

RhinoGold[®]

SUMMER GUIDE

- 2015 -



Welcome to Summer Tutorial Guide 2015

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About RhinoGold

By taking advantage the power of 3D CAD (Computer Aided Design) and making it jeweler-friendly, RHINOGOLD lets you design 3D jewelry while generating a detailed color preview image that can be printed or emailed as well as generating a full report of the piece.

RhinoGold is a 3D Jewelry design software to design jewelry in 3D and then, output the file, compatible with any Printing Machine which generates dimensionally accurate models ready for casting.

More information www.tdmsolutions.com

About TDM Solutions;

TDM Solutions is a company that provides CAD/CAM solutions to a variety of industries, focusing in jewelry, and also including the automotive, casts and molds, prototype, footwear and general mechanical industries. Developer of design and manufacturing applications, enhancing RhinoGold, and others as RhinoEmboss, RhinoNest, Clayoo and Skinny3D. TDM Solutions was founded in 2001 and the headquarters are in Barcelona, Spain.

Nowadays is working over 25 countries with more than 80 resellers.

More information www.tdmsolutions.com

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Whale

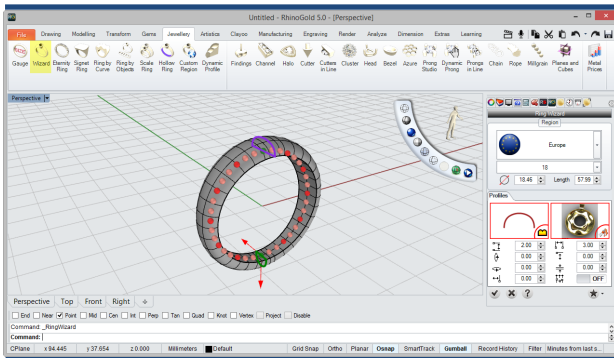
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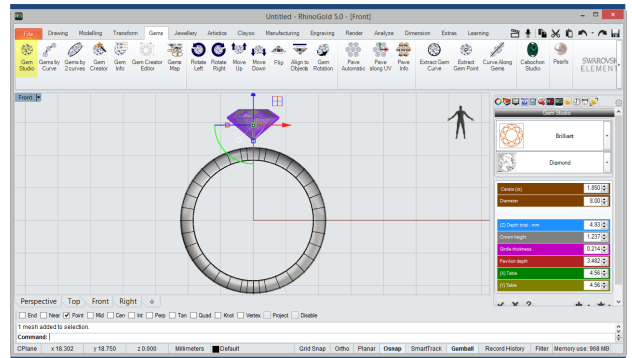
FireWorks Ring

In this tutorial we'll use RhinoGold tools such as Gem Studio, Bezel, Smart Curve, Extrude, Pipe, Dynamic Bend and Dynamic Polar Array.



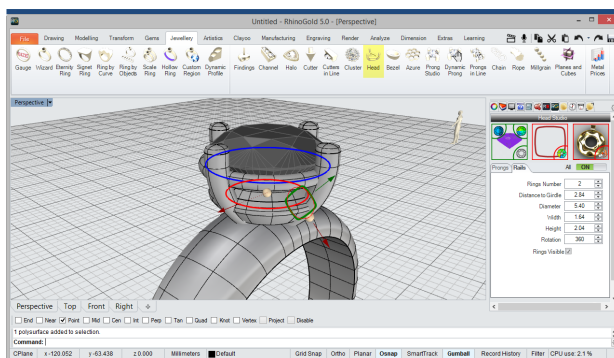
1 Ring Wizard

First, we'll go to the Jewellery tab and select Ring Wizard tool, define a 18 Europe ring with 2.00mm x 6.00mm in the upper profile and 3mm x 2.00mm in the lower profile.



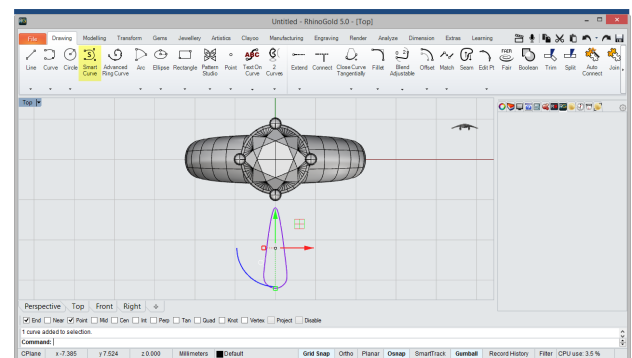
2 Gem Studio

Now, in the Gem Studio tab, we'll select the Gem Studio tool and define a Gem with Brilliant cut of 8 mm.



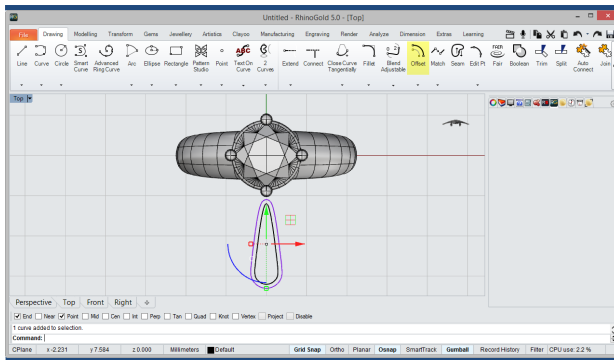
3 Bezel

Then, we'll define a bezel for the Gem with a lower rail of square profile, also change the angle of the bottom prongs section, as shown in the image



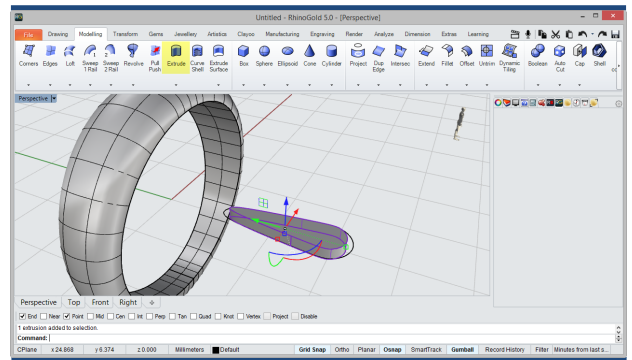
4 Smart Curve

In this step, we'll go to the Drawing tab and select the Smart Curve, will trace a curve similar to that shown in the image.



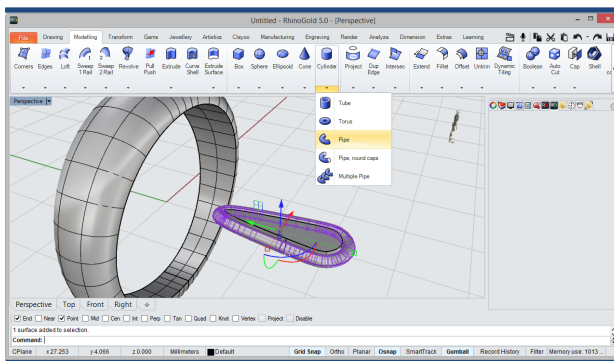
5 Offset

Now, we'll go to the Drawing tab and apply the Offset tool with 0.5mm.



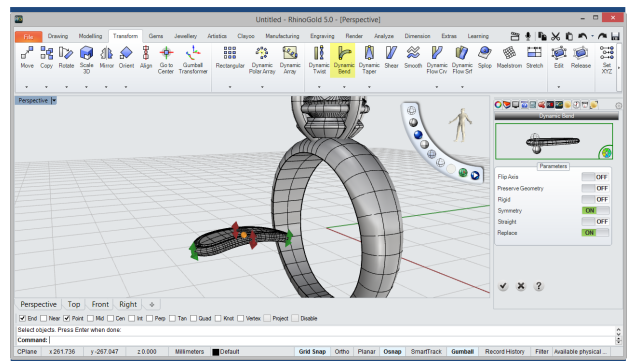
6 Extrude

Then, we'll apply a 1mm extrusion to the first curve with the Extrude tool, in the Modeling tab.



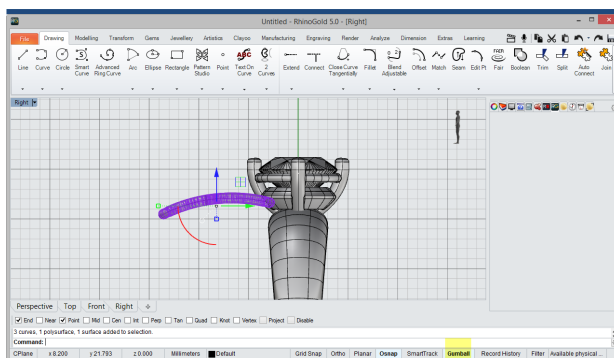
7 Pipe

Following on the Modelling tab, select the Pipe tool and apply it to the offset curve, defining a pipe of 1mm.



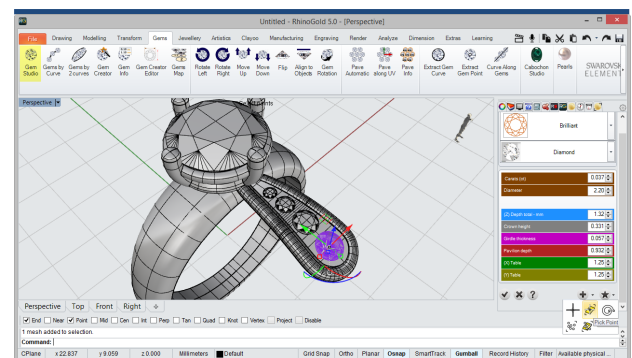
8 Dynamic Bend

Now, we'll select the Dynamic Bend tool and apply it to the extrusion and pipe.



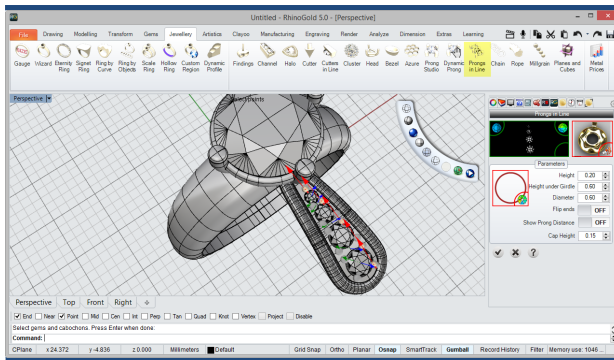
9 Gumball

Then, we'll position objects next to the bezel as picture show, we'll help the Gumball command.



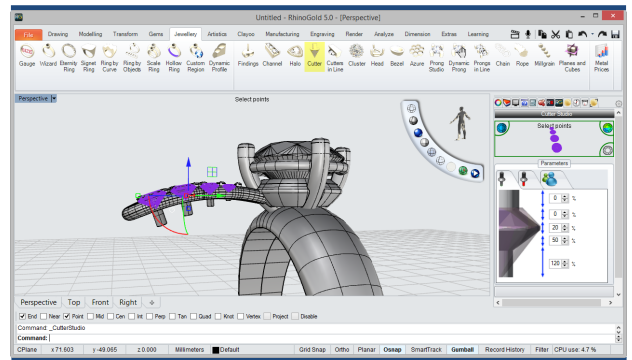
10 Gem Studio

Now, we'll apply four gems of different measures on the extruded solid surface, with Gem Studio tool through the "Orinet by Surface" option.



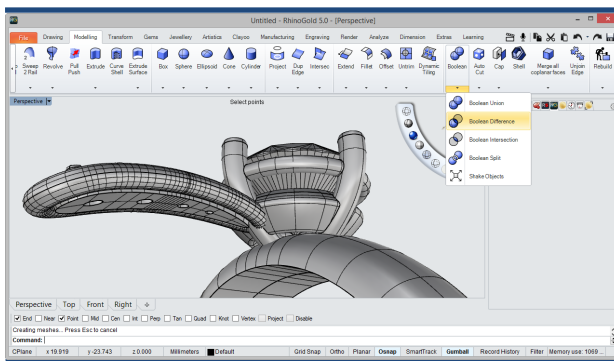
11 Prongs in Line

Then, we'll define the prongs to the gems with Prongs in Line tool. Respect the parameters shown in the image.



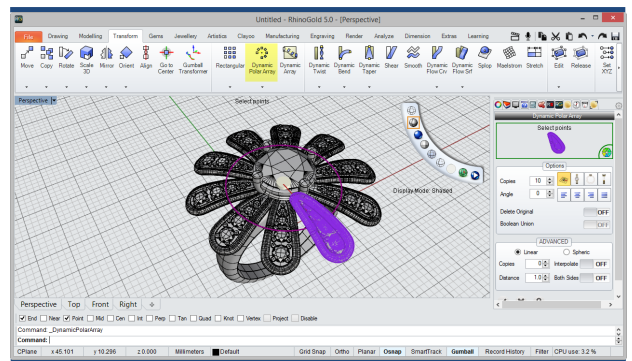
12 Cutter

In this step, we'll apply the cutters to the Gems with Cutter tool, in the Jewellery tab.



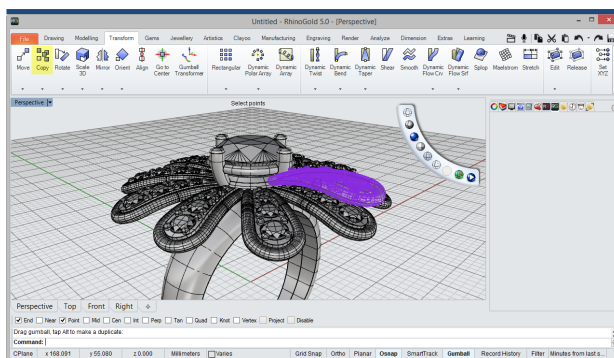
13 Boolean Difference

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



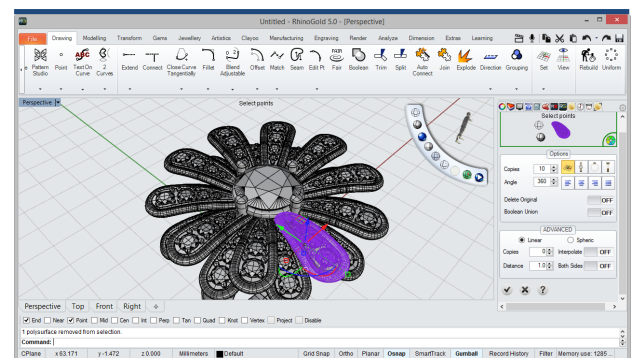
14 Dynamic Polar Array

Now, we'll select the Dynamic Polar Array tool and define a matrix of 10 copies to the group.



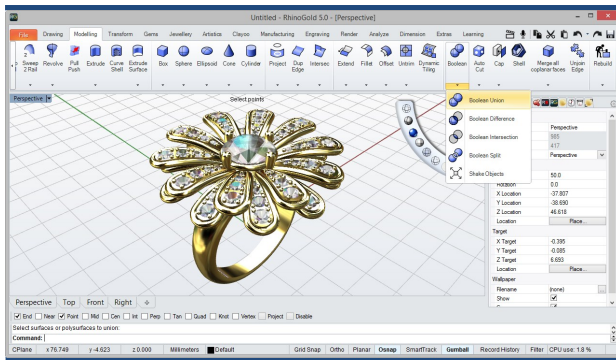
15 Copy

Then, apply a copy to the group with Copy too, in the Transform tab and will position just as picture.



16 Dynamic Polar Array

Repeat the operation with the Dynamic Polar Array tool, in this case applying it to the copy, we'll respect the above parameters.



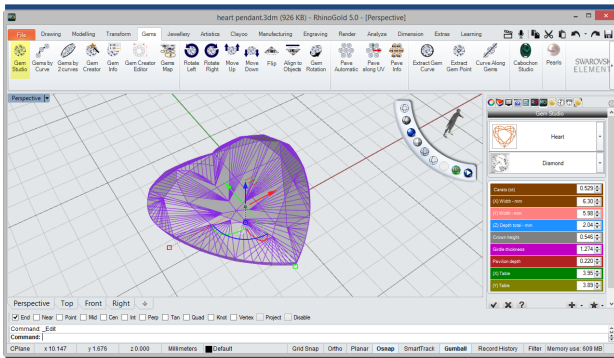
17

Boolean Union

Finally, we'll apply a Boolean Union to unite all solid and unify the piece.

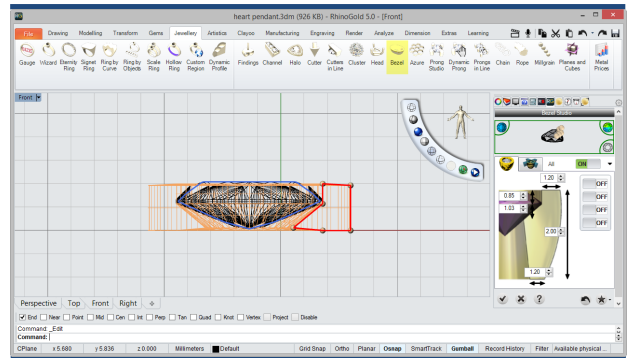
Heart Pendant

In this tutorial we are going to try some of the most useful commands in RhinoGold. Tools such as Smart Curve, Spiral, Extrude, Gems by 2 curves, Gem Studio, Bezel and Pipe.



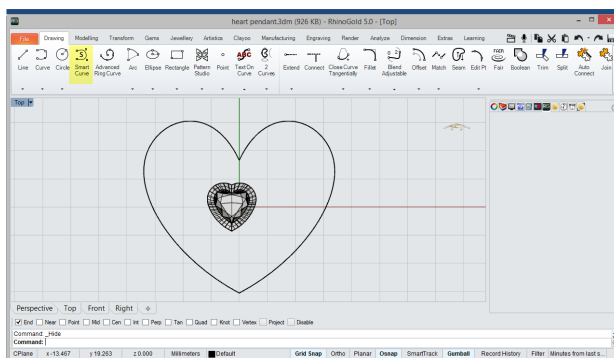
1 Gem Studio

First, we'll define a cut heart gem of 6.30 mm, with the Gem Studio tool.



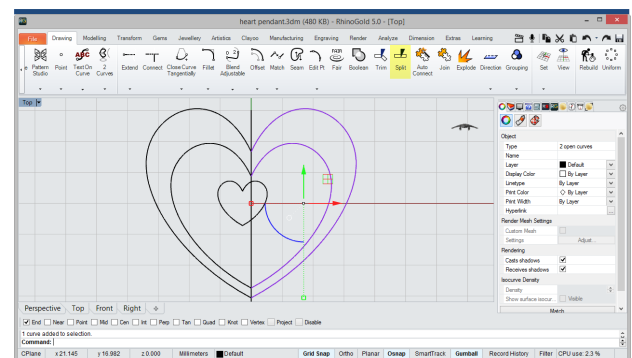
2 Bezel

Then, apply the Bezel tool, in the Jewellery tab and define a bezel that fits the cut gem.



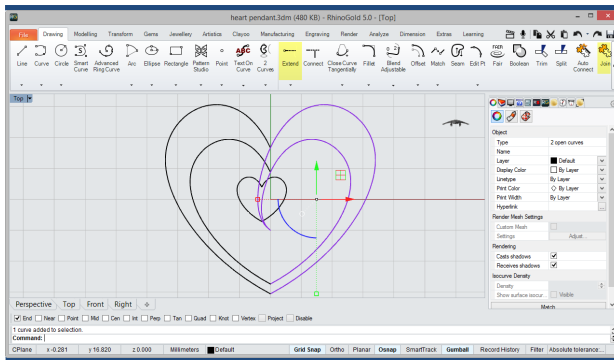
3 Smart Curve

Now, we'll select the Smart Curve tool and will trace a curve of 30 mm, as shown in the image



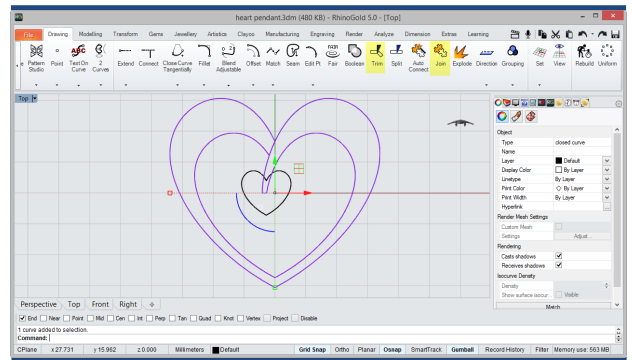
4 Split

In this step, we'll trace a vertical curve sectioned to the previous curve and select the Split tool to divide the two halves.



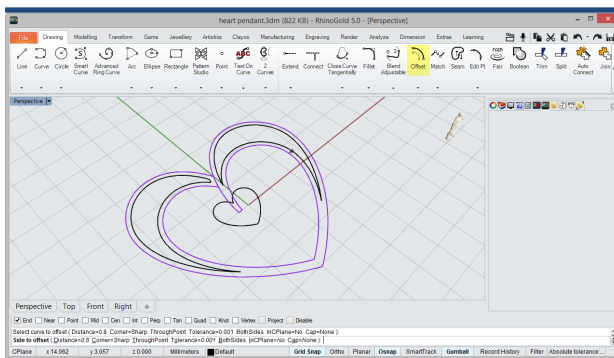
5 Extend/Join

Then, we'll select the Extend tool in the Drawing tab and will trace two curves at the ends of the main curve, then will put together the curves with the Join tool.



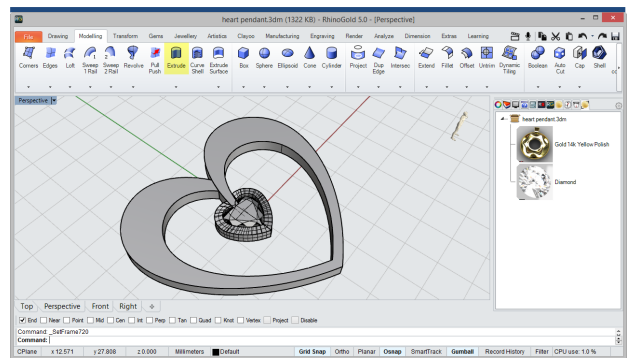
6 Trim/Join

Now, we'll select the Trim tool and remove all intersected curves, then we'll unite the curves in one with the Join tool.



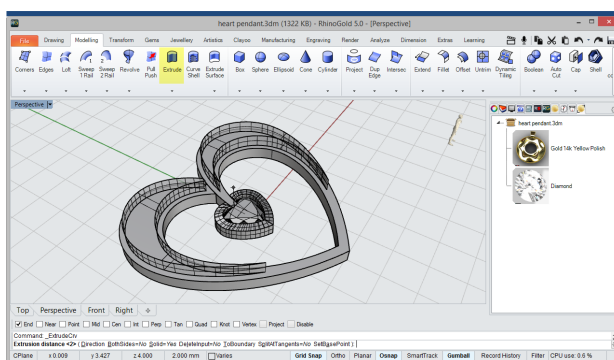
7 Offset/Join

In this step, we'll define four new curves using the Offset tool, and unite between them with the Join tool, as shown in the picture.



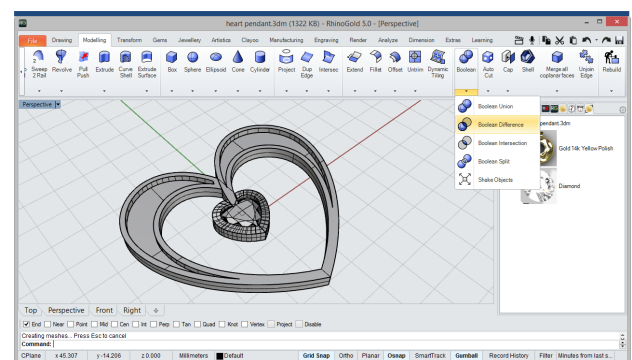
8 Extrude

Then, we'll apply a 2 mm Extrusion to the attached curve with the Extrude tool.



