

## Colored pentapod puzzle

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### Summary

This fun 30-piece puzzle may be quite tedious to assemble even following the instruction, but the end result looks great



22.80 hrs



1 pcs



0.20 mm



0.40 mm



PLA



179 g



Prusa  
MK3/S/S+

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This puzzle was invented Stewart Coffin and described in his book “The Puzzling World of Polyhedral Dissections”. There it is shown made out of wood. The first 3d printed version it seems was made around 2013 by [Steve Nicholls and Simon Bexfield](#). Recently [ThePuzzleGeek](#) uploaded a free [model](#) and an OpenSCAD code on Thingiverse. I used his OpenSCAD code, to generate pieces with lower clearances, so all uploaded models are remix from the original [ThePuzzleGeek's](#) design. You can also check his


graphical solution of the puzzle and tune clearances and dimensions of the pieces using OpenSCAD.


After printing ThePuzzleGeek's version on my Prusa MINI I found clearance of 0.25mm to be too huge, so that it was difficult to assemble the pentapod, and after assembly the last piece had to be held in place by sticky tape. I found clearance between 0.05mm and 0.10mm to be good enough, and recommend using 0.08mm as the optimal value. Print at 0.15-0.20mm layer height. Supports are useful only for the piece E. It is also beneficial to set seam position in the middle of the pieces so that they are not seen in the assembled version. Please use attached 3mf file to use these settings, simply set number of instances of each piece that you want.


The pentapod benefits quite a lot from using multiple colors. Being a regular symmetrical shape with quite random assembly sequence it was not easy at first to find a "good" coloring, so that there is some structure and same colors are not close to each other. With a help of a friend (an aspiring physics student), we found a few coloring schemes that you are welcome to use. Please check instruction in pdf version, or attached images. If you find a new beautiful coloring, please send it to me so that I print it and maybe add to the instruction.


Happy printing (and solving the puzzle)!

## Model files

 **0.08mm (optimal)** 5 files

**pentapodb\_008.stl**

**pentapodc\_008.stl**

**pentapoda\_008.stl**



**pentapode\_008.stl**



**pentapodd\_008.stl**



**0.15mm**

5 files



**pentapodc\_015.stl**



**pentapodb\_015.stl**



**pentapoda\_015.stl**



**pentapodd\_015.stl**



**pentapode\_015.stl**



**0.03mm**

5 files



**pentapodb\_003.stl**



**pentapode\_003.stl**



**pentapodc\_003.stl**



**pentapodd\_003.stl**



**pentapoda\_003.stl**



**pentapod\_008\_and\_003.3mf**

3mf file with optimized seam position, variable layer height and supports for piece E

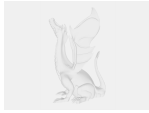
## Print files



**pentapod\_allpieces\_008\_02mm\_pla\_mk3s\_22h48m.gcode**

PLA 0.40 mm 0.20 mm 22.80 hrs 179 g Prusa MK3/S/S+

## Other files



instruction.pdf

[Find source .stl files on Thingiverse.com](#)

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