



Door or Drawer Handle, back mounted M3 square nut - different sizes (parametric)



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Summary

This is a simple replacement for any kind of door, drawer etc. that need a back mounted handle. Different sizes

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We needed a new door handle for an Ikea drawer that was back mounted. The idea was also to hide the screw and nut. I used variables in Fusion360 so you can just use it as “parametric” for your use case. Just let me know if you need other sizes.

Design focus

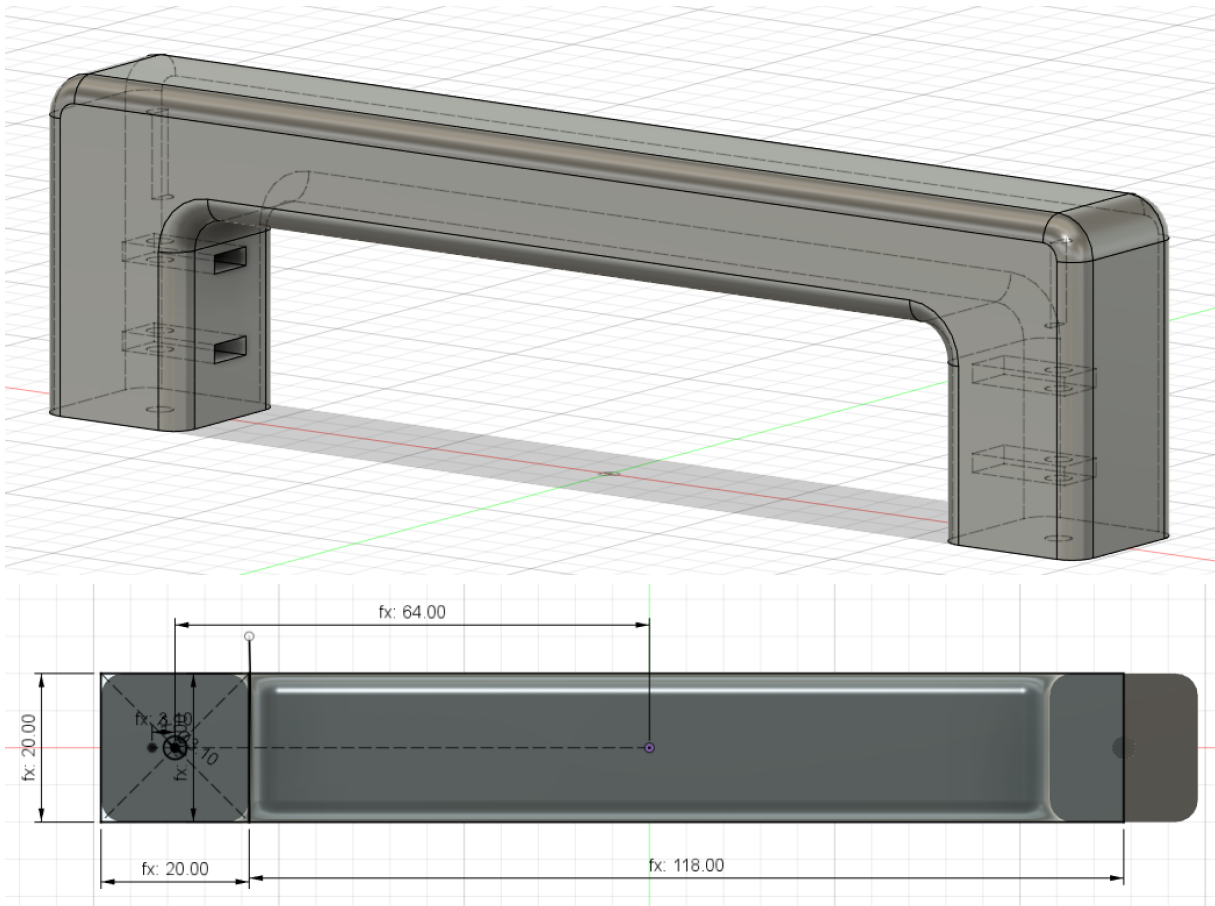
- Easy and fast to print
- stable / rigid (printing orientation for maximum strength)
- Only minimal bridging (for the square nuts and screw holes)
- Should work with any material (Angles, bridging etc.)