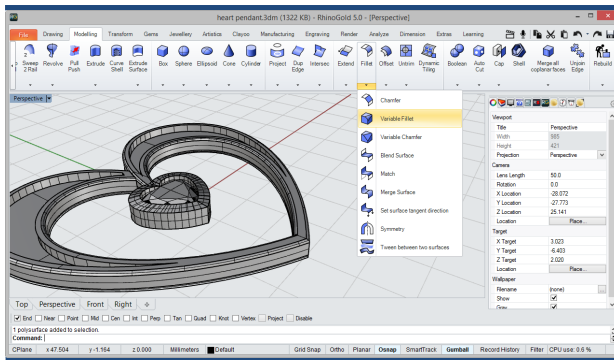
9 Extrude

Then, repeat the Extrude operation but in this case with the inner offset curves, will make a 2mm extrusion on both sides.

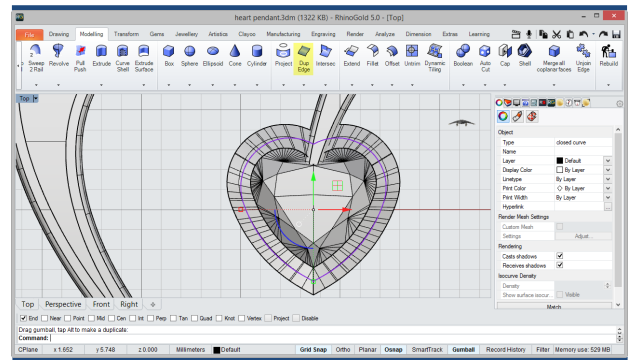


10 Boolean Difference

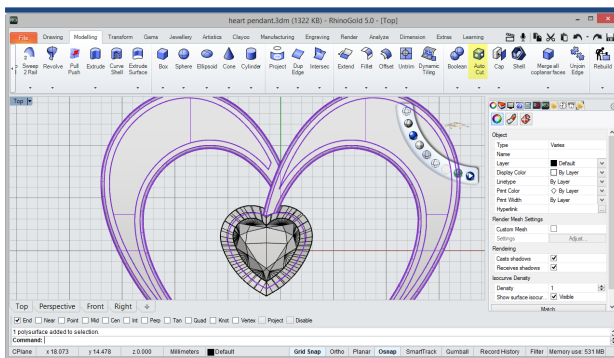
Now, we'll apply a Boolean Difference between the two extrusions.



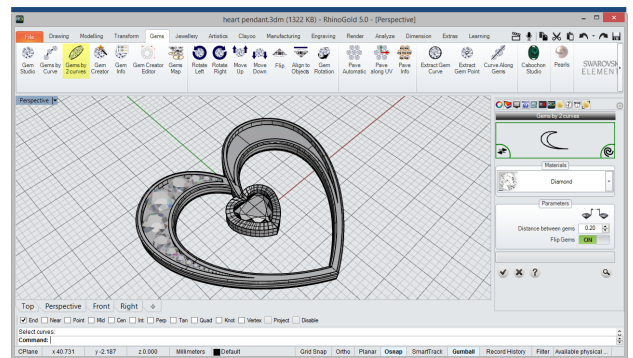
- 11 Variable Fillet**
In this step select the variable Fillet tool and apply it to the extruded solid, define a 0.3 mm fillet.



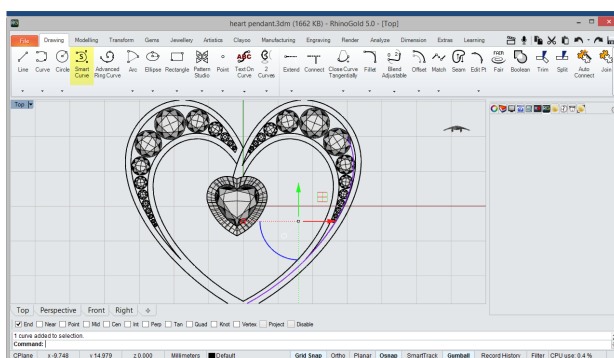
- 12 Extract Isocurve**
Following on the Modelling tab, we'll apply the Extract Isocurve tool to the bezel.



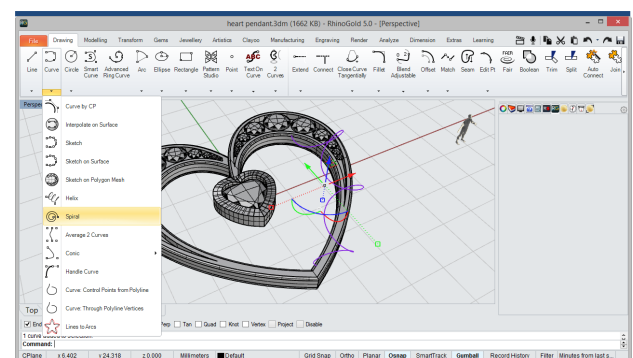
- 13 Auto Cut**
Then, we'll apply the Auto Cut tool between the isocurve and the extruded solid, to adjust the solid to the bezel shape.



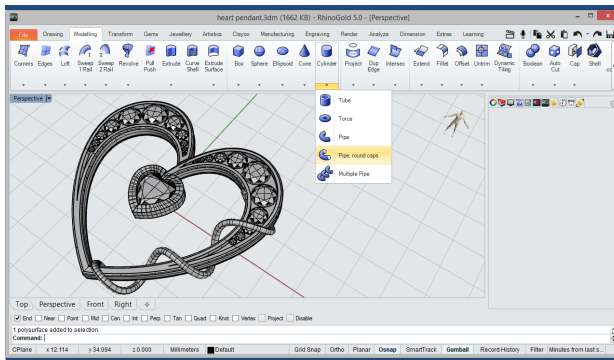
- 14 Gems by 2 curves**
Now, we'll define a gems with gems by 2 curves tool, the minimum size that we'll define the gems will be 1 mm.



- 15 Smart Curve**
In this step, we'll trace a curve similar to the picture, with Smart Curve tool.

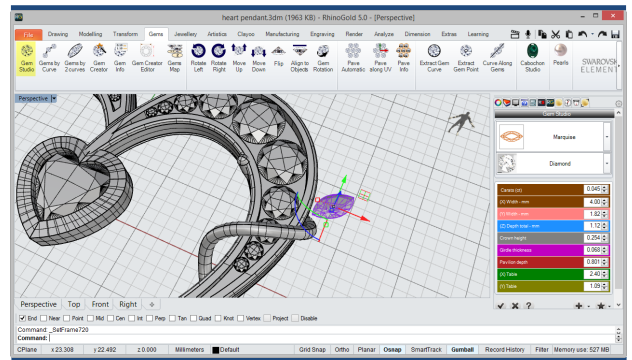


- 16 Spiral Around Curve**
Then, we'll select the spiral tool within the submenu Curve and define a spiral along the smart curve with the "around curve" option enabled in the command line.



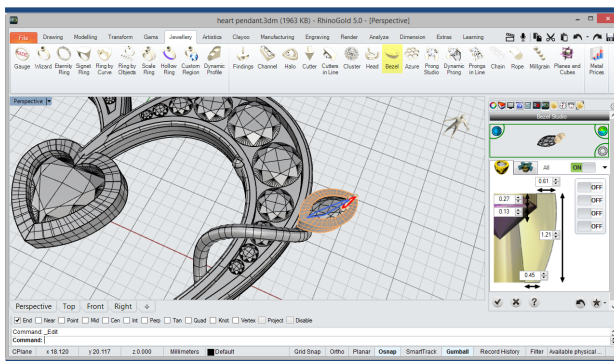
17 Pipe round caps

In this step, we'll apply the pipe tool with rounded caps to the spiral with 1mm in diameter.



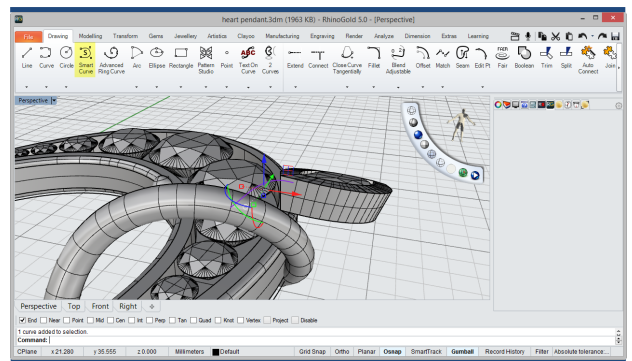
18 Gem Studio

Then, with the tool Gems Studio we'll define a "Marquise" cut gem of 4 mm, we'll position beside the pipe.



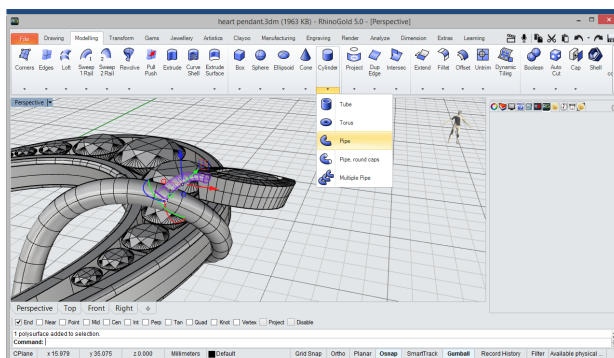
19 Bezel

Next, we'll define a bezel adapted to the gem shape with the Bezel tool.



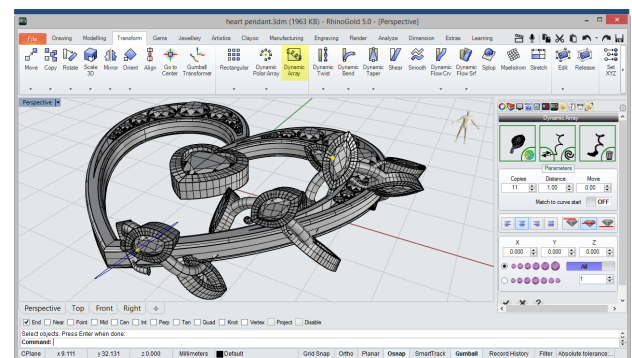
20 Smart Curve

Now, we'll trace a curve that connect the bezel with the pipe, we'll use the Smart Curve tool.



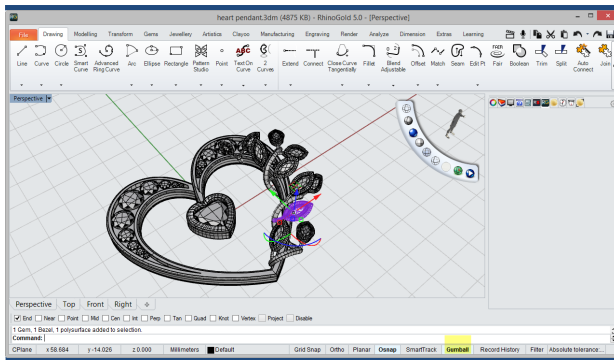
21 Pipe

In this step, we'll repeat the operation with the Pipe tool, in this case applying to the Smart curve traced in the previous step.



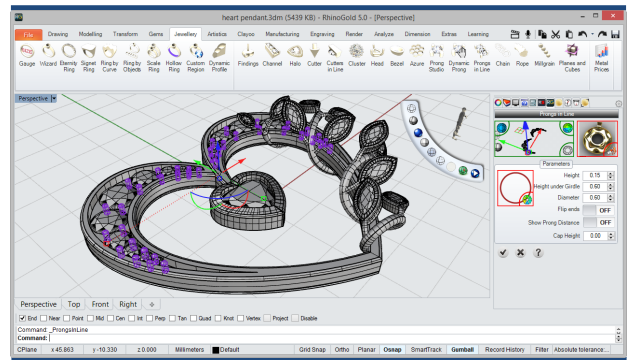
22 Dynamic Array

Then, we'll select the Dynamic Array tool and apply it between the gem "Marquise" and the spiral curve, generate an Array of 11 copies, obtaining a result like image.



