



## Hex screwdriver handle bit holder



Peter Hall

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### Summary

This is an ergonomic, grip friendly hex bit holder. It prints as one piece and without supports.

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### Hex screwdriver bit holder

This is an ergonomic, grip friendly bit holder. I think it has a clean design and the purpose/hope of course is that it will be pleasant to use. If any issues or if you want a modification, please drop me a comment. I hope you enjoy it! :)

If you find it useful, I'd appreciate a like/make :)

### Design

**Clarification: It all prints as a single piece**, but for my prints I have done a 2 colour/filament print. Mostly to reinforce the tip of the bit holder but also for the look.

My favourite solution is to use a magnet glued to the bottom. I use a 6x3mm magnet. I simply fasten it (magnetically) to the bit, put glue on the magnet and push it to the bottom of the bit holder.

## Specifications

- The screwdriver is 125mm high and 39mm in diameter.
- The bit holder part is 6.5mm in **width** (edge to edge) and 12.1mm in **depth**.

## Printing

There is more than one way to print this of course, but I will detail the settings I have used. I have test printed the final version 5 times using different brands of PLA. 2 of them I have the tip in PLA CF, 2 of them in regular PLA and one in X-PLA.

## Tips for printing

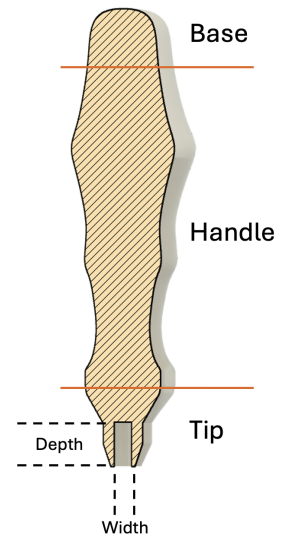
I noticed that between my different filaments, both when testing and when printing the final version, there can be a small difference to tolerance. I recommend that you test print the first 10mm or so, then compare it to your bits and see if it fits. If it doesn't fit, of course simply scale the model and print all of it. I could get my bits to fit all prints, but in some cases it was a bit too tight, especially removing the bit was hard. Probably some use of it and it will auto correct, but I think doing a calibration and test print is a simple way to get it the way you want. For my “permanently” installed bits I think it is good with the tight fit, but for the ones I put a magnet in I want some more clearance.

On my X1C I printed with closed door and on my coolplate, which is how I get a lot of adhesion to the print bed. I wouldn't recommend using a textured PEI, but you probably know your printer and settings best of course. I tried printing it one time without a brim, but it tipped over after around 60%.

Explanation of print settings:

## Overall

- 0.2mm layer height
- Arachne walls
- Adaptive layer height, mostly at the **base** to have a smooth top.



- 15mm outer brim with 0 gap, to prevent it tipping over while printing. I have only printed this on a Core XY printer, not sure how an XY-axis moving bed will handle this but only one way to find out?

### **The tip**

Basically configure for max durability

- 4 walls
- 100% infill

Possibly choose different material/color, for example something with higher bending strength and stiffness, like PLA CF or tougher.

### **The handle**

- 4 walls
- 8% gyroid infill. Not more is needed in my opinion and also want to keep the weight down to minimize risk of tipping while printing.

### **The base**

- 2 walls
- 8% gyroid infill, again to minimise weight
- Slowed down walls/infill to around 20% of normal speed, to minimise risk of tipping the print while printing the last segment
- Used adaptive layer height and gradually went down to 0.08mm to have a smooth top without the typical “stair case”.

### **Credits**

My design is inspired by the Grabcad design by **Frank.K** - <https://grabcad.com/library/wera-screwdriver-2> and also to the brand of the screwdrivers/bit holders I prefer to use. I used similar profile of the handle/grip to that of Frank.K's. I have made a new tip/holder partly for the design and partly to design it from the beginning to be FDM 3D printable. Also made countless of other tweaks, changes and probably mistakes. :)

### **This remix is based on**

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## Free CAD Designs, Files & 3D Models | The GrabCAD Community Library

### Model files

#### hex-screwdriver-bit-holder-65x121.3mf

📄 Project file including print settings (for Bambu studio)



#### hex-screwdriver-bit-holder-65x12.stl

📄 Model file

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