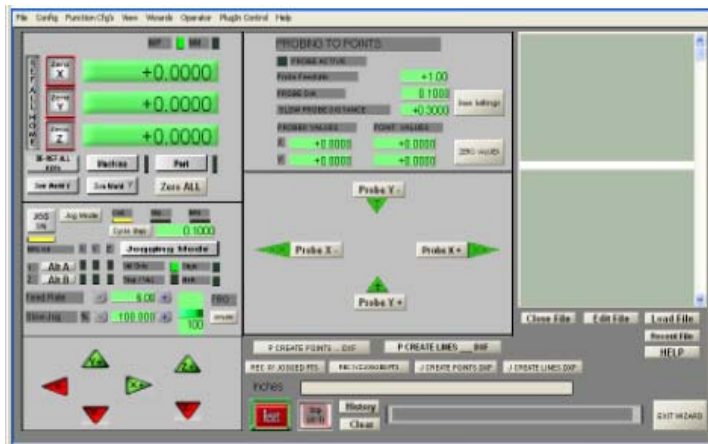


CUSTOM PISTOL GRIPS

1. Square up the stock material so it can be cut to thickness and surfaced for the right and left grip side. You want to match grain so mark the stock. Note that Babinga exotic wood was used. Exotic woods can be machined to close tolerances, are hard, BUT, note that you may be allergic to some of them and the dust could be nasty, so safety comes first. I use only carbide tooling to machine the wood.



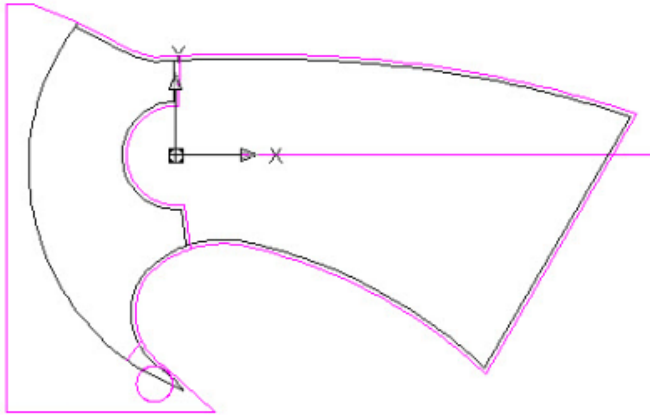
2. CNC will be used to machine the inside of the grips and the outside contouring is manually done. The gun frame was probed to get the frame's dimensions, a dxf file was created of the probed points, CAD was used to draw the frame from the points. To do the above I use a wizard which makes doing this easy. Note that a reference point for 0, 0 (a center of a disc in this case) is strategically selected and mounting of the frame is done so it can be reproduced as desired (placed on block at 60 degrees from X axis).



3. Basic drawings used are:

- An outline of gun frame so one can plot the drawing for a pattern (black color).
- Individual drawings to represent machining as required. What is required depends on the CAM one will use. Simple 2d machining is only required and LazyCam was used to generate code.

Two drawing's represent a 1/32" offset (magenta color) from the actual gun frame.
I epoxy coat the inside of the grips for numerous reasons using the actual pistol frame.



4. LazyCam was used to generate the gcode. The code basis is the zero reference. Four gcodes were generated as follows:
- No offset – which is used to draw a pattern
 - Inside offset for two machining operations.
 - Outside offset for a holder. The holder is used post machining of the grips for holding the grips while shaping the external surfaces manually.



5. The pattern is used to locate the zero reference point on the stock. Remember that you want to match grain and have the wood grain that follows the grip. So the zero reference point is located accurately on both right and left grip material.



PATTERN USED FOR LAYOUT



PATTERN CHECK OF MACHINED WORK



MACHINED LEFT GRIP

Very little hand work was required post machining and only in the sharp corners. One can spend 4+ hours manually removing the material for only one side, and, it's not fun!

6. The grips are epoxy coated inside and a retaining pin hole and screw hole are provided to align and hold the grips together. I use a few pins of the correct diameter to set the frame off the wood to control the depth of epoxy coating. In this case the coating was 1/32" thick. The grips are then attached to the gun frame to check if there is gap between the wood half's.



7. Until this time nothing had been done to the wood blank external surfaces. One may wish to manually machine or cut excess wood off of them before removing stock around the perimeter.

Much quicker to machine or cut off extra wood then rasping it off.

8. Now the blanks are ready to be contoured to fit the hands. It's trial and error from this point on,

slowly removing material until they feel just right. Never do the external shaping in one

session. The grip should provide for repeatable, comfortable hand placement and assist in

control of the recoil and trigger pull. The gun should be fired at the range using the new grips

since sometimes one finds they need to make more adjustments to the contour. Thus it will be

some time before they are ready to be coated with a protective finish. The following pic's

show the rough shaping done and preliminary finishing in progress.



Here is a set made for competitive shooting for an air pistol.



You can find very nice grips at reasonable pricing, BUT, do they fit your hand and do what you want them to do. A pair of grips range from \$50 to \$200 or more and most providers limit the extent of “customization” relative to hand fit as most are based on generic CNC machining and the price becomes prohibitive to do otherwise.

Have Fun,
RICH