Projections and Guide Tools for SU8+ (Free and Pro)

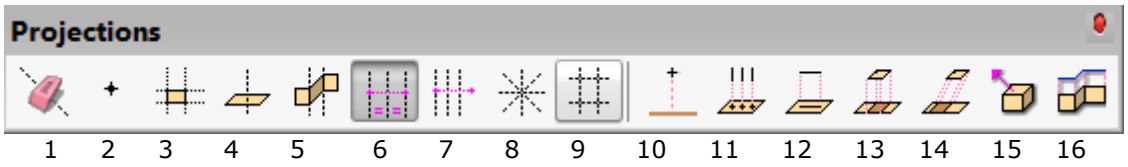
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This set of tools is intended to provide several guide tools and projection tools to ease your drawing process. Tested with SU8 and SU2013.

2. Usage:

The toolbar has:

9 icons for guides tools (1 to 9)
7 icons for projection tools (10 to 16)

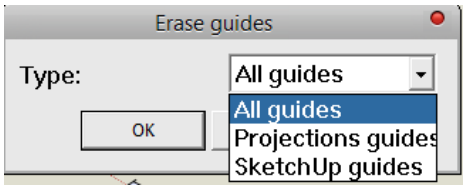


Notes:

- *Each guide tool uses the color you set for the guides in your current style when it creates guides,*
- *All temporary displays that are parallel to XYZ axes are colored in red, green, blue respectively.*
- *Almost every tools use custom cursors and inference*
- *All tools are working with lines, faces, guides, that are within groups and components, as well as at "model" level of course.*
- *An automatic "clean-up" routine erases all double guides (superimposed guides) each time you use a tool.*
- *All tools are "undoable".*
- *All tools check that a selection exists (if needed) and filter objects types within the selection to ignore incorrect objects.*

Tool #1:

This tools erases the guides (lines and points). Choose what you want to erase:



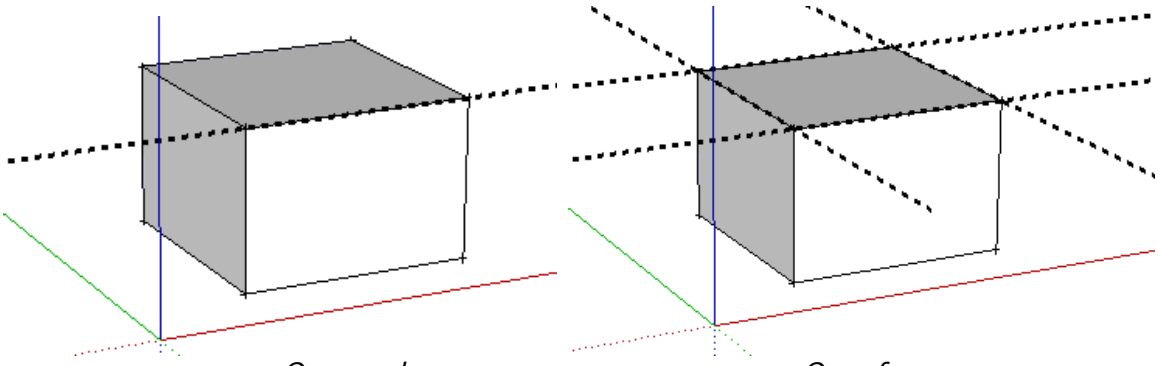
- "All guides" will erase all construction geometry,
- "Projections guides" will erase all guides created by the plugin (leaving regular guides unchanged),
- "SketchUp guides" will erase all but plugin guides.

Tool #2:

It just creates a guide point where you click…
Hit Escape to abort, or select another tool.

Tool #3:

This tool creates guides either over the line you click, or over every edge of the face you click. A temporary display shows what is to be created if you click:

