

Applying HDPE Covering Material (Grocery Bag Plastic) on Indoor Models Using Rubber Cement —By Jeff Nisley

To begin, measure the area of the item to be covered. Example: 4" x 7". Add 2" to each dimension to get the plastic sheet size. Result: 6" x 9".

Using a cutting mat is the best way to cut tissue or plastic (fig. 1). An excellent 12" x 18" mat can be purchased at Walmart for around \$10.

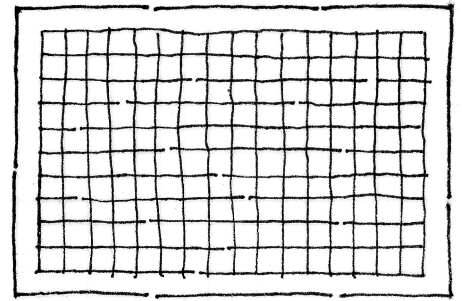


fig. 1

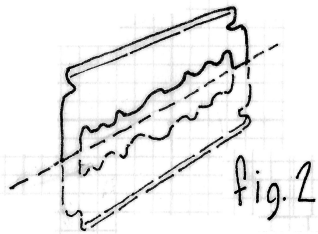


fig. 2

IMO the best tool for cutting HDPE Covering Material is a double edged razor blade snapped in half. (fig. 2)

Rubber cement is applied using a small needle nosed plastic bottle. You will need two—one for Naphtha (rubber cement thinner) which can be purchased at Ace Hardware or Walmart for around \$7 a quart. For the other, mix half naphtha and half rubber cement together so it flows easier out of the needle.

Walmart carries rubber cement in their school supplies.

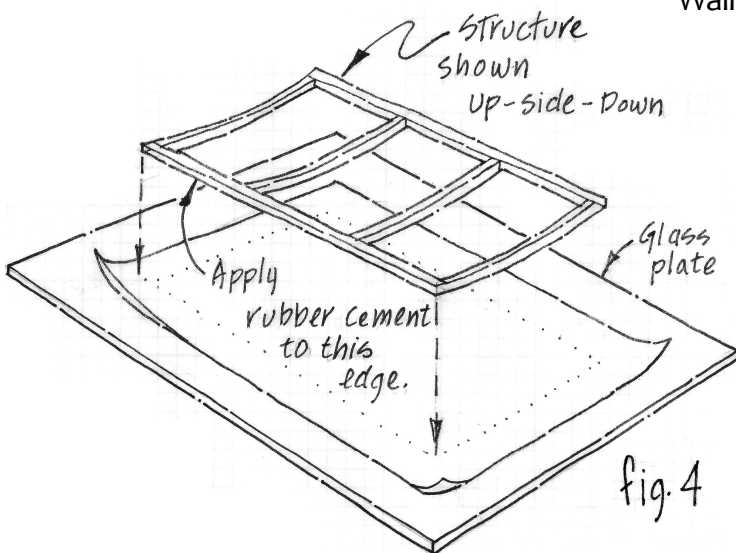


fig. 4

Place the plastic sheet on a glass plate and flatten out. Static cling will adhere the plastic. Apply the rubber cement mixture to the leading edge of the wing only and spread the glue out evenly with your finger tip. Now place this edge on the plastic as shown in fig 4.

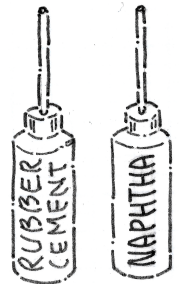


fig. 3

Proceed by picking up the structure allowing the plastic to drape away from the wood. (Fig.5)

Without letting the plastic touch anything with glue, turn the structure over and quickly glue the rest of the top surface, being sure to spread the glue evenly on the wood. Next turn it over, and now by letting the plastic drape again, carefully adhere the plastic to the middle rib only, lightly pulling it taught.

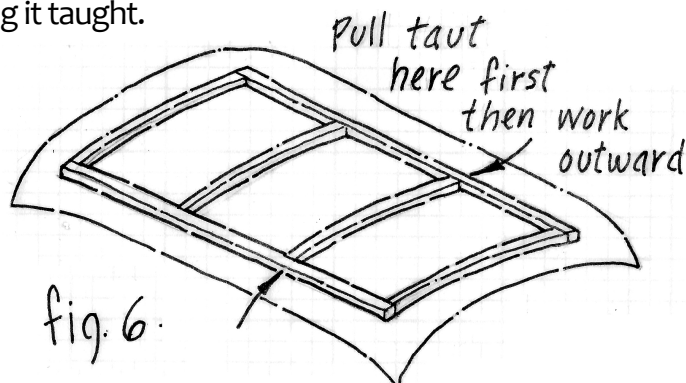


fig. 6

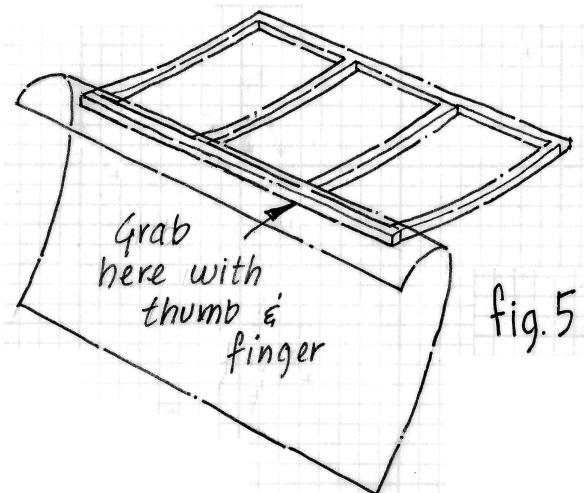
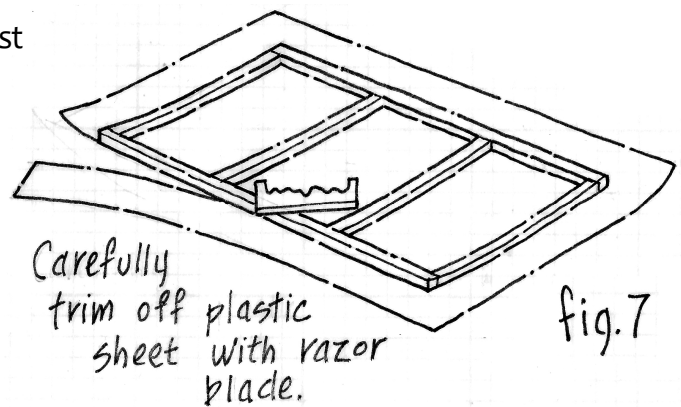


fig. 5

With the plastic still draping, pull the plastic up to the rest of the structure. Work your way outward pulling gently as you go. It may seem a little awkward this way, but know that glue is not getting all over the place. If it does, don't worry, I've got a fix for that which I'll let you know about later. I like to glue all of the surfaces, but some leave the middle ribs unglued—it's your choice.

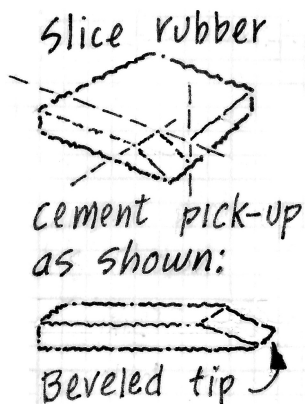


Turn it back over now and adhere the plastic better by using slight pressure from your finger tips. When the glue is not thoroughly dried you can carefully pull the plastic taught over the structure to form a nice air foil and alleviate some of the wrinkles. Use your thumb and finger tip to do this. Be warned. Too much pulling makes the plastic dip down between the ribs. Easy does it here—you just want it to lie flat and make a good air foil. This goes for tissue covering as well. Also tissue is sensitive to humidity so getting it too tight is a bad thing especially for indoor flying. Oh—and never mist tissue with water on an indoor plane. It will warp.

At this point you can pick up your piece and admire your work! Good job.

Now all that is left is to do is to cut off the excess plastic material. I like to set the piece aside and do this later when I know the rubber cement has dried sufficiently. Or if you can't wait, you can trim it now. You can use the trusty cutting board to carefully trim the plastic away as shown in fig. 7 or do it in mid air—what ever you are comfortable with. Take care not to cut into the wood. A little practice goes a long way. You'll get better.

You might notice that in some areas there wasn't enough glue because it dried somewhat or that it soaked into the wood causing a less than perfect bond. Know that it is OK to pull up the plastic and re-apply the glue. This is where the needle tip bottle of Naphtha comes into play. Apply it sparingly in places to coax the plastic away from the wood so you can apply more cement to those places.



Lastly there is a way to clean up any stray globs of rubber cement that have worked their way into your project. It's a rubber cement pick-up (good name!) that can be found for around \$3 at Hobby Lobby in the drafting supply isle. By cutting the pick-up as shown you can get right up to the spars and ribs with the beveled tip to gently rub all the cement away with no residue left behind. Nice!

***There is a little bit of a learning curve with this procedure—
but as you do it a while, one naturally gets better at it.***

A good idea is to practice on something else first. If you are making an airplane from a laser cut kit, cut out some of the interior wood of the balsa sheets that come with the kit you have left over after punching out the parts, and try applying plastic or tissue to this.

I hope you have found this helpful in your quest to make beautiful and good flying model airplane. I have found this method easier and a bit more of a pleasant experience than the traditional spray adhesive method. I also believe it produces better results. I hope you think so too. — Jeff Nisley—