

Projection Pack 2.1 for SketchUp v5 and v6 (Free and Pro)

D. Bur, 02 August 2008

This is an update of the previous version 2.0 with some changes and enhancements:

What's new in 2.1.:

- You can now insert as many construction points as you want without clicking on the icon again.
- Normal line through point: select a surface, click a point and enter a length.

What's new in 2.0.:

- More user-friendly commands: click points instead of selecting objects for plane definitions and vectors
- Better selection errors checkings
- Project faces along Z and along vector gathered in one command.
- ExtrudelineTool included
- lines2cyl and credits commands suppressed
- Construction line at intersection of faces enhanced: multiple selection supported
- New icons

Installation:

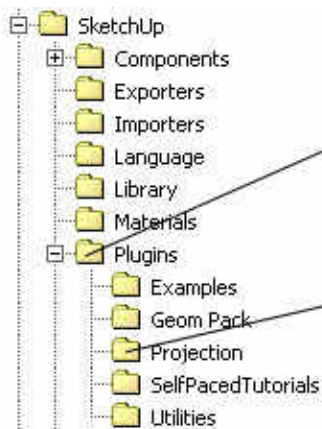
Please delete previous version if you have it installed:
Delete "projection_extension.rb" in your Plugins folder
Delete "Projection" folder and its content.

Unpack the archive in the SketchUp Plugins folder.

You should have:

"projection_extension.rb" in your Plugins folder

A sub-folder "Projection" containing "projection.rb" and 24 icon files (*.png).



projection_extension.rb
goes here

projection.rb and *.png
go here

Usage:

There is no menu, only a toolbar, available in menu View / Toolbars / Projections. Tooltips will tell you what commands do, but below is a short explanation of what they are for:

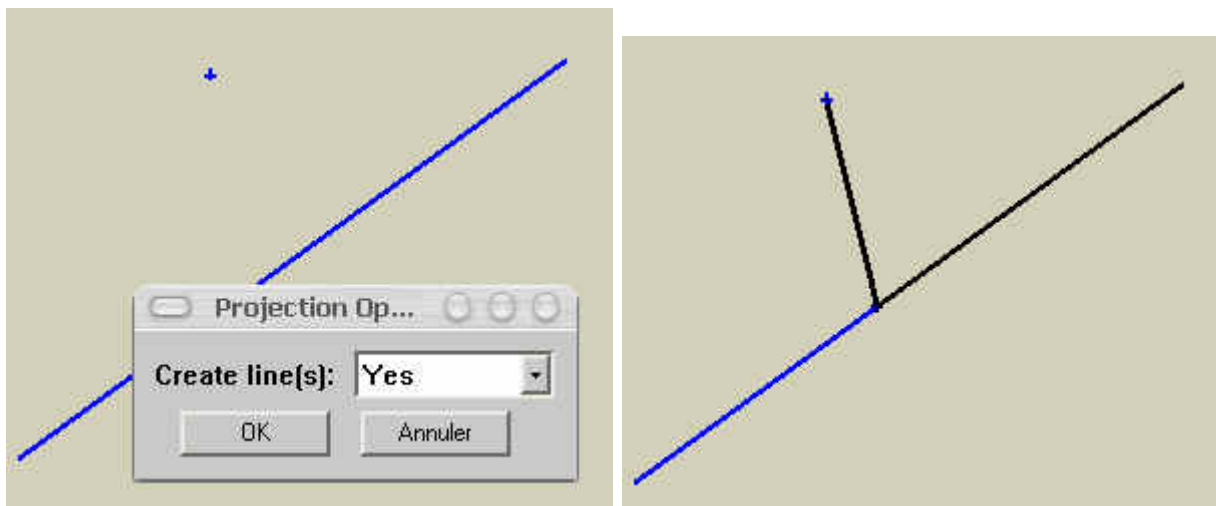


1. Add new construction points

Click the icon and place as many construction points where needed. Double-click for placing the last point, or hit the Escape key.

