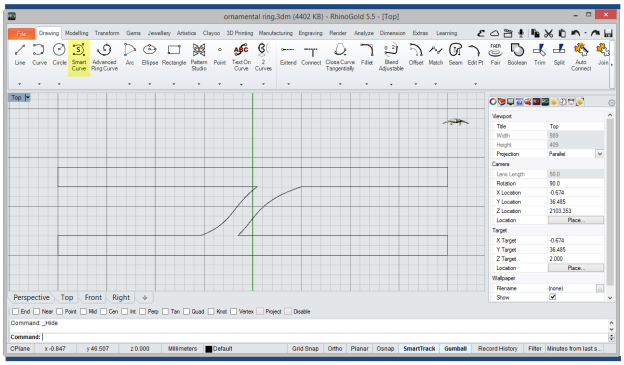
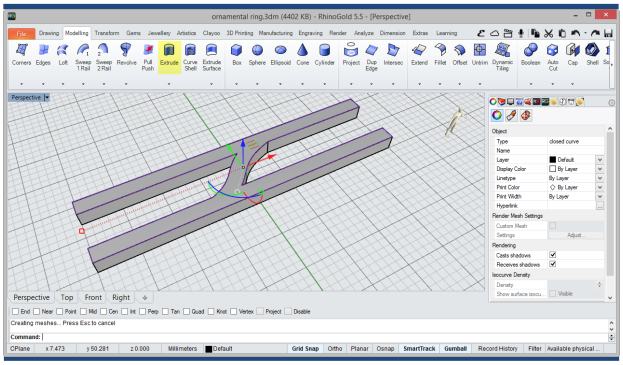
Decorative Ring

In this tutorial we'll try some of the more useful commands in RhinoGold. Tools such as Smart Curve, Extrude, Ring by Object, Flow by Curve, Gems by Curve and Prongs in Line.



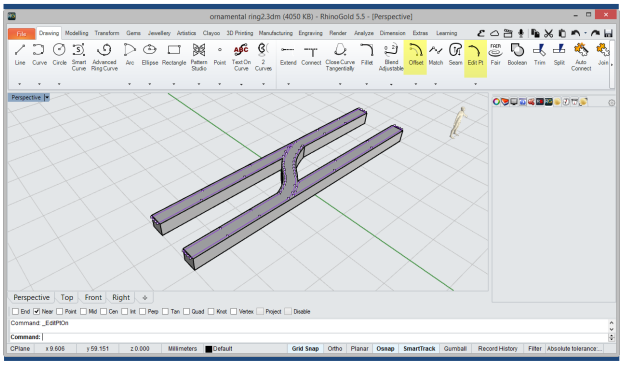
1 Smart Curve

First, we'll select the Smart Curve tool located in the Drawing tab and trace a closed curve similar to that shown in the picture with 3 mm wide, from the top view.



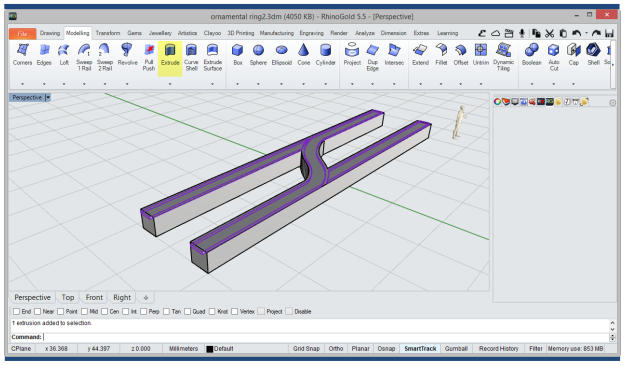
2 Extrude

Then, We'll apply the Extrude tool, in the Modelling tab to the curve traced in the previous step and define an extrusion of 2 mm.



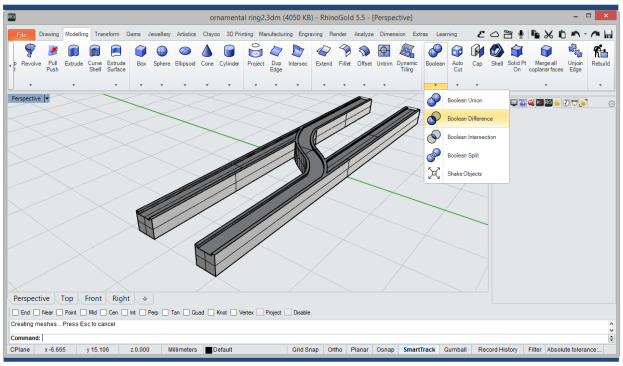
3 Offset / Edit Points

Now, with the Offset tool of the Drawing tab we'll copy the initial curve with an inner offset of 0.3 mm. Then apply the Edit Points tool, will edit the control points of the ends and extending 1 mm the curve.



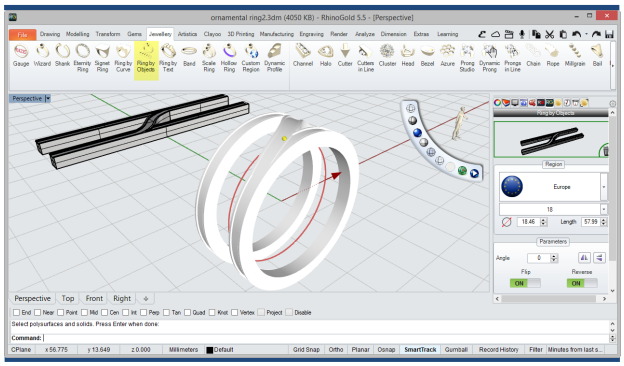
4 Extrude

In this step, we'll repeat the operation with the Extrude tool, in this case applied to the offset curve from the previous step. We'll define an extrusion of 0.2 mm.



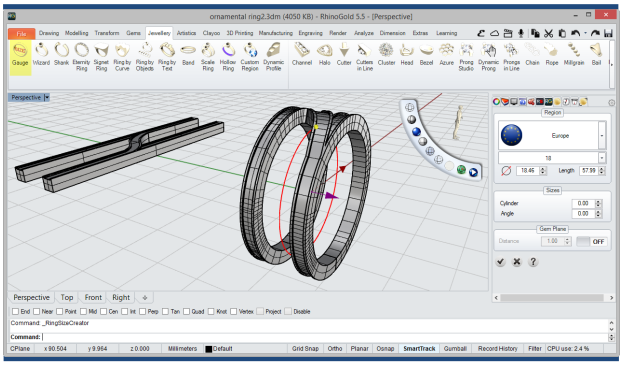
5 Boolean Difference

Then, we'll apply a Boolean Difference between the extrusions and obtain a similar result shown in the image.



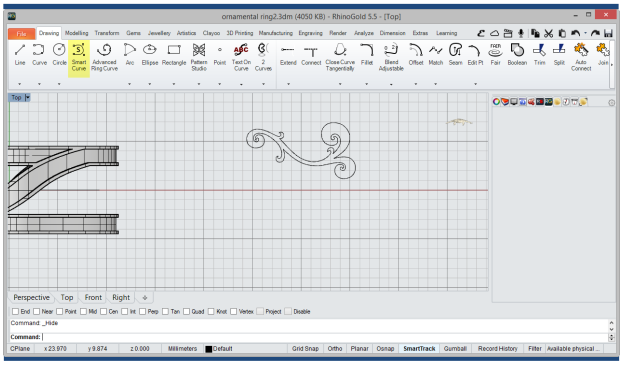
6 Ring by Objects

Now, we'll select the Ring by Object tool located in the Jewellery tab and apply it to the solid obtained in the previous step, defining a 18 size ring of European type.



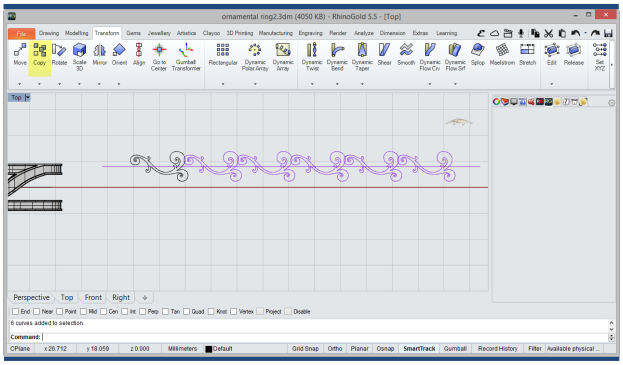
7 Gauge

In this step, we'll define a ring size same as the previous step with the Gauge tool.



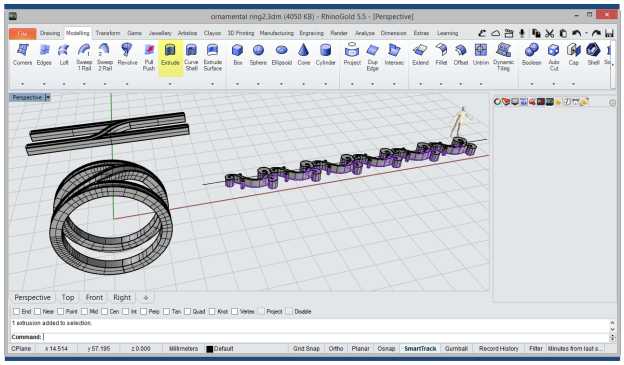
8 Smart Curve

Then, we'll select the Smart Curve tool and trace a curve similar to that shown in the image.



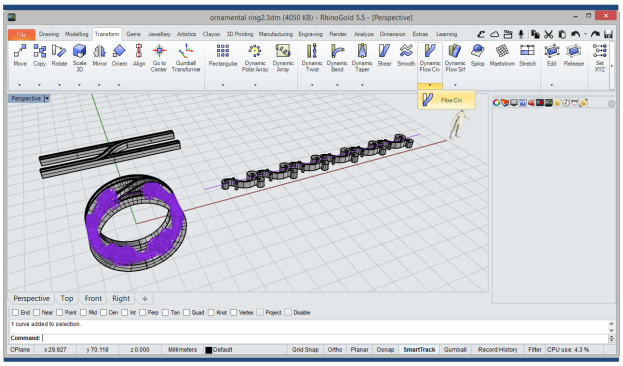
9 Copy / Line

Now, we'll make a copies of the curve traced in the previous step with the Copy tool in the Transform tab and will position the same way as in the picture. Then we'll trace a straight curve across the copies.



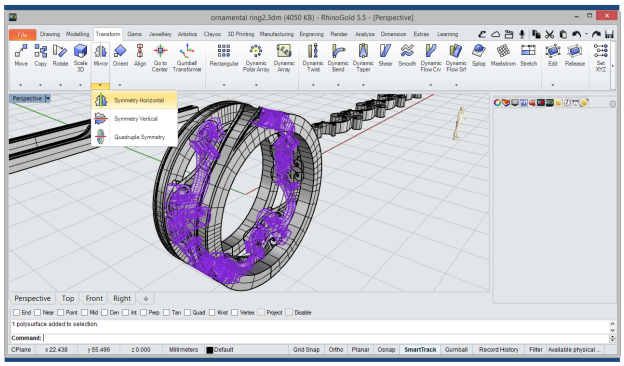
10 Extrude

Then, we'll select the curves and generate an extrusions of 2 mm, with the Extrude tool.



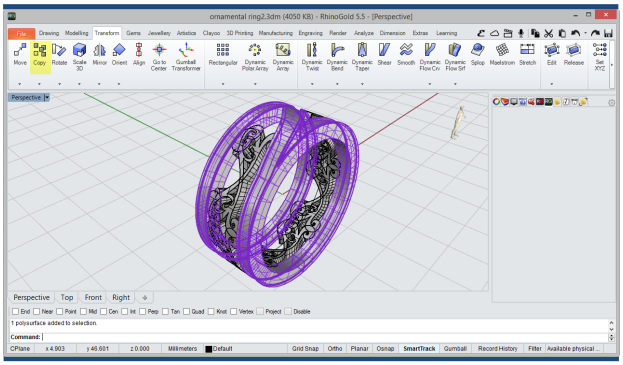
11 Flow by Curve

In this step, we'll select the Flow by Curve tool and apply it between the extrusions of the previous step, the straight base curve and Gauge curve.



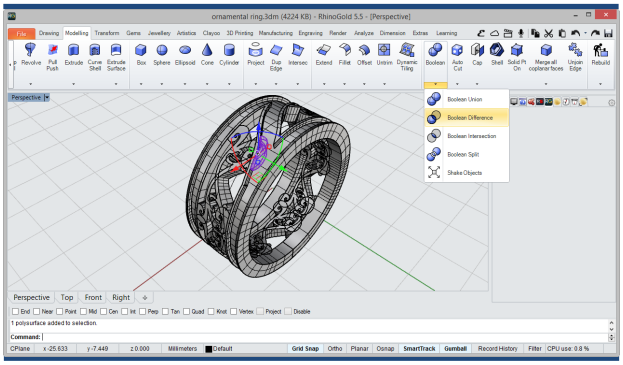
12 Symmetry Horizontal

Then, we'll apply a symmetry between the group of extrusions with the Symmetry Horizontal tool.



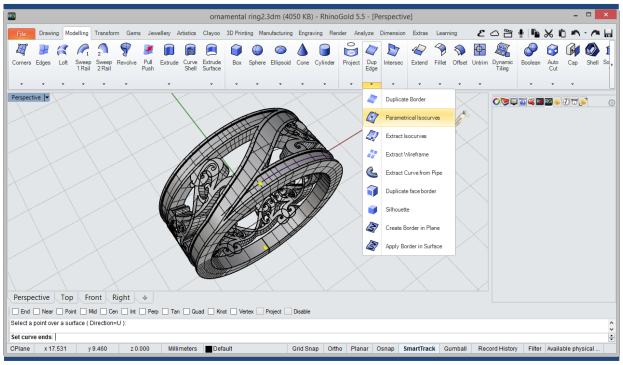
13 Copy

Then, we'll generate a copy of the shank using the Copy tool, with In site option enabled, in the Command Line.



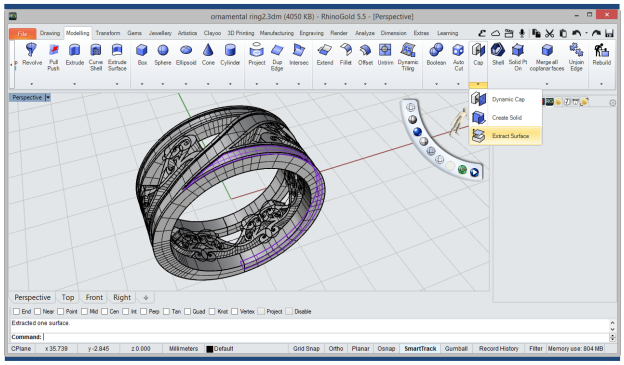
14 Boolean Difference

Now, we'll apply a Boolean Difference between the extrusions group and copied ring. Remove remaining parts of solid introduced inside of the Shank metal.



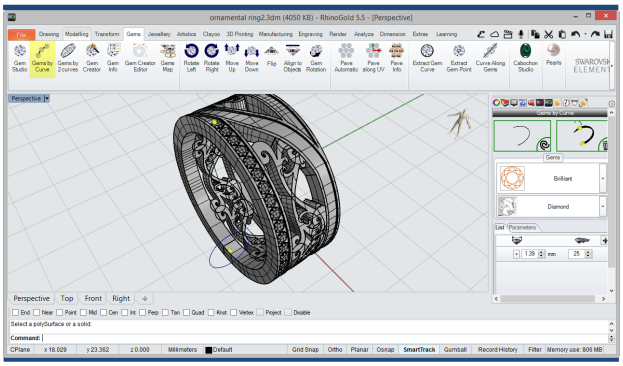
15 Parametrical Isocurves

In this step, we'll define a curve on the ring surface with Parametrical isocurves tool, within the Duplicate Edge submenu.



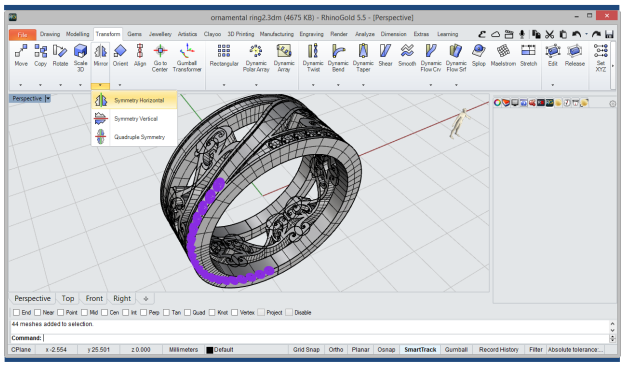
16 Extract Surface

Then, we'll duplicate the ring surface with the Extract Surface tool, within the Cap submenu.



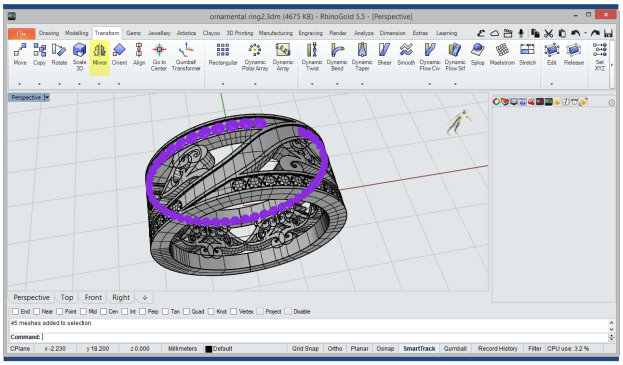
17 Gems by Curve

In this step, we'll define a 1.40 mm gems along the isocurve and select the offset surface to guide the gems properly, using Gems Curve tool, located in the Gems tab.



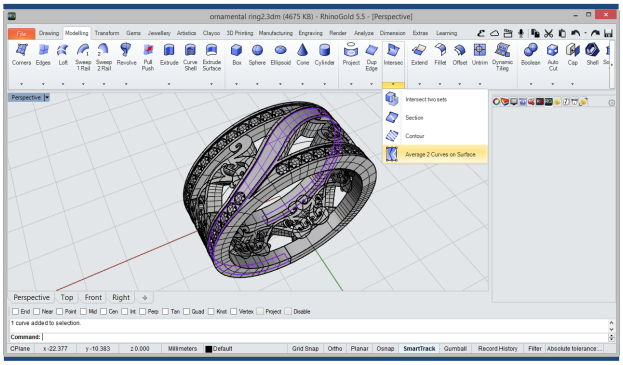
18 Symmetry Horizontal

Then, we'll apply a symmetry to the gems group with the Symmetry Horizontal tool.



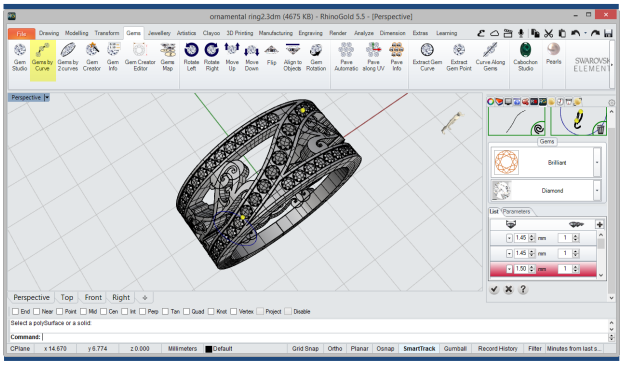
19 Mirror

Then, we'll apply the Mirror tool to position the group of gems on the opposite side of the ring.



