

# DXFIMPORT

- DXF Import Tips  
- Control : 8200 & 9000 Series

## DXF File Import

*Tips are applicable to the Milltronics 8200 & 9000 Series controls.*

A feature of the Milltronics 8200/9000 control is the ability to import CAD files (.dxf and .cdl) directly into a conversational program. This feature creates the line and arc events that specify the part geometry for milling applications or creates the drill positions for drilling applications. Some rules to follow when using the DXF file import feature:

1. The Mill geometry must only consist of lines and arcs. Drill geometry must only consist of circles. The file can not contain text, splines, polylines, dimensional data, drafting borders, or part name blocks.
2. Use the CAD zero point (global zero) as the part zero point.
3. When creating the mill CAD file, the geometry must be from a continuous path from start to end without breaks between entities. The Milltronics control has a parameter that controls the search distance between entities. It is a parameter located in the MISC menu and named CAD EPSILON. Typically the value of this parameter is .003-.005.

## Selecting the DXF File

Start by loading the DXF file into the parts directory. Press F2(MILL) or F3(DRILL) depending upon if the CAD file is milling or drilling. Then select F11(CAD) in the mill menu or F6(DRILL) in the drill menu. Once the CAD selection is complete, follow the example below:

Use the F9 / F10 arrow keys to move the cursor to the desired DXF file in the parts directory.

The F2 RemoveZs key is enabled by default. The RemoveZs key causes the control to remove Z values from the input data. If the Z dimension information is desired from the DXF file then the RemoveZs function must be displayed. This is done by pressing the F2 RemoveZs button. The F2 button on the screen will turn yellow showing the function is turned off.

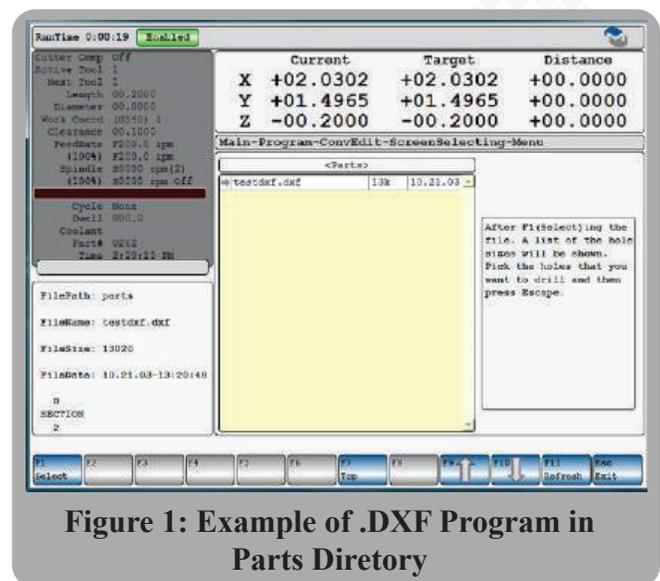


Figure 1: Example of .DXF Program in Parts Directory



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## Processing Mill Geometry

Once the DXF menu has been selected and the RemoveZs key has been toggled as desired, press the F1 SELECT key. If the DXF file and the information entered are valid, the control will display the DXF geometry from an XY perspective. The standard graphic keys will allow the user to zoom or pan to a particular area of the file they want to work with. If the geometry looks correct, press the F1 PATH key.

As show in the screen picture above, the control should now prompt to “Pick Start Point”. Using the F7 through F10 arrow keys, move the crosshair cursor onto the part sketch closet to the end point of the entity where the cutter is to start. The cutter must start at an end point. After a start point is selected, press the ENTER key.

The control will next prompt you to “Pick a Point in the Direction You Want to Cut”. This point will determine which direction around the geometry the cutter will travel, referenced from the chosen start point. Move in the cursor to a position in the intended direction of the cutter and press the ENTER key.

The software will process the profile and generate a mill cycle with the line and arc events that define the profile. Review and edit the Tool Pierce — Start Mill Cycle and Tool Retract — End Mill Cycle events that are created by the CAD function. It is likely that they will need to be edited for depth and tool compensation.

## Processing Hole Locations for Drilling

Once the DXF menu has been completed and the RemoveZs keys have been toggled as desired, press the F1 SELECT key. If the DXF file and the information entered are valid, the control will display a list of hole sizes and quantities of each as shown below.

The control will prompt, “Select Holes to Drill”. Use the F9 and F10 keys to highlight the desired holes and then press F3 Toggle to mark for drilling. Press ESC to exit back to the disable drill cycle screen.

Review the Enable Drill Cycle event that will be created by the CAD function. It is likely it will need to be modified for depth or desired cycle type.

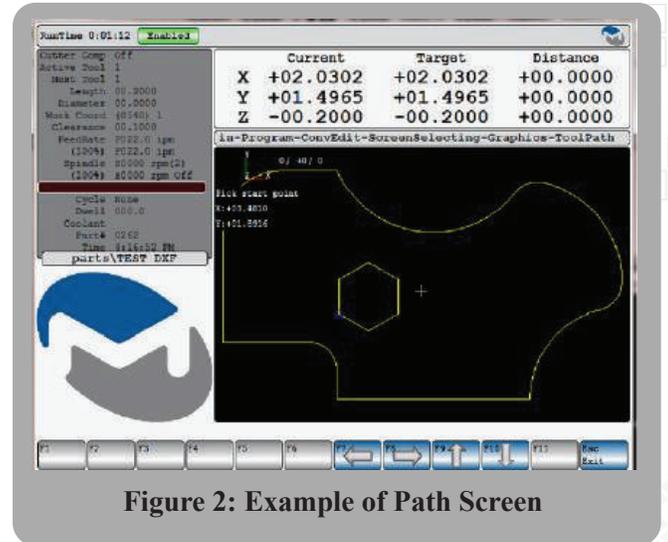


Figure 2: Example of Path Screen

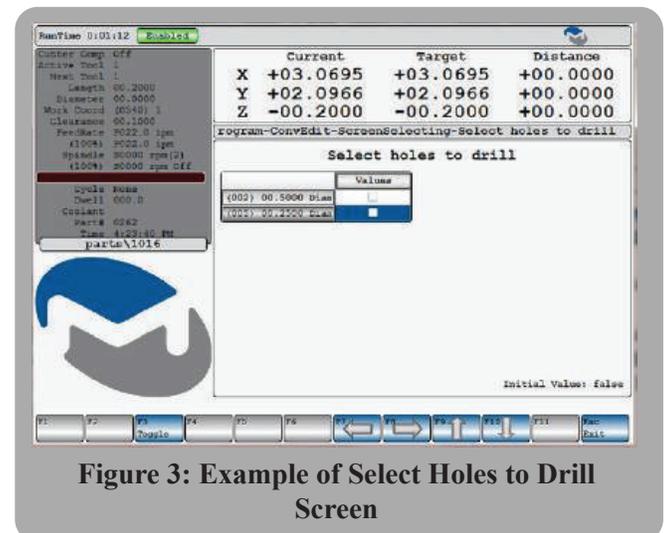


Figure 3: Example of Select Holes to Drill Screen