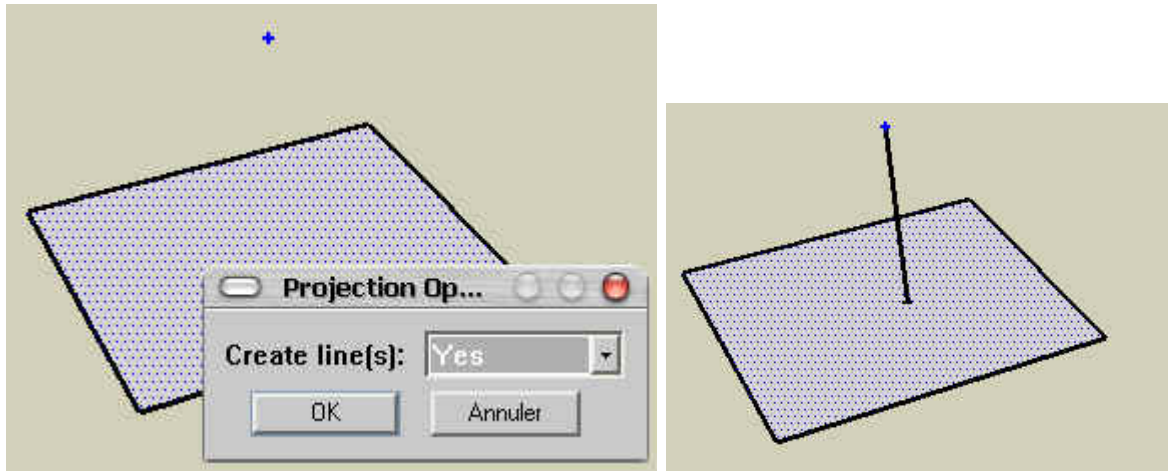
2. Project a point perpendicularly to a line

Select a point and a line, click on the icon. A new point is created at the intersection of the line and the perpendicular to that line from the selected point. If you select "Yes" in the dialog box, a new line is created, perpendicular to the selected line.



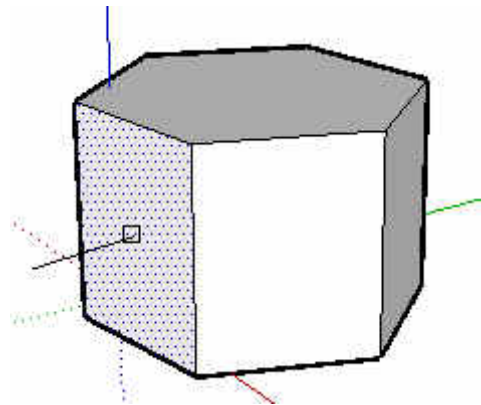
3. Project a point perpendicularly to a face

Select a point and a face, click on the icon. A new point is created at the intersection of the face and the perpendicular to that face from the selected point. If you select "Yes" in the dialog box, a new line is created, perpendicular to the selected face.



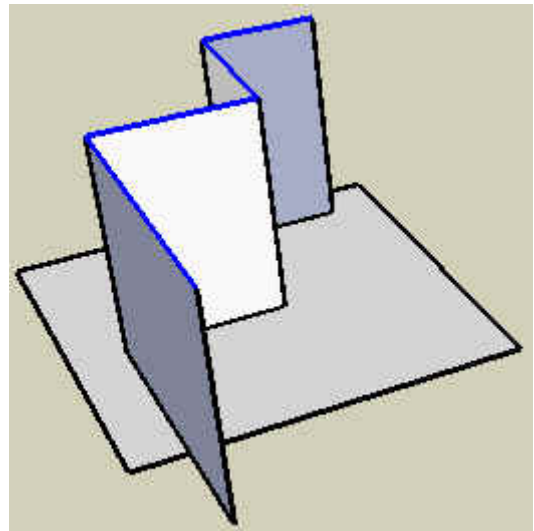
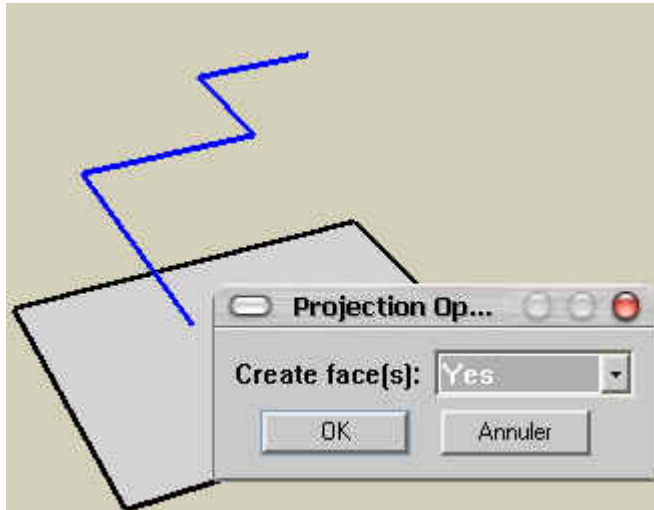
4. Create a line perpendicular to a face, through a point

Select a face, click on the icon. A temporary normal line to the face is displayed at the centroid of the face. Click a point and enter the new line length in the VCB.



