Manual for ModelingSuite,
a plug-in for ZBrush v3.1, by Eddy Loonstijn, February 2008

Guidance

By setting the Guidance-slider to 1 (default) you will be guided through the whole
process of modeling in this Suite. The guidance should be sufficiently clear to get the
idea.
Then - if you feel confident enough about this - you can set the Guidance-slider to 0.
In the latter case you should have the setup (masking (in case of Extrude), orientation of
the mesh(es)) ready and the sliders in position before Pressing the specific Button
(Extrude, Curve, Taper, bend, etc) From then on it's really very straightforward.


Warning

ZB and ZB-scripting is at this moment not yet bugs free, especially in the area of Rigging
and Topology. So, be warned, it can happen that ZB crashes while performing some of its
many tricks.
You are strongly suggested to save your mesh before starting to work with
ModelingSuite.

EXTRUDE

0.In its working Extrude is specifically leaning on Tool:Deformation:Offset and
Tool:Geometry:Edge Loop

1.Set up your mesh by orienting the area that is to-be-extruded' so that it is perpendicular
to your view; that is, you look straight onto this area of interest.
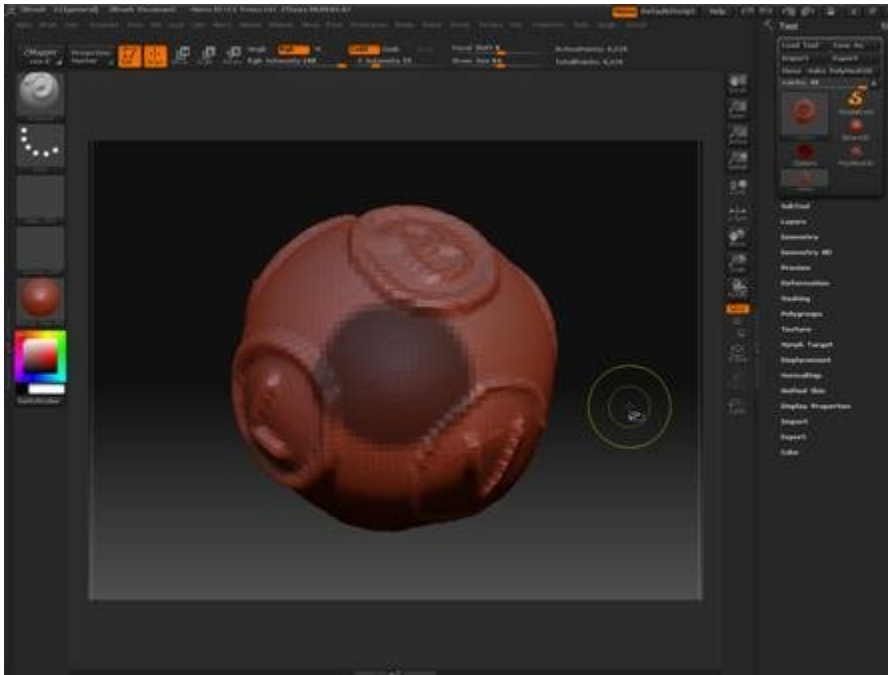
2.Set the Extrude-sliders:
-the Intr/Extr-slider sets the lenght of extruding (or intruding)
-the ExtrParts-slider sets the number of discrete steps the extrusion takes. The more steps
the more new geometry the extruded part gets. This feature led to the name
NewGeoExtrude under which this part of the ModelingSuite was originally 'published' at
ZBCentral.
-the Taper/Broaden-slider sets the amount of tapering/broadening that is accomplished
during the Extrude.
and Press:Extrude

3.Extrude will do its extruding job. (BTW. You can also do an Intrude, creating a hole
into the existing mesh)
Now you have three options:
3a. If that extrude is OK, Press:Extrude again, and ZB will reorient the new mesh to its
original orientation and make a copy of the original mesh: originalname>_equalpolyextr",
however with the same polycount as the, extruded new mesh; so you can use the new
original as a basis for animating towards the new mesh.
3b. If you want to have an extrude based on other extrude-slider-values, you just change
the sliders and Press:Extrude again.

If that extrude is OK, you continue as in 3a.

3c. If you did not orient the focus-area accurately enough (see: step 1) you will get a mesh with a non-perpendicular extrusion; to adjust this you Press:Reorient to set the area more accurately perpendicular to your viewpoint. Then you Press:Extrude again; you may continue like in 3a (Ending), 3b (Other values) or 3c (Reorient again).

NB. You also can – before completely finishing off Extrude – do first something else with the extruded mesh, such as Curve, Taper and Bend. The plug-in has already knowledge about some values, so the curving, tapering and bending can be speeded up. The finishing up of the original Extrude-part will be taken care of while finishing up the Curve, Taper or Bend procedure.

N.B. When done, you can find your original mesh (<originalname>), the new extruded mesh (<originalname>_extr) and the EqualPoly new original (originalname>_equalpolyextr") in the ToolTray; When accidentally lost, they are exported to ...\ZStartup\ZPlugs\NewGeoExtrudeTemp under the same names.
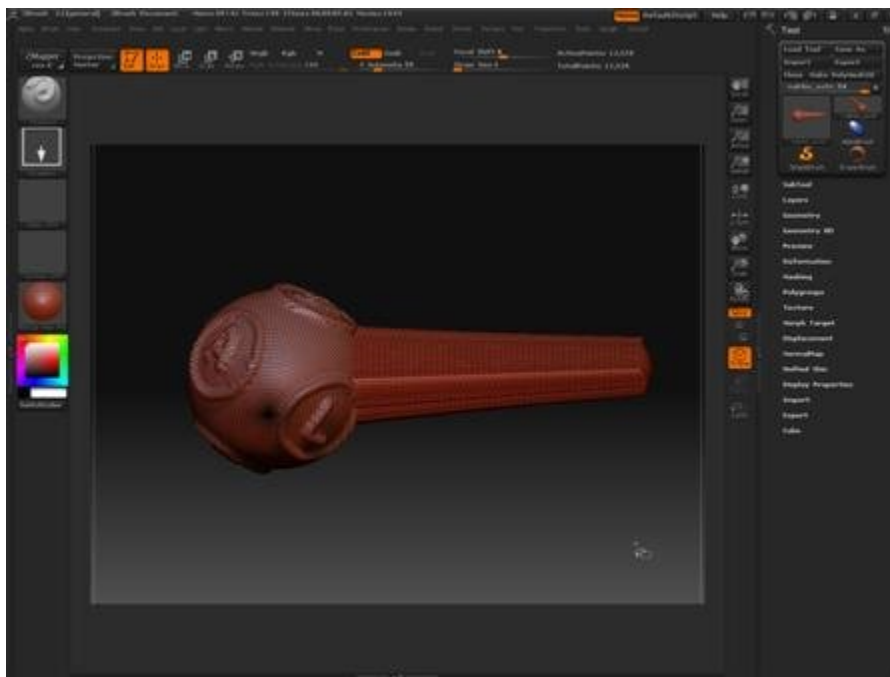
CURVE

0.In its working Curve is specifically leaning on Tool:Rigging and Tool:Topology.
(certainly not crash-proof!!)

