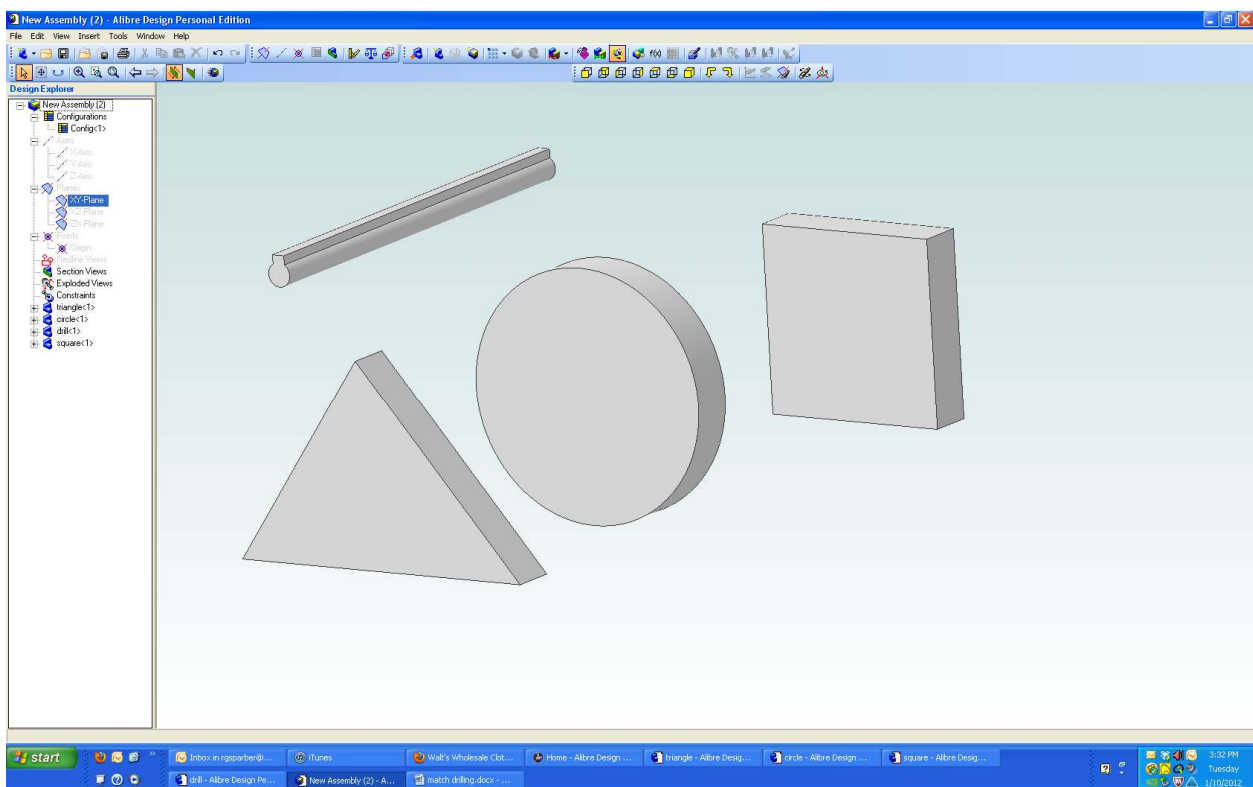


Match Drilling in Alibre® CAD

By **R. G. Sparber**

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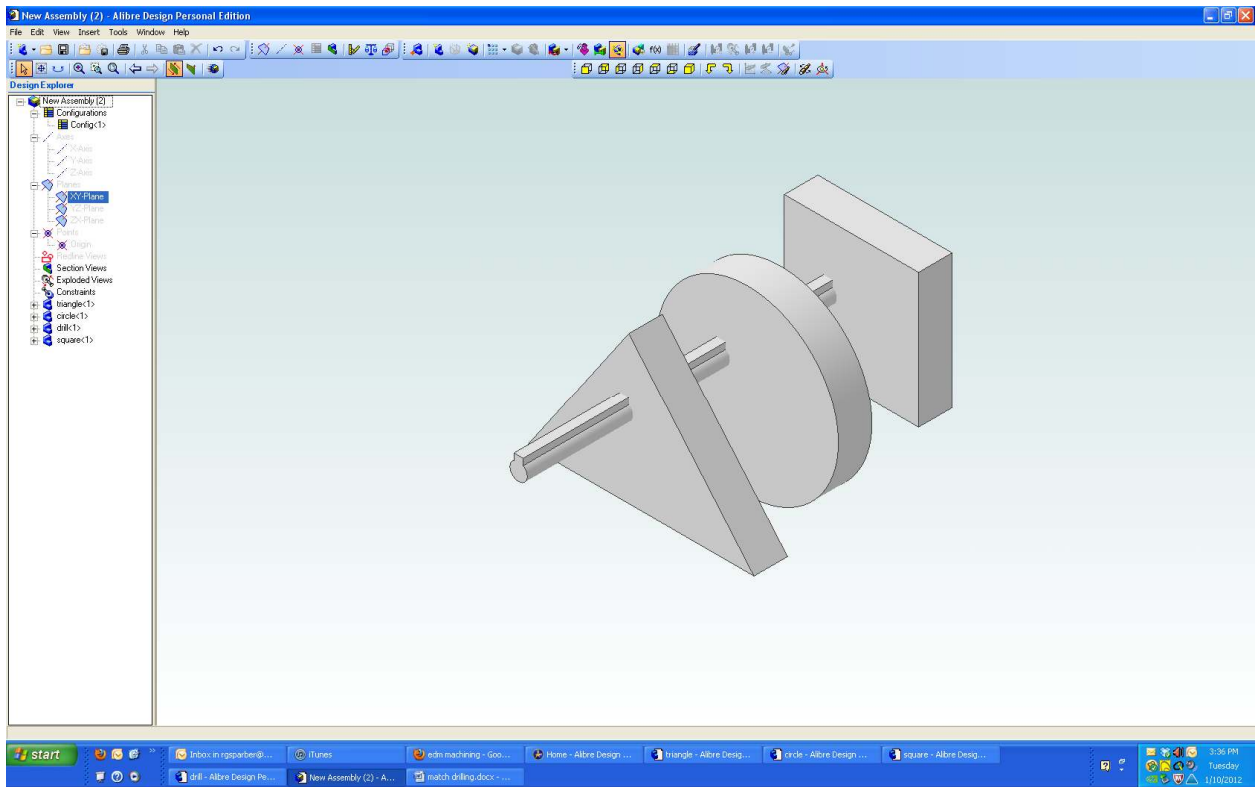
There are many ways to drill a hole through a collection of objects using Alibre Computer Aided Design. This is just another one.