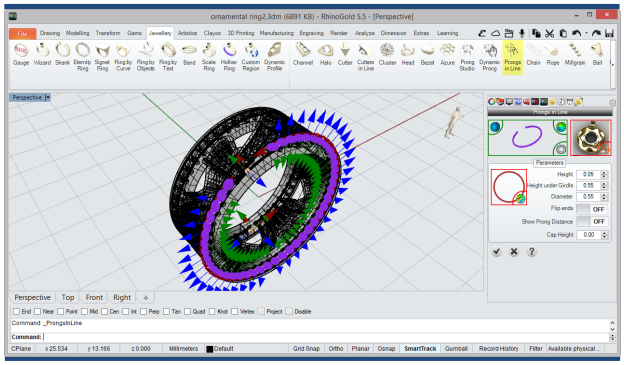
20 Average 2 Curves on Surface

Now, we'll apply the Average 2 Curves on Surface tool to extract the central curve of the bridge, located in the Intersect submenu, in the Modelling tab.



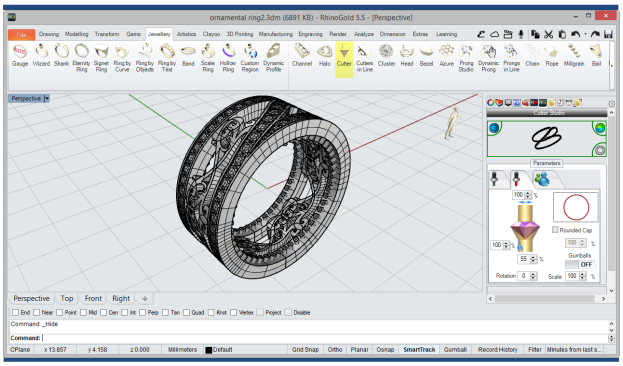
21 Gems by Curve

In this step, we'll repeat the operation with the Gems by Curve tool and define some gems of different sizes along the extracted curve.



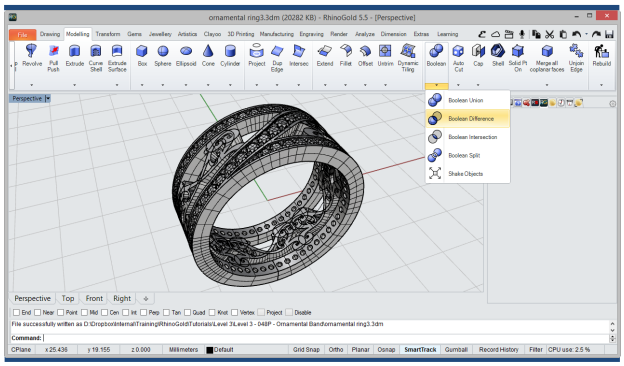
22 Prongs in Line

Then, we'll define the prongs to the gems using the Prongs in Line tool, in the Jewellery tab.



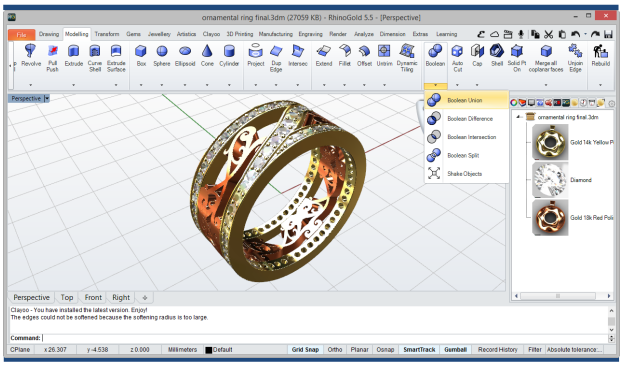
23 Cutter

Following in the Jewellery tab, we'll apply the gems cutters with Cutter tool.



24 Boolean Difference

Then, we'll apply a Boolean Difference to the cutters to subtract them from the ring surface.



25 Boolean Union

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