sDotson.com

Autodesk Inventor Tutorials

by Sean Dotson
www.sdotson.com
sean@sdotson.com

Sketched Symbols Primer
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Sketched symbols are Inventor's equivalent of AutoCAD blocks. They are "predrawn" sketches that you can easily insert into your IDW. Examples of uses of sketched symbols could include revision symbols, revision blocks, manufacturing notes, datum indicators and more. In this tutorial we will discuss the creation and use of two commonly used drafting symbols: the revision symbol and block.

To begin creation of sketched symbol first open your IDW template. This will make them available to all future drawings. (You may want to practice in a new drawing before altering your template).

In the drawing browser expand the **Drawing Resources** folder. Under this folder you will see a folder for sketched symbols. At this time yours will be empty but in Figure 1 you see that RevBlock and RevSymbol exist.
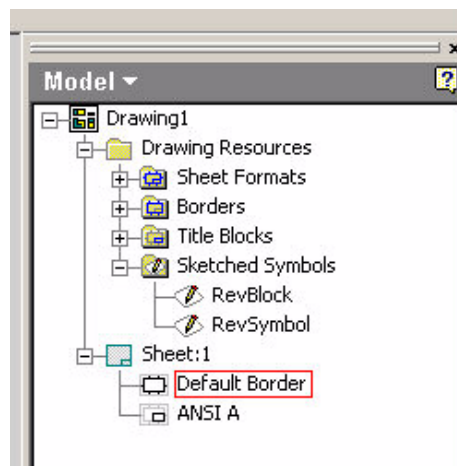
Figure 1 - Drawing Browser

Right click on the Sketched Symbols folder and select Define New Symbol. This will place you into sketch mode. We will first be creating the revision delta symbol so draw an equilateral triangle and dimension it as shown in Figure 2. Depending on your template scale (and preferences) this dimension can be modified to suit your needs.

We now want to place some text inside the triangle. We want the user to be able to enter the revision number in the symbol so we want to place a property field in the sketch. Choose the Property Field button (see Figure 3) and place the text anywhere on the sketch. You will be presented with a dialogue like the one in Figure 4.

While you can tie the value of this text to one of the model or sheet properties, in our example we will make it a prompted entry. Select Prompted Entry from the Type pulldown and type in the prompt text. This is the text that will appear when asking the user what they want to enter so make it informative. In our example we choose "Rev#?". Set the text size, font, color and any other options and then exit the dialogue. You will now have something that looks like Figure 5.
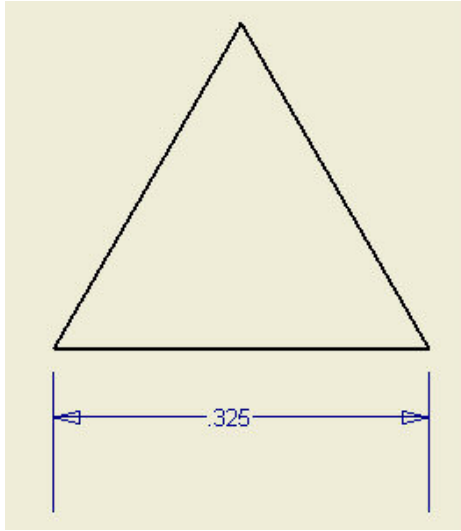
Figure 2 - Revision Delta Sketch
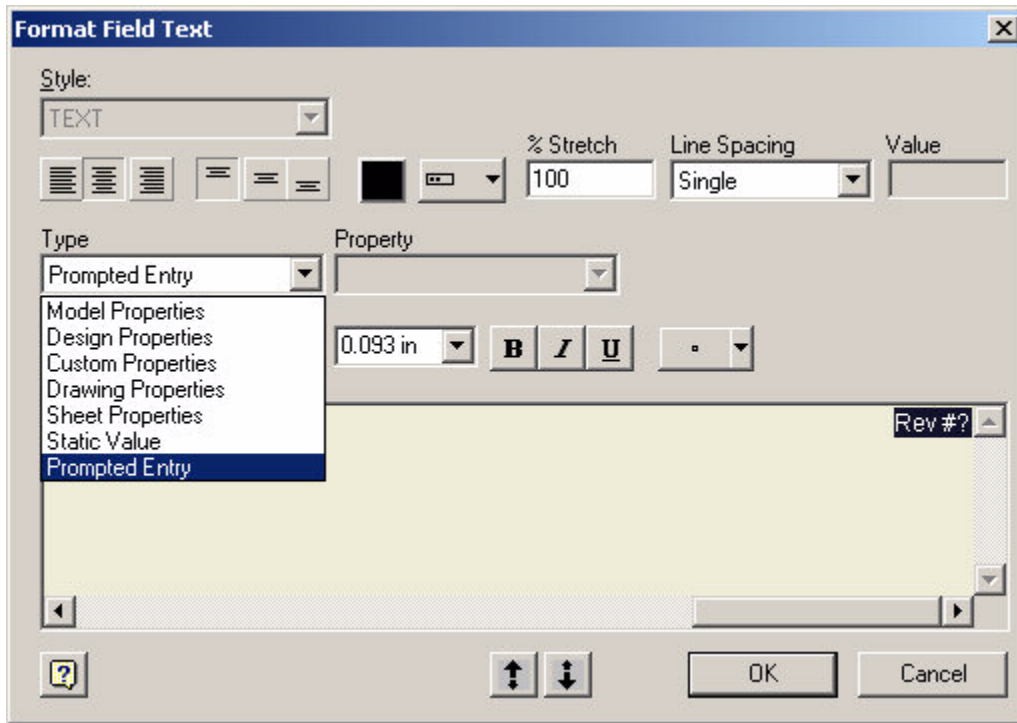