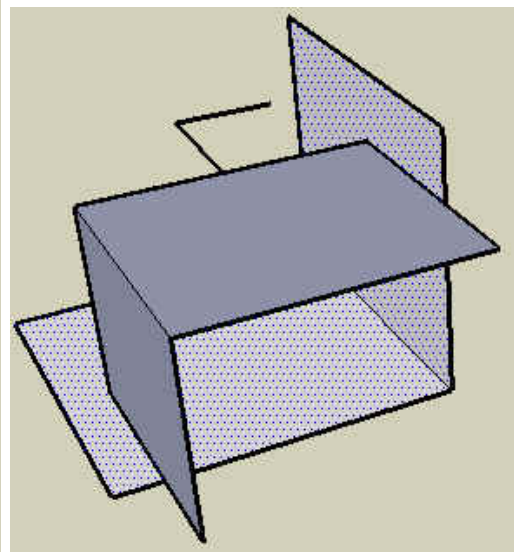
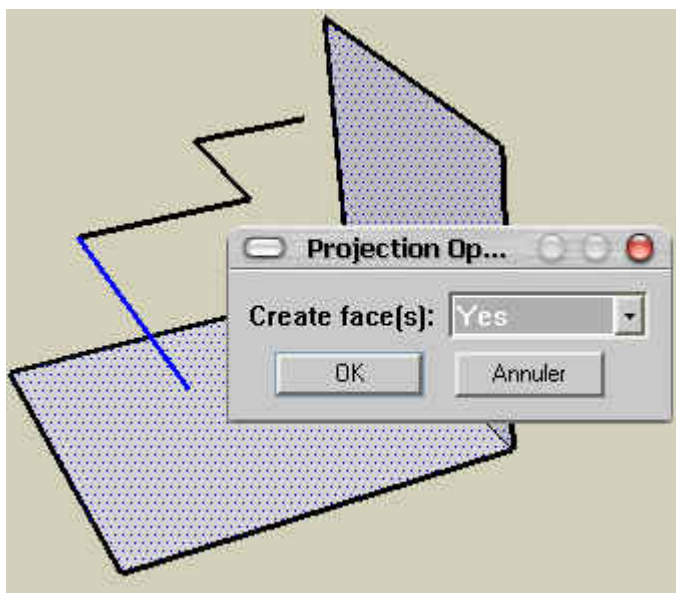
5. Project lines perpendicularly to a face

Select lines and a face, click on the icon. A new set of lines is created, all perpendicular to the selected face. If you select "Yes" in the dialog box, new faces are created, all perpendicular to the selected face.



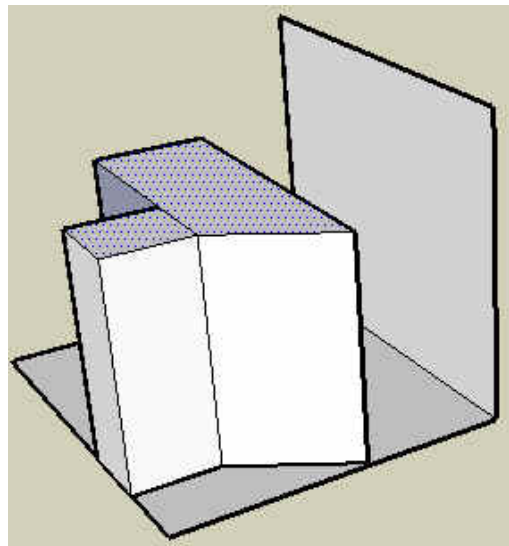
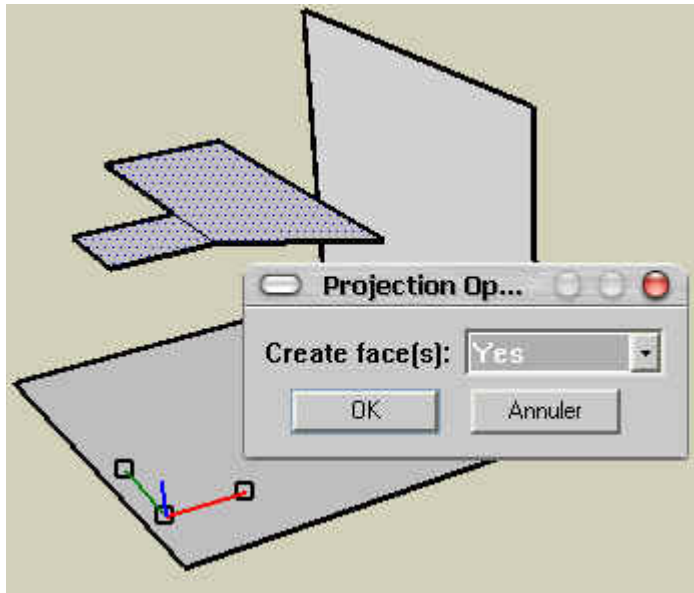
6. Project a line perpendicularly to faces

Select a line and faces, click on the icon. A new set of lines is created, all perpendicular to the selected face. If you select "Yes" in the dialog box, new faces are created, all perpendicular to the selected face.



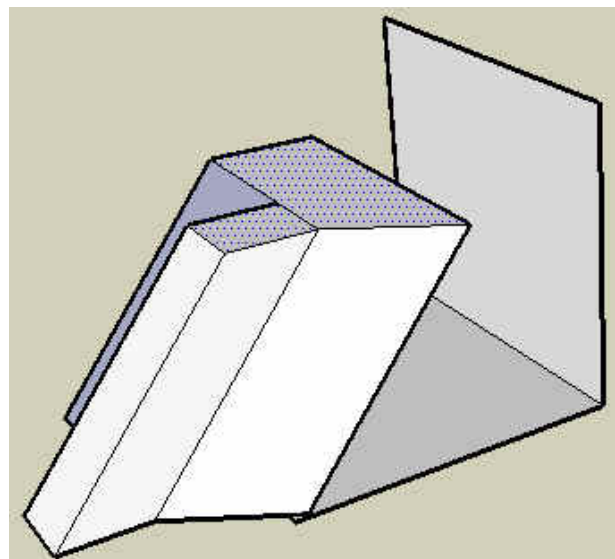
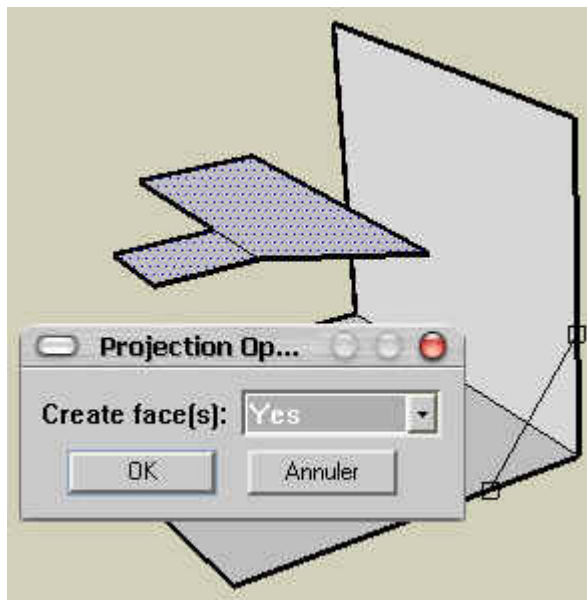
7. Project faces perpendicularly to a plane

Select faces, click on the icon. You are then prompted to click 3 points to define the projection plane (these points can be in the face, not on edges or vertices). When the three points have been clicked, a temporary set of xes is displayed, the red-green plane is the projection plane. Click the OK button and a new set of lines is created, all coplanar with the plane. If you select "Yes" in the dialog box, new faces are created, all perpendicular to the selected face.