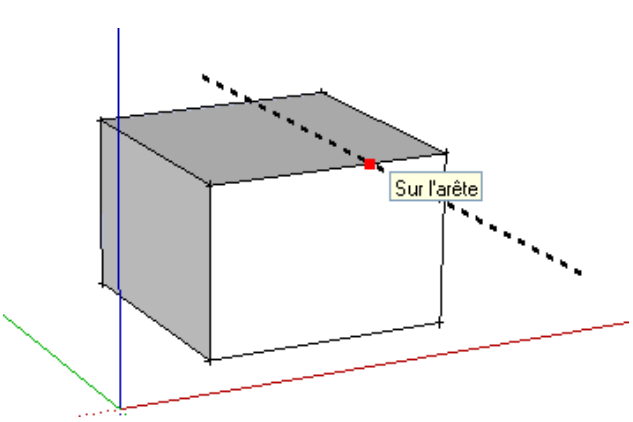


On an edge *On a face*

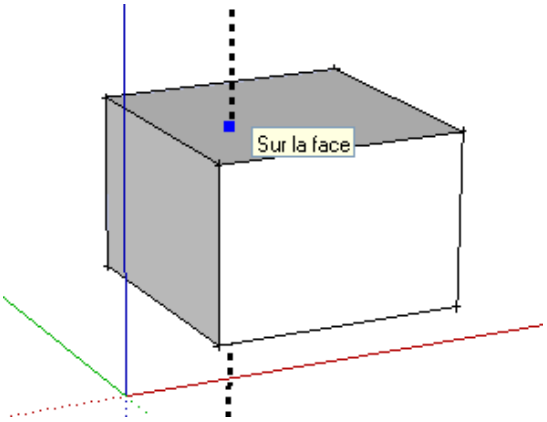
Hit Escape to abort, or select another tool.

Tool #4:

This tool creates a guide perpendicular to the plane of the face where the cursor is. Move the cursor over a face and click to create the guide.



Normal to front face (cursor on edge)

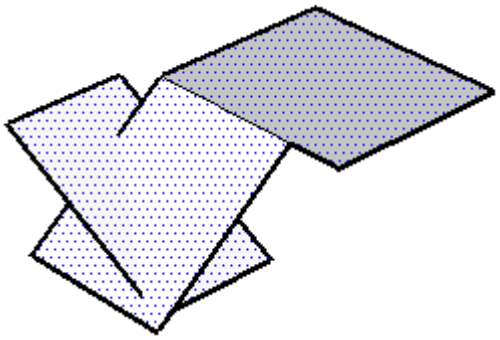


Normal to top face (cursor on face)

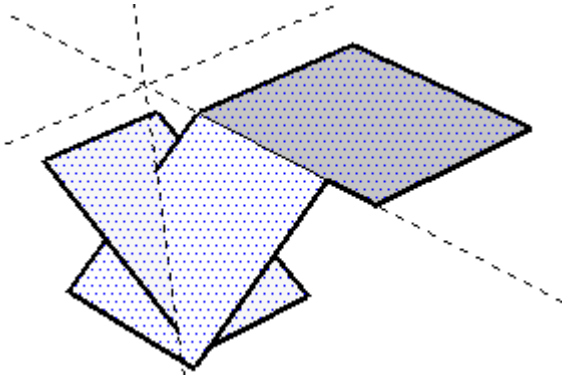
Hit Escape to abort, or select another tool.

Tool #5:

This tool creates guides at each intersection of selected faces: select faces and click the icon.



Faces selected

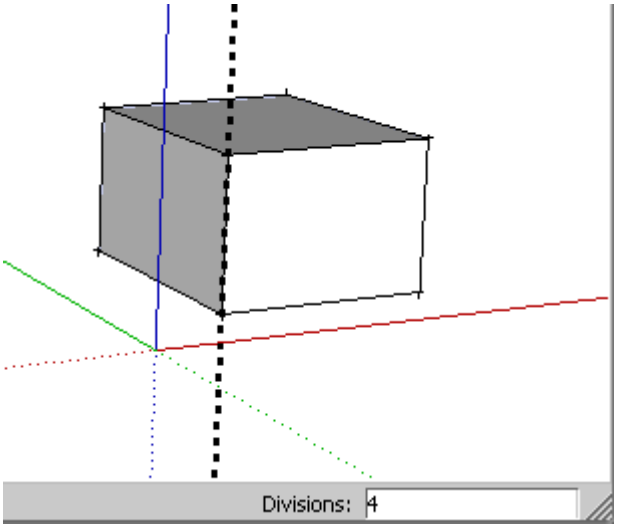


Result

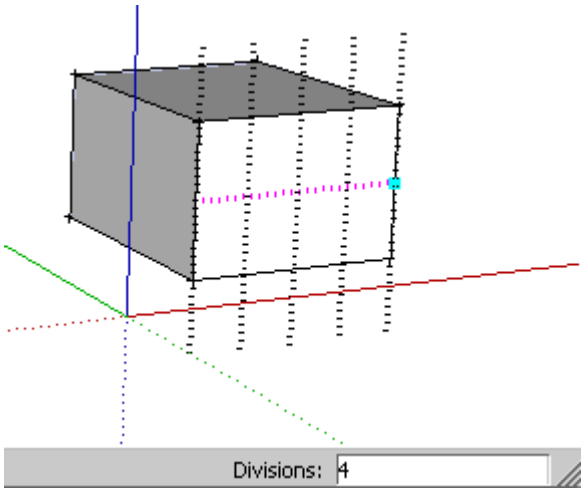
Tool #6:

This tool creates guides at regular divisions between the points you click.
Move the cursor over an edge and click.
Move the cursor over a second edge, face or any location, and click.

Parallel guides are created, the distance between each of them being the distance between clicks divided by the number of divisions you entered in the VCB (default 2), along the temporary dashed line.



Step 1



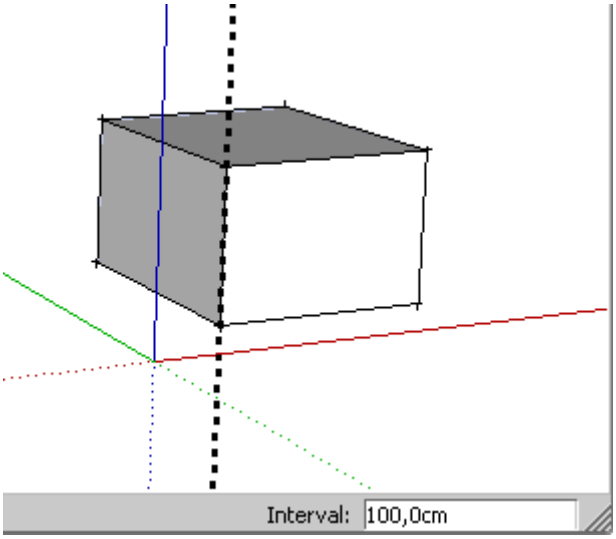
Step 2

The first interval between guide is counted from the first edge you click.
After guides are created, you are ready for another suite of guides starting from the same edge.
Hit the Enter key to choose another starting edge, or type a new number of divisions.
Hit Escape to abort, or select another tool.

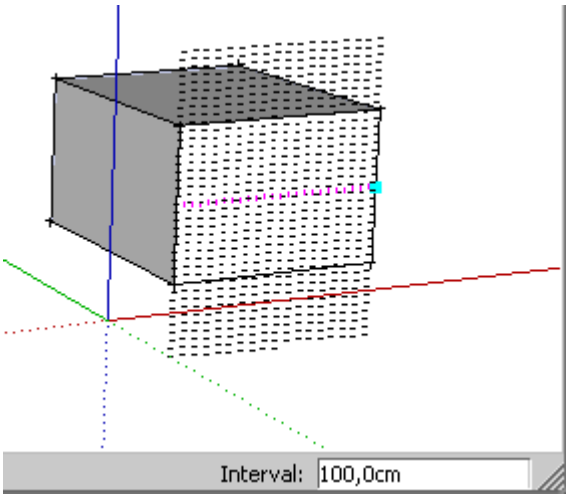
Tool #7:

This tool creates parallel guides at regular intervals you specify.
Move the cursor over an edge and click.
Move the cursor over a second edge, face or any location, and click.

Parallel guides are created, the distance between them being the distance you entered in the VCB (default 1 meter), along the temporary dashed line.



Step 1

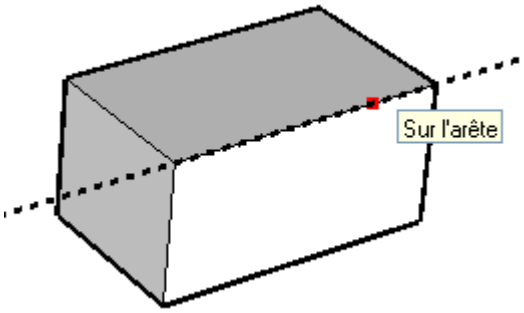


Step 2

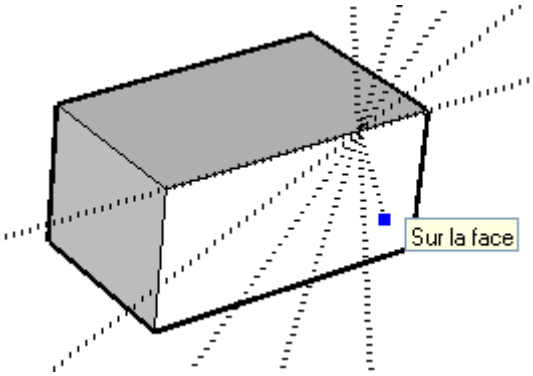
After guides are created, you are ready for another suite of guides starting from the same edge.
Hit the Enter key to choose another starting edge, or type a new distance number.
Hit Escape to abort, or select another tool.

Tool #8:

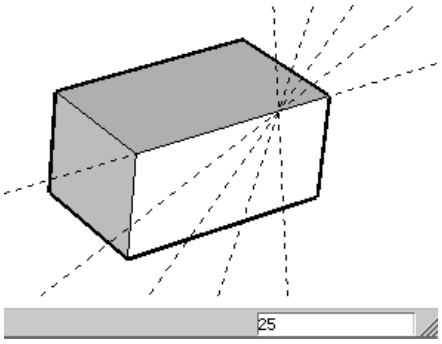
This tool creates radial guides at regular angles.
Click the icon to select an edge or a guide, or click anywhere on a face: this point will be the focal point of the polar array of guides.
Type an angle in the VCB or move the cursor clockwise or counterclockwise around the focal point.
Click to create the guides.



Edge selection

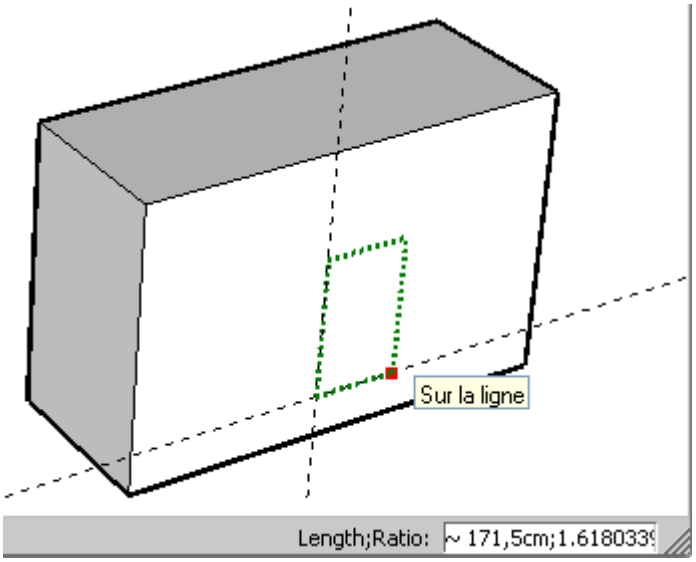


Cursor on a face, around the focal point



Tool #9:

This tool creates guides along the borders of a rectangle. This rectangle is defined either by its length and width.
Click the icon and click a starting point at the bottom left corner of the rectangle.
Move the cursor to define the length, then click a third point to define the width.



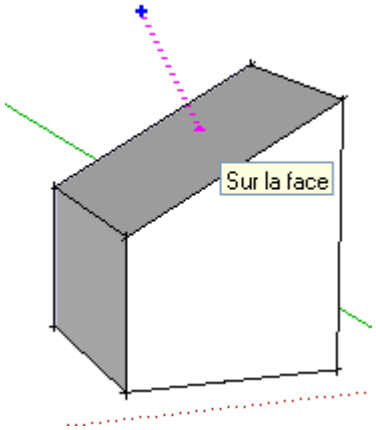
First point clicked, entering the second point

You are ready for another rectangle, hit Escape to abort, or select another tool.

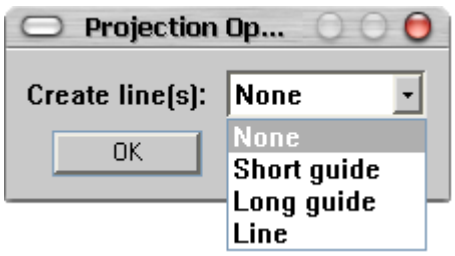
Tool #10:

This tool projects a guide point, perpendicularly to a guide line, a line, or a face.
Select the guide point and click the icon.
Move the cursor over guides, edges or faces to see the projection, and click.
Select if you want a finite guide, infinite guide, or a regular line to be created between the point and its projection.

When done, you are ready to project the point on something else, just click another edge, guide or face.



Step 1

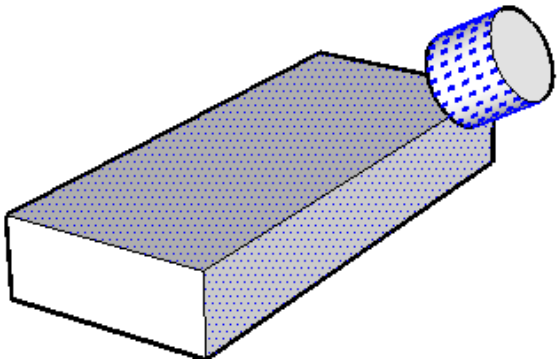


Step 2

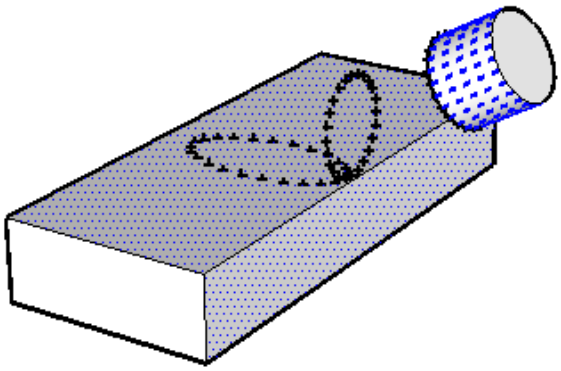
Hit Escape to abort, or select another tool.

Tool #11: ©TIG

This tool adds guide points at each intersection between each line and each face of the selection.
Select line(s) or guide(s) and face(s), click the icon. A guide point is added at the intersection of each face plane and each line, an edge/guide line doesn't need to physically intersect the face, the guide point can also be located out of a face, but on it's plane.
Edges/guide lines that are parallel to a face plane are ignored.



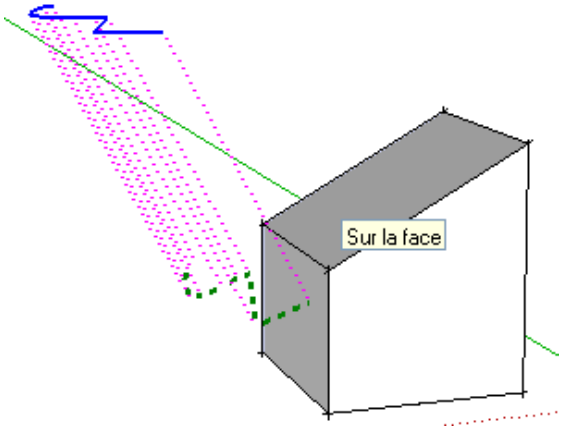
Edges of cylinder and 2 faces selected



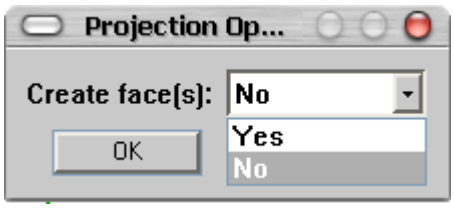
Result

Tool #12:

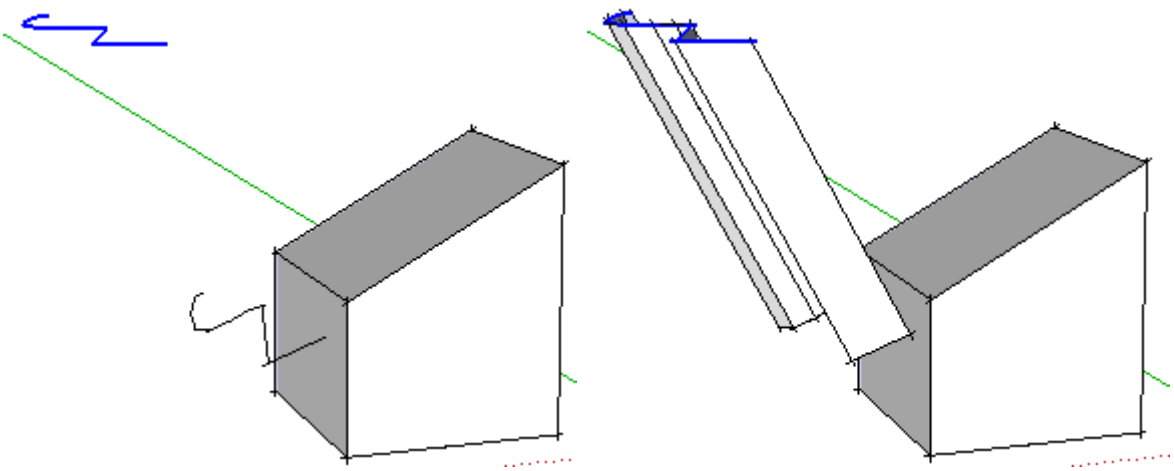
This tool projects a line or set of lines (curves, circles, arcs as well), perpendicularly to a face.
Select the lines and click the icon.
Move the cursor over faces to see the projection, and click.
Select if you want to create faces between the lines and their projections, or not.



Step 1



Step 2



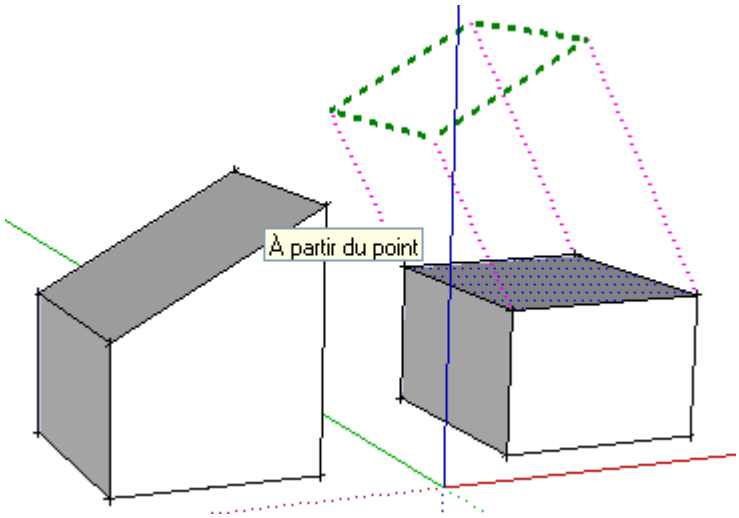
Result if no face created *Result if faces created*

When done, you are ready to project the lines on something else, just move the cursor over your drawing to choose another face.
Hit Escape to abort, or select another tool.

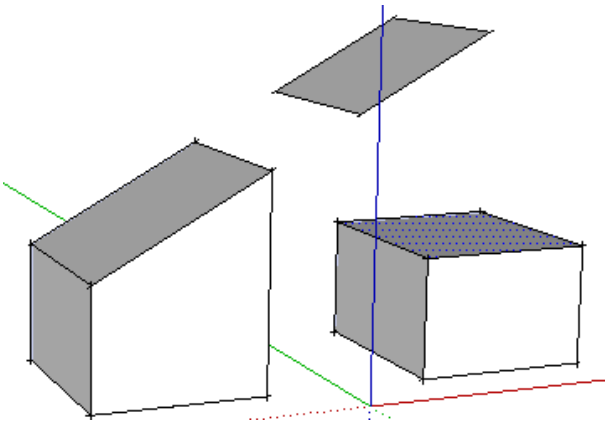
***Note**: when projecting a set of lines on a face that lies in the same geometric plane than the set, you will get a straight line or a set of "flat" faces.*

Tool #13:

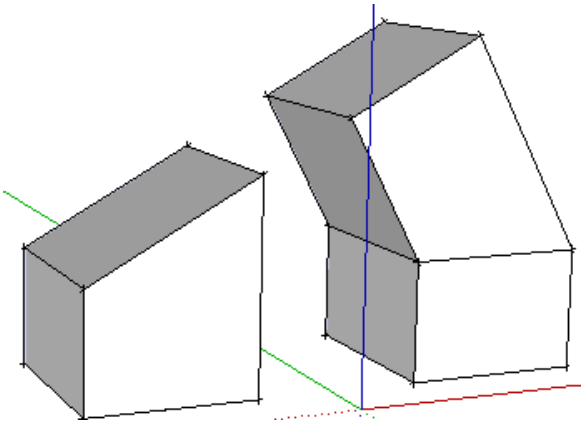
This tool projects a face or set of faces perpendicularly to a face.
Select the faces and click the icon.
Move the cursor over faces to see the projection preview, and click. Select if you want to create faces between the faces and their projections, or not.



Selected face temporarily projected on the roof geometric plane



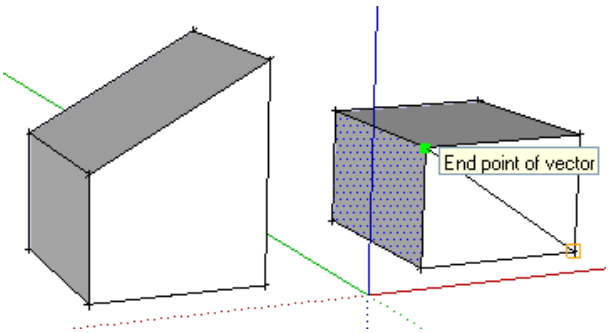
Result if no face created



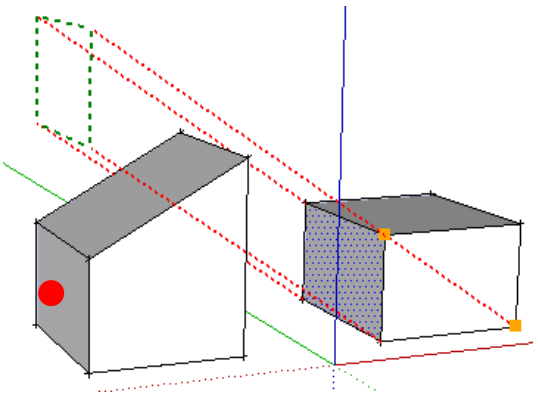
Result if faces created

Tool #14:

This tool projects a face or set of faces on the geometric plane of a face, but along a vector.
Select the face(s) and click the icon.
Click the two points that define the vector, that's-to-say the projecting direction. Move the cursor over faces to see the projection preview, and click.

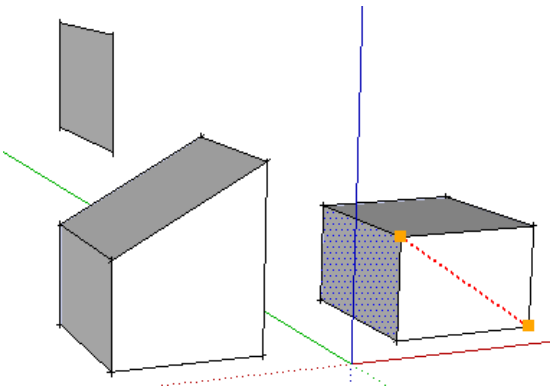


Step 1

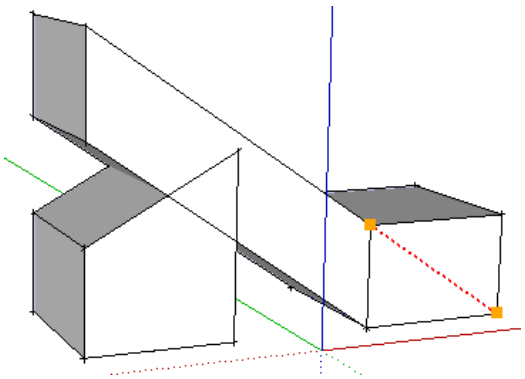


Step 2(cursor at red dot)

Select if you want to create faces between the faces and their projections, or not.



Result if no face created



Result if faces created

When done, you are ready to project the face(s) on something else, just move the cursor over another face and click.

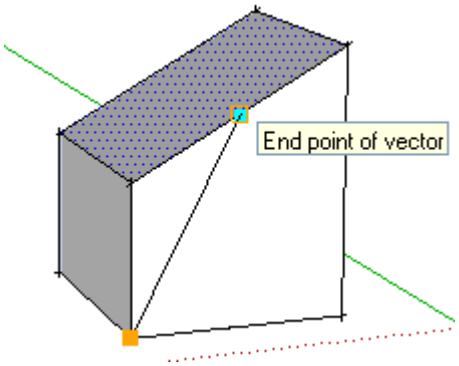
Hit Escape to abort, or select another tool.

Tool #15:

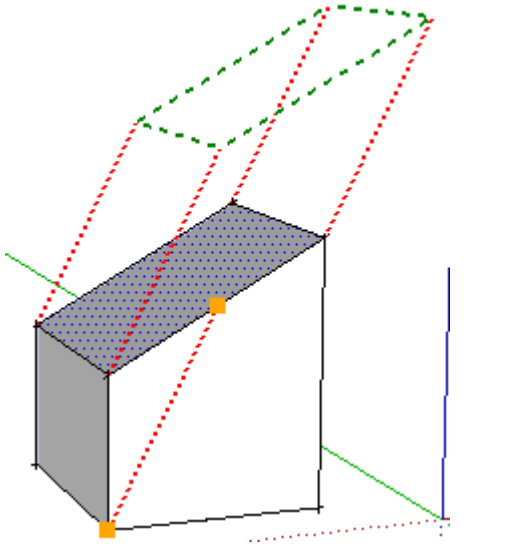
This tool push-pulls a face or set of faces along a vector.
It can be used with or without a selection.

- When faces are selected:

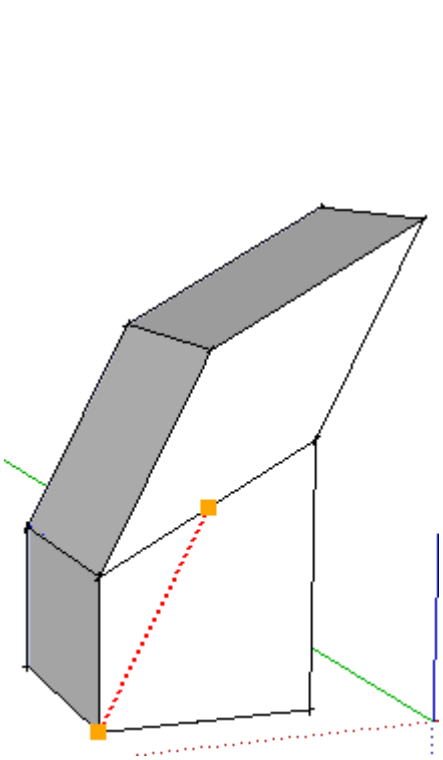
Click the icon. Click the two points that define the vector, that's-to-say the push-pull direction. Move the cursor over faces to see the projection preview, and click.



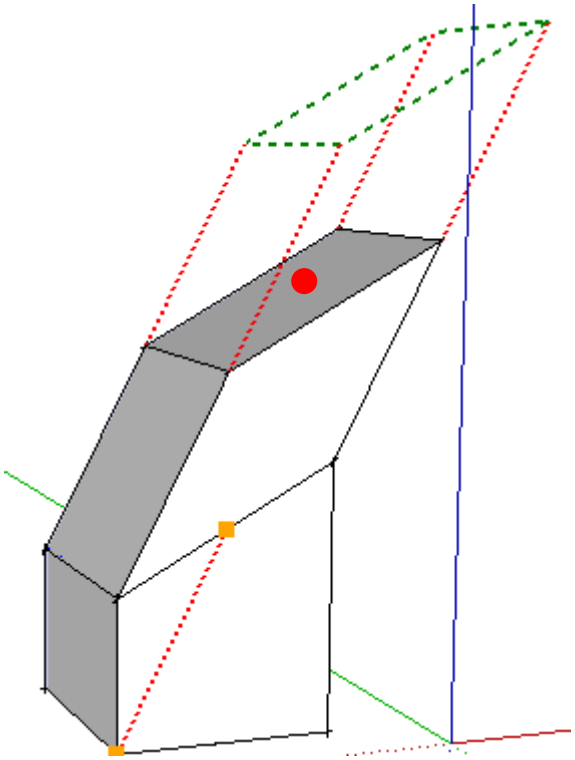
First point of vector clicked



Second point of vector clicked



Result



Cursor again on top face(red dot)

When done, you are ready to push-pull the faces on something else, just click another face.

Hit Enter to start a new vector, hit Escape to abort, or select another tool.

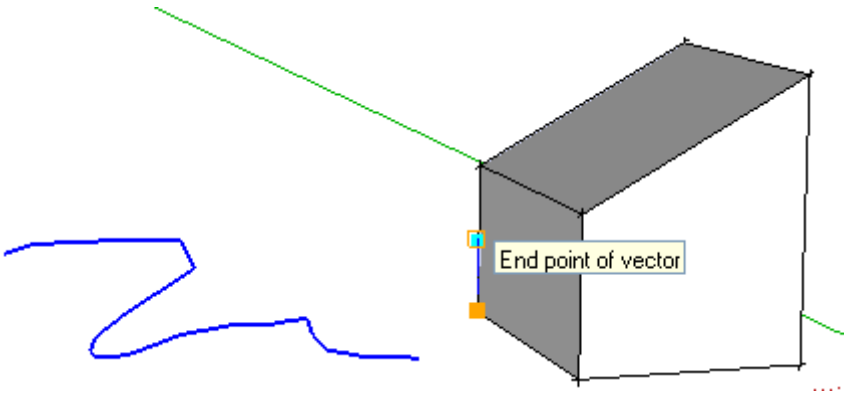
- When nothing is selected:

Click the two points that define the vector, and move the cursor over faces. The preview shows what the result will be, click to push-pull.
Hit Enter to start a new vector, hit Escape to abort, or select another tool.

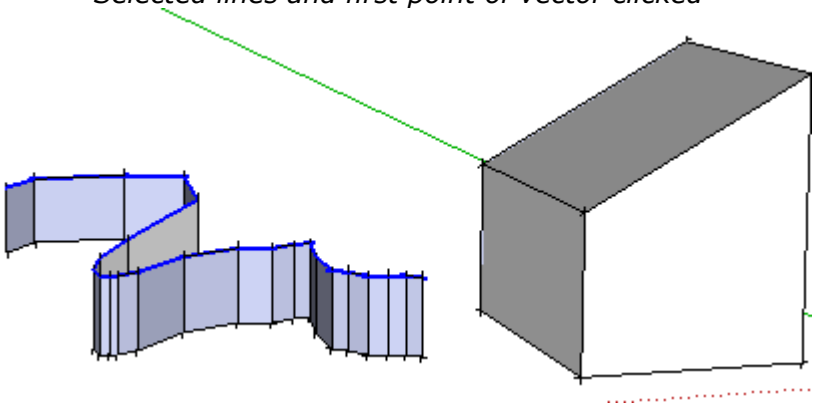
Tool #16:

This tool extrudes a line or set of lines (curves, circles, arcs as well), along a vector.

Select the line(s) and click the icon.
Click the two points that define the extrusion direction and distance.
When the first point is clicked, check the VCB to see the extrusion value.



Selected lines and first point of vector clicked



Result (note that the resulting lines are selected and ready for another extrusion)

When done, you are ready to extrude the resulting lines along another vector.

Note: you can type a distance in the VCB just after the first point of vector. In this case, the direction of extrusion is defined by the current cursor position, and the distance of extrusion will be the VCB distance.

Hit Escape to abort, or select another tool.

End of document