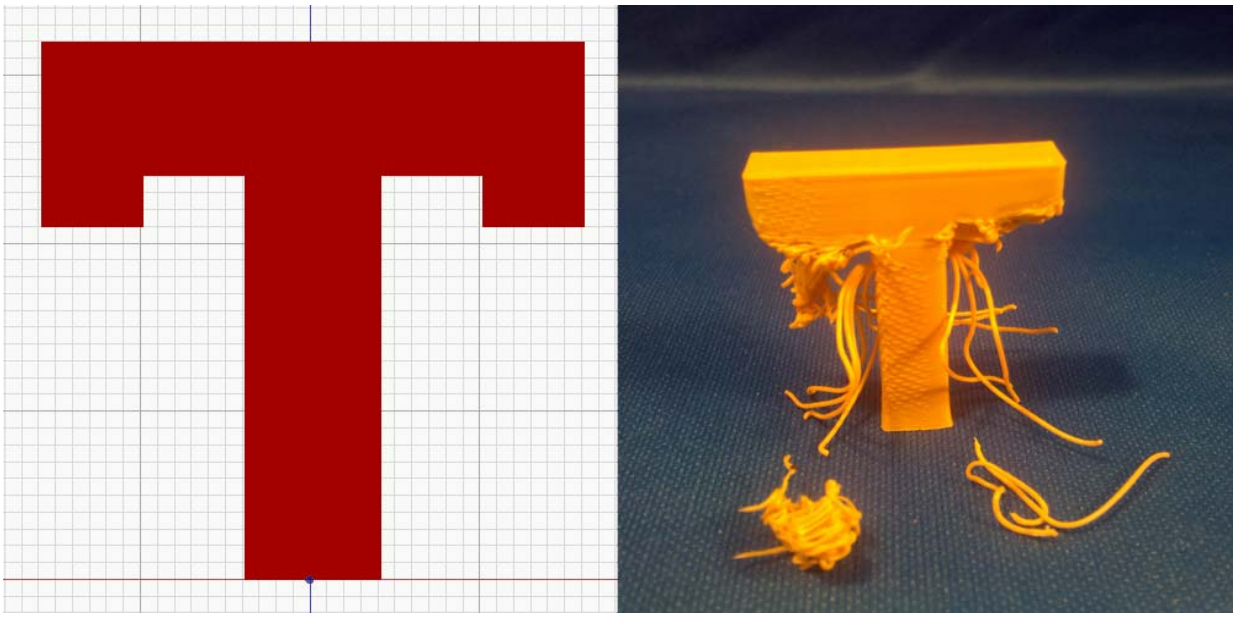
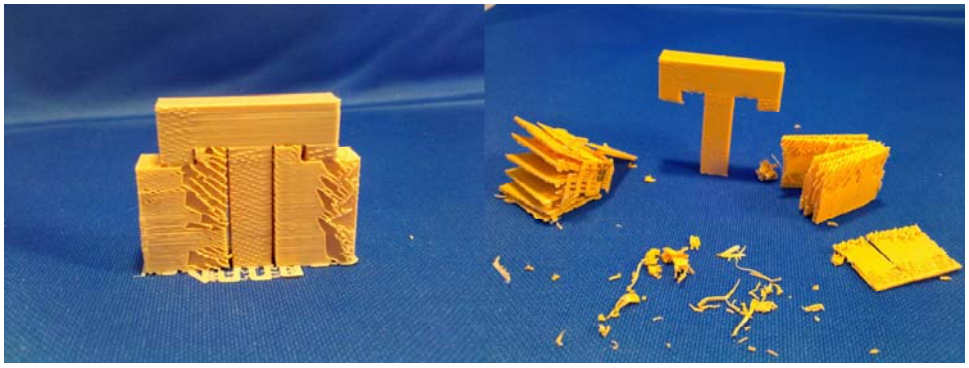
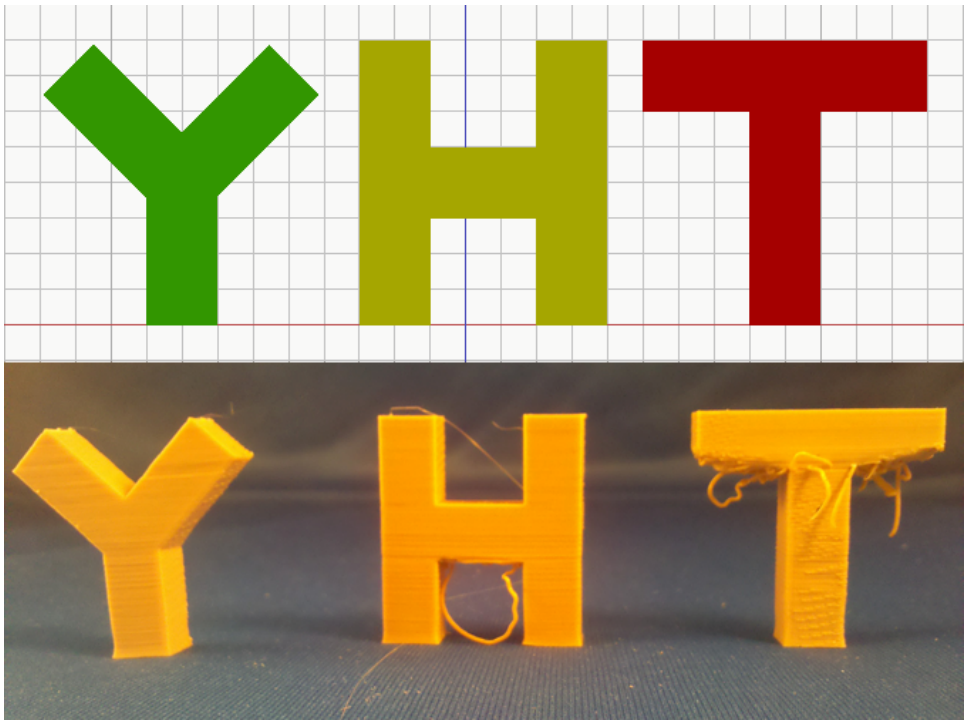
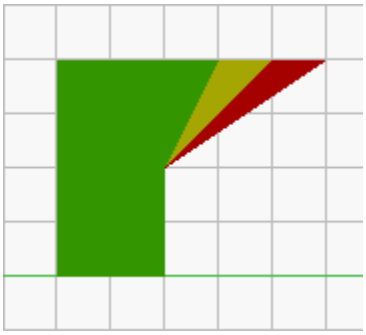
Chapter 1: Design Tools and Basics






Y H T



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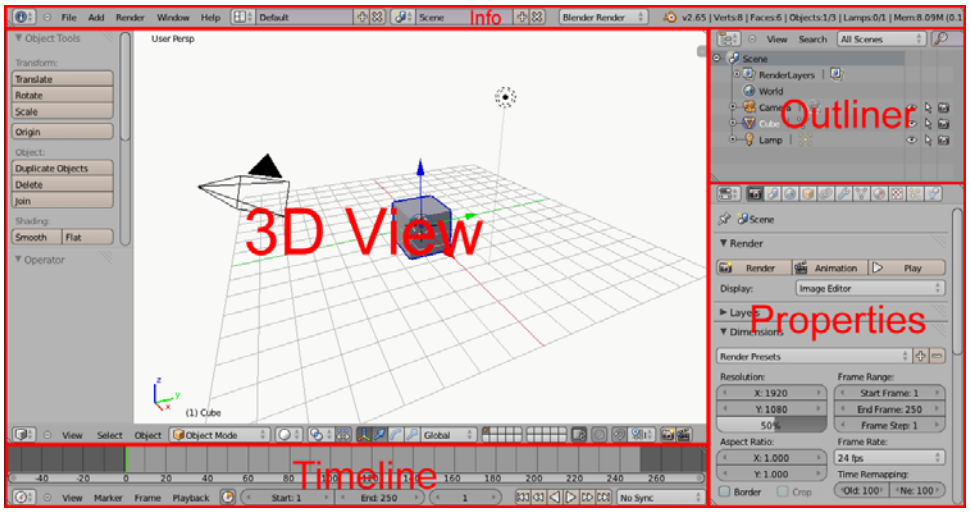
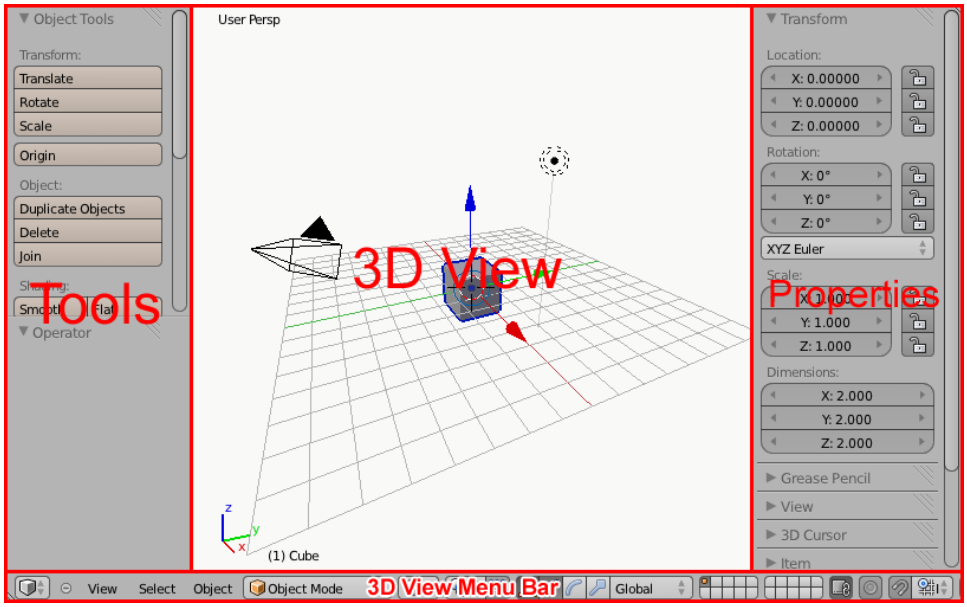
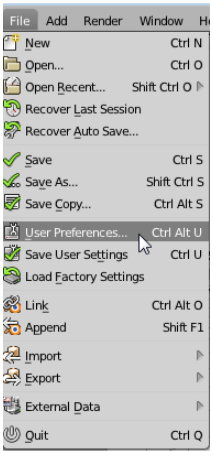
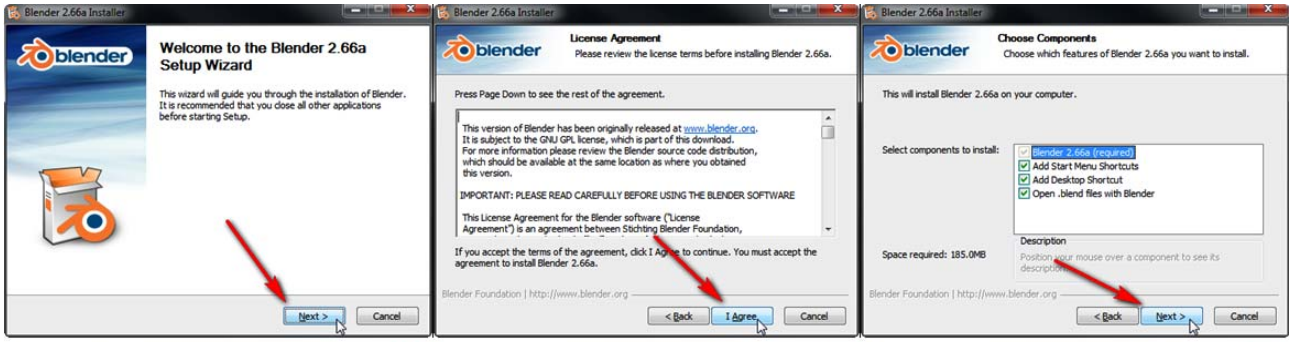
Download

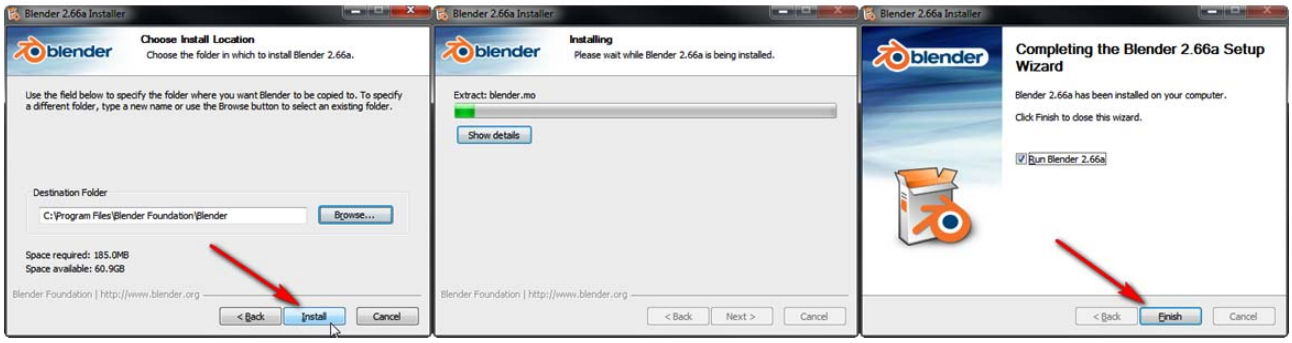

Info
3D View
Outliner
Properties
Timeline

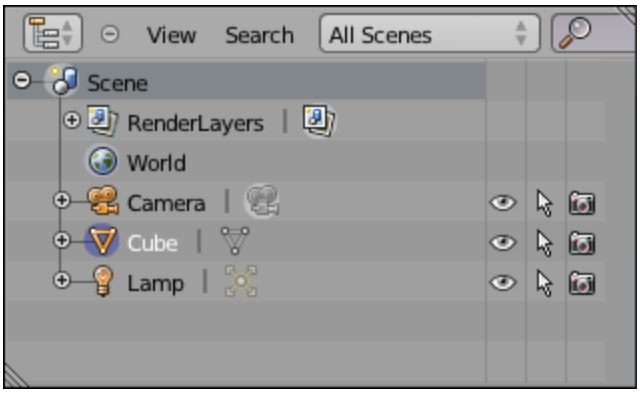

Object Tools
Transform:
Translate
Rotate
Scale
Origin
Object:
Duplicate Objects
Delete
Join
Operator
Tools
User Persp
3D View
(1) Cube
Transform
Location:
X: 0.00000
Y: 0.00000
Z: 0.00000
Rotation:
X: 0°
Y: 0°
Z: 0°
XYZ Euler
Scale:
Y: 1.000
Z: 1.000
Dimensions:
X: 2.000
Y: 2.000
Z: 2.000
Grease Pencil
View
3D Cursor
Item
Properties
View
Select
Object
Object Mode
3D View Menu Bar
Global


File
Add
Render
Window
New Ctrl N
Open... Ctrl O
Open Recent... Shift Ctrl O
Recover Last Session
Recover Auto Save...
Save Ctrl S
Save As... Shift Ctrl S
Save Copy... Ctrl Alt S
User Preferences... Ctrl Alt U
Save User Settings Ctrl U
Load Factory Settings
Link Ctrl Alt O
Append Shift F1
Import
Export
External Data
Quit Ctrl Q

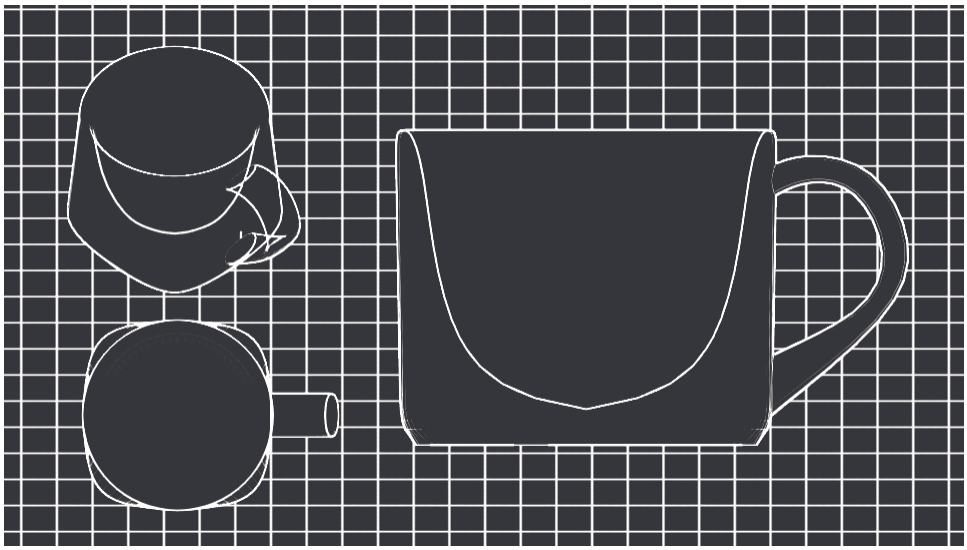
Interface
Editing
Input
Addons
Themes
File
System
Presets:
Presets
Blender
Filter:
Mouse:
Emulate 3 Button Mouse
Continuous Grab
Drag Threshold: 5
Tweak Threshold: 10
Select With:
Left
Right
Double Click:
Speed: 350
Emulate Numpad
Orbit Style:
Turntable
Trackball
Zoom Style:
Dolly
Vertical
Horizontal
Window
Screen
View2D
View2D Buttons List
Header
Grease Pencil
3D View
Frames
Markers
Animation
Animation Channels
Graph Editor
Dopesheet
NLA Editor
Image
Timeline
Outliner
Save As Default
Import Key Configuration...
Export Key Configuration...

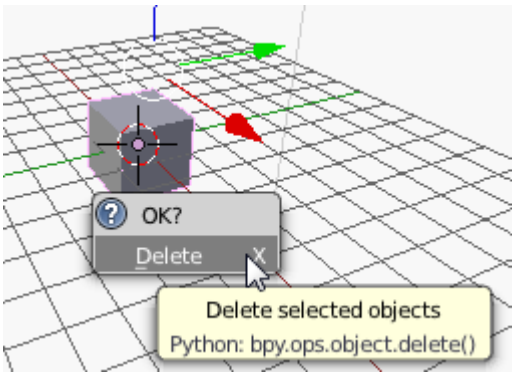

Blender 2.66a Installer
Welcome to the Blender 2.66a Setup Wizard
This wizard will guide you through the installation of Blender. It is recommended that you close all other applications before starting Setup.
Next >
Cancel
Blender 2.66a Installer
License Agreement
Please review the license terms before installing Blender 2.66a.
Press Page Down to see the rest of the agreement.
This version of Blender has been originally released at www.blender.org.
It is subject to the GNU GPL license, which is part of this download.
For more information please review the Blender source code distribution, which should be available at the same location as where you obtained this version.
IMPORTANT: PLEASE READ CAREFULLY BEFORE USING THE BLENDER SOFTWARE
This License Agreement for the Blender software ("License Agreement") is an agreement between Stichting Blender Foundation,
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Blender 2.66a.
Blender Foundation | http://www.blender.org
< Back
I Agree
Cancel
Blender 2.66a Installer
Choose Components
Choose which features of Blender 2.66a you want to install.
This will install Blender 2.66a on your computer.
Select components to install:
Blender 2.66a (required)
Add Start Menu Shortcuts
Add Desktop Shortcut
Open .blend files with Blender
Description
Space required: 185.0MB
Blender Foundation | http://www.blender.org
< Back
Next >
Cancel

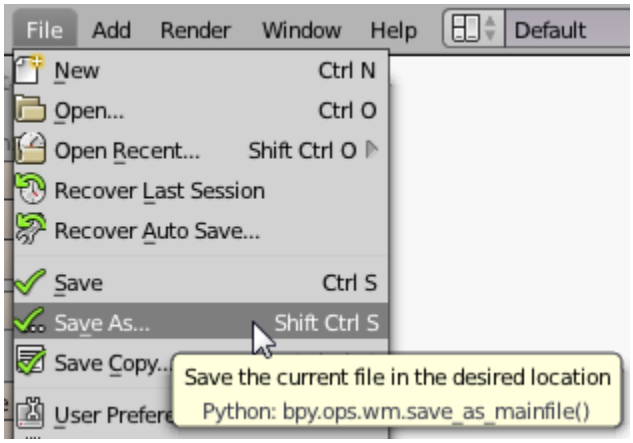

Blender 2.66a Installer
Choose Install Location
Choose the folder in which to install Blender 2.66a.
Use the field below to specify the folder where you want Blender to be copied to. To specify a different folder, type a new name or use the Browse button to select an existing folder.
Destination Folder
C:\Program Files\Blender Foundation\Blender
Browse...
Space required: 185.0MB
Space available: 60.9GB
Blender Foundation | http://www.blender.org
< Back
Install
Cancel
Blender 2.66a Installer
Installing
Please wait while Blender 2.66a is being installed.
Extract: blender.mo
Show details
Blender Foundation | http://www.blender.org
< Back
Next >
Cancel
Blender 2.66a Installer
Completing the Blender 2.66a Setup Wizard
Blender 2.66a has been installed on your computer.
Click Finish to close this wizard.
Run Blender 2.66a
< Back
Finish
Cancel

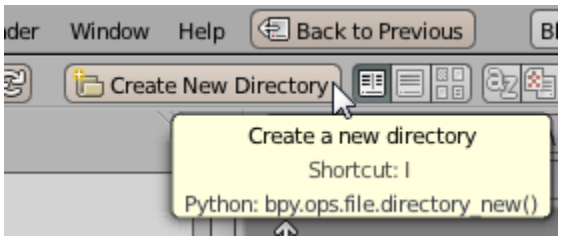


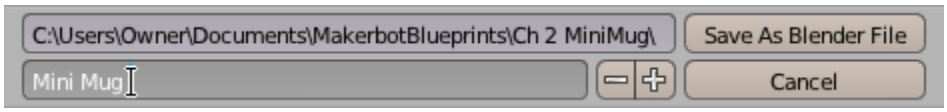
Chapter 2:Mini Mug

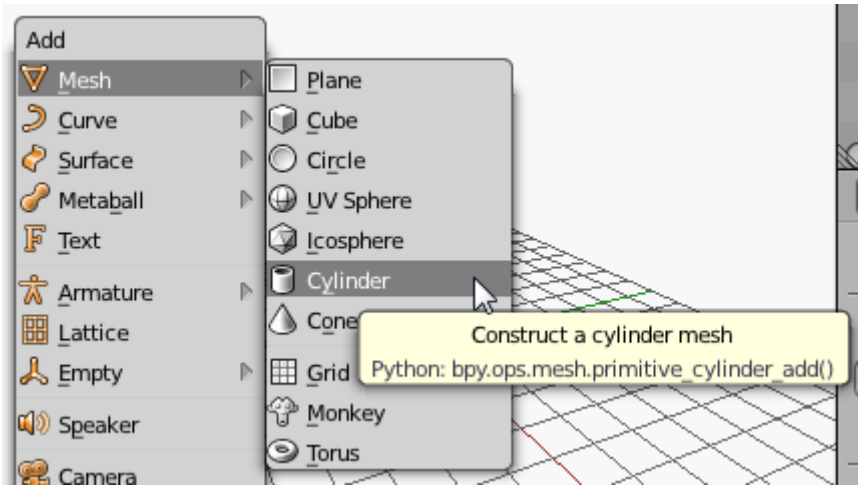


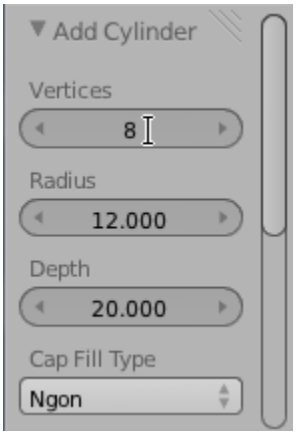


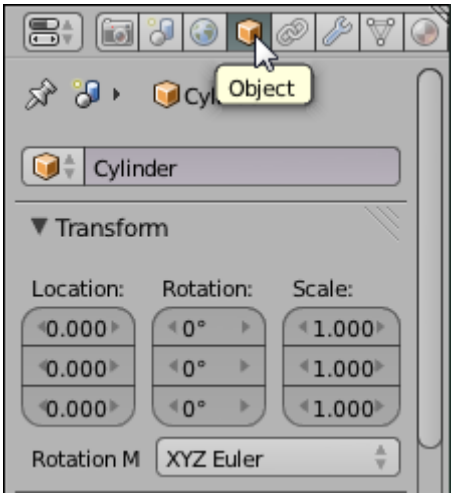

File
Add
Render
Window
Help
Default
New Ctrl N
Open... Ctrl O
Open Recent... Shift Ctrl O
Recover Last Session
Recover Auto Save...
Save Ctrl S
Save As... Shift Ctrl S
Save Copy...
User Prefere
Save the current file in the desired location
Python: bpy.ops.wm.save_as_mainfile()

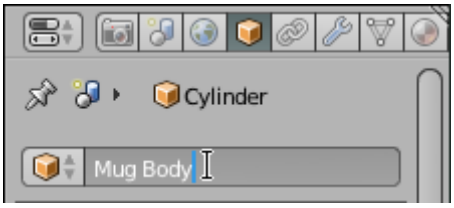

Window
Help
Back to Previous
Create New Directory
Create a new directory
Shortcut: I
Python: bpy.ops.file.directory_new()

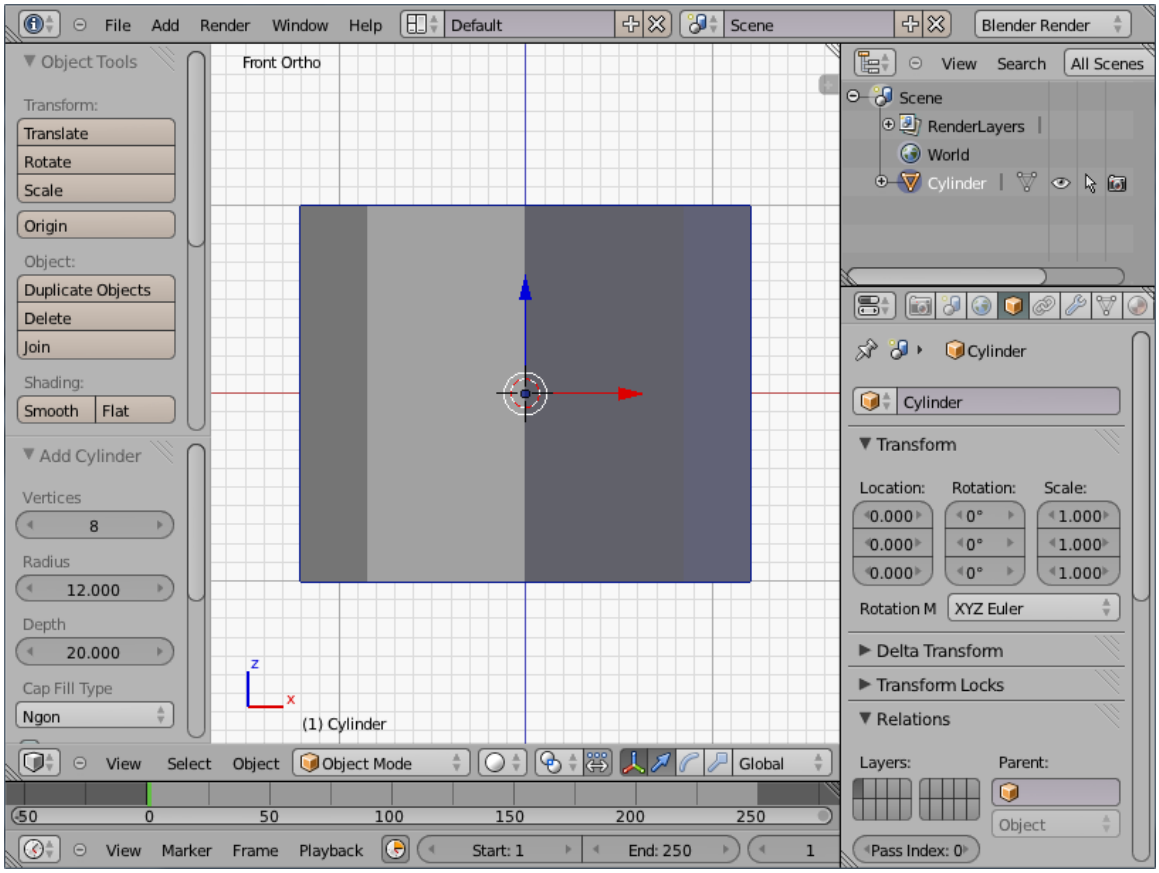

C:\Users\Owner\Documents\MakerbotBlueprints\Ch 2 MiniMug\
Save As Blender File
Mini Mug
Cancel

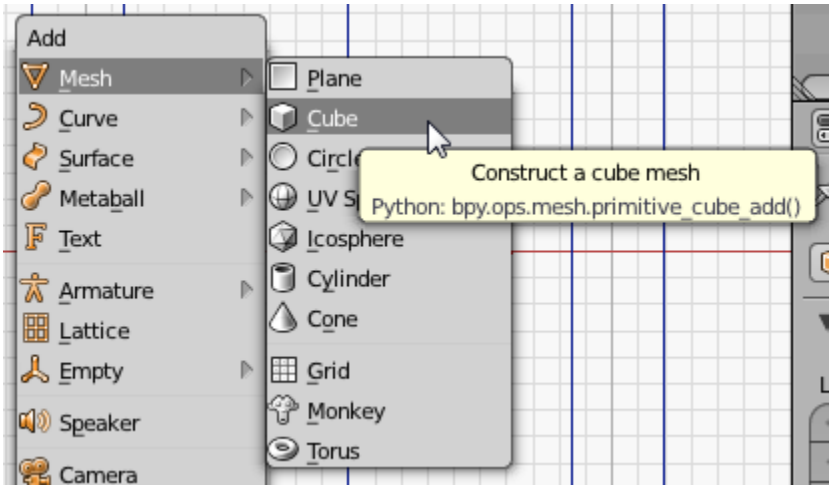

Add
Mesh
Curve
Surface
Metaball
Text
Armature
Lattice
Empty
Speaker
Camera
Plane
Cube
Circle
UV Sphere
Icosphere
Cylinder
Cone
Grid
Monkey
Torus
Construct a cylinder mesh
Python: bpy.ops.mesh.primitive_cylinder_add()


Add Cylinder
Vertices
8
Radius
12.000
Depth
20.000
Cap Fill Type
Ngon

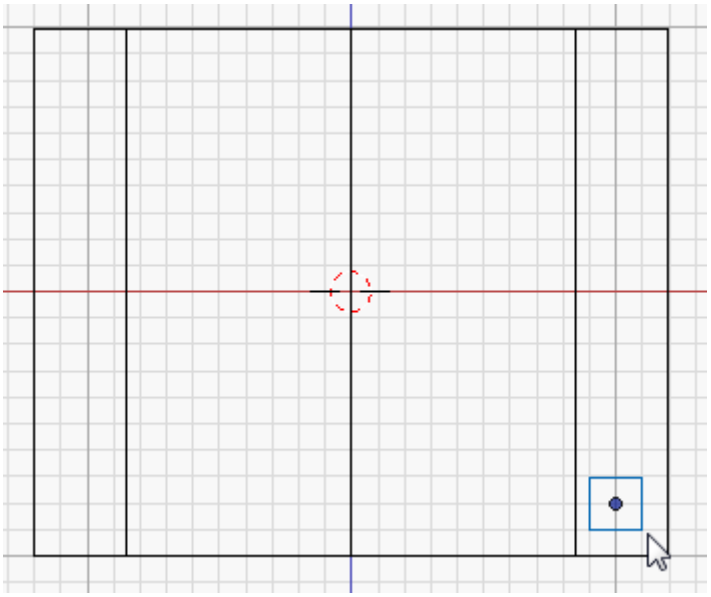

Object
Cylinder
Transform
Location:
Rotation:
Scale:
0.000
0.000
0.000
0°
0°
0°
1.000
1.000
1.000
Rotation M
XYZ Euler

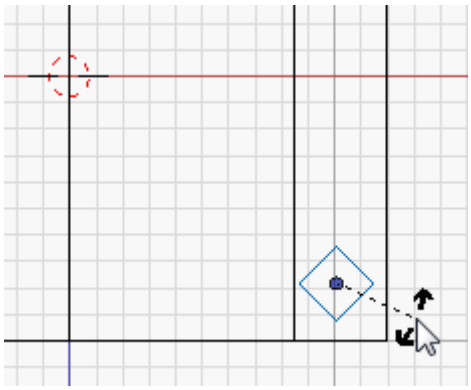

Cylinder
Mug Body

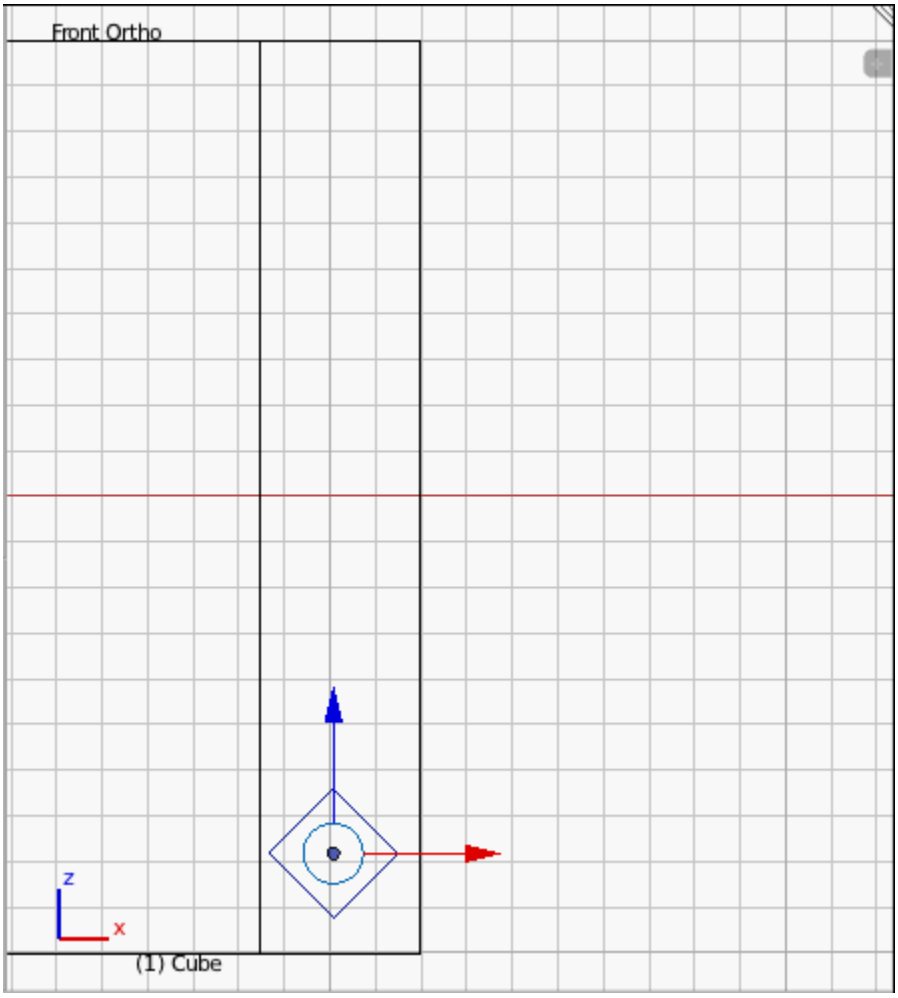

File Add Render Window Help
Default
Scene
Blender Render
Object Tools
Transform:
Translate
Rotate
Scale
Origin
Object:
Duplicate Objects
Delete
Join
Shading:
Smooth
Flat
Add Cylinder
Vertices
8
Radius
12.000
Depth
20.000
Cap Fill Type
Ngon
Front Ortho
(1) Cylinder
View Search All Scenes
Scene
RenderLayers
World
Cylinder
Cylinder
Transform
Location:
Rotation:
Scale:
0.000
0°
1.000
Rotation M
XYZ Euler
Delta Transform
Transform Locks
Relations
Layers:
Parent:
Object
Pass Index: 0
View Select Object
Object Mode
Global
-50 0 50 100 150 200 250
View Marker Frame Playback
Start: 1
End: 250
1

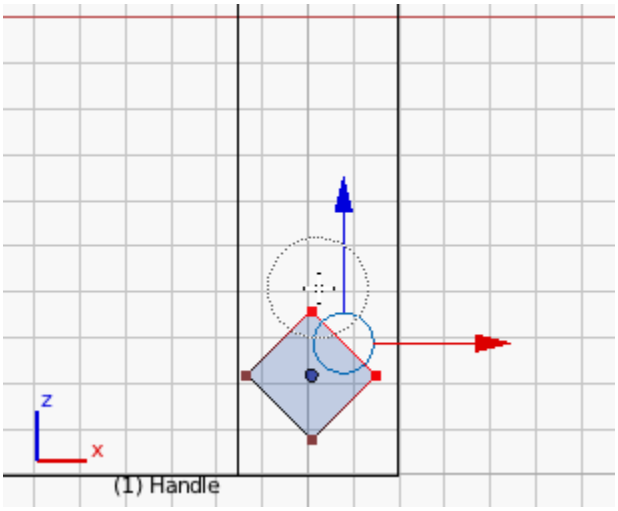

Add
Mesh
Curve
Surface
Metaball
Text
Armature
Lattice
Empty
Speaker
Camera
Plane
Cube
Icosphere
Cylinder
Cone
Grid
Monkey
Torus
Construct a cube mesh
Python: bpy.ops.mesh.primitive_cube_add()

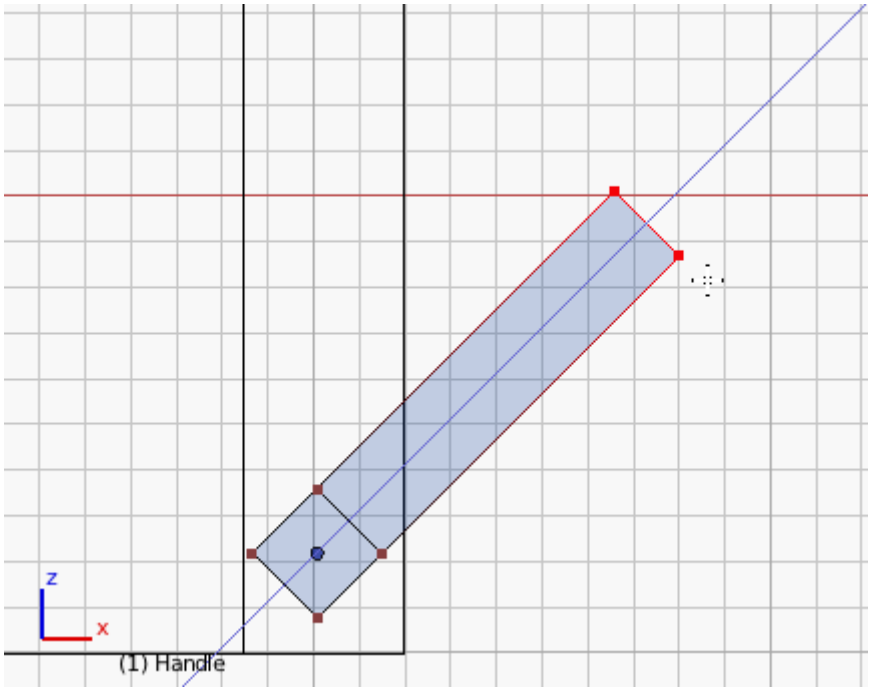
Cube
Handle

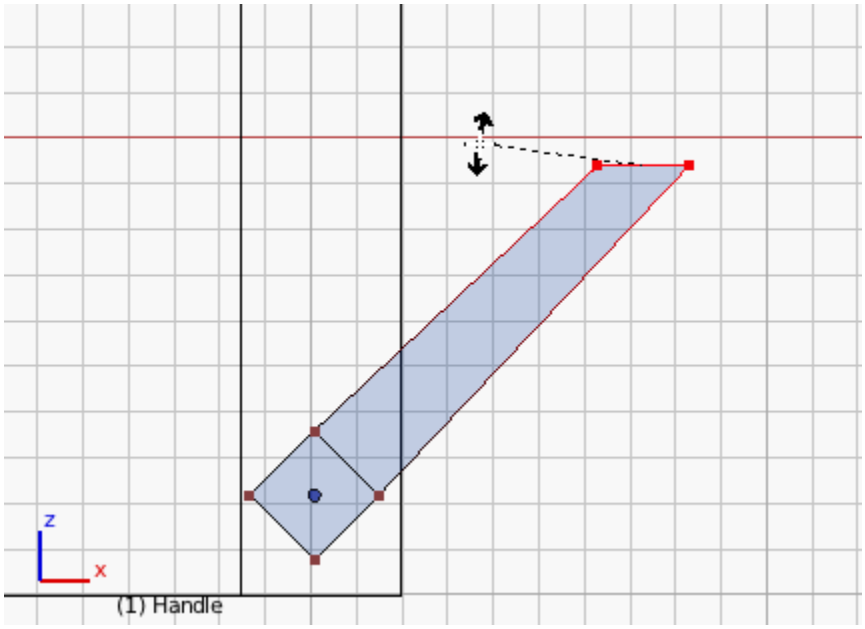





Front Ortho
z
x
(1) Cube


z
x
(1) Handle


z
x
(1) Handle


z
x
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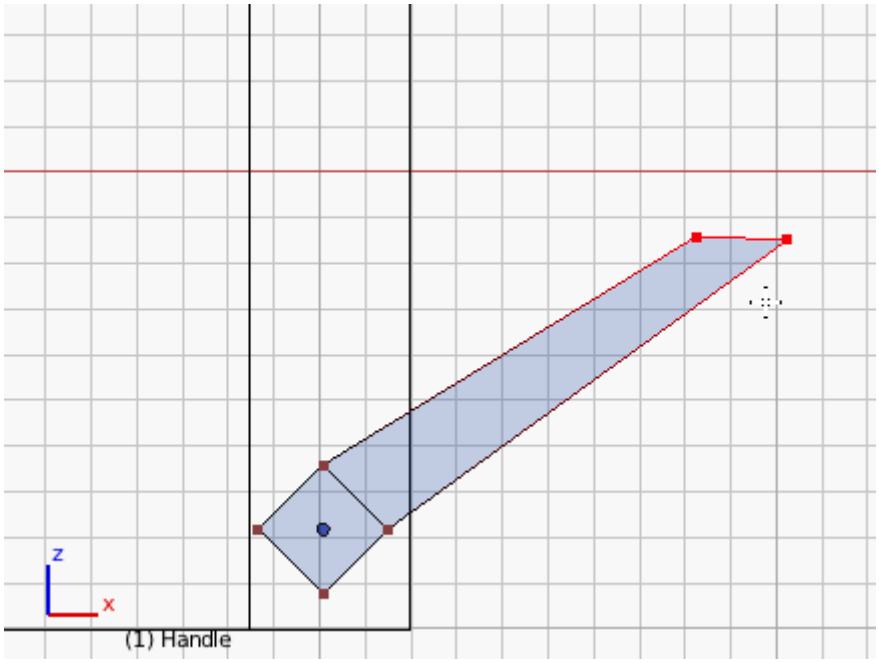
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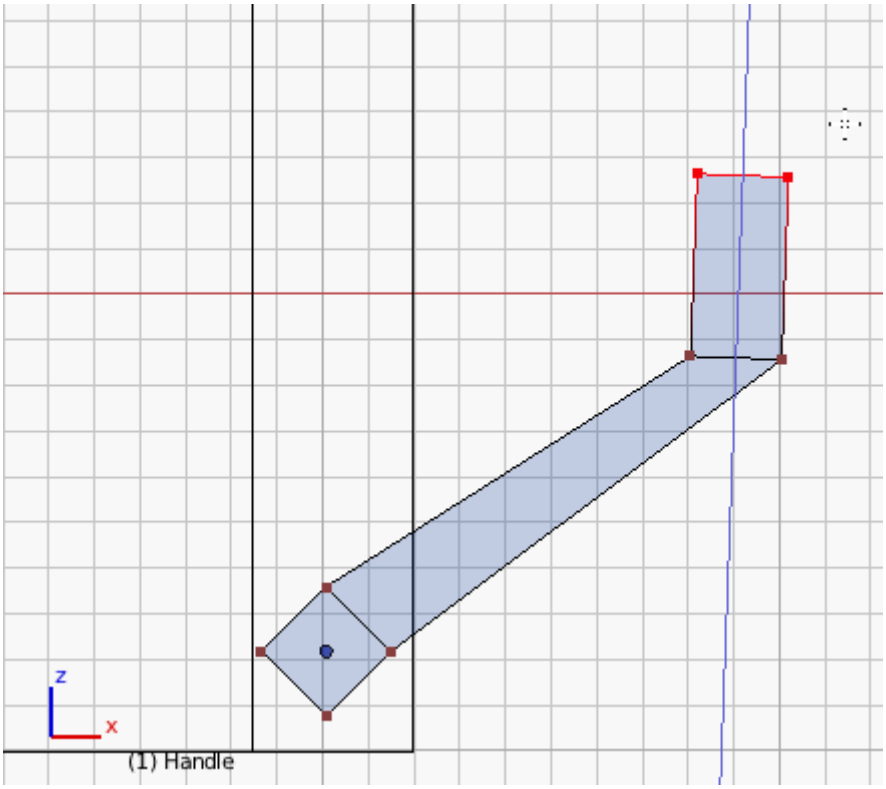
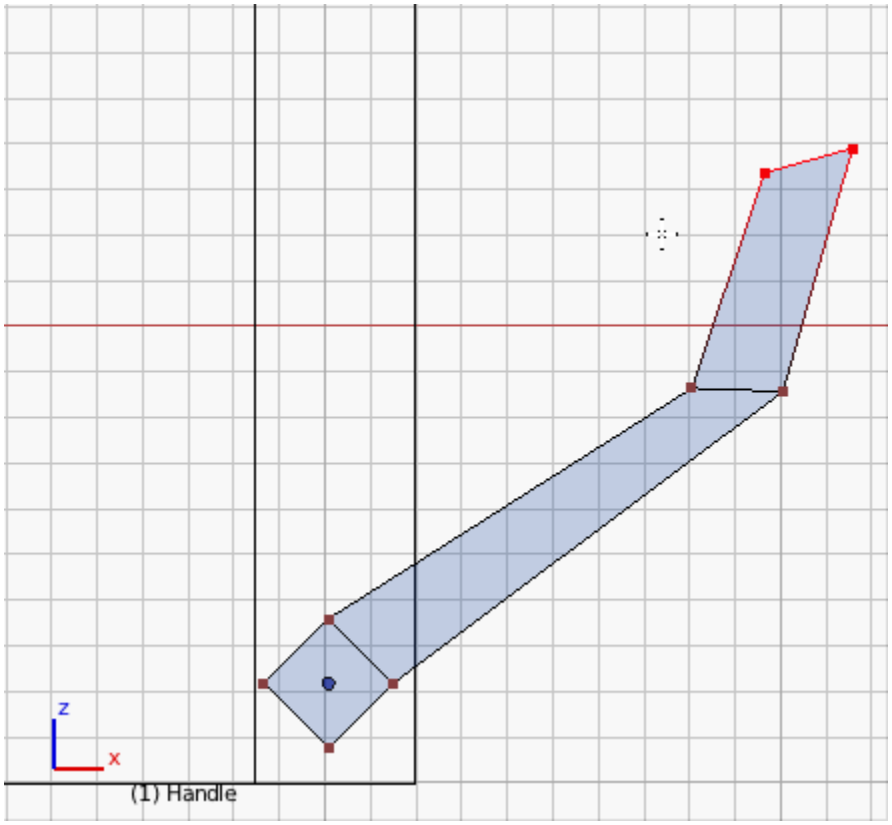
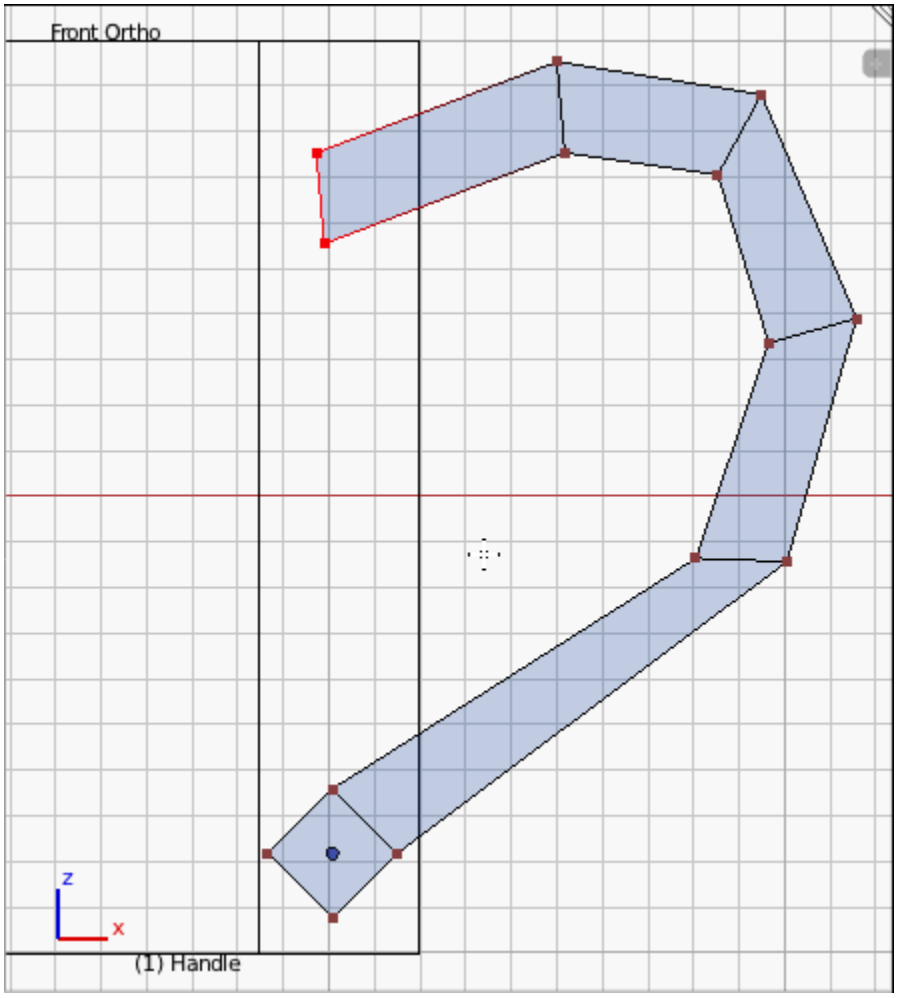
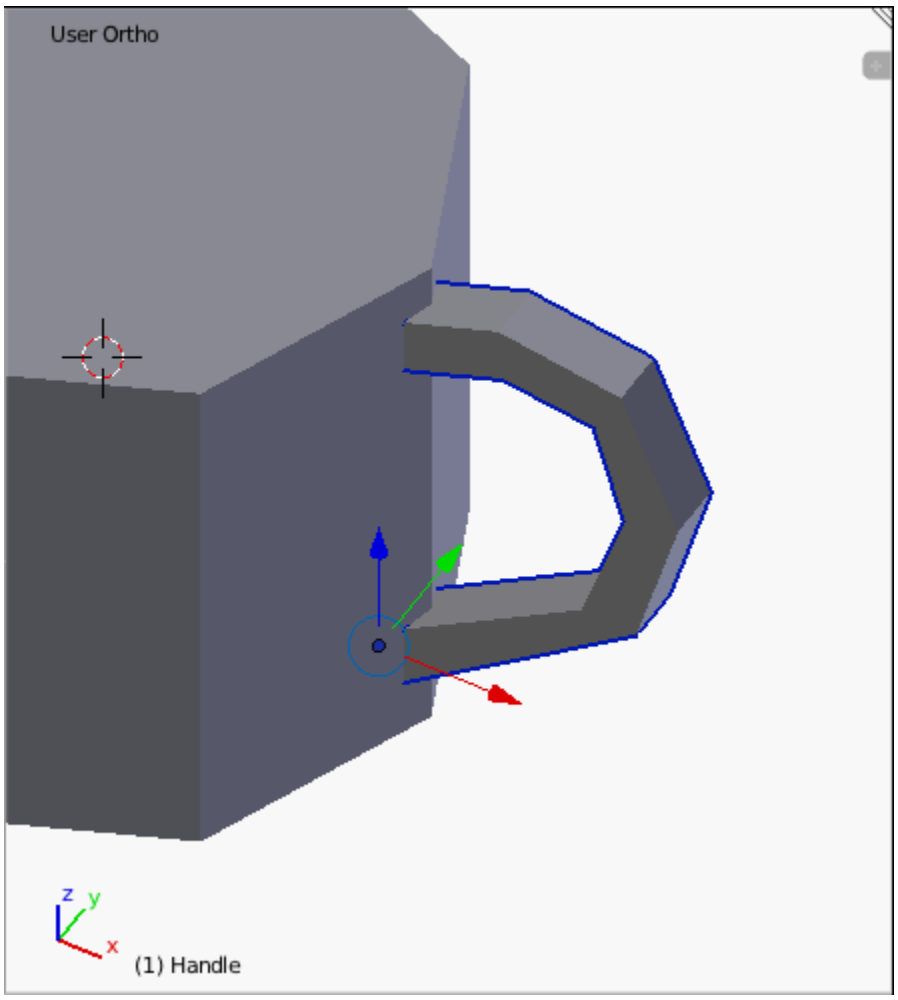
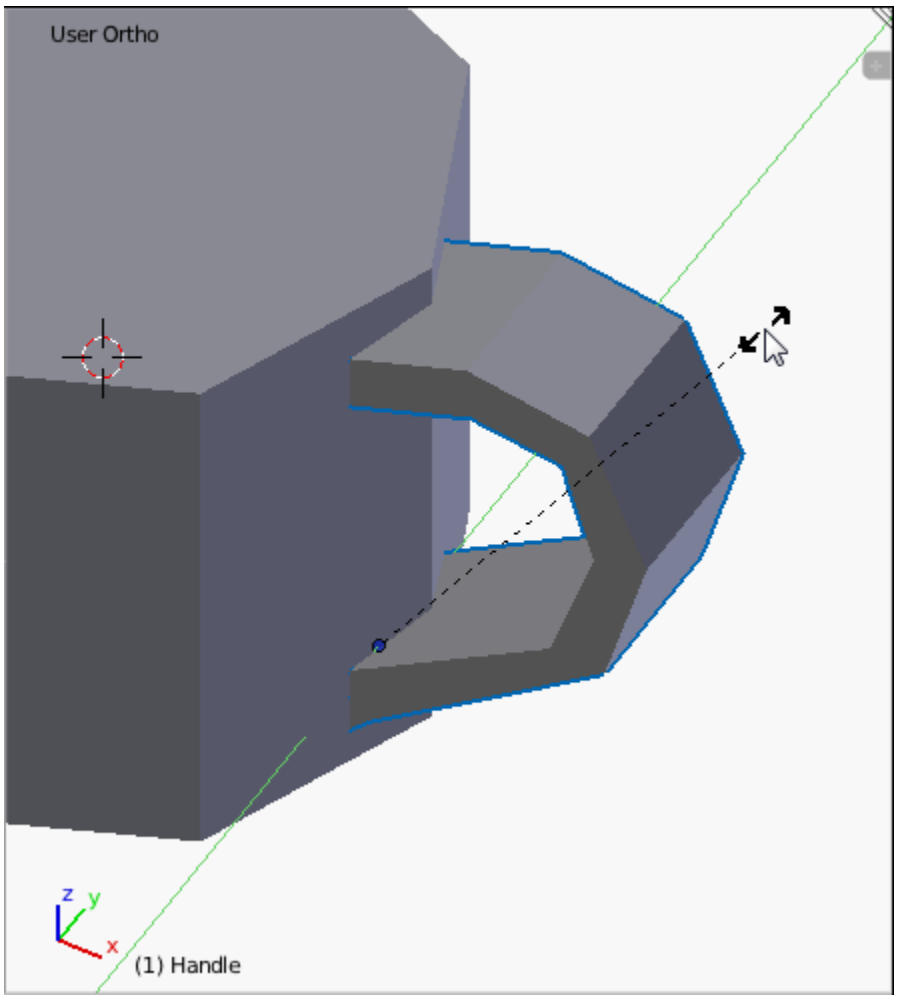
x
(1) Handle

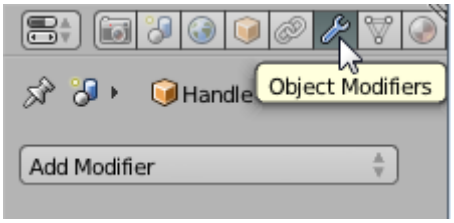

z
x
(1) Handle

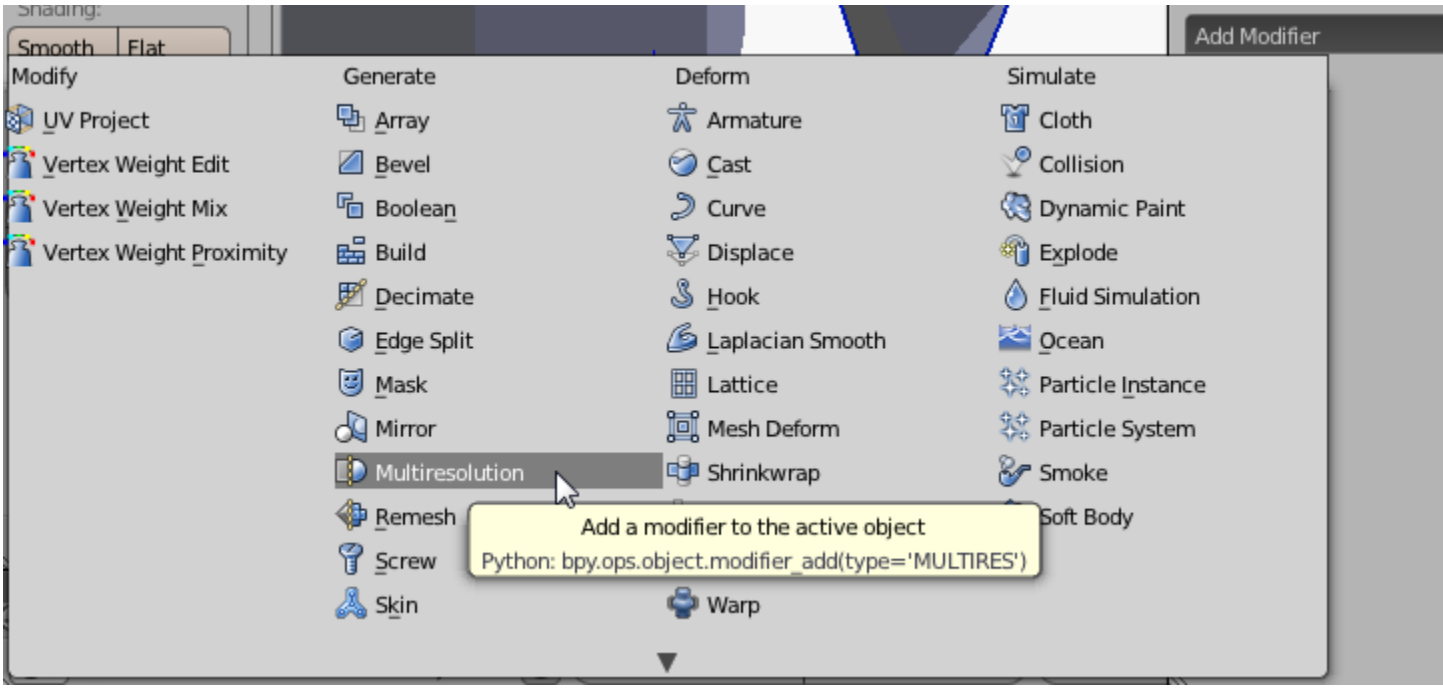

z
x
(1) Handle

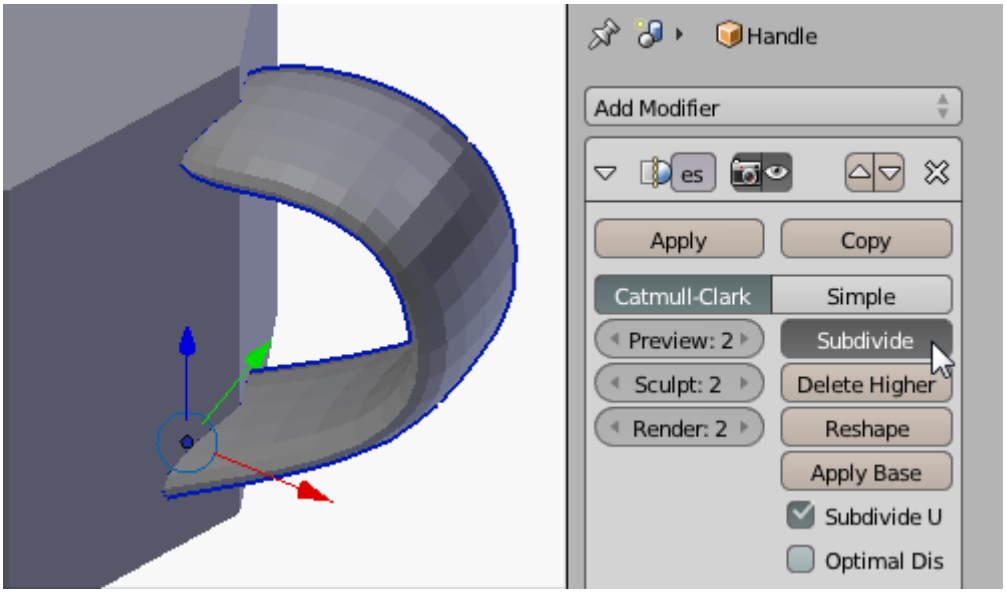

Front Ortho
z
x
(1) Handle

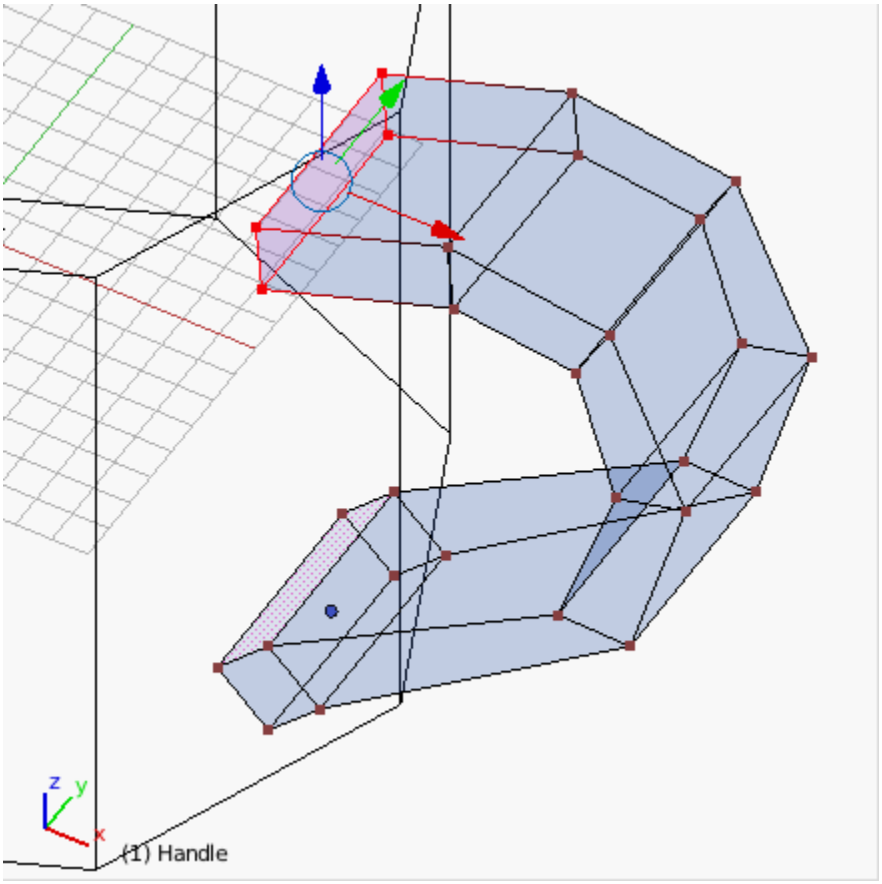

User Ortho
z
y
x
(1) Handle

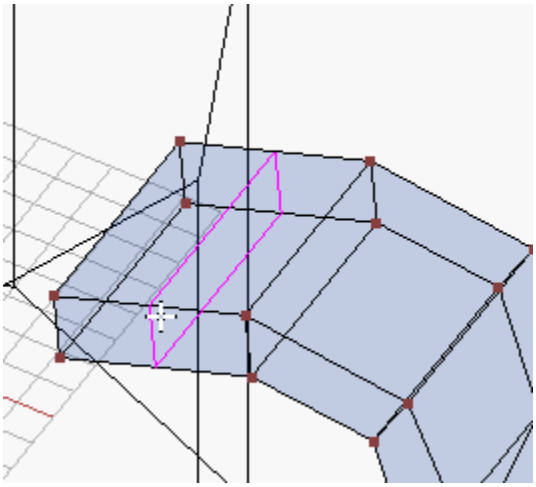

User Ortho
z
y
x
(1) Handle

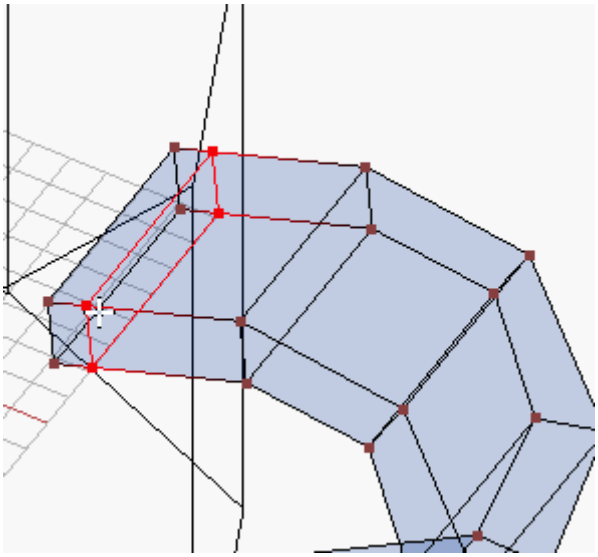

Handle
Object Modifiers
Add Modifier

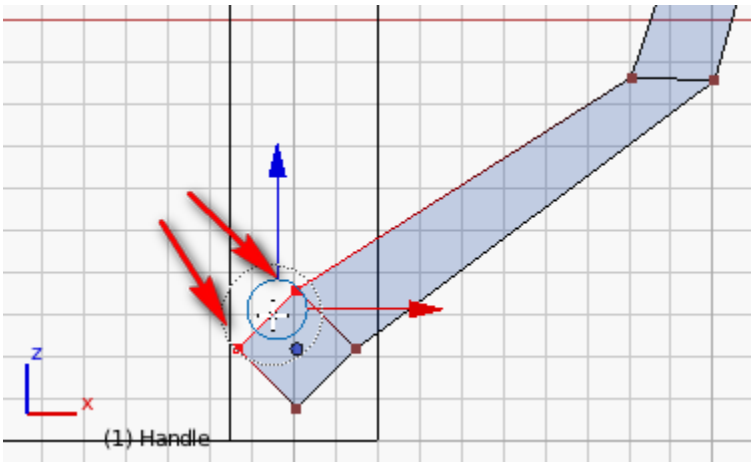

Shading:
Smooth
Flat
Add Modifier
Modify
UV Project
Vertex Weight Edit
Vertex Weight Mix
Vertex Weight Proximity
Generate
Array
Bevel
Boolean
Build
Decimate
Edge Split
Mask
Mirror
Multiresolution
Remesh
Screw
Skin
Deform
Armature
Cast
Curve
Displace
Hook
Laplacian Smooth
Lattice
Mesh Deform
Shrinkwrap
Warp
Simulate
Cloth
Collision
Dynamic Paint
Explode
Fluid Simulation
Ocean
Particle Instance
Particle System
Smoke
Soft Body
Add a modifier to the active object
Python: bpy.ops.object.modifier_add(type='MULTIRES')

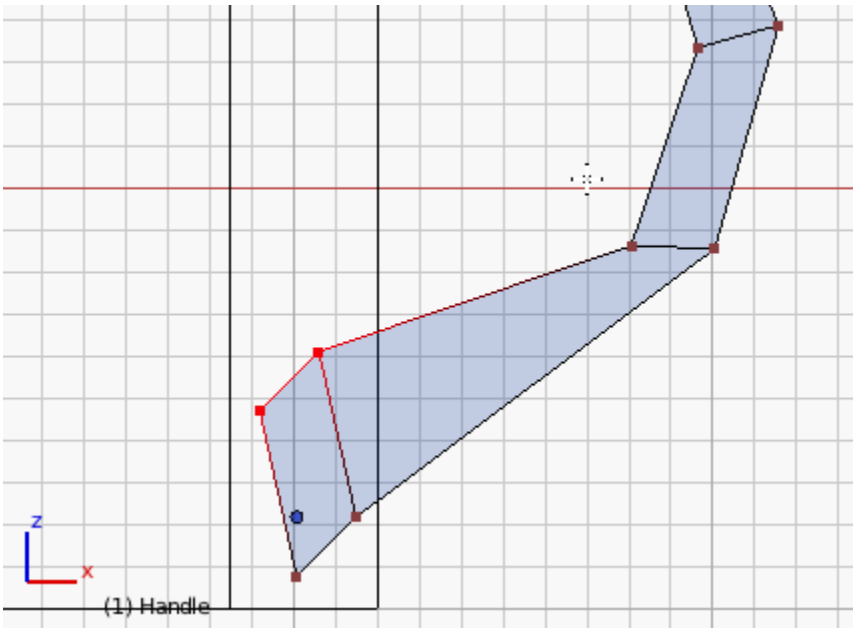

Handle
Add Modifier
es
Apply
Copy
Catmull-Clark
Simple
Preview: 2
Subdivide
Sculpt: 2
Delete Higher
Render: 2
Reshape
Apply Base
Subdivide U
Optimal Dis

