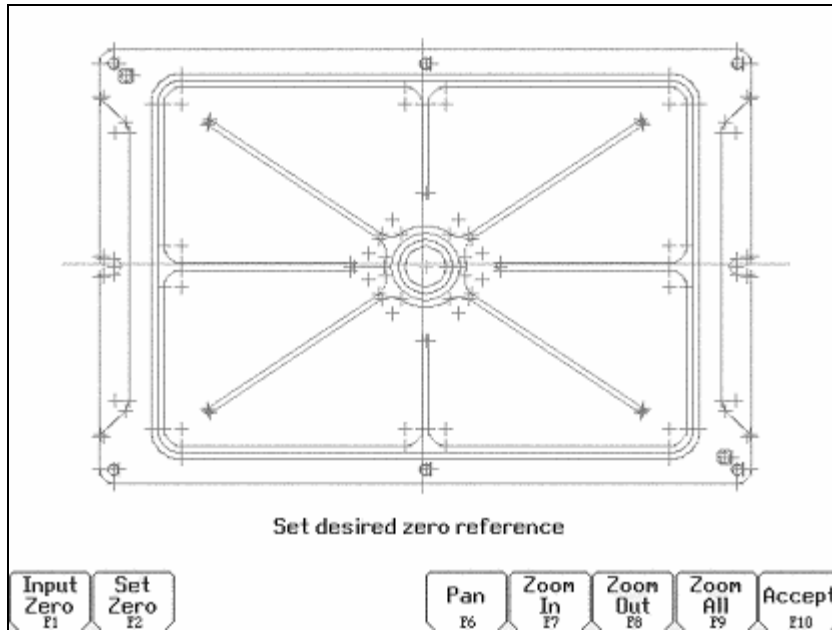


## Importing DXF files

Intercon allows you to convert geometry in DXF files to Intercon operations. To insert operations from a DXF file, press <F8> Import DXF from the Insert Other operations menu. If no DXF files have been loaded yet, the Intercon load file menu will appear. From here you may select the DXF file you wish to load. By default, Intercon expects DXF files to reside in the **c:\cnc10\ncfiles** directory. To change the default directory used by the Intercon load menu when loading DXF files, see the “User Specified Paths” section of Chapter 14.

Intercon reads DXF files up to and including version R14. At this time, only *point*, *line*, *arc*, *circle*, *polyline* and *lwpolyline* entities can be used to create Intercon operations. All other entities such as *text* must be converted to lines and arcs for them to appear in the Intercon Import DXF menu.

After a DXF file has been loaded, the Set zero reference menu appears.

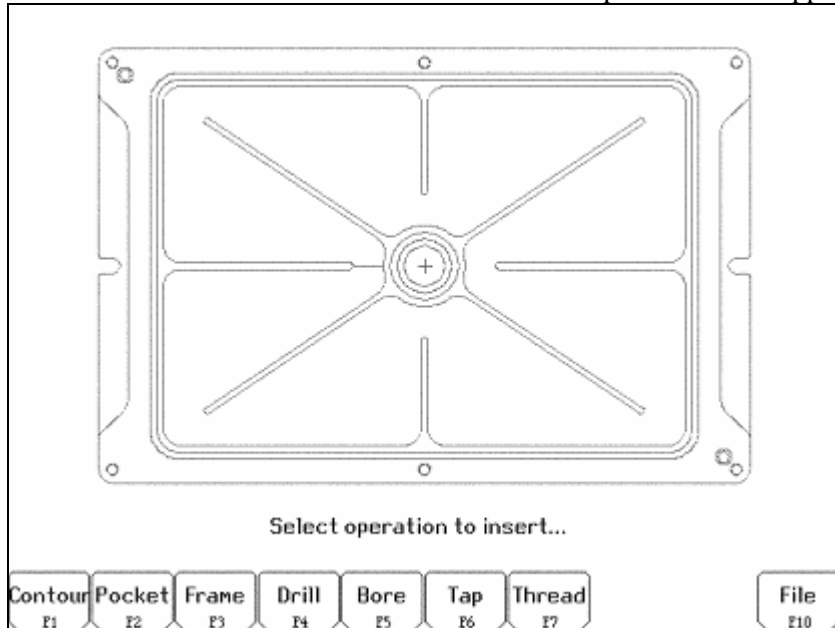


This menu allows you to change the absolute zero reference of the DXF file. The current zero reference appears as a green cross. All other points appear as gray crosses. A new zero reference may be defined by a combination the following methods:

- Press <F1> Input Zero to enter the coordinates of the new zero reference.
- Move the crosshairs with the arrow keys to highlight a point (represented by a gray cross) and press <F2> Set Zero. This action sets the zero reference to the position of the point.

When satisfied with the current location of the zero reference, press <F10> Accept. The zero reference may be changed multiple times before pressing <F10>.

After the zero reference is set the Select Intercon operation menu appears.



This menu allows you to select the type of Intercon operation you wish to create using geometry from the DXF file.

## **F1 – Contour**

Convert one or more connected lines and/or arcs to linear and arc operations.

## **F2 – Pocket**

Convert a chain of lines and/or arcs to one of the Intercon pocket operations. The type of pocket is depends on the geometry of the selected chain. A chain of arcs will be converted to a circular pocket if all arcs have the same center point and radius. A chain of four lines forming a rectangle will be converted to a rectangular pocket. All other chains will be converted into a cleanout operation.

## **F3 – Frame**

Create a frame operation that surrounds a chain of lines and/or arcs. The height, width and center of the chain are used to define the frame.

## **F4 – Drill**

Convert one or more points to a drilling operation.

## **F5 – Bore**

Convert one or more points to a boring operation.

## **F6 – Tap**

Convert one or more points to a tapping operation.

## **F7 – Thread**

Convert one or more points to a threading operation.

## F8 – Engrave (Optional)

Convert the entire file to engraving operations. Choosing this option displays the engraving menu. Set the options as desired for the engraving. Surface Height is the height of the surface to be engraved. Clearance Height is the height that the engraving tool will move up to clear the surface. Depth is the depth of the engraving. Set the Plunge Rate and Feedrate appropriately for the tool and material.

## F10 – File

Pressing <F10> displays the following options:

**<F1> Load** - Load a new DXF file.

**<F2> Zero** - Change the current zero reference.

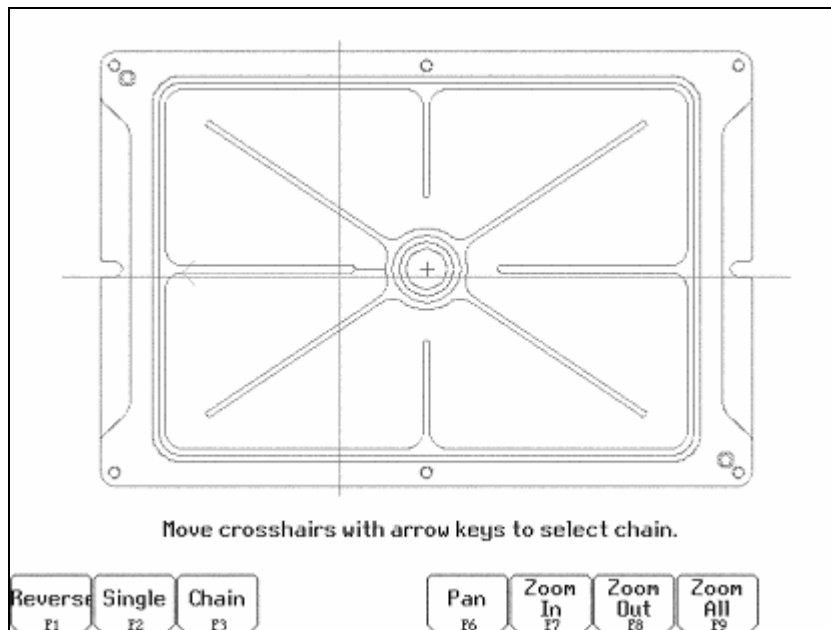
**<F3> Gap** - Modify the current gap tolerance. Two lines or arcs are connected if the distance between their end points is less than the gap tolerance.

## Selecting DXF geometry

After selecting an operation to from the Select Intercon operation menu, one of two menus appears. Contour, pocket and frame operations display the Select Chain menu and Drill, Bore, Tap and Thread operations display the Select Point menu. These menus allow you to select the geometry you wish to use to create the specified Intercon operation(s).

### Select Chain menu

This menu allows you to select a chain of one or more lines and/or arcs. To select a chain, highlight the first line or arc with the crosshairs. Press either <F2> Single to accept only that object or press <F3> Chain to accept that object and create a chain of lines and arcs connected to that entity. When satisfied with the selected chain, press <F10> Done to edit the values for the chosen Intercon operation.



## ↑ ↓ ← → (Arrow Keys) – Move crosshairs

Use the arrow keys to move the crosshairs.

## F1 – Reverse

When a line or arc is highlighted, an arrow appears indicating the direction of the object. Contour operations use this direction when cutting lines and arcs. To reverse the direction of the highlighted line or arc, press <F1> Reverse.

## F2 – Single

Select the currently highlighted line or arc.

## F3 – Chain

Select the currently highlighted line or arc and create a chain of connected lines or arcs in the direction of this selected object. Chaining will stop if there are no more connected, unselected lines or arcs, or the chain connects to the first object in the chain, or a branch point occurs. A branch point occurs when the last object in the chain is connected to more than one unselected lines or arcs. When this situation occurs, highlight the desired unselected line or arc that connects to the last object in the chain and press <F3> to continue chaining.

## F5 – Undo

Unselect the last line or arc in the chain.

## F6 – Pan

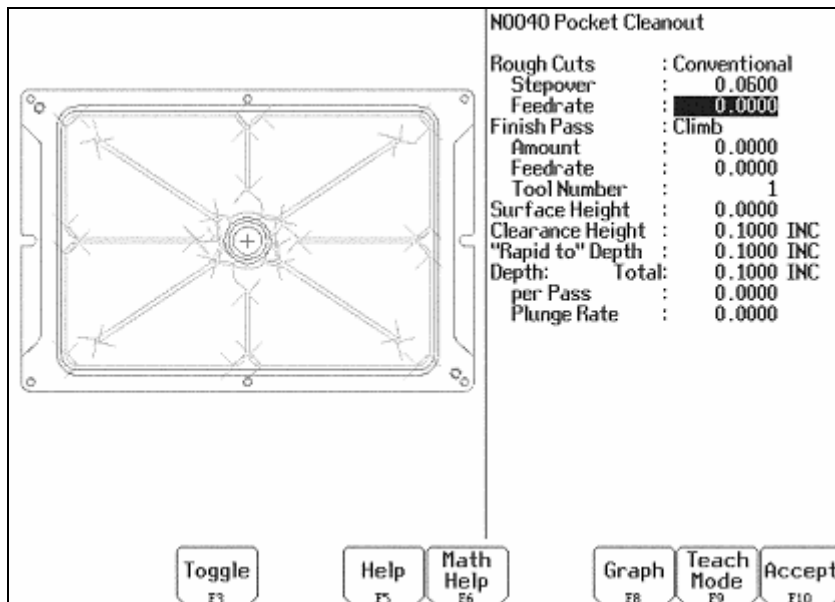
Set the plot center to the center of the crosshairs.

## F7, F8 & F9 - Zoom In, Zoom Out & Zoom All

<F7> and <F8> Set the center of the plot to the center of the crosshairs and Zoom In and Zoom Out respectively. <F9> redraws the part with its original scale.

## F10 – Done

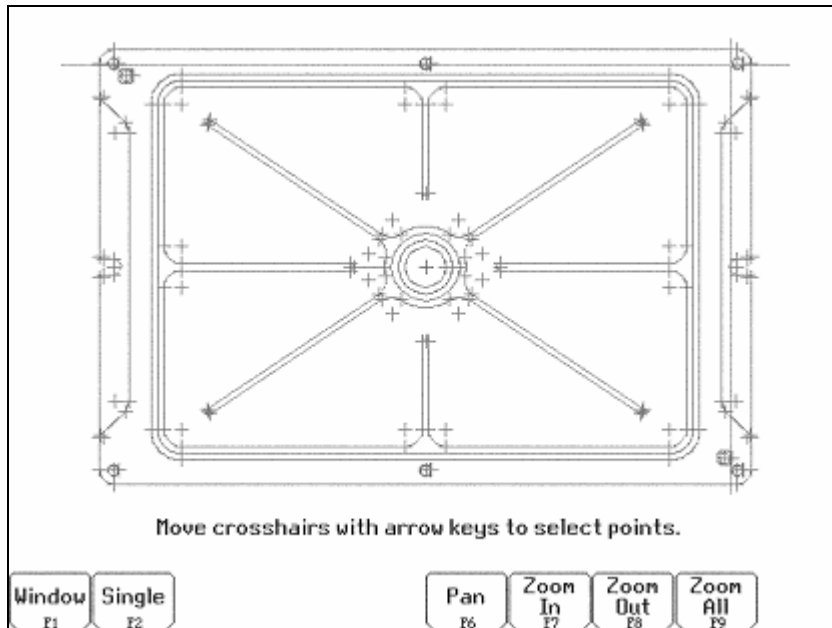
Accepts the selected chain and proceeds to the Intercon operation edit menu. The operation edit menu allows you to enter values for fields such as feedrate and plunge rate. These values are copied to the rest of the lines and arcs in the chain where applicable.



