

Align Tool v1.1 for SketchUp v5 and v6 (Free and Pro)

© D. Bur, 12.07.2008

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# IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
# WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
#-----
# Name : Align Tool
# Description : A tool to align a selection of entities, groups or components # Menu # Menu Item : Tools / Align, Context
# menu: Align or Align Group/Component
# Usage : 1. Make a selection first
#         2. Click a start set of axis, click an end set of axis
# Date : 12 July 2008
# Type : Tool
# History: 05 September 2007: first version
#         12 July 2008 Bug fixes (deformation of groups suppressed, component's scaling corrected)
#-----
```

This script is a tool to quickly align a selection in 3D from a plane to a target plane. It makes your selection translate and rotate in 3D just like AutoCad does.

1. Installation:

Unpack the archive in the SketchUp Plugins folder.

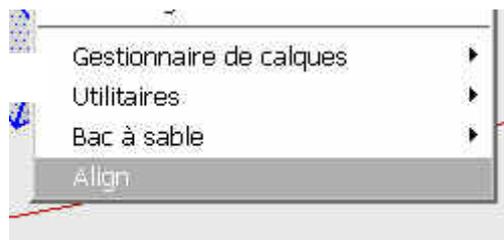
You should have:

"align_tool.rb" in your Plugins folder

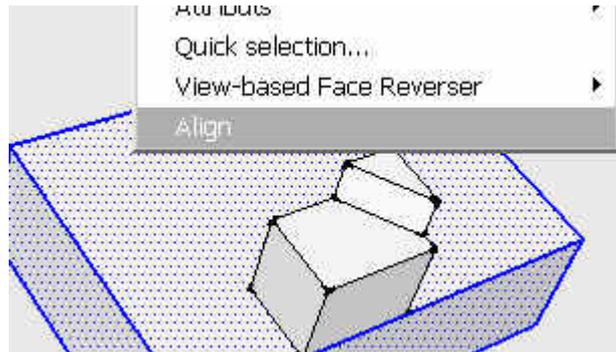
This PDF file also in your Plugins folder. You can move this file where convenient.

2. Menus:

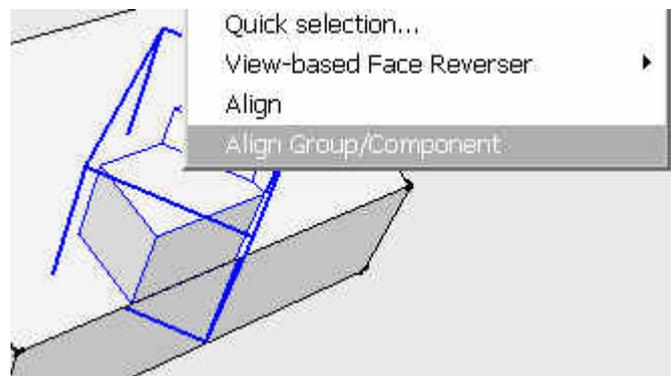
- Once the script installed and SketchUp re-started, you'll find a menu item under the "Tools" menu:



- If you select some entities and right-click, you'll find an "Align" option in the context menu:



- If you select a group or a component and right-click, you'll find an "Align group/component" option in the context menu:

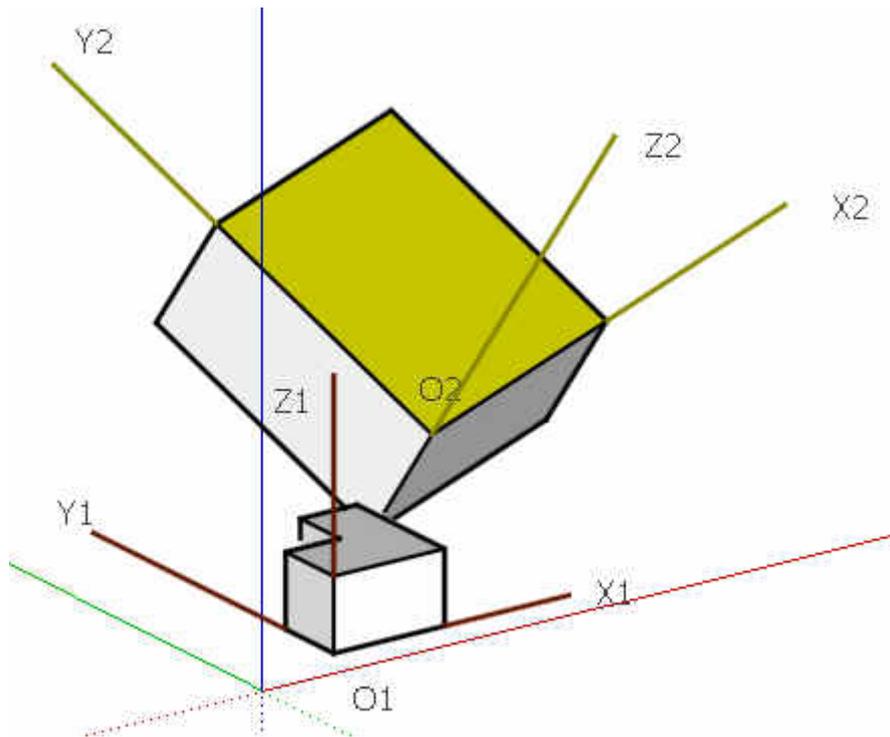


Aligning a selection of entities moves and translates them from their location to a new location you specify, while aligning a group or a component moves and translates them from their own local set of axis to a new location you specify. It also provides an option to make a copy of these objects.

3. Usage:

The basic principle of aligning entities is based upon the AutoCad 3D command "align" so if you know AutoCad, you can stop reading this right away. 😊

If you don't, next page is a little drawing to help you understand it:



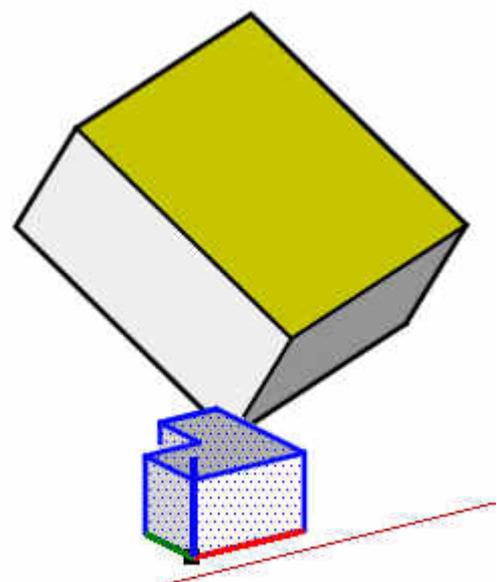
Suppose we want to align the bottom face of the L-shaped solid with the green face of the parallelepiped solid, the corner O_1 being located at the corner O_2 .

The trick is to make the bottom face of the first solid coincident with the green face, this means their planes must be identical. So we have to move O_1 at O_2 , O_1X_1 must point in the same direction than O_2X_2 , O_1Y_1 must point in the same direction than O_2Y_2 , O_1Z_1 must point in the same direction than O_2Z_2 .

When using the tool, you are asked to click these points (or directions) in just the same order as described above (Look at the status bar to know what to do):

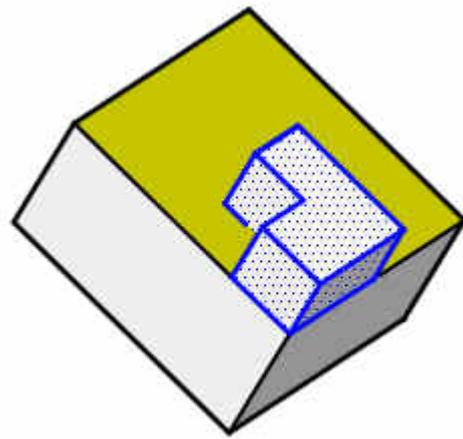
- Starting origin (O_1)
- Starting X direction (X_1)
- Starting Y direction (Y_1)

At this time, Z axis is also known and your screen should look like this:

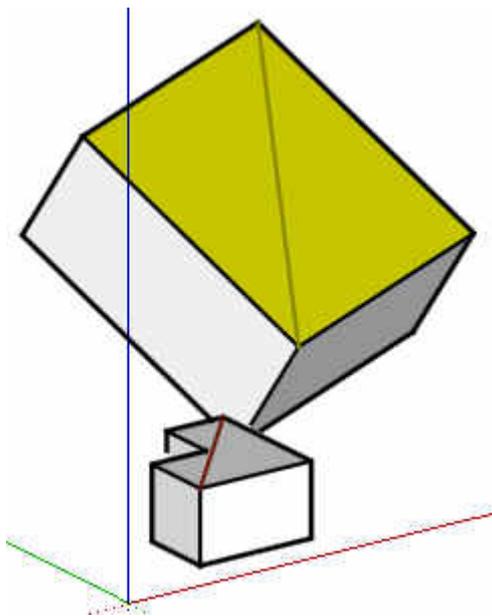


- Ending origin (O2)
- Ending X direction (X2)
- Ending Y direction (Y2)

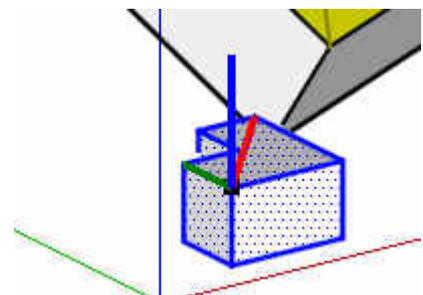
At this time, everything is known and you are done:



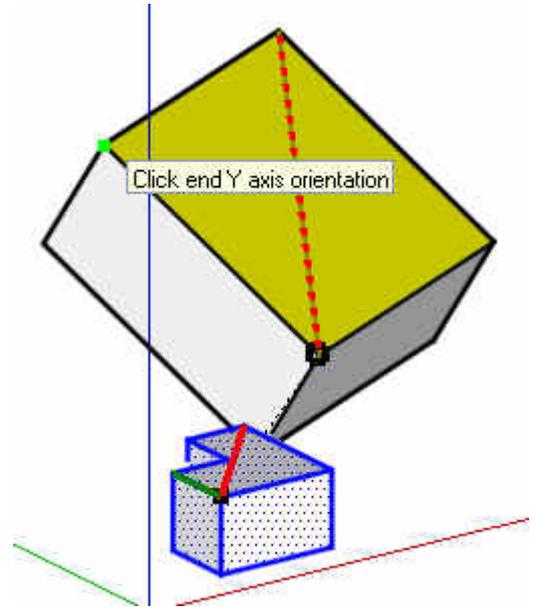
This was an orthogonal alignment. Let's try another case, where we want to align the diagonal of the L-shaped solid to the diagonal of the green face (the brown line will be aligned along the green line):



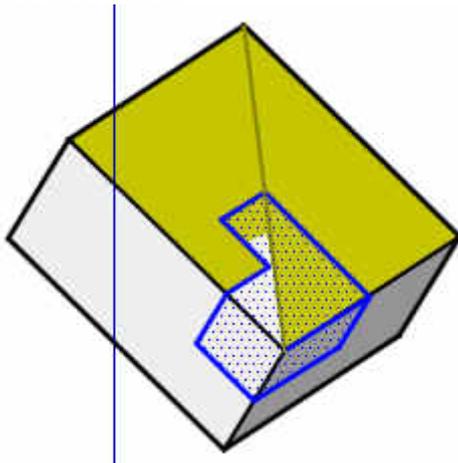
Click the starting origin where the black dot is,
 Click the starting X direction at the end of the red line,
 Click the starting Y direction at the end of the green line



Click the ending origin where the black square is,
Click the ending X direction at the end of the
dashed red line,
Click the ending Y direction where the green dot
and tooltip are:

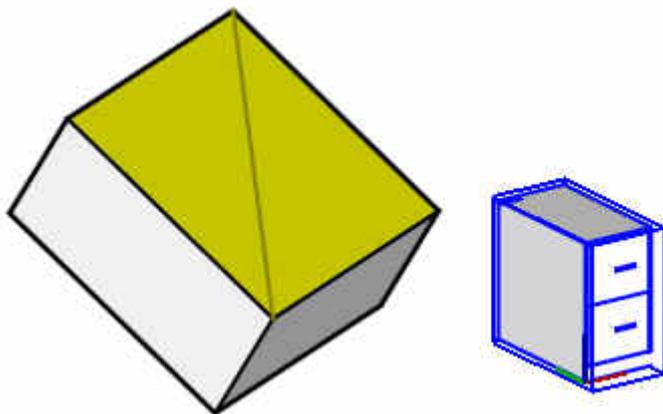


You are done:



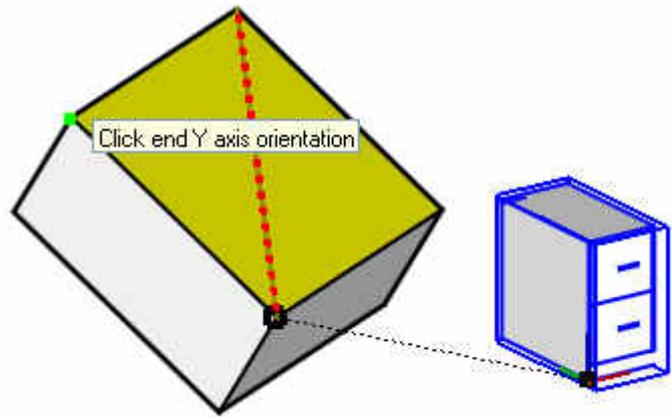
Finally let's try another example with a component: we want to align this cabinet along the diagonal of the green face, the front of the cabinet being aligned with this diagonal:

Select the component, right-click and select "Align Group/Component" in the context menu. Note that the visibility of component's axis is automatically activated:



Now you are only asked to define the ending (or target) set of axes for alignment, assuming that the script will take the component's own axis for start.

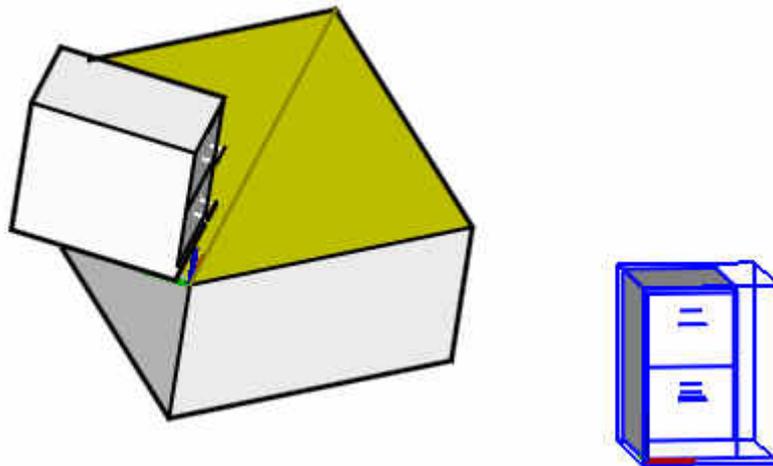
Click the ending origin where the black square is,
Click the ending X direction at the end of the dashed red line,
Click the ending Y direction where the green dot and tooltip are:



You are then prompted whether you want a copy of the component to be aligned or just align the original itself:



Click "Yes" to make a copy, "No" to align the original only.



If a group is selected for alignment, the message is slightly different:



Note that you can use the usual "align" command with groups and components, but you will not have the copy option.