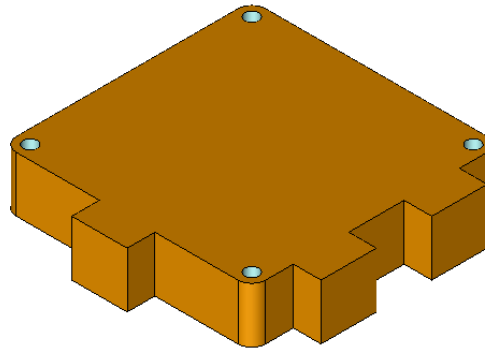


Dimension Driven Editing Basics

The Dimension Driven Editing (DDE) Tool introduced in a previous KeyCreator release has been pumped up with steroids for version 9.

Let's take a few minutes to look at some of the neat things that you can do with this powerful tool.

We'll start by creating the simple part illustrated to the right. We'll then modify the part using DDE.



Start with a new file in View 1.



Click on the **ROUNDED RECTANGLE BY WIDTH HEIGHT** Icon.

Type 0.25 for the corner radius.

Use any anchor option.

Then, type 4.5 for the width and the height.

Using the Cursor option, click on the screen to place the rectangle.

HEIGHT Icon.

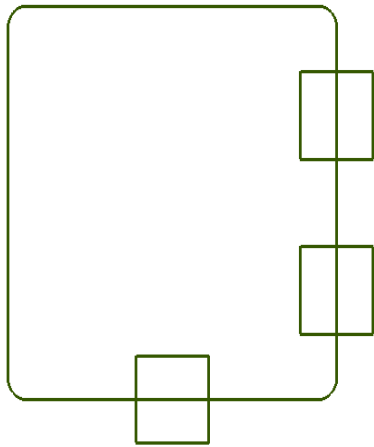
Use the MidCtr Anchor Option.

Type 1 for the Width and Height and using the CtrMid Option click on the bottom edge of the large profile.

Next, using the **ALONGE** Option, click on the top end of the right side of the large profile and type 1. Still using **ALONGE**, click on the bottom end of the right side of the large profile and type 1.



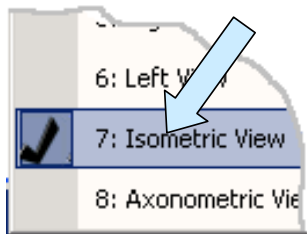
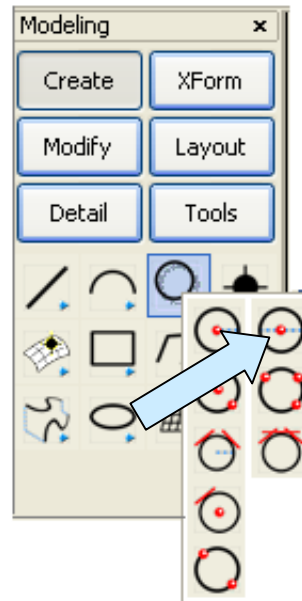
Next, click on the **RECTANGLE BY WIDTH**



Your screen should now look like this:

Next, click on the CREATE CIRCLE BY DIAMETER Icon. Type 0.25 for the diameter.

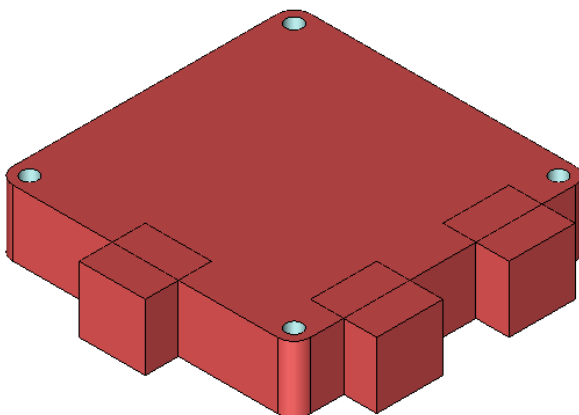
Using the CtrMid Option, place a circle centered on each of the corner fillets.



Now, switch to the Isometric View.

Click on the EXTRUDE Icon.

A Dialog Box appears. Type 1 for the length and use 0 for the Draft Angle. Hit the ENTER key.



