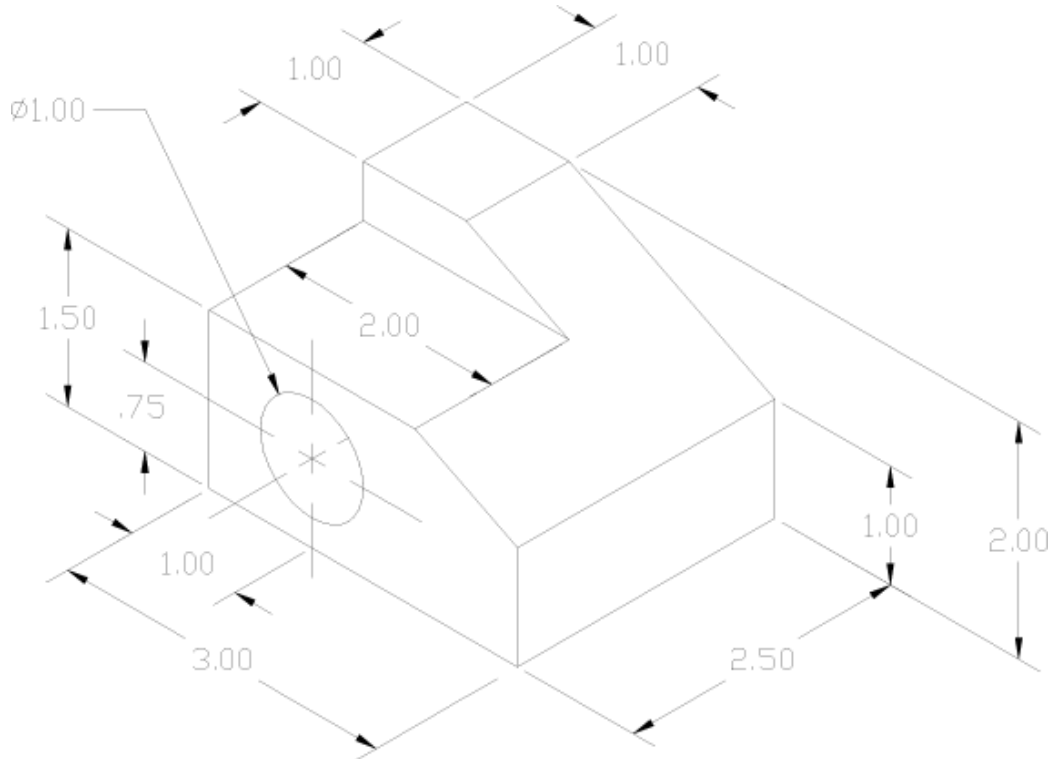


## Unigraphics Wireframe Construction Tutorial



This tutorial will step you through the process to construct a wireframe model of the geometry depicted above. The purpose of this exercise is to help familiarize you with the commands and menus of the Unigraphics system.

Go to the **Preferences** menu at the top of the screen and select the option **Work Plane**.

Toggle the *snap to grid* and *grid display* to **on**.

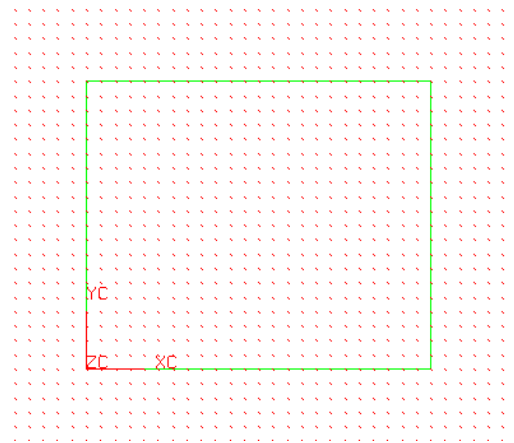
Set the *X and Y snap spacing* to an appropriate value ( in this example, .25 is fine)

Set the **Objects off Work Plane** to *Dim and non-selectable*.

Close the dialogue box with **OK**.

Go to the **Curve Toolbox** and select **Basic Curves** and **Line**.