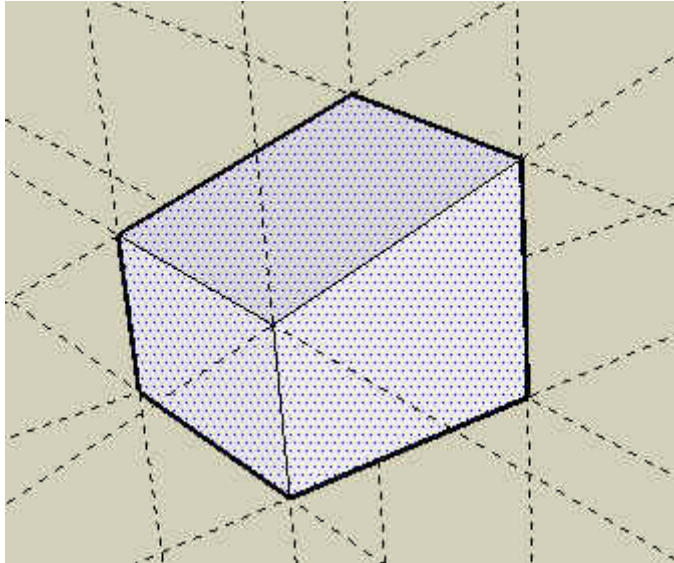
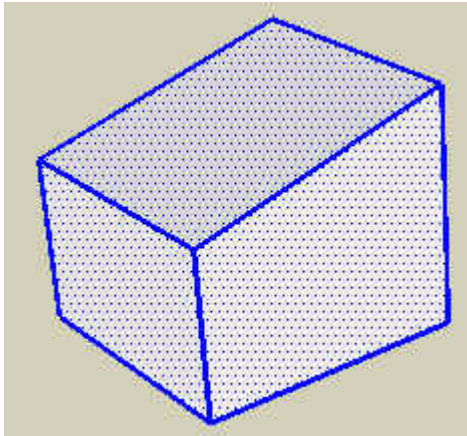
8. Project faces on a plane, along a vector

Select faces, click on the icon. You are then prompted to click 3 points to define the projection plane. When the three points have been clicked, a temporary set of axes is displayed, the red-green plane is the projection plane. Click two points to define the projection vector. Click the OK button and a new set of lines is created, all coplanar with the plane and projected in the direction of the vector. If you select "Yes" in the dialog box, new faces are created.



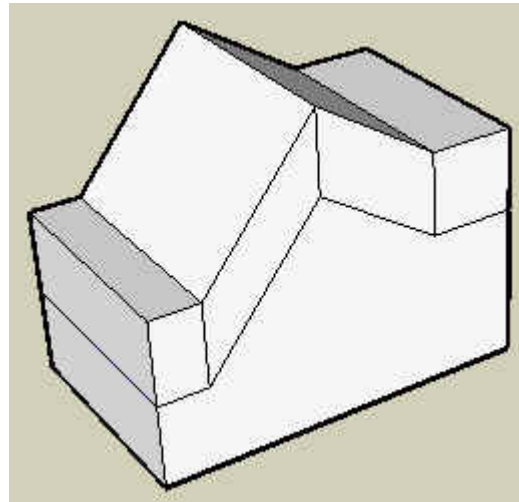
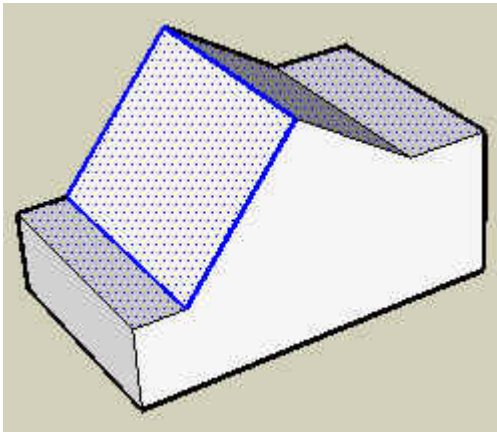
9. Create lines at intersections of selected faces

Select faces, click on the icon (non-face objects are ignored). Construction lines (guides) are created at each intersection of faces, even if the intersection is not on the faces.



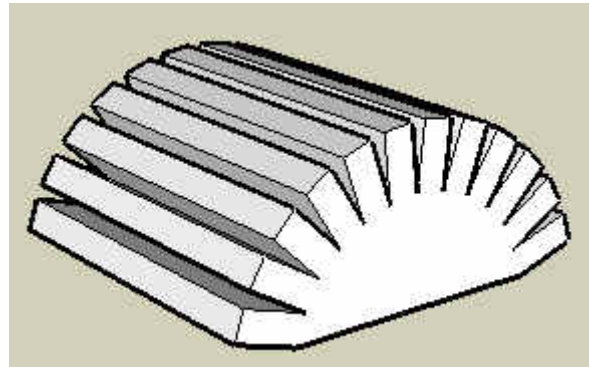
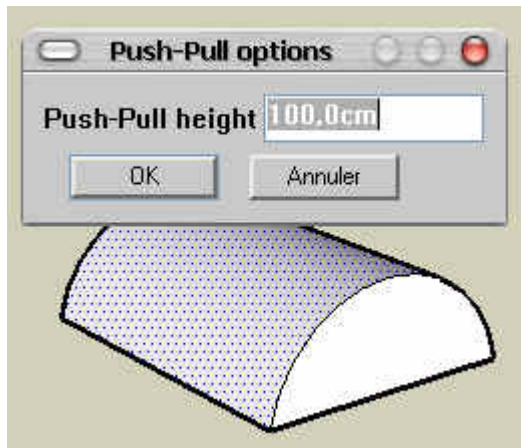
10. Push-Pull selected faces along a vector

Select faces, click on the icon (non-face objects are ignored). Click two points to define the push-pull (extrusion) vector. In the below example, the vector was in the up (blue) direction, but it can be any direction. When the vector is coplanar with at least one selected face, unpredictable results may occur.



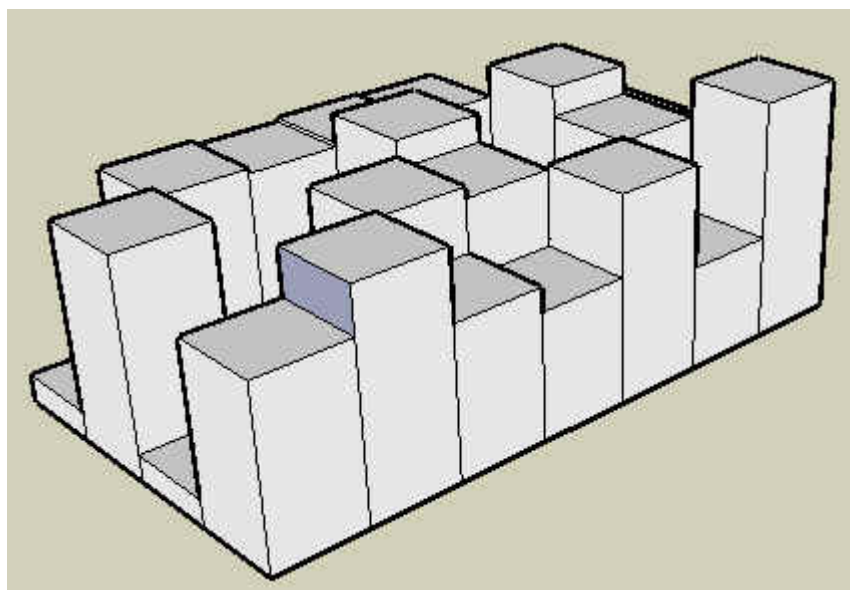
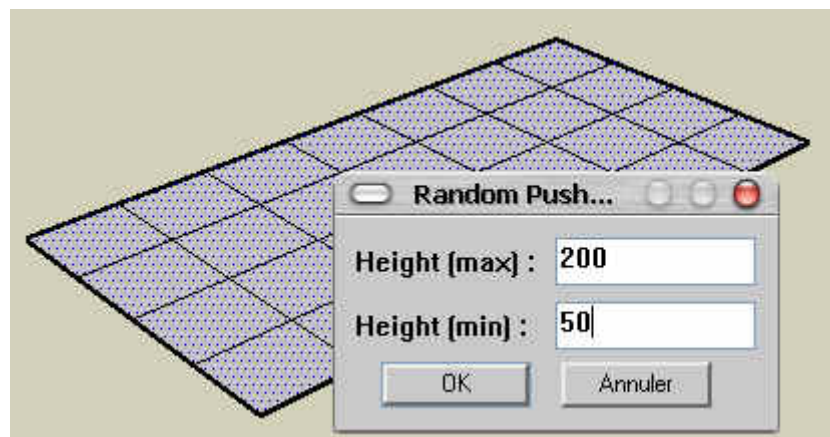
11. Push-Pull selected faces along their normals

Select faces, click on the icon (non-face objects are ignored). Enter the extrusion height in the dialog box. Each face is extruded along its normal (vector perpendicular to its plane).



12. Push-Pull selected faces randomly, within interval

Select faces, click on the icon (non-face objects are ignored). Enter the maximum and minimum extrusion heights in the dialog box. Each face is randomly extruded along its normal (vector perpendicular to its plane).



13. Extrude lines along a vector

Select lines, arcs, curves, circles and click the icon. Click two points to define the extrusion vector.