1.Set up your mesh by orienting the area that is 'to-be-curved' so that you look straight at
the top end. In this orientation the Base from which the curving will start will probably be
invisible, hidden behind the end towards which the curving will 'move'.
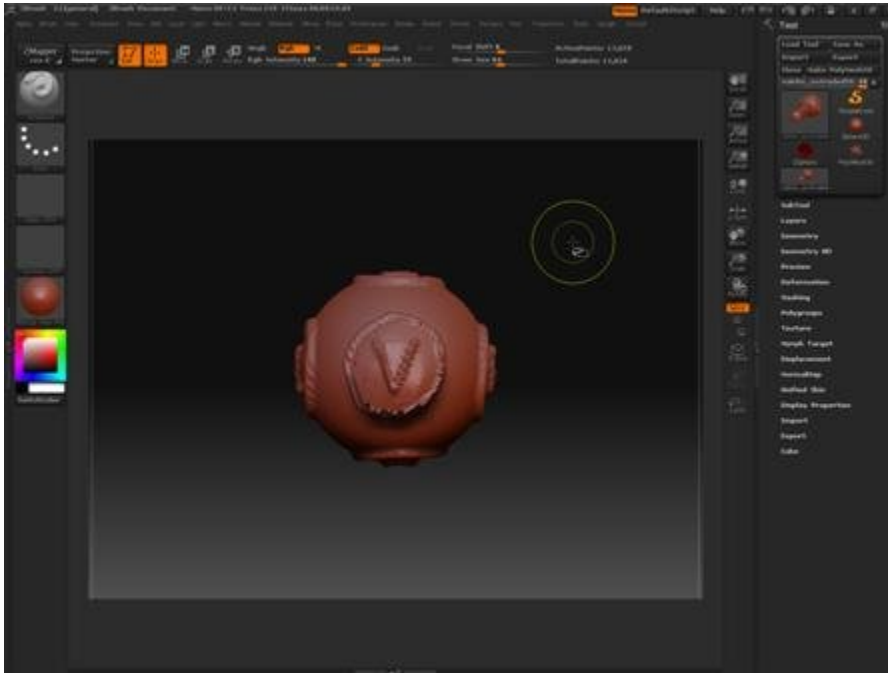

2.Because Curve makes a kind of spine through the to-be-curved part of the mesh you
can set the length of the 'bones' of this spine. Long bones give crude curving. Small
bones refine curving-possibilities.
NB. If the mesh has a low-density geometry the curving will always be crude. Only
higher-density geometry makes it possible to get really fine-tuned curving.

You also can set the slider with the name "AlreadyCurved". You will not be amazed
when I tell you that the slider must be set to 1 if the to-be-curved part of your mesh is
indeed already curved. In that case Curve will use a less automated version of the boning-
system.

Set this Bonelength-slider and the AlreadyCurved-slider and Press:Curve

3.Curve will make the to-be-curved area visible and asks you to LMB-click at the Base
(left) of the to be curved area and at the End (right). (If you come straight from Extrude
Curve doesn't need the second LMB-click because it knows already the Endpoint from
the Intr/Extr-slider.)
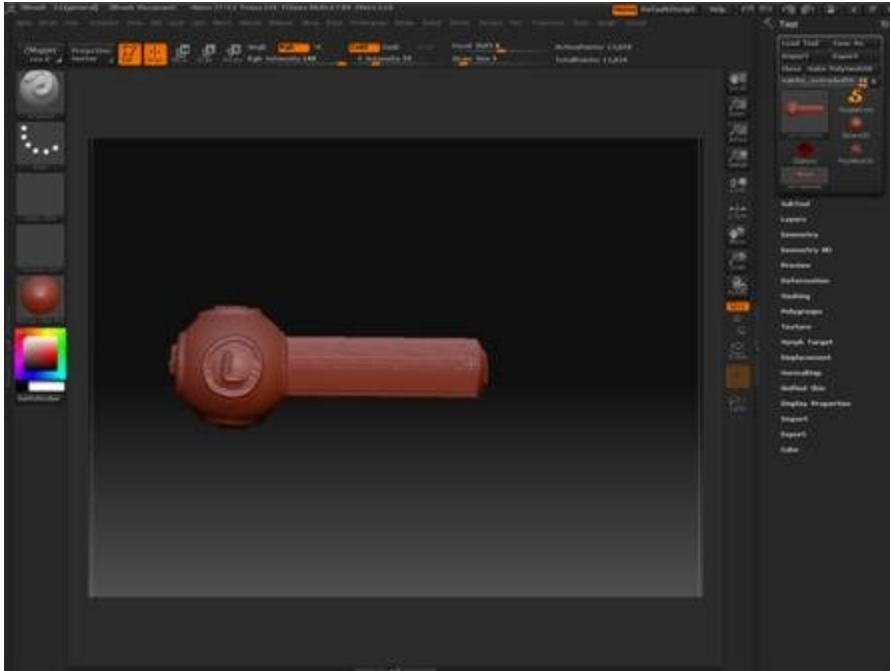
A spine of bones will be formed from left to right; then you will be notified that you can go on curving the mesh in all the ways and directions you please.
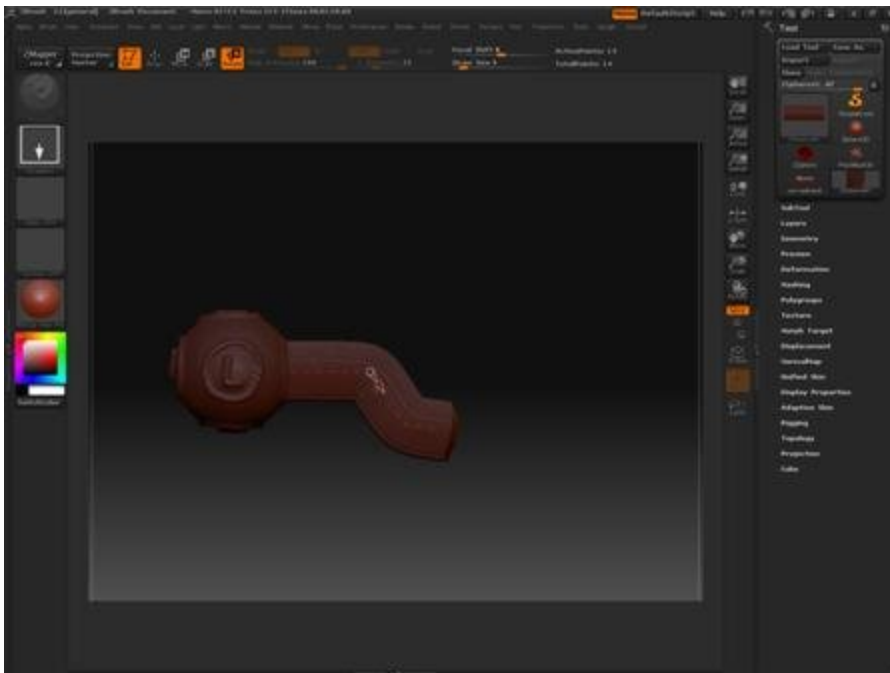
4.When you are finished curving you will be asked (Guidance=1) whether you want to retry with another bonelength (does a finer job) or not. So you are guided back into

curving or the curving is finished up and leads to a new mesh with the name:
<OriginalName>_crv.
In case of Guidance=0 you simply change the bonelenght-slider as a sign to the program that you want to do a new curving with another spine. If you simply Press:Curve Curve will finish up.
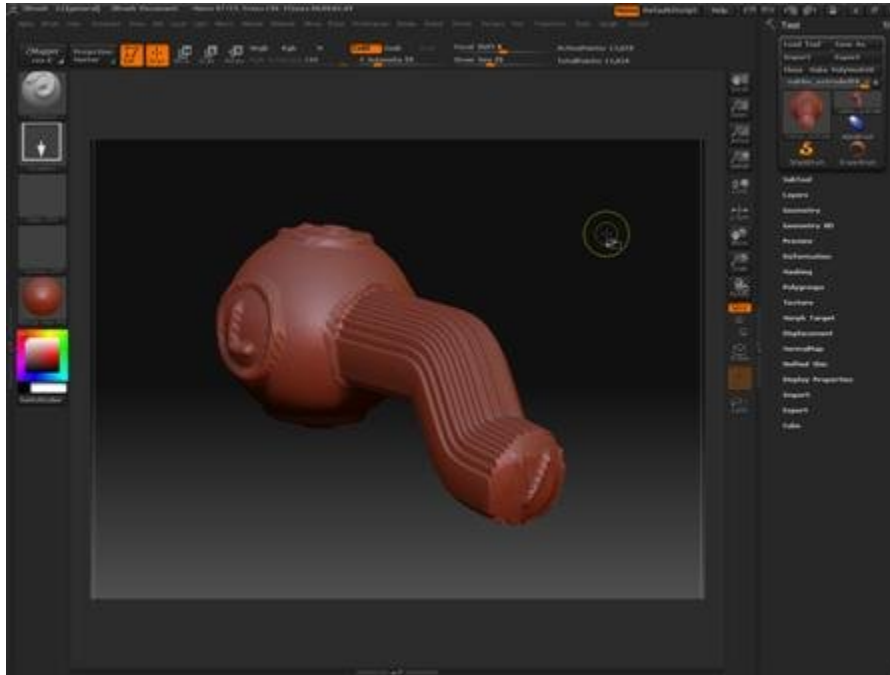
TAPER

Inside Extrude it is possible to set a slider for tapering and broadening the extruded part of the mesh, in the act of extruding.
In Taper you can do the same with already existing meshes which you want to partly taper or broaden.

0.In its working Taper is specifically leaning on Tool:Deformation:Size

1.Set up your mesh by orienting the area that is 'to-be-tapered' so that you look straight at the top end. In this orientation the Base from which the tapering will start will probably be not visible, hidden behind the end towards the tapering will run.

2.You can set the amount of tapering/broadening with the slider; then Press:Taper.

3.Taper will make the to-be-tapered area visible and asks you to LMB-click at the Base (left) of the to-be-tapered area and at the End (right). (If you come straight from Extrude Curve doesn't need the second LMB-click because it knows already the Endpoint from the Intr/Extr-slider.)

4.When you are finished tapering you will be asked (Guidance=1) whether you want to retry with another amount of tapering/broadening or not.
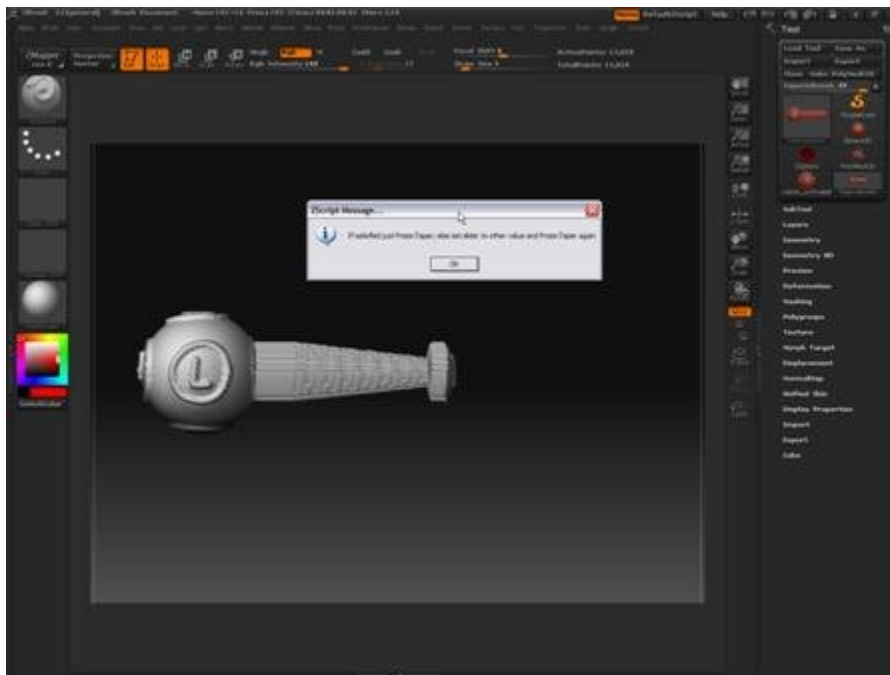
So you are guided back into tapering or the tapering is finished up and leads to a new mesh with the name: <OriginalName>_tap.

