Guide Tools for SU2016+ (Free and Pro)

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This is a reworked and enhanced part of my plugin "Projections", which has been split into to separate plugins.

This set of 11 tools is intended to ease your modeling process, drawing rectangular, polygonal or radial grids of construction points or guides, quickly creating a bunch of guides at faces intersections or boundaries, at regularly spaced interval or divisions, normal to faces, etc.

1. Tools:

1 2 3 4 5 6 7 8 9 10 11

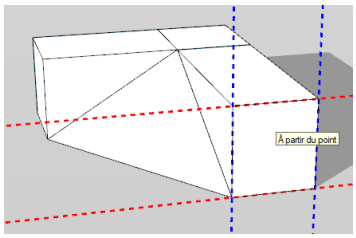
1 Finite guides and guide points
2 Rectangular or polygonal grid of finite guides or points
3 Finite guide converter (toggle)
5 Normal to face
6 Infinite guides at faces intersections
7 Infinite guides at regular divisions between 2 points
8 Infinite guides at regular intervals
9 Radial infinite guides
10 Rectangular infinite guides
11 Guides eraser

General notes about the tools:

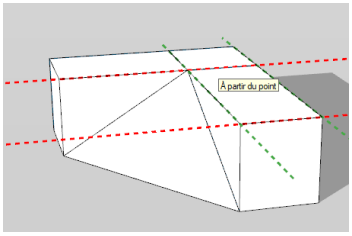
- *When it creates guides, each tool uses the color you set for the guides in your current style*
- *All temporary displays that are parallel to XYZ axes are colored in red, green, blue respectively.*
- *Every tool uses inference (pressing the Shift key)*
- *All tools are working with lines, faces, guides, that are within groups and components (as well as at "model" level of course), excepting tool #6.*
- *All tools check that a selection exists (if needed) and filter the selection to ignore incorrect objects.*
- *An automatic "clean-up" routine erases all double guides (superimposed guides or points) each time you use a tool.*
- *All tools are "undoable".*

Preview colors:

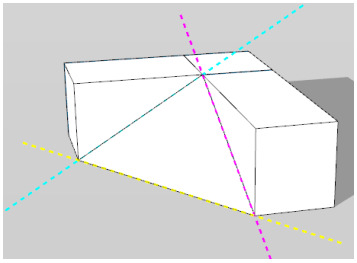
Each time a geometry is previewed, a simple color code is used:



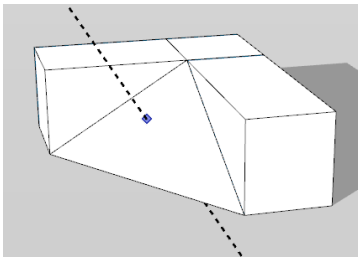
Red lines are parallel to X (red) axis
Blue lines are parallel to Z (blue) axis



Green lines are parallel to Y (green) axis



Cyan lines are parallel to XZ (red-blue) plane
Magenta lines are parallel to YZ (green-blue) plane
Yellow lines are parallel to XY (red-green) plane



Other lines will be draw using the color of the guides you set in your style

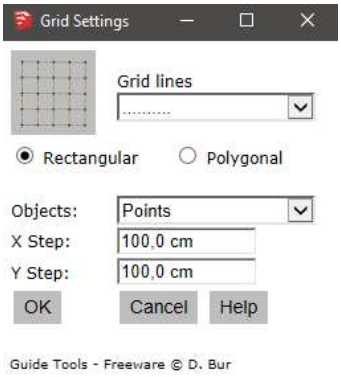
Tool #1:

This tool just creates finite guides or lonely guide points. I works like the native pencil tool does. It derives from a ruby sample by the Google team.

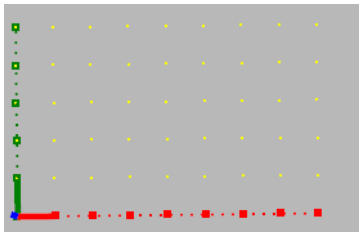
Right-click to create a single guide point, or multiple guide points.
Left-click to start a guide, mouse the mouse, hit Shift to get inference.
Left-click and drag the mouse will work as well.
You can enter a length for the guide, once the first point has been clicked.
Hit Escape to quit at any time, or select another tool.

