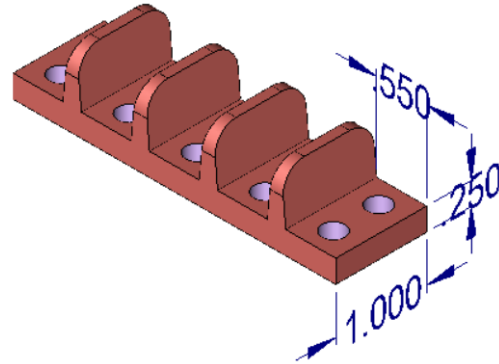# KEY**C**REATOR 3D Direct Modeling Software

KeyCreator Lesson KC3708

Dynamite Dynamic Modeling!

In this lesson we're going to create the
terminal block illustrated to the right.

Start with a new file in the Isometric View
(View 7.) with a construction plane assigned
to the Top View. (View 1.)

Click on the BLOCK Icon.

A Dialog Box appears. Click on the Sketch Option and use the
current Cplane Axis. Hit the ENTER Key.

Click near the origin and then move the cursor to the right and
up. A dynamic face grows on the screen. With the X value
around 0.75 inches and the Y value around 1 inch click to set the
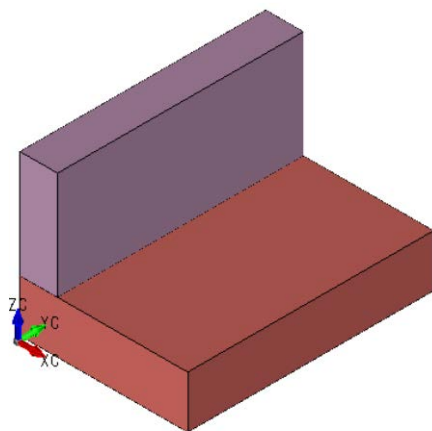opposite corner.

Move the cursor upward and click when the Z value is about
0.25 inches.

Your screen should look like this:
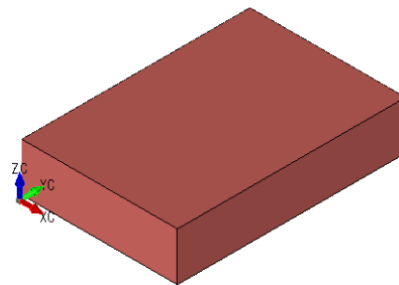
Use the BLOCK Function again. This time, using
the EndEnt Option, click on the top. left, front
corner of the first block.

Next, click on the AlongE Option on the
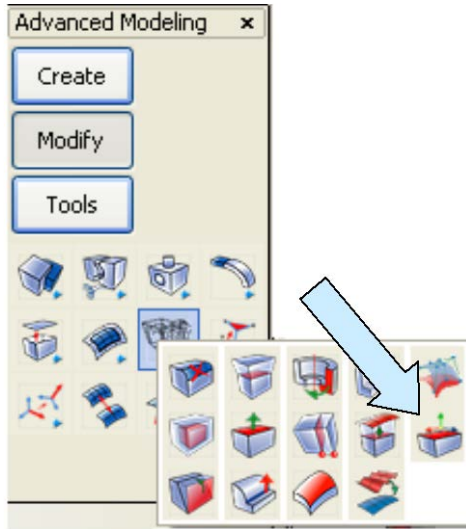Conversation Bar.

Click on the left end of the top, rear edge of the
first block. Type 0.2 for the value.

Then, move the cursor upward and a small block
grows.

Using the Cursor Option, click when the second
block is about 0.5 inches high.

Your screen should now look like this:

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KEYCREATOR 3D Direct Modeling Software

Now, click on the DYNAMIC FACE Icon.

Click on the right face of the upper block and hit the ENTER Key.

A DynaHandle appears on the face.

Right Mouse Click on the Yellow Sphere on the DynaHandle and click on the Indicate Position Option in the Menu that appears.