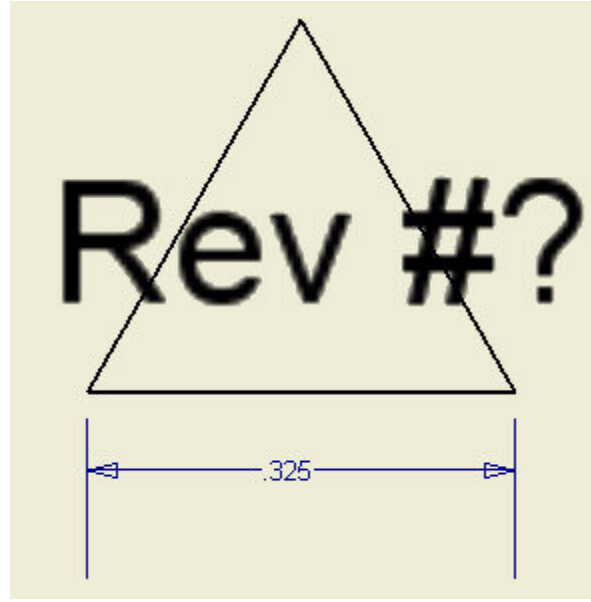**Figure 3 - Property Field Button**

**Figure 4 - Property Field Dialogue Box**

Figure 5 - Sketched Symbol after Prompted Entry

We now need to define an insertion point for the symbol. This provides the symbol a "grip" (in AutoCAD terms). The only way to "lock" a sketched symbol onto features is by the use of the insert or connection points. The insertion point is the default position of the cursor when placing a sketched symbol in a drawing. Select the hole center tool and place a hole center on the middle of the bottom part of the triangle. (see Figure 6) Select the hole center and go to the style menu at the top of the screen and select Insert Point. (see Figure 7)
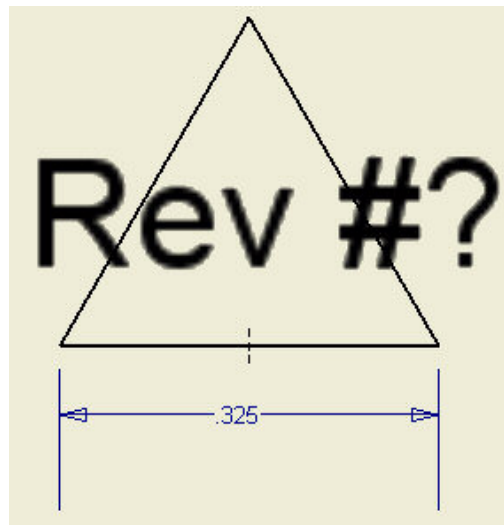
**Figure 6 - Hole Center place for use as a Insertion Point**
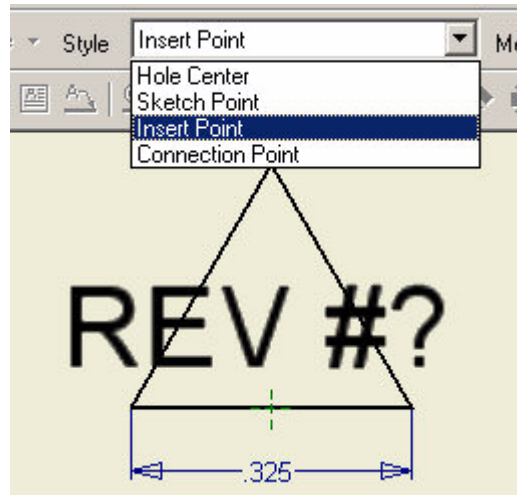
Figure 7 - Changing Hole Center to Insert Point

With the hole center defined as an insertion point we are ready to set a connection point. In the event that you need to string several revision symbols together we want to create a connection point at which the symbols can "lock onto" on another. Select the lower right corner of the triangle. Select only the point where the two lines meet. Now return to the Style menu and select connection point. Do the same for the lower left hand point.

NOTE: In a sketched symbol you may have an infinite number of connection points but only one insertion point.

The sketched symbol is now complete. Hit the Return (next to Update) button. You will be prompted to save the sketch symbol. We shall name ours **RevSymbol**.
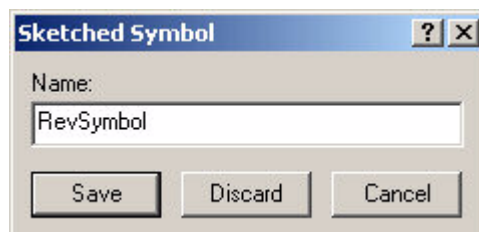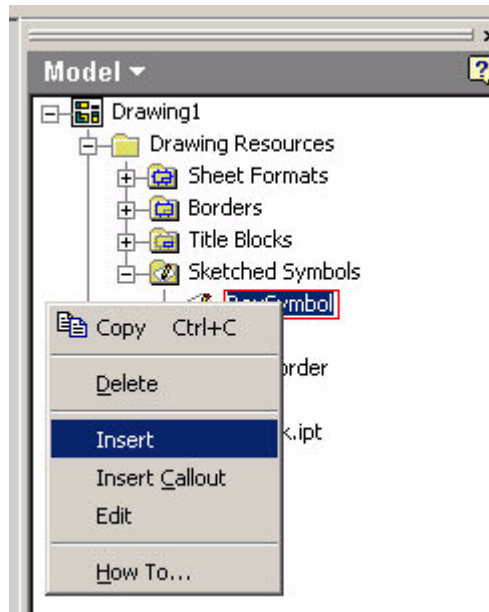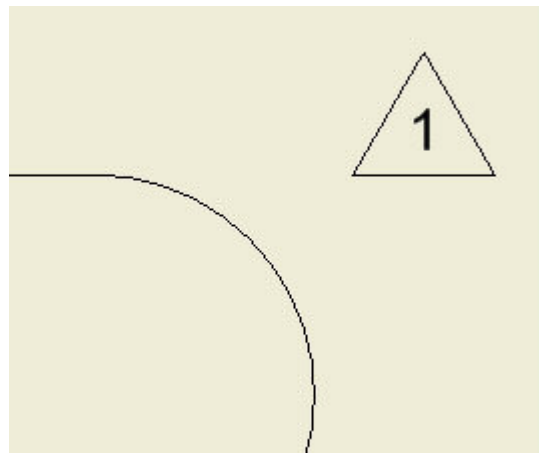

Figure 8 - Save Sketched Symbol

Expand the browser tree once again and expand the Sketched Symbols folder. The symbol **RevSymbol** should now be in this folder. We shall now discuss the two method of placing the symbols: **Insert** and **Insert Callout**.

The **Insert** option simply inserts the symbol into the drawing. When you right click on the symbol and select **Insert** (see Figure 9). You are presented with the symbol attached to your cursor (at the insertion point). Click on the drawing to place the symbol. After you place the symbol you will be prompted for the "Rev# ?". Enter the rev number and

click on the green checkbox. The symbol will now be inserted into your drawing with the prompted value. (see Figure 10)

Figure 9 - Inserting Sketched Symbol

Figure 10 - Inserted Sketched Symbol

At this point the symbol is simply floating in space and is not locked to any drawing geometry. You can now drag the symbol around and using the connection points, lock it to a portion of your drawing.

The second method of inserting the symbol is **Insert Callout**. This places a leader from the point of interest to the symbol. Right click on the symbol and select **Insert Callout**. Click on a point on the drawing view of interest and then a second click to place the

symbol. Again you will be prompted to enter a revision number. The symbol should look like Figure 11.
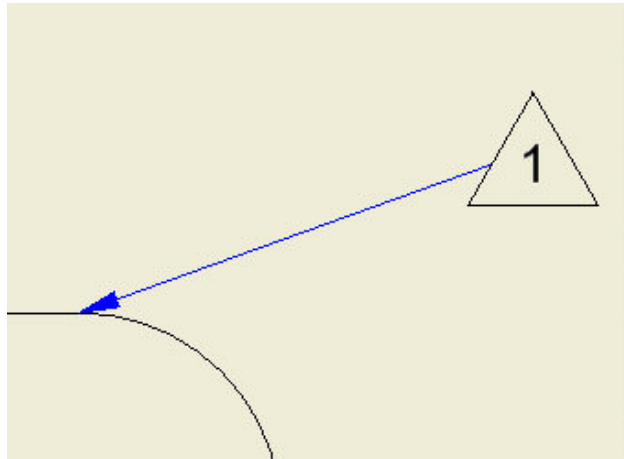

Figure 11 - Insert Callout Symbol

The leader will always follow a straight line from the pint of interest to the center of the symbol. If you find this annoying, right click on the symbol and select **Add Vertex/Leader**. Select the leader then select the point shown in Figure 12. You can now drag this point around to position the "entry" point of the leader. The result is shown in Figure 13.
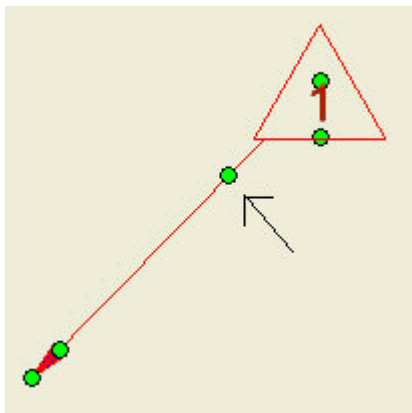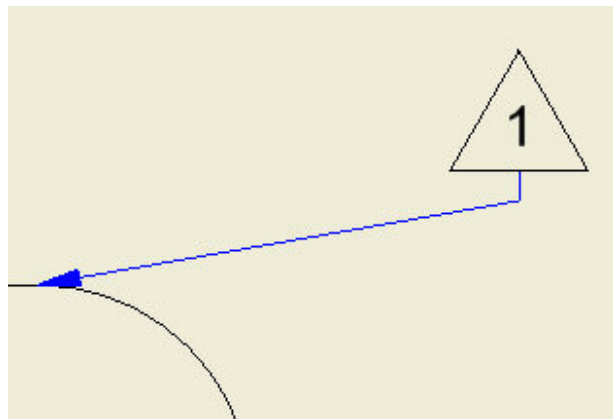

Figure 12 - Editing Leader

Figure 13 - Final Result

To create the revision block follow the same steps described above. In this symbol we will have two prompted entries: **Rev#** and **RevDescription**. Place an insertion point in the upper right hand corner of the block. You should have something like Figure 14.