Tool #2:

- **Rectangular grid tool:**

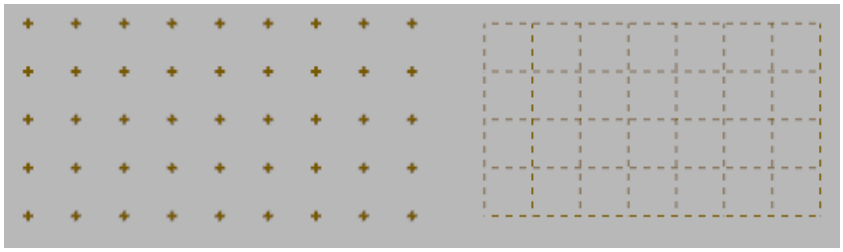


Select the guide style
Select either points or guides as objects to draw the grid
Enter X and Y steps



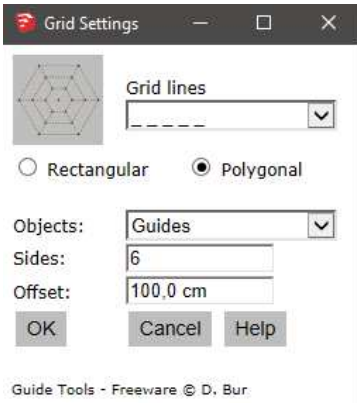
Click 3 points: lower-left corner of the grid, length and X direction, width in Y direction
Shift key can be used to constrain the plane of the grid.
Hit Escape to quit, or select another tool.

Grids can be drawn in any 3D plane.

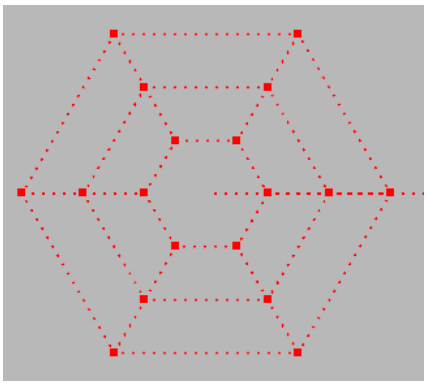


Results examples

- **Polygonal grid tool:**

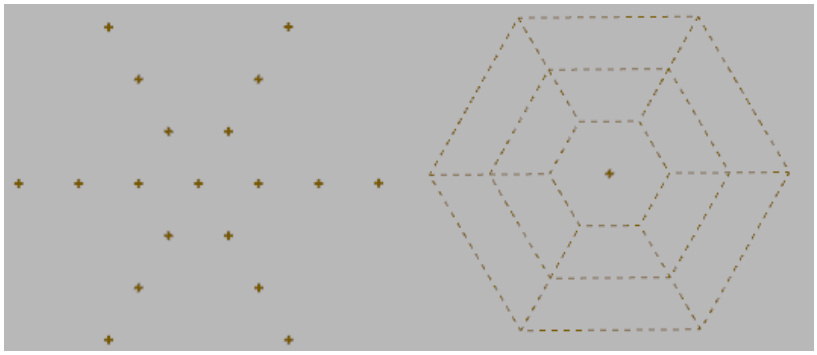


Select the guide style
Select either points or guides as objects to draw the grid
Enter the number of sides for the polygon
Enter the offset between 2 successive guides
Hit Escape to quit, or select another tool.



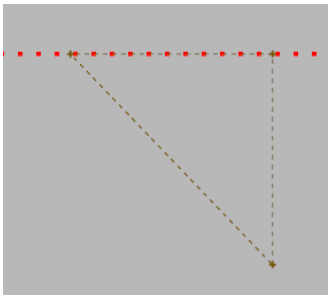
Click the center of the grid
Click a point for the radius of the polygon.
Shift key can be used to constrain the plane of the grid.
Hit Escape to quit, or select another tool.

Grids can be drawn in any 3D plane.

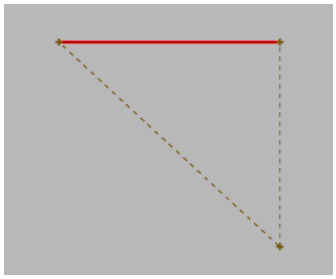


Tool #3:

Converts guides to regular edges or converts edges to finite guides.