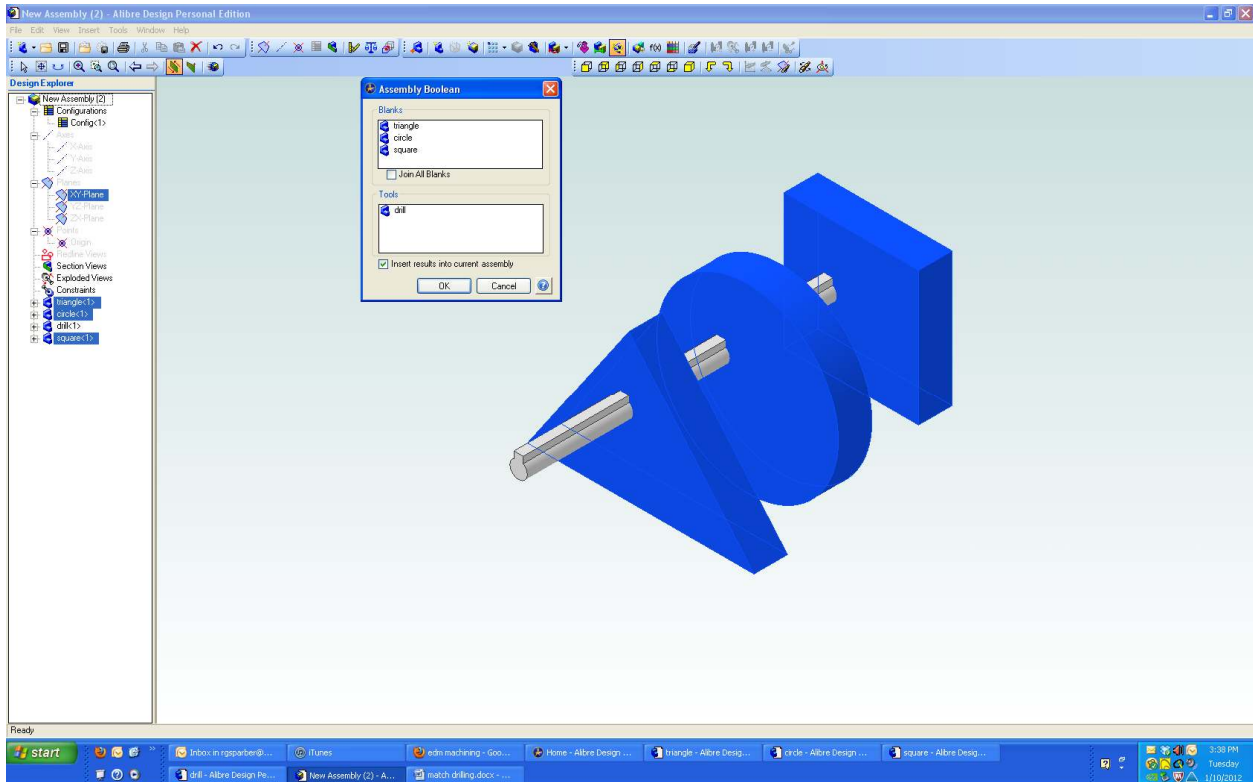
I first created three shapes that are each 0.5” thick. The fourth object is my “drill”. It does not have to be round for Alibre to form the matching hole. So I guess you can think of it more like Electrical Discharge Machining than drilling.

All four objects were brought into the part of Alibre used to assemble parts.

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By dragging the objects, I have placed the three shapes in line and then run my drill through all of them.

