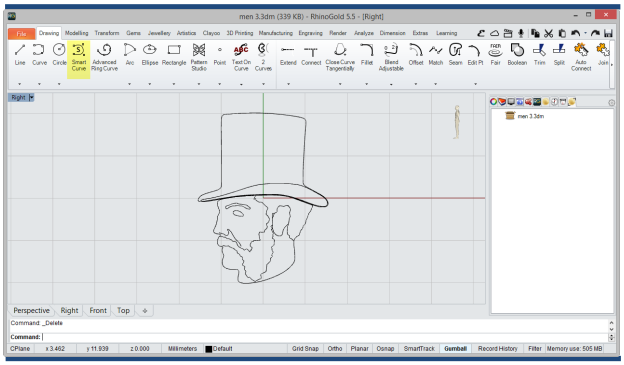
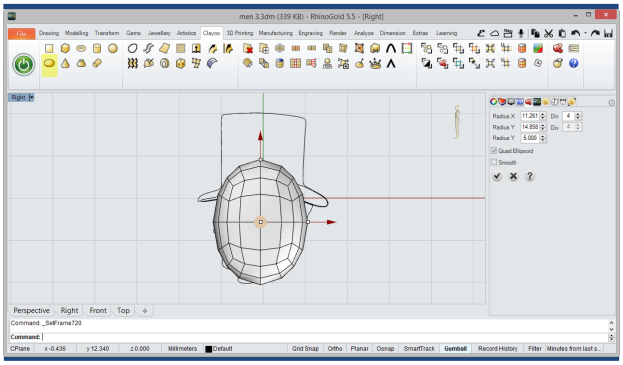
XIX Century Man Ring

In this tutorial we'll try some of the more useful commands in RhinoGold. Tools such as Clayoo, Gauge, Dynamic Profile, Gems by Curve and Prongs in Line.



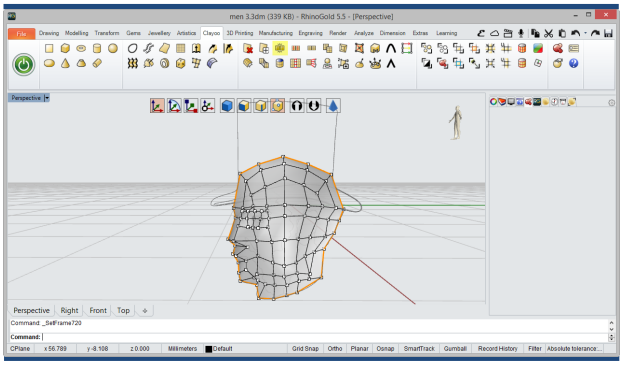
1 Smart Curve

First, we'll select the Smart Curve tool from the Drawing tab and will trace a similar curves to those shown in the picture, you can get the help of an imported image.



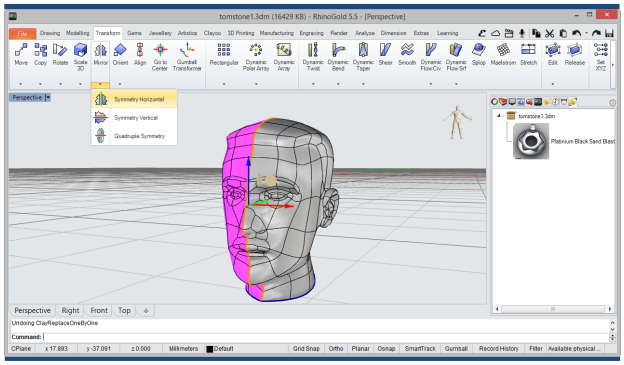
2 Clayoo: Ellipsoid

Then, we'll open Clayoo and define an Ellipsoid object, similar to head size, select the faces of half ellipsoid and remove them.



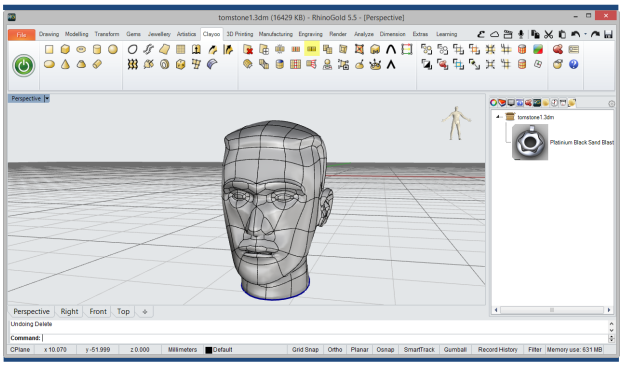
3 Clayoo: Edit Faces / Divide

Now, we'll edit the faces of the ellipsoid object with the selection by points and create news dividing the created faces. Adjust the points to the human face curve and we'll model the different elements as the nose, eyes, ears, mouth ... Getting a half face.



