

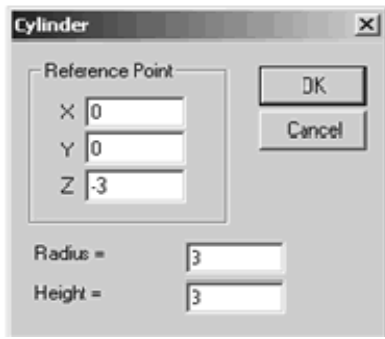
# Variable Radius Fillet

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Version 20 offers special filleting options for solids and surfaces. The Variable Radius Fillet operation is one of them. This lesson will teach you how to use it.

## STEP 1

With a new drawing screen go to the SOLIDS menu and select PRIMITIVE, Cylinder and then click OK.



In the cylinder box enter:

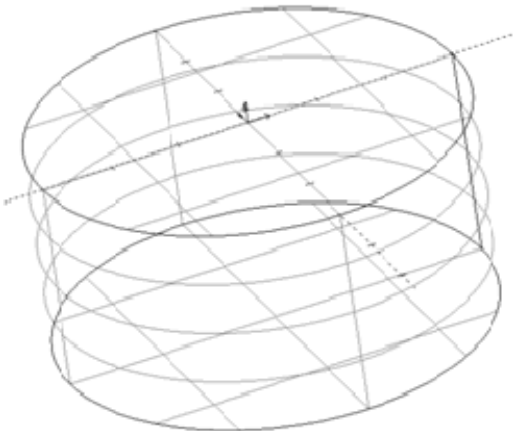
- X 0
- Y 0
- Z -3
- Radius 3
- Height 3

Now click OK to draw the first cylinder. By giving the cylinder a height of 3 and a Z -3 reference point, the top of the cylinder will be located at Z0.

Now go to the 3D menu and TURN 3D on, then click on your VIEW ALL button from the top toolbar.



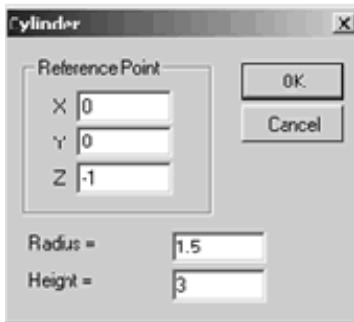
The result:



## STEP 2

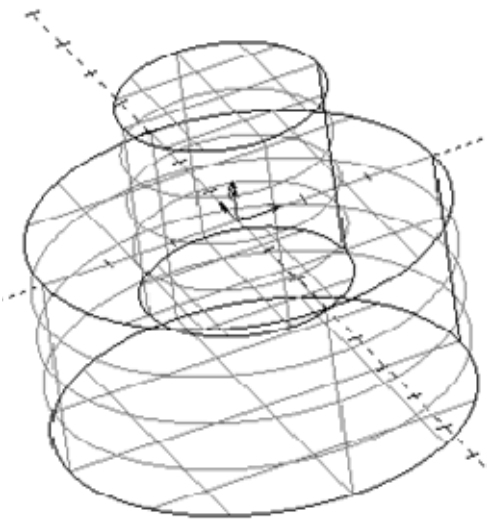
Now go back to the Solids menu, select Primitives, choose Cylinder and click OK.

Now draw another cylinder by entering in the following coordinates:



- X 0
- Y 0
- Z -1
- Radius 1.5
- Height 3

Click OK to draw the second cylinder.



## STEP 3

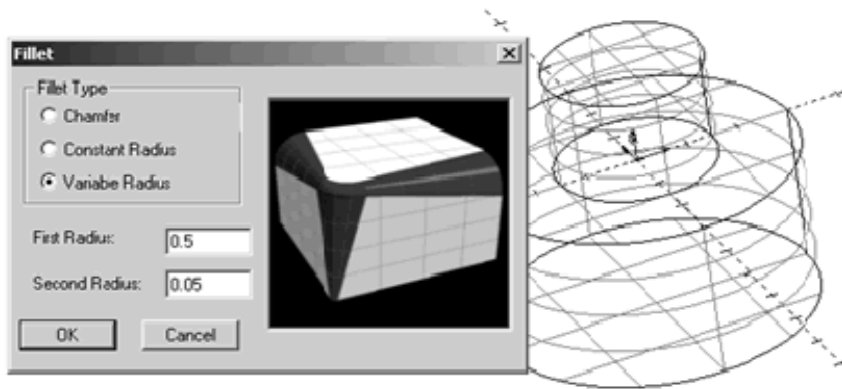
Now we want to select both cylinders. Place your cursor in an empty area of the drawing screen and click your mouse button to make sure everything is deselected first. Now place your cursor on an edge line of either solid and click your left mouse button to select it. Hold down your CONTROL key and click the other cylinder so that both are now selected.

With both cylinders selected go to the SOLIDS menu and select BOOLEANS. Now choose UNION in the Booleans box and click OK to create one solid.

Now place your cursor in an empty area of the drawing screen and click your mouse to deselect the solid.

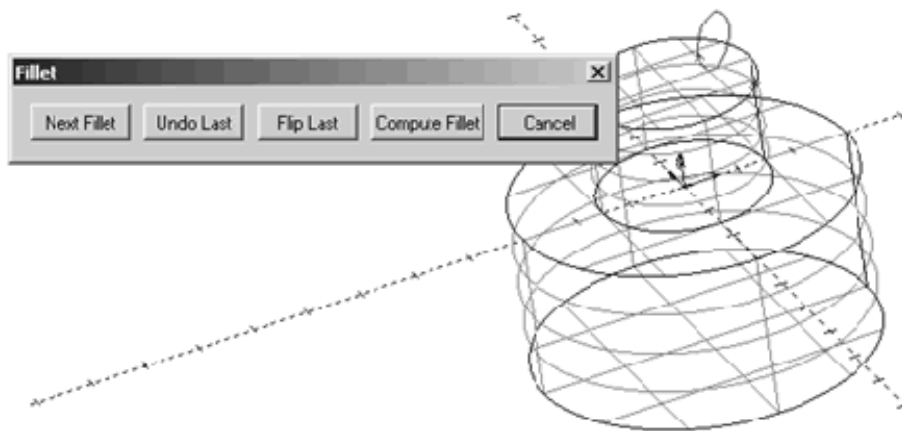
#### STEP 4

With the solid deselected, go to the Solids menu and select Fillet.

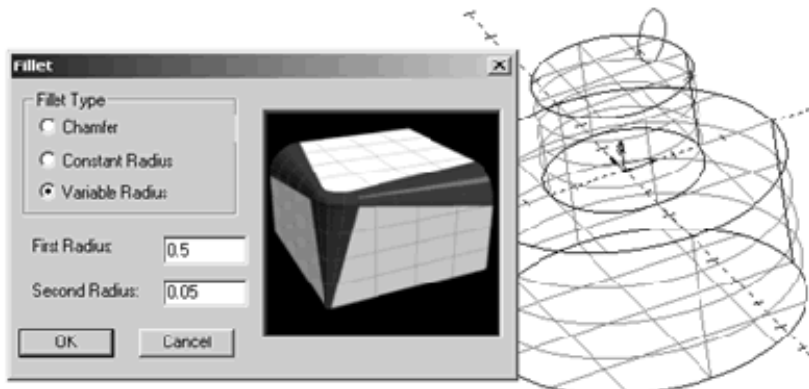


Select the Variable Radius fillet option first.

Enter .5 for the First Radius and .05 for the Second Radius. Now click OK. Place your cursor on the very top edge and click your mouse button.



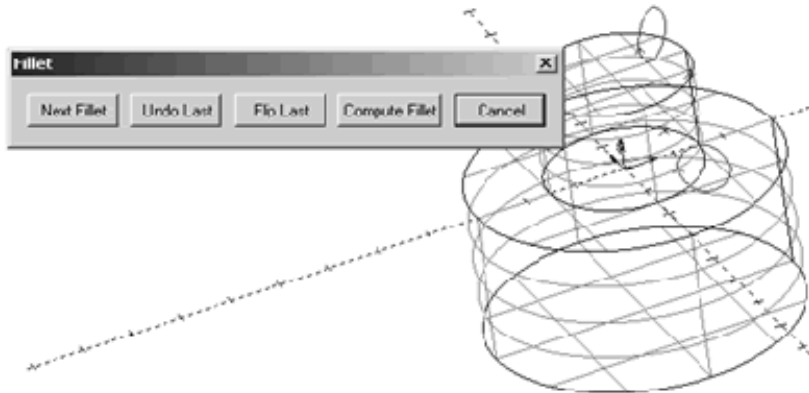
You will see 2 small arcs, one larger than the other representing where the fillets will be located. Now click on the **NEXT FILLET** button. This opens the fillet box again.



Leave the values the same and click OK.

## STEP 5

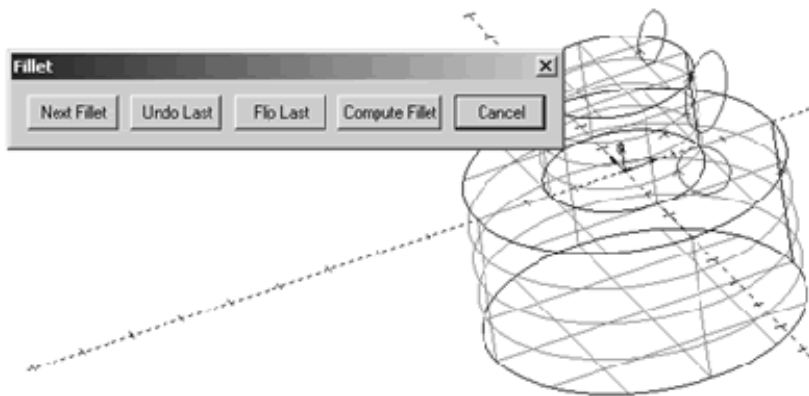
Now click on the second radius down from the top on the left edge. The command box will re-appear.



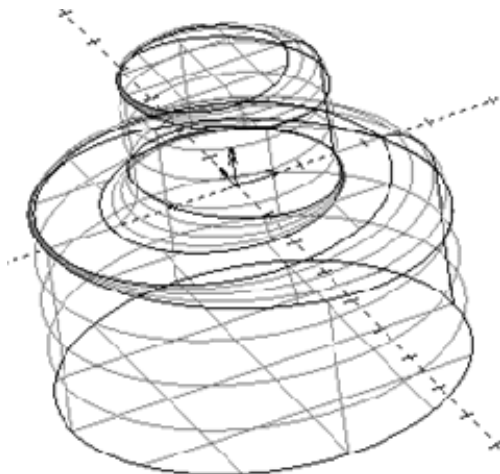
Now click on the FLIP LAST button and then click the NEXT FILLET button.

## STEP 6

In the Fillet box, change the First Radius value to .75 and leave the Second Radius value at .05. Click OK. Now click the top larger radius at the left side edge. The command box will re-appear.



Now select the COMPUTE FILLET button to create the variable Radius fillets.



This is how you can create multiple variable radius fillets easily.