Now, select the entire display and hit the ENTER Key. Then, select either the upward or downward vector.

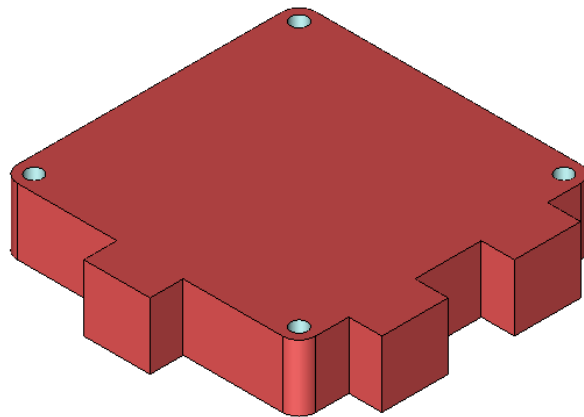
Your screen should look like this:



Notice that KeyCreator version 9 behaves differently than previous releases. The circles nested inside the main profile become holes. In version 8.5 and recent previous releases, the overlapping rectangles would have been united directly into the part forming tabs.

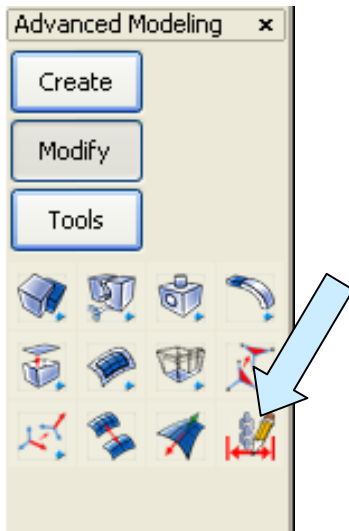
In KeyCreator version 9 (At least the initial release) you now get two small solids and a cutout at the location. (This is a bug that should be corrected eventually)

Click on the BOOLEAN UNION Icon and select all of the solids on the display to make one complete part.

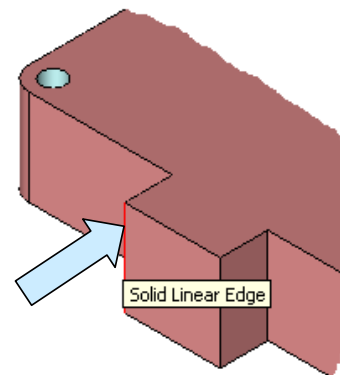


Your finished part should look like this:

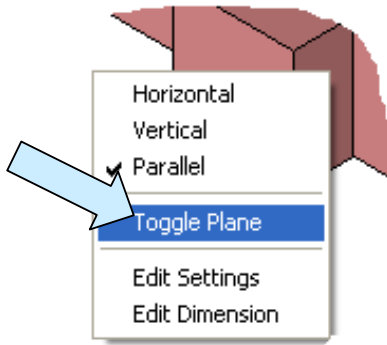
Take a moment to save the part. Let's call it "KC2907."



Now, click on the DIMENSION DRIVEN EDITING Icon.



Click on the vertical edge indicated by the arrow in the illustration to the right and pull off a 1 inch vertical dimension.