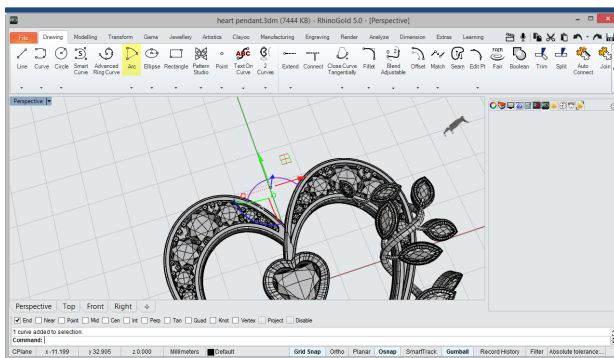
23 Gumball

In this step will position the set gems in accordance with the pipe, we help the Gumball command.



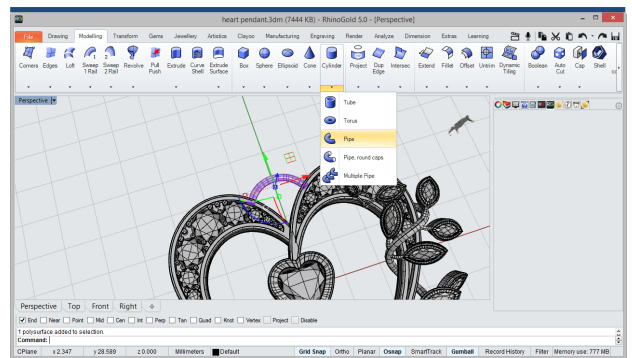
24 Prongs in Line/Edit Prongs

Then, we'll define the gem prongs with the Prongs in Line tool. We'll finish adjusting the prongs using the Edit Prongs option.



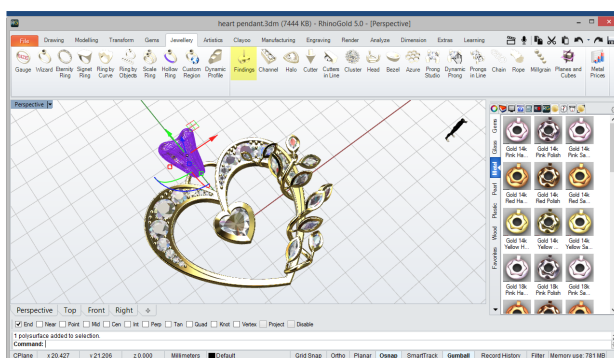
25 Arc

Next, we'll trace a curve with the Arc tool, as shown in the image.



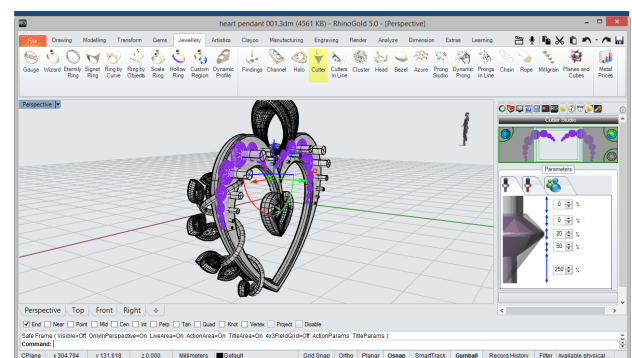
26 Pipe

Now, repeat the operation with the Pipe tool applied in the smart curve.



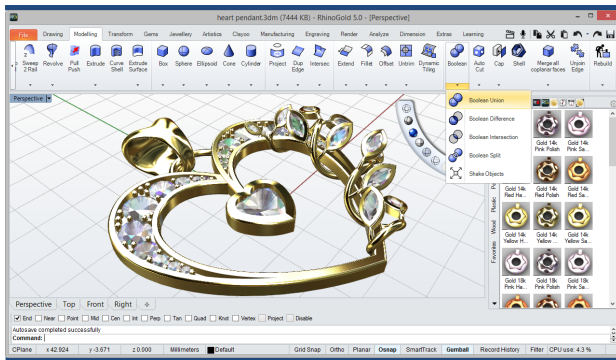
27 Findings

In this step we'll define a Finding for pendant, with the Findings tool and we'll position it as shown in the image.



28 Cutters/Boolean Difference

Then, we'll define the gem cutters of the large solid and apply a Boolean Difference to the cutters to subtract from the solid surface.

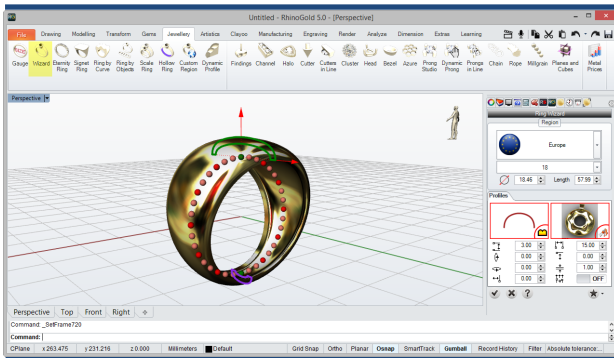


29 Boolean Union

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

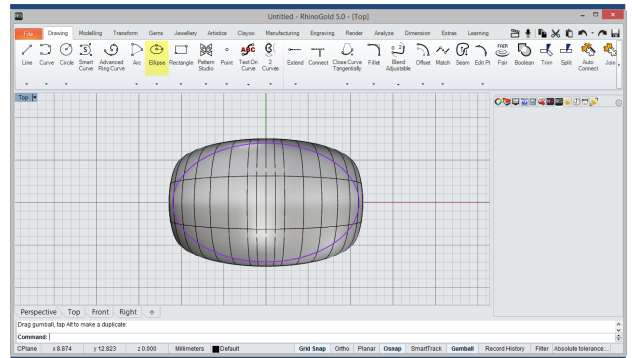
Enamel Flowers Ring

In this tutorial we are going to try some of the most useful commands in RhinoGold. Tools such as Smart Curve, Ring Wizard, Offset, Extract Surface, Gem Studio and Create Border in Plane.



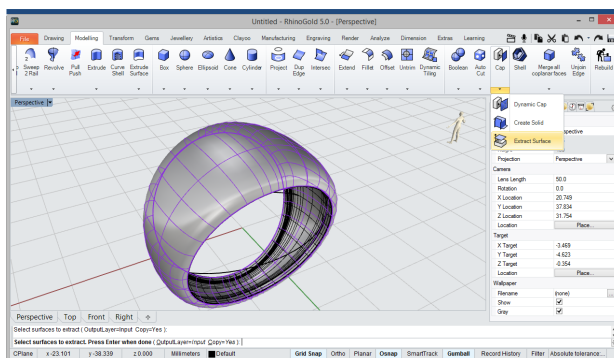
1 Ring Wizard

First, we'll define a shank with Ring wizard tool with 3 mm thick and 15 mm wide at the top.



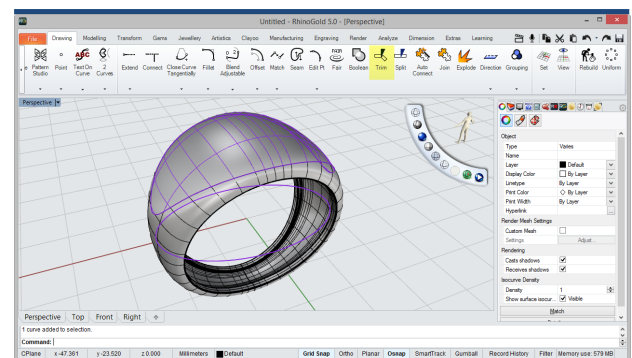
2 Ellipse

Then, we'll trace a curve to the center of the ring, similar to the image, with the Ellipse tool.



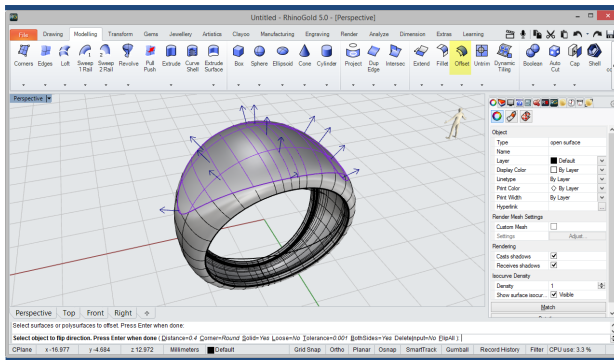
3 Extract Surface

Now, in the shank, we'll apply the Extract Surface tool, located in the Cap submenu.



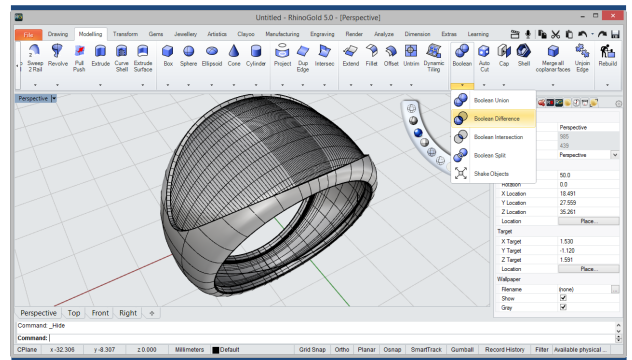
4 Trim

In this step, we'll select the shank and the Ellipse curve and apply the Trim tool.



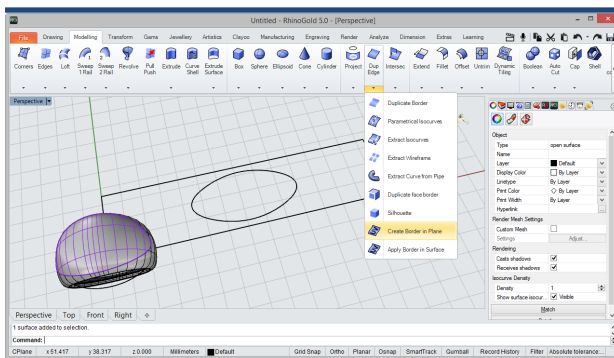
5 Offset

Then, we'll apply the Offset tool in the new surface obtained with the previous step, applying a distance of 0.4 mm. We'll make a copy of the offset surface and keep hidden for future operations.



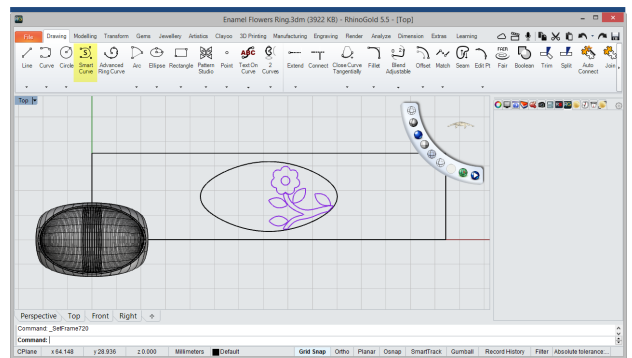
6 Boolean Difference

Now, we'll apply a Boolean Difference between the hidden surface and the shank.



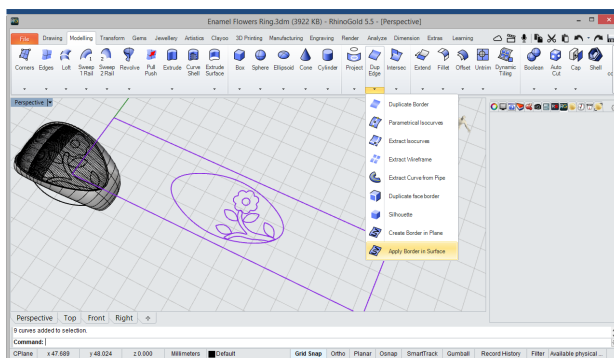
7 Create Border in Plane

In this step, we'll apply Create Border in Plane tool, in the Duplicate Edge submenu, using the hidden surface.



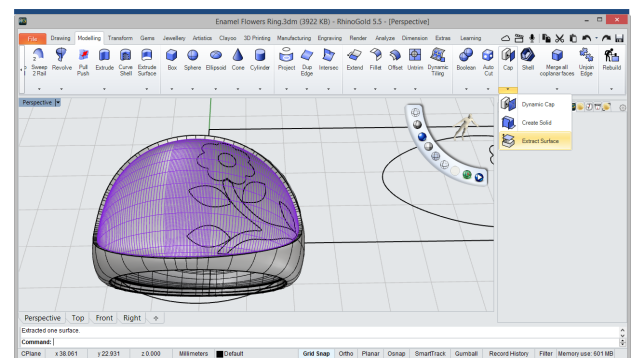
8 Smart Curve

Then, we'll select the Smart Curve tool and will trace similar curves to those shown on the image.