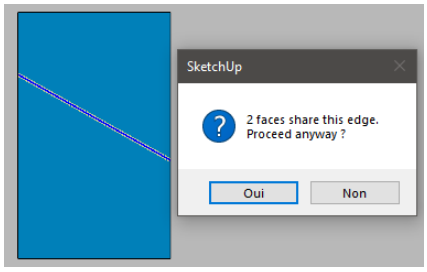


Click on a finite guide to convert it to an edge.
The tool searches for face that could be created upon conversion.



Click on an edge to convert it to a finite guide.

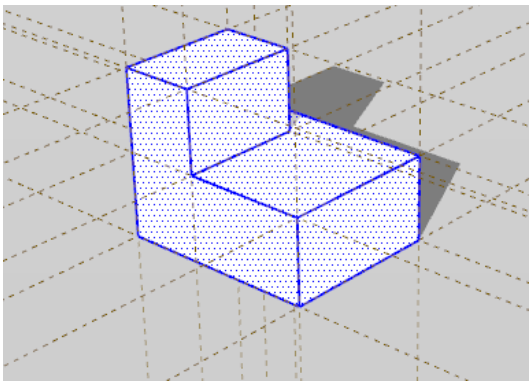
If this will alter contiguous faces, you'll be prompted and asked what to do:

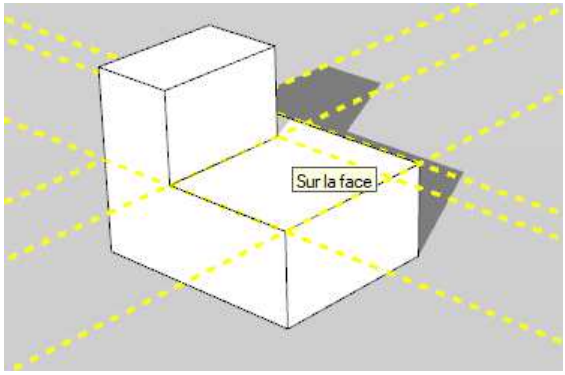


Hit Escape to quit at any time, or select another tool.

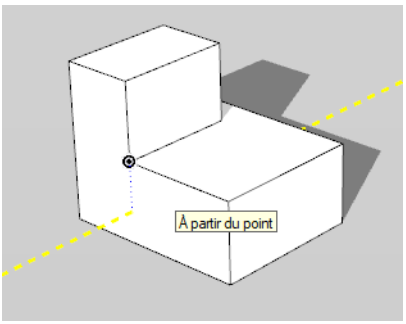
Tool #4:

Creates guides along every edge bounding the face.
If you select faces first, the guides are directly created.
If no selection is active, click on face(s) to create the guides.
Clicking on an edge will create a single guide, just like the native tape tool does.
Hit Escape to quit at any time, or select another tool.





Tool #5:

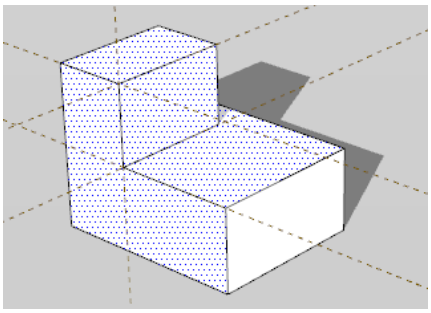


This tool creates a guide perpendicular to the plane of the face where the cursor is.

Move the cursor over a face or an edge and click to create the guide.

Hit Escape to quit at any time, or select another tool.

Tool #6:

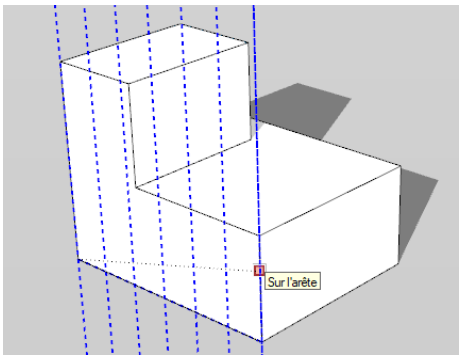


This tool creates guides at each intersection(s) of selected faces.
The icon is only enabled if at least 2 objects are selected.
Select faces first, the guides are directly created.

Tool #7:

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



The first interval between guide is measured from the first edge you click.