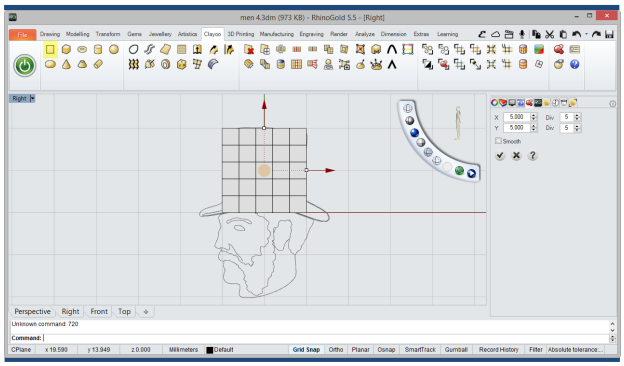
4 Symmetry Horizontal

In this step, we'll apply a Symmetry to the Clayoo Object with the Symmetry Horizontal tool, obtaining the same result as in the image.



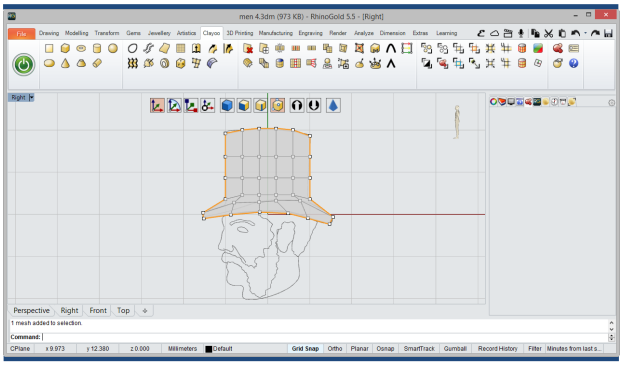
5 Clayoo: Merge

Then, we'll select the naked edges and apply the Merge Clayoo tool to unite the faces of the two halves, remember that the faces of the objects must be perfectly aligned to apply the Merge tool.



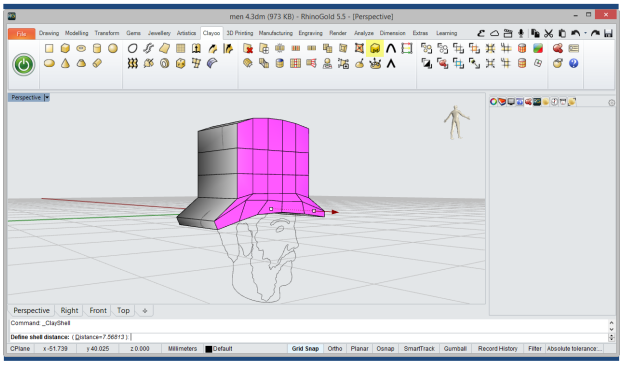
6 Clayoo: Plane

Now, we'll define a plane with Clayoo to generate the hat.



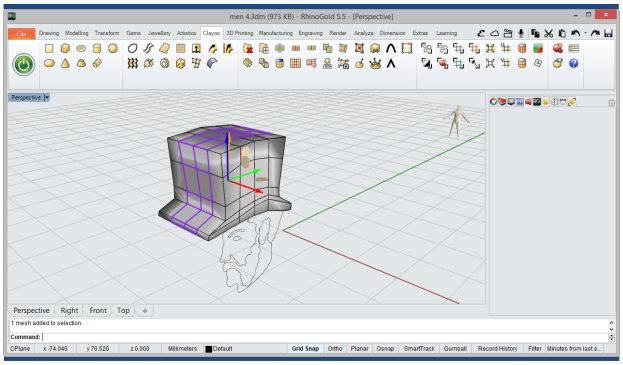
7 Clayoo: Edit Faces

In this step, we'll adjust the points to the curve and create new faces if necessary, using the Split tool.



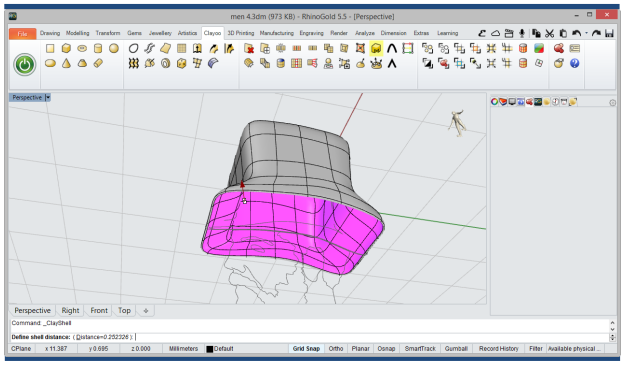
8 Clayoo: Shell

Then, we'll select the Shell tool and extrude the Clayoo surface.



