
Quick Part Projects Sample

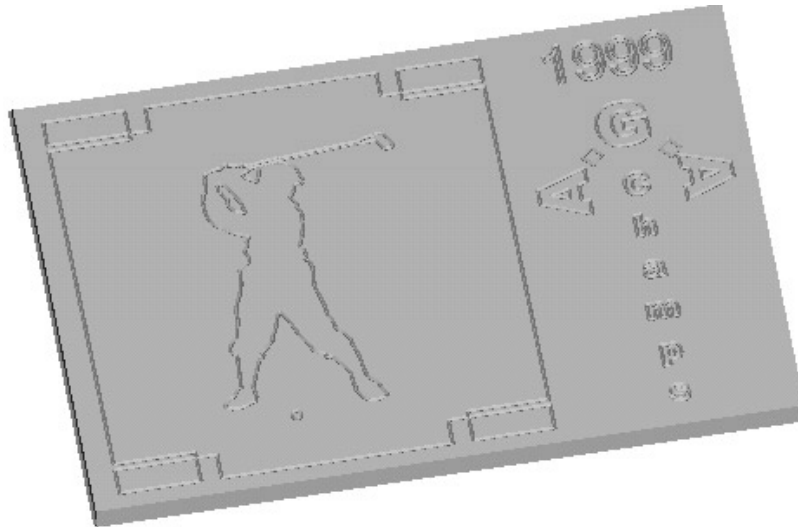
Creating A CLEAR ACRYLIC PLAQUE Using Quick Part

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THE CHALLENGE

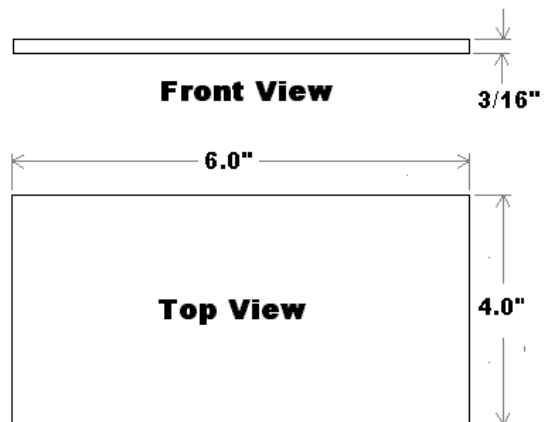
Design and produce a plaque using Quick Part and a piece of clear plastic.



MATERIAL REQUIRED

You will need a piece of clear plastic.

Dimensions: 6.0" long
4.0" high
3/16" thick



CAUTION !!

Read and follow each step carefully.
Use a pencil to check off each step as you complete it.

PREPARATION

STARTING THE QUICK PART PROGRAM

- ❑ Select the START button.



- ❑ Select PROGRAM from the Start menu.
Select MASTERCAM from the Program Menu
Select QUICKPART from the Mastercam Menu.



LEARNING ABOUT AUTOMATED MANUFACTURING

- ❑ Select QUICK ENGRAVE

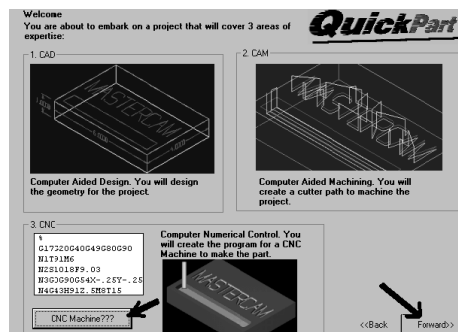


Take your time and read through the CAD, CAM and CNC sections of this screen.

Select the **CNC MACHINE??** button to view the parts of a CNC mill.

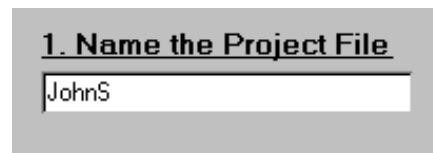
Select **FORWARD** to move on.

You can track your progress through the CAD,CAM,CNC process by watching for the Flowgaug.

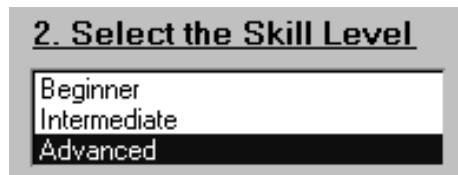


SETTING PROGRAM OPTIONS

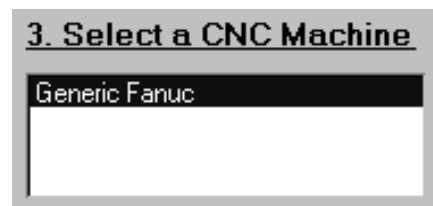
Type a name for the project file. It must be 8 characters or less and must contain only letters or numbers.



Select the **ADVANCED** skill level.



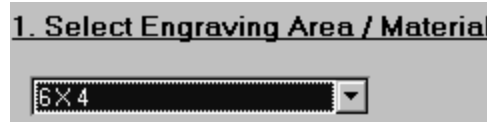
If you have more than one CNC machine, you will need to select the one which will be used for this project. (Ask your instructor if you are not sure.)



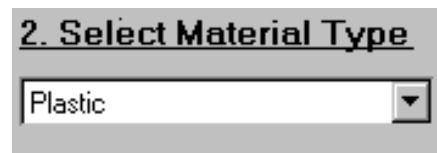
- ❑ Select the FORWARD button when you are finished setting the options.



- ❑ Select 6 X 4 for the Material Size.



- ❑ Select PLASTIC from the Material Types



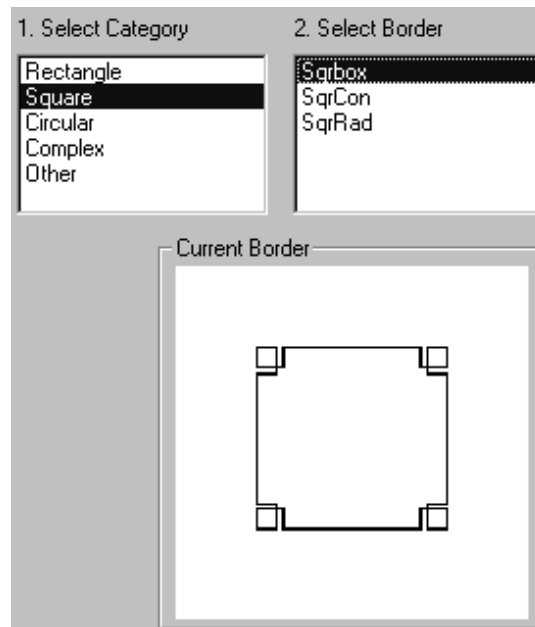
- ❑ Select FORWARD to move to the next screen.



CREATING THE GEOMETRY (CAD)

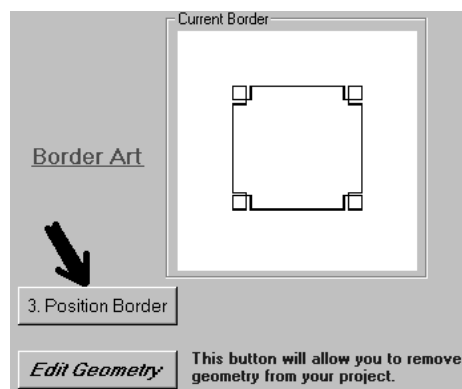
SELECTING A BORDER

- ☐ Select a border category.
(SQUARE)
- Select a border type.
(SQRBOX)
- (A picture of the selected border
is displayed.)

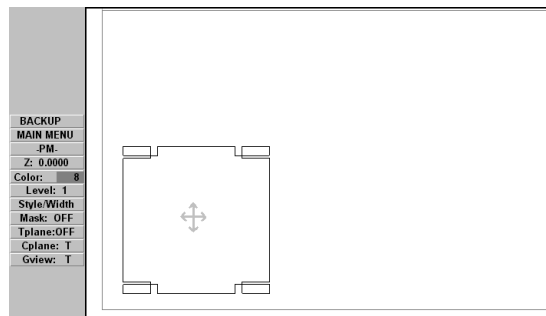


POSITIONING THE BORDER IN THE DRAWING AREA

- ☐ Select the POSITION BORDER button, the drawing area will appear.
DO NOT click the mouse button in the drawing area yet.

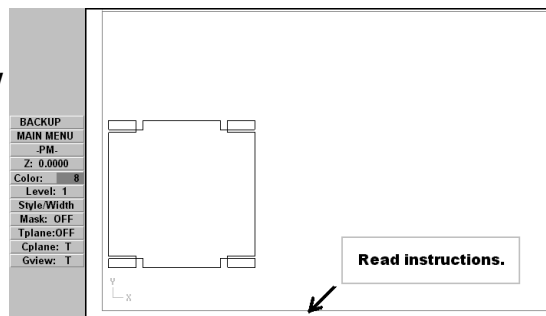


- Move the mouse until the border appears in the drawing area.
DO NOT click the mouse button yet.



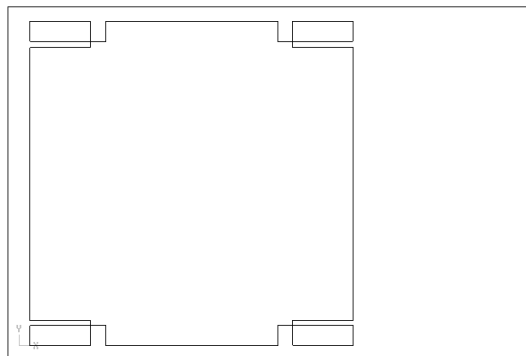
Use the UP and DOWN arrows to scale the border, X & Y to mirror the border
Use the RIGHT and LEFT arrows to rotate the border, Press <ESC> when finished.

- Read the instructions at the bottom of the screen to learn how to change the size (scale) or rotate the border.



Use the UP and DOWN arrows to scale the border, X & Y to mirror the border
Use the RIGHT and LEFT arrows to rotate the border, Press <ESC> when finished.

- Use the UP ARROW to enlarge the the border. Move the border to the position shown in the picture.
(Do not place it too close to the edge of the material.)

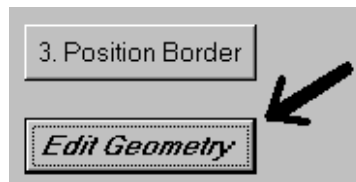


- Once the border is in the desired position click the LEFT MOUSE button.

- Press the ESC key to return to the Quick Part screen.

DELETING A BORDER

- ❑ If you are unhappy with the border, select the EDIT GEOMETRY button. This allows you to select and delete different types of geometry.

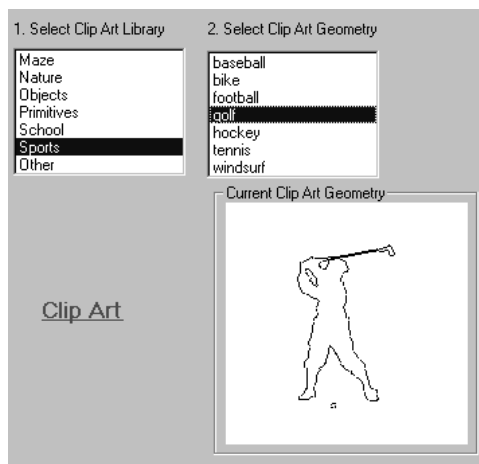


ADDING CLIP ART

- ❑ Select the FORWARD button to leave the Border screen and enter the Clip Art screen.

- ❑ Select a Clip Art Library from the list. (Sports)

Select the Clip Art Geometry from the list. (Golf)

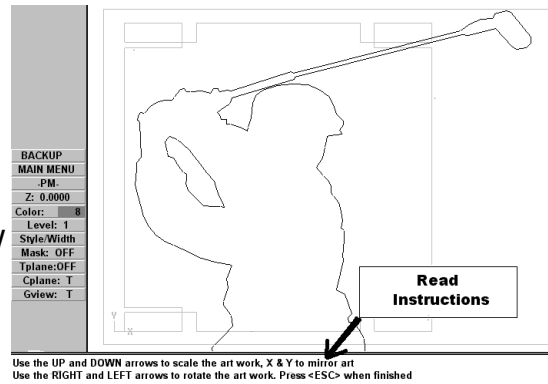


POSITIONING CLIP ART

- ❑ Select the POSITION CLIP ART button. DO NOT click the mouse button in the drawing area yet.

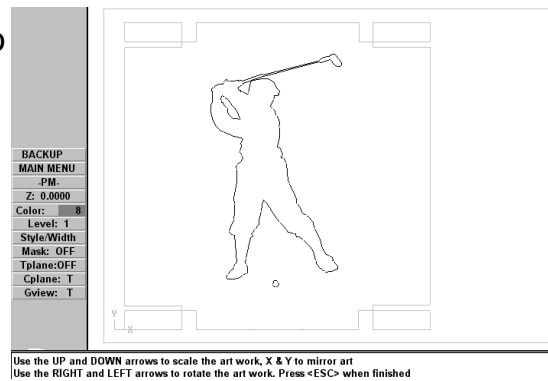
- Moving the mouse will cause the clip art to move.
(Do not click the mouse yet.)

Read the instructions at the bottom of the screen to learn how to change the size (scale), rotate and mirror (flip) the clip art.



- Complete the final adjustments to the position of the clip art.
(Do not place it too close to the edge of the material.)

Click the LEFT MOUSE button to set the picture at the correct position.



- Press the ESC key to return to the Quick Part screen.

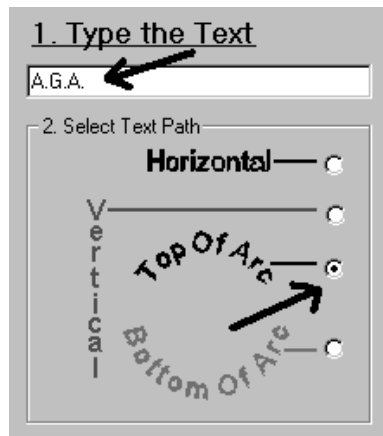
ERASING CLIP ART

- If required, clip art can be erased by selecting the EDIT GEOMETRY button.
- Select the FORWARD button to move to the Text Screen.

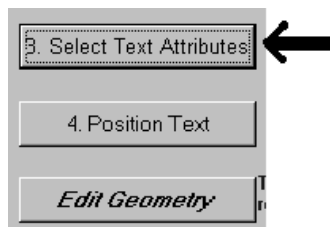
ADDING TEXT

- Type ONE LINE of the text you would like to appear on your plaque.
(A.G.A)

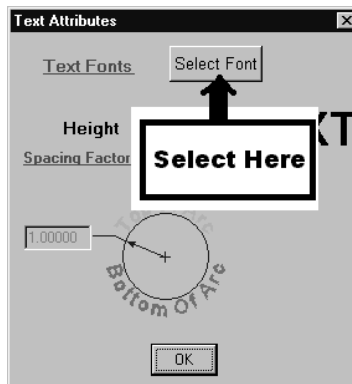
Select a path for the text.
(Top Of Arc)



- Click the SELECT TEXT ATTRIBUTES button.

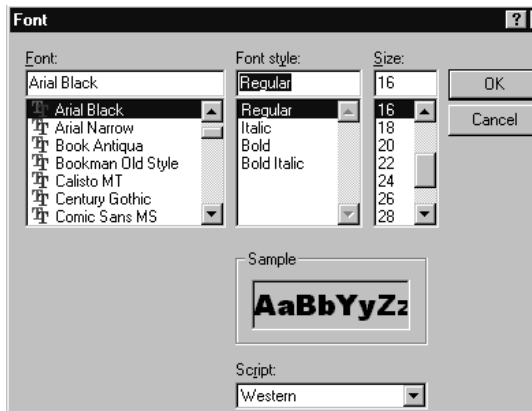


- Click the SELECT FONT button.



Select the type and style of lettering you would like to use.

Select the OK button to leave the Font box.



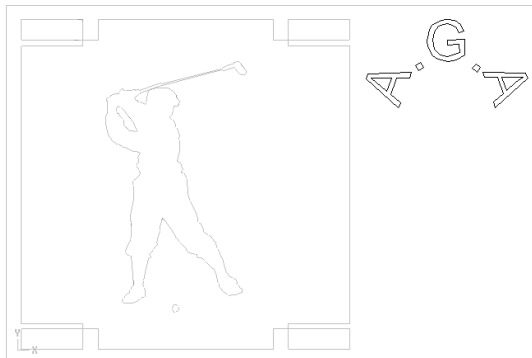
Select OK again to leave the Text Attributes box. You should now be back at the Quick Part screen.

POSITIONING TEXT

Select the POSITION TEXT button, the drawing area will appear.. DO NOT click the mouse in the drawing area yet.

Use the mouse and arrow keys to position and scale the text. (Do not place it too close to the edge of the material.)

Press the LEFT MOUSE button to set the text at the current position.



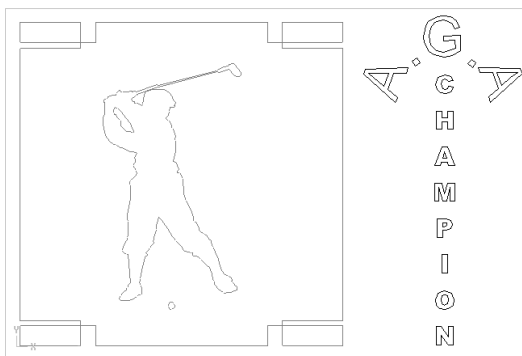
Press the ESC key to return to the Quick Part screen.

DELETING UNWANTED TEXT

- ❑ Select the EDIT GEOMETRY button if you would like to remove text from the drawing.

ADDING MORE TEXT

- ❑ If you like, you can add more text to the drawing by repeating the steps.

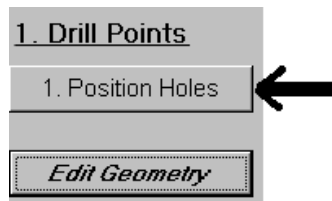


POSITIONING DRILL POINTS

- ❑ Once you are satisfied with the text, select the FORWARD button to move to the Drill Points screen.

If your plaque is going on the wall, you may want to mark drill points at each corner. If so, follow the steps in this section.

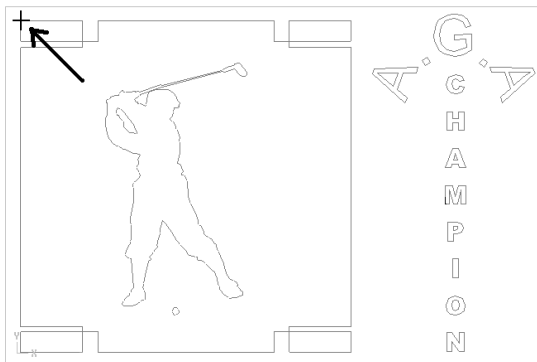
- ❑ Select the POSITION HOLES button.



- Position the mouse pointer at the location of the first hole.
(Do not place it too close to the edge of the material.)

Click the LEFT MOUSE button.

Repeat to locate additional holes.



- Press the ESC key to return to the Quick Part screen.

ERASING UNWANTED DRILL POINTS

- Select the EDIT GEOMETRY button.
- Select the DELETE ALL HOLES button in the Remove Geometry box.
- Select the CANCEL button to close the Remove Geometry box.

CREATING THE TOOLPATH (CAM)

MIRROR IMAGE SELECTION

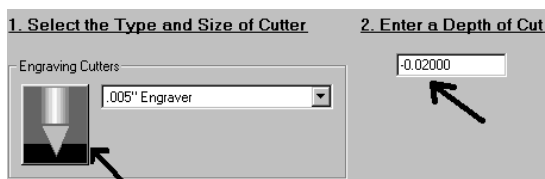
- Once you are satisfied with the position of the drill points select the FORWARD button to move to the Mirror Image screen.
- Set the Mirror Image option to YES.



