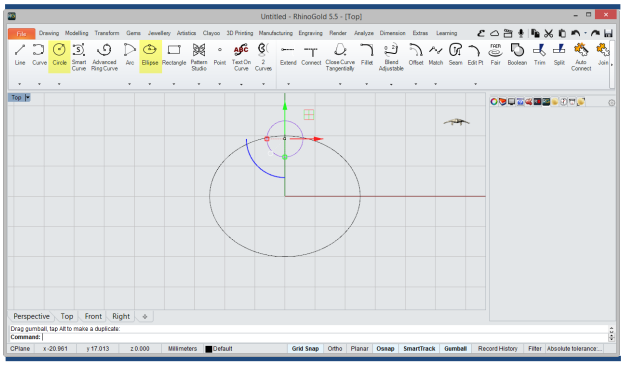
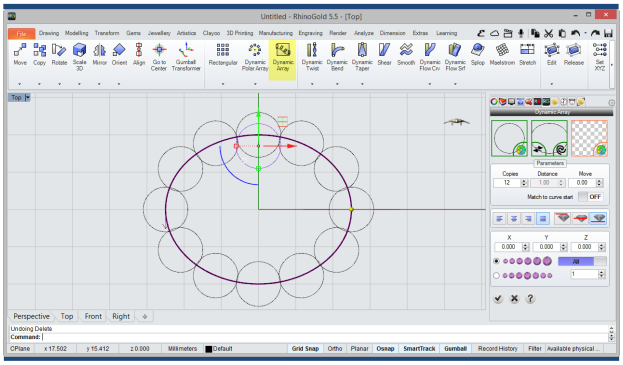
Cabochon Signet Ring

In this tutorial we'll try some of the more useful commands in RhinoGold. Tools such as Smart Curve, Signet Ring, Dynamic Polar Array, Pave UV, Dynamic Prongs and Channel.



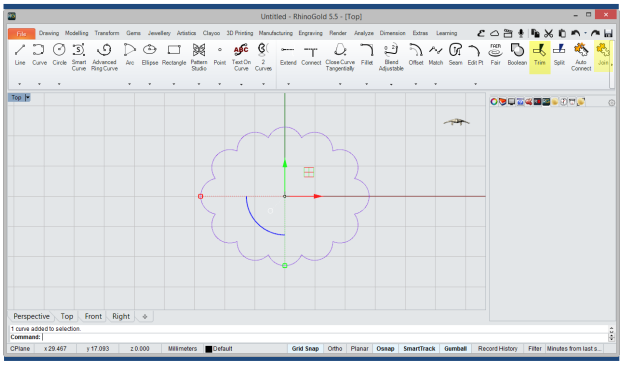
1 Ellipse / Circle

First, we'll select the Ellipse tool, at the Drawing tab and define a closed curve of 25mm in the plane center. Then we define a circular curve with the Circle tool and will position it of secant way with the ellipse.



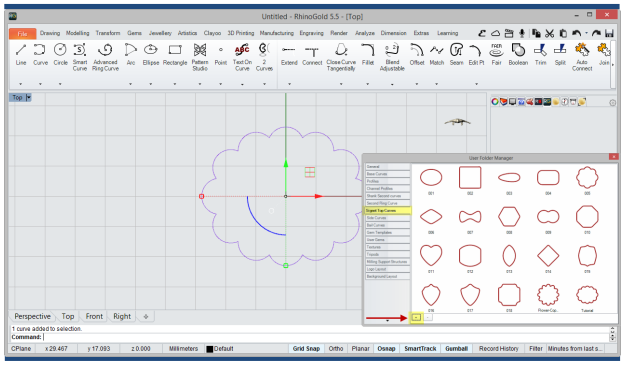
2 Dynamic Array

Next, we'll define an array with 10 copies of the circular curve along the ellipse, using the Dynamic Array tool, in the Transform tab.



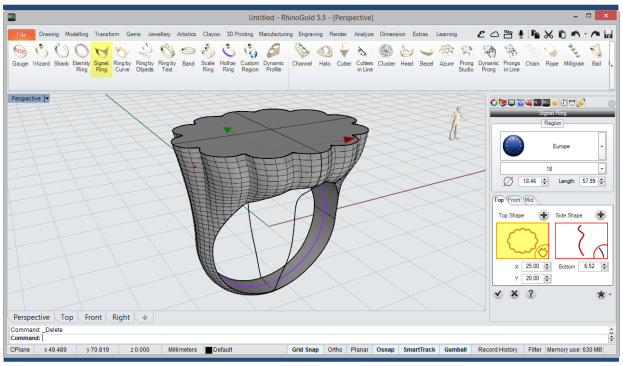
3 Trim / Join

Now, we'll go to the Drawing tab and apply the Trim tool between the curves of the array, obtaining the same result as in the image. After we'll unite the curves with Join tool.



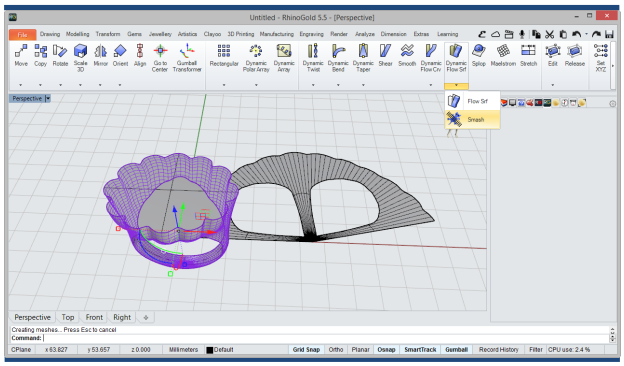
4 Save in User Folder

In this step, we'll save the curve defined in the previous step in the User Folder, in the Signet Top Curves tab.



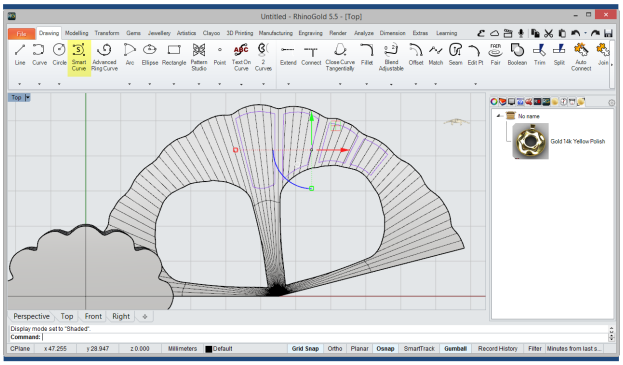
5 Signet Ring

Then, we'll define a ring with the Signet Ring tool, in Jewellery tab. Apply the curve saved in the User Folder, clicking on the option of top profile in the tool panel.



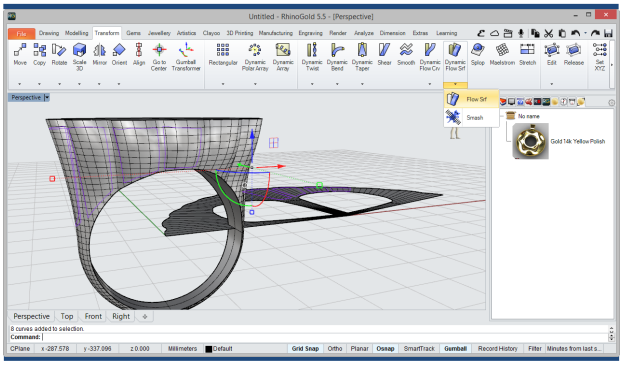
6 Extract Surface / Smash

Now, we'll duplicate the lateral surface of the ring with the Extract Surface tool, within the submenu Cap, at the Modelling tab. Then we'll go to the Transform tab and apply Smash tool to the extracted surface.



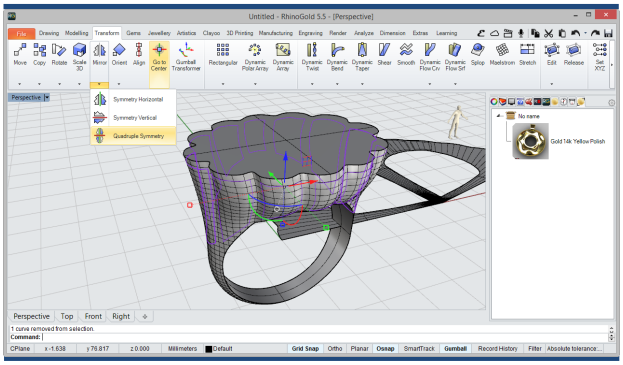
7 Smart Curve

In this step, we'll trace four closed similar curves to those shown in image, using the Smart Curve tool.



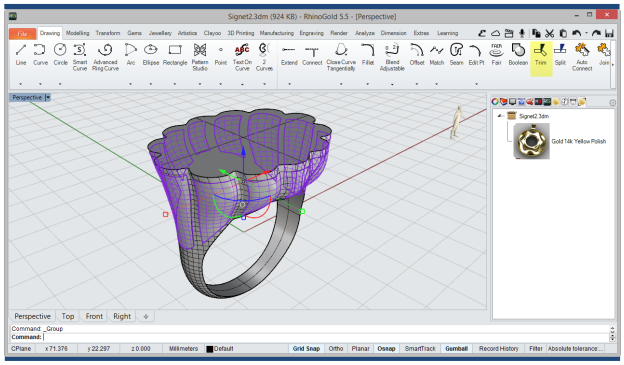
8 Flow by Surface

Then , we'll project the flat surface curves on the ring surface, with the Flow by Surface tool.



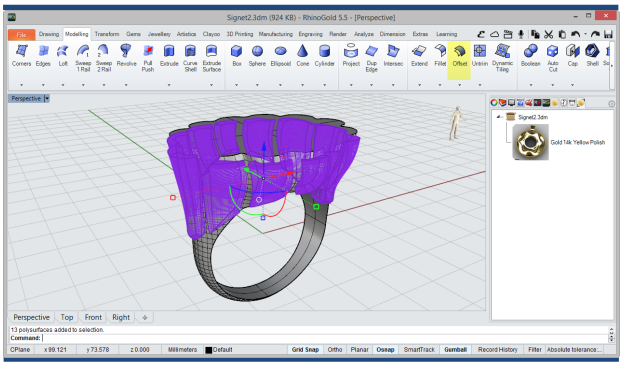
9 Quadruple Symmetry

Now, we'll apply a Symmetry to the projected curves with the Quadruple Symmetry tool.



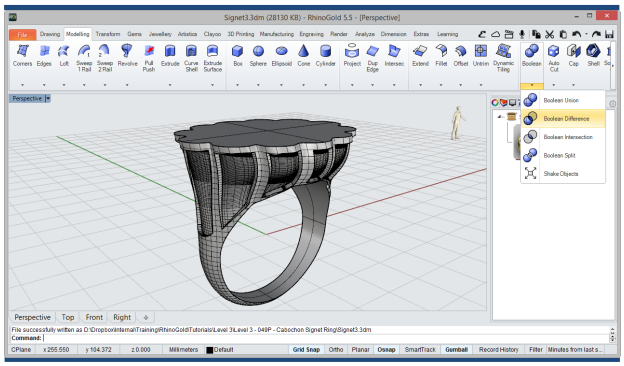
10 Trim

Then, we'll select the Trim tool and will apply it between the extracted surface and projected curves, getting the inside surfaces of the curves.



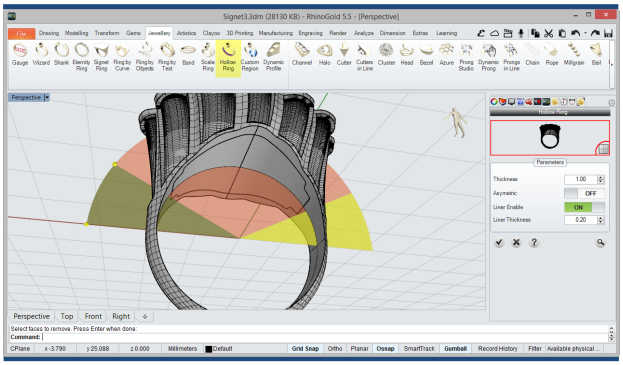
11 Offset

In this step, we'll select the Offset tool, in the Modelling tab and apply it an offset of 0.3 mm on both sides of the surfaces.



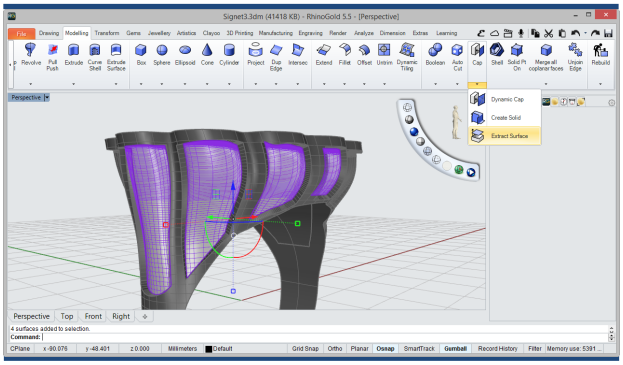
12 Boolean Difference

Then, we'll apply a Boolean Difference between the offset surfaces and ring, obtaining a similar result to the image.



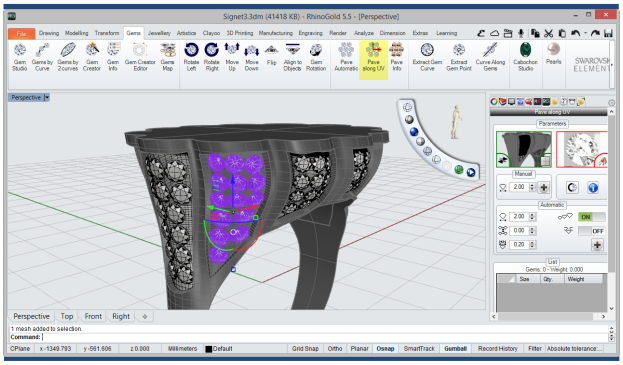
13 Hollow Ring

Then, we'll empty the ring with Hollow Ring tool, in the Jewellery tab, we'll enable the Liner option.



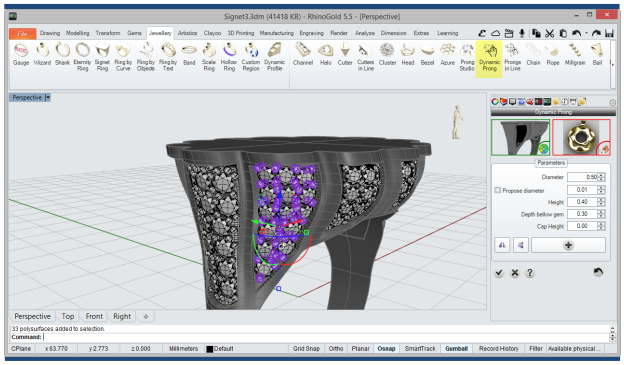
14 Extract Surface

Now, we'll apply the Extract Surface tool, removing the inner surfaces of the cavities previously generated.



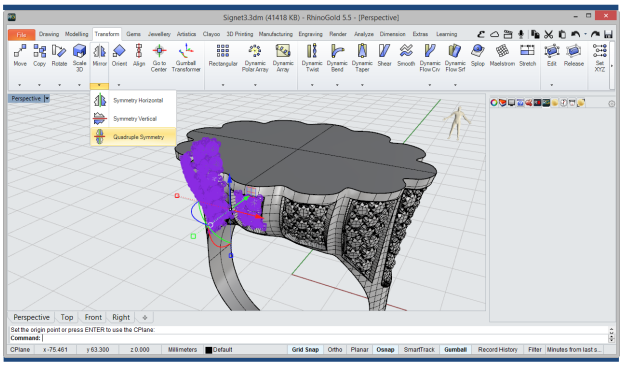
15 Pave along UV

In this step, we'll define gems in four cavities using the Pave along UV tool, in the Gems tab. Select the extracted surfaces to implement the gems.



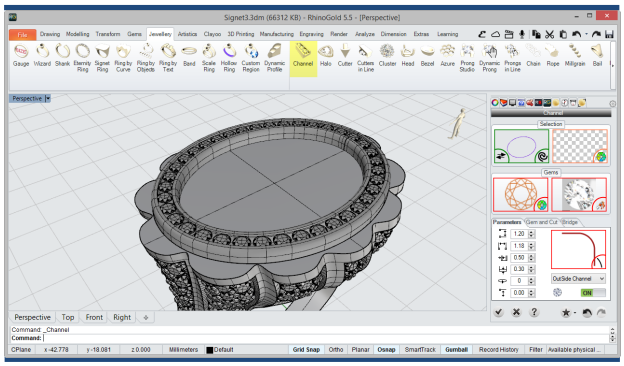
16 Dynamic Prong

Then, we'll select the Dynamic Prong tool, in the Jewellery tab and define the prongs to each gemstones group.



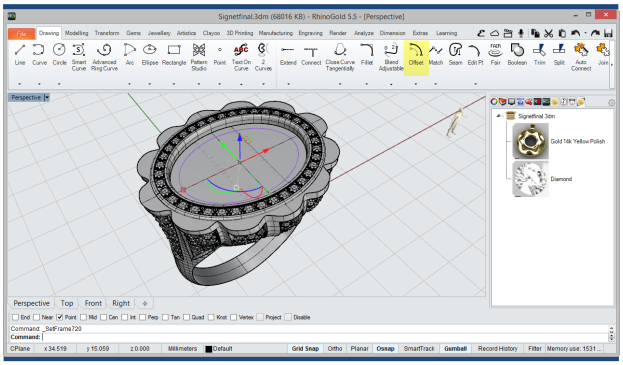
17 Quadruple Symmetry

In this step, we'll apply a symmetry to gems with the prongs, with the use of Quadruple Symmetry tool.



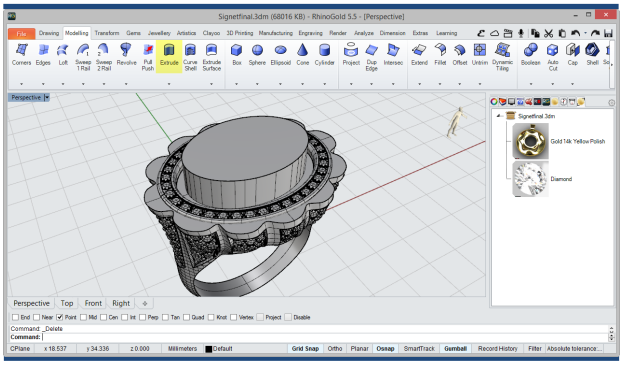
18 Channel

Then, we'll select the Channel tool, at the Jewellery tab and define a channel with gems of 1.30 mm, positioning it on top of the ring. We use the initial Ellipse to define the channel.



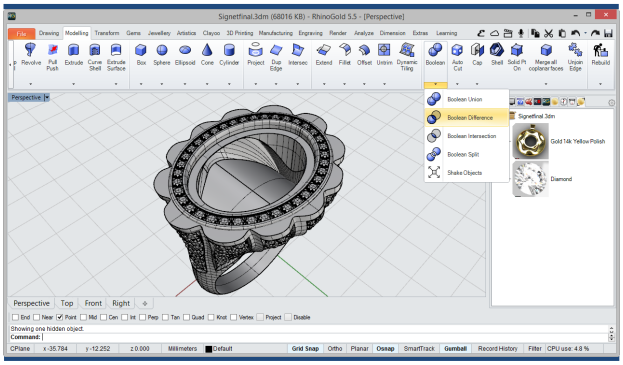
19 Duplicate Edge / Offset

Then, we'll duplicate the inside edge of the channel base and apply an offset of 1 mm with the Offset tool.