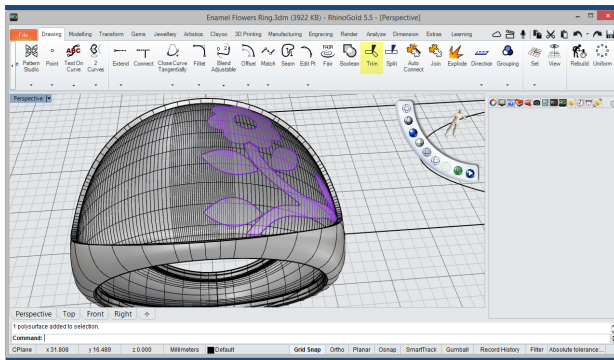
9 Apply Border in Surface

Then, we'll select the Apply Border in Surface tool, in the Duplicate Edge submenu, and apply it between the curves of the plane and the ring surface, as shown in the picture.



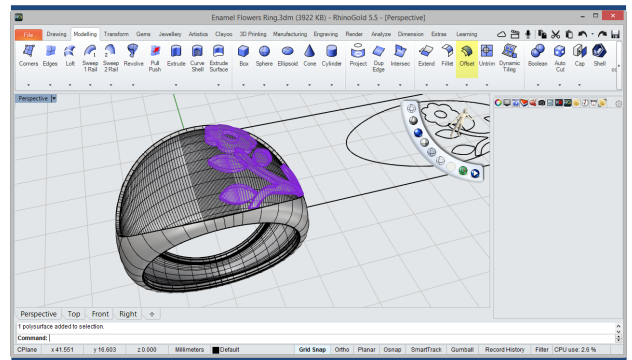
10 Extract Surface

Now, we'll select the Extract Surface tool and apply it in the shank surface.



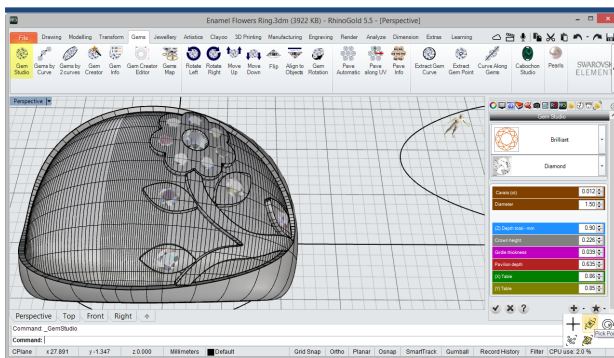
11 Trim

In this step, we'll select the Trim tool and apply it between the projected curves and the extracted surface.



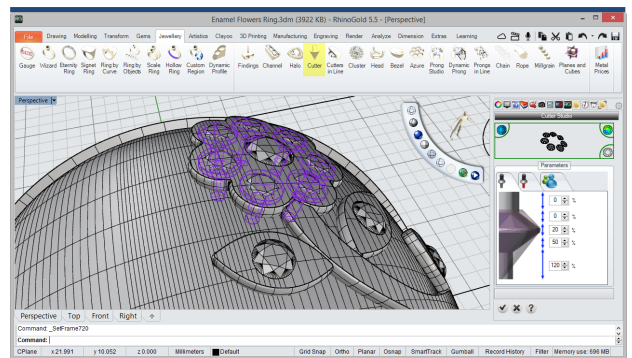
12 Offset

Then, we'll apply the Offset tool to the new surface obtained in the previous step, with 0.5 mm distance.



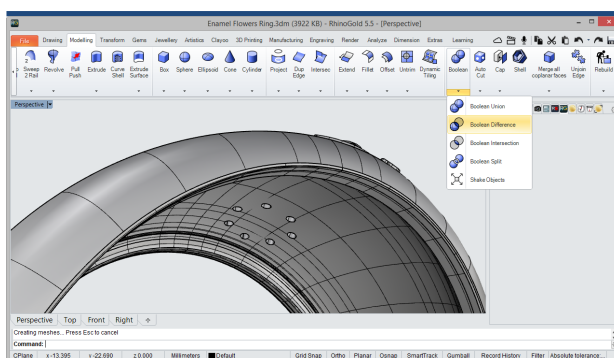
13 Gem Studio

Then, we'll apply the Gem Studio tool and will position a few gems of 1.50 mm, similar to the image, with the orient by surface option.



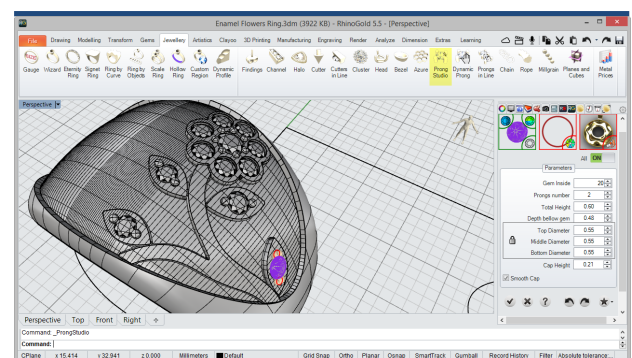
14 Cutter

Now, we'll define the gem cutters with Cutter tool.



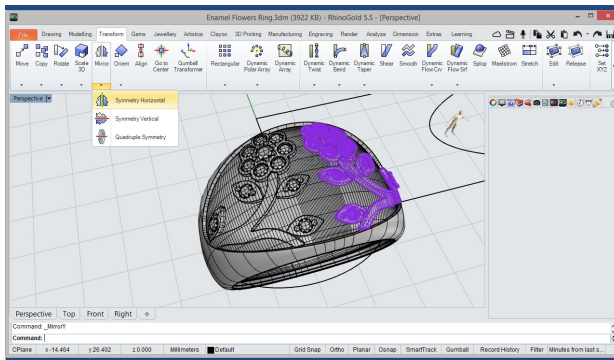
15 Boolean Difference

In this step, we'll apply a Boolean Difference to subtract the cutters from the shank surface and the flower.

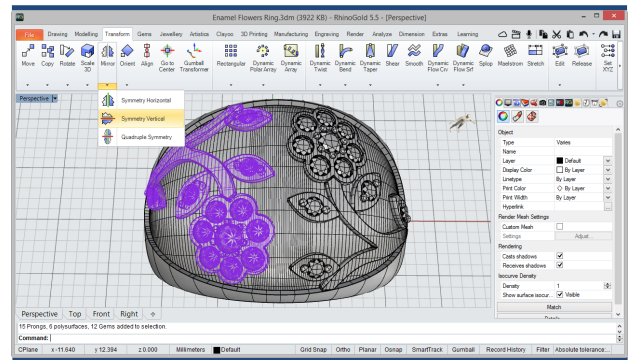


16 Prong Studio

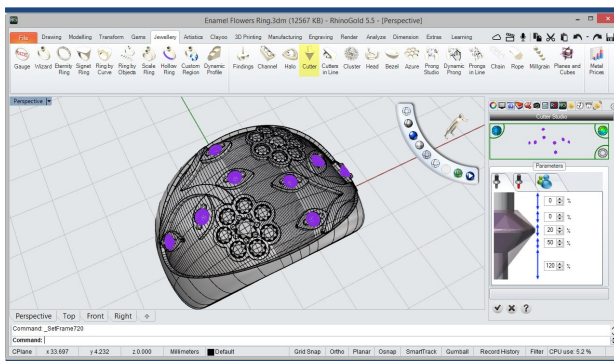
Then, we'll define the gem prongs with the Prong Studio tool.



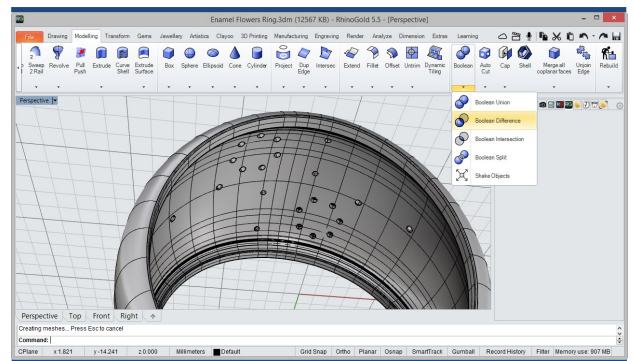
- 17 Symmetry Horizontal**
In this step, we'll apply a Symmetry Horizontal to whole group of the flower.



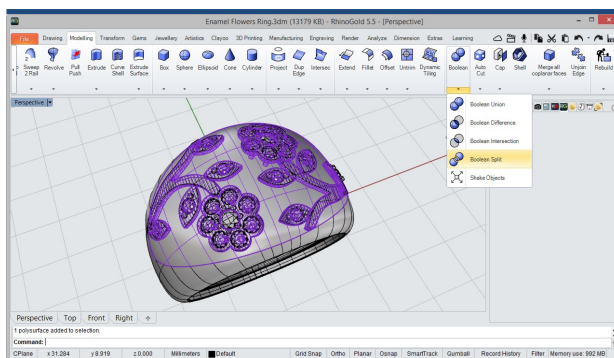
- 18 Symmetry Vertical**
Then, we'll apply a Symmetry Vertical to invert the orientation of the flower surface.



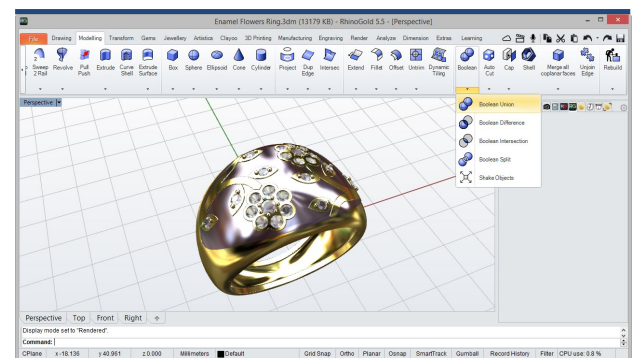
- 19 Cutter**
Then, we'll define the cutters to the remaining gems with the Cutter tool.



- 20 Boolean Difference**
Now, we'll apply a Boolean Difference to subtract the cutters from the ring surface.



- 21 Boolean Split**
In this step, we'll apply a Boolean Split between the oval surface and the flower surfaces and remove the overlaid material to avoid intersections.

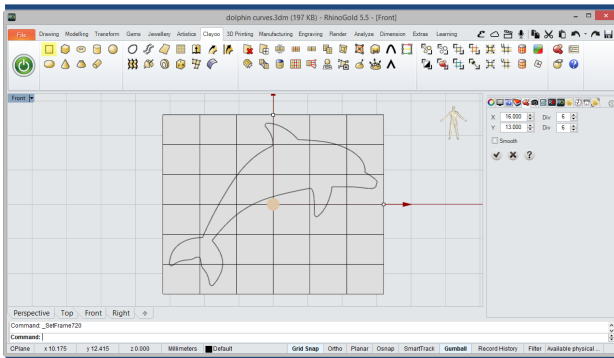


- 22 Boolean Union**
Finally, we'll apply a Boolean Union between all the solids to unify the ring.



