

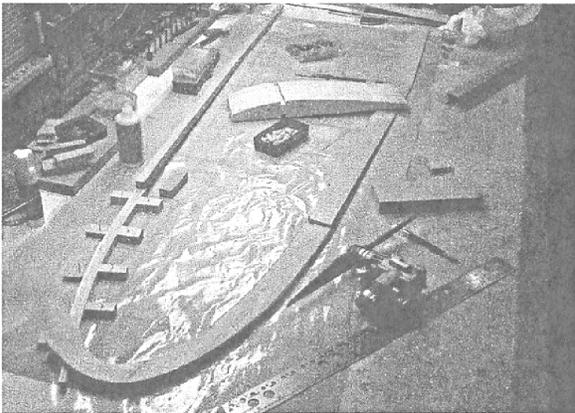
# BENDING WOOD

By the Stooge

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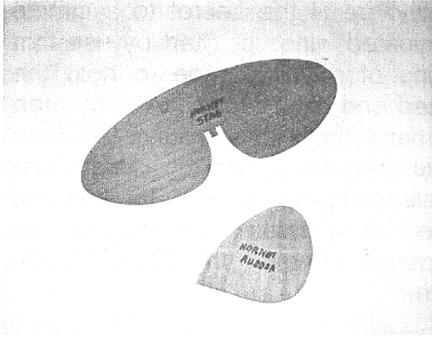
If you have never tried laminating wing tip and tail feathers for your models you will be surprised at how easy it really is. I have used laminated tips for several years for large gas jobs as well as small rubber models. Just a few of the advantages of laminated tips are they are very strong and they are very light.

For wings like the Spitfire or a Satellite gas model or any other airplane with elliptical wings I laminate the leading and trailing edges of the wings as well as the stabilizer and rudder outlines. To laminate the L.E and the T.E. for these airplanes you don't even need a form to bend the wood around. In the picture below, small blocks, with a pin through the blocks, are holding the L.E. in place around the outline while the glue cures.



The wing to a Satellite 788

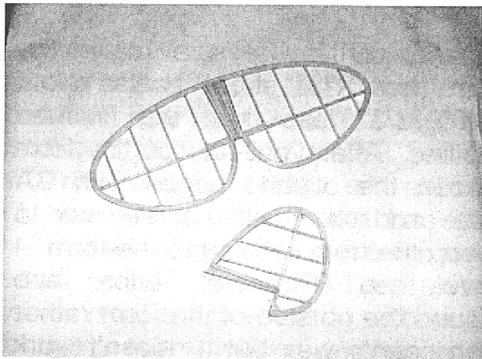
The first step is to make a form or mold to the inside outline of the wing tip or stab. This is the method I use, it is easy and the best part is it works! For small rubber models, Peanut, or No-Cal size make the form from 1/8" sheet balsa about 1/16"-3/32" less than the finished outline. After you cut out the form, harden the outside edges with CA glue and rub it with candle wax to keep glue from sticking to the form. I have tried Plumbers Teflon tape around the outside of the form rather than candle wax but it doesn't work that well.



The form for the Tail Feathers

For small models I use 2 laminations of 1/16" X 1/32" strips of balsa wood. You can use strips of basswood rather than balsa if you wish. MicroMark sells basswood strips in 24" lengths in all sizes. You can get 10 pieces of 1/16" X 1/32" basswood for \$2.50.

OK here we go. Take two 2 strips of your wood and glue the ends together to make a 1/16 sq. I just hit it with a drop of CA on the end. Soak the strips in hot water. (Ed. Note: A long PVC sprinkler system pipe nipple with screw-on end caps works great for soaking, and leave them overnight) Everyone who has ever read an article on laminating knows that you're to add household ammonia to the water to soften the wood and make it easier to bend. Wasted effort guys. Give the ammonia back to mom to wash the windows with.



The finished product

Now here is the secret to a simple laminated wing tip. Start by use thin strips of masking tape to hold the glued end to the form. As you start to bend the strips around the form hold the whole shooting match over a steaming tea kettle. Go slow and use lots of steam and tape as you continue bending the strips to the form.

Because the strips are only glued together at one end the outside strip will simply slid over the inside strip as you bend them around the form. When you have finished bending and taping the strip to the form, bake the whole mess in the oven for about an hour at 150F, or you can zap it in the microwave.

After you take it out of the oven remove the strips of tape, save the strips of tape because you'll need them again. With the strips of tape removed, the strips of wood will separate a little, now rub thinned white glue into the seams between the two strips of wood and re-tape it to the form to dry.

Start with the wing tips first till you mastered the technique. After you've done the wing tips the stab the rudder is a piece of cake. For the stabilizer you'll have to modify the technique a bit. Mark the center of your strips with a pencil witness mark, spot glue the strips together at the center and put them in the water to soak. Put a witness mark at the center of your stabilizer form so you can align the strips up at the center. Start at the center rather than one end, steam, tape, bake as before and glue her up.

When you take your laminated parts off the form they will spring out a little, don't sweat it. You can spring them back to the correct shape by holding them in place with pins, as you glue the ribs in.