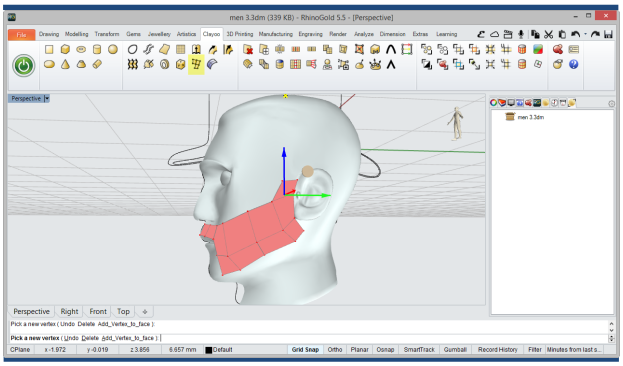
9 Clayoo: Divide

Now, we'll divide the extruded faces defining new faces for better handling in modelling process.



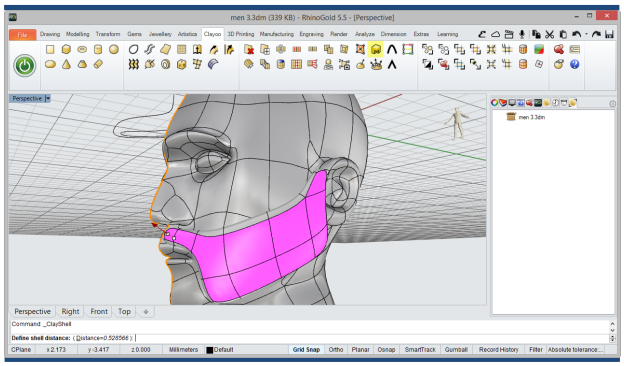
10 Clayoo: Shell

Then, we'll repeat the operation with the Shell tool and apply it to define the cavity of the cup.



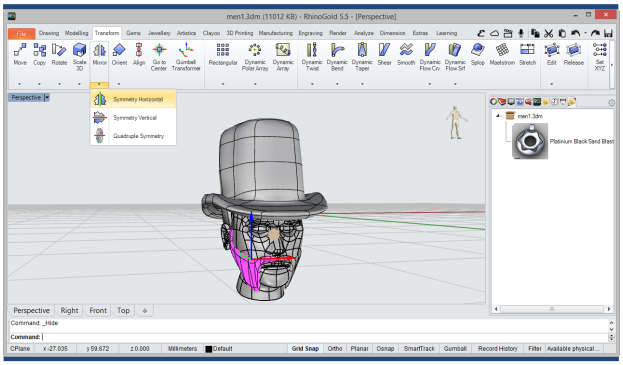
11 Clayoo: Retopology

In this step, we'll apply the Retopology tool to define a surface with new Clayoo faces using the surface of an object, in this case the human face.



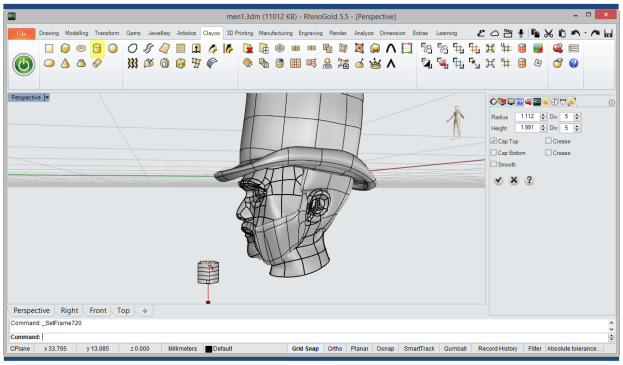
12 Clayoo: Shell

Then, we'll apply the Shell tool again, in this case on the surface created in the previous step, define an extrusion of 4mm.



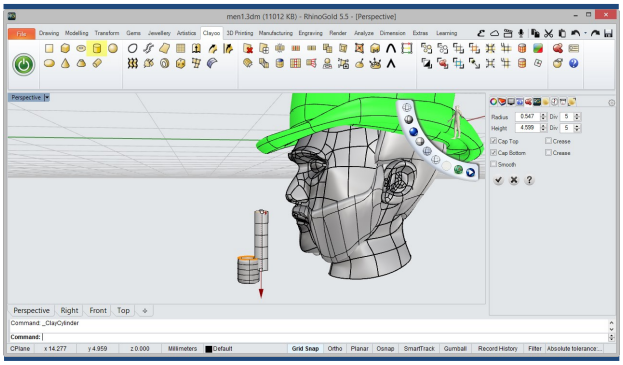
13 Symmetry Horizontal

Then, we'll apply a Symmetry to the new Clayoo object with the Symmetry Horizontal tool.



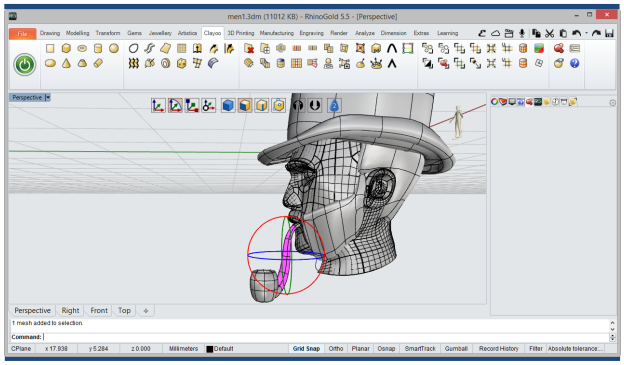
14 Clayoo: Cylinder

Now, we'll define a Clayoo object with the Cylinder tool with the bottom tap option activated, as the picture shows.



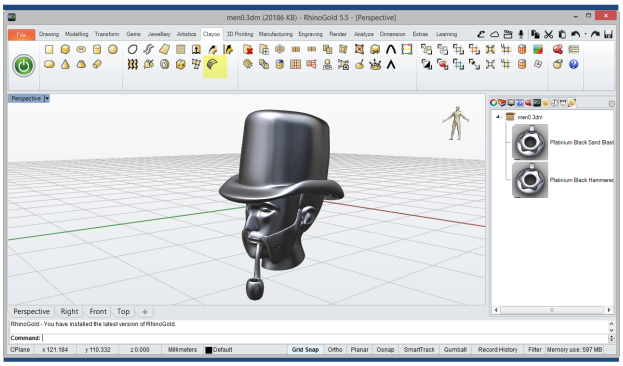
15 Clayoo: Cylinder

In this step, we'll repeat the operation with the cylinder tool, define a thinner and taller object with the the two caps option enabled, as the picture shows.



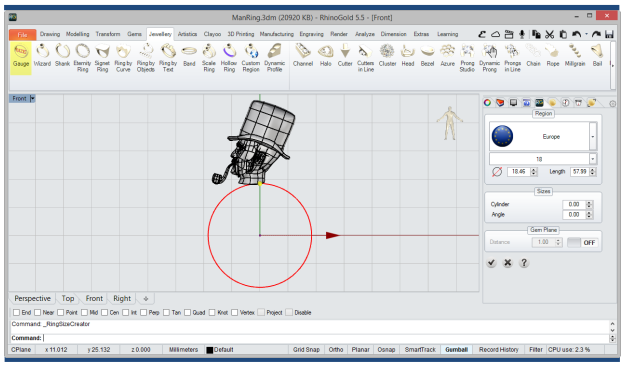
16 Clayoo: Edit Faces

Then, we'll edit the faces with the points selector, we'll help us with the Gumball Controller to rotate the faces and define a similar shape to the object as shown in the picture.



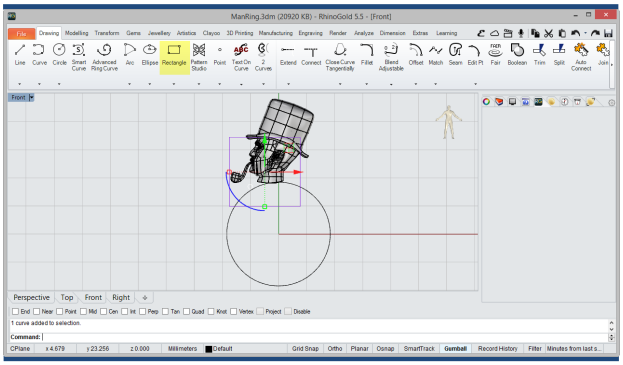
17 Clayoo: transform To Nurbs

To end the modelling process with Clayoo, we transform the Clayoo object to Nurbs with the To Nurbs tool.



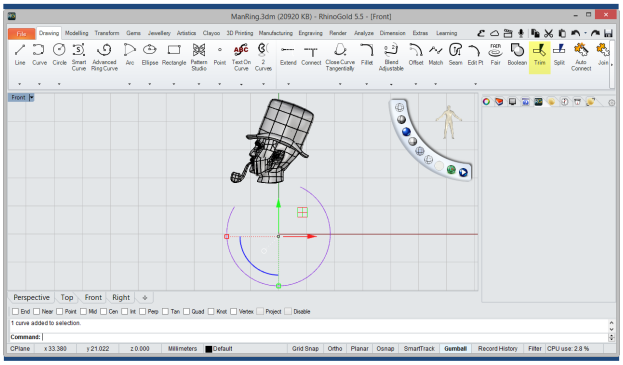
18 Gauge

Then, we'll define a ring-size of European type of 18 in size with Gauge tool, at the Jewellery tab.



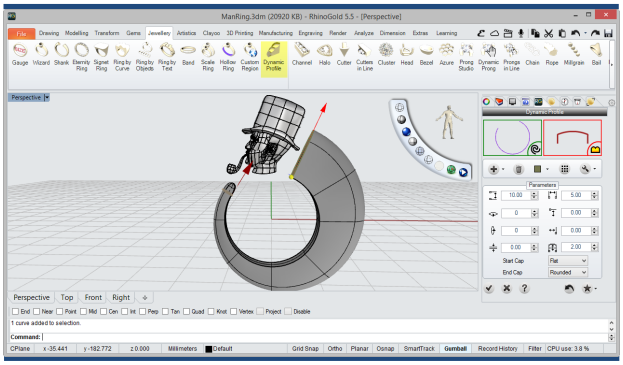
19 Rectangle

Then, we'll trace a curve with the Rectangle tool and will position it the same way as in the picture.



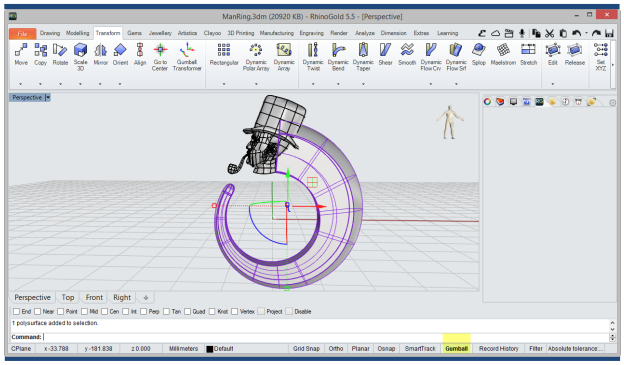
20 Trim

Now, we'll select the Gauge curve and box and apply the Trim tool between them.



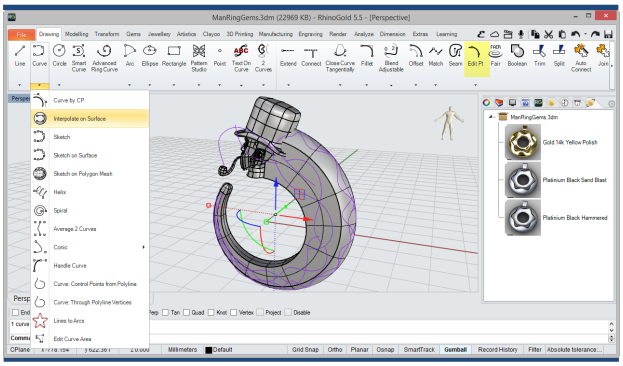
21 Dynamic Profile

In this step, we'll define a solid with the Dynamic Profile tool applying it to the curve of the previous step, on top we'll apply a profile of 10 x 5 and the lower end define a profile of 2 x 2.



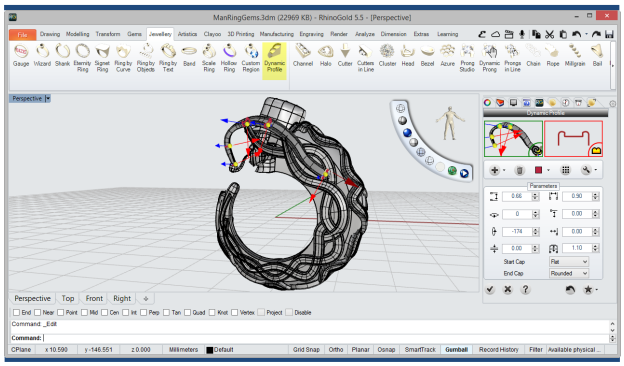
22 Gumball Controller

Then, we'll position the dynamic profile beside the Clayoo head, as pictured here, we'll help us with the Gumball Controller.



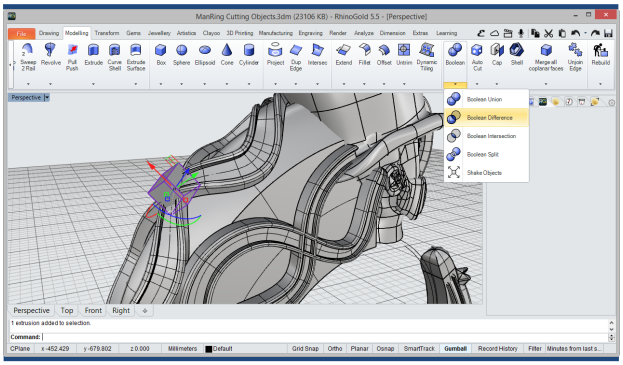
23 Interpolate on Surface

In this step, we'll trace a curves intersecting between them similar to those shown in the picture, using the Interpolate Surface tool on the dynamic profile.



