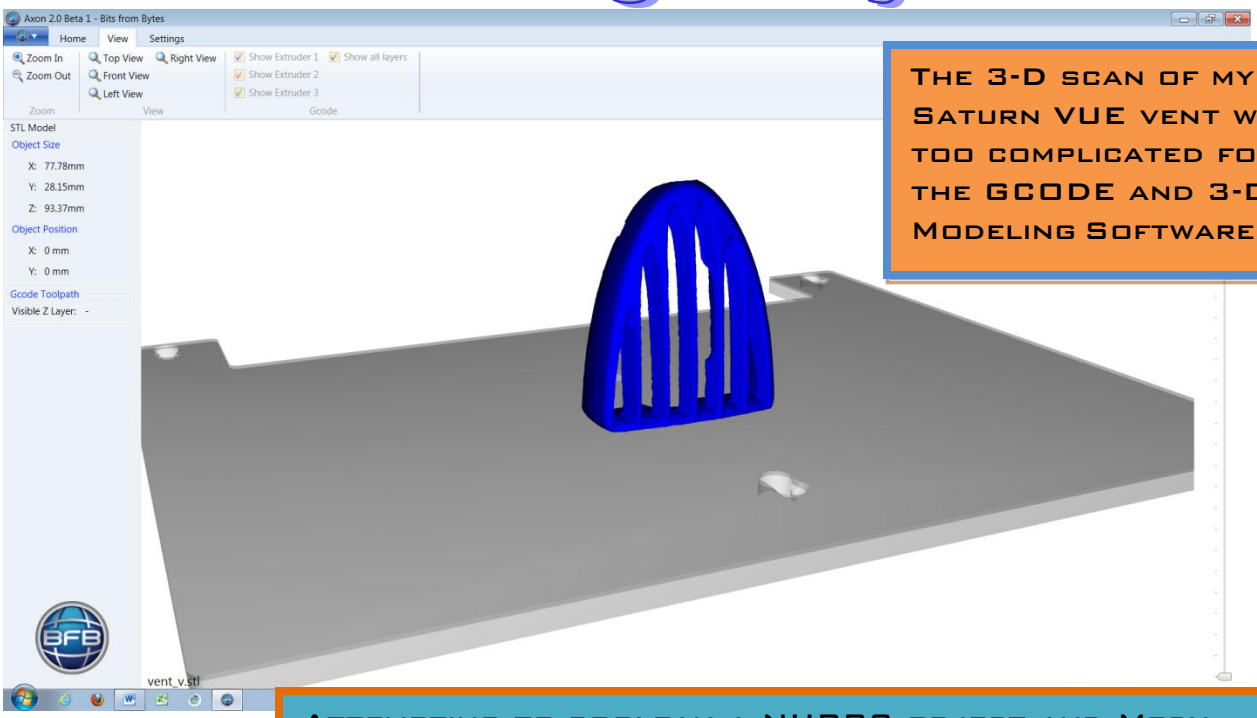
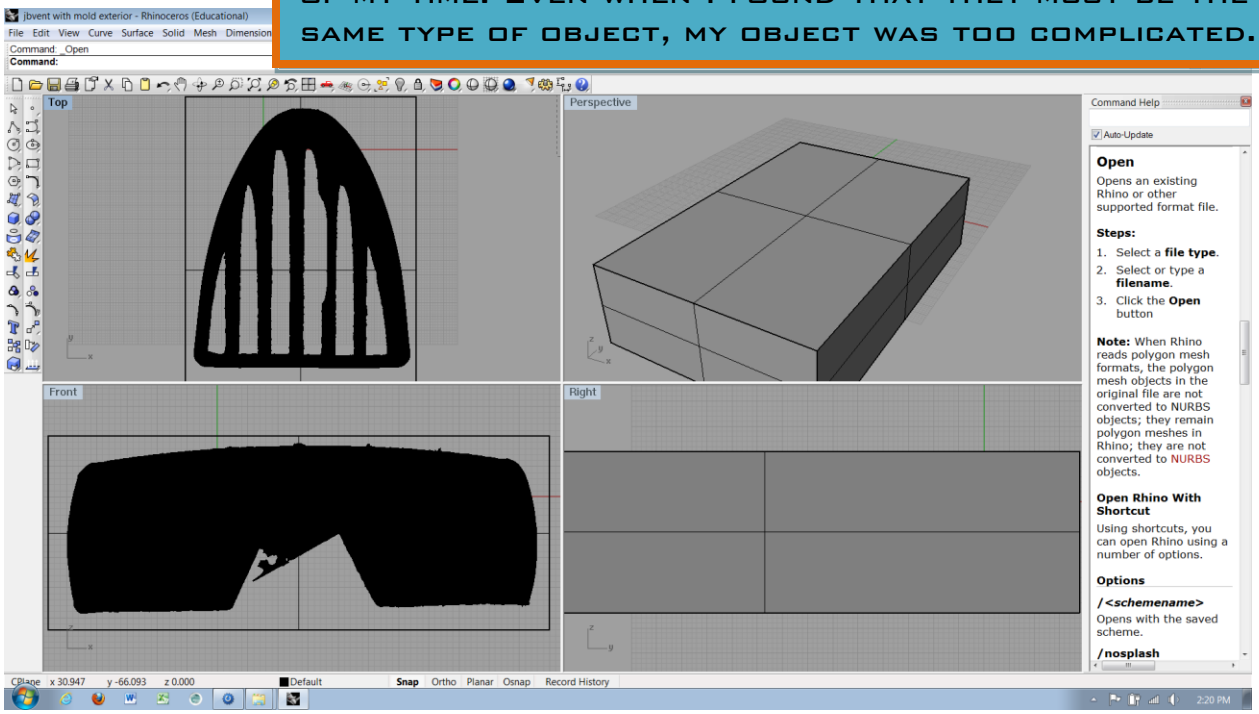
Mold Making Project

