

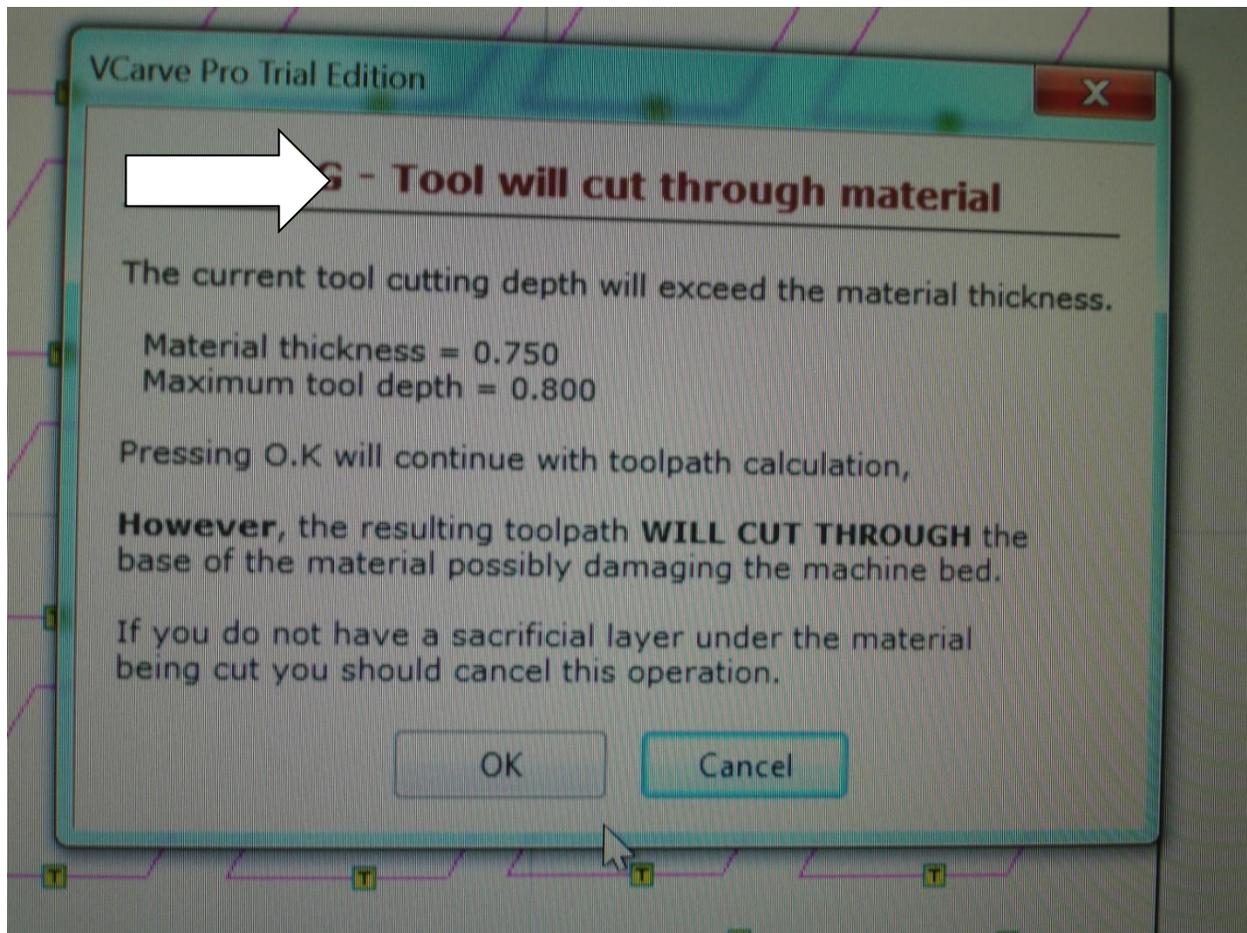
CNC Users Alert #14 - 9/13/19

Howdy,

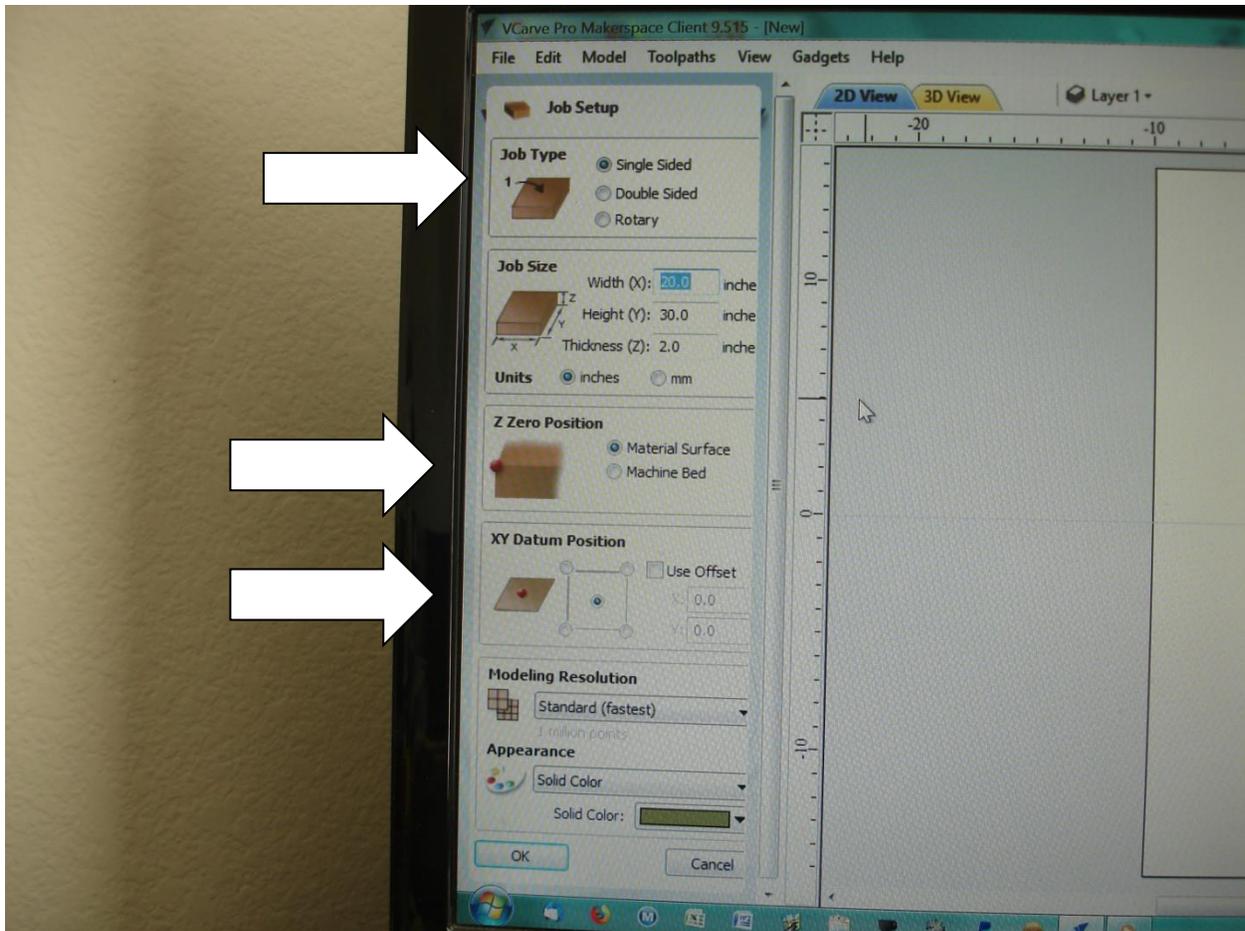
--- **R & R** --- Get Rest & Relaxation rather than frustrations if you think about RESIDUALS and REMNDERS. With the snowbirds about to return, and having not used the CNC for a while, this is a good time for these topics.

Will touch on both topics as one goes through this ALERT.

As a REMINDER if you get the following message there is a possibility of damaging the Spoil Board. Is that REALLY what you want to do?? If you are doing a 'cut thru' then PLEASE use a Spoil Board beneath the Project Board.