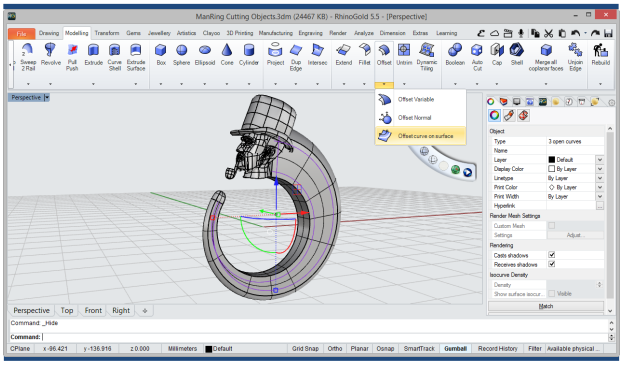
24 Dynamic Profile

Then, we'll select the dynamic profile tool and apply it to all curves created in the previous step, defining profiles of 2.50, we can vary the size of the profiles at the ends defining smaller profiles. We'll select a profile curve of Channel type, as the picture shows.



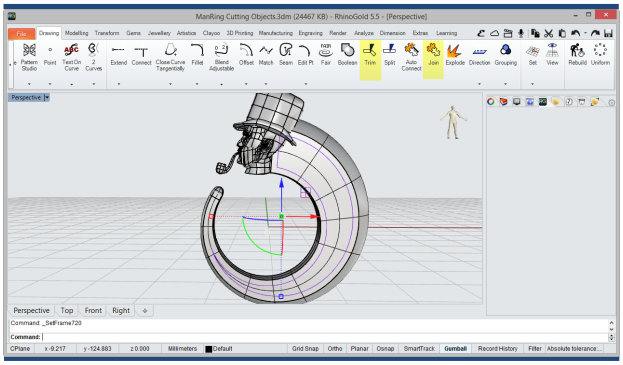
25 Boolean Difference

Then, we'll create cutting objects such as cubes and apply them between the dinamic profiles intersections, saving one of the intersectioned profiles, we'll use the Boolean Difference tool.



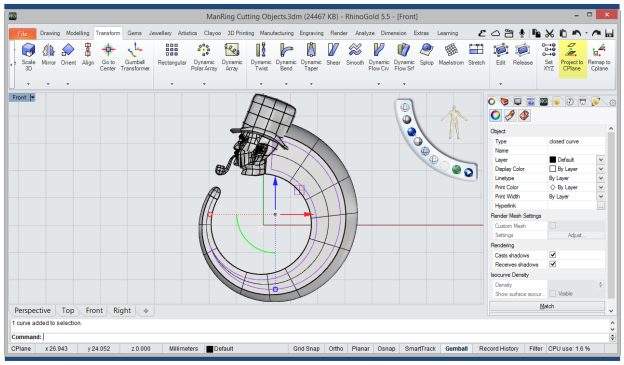
26 Offset Curve on Surface

Now, we'll select the Offset Curve on Surface tool and will extract the offset curves of the initial dynamic profile edges. Apply 1mm in offset on the curves.



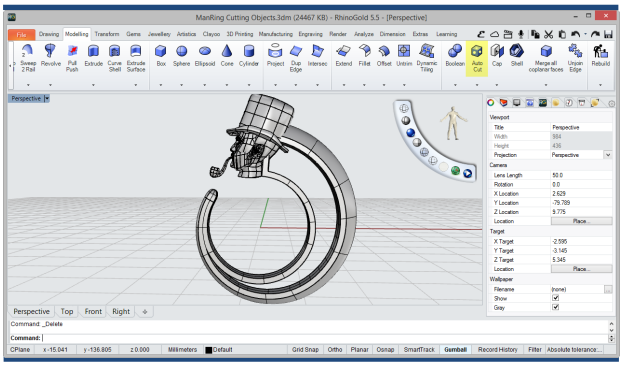
27 Trim / Join

In this step, we'll apply the Trim tool at the intersections of the offset curves and then unite them with the Join tool.



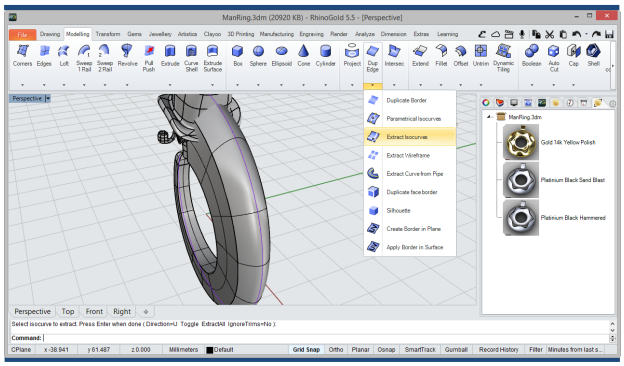
28 Project to C Plane

Then, we'll select the Project C Plane tool and apply it on the offset curve from the front view.



