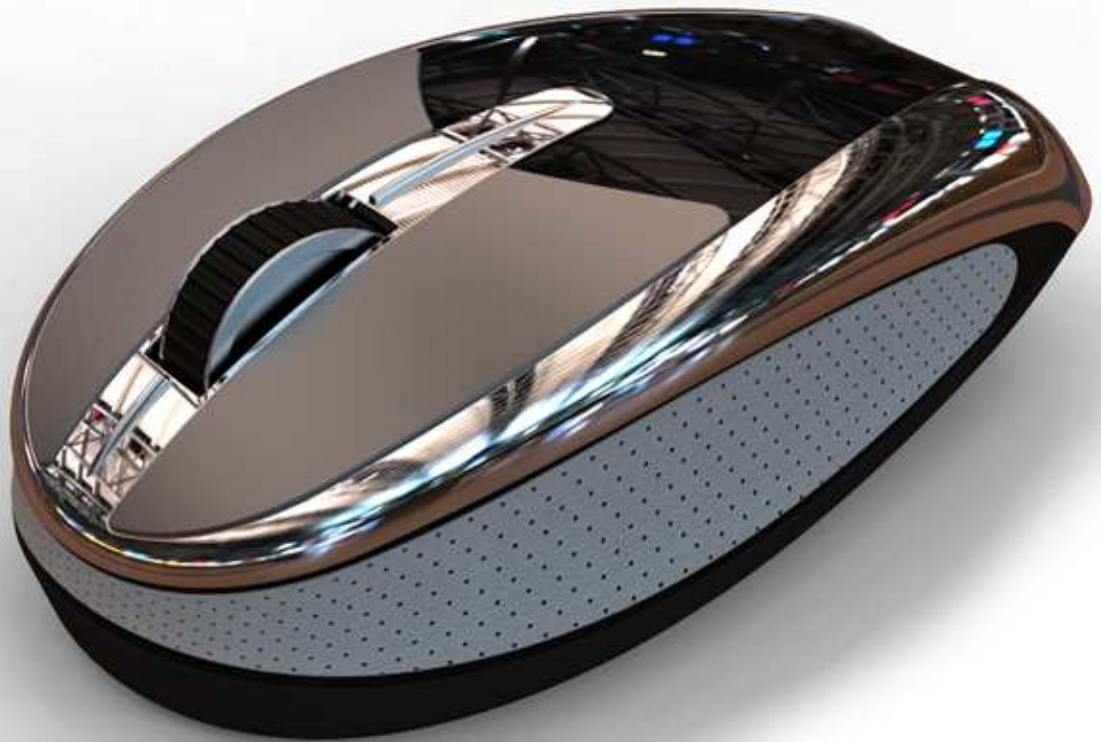




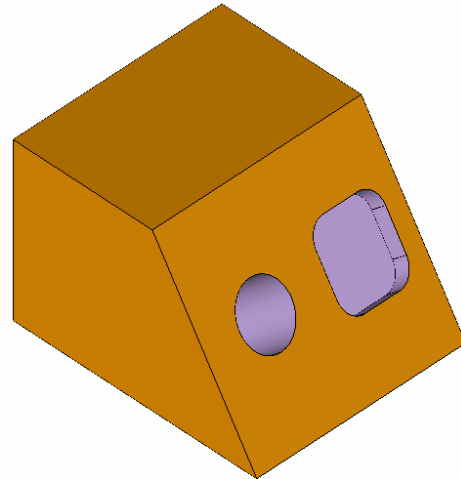
# Tips And Tricks



## Using Projected Instance

The Projected Instance Function is a tool added relatively recently to the KeyCreator arsenal and many users, novice and expert alike, are unaware of what it does.