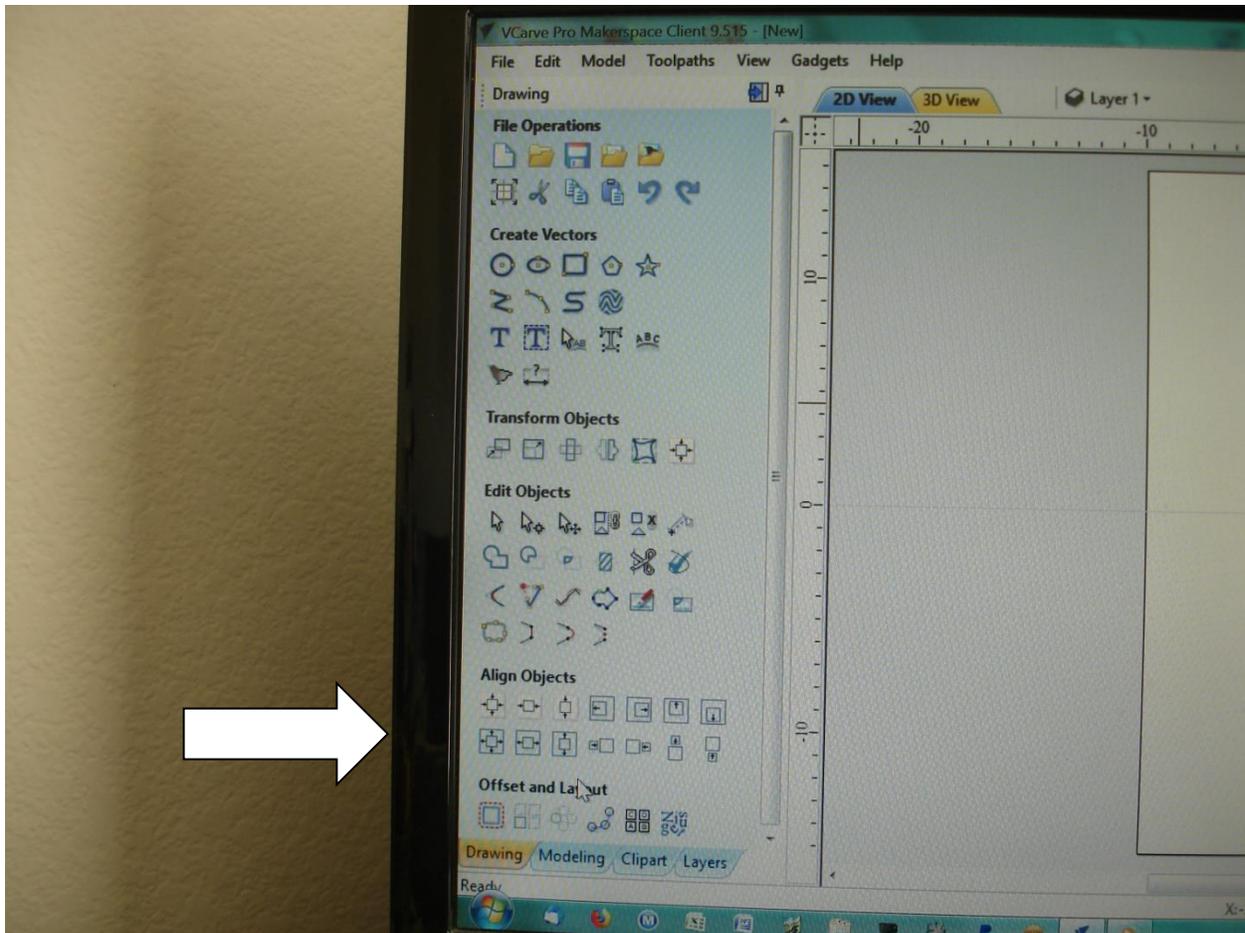


Very important items to look at to be sure these are set as you desire. The specifics below are RESIDAL from a prior project. Don't presume that they will work for your project.



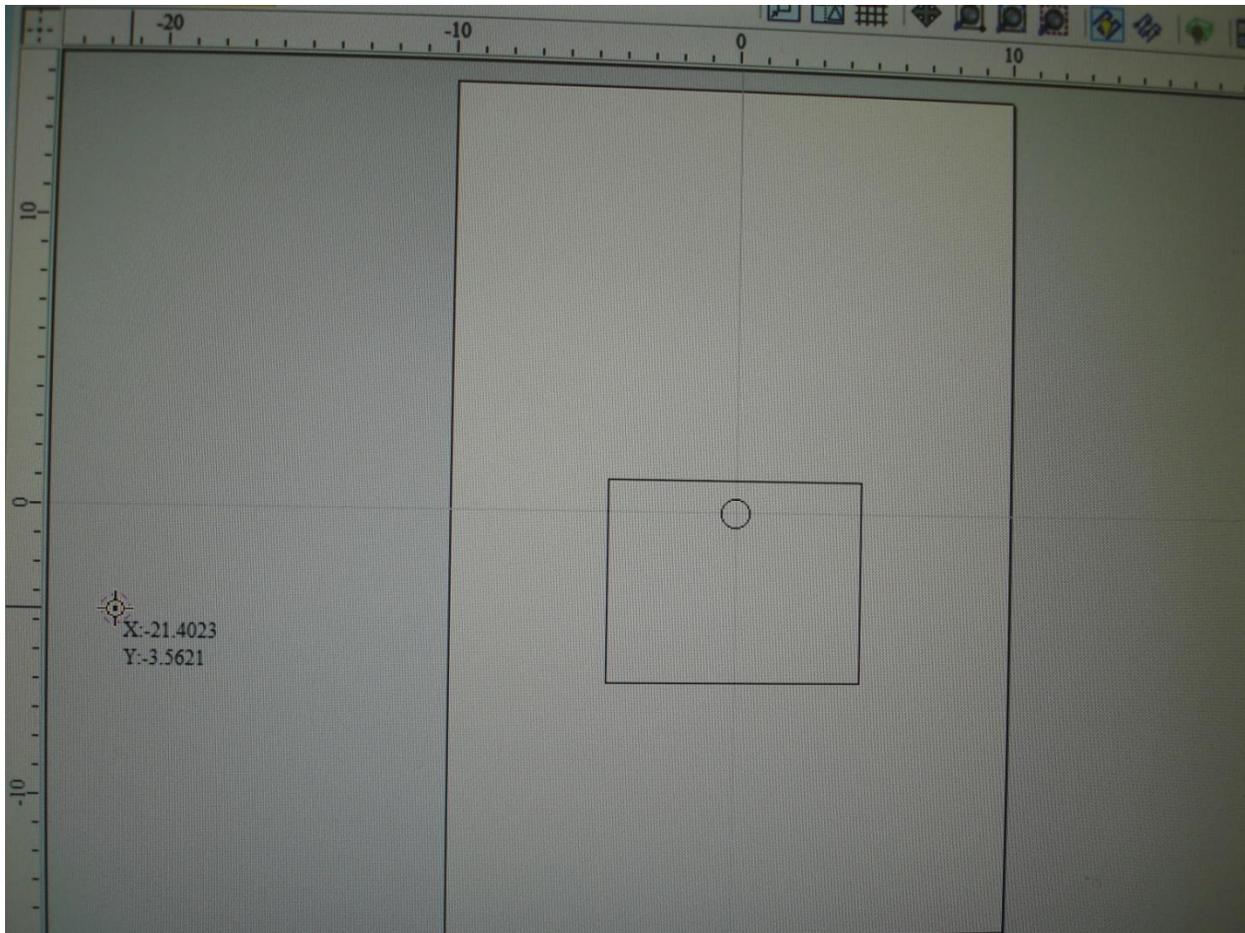
And maybe an entirely new piece of information. You will note that there is an 'extra' set of icons in this DRAWING side of the page. Those are ALIGN icons which means one does not need to click on the last icon in the Transform Objects section to 'align' objects.

These can be added to your software by clicking on the Show Common Tools on Drawing Tab box at the end of the Align Icon options. If one uses the alignment feature this can be a time saver.