REV:REV #REVISION DESCRIPTION LINE #1

Figure 14 - RevBlock Sketched Symbol

Save your symbol as **RevBlock** and then insert it into the drawing. By placing the insertion point at the upper right hand corner we can simply select the corner of the drawing border to place the symbol. (See Figure 15)
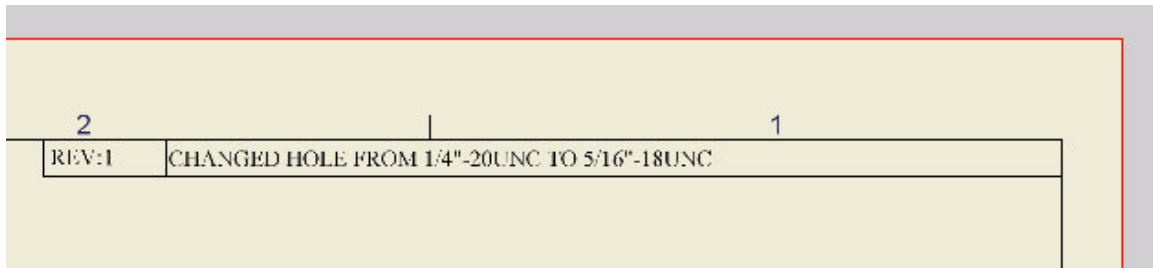

Figure 15 - Inserted RevBlock

NOTE: To obtain the text "REV:" before the actual revision number you must use a combination of static text and prompted values when creating the symbol.

If you need to edit the text in the prompted entries simply right click on the symbol and select **Edit Prompted Values**. You will be presented with a dialogue box that allows you to edit the values.
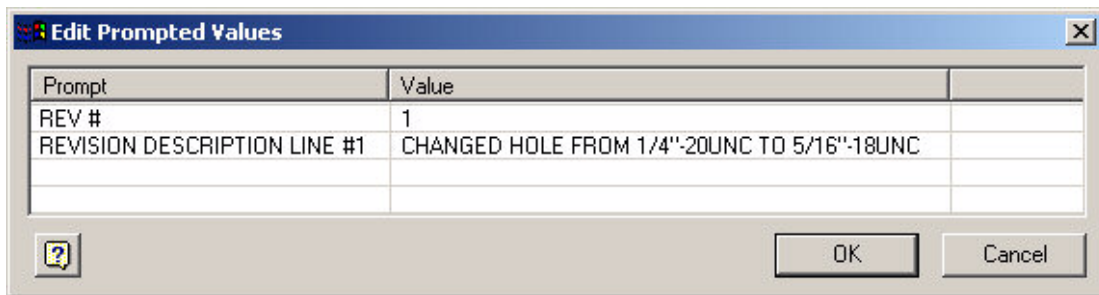

Figure 16 - Editing Prompted Values

You can now stack the revision blocks by inserting new ones and connecting them to the existing symbols.
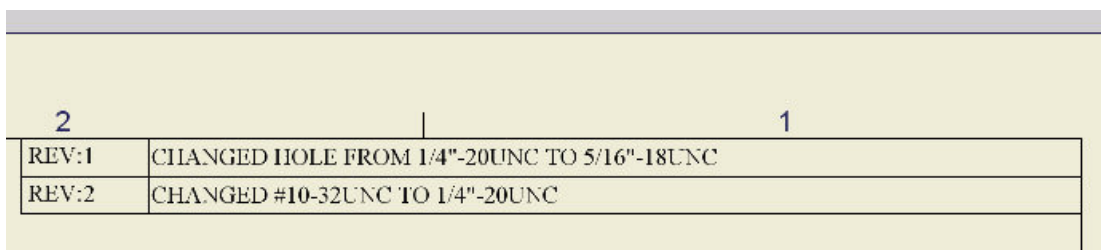

Figure 17 - Stacked Symbols

I hope this helps you to understand the basics of sketched symbols. In future lessons I will discuss these symbols more in depth including importing AutoCAD blocks, bitmaps and other advanced techniques (e.g. creating pneumatic diagrams in Inventor)