- Parametric (or at least as easy as possible to adapt for any desired size)
- Hide the “seam” as good as possible (printing orientation)

Model types

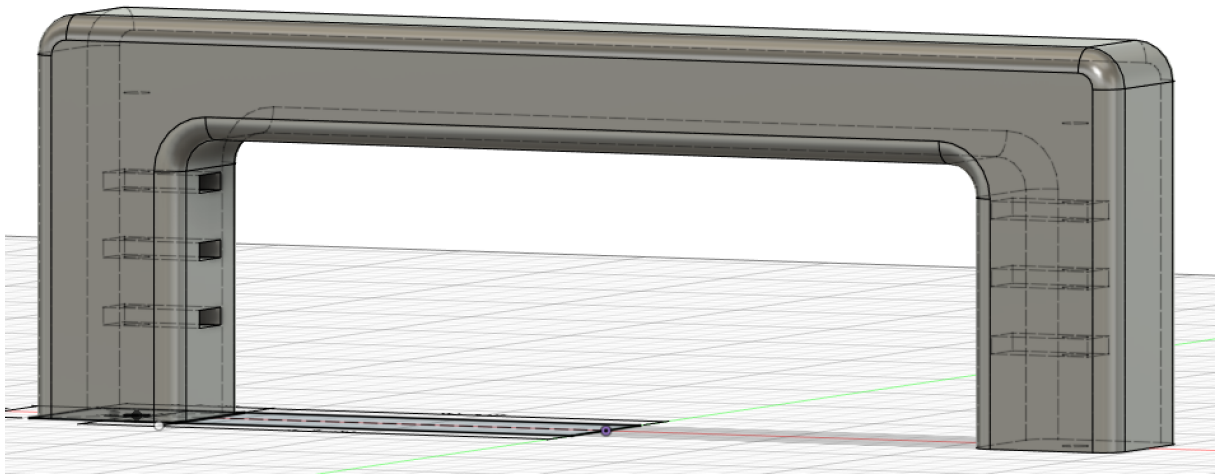
Model 01

- 2 square nuts each side (total 4 per handle)
- Works perfect with only 1 nut inserted per side (I inserted only 1)
- All the examples / standard parameter are for this model



Model 02 (obsolete)

- 3 square nut each side
- overkill
- The handle is too high for a standard use but may be useful for some special use case
- obsolete, won't be designed further.

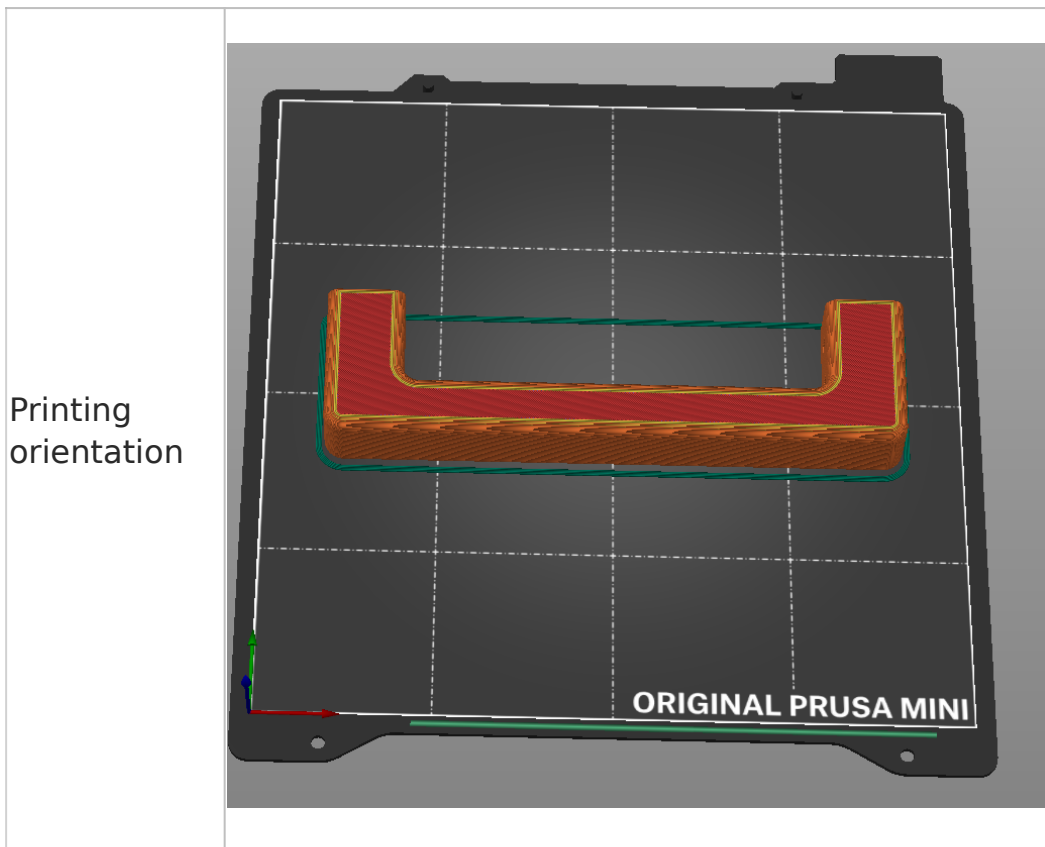


Consideration

- 1 square nut as near as possible at the handle to hide it better (planned)
- 1 square nut to place into the handle during printing (with pausing the print) to completely hide it→on request, because some testing is needed)

Print settings

Parameter	Setting
Perimeters	Minimum 3
Infill	Minimum 20%
Material	<p>Tested with PETG</p> <p>Possible: ABS, ASA, PC (anything that is durable)</p> <p>I wouldn't use PLA (UV light / Sun, impact strength etc.)</p>
Others	I used a 0.4mm and a 0.6mm nozzle with 0.2mm layer height. Both came out perfectly
Prusa Slicer	<ul style="list-style-type: none"> • “Avoid Crossing Perimeters” (usefull for PETG and other material that is known for stringing and oozing) • “Seam Position” = rear (if you print the part like showed here, you will have the “seam” at the position that can't be seen. This makes your print look better)



Parameters that can be adjusted

In Fusion360 you can adjust this parameter under: Solid→Modify→Change Parameters

Parameter Description	Parameter	Standard
Hole distance (this defines the length of the end product)	Hole2Hole	118mm
The width of the handle (size for your hand)	HandleWidht	20mm
The width of the socket (in the dimension of the lenght of the total product)	HandleSocketWidth	20mm
You can set was screws you are going to use	ScrewDimension	3.1 mm (for M3)
The width that is used for the nut. If your square nut are wider or smaller you can adjust this parameter.	M3nutWidth	6.2mm
The height that is needed (inlcuding for bridging) that the square nut fits	M3nutHeight	2.2mm

The height of the total handle (from the drawer until the top of the part that you will have in the hand)	HandleHeight	40mm
This is the part of the handle that you will have in the hand. It is calculated by "HandleHeight - HandleDepth" (it is the part that will be cut out from the HandleHeight. I know it is a bit complicated but I didn't know how I could make it easier the way I designed it)	HandleDepth	25mm

If your printer needs more tolerance, you can also adjust this parameters

Naming convention

The Example is with the standard size I used for my project. I'm planning to add more versions later, so I started from the beginning with a naming convention

Name	Parameter	Example
Model(Amount of square nut per side etc.)	MO	MO01
Hole2Hole Distance	D	D118
Handle width	HW	HW20
Socket Width	SW	SW20
Handle Height	HH	HH40
Handle Size (the effective thickness of the part that you hold in your hand)	HS	HS15
Screw Type	M	M3
Version (if I have later to adjust anything)	V	01

Example of the "Model1 standard" that is used: M01-D118-HW20-SW20-HH40-HS15-M3-V01.stl

Model files



Model1 - 2 hex nuts per side (total 4)

1 file



m01-d118-hw20-sw20-hh40-hs15-m3-v01.stl

📄 V1



Source - 2 hex nuts per side (total 4)

2 files



m01-d118-hw20-sw20-hh40-hs15-m3-v01.f3d



m01-d118-hw20-sw20-hh40-hs15-m3-v01.step

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