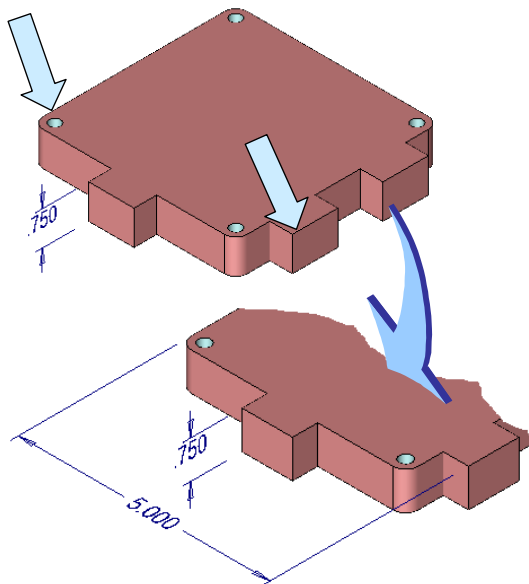
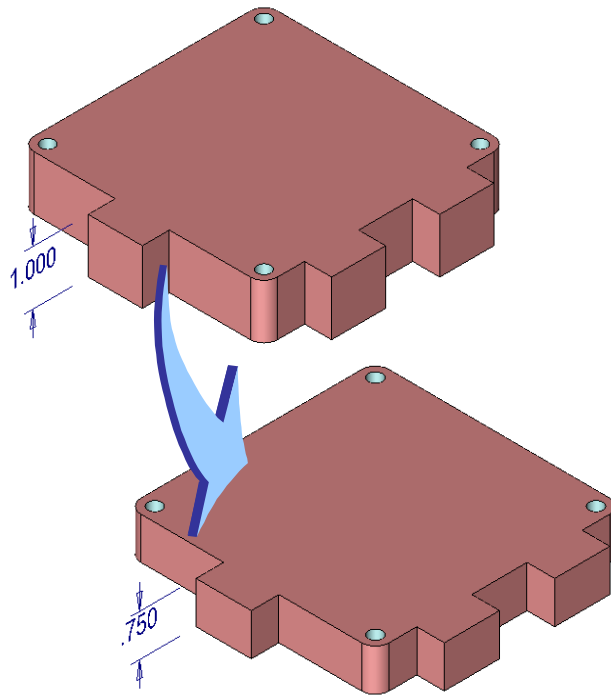


As you move the cursor prior to setting the dimension text, you can right mouse click and select the Toggle Plane to reorient the dimension if you desire.

Once you place the dimension, click on it once and you are prompted to enter a new dimension. Type 0.75 and hit the ENTER Key.

Notice that the block instantly resizes to be 0.75 inches thick.

So the first thing you notice is you can instantly edit a part that has no prior isometric dimensions with this one tool.



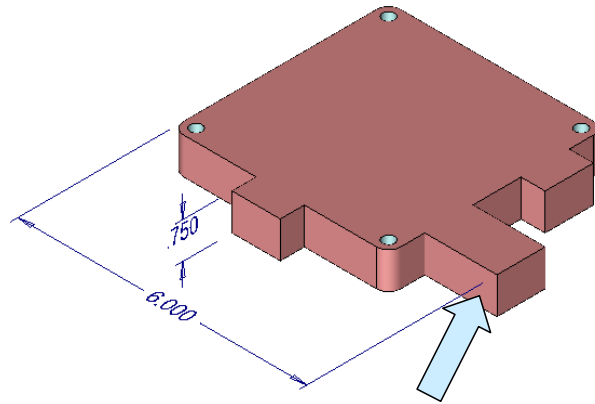
Next, click on the DDE Icon click on the two positions indicated by arrows in the illustration to the left.

This lets you pull an overall block dimension off to the front.

Now, click on the right arrowhead and type 6 for the new value.

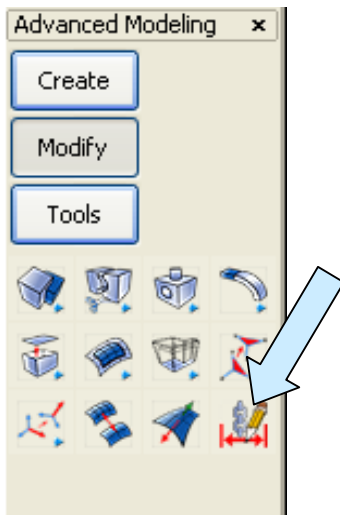
When you hit the ENTER Key you'll notice that just the front leg extends out to the new distance. (If you clicked on the left arrowhead the block would stretch to the left. Clicking on the dimension text would split the difference.)

When you are finished, click on the UNDO Icon to roll back to the 5 inch dimension.