In case of Guidance=0 you can simply change the Taper/Broaden-slider as a sign to the program that you want to do a new tapering. If you simply Press:Taper Taper will finish up.
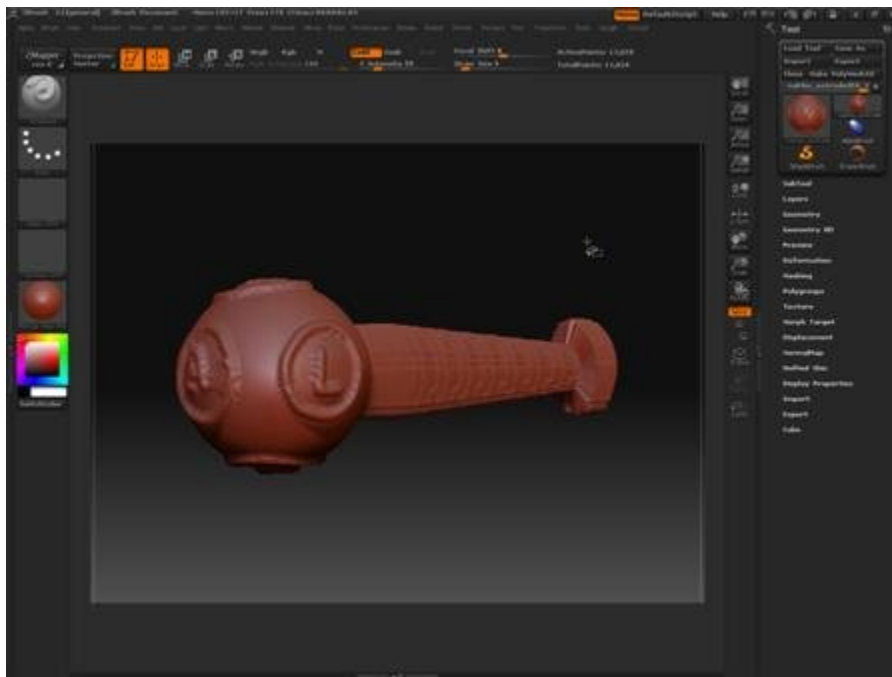
BEND

0.In its working Bend is specifically leaning on Transform:Rotate

1.When bending there is a steady area of the mesh and an area that is to be bend in all possible directions.
Set up your mesh by orienting the area that is 'to-be-bend' so that you look straight at the top end. In this orientation the Base of the area will probably be not visible, hidden behind the end where the bending will take place.

2.You can set the smoothness/sharpness of the bend with the slider; then Press:Bend.

3.Bend will make the to-be-bend area visible and asks you to LMB-click at the Bending point where the rotation of the right part of the mesh takes place.

After some setup-actions Bend notifies you that you can go on and do your bending.
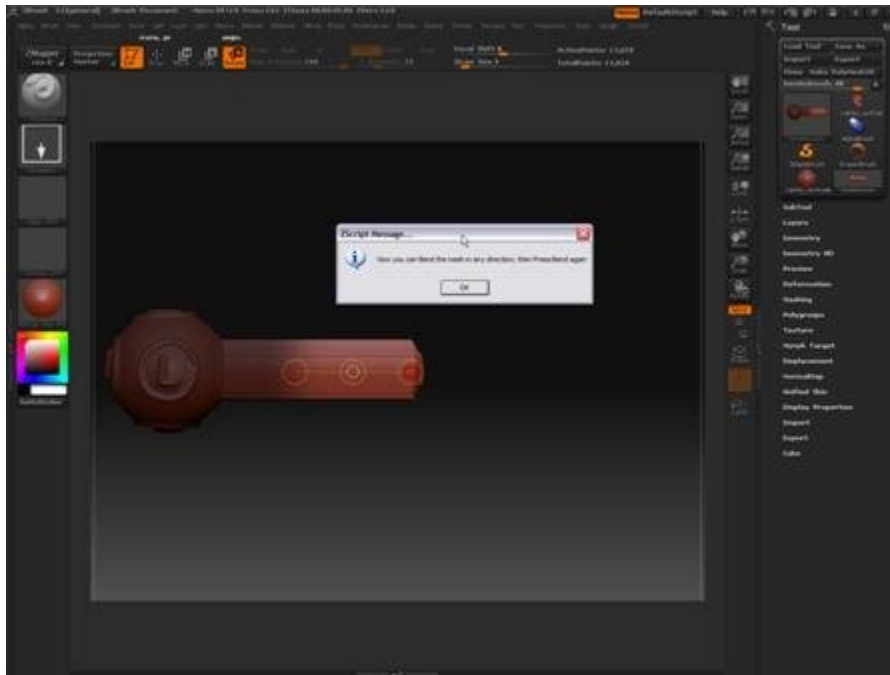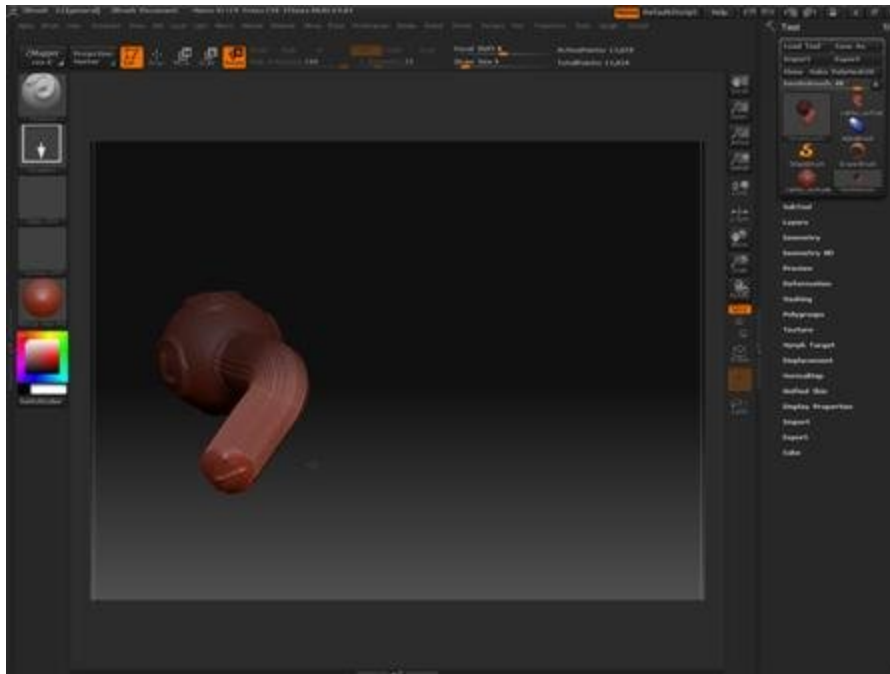
4.When you are finished bending you will be asked (Guidance=1) whether you want to retry with another smoothness/sharpness of the bending or not. So you are guided back into bending or the bending is finished up and leads to a new mesh with the name: <OriginalName>_bend.
In case of Guidance=0 you can simply change the smooth/sharp-slider as a sign to the program that you want to do a new bending. If you simply Press:Bend Bend will finish up.
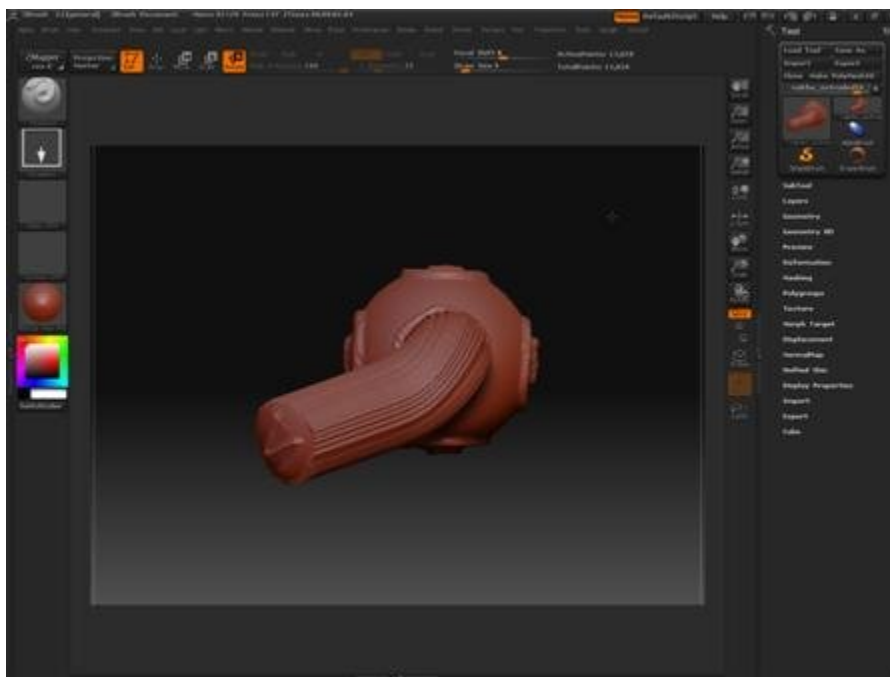
FLATTEN AND SLICE

