

5.2.6.6 Modeling - Meshes - Editing - Edges

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Edges

Make Edge/Face

Reference
Mode: <i>Edit</i> mode
Menu: Mesh ▸ Edges ▸ Make Edge/Face
Hotkey: F

It will create an edge or some faces, depending on your selection.

See also *Make Edge/Face*.

Set Edge Attributes

Edges can have several different attributes that affect how certain other tools affect the mesh.

Mark Seam and Clear Seam

Reference
Mode: <i>Edit</i> mode (<i>Vertex</i> or <i>Edge</i> select modes)
Menu: Mesh ▸ Edges ▸ Mark Seam/Clear Seam (or the same options in <i>Edge Specials</i> menu)
Hotkey: Ctrl-E-Numpad1 and Ctrl-E-Numpad2

Seams are a way to create separations, “islands”, in UV maps. See the UVTexturing section for more details.

These commands set or unset this flag for selected edges.

Mark Sharp and Clear Sharp

Reference
Mode: <i>Edit</i> mode (<i>Vertex</i> or <i>Edge</i> select modes)
Menu: Mesh ▸ Edges ▸ Mark Seam/Clear Seam (or the same options in <i>Edge Specials</i> menu)
Hotkey: <code>Ctrl-E-Numpad1</code> and <code>Ctrl-E-Numpad2</code>

The *Sharp* flag is used by the *EdgeSplit* modifier, which is part of the smoothing technics. As seams, it is a property of edges, and these commands set or unset it for selected ones.

Adjust Bevel Weight

Reference
Mode: <i>Edit</i> mode (<i>Vertex</i> or <i>Edge</i> select modes)
Menu: Mesh ▸ Edges ▸ Adjust Bevel Weight
Hotkey: <code>Ctrl-Shift-E</code>

This edge property (a value between **0.0** and **1.0**) is used by the *Bevel* modifier to control the bevel intensity of the edges. This command enters an interactive mode (a bit like transform tools), where by moving the mouse (or typing a value with the keyboard) you can set the (average) bevel weight of selected edges.

Crease SubSurf

Reference
Mode: <i>Edit</i> mode (<i>Vertex</i> or <i>Edge</i> select modes)
Menu: Mesh ▸ Edges ▸ Crease SubSurf
Hotkey: <code>Shift-E</code>

This edge property (a value between **0.0** and **1.0**) is used by the *Subsurf* modifier to control the sharpness of the edges in the subdivided mesh. This command enters an interactive mode (a bit like transform tools), where by moving the mouse (or typing a value with the keyboard) you can set the (average) crease value of selected edges. To clear the crease edge property, enter a value of **-1**.

Edge Slide

Reference
Mode: <i>Edit</i> mode (<i>Vertex</i> or <i>Edge</i> select modes)
Menu: Mesh ▸ Edges ▸ Slide Edge (or the same option in <i>Edge Specials</i> menu)
Hotkey: <code>G, G</code>

Slides one or more edges across adjacent faces with a few restrictions involving the selection of edges (*i.e. the selection must define a valid loop, see below.*)

Shift

Higher precision control.

Ctrl

Snap to value (useful to combine with auto merge)

LMB

confirms the tool

RMB or Esc

Cancels.

Even E

Forces the edge loop to match the shape of the adjacent edge loop. You can flip to the opposite vertex using F. Use **Alt - Wheel** to change the control edge.

Flip F

When Even mode is active, this flips between the two adjacent edge loops the active edge loop will match

Alt or C

Toggle clamping the slide within the edge extents.

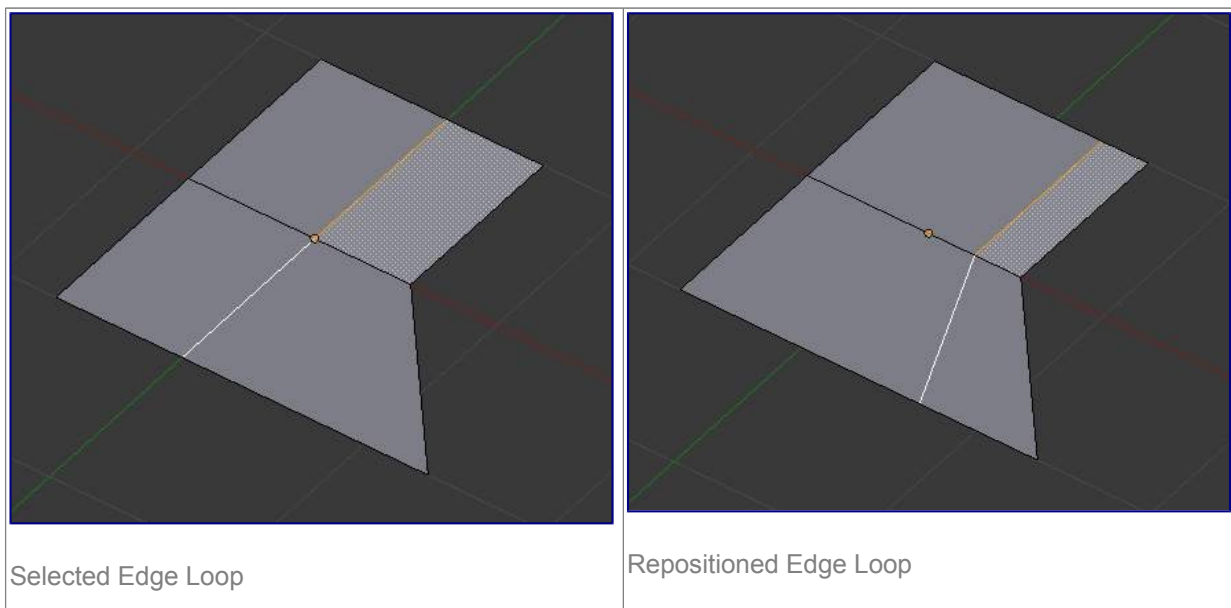
This tool has a factor, which is displayed in the 3D View footer and in the *Tool Shelf* (after confirmation). A numerical value between -1 and 1 can be entered for precision.

In *Proportional* mode, **Wheel**, or **Left** and **Right** changes the selected edge for calculating a proportion. Unlike *Percentage* mode, *Proportional*

Holding **Ctrl** or **Shift** control the precision of the sliding. **Ctrl** snaps movement to 10% steps per move and **Shift** snaps movement to 1% steps. The default is 5% steps per move.

Usage

By default, the position of vertices on the edge loop move as a percentage of the distance between their original position and the adjacent edge loop, regardless of the edges' lengths.

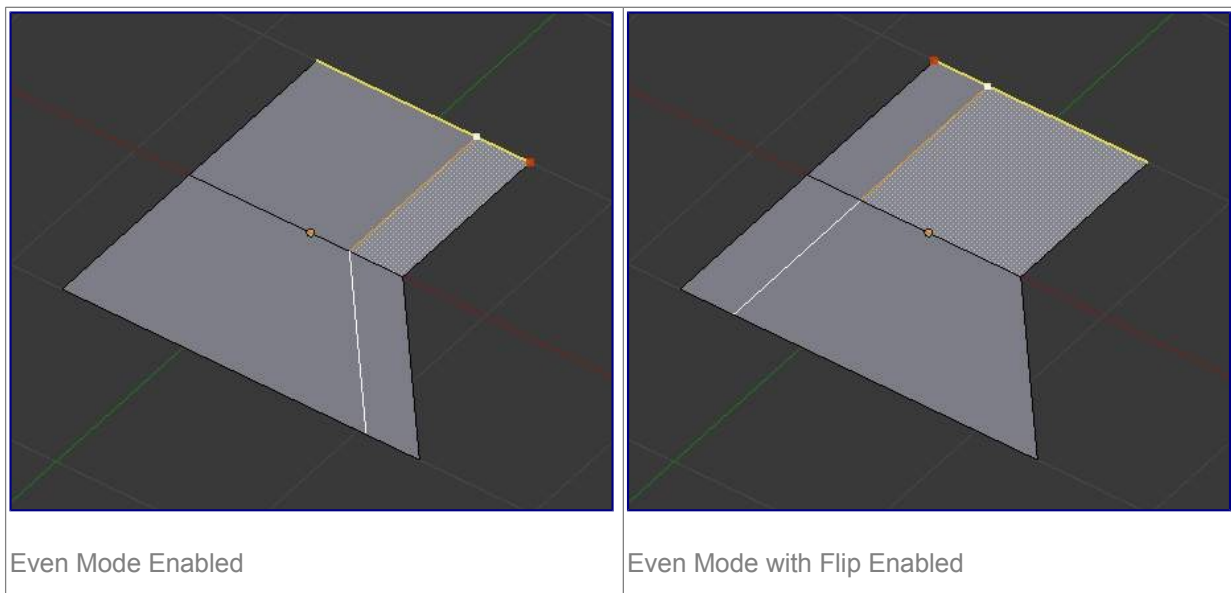


Even mode

Even mode keeps the shape of the selected edge loop the same as one of the edge loops adjacent to it, rather than sliding a percentage along each perpendicular edge.

