

## DeltaCad Group Tutorial

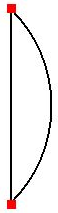
We had a member ask at one time "what is the difference between symbols and groups?". The subject, as I remember, was quickly centered around the usefulness of symbols and how to create and use symbols wisely. We never really gave groups a second look.

Well,... what DO you use groups for?

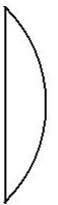
Most of us use groups to manage certain "clumps" of objects so that we can move and manipulate them without losing their position in the drawing. Really, an admirable use for grouping I must say, but grouping objects goes way beyond gluing two or more objects together....way, WAY beyond that!

To show the benefits of nesting we can draw a simple picture to demonstrate. I chose a flower. we will start with a leaf by drawing only 1/2 of the profile. When that is finished we'll add points to the intersections so that they will serve as "snap points" when the group is created. By default there is only one snap point created when a group is created unless you add additional points before the object is grouped.

Here is a drawing of half of our leaf.....



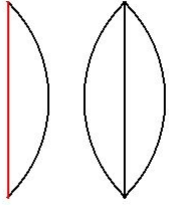
the points are then added, then saved as a group



notice that the points will visually disappear after they have been grouped but remain active as snap points.

A line can then be draw to create a line of symmetry. The image on the right is the mirrored result.

The completed leaf is then grouped again



Now for the flower petals....

Lets draw a simple triangular shape to represent one single petal, placing points at all intersections as well.

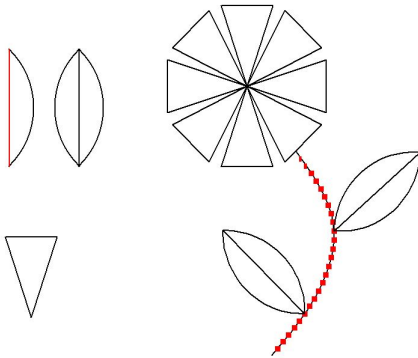
We will also group the petal. The reason for that will become quite obvious later on.



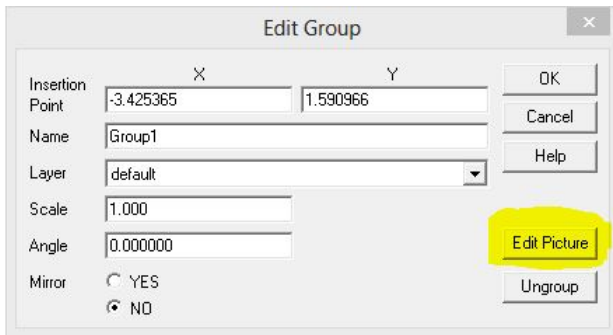
Now to assemble the drawing....

We'll draw a stem using a spline, creating points along the stem to serve as snap points, then copy and paste the leaves, rotating them to a more suitable position. A single petal will then be pasted, then arrayed to form our completed flower.

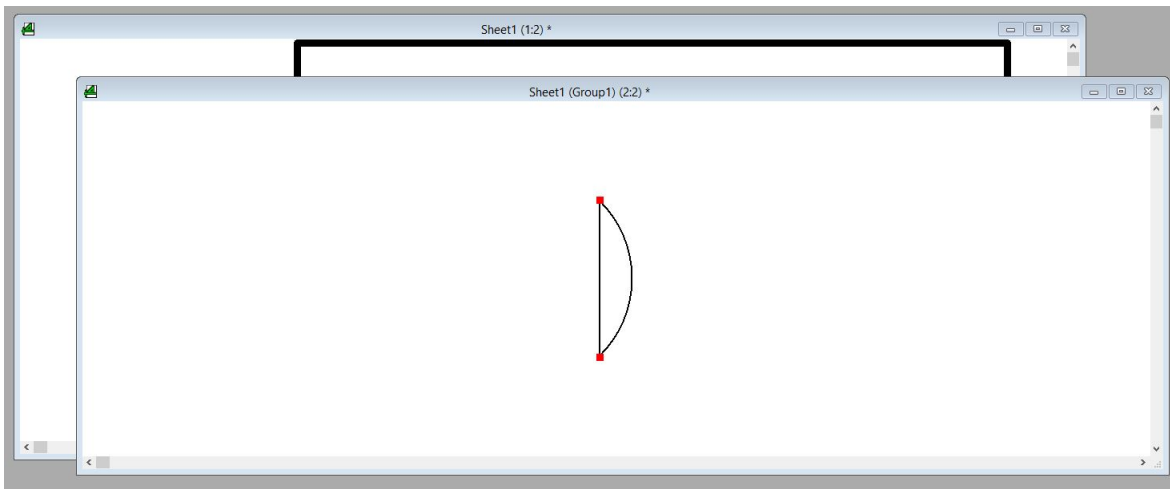
That's one UGLY flower!



