



Stressed Skin Effect

for model aircraft

by Klaus Herold



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Description

Some of HyperScale's visitors have asked me to explain how I produced the surface detail on the Fw 190D-9 that I posted recently to the Plastic Pics forum.

I had read about reproducing stressed skin effect and decided to try it out. As I was not satisfied with the method as described, I worked out my own, which is a bit more work but gives you much nicer results.

Here we go:

1. What Do I Need

First, you need a good rivet plan of the plane that you are planning to build.



Rosie the riveter

Dymoband

You will also need:

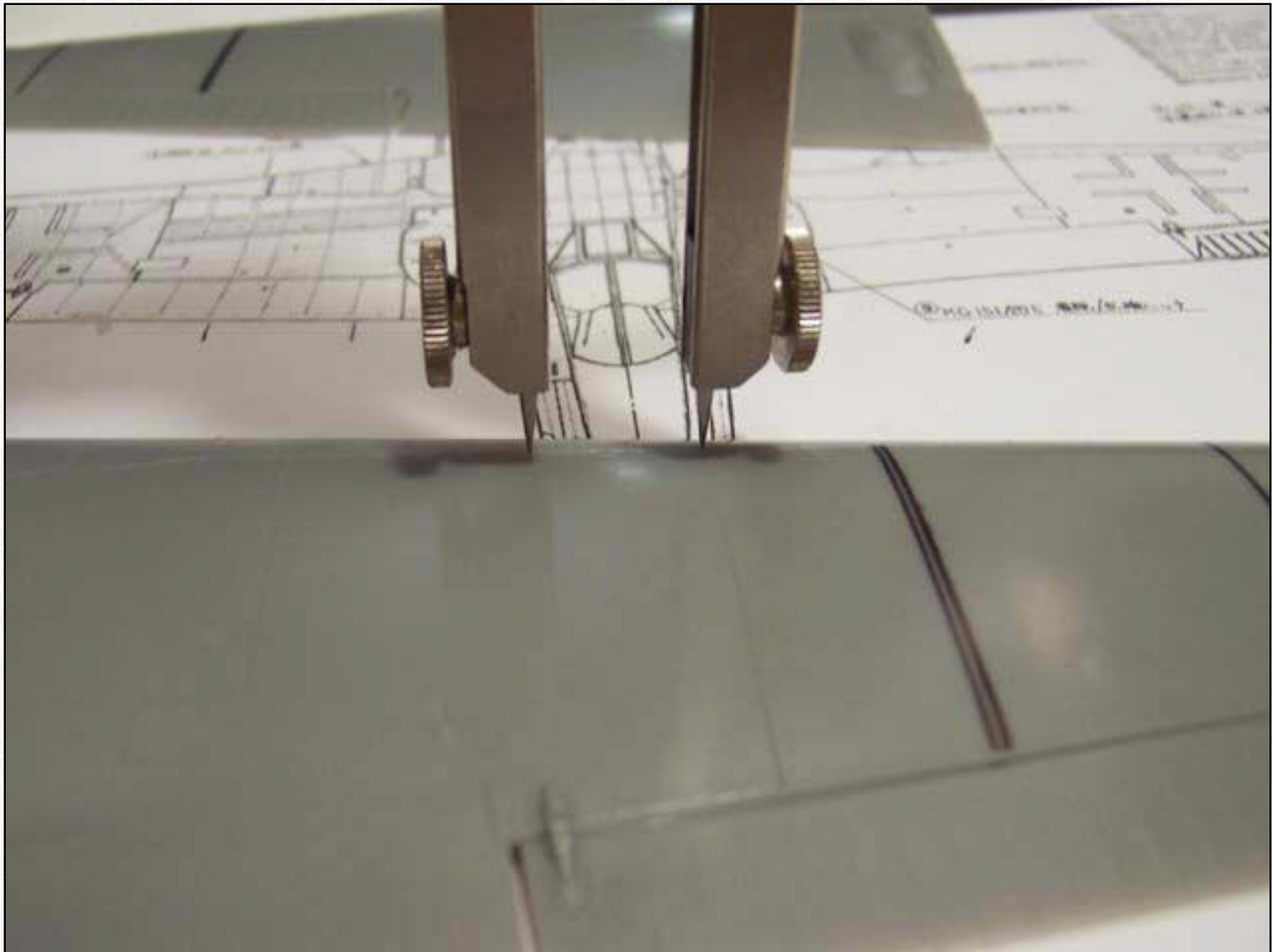
- a scalpel with a round blade
- some Dymo tape
- an overhead pen
- wet-sandpaper grid 1200
- a proxxon or Dremel tool with a polishing attachment
- a pair of compasses with two needles (for measurement)
- a ruler
- and Petr Dousek's "Rosie the Riveter" tool for 1/32 scale models

2. How Does it Work with "Herold's Method"?

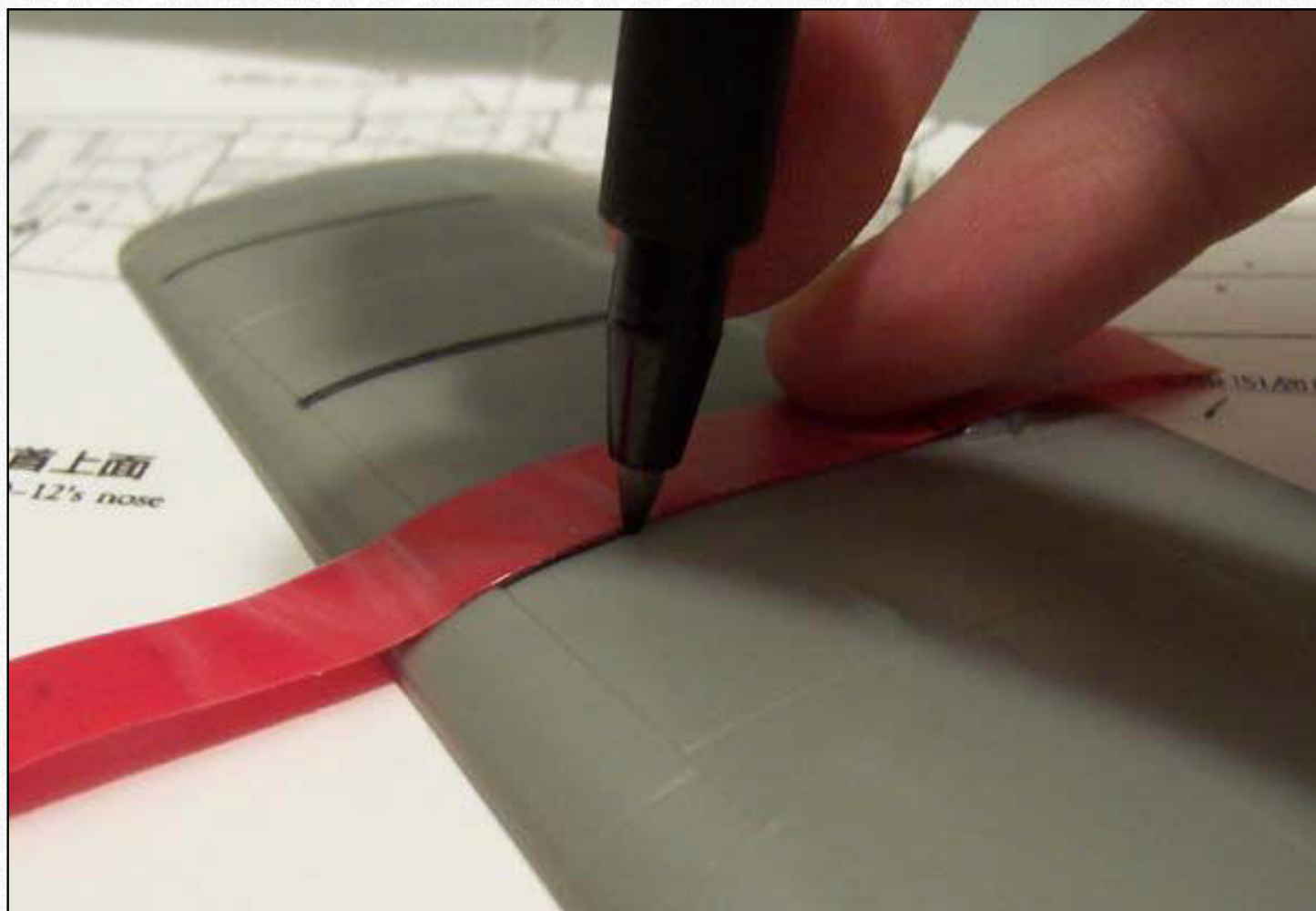
Draw all rivet lines onto the part. Measure only on one side and use your judgement to place the Dymo tape in the right position. This will give a better result as if you would measure on two sides.

If you work on wings, start on the bottom to practice and always do both wings at the same time (on line on right wing... same line on left wing). This will make them look the same and you cant forget anything.

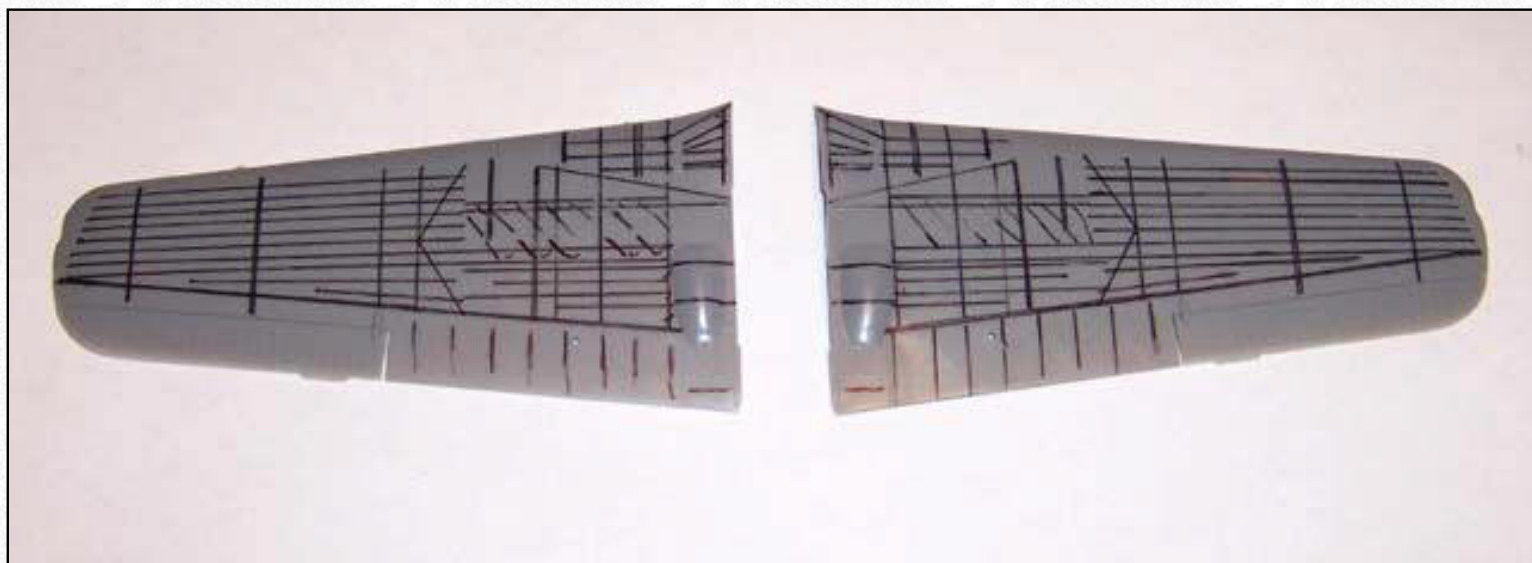
With the ruler, you measure everything out. Always use your panel lines as orientation points. If you see four rivet lines between two panel lines measure the distance between the panel lines and divide it by four. Then you know the distance you have to mark with the pair of compasses.