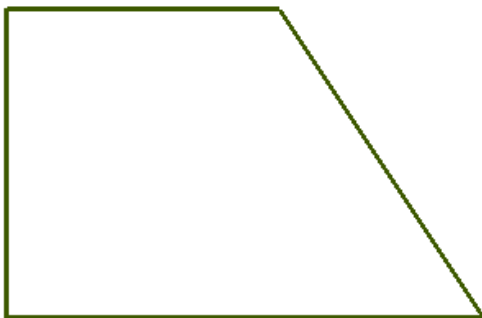
Let's take a few minutes to explore the uses of this powerful function using the simple slope-faced block illustrated to the right. (You can build the block yourself following the instructions below or upload it with this lesson. The file name is SlopeBlock1.)



To build the block, start with a new file in View 2 and click on the CREATE RECTANGLE BY WIDTH HEIGHT Icon.

Use any anchor position and create a rectangle that is 2 inches wide by 2 inches high. Use the Cursor Option to place the rectangle on the screen.

Now, use the XFORM BOX MOVE Function and drag a selection window around the bottom, right corner of the rectangle. Select the XYZ Option. Type 1.5 for dXC and hit the ENTER Key three times.

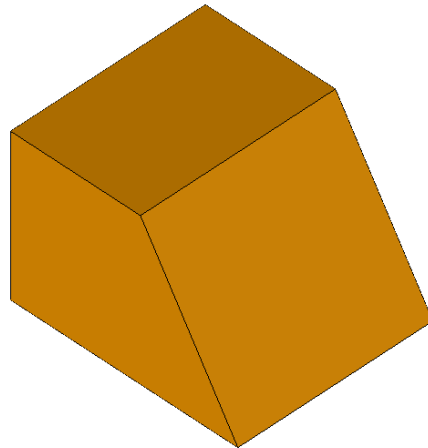


You now have a construction that looks like this:

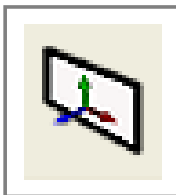


Now, switch to the Isometric View.

Click on the EXTRUDE Icon. Type 3 for the distance and select either vector to extrude the profile.



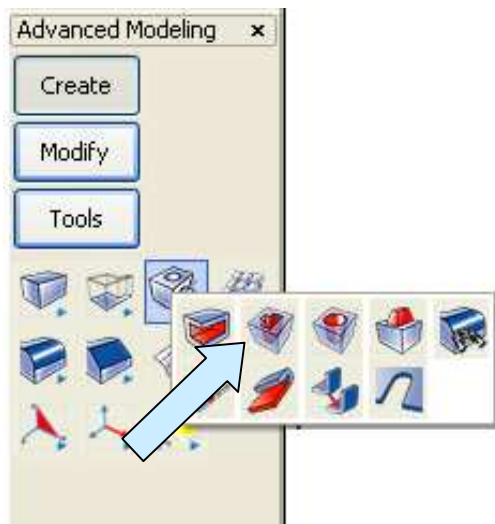
You will now have a sloped-face block like the one illustrated to the right.



Now, establish a construction plane on the sloped face of the part. Next, select a new construction color.

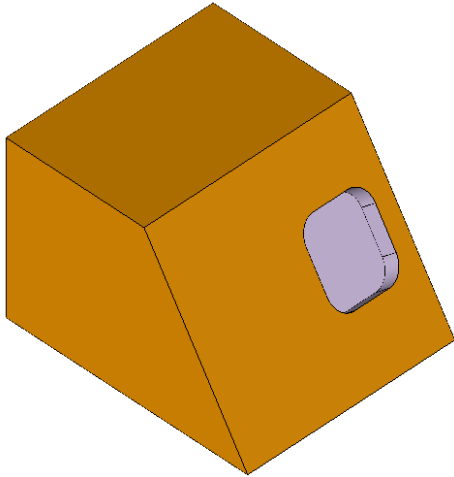
Click on the CREATE ROUNDED RECTANGLE BY CORNERS Icon.

Type 0.25 for the corner radius and sketch a small rectangle on the right side of the slope face.



Click on the CUT Icon. A Dialog Box appears.

Select the Forward Cut Direction and for the End Condition select Blind. Type 0.25 for the Distance and hit the ENTER Key.



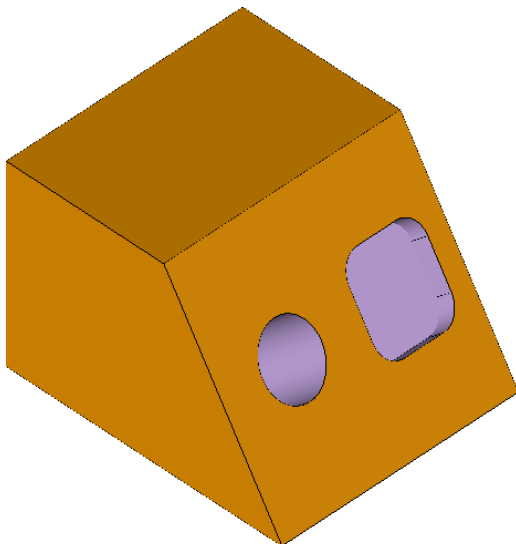
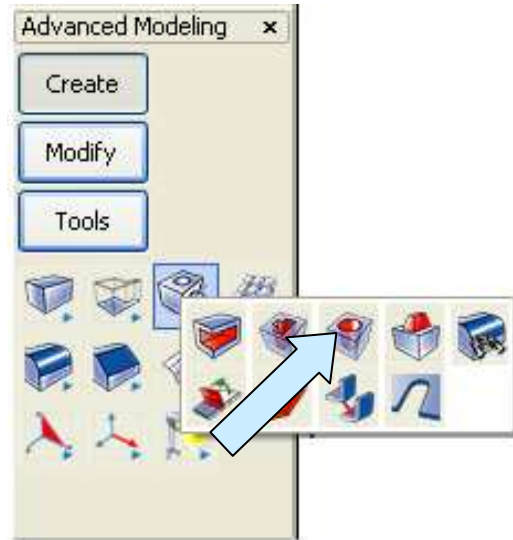
Click on the solid body. Then, select the rounded rectangle that you just created and hit the ENTER key.

Select the vector that points into the block. You will now have a pocket like the one illustrated to the left.

Click on the DRILL Icon.

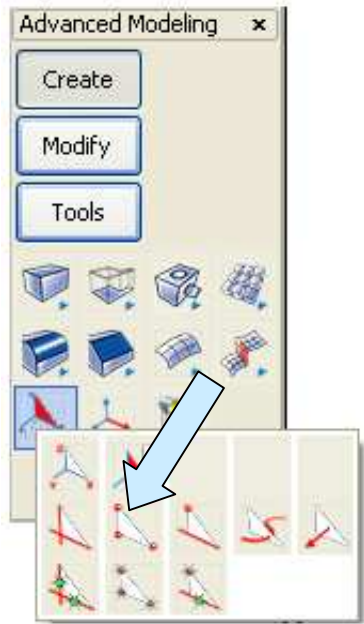
A Dialog Box appears. Select the Through Condition and type 0.75 for the diameter.

Click on the sloped face of the block and then using the Cursor Option, select a spot about halfway between the front edge of the slope surface and the front edge of the pocket.



Your final part will look like this:

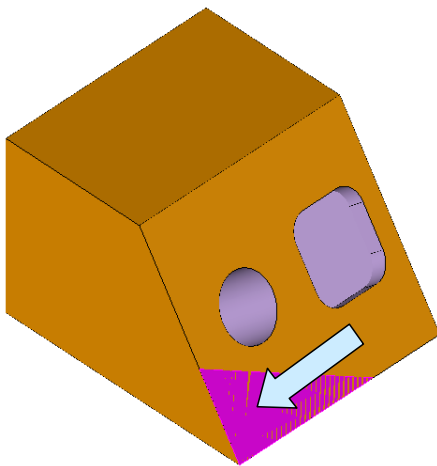
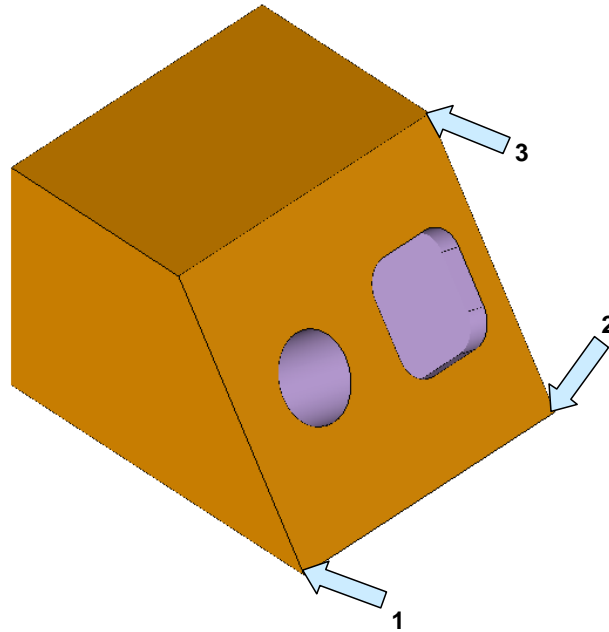
Our part is now done. Before we switch to Layout Mode, we're going to add one more item that will come in handy when we're working on our drawing.



Select a unique construction color. (I'm going to use Magenta.)

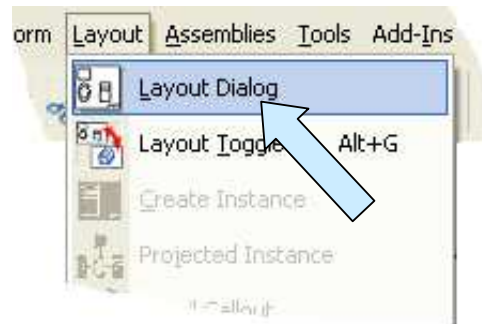
Click on the CREATE PLANE BY THREE POSITIONS Icon.

Using the EndEnt Option, click on the three points labeled 1,2,3 in the illustration below.

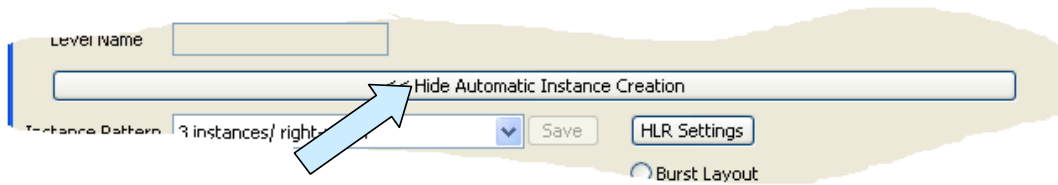


You will now have a plane marker on the slope surface of the part. In an actual working file you would proceed to place this plane on a unique level that could be turned off later in the display.

Now, let's click on the LAYOUT DIALOG Icon.



We'll click on the Hide Automatic Instance Creation Bar. We also don't need to import a border for this exercise.



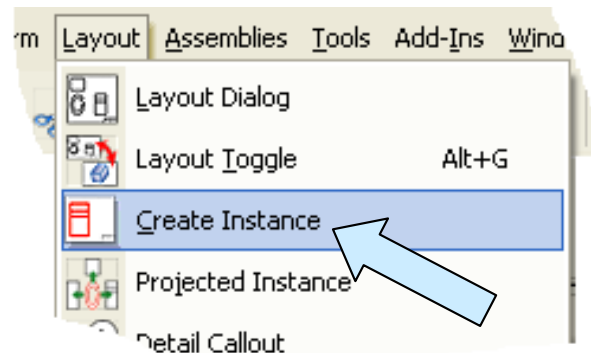
We'll use C for the Paper Size and make the Instance Scale and Paper Scale 1. Click on the OK Button.

You will just get a paper border on the screen.