In *Even* mode, the tool shows the position along the length of the currently selected edge which is marked in yellow, from the vertex that has an enlarged red marker. Movement of the sliding edge loop is restricted to this length. As you move the mouse the length indicator in the header changes showing where along the length of the edge you are.

To change the control edge that determines the position of the edge loop, use the **Alt - Wheel** to scroll to a different edge.



Moving the mouse moves the selected edge loop towards or away from the start vertex, but the loop line will only move as far as the length of the currently selected edge, conforming to the shape of one of the bounding edge loops.

Limitations & Workarounds

There are restrictions on the type of edge selections that can be operated upon. Invalid selections are:

Loop crosses itself

This means that the tool could not find any suitable faces that were adjacent to the selected edge(s). (*Loop crosses*) is an example that shows this by selecting two edges that share the same face. A face cannot be adjacent to itself.

Multiple edge loops

The selected edges are not in the same edge loop, which means they don't have a common edge. You can minimize this error by always selecting edges end to end or in a "Chain". If you select multiple edges just make sure they are connected. This will decrease the possibility of getting looping errors.

Border Edge

When a single edge was selected in a single sided object. An edge loop can not be found because there is only one face. Remember, edge loops are loops that span two or more faces.

A general rule of thumb is that if multiple edges are selected they should be connected end to end such that they form a continuous chain. This is *literally* a general rule because you can still select edges in a chain that are invalid because some of the edges in the chain are in different edge loops.

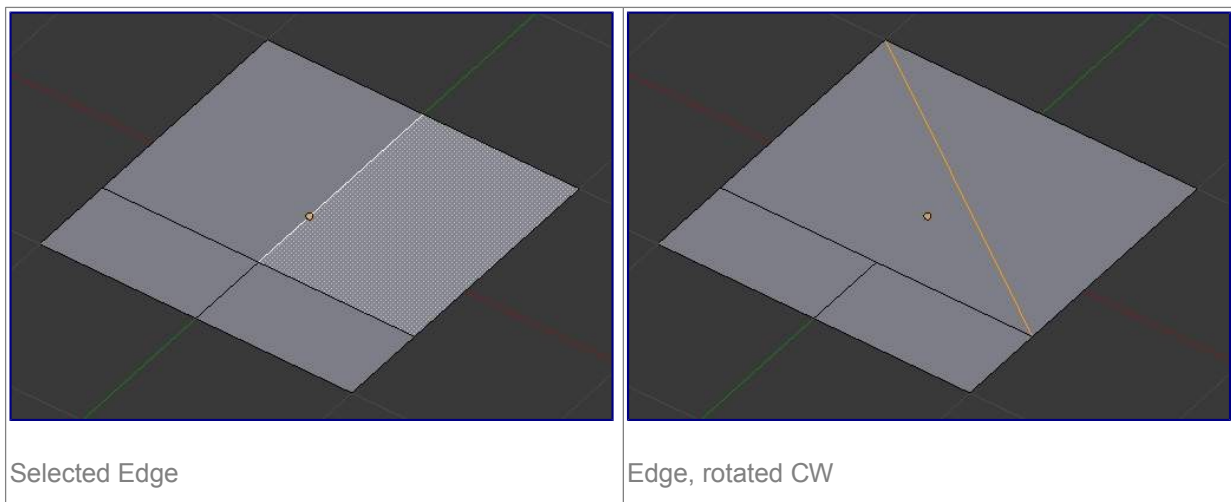
Rotate Edge

Mode: *Edit* mode (*Vertex* or *Edge* select modes)

Menu: Mesh ▸ Edges ▸ Rotate Edge CW / Rotate Edge CCW

Hotkey: [ctrl][E] ▸ Rotate Edge CW and [ctrl][E] ▸ Rotate Edge CCW

Rotating an edge clockwise or counter-clockwise spins an edge between two faces around their vertices. This is very useful for restructuring a mesh's topology. The tool can operate on one explicitly selected edge, or on two selected vertices or two selected faces that implicitly share an edge between them.



Using Face Selection

To rotate an edge based on faces you must select two faces, (*Adjacent selected faces*), otherwise Blender notifies you with an error message, “*ERROR: Could not find any select edges that can be rotated*”. Using either *Rotate Edge CW* or *Rotate Edge CCW* will produce exactly the same results as if you had selected the common edge shown in (*Selected edge rotated CW and CCW*).

Delete Edge Loop

Reference

Mode: *Edit* mode (*Vertex* or *Edge* select modes)

Menu: Mesh ▸ Delete ▸ Edge Loop

Hotkey: [X]/[Del] ▸ [g]

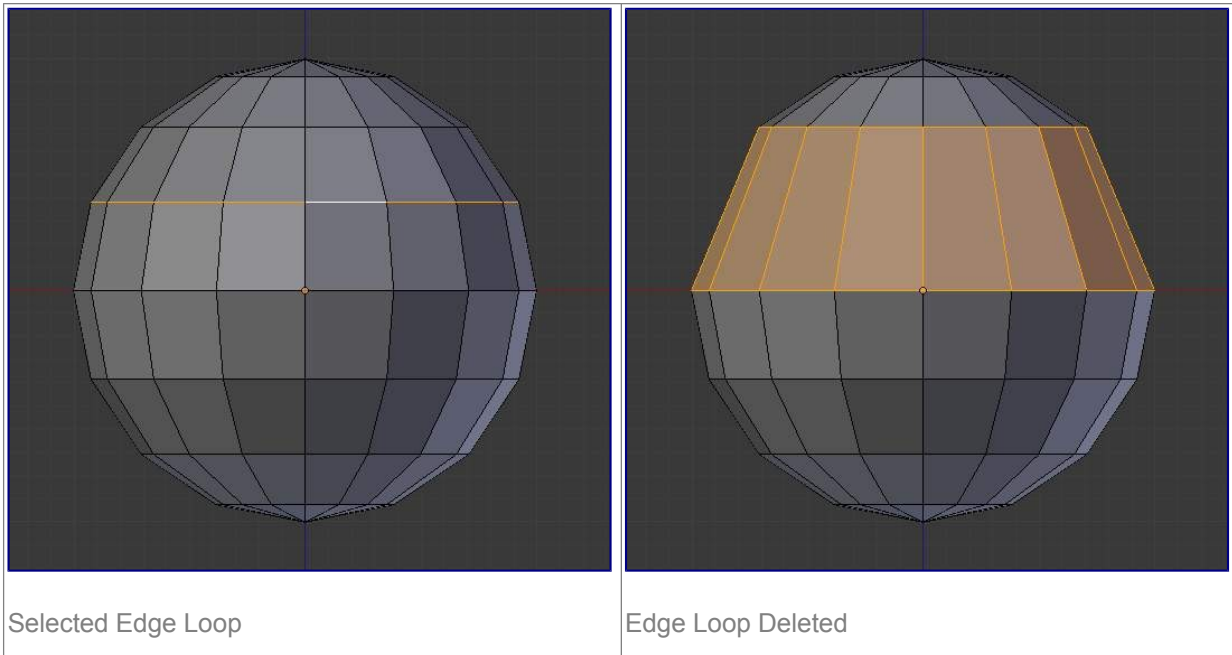
Delete Edge Loop allows you to delete a selected edge loop if it is between two other edge loops. This will create one face-loop where two previously existed.

Note

The *Edge Loop* option is very different to the *Edges* option, even if you use it on edges that look like an edge loop. Deleting an edge loop merges the surrounding faces together to preserve the surface of the mesh. By deleting a chain of edges, the edges are removed, deleting the surrounding faces as well. This will leave holes in the mesh where the faces once were.

Example

The selected edge loop on the UV Sphere has been deleted and the faces have been merged with the surrounding edges. If the edges had been deleted by choosing *Edges* from the (*Erase Menu*) there would be an empty band of deleted faces all the way around the sphere instead.



Collapse

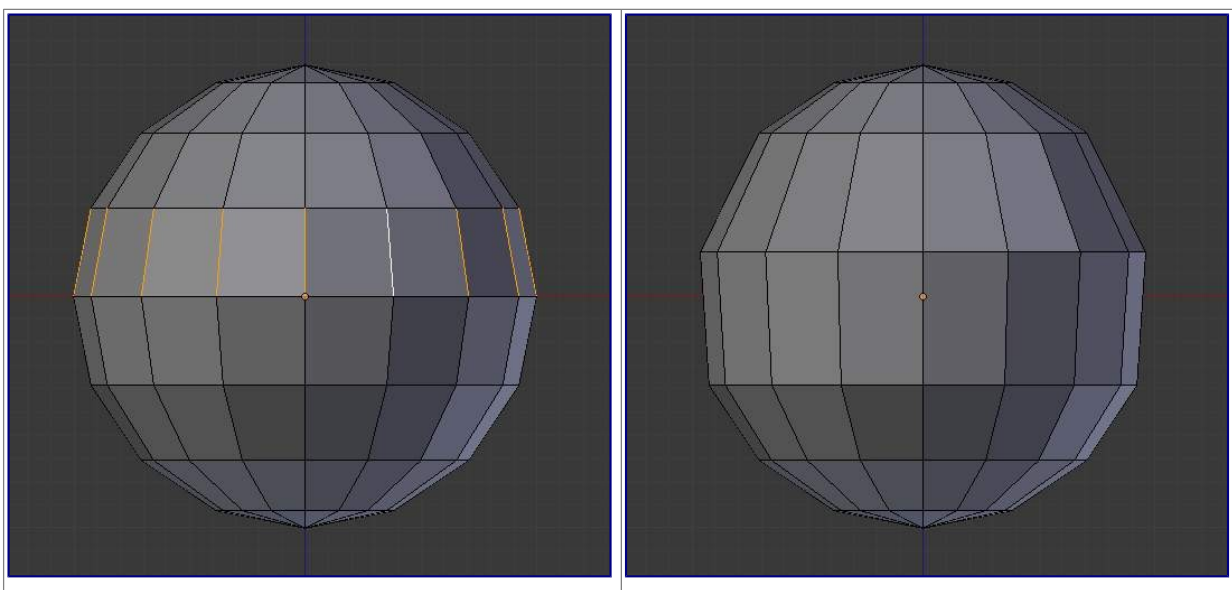
Reference

Mode: *Edit mode*

Menu: Mesh ▸ Delete ▸ Edge Collapse

Hotkey: [alt][M] ▸ [pad3]

This takes a selection of edges and for each edge, merges its two vertices together. This is useful for taking a ring of edges and collapsing it, removing the face loop it ran through.

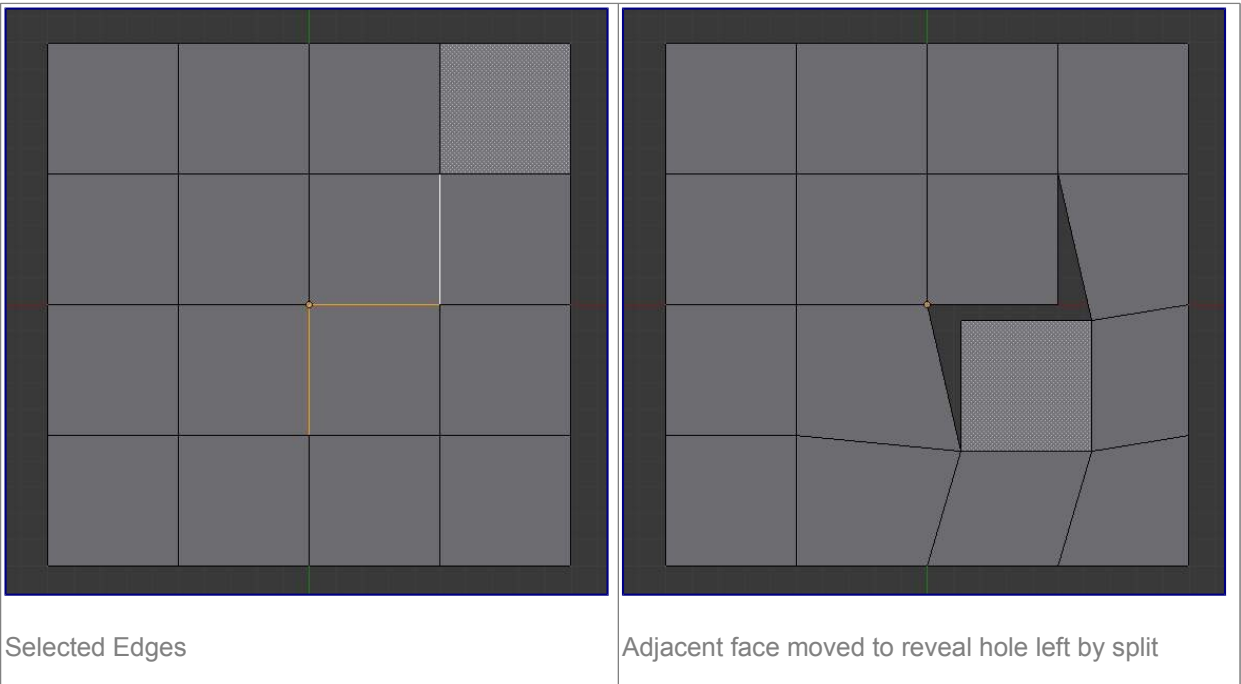


Selected Edge Ring	Edge Ring Collapsed
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Edge Split

Reference
Mode: <i>Edit</i> mode
Menu: Mesh ▸ Edges ▸ Edge Split
Hotkey: [Ctrl][E] ▸ Edge Split

Edge split is similar to the rip tool. When two or more touching interior edges, or a border edge is selected when using *Edge split*, a hole will be created, and the selected edges are duplicated to form the border of the hole

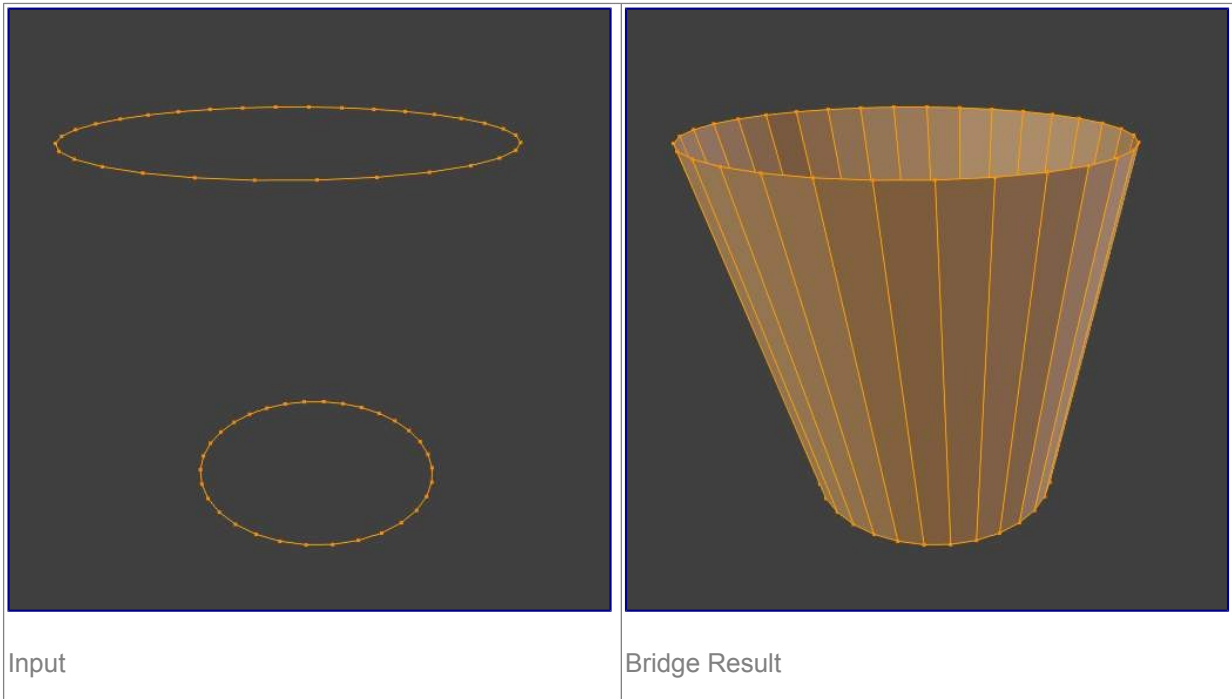


Bridge Edge Loops

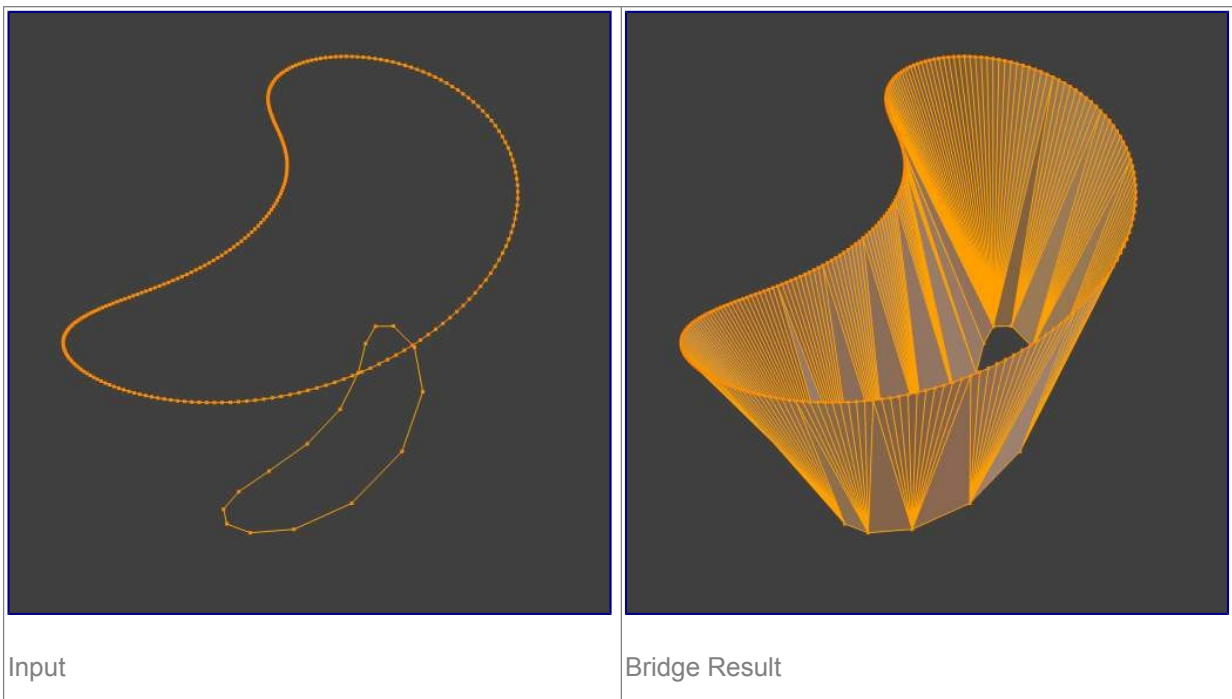
Reference
Mode: <i>Edit</i> mode
Menu: Mesh ▸ Edges ▸ Bridge Edge Loops

Bridge Edge Loops connects multiple edge loops with faces.

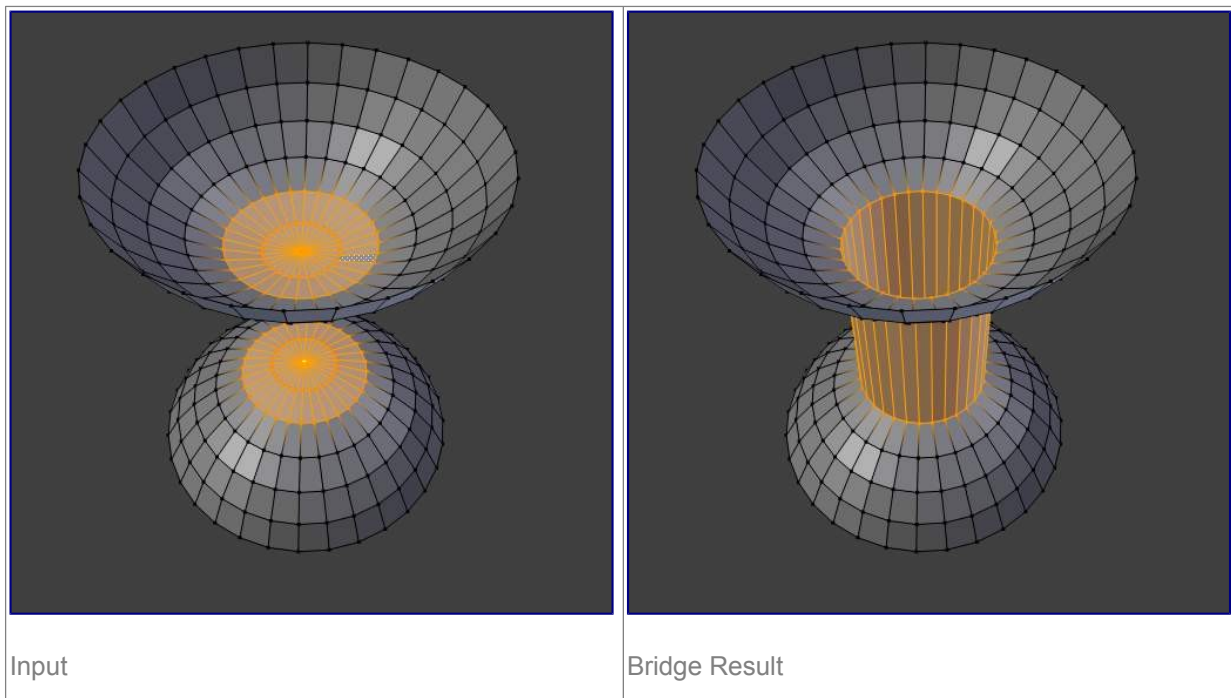
Simple example showing 2 closed edge loops.



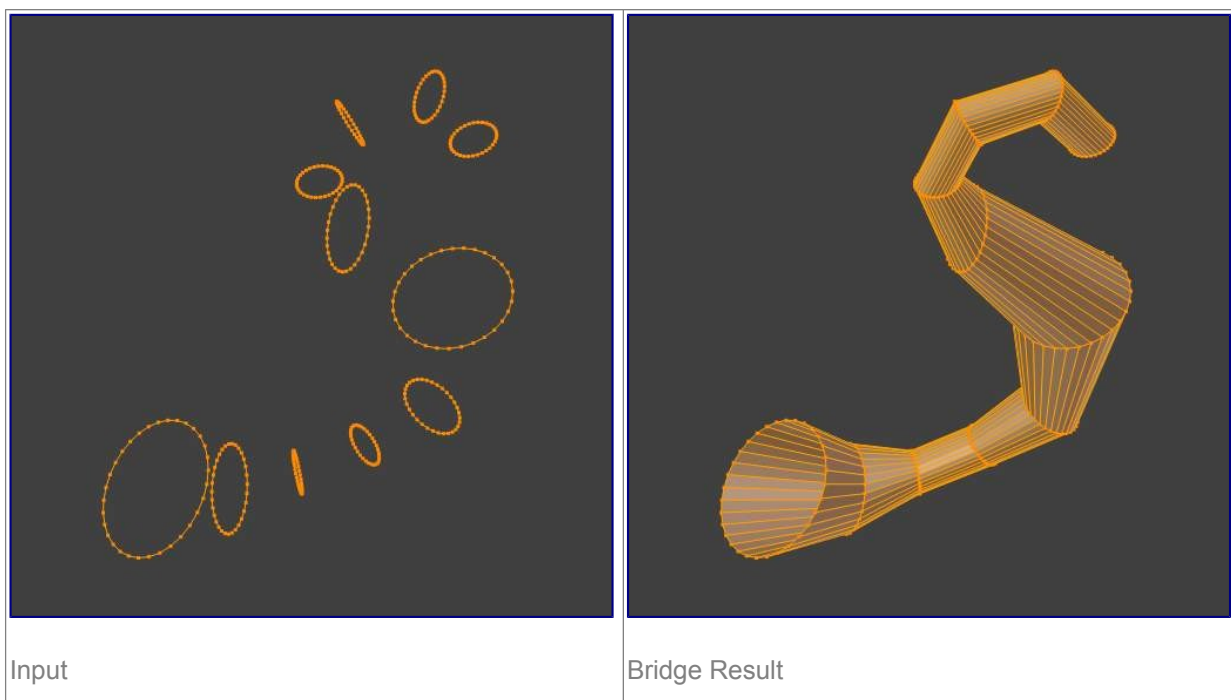
Example of bridge tool between edge loops with different numbers of vertices.



Example using the bridge tool to punch holes in face selections and connect them.



Example showing how bridge tool can detect multiple loops and loft them in one step.



Example of the subdivision option and surface blending with UV's.

