Subject: How to hollow objects?
Posted by mimekunst on Tue, 04 May 2010 07:51:03 GMT
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I have a 1-layer-surface. I want to hollow it out to have a constant thickness as the result. How do I do that in 3D Studio MAX 7?

Subject: Re: How to hollow objects?
Posted by WelshDesigns on Tue, 04 May 2010 15:09:39 GMT
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if you have a simple surface, Max has a "shell" command. Go to Modifiers/Parametric Deformers then shell, and make sure you shell inside, not outside.. if you have a very complex surface, or have to offset too far, then polys will start crossing over each other and mesing up. Another way, is to make a copy of the object, pick all the polygons of the copy, invert them, then extrude them. then merge the 2 copies together. than can work in some cases pretty well also. There are tons of other ways too, but basicly you just need something "inside" the object, with the normals flipped to the inside. the printers interpret that as hollow.

Subject: Re: How to hollow objects?
Posted by Youknowwho4eva on Tue, 04 May 2010 15:20:01 GMT
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I sometimes use a similar method as the inverting normals. My software has an offset faces command. So I'll create a copy, reduce all the faces by what ever thickness I want, and subtract it from the original. I only do that if Shelling wont work.

Subject: Re: How to hollow objects?
Posted by mimekunst on Thu, 06 May 2010 11:10:19 GMT
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WelshDesigns wrote on Tue, 04 May 2010 15:09if you have a simple surface, Max has a "shell" command. Go to Modifiers/Parametric Deformers then shell, and make sure you shell inside, not outside..
The edges make it non-manifold. When I click "select edges" they are shown to me, but how do I delete them? Additionally the edge, meaning the connection between the outer and inner shell does not exist.

The "select and uniform scale" does not work as the object is too complex. There is no continuous wall-thickness anymore.

Isn't there a script available to do that?

Subject: Re: How to hollow objects?
Posted by virtox on Thu, 06 May 2010 14:28:48 GMT
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For the inner shell only, you can try a relax or meshsmooth modifier.

Depending on the shape this can be helpful in disentangling the inner shell afte applying the standard shell modifier.

And final step use boolean with a simple cylinder to cut a hole trough the shell, to let the support material out.

Subject: Re: How to hollow objects?
Posted by WelshDesigns on Fri, 07 May 2010 05:54:08 GMT
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seems to me you shouldn't have any open edges after the shell command. I don't use it tons, I have my own script using the copy/flip/extrude/merge method, but the whole point of a shell is to not have any open edges. I think something isn't working for that paticular surface. You might try to make an editable poly. go to edge mode. then pick the 2 open edges and try to "bridge" them. that joins the 2 curves tother with a straight surface. But it sounds like something is too complex with the surface, or just too small of curves, for the amount of shell or offset you're trying to accomplish. Just hard to tell without seeing a picture of the model at least.

Subject: Re: How to hollow objects?
Posted by pior on Sun, 16 May 2010 11:49:08 GMT
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Hi there, first post.

Shell works well for simple, lowpoly surfaces but will indeed cause issues if the meshing is too dense.

There is a much, much more easy way to hollow objects tho. Simply throw in some spheres fitting inside the mass of your object. Convert them to edit poly, flip their faces, and attach them to your original shape. There you have it, spherical holes inside your print.

A good side effect is that it gives a certain cellular strength to things, as opposed to making everything hollow.

Hope this helps (I use it quite a bit, works great)

P