Draw the outline of the base of the object (a 3.00 x 2.50 rectangle) watching the line length display at the bottom of the graphics screen to help you.

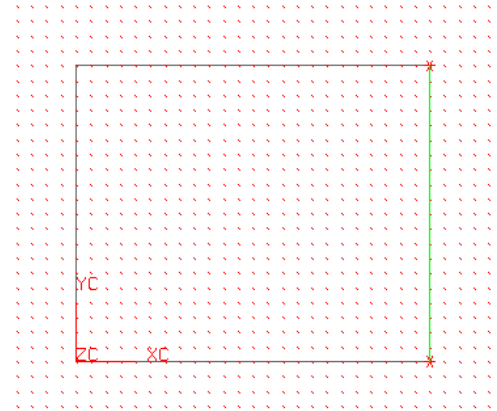


Go to the **WCS** menu and select **Origin**.

Move the mouse point to the **ZC input box** of the **Point Selection** dialogue and press the **MMB** to highlight for input. Set the value to 1.00

Go to the **Curve Toolbox** and select **Basic Curves** and **Line**.

Draw a line coincidental with the right edge of the first rectangle.

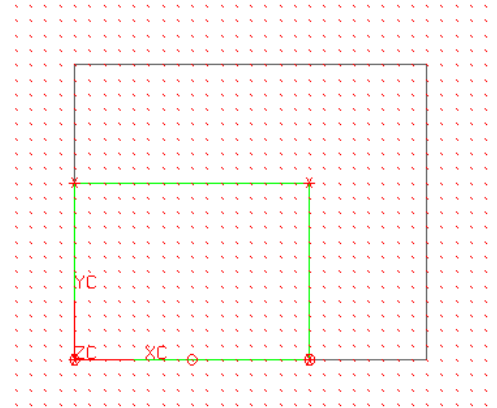


Go to the **WCS** menu and select **Origin**.

Move the mouse point to the **ZC input box** of the **Point Selection** dialogue and press the **MMB** to highlight for input. Set the value to .50.

Go to the **Curve Toolbox** and select **Basic Curves** and **Line**.

Draw a 2.00 x 1.50 rectangle (the next horizontal surface in elevation). Be sure to pick your start point to coincide with corner below.

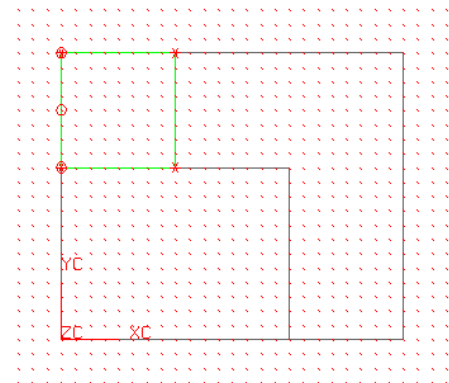


Go to the **WCS** menu and select **Origin**.

Move the mouse point to the **ZC input box** of the **Point Selection** dialogue and press the **MMB** to highlight for input. Set the value to .50.

Go to the **Curve Toolbox** and select **Basic Curves** and **Line**.

Draw a 1.00 x 1.00 rectangle (the next horizontal surface in elevation). Be sure to pick your start point to coincide with corner below.



Go to the **Preferences** menu at the top of the screen and select the option **Work Plane**.

Set the **Objects off Work Plane** to **Normal Display**.

Close the dialogue box with **OK**.

Open the **Quick Menu** by moving the mouse pointer to the graphics screen and pressing the **RMB**.

Go to the **Replace View** command and select **TFR-ISO** (stands for top-front-right isometric)

Go to the **Curve Toolbox** and select **Basic Curves** and **Line**.

Toggle the **String Mode** option to **Off**.

Create the connecting edges of the part, as required.

The next step will be to create the circles to represent the hole.

We will re-orient the coordinate system to lie on the face where the hole opening is located.

Go to the **WCS** menu and select **Orient WCS** and then **Origin, X-Axis, Y-Axis**.