Flatten

0.In its working Flatten is specifically leaning on Transform:Move, Subtool:Extract and Brush:ZProject

Flattening seems to be a straightforward modeling-action, that can be performed with the Flattening-brush, provided for by ZB.
There are however many conditions under which this procedure will not be that simple. That is, if you want to flatten a mesh with a to-be-flattened area that is somewhere broader then the flat surface that you are aiming at then you will end up with a flat surface that is broader than you want it to be. There is a ring of flattened material that you want to get rid of. This will be quite difficult to achieve with normal sculpting techniques.
So I developed two approaches: a simple one, for the case of a 'to-be-flattended' area that is nowhere broader then the plane toward which it will be flattened to and a complicated one in case the to-be-flattened area is broader then this plane. Now Flatten can not know which condition exists in the case of your mesh. So to be sure of success Flatten creates two flattened meshes from your mesh. Just throw away the lesser one.

1.Set up your mesh by orienting the area that is 'to-be-flattened' so that you look straight at the top end. In this orientation the point towards which the mesh may not be visible.

2.Flatten will make the to-be-flattened area visible and asks you to LMB-click at the point where the mesh will end up being flat.

Because of the complexity of one of the Flattening-approaches it will take some time to do the trick. So please be patient and when finished calculating Flatten will provide you with two new meshes with the names: <OriginalName>_flatA and <OriginalName>_flatB. The lesser one can be thrown away.
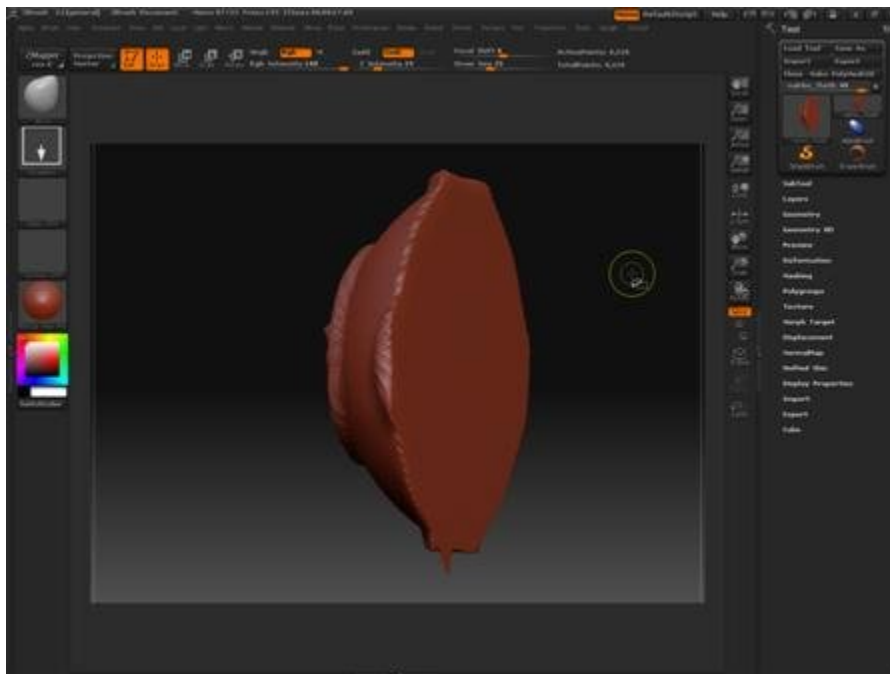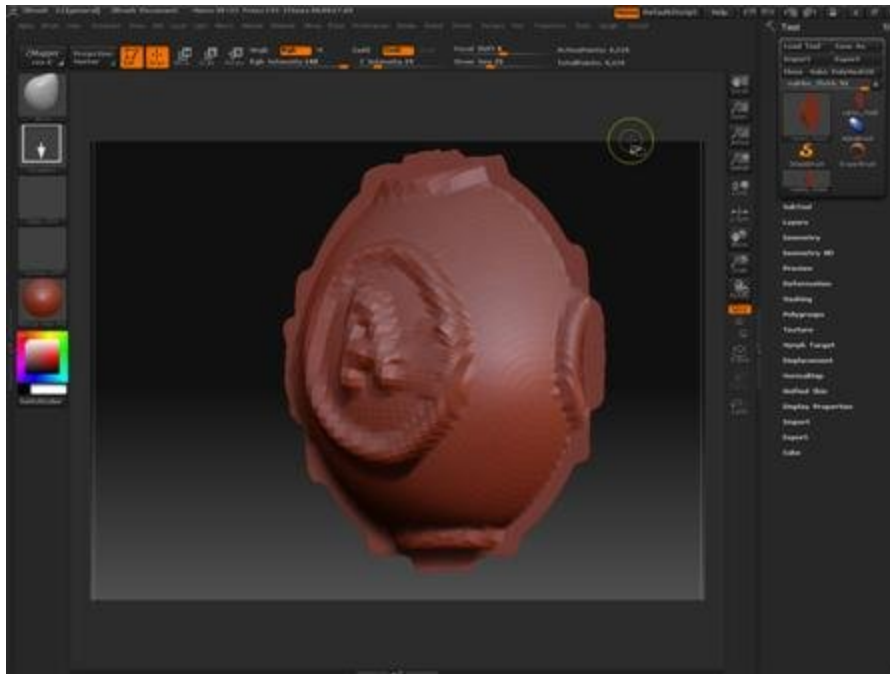
Slice