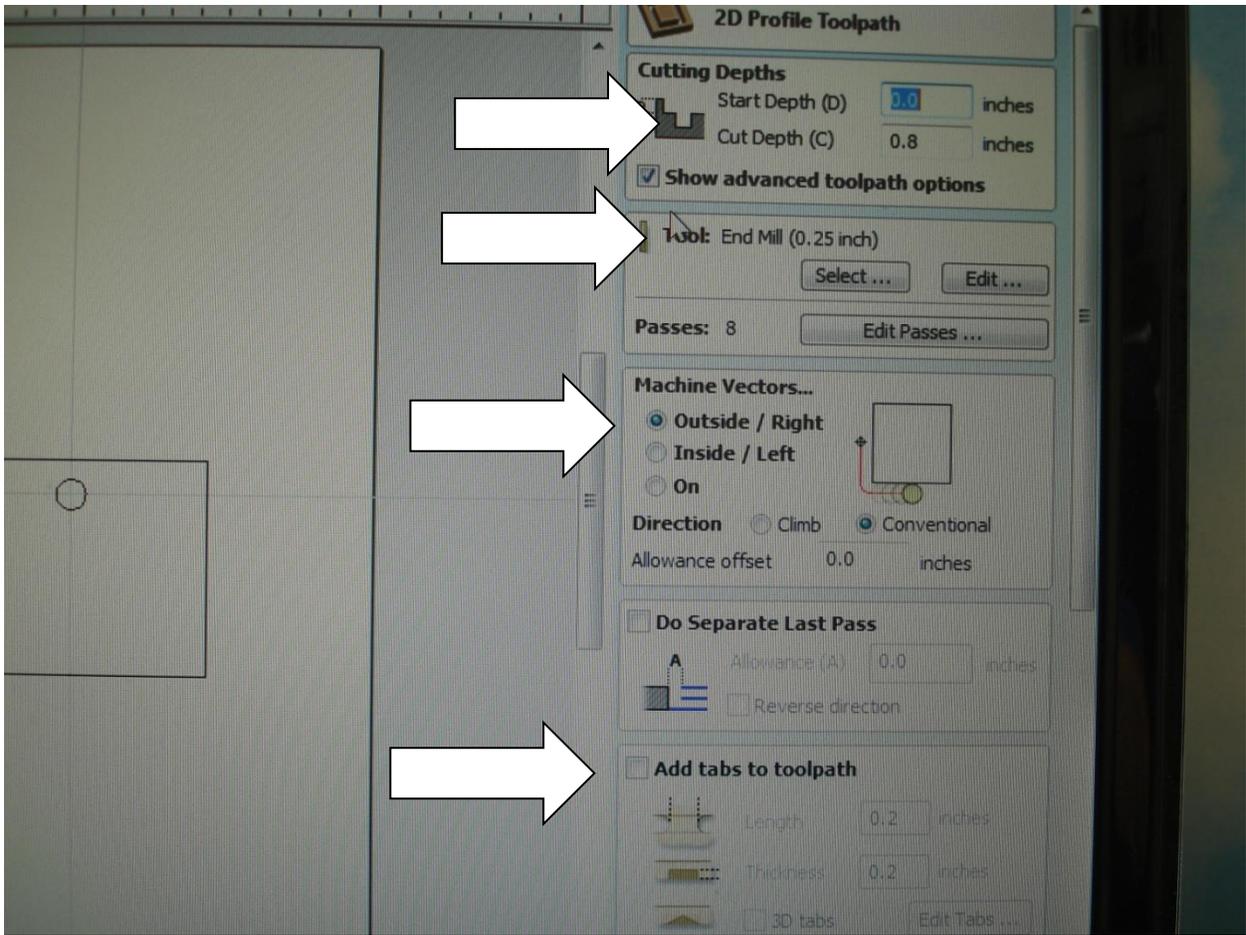


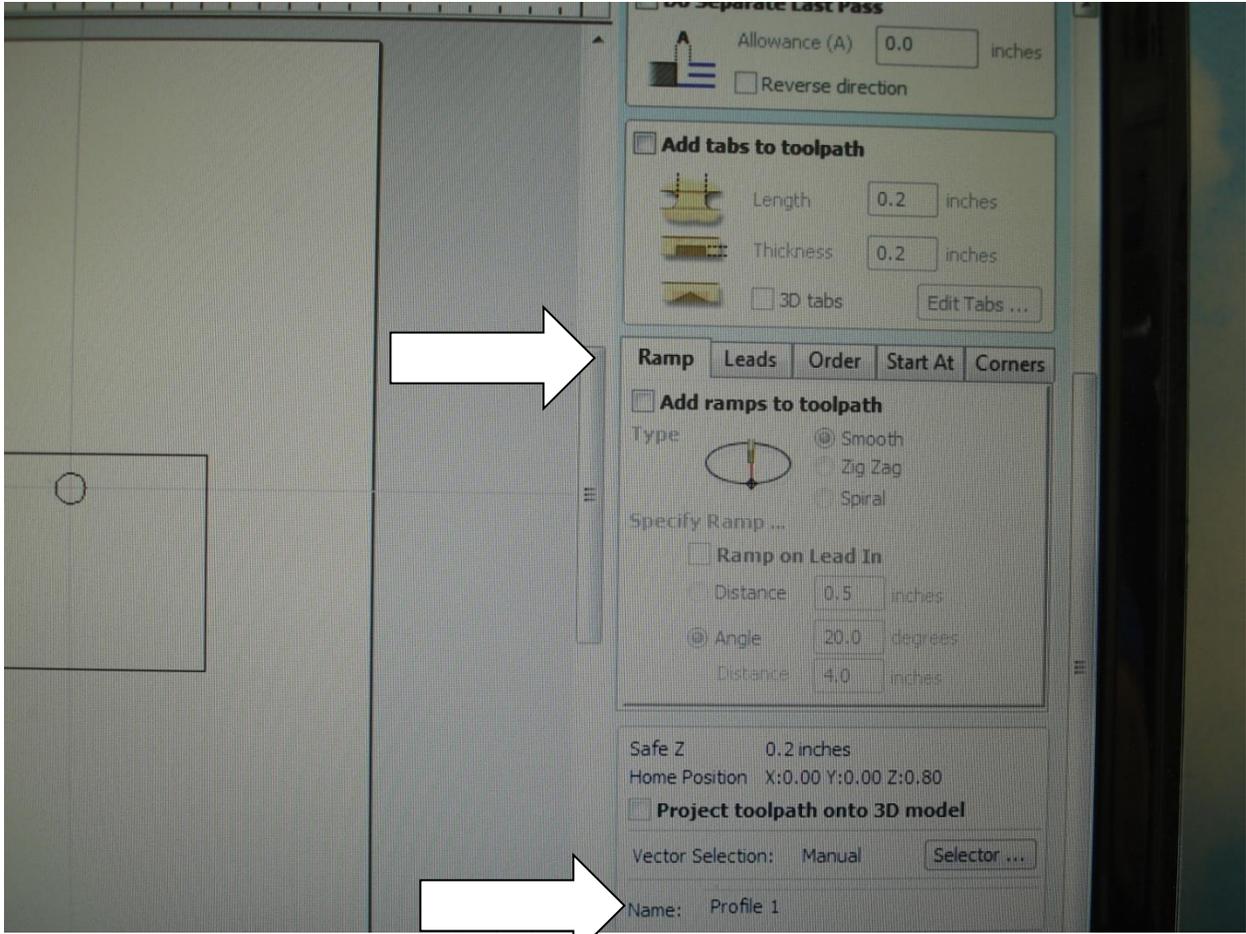
Even though the Anchor Point shows the middle of the form, values in the X and Y boxes override and place the created object at those specified X and Y values.

