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

KeyCreator Lesson KC3705

Dynamite Dynamic Modeling!

In this lesson we're going to create the pipe cross tee fitting 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.)
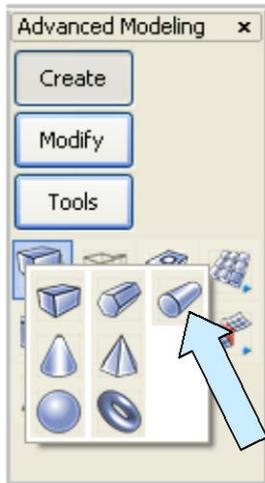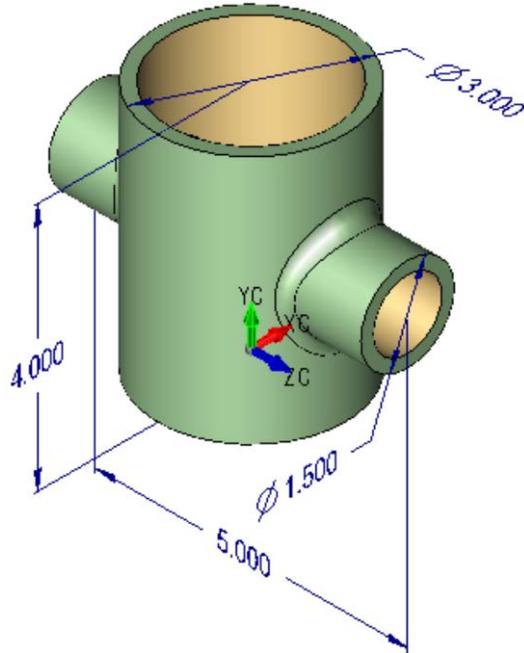
Click on the CYLINDER Icon.

A Dialog Box appears.
Click on the Sketch Option and on the Use Current Cplane Z-Axis Option and hit the ENTER Key.

Using the Cursor Option, click near the origin and move the cursor to the right.

When the X value on the Status Bar is about 1.5 click to set the diameter.

Now, move the cursor back to the origin and move upward, clicking when the X value on the Status Bar is about 4.

Your screen should look like this:
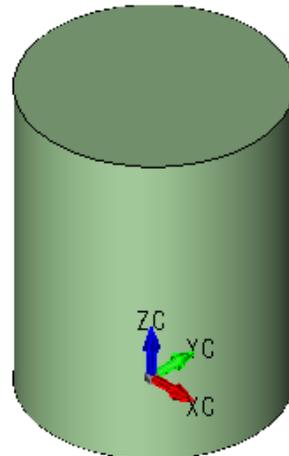
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Click on the CONSTRUCTION PLANE Icon.
Type 5 for the Construction Plane.

Use the CYLINDER Tool again.

This time sketch a cylinder that lies below the first one.
Make it about 1.5 inches in diameter and about 6 inches
long.

Your screen should look like this:
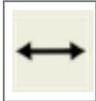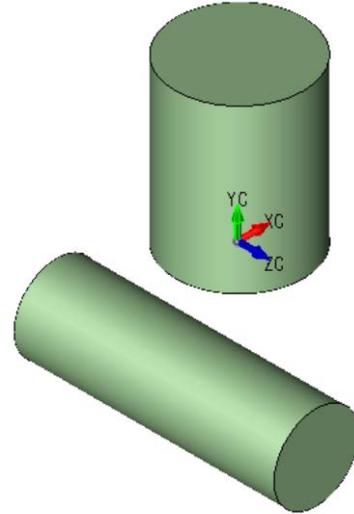
Click on the GENERIC MOVE Icon.
Click on the second cylinder.

Then, click on the Two Pos Option.
Using the CtrMid Option, click on the
left, circular edge and then the right,
circular edge of the cylinder.

Now, using the Two Pos Option again,
use CtrMid to select the top circular edge
and bottom circular edge of the first
cylinder.

Your screen should look like this: **(This is
a quick and nifty way to reposition one
cylinder at the center of another.)**
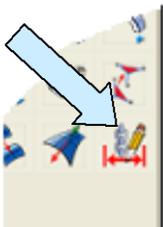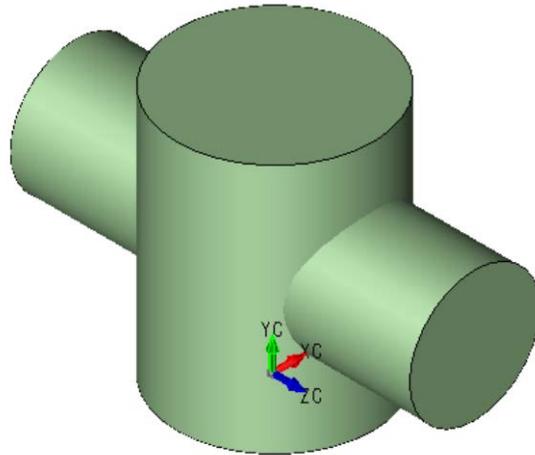
Now, click on the DIMENSION DRIVEN EDITING Icon.

Click on the top, circular edge of the larger cylinder and place a
diameter dimension. Also dimension the diameter of the smaller
cylinder.

Next, dimension the lengths of the two cylinders by selecting the circular edge at one end
of the cylinder and then the other end.