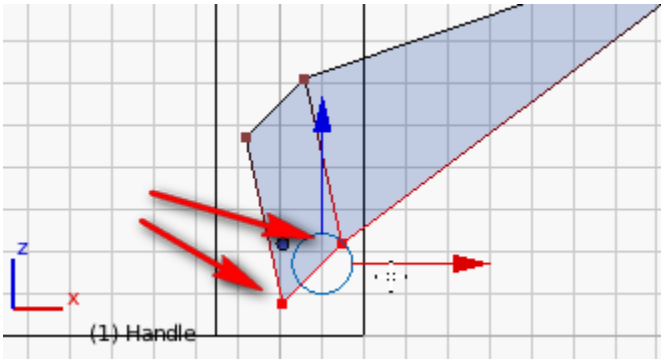

z
y
x
(1) Handle

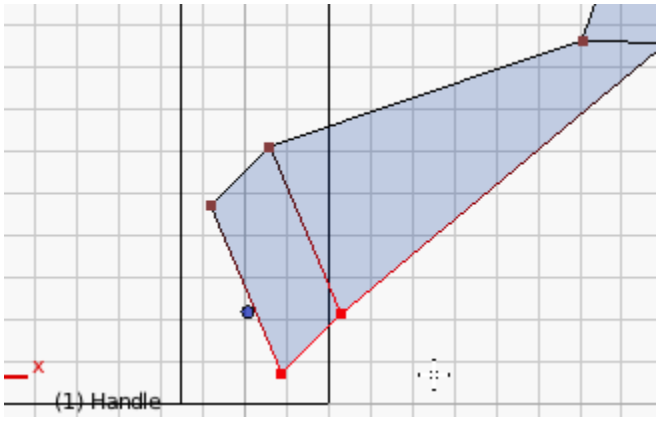


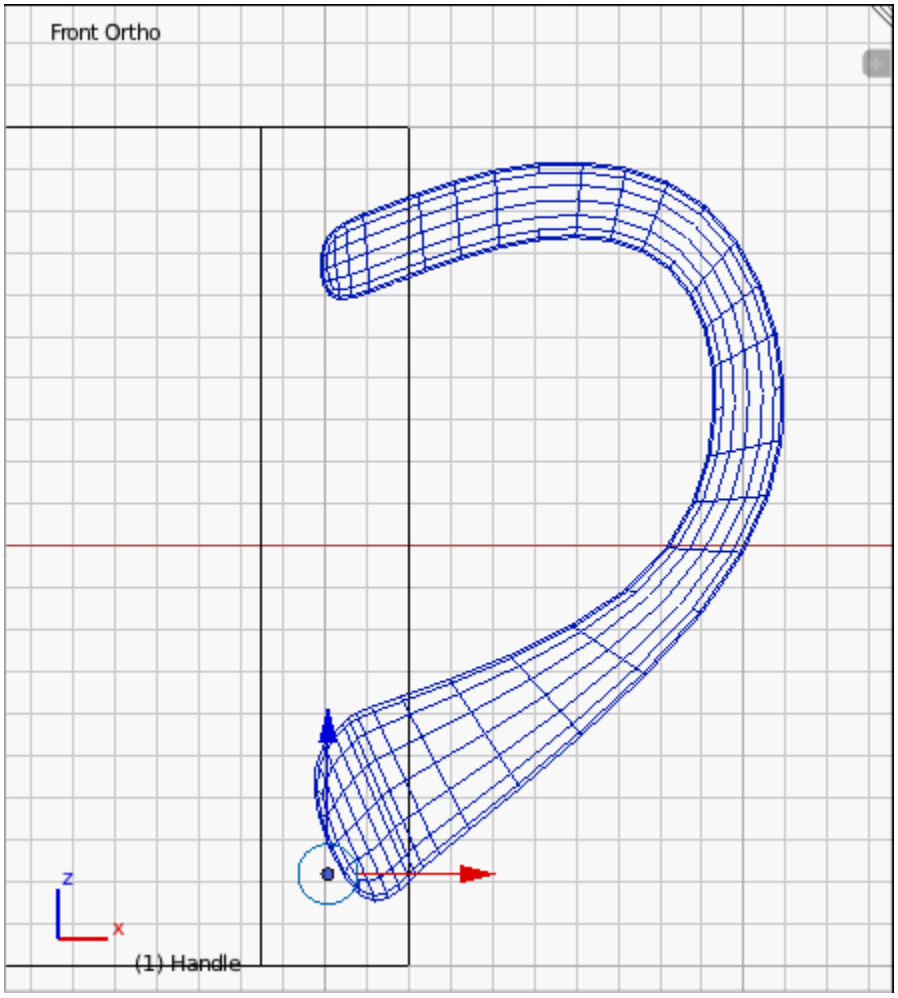


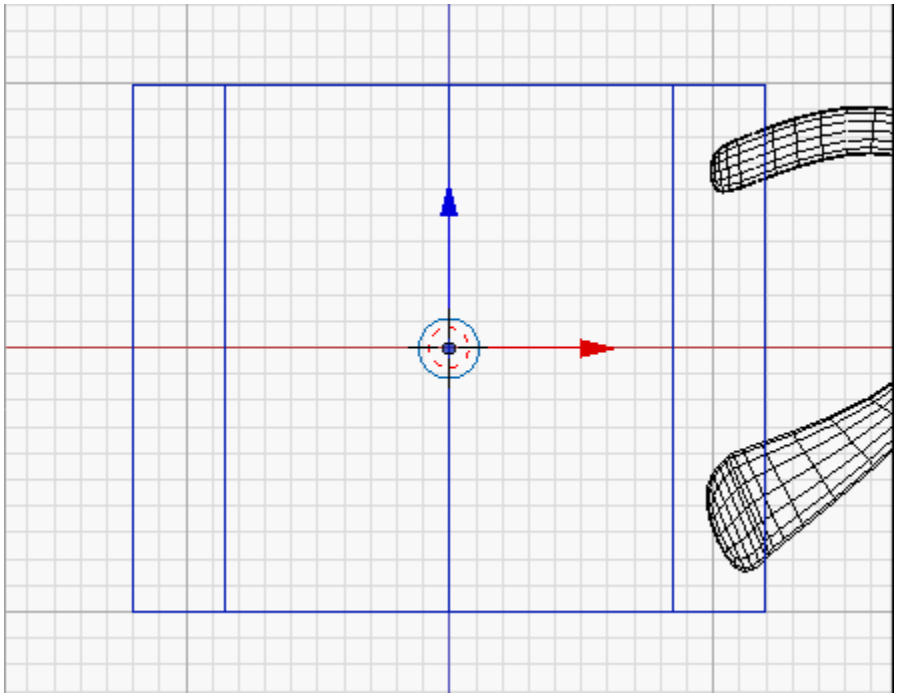

Z
X
(1) Handle

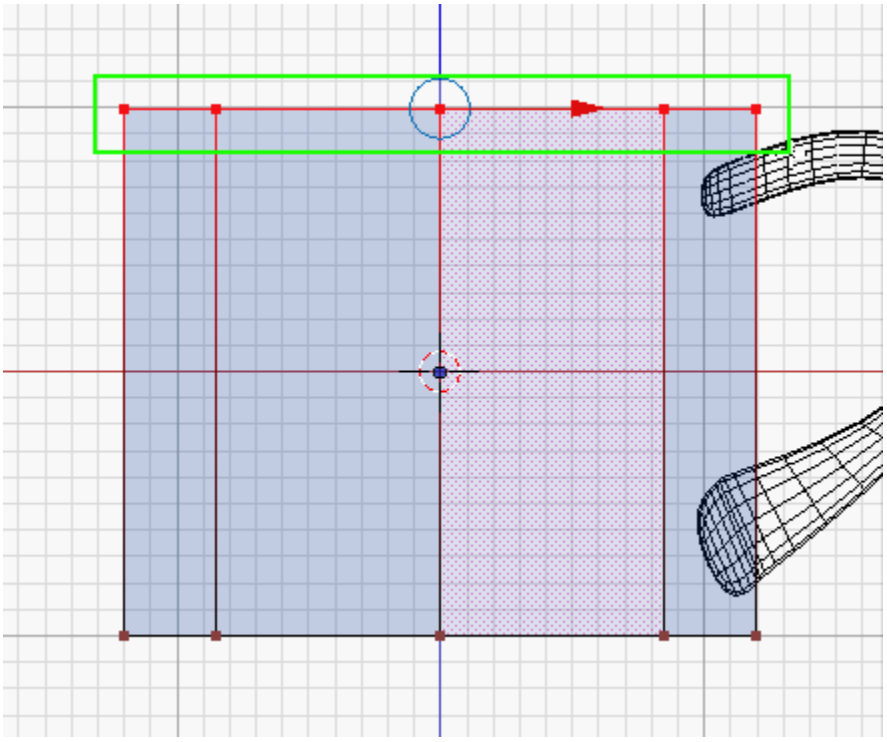

Z
X
(1) Handle

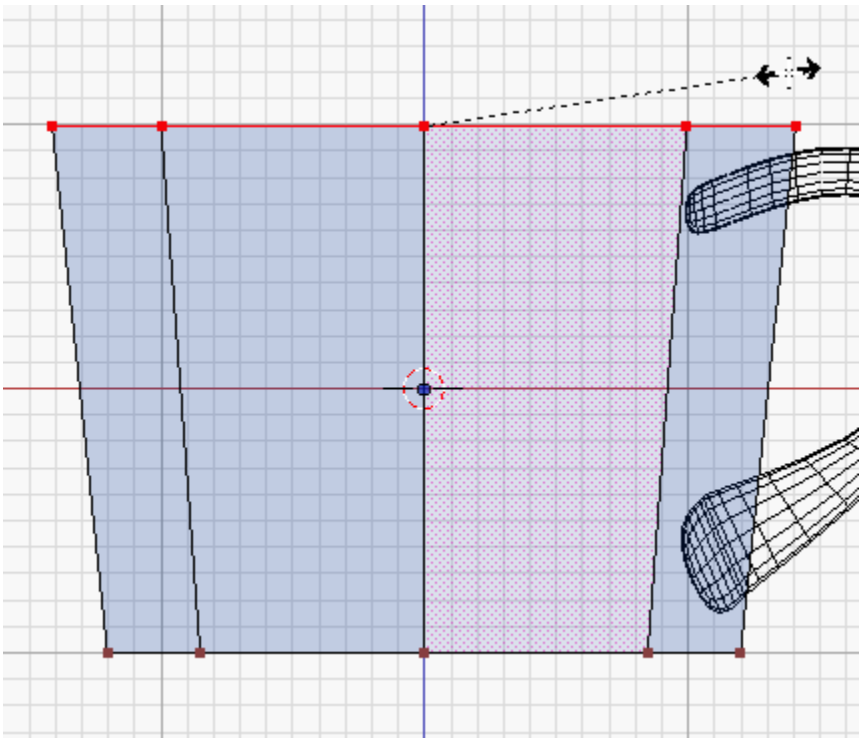

Z
X
(1) Handle

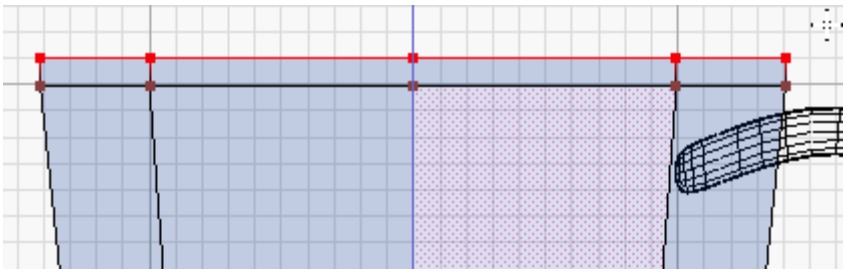

X
(1) Handle

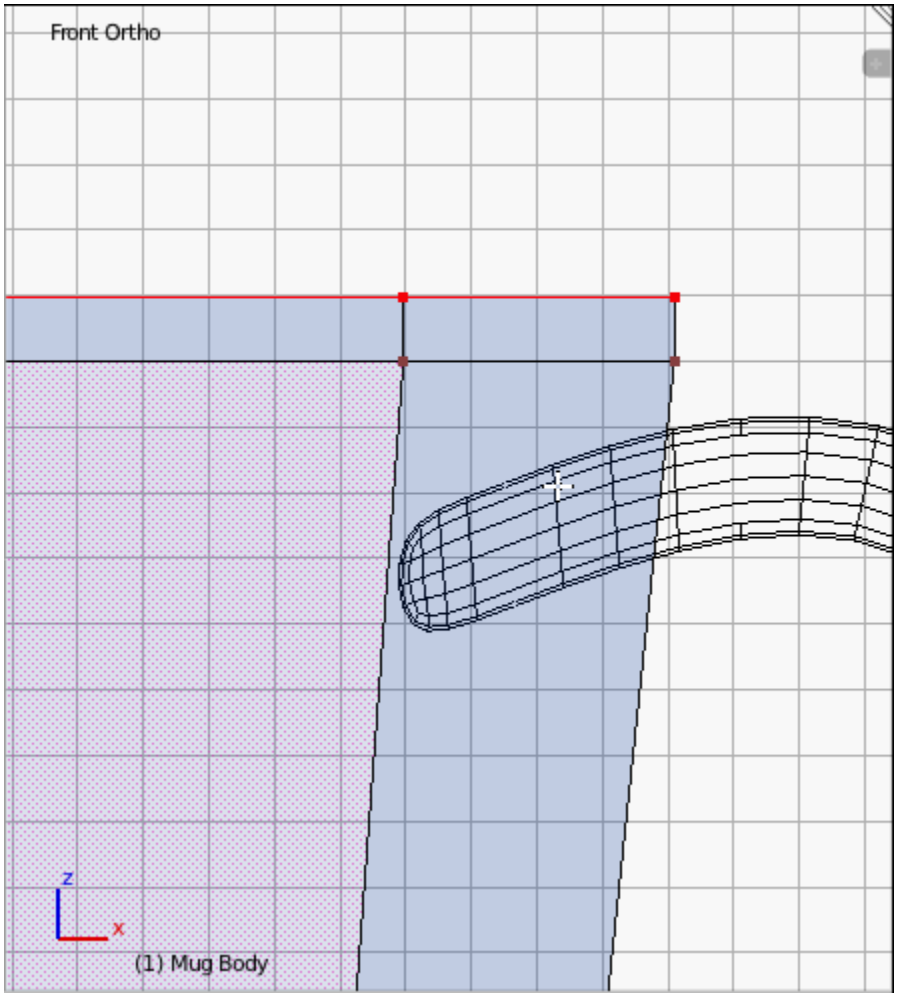

Front Ortho
Z
X
(1) Handle

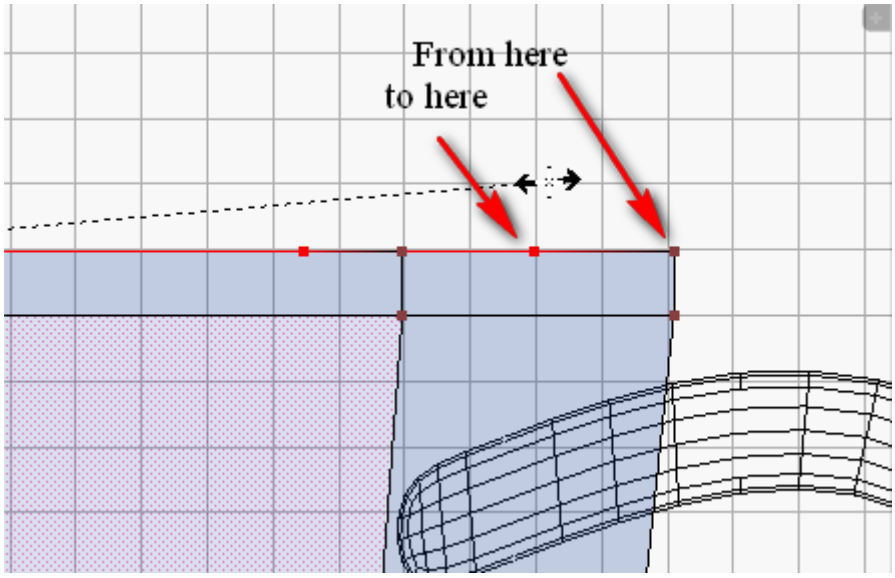


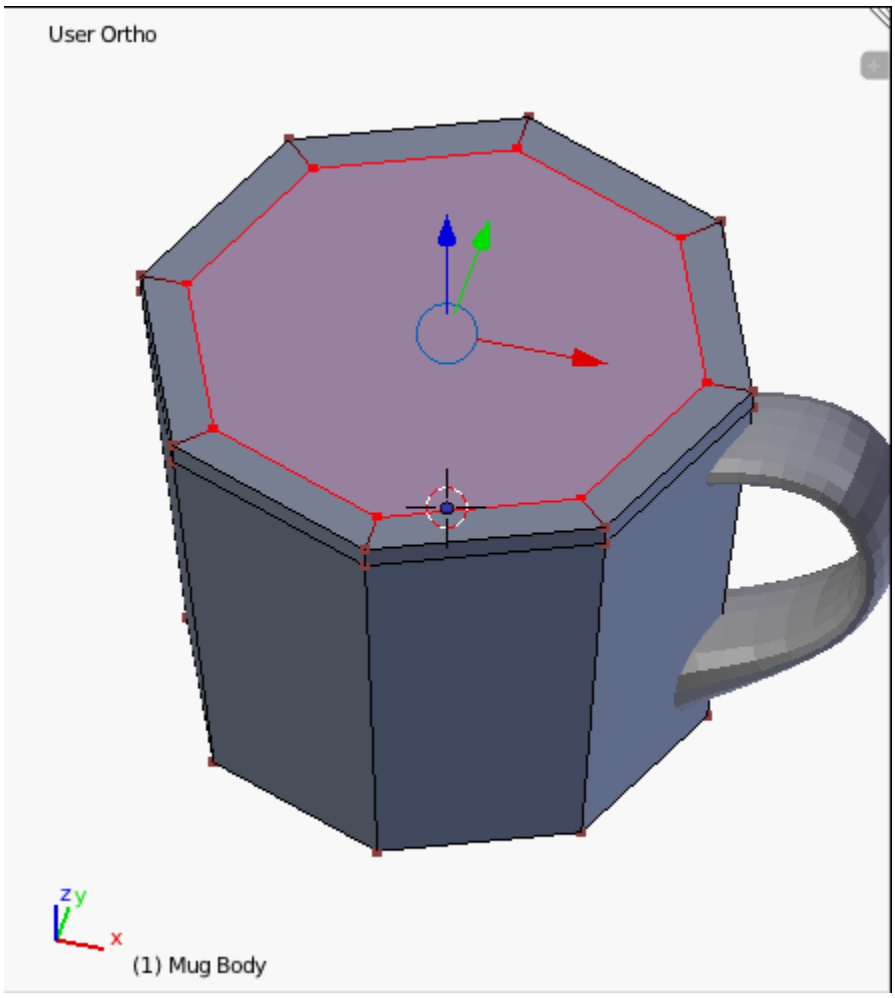


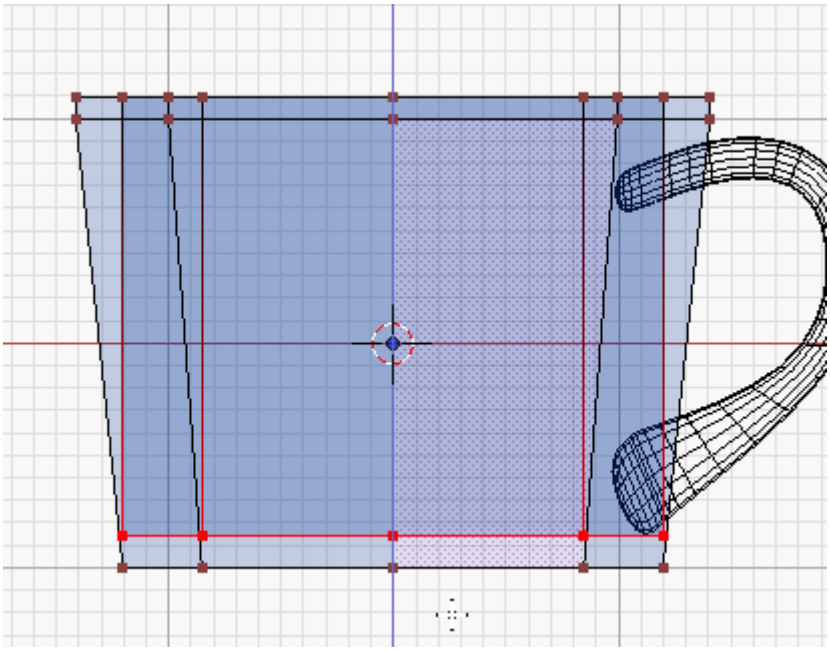




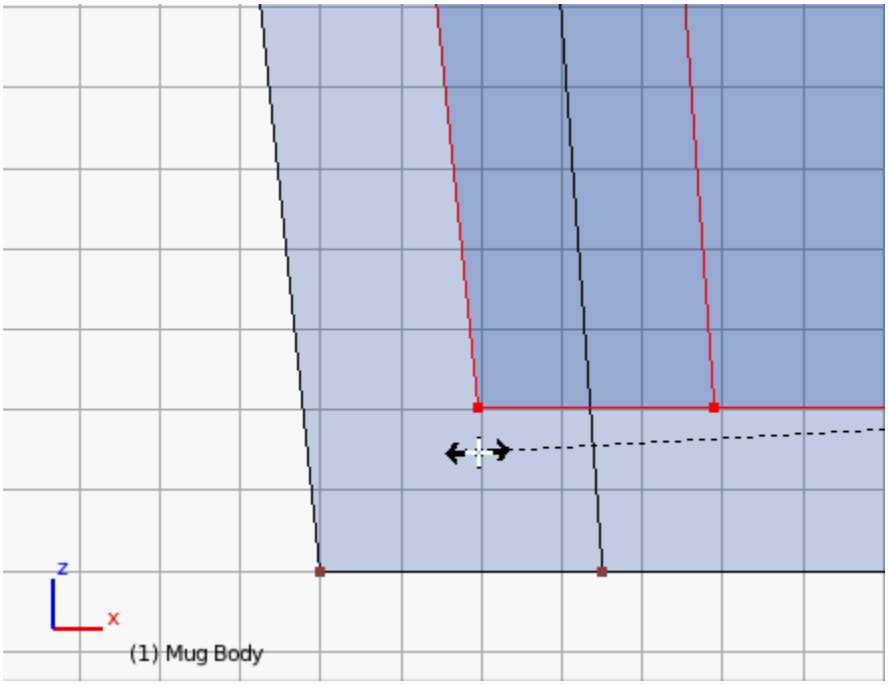

Front Ortho
z
x
(1) Mug Body

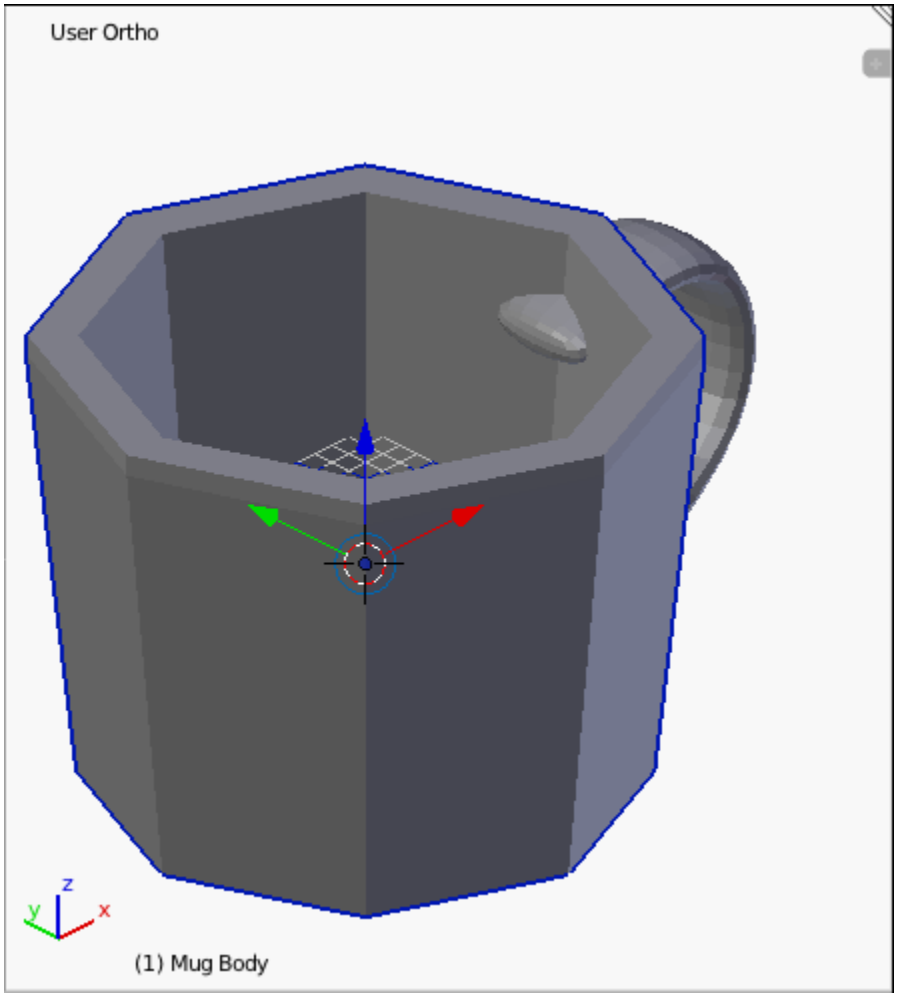

From here
to here

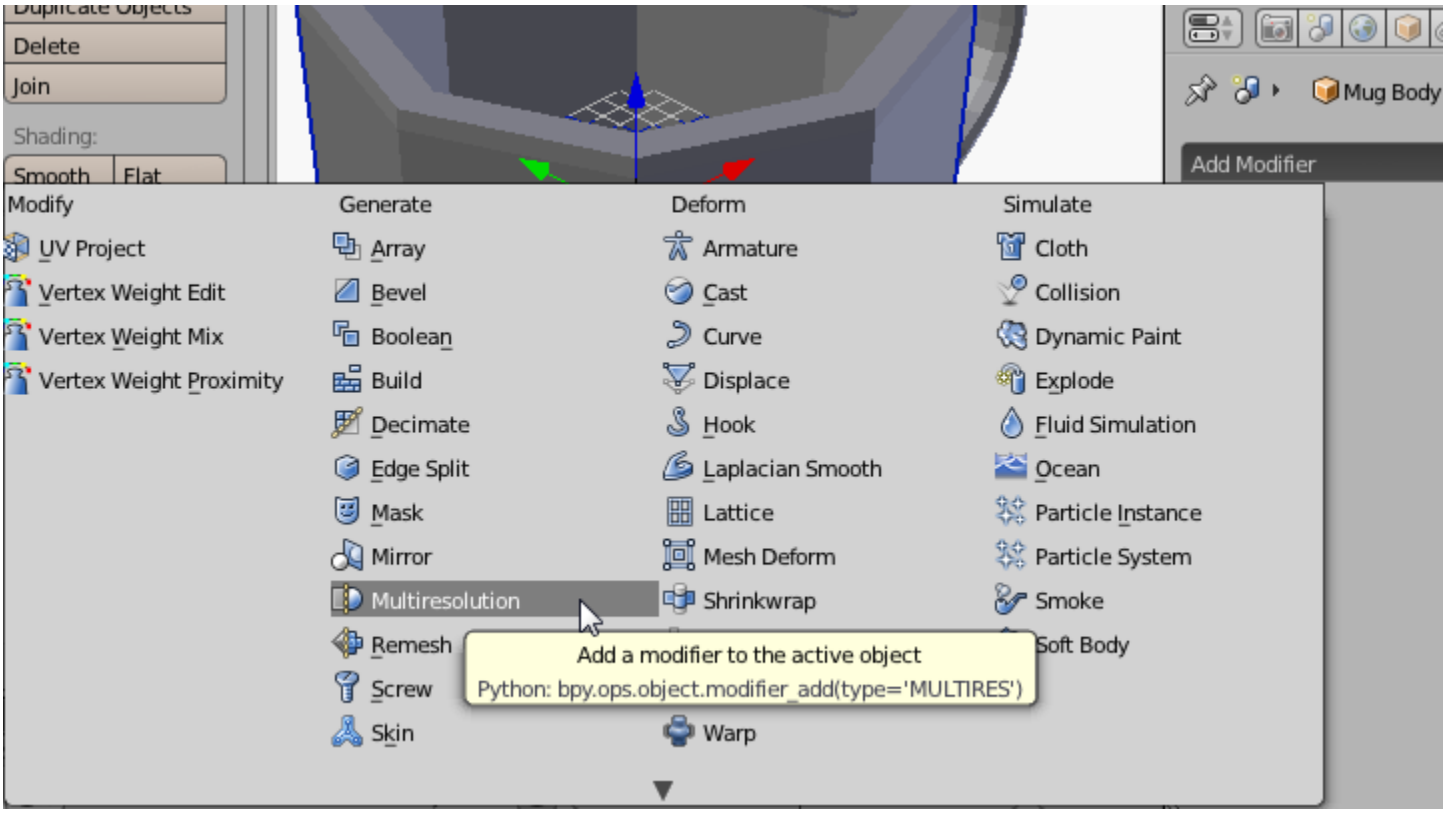

User Ortho
z
y
x
(1) Mug Body

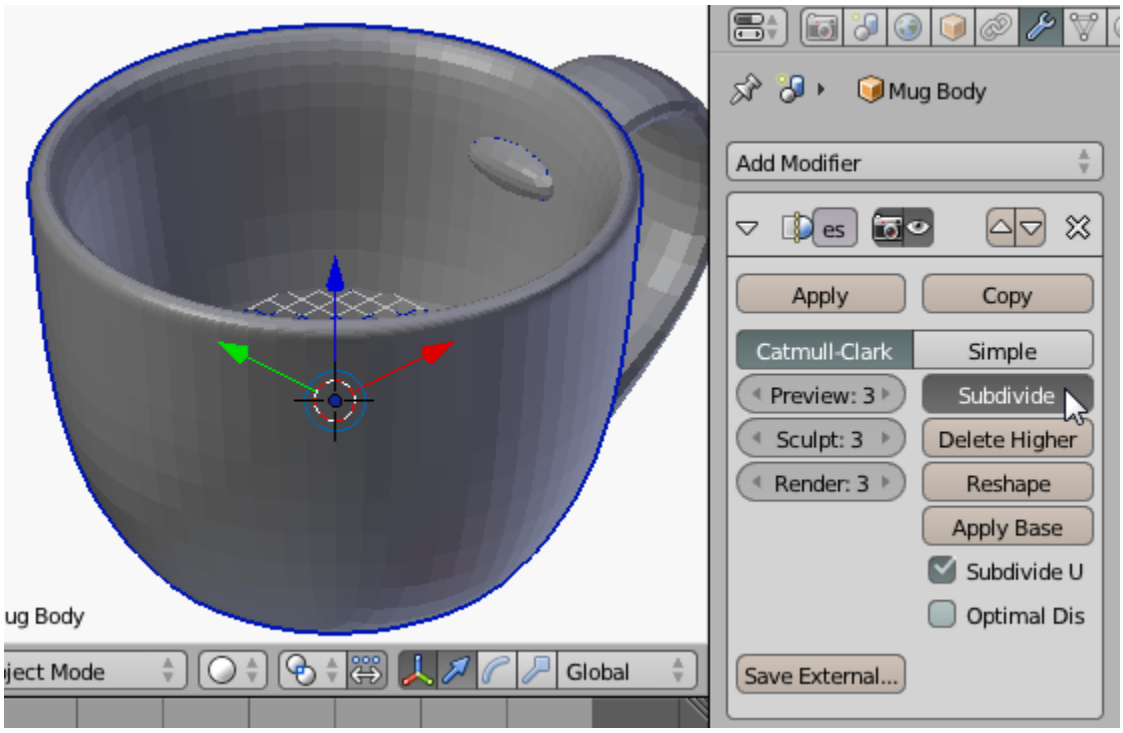


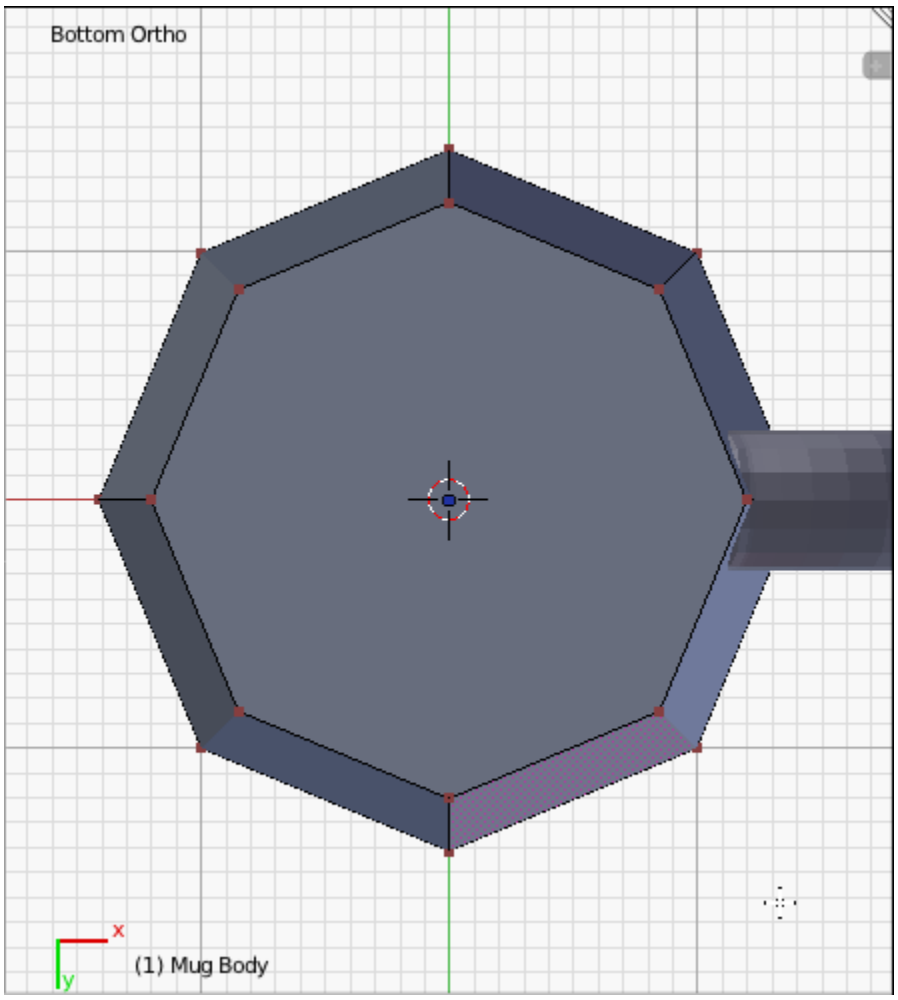
z
x
(1) Mug Body

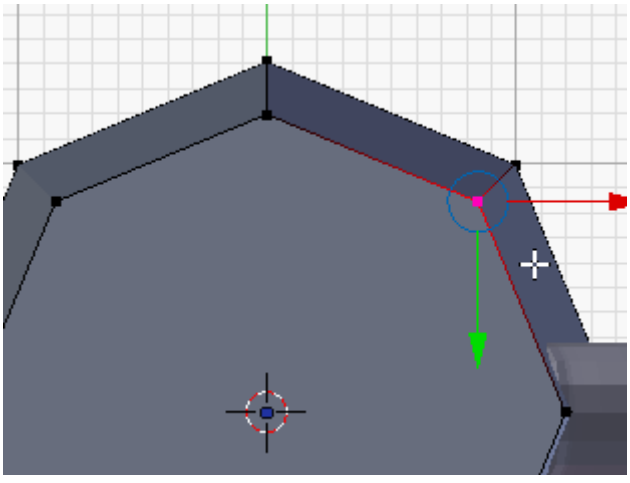

z
x
(1) Mug Body

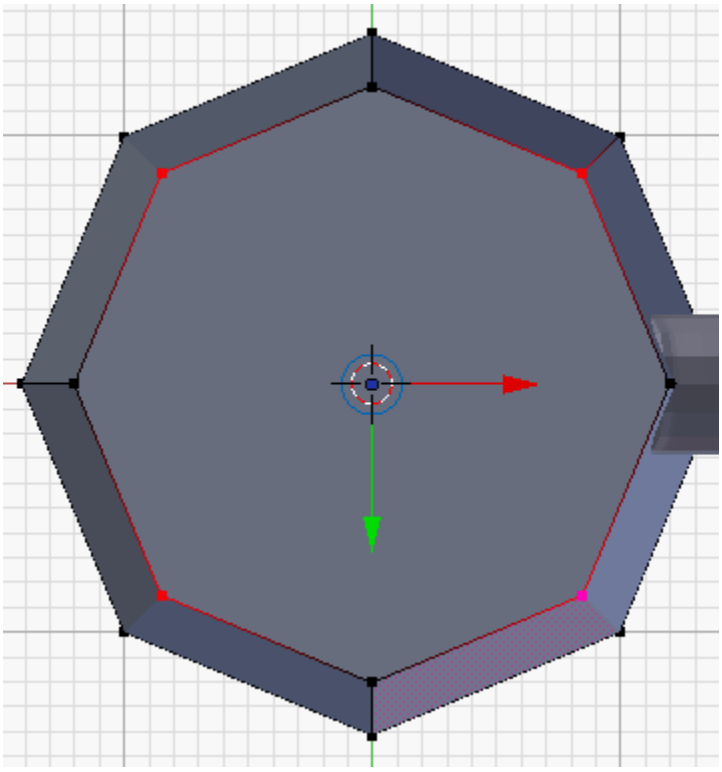

User Ortho
z
y
x
(1) Mug Body

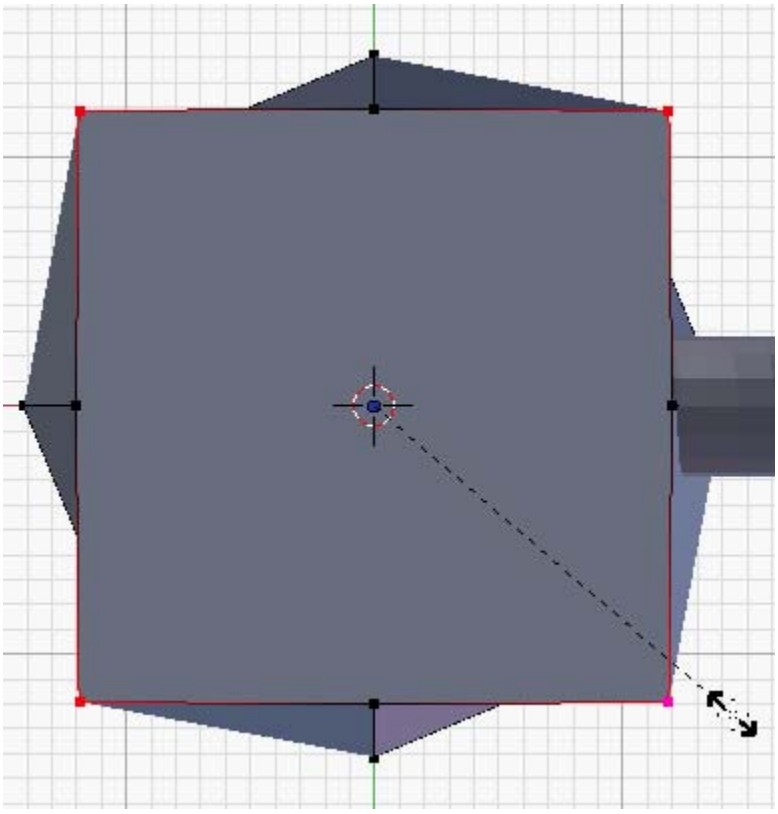

Delete
Join
Shading:
Smooth
Flat
Mug Body
Add Modifier
Modify
UV Project
Vertex Weight Edit
Vertex Weight Mix
Vertex Weight Proximity
Generate
Array
Bevel
Boolean
Build
Decimate
Edge Split
Mask
Mirror
Multiresolution
Remesh
Screw
Skin
Deform
Armature
Cast
Curve
Displace
Hook
Laplacian Smooth
Lattice
Mesh Deform
Shrinkwrap
Warp
Simulate
Cloth
Collision
Dynamic Paint
Explode
Fluid Simulation
Ocean
Particle Instance
Particle System
Smoke
Soft Body
Add a modifier to the active object
Python: bpy.ops.object.modifier_add(type='MULTIRES')

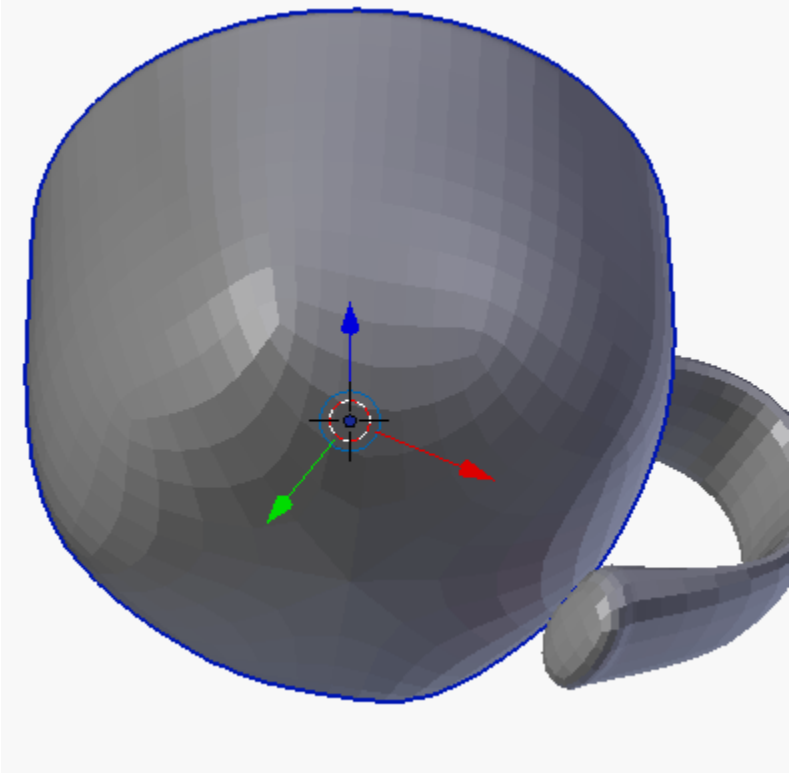

Mug Body
Add Modifier
Apply
Copy
Catmull-Clark
Simple
Preview: 3
Subdivide
Sculpt: 3
Delete Higher
Render: 3
Reshape
Apply Base
Subdivide U
Optimal Dis
Save External...
Global

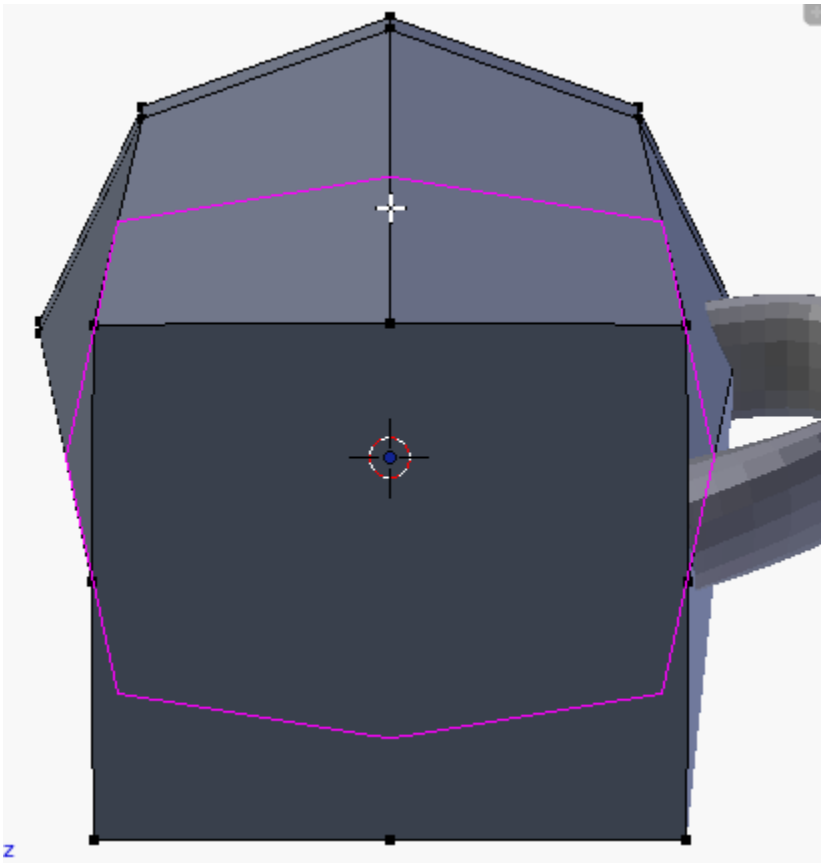

Bottom Ortho
x
y
(1) Mug Body

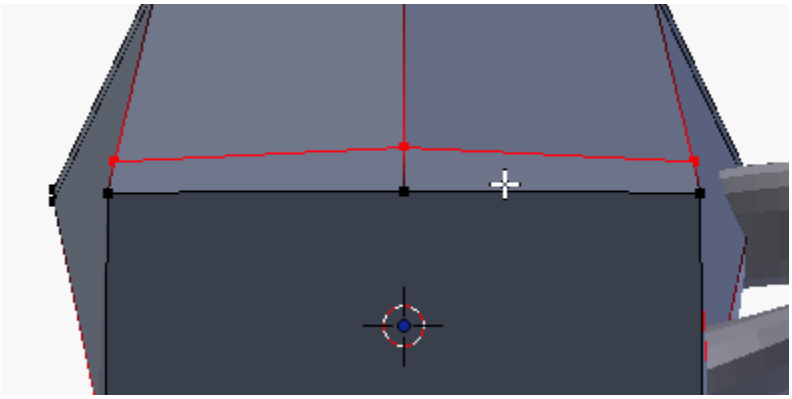


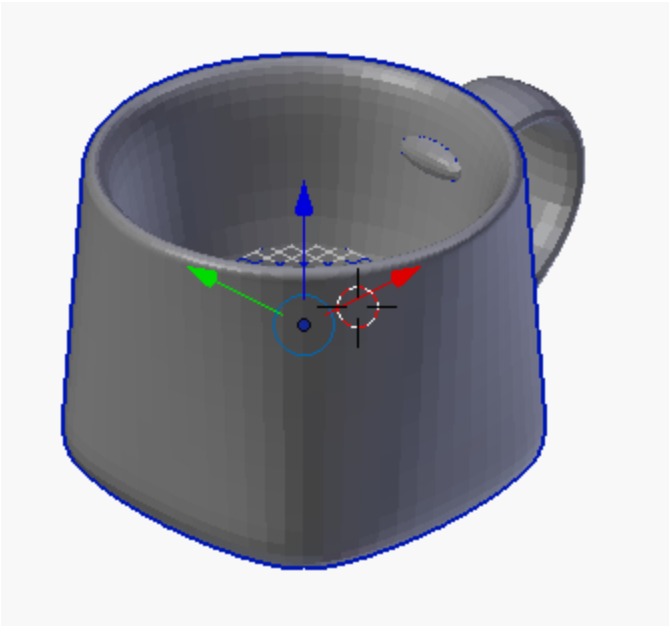


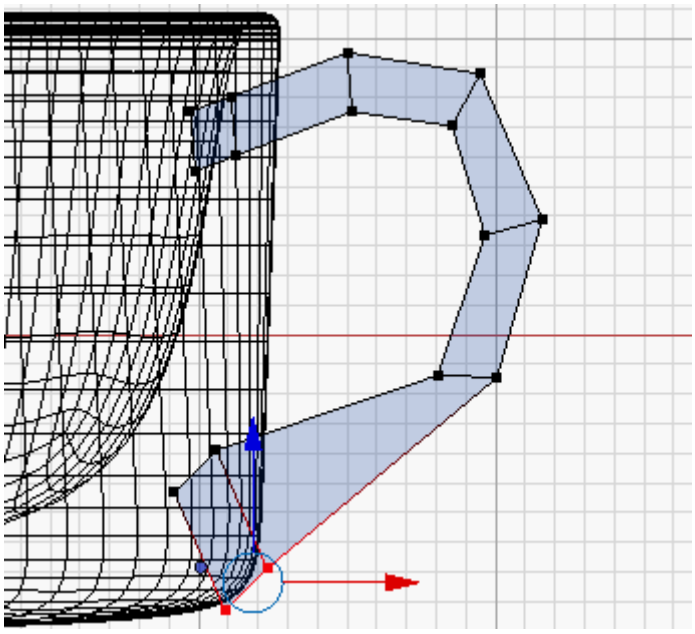


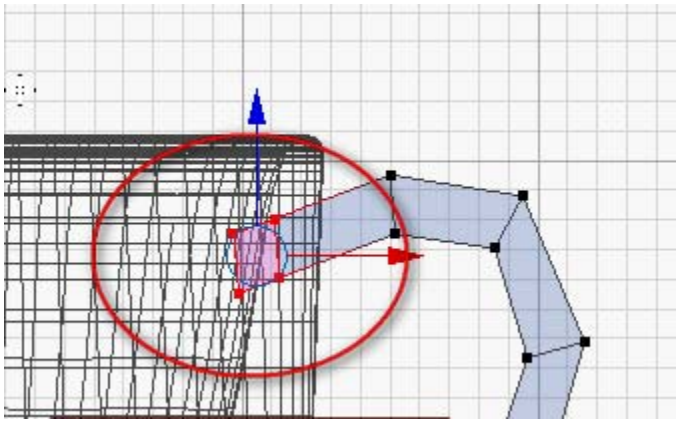


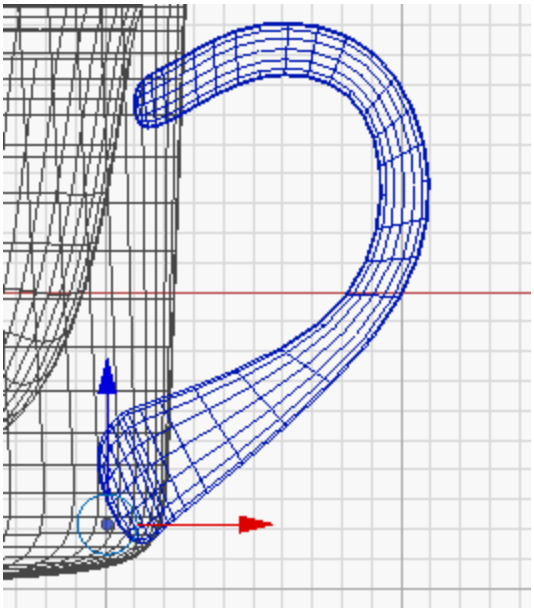

z

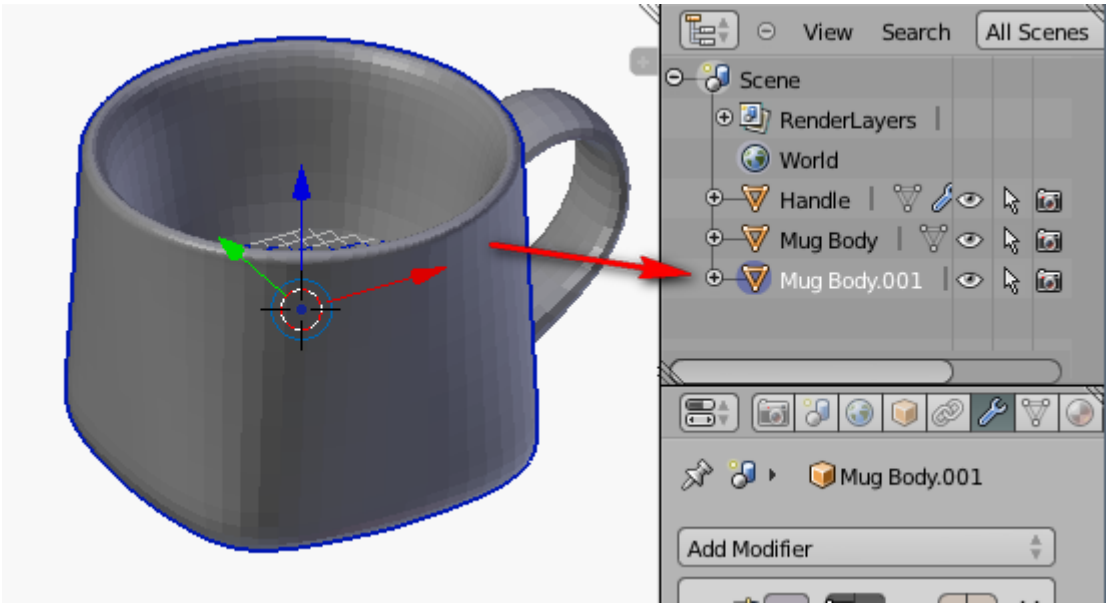


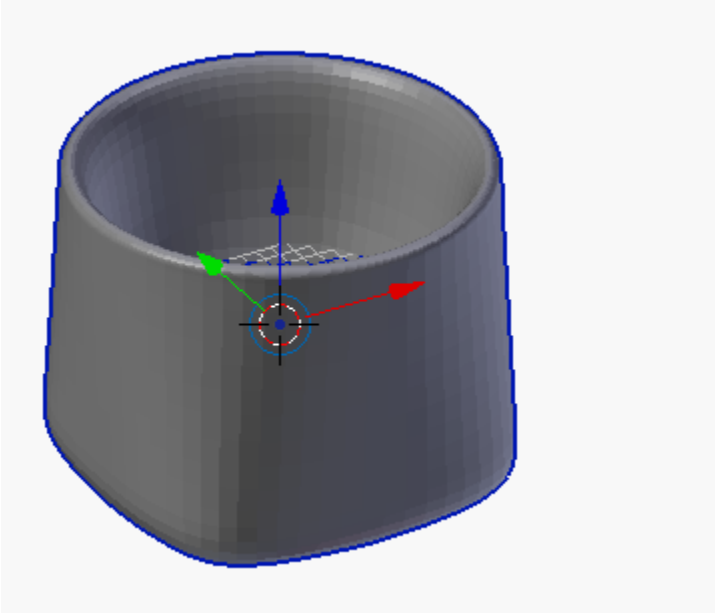


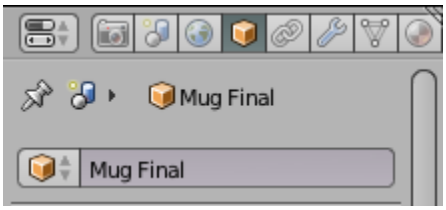


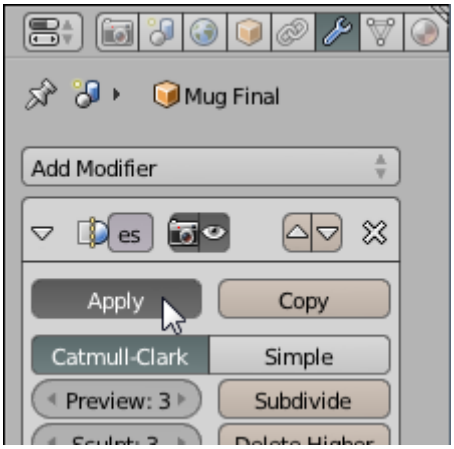


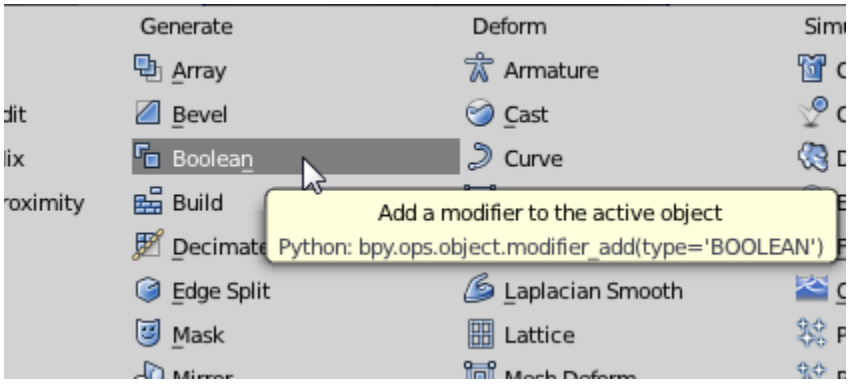


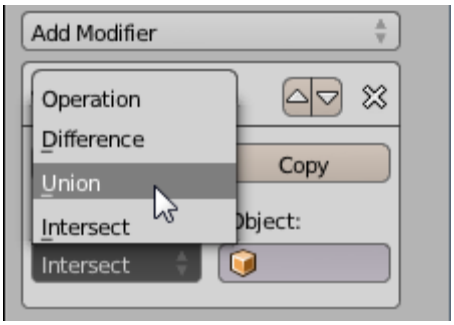

View
Search
All Scenes
Scene
RenderLayers
World
Handle
Mug Body
Mug Body.001
Mug Body.001
Add Modifier

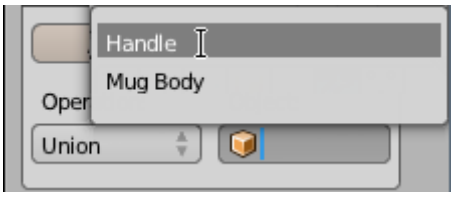


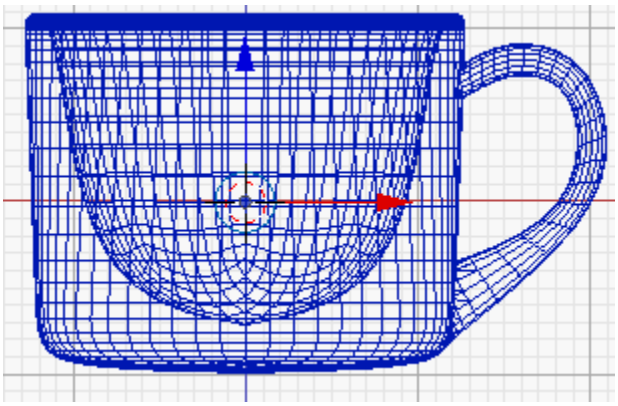

Mug Final
Mug Final

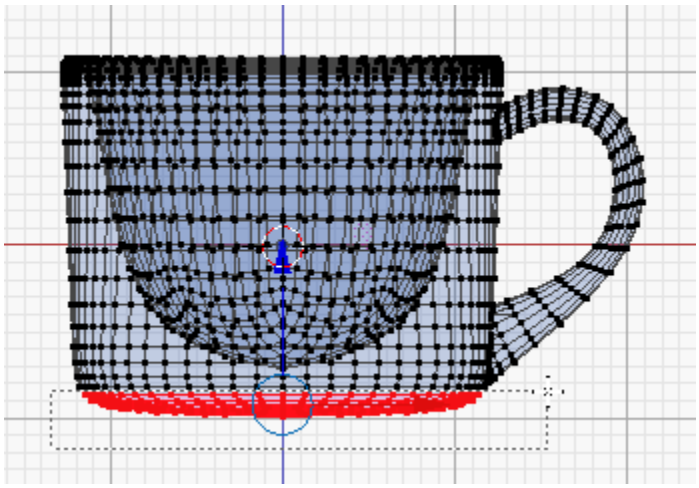

Mug Final
Add Modifier
es
Apply
Copy
Catmull-Clark
Simple
Preview: 3
Subdivide

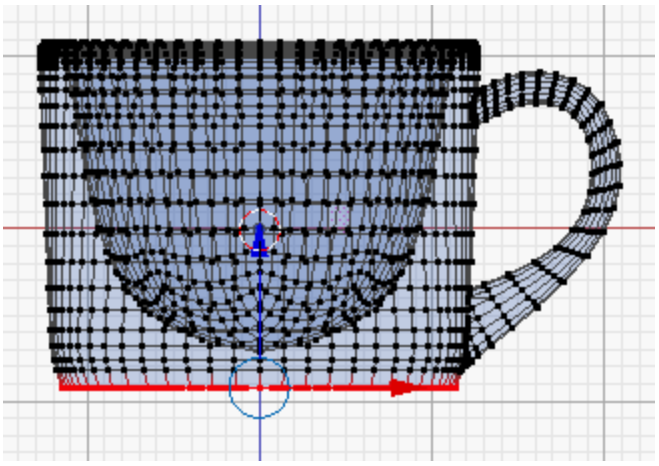

Generate
Deform
Array
Armature
Bevel
Cast
Boolean
Curve
Build
Add a modifier to the active object
Python: bpy.ops.object.modifier_add(type='BOOLEAN')
Edge Split
Laplacian Smooth
Mask
Lattice

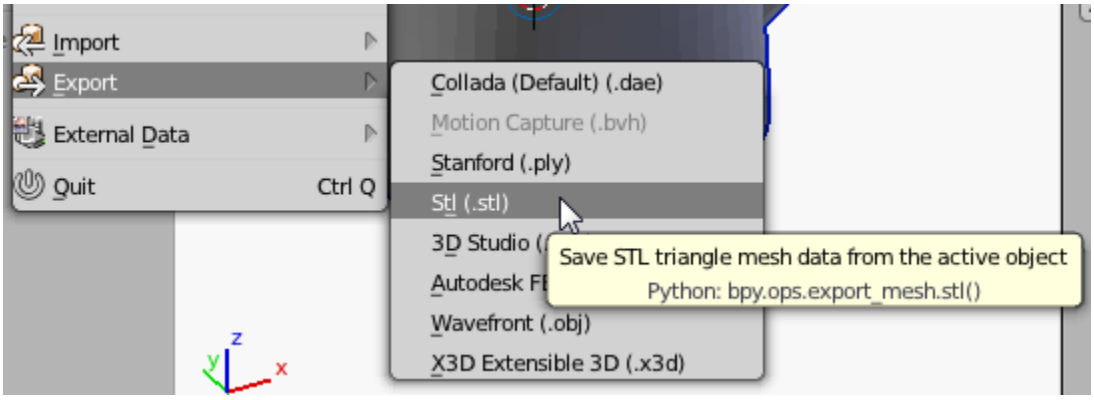

Add Modifier
Operation
Difference
Union
Intersect
Copy
Intersect

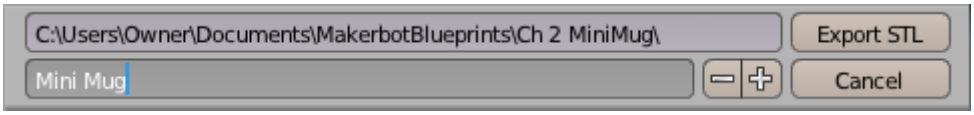

Handle
Mug Body
Union

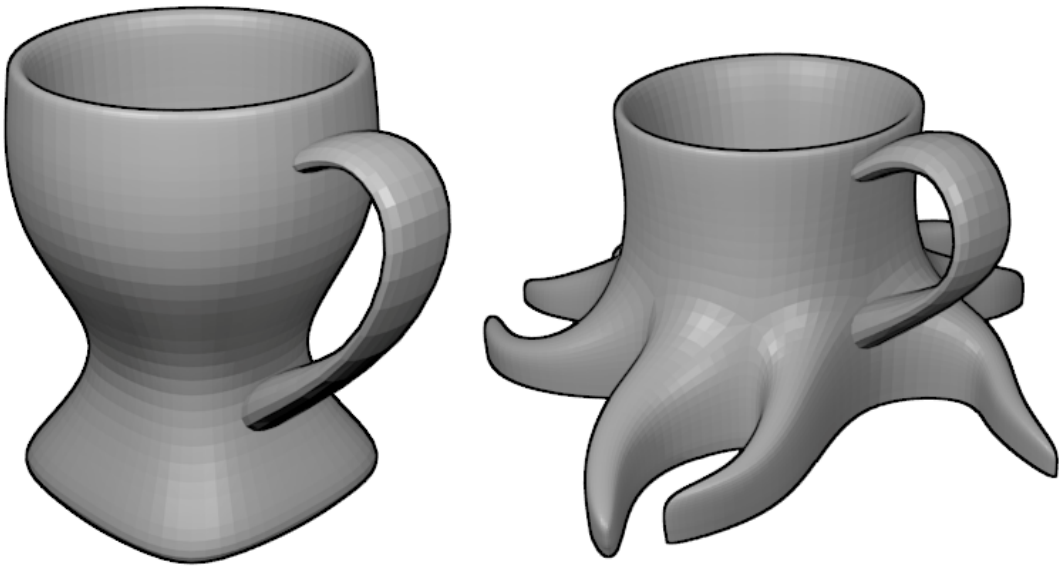




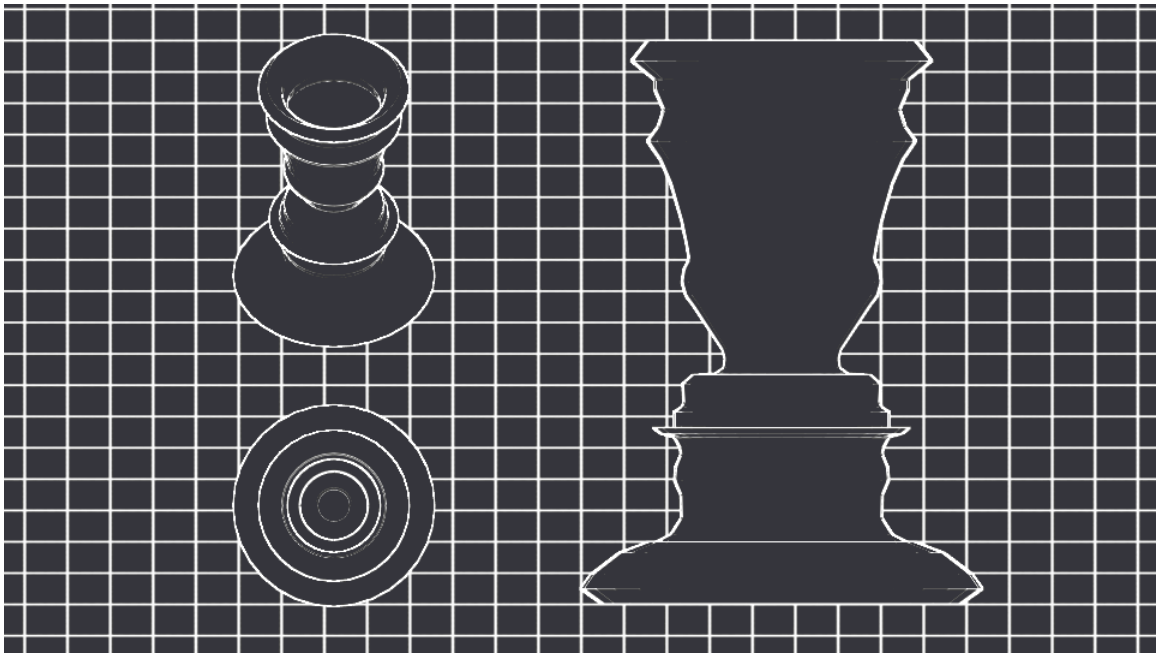


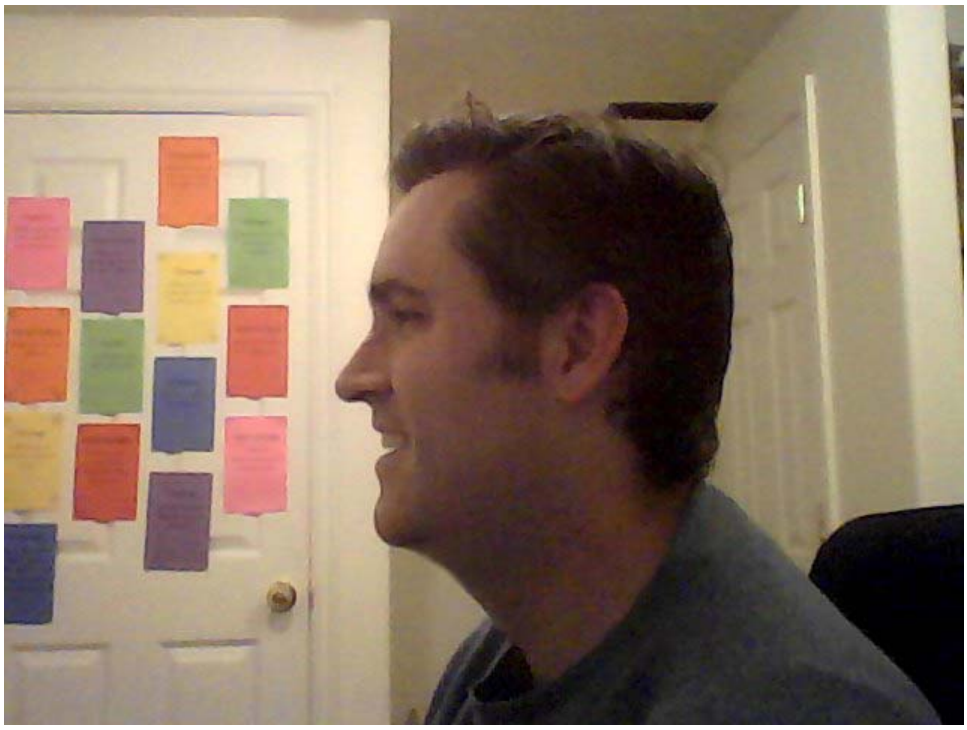

Import
Export
External Data
Quit
Ctrl Q
Collada (Default) (.dae)
Motion Capture (.bvh)
Stanford (.ply)
Stl (.stl)
3D Studio
Autodesk
Wavefront (.obj)
X3D Extensible 3D (.x3d)
Save STL triangle mesh data from the active object
Python: bpy.ops.export_mesh.stl()
z
y
x

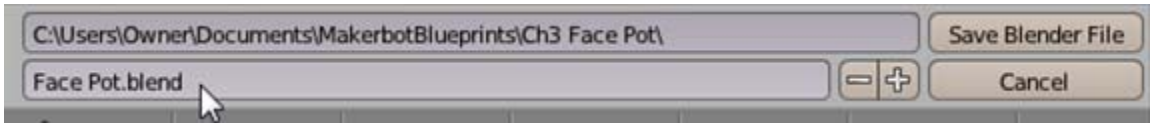

C:\Users\Owner\Documents\MakerbotBlueprints\Ch 2 MiniMug\
Export STL
Mini Mug
Cancel

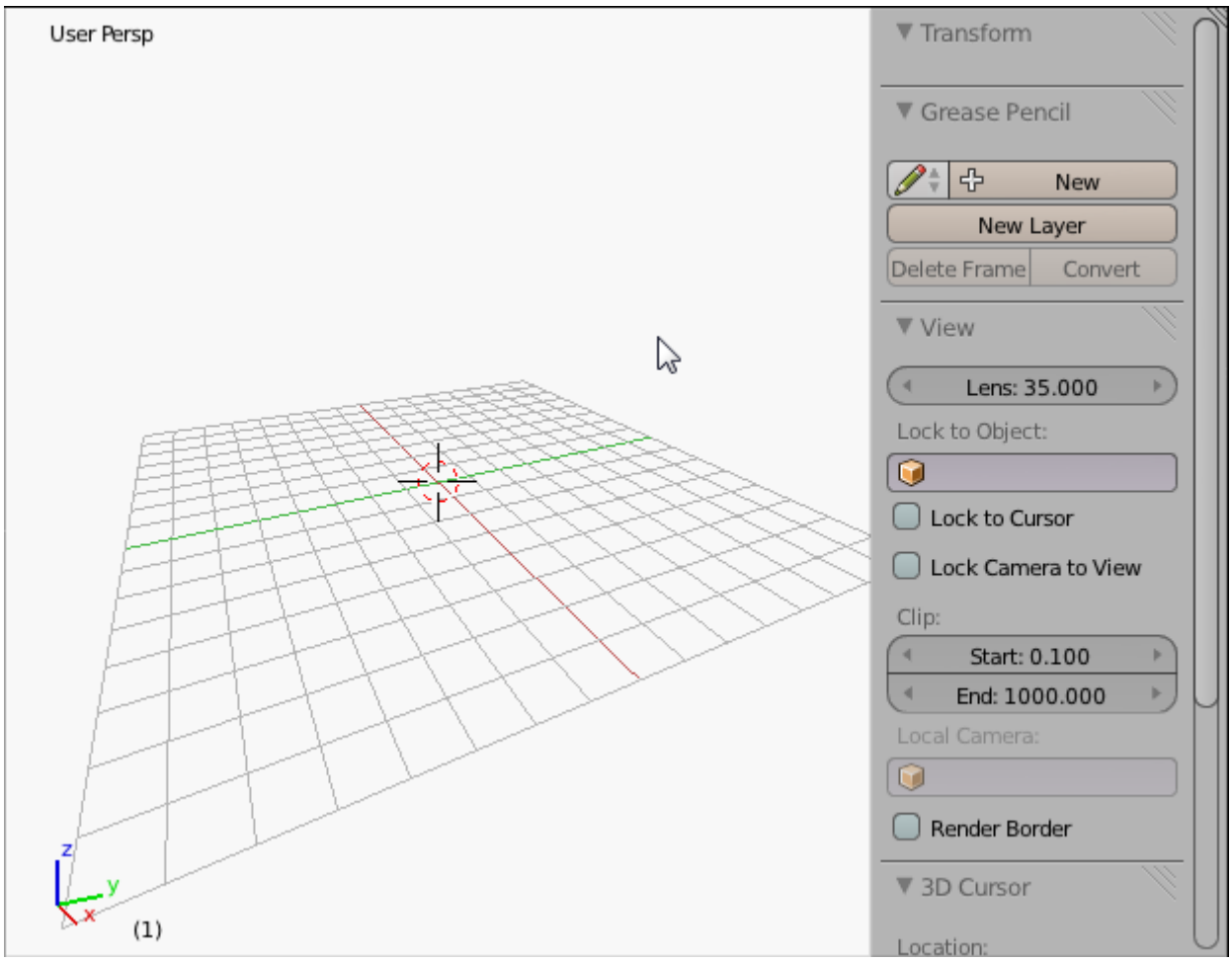


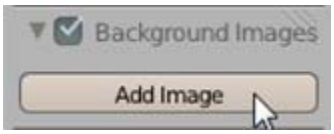
Chapter 3:Face Illusion Vase






C:\Users\Owner\Documents\MakerbotBlueprints\Ch3 Face Pot\
Face Pot.blend
Save Blender File
Cancel


User Persp
Transform
Grease Pencil
New
New Layer
Delete Frame
Convert
View
Lens: 35.000
Lock to Object:
Lock to Cursor
Lock Camera to View
Clip:
Start: 0.100
End: 1000.000
Local Camera:
Render Border
3D Cursor
Location:
z
y
x
(1)


Background Images
Add Image

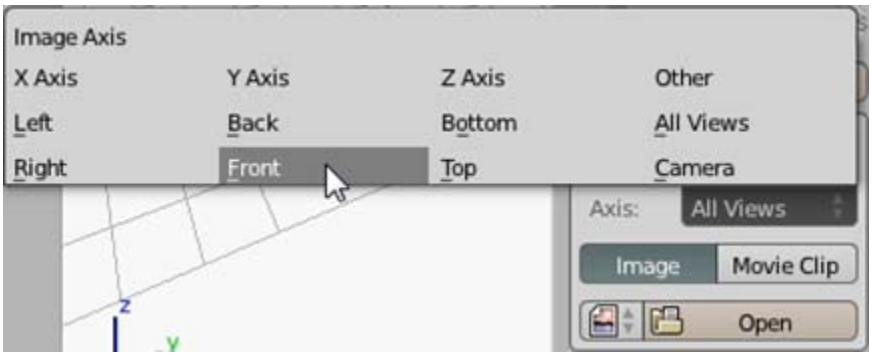
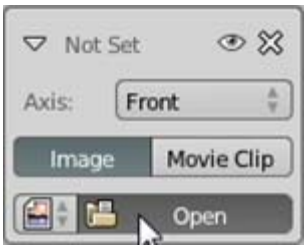
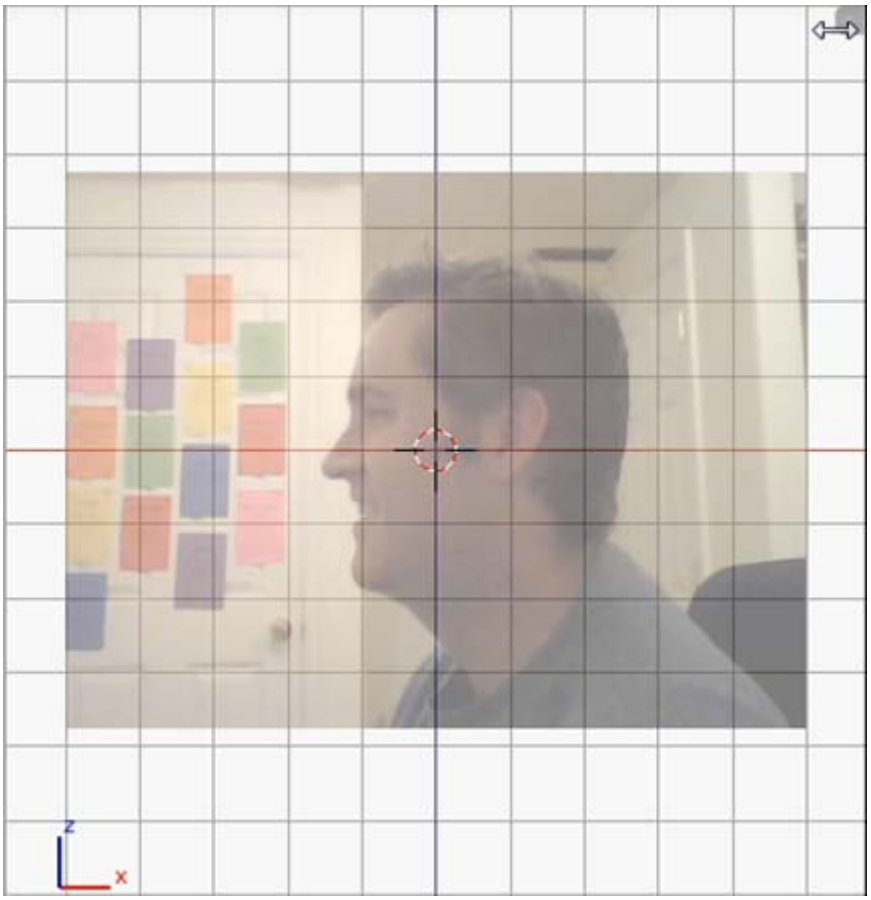
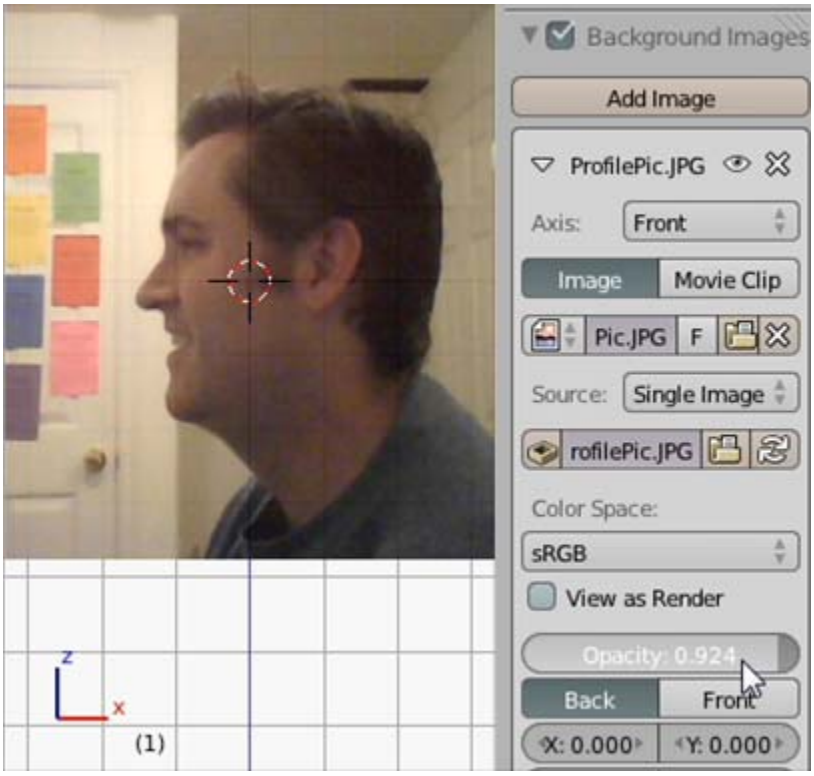
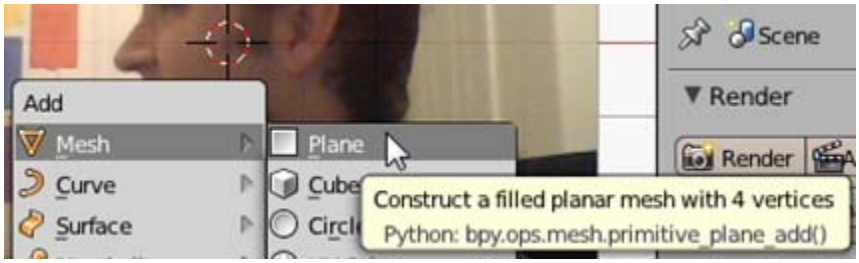


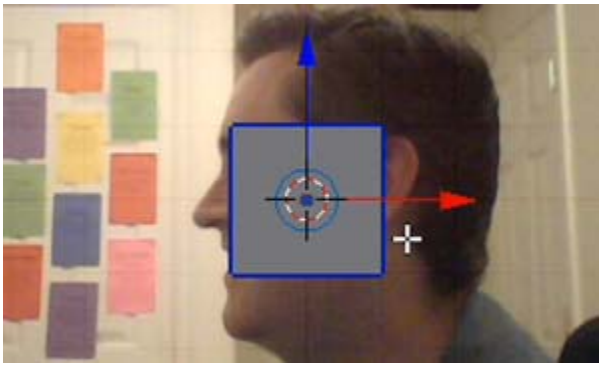
Image Axis
X Axis
Y Axis
Z Axis
Other
Left
Back
Bottom
All Views
Right
Front
Top
Camera
Axis:
All Views
Image
Movie Clip
Open
z
y

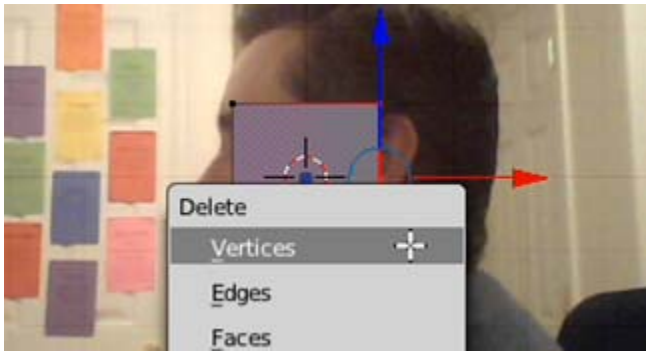

Not Set
Axis:
Front
Image
Movie Clip
Open

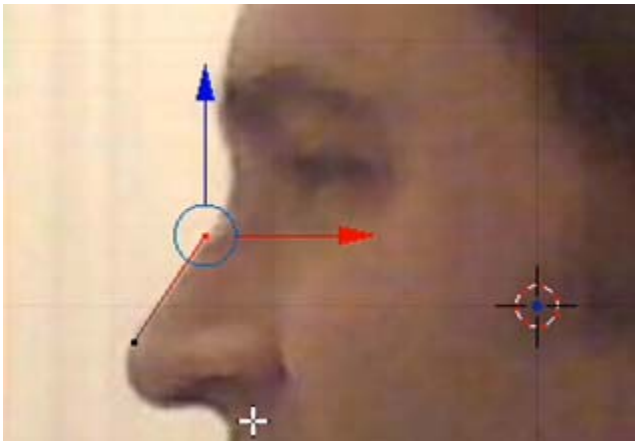

Z
X

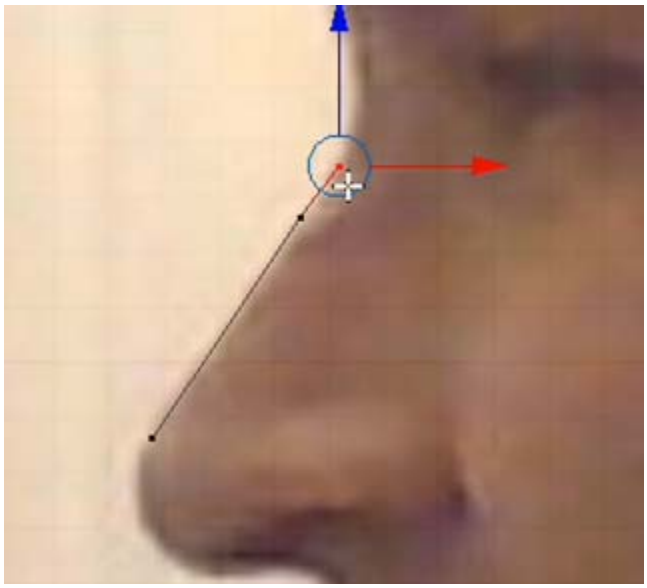

Background Images
Add Image
ProfilePic.JPG
Axis:
Front
Image
Movie Clip
Pic.JPG
F
Source:
Single Image
rofilePic.JPG
Color Space:
sRGB
View as Render
Opacity: 0.924
Back
Front
X: 0.000
Y: 0.000
Z
X
(1)

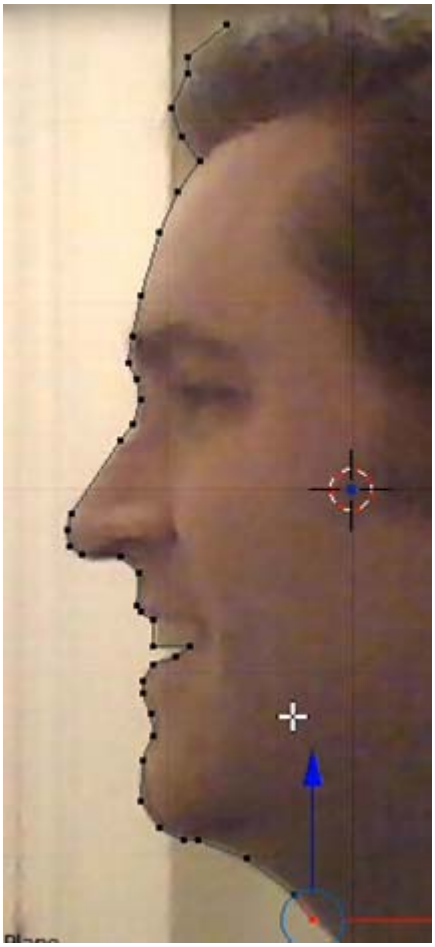

Add
Mesh
Curve
Surface
Plane
Cube
Circl
Construct a filled planar mesh with 4 vertices
Python: bpy.ops.mesh.primitive_plane_add()
Scene
Render
Render



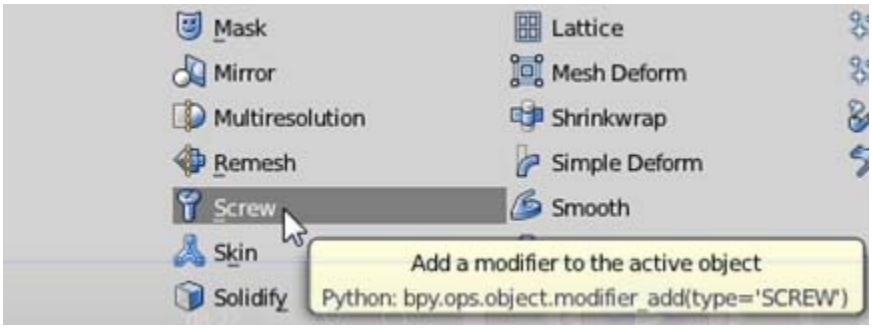

Delete
Vertices
Edges
Faces

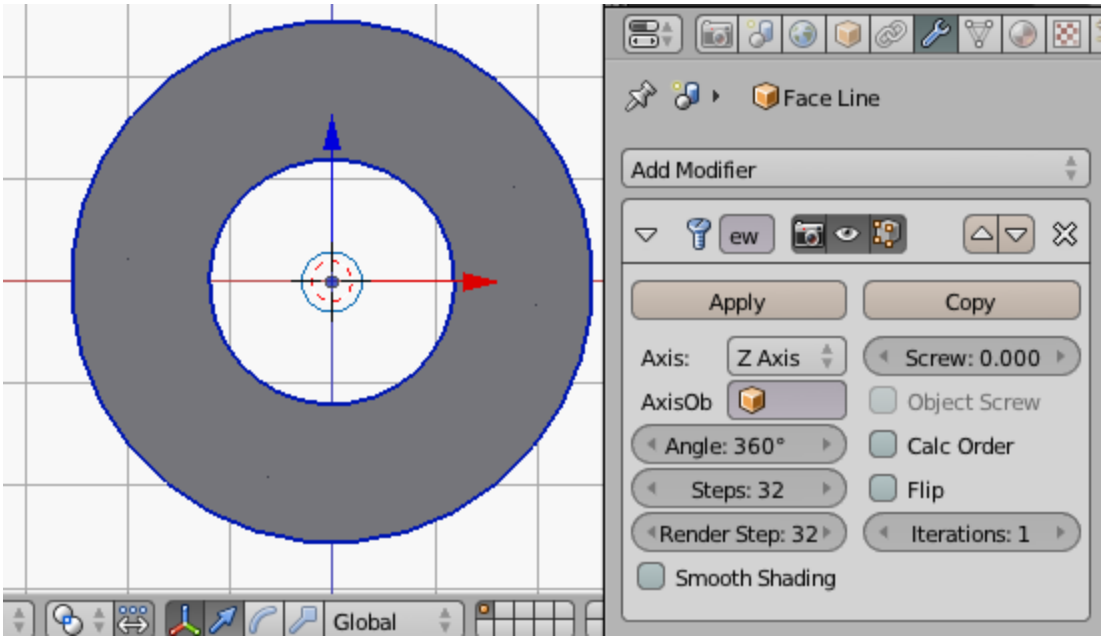


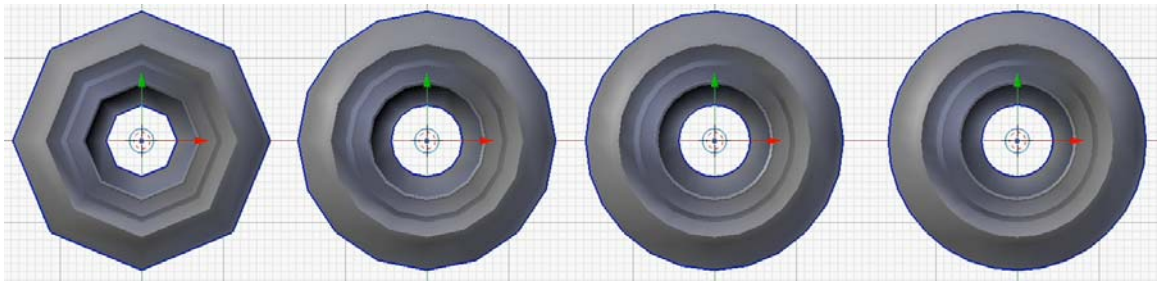


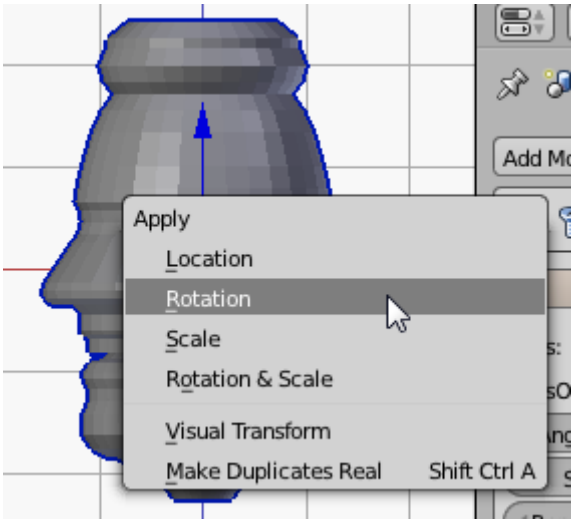


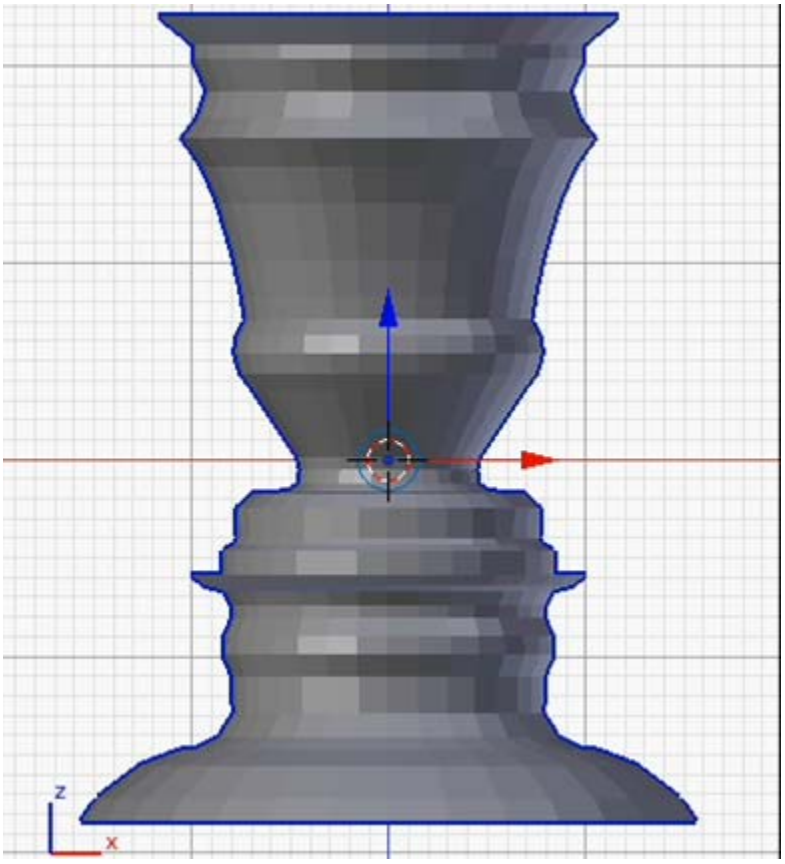
ProfilePic.JPG
Axis:
Front

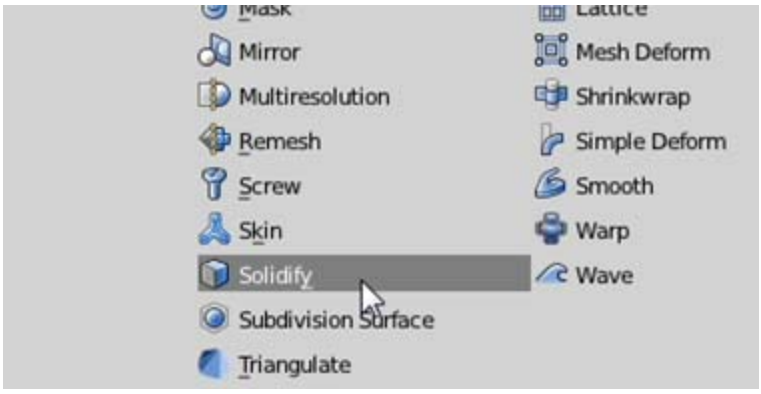

Mask
Mirror
Multiresolution
Remesh
Screw
Skin
Solidify
Lattice
Mesh Deform
Shrinkwrap
Simple Deform
Smooth
Add a modifier to the active object
Python: bpy.ops.object.modifier_add(type='SCREW')

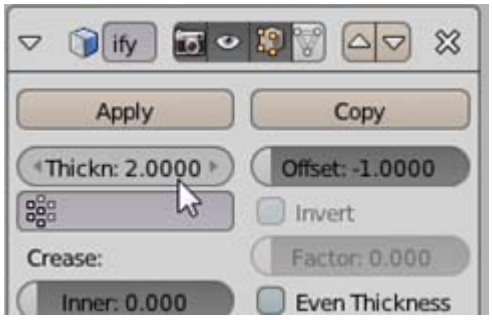

Face Line
Add Modifier
ew
Apply
Copy
Axis:
Z Axis
Screw: 0.000
AxisOb
Object Screw
Angle: 360°
Calc Order
Steps: 32
Flip
Render Step: 32
Iterations: 1
Smooth Shading
Global

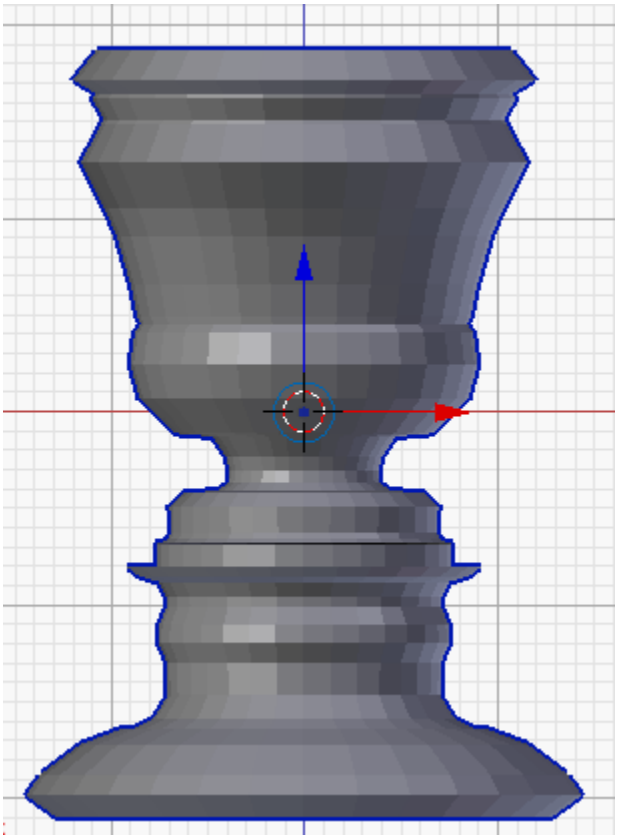


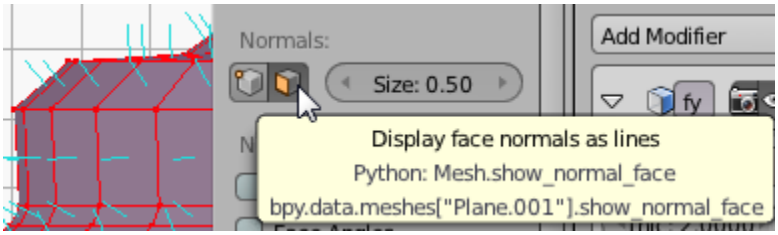

Add Mo
Apply
Location
Rotation
Scale
Rotation & Scale
Visual Transform
Make Duplicates Real
Shift Ctrl A

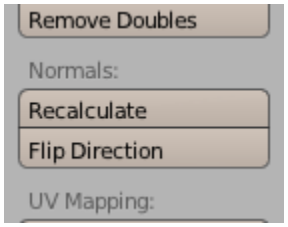

Z
X

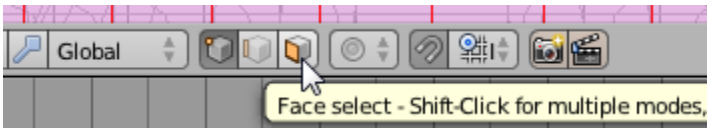

Mirror
Multiresolution
Remesh
Screw
Skin
Solidify
Subdivision Surface
Triangulate
Mesh Deform
Shrinkwrap
Simple Deform
Smooth
Warp
Wave

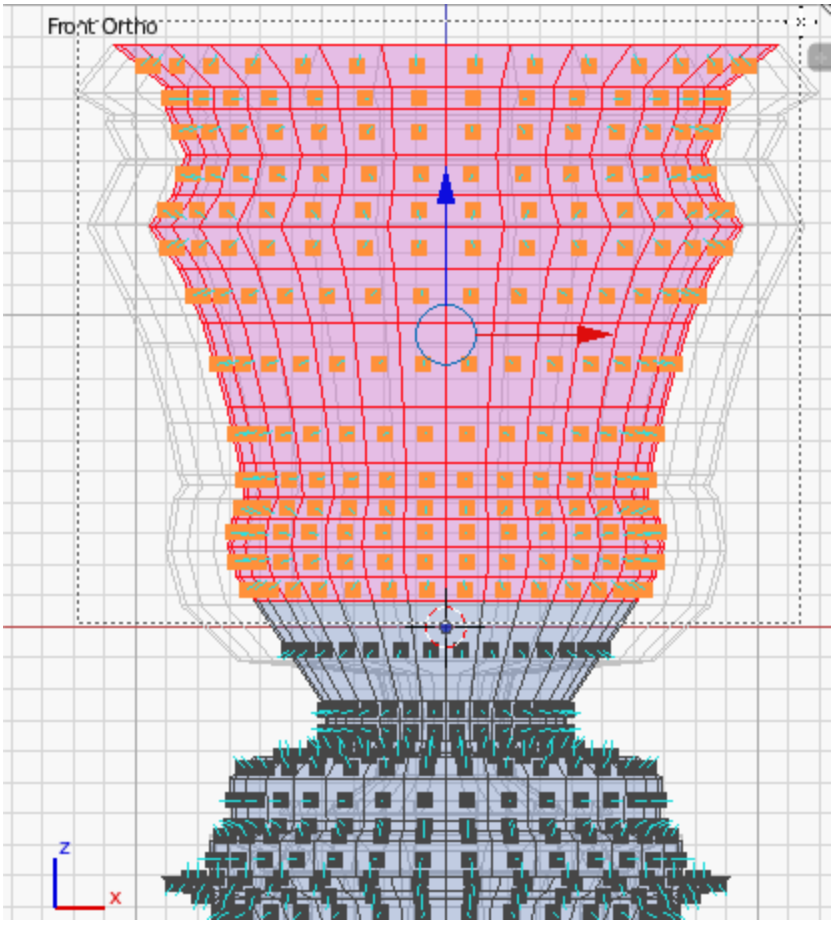

Apply
Copy
Thickn: 2.0000
Offset: -1.0000
Invert
Crease:
Factor: 0.000
Inner: 0.000
Even Thickness

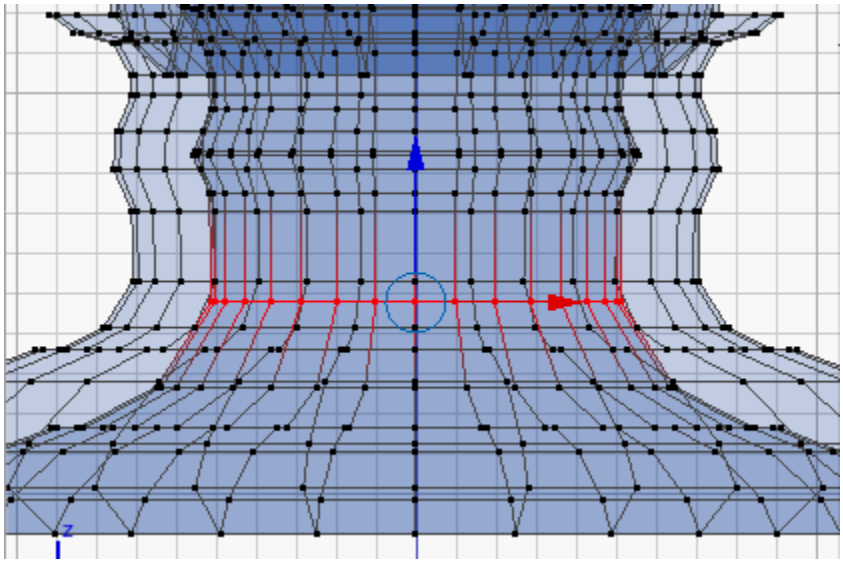


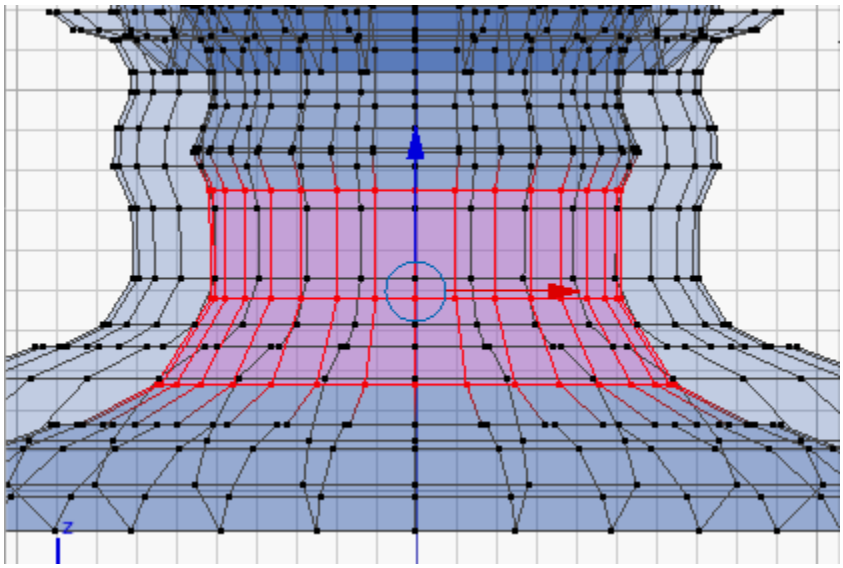

Normals:
Size: 0.50
Add Modifier
Display face normals as lines
Python: Mesh.show_normal_face
bpy.data.meshes["Plane.001"].show_normal_face

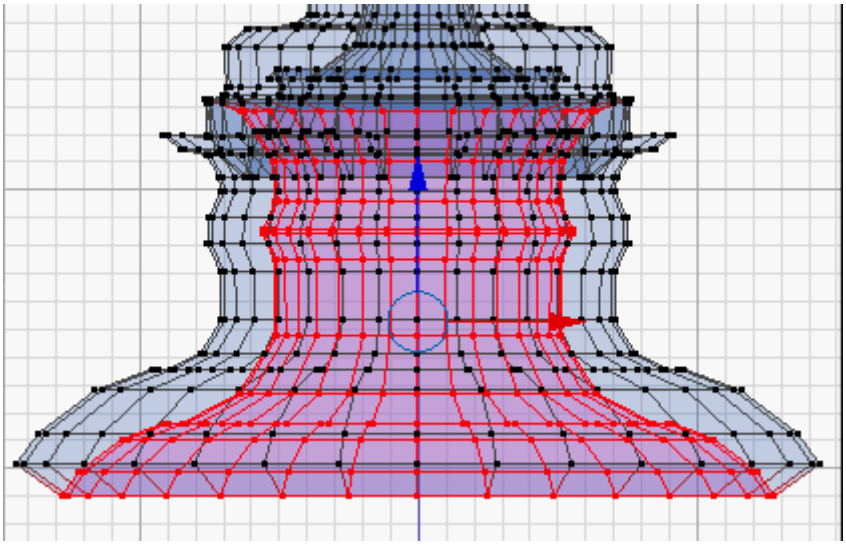

Remove Doubles
Normals:
Recalculate
Flip Direction
UV Mapping:

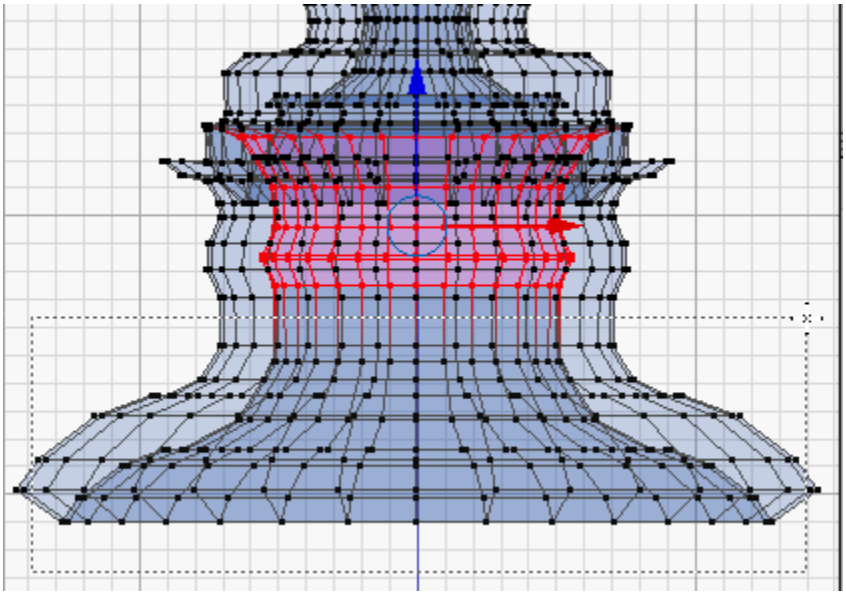

Global
Face select - Shift-Click for multiple modes,

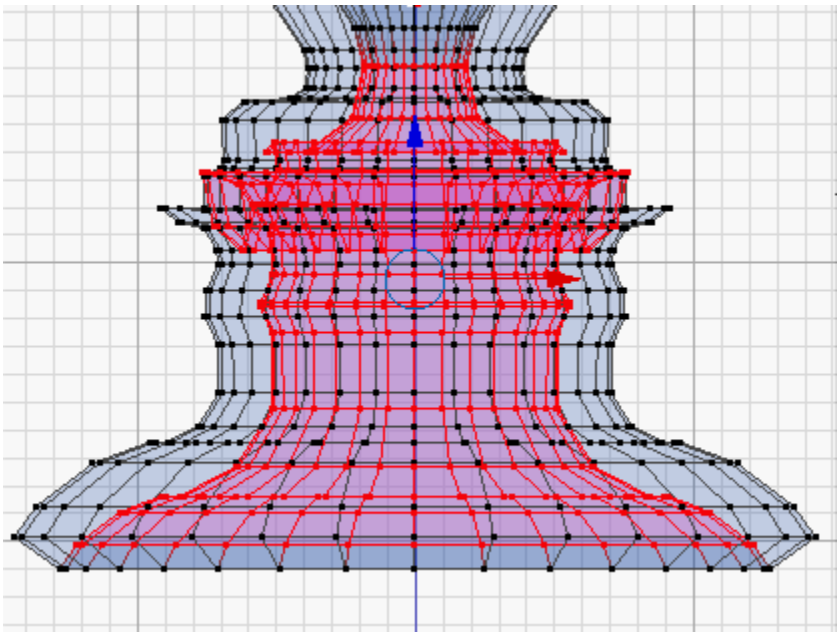

Front Ortho
Z
X

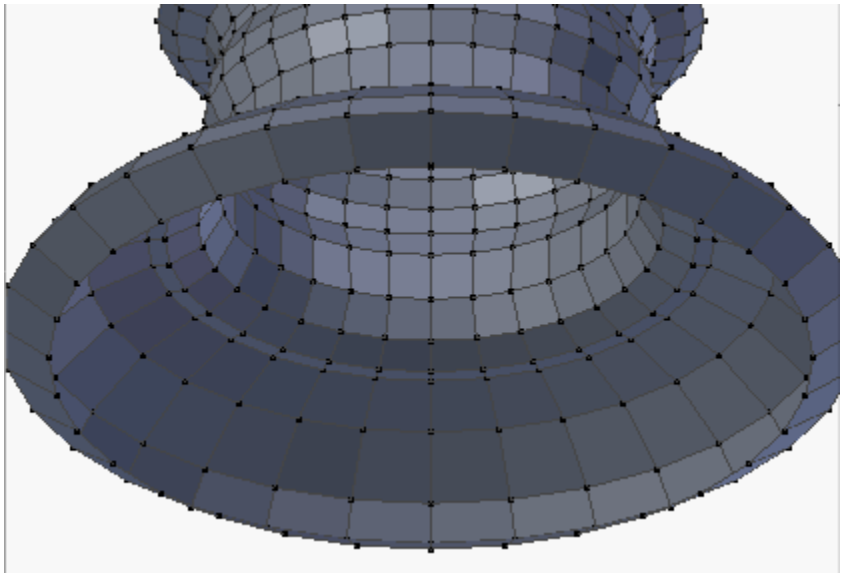


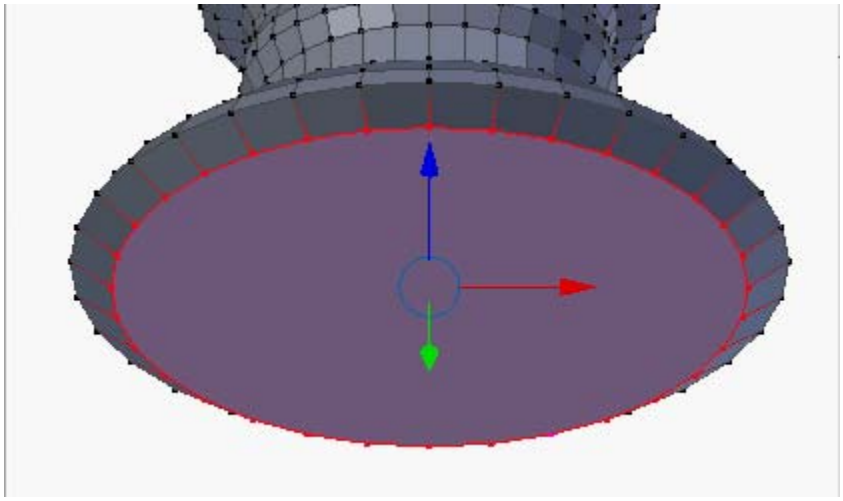


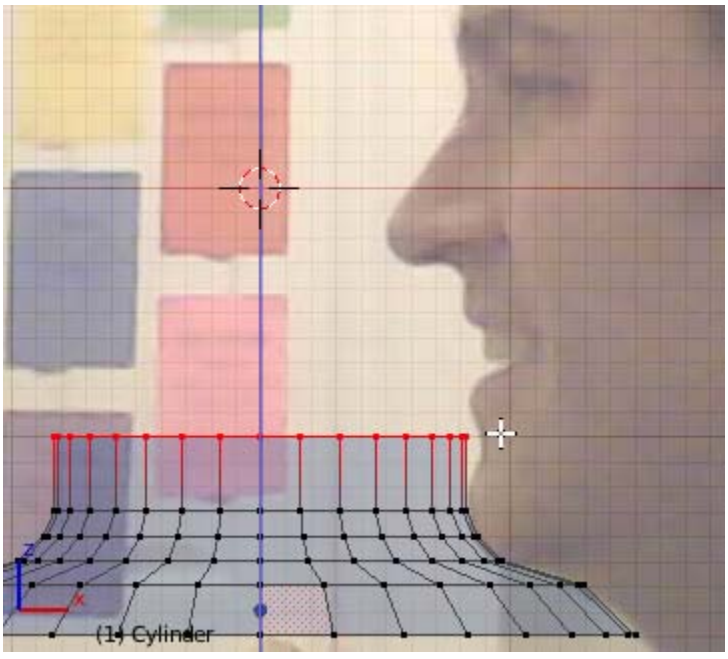




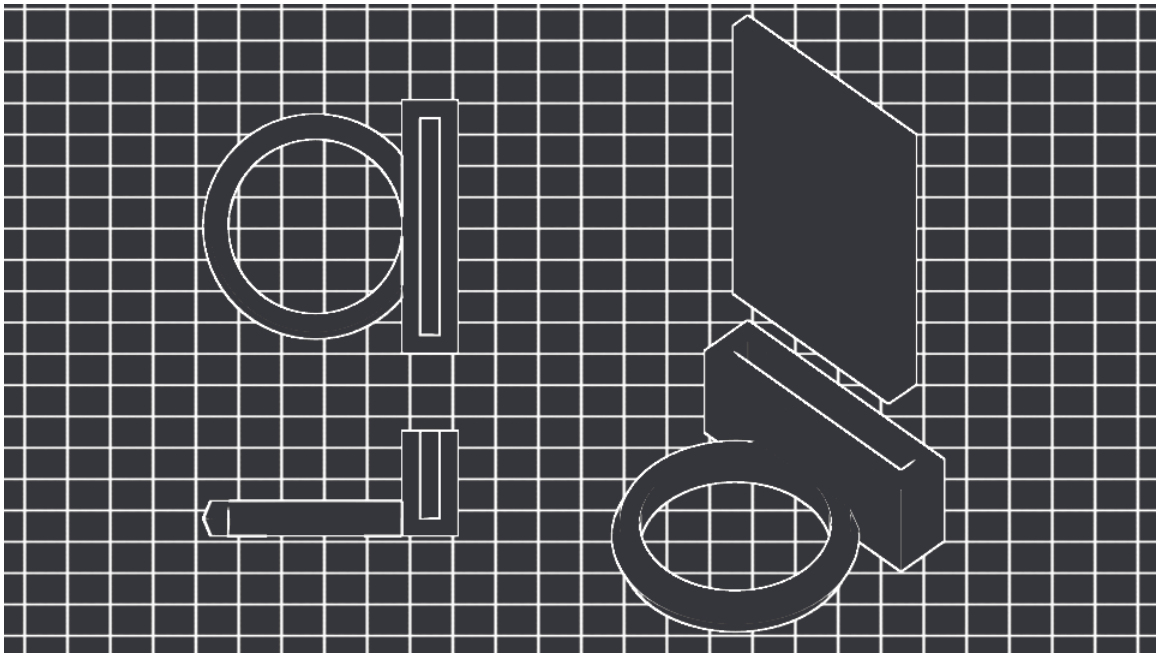


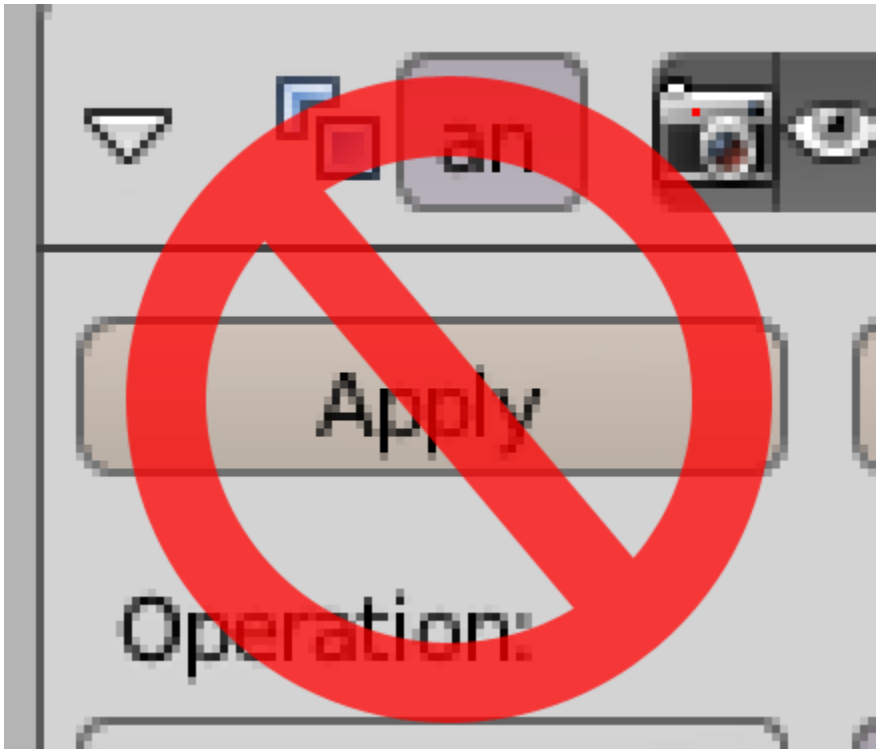




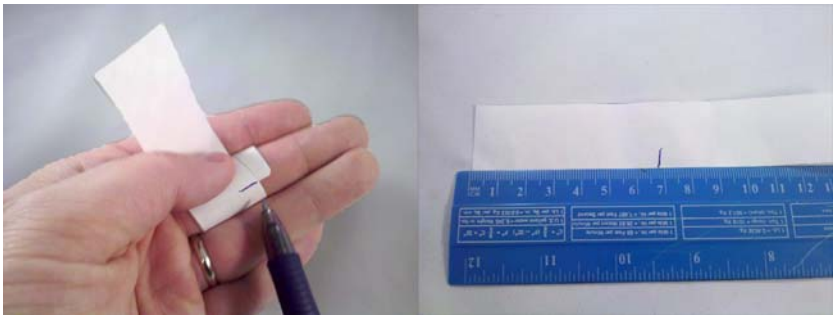

(14) Cylinder

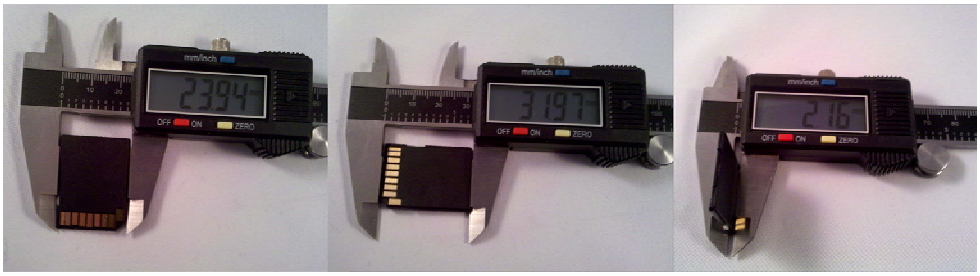
Chapter 4: SD Card Holder Ring

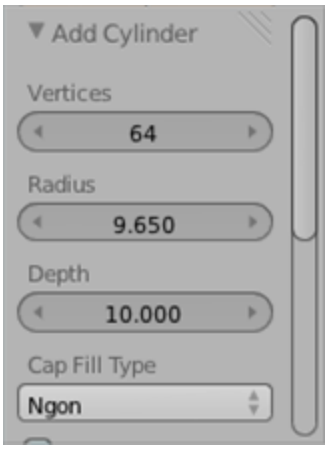


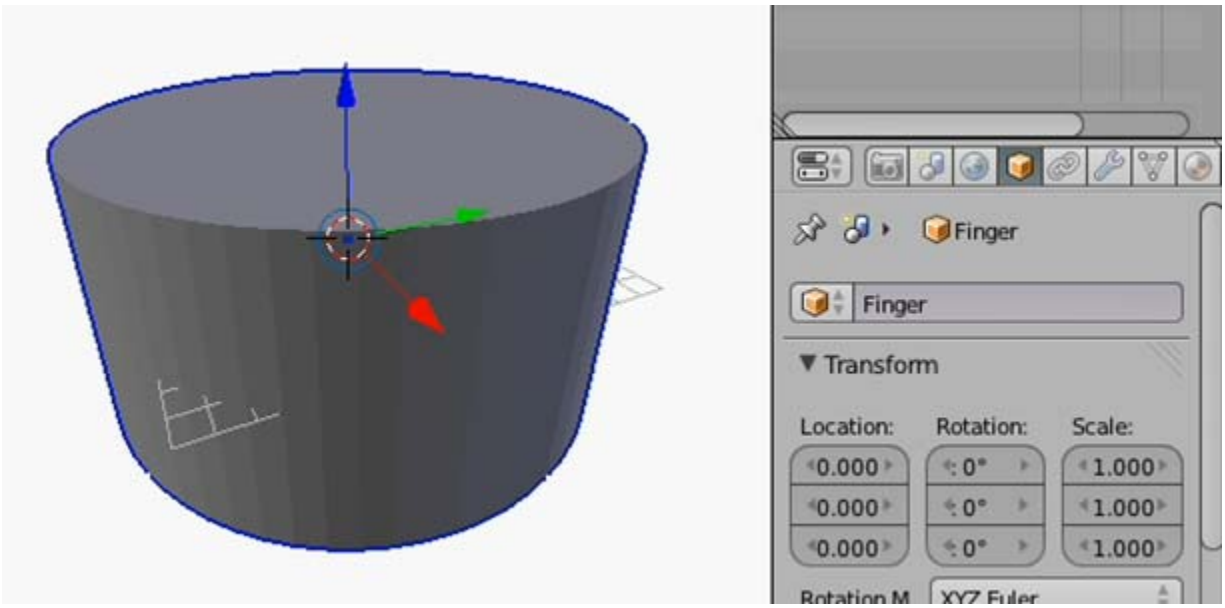


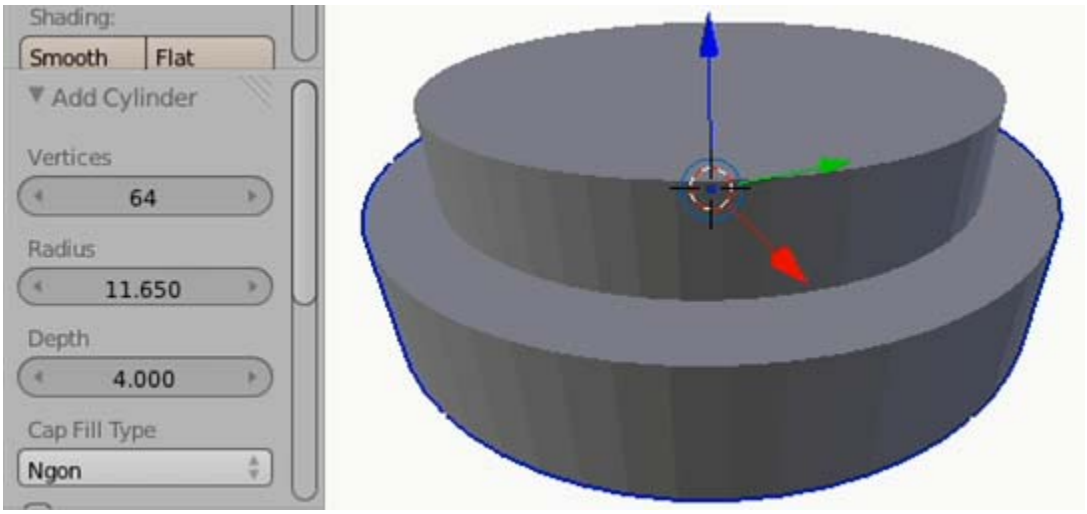
mm/inch
1929
OFF ON ZERO

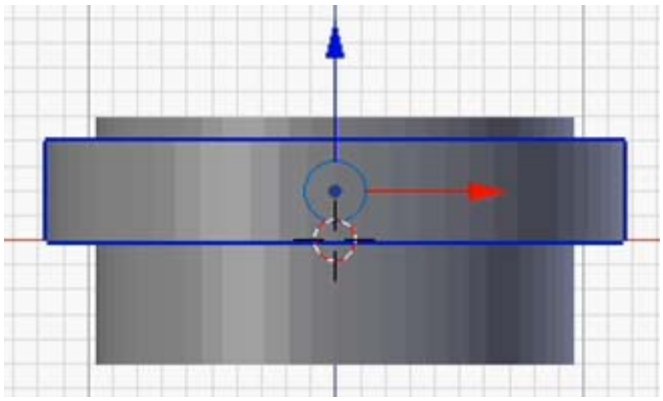



mm/inch
2394
OFF ON ZERO
mm/inch
3197
OFF ON ZERO
mm/inch
216
OFF ON ZERO

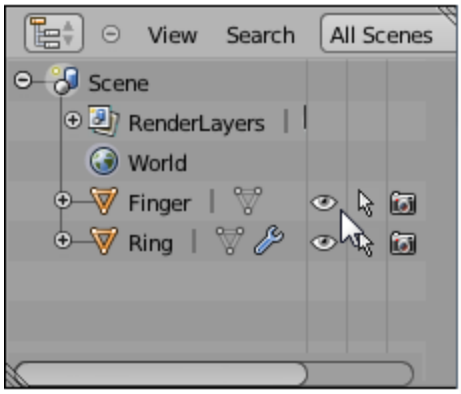

Add Cylinder
Vertices
64
Radius
9.650
Depth
10.000
Cap Fill Type
Ngon

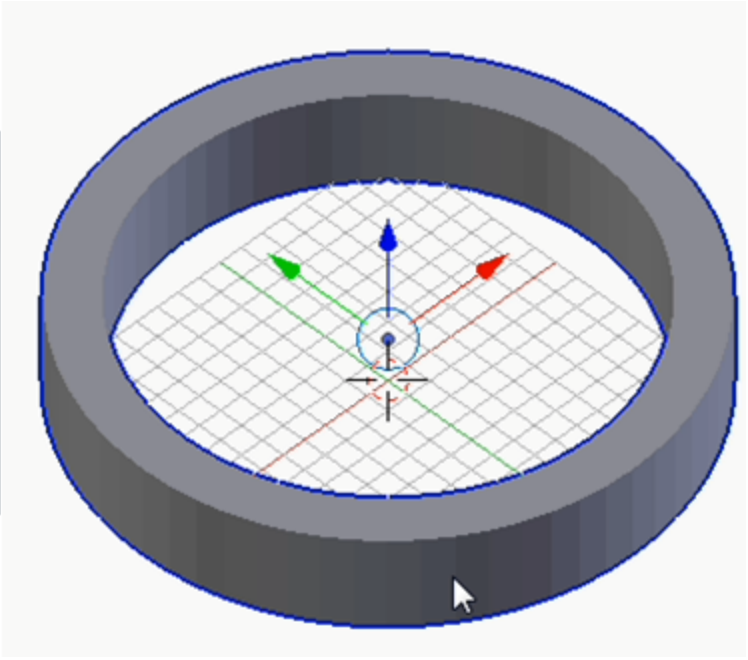

Finger
Finger
Transform
Location:
Rotation:
Scale:
0.000
0.000
0.000
0°
0°
0°
1.000
1.000
1.000
Rotation M
XYZ Euler

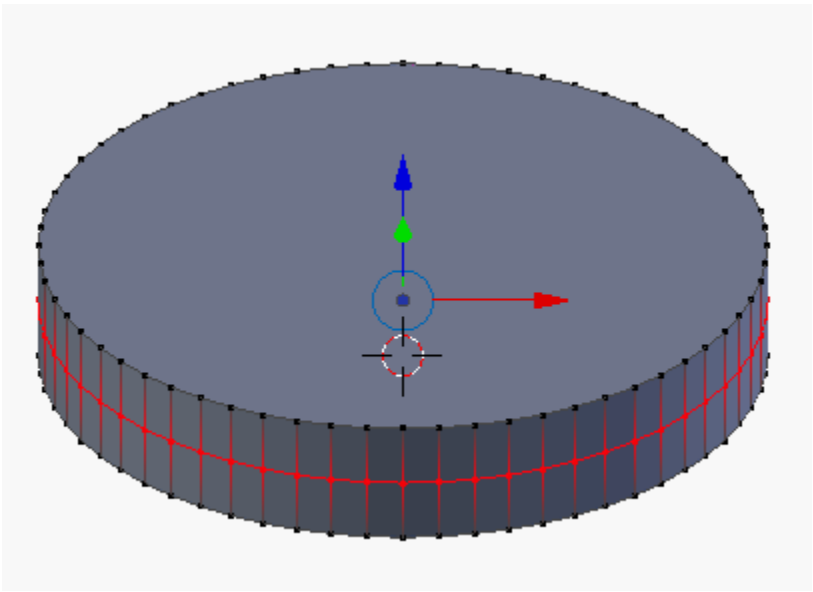

Shading:
Smooth
Flat
Add Cylinder
Vertices
64
Radius
11.650
Depth
4.000
Cap Fill Type
Ngon

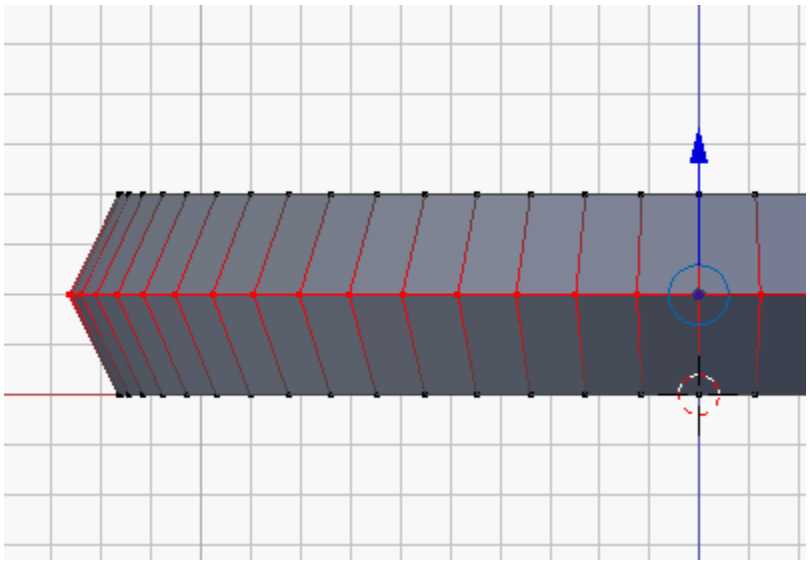


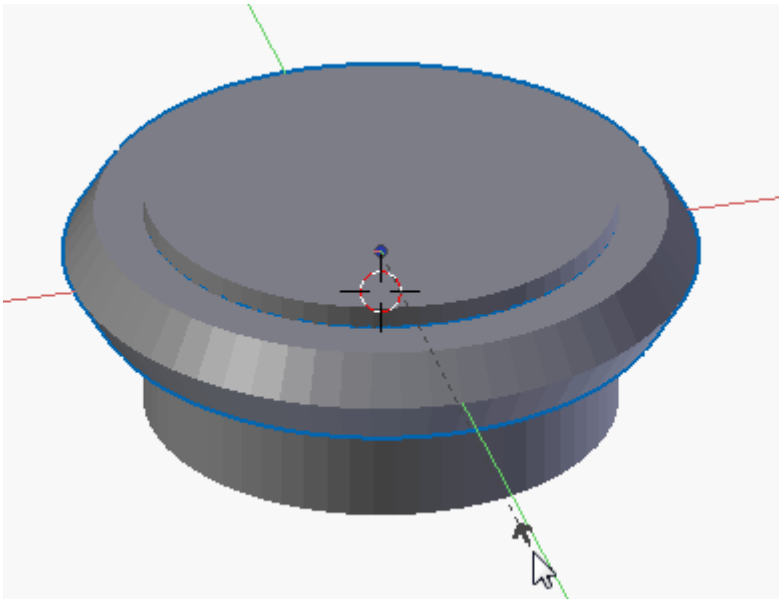
Add Modifier
an
Apply
Copy
Operation:
Object:
Difference
Finger

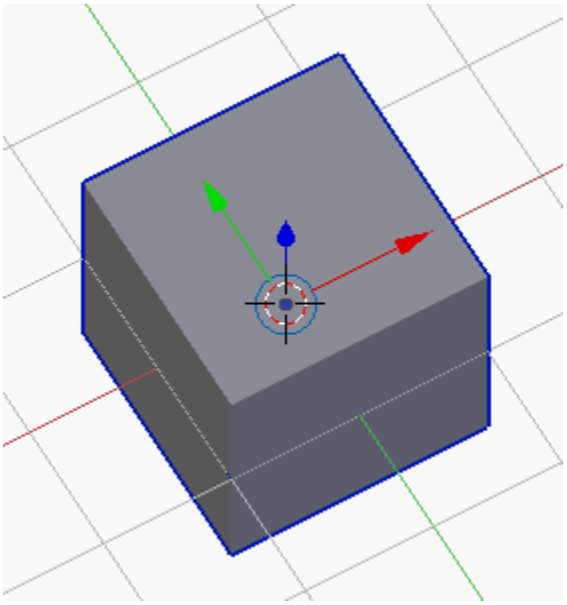

View
Search
All Scenes
Scene
RenderLayers
World
Finger
Ring

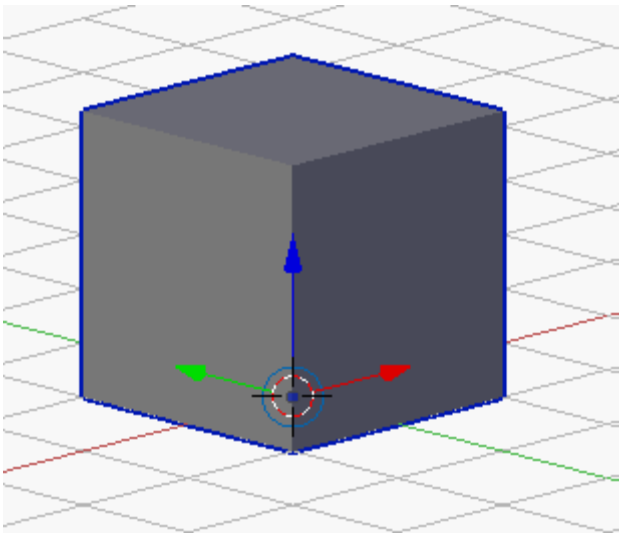


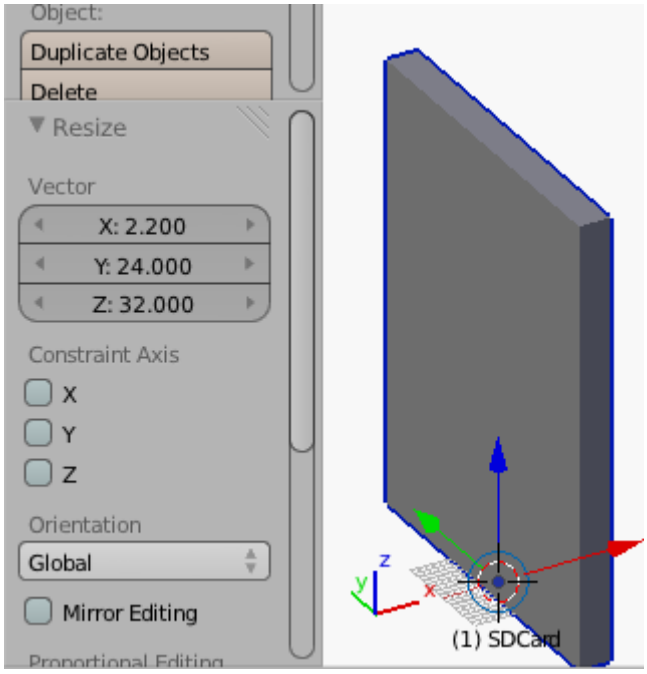


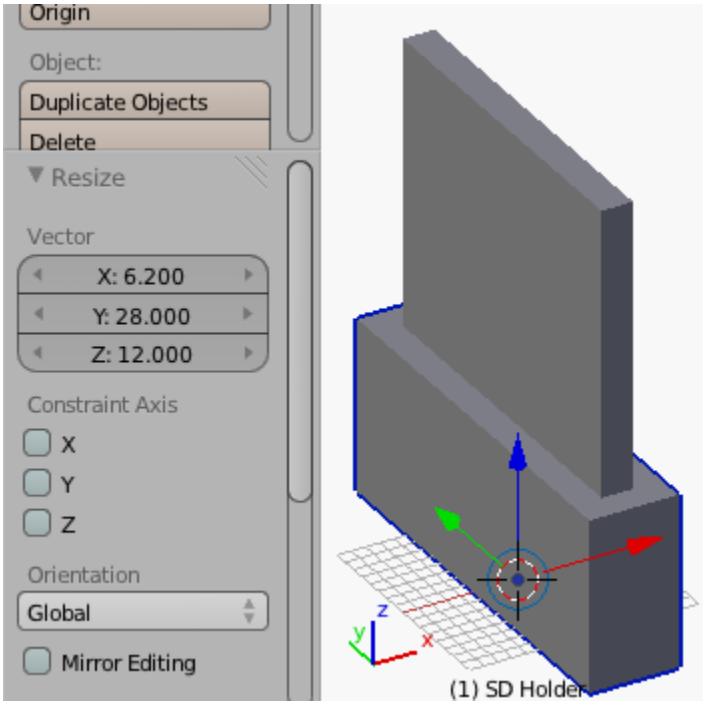


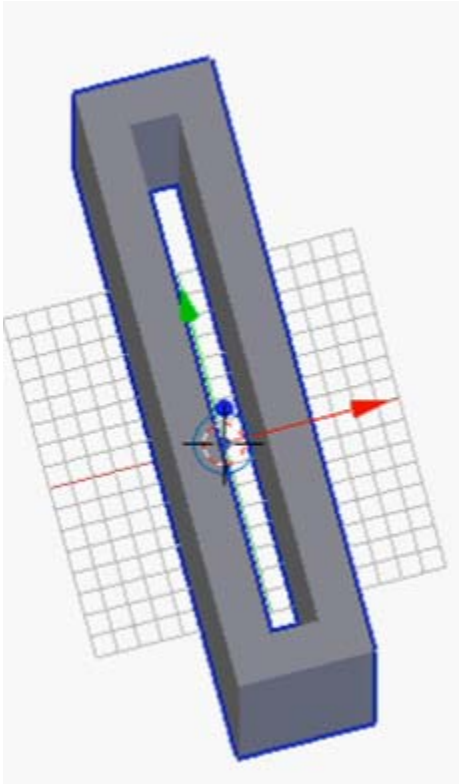


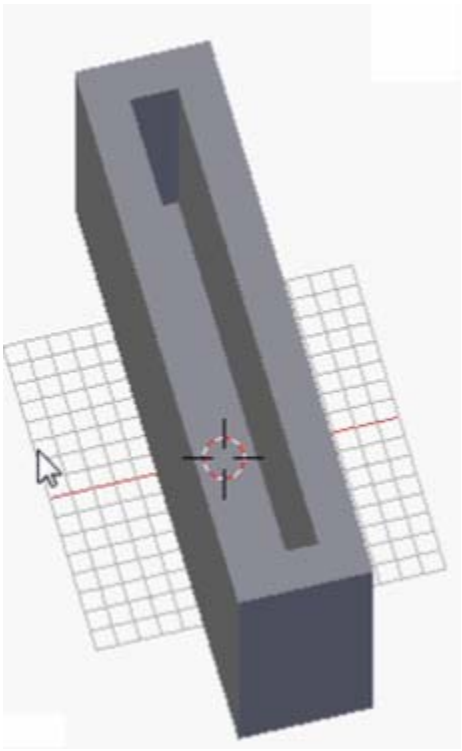


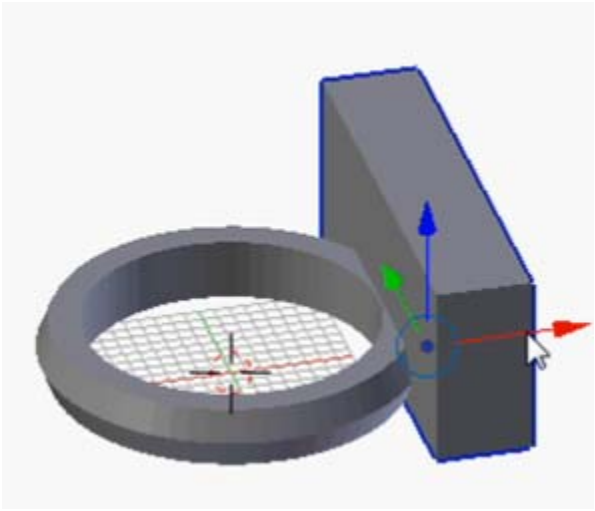


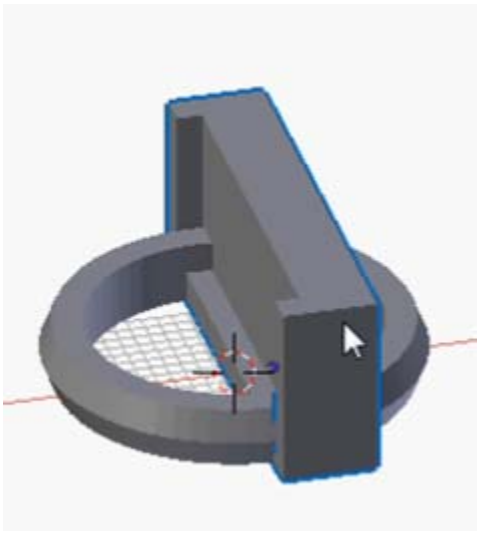

Object:
Duplicate Objects
Delete
Resize
Vector
X: 2.200
Y: 24.000
Z: 32.000
Constraint Axis
X
Y
Z
Orientation
Global
Mirror Editing
Proportional Editing
z
y
x
(1) SDCard

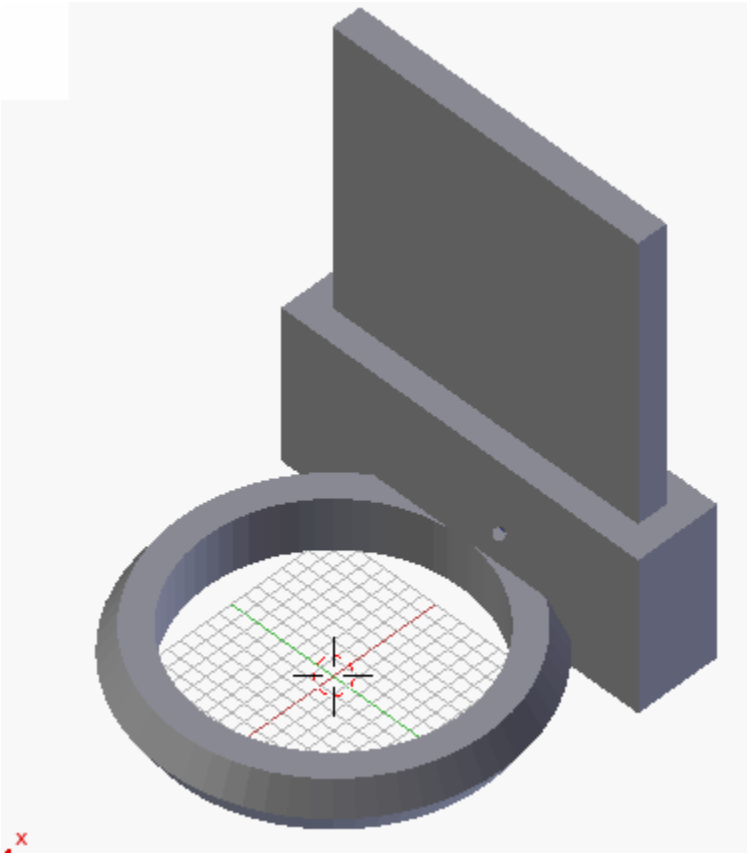

Origin
Object:
Duplicate Objects
Delete
Resize
Vector
X: 6.200
Y: 28.000
Z: 12.000
Constraint Axis
X
Y
Z
Orientation
Global
Mirror Editing
z
y
x
(1) SD Holder

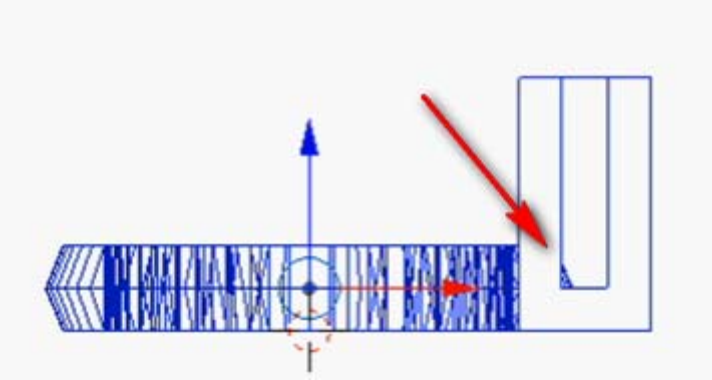


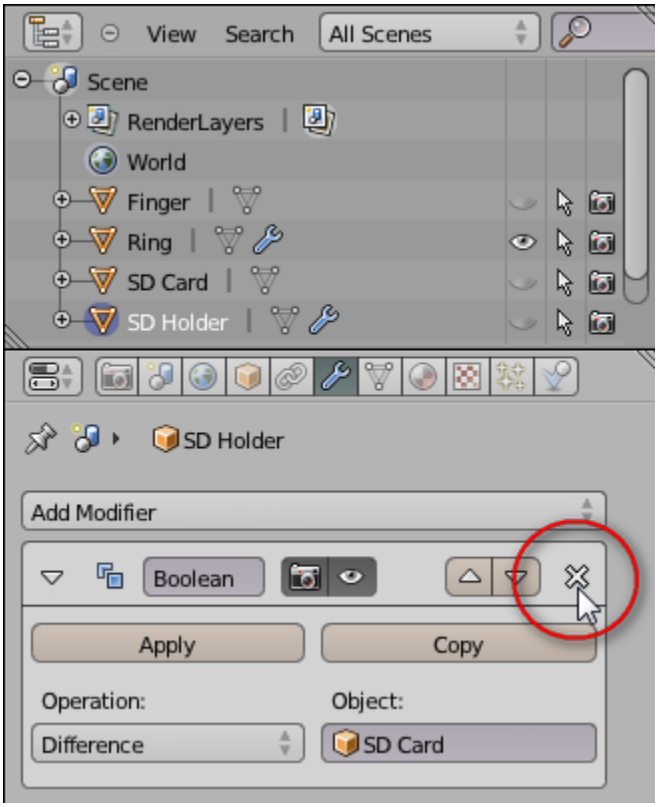


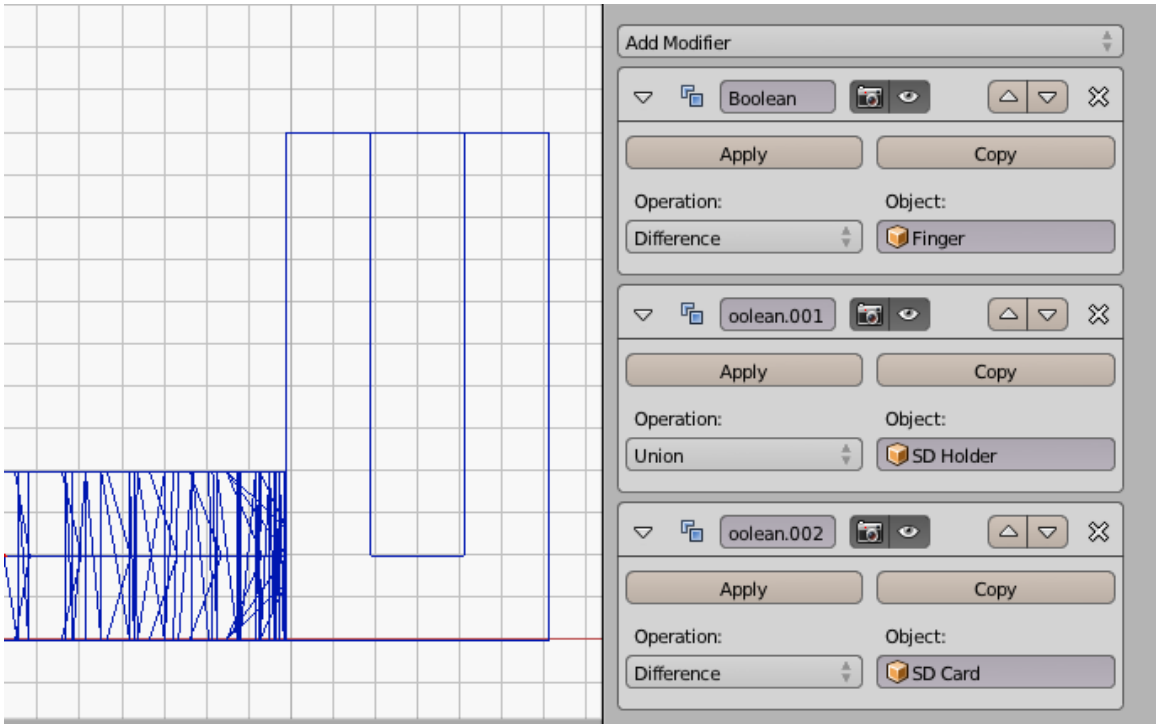




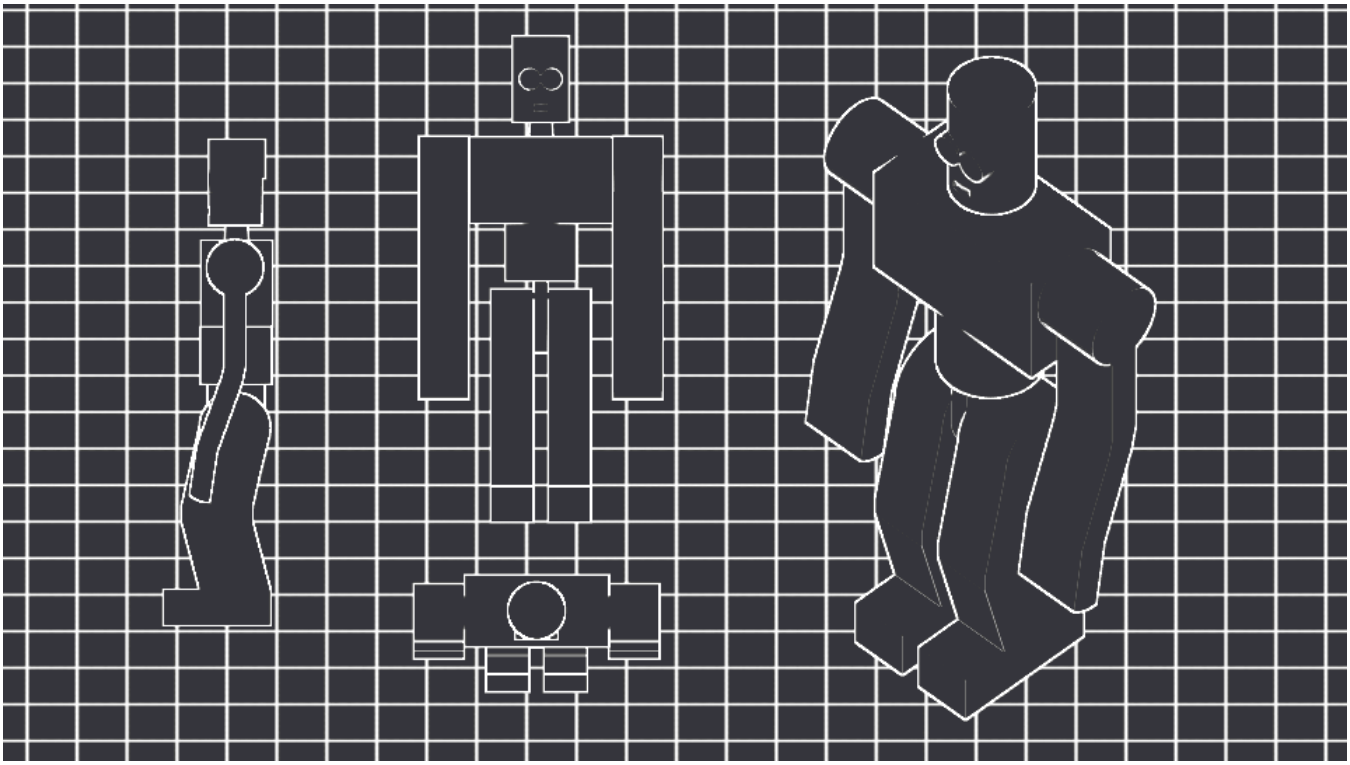


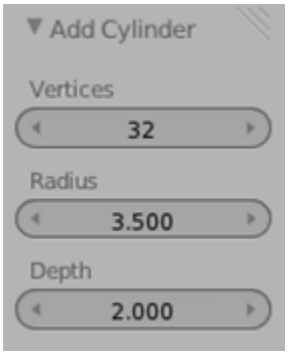


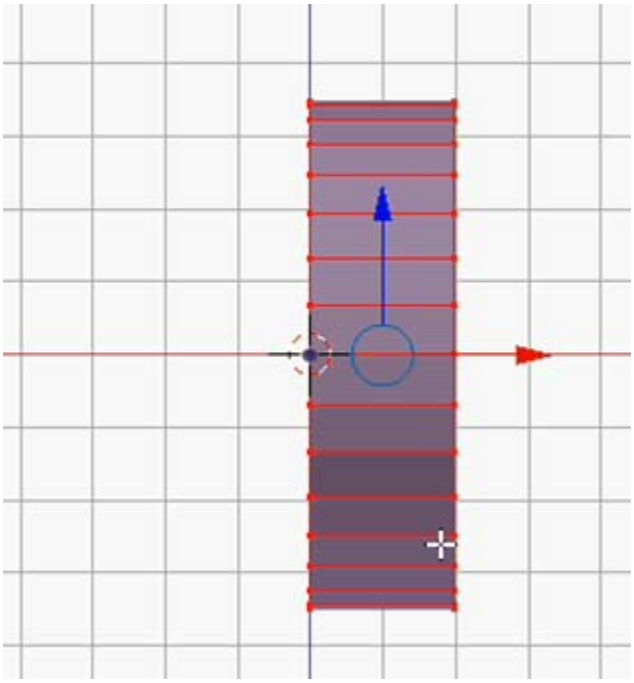

View
Search
All Scenes
Scene
RenderLayers
World
Finger
Ring
SD Card
SD Holder
SD Holder
Add Modifier
Boolean
Apply
Copy
Operation:
Object:
Difference
SD Card

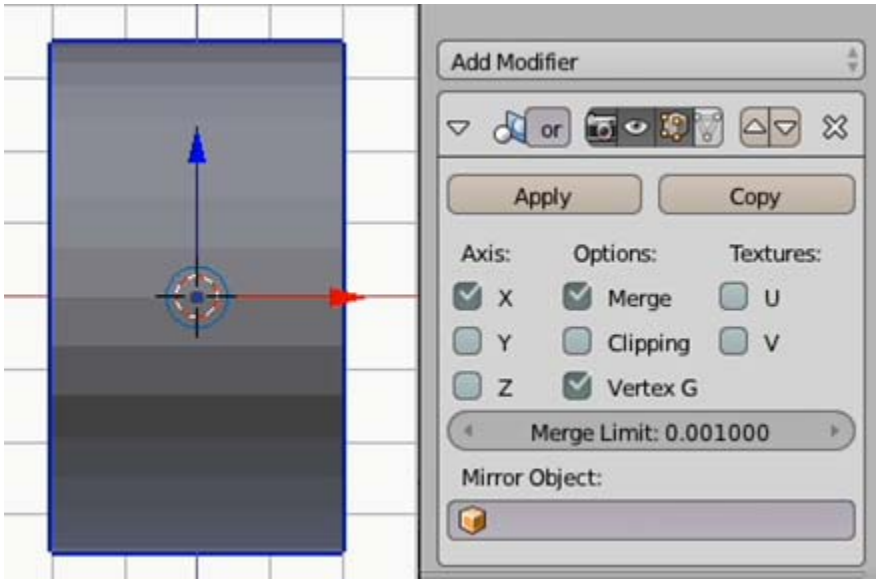

Add Modifier
Boolean
Apply
Copy
Operation:
Object:
Difference
Finger
oolean.001
Apply
Copy
Operation:
Object:
Union
SD Holder
oolean.002
Apply
Copy
Operation:
Object:
Difference
SD Card

Chapter 5: Modular Robot Toy








Add Modifier
or
Apply
Copy
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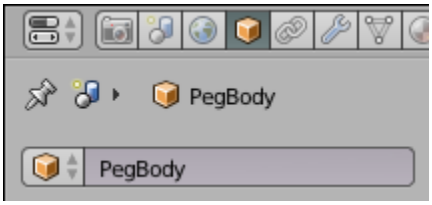
Options:
Textures:
X
Merge
U
Y
Clipping
V
Z
Vertex G
Merge Limit: 0.001000
Mirror Object: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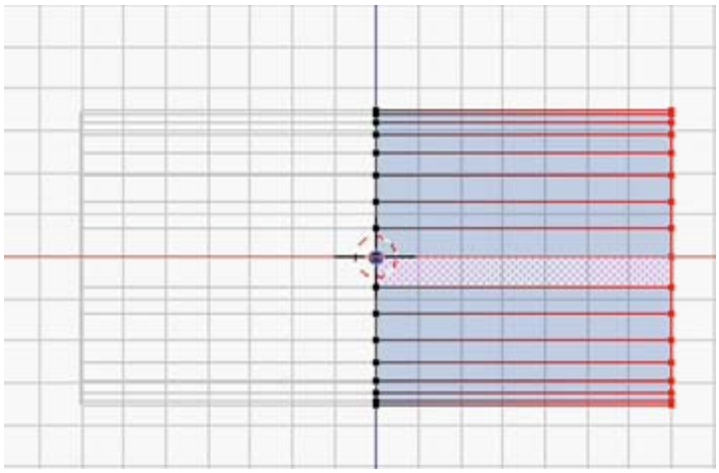
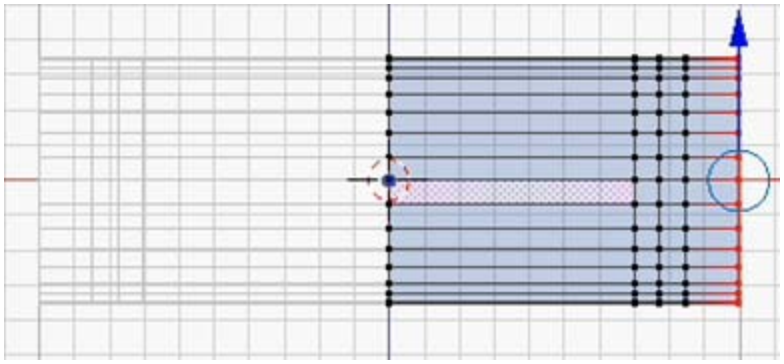
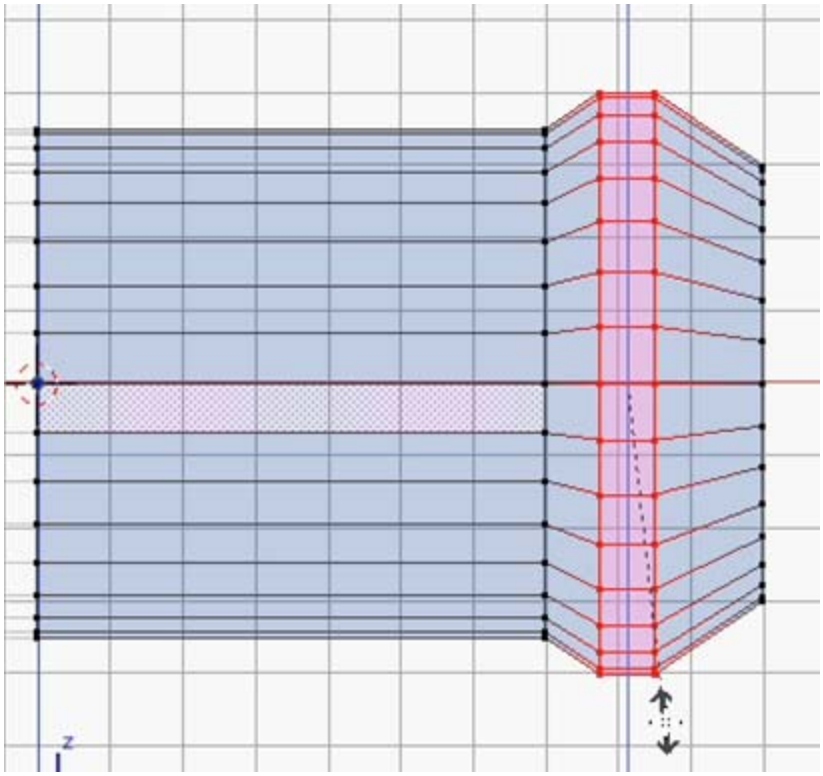
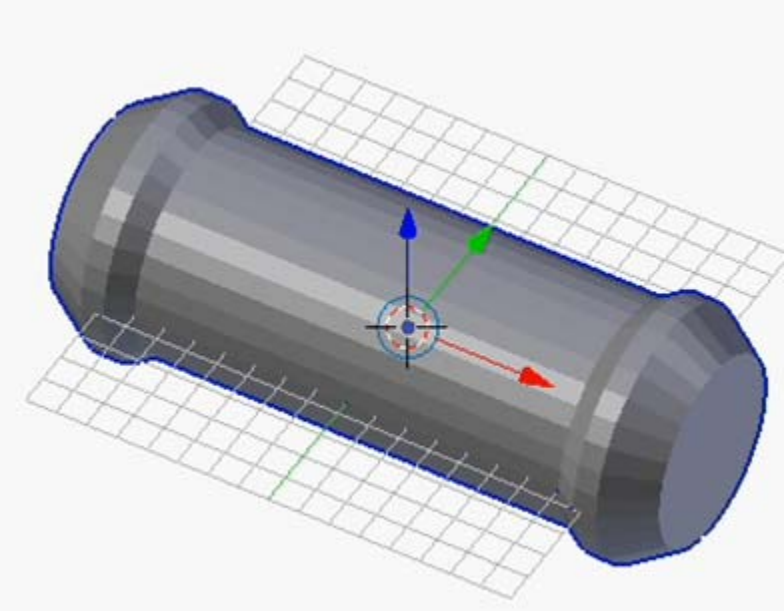
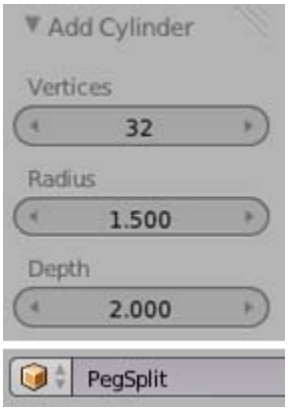
PegBody







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Depth
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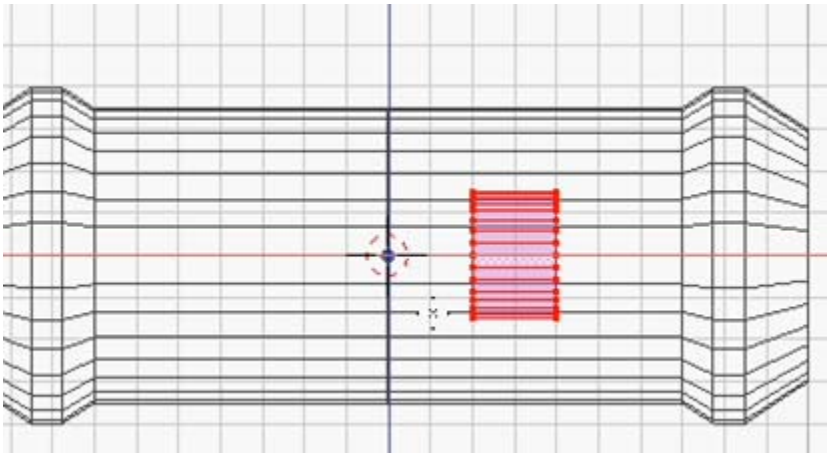
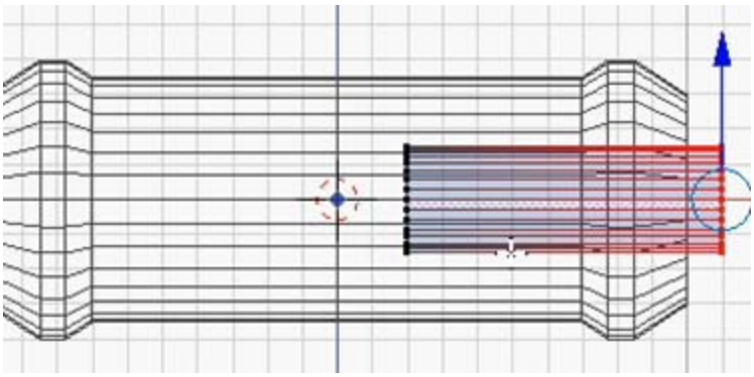
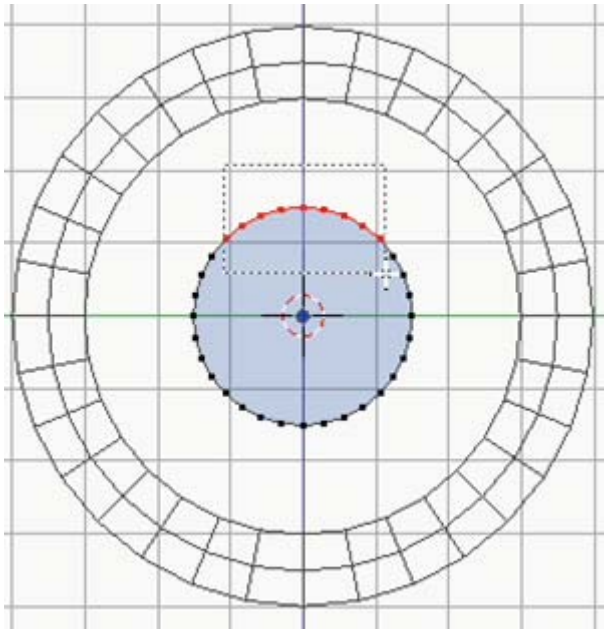
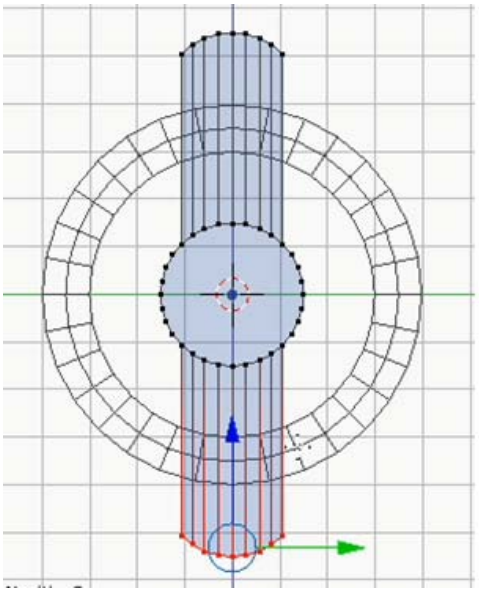
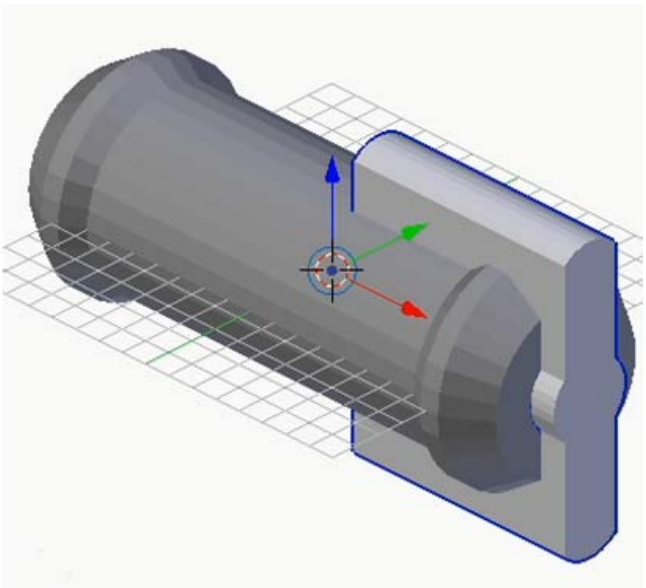
PegSplit

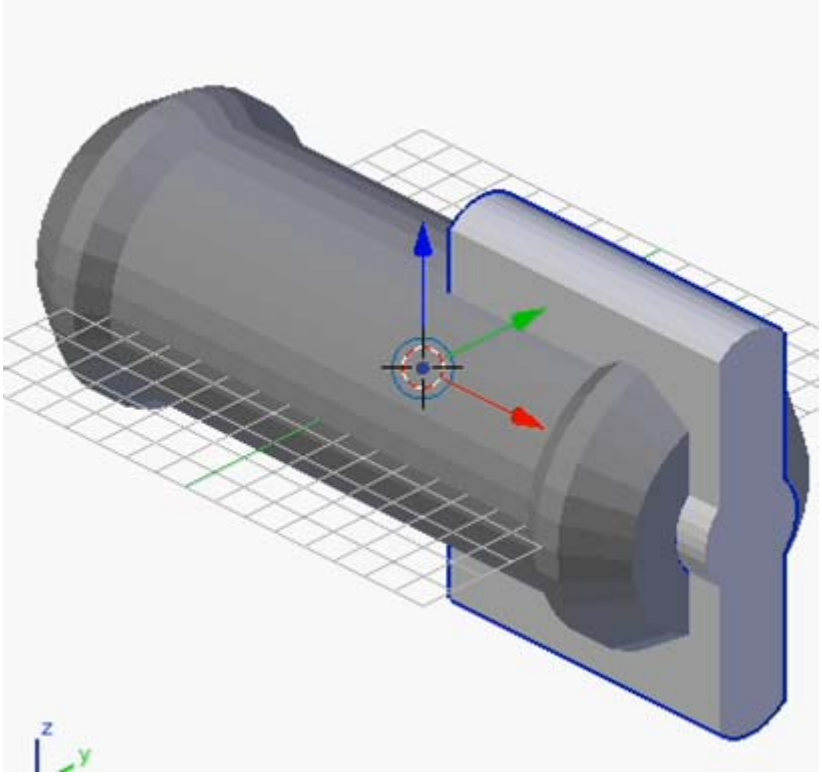


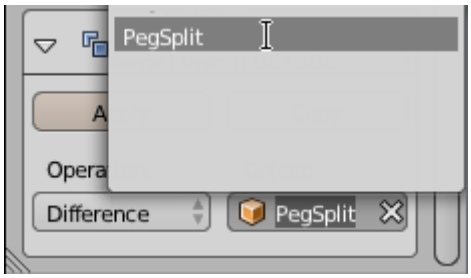








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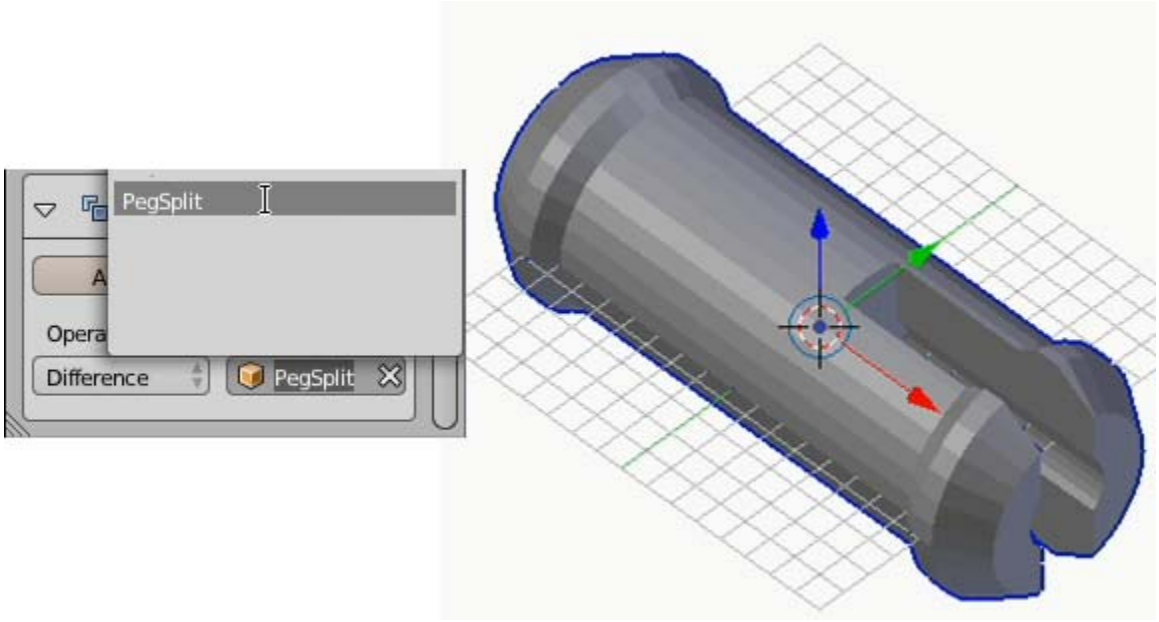
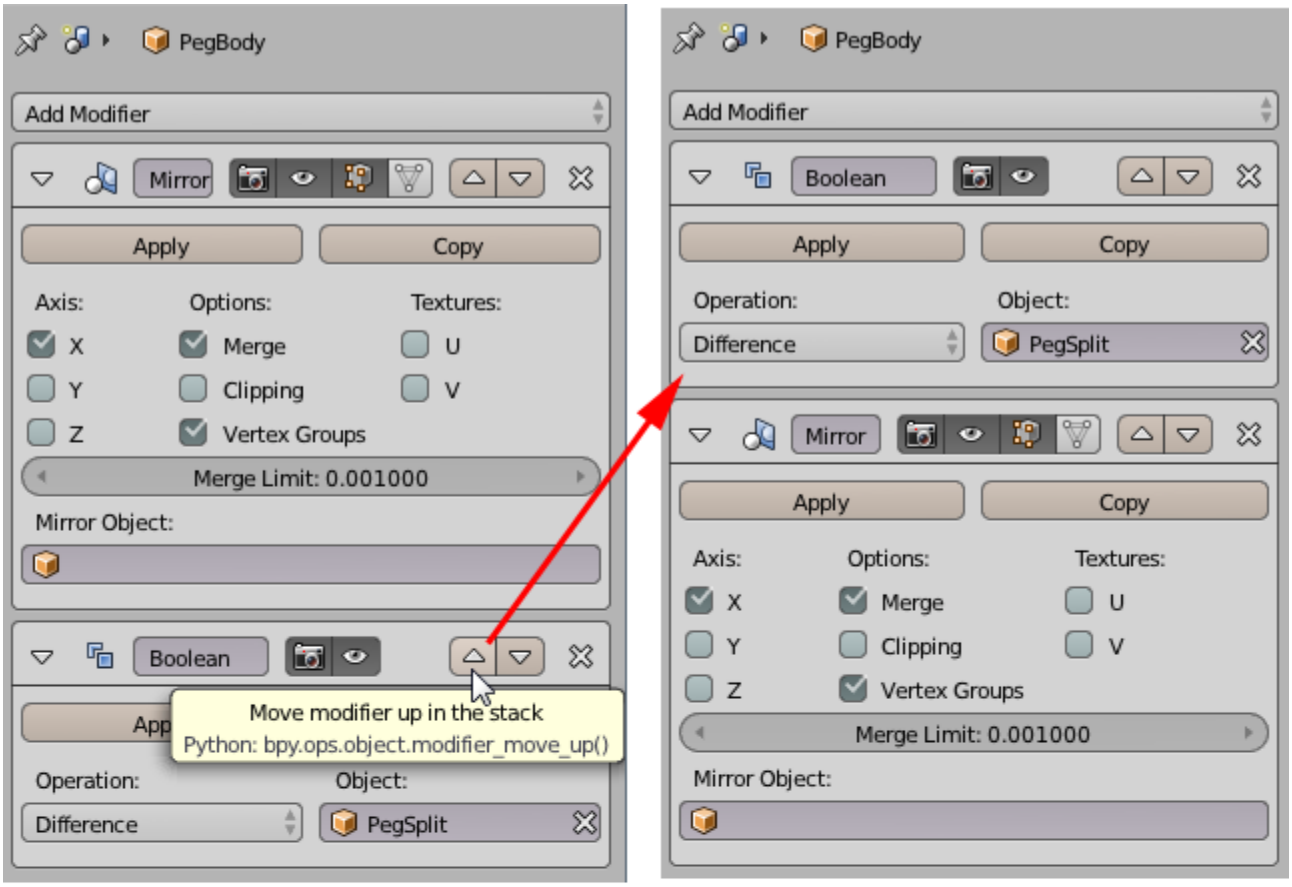
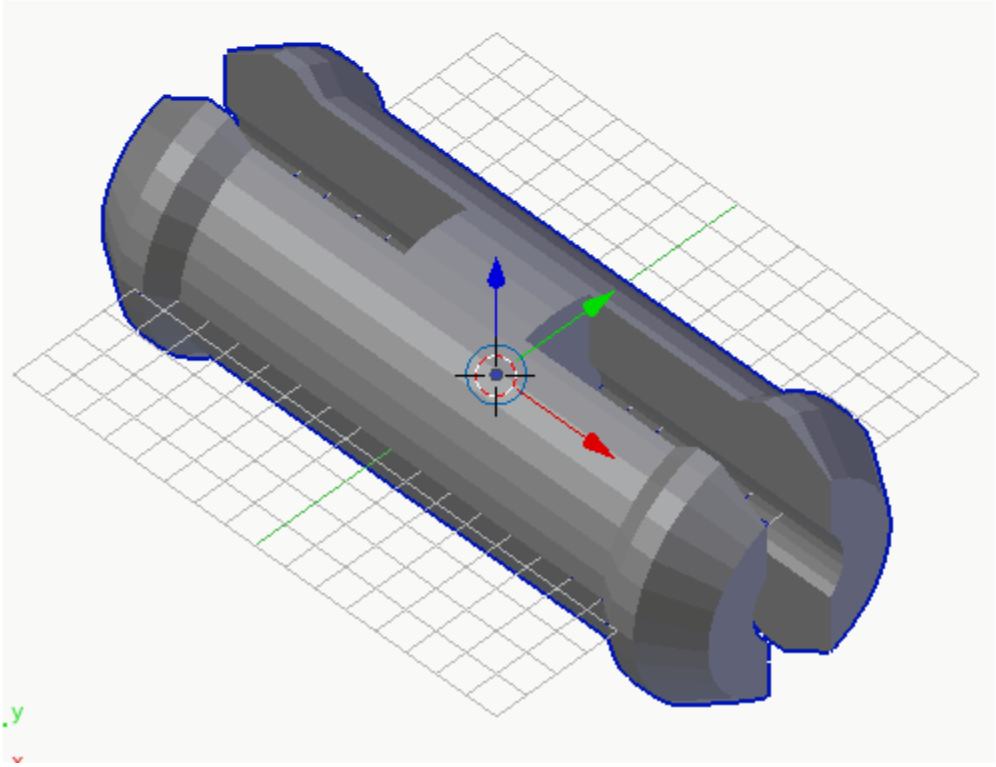
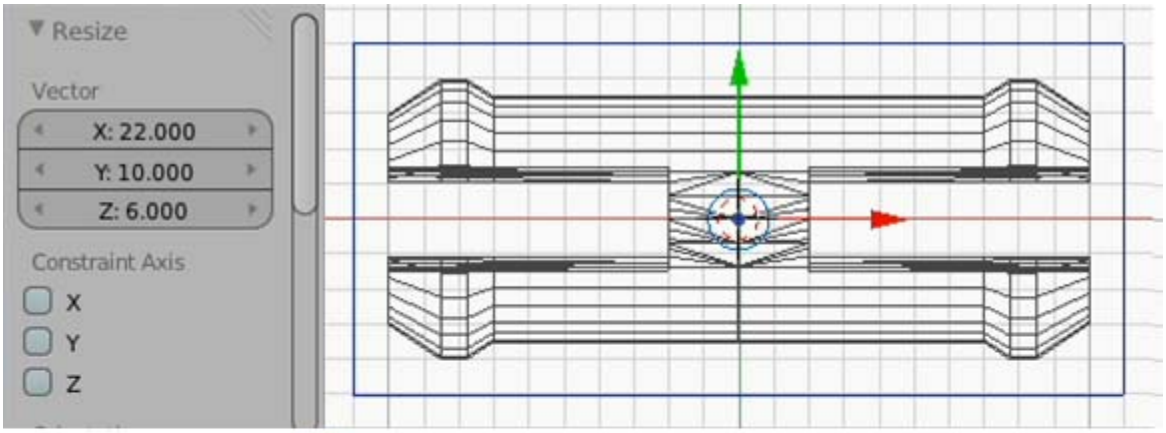
Difference
PegSplit


PegSplit
Difference
PegSplit


PegBody
Add Modifier
Mirror
Apply
Copy
Axis:
Options:
Textures:
X
Merge
U
Y
Clipping
V
Z
Vertex Groups
Merge Limit: 0.001000
Mirror Object:
Boolean
Move modifier up in the stack
Python: bpy.ops.object.modifier_move_up()
Operation:
Object:
Difference
PegSplit

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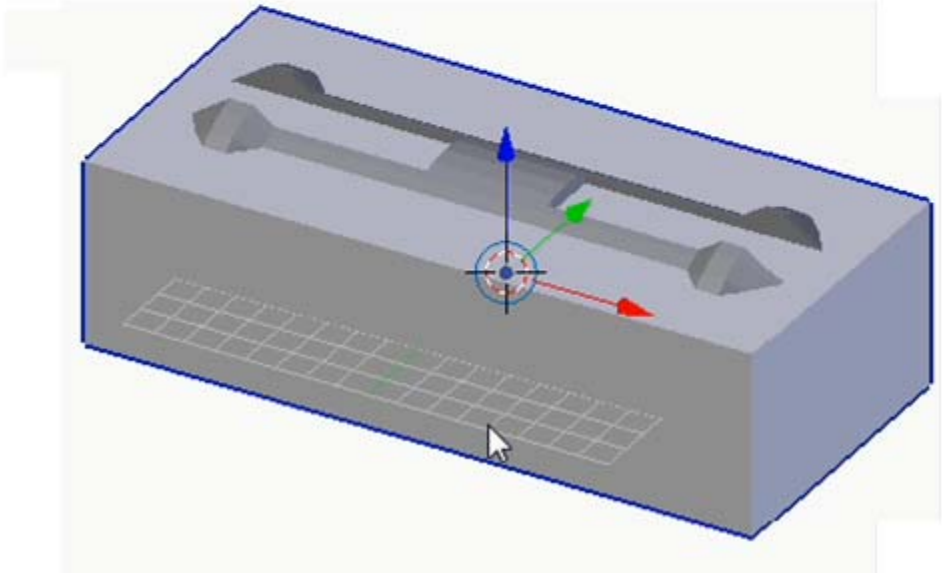
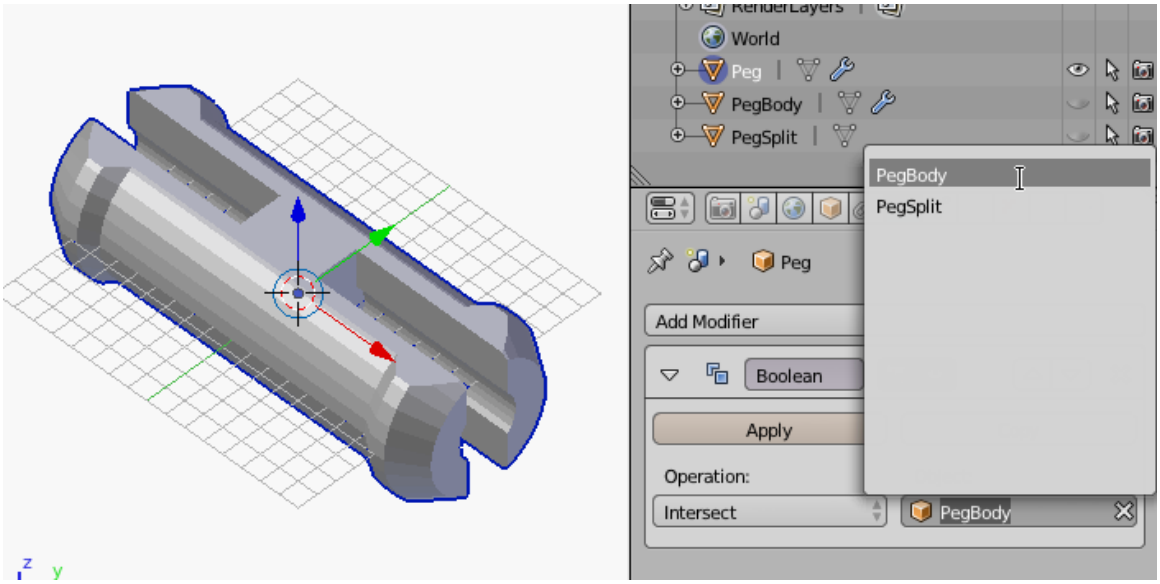
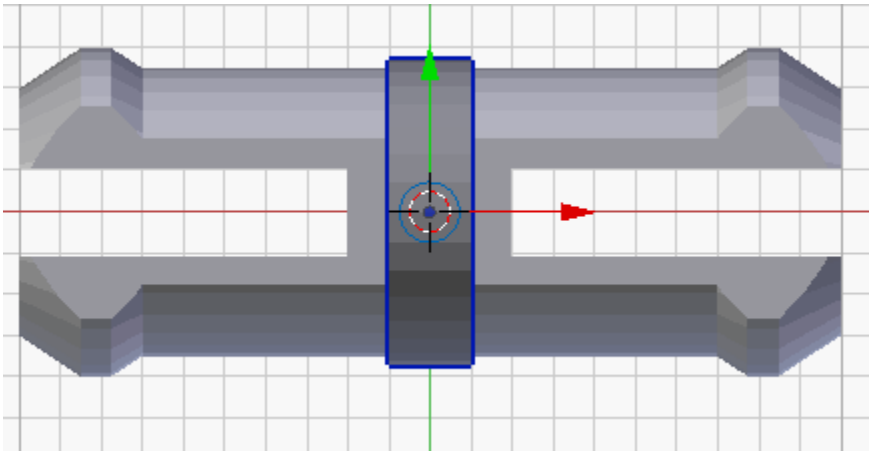
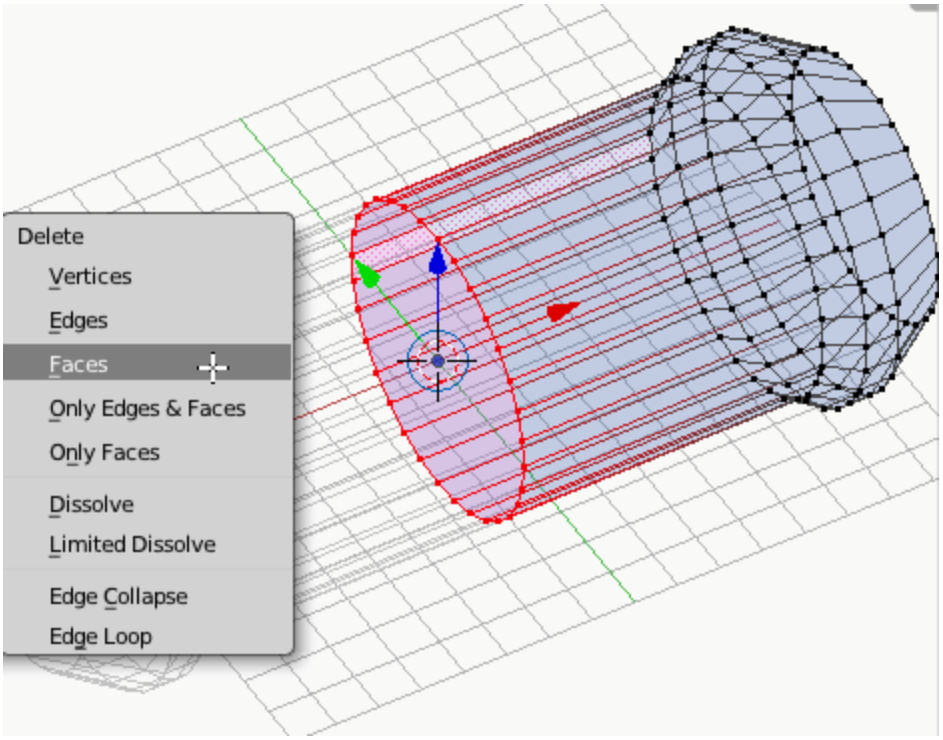
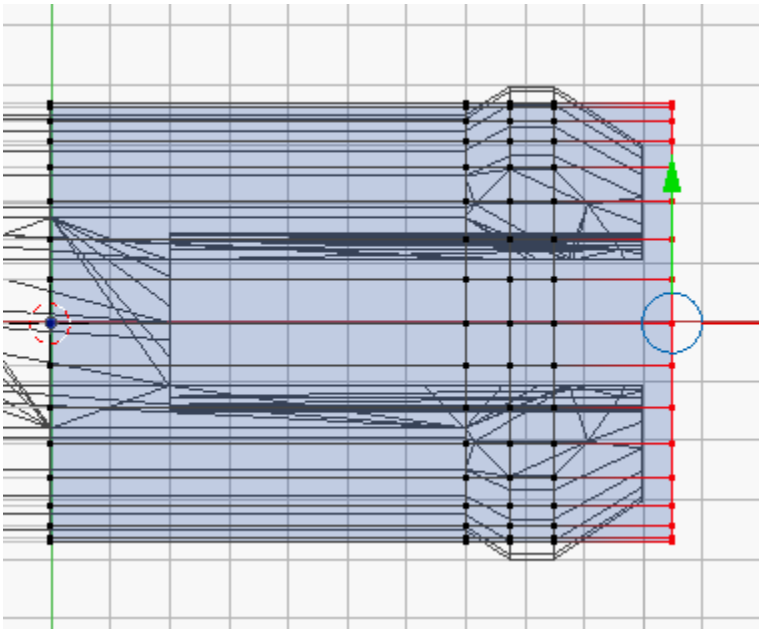
Z: 6.000
Constraint Axis
X
Y
Z

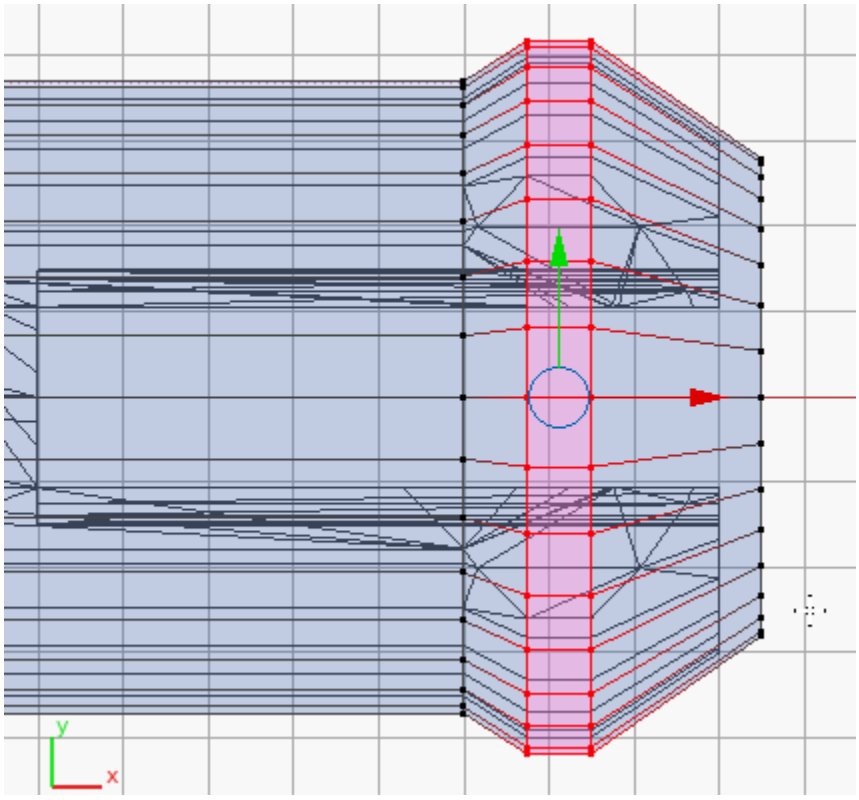


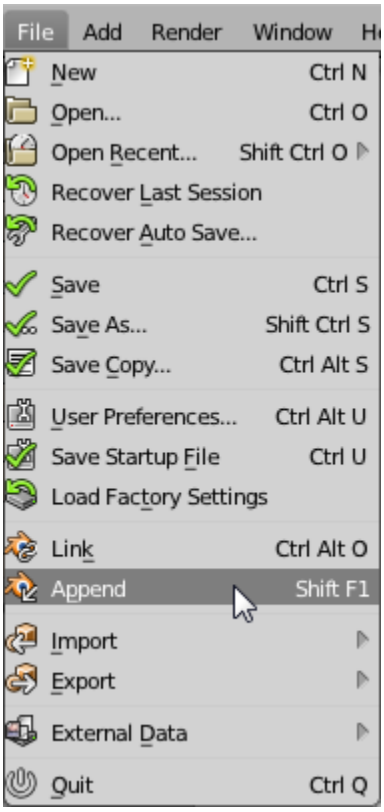

World
Peg
PegBody
PegSplit
PegBody
PegSplit
Peg
Add Modifier
Boolean
Apply
Operation:
Intersect
PegBody

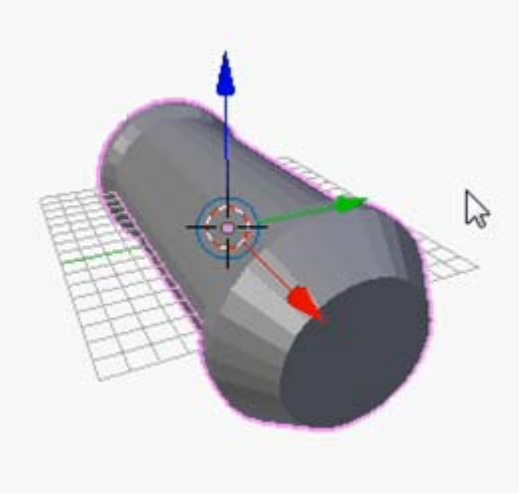


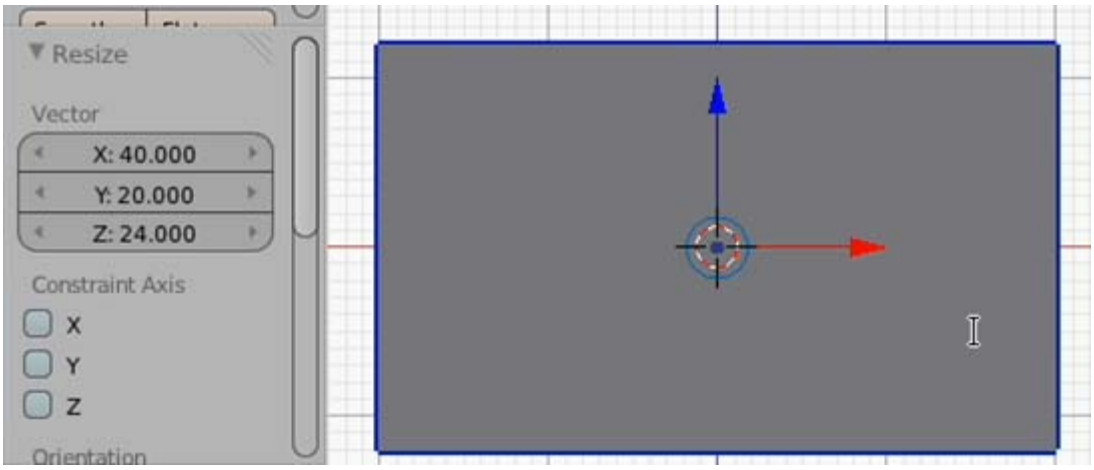

Delete
Vertices
Edges
Faces
Only Edges & Faces
Only Faces
Dissolve
Limited Dissolve
Edge Collapse
Edge Loop




y
x


File
Add
Render
Window
New Ctrl N
Open... Ctrl O
Open Recent... Shift Ctrl O
Recover Last Session
Recover Auto Save...
Save Ctrl S
Save As... Shift Ctrl S
Save Copy... Ctrl Alt S
User Preferences... Ctrl Alt U
Save Startup File Ctrl U
Load Factory Settings
Link Ctrl Alt O
Append Shift F1
Import
Export
External Data
Quit Ctrl Q

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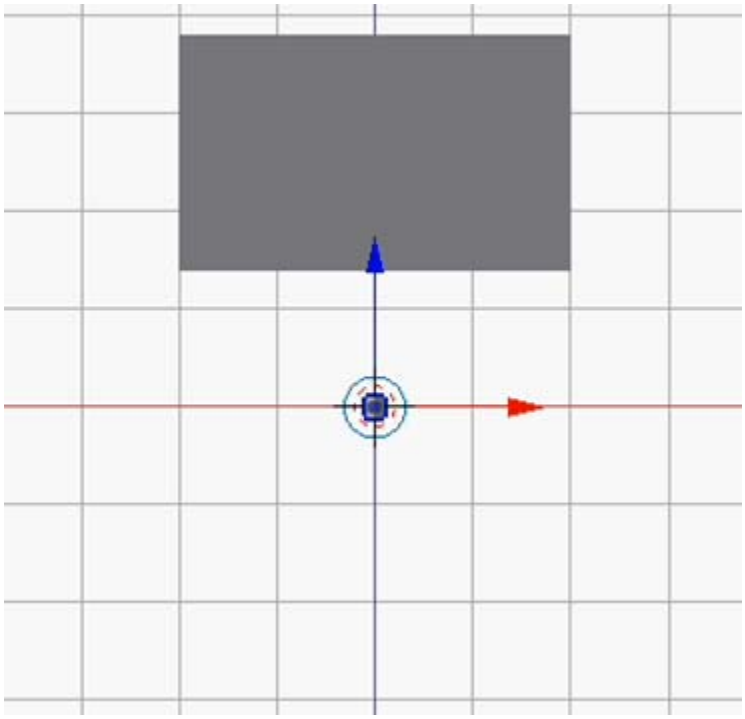
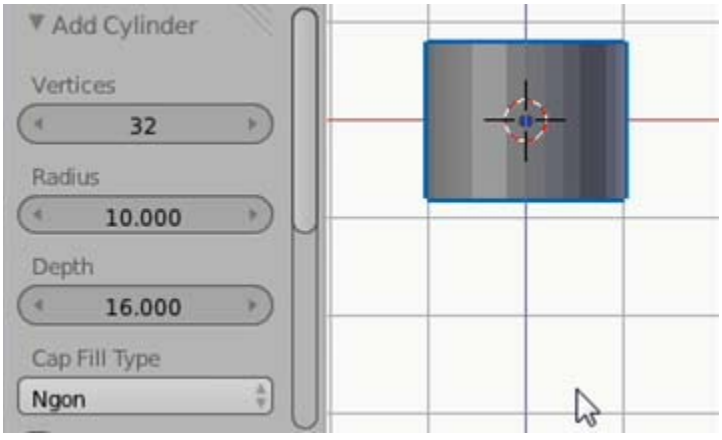
Z: 24.000
Constraint Axis
X
Y
Z
Orientation

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Vertices
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Radius
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Depth
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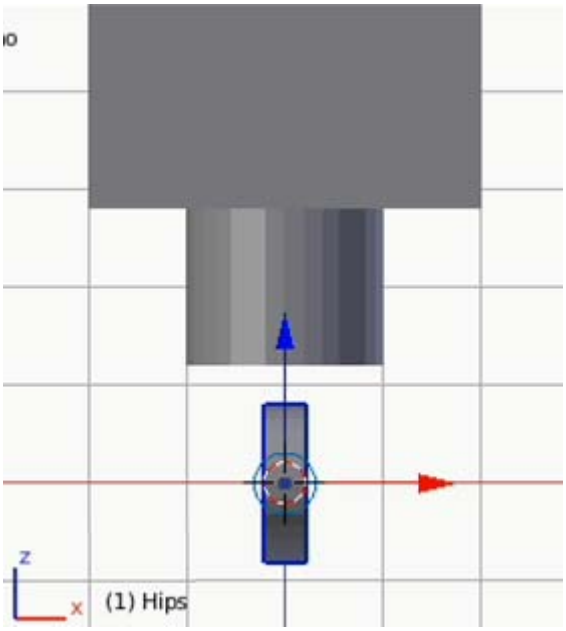
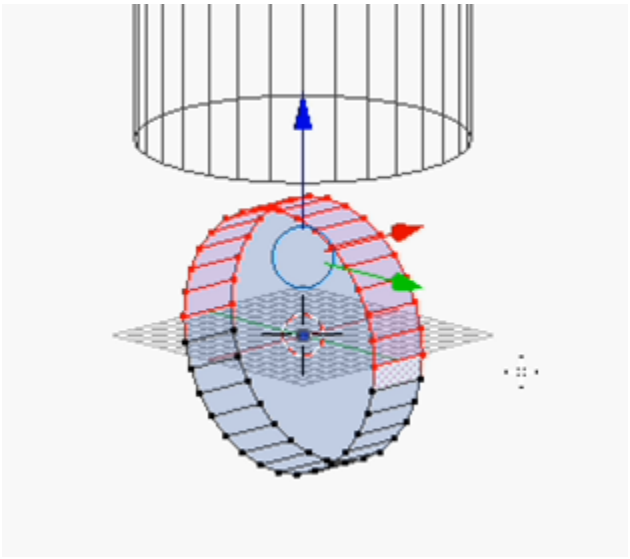
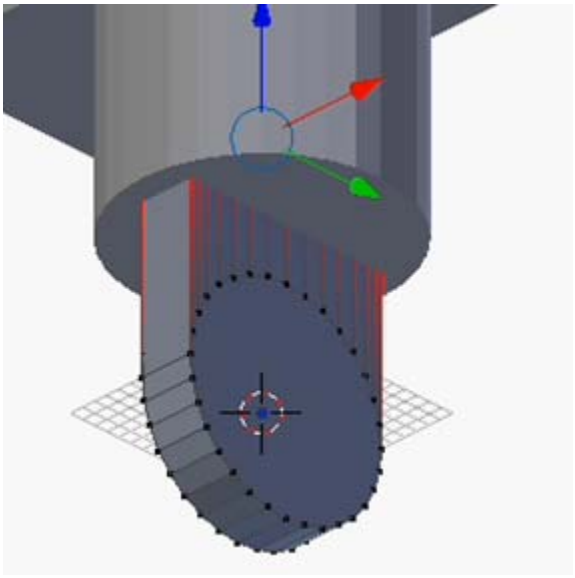
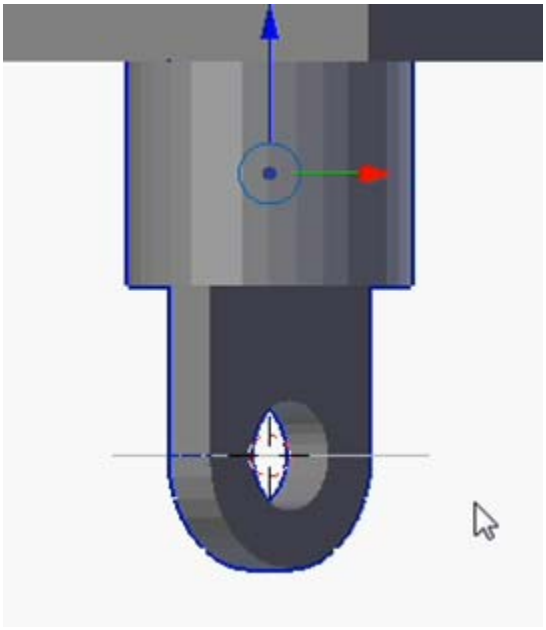
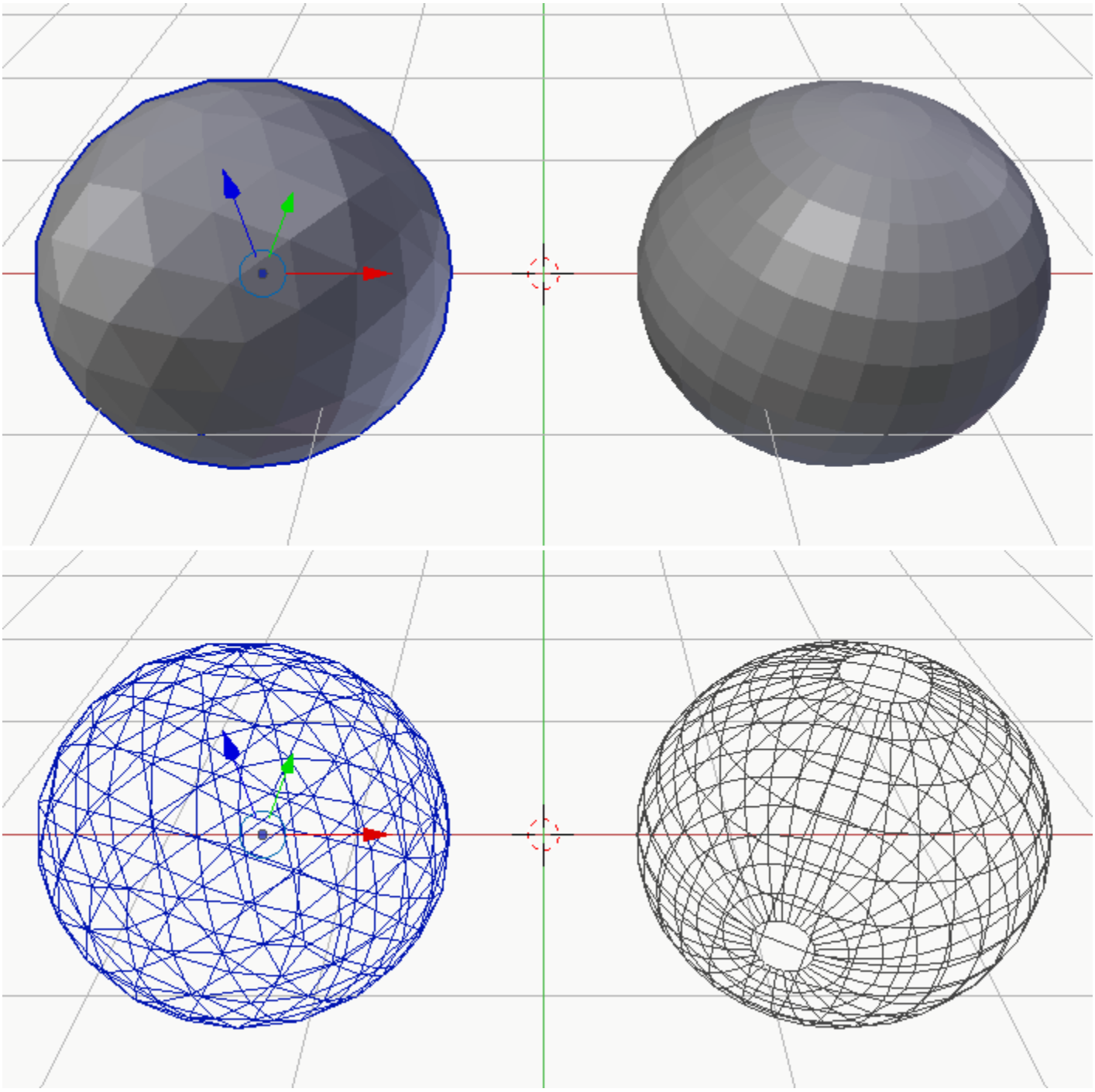
Cap Fill Type
Ngon

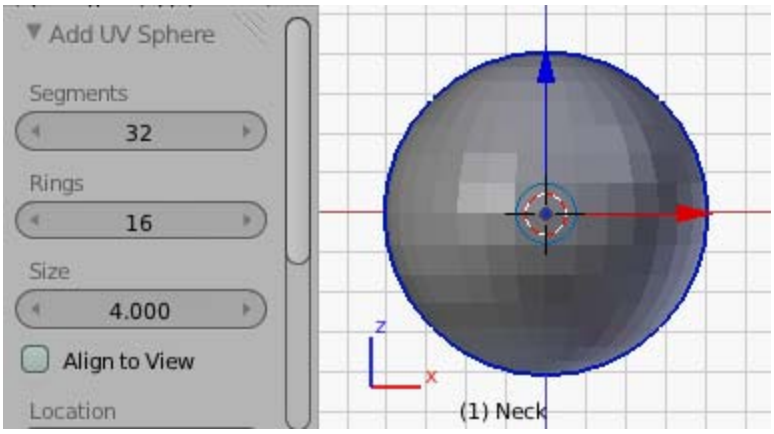

Z
X
(1) Hips

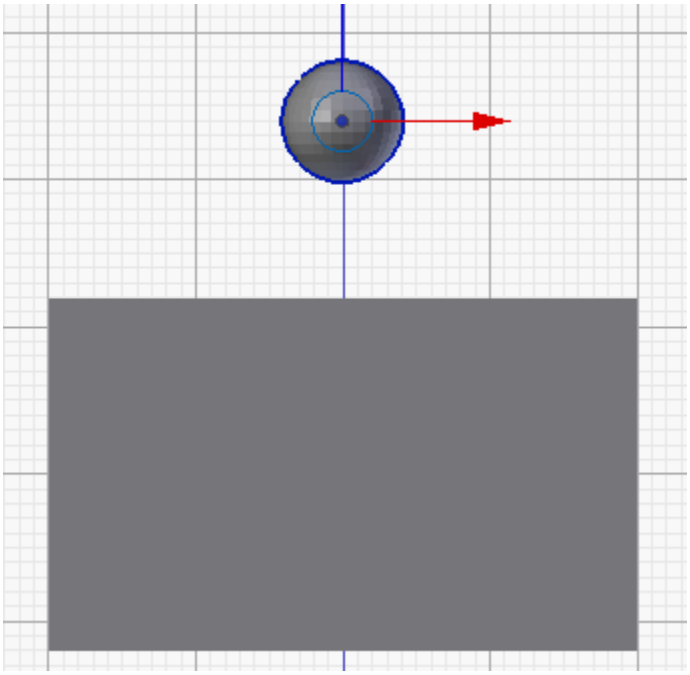


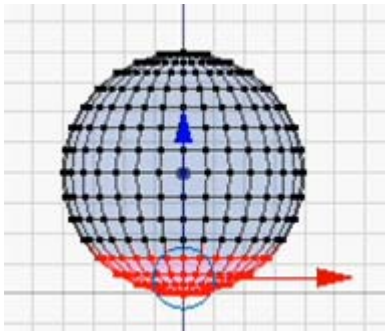


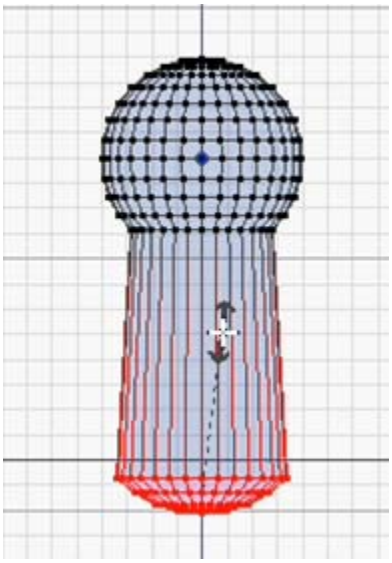


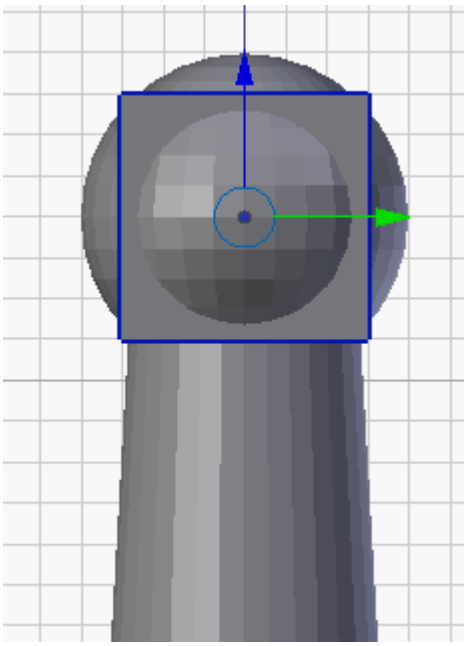


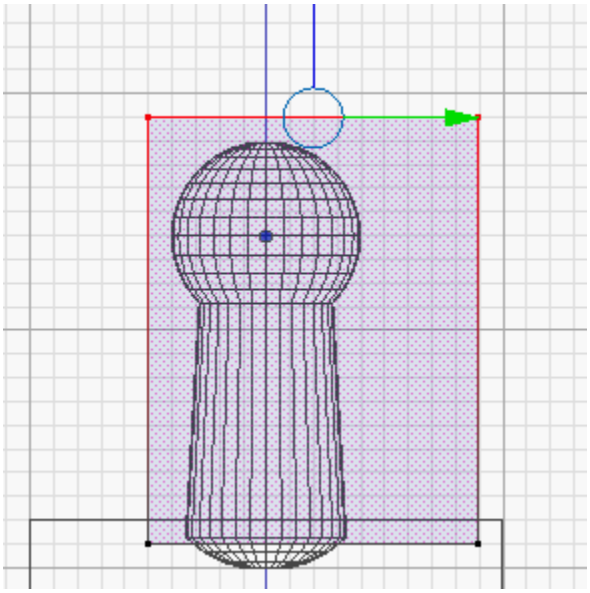

Add UV Sphere
Segments
32
Rings
16
Size
4.000
Align to View
Location
Z
X
(1) Neck

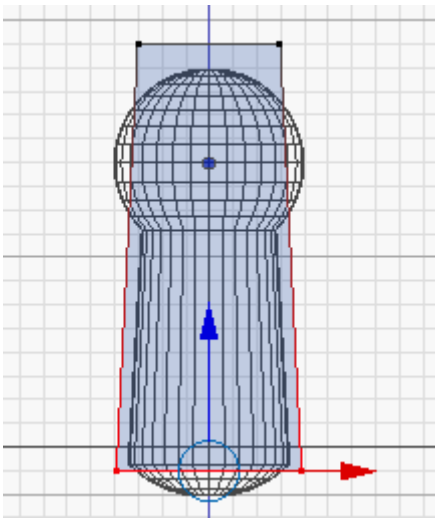


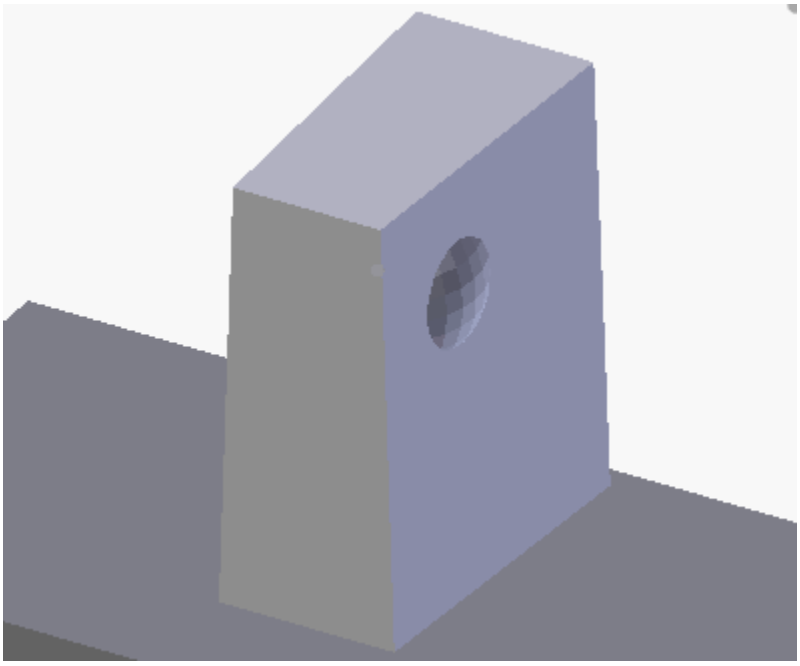


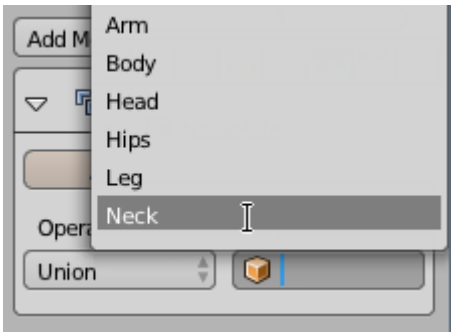




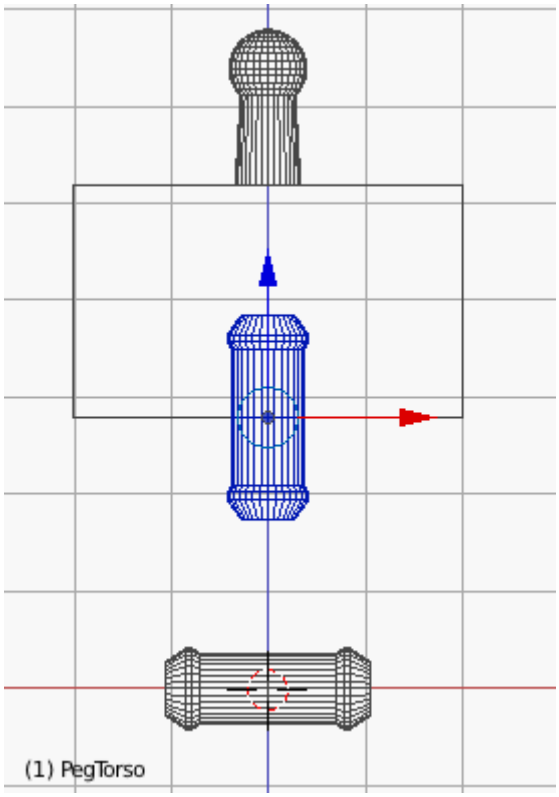


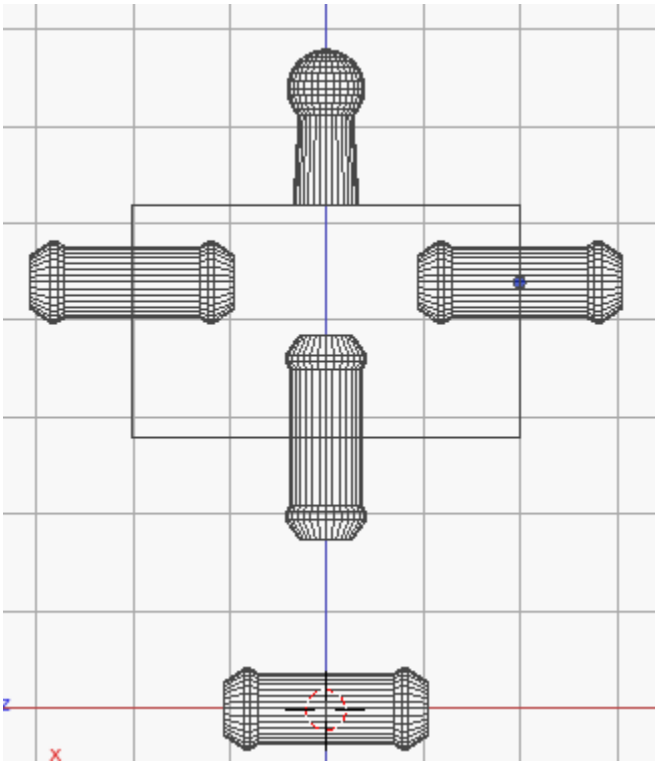


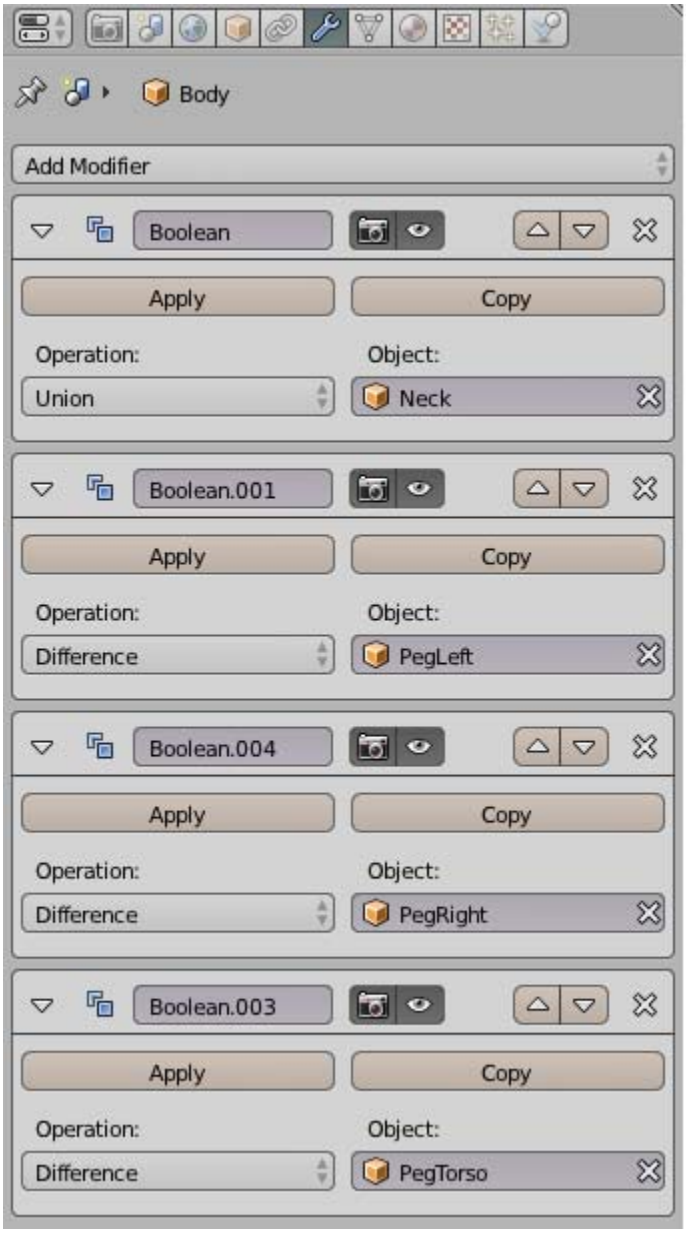


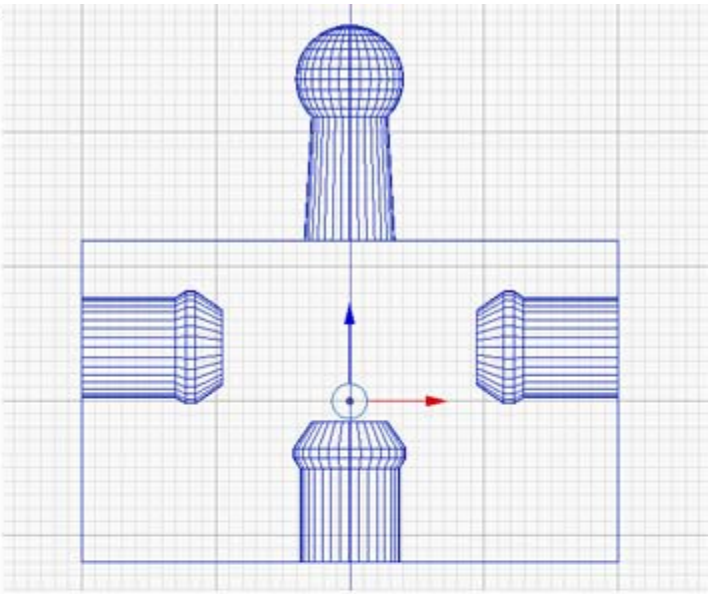

Add M
Arm
Body
Head
Hips
Leg
Neck
Opera
Union

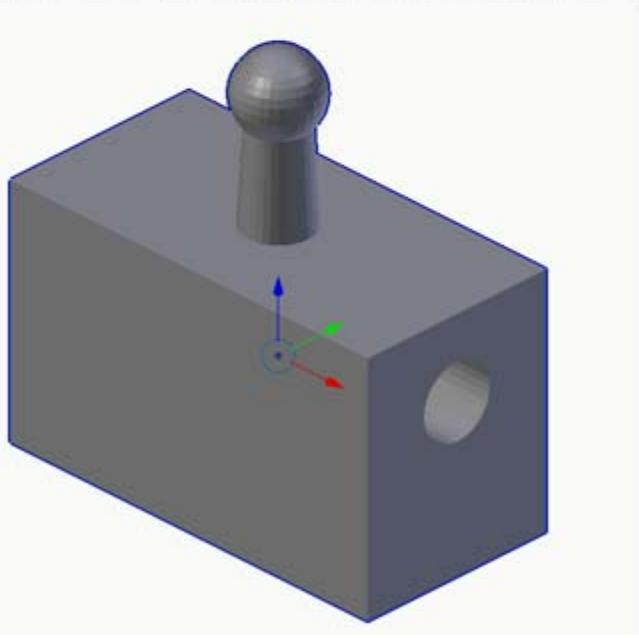
PegHip

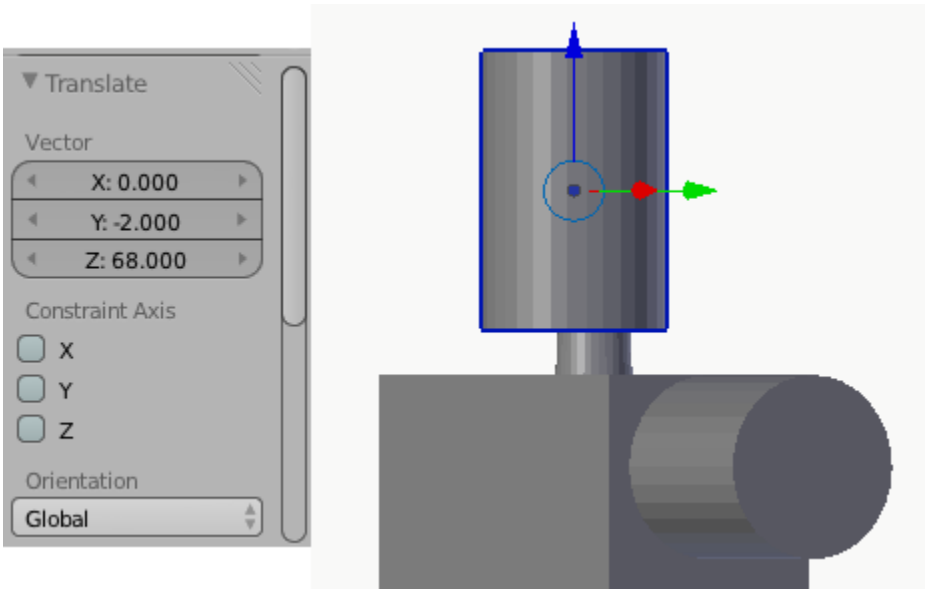

(1) PegTorso


z
x


Body
Add Modifier
Boolean
Apply
Copy
Operation:
Union
Object:
Neck
Boolean.001
Apply
Copy
Operation:
Difference
Object:
PegLeft
Boolean.004
Apply
Copy
Operation:
Difference
Object:
PegRight
Boolean.003
Apply
Copy
Operation:
Difference
Object:
PegTorso



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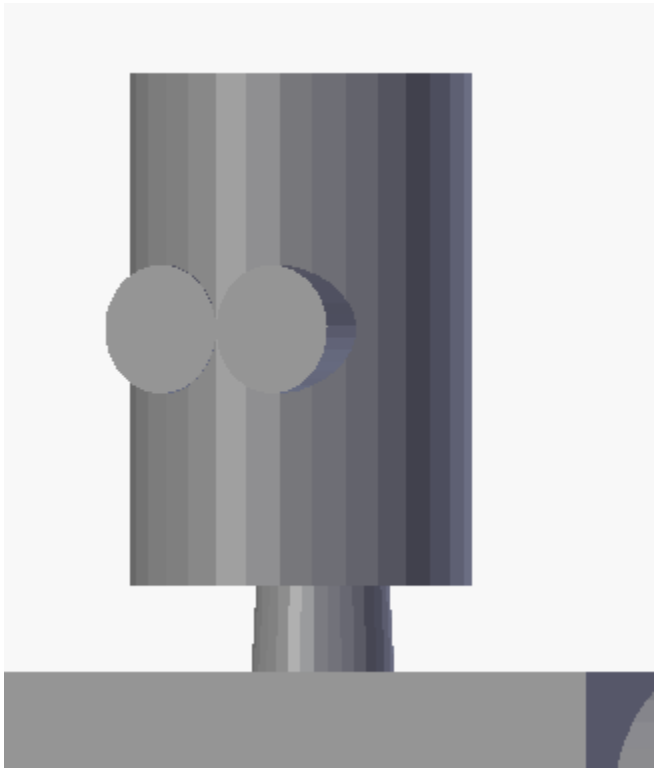
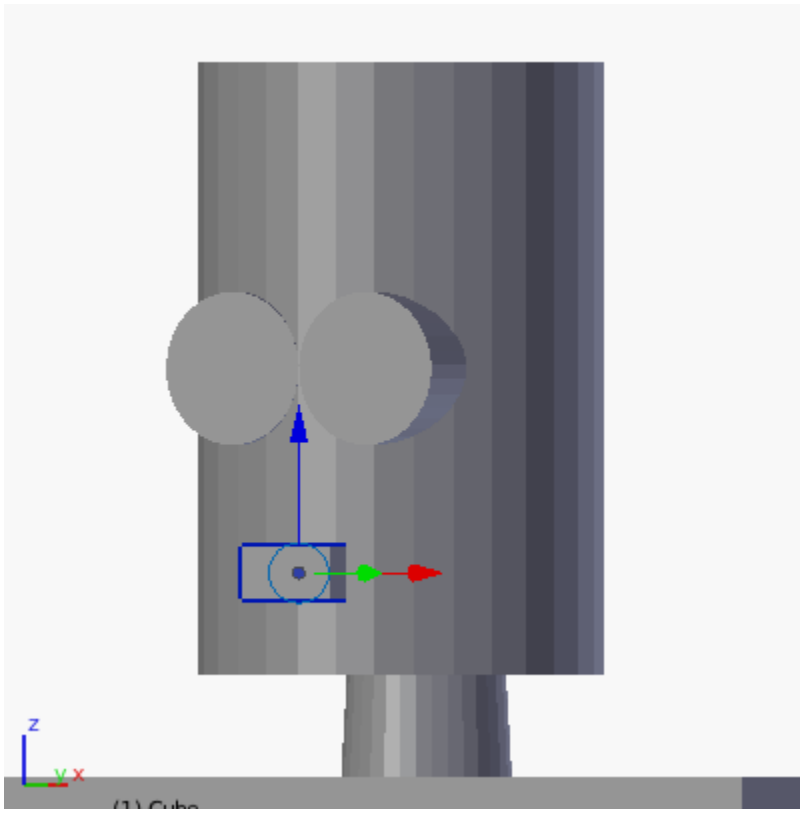
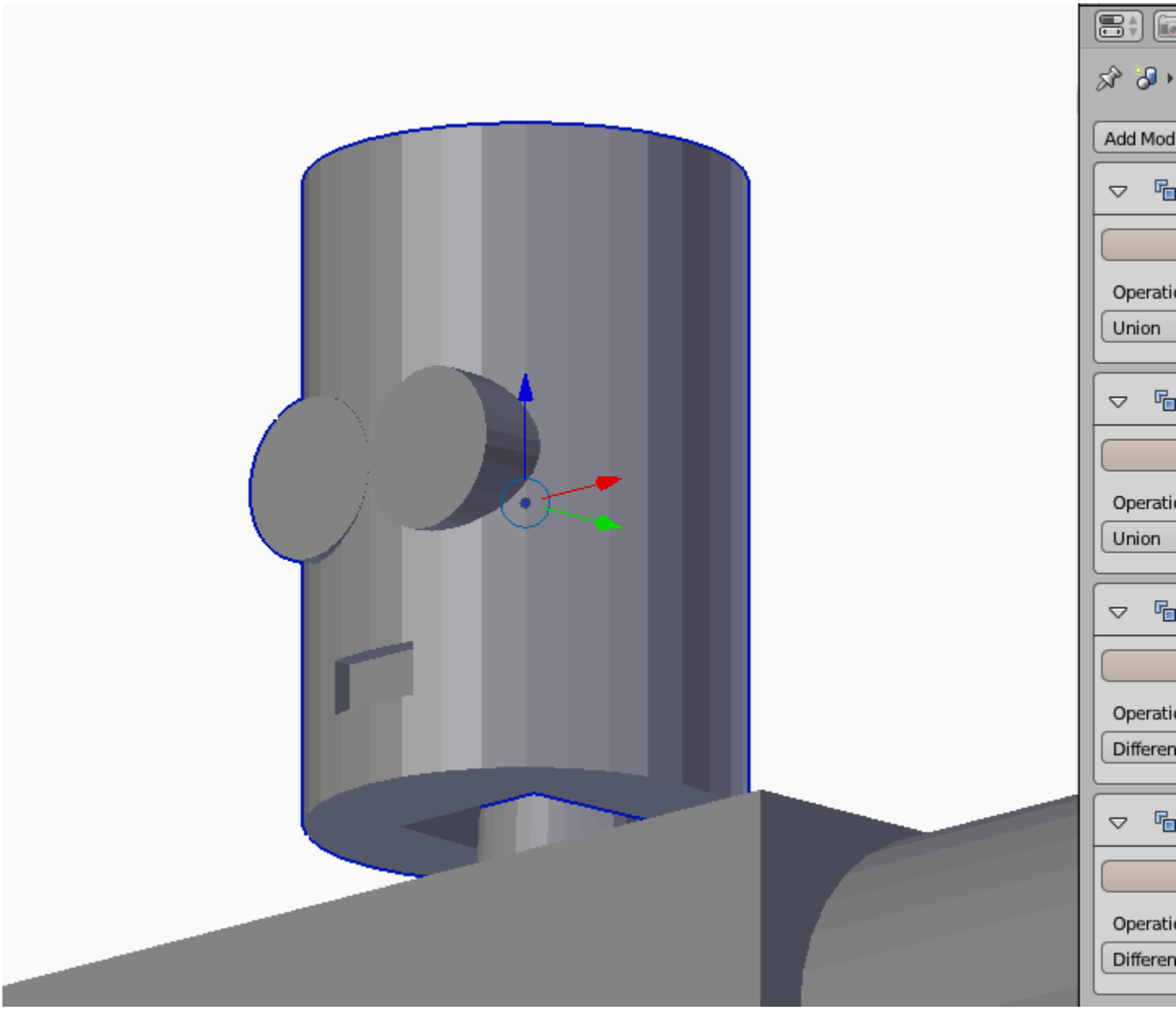
Z: 68.000
Constraint Axis
X
Y
Z
Orientation
Global




Z
Y
X


Add Mod
Operati
Union
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Union
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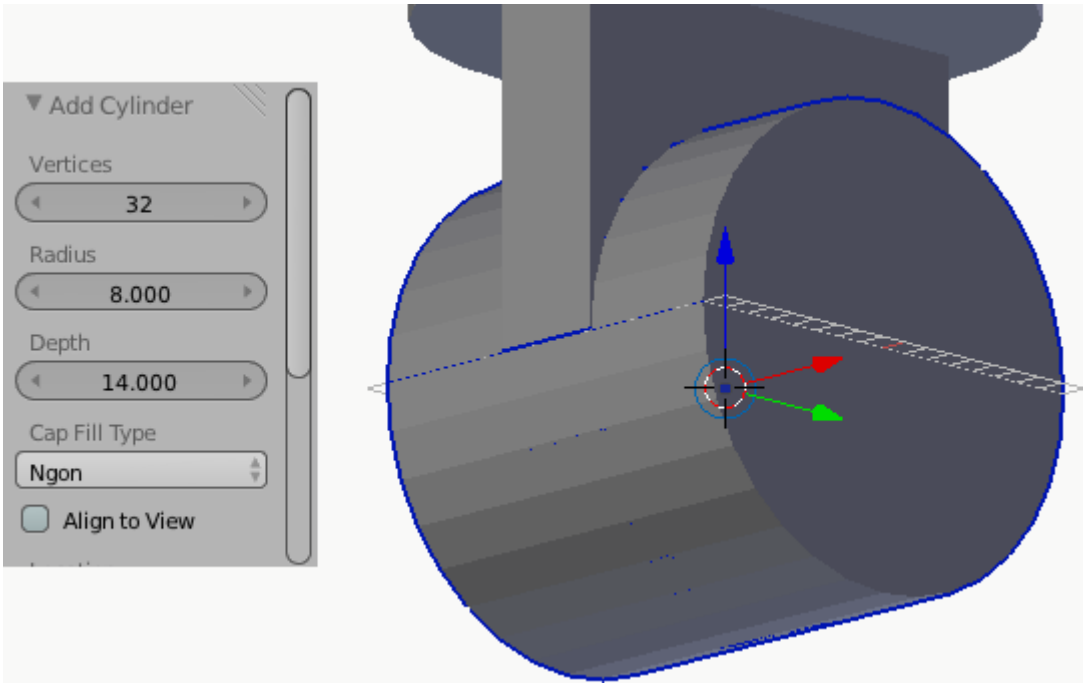
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Vertices
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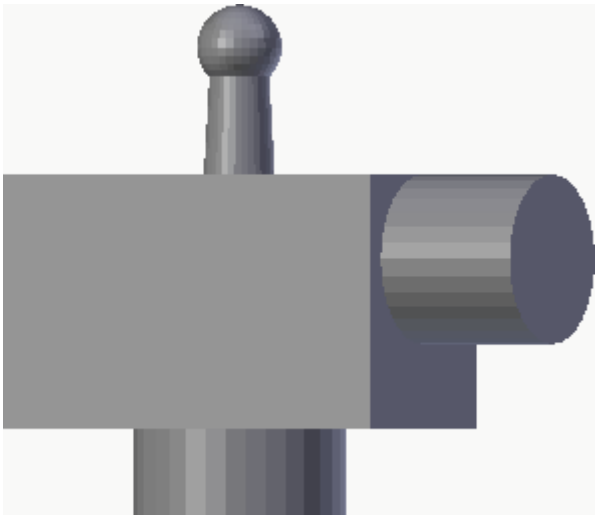
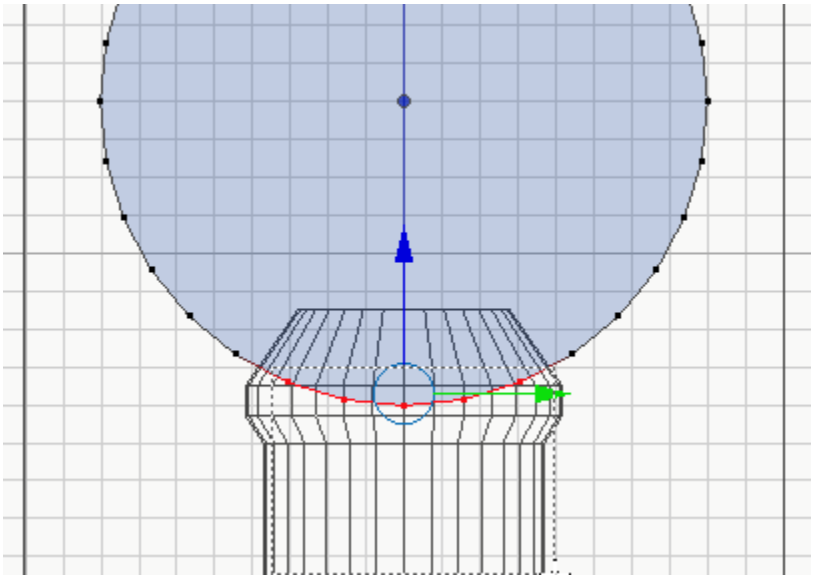
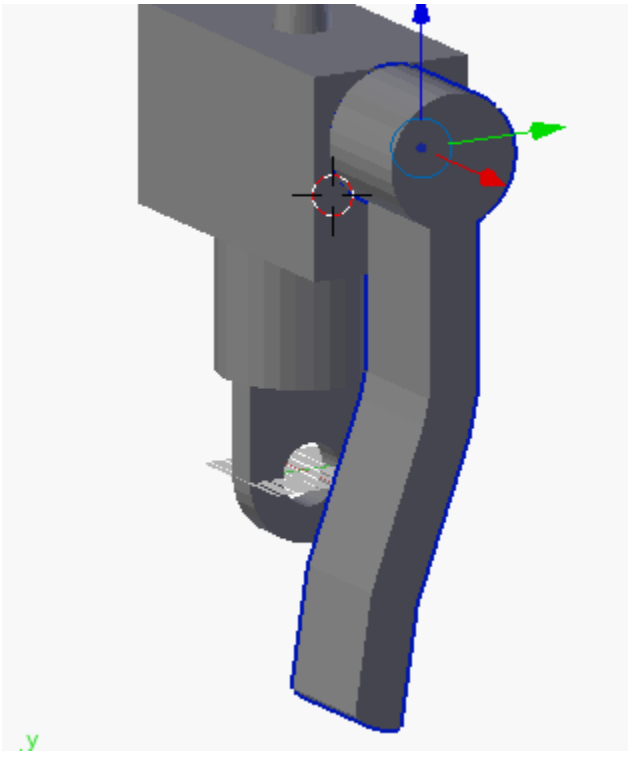
Depth
14.000
Cap Fill Type
Ngon
Align to View



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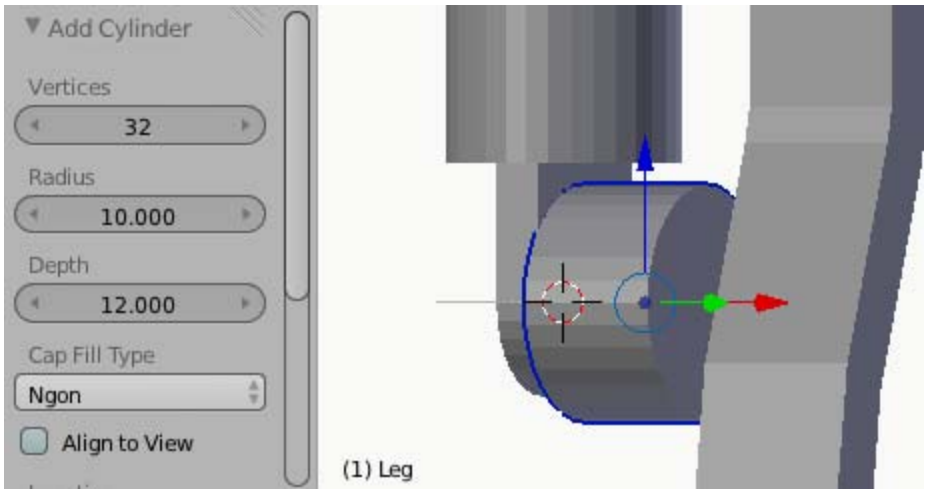
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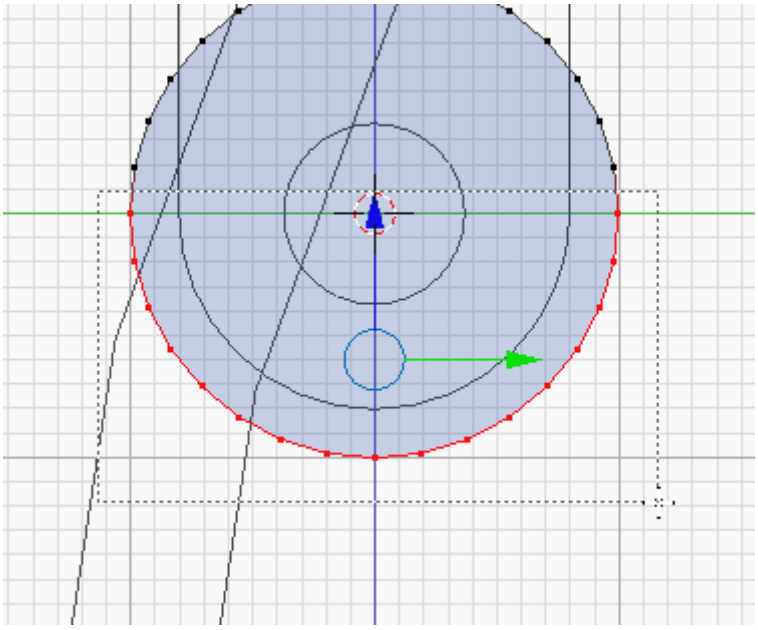
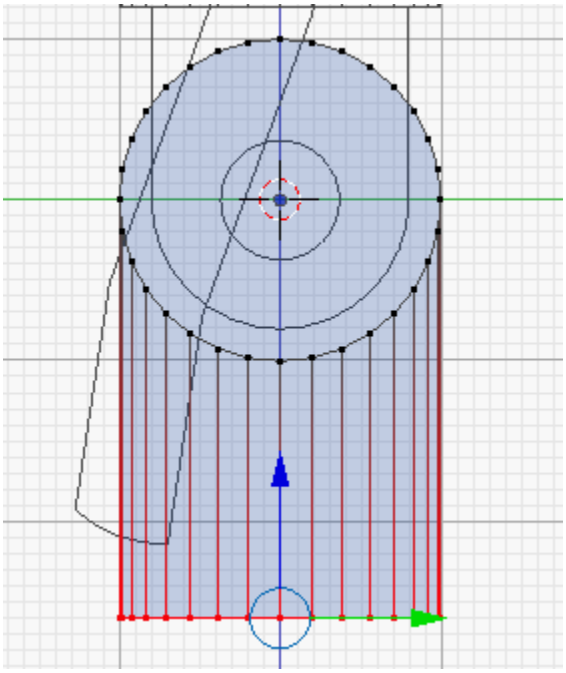
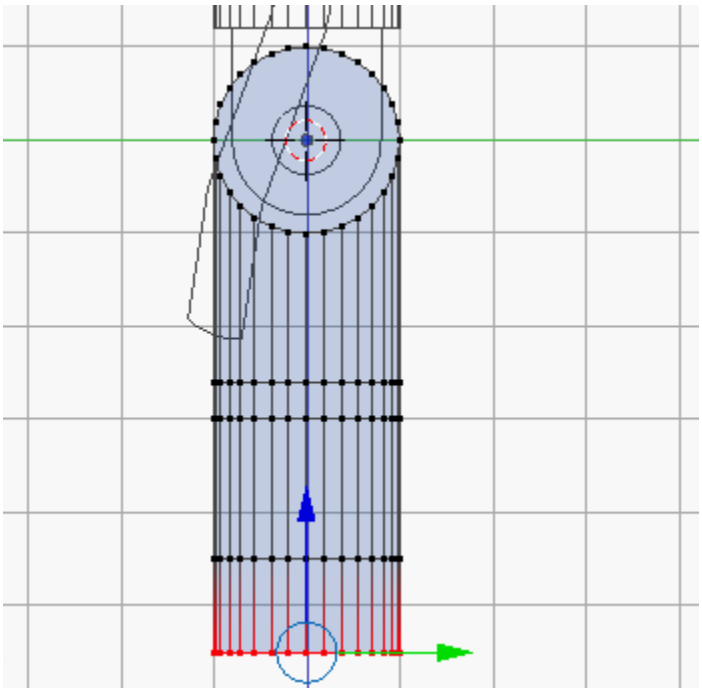
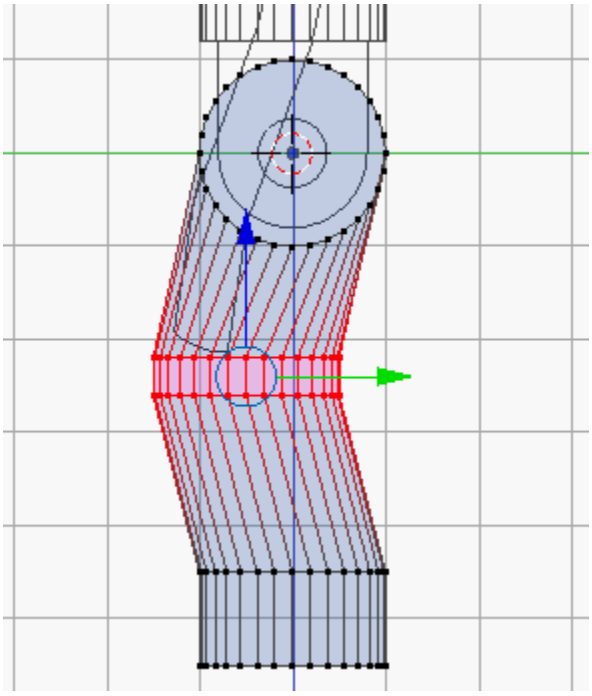
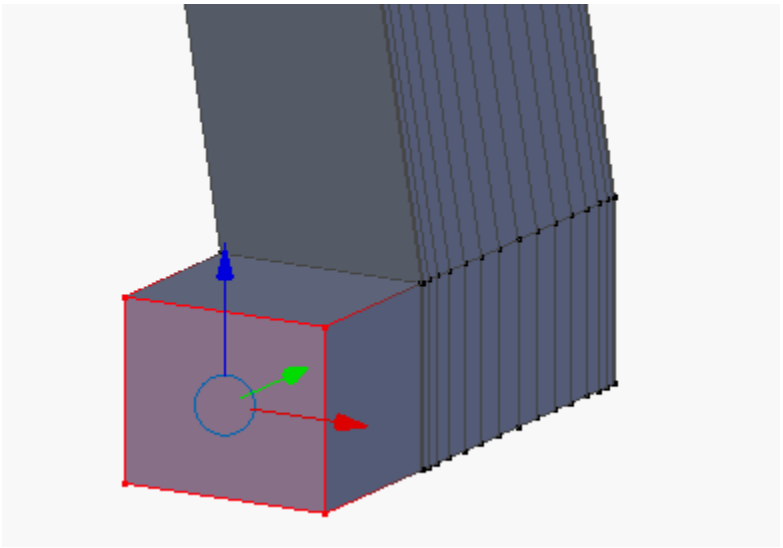
Vertices
32
Radius
10.000
Depth
12.000
Cap Fill Type
Ngon
Align to View
(1) Leg

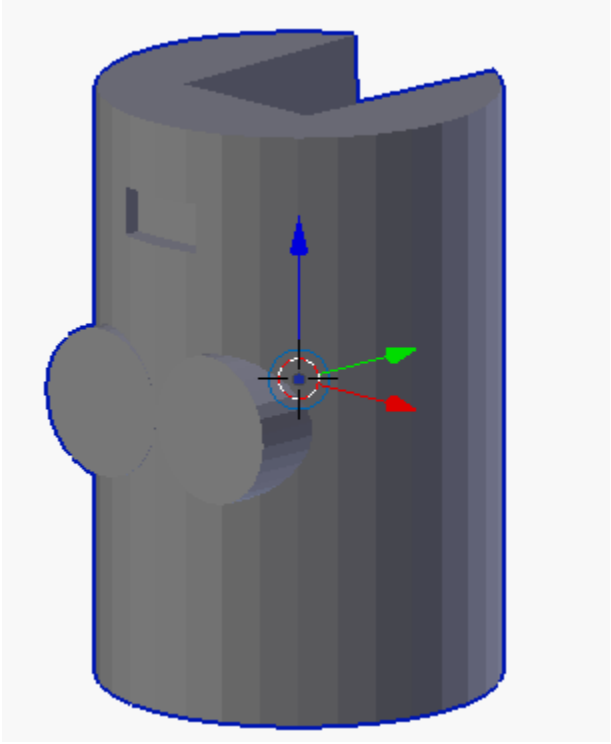


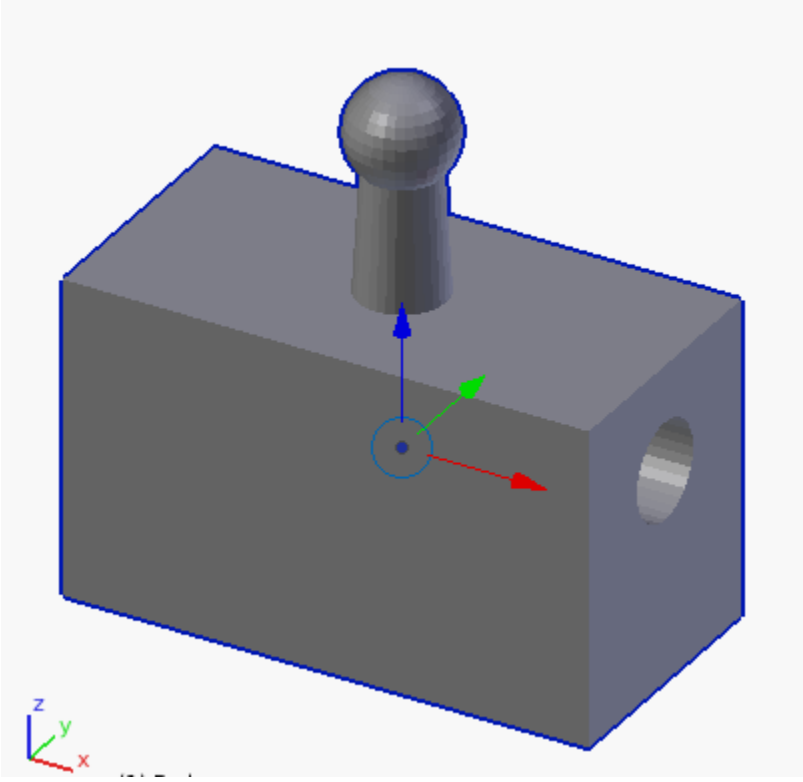


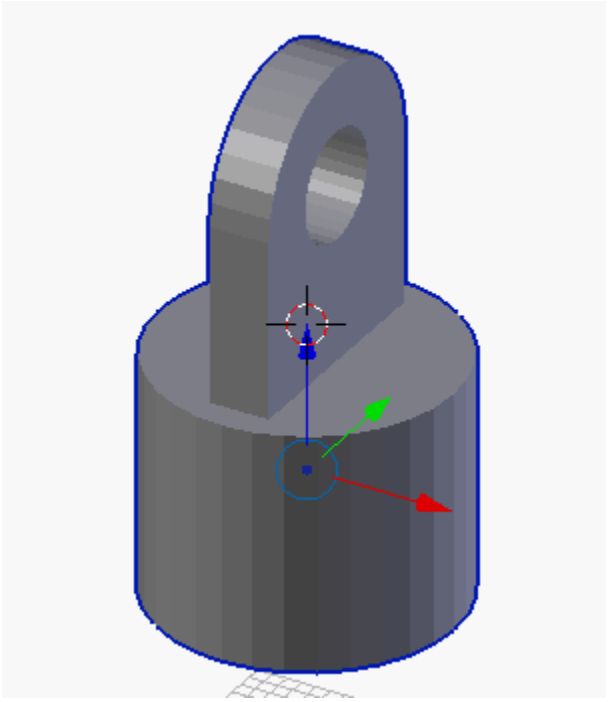


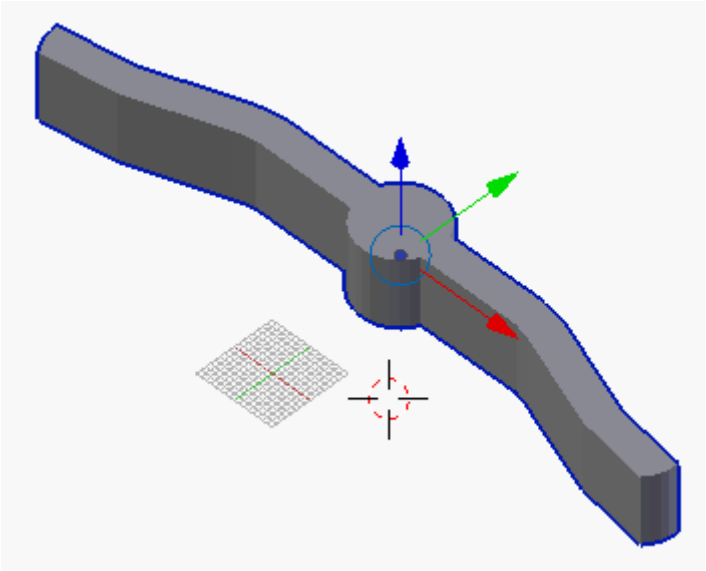


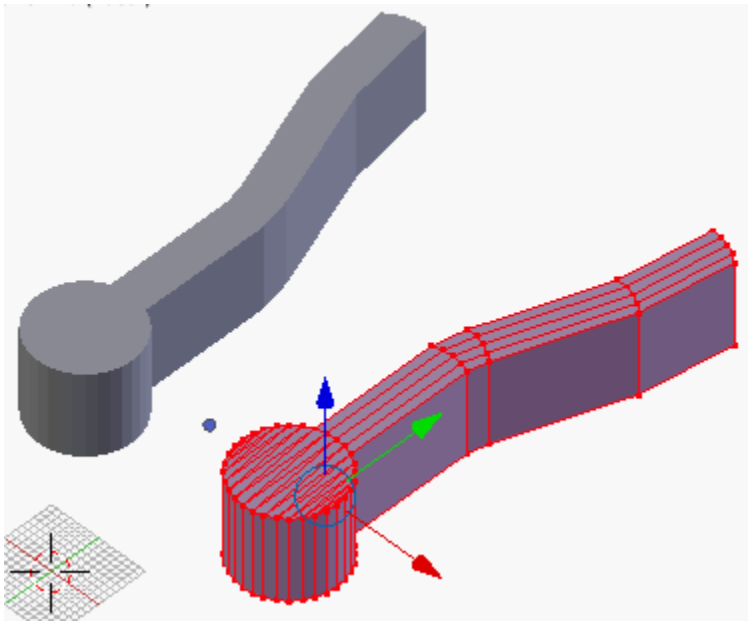


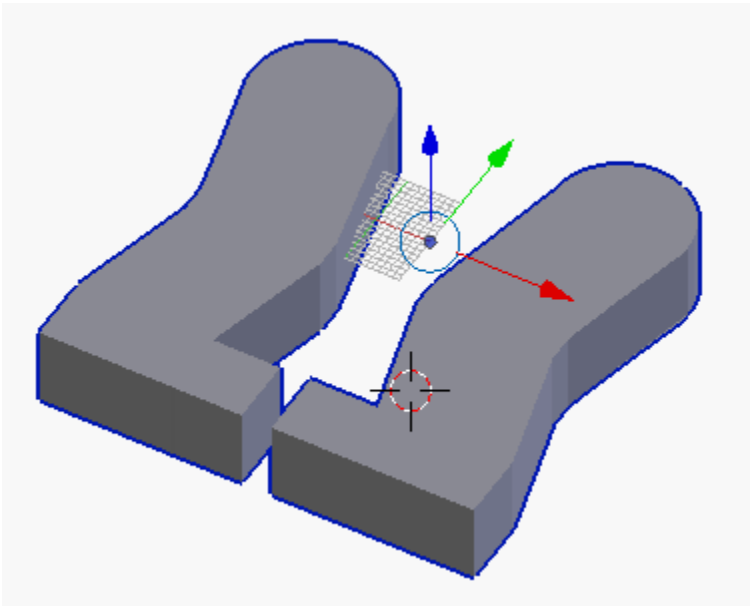


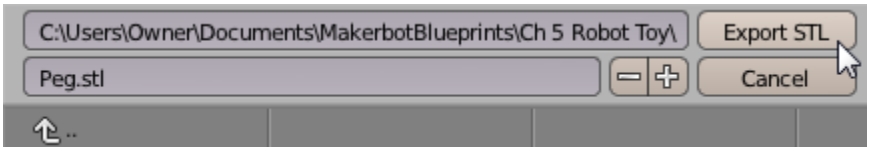

z
y
x

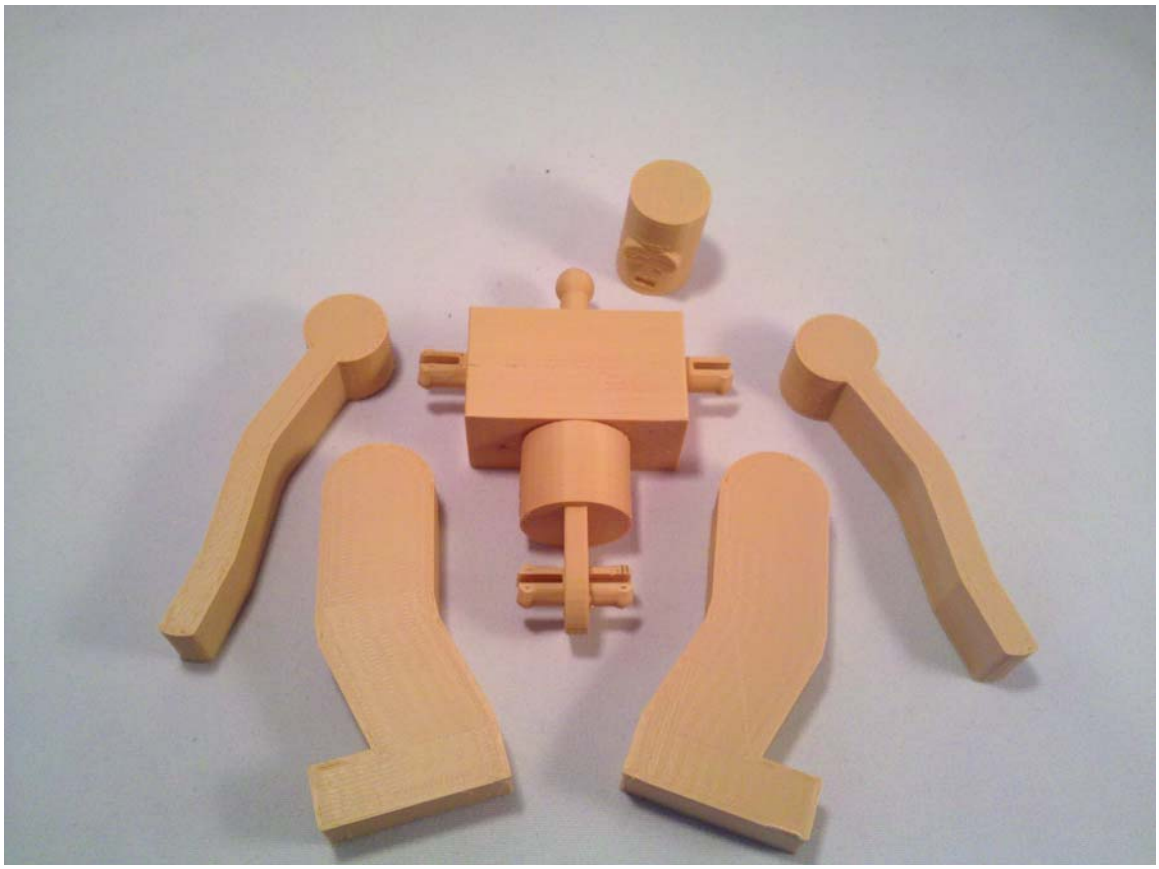




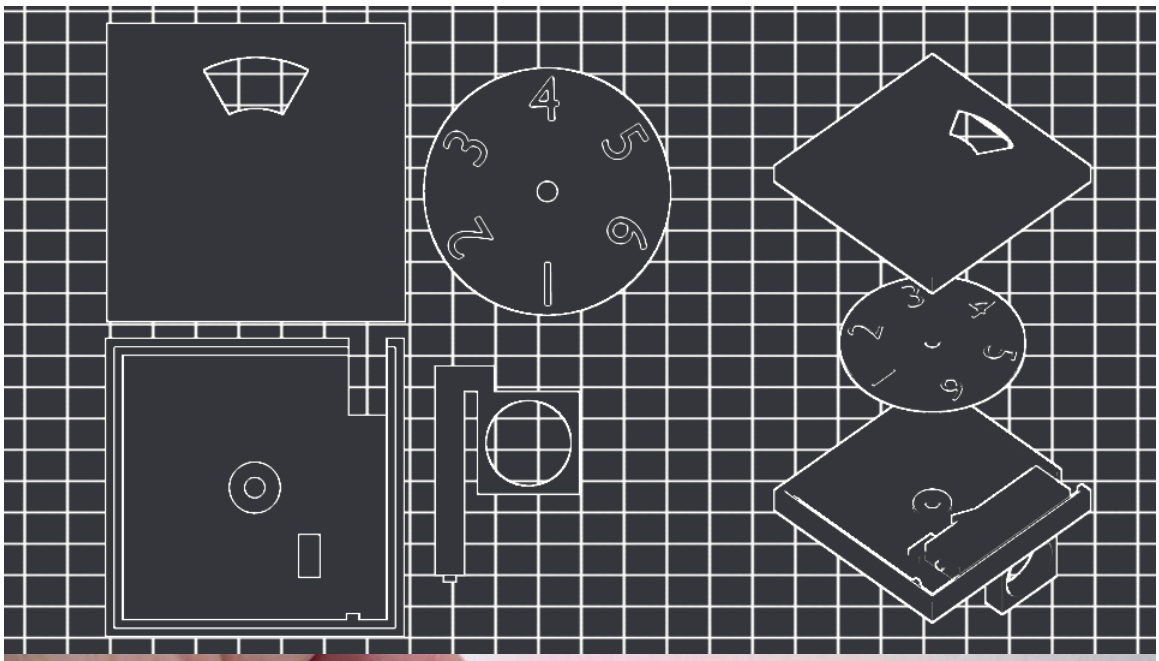


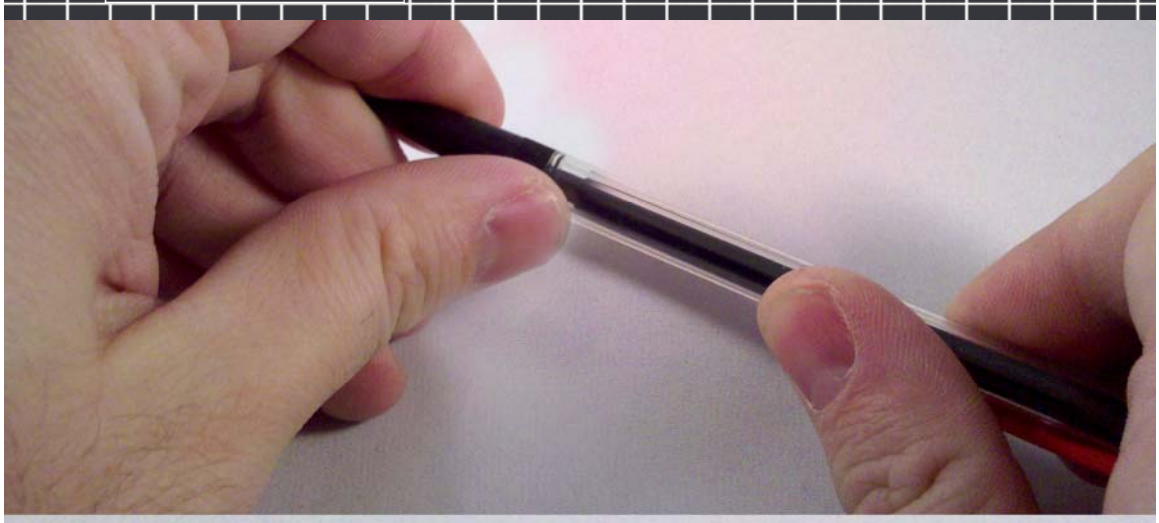


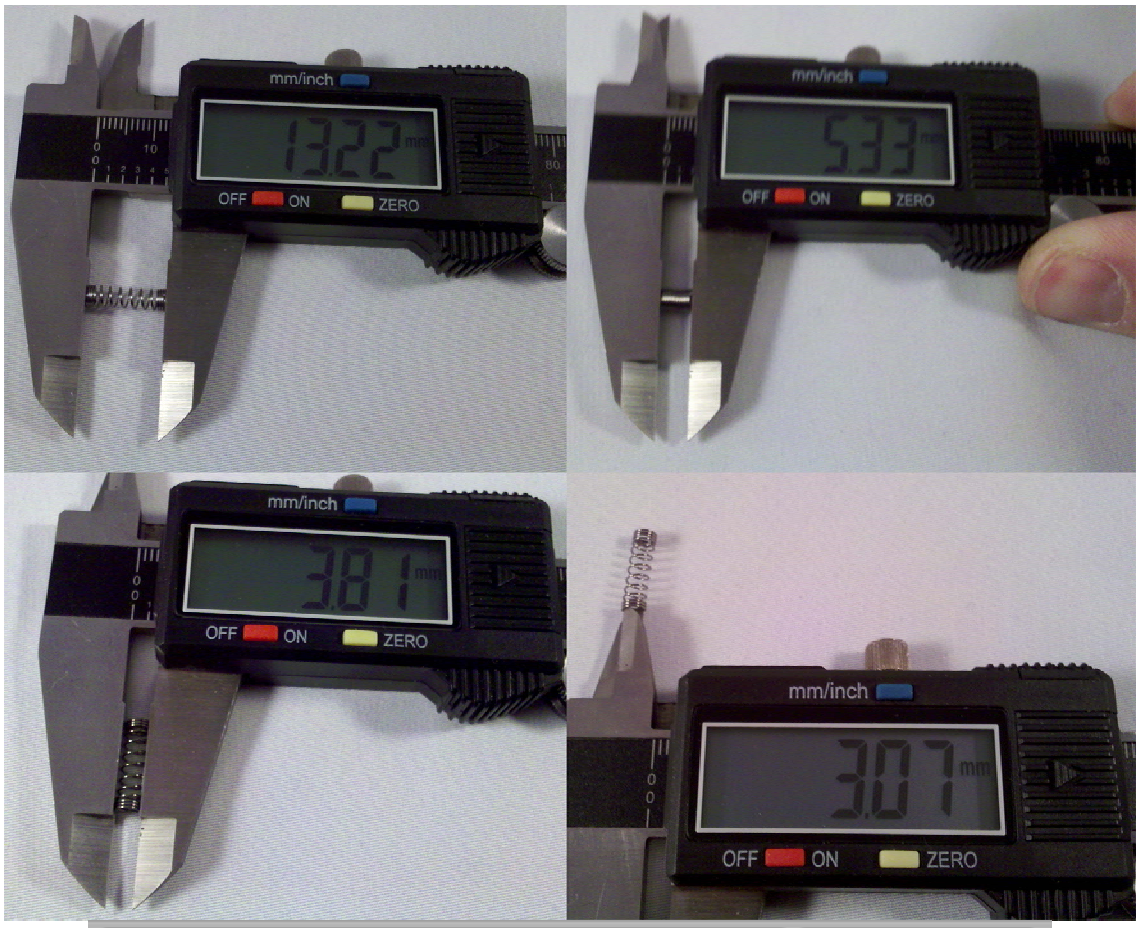

C:\Users\Owner\Documents\MakerbotBlueprints\Ch 5 Robot Toy\
Export STL
Peg.stl
Cancel
..



Chapter 6: D6 Spinner





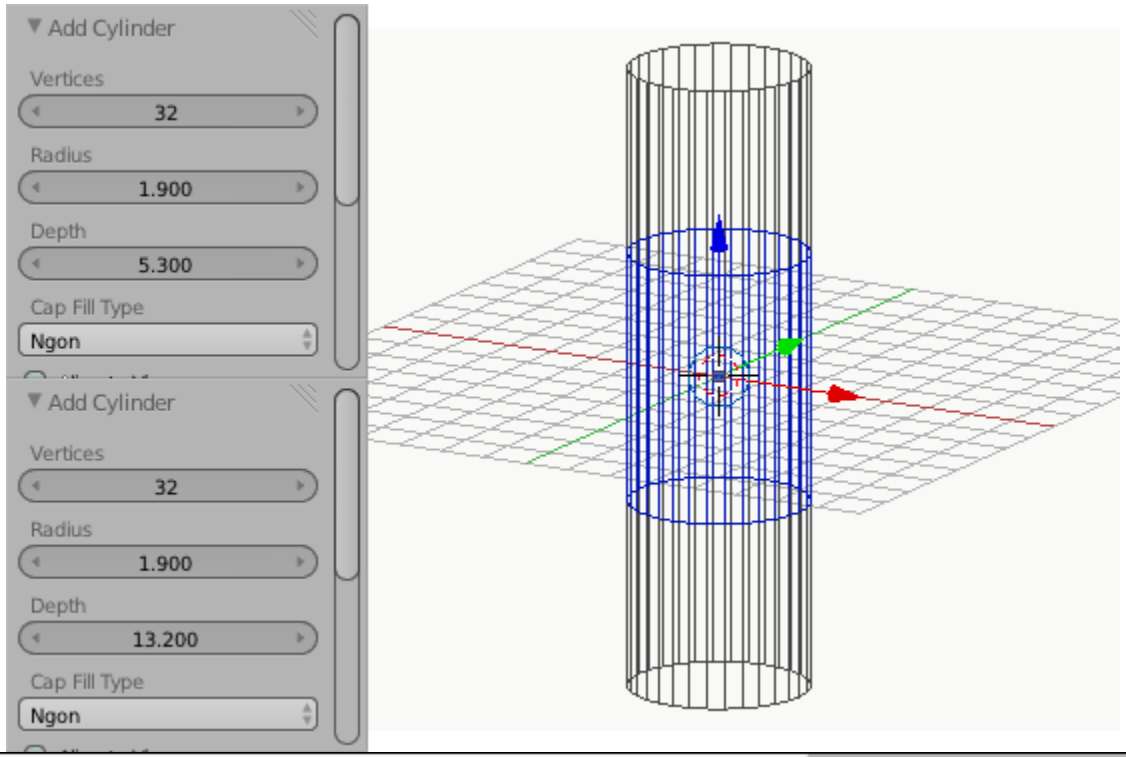


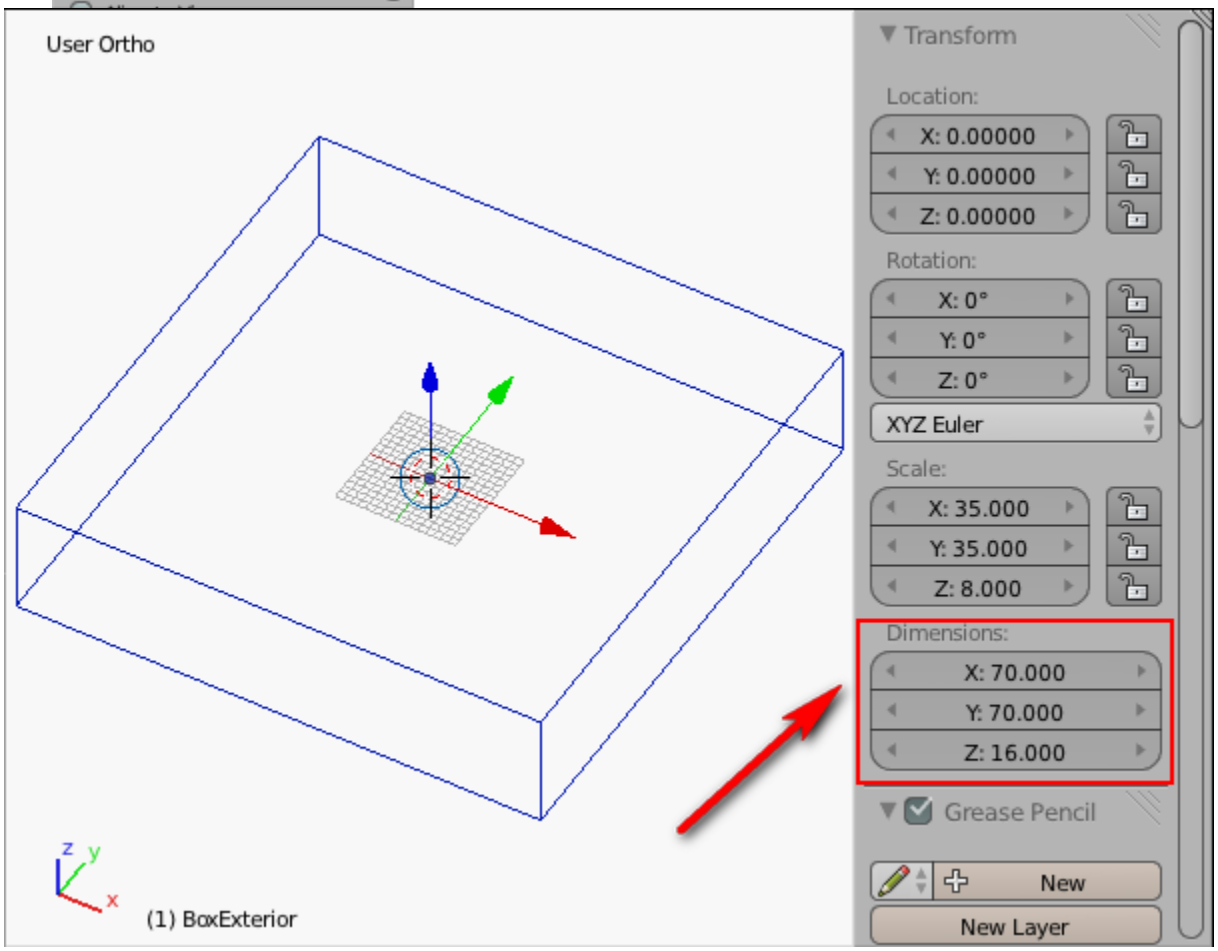
C:\Users\Owner\Documents\MakerbotBlueprints\Ch 6 Dice Spinner\

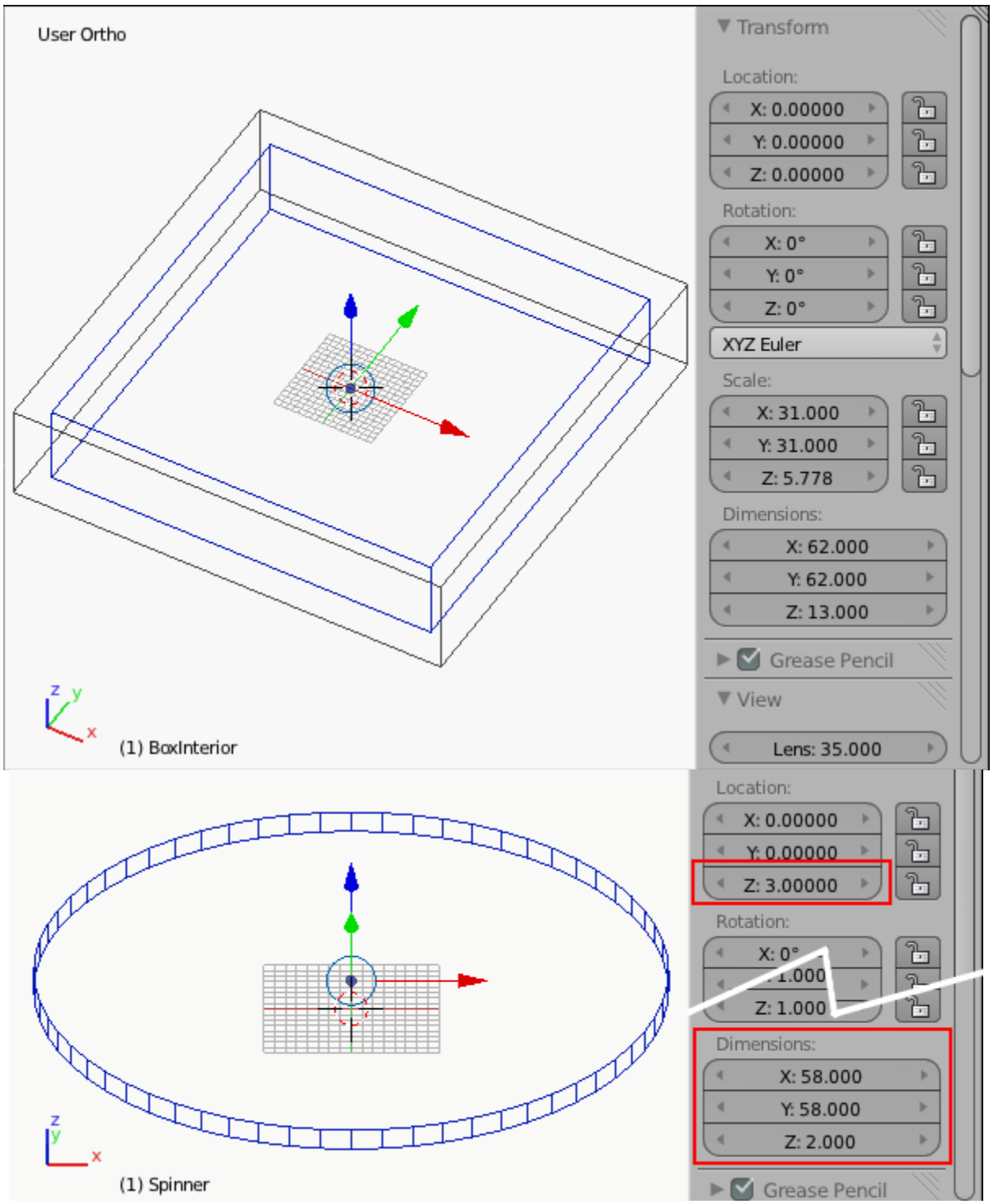
Save As Blender File

DiceSpinner.blend

Cancel


Add Cylinder
Vertices
32
Radius
1.900
Depth
5.300
Cap Fill Type
Ngon
Add Cylinder
Vertices
32
Radius
1.900
Depth
13.200
Cap Fill Type
Ngon


User Ortho
Transform
Location:
X: 0.00000
Y: 0.00000
Z: 0.00000
Rotation:
X: 0°
Y: 0°
Z: 0°
XYZ Euler
Scale:
X: 35.000
Y: 35.000
Z: 8.000
Dimensions:
X: 70.000
Y: 70.000
Z: 16.000
Grease Pencil
New
New Layer
(1) BoxExterior


User Ortho
(1) BoxInterior
Transform
Location:
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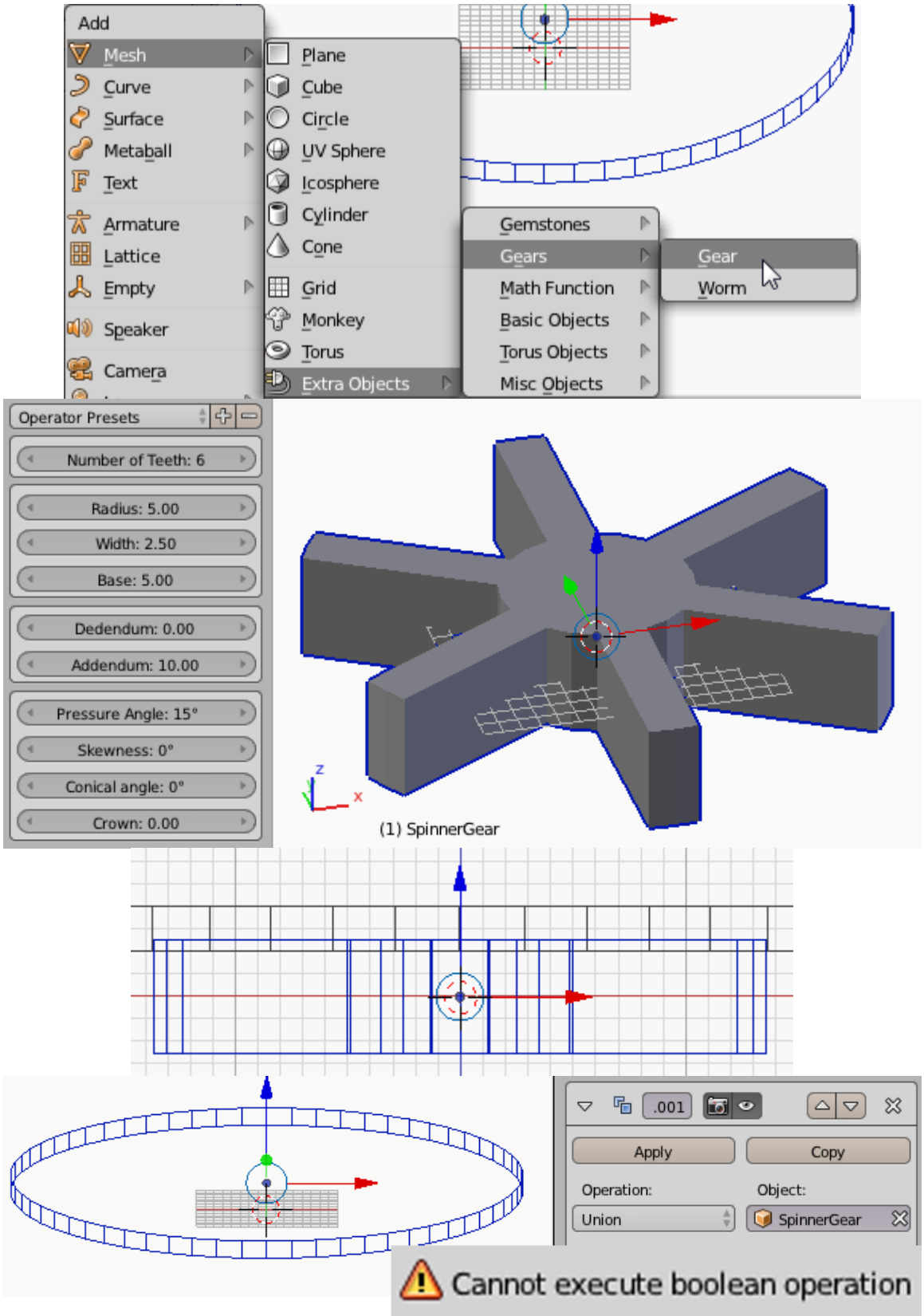
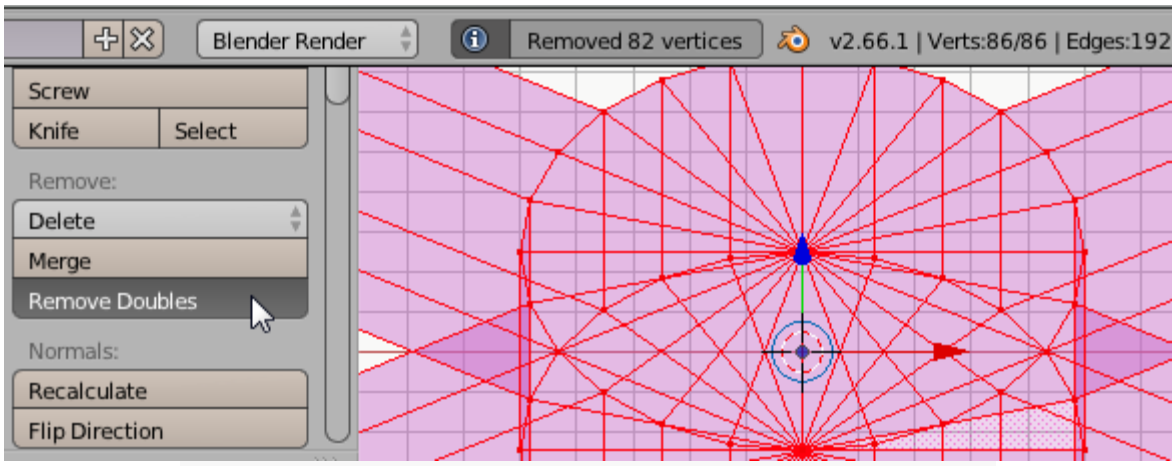
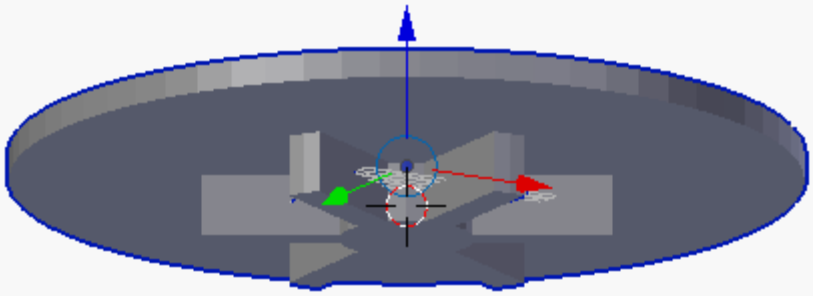
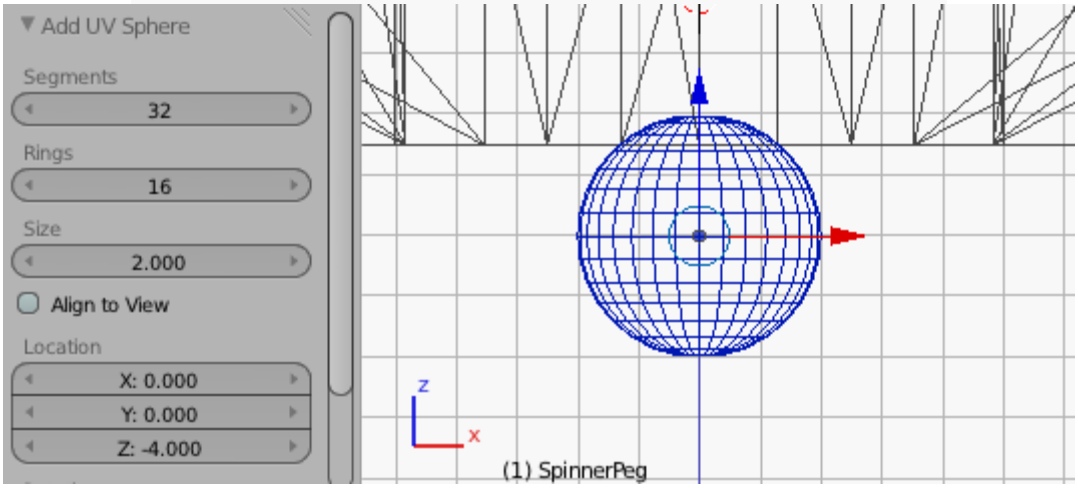
Y: 0.00000
Z: 0.00000
Rotation:
X: 0°
Y: 0°
Z: 0°
XYZ Euler
Scale:
X: 31.000
Y: 31.000
Z: 5.778
Dimensions:
X: 62.000
Y: 62.000
Z: 13.000
Grease Pencil
View
Lens: 35.000
(1) Spinner
Location:
X: 0.00000
Y: 0.00000
Z: 3.00000
Rotation:
X: 0°
Z: 1.000
Dimensions:
X: 58.000
Y: 58.000
Z: 2.000
Grease Pencil

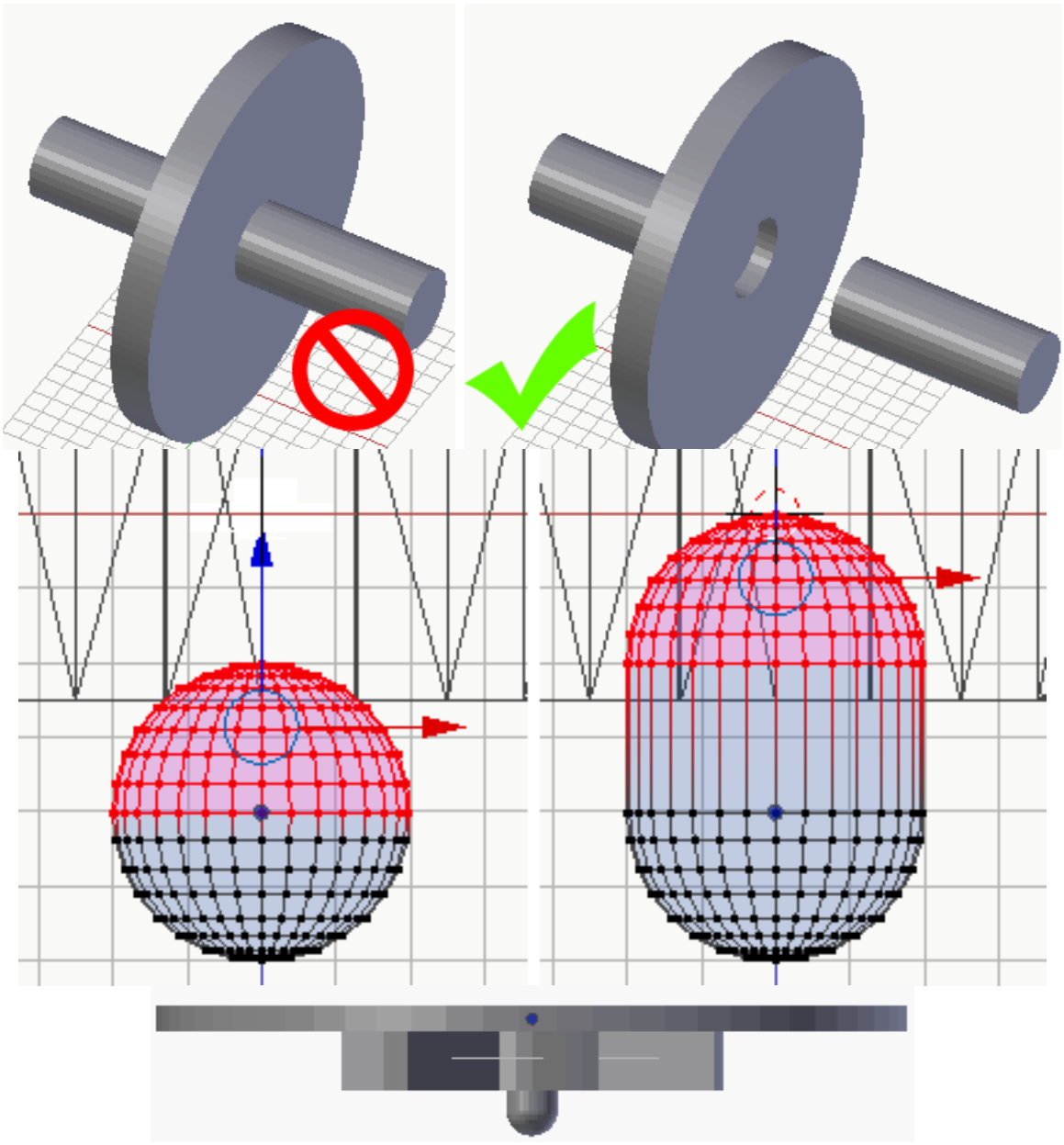
File Add Render Window H
New Ctrl N
Open... Ctrl O
Open Recent... Shift Ctrl O
Recover Last Session
Recover Auto Save...
Save Ctrl S
Save As... Shift Ctrl S
Save Copy... Ctrl Alt S
User Preferences... Ctrl Alt U
Save Startup File Ctrl U
Load Factory Settings
Link Ctrl Alt O
Append Shift F1
Import
Export
External Data
Quit Ctrl Q
Interface Editing Input Addons Themes File System
Supported Level
Official
Community
Testing
Categories
All
User
Enabled
Disabled
3D View
Add Curve
Add Mesh
Animation
Compositing
Development
Game Engine
Import-Export
Material
Mesh
3D View: 3D Navigation
3D View: Copy Attributes Menu
3D View: Dynamic Spacebar Menu
3D View: Math Vis (Console)
3D View: Measure Panel
3D View: Screencast Keys
Add Curve: Extra Objects
Add Curve: IvyGen
Add Curve: Sapling
Add Curve: Simplify curves
Add Mesh: ANT Landscape
Add Mesh: BoltFactory
Save User Settings
Install from File...
Development Guides
All
User
Enabled
Disabled
3D View
Add Curve
Add Mesh
Animation
Compositing
Development
Add Mesh: ANT Landscape
Add Mesh: BoltFactory
Add Mesh: Extra Objects
Add Mesh: Pipe Joints
Add Mesh: Regular Solids
Add Mesh: Extra Objects
Descriptio Add extra object types
Location: View3D > Add > Mesh > Extra Objects
File: C:\Program Files\Blender Foundation\Blender\2.66\scripts\addons\a
Author: Multiple Authors
Version: 0.3
Internet: Link to the Report a Bu

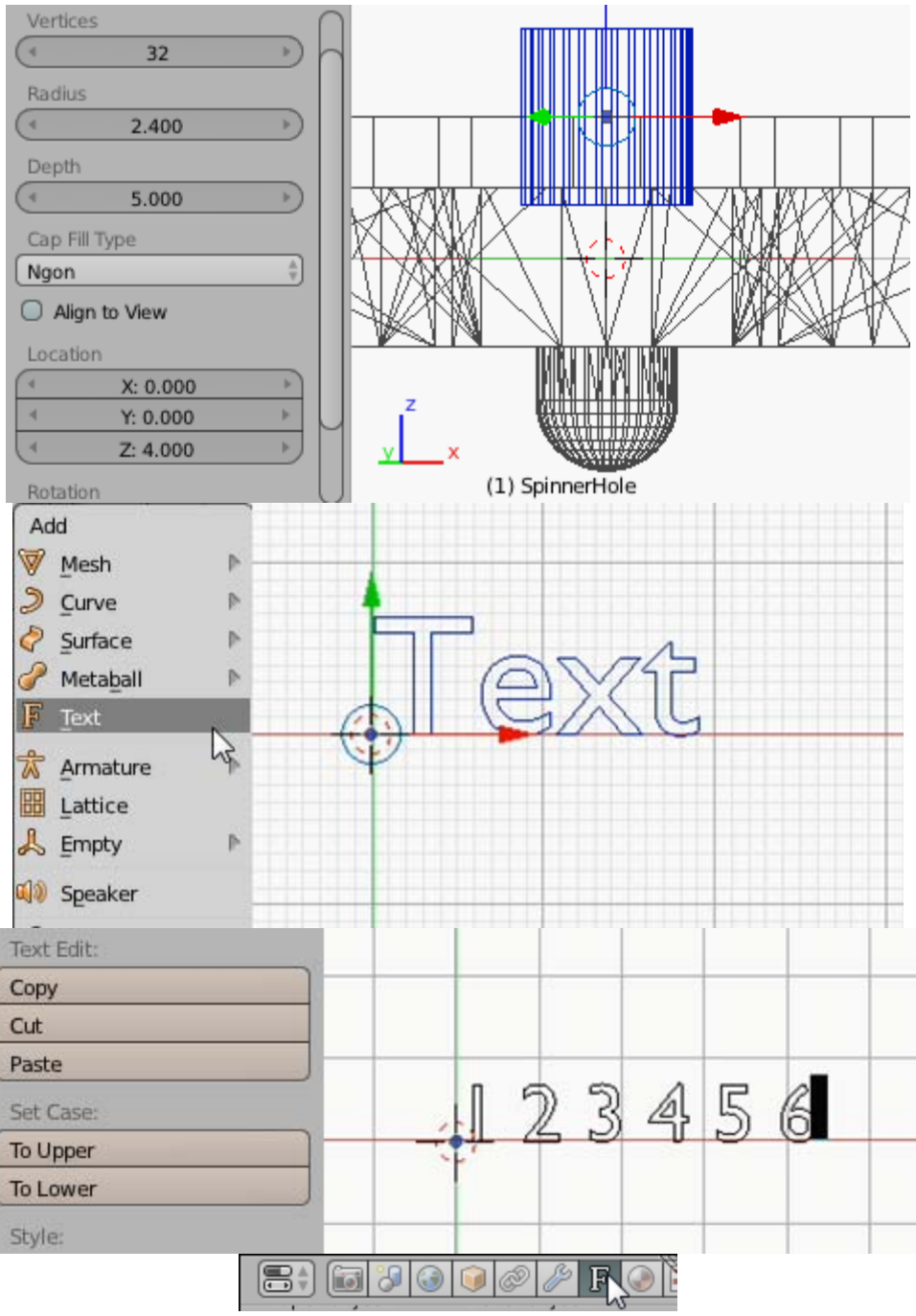

Add
Mesh
Curve
Surface
Metaball
Text
Armature
Lattice
Empty
Speaker
Camera
Plane
Cube
Circle
UV Sphere
Icosphere
Cylinder
Cone
Grid
Monkey
Torus
Extra Objects
Gemstones
Gears
Math Function
Basic Objects
Torus Objects
Misc Objects
Gear
Worm
Operator Presets
Number of Teeth: 6
Radius: 5.00
Width: 2.50
Base: 5.00
Dedendum: 0.00
Addendum: 10.00
Pressure Angle: 15°
Skewness: 0°
Conical angle: 0°
Crown: 0.00
(1) SpinnerGear
.001
Apply
Copy
Operation:
Object:
Union
SpinnerGear
Cannot execute boolean operation

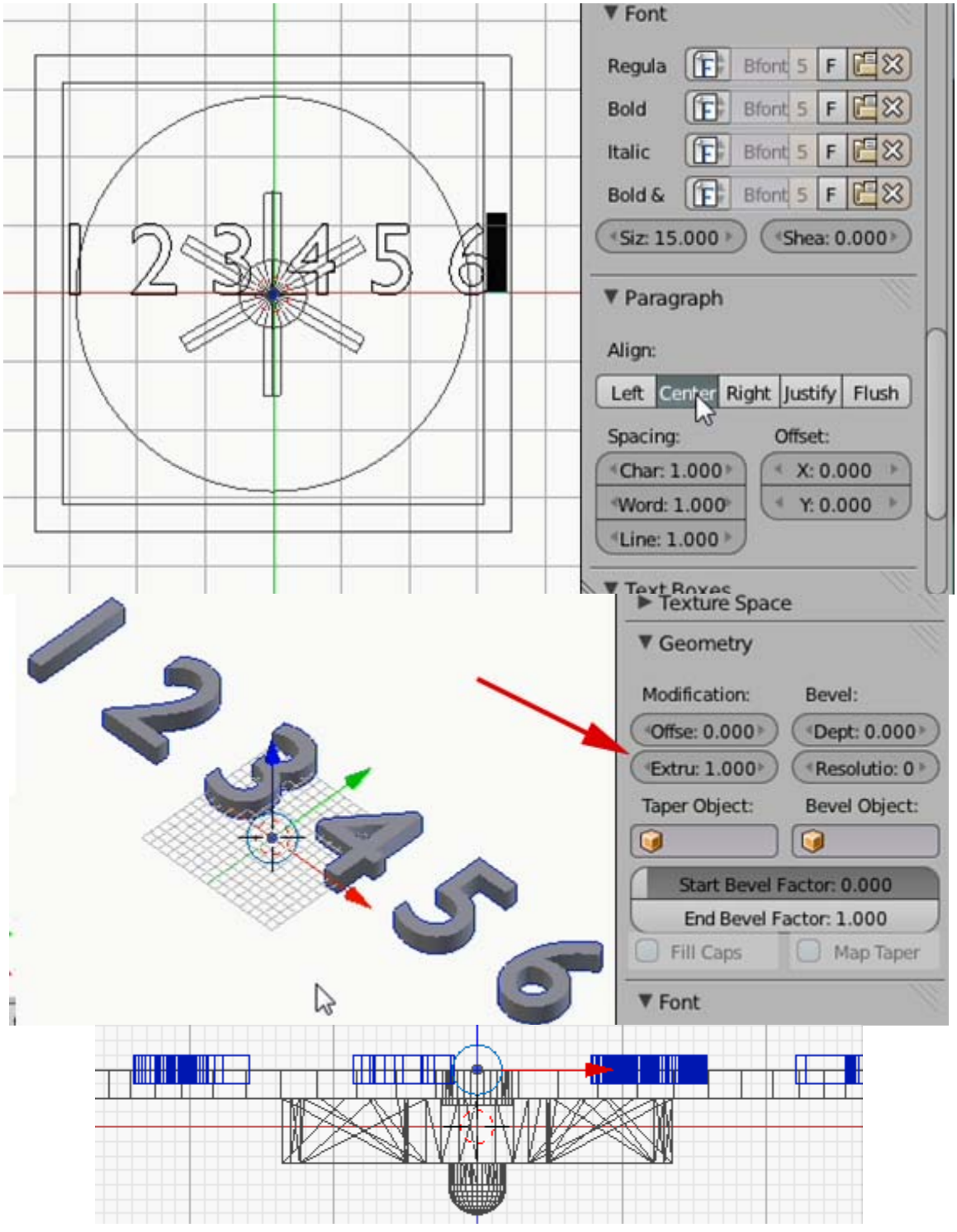

Blender Render
Removed 82 vertices
v2.66.1 | Verts:86/86 | Edges:192
Screw
Knife
Select
Remove:
Delete
Merge
Remove Doubles
Normals:
Recalculate
Flip Direction

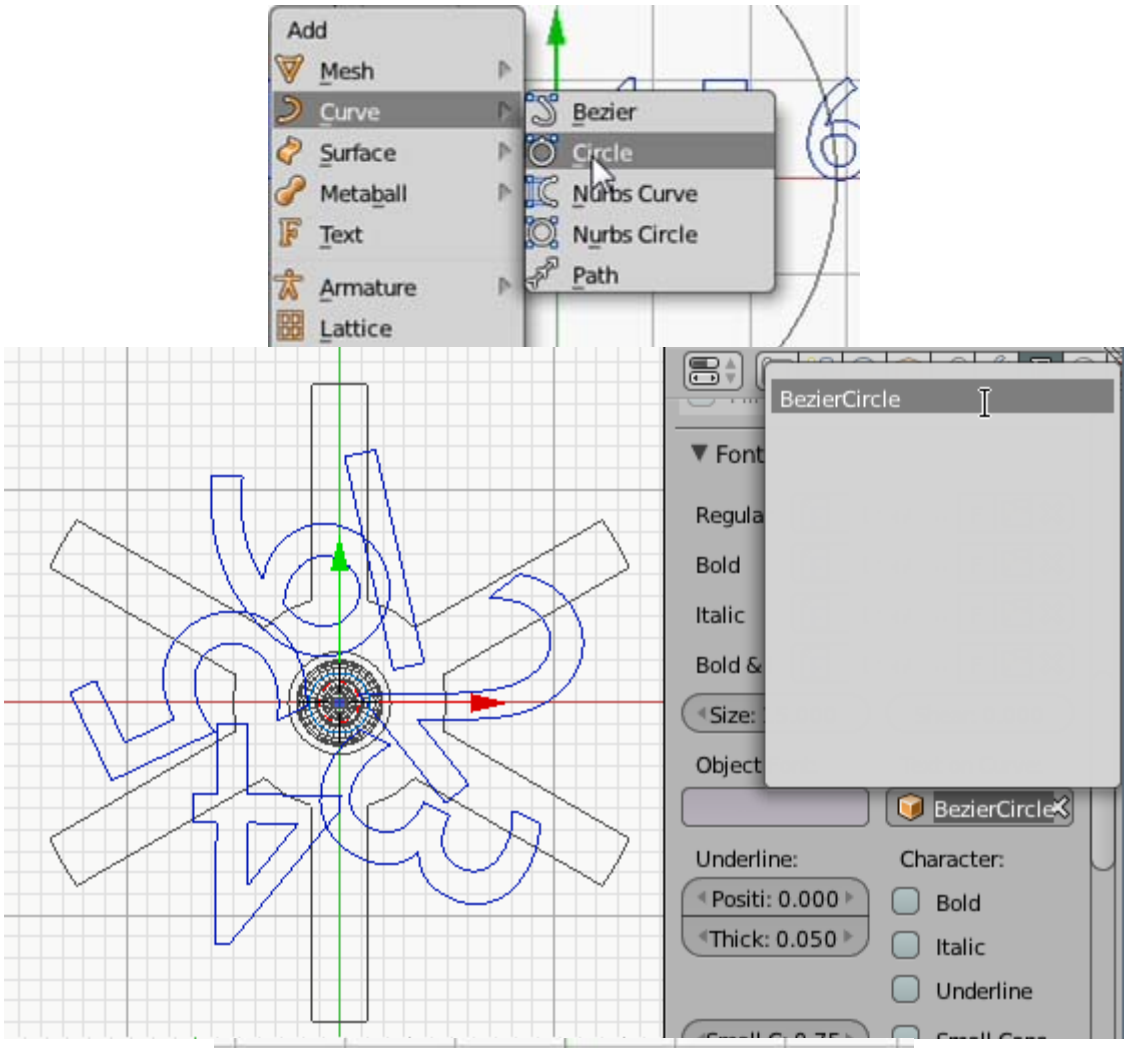


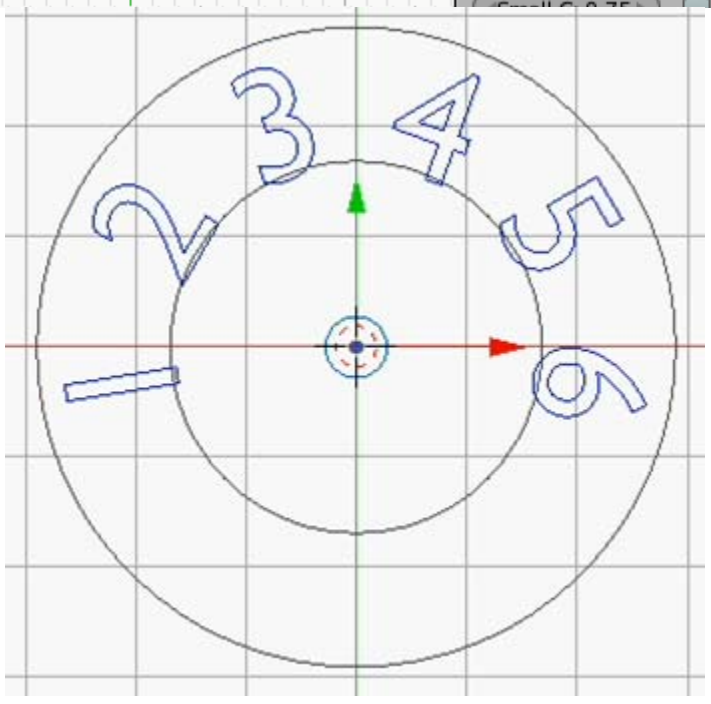

Add UV Sphere
Segments
32
Rings
16
Size
2.000
Align to View
Location
X: 0.000
Y: 0.000
Z: -4.000
Z
X
(1) SpinnerPeg

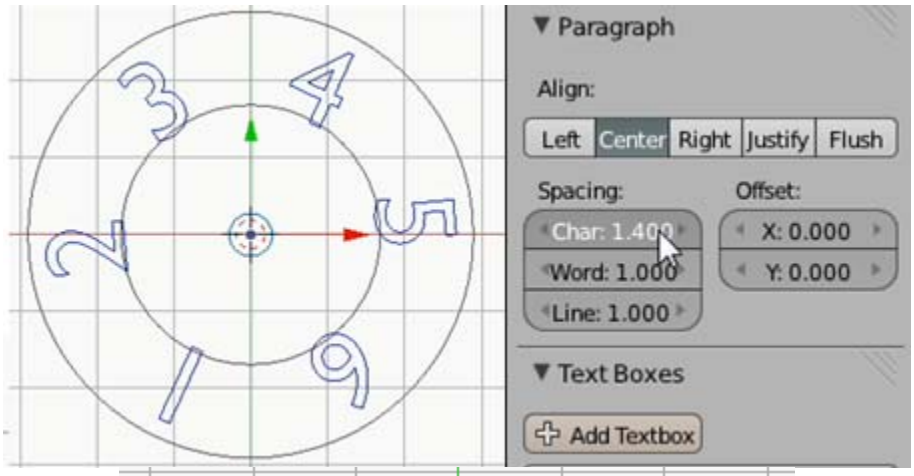


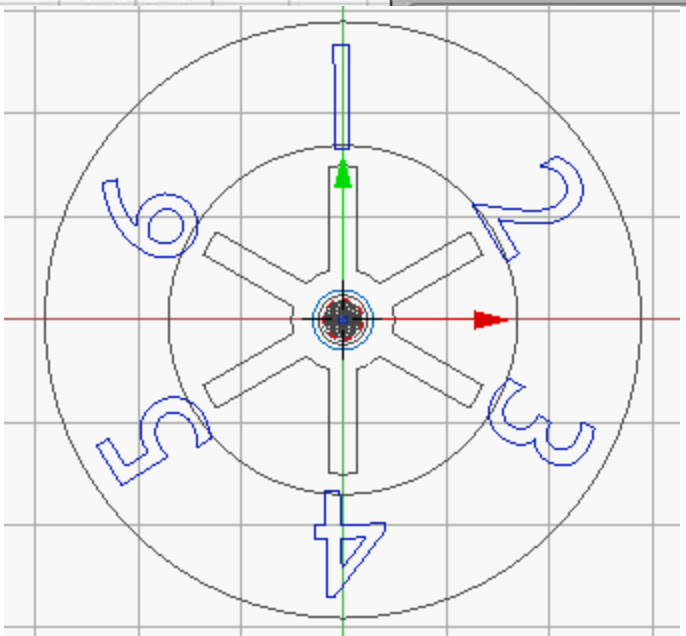

Vertices
32
Radius
2.400
Depth
5.000
Cap Fill Type
Ngon
Align to View
Location
X: 0.000
Y: 0.000
Z: 4.000
Rotation
(1) SpinnerHole
Add
Mesh
Curve
Surface
Metaball
Text
Armature
Lattice
Empty
Speaker
Text
Text Edit:
Copy
Cut
Paste
Set Case:
To Upper
To Lower
Style:
1 2 3 4 5 6

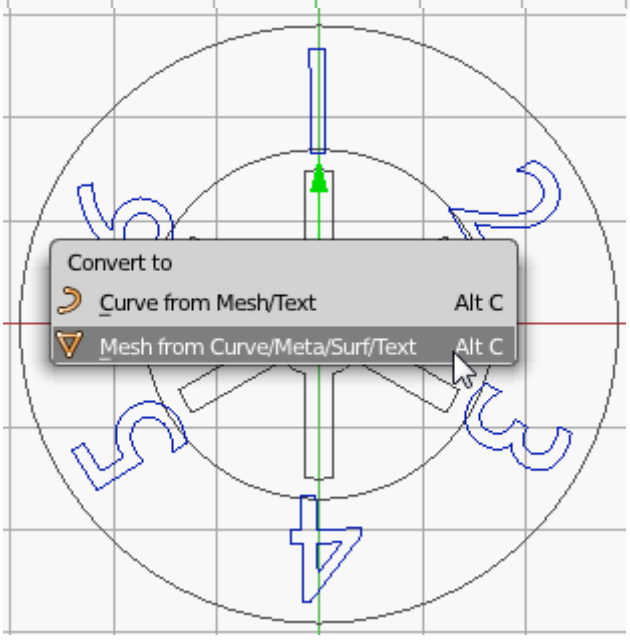

Font
Regula
Bold
Italic
Bold &
Bfont 5
F
Siz: 15.000
Shea: 0.000
Paragraph
Align:
Left
Center
Right
Justify
Flush
Spacing:
Char: 1.000
Word: 1.000
Line: 1.000
Offset:
X: 0.000
Y: 0.000
Texture Space
Geometry
Modification:
Bevel:
Offse: 0.000
Extru: 1.000
Dept: 0.000
Resolutio: 0
Taper Object:
Bevel Object:
Start Bevel Factor: 0.000
End Bevel Factor: 1.000
Fill Caps
Map Taper
Font

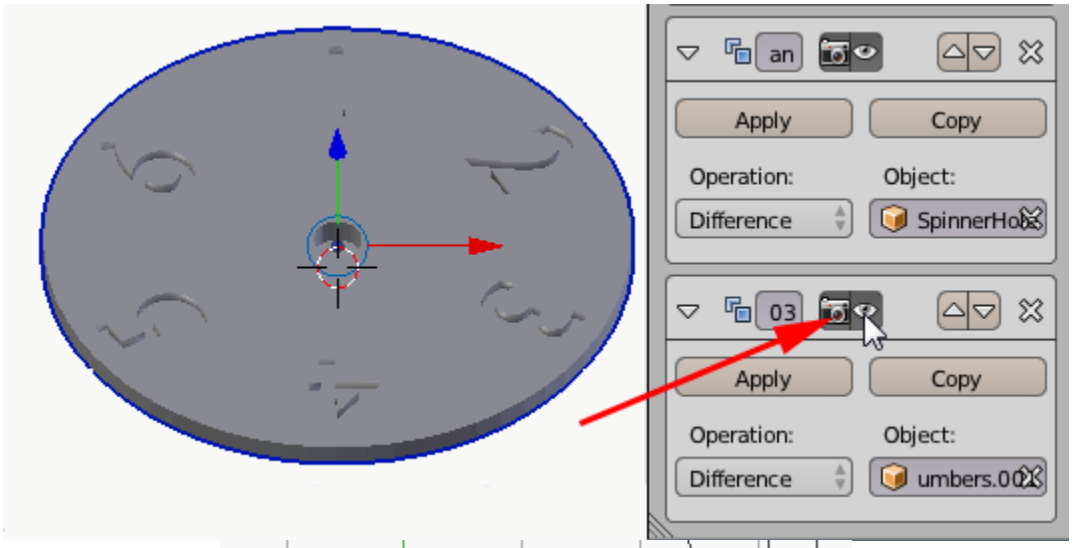

Add
Mesh
Curve
Surface
Metaball
Text
Armature
Lattice
Bezier
Circle
Nurbs Curve
Nurbs Circle
Path
BezierCircle
Font
Regula
Bold
Italic
Bold &
Size:
Object
BezierCircle
Underline:
Positi: 0.000
Thick: 0.050
Character:
Bold
Italic
Underline


1
2
3
4
5
6


Paragraph
Align:
Left
Center
Right
Justify
Flush
Spacing:
Char: 1.400
Word: 1.000
Line: 1.000
Offset:
X: 0.000
Y: 0.000
Text Boxes
Add Textbox




Convert to
Curve from Mesh/Text
Alt C
Mesh from Curve/Meta/Surf/Text
Alt C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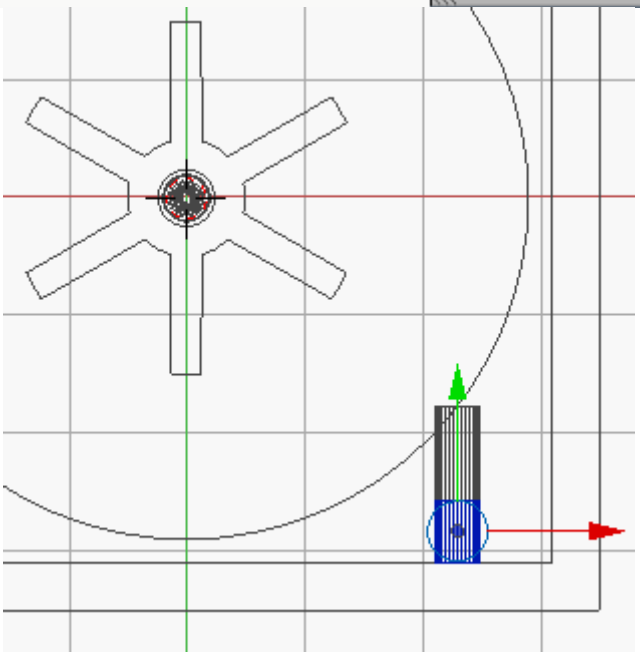

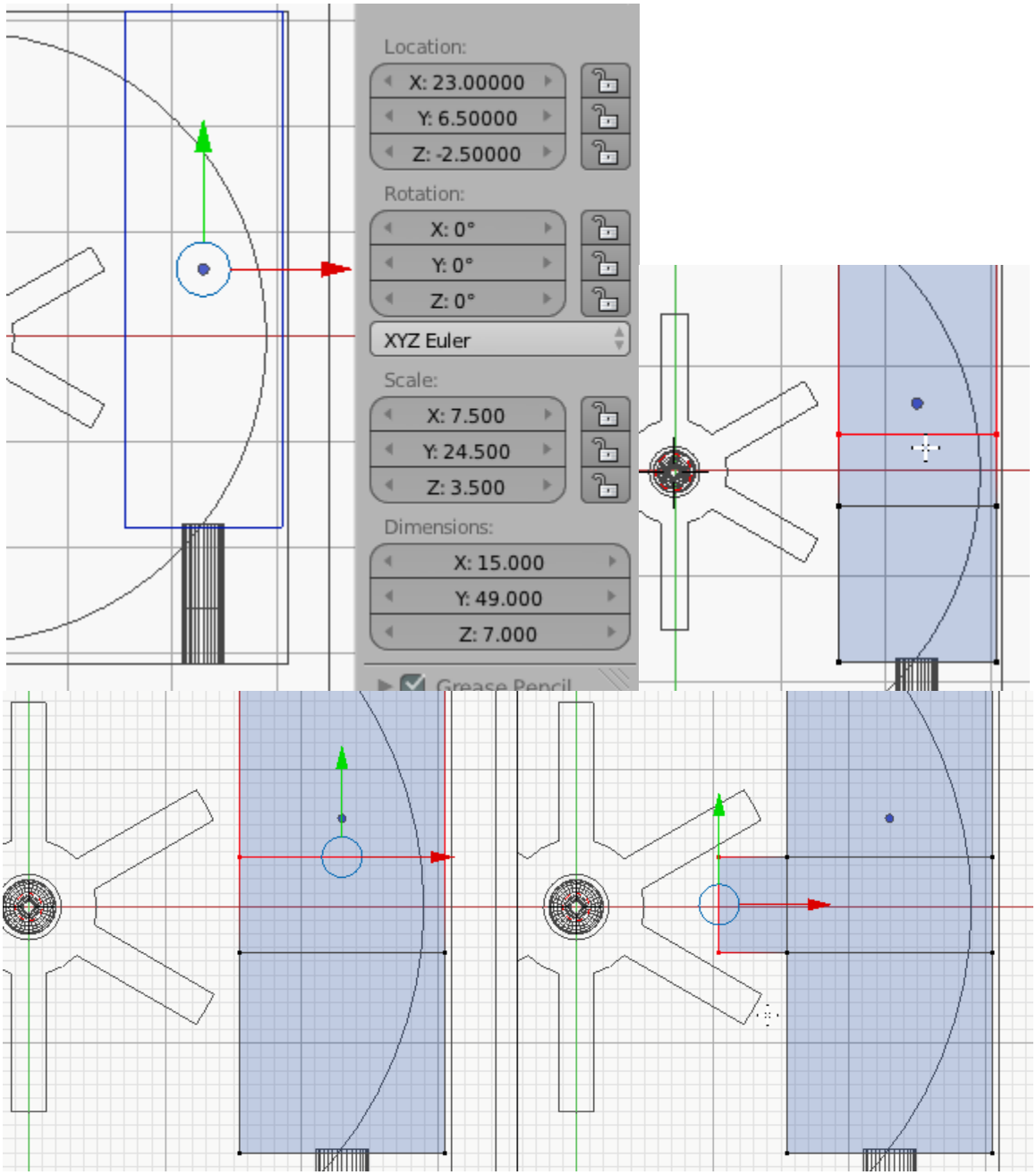
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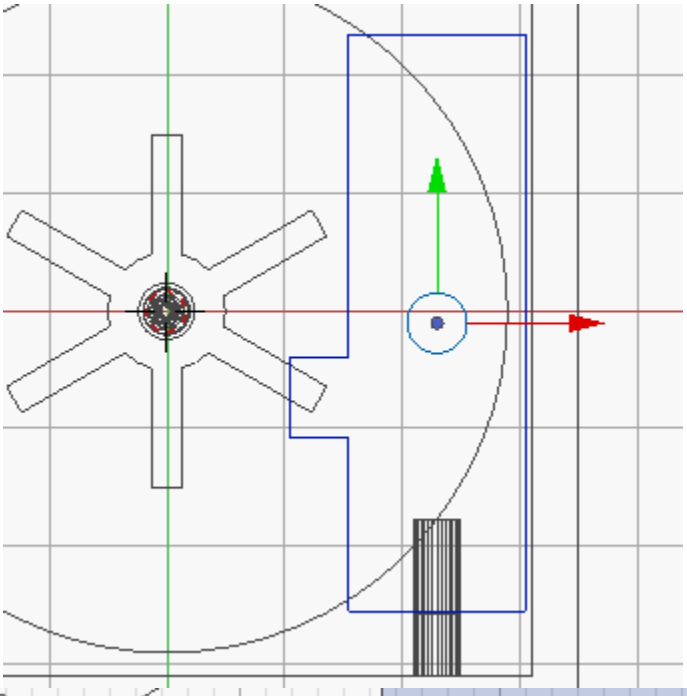

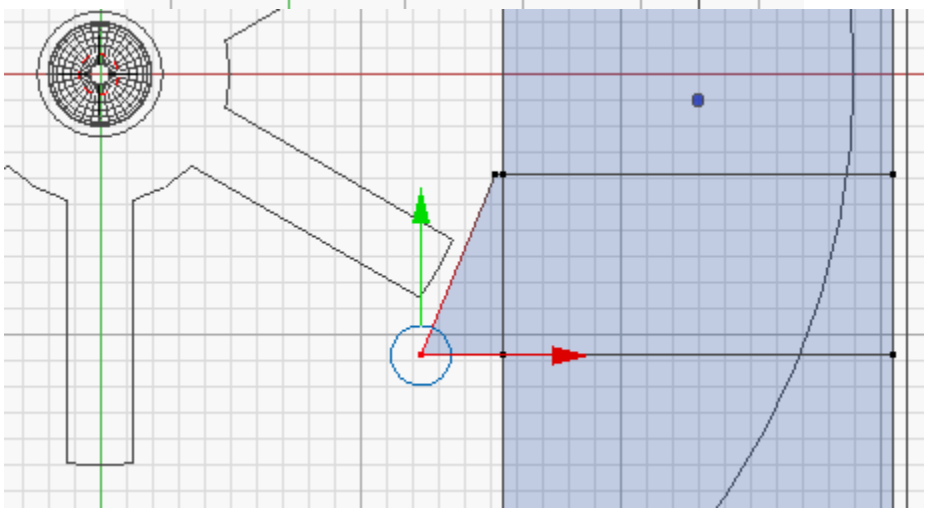

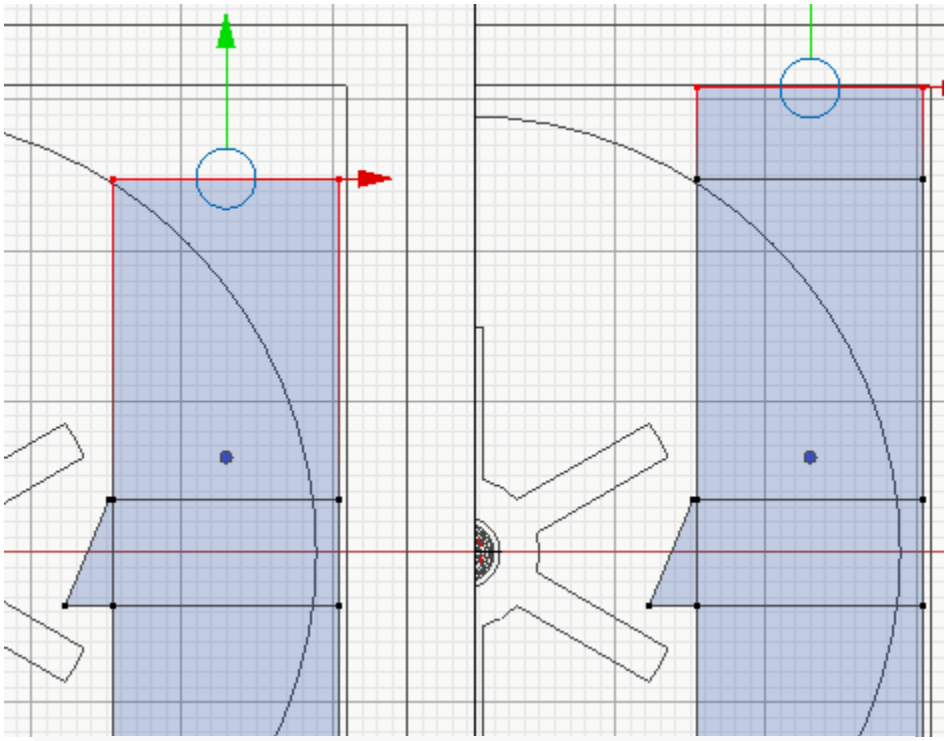

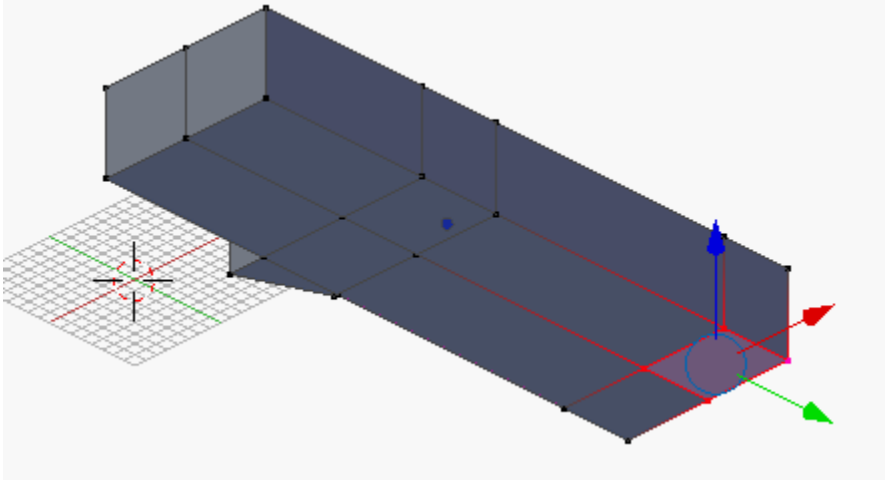

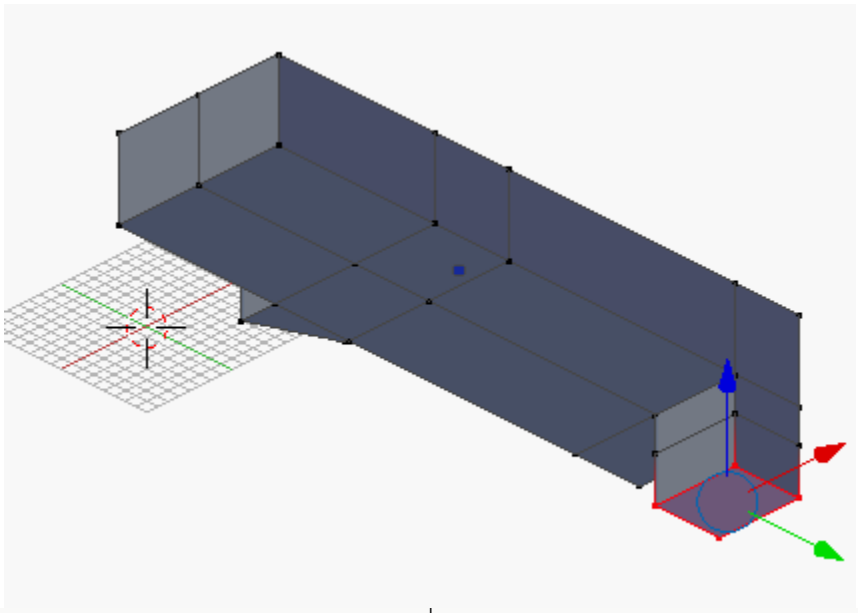

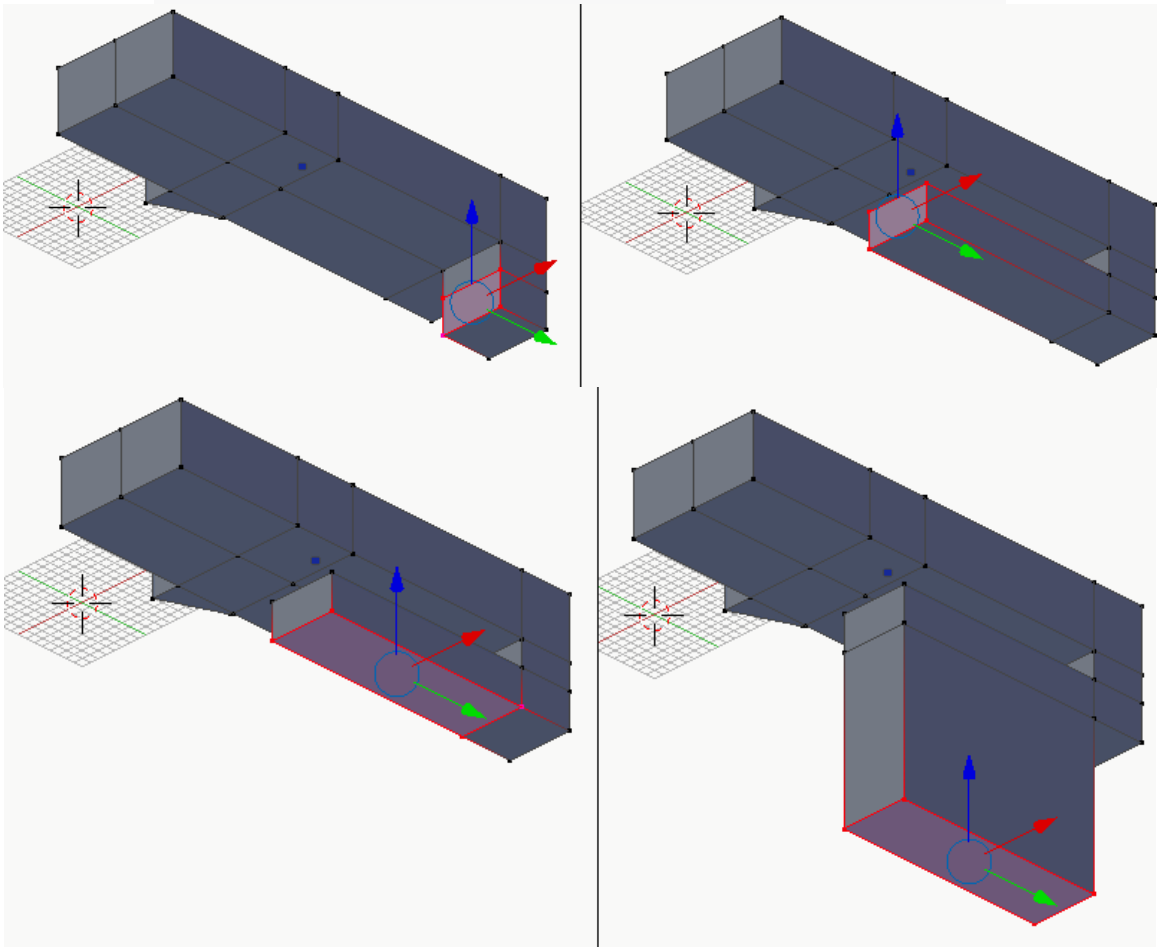

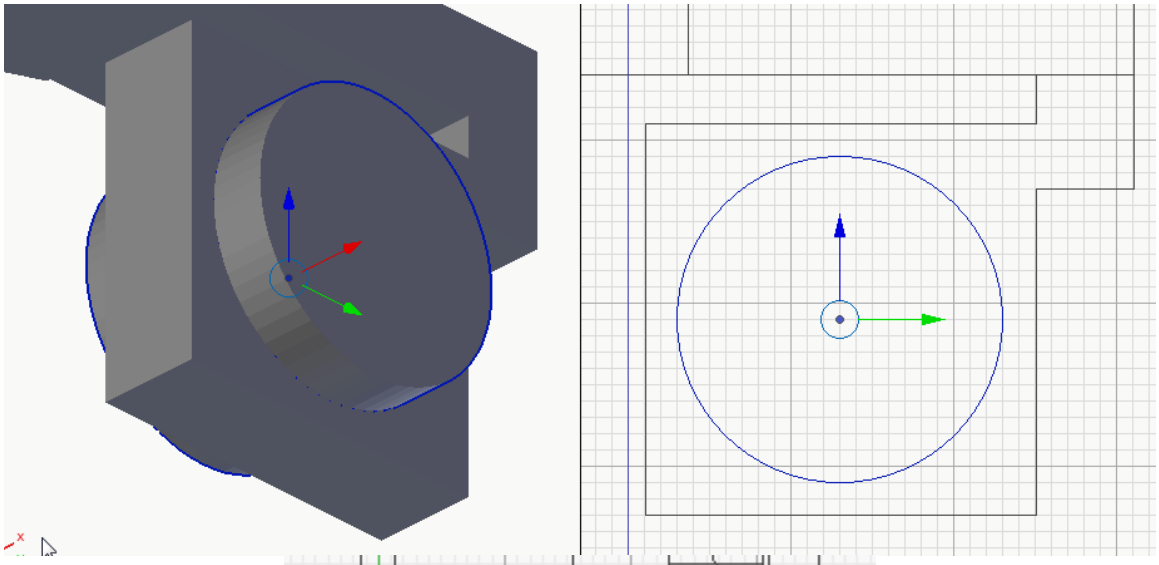

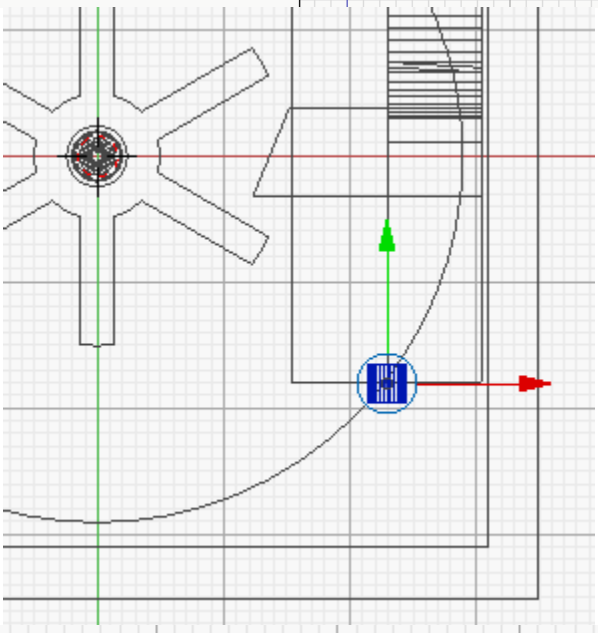

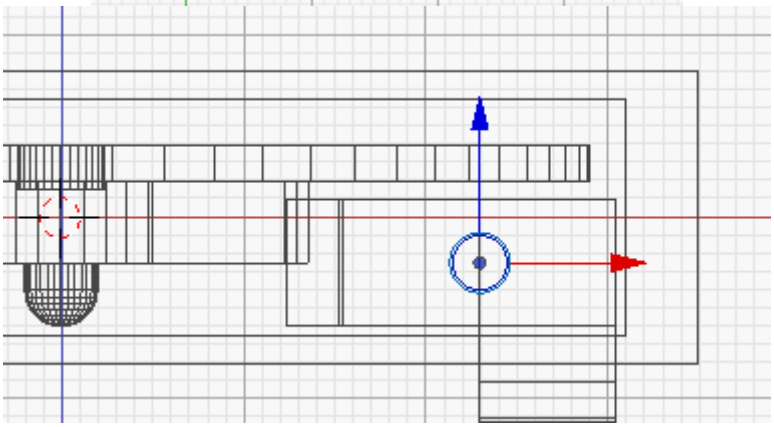

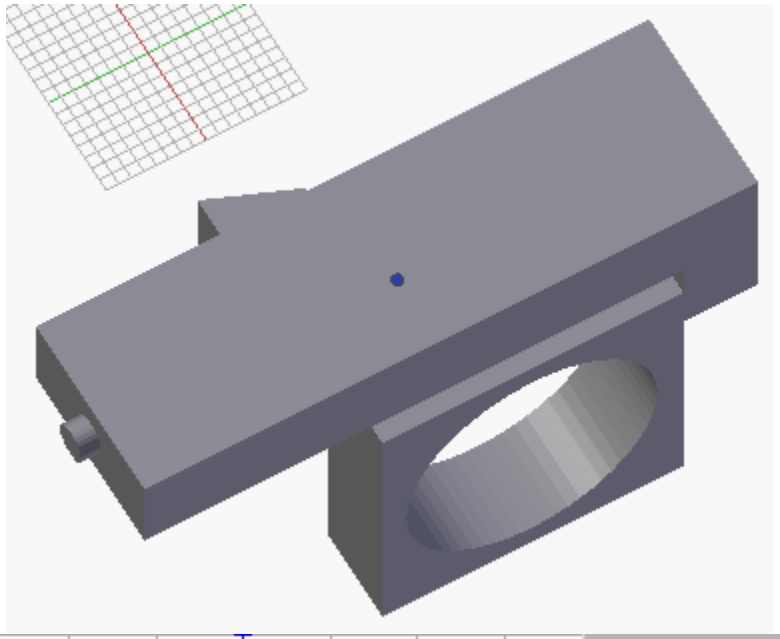

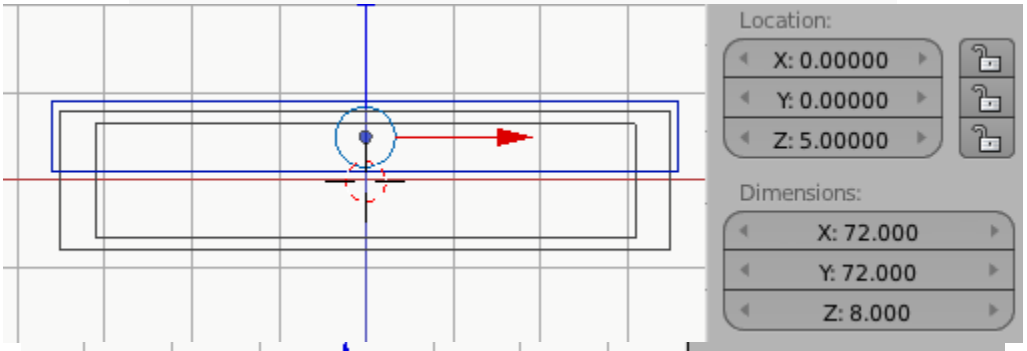
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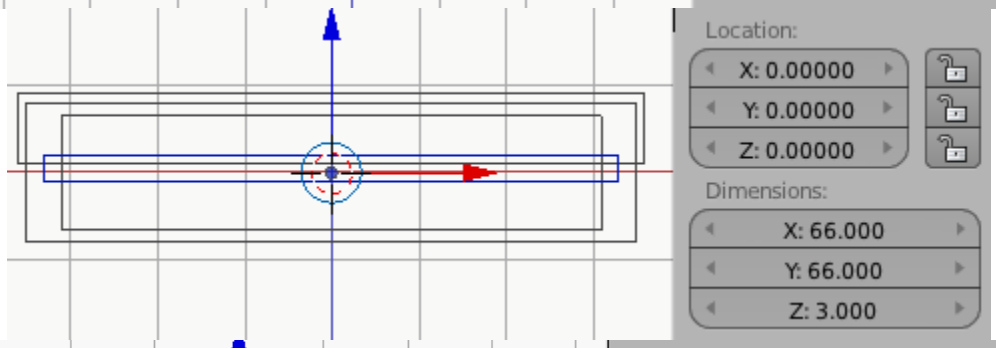
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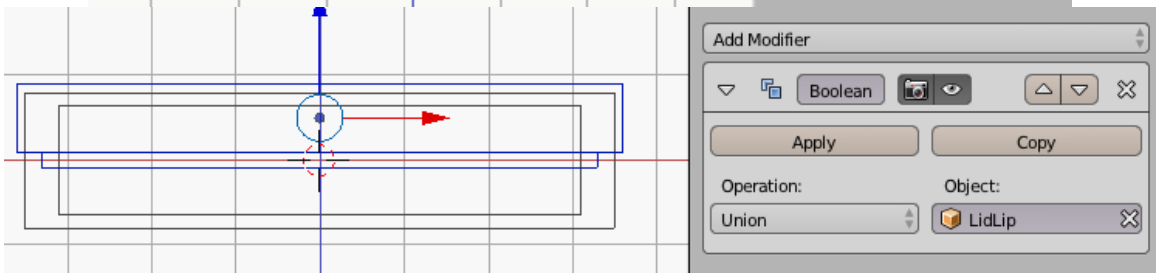
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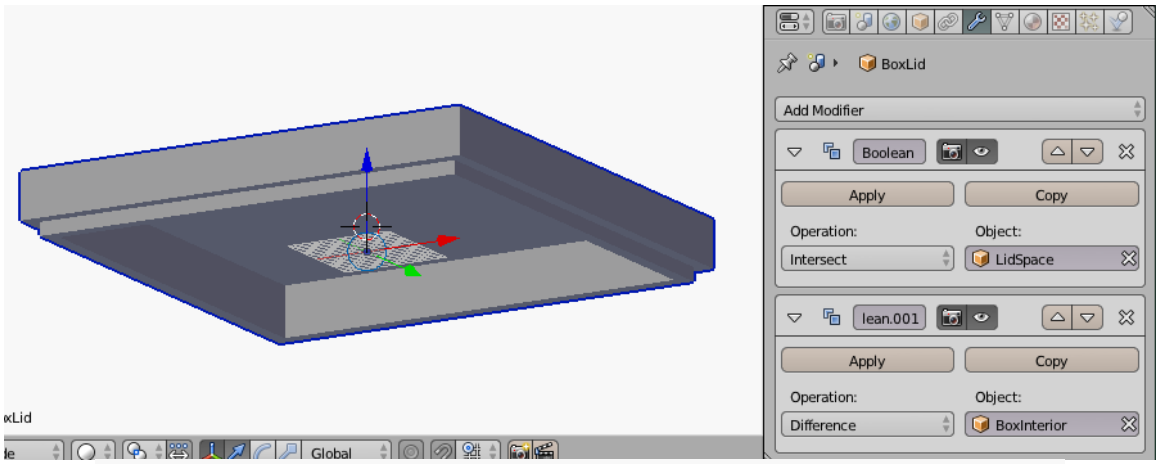
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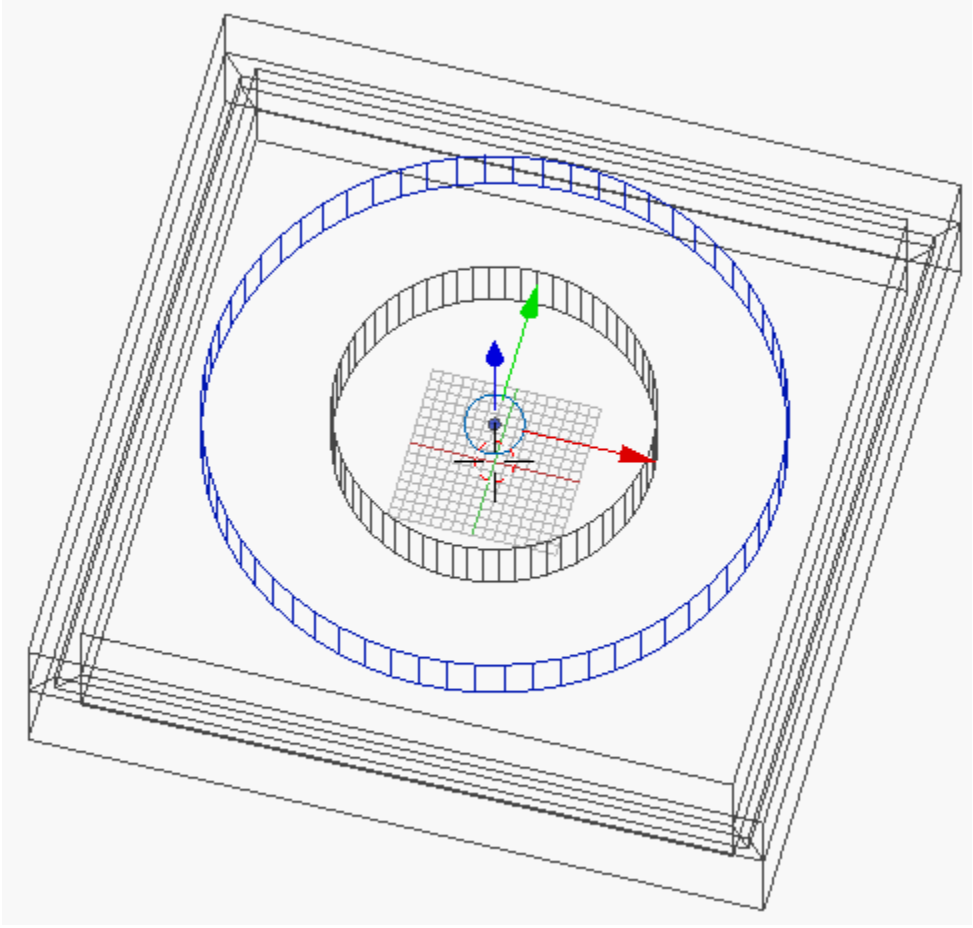

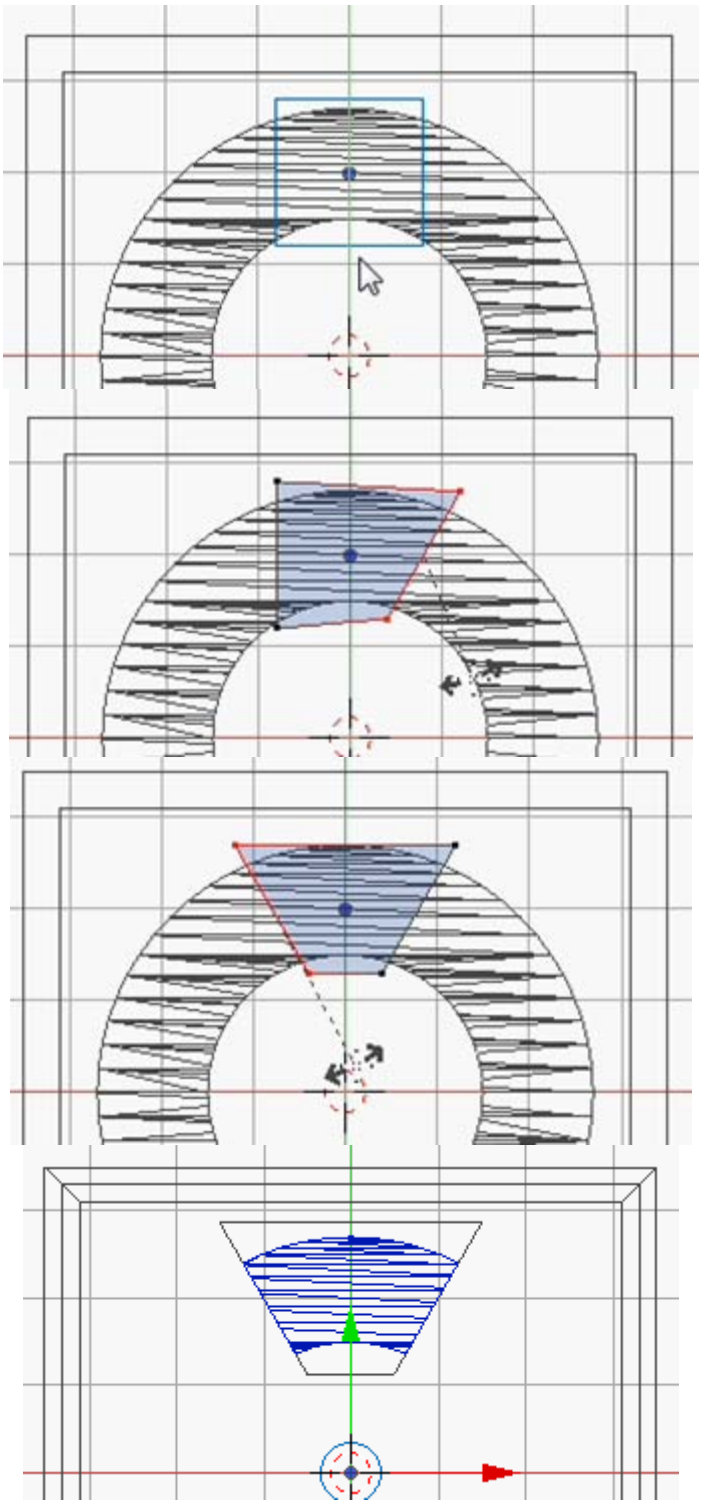

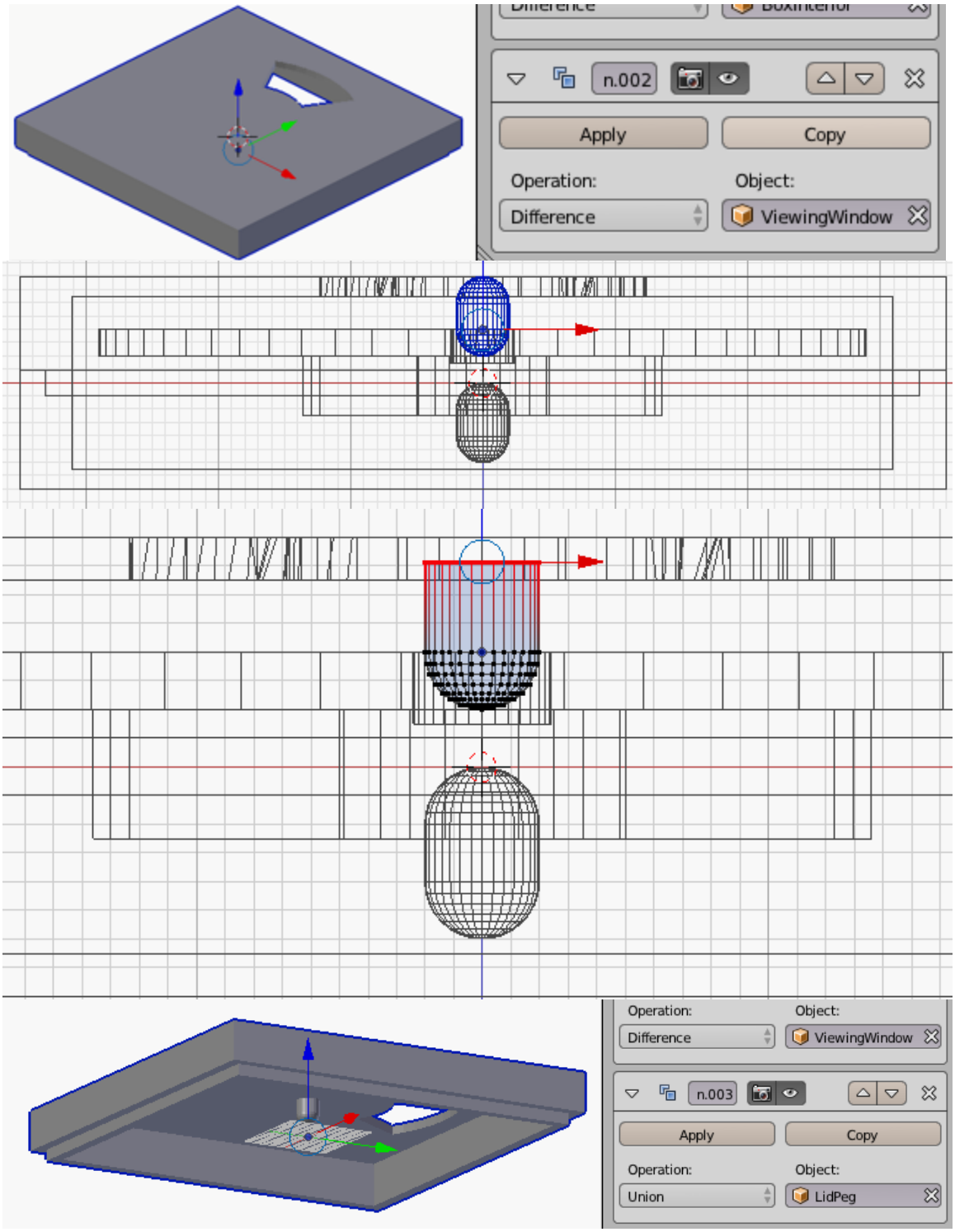
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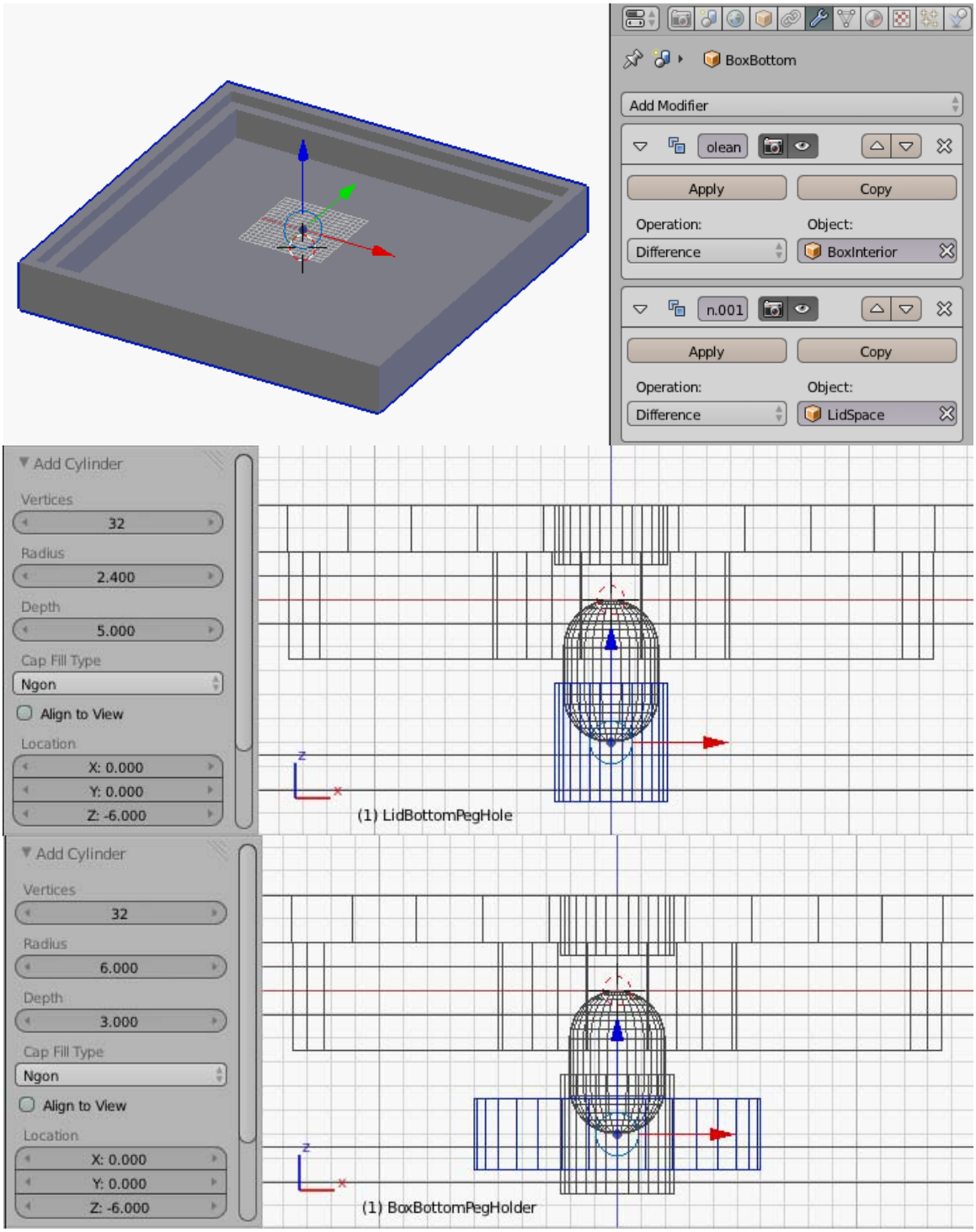
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Add Cylinder
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2.400
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X: 0.000
Y: 0.000
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(1) LidBottomPegHole
Add Cylinder
Vertices
32
Radius
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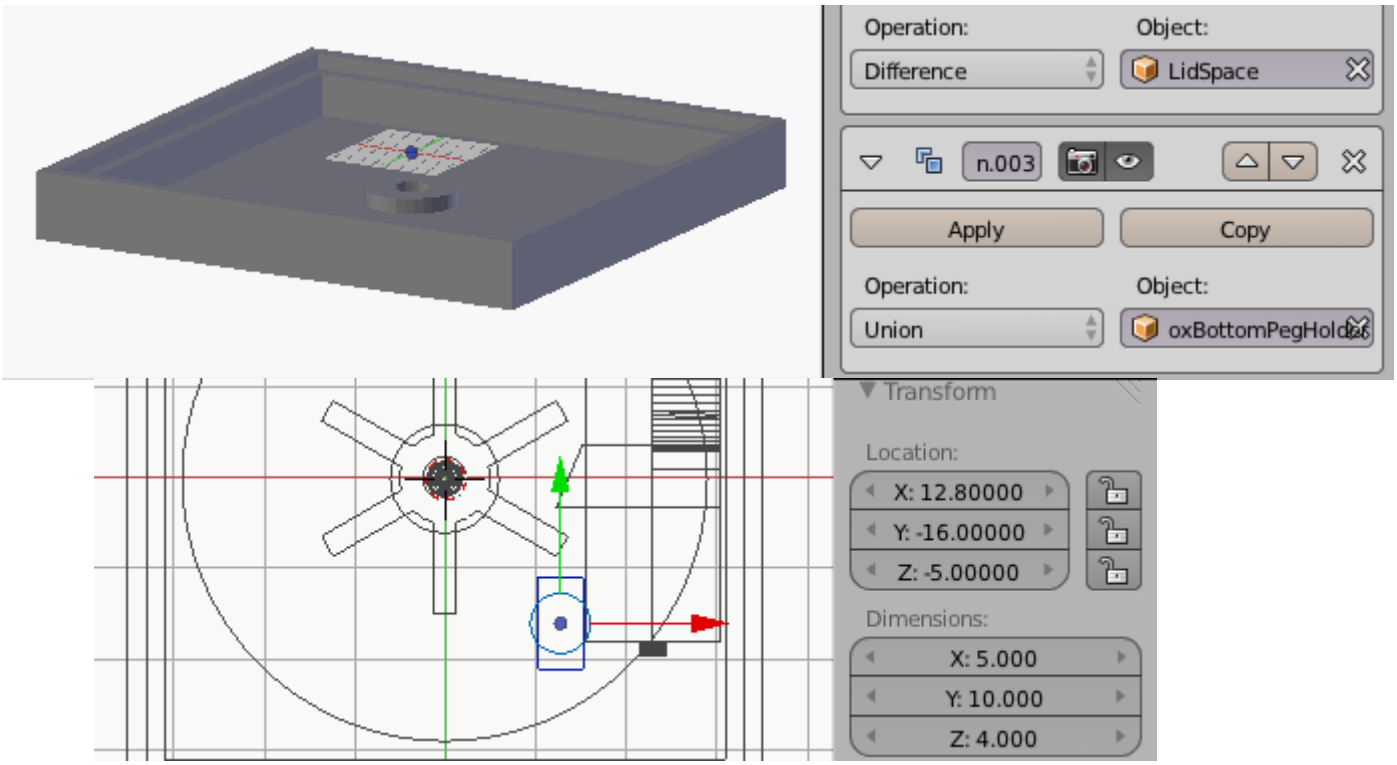
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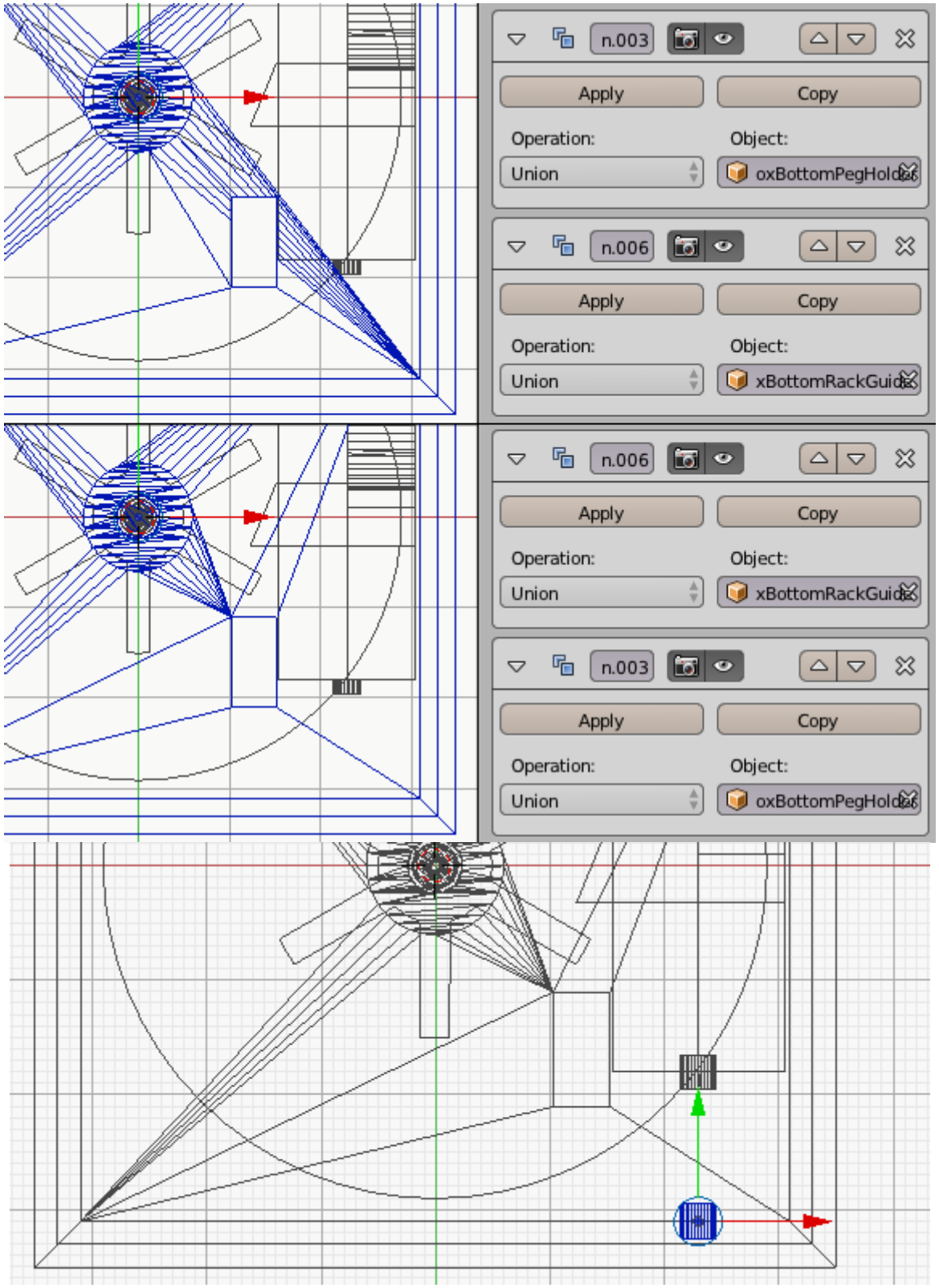
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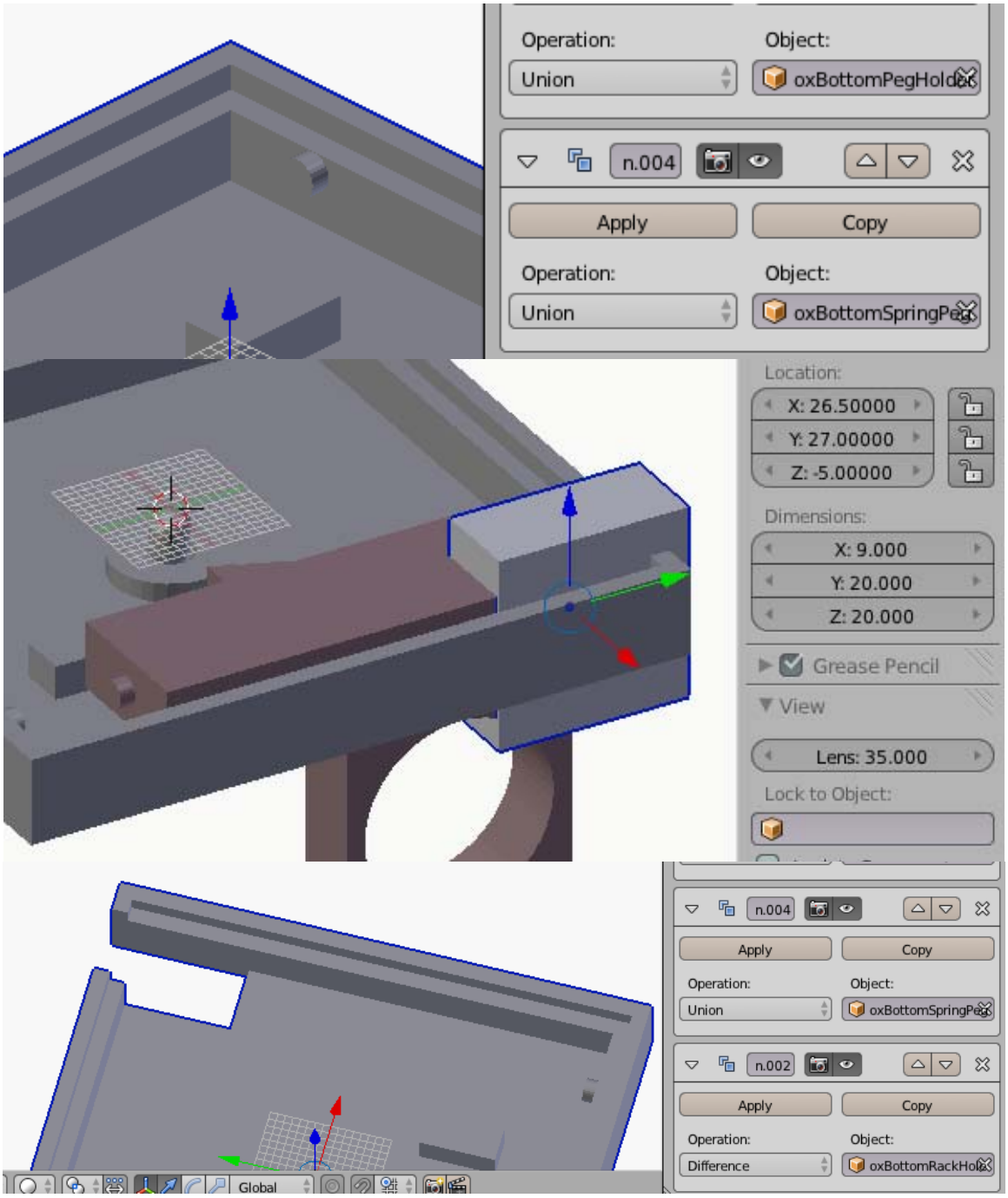
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Z: 20.000
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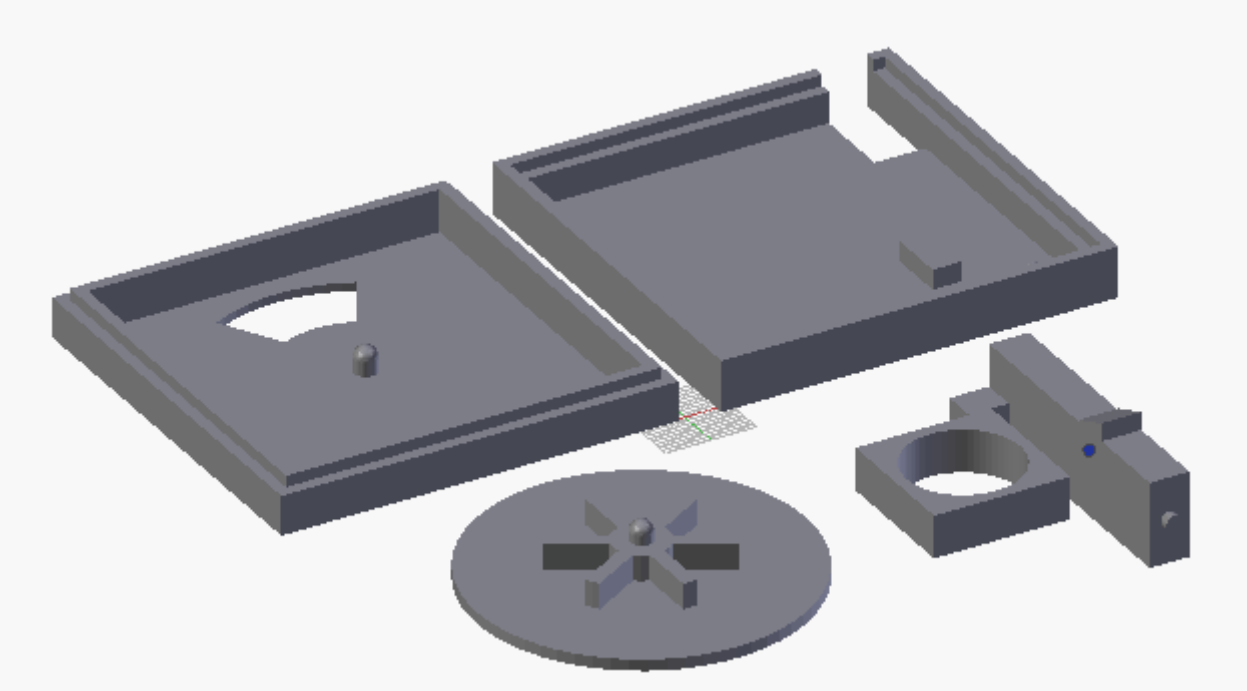