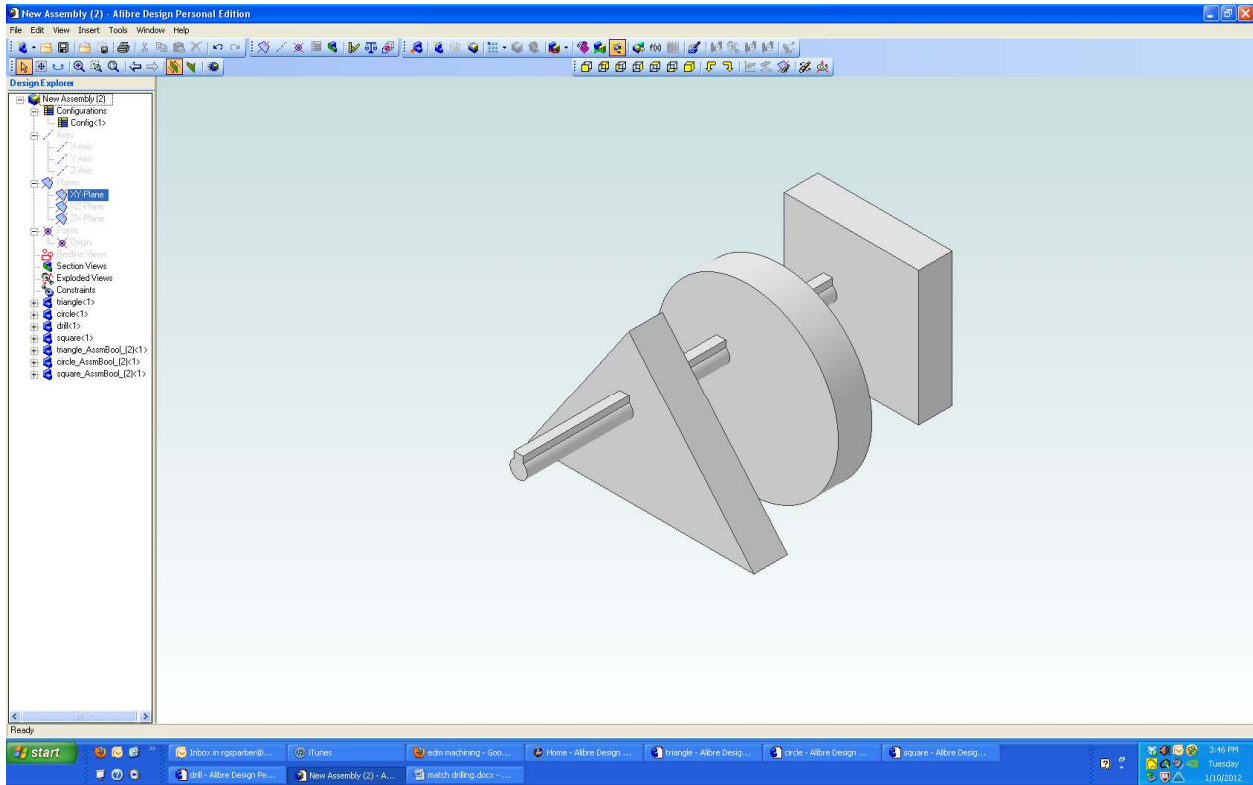


I clicked on the top menu tab “Tools” and selected the menu item “Assembly Boolean”. With a name like that, why would anyone even try to use it?

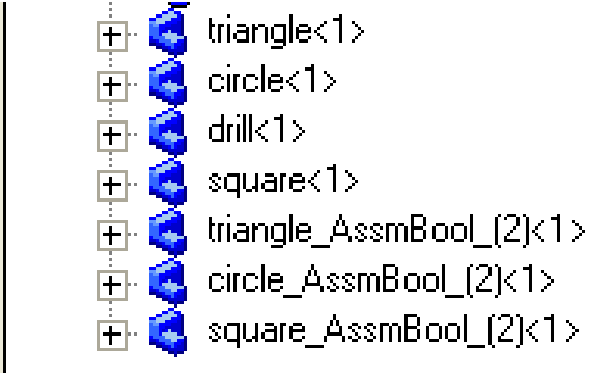
Yet the tool is rather intuitive to use. I clicked on the top window marked “Blanks” and then clicked on each object I want to drill. Then I click on the bottom window marked “Tools” and click on my “drill” object.

There are also two check boxes. The top check box lets you join all blanks. I leave that box un-checked because I want to leave my objects separate. If this box is checked, Alibre will define all of the objects marked as Blanks as being one object. In some cases that would be invaluable but in this example, I didn’t want it.

The bottom check box lets you insert the results in the current assembly. I check that box. We will end up with the drilled object overlaying the undrilled object. I’ll discuss this more later.