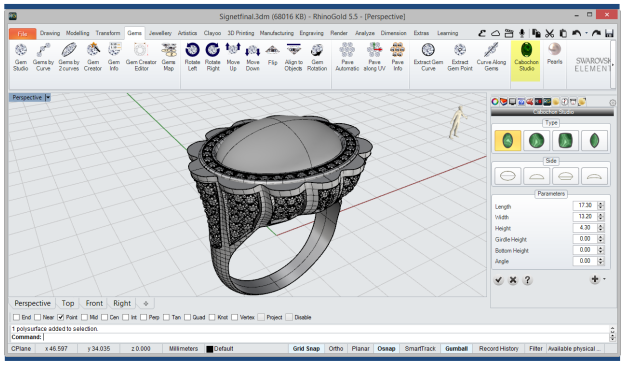
20 Extrude

Now, we'll extrude the curve traced in the previous step, with the Extrude tool, in the Modelling tab. We'll generate a larger extrusion that the thickness of the upper ring.



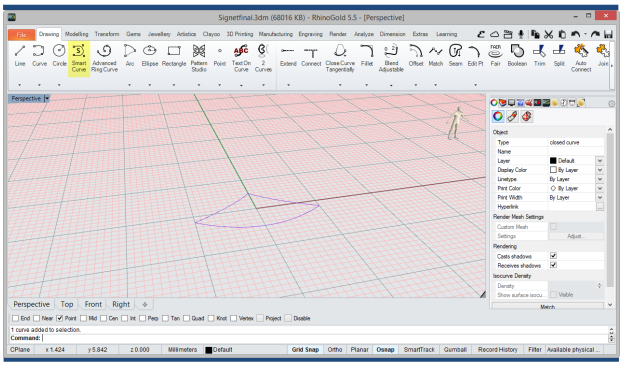
21 Boolean Difference

In this step, we'll apply a Boolean Difference between the ring and extrusion.



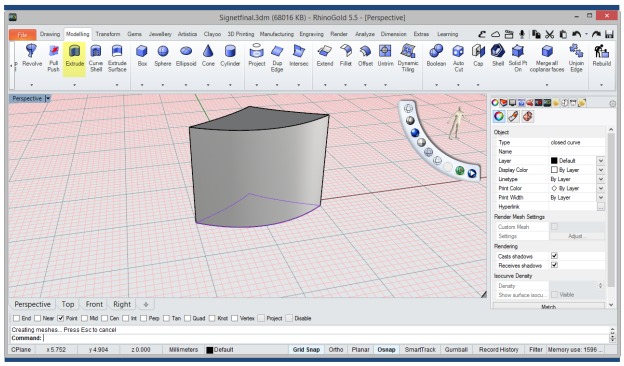
22 Cabochon Studio

Then, we'll define a cabochon with the same diameter of the cavity created in the previous step, using the Cabochon Studio, in Gems tab.



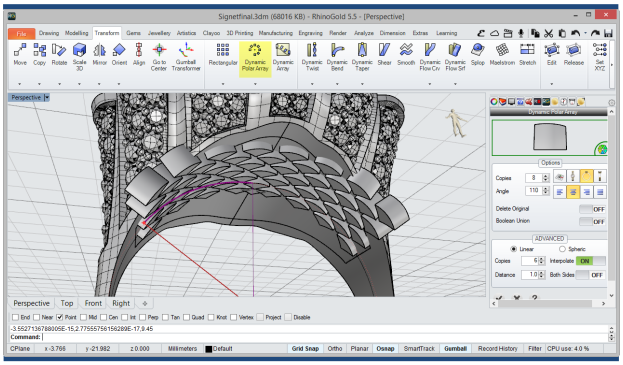
23 Smart Curve

In this step, we'll trace a closed curve of 2 mm, with the Smart Curve tool, of the Drawing tab.



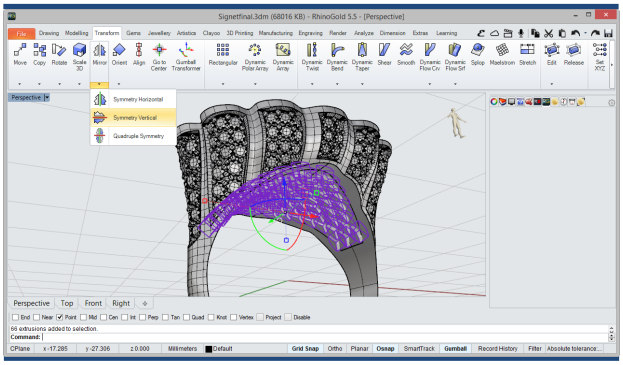
24 Extrude

Then, we'll select the Extrude tool and apply it to the curve defined in the previous step, generating a solid of 3 mm.



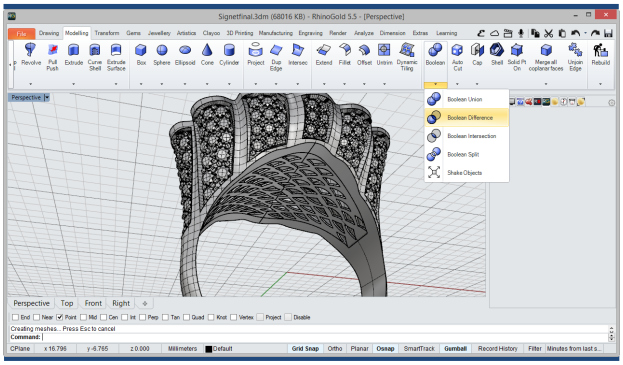
25 Dynamic Polar Array

Then, we'll generate an array of 8 copies of the solid defined in the previous step, using the Dynamic Polar Array tool, with Interpolate option enabled.



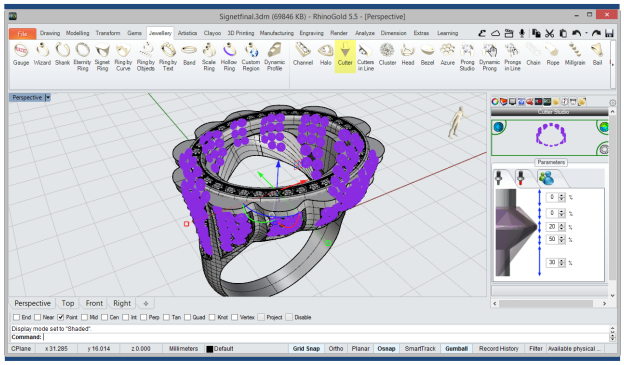
26 Symmetry Vertical

Now, we'll apply a Symmetry Vertical to cover entire the Surface ring with the solids.



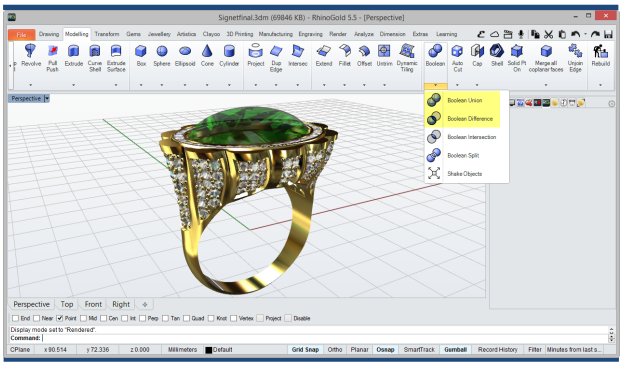
27 Boolean Difference

In this step, we'll repeat the operation with the Boolean Difference tool and subtract the solids from the ring cap, obtaining the same result as in the image.



28 Cutter

Then, we'll define the cutters to the gems with Cutter tool , at the Jewellery tab.



29

Boolean Operations

Finally, we'll apply a Boolean Difference to subtract the cutters from ring surface and unify the whole piece using a Boolean Union to the solids.