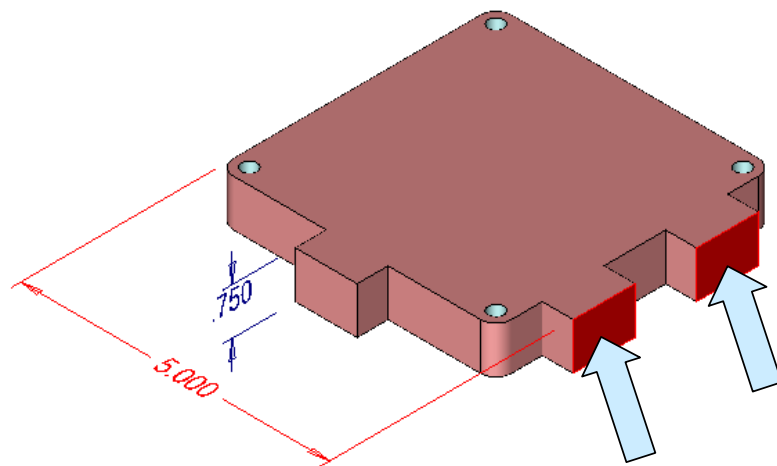
Once again, click on the DDE Icon.

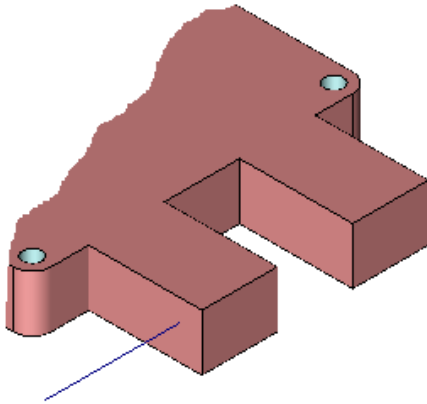
This time, depress the SHIFT Key and then click on the right arrowhead of the 5 inch dimension.



Notice that the faces on both legs highlight.

Type 6 for the new value and hit the ENTER Key.



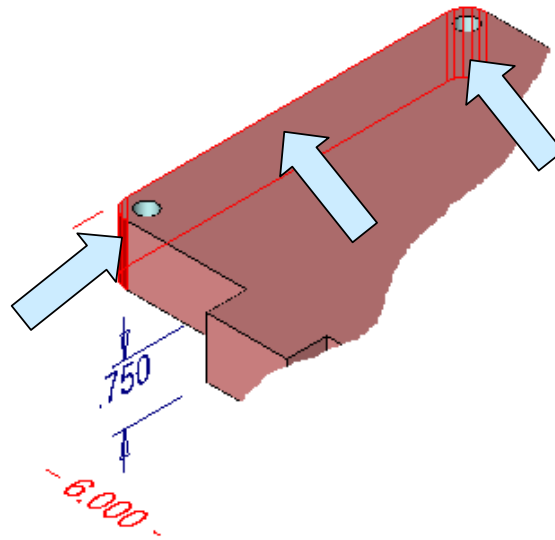


Notice that both legs extend out to the new dimension.

Now that's pretty slick, heh? It gets better!

With the DDE Function still active, depress the SHIFT Key while you click on the left arrowhead of the 6 inch dimension.

Notice that the two fillets and the left face are selected.



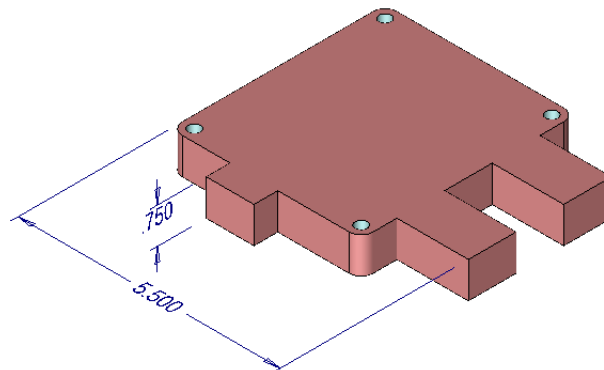
Click on the ADD Button on the Conversation Bar.

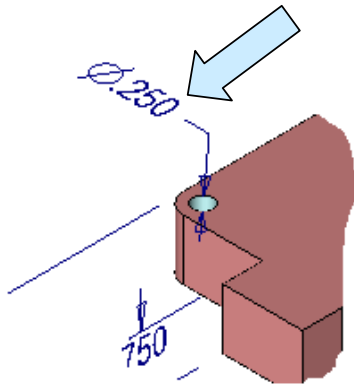
Now, select the two holes on the left side of the part and hit the ENTER Key.

Type 5.5 for the dimension and hit the ENTER Key.