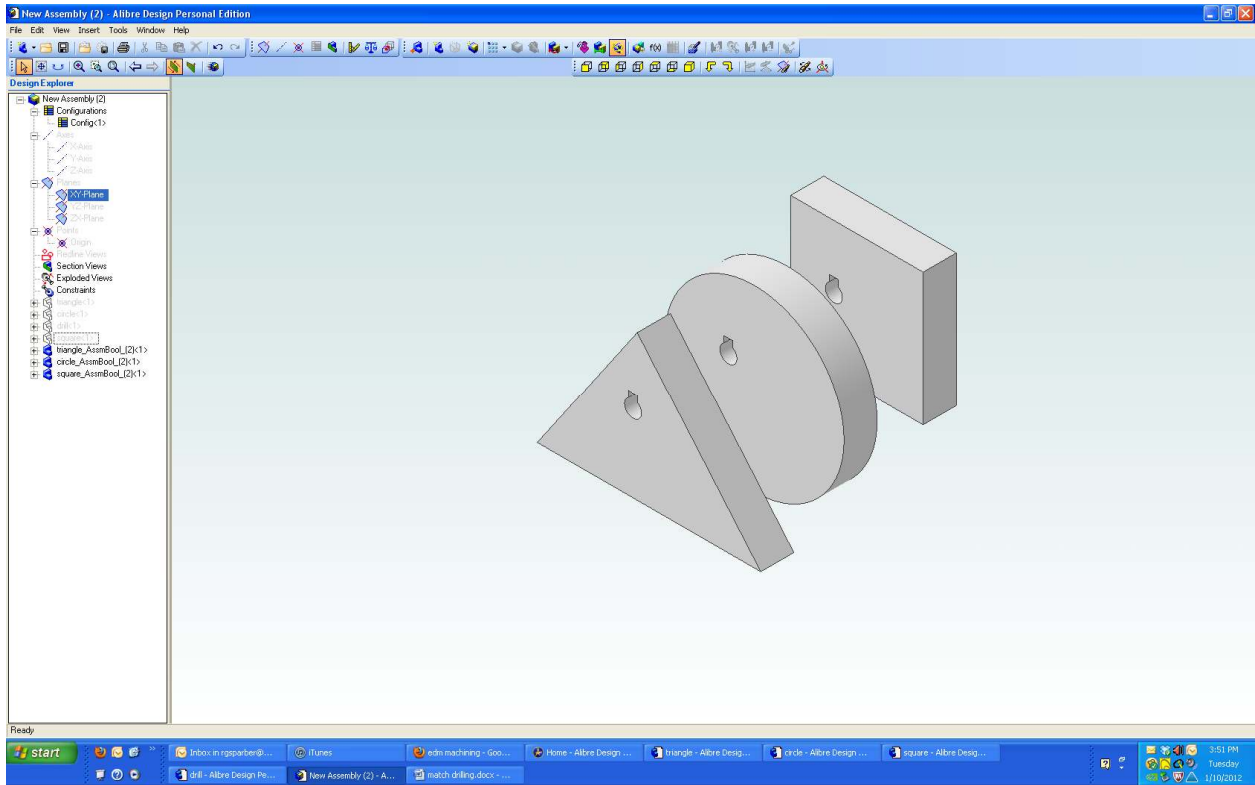
I clicked OK and it looks like nothing happened. But let's look closer at the Design Explorer on the left side.