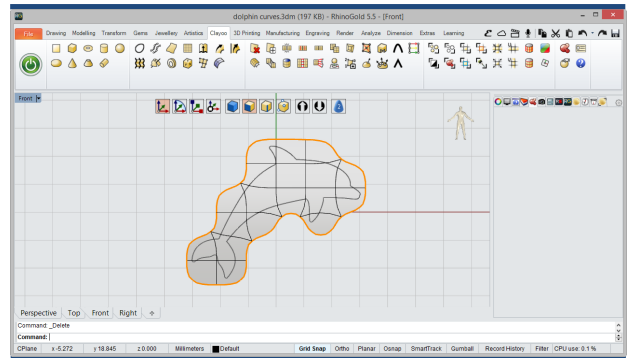
Dolphin Family Pendant

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



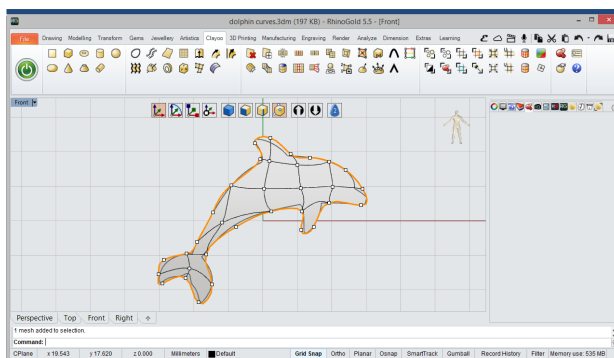
1 Smart Curve / Clayoo: Plane

First, we'll trace a curve with the desired shape, with the Smart Curve tool. After, we'll open Clayoo and define a plane, we'll respect the parameters that shown in the image.



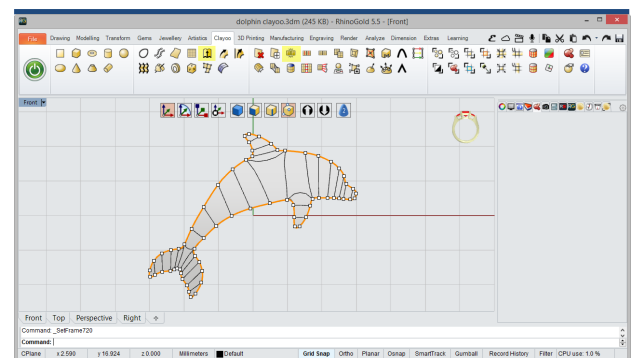
2 Clayoo: Remove Faces

Then, we'll remove the remaining faces with the option of faces selection, in the Clayoo pop-up menu.



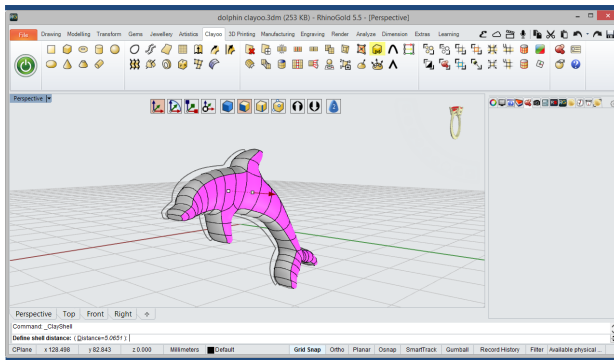
3 Clayoo: Edit by points

Now, we'll select the option of selection by points in the Clayoo pop-up menu and will position the points to adjust the curve with the plane.

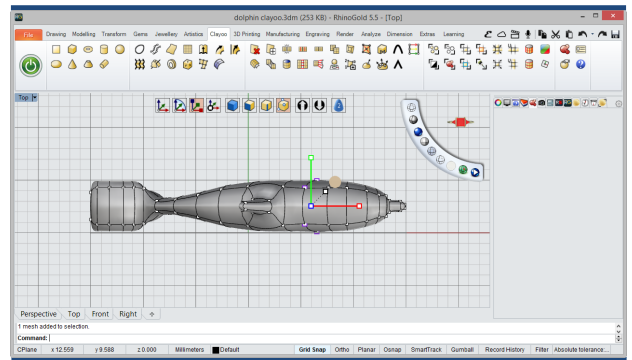


4 Clayoo: Extrude, Divide

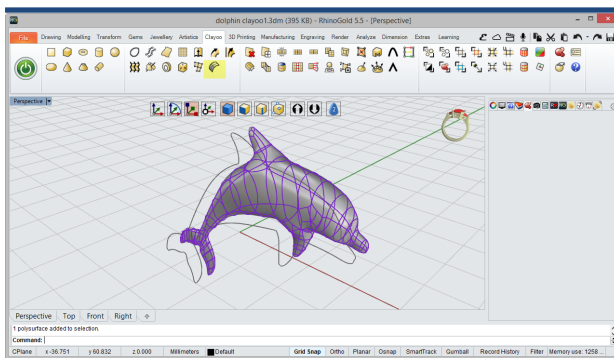
Also, we'll edit the faces of the plane with the Clayoo Extrude and Divide tools, to adjust the plane to the curve shape.



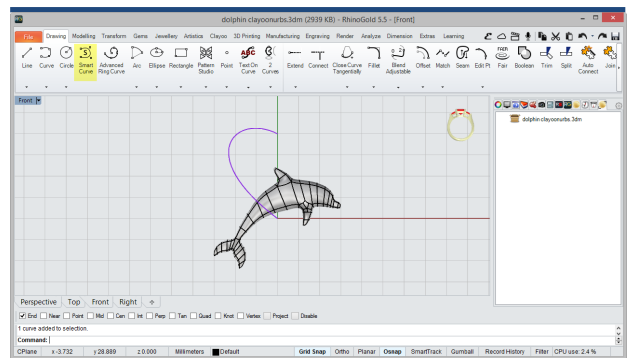
- 5** **Clayoo: Shell**
Then, we'll select the Clayoo Shell tool and apply a extrusión of 5mm.



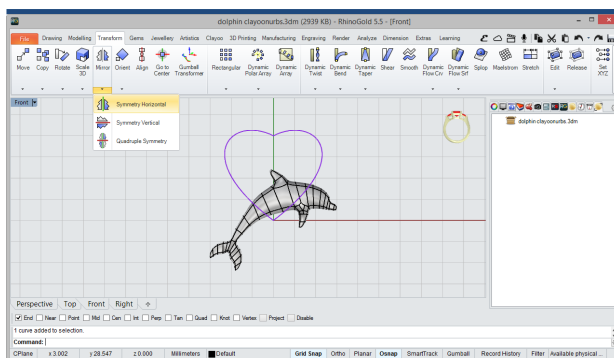
- 6** **Clayoo: Edit by points**
Now, we'll select the selection option by points and edit it to shape the Clayoo object.



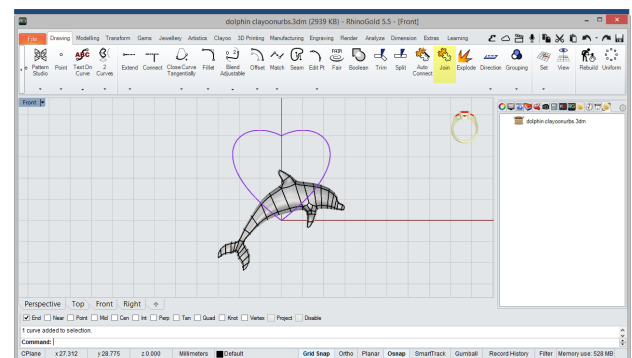
- 7** **Transform to Nurbs**
In this step, we'll transform the Clayoo mesh to NURBS.



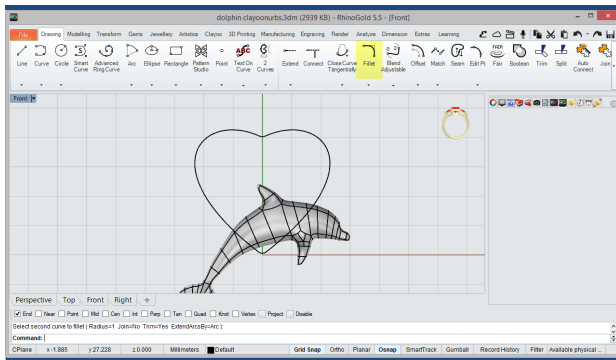
- 8** **Smart Curve**
Then, we'll trace a 20mm curve similar to that shown in the picture, with Smart Curve tool in the Drawing tab.



- 9** **Symmetry Horizontal**
Then, we'll apply a Symmetry Horizontal to the curve traced in the previous step with the Symmetry tool in the Transform tab.

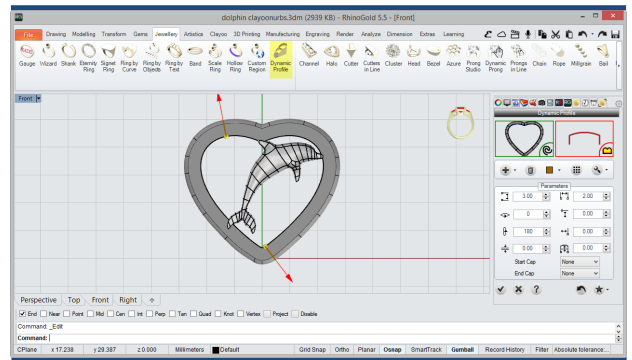


- 10** **Join**
Now, we'll join the two curves with the Join tool in the Drawing tab.



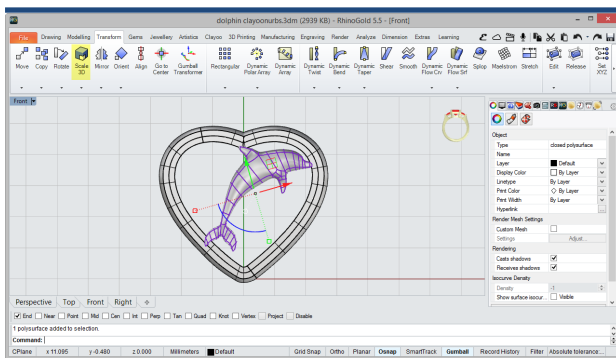
11 Fillet

Following in the Drawing tab, apply the fillet tool with 1mm ratio in the curve edges to round the corners.



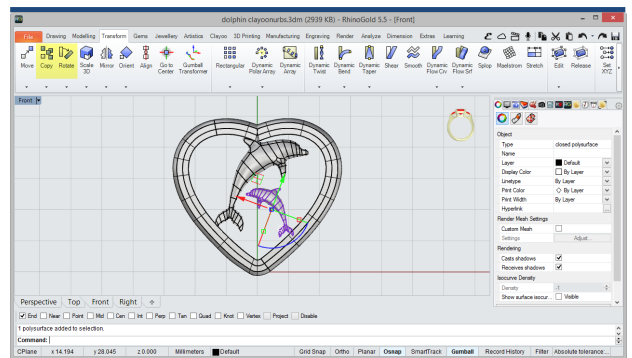
12 Dynamic Profile

In this step, we'll select the Dynamic Profile tool in the Jewellery tab and apply it to the curve defining a profile of 3mm x 2mm and rotating 180°.



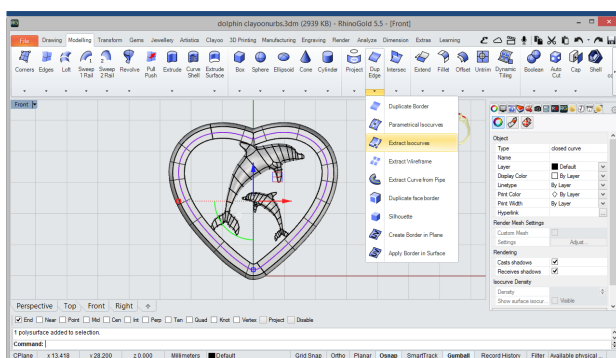
13 Scale 3D

Then, we'll resize the Clayoo object with the Scale 3D tool, in the Transform tab and will position the same way as shown in the image.



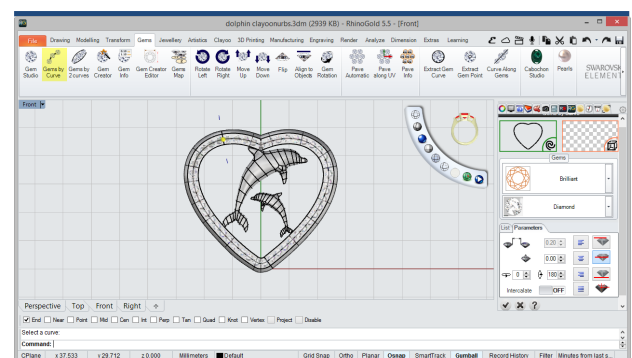
14 Copy / Rotate

Now, we'll define a second Clayoo object of smaller size and will position the same way that the image using Copy and Rotate tools.