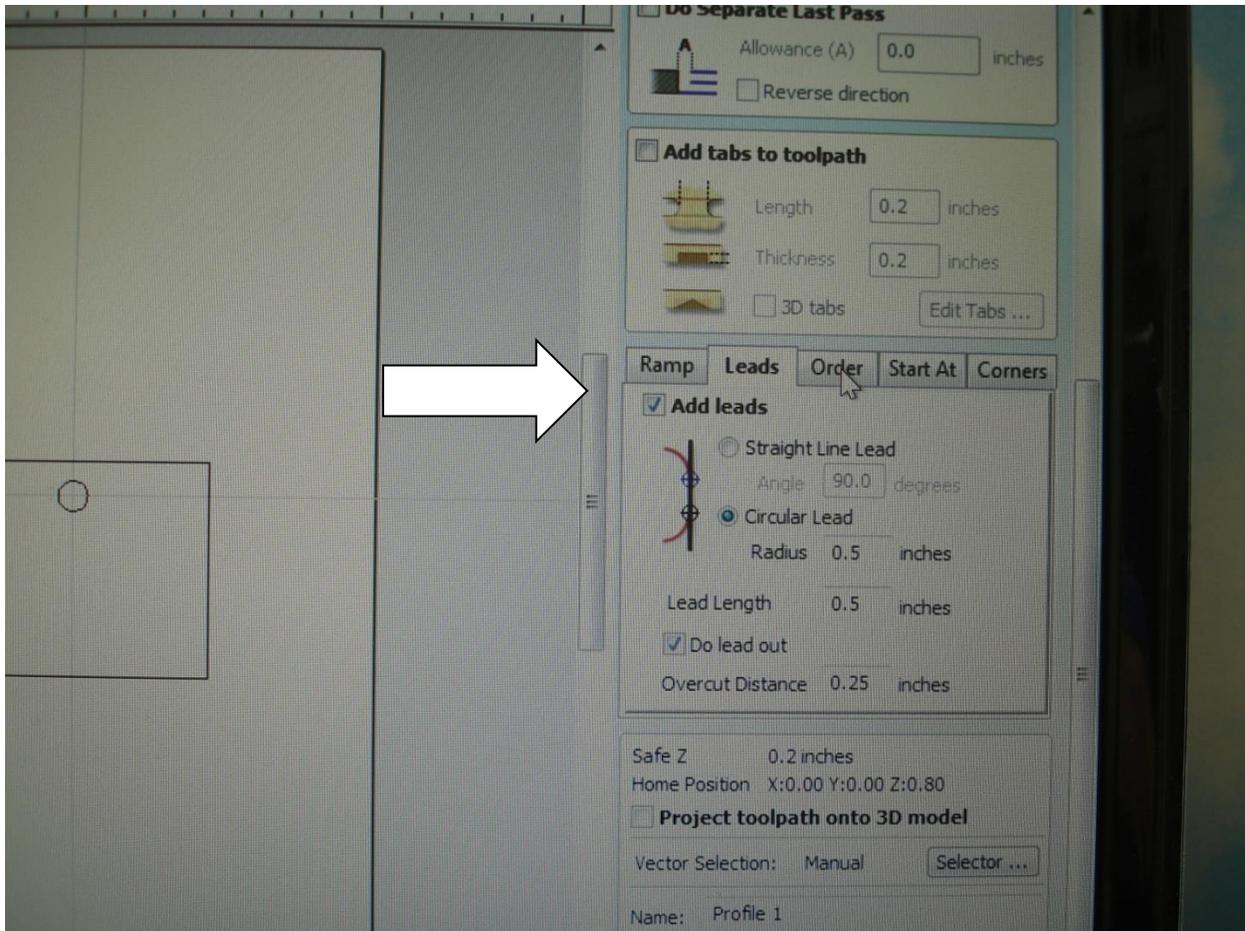
Here is the placement of a rectangle that had non-zero values in both the X and Y fields. The CIRCLE is only for a reference point designating the center of the work space.



Cannot say enough about RESIDUAL values when selecting a cutting bit. What initially shows up is "RESIDUAL" from the last person to use this specific tool path. Arrows indicate potential 'damage' to project board if the specified information (below and on the next three pictures) is not as desired. Better to 'check' (and Double Check) this information when designing the project and creating the tool paths.



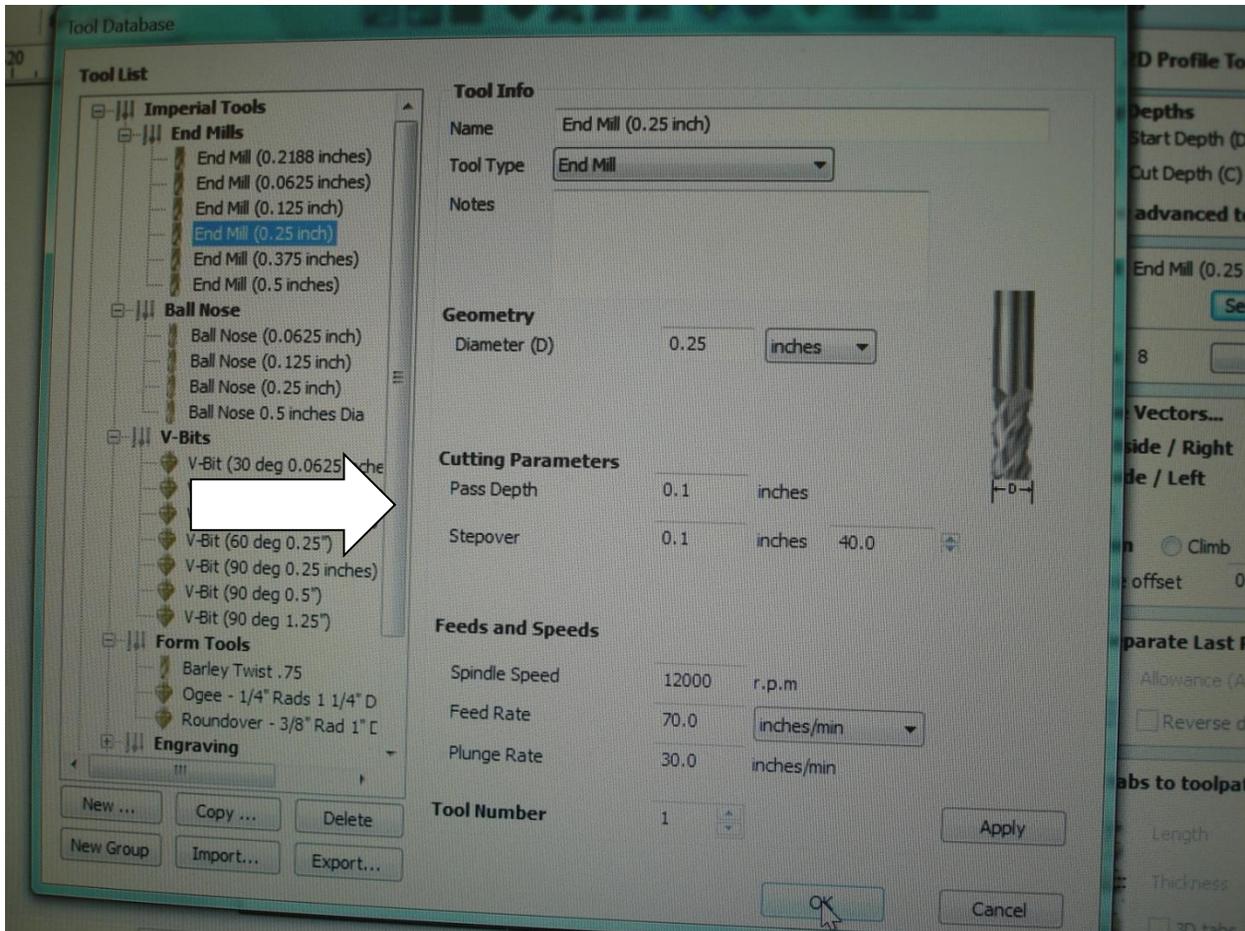




As with the creation of a tool path, there will be RESIDUAL data left over from the prior user in the TOOL DATA base. The Tool Data Base is for all to use but the data for a specific cutting bit may not be what you need for your project.

It is OK to go ahead and change any value you feel needs to be changed for your project. HOWEVER be aware that the next time you come back to this tool data base someone else may have altered the values you previously inputted and you may need to change them once again.