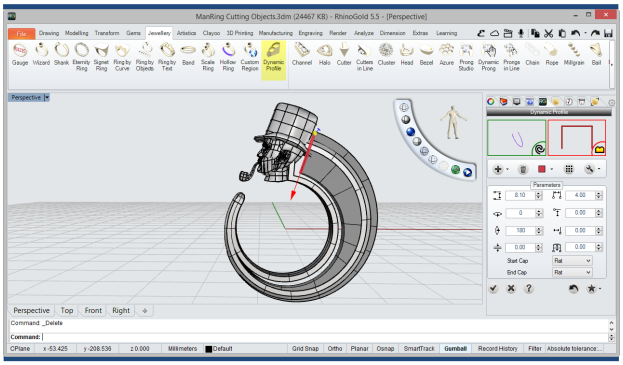
29 Auto Cut

In this step, we'll apply the Auto cut tool between the offset curve and dynamic profile, getting the result shown in the image.



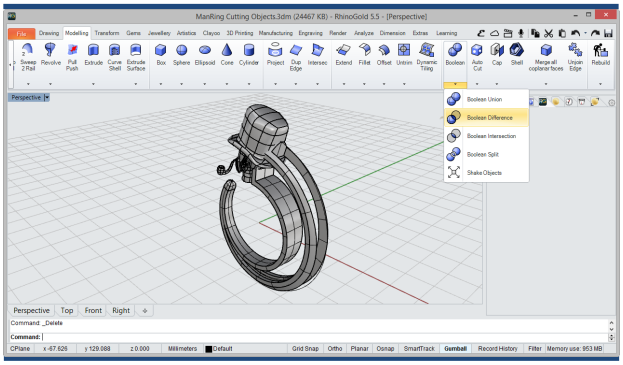
30 Extract Isocurves

Then, we'll select the Extract Isocurves tool and extract the central curve of initial dynamic profile.



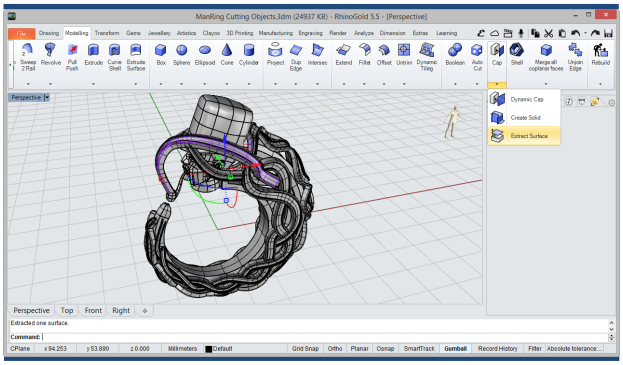
31 Dynamic Profile

Now, we'll define a dynamic profile applying on the Extracted curve in the previous step to use it as the cutting object, we'll respect a margin of 1mm to the initial dynamic profile.



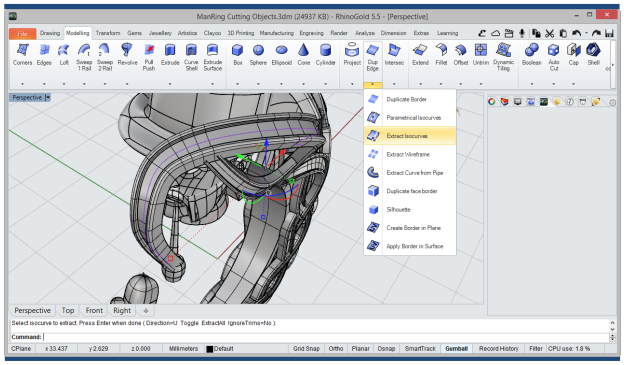
32 Boolean Difference

Now, we'll apply a Boolean Difference between the two dynamic profiles, getting a similar object shown in the image.



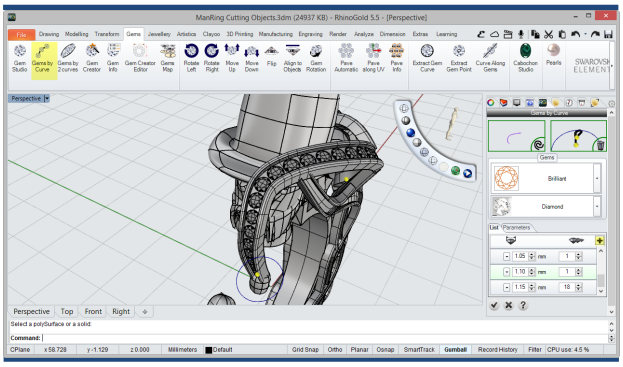
33 Extract Surface

In this step, we'll duplicate the flat surface of the dynamic profiles with the Extract Surface tool, in the Cap submenu.