The keys <F1> Reverse, <F2> Single and <F3> Chain only appear when a line or arc is highlighted. The keys <F5> Undo and <F10> Done only appear when one or more objects has been selected with <F2> Single or <F3> Chain.

### **Select Point menu**

This menu allows you to select one or more points to be converted into Intercon Drilling/Threading operations. In this menu, all selectable points are displayed as gray crosses. Selectable points include point entities, line/arc endpoints and arc/circle center points. To select a point, position the crosshairs over the desired point and press <F2> Single to accept the point. More points can be selected by highlighting them with the crosshairs and pressing <F2> Single. <F1> Window can be used to select all points within a specified window. When satisfied with the selected point(s), press <F10> Done to edit the Intercon operation parameters.



### **↑ ↓ ← → (Arrow Keys) – Move crosshairs**

Press the arrow keys to move the crosshairs.

### **F1 – Window**

This key allows you to select all points within a specified box. Press <F1> once to set the first corner of the box. Move the crosshairs to the desired location for the opposite corner of the box and press <F1>. All points within the box are selected.

### **F2 – Single**

Accept the currently highlighted point.

### **F5 – Undo**

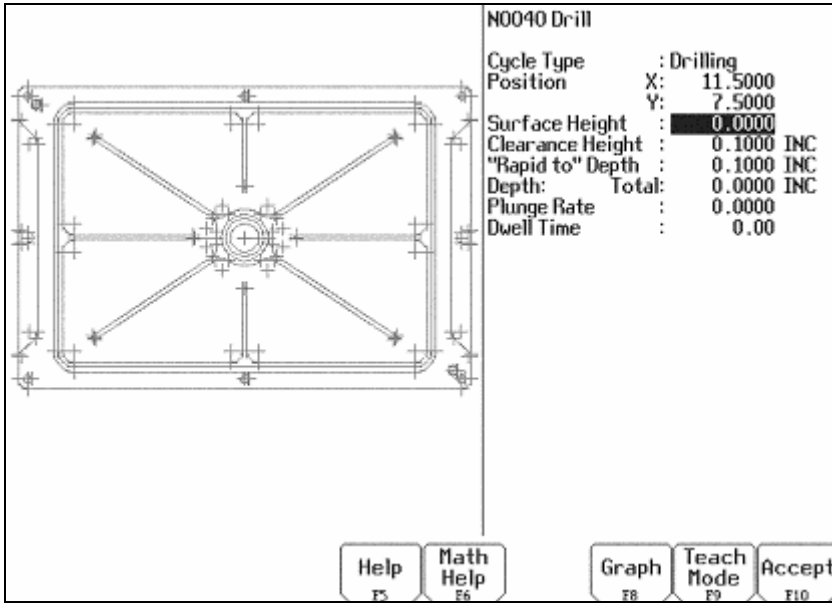
Unselect the last selected point.

### **F6, F7, F8 & F9 – Pan, Zoom In, Zoom Out & Zoom All**

These keys perform the same operations they do in the Select Chain menu.

## F10 – Done

Accepts the selected points and proceeds to the Intercon operation edit menu. The operation edit menu allows you to enter values for fields such as plunge rate and depth. These values are copied to the rest of the selected operations where applicable.



The key <F2> Single only appears when a point. The keys <F5> Undo and <F10> Done only appear when one or more points have been selected with <F1> Window or <F2> Single.

## Using a mouse

In addition to the arrow keys, a mouse may be used to position the crosshairs in the DXF selection menus. Simply move the mouse pointer to the desired crosshair location and click the left mouse button. This action will move the crosshairs to the location of the mouse click and highlight the closest object.