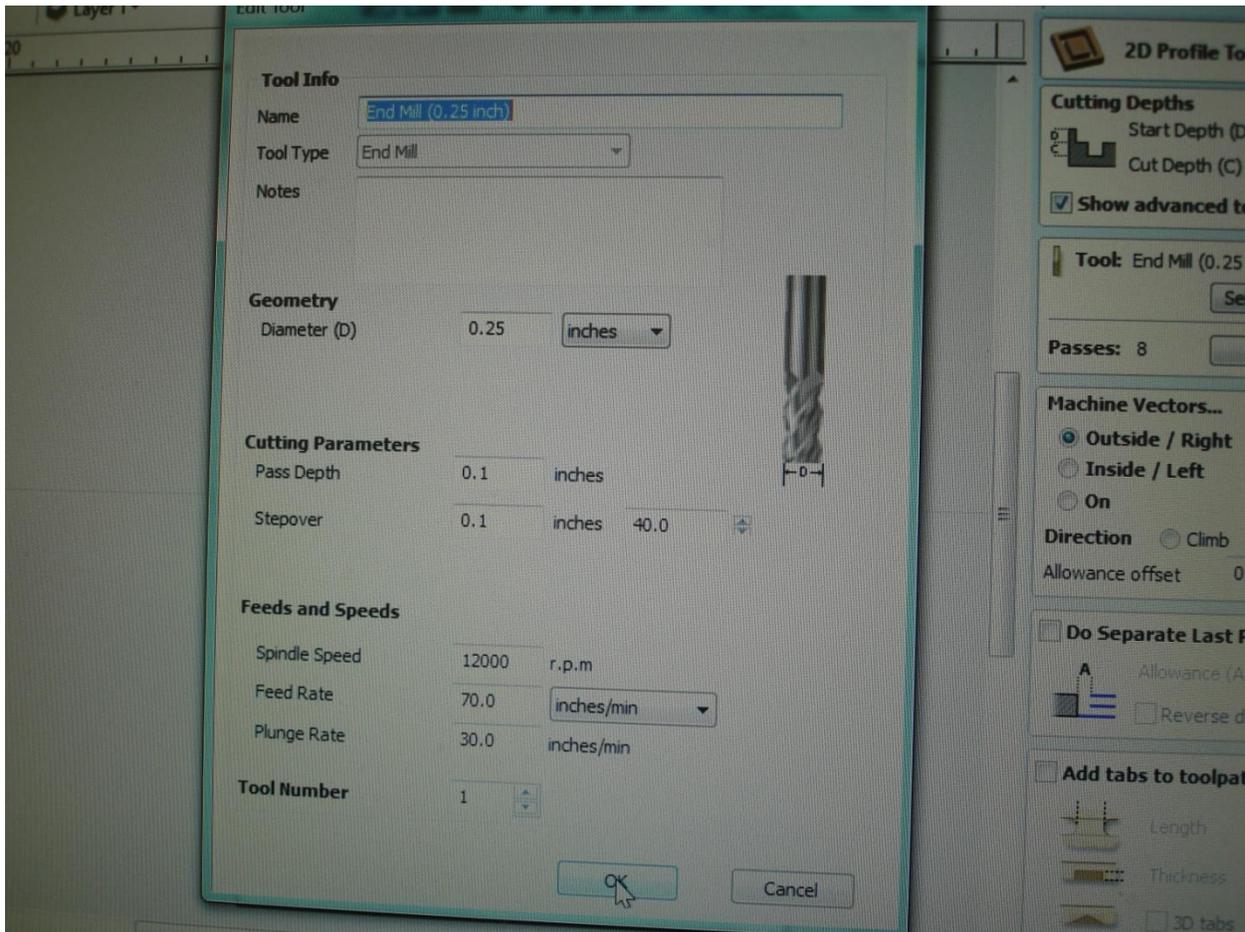
The picture below shows the tool library and the arrows indicate what values you may wish to change.....again being aware that someone else also has the capability to change them after your changes.



Fortunately, there is an alternative where by the change you made of tool data will remain with your project and only be altered if you yourself alter it.

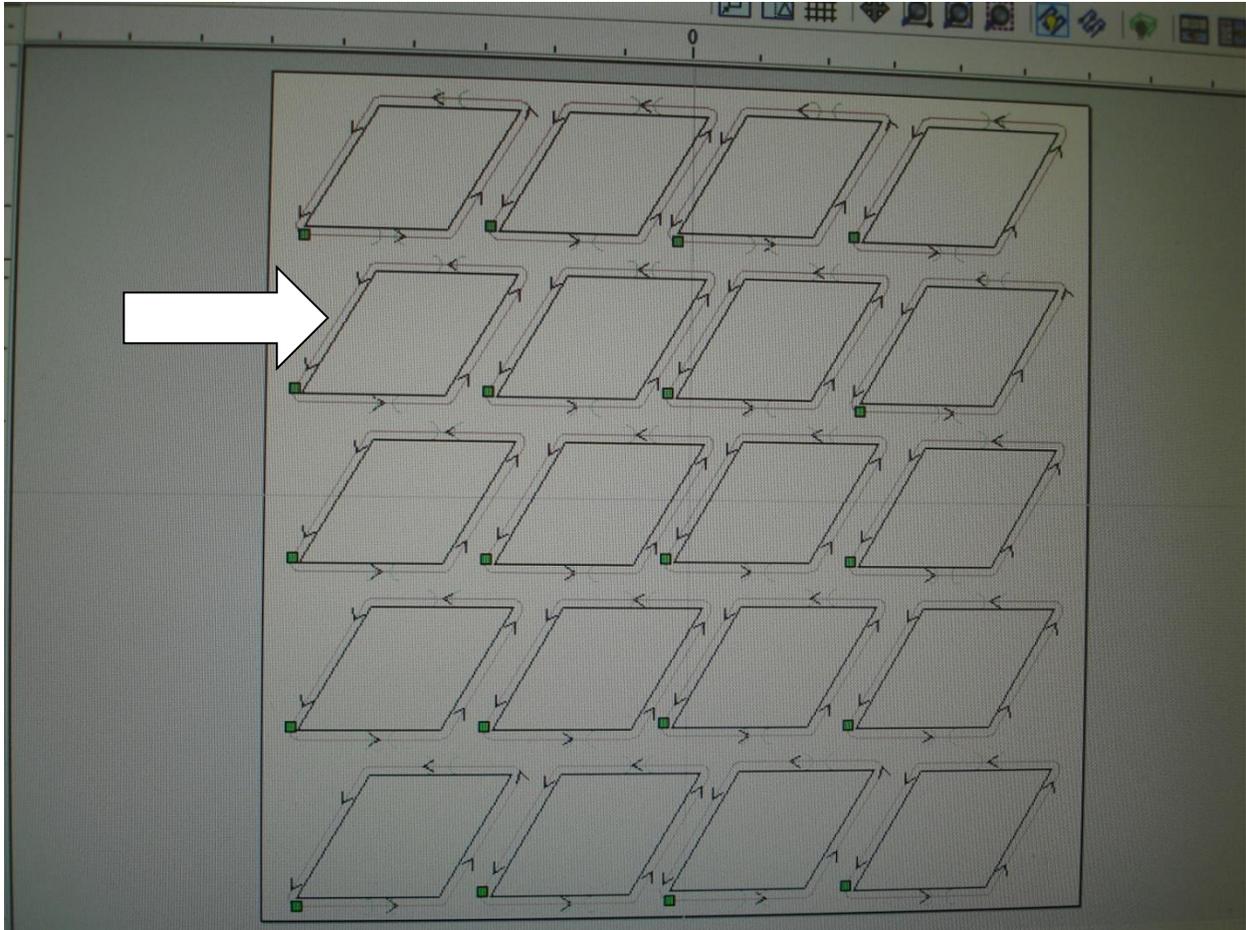
Once the proper tool has been selected using the SELECT button just at the top of the TOOL PATH on the right side of the window, alter that information if you wish by selecting the EDIT button (just above EDIT PASSES). Any changes you now make to that tool settings will ONLY impact YOUR project (no one else can change it) and better yet those changes are forever directly linked to your project.

The picture below shows the page displayed as a result of hitting the EDIT button described in the previous paragraph. NOTE that only one tool is displayed and not the entire library of tools.