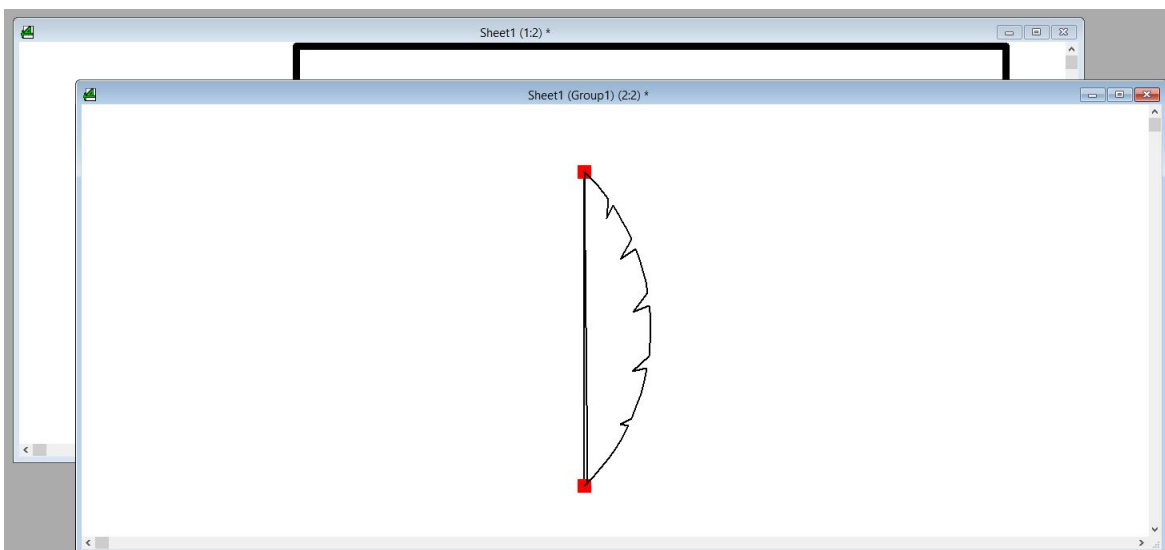
We can now edit the two simple shapes to produce a totally different result. To do this you must go to the EDIT tab and use "E" to edit the objects. Click on any grouped object and dialog box will appear allowing you to "edit the picture"



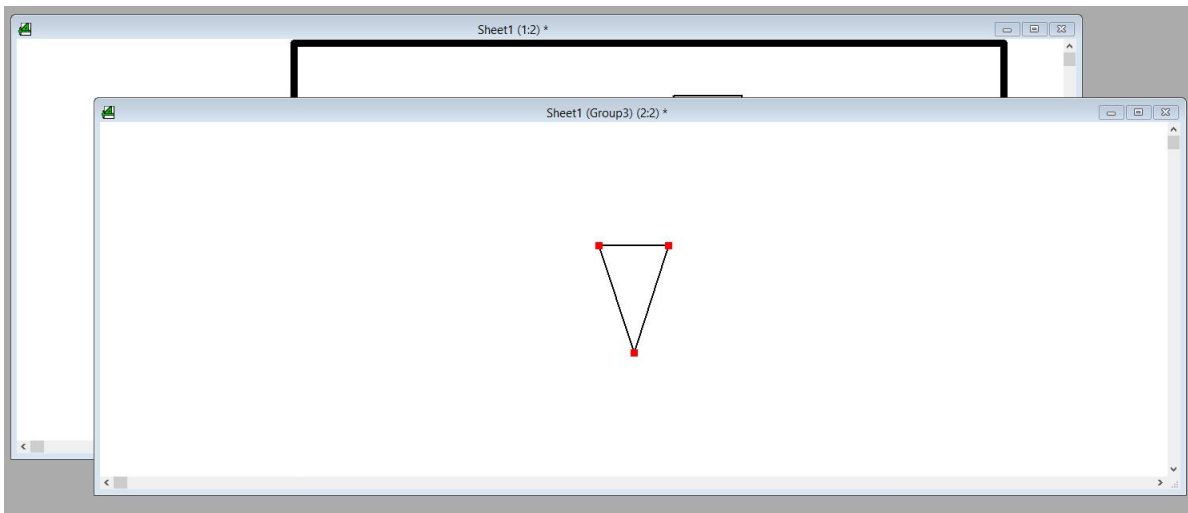
This will un-group the object in a separate window so that you can edit the object. When you close the window the object will apply the changes to the group.