Using the EndEnt Option, click on the bottom, right, front corner of the upper block.

Now, drag the Green Rotation Vector and the side face rotates about the bottom pivot point.

Right Mouse Click and click on the Indicate Y Angle Option. Type 5 for the Number of degrees and hit the ENTER Key.

Use the same approach to add 5 degrees draft to the left side of the top block.
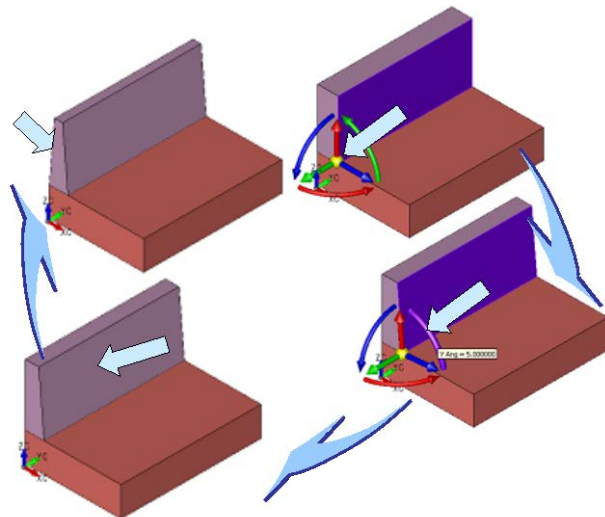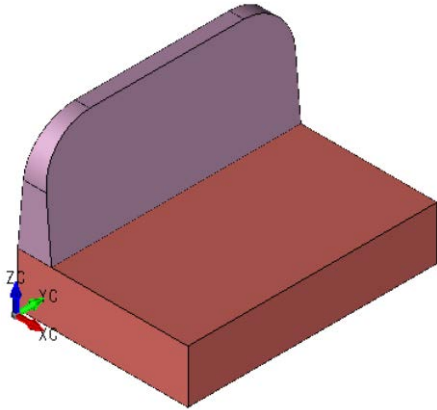
Now, click on the CONSTANT RADIUS BLEND Icon.

A Dialog Box appears.
Type 0.25 for the Radius and hit the ENTER Key.

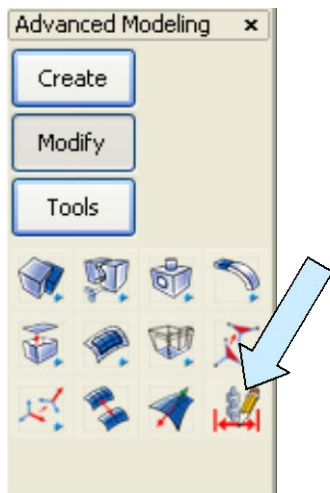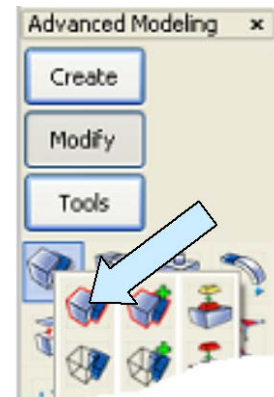Click on the two short top edges of the top block and hit the ENTER Key.

Your screen should now look like this:

Click on the BOOLEAN UNION Icon.

Select the bottom block and the top block and hit the ENTER Key.

You now have one solid on the screen.

Click on the DIMENSION DRIVEN EDITING Icon.

Click on the bottom, front edge of the part and place a dimension below the part. Click on the right arrow of this dimension and edit it to 0.75 inches.

Click on the top, front broad edge of the part and place a horizontal dimension above the part. Click on the left arrow of this dimension and edit it to be 0.550 inches.

Click on the bottom, right edge of the part and place a dimension below. Click on this dimension and edit it to be 1 inch.

Then, click on the right, rear, vertical edge and place a dimension. Click on the lower arrow of this dimension and edit it to be 0.250 inches.

Your part should look like this: (Note: We have not dimensioned the height of the vertical section yet.)
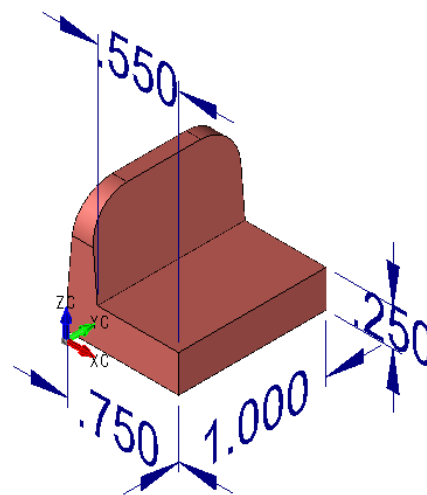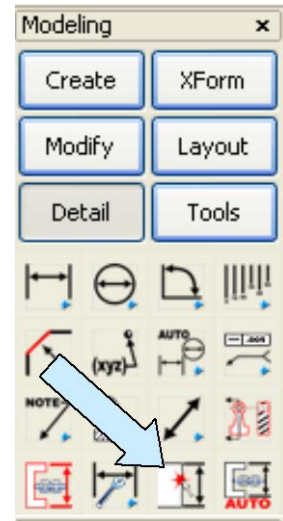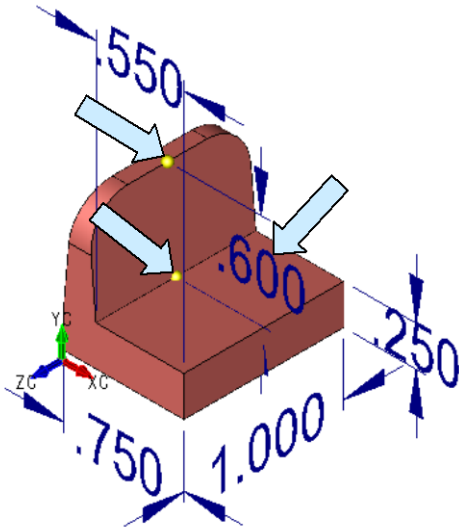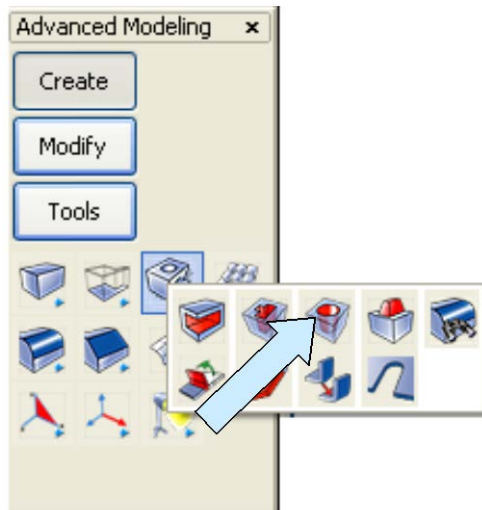
Click on the CONSTRUCTION PLANE Icon.
Type 2 for the Cplane Number.

Now, click on the QUICK DIMENSION Icon.

Click on the top, right edge of the vertical rib and the bottom, right edge of the vertical rib and place a height dimension to the right.

You can then use the DIMENSION DRIVEN EDITING Tool to click on the top arrow of this dimension and edit it to 0.6 inches.
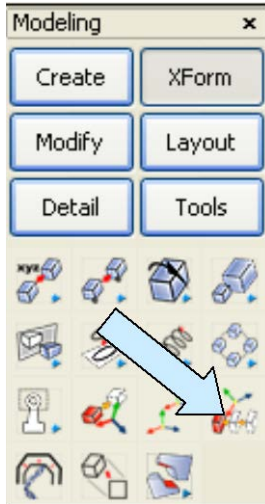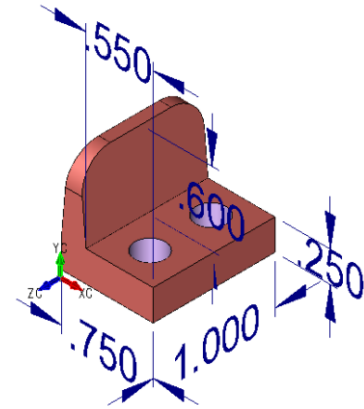
To complete this section of the modeling, click on the DRILL Icon.
A Dialog Box appears. Select the Through Hole Option and type 0.25 for the diameter.

Create two holes in the horizontal section of the part, centered in the face from left to right and 0.25 inches in from the front and back edges. (I'll let you do this on your own.)

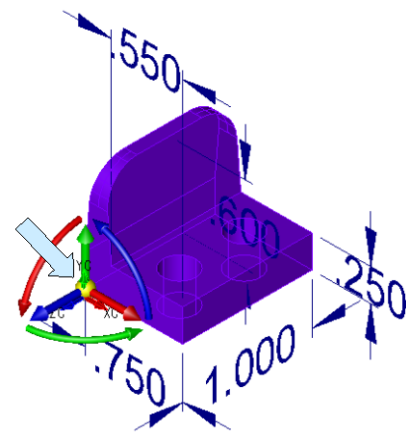Your part should now look like this:

Creating the final complex part is easy.
Click on the XFORM DYNAMIC LINEAR ARRAY Icon.

Click on the solid and hit the ENTER Key.
Type 4 for the Number of Copies and hit the ENTER Key.

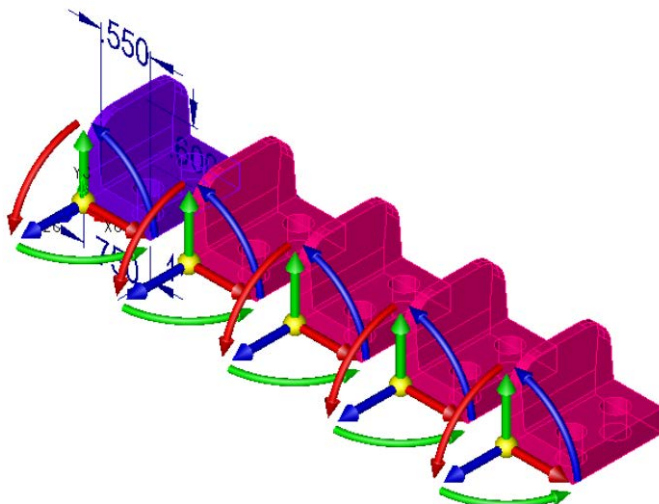Using the EndEnt Option, click on the bottom, front, left corner of the part.

A DynaHandle appears on the part.

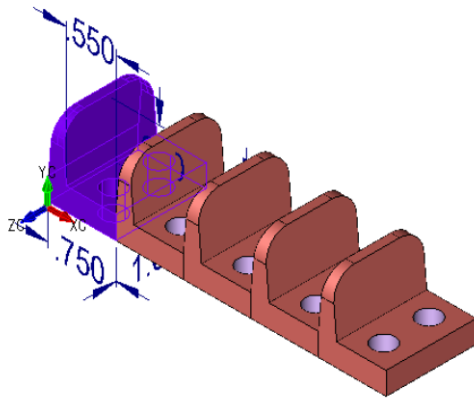Click on the SKIP Button on the Conversation Bar.

Then, drag the red vector to the right and four copies of the part form a parade across the screen!

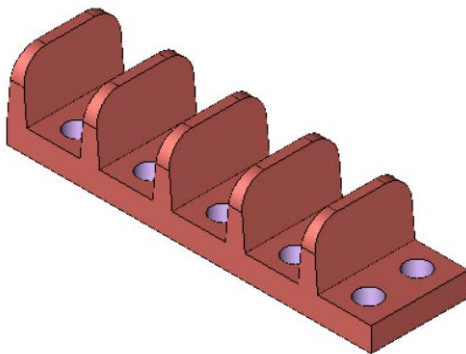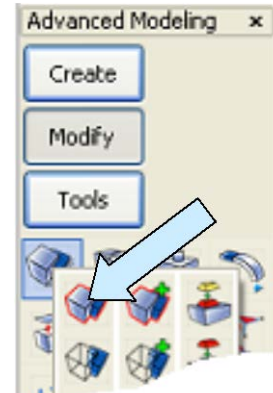Right Mouse Click on the yellow sphere on the DynaHandle at the first copy.

Click on the Indicate Position Option and using the EndEnt Option, click on the front, bottom, right corner of the first block.

The part copies are all stacked uniformly across the screen.

Click on the BOOLEAN UNION Icon and select all of the blocks. Hit the ENTER Key.

You can eliminate the driving dimensions at this point. (A few may have dis-associated anyway when the edges were absorbed by the Boolean operation.)

Also, remove the Cplane from the screen by using the CP=DV Option in the Cplane menu.
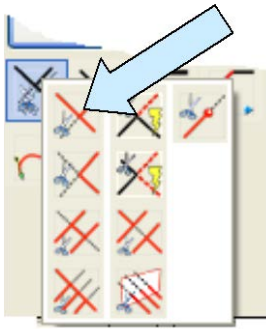
Finally, switch to the Front View. (View2.)
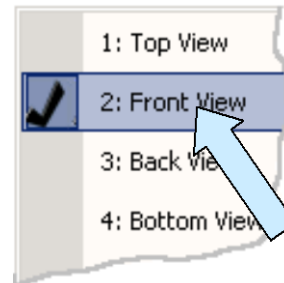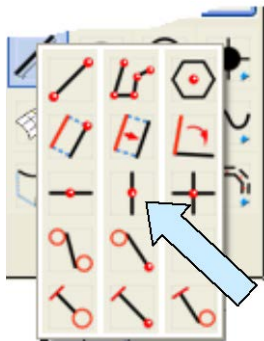
Click on the CREATE VERTICAL LINE Icon and create a line that passes through the bottom, right end of the leftmost vane on the part.
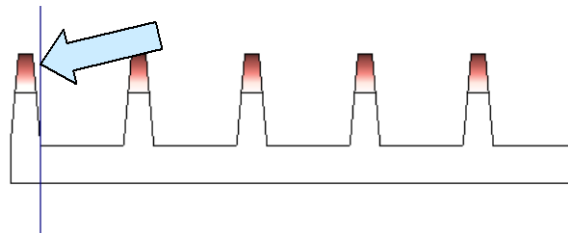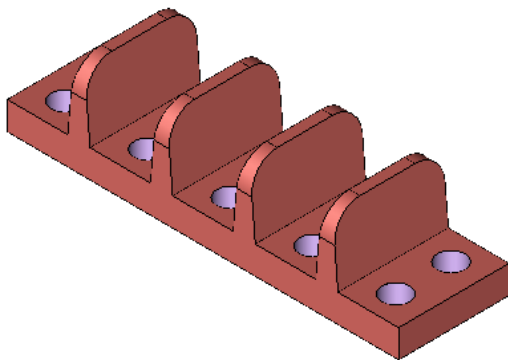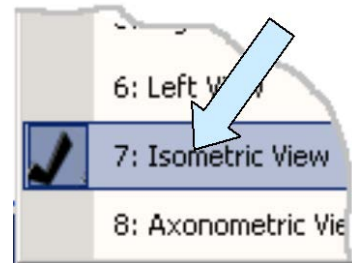
Click on the TRIM FIRST Icon..

Click on the right side of the solid and then on the vertical line.

Switch back to the Isometric View. (View 7.)

6: Left View

7: Isometric View

8: Axonometric Vie

Your finished part should look like this.