

Straw support Fusion 360

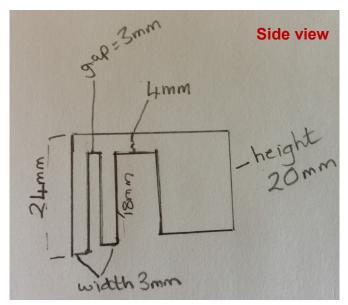


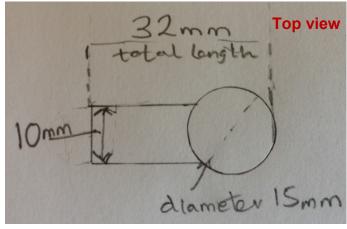
Before using these instructions, watch the video screencast of the CAD drawing actually being done in the software. <u>Click this link for video tutorial</u>

This design works on a variety of glasses/mugs – straight sided, angled and champagne flute. The gap between the prongs is 3mm, but there's enough flex in the plastic for it to work on slightly thicker rims.



Key measurements before starting your CAD drawing for the straw support





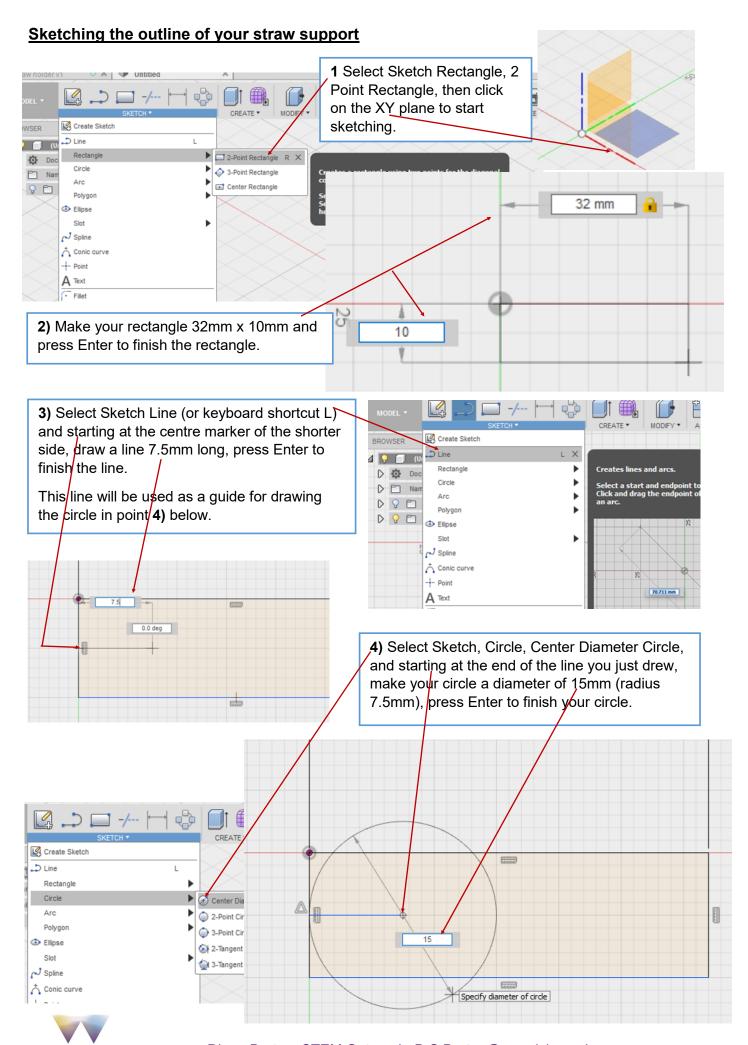
Making the right size hole for the straw



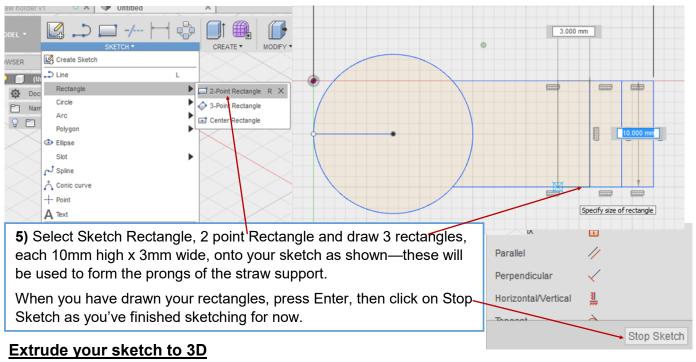
Note, tolerances vary on different 3D printers, so you may need to add a different amount on to your straw diameter for your printer to produce the correct hole size. Check the diameter of your straw. Standard supermarket straws are 5mm diameter and around 220mm long (like blue striped one). Extra long straws are 6mm diameter around 280mm long (like the pink one).

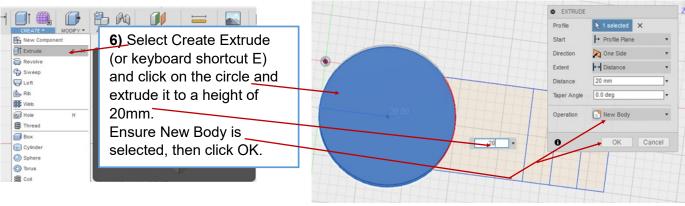
Make the straw hole about 0.2mm bigger than the straw diameter so the hole has adequate room to push the straw in and out, whilst still gripping the straw enough to keep it in place. So, 5.2mm for the standard straw and 6.2mm for the long straw.

