

Reset a Blender Object's Pivot Point (Origin) To Any Arbitrary Desired Position & Rotation

Version 1.1. This tutorial has been designed for Blender 2.63a

Please note: Do not attempt any of these things until you read the whole tutorial or at least until you read everything in the area titled **A Few Precautions**. The information there will be a very good explanation for this warning. So my suggestion to you is that you read the whole tutorial first.

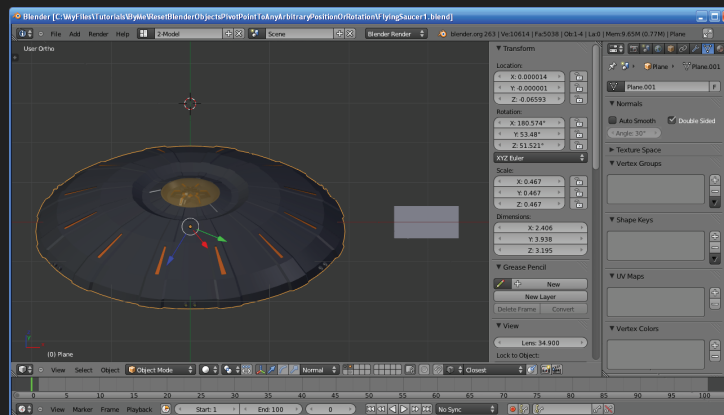
So with that clear let's proceed.

I was looking for a way to do this in Blender a long time ago and I couldn't find how to do it then one day I realized a very simple way and it's very, very useful. Read it carefully, it looks long but you can really learn it fast and it can be used very, very fast:

You can reset the pivot point (object **Origin**) of an object not just to those 3 alternatives of the **Object/Transform** menu which are:

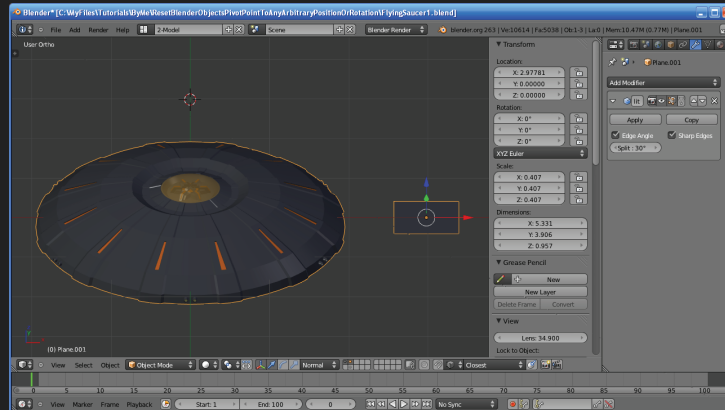
Geometry To Origin
Origin To Geometry
Geometry To 3D Cursor

To reset the pivot point to any exact location/rotation that you may want arbitrarily make sure that you are in **Object Mode** and create a new plane with the **Add Object Menu/Add Mesh/Plane** then position that plane to the exact location where you want your other object's pivot point (**Origin**) to be and then rotate that plane in any axis that you want to the desired rotation angles. Remember that the newly created plane can be anywhere and that means anywhere inside or outside the older object. This is a very good way because a new plane's default rotation can be 0 in all 3 axes (X, Y and Z) and it is an object that is very easy to manipulate and control toward the desired new **Origin** position and rotation.



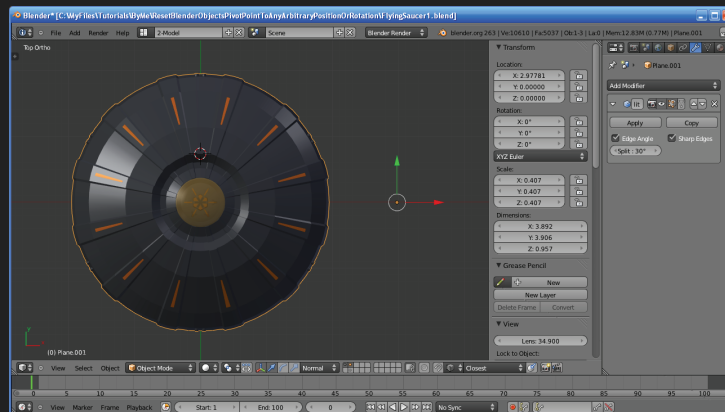
Notice in the previous screenshot that the **Origin** of my simple flying saucer is very visibly screwed up at the wrong angles (in all axes) and of course I did that on purpose for the tutorial and also notice the new plane object that I added next to it which will give us our new **Origin** position/rotation.

When you are happy with your new pivot point (**Origin**) position/rotation right mouse click your original object then while holding **Shift** (for multiple object selection) right mouse click the newly created plane and then press **Ctrl+J** to join the two selected meshes. Notice that the newly created plane has to be selected last always before joining them.



In the previous screenshot you can observe how after joining the saucer mesh to the new plane it has acquired the new plane's **Origin** point and turned it into its own.

Once they are joined press the **Tab** key to enter **Edit Mode** then make sure that you are in **Face Select Mode** (**Ctrl+Tab+3**), make sure that everything is deselected first then select only the newly created plane and delete it by using the **Del** key and then selecting **Face**. Your old object pivot point has now become the newly created plane's pivot point and Presto! Don't think that this is the same as using **Origin to 3D Cursor** because that function relocates the **Origin** point to the **3D cursor** but *it does not change the current object's Origin point rotation at all* and with this method you can change it to any coordinate too *but by specifying exactly any angle that you want in all 3 axes* and that is also needed sometimes.

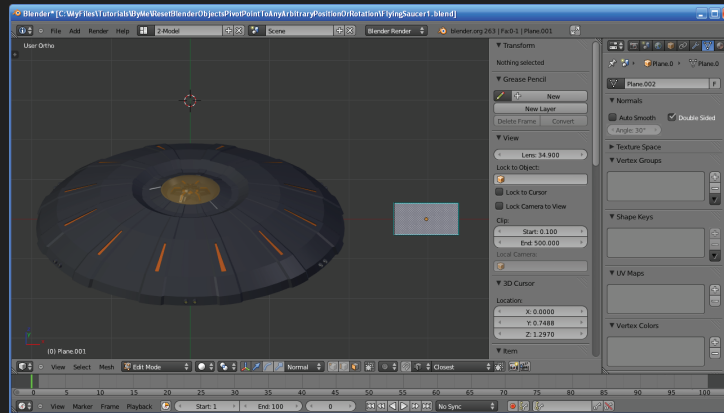


You can see in that last top view screenshot that the new plane has been deleted already and how its **Origin** point is now the old object's **Origin** point, of course I could have also placed the plane squarely in the center of the saucer to reset its **Origin** to a more common point but here it is very offset just to show the result more clearly. Of course in this case I didn't rotate the new plane in any angle at all cause in this case all I wanted was to straighten the saucer's **Origin** cause that one was all screwed up but I could have changed the angle to my heart's desire if I needed to.

A Few Precautions:

The method has a few issues. One is that your old object will become the new object and therefore you may have to do a few things like for example rename it to give the new object the old name it had but it is a very, very useful thing no matter what. Materials are not usually a problem either cause the newly merged object will retain the multiple

materials assigned to the older one.



Another thing that you have to be careful with is as you are seeing in this last screenshot in which I am marking some **Sharp** edges in the newly created plane before joining the original object (in this case the saucer) to it. This other thing is very important. Before you merge the two separate meshes verify if your original object has any marked **Sharp** edges (my saucer had plenty of those already) or **Seams** and it is important to know that because if it has marked **Sharp** edges you have to add *at least* one marked **Sharp** edge to one of the segments of the new plane and if it has any marked **Seams** you have to add *at least* one marked **Seam** to one of the segments of the new plane object. If your original object has both, any marked **Sharp** edges and any marked **Seams** you will have to add both at least one marked **Sharp** edge and one marked **Seam** to the new plane. The reason for all this is that if the new plane (or any new object that you use to join your older object to) does not have at least one marked **Sharp** edge when you join the original object to the new plane (or object) *it will lose all the marked Sharp edges that it had* and if the new plane doesn't have at least one marked **Seam** then the same thing will happen with your original objects **Seams**, *they will be completely reset to zero*. I don't know if this is a Blender bug or not, all I know is that this happens and to prevent it from happening you will have to be sure of doing what I told you and your old object will preserve all its marked **Sharp** edges and **Seams** just as they were and I know by experience that losing marked **Seams** and/or marked **Sharp** edges can be a lot of lost work and this could mean a lot of time to mark them all over again as they were and I know that it is frustrating to lose work that you have already done so be very careful that you don't forget this.

I'm quite experienced with Blender now (I can model a helluva lot of things) but I'm not a full expert in it yet and you have to be careful that if you have for example animation keys assigned to the old object that you don't lose that or anything like that and I'm not completely up to date with the current Blender in the animation department and with a few other things! And I don't know if Blender provides an easy way to assign all those properties of the older object to the new one so be careful with this. Save before you try.

Also if you have any rigging done (any animation skeleton) in the model you will lose the correlation of the bones to the mesh when you join that original rigged mesh to the new object and you will have to assign the mesh to the bones again so use this method only before creating a rig for your model unless it is absolutely necessary to do otherwise.

But this is something that you will usually use while modeling anyway and then when you are done with that you can proceed to animate and assign keys and that sort of thing. Use it *in the initial modeling stages* of your mesh before you start doing anything else with it. Just learn how to use this and when to use it and it has been invaluable to me in many occasions.

If anybody knows a simpler way to do this and with so many changes in the new Blender 2.5x and newer versions it wouldn't surprise me if there was an easier way to do so, if there is, please try to leave me a message in one of the forums that I frequent and I frequent a lot of 3D graphic forums like <http://www.blenderartists.org/forum/> (I'm

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DavidOne_1 there), <http://www.foundation3d.com/forums/> (I'm PixelOz there), <http://forums.cgsociety.org/> (and I'm PixelOz there too) and in others. That's all.

You can access PixelOz other freebies (like wallpapers, icons, 3D models, paper models, other tutorials, a free e-book that shows you how to create paper models with Blender, etc.) in here:

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My **Mediafire** folder:

<http://www.mediafire.com/?cuc82t8l3b093>

A Note to Blender Developers:

It occurred to me that to make this much easier and without the hassles a new function to do this should be added to the **Object/Transform** menu, perhaps something called **Origin to New Object** or **Origin to Secondary Object** or anything like that. And of course it will work by selecting two objects and after selecting this function the first selected object's **Origin** point will be exactly (in both location and rotation of course) as the **Origin** point of the lastly selected object. And I'm not an expert in programming but I think that perhaps it would not be that difficult to add this new function cause all that it has to do is to copy the values of the variables of the position and rotation of the secondary selected object's **Origin** and assign those values to the position and rotation variables of the first selected object's **Origin**. I'm not sure but perhaps this is relatively easy to implement but you are the experts cause I have no way of knowing for example if these variables are spread around in different parts of the program or if they have to hook up to several parts of the code and so and therefore I leave only this suggestion to you hoping that it could be implemented and then benefit the whole Blender community of users by making the program better than it already is. The difference to users with this function is that their original objects will remain just that and they will not turn into a new object and therefore preserve all their characteristics and parameters intact whatever they are without any problems.

This tutorial was brought to you as a free courtesy of David Guzmán - PixelOz.

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