Parametric Gridfinity Box - Fusion 360

MarB

VIEW IN BROWSER

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Summary

Configure your gridfinity box on the fly and stop storing milions of different models.

Hobby & Makers > Organizers

Tags: storagebox gridfinity

UPDATE:

- I accidentally left “section analysis” on. So if you set height to more than 6U, it showed only a bit. It was confusing, now fixed.
- New way to tackle lifting corners. I tried mouse ears and all. Nothing really works 100% and takes more space on bed. Now you can enable (off by default) 0,2 layer for corner bases and later cut holes open with craft knife. It helps a bit and keeps possibility of adding magnets later on. You need to enable these bodies:
    - **backLeftBlank**
    - **frontLeftBlank**
    - **backRightBlank**
    - **frontRightBlank**
- New body named “**solidFill**” (off by default) let's you easily fill the box up to the lip if you want base for custom insert.

UPDATE: I deeply apologize to the community. There was an error in radius of the base. It means that there can be compability issue with correct Gridfinity boxes. I fixed it so now it is ok. But wont be compatible with models downloaded previously.

New description after 4th update. It started getting messy.

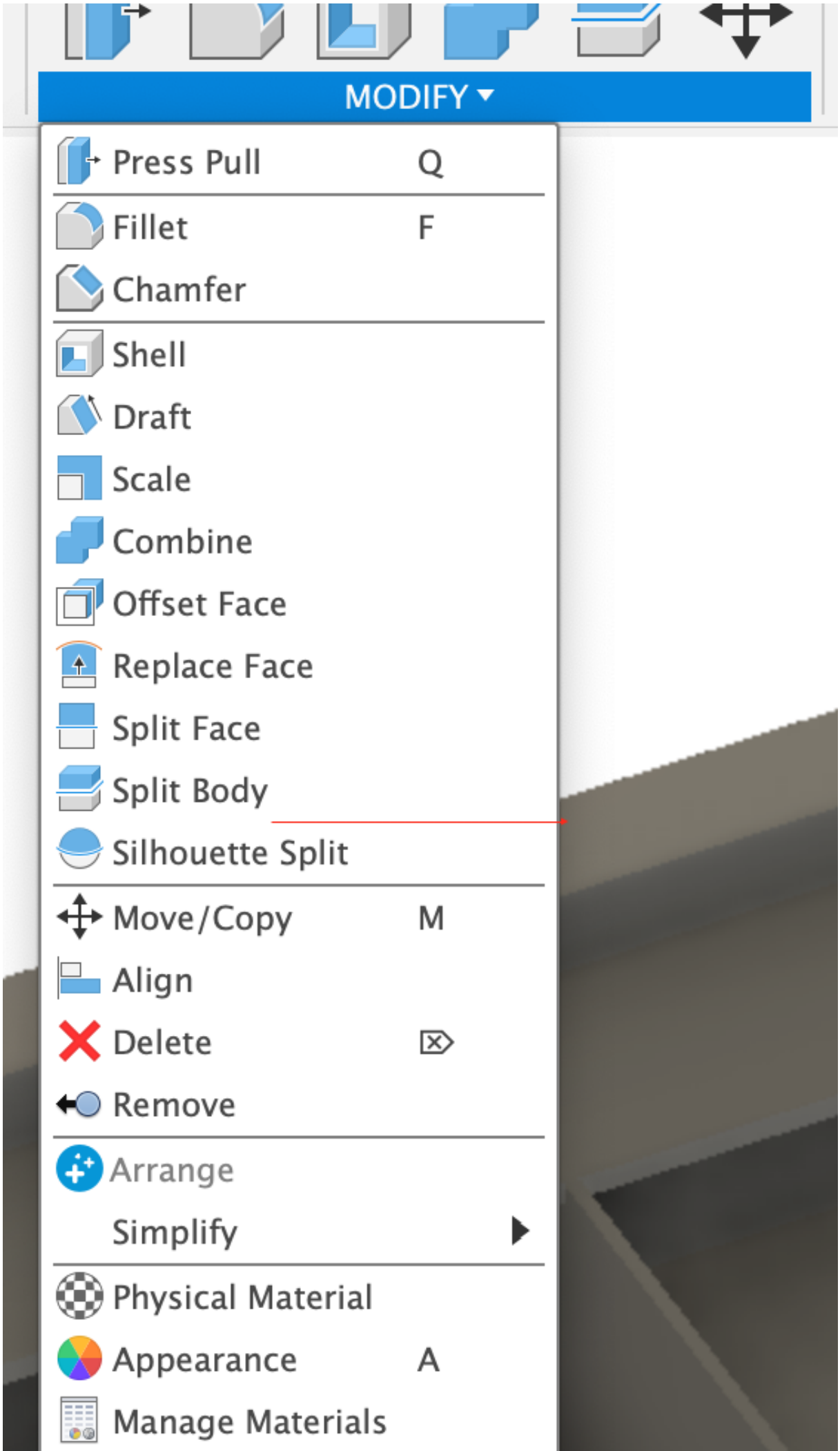
Main features:

- Parametric - width, height, depth, label width, wall thickness, divider thickness, number of dividers.
- 0,5mm clearence for easy fit.
- Upgrated holes for easy printing.
- Upper lip for ultimate stackability.
- Ultimate grabability.
- Slope for ease of getting the very last screw out.
- 100% compliant with gridfinity.xyz.
- Option to enable 0,2mm solid first layer for corner bases to minimise corner lifting due to magnet holes. You can still open holes with craft knife. Or leave it off. You do you.

What is Gridfinity? My prefered storage system by Zack Freedman:

How to use parametric model?

Just open it in Fusion360 and go to “Change parameters”.


MODIFY
Press Pull Q
Fillet F
Chamfer
Shell
Draft
Scale
Combine
Offset Face
Replace Face
Split Face
Split Body
Silhouette Split
Move/Copy M
Align
Delete
Remove
Arrange
Simplify
Physical Material
Appearance A
Manage Materials

Then change these parameters (or any other, it is your now):

Basic unit is one grid, so 42 mm by 42 mm. There is 0,5mm clearence, but grid is 42 mm appart. So for width of 4 the width of the box is not 168 mm but 167,5 mm.

Check bodies that you want to show or hide.

- **Depth**: Integer - how many units will the box measure in depth. Also used for calculation of divider depth.
    - Example: Depth 1 = depth of 42mm; 2 is 84mm and so on, minus 0,5 for clearence.
- **Width**: Integer - how many units will the box measure in width. Also used for calculation of divider position, "finger thingy" position.
    - Example: Width 1 = width of 42mm; 2 is 84mm and so on, minus 0,5 mm for clearence.
- **Height**: Integer - Used for height calculation. Box height:
    - 7 mm for the grid
    - 7 * Height
    - 4,4mm extra on top
    - **1 = 2U as specced in gridfinity.xyz**
    - It is also used for calculation of divider height and “grabby thingy” position.
    - Example: Height 4 = 7+7*4+4,4 = 39,4mm with 28mm - (wallWidth as it is used for box floor as well) for storage
- **Boxes**: Integer - Used for number of dividers. They are made by pattern of the first one, hidden inside side wall so 1 equals 0. **Hide first and last divider body so they do not interfere with the box. Also, after adding new dividers, check if the bodies are visible.**
    - Example 1 box means no divider and 2 means 1 divider (thus creating two boxes).
- **wallWidth**: Use in mm.
- **dividerThickness**: Width of the divider wall. In mm.
- **labelWidth**: Desired width of the label. In mm. Add one milimeter extra.

And that is all. If you don't want grabby or finger thingy, just hide the body when exporting model to slicer. Happy boxing.

Brim

Larger boxes can have issue with bed adhesion. It is due to magnet holes. You can either remove those holes, but I never know if I will want to add magnets or wont. There comes the brim to the rescue. However, if you enable it in slicer, it will create brim everywhere and removing it will be nightmare.

I added solid first layer for corner bases. Removing it will take a minute using exacto knife. Just **show bodies**:

- **backLeftBlank**
- **frontLeftBlank**
- **backRightBlank**
- **frontRightBlank**

So far I did not have corner lifting issue while using those. (Unless z-offset is off, bed is dirty or nozzle worn off)

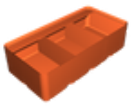
Printing

For best performance I do:

- 0,6 nozzle
- 2 perimeters
- 1,26 wall and divider width
- Lightning infill 15%
- For boxes of width more than 3 enable Blank bodies.

If you use 3 perimeters with 1,2 wall, it will make ring on the bottom. So if you want thicker box, don't forget to make walls thicker.

Model files



ultimate-box-v8.stl

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ultimate-box-v14.stl

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ultimatebox.f3d

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