Slice is very similar to Flatten; it performs two flattenings along the slicepoint that you will be asked to assign with a LMB-click. Slice will take approximately two times the time to perform as Flatten takes.

You end up with four sliced meshes, two for the left and two for the right side of the slicing-point. You can throw the two lesser ones away.
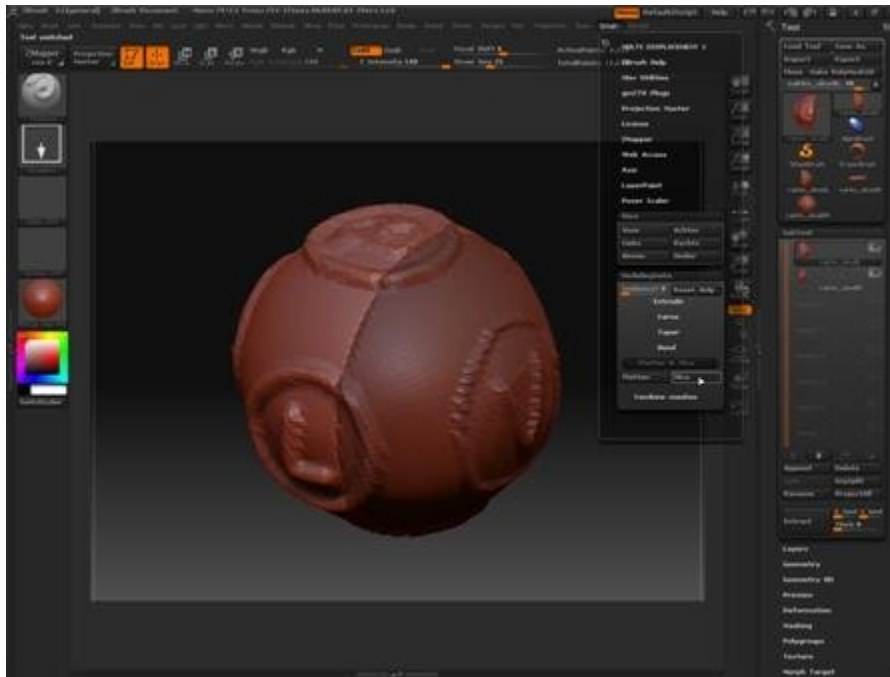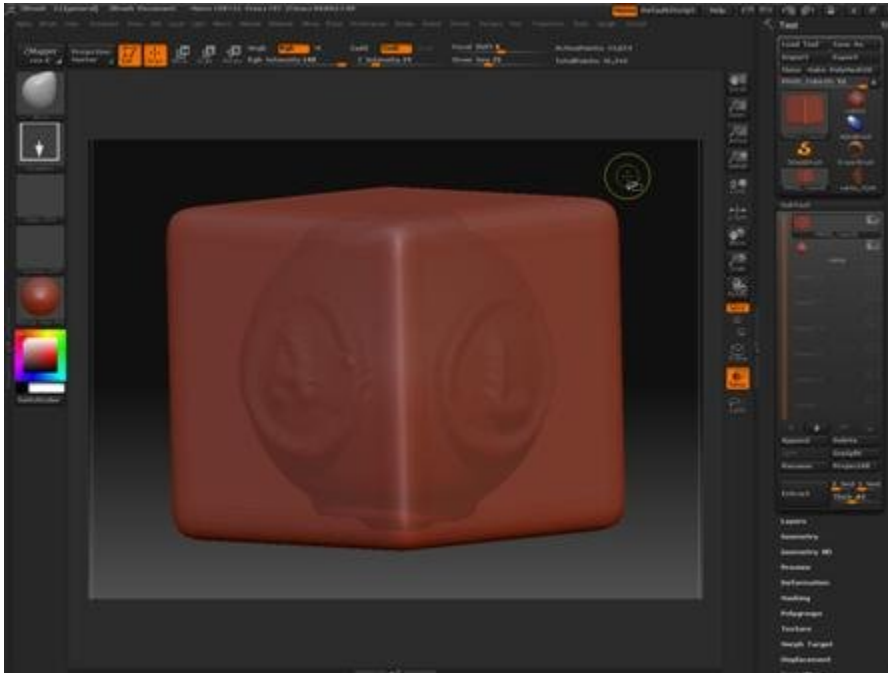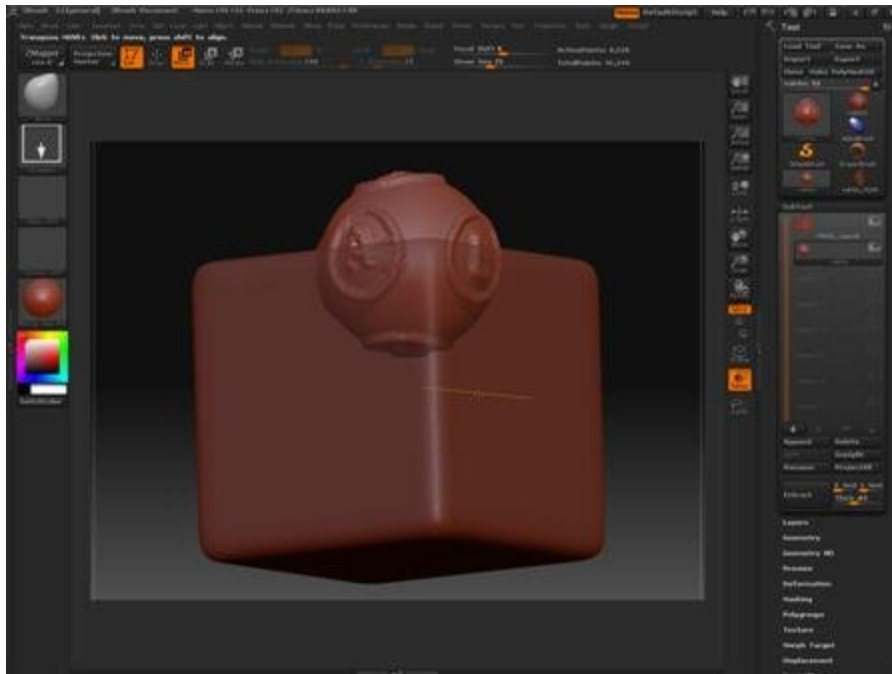
COMBINE MESHES: 'A plus B' and 'A minus B'