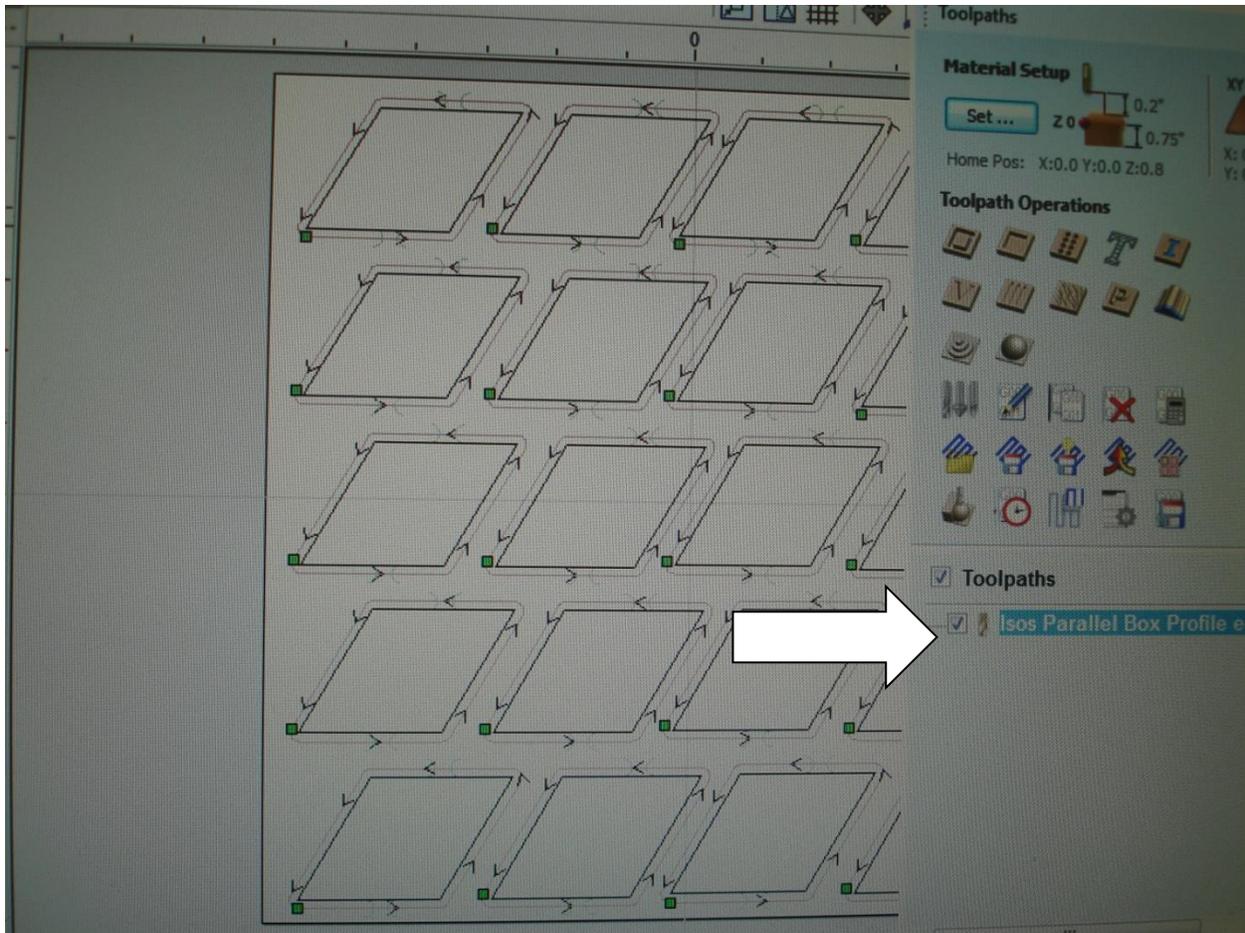


Different topic. Periodically as one looks at the 2D display of a project there will be "miscellaneous" arrows on the 2D display and these can 'sort of' be confusing as to what is happening. See picture below.

What the arrows indicate is the direction the cutting tool will travel for each cut and the GREEN boxes indicate the starting point for each cut. Not something one needs to worry about --- just letting you know what those arrows and green boxes indicate.



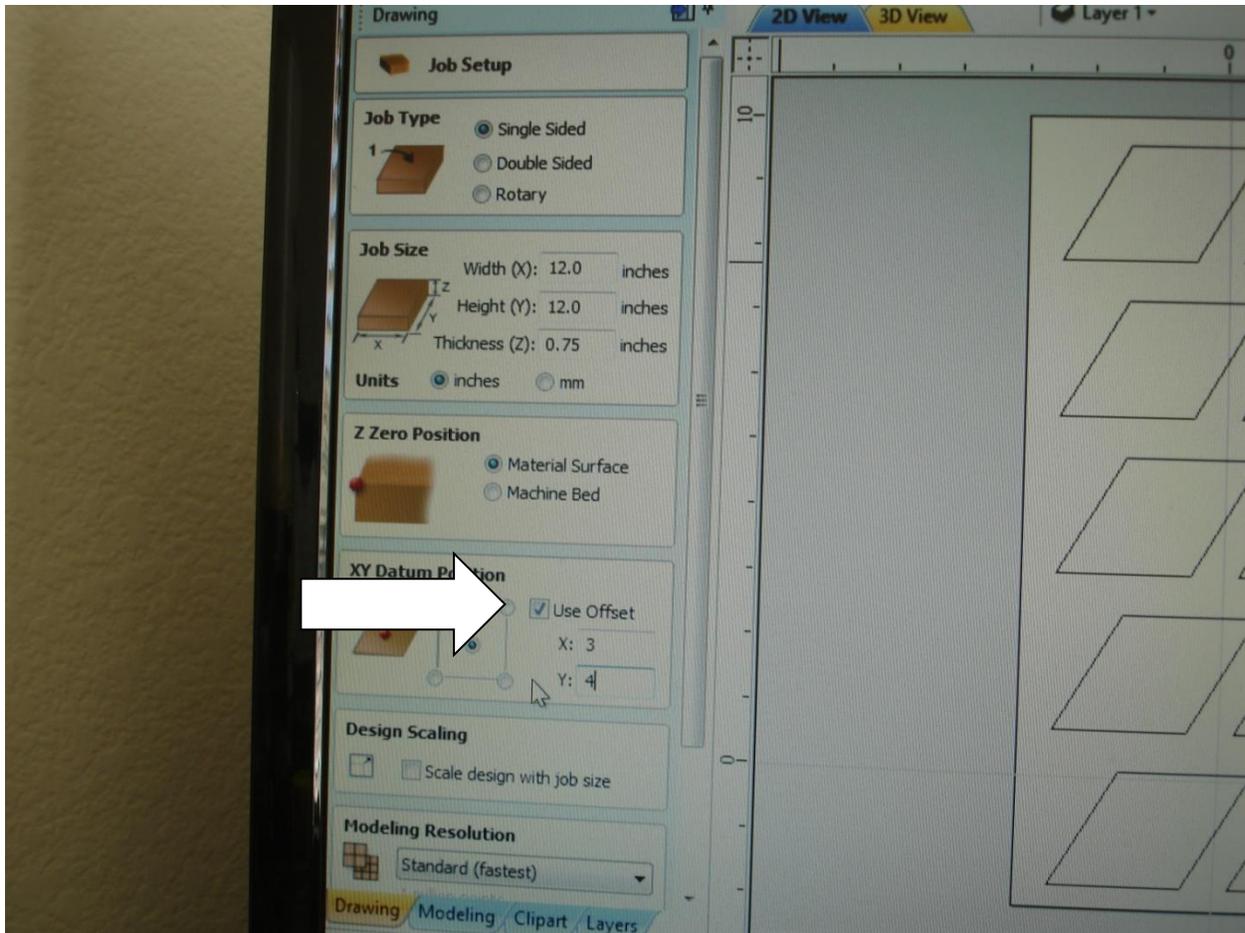
The Arrows and Green boxes are the result of one or all of the boxes next to the each tool path being checked. In the picture below, there is only one tool path and it's box is checked which is why all the design objects have arrows and green boxes around them. If you uncheck that box the arrows and green boxes will no longer appear in the 2D view.