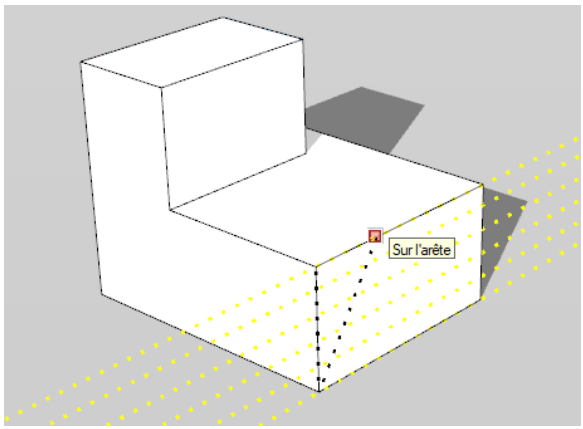
After guides are created, you are ready for another serie of guides, starting from the same edge.

Hit the Enter key to choose another starting edge, or type a new number of divisions.

Hit Escape to quit at any time, or select another tool.

Tool #8:

This tool creates parallel guides at regular intervals you specify.



Move the cursor over an edge or guide and click.
Move the cursor over a second edge, guide, face or at any location, and click.

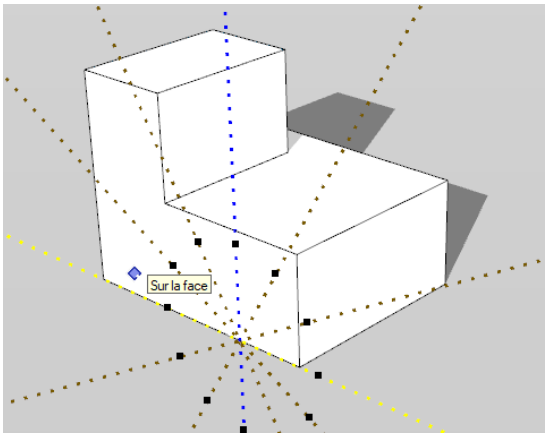
Parallel guides are created, the distance between them being the distance you entered in the VCB (default 1 meter), along the temporary dashed black line.

After guides are created, you are ready for another serie of guides, starting from the same edge, or to enter a new interval in the VCB.
Hit Escape to quit at any time, or select another tool.

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.

Tool #9:

Creates radial guides at regular angles.



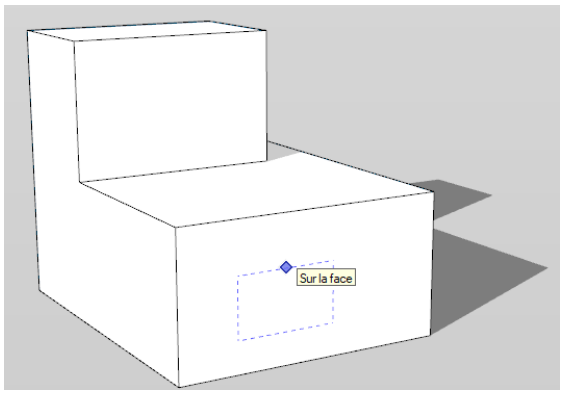
Click the icon to select an edge or a guide: this point will be the focal point of the polar array of guides.

Type an angle in the VCB or move the cursor clockwise/counterclockwise around the focal point.

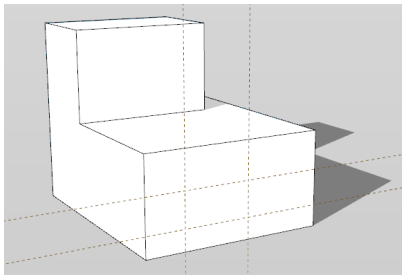
Click to create the guides.

Tool #9:

Creates guides along the length and width of a rectangle. This rectangle is defined either by points clicks or by its length and width.



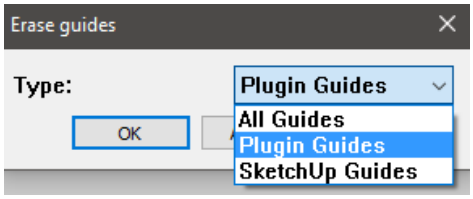
Click a starting point at one corner of the rectangle.
Move the cursor to define the length or width, then click a third point to define the width.



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

Tool #10:

Erases the guides (lines and points). Select what you want to erase:



- All guides: will erase all construction geometry
- Plugin guides: will erase all guides created by the plugin (leaving regular guides unchanged),
- SketchUp guides: will erase only guides created with the native tools of SketchUp.

End of document