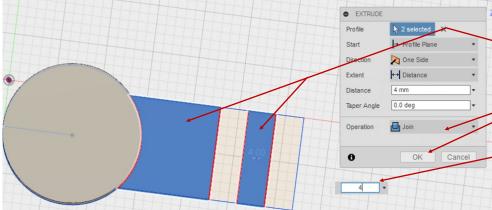




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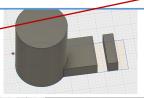






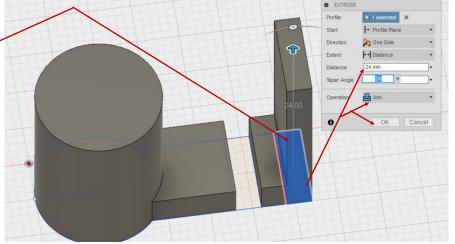
7) Select Extrude again, then click on each of the sections of sketch shown here to select them.

Extrude to a height of 4mm.
Select Join and click OK.

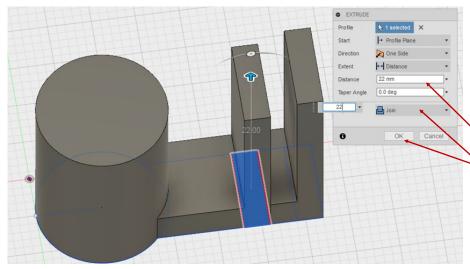


8) Select Extrude again, then click on the end rectangle sketch to select it.
Extrude to a height of 24mm. Select Join and click OK.

This will form the outer prong of the straw support.

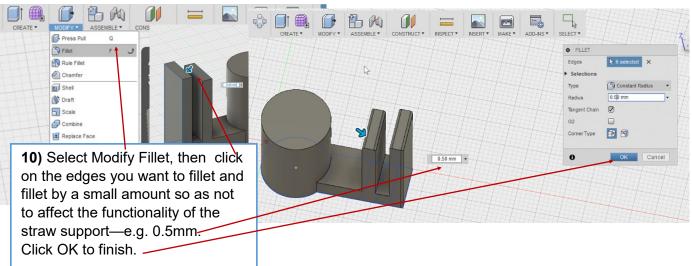






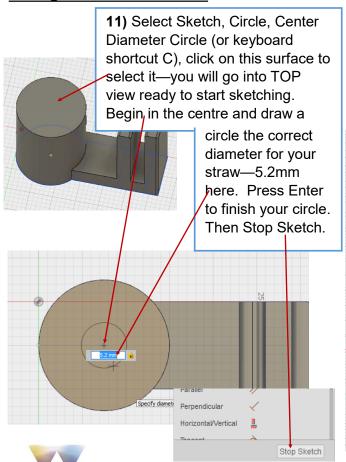
9) Now form the inner, shorter prong of the straw support.
Select Extrude again, then click on the inner rectangle sketch to select it.
Extrude to a height of 22mm.

Select Join and click OK.

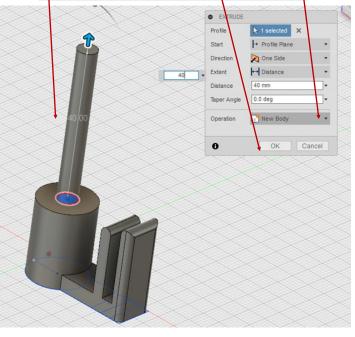


Making the hole for the Straw

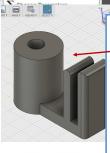
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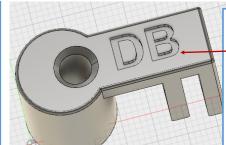
12) Select Create, Extrude (or just press keyboard shortcut E). click on your circle and extrude to make a tall cylinder — ensure New Body is selected here so that this cylinder can be moved around and is not joined to the straw bung. Click OK



Moving the cylinder to the correct position to cut the hole for the straw 14) Ensure Bodies is Move Object Faces ☐↑ Repe at Extrude Components selected (not Faces) Bodies.. Press Pull Delete 🔍 and this Move Type. Faces 13) Right click on Sketch Objects X Distance Mole Hole 0.00 mm Y Distance the cylinder and select Move/Copy. Move Obje Axis 7 Axis Through Cylinder/Cone/Torus Edit Feature Edit Profile Sketch Move Type Set Pivot Cancel Appearance Texture Map Controls X Distance -1.00 mr Z Distance Selectable/Unselectable X Angle 0.0 deg Find in Browser Y Angle 0.0 dea Z Angle 16) Whilst still in Move/Copy operation, rotate 15) Use this the object to this view and check position of handle to rotate the cylinder—this will be how the straw will sit the cylinder by in the straw support. Move the cylinder slightly 10 degrees. if needed, then click OK to finish. Now use the 1. C . c . k° Move Type arrow to Move Set Pivot the cylinder -1.00 mr 0.00 mm down through 0.00 mm the straw 0.0 deg support so it Y Angle 0.0 deg looks like this. ZAngle 0 Cancel B M 17) Select Modify, 18) Click Target Body and click on the straw support Combine and ensure to select it. Then click Tool Bodies and click on the Press Pull Operation Cut is Fillet cylinder, click OK to make the cut. Rule Fillet selected from the Chamfer drop down box. Shell **⚠*** Draft Scale Combine Combine Select Cut Replace Face Operation Cut Split Face New Component Split Body Keep Tools Silhouette Split OK Cancel +♣ Move/Copy Align Physical Material Appearance Manage Materials Delete Compute All



19) Your finished straw support will look like this. If you want to chamfer the straw hole edge and/ or add Text to the top, follow the instructions at the end of the straw support video tutorial.



your straw support for use with a different diameter straw, follow the instructions on the adjusting straw size video tutorial.