For the first point (origin) choose the lower left-hand corner of the mounting face, for the second point (X-axis) choose the lower right-hand corner of the face and finally for the third point (Y-axis) choose the upper left-hand corner of the face. These three points are circled in the view on the right. Your coordinate system orientation should appear as shown.

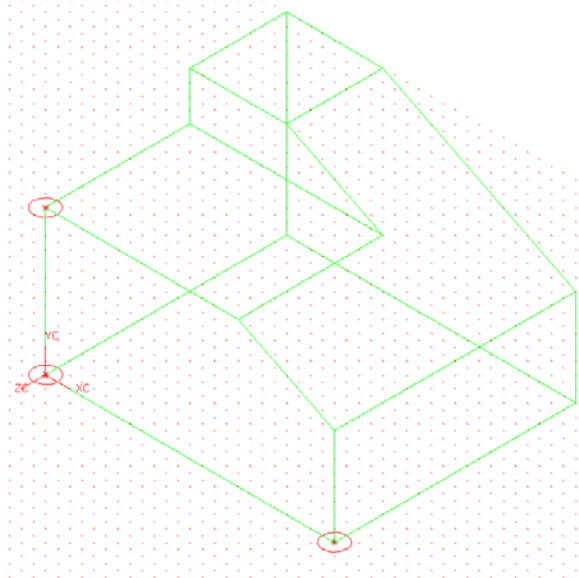
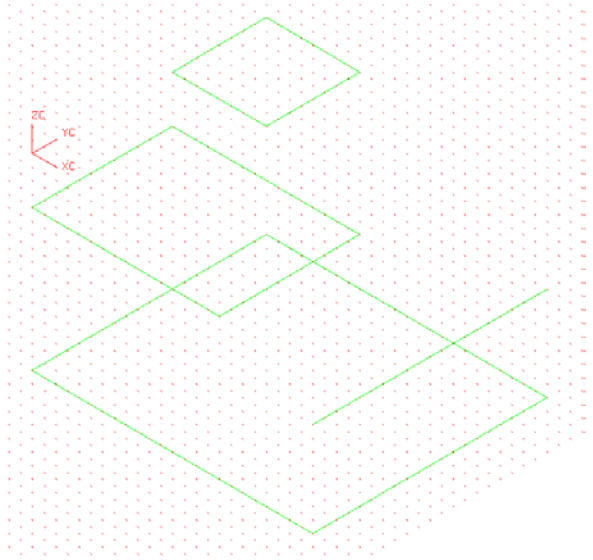
Go to the **Curve Toolbox** and select **Basic Curves** and **Circle**.

Point to the **Point Method** and select the option at the bottom of the list, **Point Sub-function**.

Move the mouse point to the **XC input box** for **Base Point** and press the **MMB** to highlight for input. Set the value to 1.00

Move the mouse point to the **YC input box** for **Base Point** and press the **MMB** to highlight for input. Set the value to .75

Select **OK** in the dialogue box and then **Back** to continue with the Circle command.



Drag the mouse until the diameter value shown at the bottom of the screen reads 1.00 and then pick. Be careful not to move over an existing entity since you are back in the Infer mode and would snap to a control point.

Pick **Cancel** to end the Circle command.

Go to the **WCS** menu and select **Origin**.

Move the mouse point to the **ZC input box** of the **Point Selection** dialogue and press the **MMB** to highlight for input. Set the value to **-1.00**

Go to the **Curve Toolbox** and select **Basic Curves** and **Circle**.

Point to the **Point Method** and select the option at the bottom of the list, **Point Sub-function**.

Move the mouse point to the **XC input box** for **Base Point** and press the **MMB** to highlight for input. Set the value to 1.00

Move the mouse point to the **YC input box** for **Base Point** and press the **MMB** to highlight for input. Set the value to .75

Select **OK** in the dialogue box and then **Back** to continue with the Circle command.

Drag the mouse until the diameter value shown at the bottom of the screen reads .75 and then pick.

Go to the **Curve Toolbox** and select **Basic Curves** and **Line**.

Point to the **Point Method** and select the option **Quadrant Point**.

Create lines to connect the quadrant points of the two circles.

