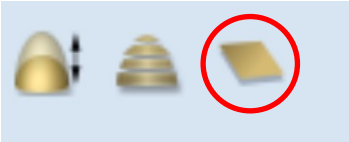
# The Designs By Phil Ash Tray Mold Making Tutorial

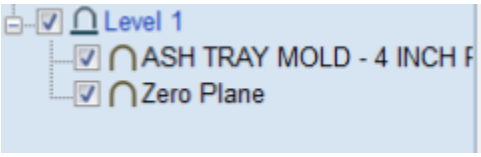
We'll be working with the 4" shallow mold STL file. The important difference to note between the shallow and deep files is that the shallow are 0.75" tall to be used in a 0.75" thick or thicker material (like a 1 x 6), and the deep are 1.0625" tall to be used in a 1.0625" thick or thicker material (like a 2 x 6). You can make them deeper or shallower, but as you will see soon, the base height must be a negative of the model height set in the model settings.

Here you will note a few things. The model comes up to a zero width lip and all surfaces are sloped for an easy release of the casted item. You should use a release agent compatible with the material of the mold and the material being casted. I use old motor oil with concrete. The molds if left as is has a 5 degree slope on the vertical walls.

Start by importing the 4 inch shallow round model from the modeling tab in Vcarve or Aspire. Make sure you have the cutoff plane all the way down. SELECT "mm" FOR MODEL UNITS. Hit the recenter model button and accept the settings. If you forgot to hit the center model button, select the model in the tree on the modeling tab and hit F9.



Add a zero pane to level one




Right click on the blue area by level 1 or on the text and add a new level

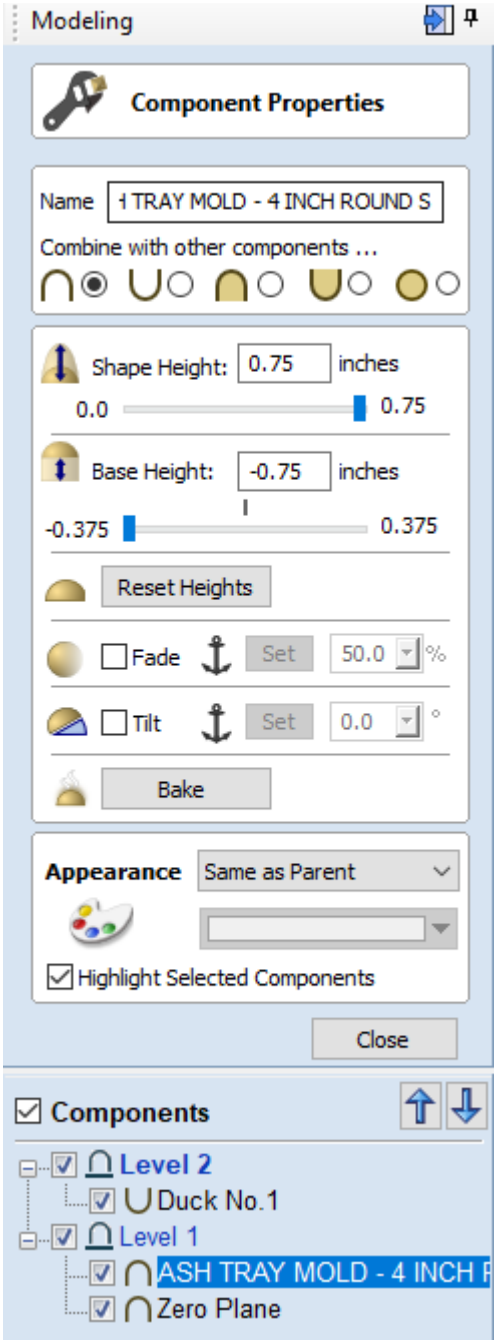
**Add**

Adds the selected component/s to the result of all the previous components in the list

**Subtract**

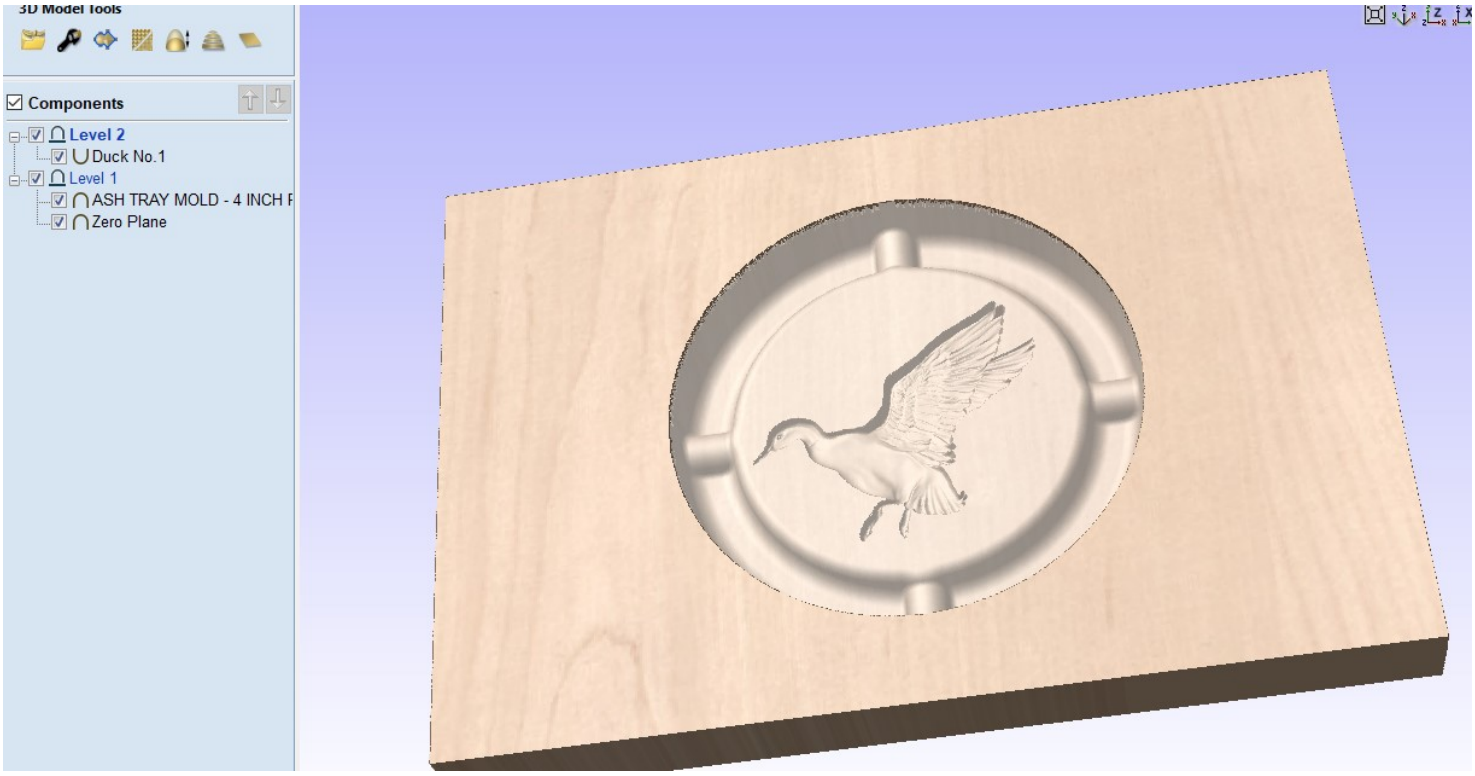
Subtracts the selected component/s from the result of all the previous components in the list

We will be utilizing the Add and Subtract combine modes.

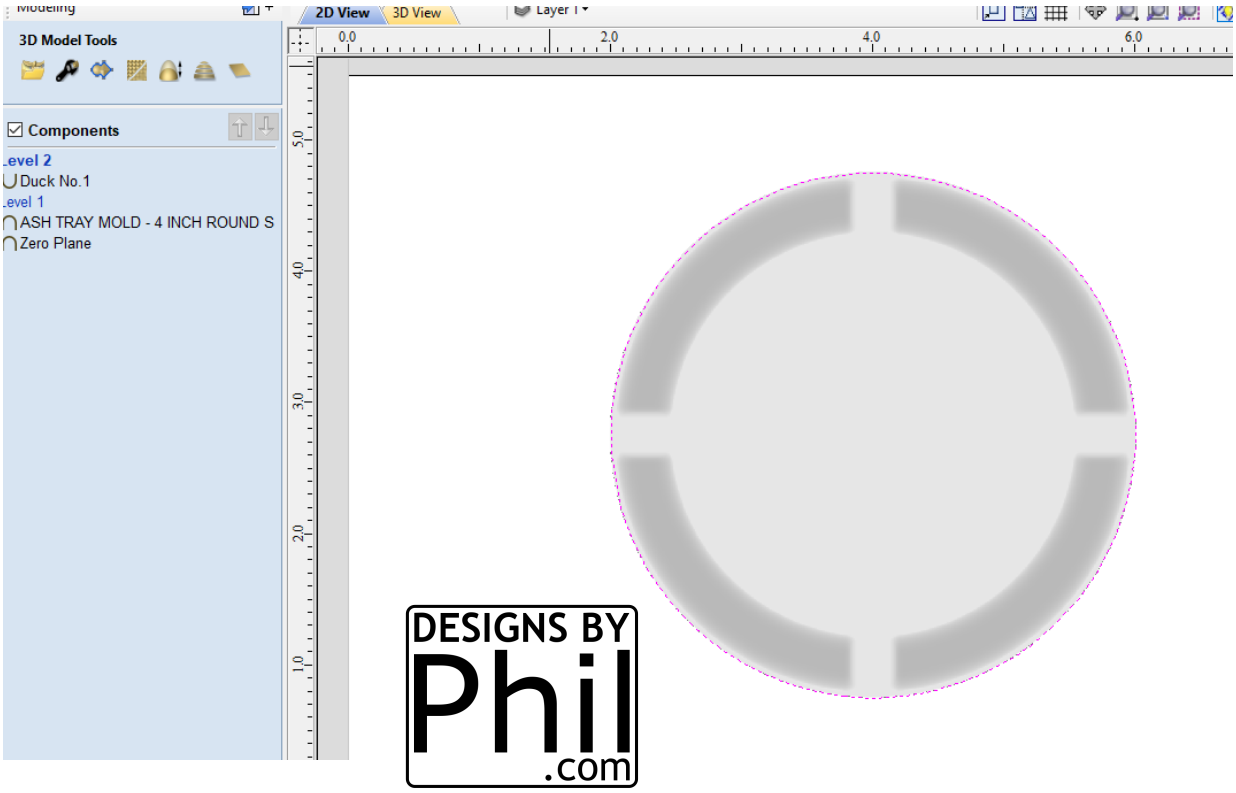



Here are the setting for the ash tray mold model. Note the relationship of the shape height and base height. The base height is a negative of the shape height.

With all item for added relief on Level 2 ABOVE the level one in the tree, set the level to ADD. But you can set the relief to subtract or add. Remember it will be the opposite in the finished product. If you want it to bump up in the finished ash tray, you must subtract it in the mold.




So here I put a duck subtracted in the middle of the ash tray. It will be raised up on the final product.




Last step before tool paths is adding the vector boundary. Select the ASH TRAY model in the tree and hit the create vector boundary tool. Use that vector for all tool paths, roughing and finishing. No cutout is needed because this is a mold.