panel I took the following pictures for you to see:

Picture 1 This shows the use of the temporary end ribs that was used to set the required
inclination for one half of the dihedral angle on both wing panels.

**Picture 2** This shows the left wing tip panel jigged up to the center section with only the ends of the spars, L.E., and T.E. glued together. However, notice the use of cloths pins clamping the two temporary end ribs together, which serves to force and hold the ends of the spars, L.E., and T.E. together overnight while the glue dries.

**Picture 3** Once dry, the two temporary end ribs are cut and removed from the glued joint. The joint is very weak and must be handled carefully while a balsa filler is glued in between the spars across the dihedral joint as shown in the picture below.

**Picture 4** This shows the quarter inch wide 1/32" plywood dihedral bracing on forward spars and 1/64" plywood dihedral bracing on aft spars, which is put on both sides top and bottom of both spar pairs.

**Picture 5** This shows the 3/32" balsa dihedral rib after it has been cut into its three segments.

**Picture 6** This shows the rib segments glued in place in the dihedral break plane. The remaining effort is to glue in the four large triangular gussets on either side of this rib, two at the front to brace the L.E. and two at the back to brace the T.E.

The four forward 1/16" X 1/8" tubulator spars will be glued in later, after the right wing tip panel has been installed..................
FW:25 Dihedral Joint Gussets

I decided to go on and send these two last pictures in this dihedral joint series. The first picture shows the four large triangular 3/32” balsa gussets on either side of the dihedral rib, two at the front to brace the L.E. and two at the back to brace the T.E. The second picture shows essentially the same thing, except the two small anti flutter braces have been added to complete the set.............Tandy
FW:26 Class A Bomber Right Wing Tip Installation

The pictures below show the similar right wing tip jigging that was used on the left tip. They give you a preview of what the finished wing will look like...Tandy
FW:27 Class A Bomber Finished Wing

I completed the structure of the wing and late this afternoon finished up with the final sanding. Of course contouring the laminated wing tips and shaping the wing’s leading edge took a significant amount of time. I have attached seven pictures below. The first one shows the wing in its entirety and remaining six pictures shows close up detail of some of the structure’s features.............Tandy
Once the wing was finished, I did a trial fit with the wing saddle on top of the pylon. I then bolted the stab on the stab platform and checked the wing-stab alignment one last time. Satisfied with the alignment, I then had to prepare the fillet between the wing saddle where the vertical pylon joins. I generally use carved balsa for this fillet, but because of the complex double contour of the Bomber wing saddle-pylon intersection, I use something different.

I mix up equal parts of 45 minute Hobby Poxy in a small plastic cup. Then I stir in a generous portion of K&B Micro Balloon, which has to be mixed very thoroughly to achieve a smooth, almost past like, epoxy mix. The purpose of the micro balloons is to make the epoxy "sandable" when it dries. Without the micro balloons, one would never get the fillet sanded to contour properly. I apply the mix along the intersection with an 1/8" dowel letting it flow down and then using alcohol on my finger, I rub and shape the fillet to contour. Because it is slow drying epoxy, it flows in the intersection beautifully.

The pictures below show this fillet in place after it has set up. It will require overnight curing before it can be sanded to final contour. However, with this technique, only surface sanding is required because the fillet is essentially preformed.................
FW:29 Class A Bomber Fin and Rudder Gussets
In preparing for covering, I have decided to double cover with silk. I was concerned about double silk shrinkage crushing the leading and trailing edges on the cross pieces of the light fin and rudder structure. So today I added gussets to prevent this. The two pictures below show the tail structure before and after the adding of gussets.
You will also notice the addition of a small eyelet in the sub rudder in the second picture. A nylon loop is threaded through this eyelet and is used to hang the fuselage nose down on the wall........Tandy