CUTTING PARAMETERS

- ❑ Select FORWARD to move to the Cutting Parameters screen.
- ❑ Be sure the cutting parameters are set to the following values

Engraving Cutters: .005" Engraver
Depth Of Cut: -0.0200"

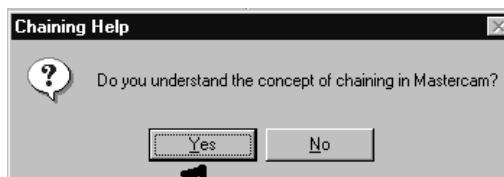


Click here to select cutter.
(picture will be red)

SPINDLE RPM / FEEDRATE

- ❑ Select FORWARD to move to the Spindle RPM / Feedrate screen.
- ❑ You do not need to change Spindle RPM or Feedrate since the default values will be used.
- ❑ Select the FORWARD button to open the Chaining Help box.

- ❑ Select YES in the Chaining Help box.



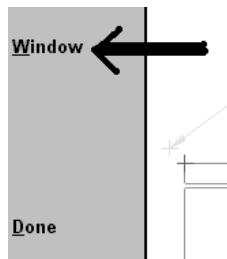
SELECTING GEOMETRY FOR MACHINING

CAUTION !!

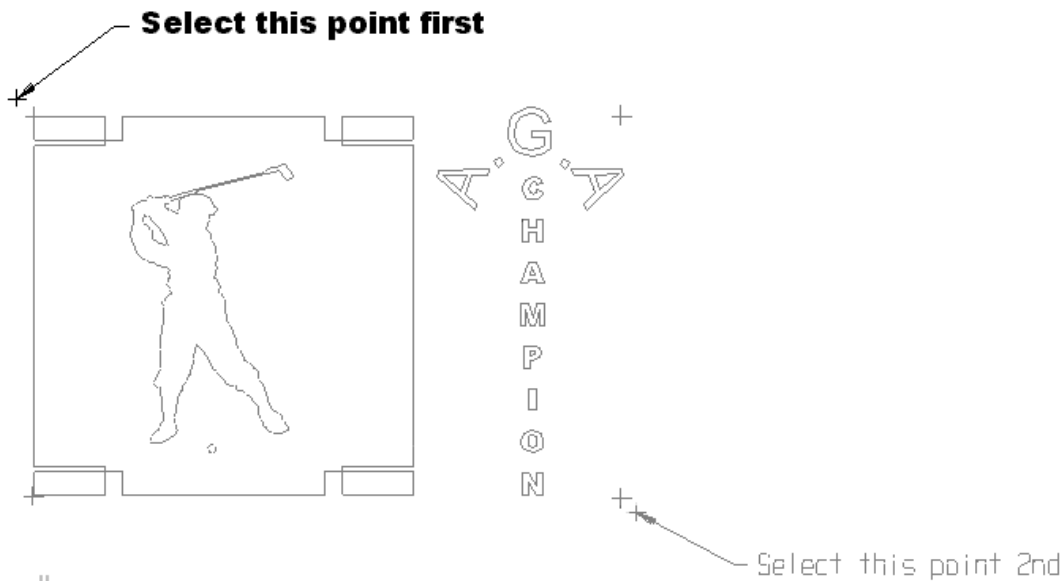
Windowing and Selecting the geometry can be tricky.
Take your time and follow each step carefully.

☐ At this point you should be in the drawing area.

☐ Select WINDOW from the Menu

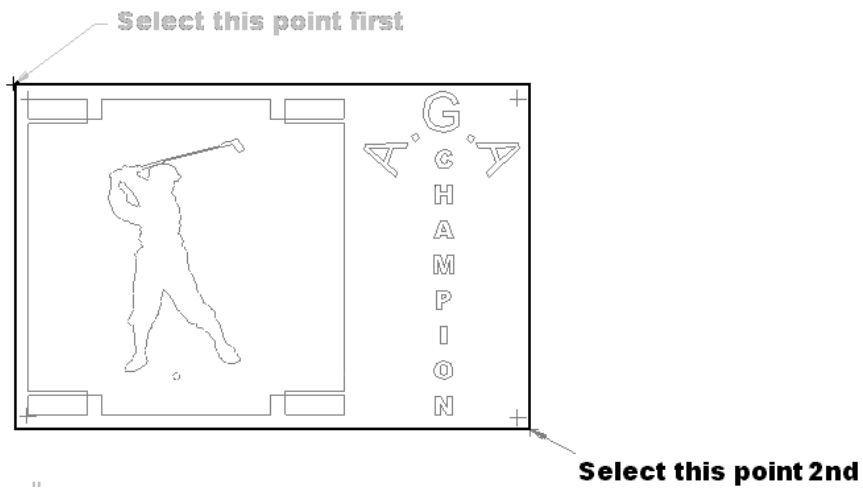


☐ Look for the yellow "+" marked "Select this point first".
Position the pointer on it.

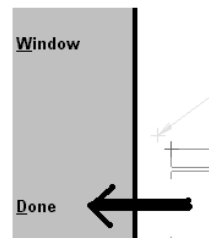


☐ Click the LEFT mouse button.

- Move the mouse down to the point marked "Select this point 2nd".



- Click the LEFT MOUSE button.
(Nothing will happen.)
- Click the LEFT MOUSE button, again.
(The toolpath will appear.)
- Select DONE from the the menu.



- Press the ENTER key to leave the drawing area.

VIEWING THE SIMULATION

- Proceed through the next boxes until you reach the simulation box.

Select the SIMULATION button.



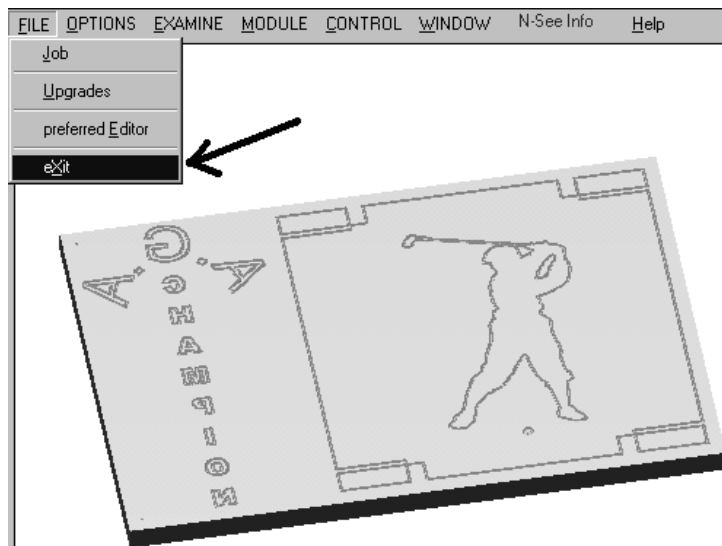
- Select the green GO button to view a simulation of the machining process.



Stop here until the instructor has checked your work.

Instructor's Initial

- To leave the Simulation screen, select FILE from the Top Menu. Select EXIT from the File Menu.



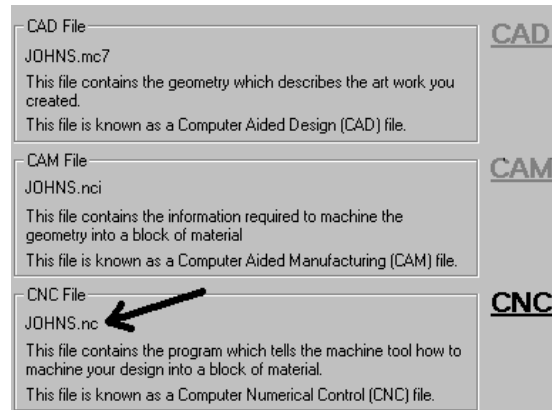
- Insert a disc into the floppy drive.

- ☐ Select FORWARD to move to the Summary Screen.

CREATING THE NC FILE (CNC)

- ☐ Note the name of the NC file.

(The NC file will be used to operate the CNC mill.)



- ☐ Remove the disc from the floppy drive and write the name of your NC file on the label.

- ☐ Exit the program.



Sign up to have your work checked, then proceed.

*Instructor's
Initial*

- ☐ Ask the instructor to help you mount a piece of clear plastic on the table of the CNC mill.

- ☐ Ask the instructor to help you run your NC program to machine the plaque.