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Your screen should now look like this:
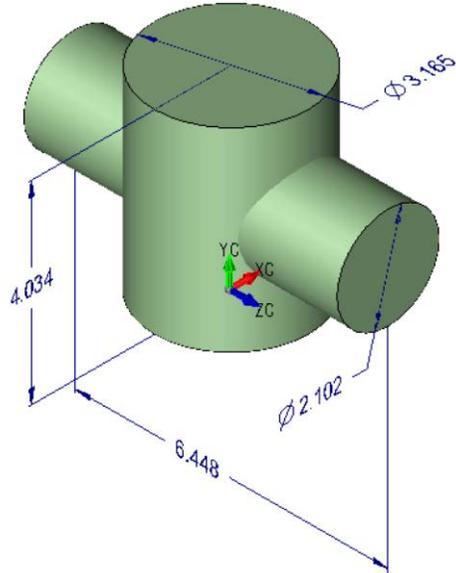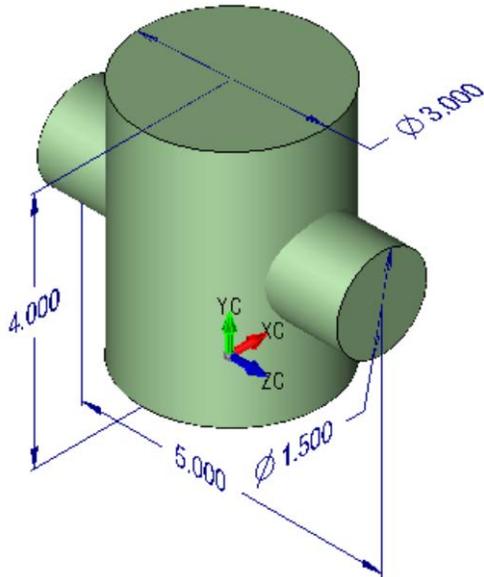
Now, still using the DIMENSION DRIVEN EDITING Tool, edit the four dimensions so they match the values in the illustration to the left. Make sure that you click on the dimension text.

Now, click on the BOOLEAN UNION Icon.

Select the two cylinders and hit the ENTER Key.
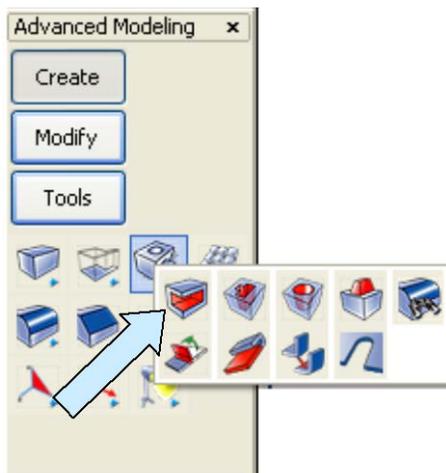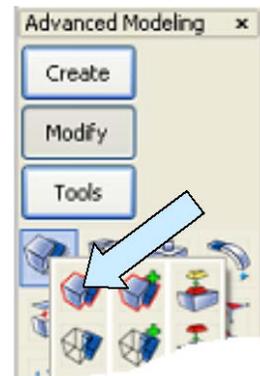
Next, click on the SHELL Icon.
A Dialog Box appears.

Type 0.25 for the shell thickness and hit the ENTER Key.

Select the four circular end faces of the cylinders and hit the ENTER Key.

Your part should look like this:
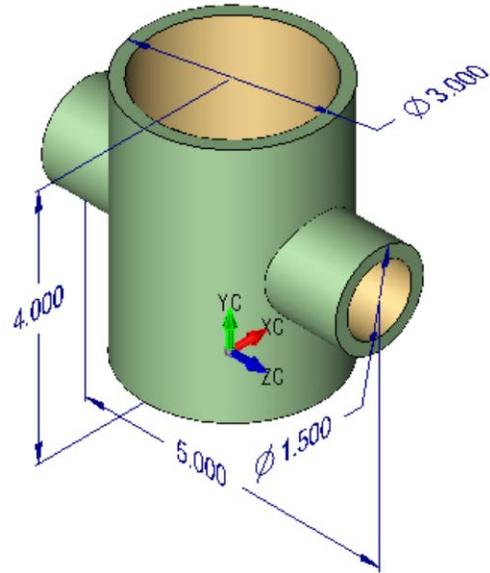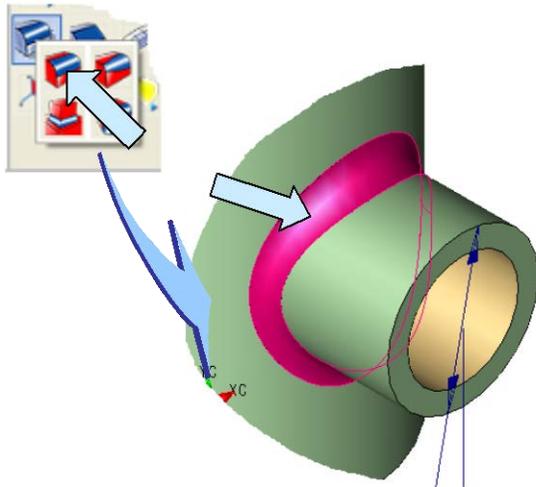
You can use the CONSTANT RADIUS BLEND Tool to add 0.25 blends where the small cylindrical ports intersect the larger cylinder.

Your completed part should look like this: