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Subject: N-gons, Tri's, edge-loops.. and 3d printing  
Posted by [Schaeffer](#) on Sun, 04 Apr 2010 21:20:21 GMT  
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Hello everyone,

I wanted to ask some questions I had some difficulty getting clear cut answers to regarding modelling for 3D printing.

I am mainly used to modelling control meshes for subd models or models that deform well in animation/game engines.

Mostly I mean I "grew up" in 3D with the keep everything quad, keep the mesh flowing correctly (edge loops) etc rules.

I was wondering, unless I'm making a subd model to collapse later, if and how much those things matter when modelling for 3D printing.

E.g. Can an N-gon in a bad spot "ruin" the model like it can ruin the smooth subdivided result of a control mesh? Or how bad flow (edge loops) can ruin the animated result in a game.

Do these rules matter as much when working on a model specifically made for 3d printing?

I find the STL check in 3d max doesn't check for half the rules I have to stick to in most of my models.

I'm kind of hoping this means I can drop such considerations when doing models that will only be used for print.

A second question is, what relative polycount on a round area results in a smooth non faceted end result in printing.

I only uploaded a simple pendant so far, just as an easy start out to see if it accepts the model for printing. I didn't notice the 25,- minimum order, before I was intending to have it printed so I can see how decisions making the virtual model affect the end result but that will have to wait until my shopping list or my own number of designs grows to above 25,- lol

(E.g.. How many segments would you give a 1 cm radius circle in you modeller that you know will end in a smooth round area in print.)

I'm especially looking for advice from people who have really seen their own printed models and experienced what results 3d printing will give, given certain conditions on the virtual model. (e.g. the observations on the beetle model are great to have when you haven't been able to hold a model yet to compare to the virtual model.)

I'll get back to digging in the forum now, I have already found an enormous amount of information to digest, thank you all for that .

A little late but still, happy easter everyone!

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Subject: Re: N-gons, Tri's, edge-loops.. and 3d printing  
Posted by [Schaeffer](#) on Mon, 19 Apr 2010 08:19:20 GMT  
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I thought I'd leave the post, give people a chance to read maybe reply but it's been a while without reply now so maybe I failed explaining it in words.

Here's a simple and in my eyes very wrong mesh, but would this print as a flat slab with a circular hole in it?

Normally you would probably not even start in this fashion with a boolean to make a hole in the first place but if so you'd have to start cutting etc. to fix this mesh so it will smooth properly, bend properly etc.

But if you just need a flat wall for example with a cut-out would this print correctly? It would save some time modelling especially for relatively simple models you aren't going to subdivide and smooth.

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Subject: Re: N-gons, Tri's, edge-loops.. and 3d printing  
Posted by [Jettuh](#) on Mon, 19 Apr 2010 11:46:47 GMT  
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as shown in the picture,, it will be printed without problems

but be carefull with boolean,,, i can non manifold your object!

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Subject: Re: N-gons, Tri's, edge-loops.. and 3d printing  
Posted by [iguffick](#) on Mon, 19 Apr 2010 15:07:18 GMT  
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That looks fine to me.

You are obviously aware of the problems you would get if you ever wanted to sub-divide / sub-surf / smooth.

As long as you want to keep it as-is, then there is no problem printing this (as long as your model remains manifold).

Regards,  
Ian.

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Subject: Re: N-gons, Tri's, edge-loops.. and 3d printing  
Posted by [Schaeffer](#) on Mon, 19 Apr 2010 21:18:23 GMT  
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Ah life on my thread!

Thank you all for the answers.

That's nifty that this works, for some things this will be a great time saver compared to modelling for animation, subd, a lot of the modifiers etc.

@iguffick

Yes I'm (sometimes painfully lol) aware of it, I was mainly wondering if it's also necessary for print. If the print technology might choke on such an extreme Ngon like a subd or almost any other modifier like bend, taper etc. will.

I'm no professional though, self taught and not earning money with it (yet, hope hope )

If all goes well I will have my next shop item ready soon, it will be a bit more detailed and interesting I think than my pendant.

Although I went a bit overboard on small details and think I'm better off rescaling it to 10-14 cm figurine instead of the intended pendant lol. I got carried away and noticed yesterday I dropped well below minimum detail for the intended material (metal) (woops... )

Thanks again for the answer!

Cheers everyone

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