



## Mechanical Pen Cup & Desk Toy



dePrintinator

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updated 11. 5. 2022 | published 11. 5. 2022

### Summary

Mechanical pen cup and fidget/desk toy.



11.83 hrs



1 pcs



0.20 mm



0.40 mm



ASA



123 g



Prusa  
MK3/S/S+

[Household](#) > [Office](#)

Tags: [pen](#) [gears](#) [mechanical](#) [pencilcup](#) [pencup](#)  
[knurledknob](#)

I decided to make a mechanical pen cup/desk toy for the May 2022 Printables competition. All parts can be printed without supports. I added a little bit of lithium grease to the printed shafts for smoother operation, but this is not strictly necessary.

I've designed two cup options, which screw on to the 24 tooth gear with a printed thread. Please feel free to remix the cup part and design your own. It's an M14x2 thread. I offset the faces of the thread by .1mm in all directions and filleted the facets to allow for 3D printing tolerances and extra thread durability.

I also added cylindrical modifiers in PrusaSlicer to increase the infill to 100% for the shafts on the base/platform.

<https://youtube.com/shorts/sjZsHDN3jYg?feature=share>

## Model files



**pen-cup.stl**

☐ optional alternate cup



**spur-gear-12-teeth.stl**



**knurled-knob.stl**



**spur-gear-24-teeth.stl**



**pen-cup-tri-level.stl**



**base-platform.stl**



**mechanical-pen-cup.3mf**

# Print files



## mechanical-pen-cup\_02mm\_asa\_mk3s\_11h50m.gcode

ASA 0.40 mm 0.20 mm 11.83 hrs 123 g Prusa MK3/S/S+

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