AplusB

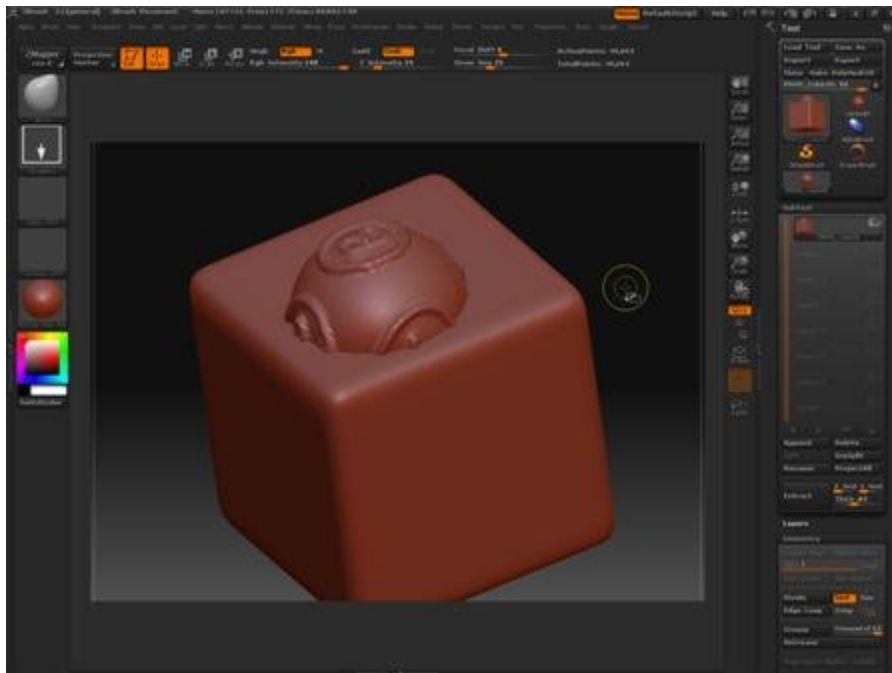0.In its working AplusB is specifically leaning on Tool:Geometry:Mesh Insert.

1.AplusB askes you to choose first meshA and then meshB, the mesh that will be added to the first one.

Then you will be urged to Move/Scale/Rotate meshB into the desired position, relative to meshA.

2.When you are ready positioning you Press:AplusB again and ZB will perform the adding up of the two meshes. This leads to a new mesh with the name: <OriginalName>_AplusB.
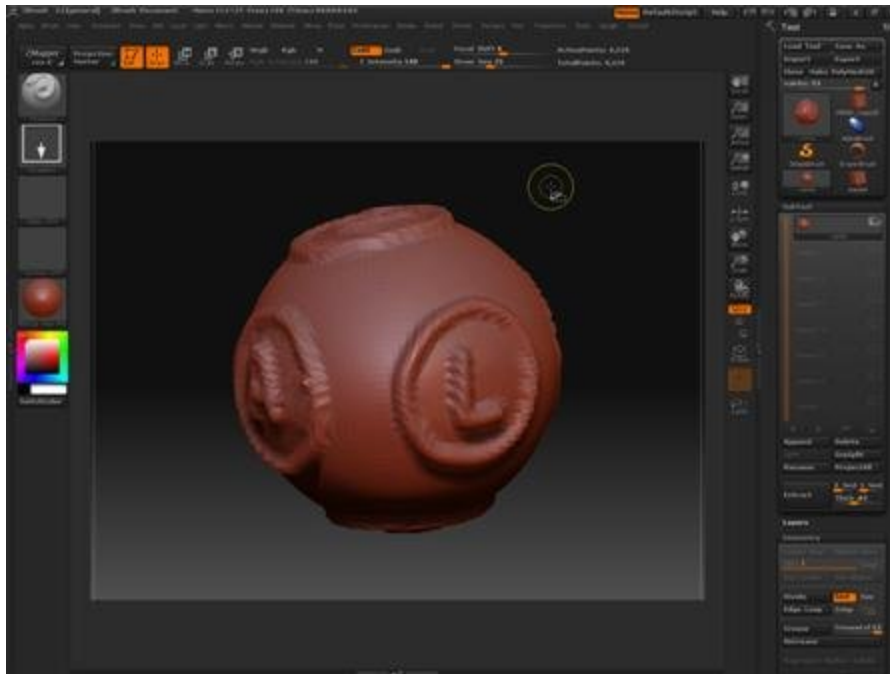
AminusB

0.In its working AminusB is specifically leaning on Tool:Display Properties:Flip and Brush:ZProject