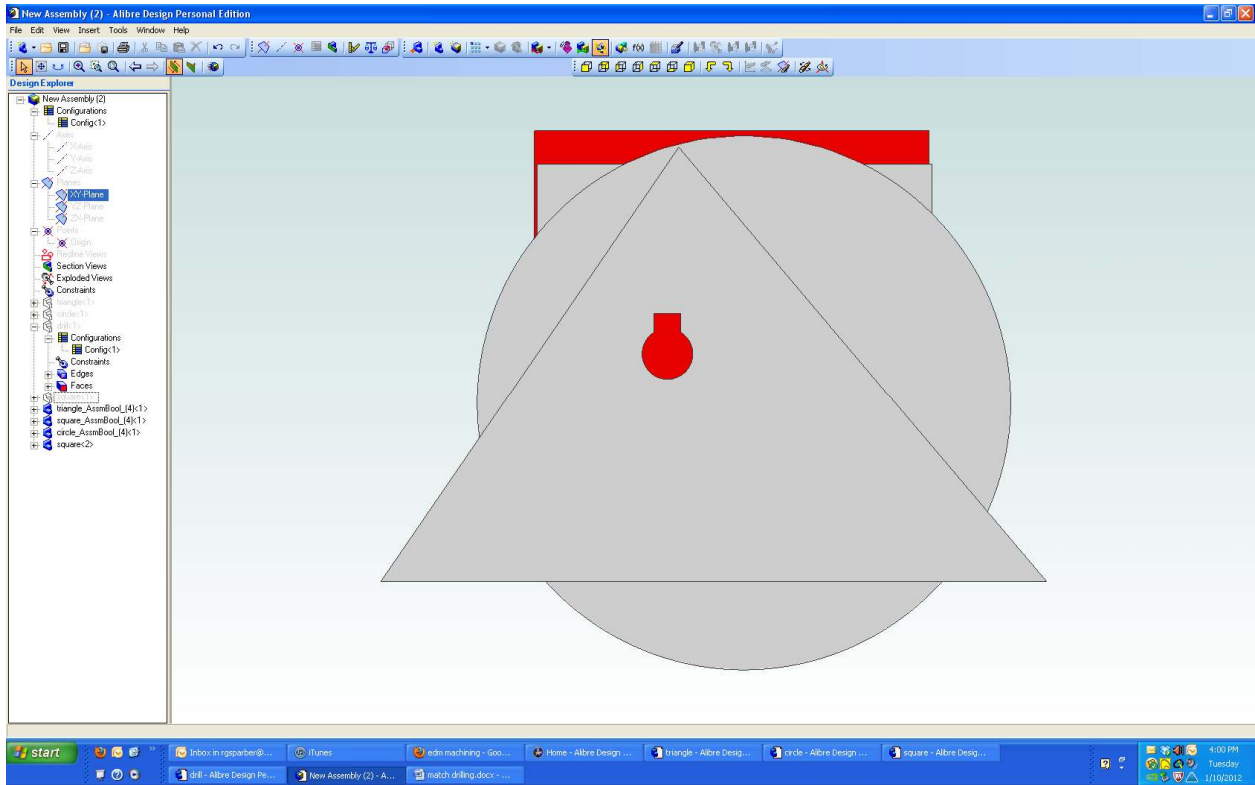
I see my original triangle, circle, square, and drill. But below it are three new entries with “Bool” in their names.

My original shapes were not modified. Instead Alibre has created new ones. This is a very nice feature since the original shapes can be used elsewhere in my drawings and will not be changed.

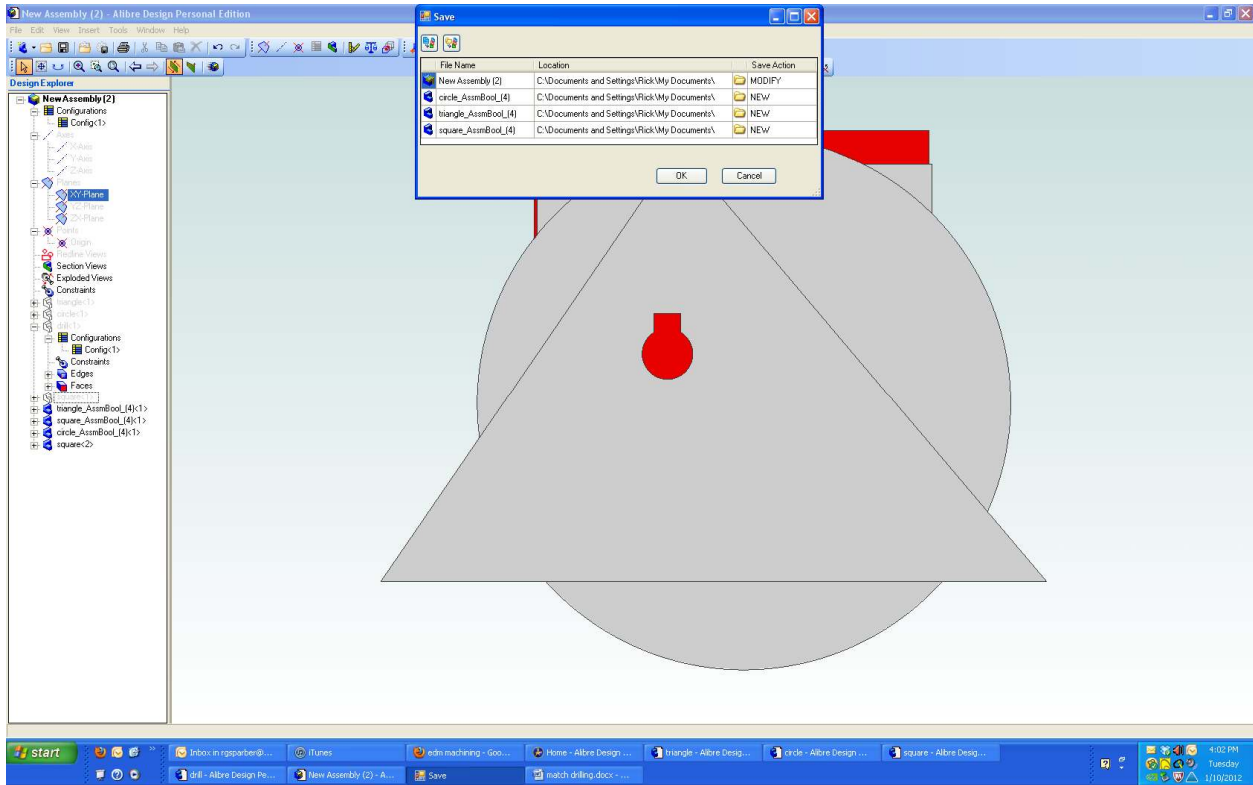
But this does cause some confusion since it looks like nothing changed.



