

Using background images for modeling reference in Blender.

By  
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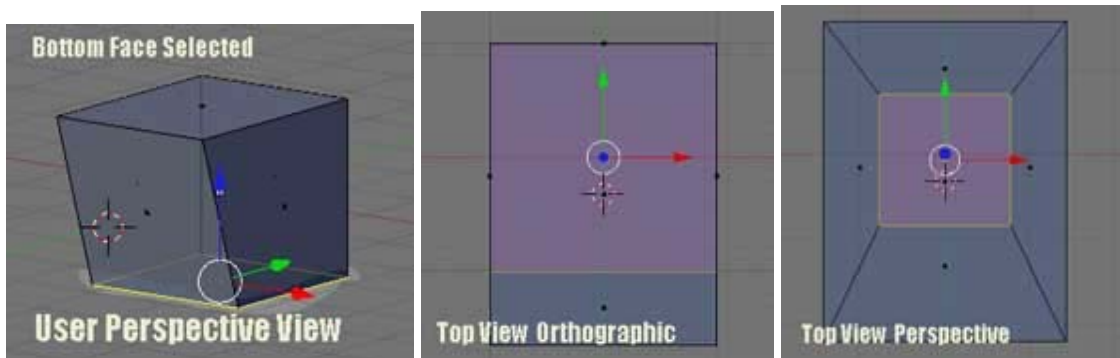
### What you need to understand first.

Blender uses both Orthographic and Perspective views in their 3D view areas.

A way to think about this is that Perspective while it shows a 2D view, it is still considered to have a 3D component. As if you were looking at a view from a camera, the view is 2D height and width; however the perspective is from the camera's field of view which takes into account distance and angle from subject. The 3D aspect is the depth plane between viewpoint and various objects.

An Orthographic view is more like a drawing on a piece of paper, where everything drawn on the paper has the same depth.

When adding a reference image in Blender you need to work with it in Orthographic view.



**Notice:** How in Top View Perspective the depth of how much further away the selected face is from the camera is calculated in. Why is this bad? Imagine modeling a car from side view, and you wish to lower the roof vertices slightly. In Orthographic the vertices for both side of the roof are on the same level, so it is easier to view how the new shape of the roof line will be when you lower them.

If you are in Perspective view the front vertices will appear higher than the back vertices (see above), with the added problem of distortion due to perspective line. Meaning vertices in front will appear to move down further than the vertices in back, and can be make modeling harder if your not use to taking this effect into account.

So if you're looking at a top-side-front view of your object, and you know two vertices are at the same height but appear at different ones. Check to see that you are in Orthographic view before continuing.

## USEFUL KEYBOARD SHORTCUTS FOR THIS SUBJECT

'a' Key toggles between selecting all and none of either all objects in a scene in Object Mode, or if in Edit Mode all or none of the sub-object type selected (Verts, Edges, Faces...). However in practice find it toggles between All –None –or previously selected. You're in Edit Mode-Vertices with 2 vertices picked, then 'a' toggles between no vertices on object selected, all vertices selected, and just the previously 2 selected vertices.

On Numeric key pad

1 –Front view 3 –Side view (This is a Right side view) 7 –Top view 0 –Camera view

'/' Toggles between Global and Local views. Global is all objects in scene, Local is object(s) selected. Occasionally find Global when in Edit Mode will just expand to show the object for which the sub object is part of. If you need a full Global view you can also press the 'Home' button.

'5' Toggles between Perspective and Orthographic views.

Also

'Ctrl UpArrow' Maximize/Restores multi window views.

## ADDING BACKGROUND IMAGES

For our purposes here just get 3 different images to use to put in the 3D Windows for top – side – front views. You can add them by staying in a single window or split your window into four views.



The 3D Window work area:

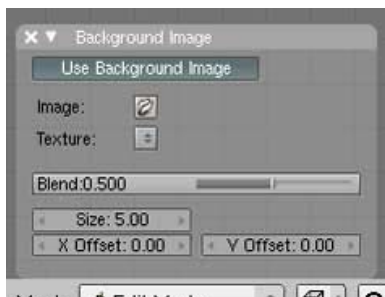
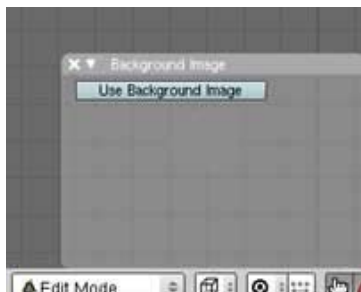
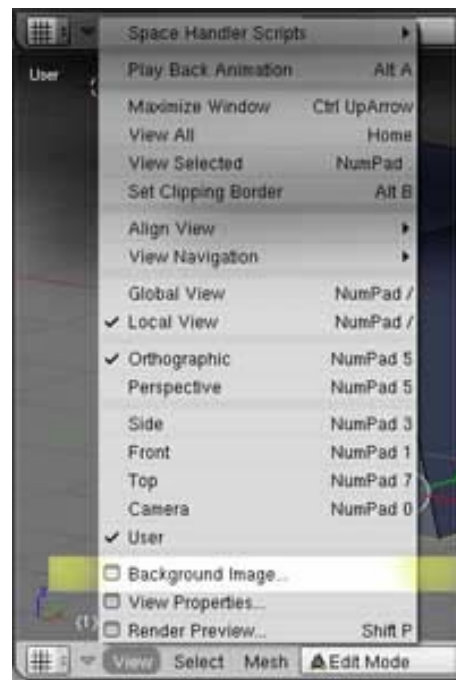
A window work area should have a Menu Bar located at the top or bottom of it, can be set by user, and on the far left of the bar you should see an icon button. If the window is not already a 3D Window click and hold on the icon to get a list of possible window types. On the list highlight '3d View', whose icon looks like a grid pattern. Along the Menu Bar you will see a number of buttons and icons for items available for that window mode.

For added background images you'll be interested in the 'View' button located to the far left near the Window Mode icon.

Click and hold the 'View' button to get a list of options. You'll see you can select your various views and Perspective/Orthographic options from this button also, so you can use this way or the Numeric Keypad to switch amongst views.

So set your Window's view for Orthographic, and either front – top – or side by list or keypad.

Now using the 'View' list, highlight 'Background Image' and release. A new popup window should appear for choosing a background image to use.



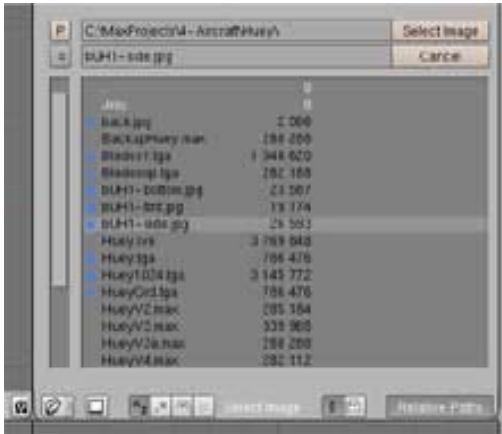
Click on the blue 'Use Background Image' bar and the popup items change. 'Image' opens up the dialog box for browsing an image to use. 'Texture' when clicked a list of images loaded for use as Material Textures.

'Blend' affects the alpha level of the background image, with a value of 0 being solid and 1 invisible. If your image appears too small or large use 'Size' to scale it.

An image is normally placed at 0,0,0 in view space, and at the bitmaps center. So a 200 by 200 pixel image is centered at 100,100,0 (remember though viewed as a 2D image plane a 3D Window still has a depth value, but it is equal to 0).

If you need your Image to be centered elsewhere, you use the 'X Offset' and/or 'Y Offset' to change its position.

**Note:** If you scale one window it is best to scale 'size' the others by the same amount.



Background Image – Image button pressed image selection menu.



Background Image – Loaded in 3D Window.

Now do the same for the other views you need by setting up a 3D Window with an Orthographic view and load in an image for it.

## HELPFUL HINTS

1)

It is best to prepare in a paint program, like Photoshop, your Background Images ahead of time. Usually easiest if you make a separate bitmap for each view, so you can carry out any necessary resizing and placement issue within a paint program where it would be easier.

You can however put all views on one bitmap and use 'Offset' to position, but not recommended.

2)

Under the 'User Preferences' in Blender you can turn on a button so that the viewport's view name is visible.

When starting a default version of Blender, the top bar is usually set as a 'User Preferences' window. However the Header position is set for 'Bottom', so User Preference items need you to place your mouse just at the bottom of the Window bar so that you see it turn into a up/down arrow. Dragging down reveals the menu items, with the one you're looking for is 'Views and Controls'.

Click 'Views and Controls' and look to the far left under the heading of 'Display'. Click down 'View Name', turns darker if on, and your 3D Windows will now show what view they are. But it only shows top -side -front -camera and user. Not whether you in Perspective or Orthographic. So keep it in mind.