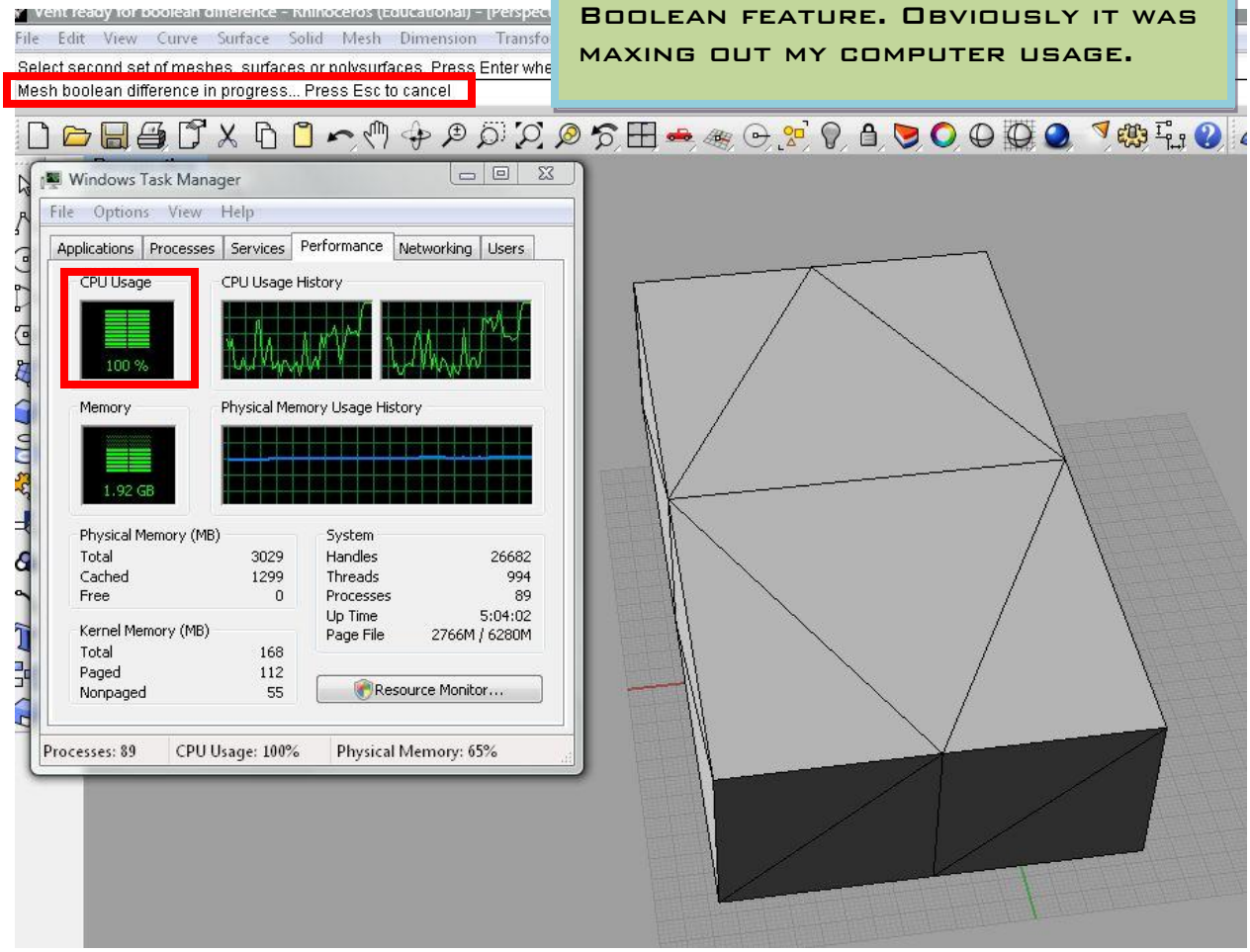


The 3-D scan of my Saturn VUE vent was too complicated for the GCODE and 3-D Modeling Software

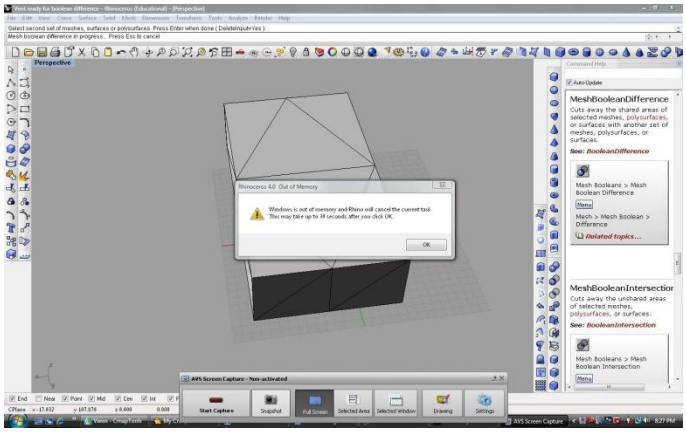
Attempting to boolean a NURBS object and Mesh object (what the 3-D scanner imported) wasted hours of my time. Even when I found that they must be the same type of object, my object was too complicated.

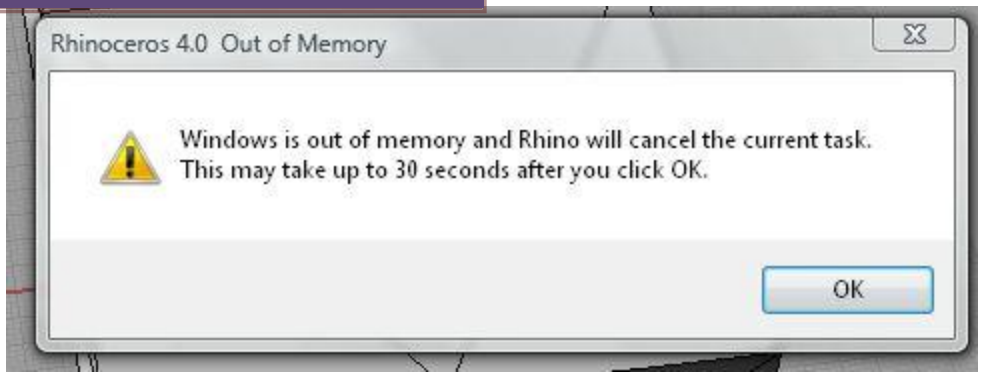


After numerous crashes I decided to track my usage as I tried the Boolean feature. Obviously it was maxing out my computer usage.



After searching this error on Google.com I found that this is a common error because I have the Windows 32 bit software and it can only process 2 GB at a time. So I spent many an hour in the CAD LAB until I finally decided to take a step back and go simpler.

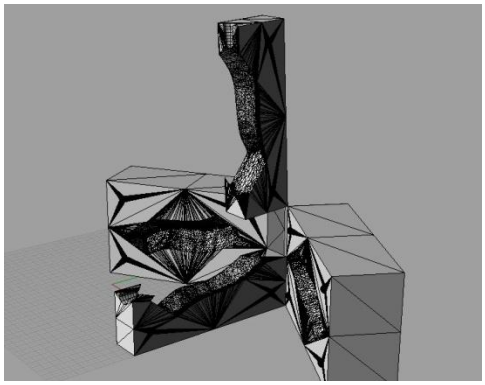


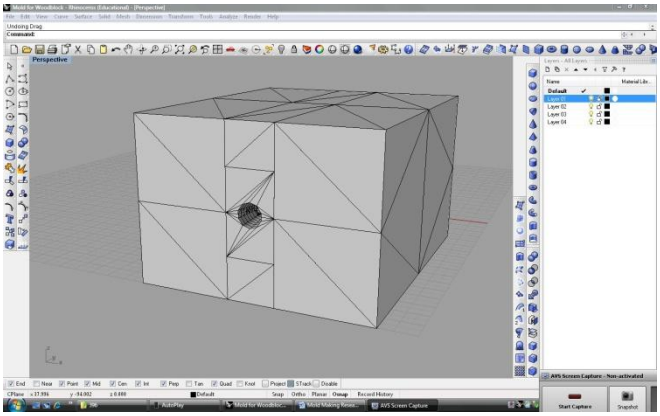


The Wood Block Mold

Much Better

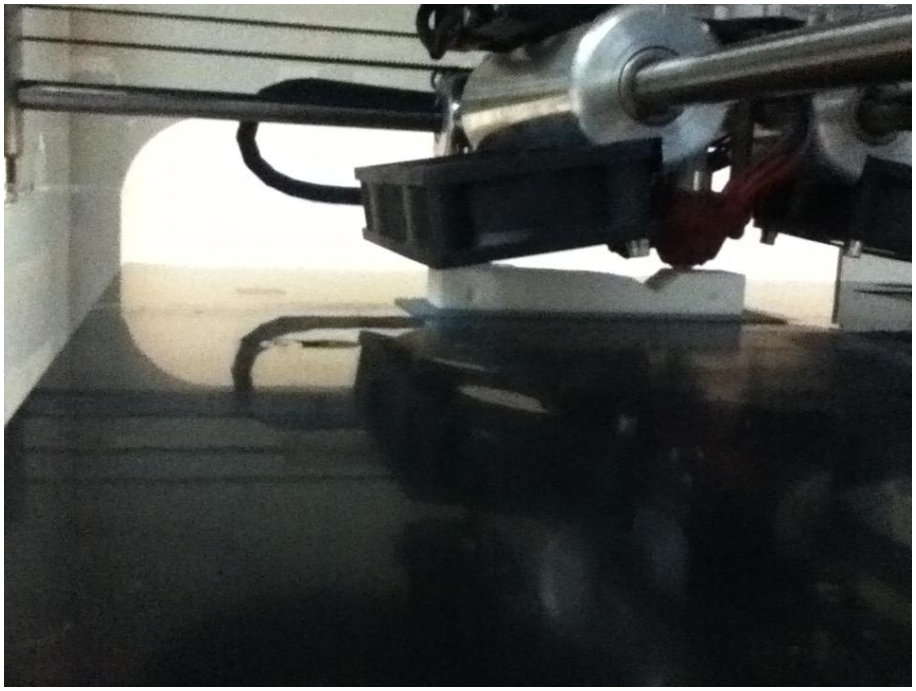
In no time I had a 3D model created for the mold. Due to some slight undercuts I had to create the mold in four pieces. I used half spheres as the key to align my mold. When I finished the mold it was awfully bulky and the original print was going to take far too long. To reduce the time and material I reduced the size of the mold block tremendously by literally cutting corners where possible, lowered the fill density, and upped the speed. I cut each objects time by almost 75 percent.



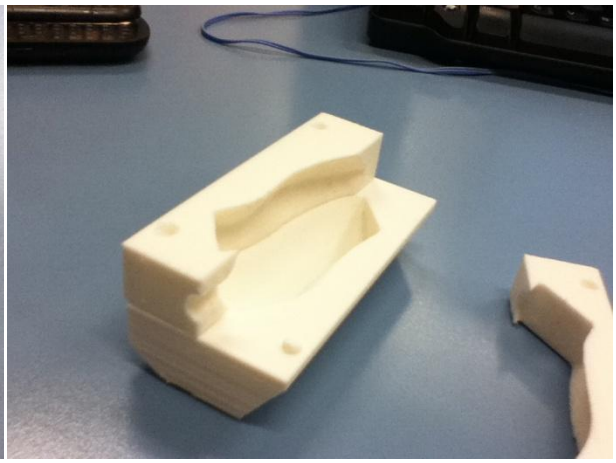
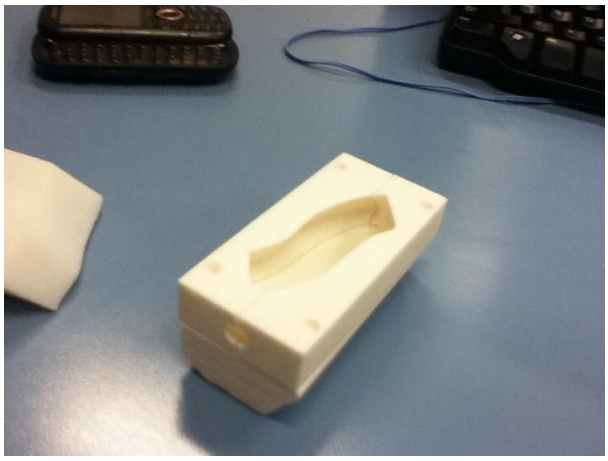
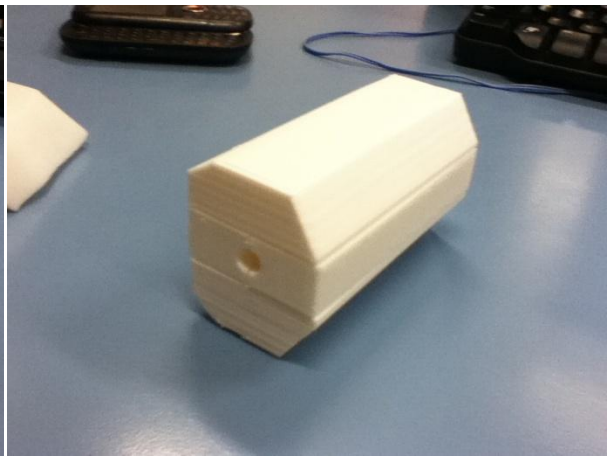


Test fitting the printed pieces

The printer in action!



Between two days, nearly 24 hours of work and finally a mold was made...

The total print time was about six hours. I had the settings set so that it would be a fairly fast print and I was impressed by its accuracy. I figured with a high speed the outcome would pay quality wise but it was fairly smooth all the way around. I did have some print defects to clean up but with a knife and some sand paper they were no trouble. All and all I'm excited to see a cast. I want to know how the imperfections of the printed mold affect the cast.