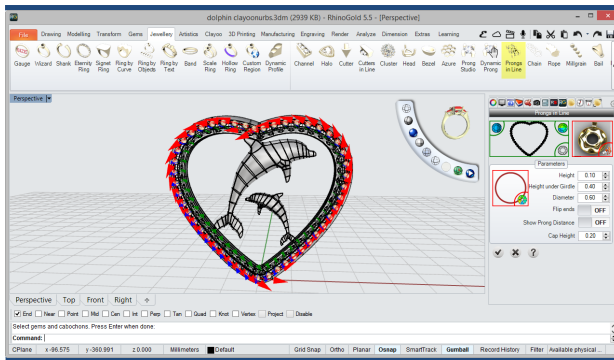
15 Extract Isocurves

In this step, we'll select the Extract Isocurves tool in Duplicate Edge submenu, in the Modelling tab and extract the center curve of the dynamic profile.



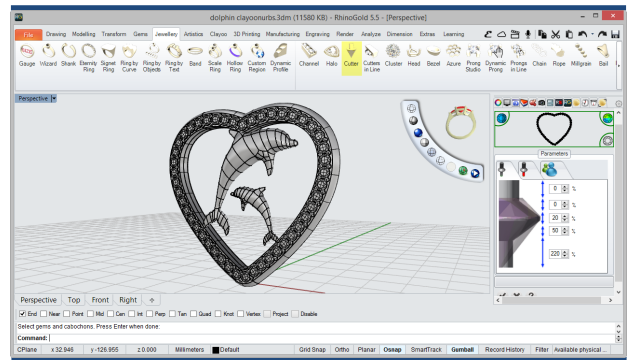
16 Gem by curve

Then, we'll select the Gem by Curve tool, in the Gems tab and define a 1.50 mm gems along the extracted curve.



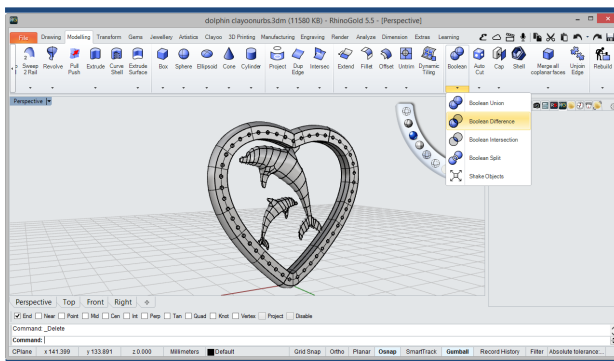
17 Prongs in Line

In this step, we'll define the prongs to the Gems with the Gems in Line tool, in the Jewellery tab.



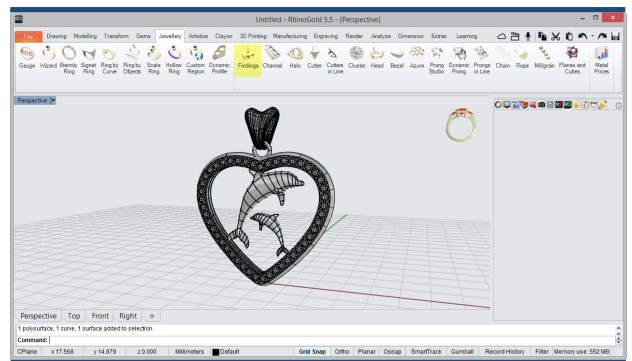
18 Cutter

Now, we'll select the Cutter tool and define the cutters for the gems.



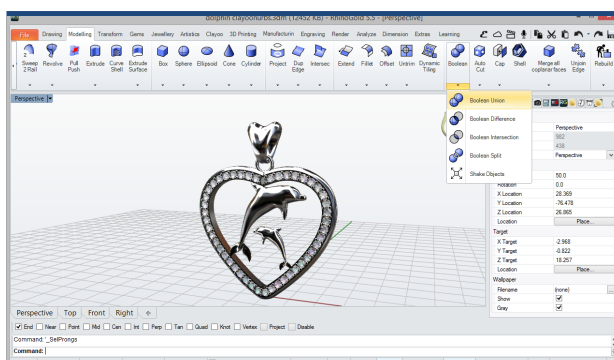
19 Boolean Difference

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



20 Findings

Now, we'll define a Bail for pendants from the Findings library tool, in the Jewellery tab.

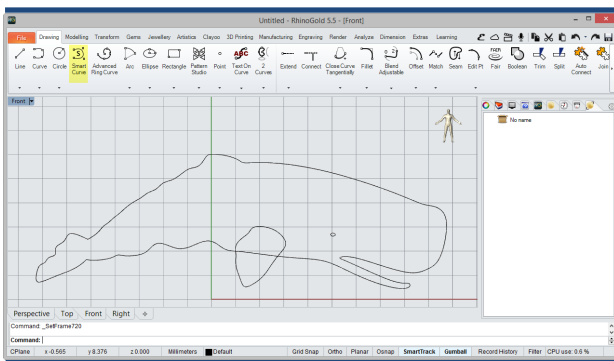


21 Boolean Union.

Finally, we'll apply a Boolean Union between the Clayoo objects, the dynamic profile and the bail.

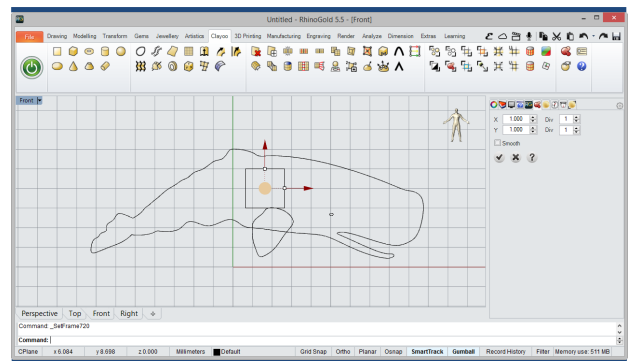
Whale

In this tutorial we'll try some of the more useful commands in RhinoGold. Tools such as Clayoo, Smart Curve, Pave Automatic, Symmetry, Cutter and Copy by Gems.



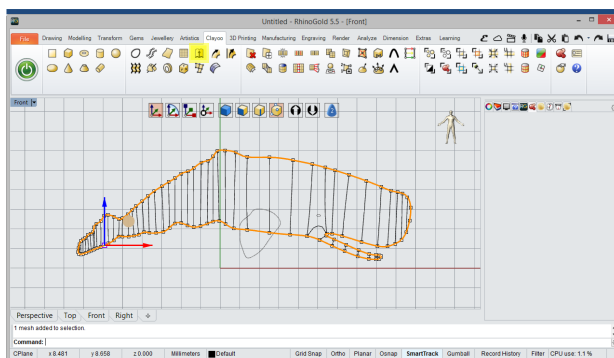
1 Smart Curve

First, we'll trace a curve with the desired shape, with Smart Curve tool, in the Drawing tab.



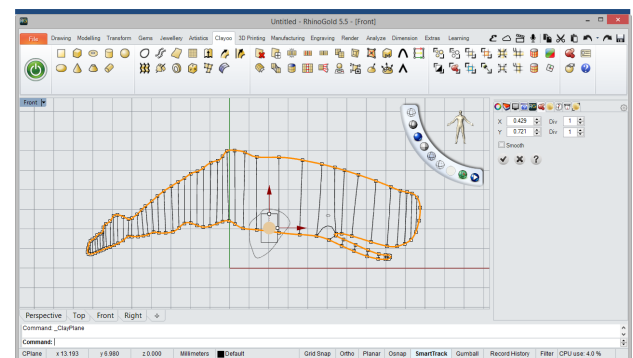
2 Clayoo: Plane

Then, we'll open Clayoo and define a Clayoo plane of 1 x 1 divisions with Plane tool, adjusting the plane size to the curve.



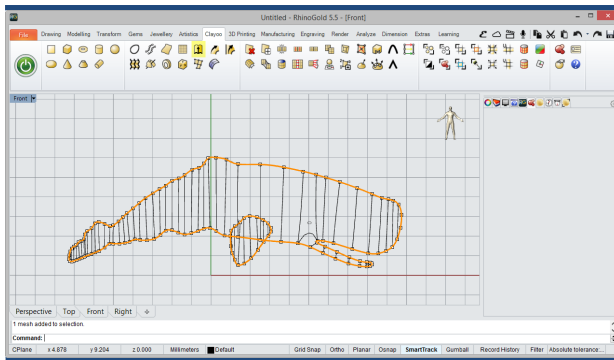
3 Clayoo: Edit by Points / Extrude

Now, we'll select the option of selection by points in the Clayoo pop-up menu and will position the points to adjust the curve with the plane. We'll also create new faces with the Extrude tool.

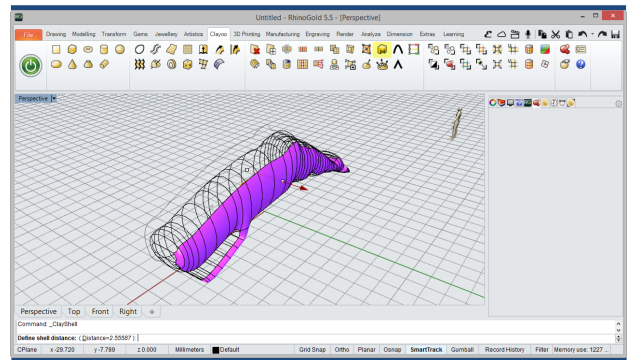


4 Clayoo: Plane

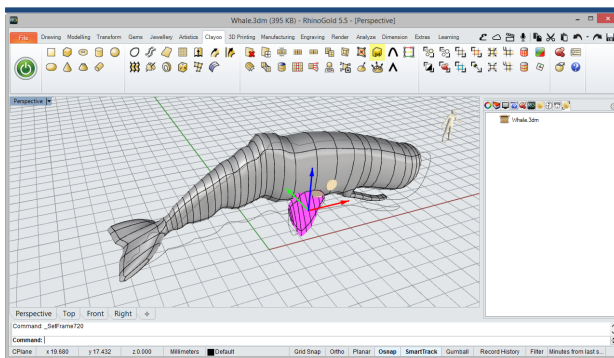
In this step, we'll define a Clayoo plane of 1 x 1 divisions adjusting the plane size to the second selected curve.



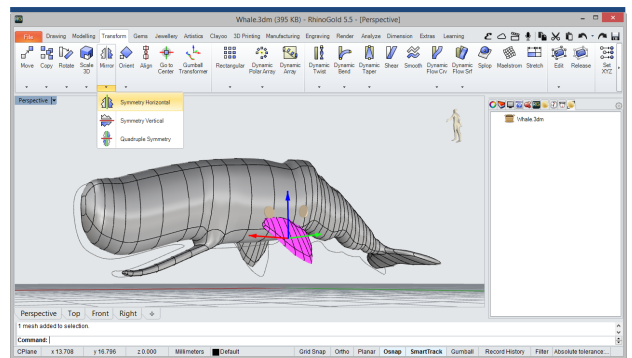
- 5** Clayoo: Edit by Points / Extrude, Divide
We'll repeat the Edit points operation and Extrude faces, in this case we also help the Divide tool.



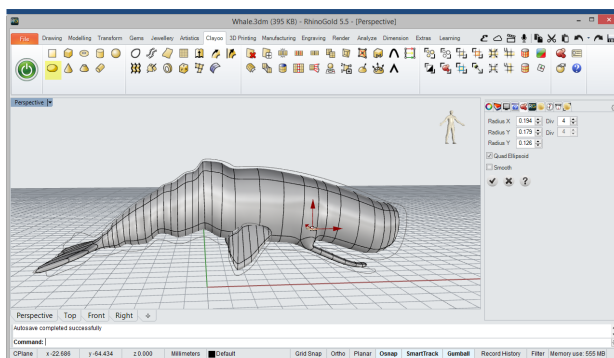
- 6** Clayoo: Shell
Now, we'll select the Shell tool and apply an extrusion.