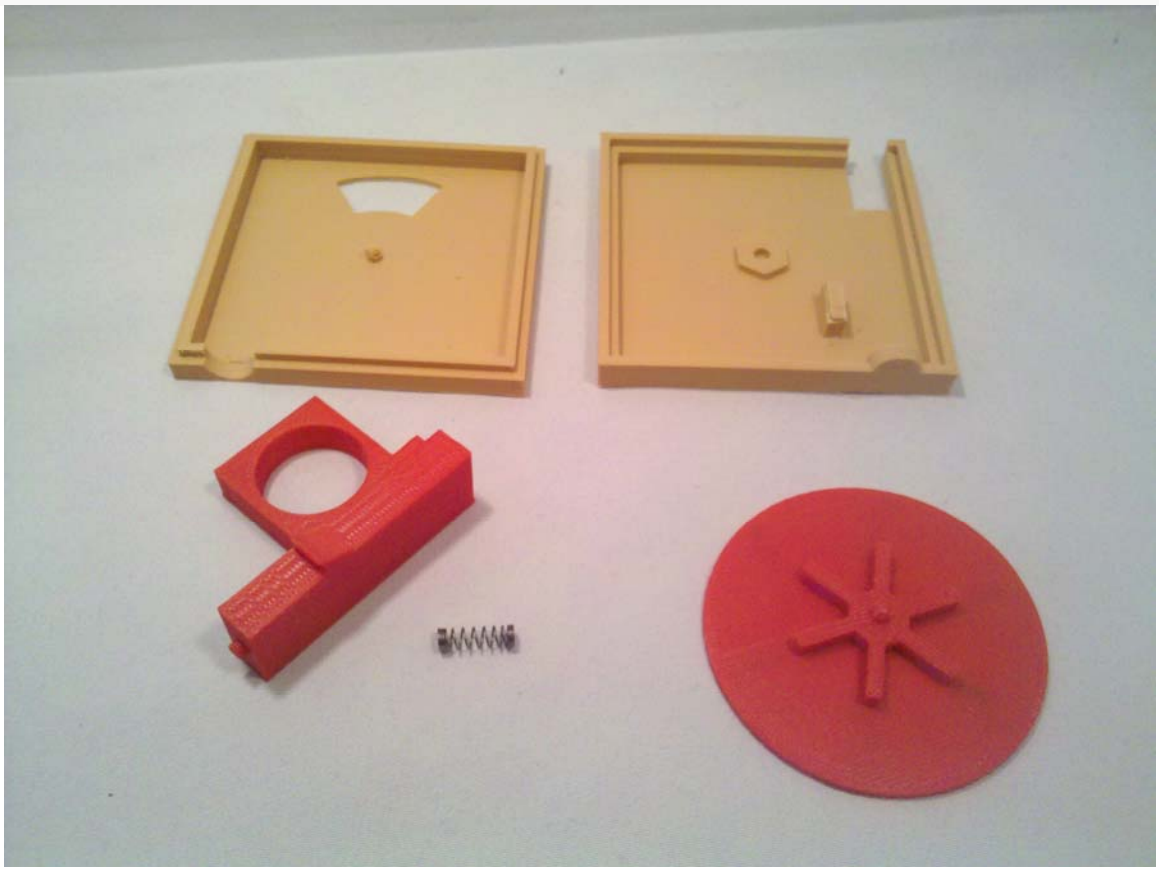

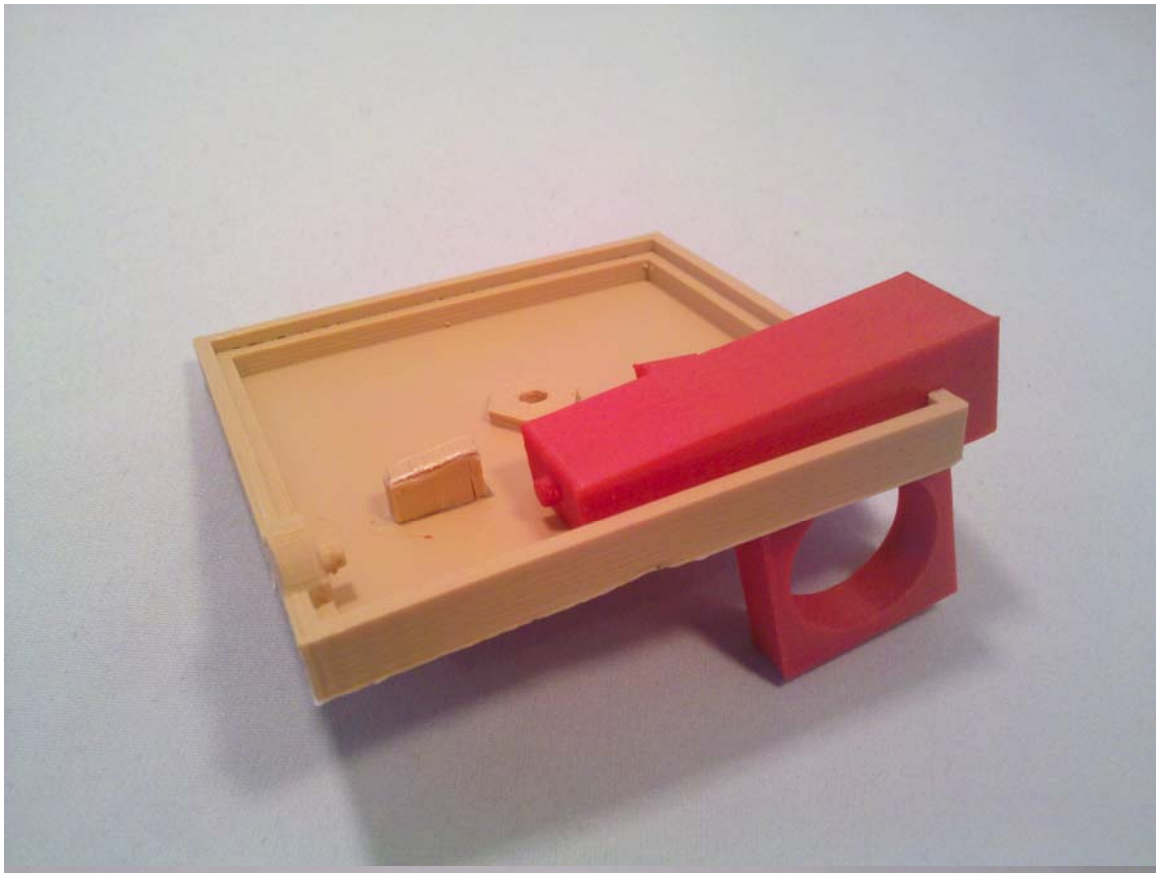

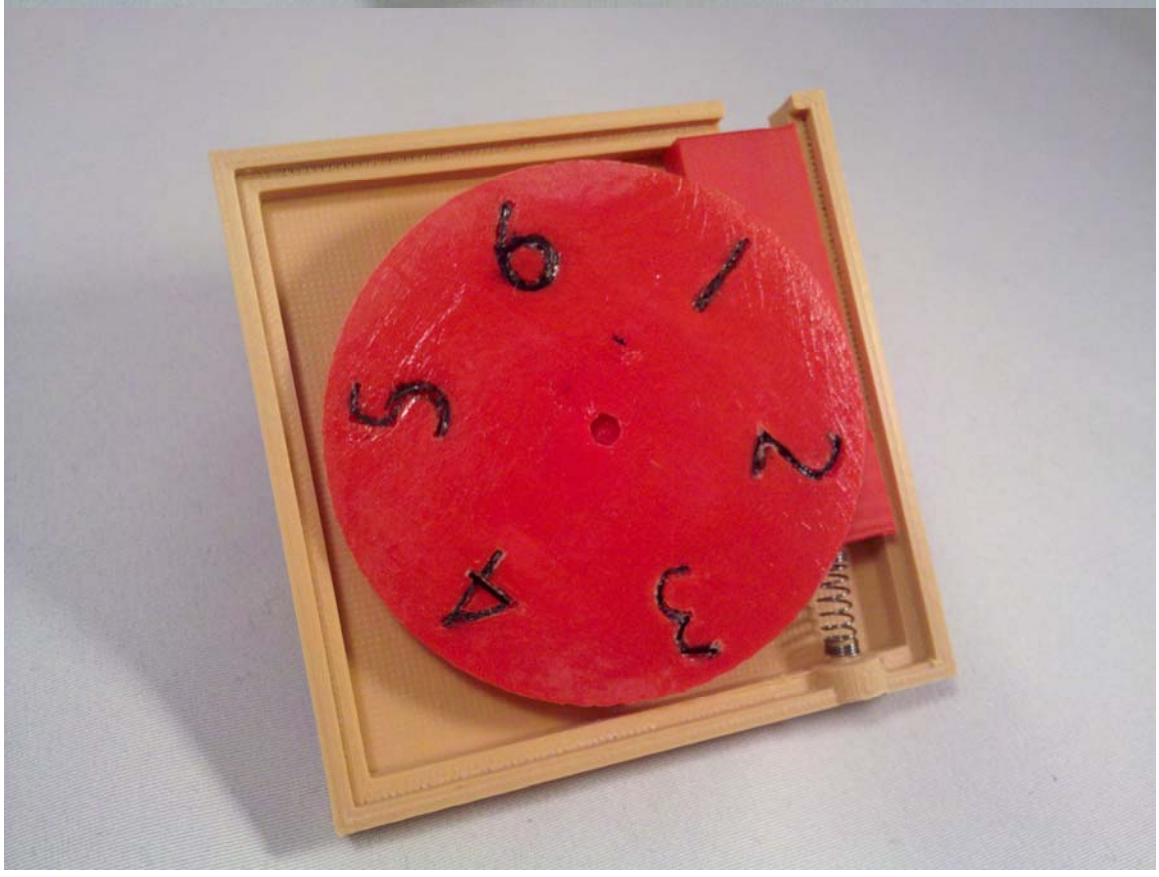
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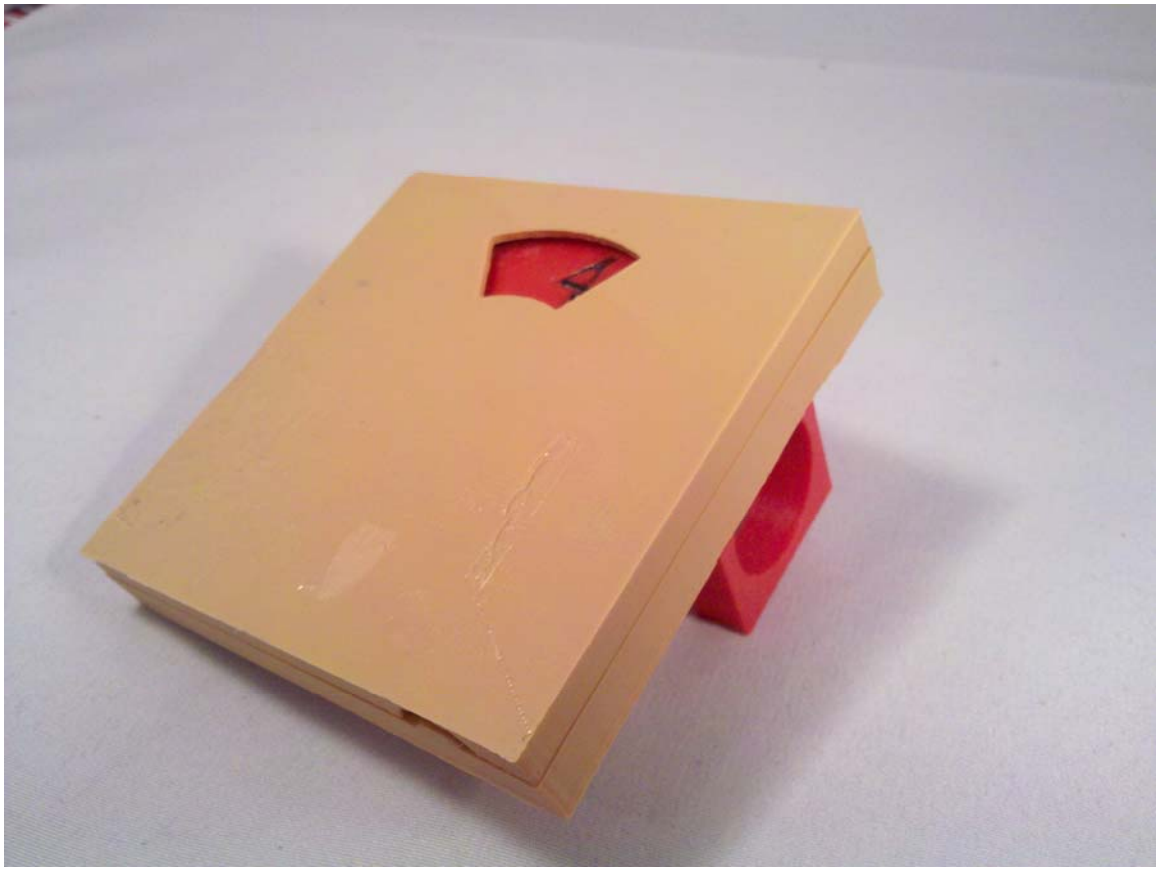
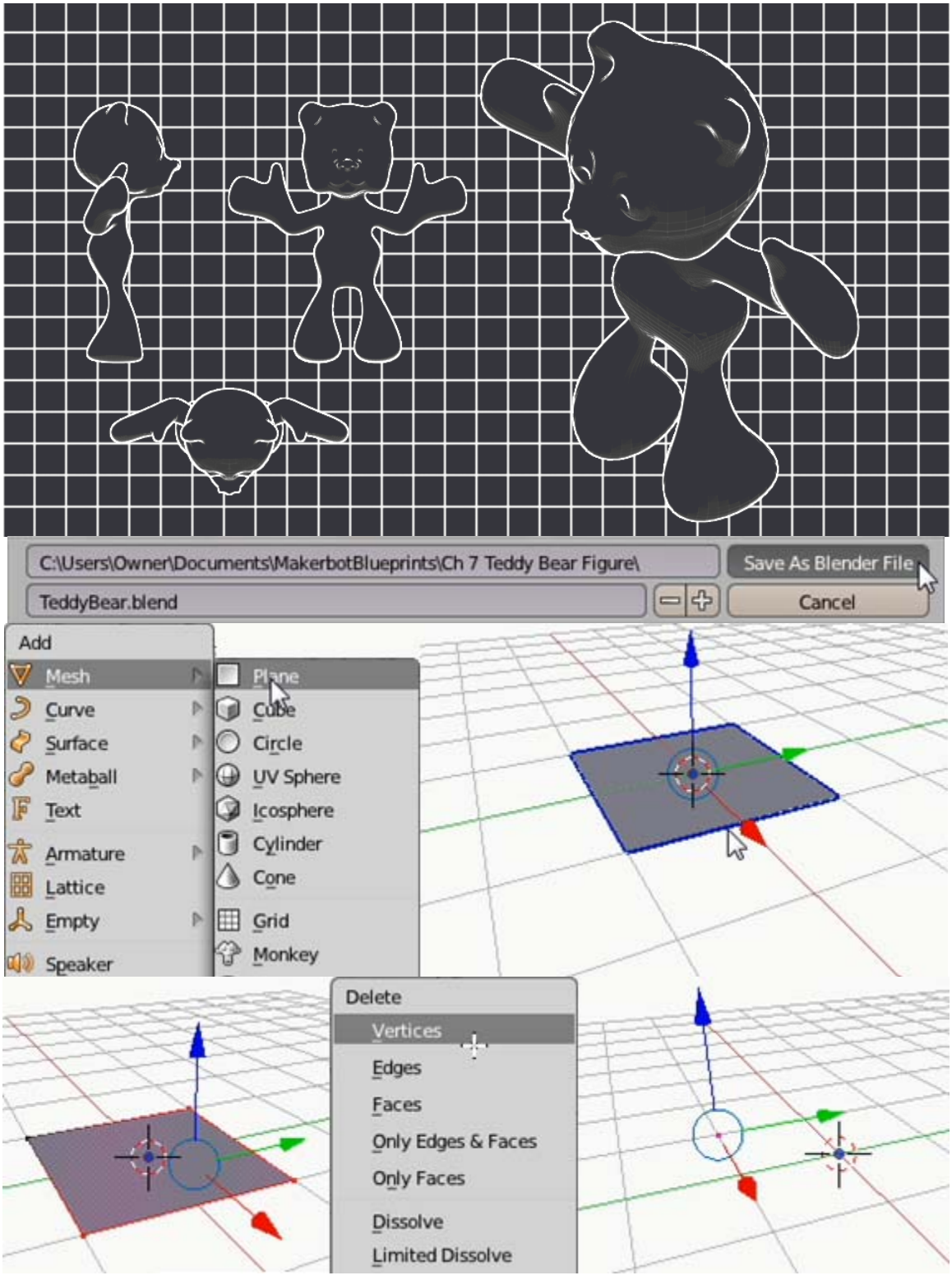
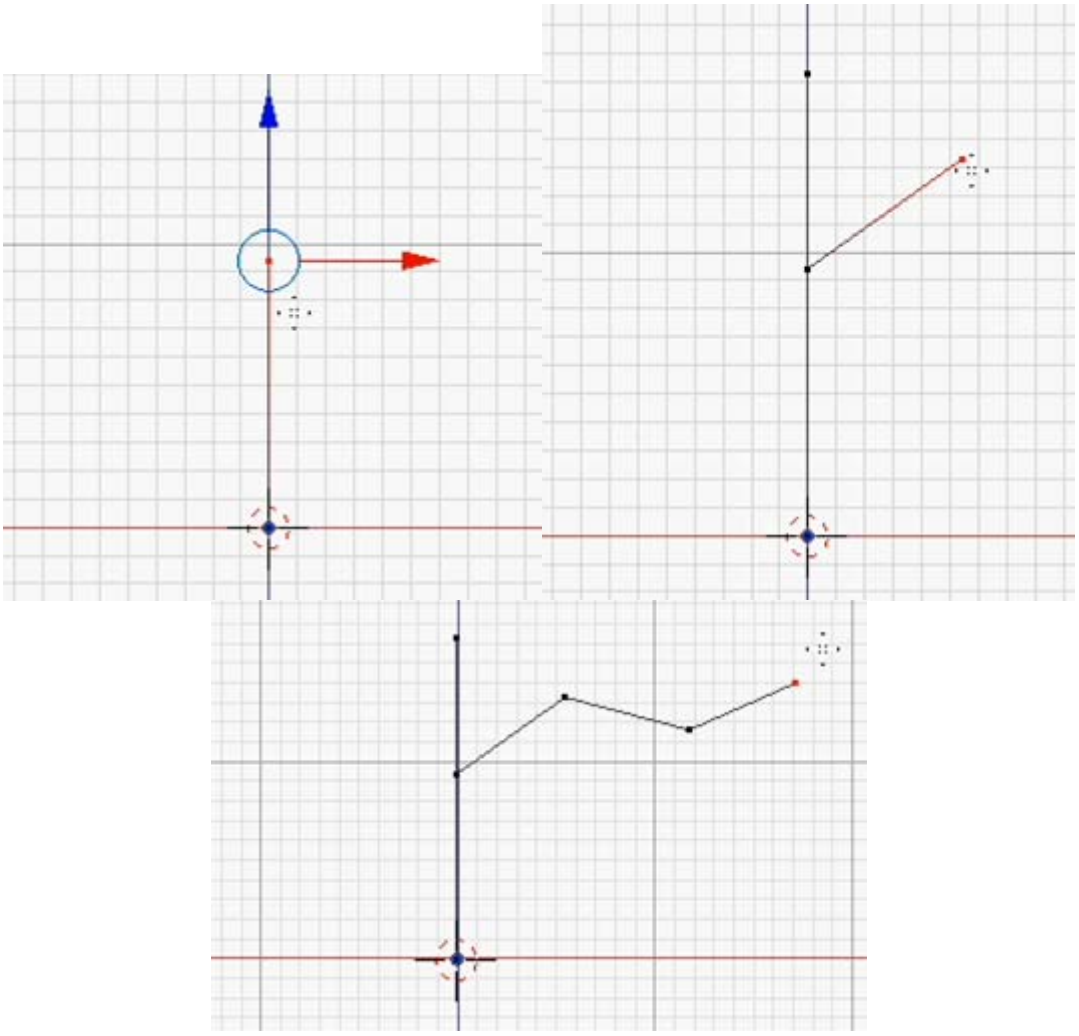
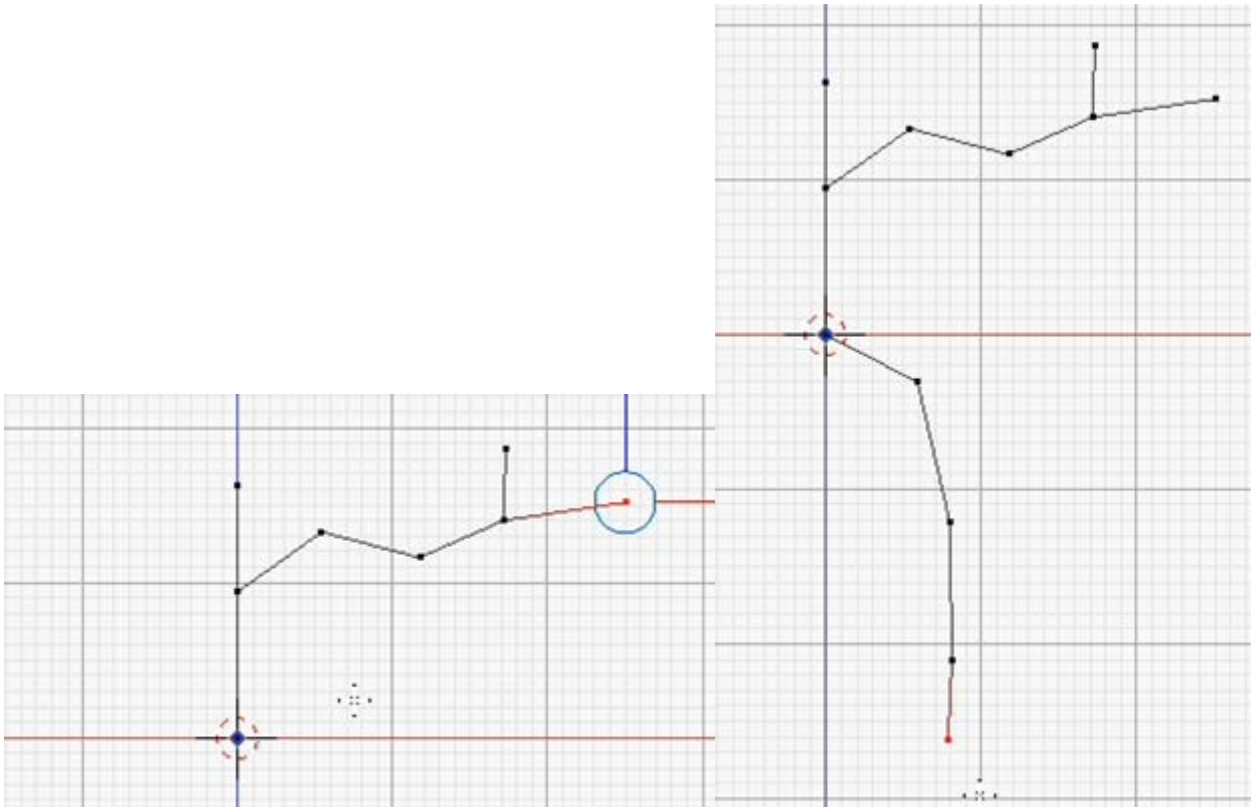
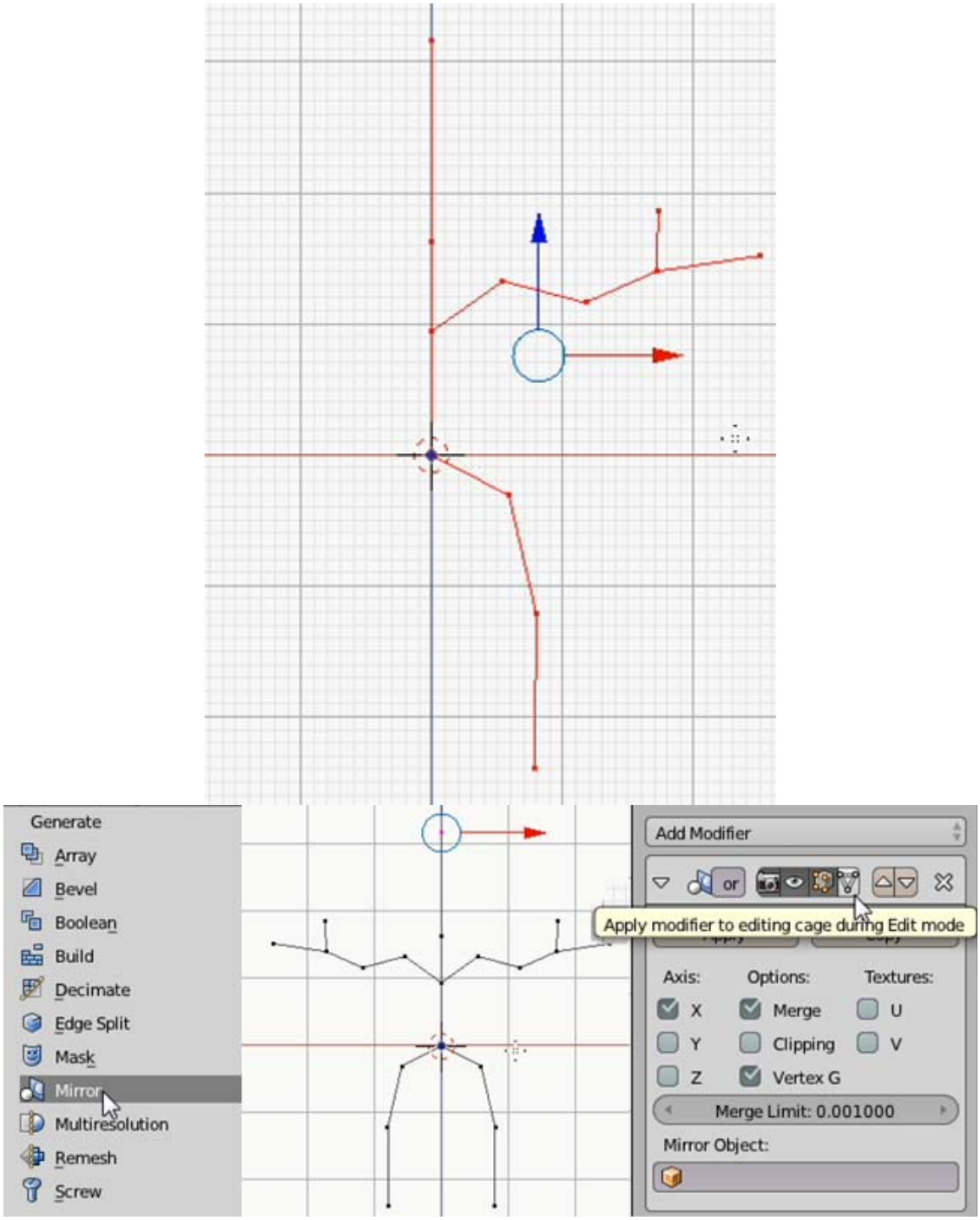


Chapter 7: Teddy Bear Figurine





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Mask
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Multiresolution
Remesh
Screw
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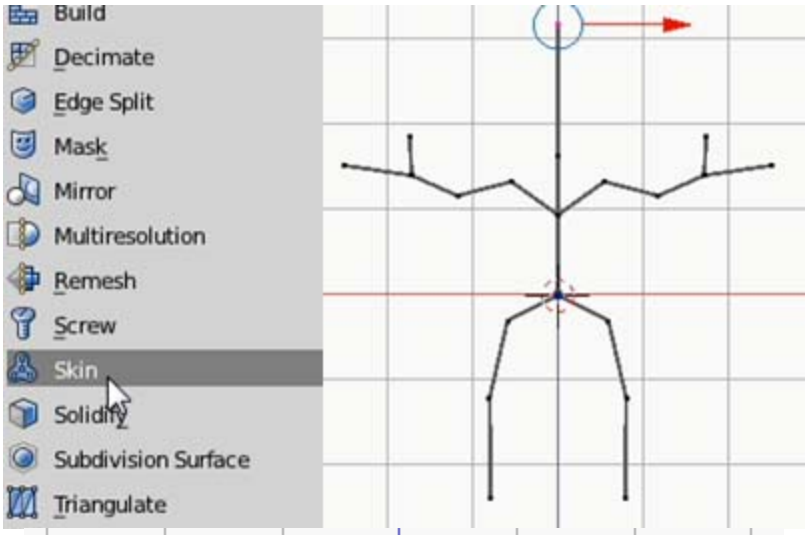
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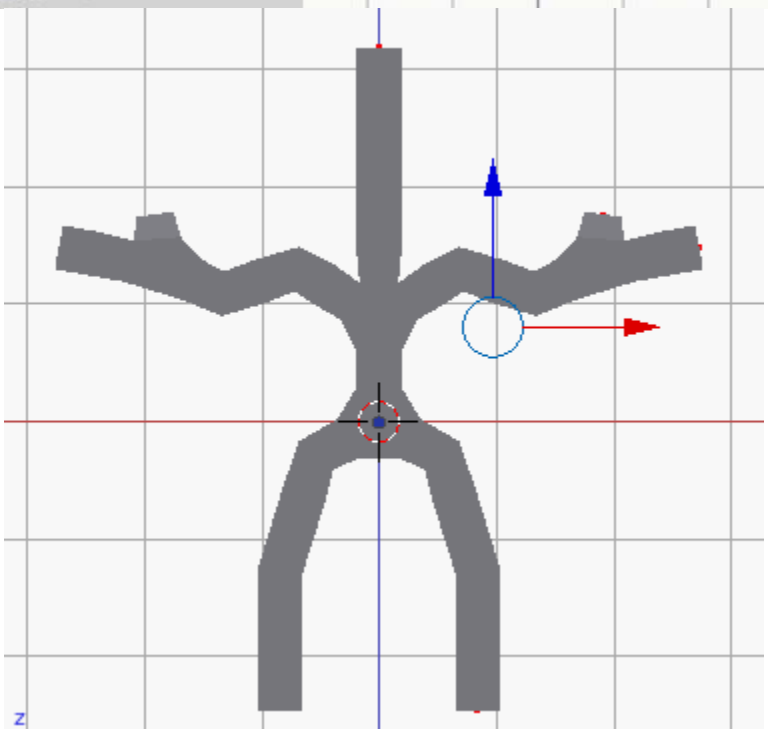

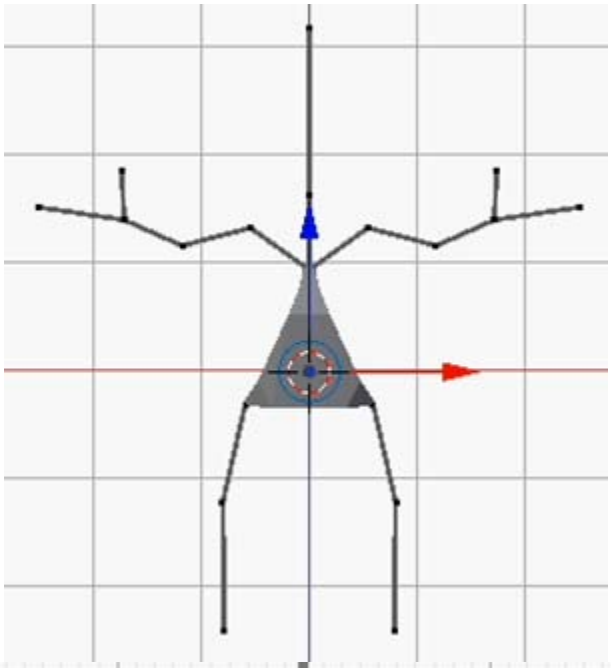

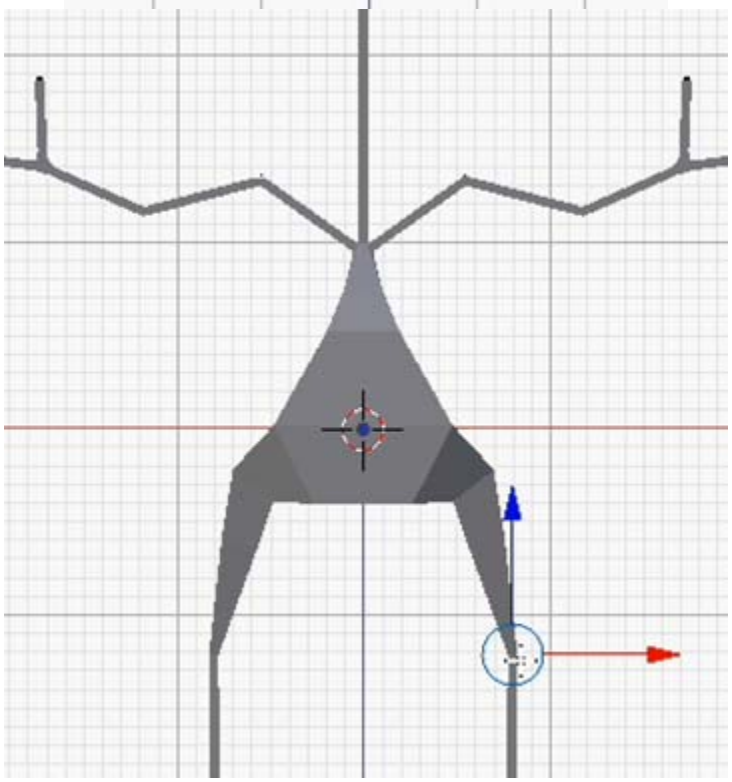

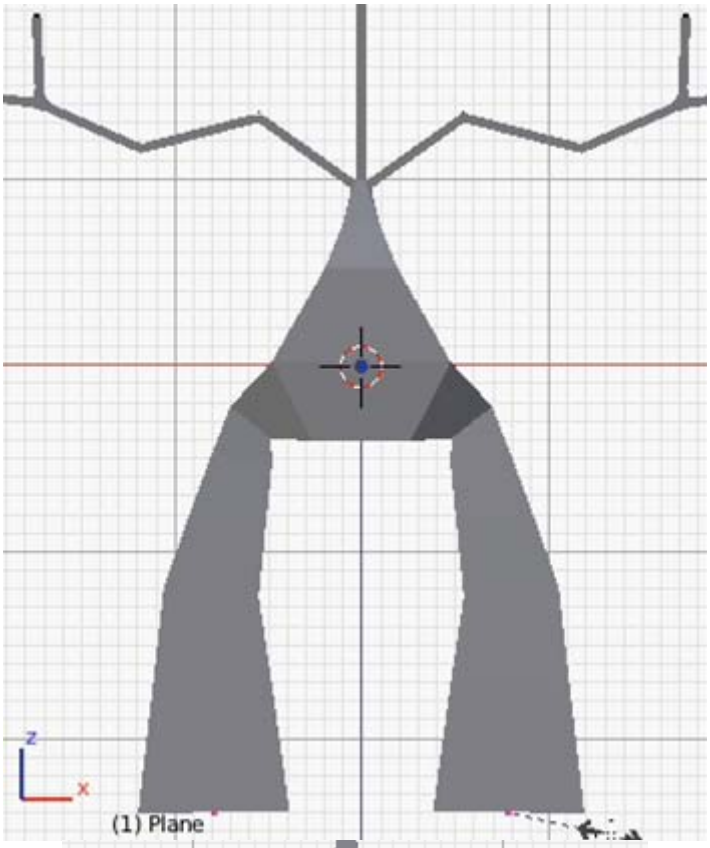
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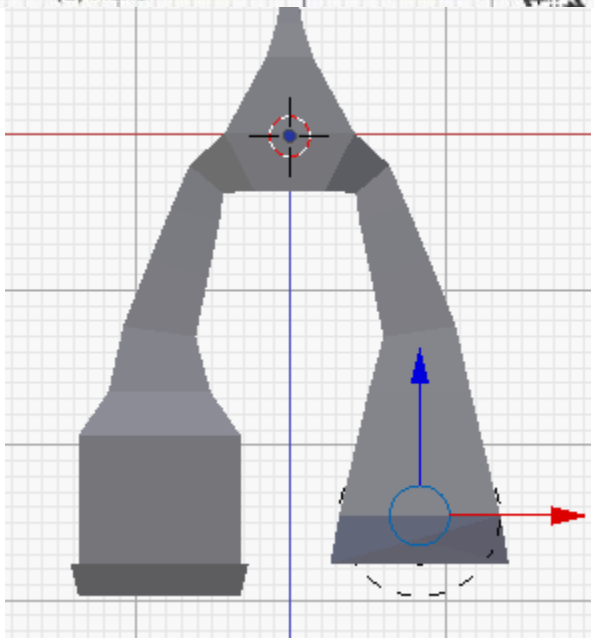

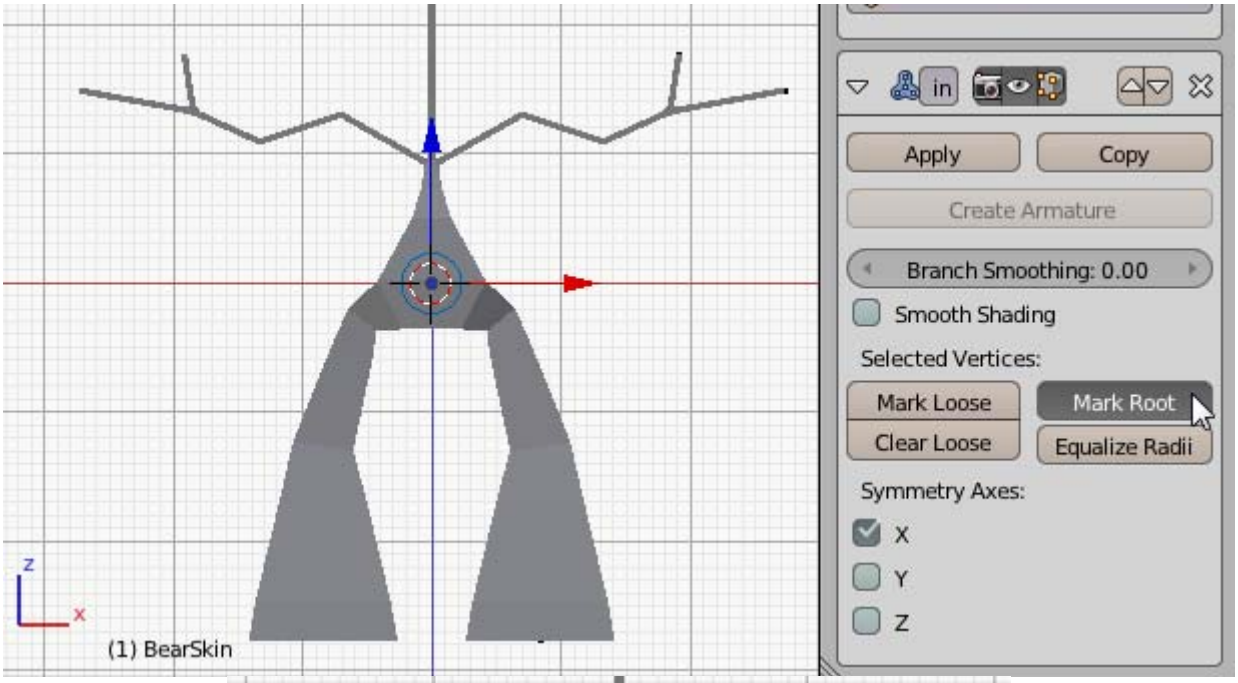
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Branch Smoothing: 0.00
Smooth Shading
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Mark Root
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Equalize Radii
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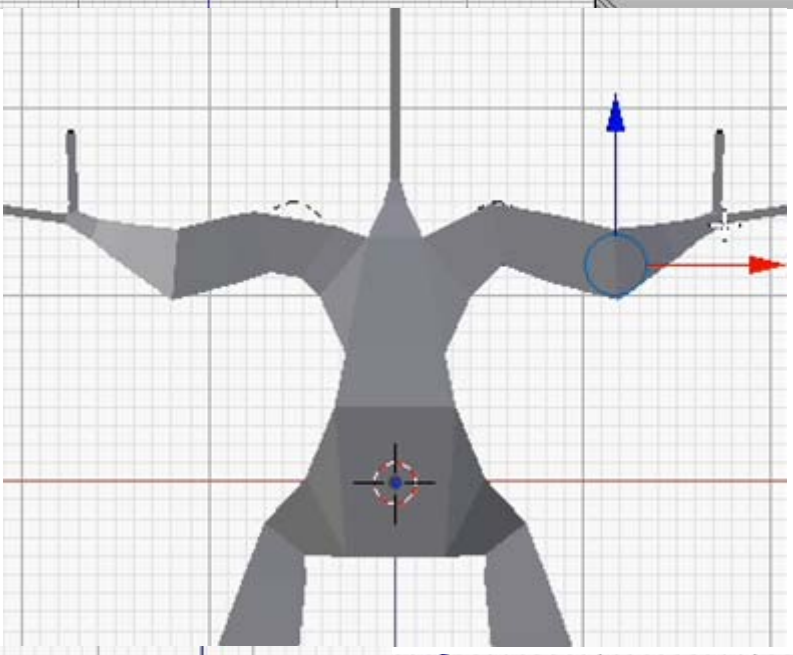
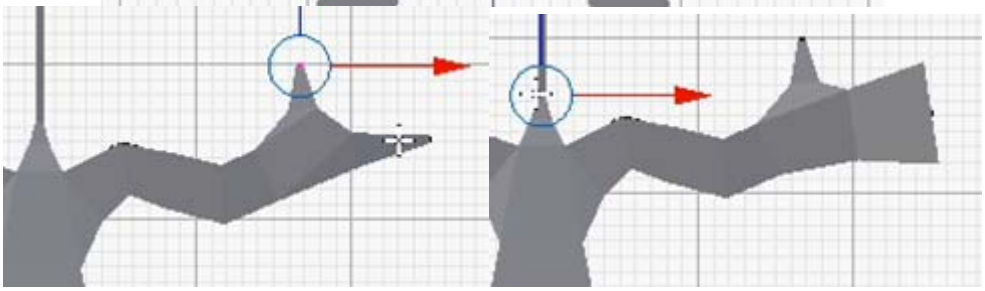
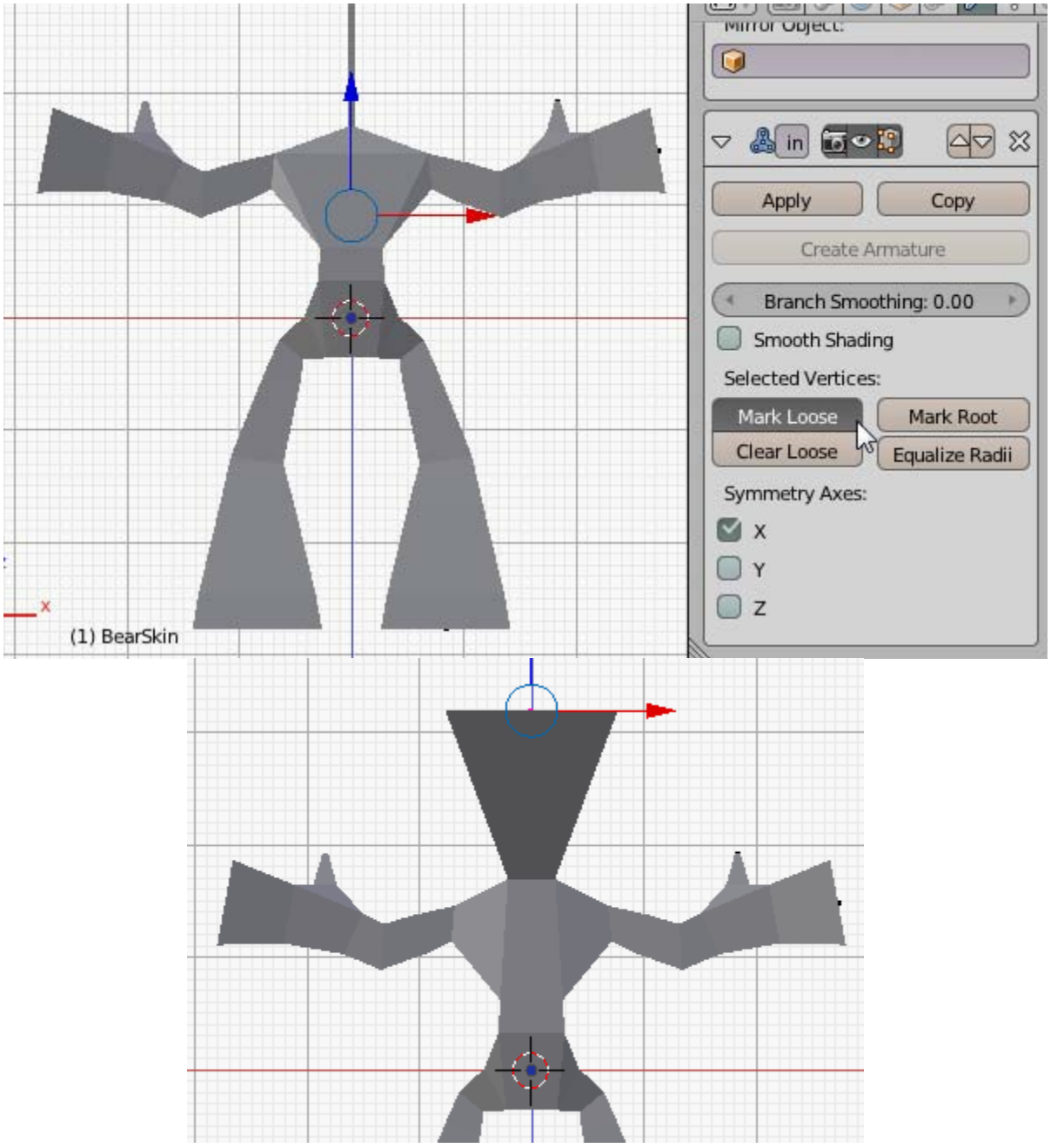
(1) BearSkin



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Create Armature
Branch Smoothing: 0.00
Smooth Shading
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Mark Loose
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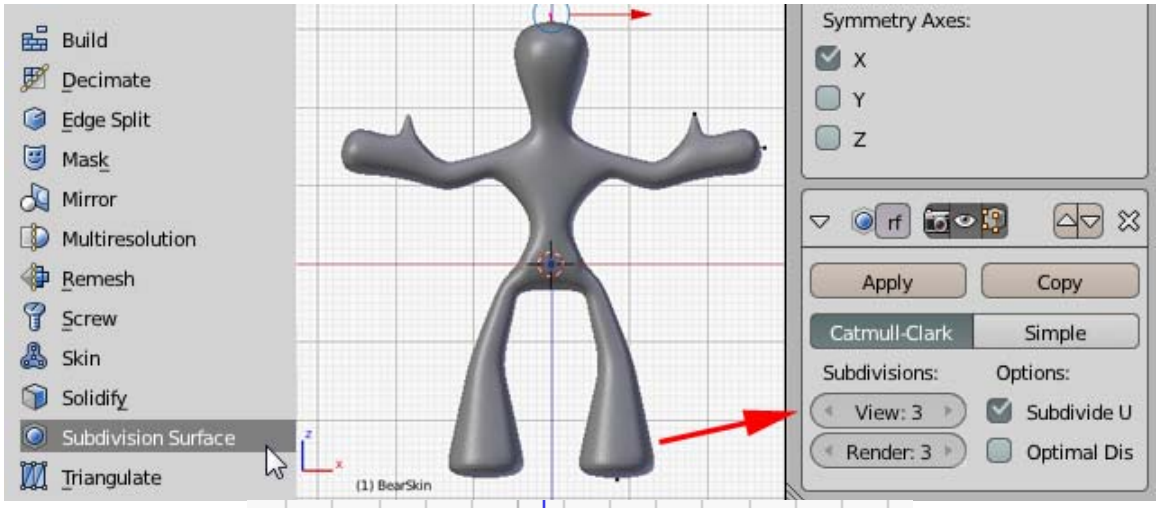
(1) BearSkin


Build
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(1) BearSkin
Symmetry Axes:
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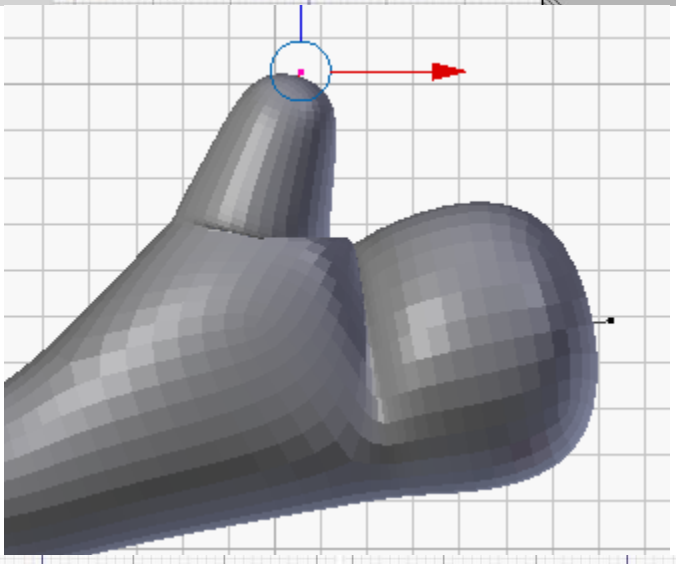
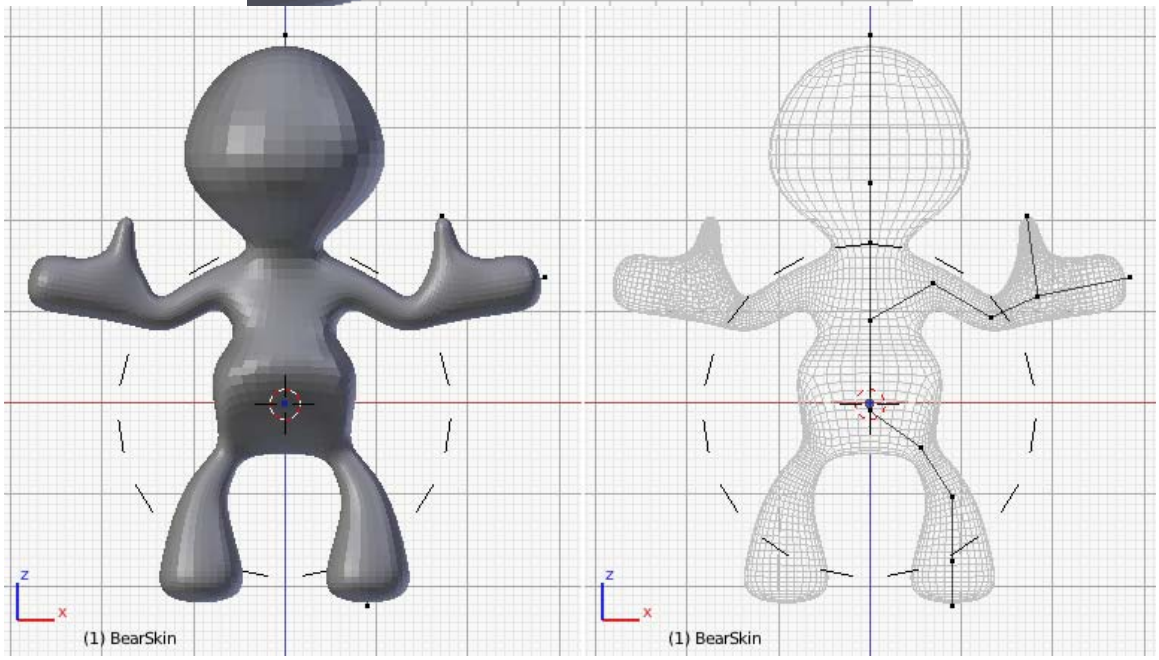
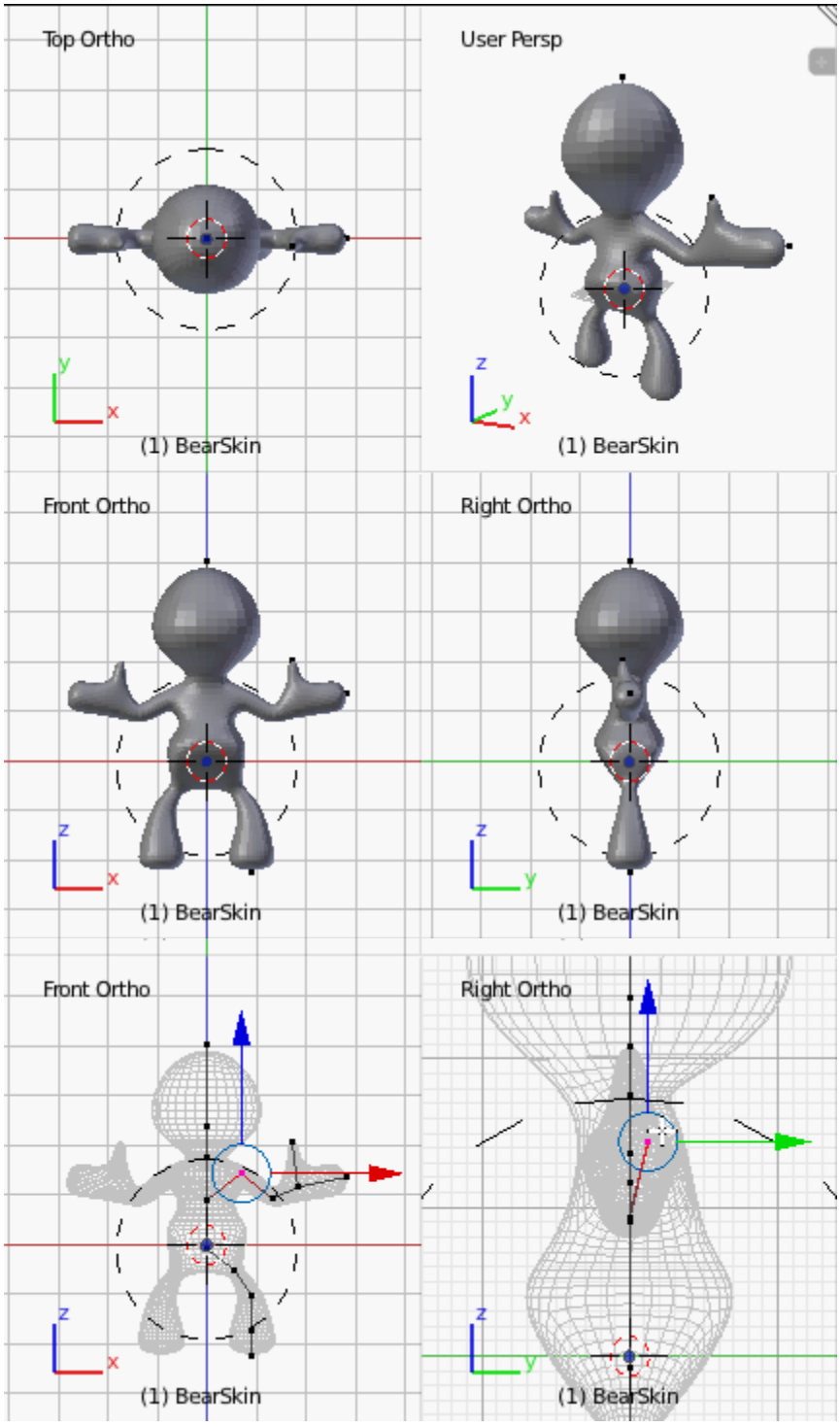
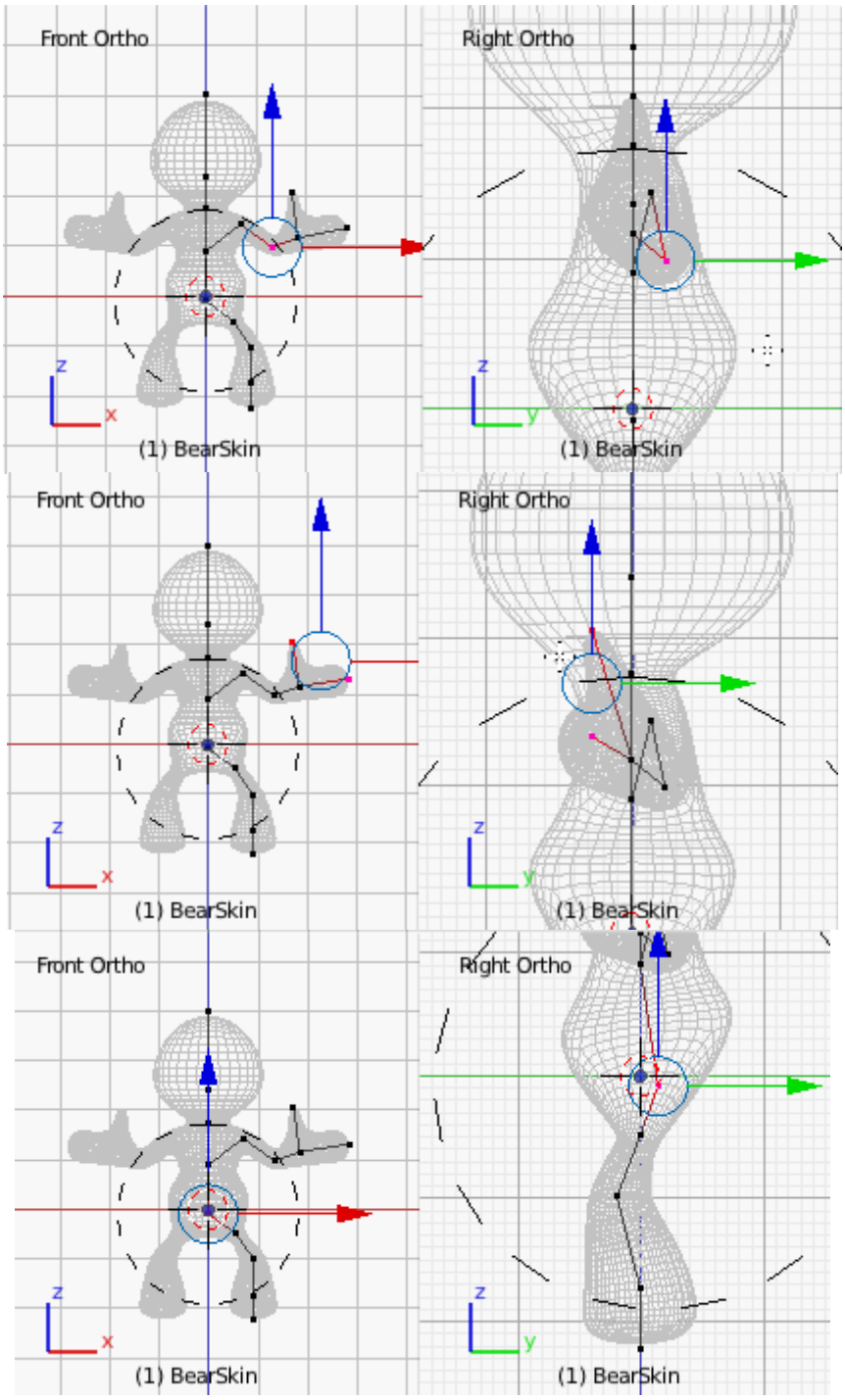
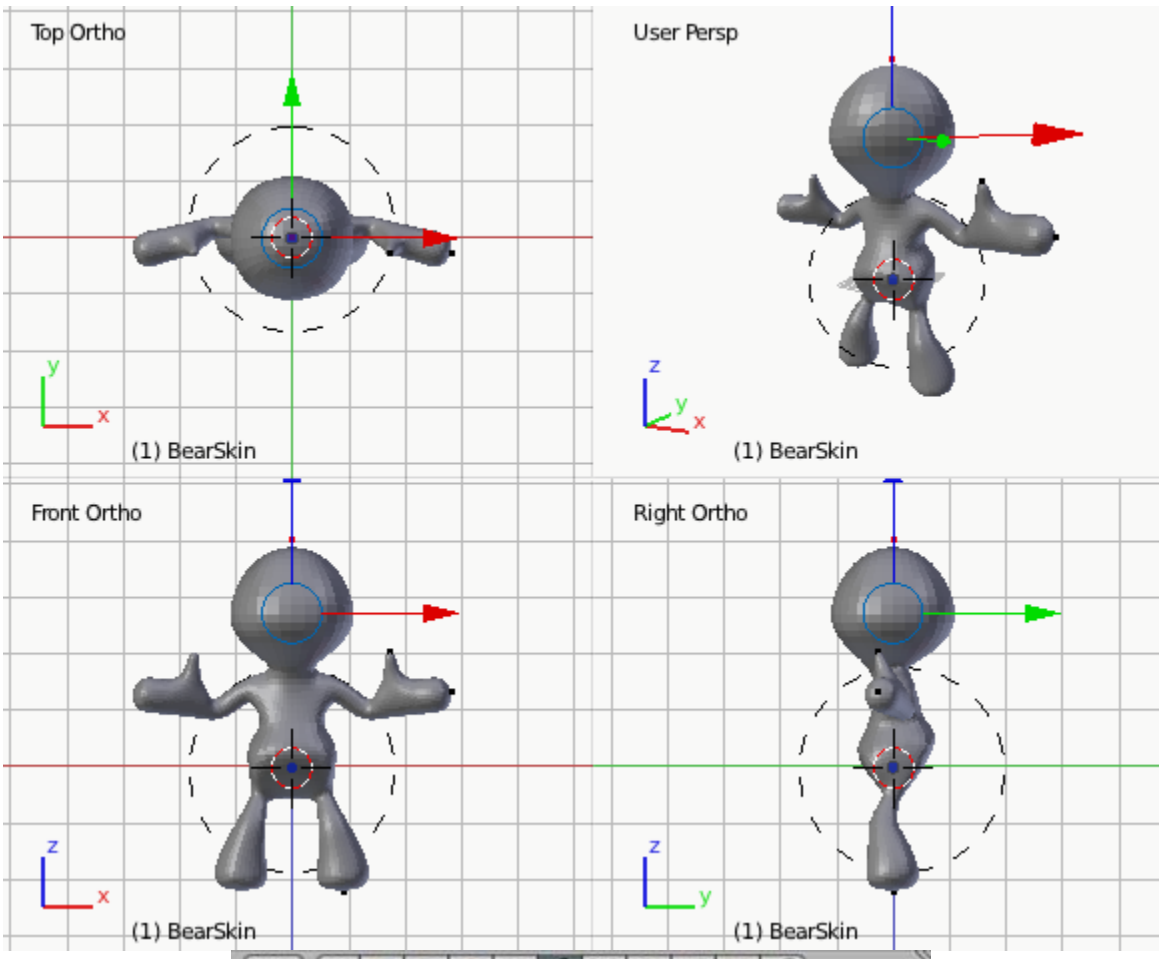
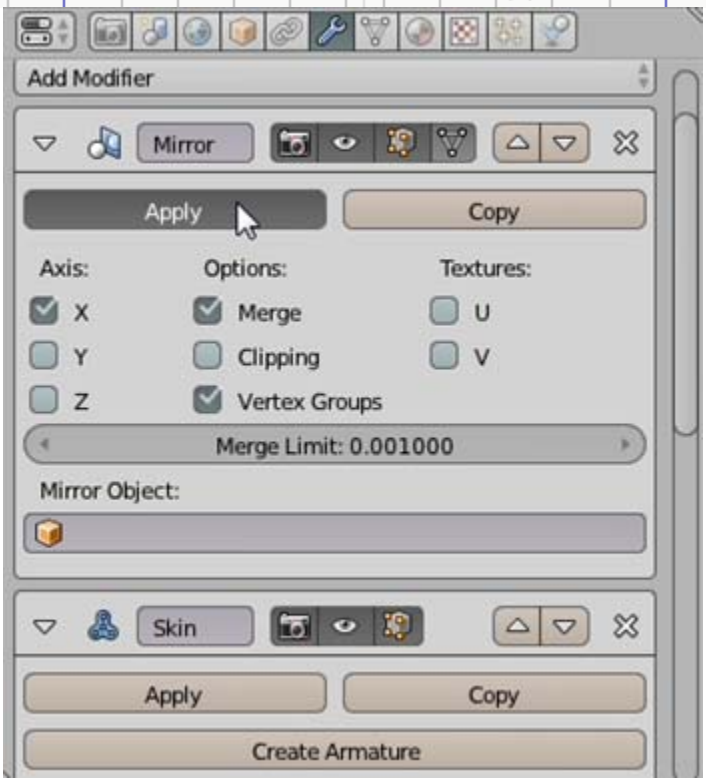


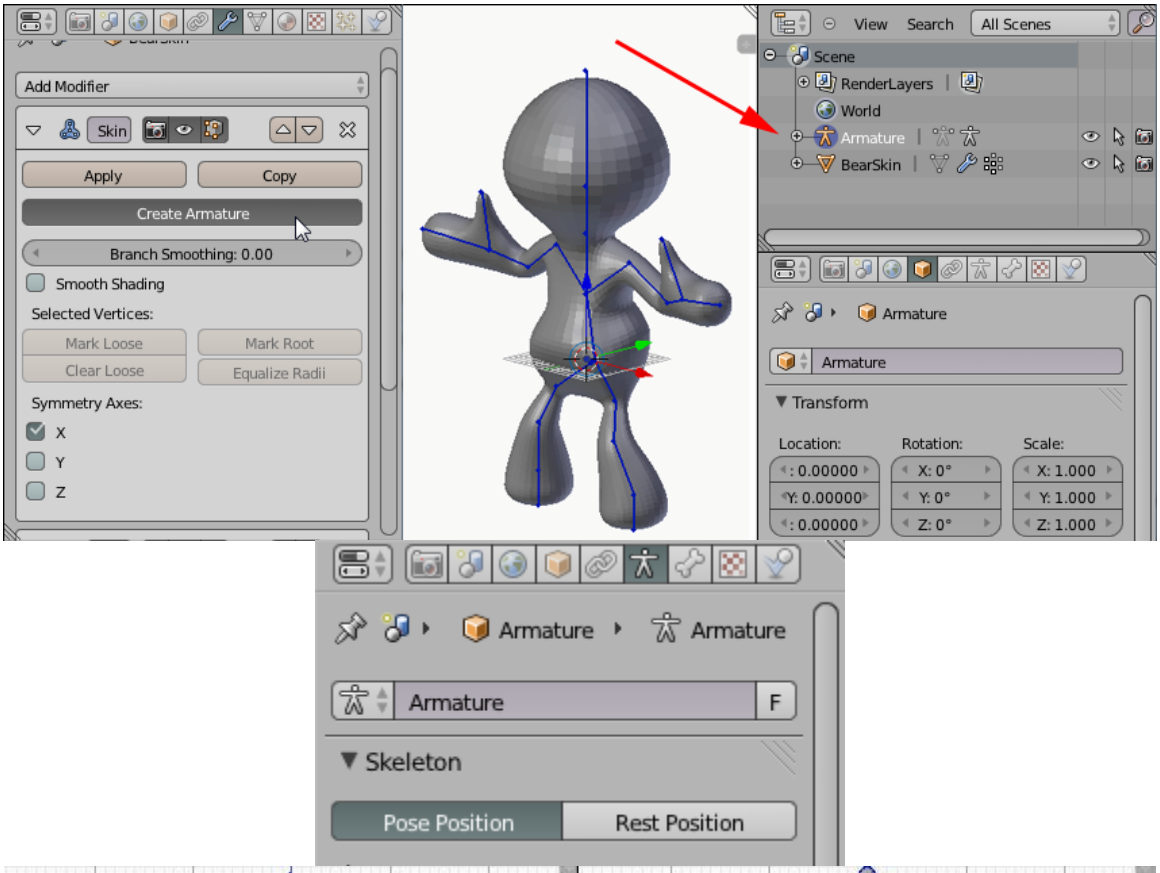

(1) BearSkin
(1) BearSkin


Top Ortho
(1) BearSkin
User Persp
(1) BearSkin
Front Ortho
(1) BearSkin
Right Ortho
(1) BearSkin
Front Ortho
(1) BearSkin
Right Ortho
(1) BearSkin

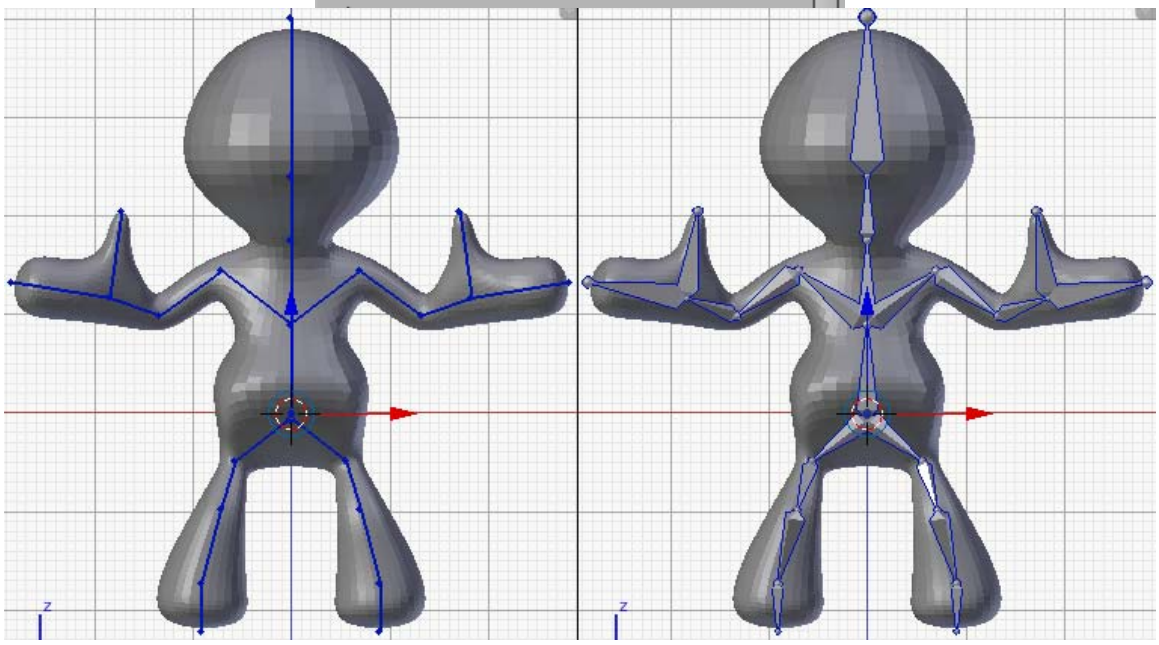

Front Ortho
Right Ortho
(1) BearSkin
(1) BearSkin
Front Ortho
Right Ortho
(1) BearSkin
(1) BearSkin
Front Ortho
Right Ortho
(1) BearSkin
(1) BearSkin

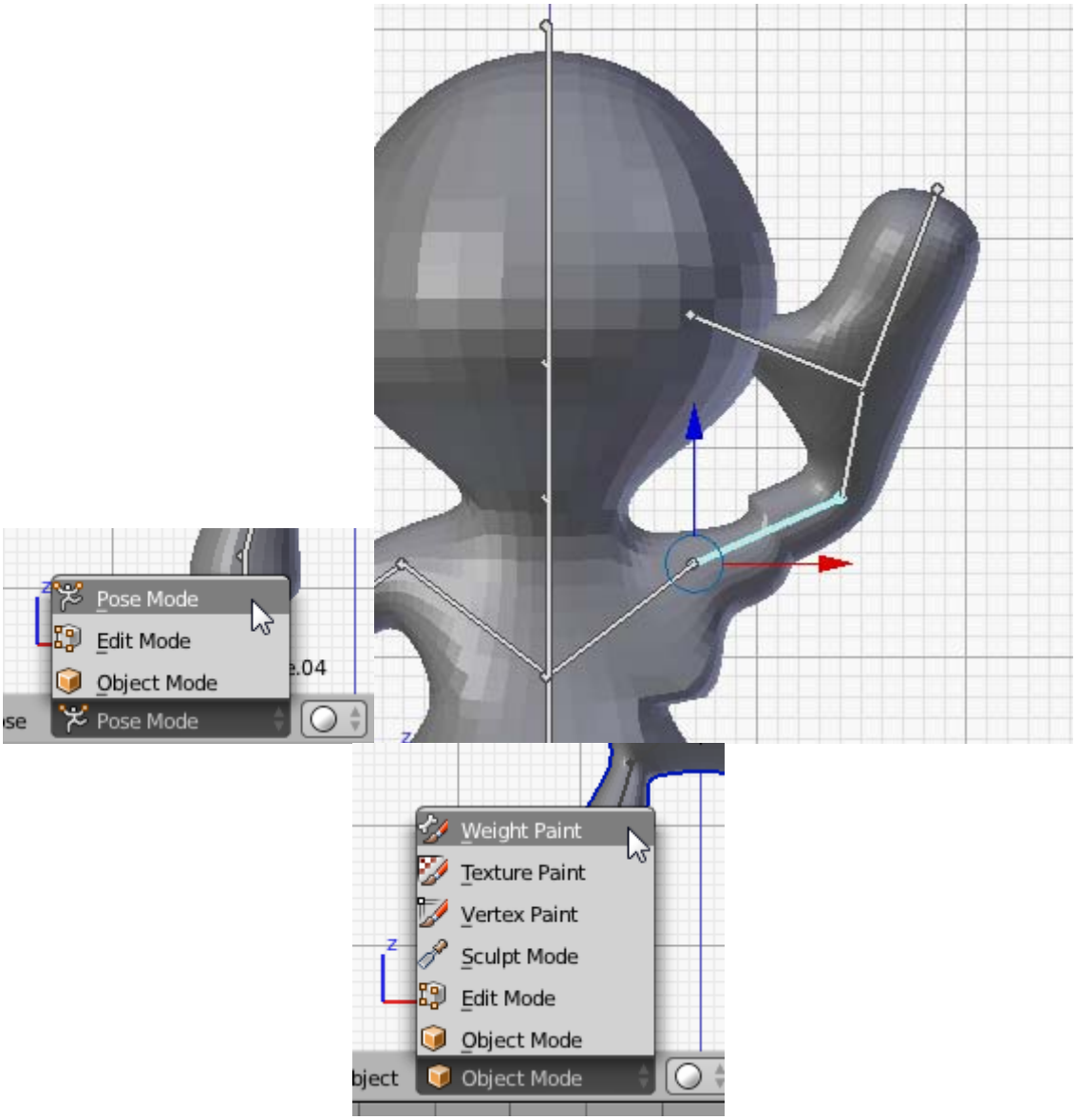

Top Ortho
(1) BearSkin
User Persp
(1) BearSkin
Front Ortho
(1) BearSkin
Right Ortho
(1) BearSkin

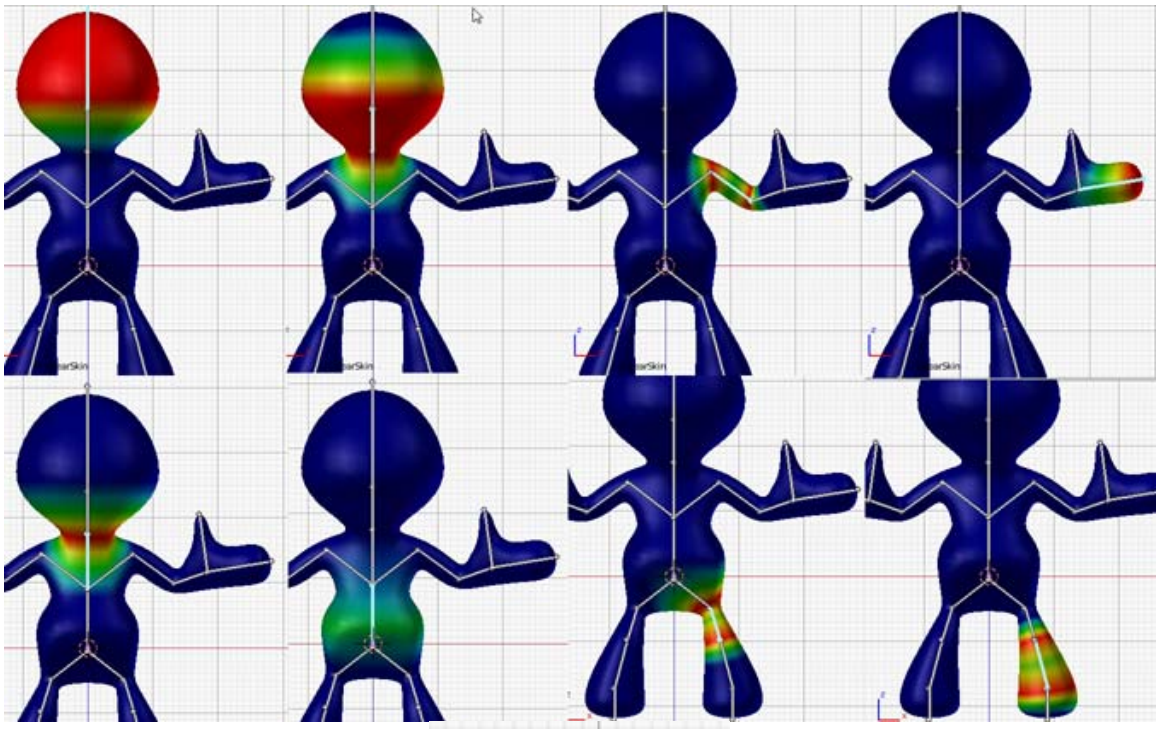

Add Modifier
Mirror
Apply
Copy
Axis:
Options:
Textures:
X
Merge
U
Y
Clipping
V
Z
Vertex Groups
Merge Limit: 0.001000
Mirror Object:
Skin
Apply
Copy
Create Armature

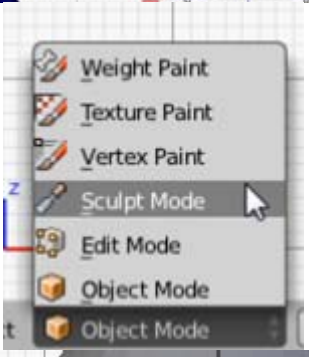

Add Modifier
Skin
Apply
Copy
Create Armature
Branch Smoothing: 0.00
Smooth Shading
Selected Vertices:
Mark Loose
Mark Root
Clear Loose
Equalize Radii
Symmetry Axes:
X
Y
Z
View
Search
All Scenes
Scene
RenderLayers
World
Armature
BearSkin
Armature
Armature
Transform
Location:
Rotation:
Scale:
: 0.00000
Y: 0.00000
: 0.00000
X: 0°
Y: 0°
Z: 0°
X: 1.000
Y: 1.000
Z: 1.000

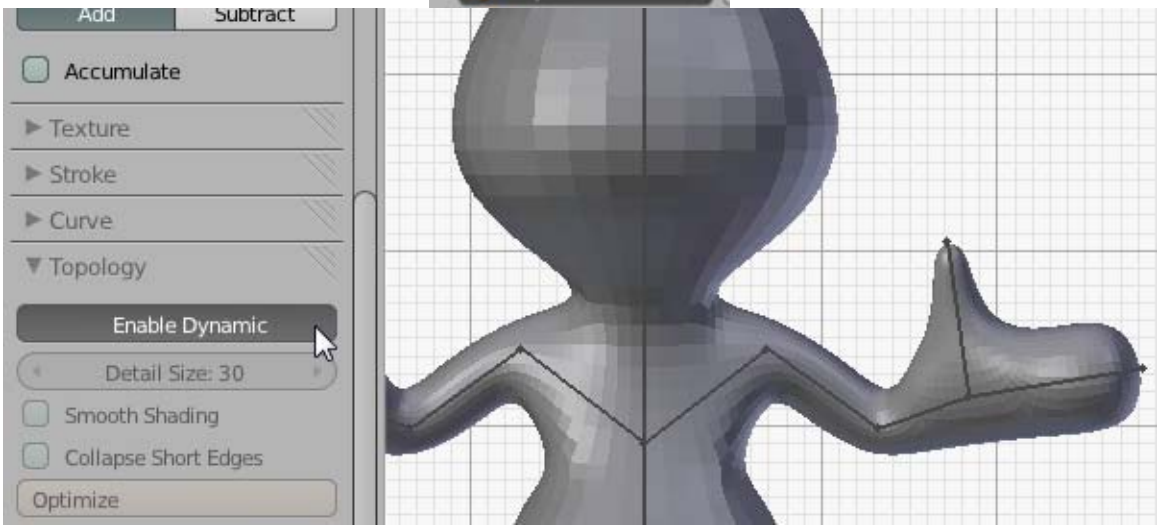
Armature
Armature
Armature
F
Skeleton
Pose Position
Rest Position

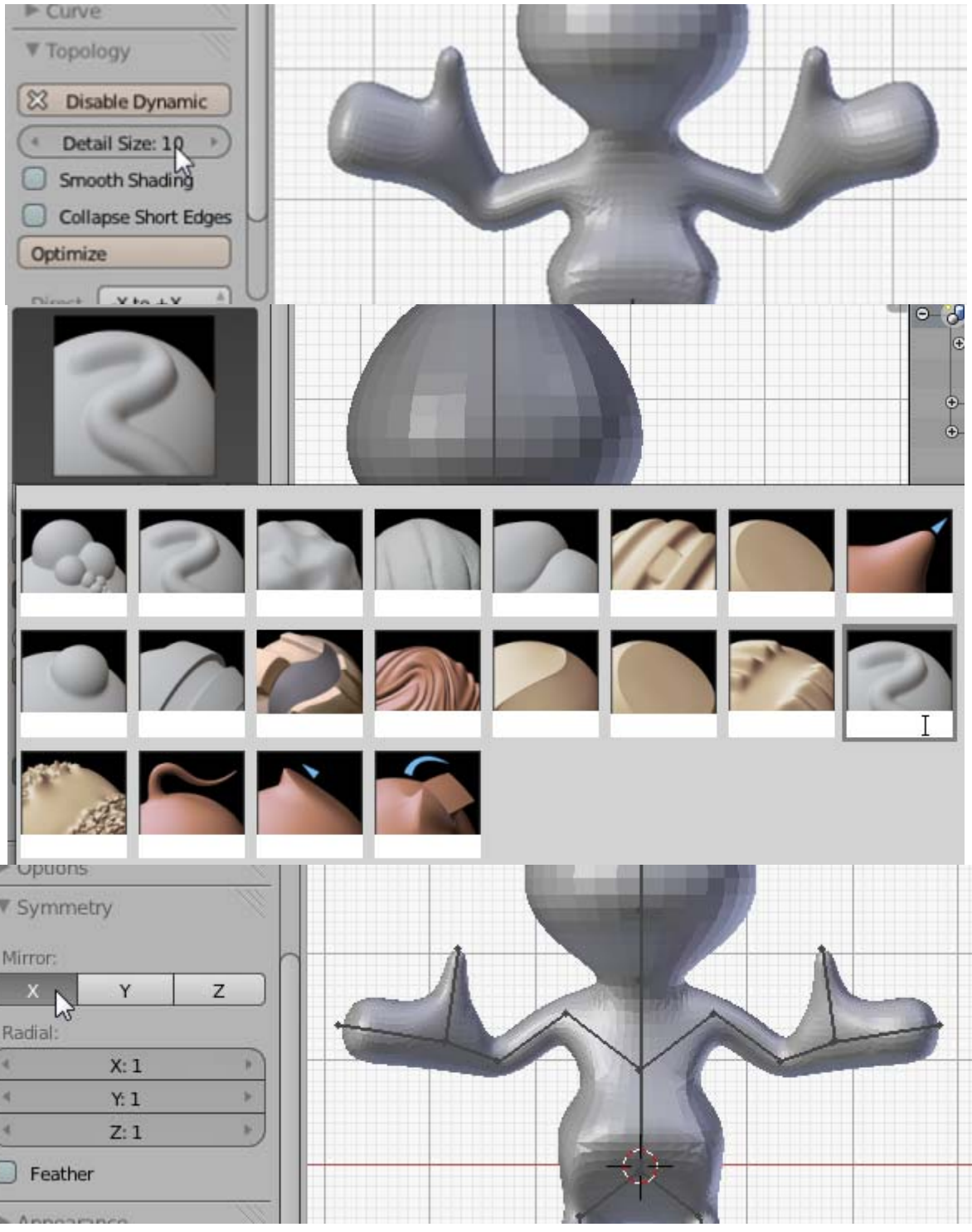


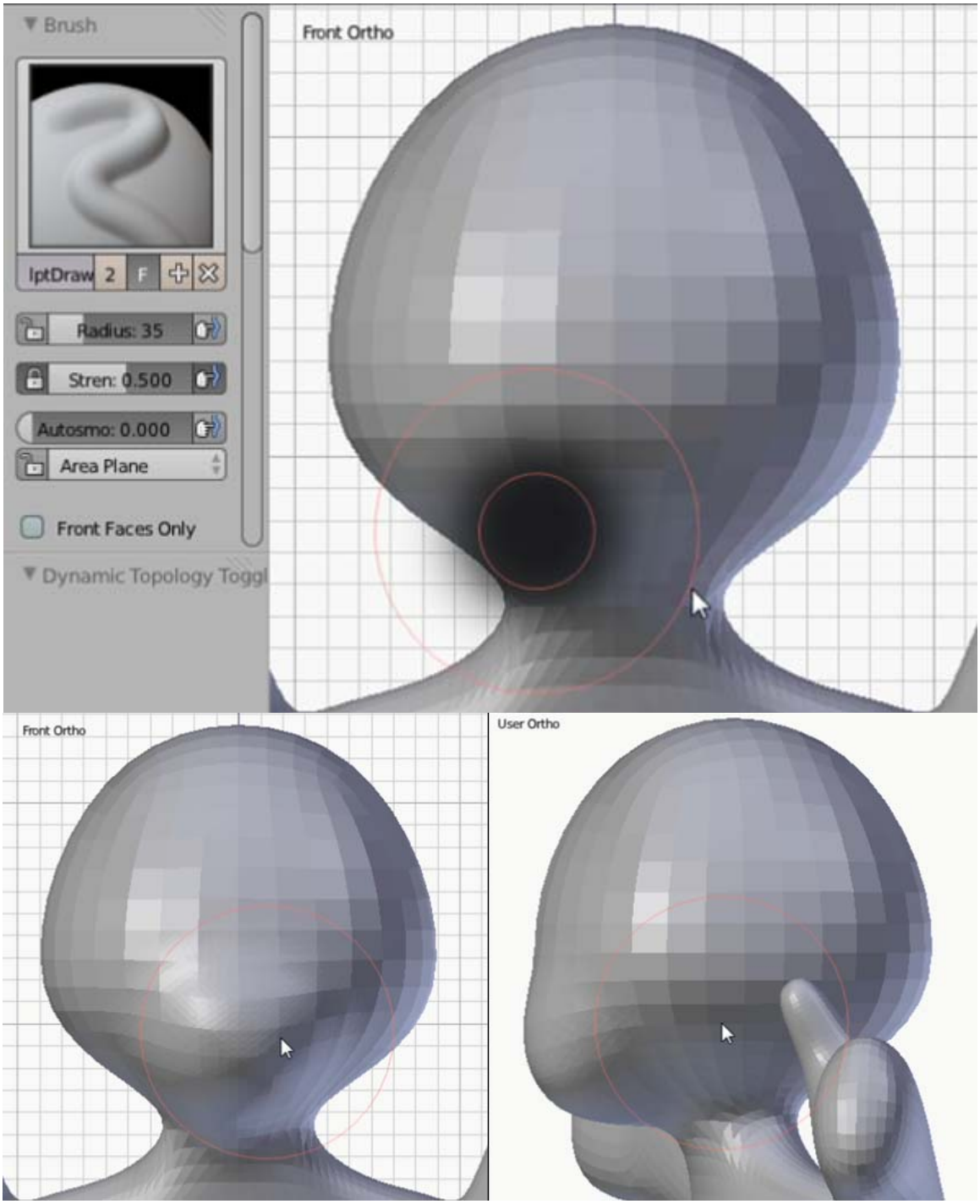

Pose Mode
Edit Mode
Object Mode
Pose Mode
Weight Paint
Texture Paint
Vertex Paint
Sculpt Mode
Edit Mode
Object Mode
Object Mode

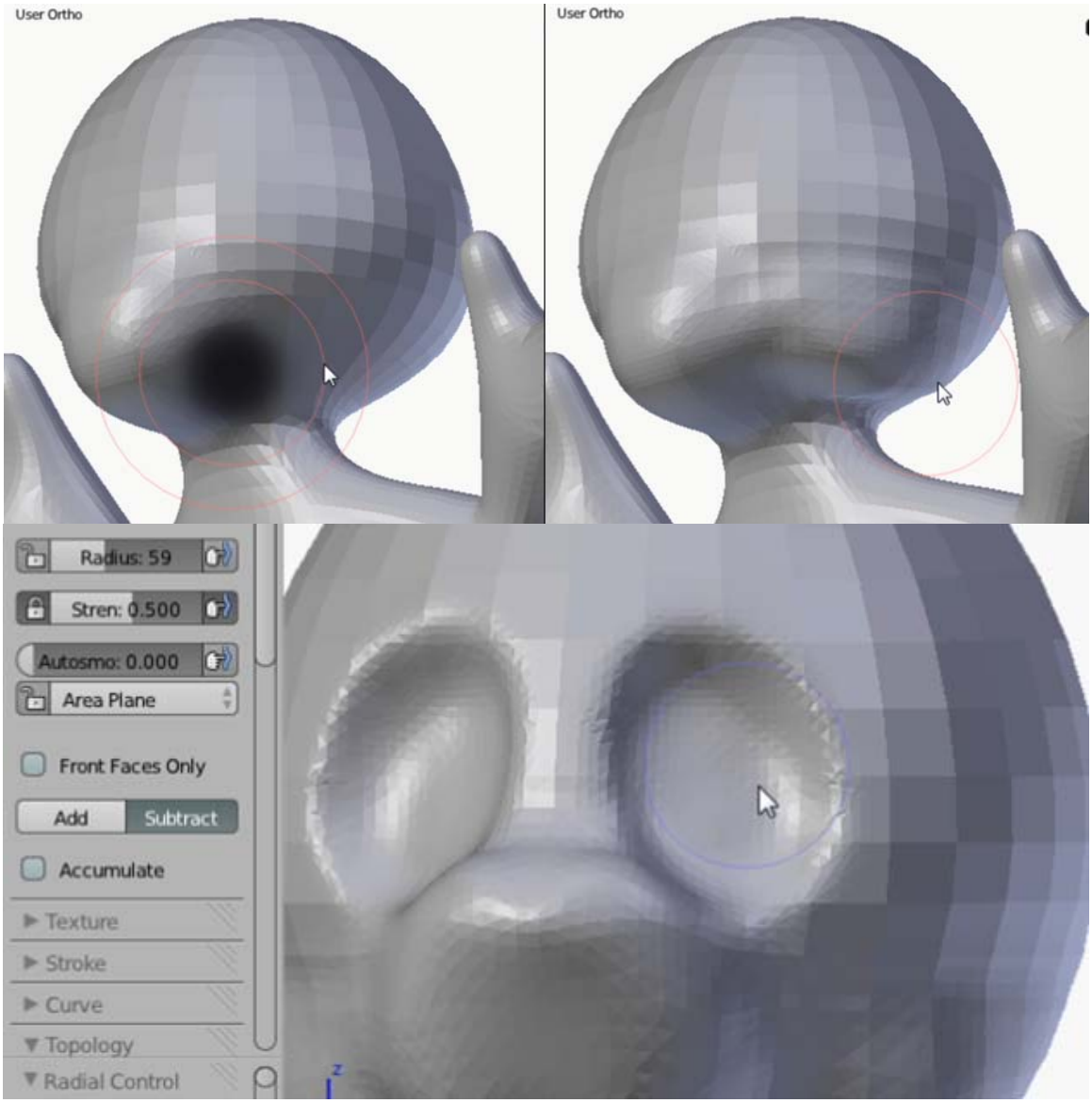


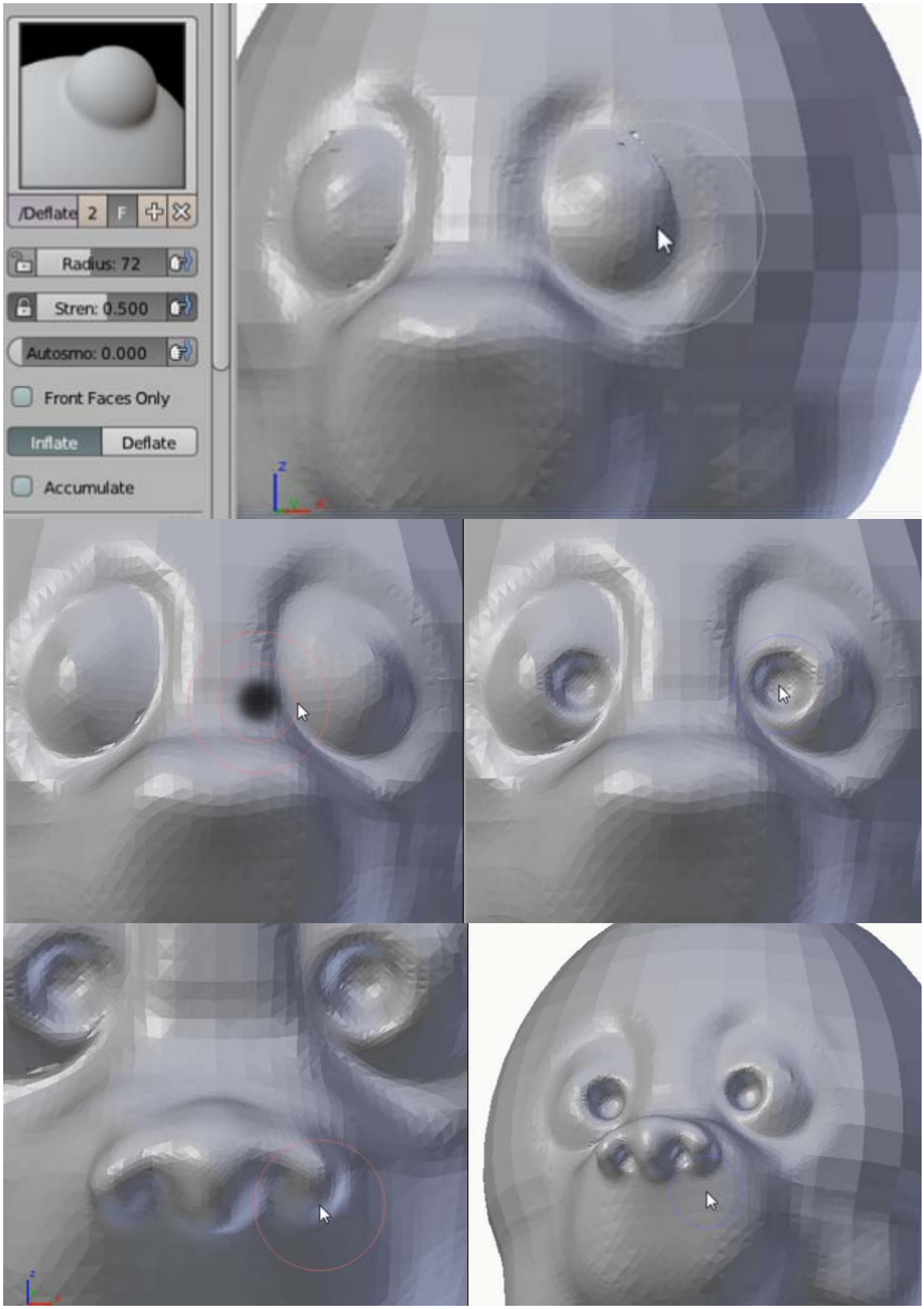

Weight Paint
Texture Paint
Vertex Paint
Sculpt Mode
Edit Mode
Object Mode
Object Mode

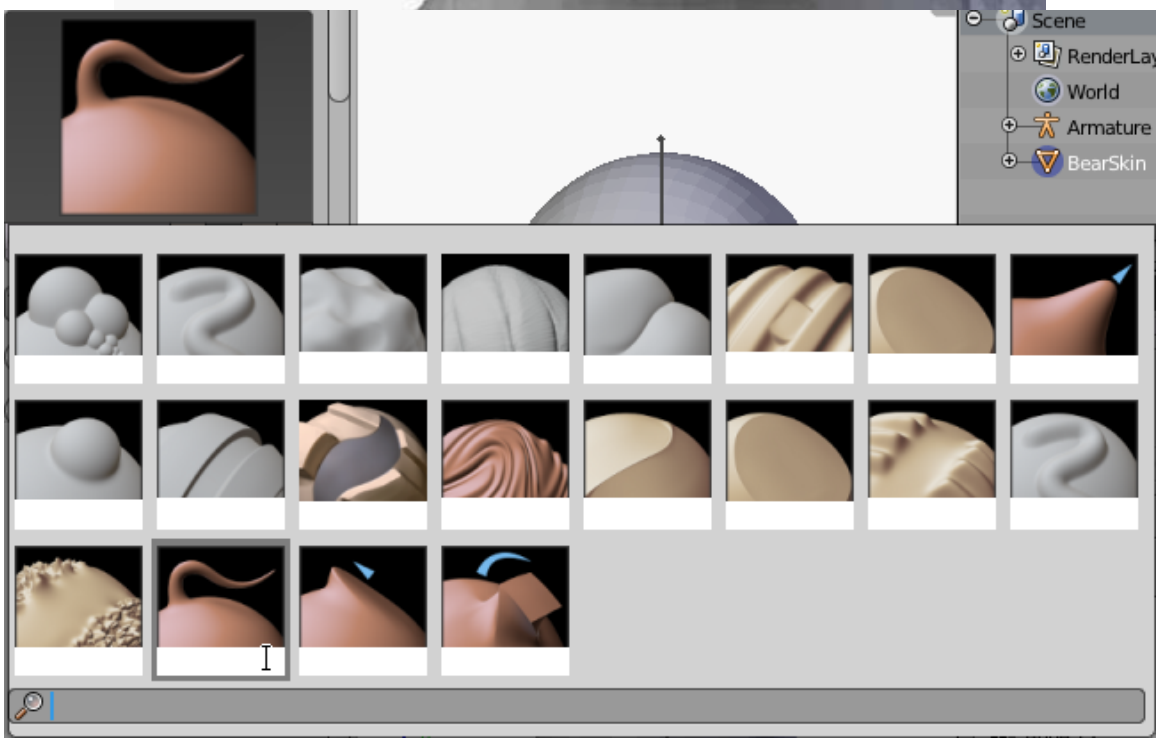

Add
Subtract
Accumulate
Texture
Stroke
Curve
Topology
Enable Dynamic
Detail Size: 30
Smooth Shading
Collapse Short Edges
Optimize

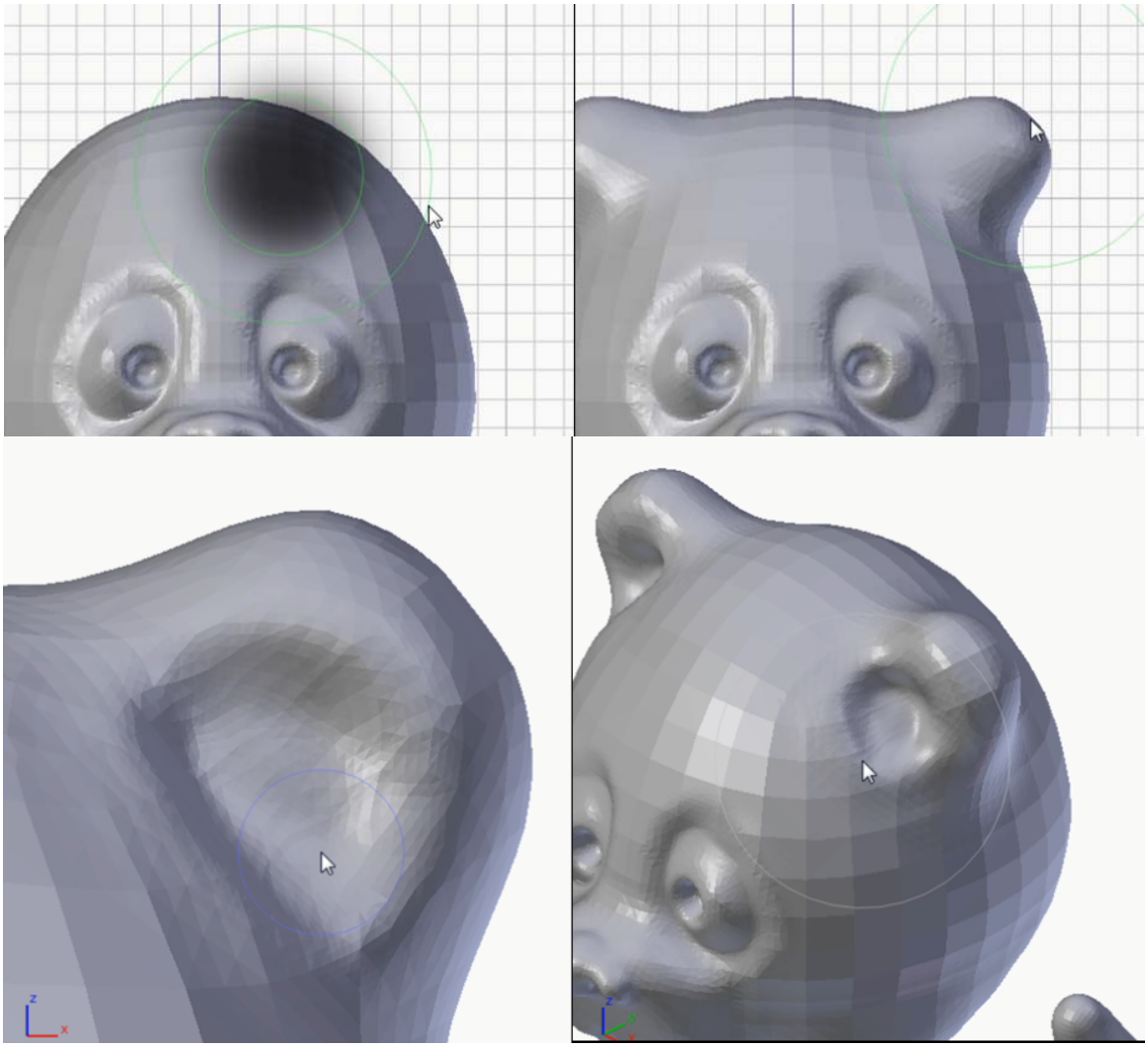

Curve
Topology
Disable Dynamic
Detail Size: 10
Smooth Shading
Collapse Short Edges
Optimize
Options
Symmetry
Mirror:
X
Y
Z
Radial:
X: 1
Y: 1
Z: 1
Feather

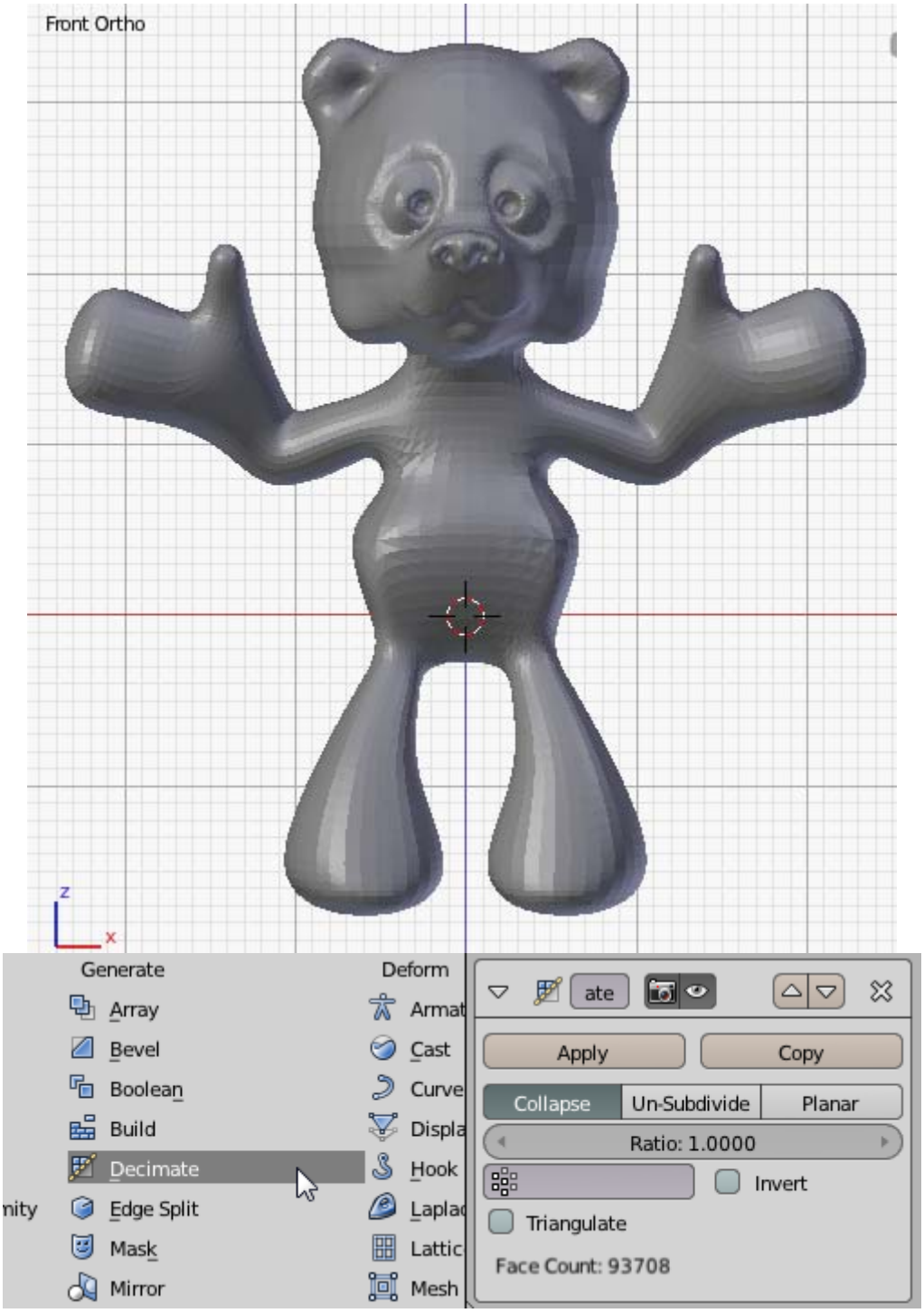

Brush
IptDraw
2
F
Radius: 35
Stren: 0.500
Autosmo: 0.000
Area Plane
Front Faces Only
Dynamic Topology Toggl
Front Ortho
Front Ortho
User Ortho

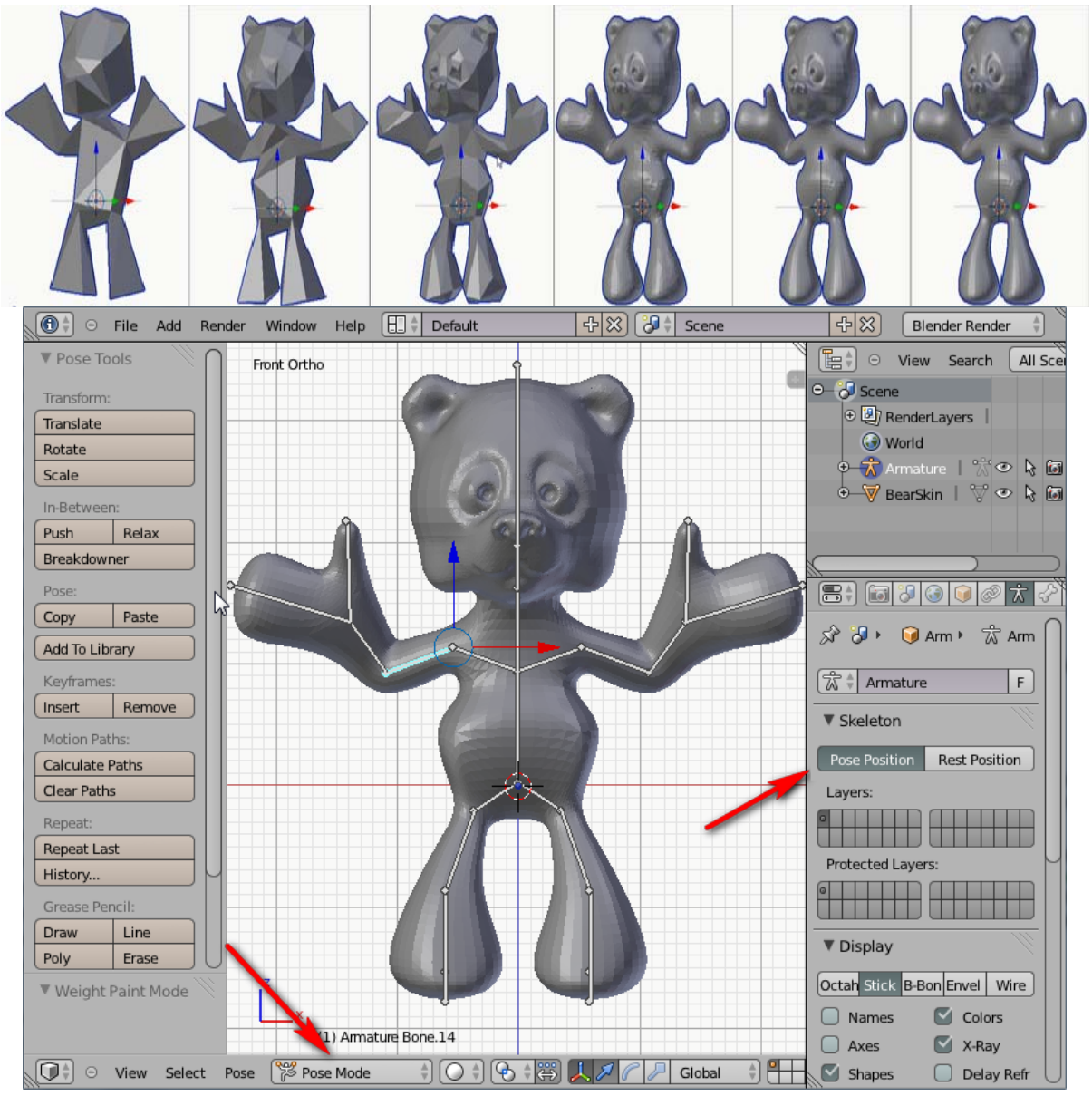

User Ortho
User Ortho
Radius: 59
Stren: 0.500
Autosmo: 0.000
Area Plane
Front Faces Only
Add
Subtract
Accumulate
Texture
Stroke
Curve
Topology
Radial Control

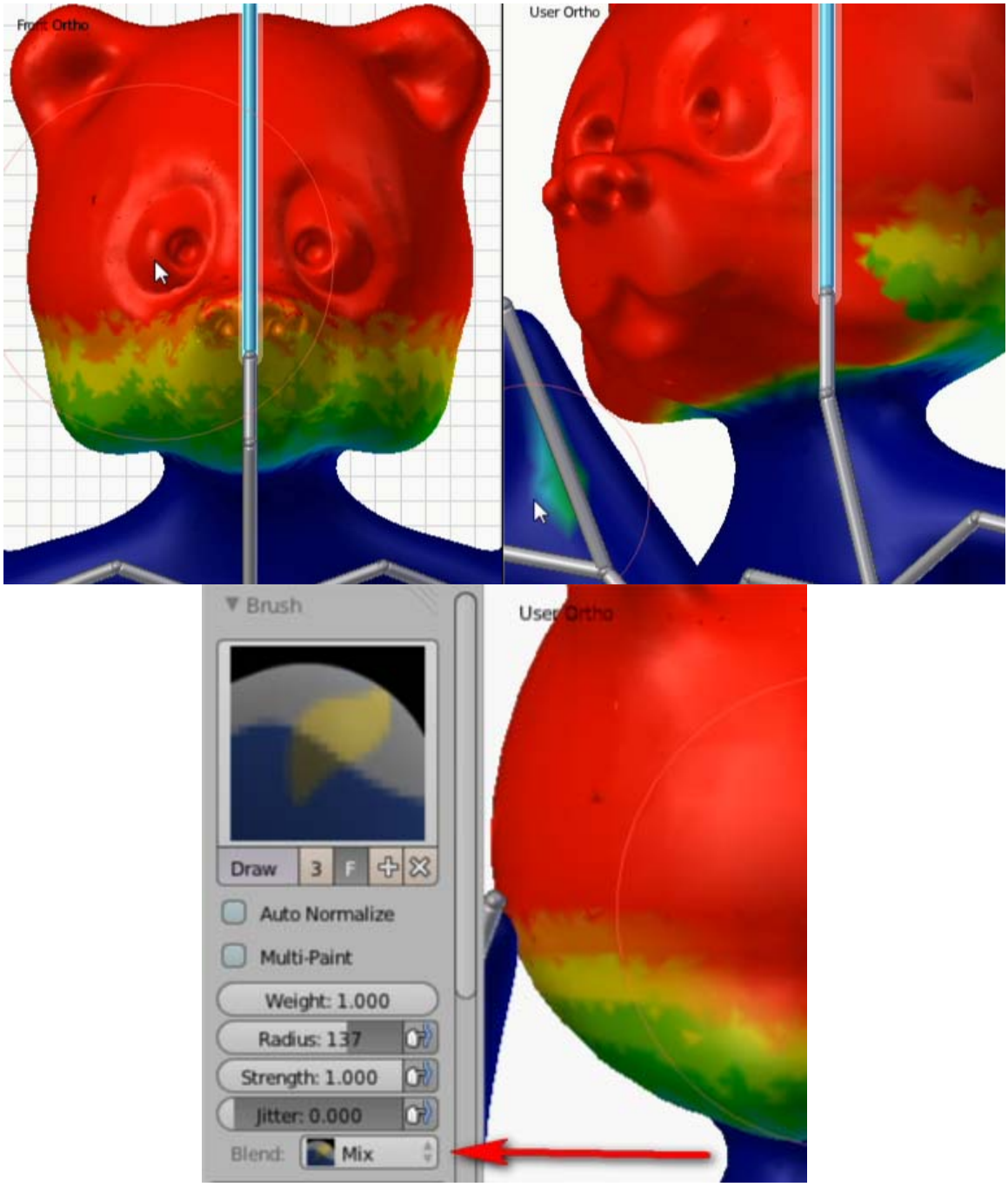

/Deflate
2
F
Radius: 72
Stren: 0.500
Autosmo: 0.000
Front Faces Only
Inflate
Deflate
Accumulate

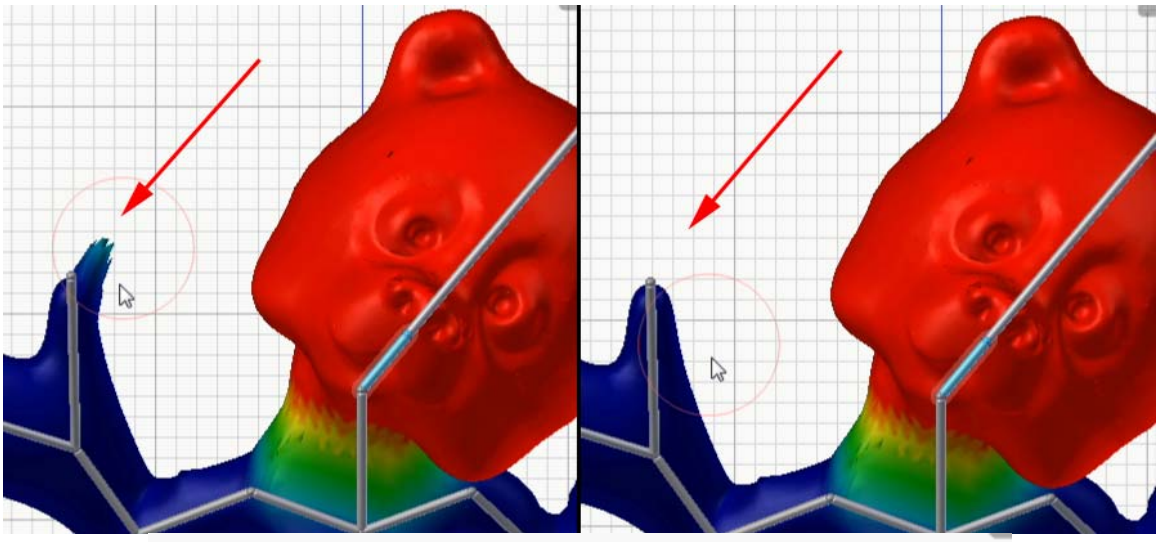

Scene
RenderLay
World
Armature
BearSkin

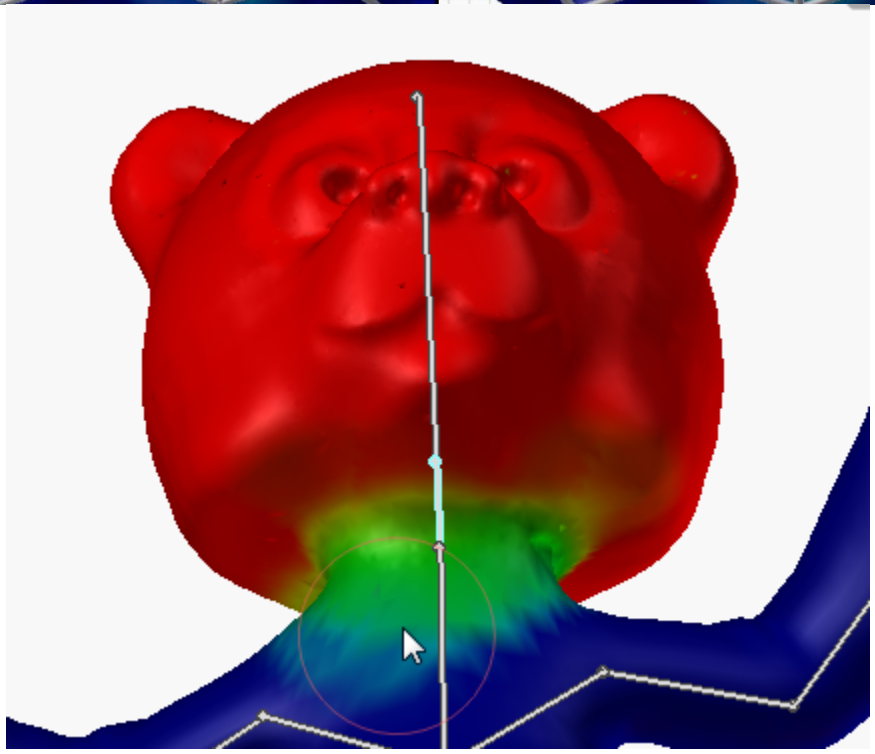


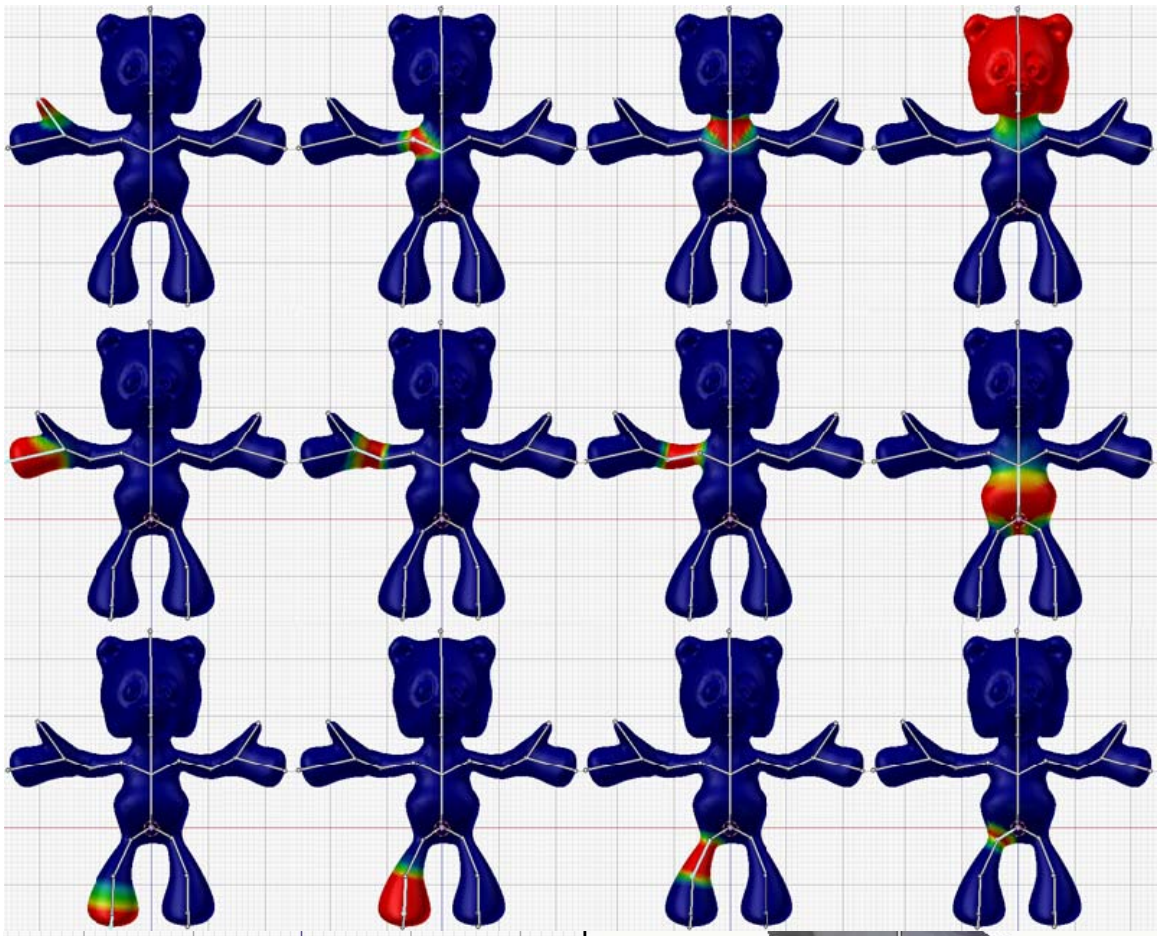

Front Ortho
z
x
Generate
Array
Bevel
Boolean
Build
Decimate
Edge Split
Mask
Mirror
Deform
Armat
Cast
Curve
Displa
Hook
Laplac
Lattic
Mesh
ate
Apply
Copy
Collapse
Un-Subdivide
Planar
Ratio: 1.0000
Invert
Triangulate
Face Count: 93708

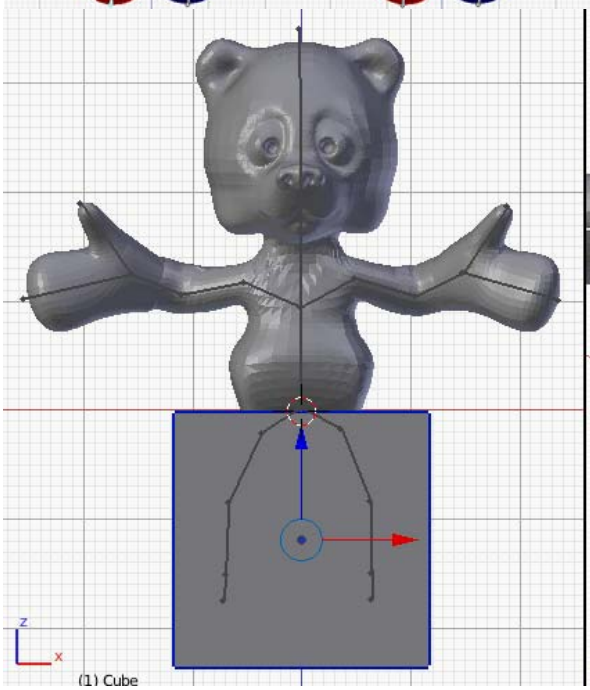

File Add Render Window Help
Default
Scene
Blender Render
Pose Tools
Transform:
Translate
Rotate
Scale
In-Between:
Push
Relax
Breakdowner
Pose:
Copy
Paste
Add To Library
Keyframes:
Insert
Remove
Motion Paths:
Calculate Paths
Clear Paths
Repeat:
Repeat Last
History...
Grease Pencil:
Draw
Line
Poly
Erase
Weight Paint Mode
Front Ortho
(1) Armature Bone.14
View Search
Scene
RenderLayers
World
Armature
BearSkin
Arm
Arm
Armature
F
Skeleton
Pose Position
Rest Position
Layers:
Protected Layers:
Display
Octah
Stick
B-Bon
Envel
Wire
Names
Colors
Axes
X-Ray
Shapes
Delay Refr
View
Select
Pose
Pose Mode
Global

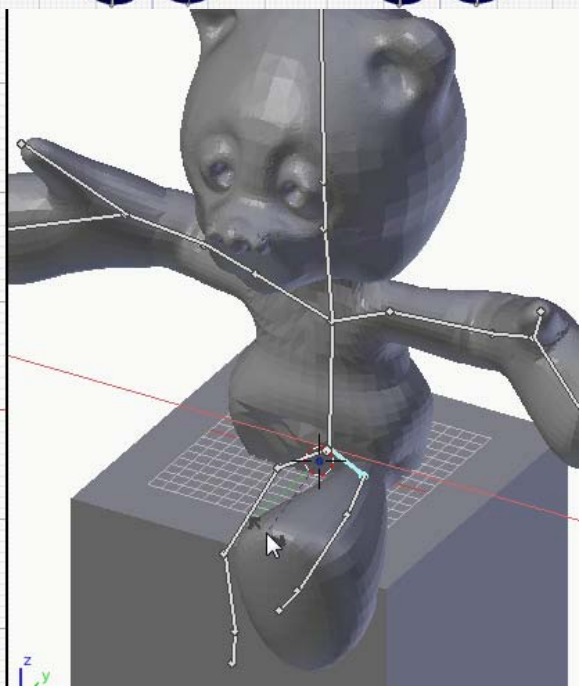

Front Ortho
User Ortho
Brush
Draw
3
F
Auto Normalize
Multi-Paint
Weight: 1.000
Radius: 137
Strength: 1.000
Jitter: 0.000
Blend:
Mix

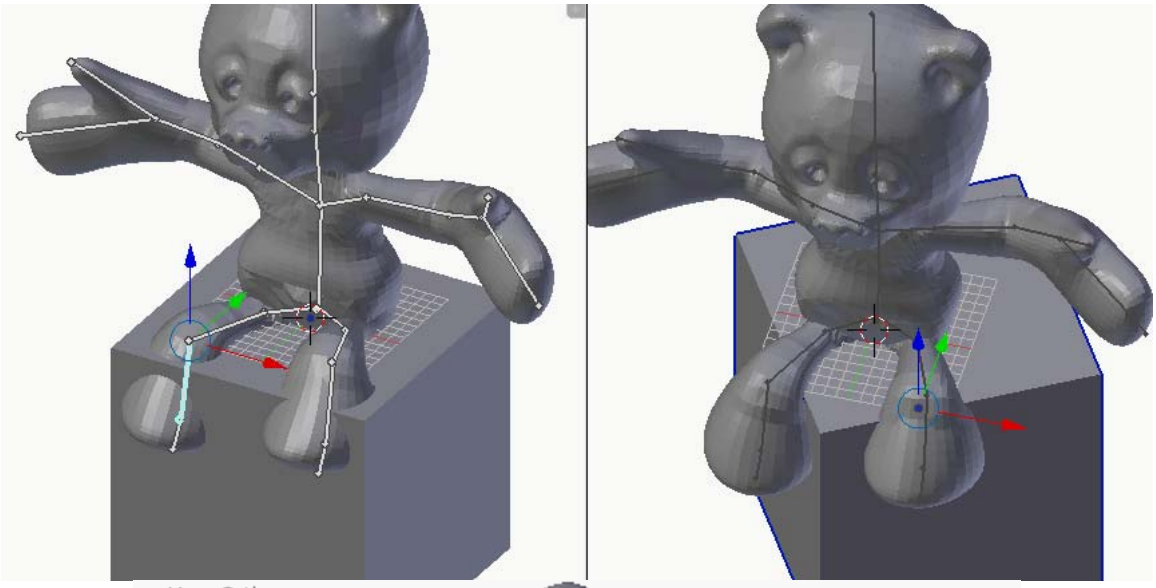


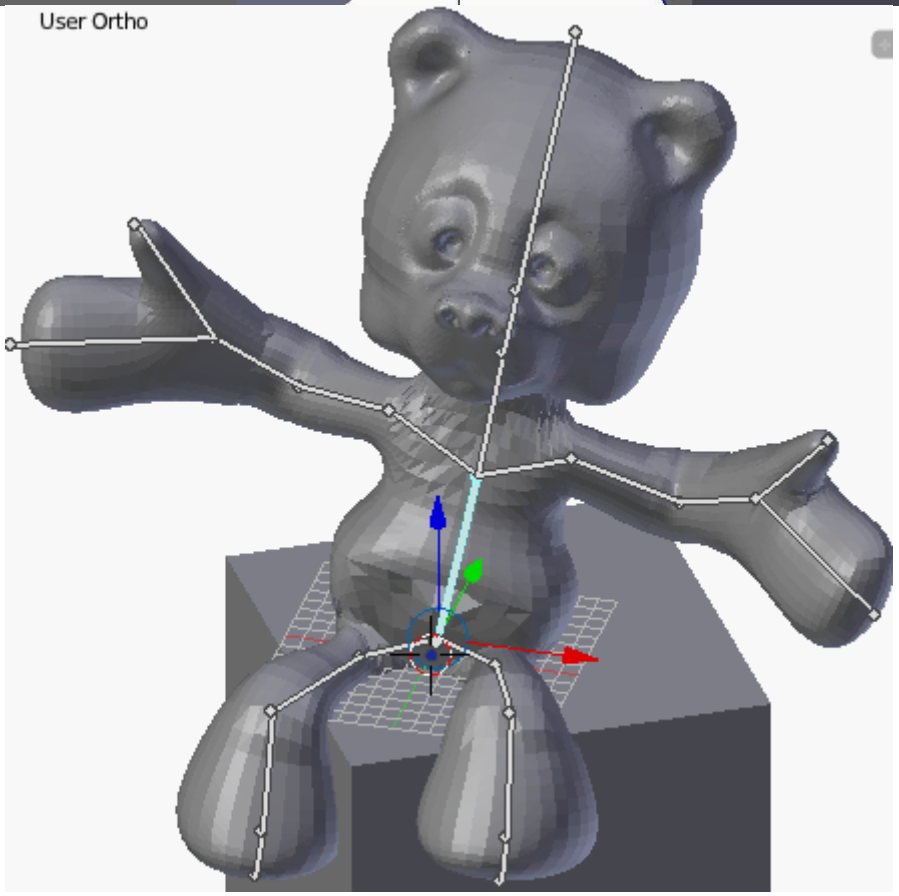


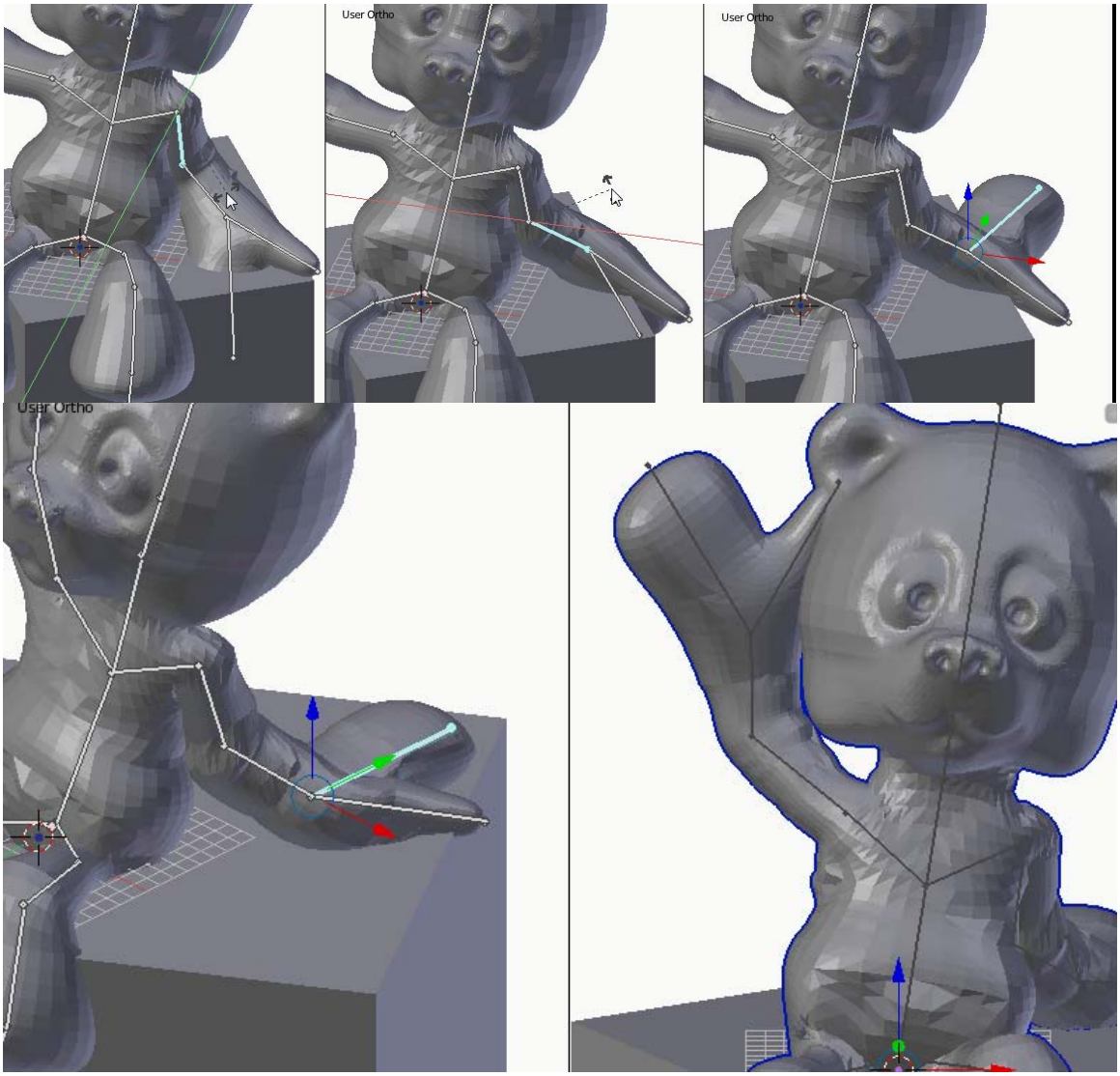


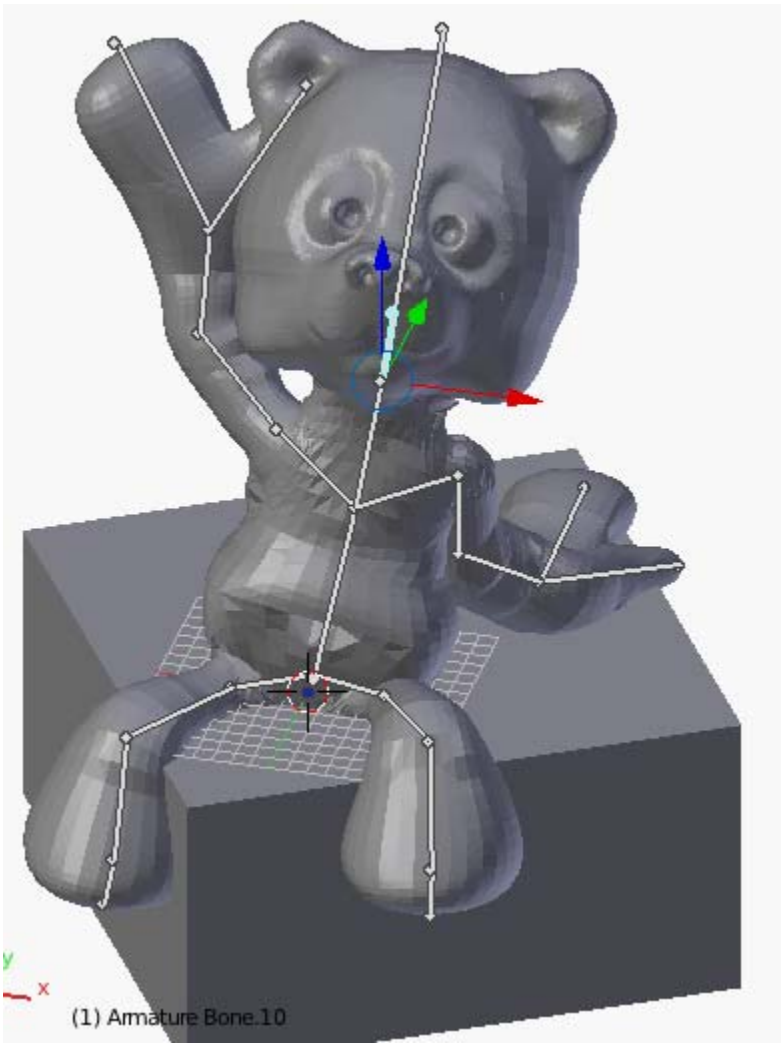

z
x
(1) Cube

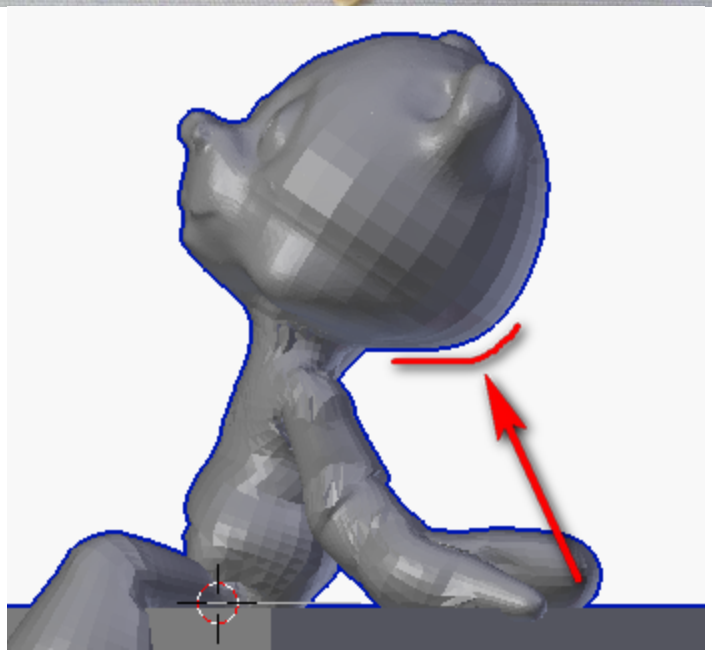

z
y

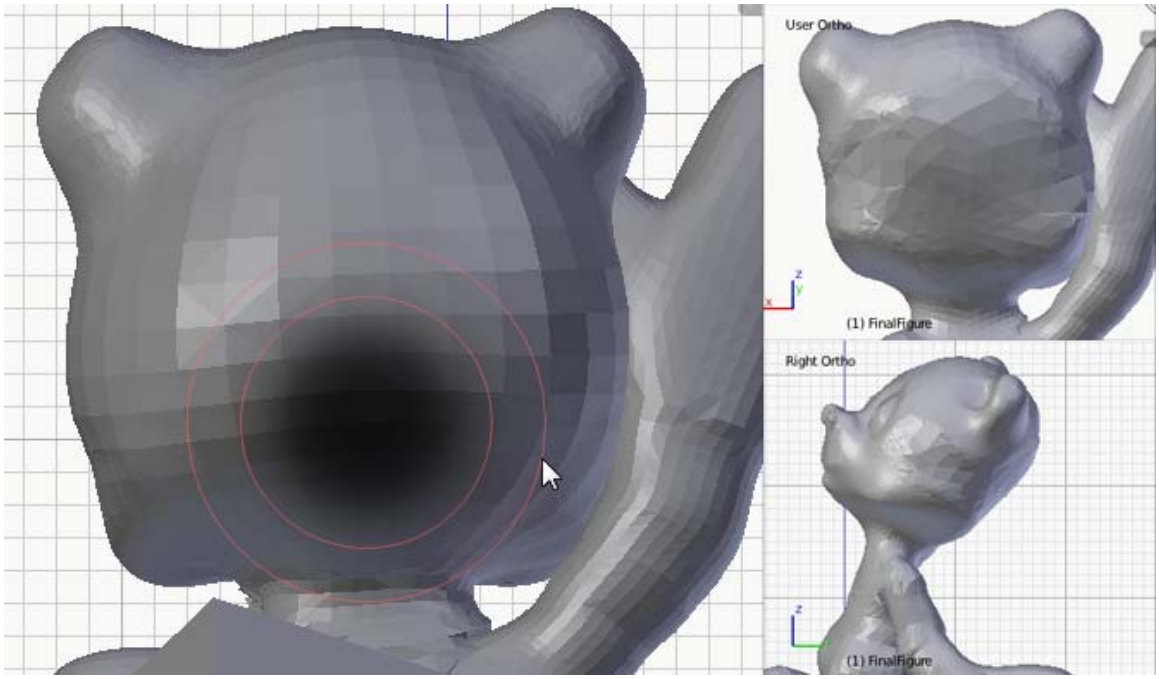



User Ortho

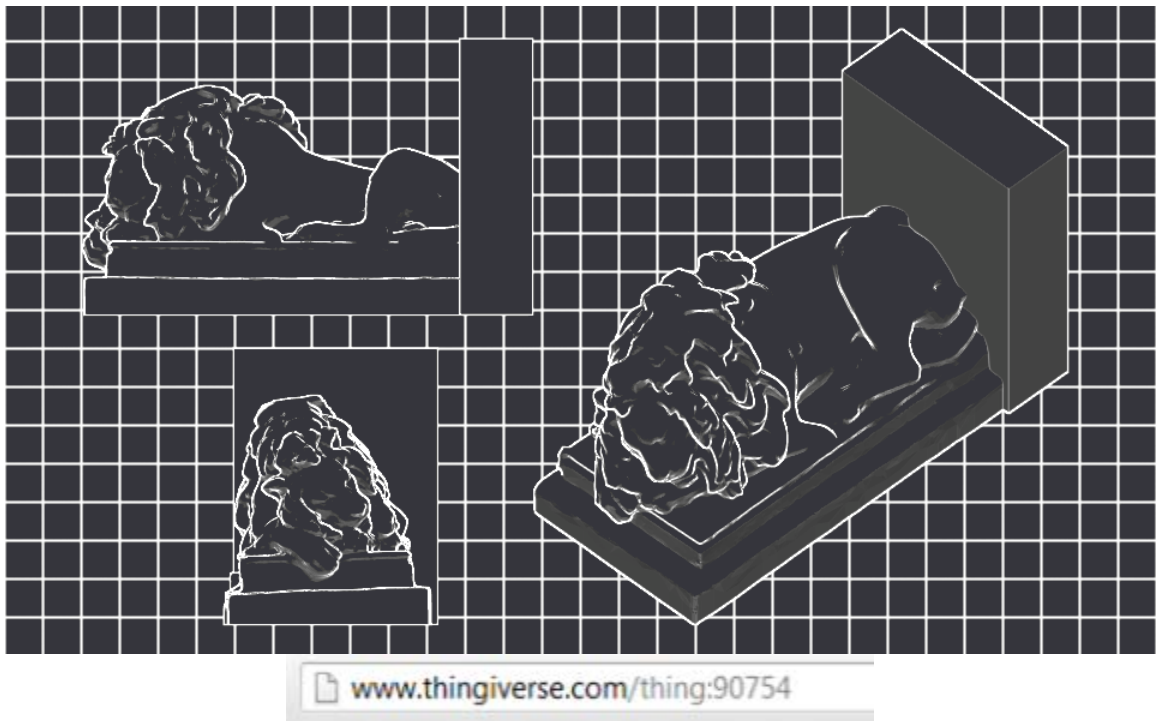

User Ortho
User Ortho
User Ortho

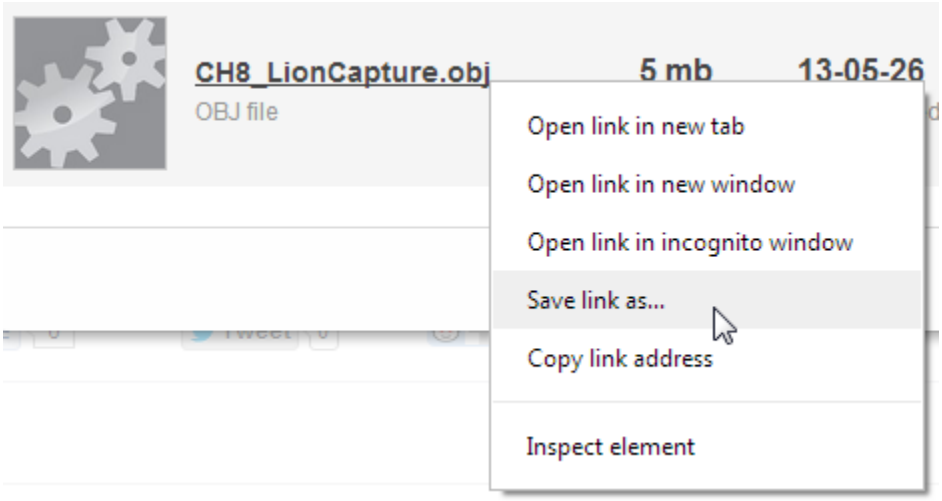

y
x
(1) Armature Bone.10

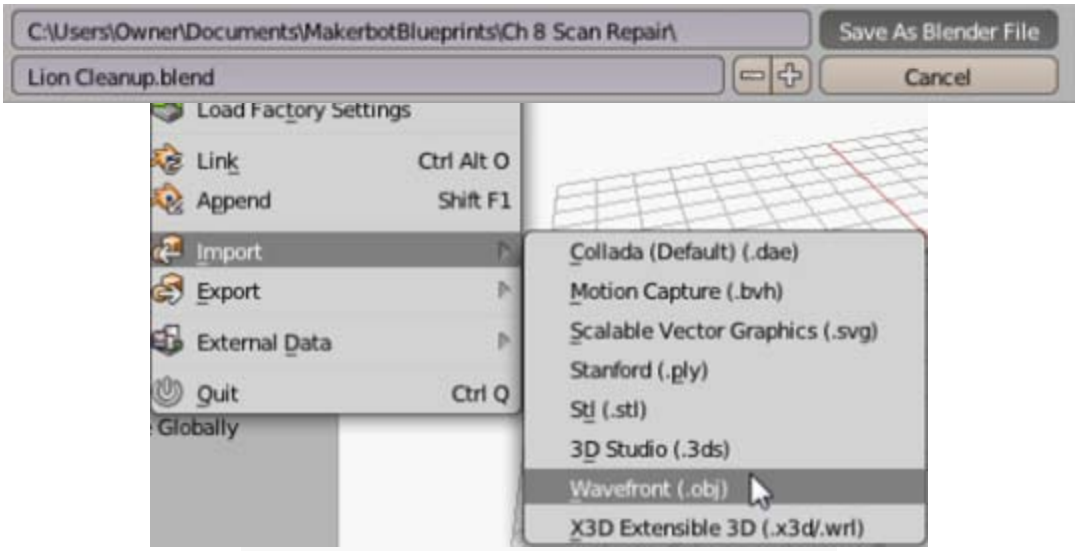


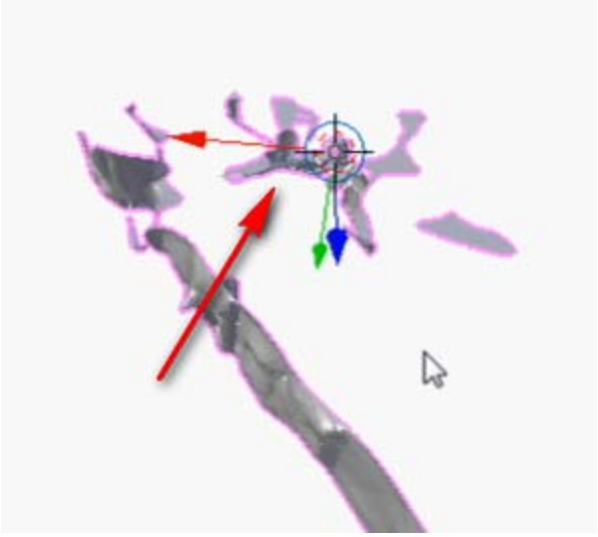


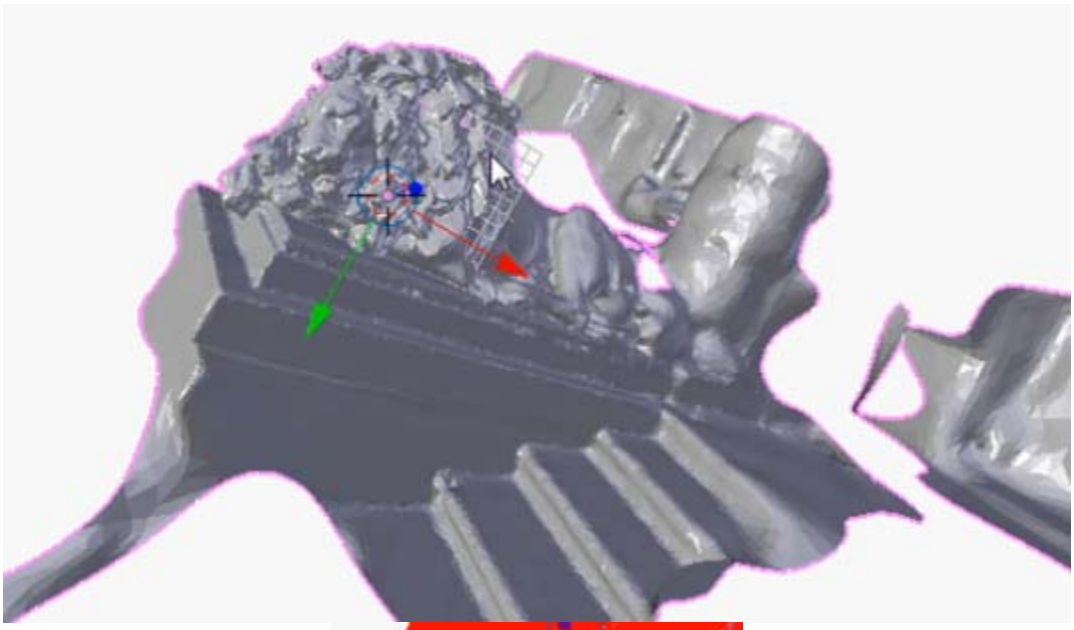
Chapter 8: Repairing Bad Models

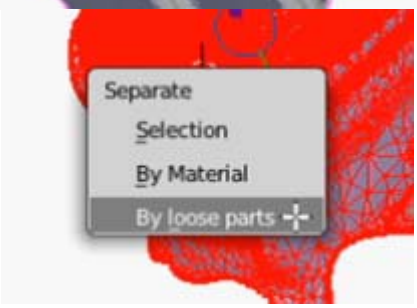


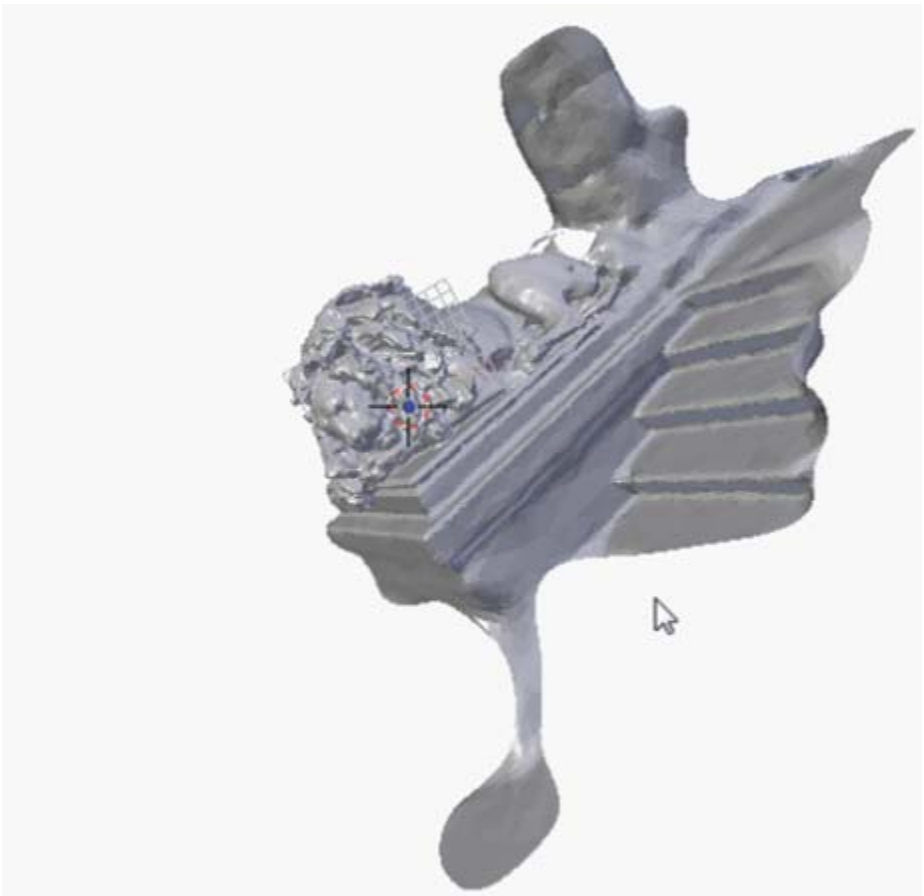

CH8_LionCapture.obj
5 mb
13-05-26
OBJ file
Open link in new tab
Open link in new window
Open link in incognito window
Save link as...
Copy link address
Inspect element

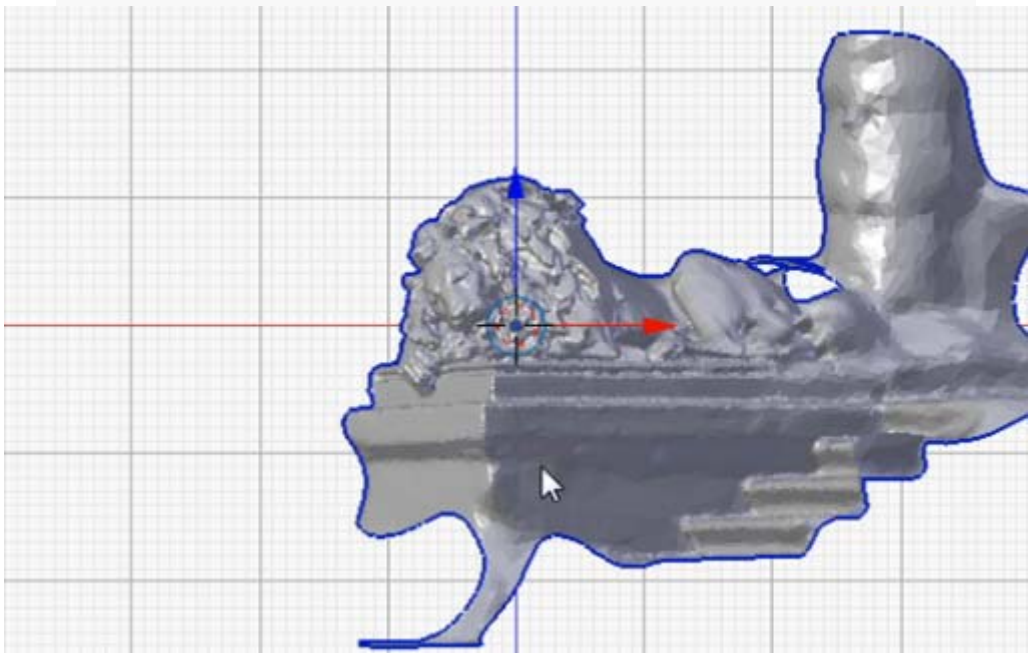

C:\Users\Owner\Documents\MakerbotBlueprints\Ch 8 Scan Repair\
Save As Blender File
Lion Cleanup.blend
Cancel
Load Factory Settings
Link Ctrl Alt O
Append Shift F1
Import
Export
External Data
Quit Ctrl Q
Globally
Collada (Default) (.dae)
Motion Capture (.bvh)
Scalable Vector Graphics (.svg)
Stanford (.ply)
Stl (.stl)
3D Studio (.3ds)
Wavefront (.obj)
X3D Extensible 3D (.x3d/.wrl)

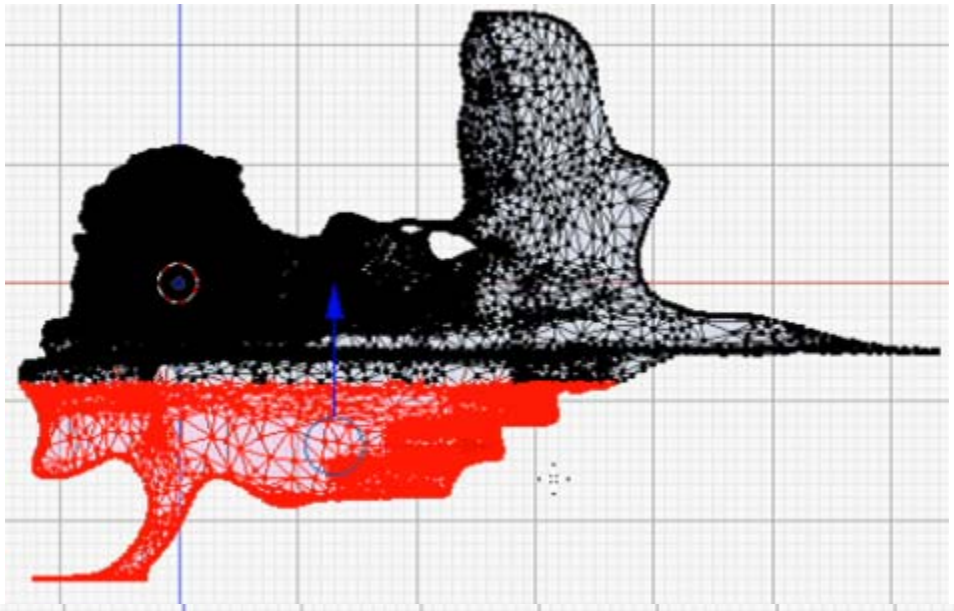


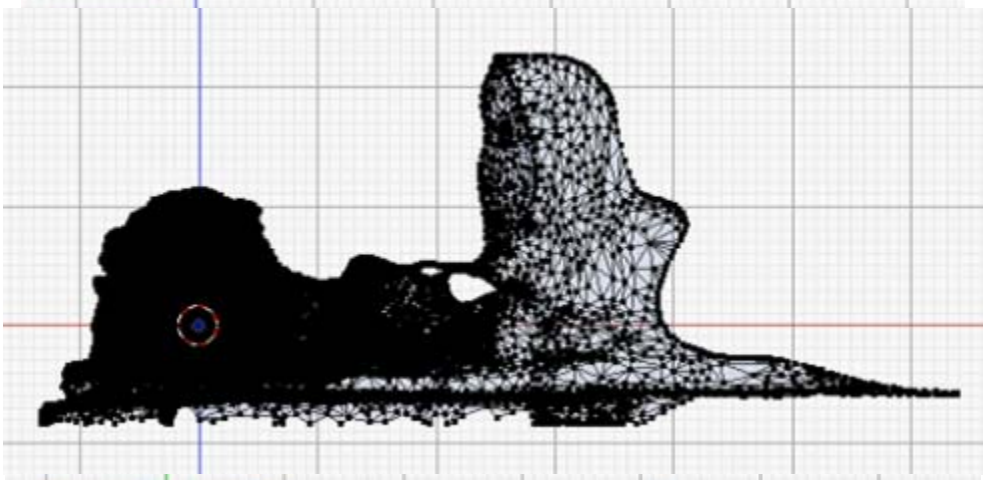


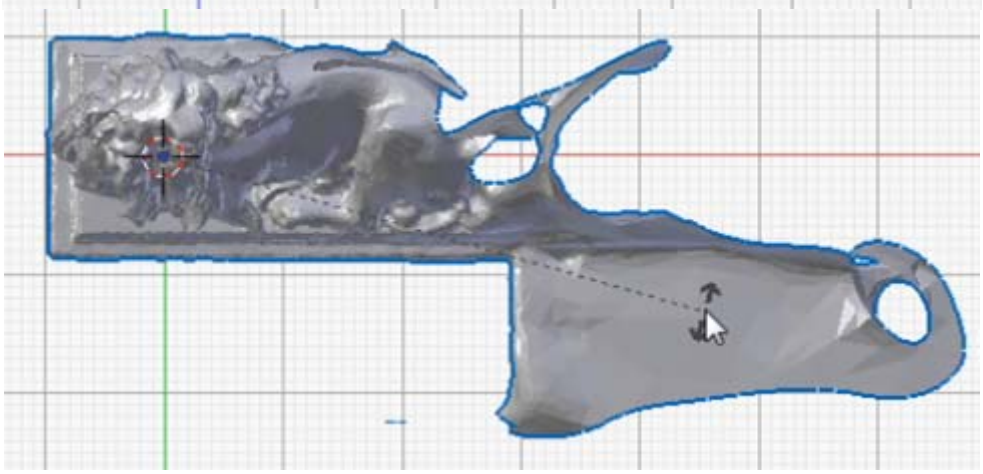

Separate
Selection
By Material
By loose parts

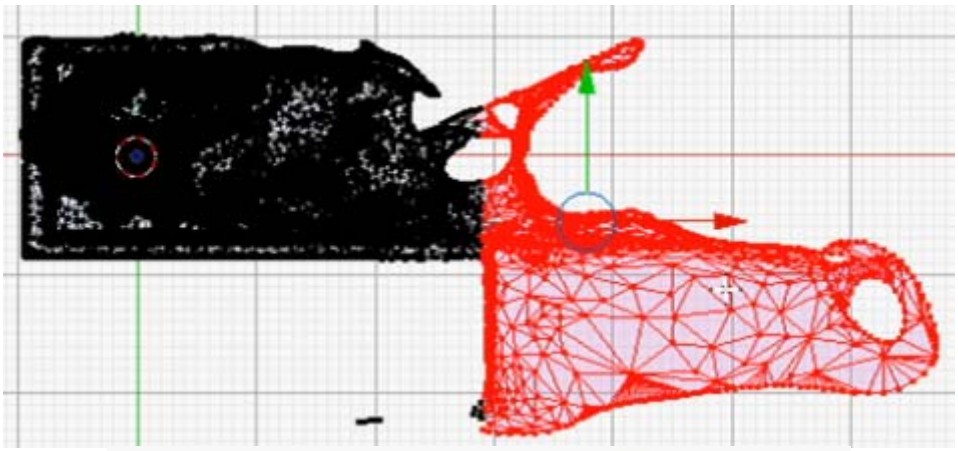


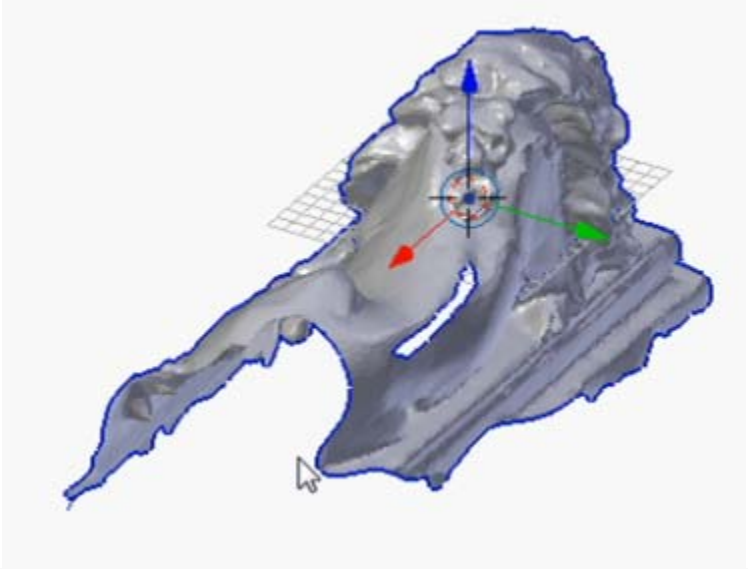


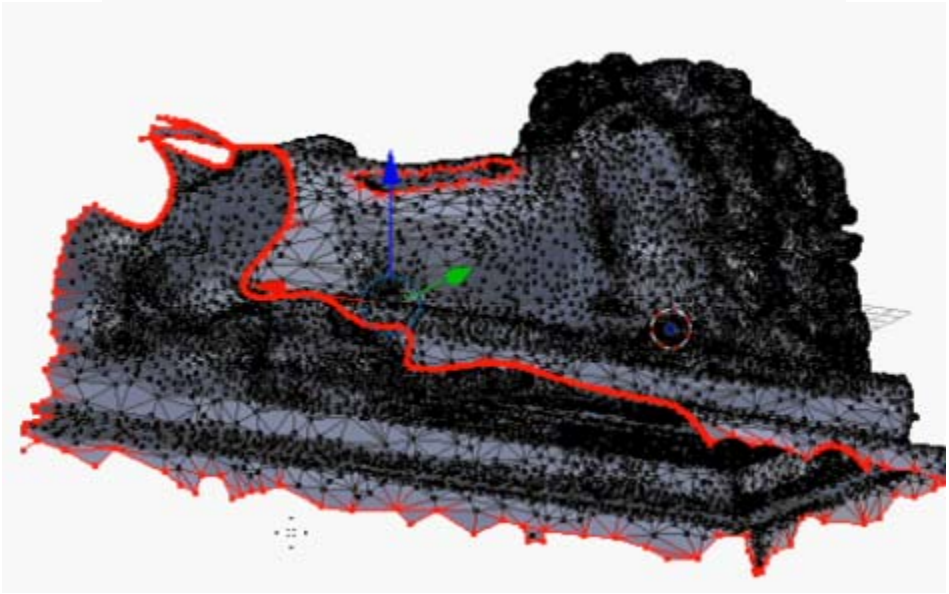


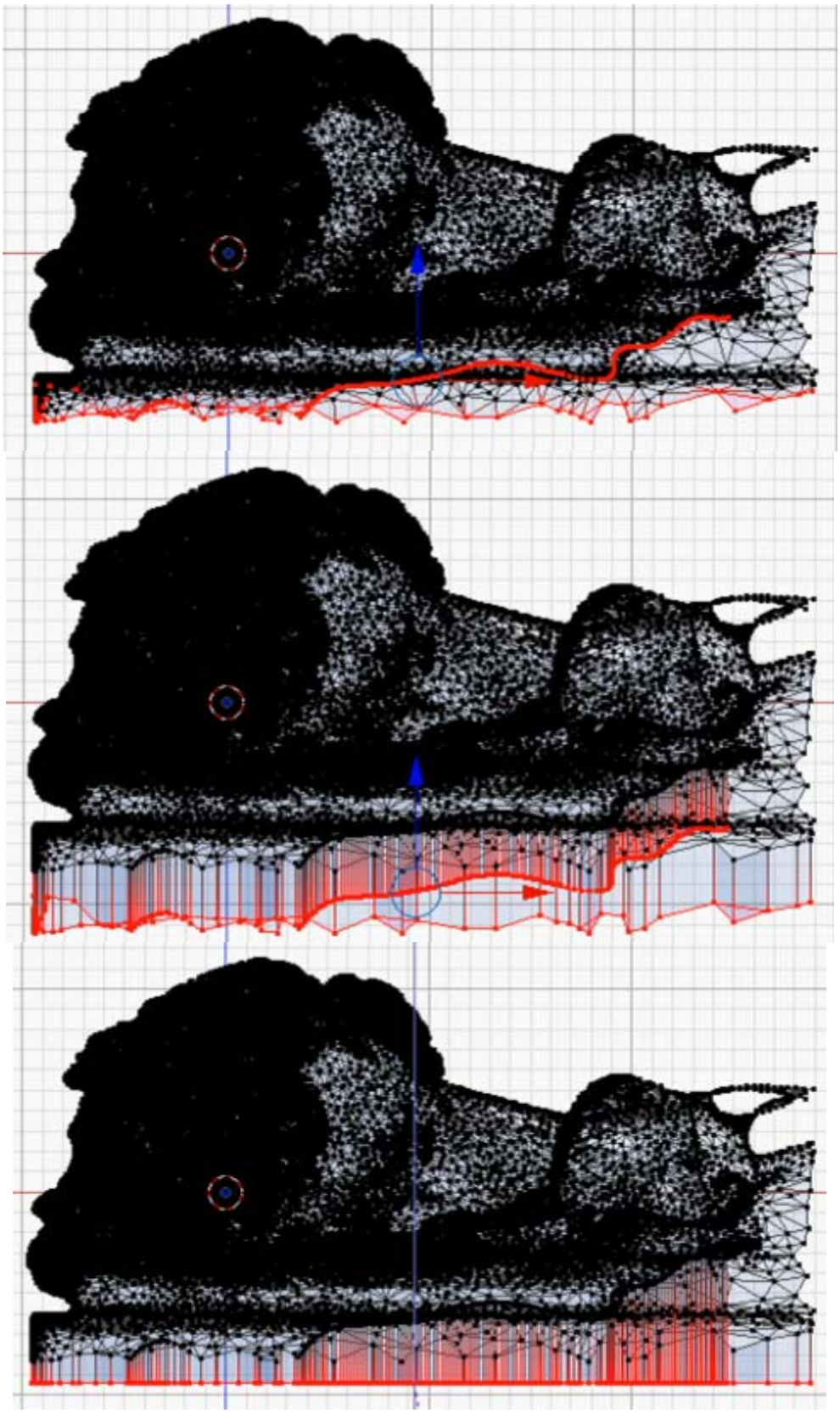


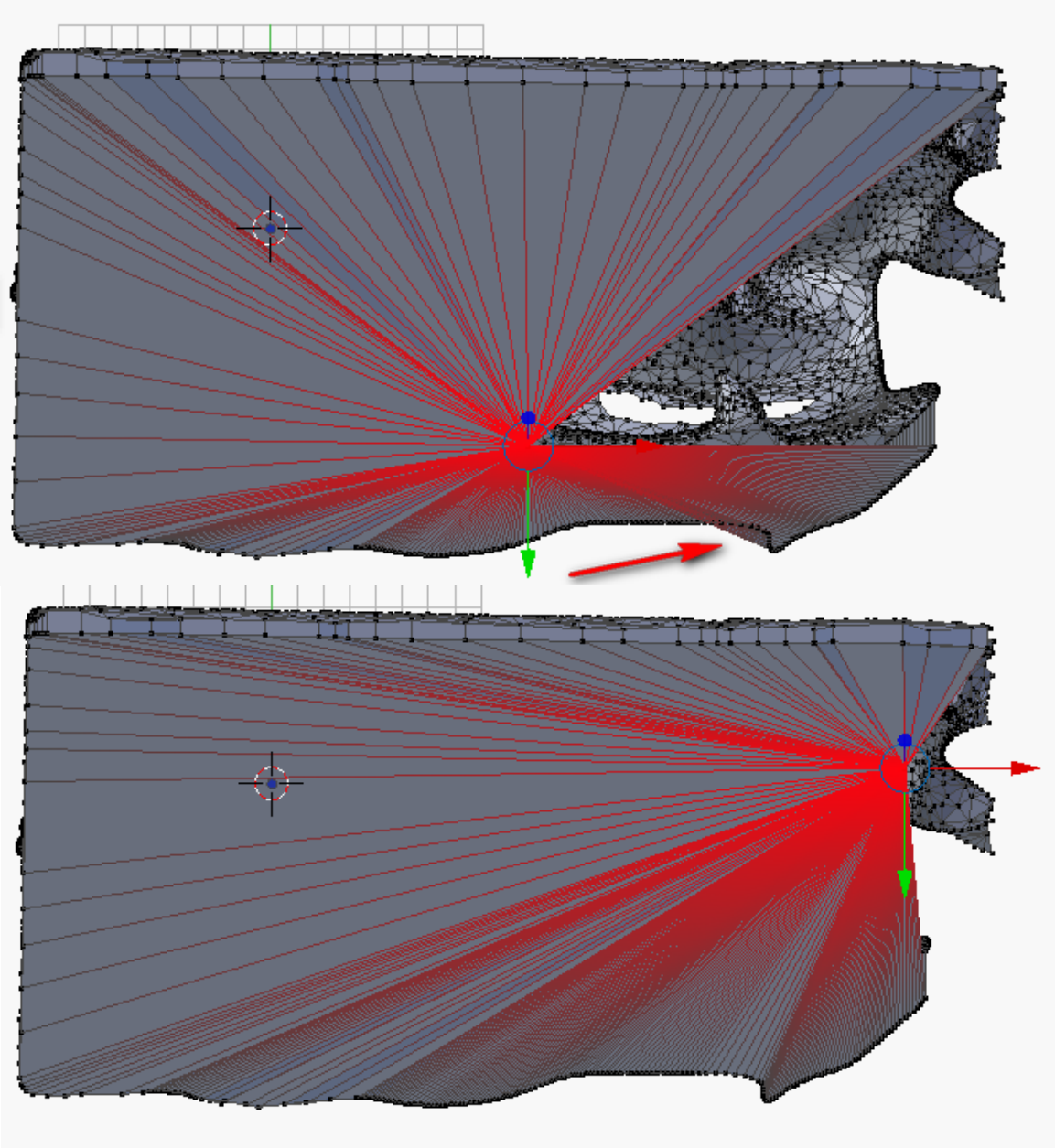


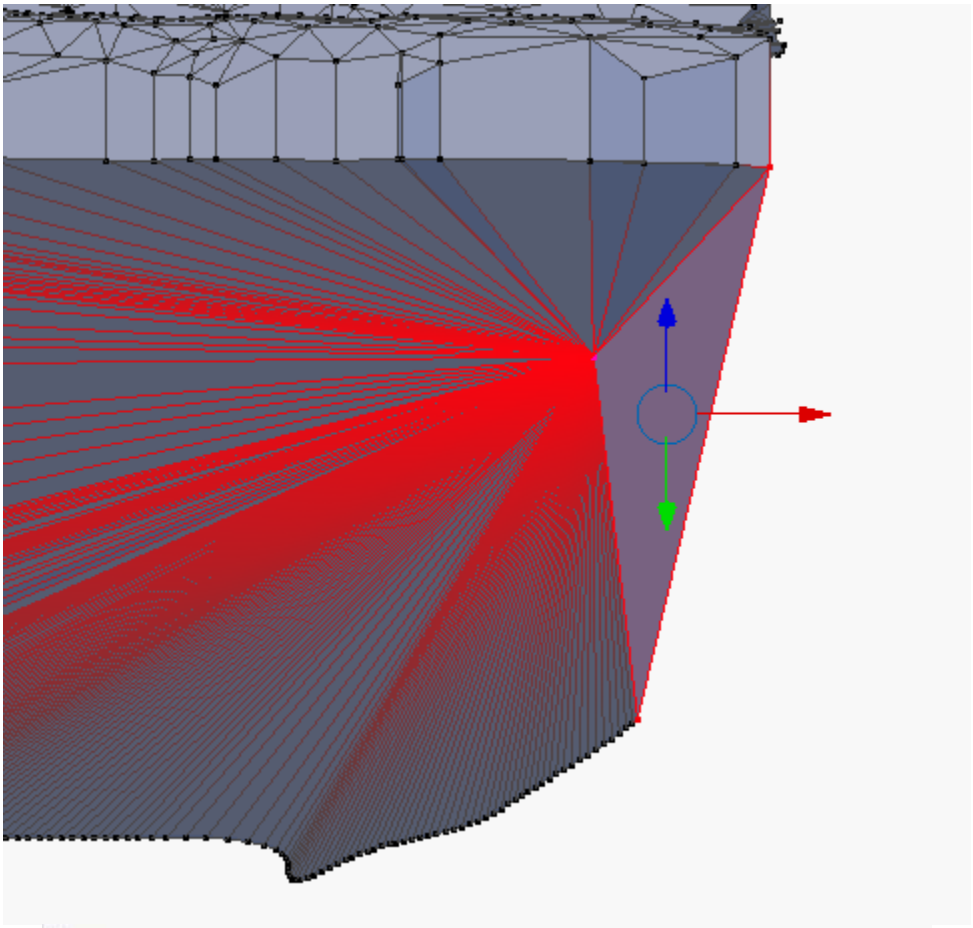


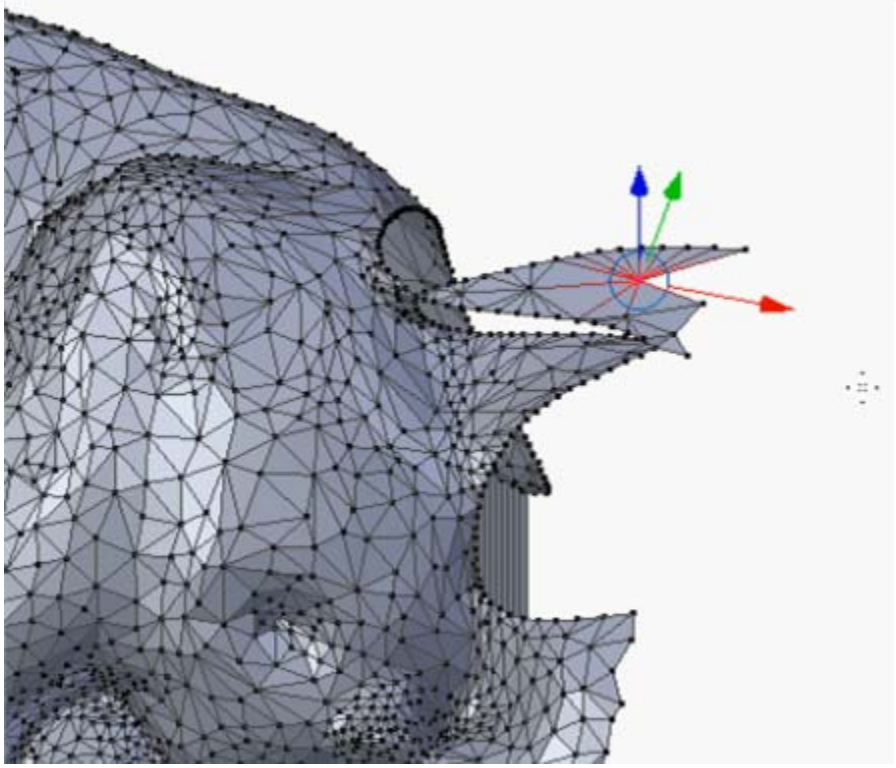


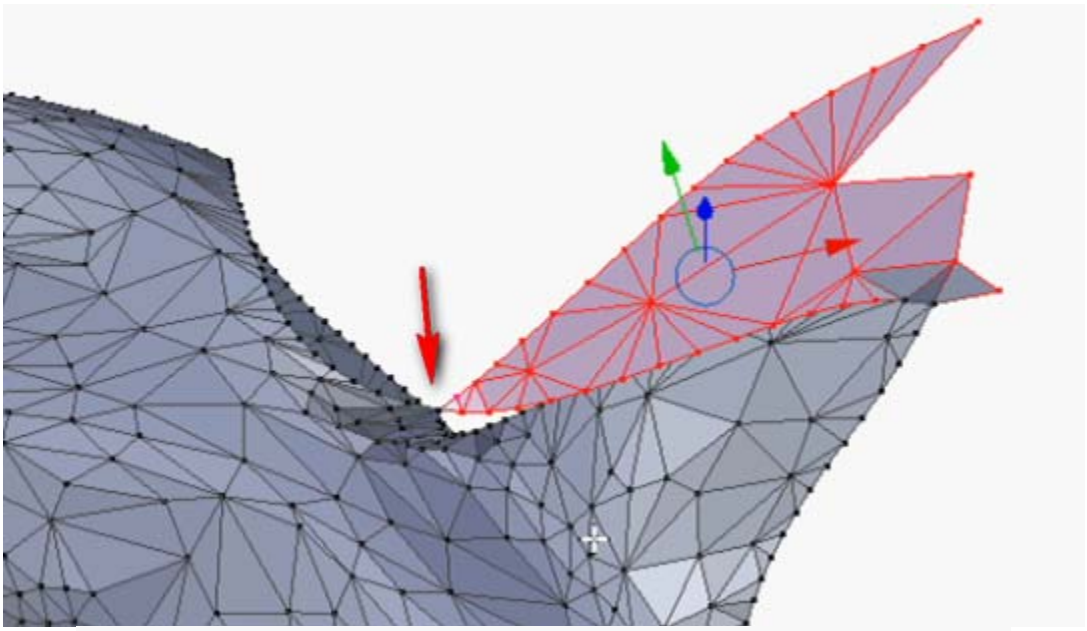


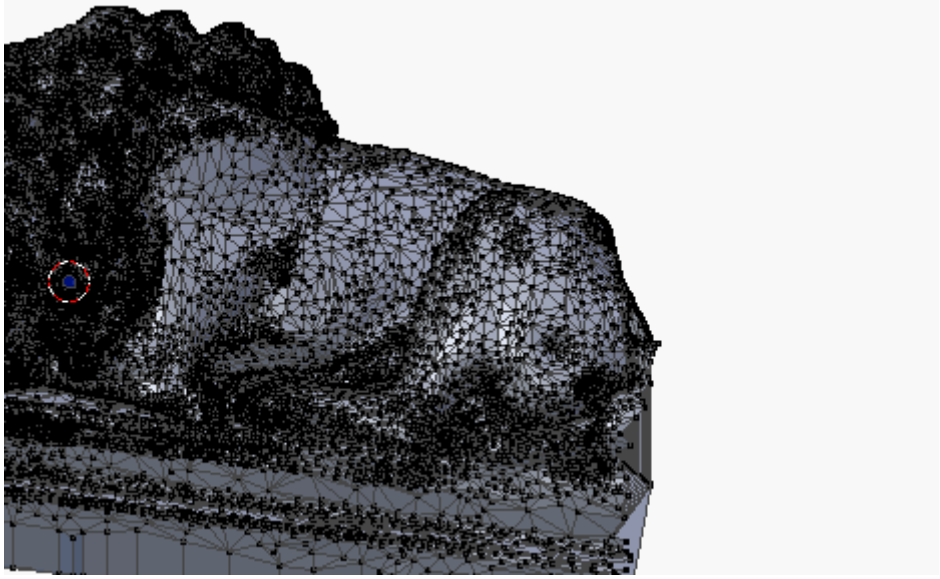


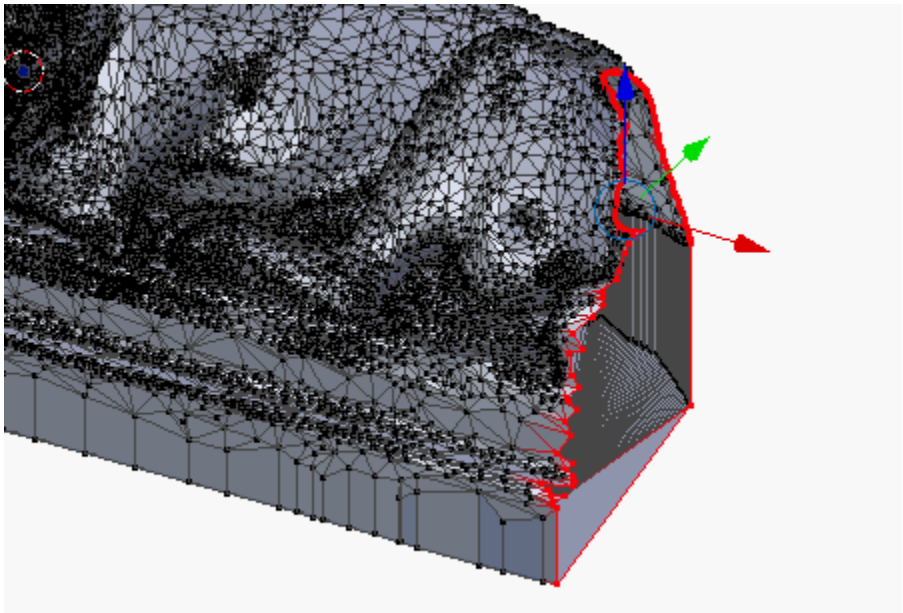


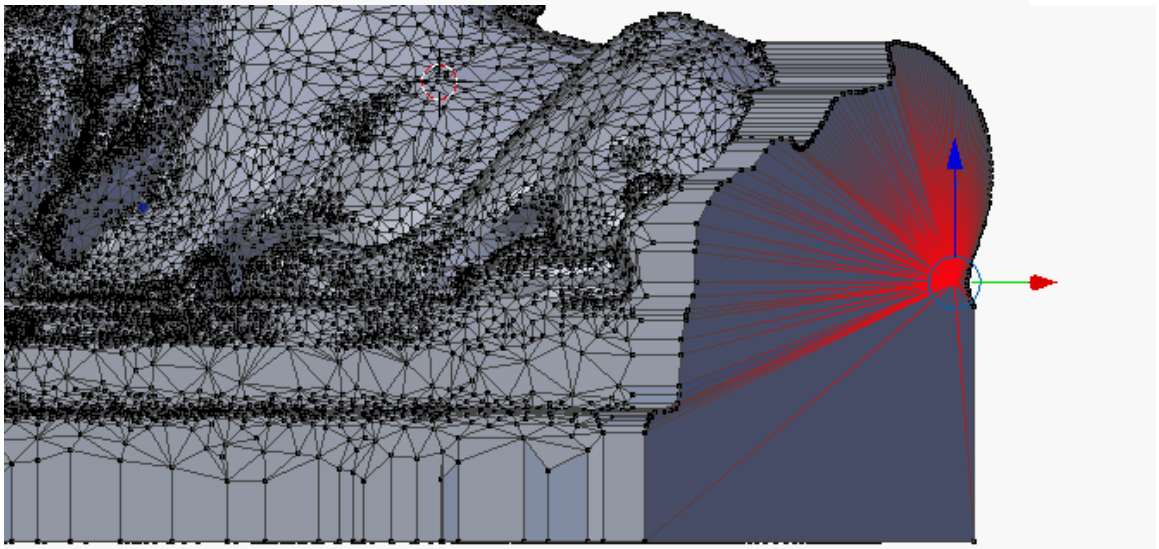


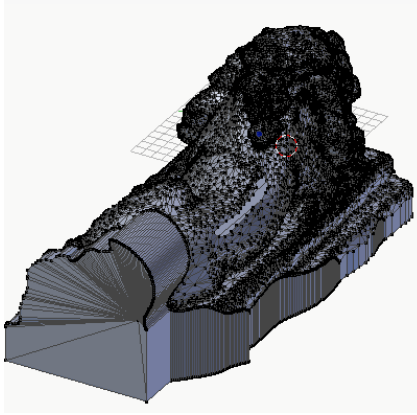


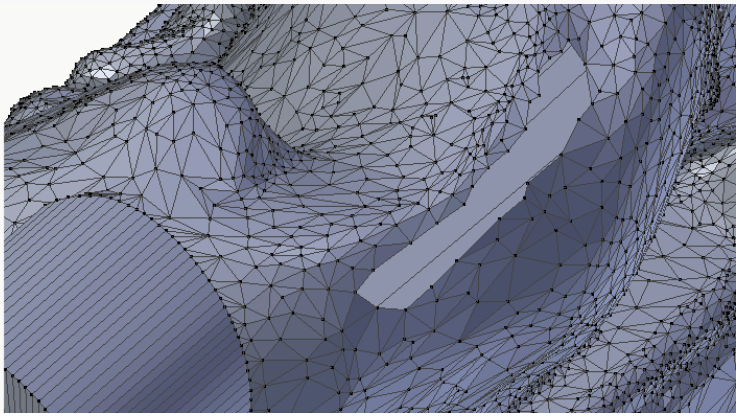


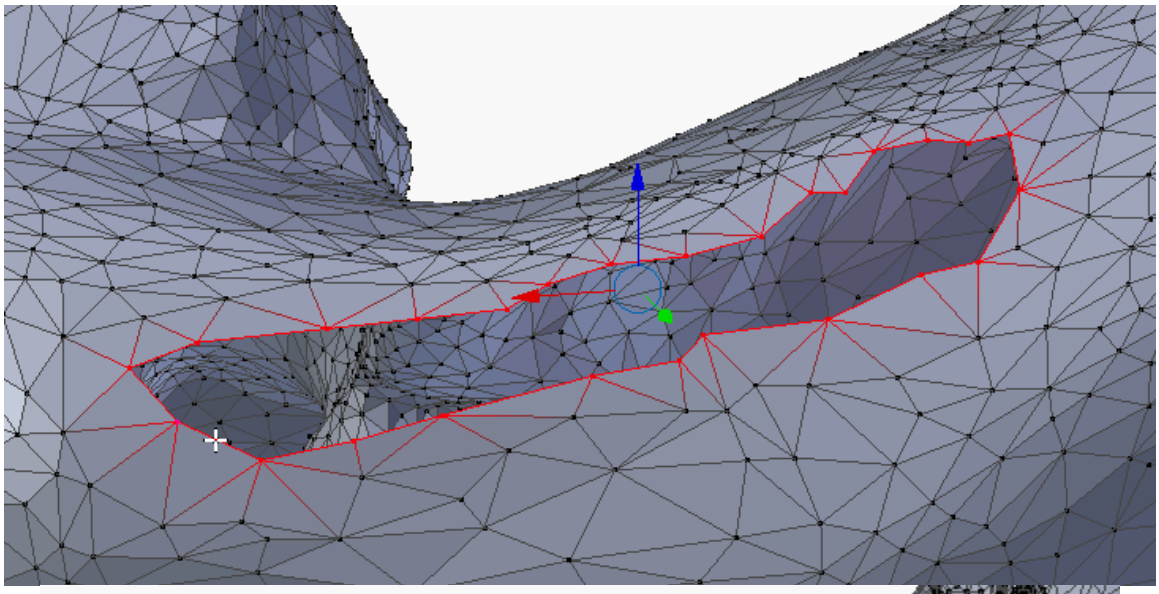


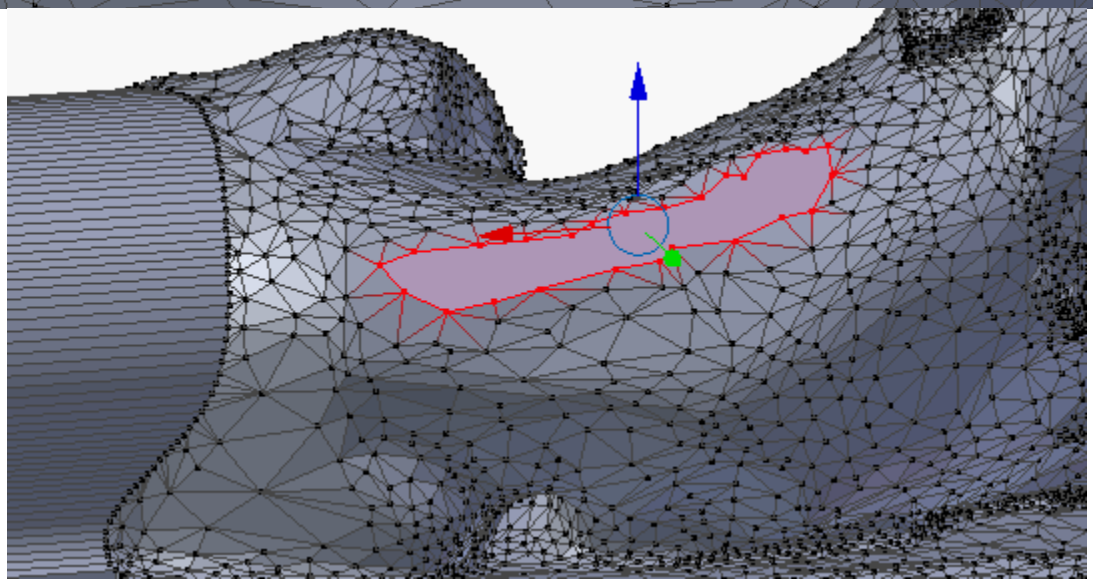


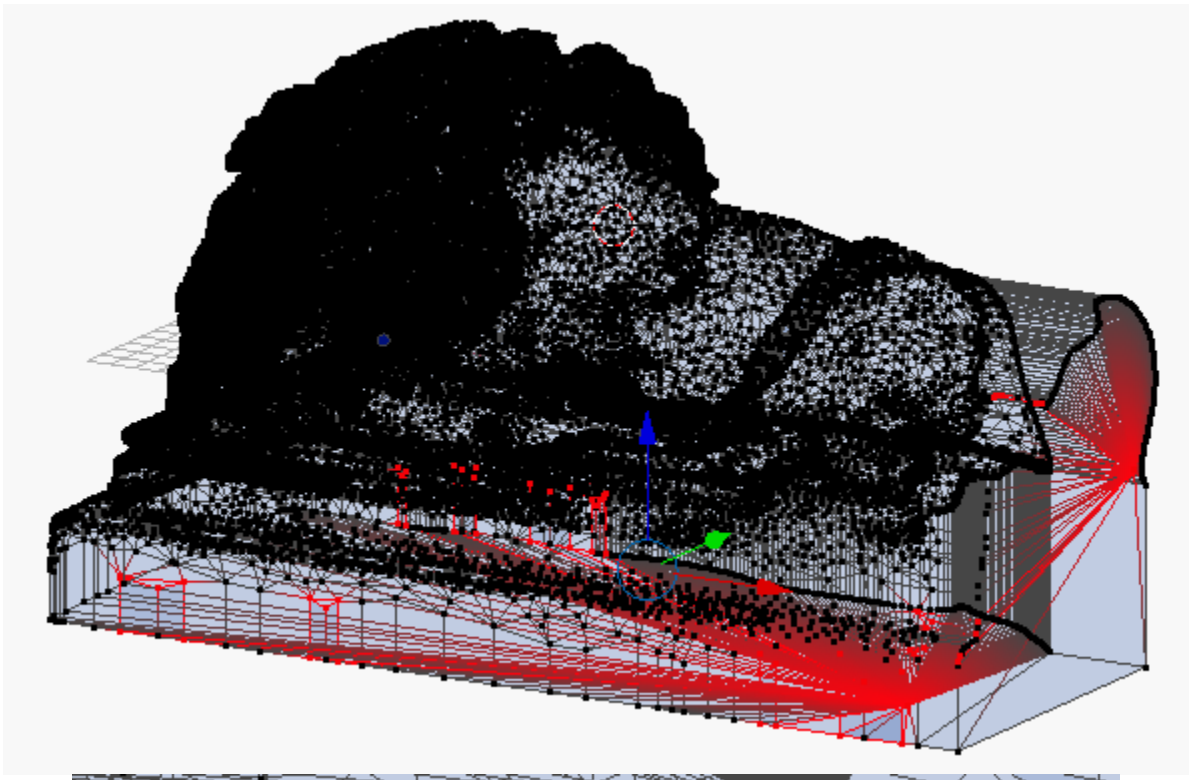


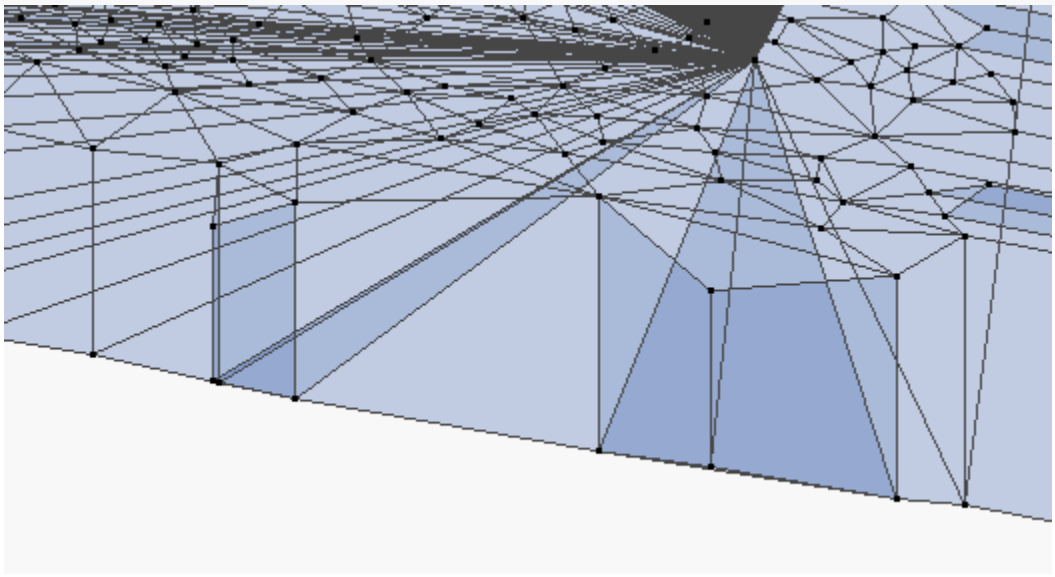


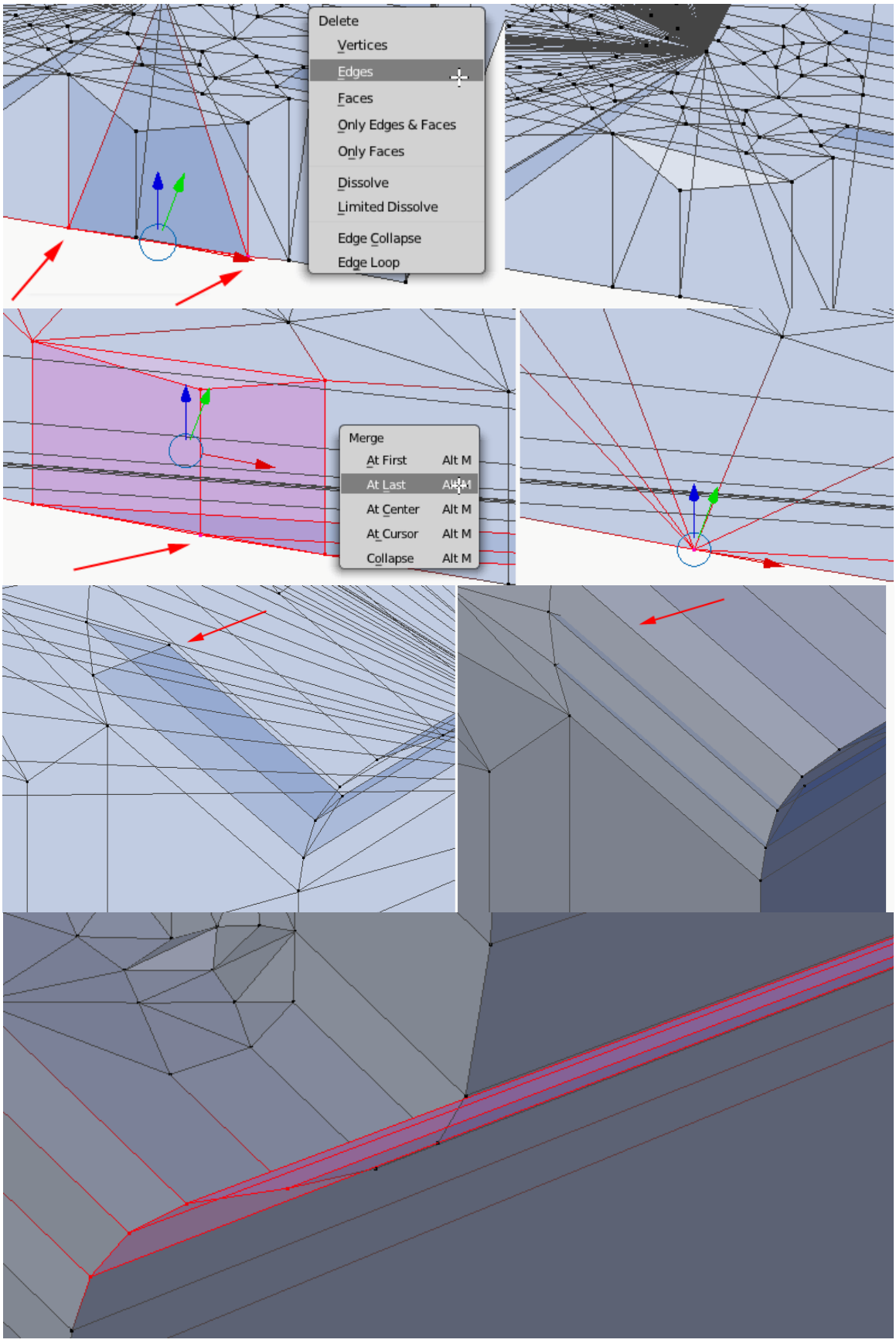


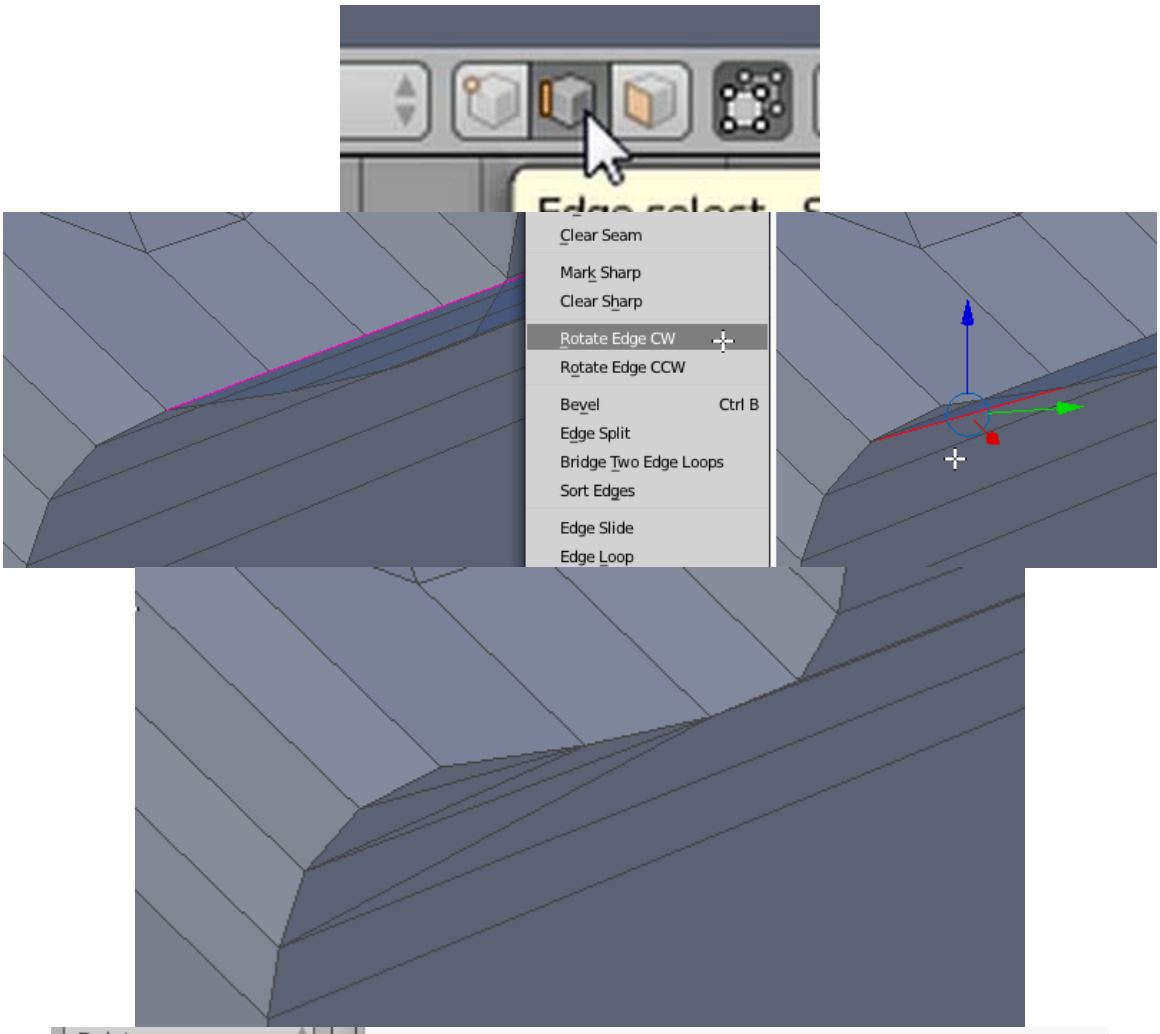


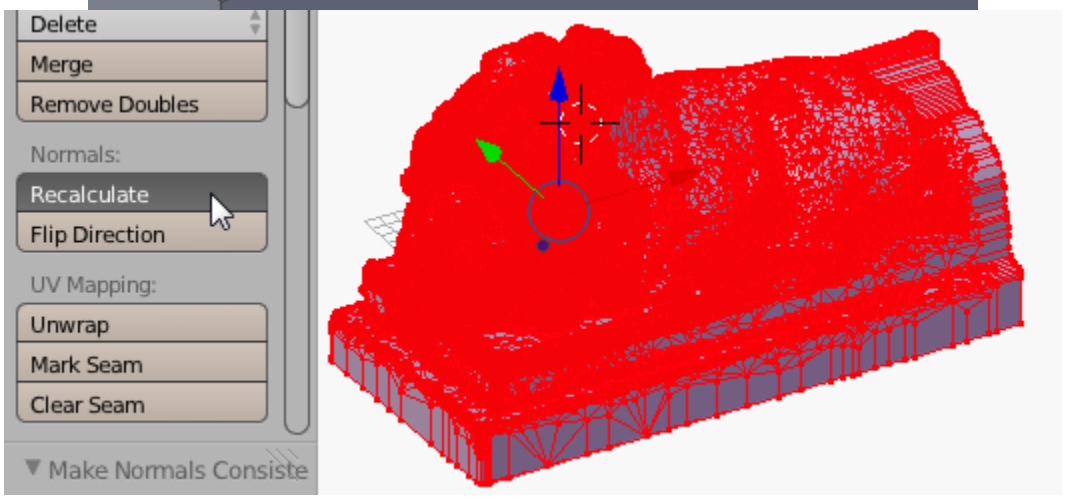


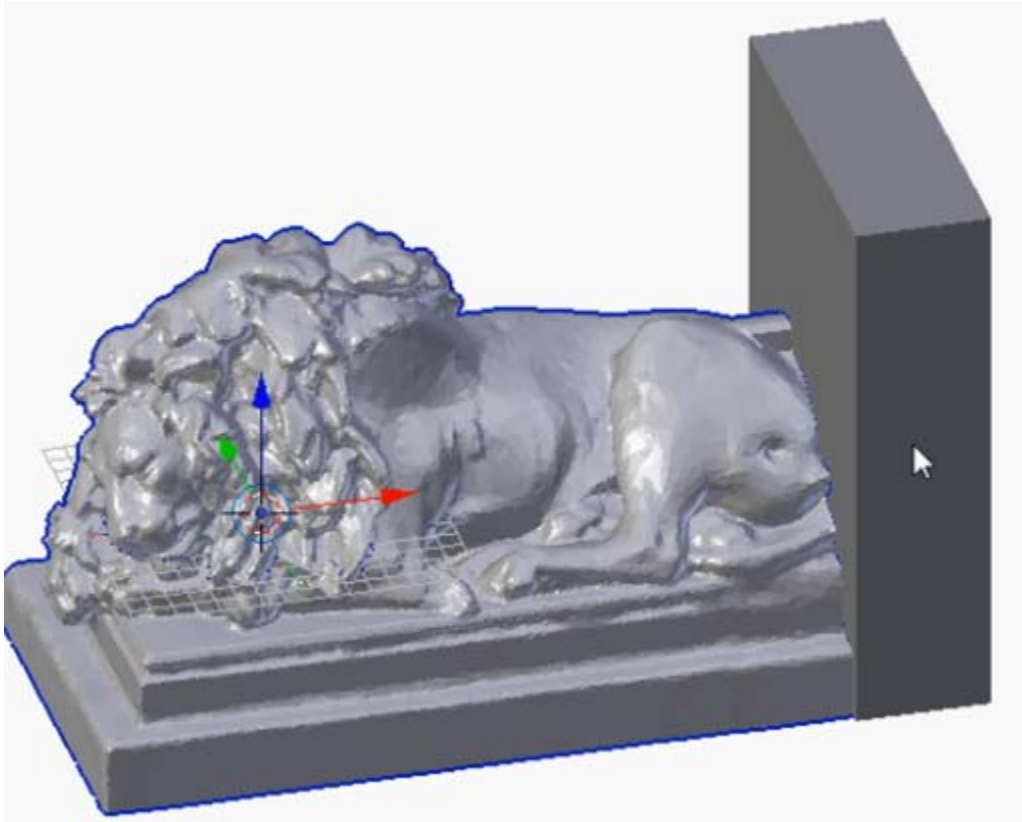


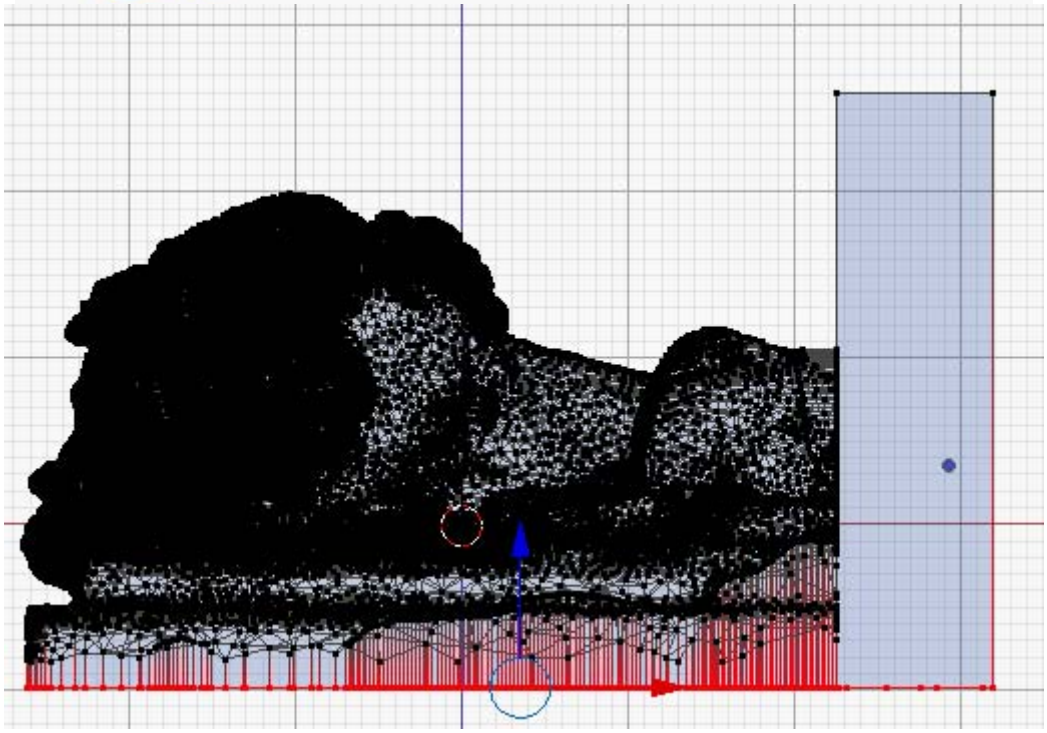


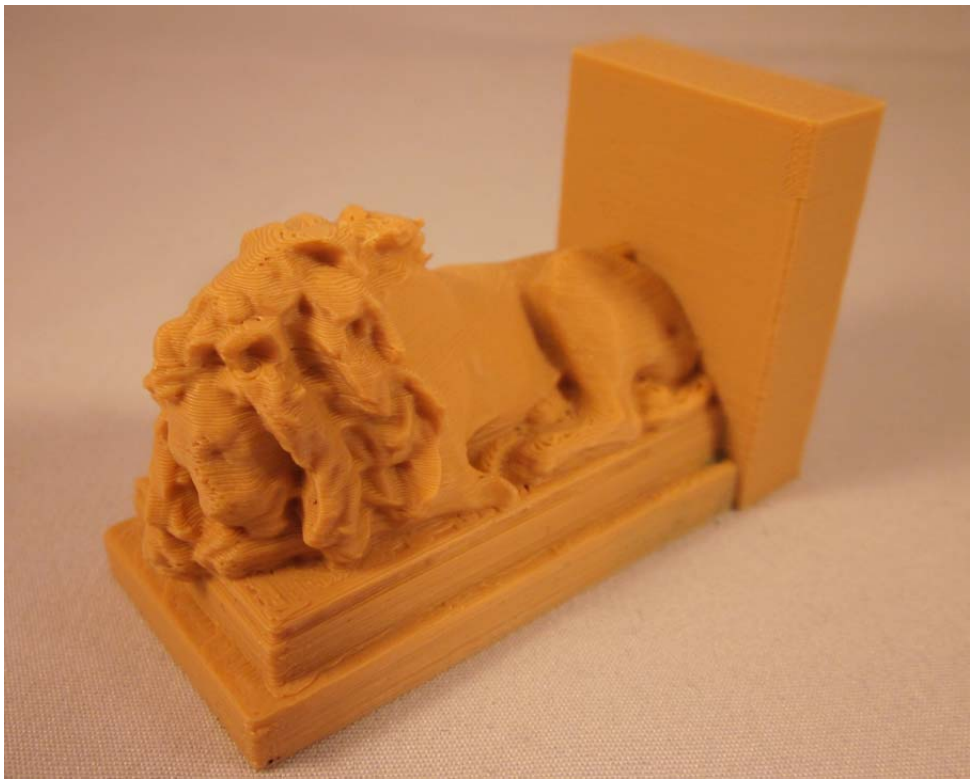

Delete
Vertices
Edges
Faces
Only Edges & Faces
Only Faces
Dissolve
Limited Dissolve
Edge Collapse
Edge Loop
Merge
At First Alt M
At Last Alt M
At Center Alt M
At Cursor Alt M
Collapse Alt M


Clear Seam
Mark Sharp
Clear Sharp
Rotate Edge CW
Rotate Edge CCW
Bevel
Ctrl B
Edge Split
Bridge Two Edge Loops
Sort Edges
Edge Slide
Edge Loop

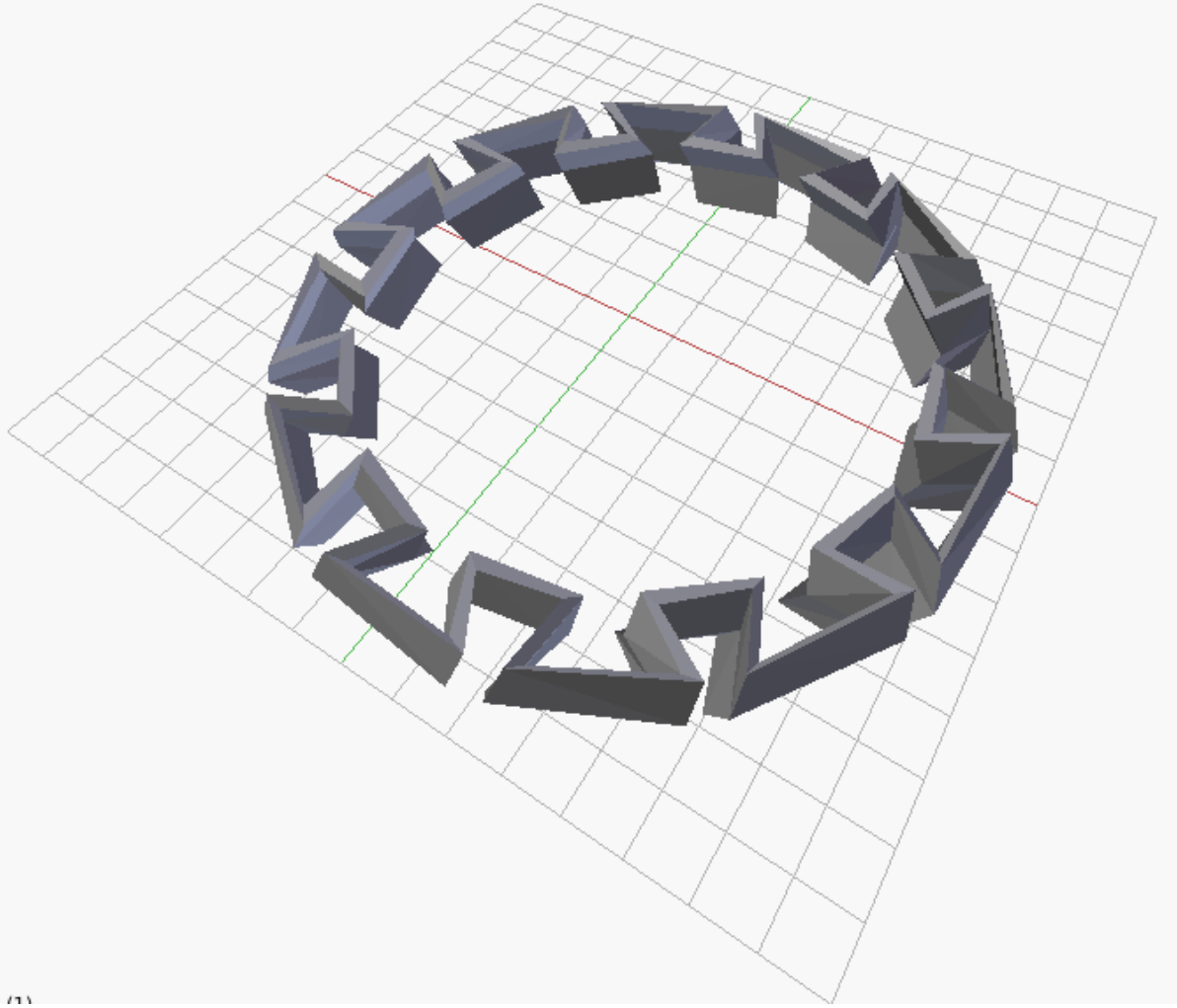

Delete
Merge
Remove Doubles
Normals:
Recalculate
Flip Direction
UV Mapping:
Unwrap
Mark Seam
Clear Seam
Make Normals Consiste







Chapter 9: Stretchy Bracelet



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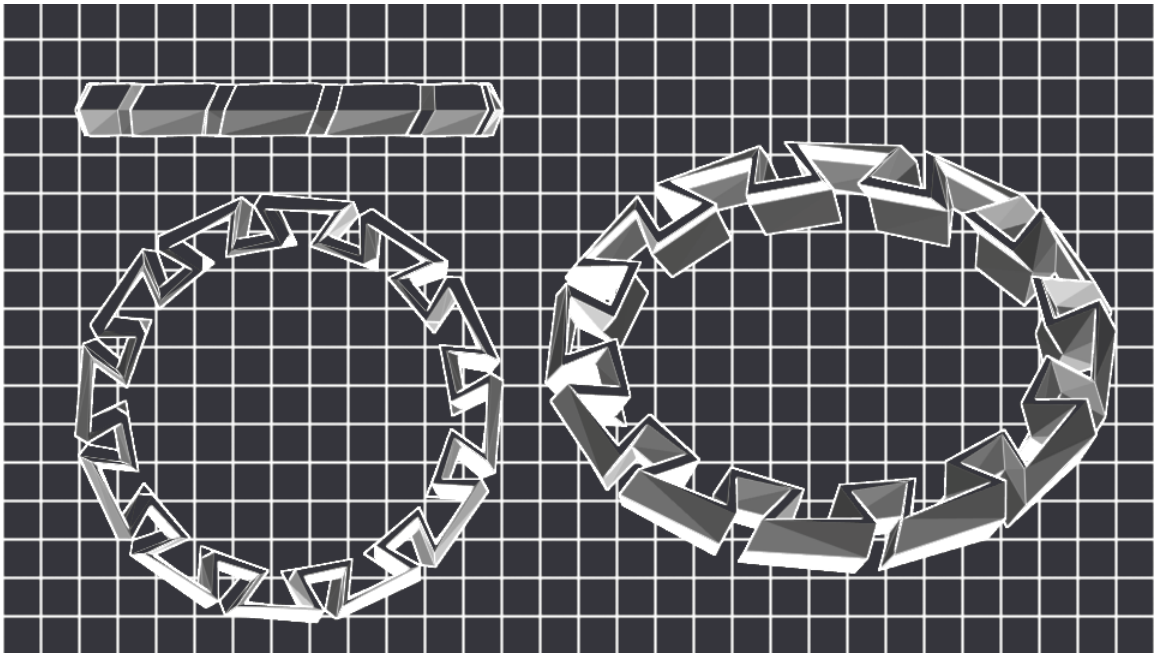
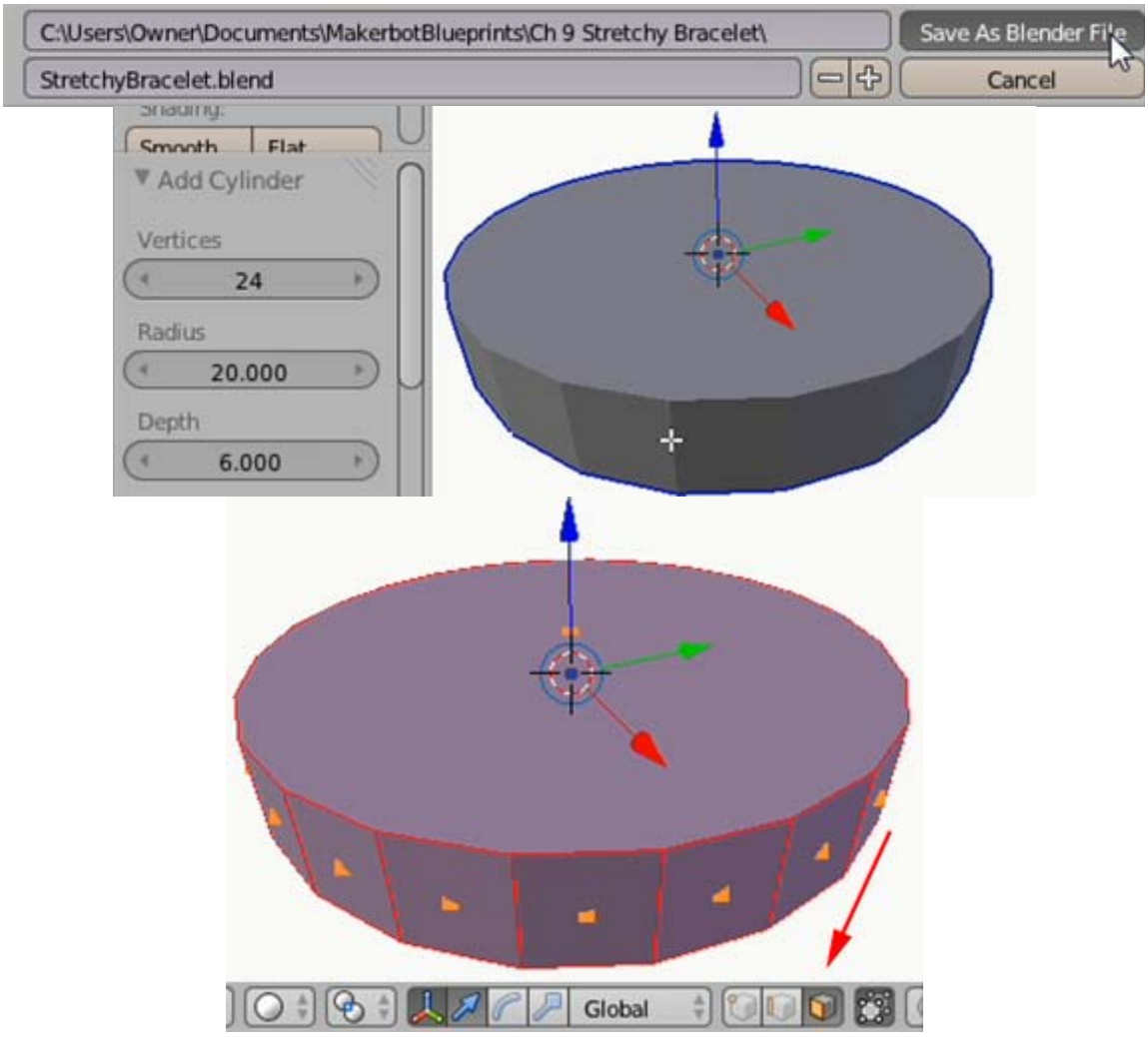
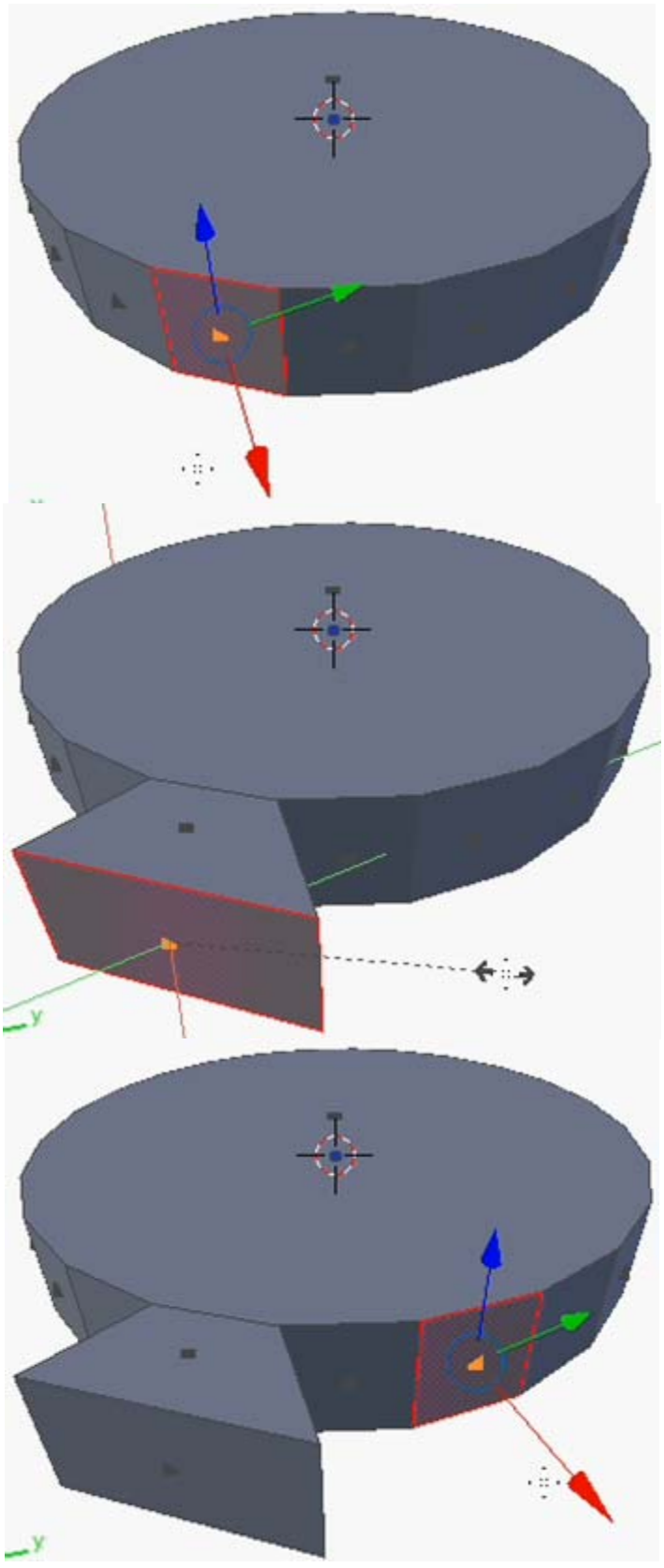
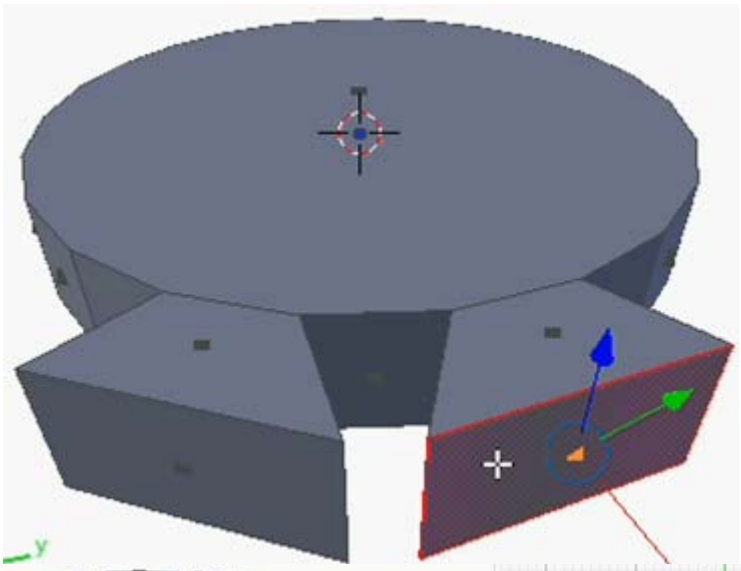
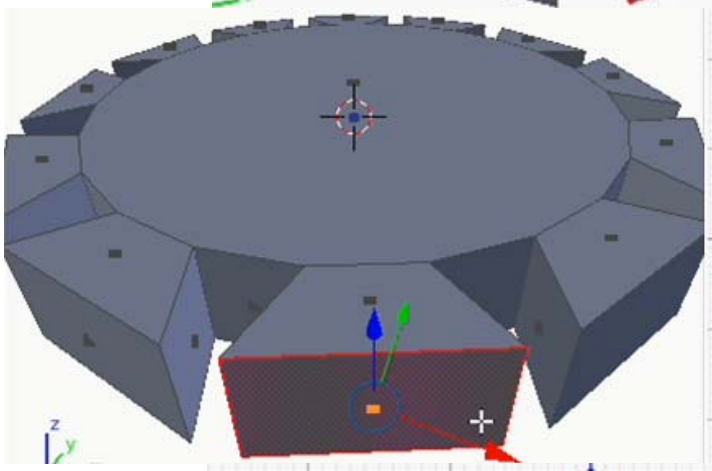
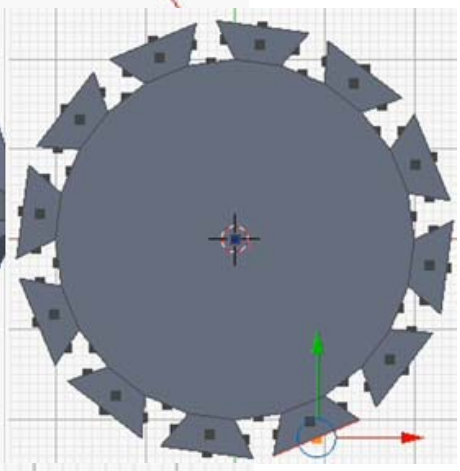


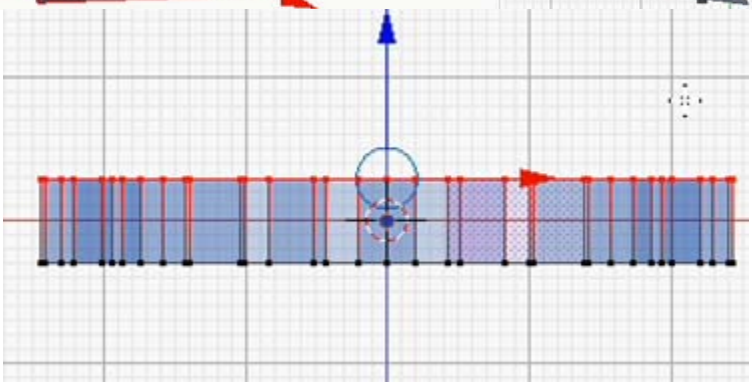

C:\Users\Owner\Documents\MakerbotBlueprints\Ch 9 Stretchy Bracelet\
Save As Blender File
StretchyBracelet.blend
Cancel
Smooth
Flat
Add Cylinder
Vertices
24
Radius
20.000
Depth
6.000
Global

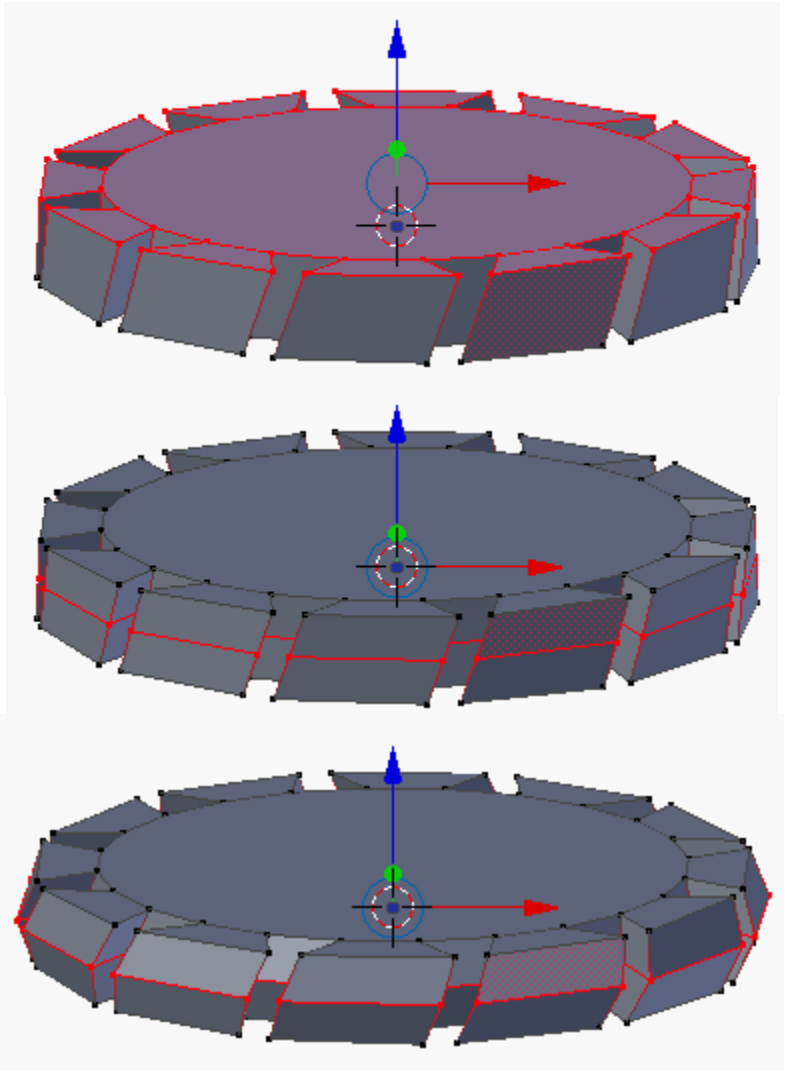


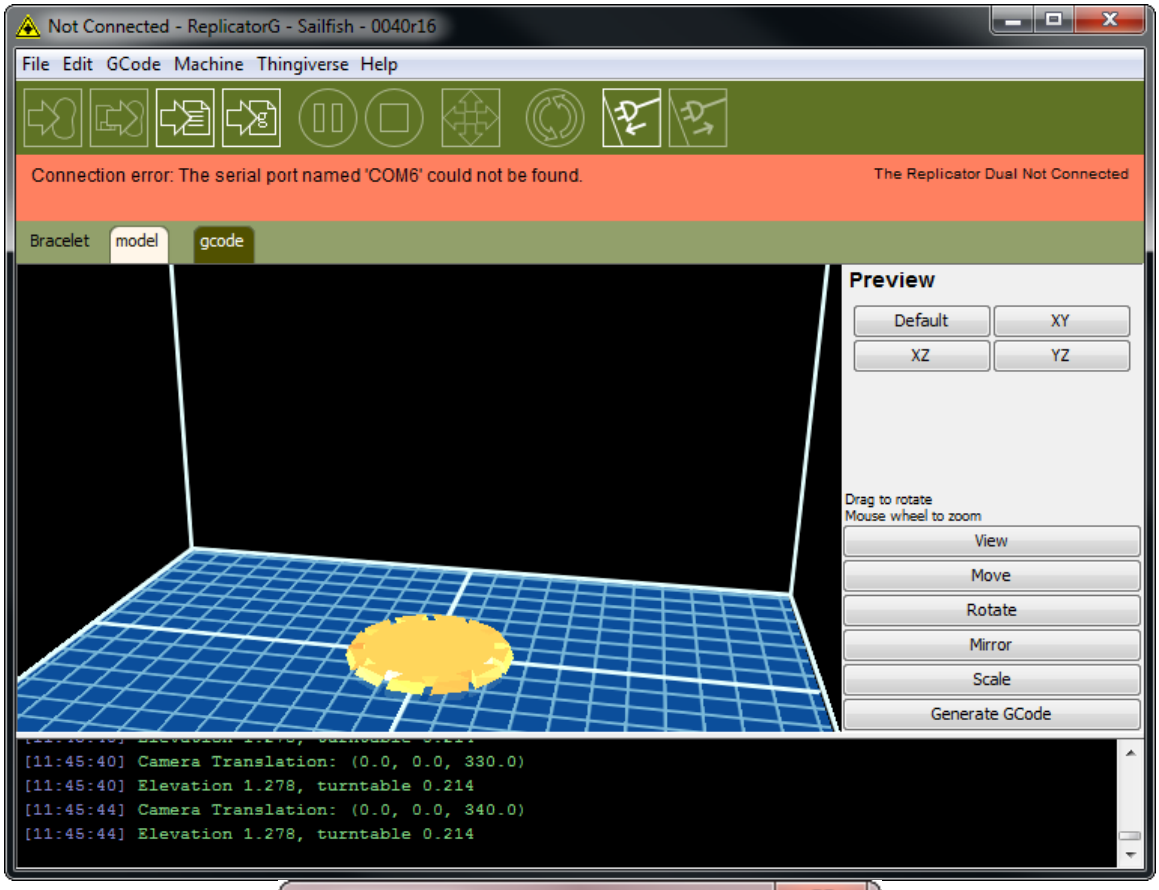


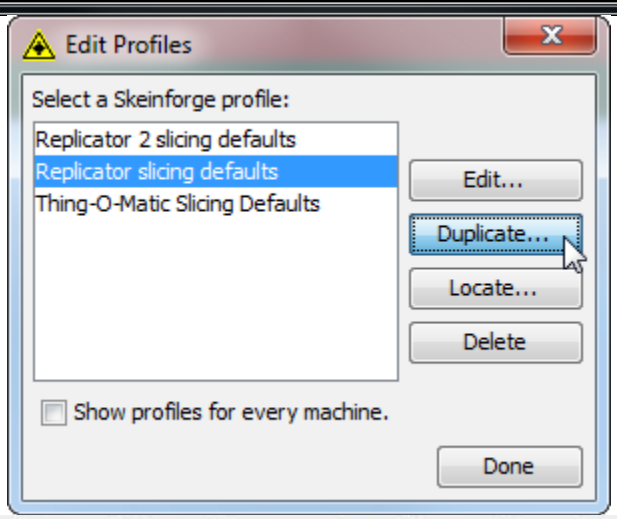


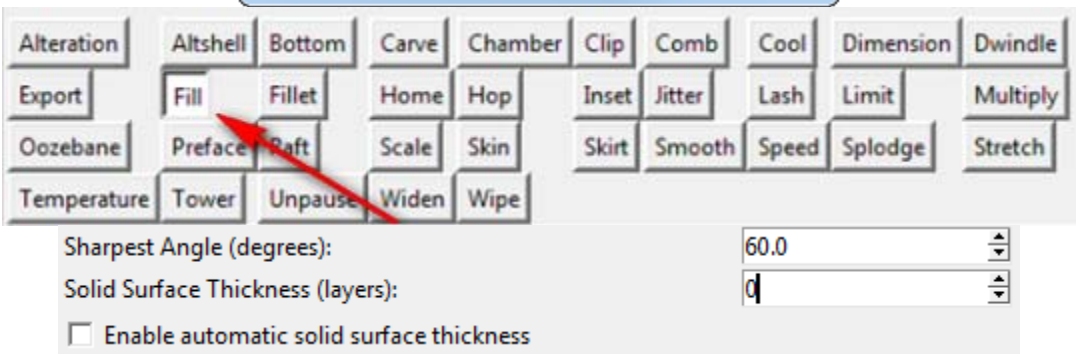


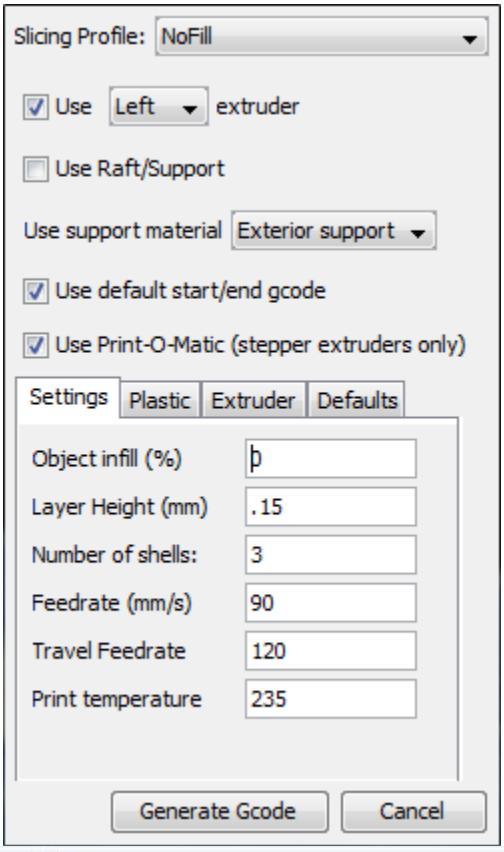


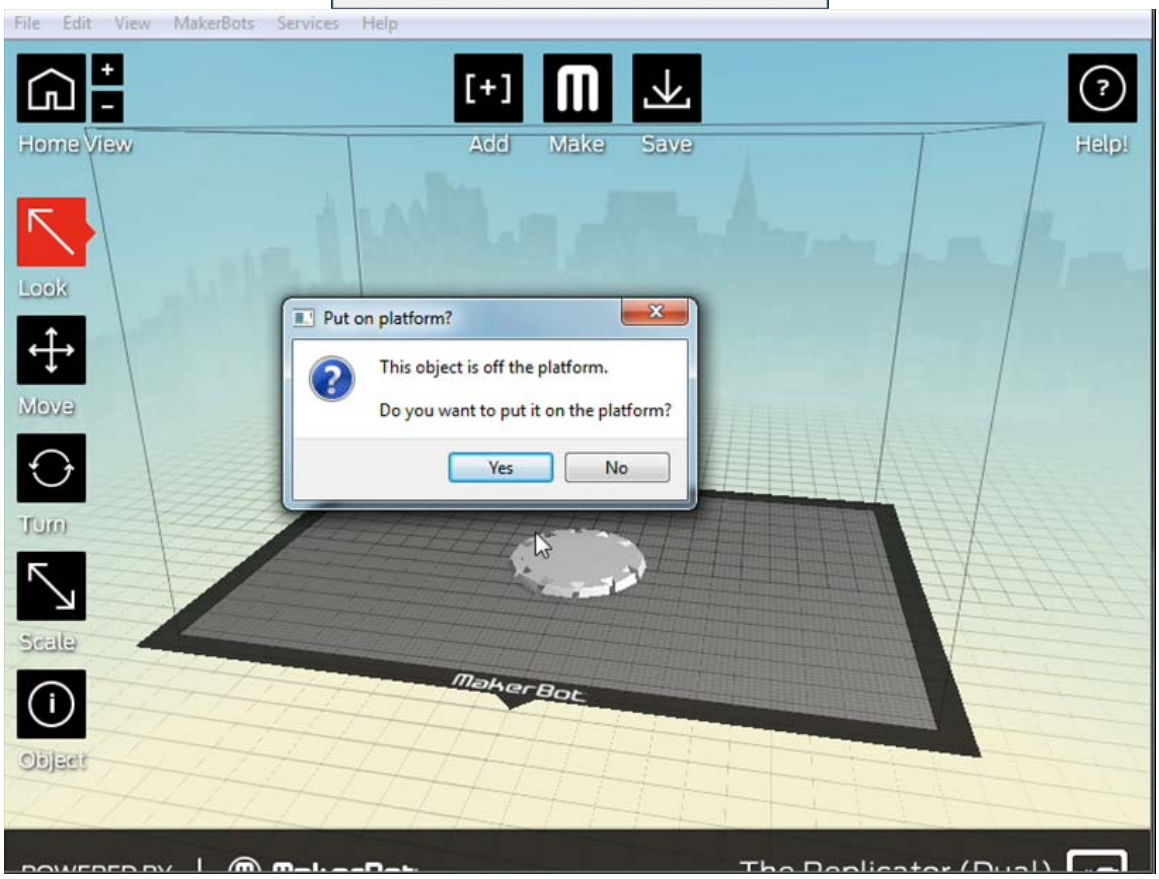


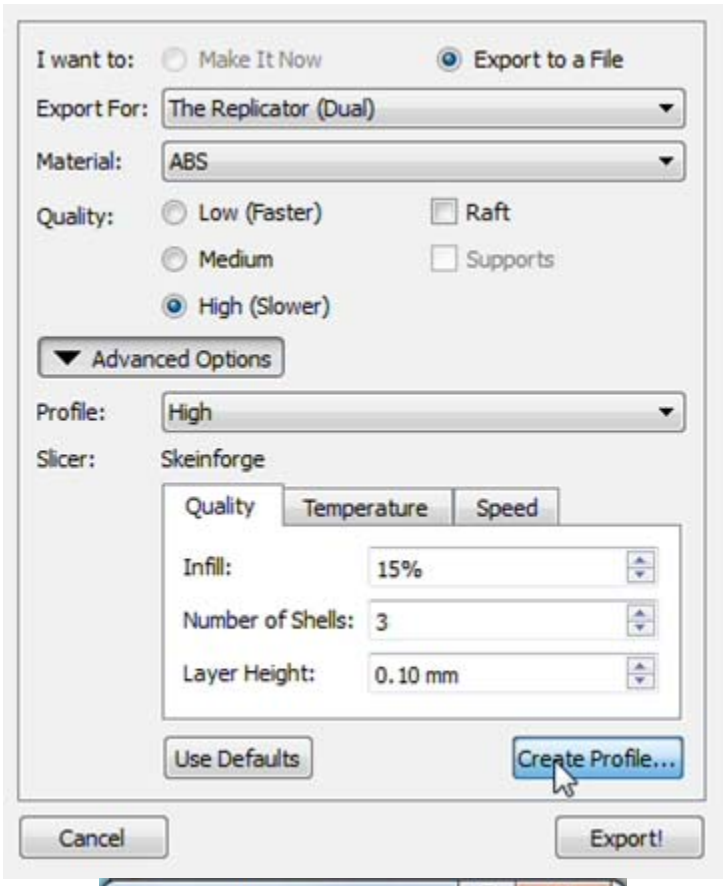

Not Connected - ReplicatorG - Sailfish - 0040r16
File Edit GCode Machine Thingiverse Help
Connection error: The serial port named 'COM6' could not be found.
The Replicator Dual Not Connected
Bracelet
model
gcode
Preview
Default
XY
XZ
YZ
Drag to rotate
Mouse wheel to zoom
View
Move
Rotate
Mirror
Scale
Generate GCode
[11:45:40] Camera Translation: (0.0, 0.0, 330.0)
[11:45:40] Elevation 1.278, turntable 0.214
[11:45:44] Camera Translation: (0.0, 0.0, 340.0)
[11:45:44] Elevation 1.278, turntable 0.214

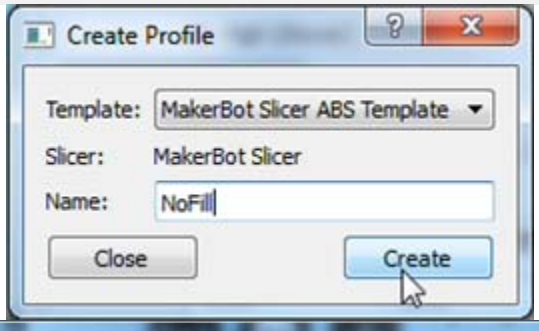

Edit Profiles
Select a Skeinforge profile:
Replicator 2 slicing defaults
Replicator slicing defaults
Thing-O-Matic Slicing Defaults
Edit...
Duplicate...
Locate...
Delete
Show profiles for every machine.
Done

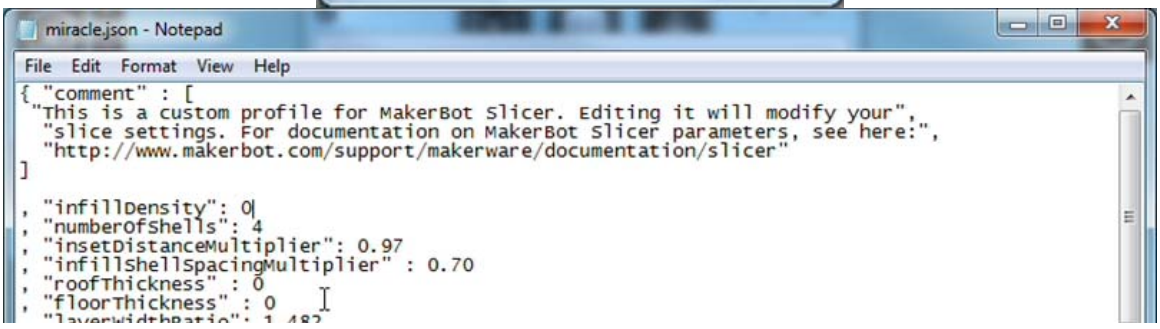

Alteration
Altshell
Bottom
Carve
Chamber
Clip
Comb
Cool
Dimension
Dwindle
Export
Fill
Fillet
Home
Hop
Inset
Jitter
Lash
Limit
Multiply
Oozebane
Preface
Raft
Scale
Skin
Skirt
Smooth
Speed
Splodge
Stretch
Temperature
Tower
Unpause
Widen
Wipe
Sharpest Angle (degrees):
60.0
Solid Surface Thickness (layers):
0
Enable automatic solid surface thickness

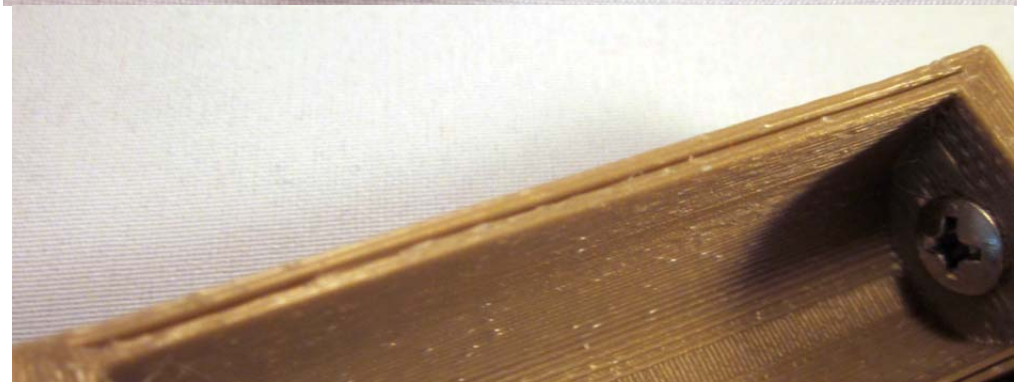

Slicing Profile: NoFill
Use Left extruder
Use Raft/Support
Use support material Exterior support
Use default start/end gcode
Use Print-O-Matic (stepper extruders only)
Settings
Plastic
Extruder
Defaults
Object infill (%) 0
Layer Height (mm) .15
Number of shells: 3
Feedrate (mm/s) 90
Travel Feedrate 120
Print temperature 235
Generate Gcode
Cancel


File Edit View MakerBots Services Help
Home View
Add
Make
Save
Help!
Look
Move
Turn
Scale
Object
Put on platform?
This object is off the platform.
Do you want to put it on the platform?
Yes
No
MakerBot
The Replicator (Dual)

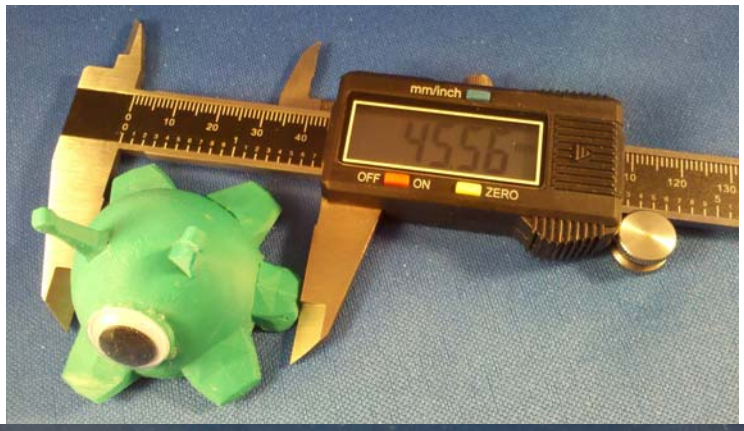

I want to:
Make It Now
Export to a File
Export For:
The Replicator (Dual)
Material:
ABS
Quality:
Low (Faster)
Medium
High (Slower)
Raft
Supports
Advanced Options
Profile:
High
Slicer:
Skeinforge
Quality
Temperature
Speed
Infill:
15%
Number of Shells:
3
Layer Height:
0.10 mm
Use Defaults
Create Profile...
Cancel
Export!

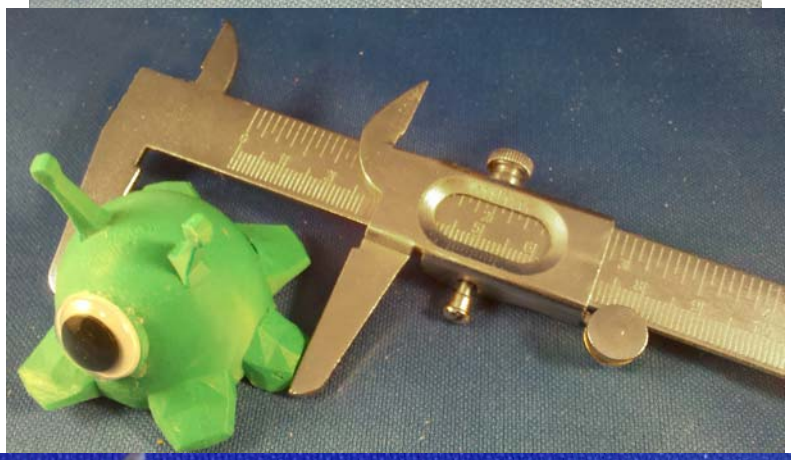

Create Profile
Template:
MakerBot Slicer ABS Template
Slicer:
MakerBot Slicer
Name:
NoFill
Close
Create

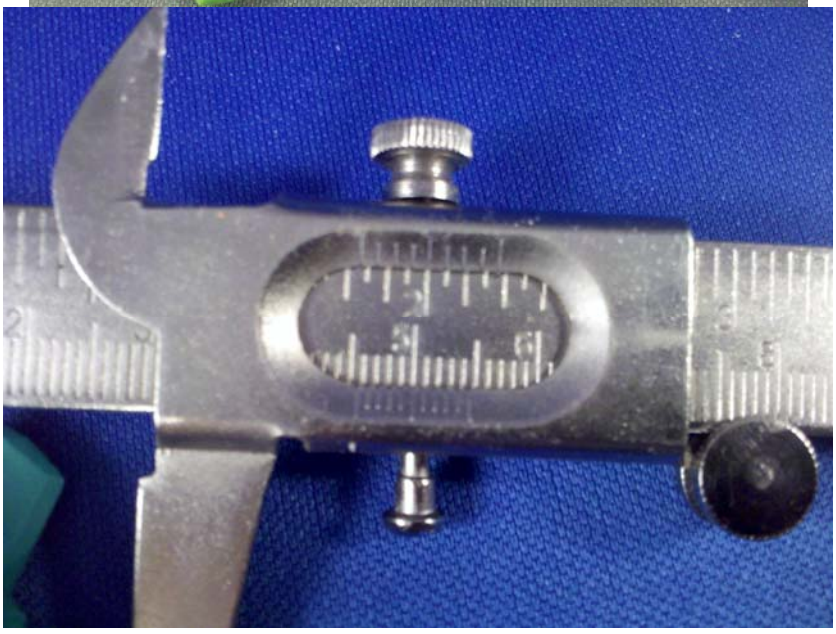

miracle.json - Notepad
File Edit Format View Help
{ "comment" : [
"This is a custom profile for MakerBot Slicer. Editing it will modify your",
"slice settings. For documentation on MakerBot Slicer parameters, see here:",
"http://www.makerbot.com/support/makerware/documentation/slicer"
]
, "infillDensity": 0
, "numberOfShells": 4
, "insetDistanceMultiplier": 0.97
, "infillShellSpacingMultiplier" : 0.70
, "roofThickness" : 0
, "floorThickness" : 0

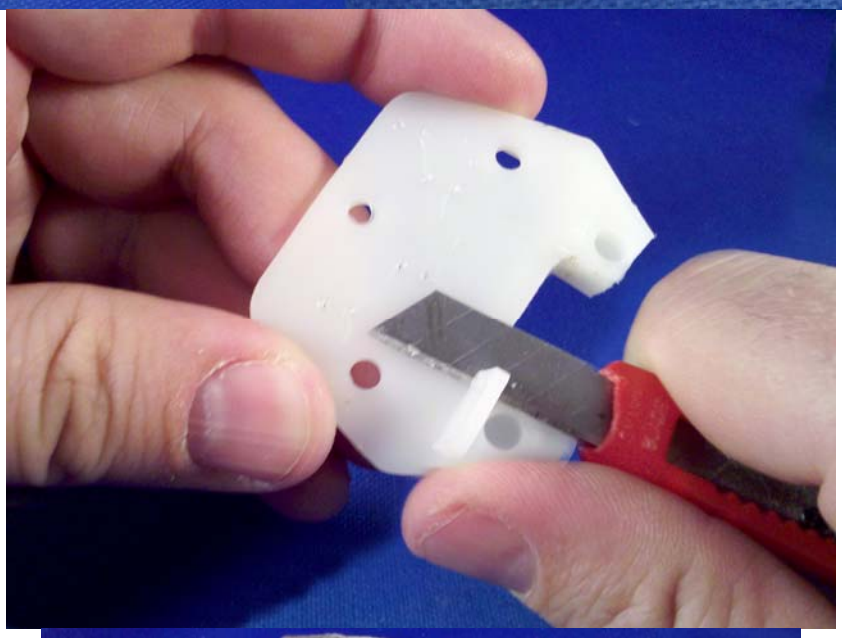


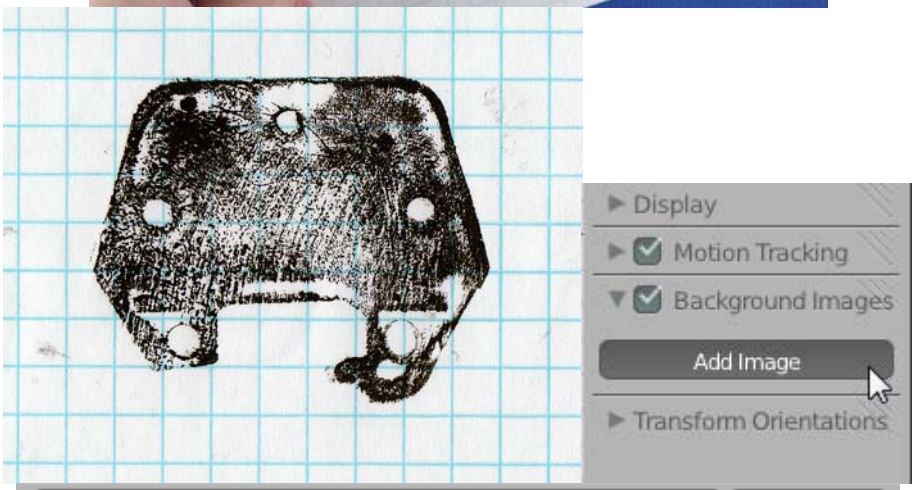
Chapter 10: Measuring – Tips and Tricks







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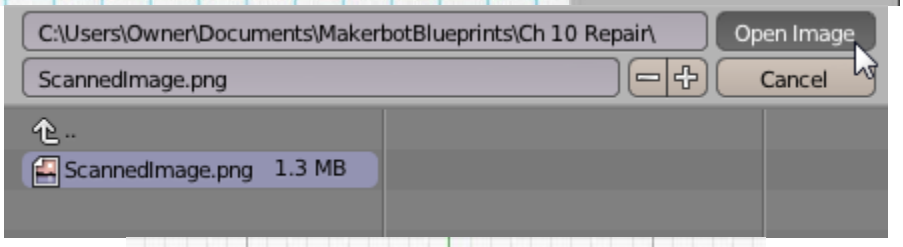
Motion Tracking
Background Images
Add Image
Transform Orientations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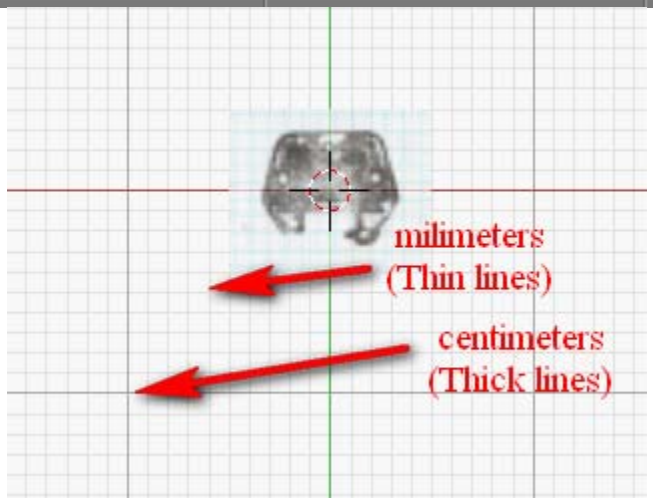
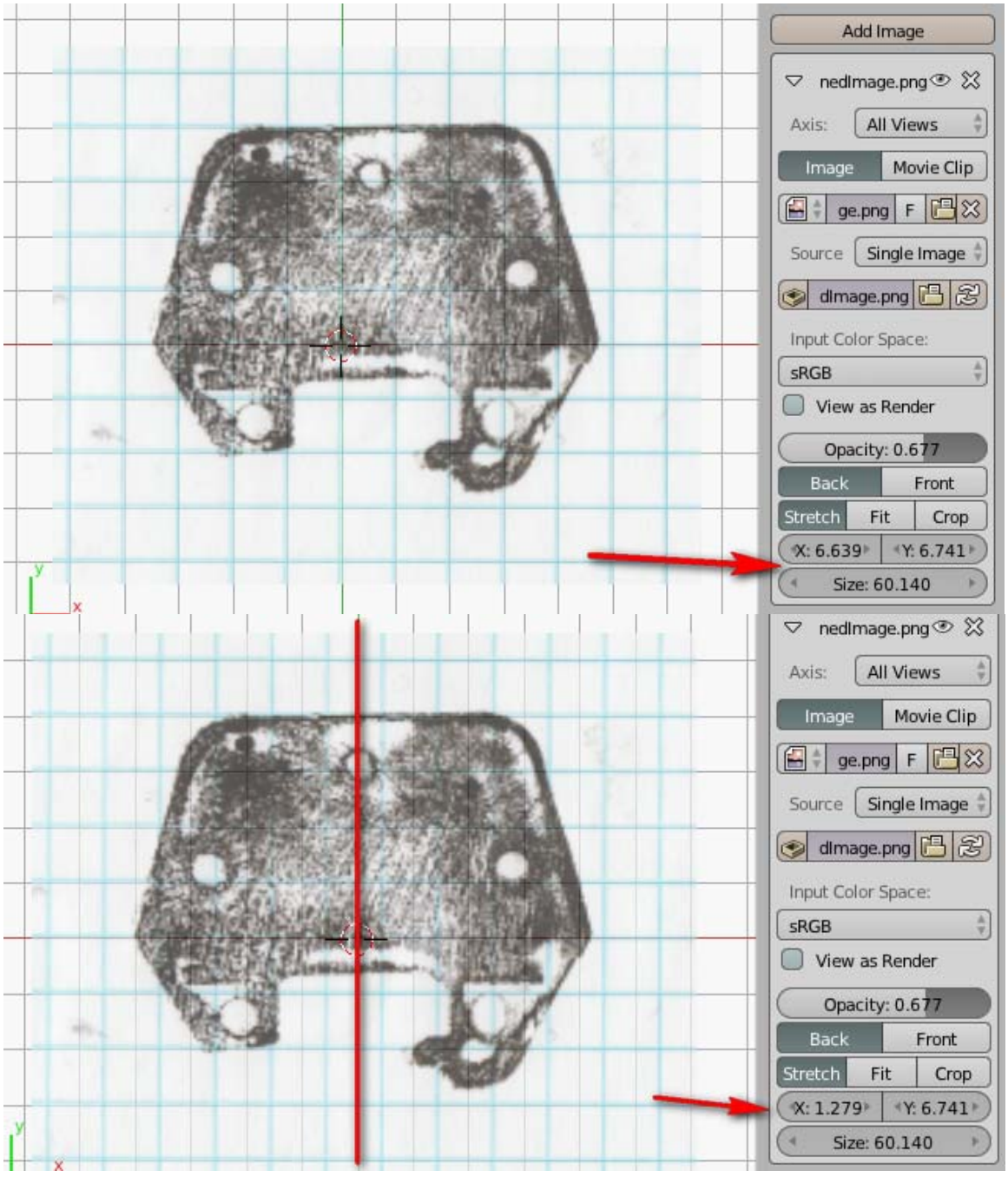
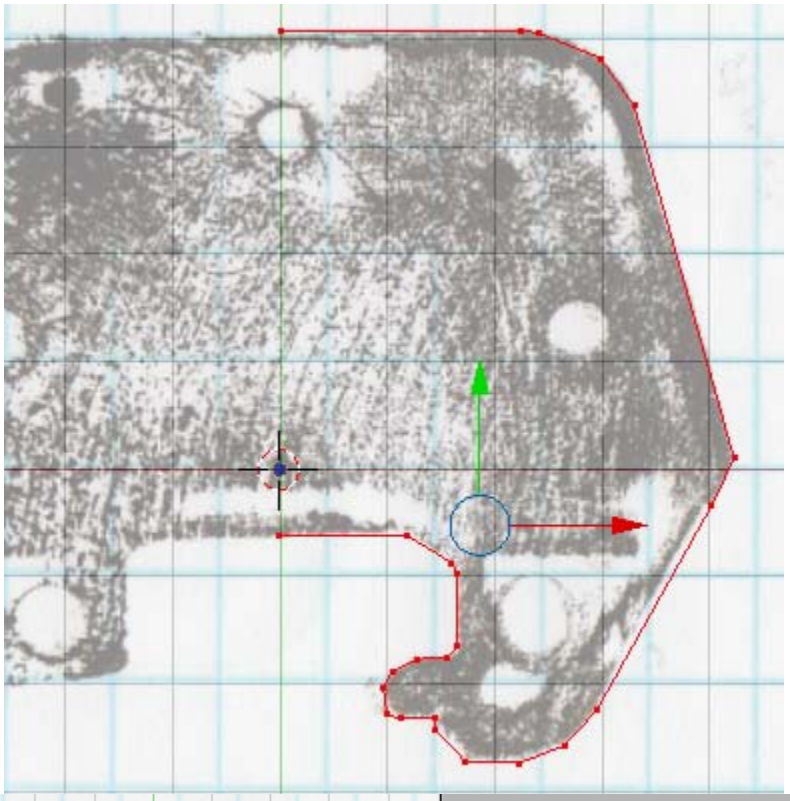
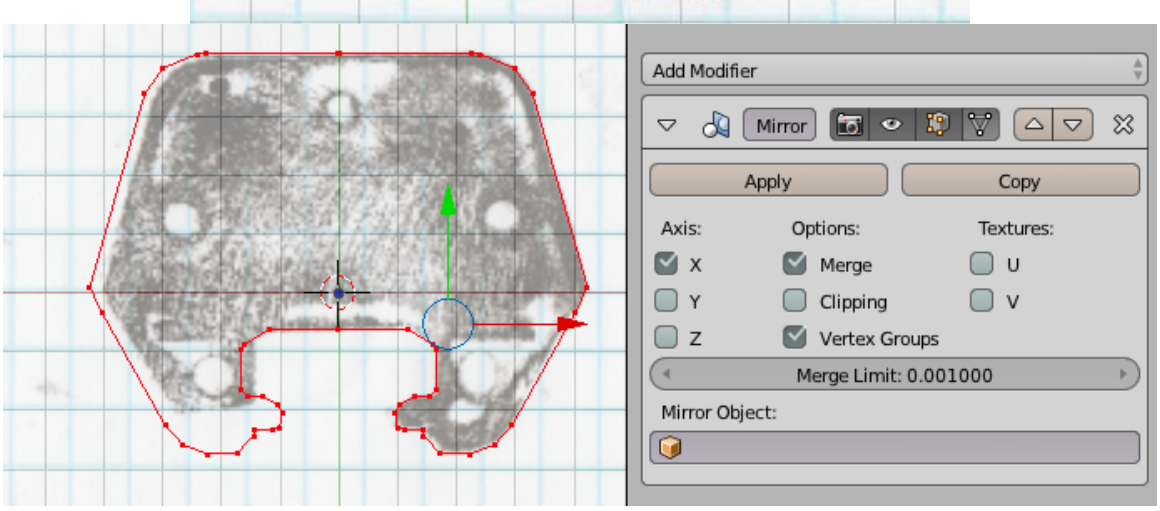
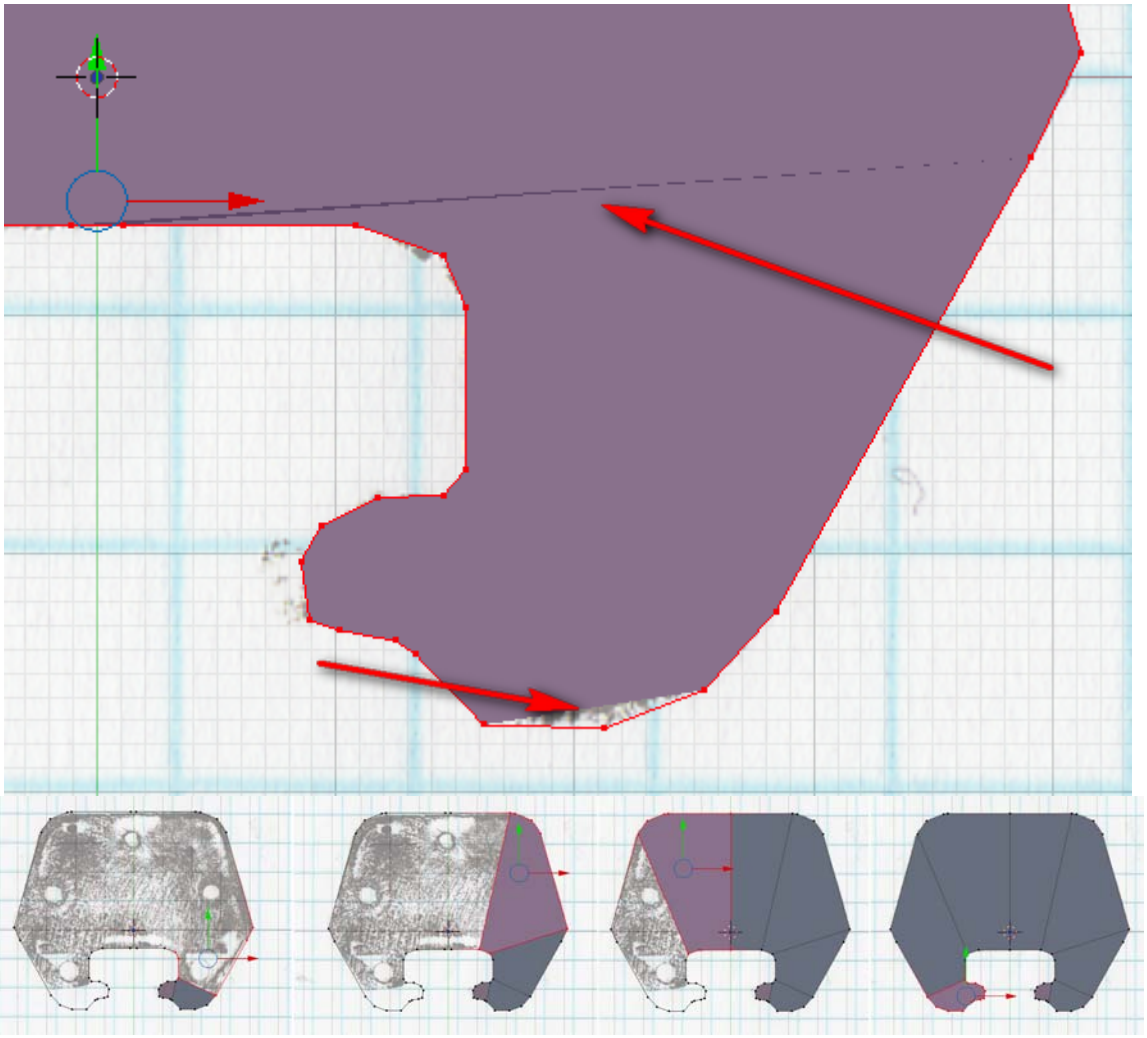
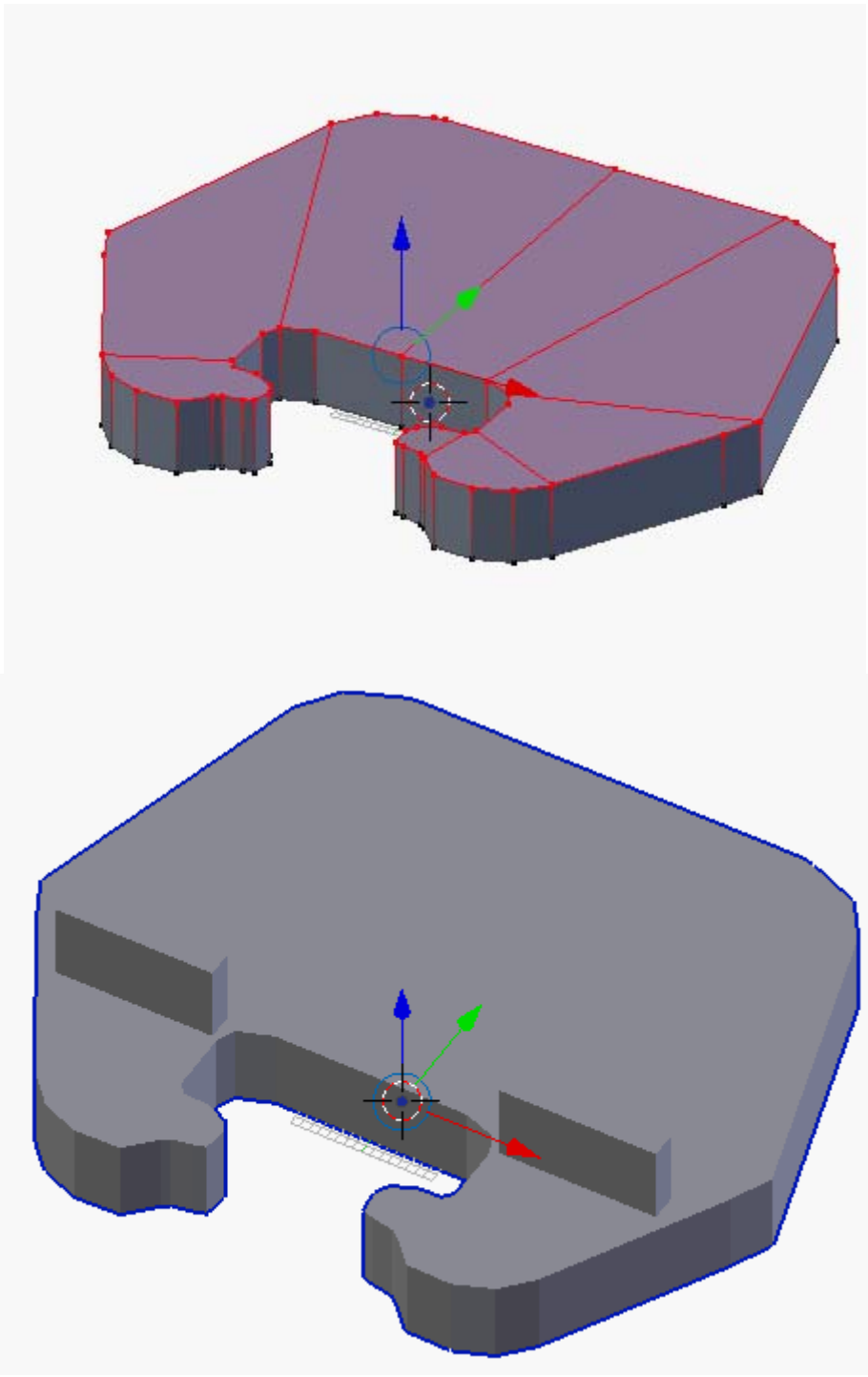
Open Image
ScannedImage.png
Cancel
..
ScannedImage.png 1.3 MB


milimeters
(Thin lines)
centimeters
(Thick lines)


Add Image
nedImage.png
Axis:
All Views
Image
Movie Clip
ge.png
F
Source
Single Image
dImage.png
Input Color Space:
sRGB
View as Render
Opacity: 0.677
Back
Front
Stretch
Fit
Crop
X: 6.639
Y: 6.741
Size: 60.140
nedImage.png
Axis:
All Views
Image
Movie Clip
ge.png
F
Source
Single Image
dImage.png
Input Color Space:
sRGB
View as Render
Opacity: 0.677
Back
Front
Stretch
Fit
Crop
X: 1.279
Y: 6.741
Size: 60.140




Add Modifier
Mirror
Apply
Copy
Axis:
Options:
Textures:
X
Merge
U
Y
Clipping
V
Z
Vertex Groups
Merge Limit: 0.001000
Mirror Object: