



CNC WorkBench



Welcome everybody to this installment of **CNC WorkBench**. In this episode we will be showing you how to create a CNC pattern from a picture of a generic utility knife and dress it up to make it your own personalized knife. The way we're going to do this is by making scales for the outside of the utility knife. You can do this with any utility knife that has screws. We will design, disassemble, machine and reassemble the knife. You can take it apart

and then make your own custom scales. In this example I am using one from a big box store, it's a sliding utility knife, I will show you how to take apart, design, machine, and finish this particular scale for that particular utility knife. Instructions and videos are available on my website www.silverbackwoodworking.com so I invite you to come and enjoy

The main topics today are:

- Designing our project from a picture
- Creating, machining, assembly and finishing our project

Designing our project from a picture



Open the software and set up the job the job type is double-sided with his 12 inches the height is 3 inches and the thicknesses .33 inches zero position on the material surface that asked why datum position is in the center the flip directions to the right say click okay.



Open up our JPEG picture and imported into our project. Now scale the picture to the same scale our project is in the way we do this is you will notice that I photographed this on top of a piece of graph paper this is so I could keep my scale I know that the scale on the graph paper is 0.25" x 0.25" so in order to scale the picture to my project I have to make a box. I go to the draw a rectangle and I draw a rectangle around the grid box shown in the picture it happens to be on my screen the width is .105 and the height is .107. This is the

size of the grid in the picture. We need to increase the size of the picture to match a quarter inch

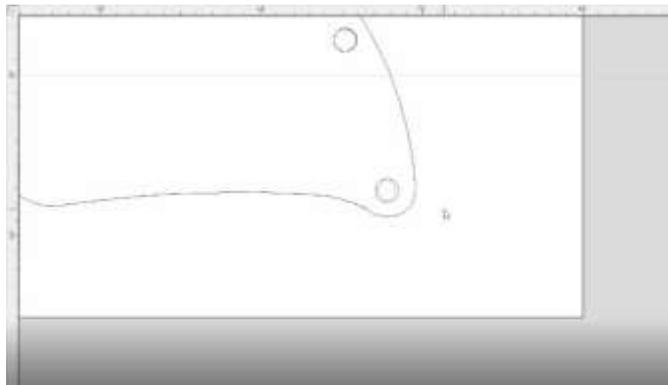


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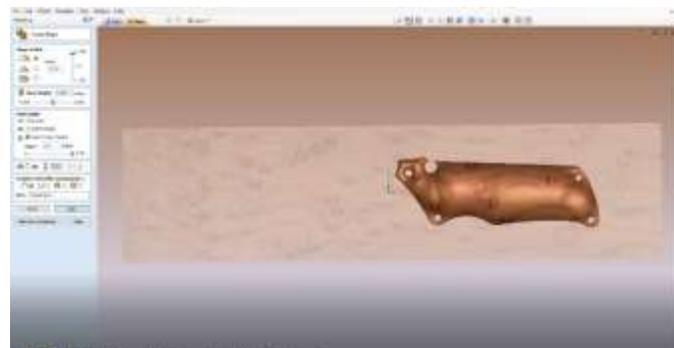
by quarter inch box. Go to the set size menu click on the box that you have just made and you will see the size of the box change the width to .25 inches and you will see a percentage underneath this is the percentage we have to increase the size of our picture to match our project. In my case my case to 238.0925%.

Now you should have a picture that is in proportion and scale to our project now it's time to trace out are part.

Now go to the trace bitmap menu highlight bitmap. It should roughly highlight all the black parts. This is the starting point of our trace. Picked the two black pieces and dispose of everything else. Now go to the node editing mode and cleanup and edit our vectors.



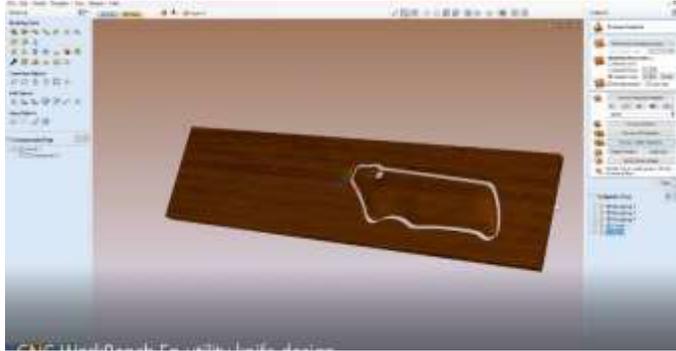
After you've done the node editing take your cleaned-up vector layout over the black piece in the bitmap and see how well they line up. Adjust and cleanup to match the bitmap.



Open the create shape menu shape profile is the dome you can adjust the angles I have mine 77%. Base is .0154 inches. Final height is .3 inches for the final height. Apply it and the results are in the figure to the left.



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Go to the tool path menu, set up all your tool paths roughing and finishing cut a profile. Make sure you pick the correct post processor. Save your tool paths. Now you're ready to machine your scales.

Go to the website silverbackwoodworking.com where you'll find all the videos for disassembly, machining, assembly, and finishing.

After we've done all the machining, we are now ready to sand and finish the project. Apply grain filler all of the surfaces with CrystaLac grain filler. You can stain to enhance the look and finish to taste. I kept it natural and finished the project with CrystaLac finishes.

Happy carving, Thanks for watching, make sure you support all of our sponsors and visit my website, silverbackwoodworking.com. I'll see you next installment.

Rick Frazier

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