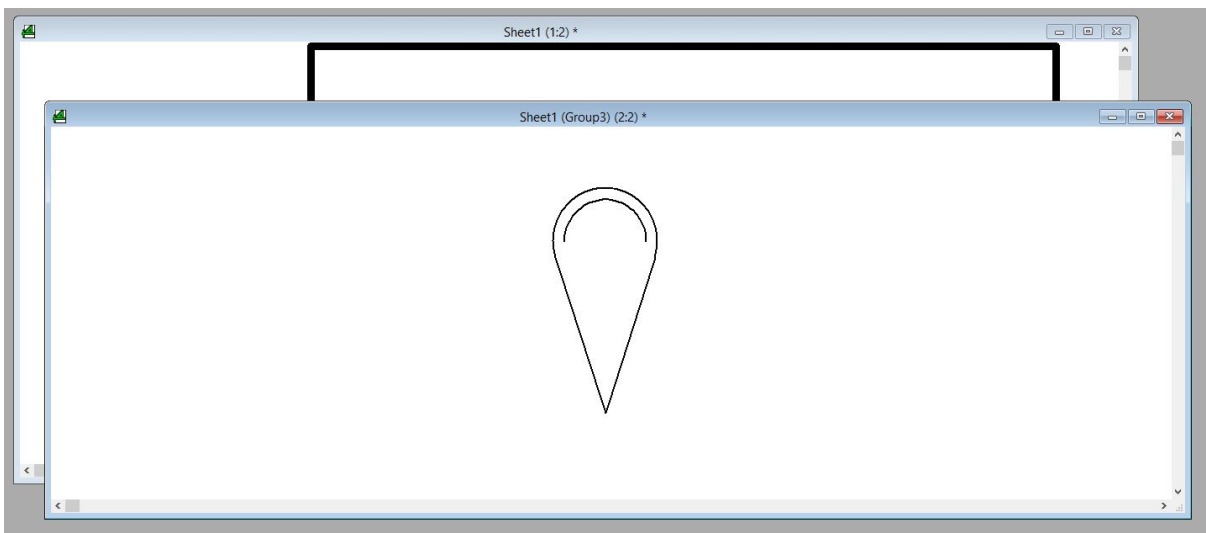
Changed to this.....



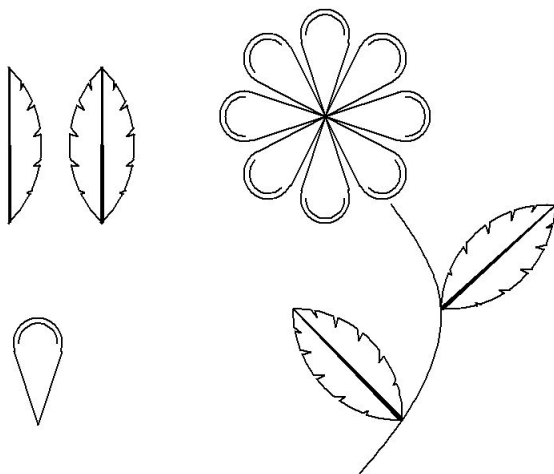
And the petal



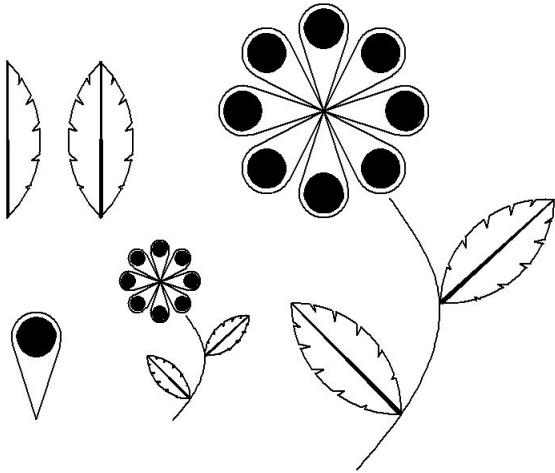
Changed to this.....



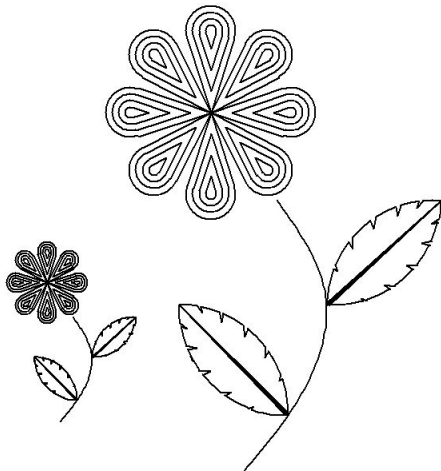
The changes made are global to all copied groups resulting in a totally different flower  
Here is the result of those simple changes



The changes made are applied even if the object has been duplicated, rotated, and even scaled!



There is also no need to keep the original leaf and petal. You can edit any duplicated group to make global changes as well.



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