

Patience/ spars

First note that what I have did not cost big bucks I have accrued the tools I am using over years. The ladder I mention came from an auction at which I bought TV tools in 76. The stands came from a Kmart sale. I installed my own boiler and radiant heat so that was not that difficult. The final connection which had to be flexible are two washer ten foot hoses with the shutoff for the in out being a laundry double valve from my appliance truck. My wife one year gave me a thousand tongue depressors for Christmas- best Christmas present ever from her. Everyone saves me old credit cards. My wife saves the cottage cheese butter tubs cat food dishes for epoxy. I am the keeper of the Bounty towels BUT SHE buys them. The heavy table for the CNC came from a salvage store near us..... Saw one in the town dumpster but it was beyond my ability to even think of getting it out. And finally the table for the Mylar work is a special from Home Depot. Forgot to tell you the lights are all hand me downs from the rest of the house. I did insulate this basement on purpose though. My son was using it at that time - how convenient to then be able to use the same area that now has heat in addition. We put the boiler in this section at his suggestion as he went off to school. Oh yes the pump comes from my business . Decided to use it since it had not been used in the business for almost ten years. I had been using old pumps from refrigerators.



The sanding tool was used to make a slot. In this case reviewing the pictures you can see the slot is not deep enough. Question then becomes more sanding or more layers of paper to make the depth greater.

The picture of the Woodpecker shows what it is..You can see the slots I made with the tool right next to the carbon spar. The spar has been moved backwards so you can see the results.



The ruler is included so you can get a handle on the size.

The foam is "spyder" foam capable of 60" compression in the thickness of the cord.

I have not put slots under the spars because I have not figured out a way to hold them in place if they are coated with epoxy. Spray them with

3m to hold them in place for handling and to put them on the Mylar.

When you have everything going and you are ready to mix your epoxy I assume you have the glass on the Mylar and the spars located in the wing after the channels and slots have been made. In addition if you are putting any extra cloth on the leading edge that has already been done.

GLOVES on any time you handle epoxy and of course your exhaust fan has been running all the time anyway. Don't save gloves buy them by the hundred. Bounty towels are going to cost you more. Buy them by the dozen of rolls. Now when I soak the glass I always do it with excessive amounts since I am using such thin glass. This helps hold down the tares and snags in the thin cloth.

To handle the thin cloth I cover the table with poly that I have purchased by the roll for this job. It is easy to catch the glass on anything including your hands. I have to wear gloves on my hands or a I catch the fine cloth on my hands.

I use one layer on the mid and tips and two layers on the mid section of .6 ounce cloth. I heat them in setting. By the time morning comes I can handle them they have become very hard. They won't ever hit this hardness without the heat. My first set I did had more fingerprints than smooth area. I beat this problem with heat.

I have a ten foot glass table supported on an extension ladder with steel stools on the concrete floor of the basement., I put copper tubes between the rungs of the ladder and the glass. I have a dryer thermostat in series with the pump for a high of 140 and a low of 120 or something close to this for the water temperature.

At some point either before or after I fill with epoxy the first row of slots that I created on purpose next to the carbon strip.

Now with it all soaked out and excess removed put the foam in the sandwich.

NOW wrap the whole thing with Bounty paper towels top and bottom and to make life easy I have masking tape prepared to help hold it in place. Now remove your gloves and put it in the bag. You should not be touching epoxy anywhere because you wrapped it.

Now turn on the pump FLAT OUT NON STOP. You asked for information this is probably the most important a complete wrap top and bottom with Bounty paper towels with the pump turned on FLAT OUT. Ideally you will max the vacuum to maximum possible. We do not want any delamination.

Delamination. IF you have any doubts you should have done several things in prep. The whole wing should be sanded with great care with rough paper to break off the melt. It is not easy. Then blow off the dust (something like a hundred pounds pressure. This is serious blowing)., You of course will be amazed when you weigh it before and after the big difference. Now if you have doubts about adhesion or using too much epoxy lightly run the woodpecker tool over the whole wing. This will makes an enormous difference in the prevention of delamination.

On this plane every gram counts. The tail is the most important item. IF it is too heavy- very simple- make another one tomorrow night and this time weigh the pieces in advance. A scale to a tenth of a gram is probably a minimal requirement. With individual pieces of wood you may need a scale to another decimal point. Every gram in the tail can cost up to six up front to counter it.

When you have started the pump on its way pulling out the air in the bag slide the bottom shuck under the wing. This is the only way you will get the concave rear surface that was the original intention. No sections are put together while being made. Concentrate on one section at a time. The mid section would be impossible with the tips because the mid section has one degree of washout. With the bottom shuck under it you will create the concave surface and the washout that you cut with your CNC machine.

I have in the past made a special set of bottom cuts just for the bagging process. I did not use s0pyder foam to do this though but one of the others. I tried to produce the shuck with the maximum thickness left so that I could handle it easier in the bagging process.

As you pull the vacuum you must makes sure you run your hands from the middle of the trailing edge to the two ends to make sure it is down all the way secure and lined up with the shuck underneath.

The high vacuum should have rammed the whole thing together with no difficulty at all. All you did was guide it to make sure it came out your way.....

Now you have spent all your time on the trailing edge if it came out wrong. Release the vacuum and start over.

Now then the leading edge. Run your finger underneath the leading edge from end to end then the top then the bottom till you are satisfied that the leading edge meets the best it can. This is done while we have maximum vacuum; when vacuum is rising you are concentrating your efforts on the rear edge.

I do the center section only' as one piece. This alone will probably cause you enough grief. Make sure as the vacuum is drawn that the two edges are kept butted., IF anything goes wrong they can end up being severely twisted and still held there. When you unwrap it and you discovered this problem showed its ugly head just go to a radial arm saw and carefully line it up and cut through the center section then butt it right. Probably for minimum weight this time you should again vacuum it after the epoxy of the first layer holding it in place has set. You do not wish to repeat your first mistake.

And you had to put up with all this just to get a few pictures.

Questions??

Rick