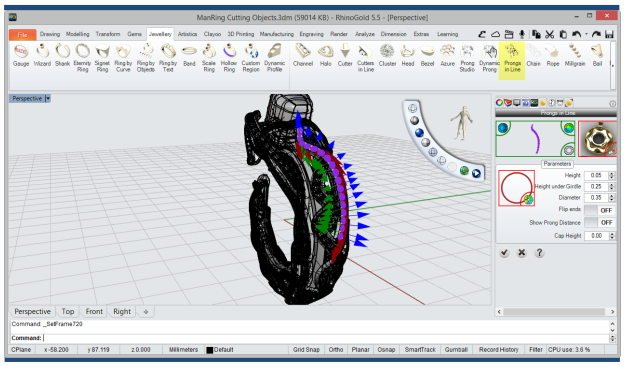
34 Extract Isocurves

Then, we'll select the Extract Isocurves tool and apply it on the extracted surface, defining the central curve of the surface.



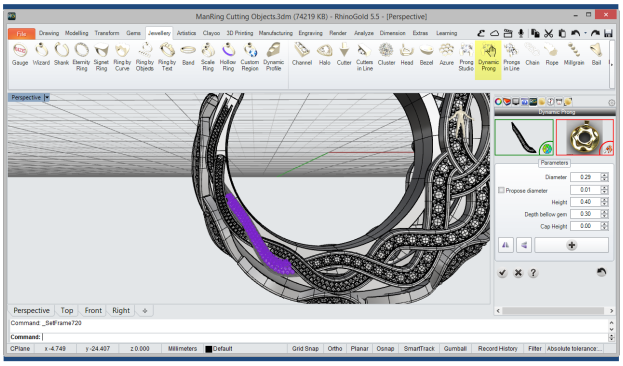
35 Gems by Curve

In this step, we'll define some gems along of dynamic profiles using Gems by Curve tool, select the extracted curve and surface to guide the gems. We'll apply Gem groups with different sizes, adjusting them to the dynamic profiles shape.



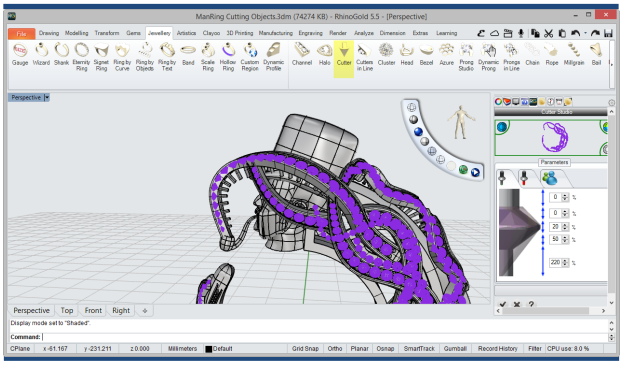
36 Prongs in Line

Then, we'll select the Prongs in Line tool and apply it on the gems, if necessary will edit the prongs later with the Prongs Editor option.



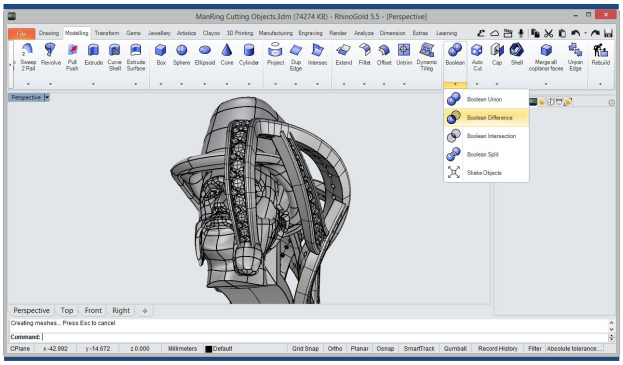
37 Dynamic Prong

Then, in the tightest areas of the dynamic profiles where don't fit gems, we'll define prongs with Dynamic Prong tool.



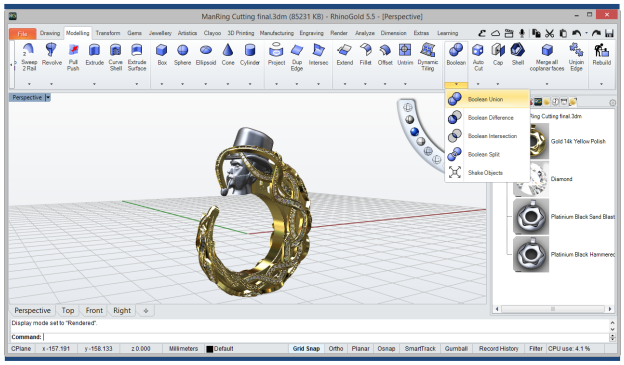
38 Cutter

Now, we'll apply the cutters to the gems defined above with the Cutter tool.



39 Boolean Difference

In this step, we'll apply a Boolean Difference to subtract the cutters from the dynamic profiles surface.



40 Boolean Union

Finally, we'll apply a Boolean Union between all the solids to unify the piece.