1.AminusB askes you to choose first meshA and then meshB, the mesh that will be subtracted from the first one. That is, the area of MeshA where the two meshes overlap will be made to disappear.
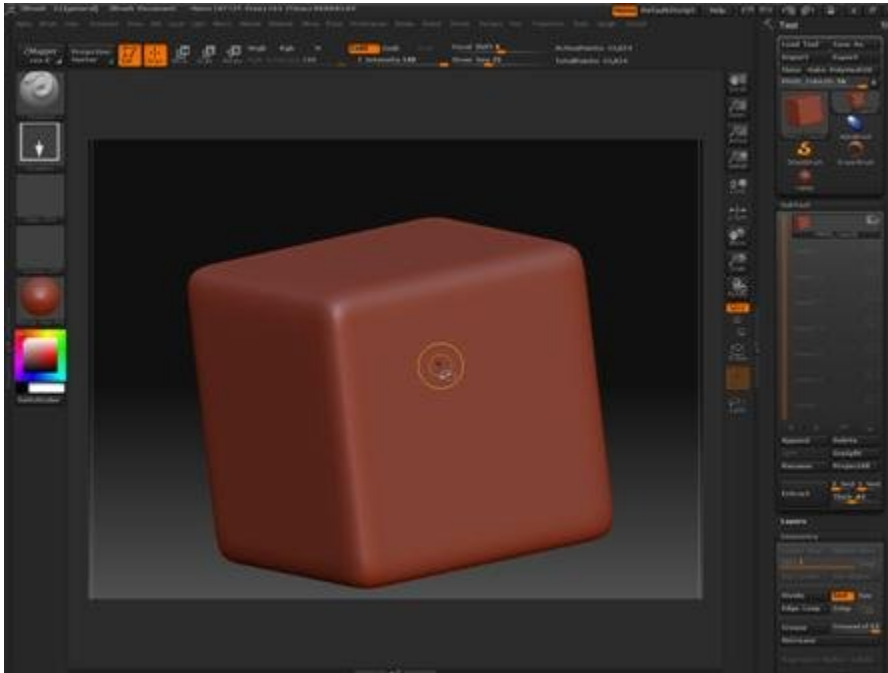

After choosing the two meshes you will be asked to Move/Scale/Rotate meshB into the desired position, relative to meshA; ready, then Press:AminusB again.

Set up continues by asking you to orient the view so that you look along the direction of the substraction. AminusB must know which of the many possible directions of substraction you want to be performed. If done, Press:AminusB again.
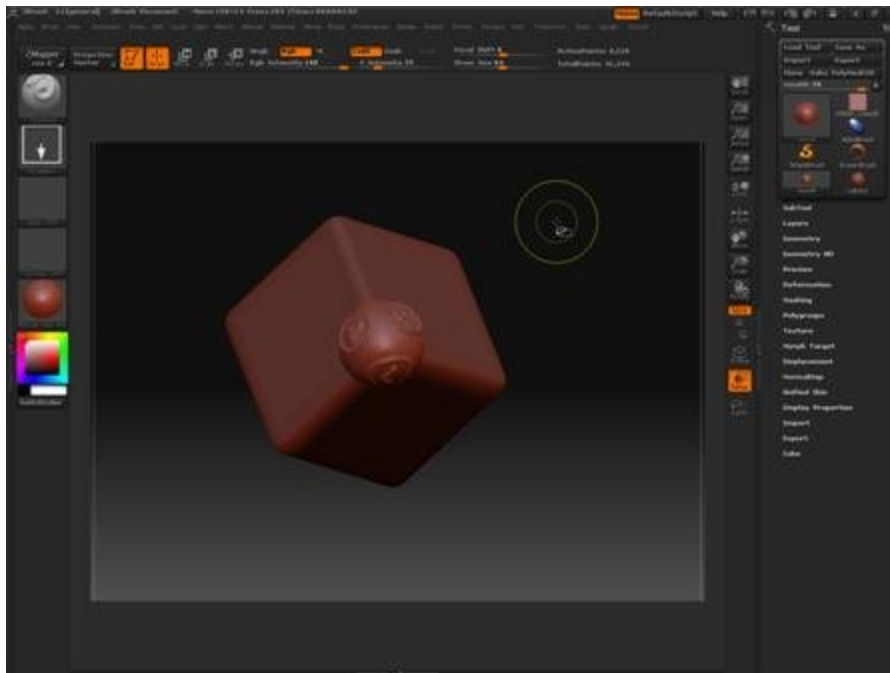
2.AminusB will now take some time and finishes up with a new mesh with the name: <OriginalName>_AminusB.
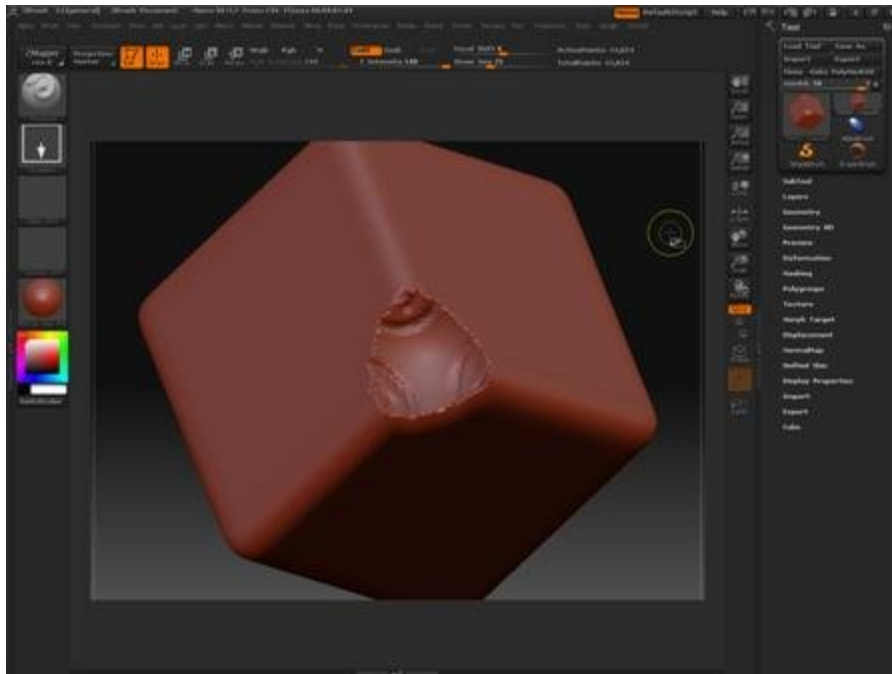
3. NB. This procedure will not work correctly if you use a meshB that is so big, compared to meshA, that it hides meshB when aligned for this last step.

Suggestions and Comments

Feel free to comment through the Thread:ModelingSuite in ZBCentral; maybe you've got an idea that could be implemented in an update.

Acknowledgements

This is the right place to awknowlegde the contribution of moderator Marcus_Civic and other ZB-scripters. I had many questions and many answers were given with a lot of patience for my initial ignorance about the ins and outs of zscripting.
In the Curving part I have been using the 'discoveries' that Rastaman and others did in the area of Tool:Rigging and Tool:Topology

Happy modeling!

Greetings, Eddy Loonstijn