Use the Dymo tape as guide for your pen



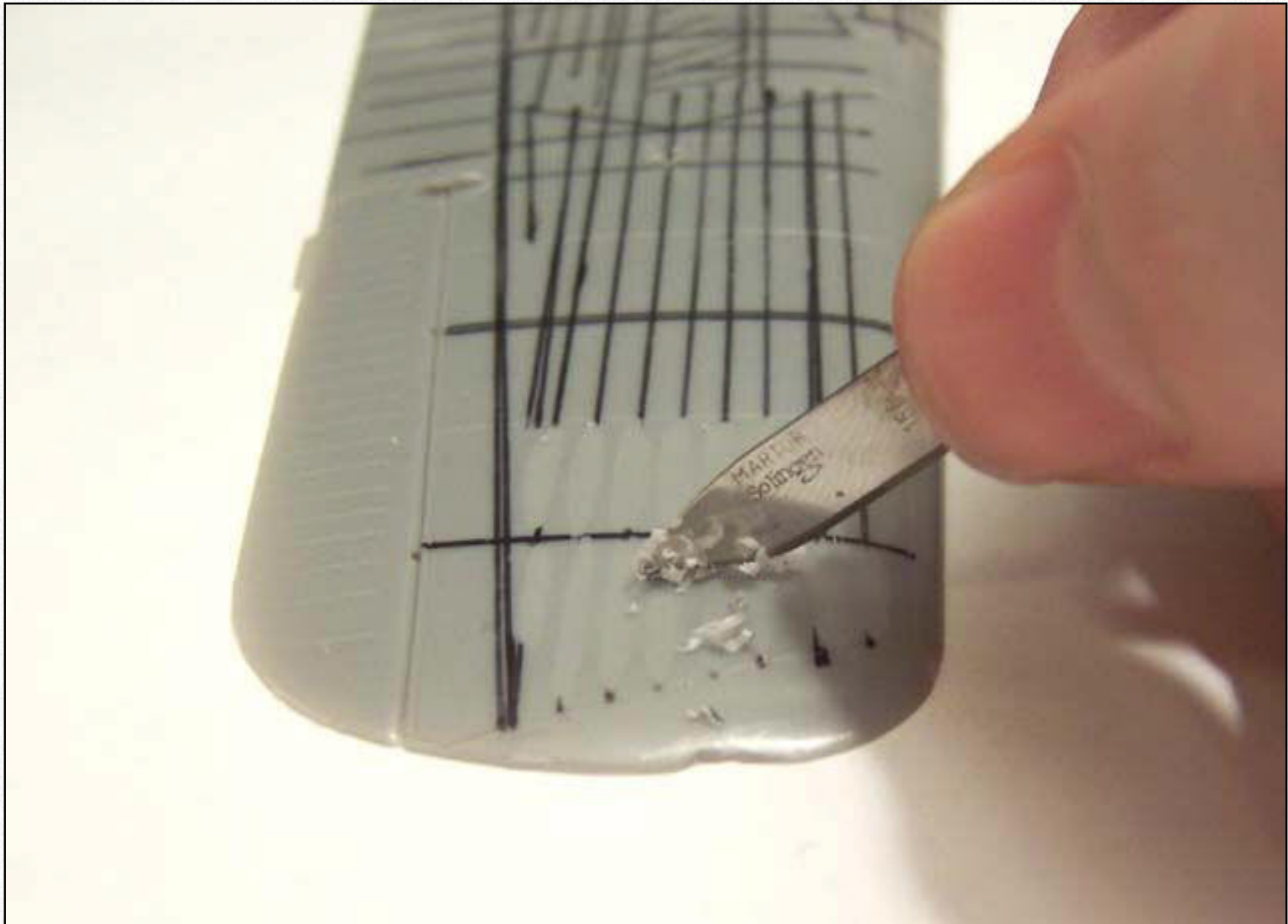
All lines are drawn. The part in the middle which seems to be a bit confused, didn't get a stressed skin effect cause the rivet lines are too close together.



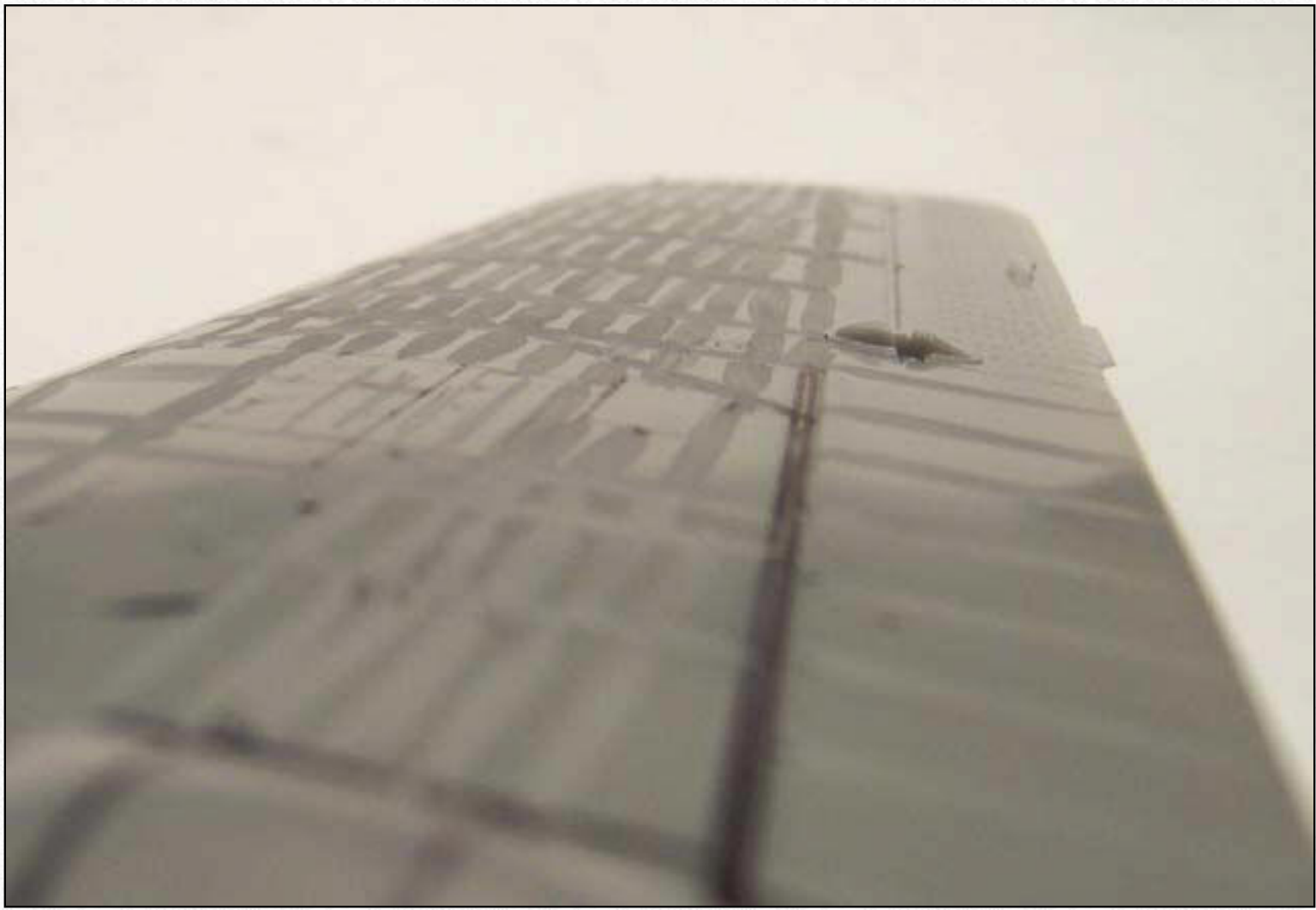
Now use your scalpel to make little sink marks between the lines, first the long ones and then the short ones. You

will hate the short ones, I promise!

It is enough to run your scalpel 7 times along the lines. you will get a feeling for it soon.



Here its finished. Note that it is very important not to follow your intention to do the lines that go from front to rear of the wing, in one pass. It might be less work but wouldn't give the desired look.



Now sand everything wet with 1200 grid wet-sand paper. Don't use lower grades. It will work just fine.



Here is the sanded wing.



To check if there are any big scratches left, you can polish the surface with the Dremel tool. After seconds you will think your plastic has turned into metal - just great!



Any remaining scratches may be sanded away with the latex polishing tool that comes with the proxxon. (I am sure there are similar products for all kind of mini drilling machines).



Polish again to check the result. Looking fine now...

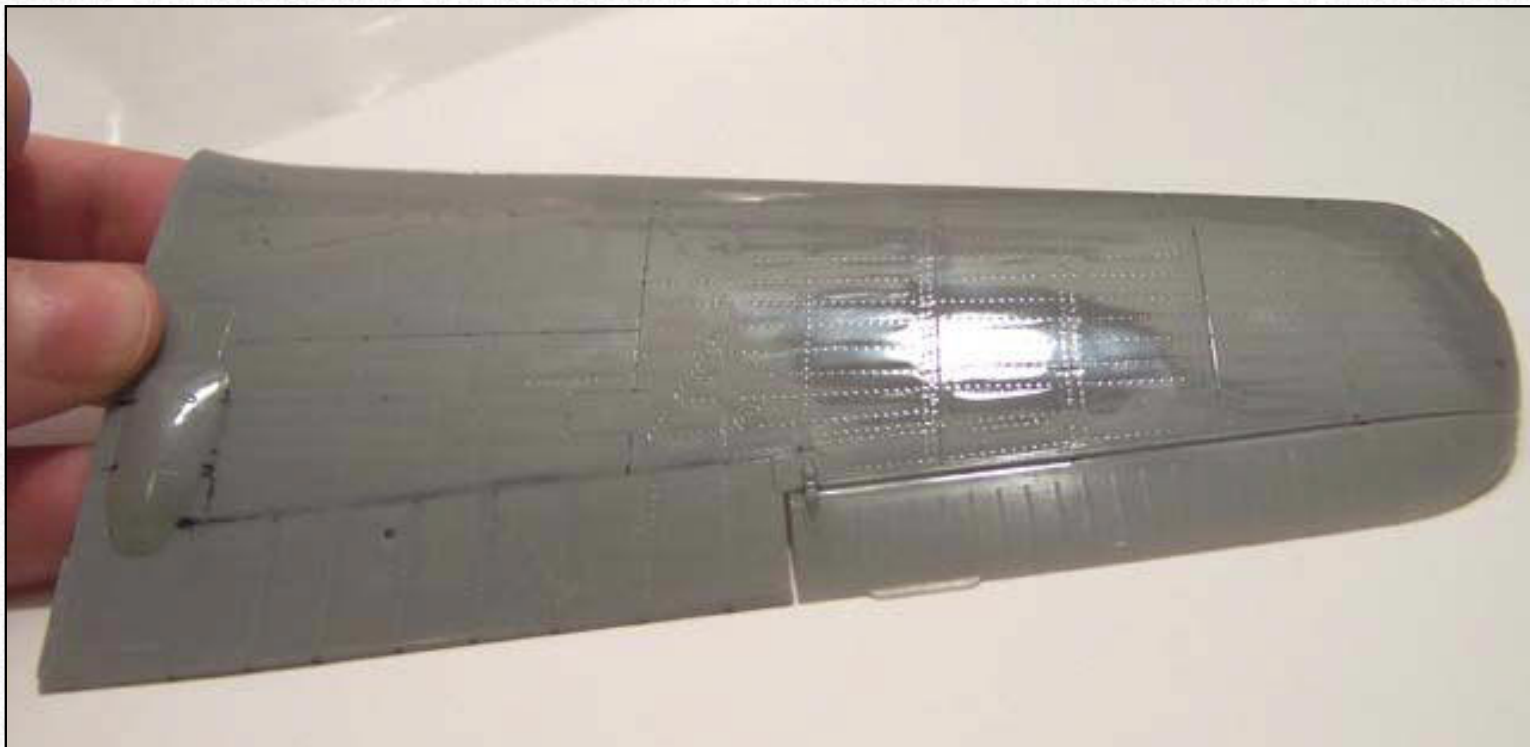


Now you measure again and draw all rivets into the recesses with "Rosie the Riveter" guided along Dymo tape. If you worked accurately from the beginning on the rivet lines should be all on the deepest point of the depressions.



After doing all the rivets I sanded with 1200 grit sandpaper again and polished the wing once more to see the results.

Here we go... a finished wing with a beautiful stressed aircraft skin effect and not a single scratch. You don't need any Mr Surfacer and you don't have to be afraid that your rivets will be gone because you did the stressed skin effect after riveting.



I hope this description of how I did the stressed skin effect could help a bit.

Most of the required work is polishing out scratches that occur when you hold the scalpel at a bad angle. If you approach a stressed skin effect with my method there is only one rule - NO RUSH - then you will be faster... believe me.

Give it a try!

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