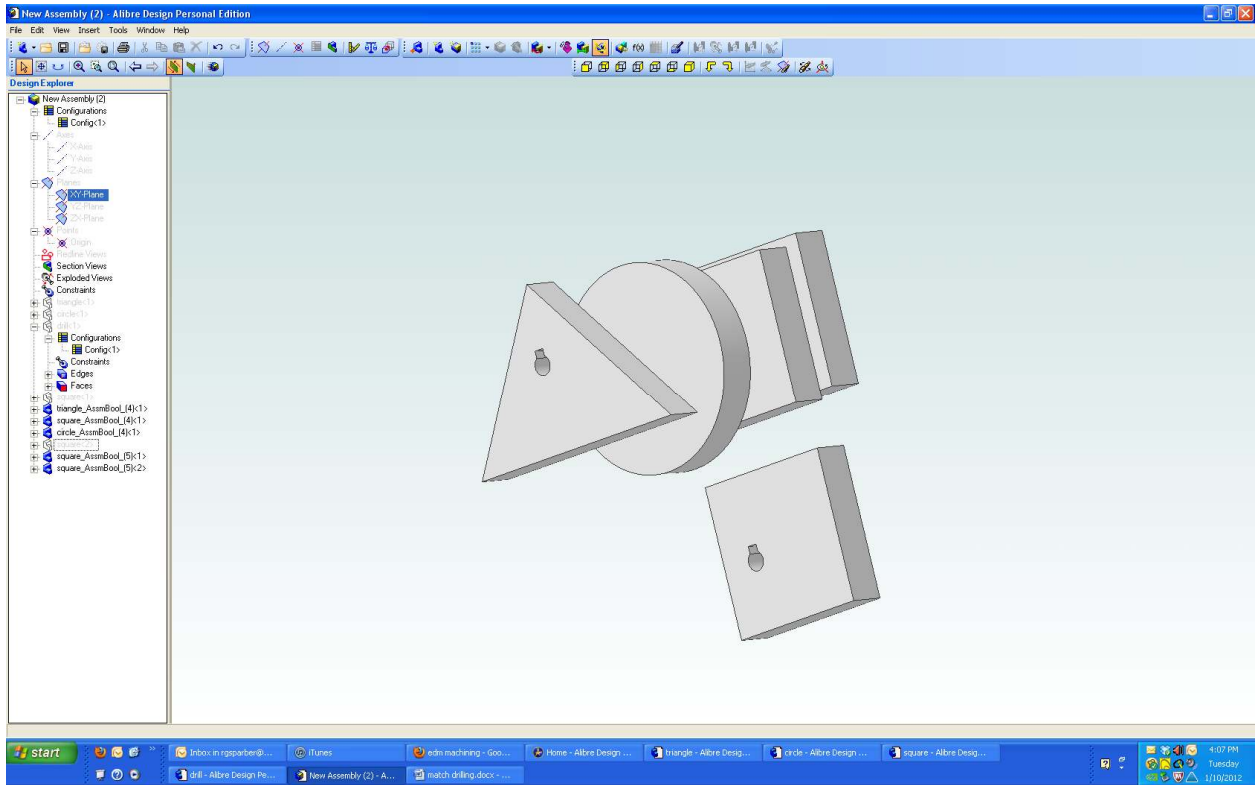
I could have deleted my original triangle, circle, and square objects but chose to just hide them along with my drill. You can now see that my hole passes through all three objects.



To illustrate how an object that has been “drilled” is now separate from its parent object, I have brought in a second copy of my square, changed its color to red, and put it behind the three gray objects.



When I do a save of the file, Alibre notifies me that I have generated three new files. These are the three objects with the hole in them. Click on each folder icon to put these new objects in the correct file. When I clicked OK, they were all saved.



Here I have inserted a new part – a copy of the last square I drilled. Although Alibre created it, I now can use it just like all of the objects I make.

I welcome your comments and questions.

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