Last R & R topic. OFFSET

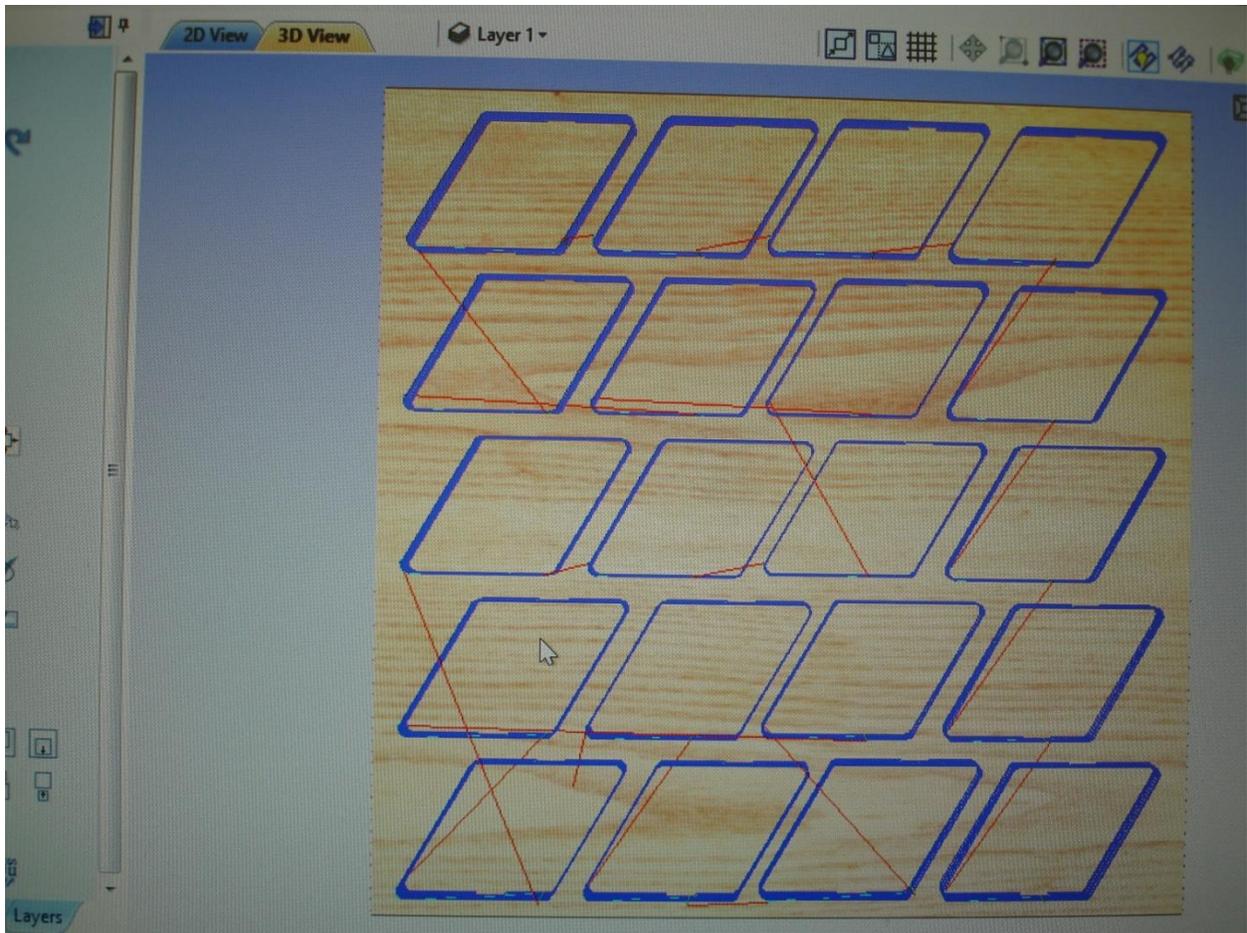
AGAIN, values "anywhere" are RESIDUAL values and need to be carefully checked (and rechecked) to be sure they are as desired.

One could easily skip over the checked USE OFFSET box (see Arrow Below) as it is not normally used.

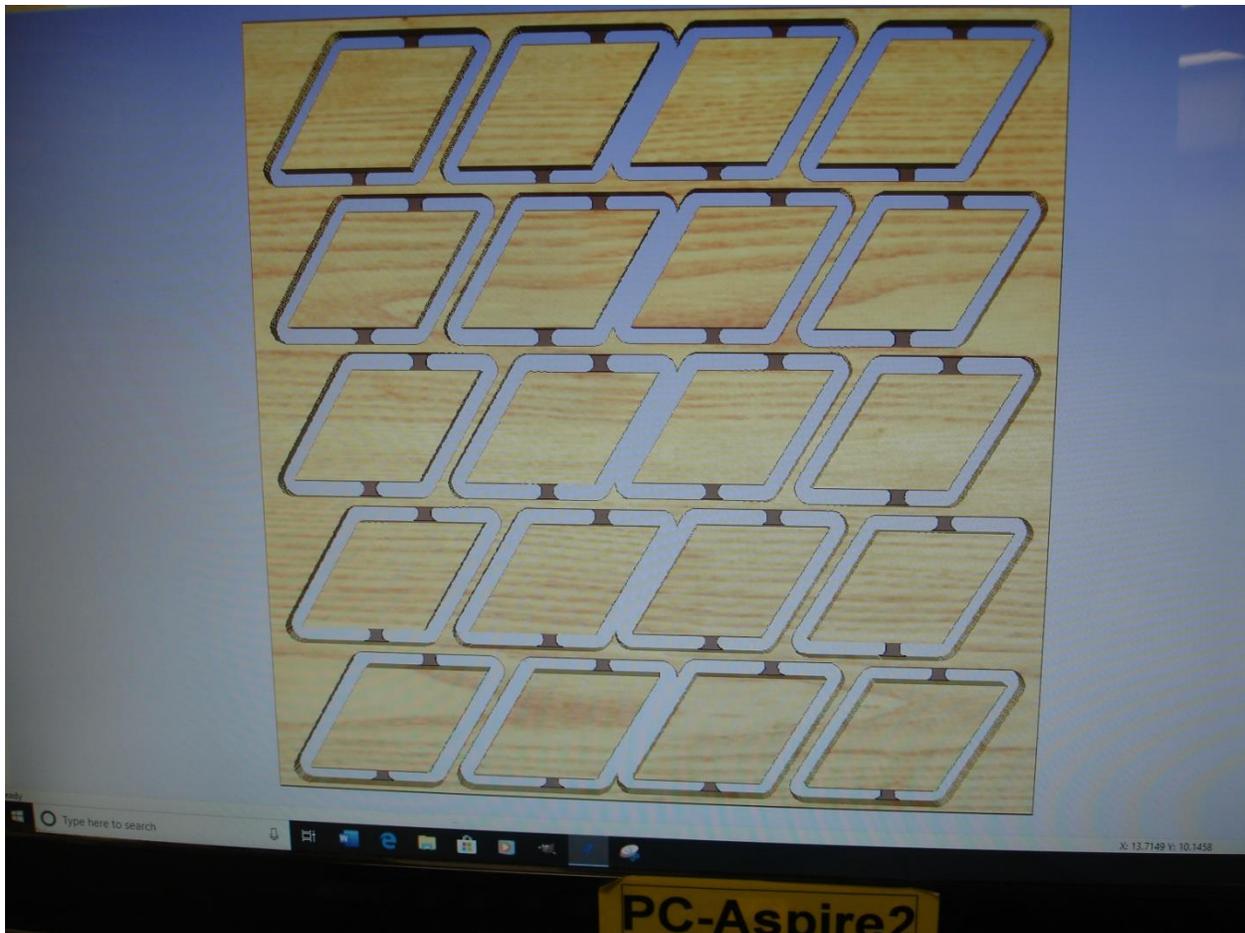


What is of greater concern is that the 'offset' is not discovered until the cut is being made at which time it could be too late and ruin a good project board.