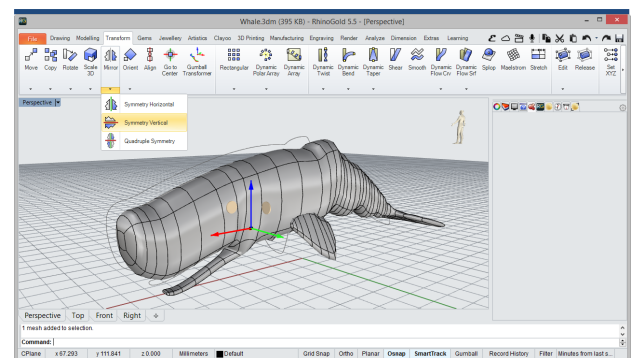
- 7** Clayoo: Shell
Then, we'll repeat the Shell operation with the second Plane.



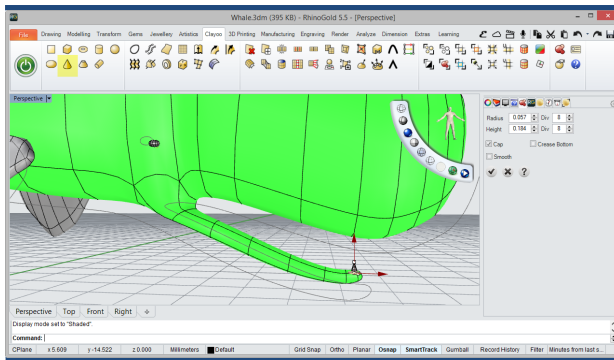
- 8** Symmetry Horizontal
In this step, we'll make a copy of the surface defined above with the Symmetry Horizontal tool.



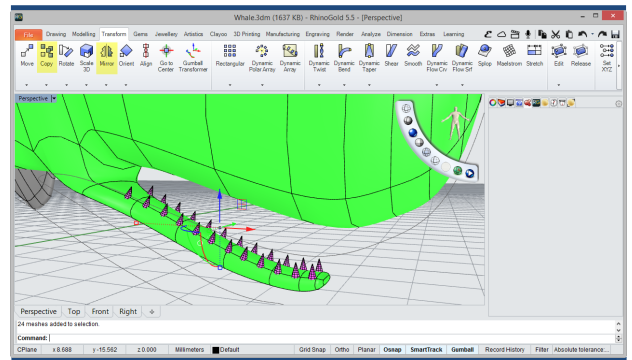
- 9** Clayoo: Ellipsoid
Now, we'll define a Clayoo object with the Ellipsoid tool.



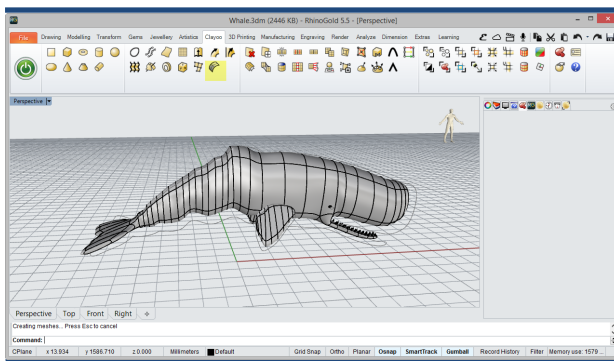
- 10** Symmetry Vertical
Then, we'll apply a mirror to the Ellipse with the Symmetry Vertical tool.



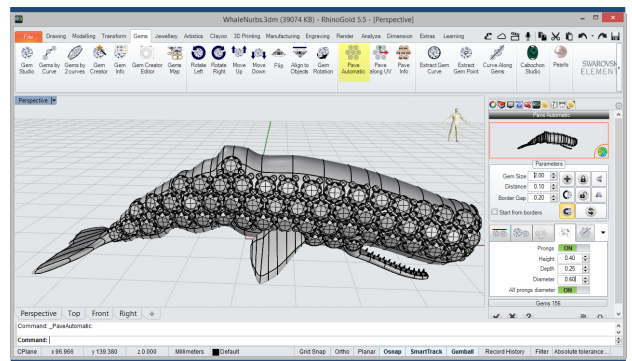
- 11** **Clayoo: Cone**
Then, we'll define a Clayoo object with the Cone tool, and will position the same way as pictured.



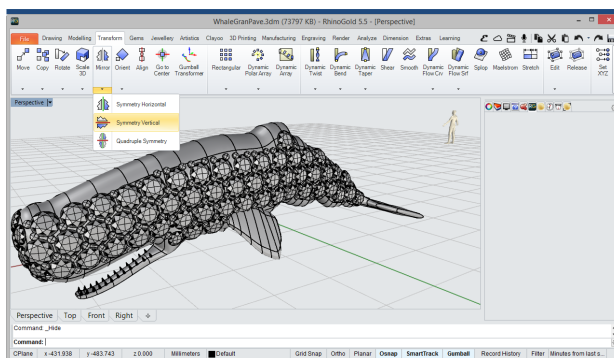
- 12** **Copy / Mirror**
In this step, we'll generate copies of the cones and we'll distribute them in a row, then apply a Mirror.



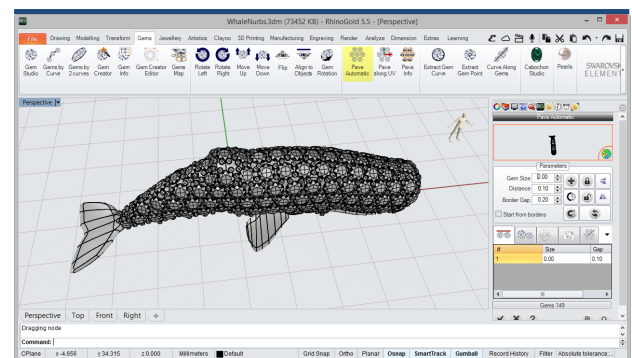
- 13** **Transform To Nurbs**
Now, we'll apply the To Nurbs tool and transform the different Clayoo meshes to Nurbs.



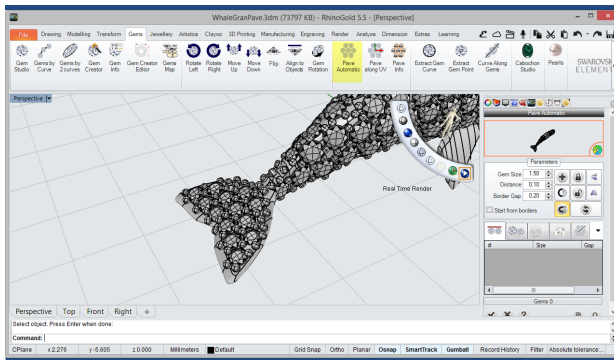
- 14** **Pave Automatic**
Then, we'll define a Pave on the side of the polysurface with Pave Automatic tool with 2mm gems, also apply the Prongs.



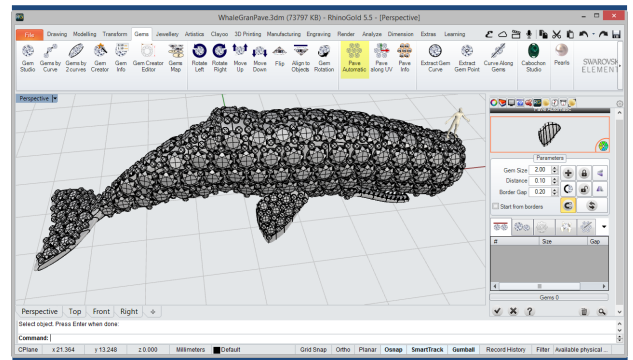
- 15** **Symmetry Vertical**
In this step, we'll apply a Pave Mirror with Symmetry Vertical tool.



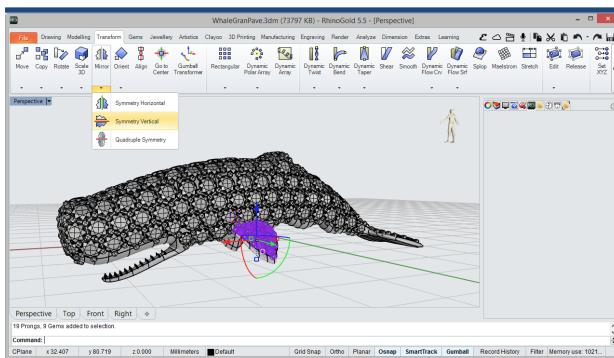
- 16** **Pave Automatic**
We'll repeat the operation with Automatic Pave tool and apply it on top of the polysurface with 2mm gems.



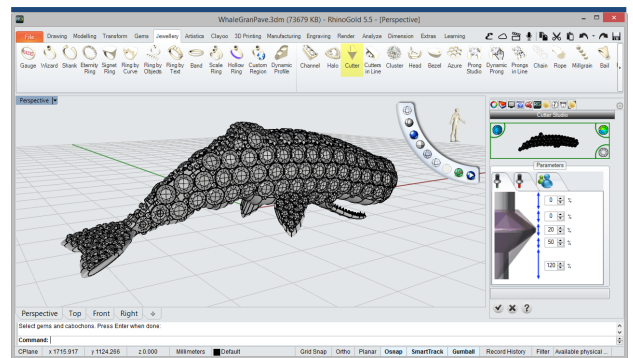
- 17 Pave Automatic**
Then, we'll apply a Pave at the end of the surface with 1.50mm gems.



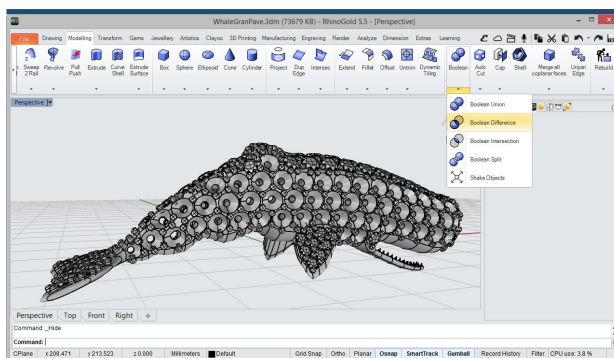
- 18 Pave Automatic**
Now, we'll apply the Pave in the remaining polysurface with gems of 1.50mm.



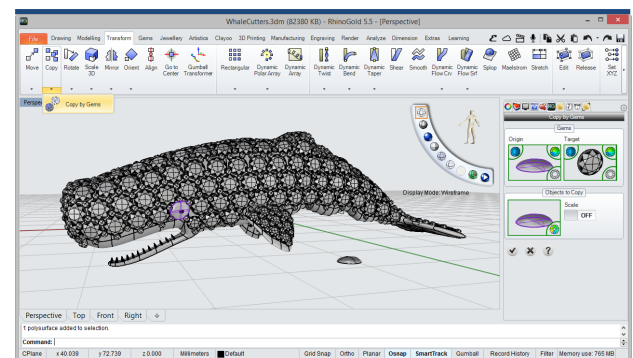
- 19 Symmetry Vertical**
Now, we'll select the Symmetry Vertical tool and apply a symmetry to the Pave defined in the previous step.



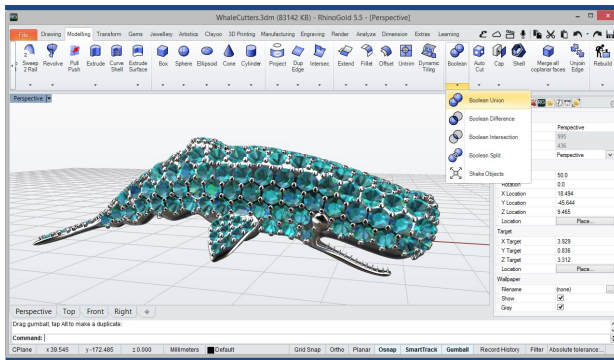
- 20 Cutter**
Then, we'll select the Cutter tool, in the Jewellery tab and define the cutters of the Gems.



- 21 Boolean Difference**
In this step, we'll apply a Boolean Difference to subtract the cutters from the Surface.



- 22 Ellipsoid / Copy by Gems**
Then, we'll define a solid shaped like middle ellipsoid from the Modelling tab and apply Copy by Gems tool, we'll replace a gem through the middle ellipsoid.



23 Boolean Union

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



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