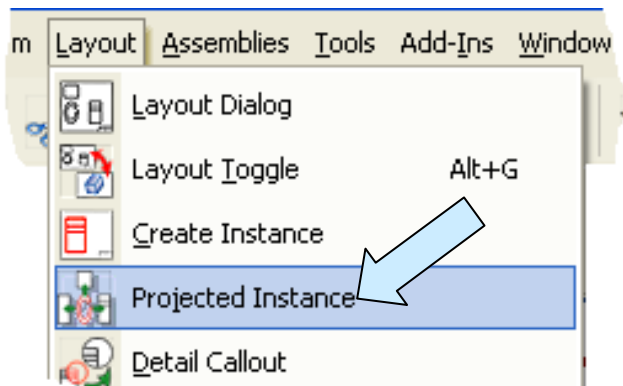


Now, click on the CREATE INSTANCE Icon.

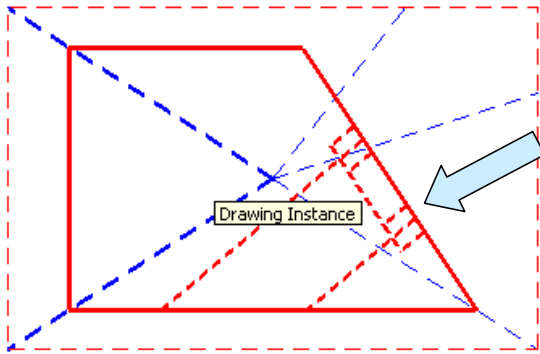
Select the Front View and place the front view in the bottom, left corner of the screen.



Now, you could proceed to place additional instances using the Create Instance Function and the View list. However, in this exercise, we're going to use a different approach.

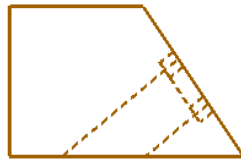


Click on the PROJECTED INSTANCE Icon.



Move the cursor over the front instance and notice that it highlights, with projection lines displayed on it. Position the cursor in the angle formed by the two projection lines pointing to the right and click.

Now, move the cursor to the right and a right side view follows. Click to place it a few inches away from the first view.

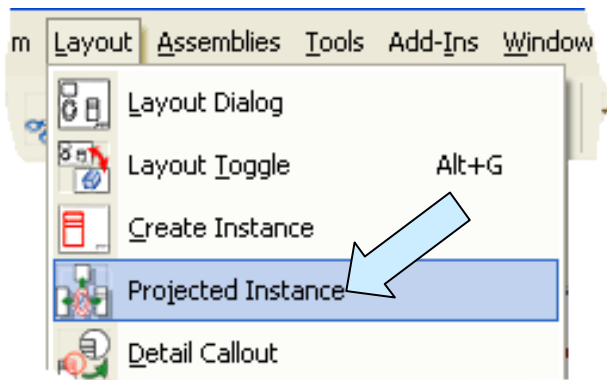


Move the cursor over the front view again and position the cursor between the two projection lines pointing upward. Click and move the cursor upward to place a top view!



Finally, if you place the cursor between the two projection lines that point up and to the right and click, you can move the cursor up and to the right to place an isometric view.

You can also pull views off the secondary views. For instance, if you click in the right side view and pull to the right you get a rear view of the part.



Now, you might wonder why I had you create the magenta plane marker. That's the icing on the cake.

Click on the PROJECTED INSTANCE Icon.

Move the cursor over the front instance until it highlights. Invoke the Masking Menu (For the Classic Keyboard or DrWalt Keyboard use the Hot Key ALT + M. For the Windows Keyboard use CTRL + E.) Click on the slope surface in the front view. (The mask will force the software to select the magenta plane marker.)

Now, move the cursor up to the right and you can pull a perfect auxiliary view off the oblique face! (This works because the Projected Instance Function has extra code in it that allows you to pull a view normal to a two dimensional entity like the plane marker.)

Once you have your view, you can turn the level off that contains the plane marker so it doesn't clutter the drawing.