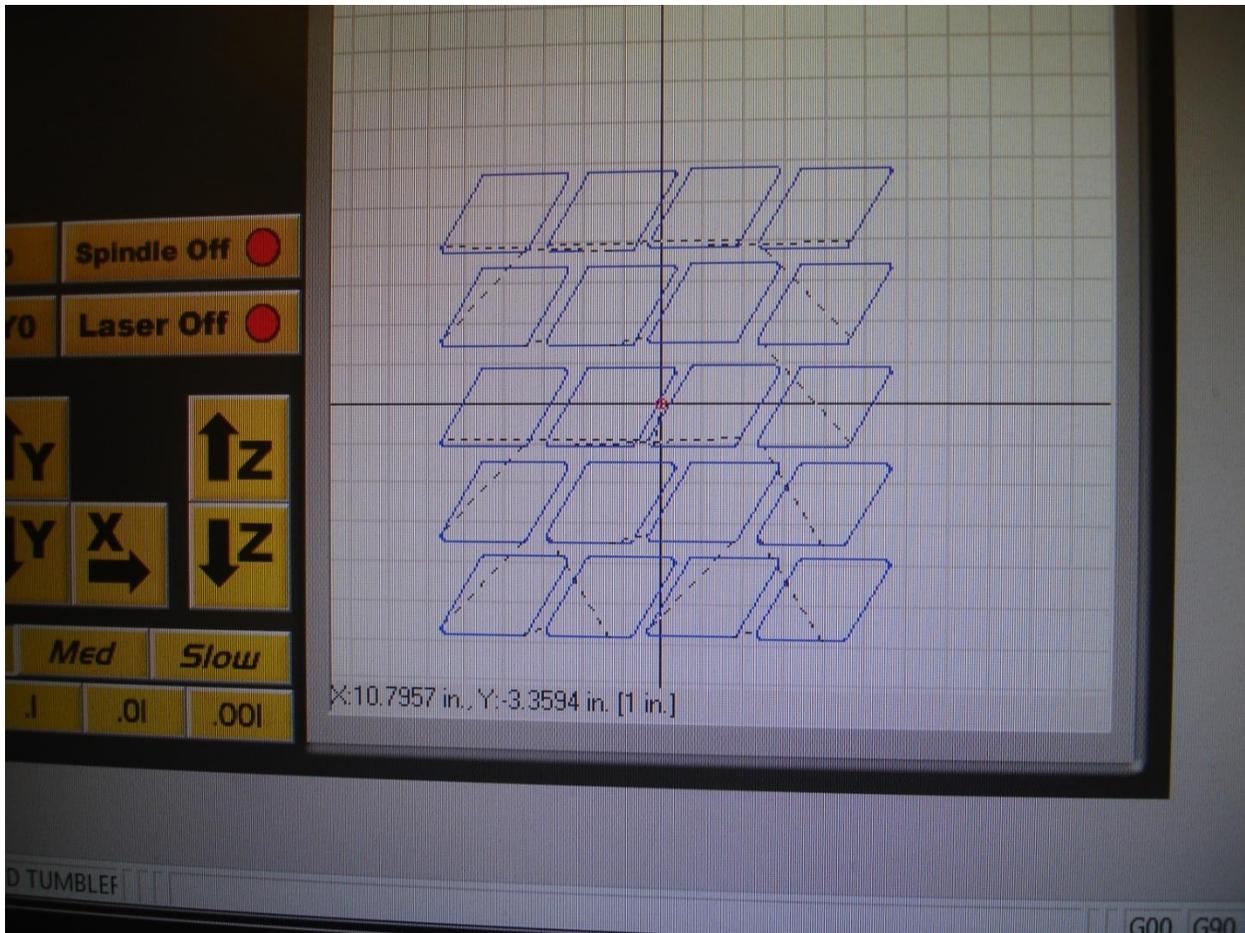
The picture below shows the screen after the CALCULATE button has been hit. LOOKS FINE TO ME as I want the objects centered on the Project Board.



Even after doing a PREVIEW of that tool path (see below) the objects still appear to be centered on the Project Board.



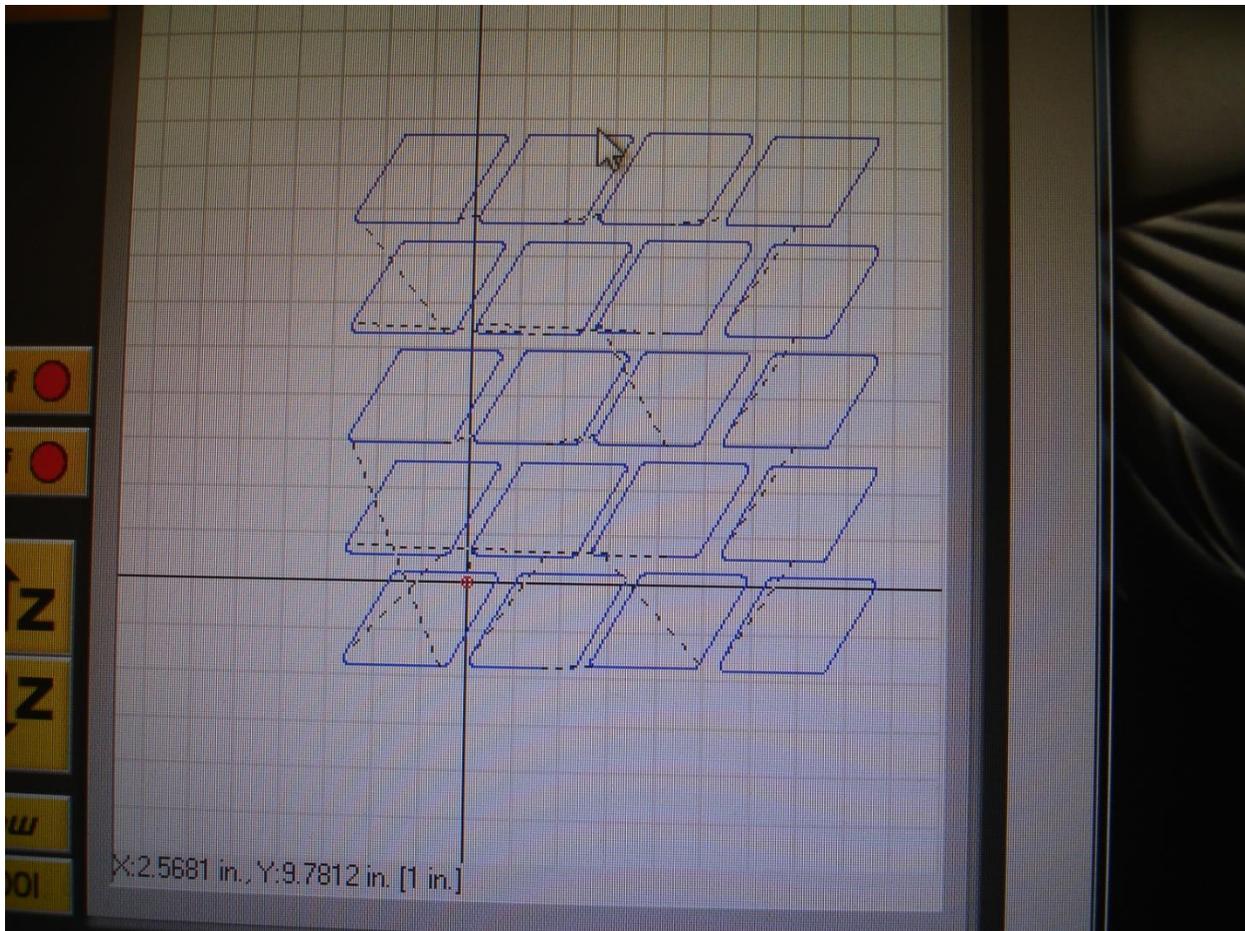
Without the USE OFFSET box being checked the objects will appear on the VIEW Screen as seen below once that .TAP file has been opened.



With the USE OFFSET box being checked and the OPEN executed for that .TAP file it appears something is not as desired as the objects are no longer 'centered' in reference to the cross hairs on the VIEW screen. See Below

If this 'offset' is not caught and corrected a couple of things can happen. First, the project will not be cut as desired as a good project board ends up on the FREE table.

Second, and perhaps more important is the good chance of trying to cut outside of the limits of the machine resulting in a EXCEEDS LIMITS error and the cut come to an end.



Hope all that information helps you REST and RELAX as you REMEMBER the RESIDUALS.

Sorry for the longer ALERT but pictures are worth a thousand words and there was no way I was going to try and explain with them.

As it appears that the 'back-log' of projects have been cut we will revert back to the previous method of reserving time on the CNC Machine.

There was one observation that I did notice. That was that everyone seemed to be OK with a shorter time frame to be on the CNC Machine and so maybe we should all think about the actual time we need rather than just going back to the '4 hour time slots' previously entered for reservations.

Also, perhaps we can SAVE toolpaths BEFORE it is time for us to be on the machine. Let's try not to use reserved machine time while on the library computers. It goes without saying that if a toolpath change is necessary while doing a cut then by all means make the necessary changes in the library and do another SAVE. I myself have gone back to the library and made toolpath changes especially when cutting a prototype and something was not as desired.

"THANKS!" to everyone for their cooperation as the backlog of projects were able to be completed.

So-long for now.....

Terry Z.

P.S. Just as an 'interesting' side note. ALL three CNC classes through the end of the year filled up VERY Quicky and so there are no openings in a CNC Class until next year.

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