Your part will rebuild and look like the one illustrated to the right.

Notice that all of the features that were selected moved with the dimension change.

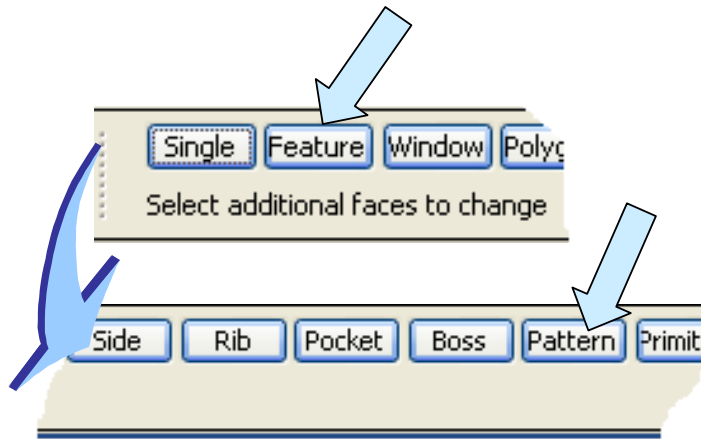
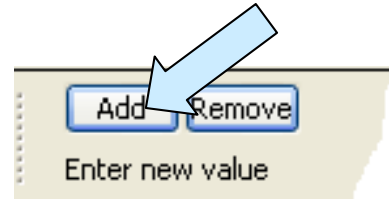




Next, click on the DDE Icon and then click on the top circular edge of the hole in the front, left corner of the part. Move the cursor and place a diameter dimension.

Depress the SHIFT Key while you click on the Diameter Dimension.

Then, click on the ADD Button on the Conversation Bar.

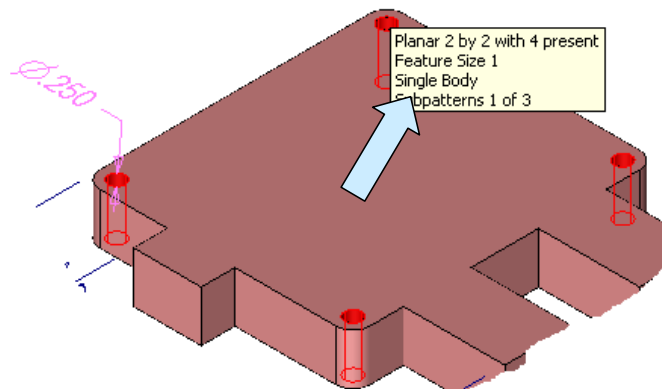


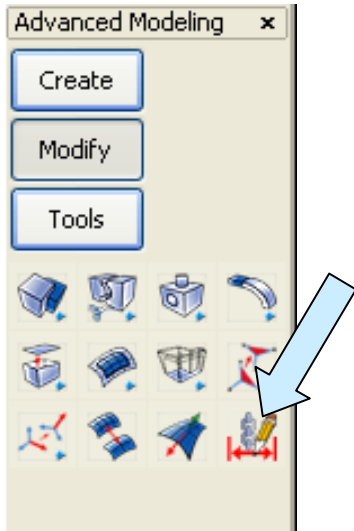
Click on the Feature Option on the Conversation Bar and then on the Pattern Option.

Now, move the cursor over one of the holes and all four highlight.

Click on the highlighted pattern and hit the ENTER Key three times.

Now, type 0.188 for the diameter and hit the ENTER Key. All four holes update to the new value.

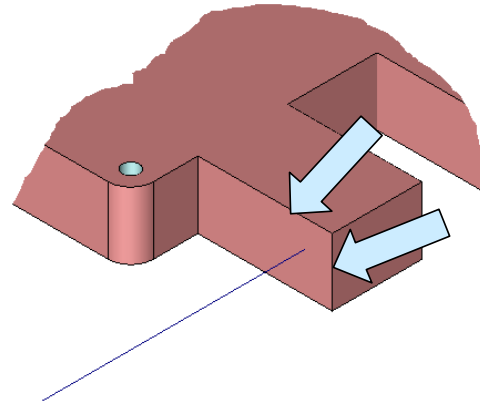




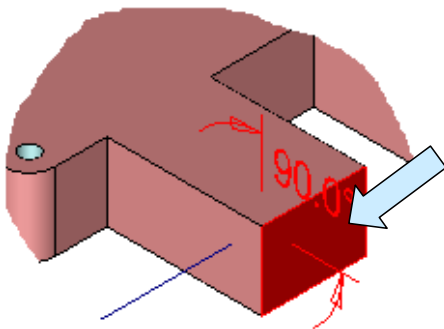
You could put a dimension on one of the four corner fillets and modify all four corner fillets using the same approach.

The DDE Function also works on angular dimensions.

Click on the DDE Icon.



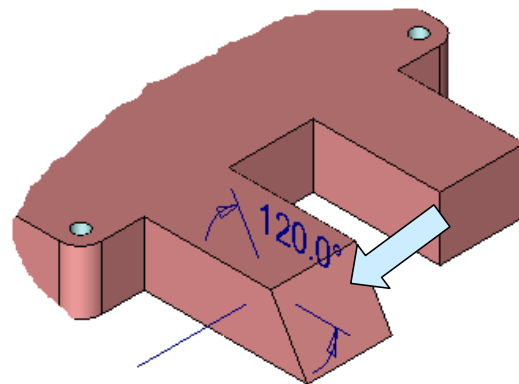
Now, click on the two edges indicated by arrows in the illustration to the right and pull off a 90 degree angular dimension.

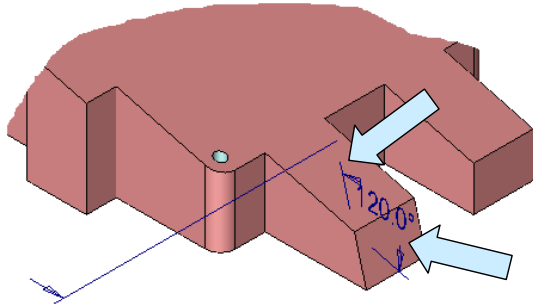


Now move the cursor over the 90 degree dimension and click so just the vertical face highlights.

Type 120 for the angle and hit the ENTER Key.

Your part will update like this:

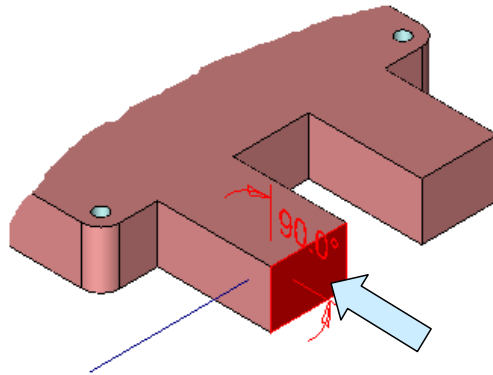




If you select the dimension so that both the top and side face highlight, the 120 degree angle is equally apportioned to both faces.

Escape from the DDE Function and use the UNDO Icon to revert back to your 90 degree angle.

This time, click on the DDE Icon and then on the 90 degree angle, just highlighting the vertical face.

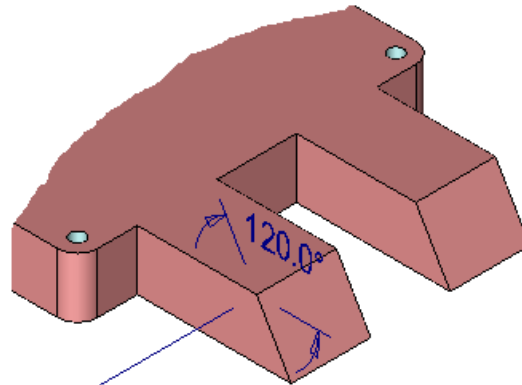


Next, click on the ADD Option on the Conversation Bar.

Select the vertical face of the rear leg.

With both vertical faces highlighted, changing the angle to 120 degrees modifies both legs.

These are just a few of the basic maneuvers that you can pull with this amazing tool. You can also use the ALT Key to enable multiple face selects.



Try these options on this part and then on parts of your own to master this amazing new addition to KeyCreator's Solid Modifying Functions. Remember, this doesn't replace the tools you already know. It just adds another way to get your job done!