
Subject: Size shown after upload

Posted by [reducedAircraftFactory](#) on Sun, 07 Oct 2012 19:08:18 GMT

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Hi all,

I'm working on my first upload. It's an aeroplane model that -- to scale -- should be about 49cm x 32cm (by a smaller height). In working with Blender with the unit size set to Metric and the scale to 0.01 (millimeters), I see that the model is the correct size: ~49 blender units by 32 units.

I exported to STL and then read the model into Netfabb Studio Basic. The Information box on the left says the bounding box is 48.67mm x 32.86mm x 12.23mm. Good good.

Then I upload to Shapeways. The automated checks pass and the image looks decent. However, the dimensions show: Cm: 3.6 w x 3.7 d x 1.2 h, which is smaller than expected (except height).

Was there some scaling problem during the upload? Or -- maybe -- did the tools rotate the model to put the longest part (wings) across the diagonal to minimize the area covered, rather than keeping the axes orthogonal to the bounding box?

Thanks!

Subject: Re: Size shown after upload

Posted by [Youknowwho4eva](#) on Mon, 08 Oct 2012 13:14:13 GMT

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Right now, what the software does, is it rotates the model to try to make the most dense bounding box possible. This of course can be confusing when your bounding box is different than what you are expecting, so I've already suggested that we show at least both this minimal bounding box, and the as uploaded bounding box.

Subject: Re: Size shown after upload

Posted by [reducedAircraftFactory](#) on Mon, 08 Oct 2012 15:18:47 GMT

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That makes sense -- thanks for the explanation. Yes, it might be good to have to tool show the uploaded size, or at least to have this explanation in the upload tutorials.

Now for a test print...

Subject: Re: Size shown after upload
Posted by [Fredd](#) on Mon, 08 Oct 2012 18:26:03 GMT
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For the SW display, Y axis is regarded as up. Oddly, the Z axis in blender is regarded as up. So either regard blenders Y axis as up, or when you finish the model, rotate it in the x axis 90 degrees.

For example if you extruded a plane on the Z axis in blender, its STL uploaded to SW would appear to be laying on its side, not vertically.

A good tool to experiment in Blender is the Measure Panel addon. The volume option will alert you if the mesh is nonmanifold and if ngons are present. Quite a timesaver. By the way a blender unit is regarded as a mm anytime you export as a STL.

*** IMPORTANT*** When you set the units and scale, this is for visual effects for the models not actual printer info.

48.67mm x 32.86mm x 12.23mm would print as 4.8cm x 3.2cm x 1.2 cm. So just scale(S) the model by 10,export where a Blender unit will now actually print as a centimeter per blender unit

Subject: Re: Size shown after upload
Posted by [Youknowwho4eva](#) on Mon, 08 Oct 2012 19:09:44 GMT
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A few things on that Fred, as far as model orientation, you are correct. And the bounding box used to be based on this. But the current bounding box dimensions are as I said, where it finds the most dense bounding box for the model. Blender doesn't export STL as mm. STL doesn't contain any unit specifications. So the units are what you select when you upload your model to shapeways. So if you set the drop down to inches when you upload, 1 Blender unit will equal 1 inch.

Subject: Re: Size shown after upload
Posted by [reducedAircraftFactory](#) on Mon, 08 Oct 2012 20:50:04 GMT
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Good tips, Fredd, but the phenomenon I was referring to was the bounding box (and therefore model size) changing after upload due to Shapeways' auto-rotation (which I now understand). In

case anyone's still confused about the original question, this picture may be helpful:

File Attachments

1) [img1.png](#), downloaded 193 times

Subject: Re: Size shown after upload

Posted by [Fredd](#) on Tue, 09 Oct 2012 00:15:35 GMT

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Thanks for the visual reducedAircraftFactory. As for 1 BU = 1mm, you export a stl 5 x 5 x 5 cube in BU's, net fabb regards dimensions as a 5 x 5 x 5 mm cube. SW regards it as a CM .5 x .5 x .5 cube. .5 cm = 5mm. Setting it to inches is a totally different animal.of course. Setting unit size and scale still does not effect printed size. *Glares at YOUKNOW.* lol

I thought I was losing my mind. By the way, meshlab generally displays the mesh as SW renders it. Netfabb displays it as Blender does. Meshlab is a worthy free download by the way
