



## SPM - 3D Printed Spherical Parallel Manipulator

 **Mickey666Maus**

[VIEW IN BROWSER](#)

updated 24. 11. 2022 | published 24. 11. 2022

### Summary

This is a WIP of my end effector for a robotic arm that I am building...

[Hobby & Makers](#) > [RC & Robotics](#)

Tags: [robot](#) [diy](#) [robotic](#) [gearbox](#)

This is a WIP of my end effector for a robotic arm that I am building...

Since it translates the rotation of three parallel discs into a spherical motion,

it is useful for quiet a few joint types.

This is by no means a finished design, but if you would like to use it as a starting point,

you can already print your own.

It might take me some time until I will be ready to present a finished version,

so in the meantime this might be fun to play with! :)

Hardware consists of

3 x EMAX GB2210 BLDC

3 x AS5048A Encoder

and the Storm32 BGC 32Bit MCU

Bearings used

3 x 61709-ZZ 45x55x6mm

12 x MR128-2RS 8x12x3.5mm

6 x 679 9x14x3mm

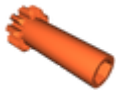
SimpleFOC and Python coding by Richard Unger <https://www.youtube.com/channel/UCUkC7jL6yd6N-Q9FGkmAhFQ>

## Model files



**top.stl**

---



**mid\_spur.stl**

---



**middlebottom.stl**

---



**middlering.stl**

---



**lng\_spur.stl**

---



**srt\_spur.stl**

---



**axissleeve.stl**

---



**upperring.stl**

---



**arm.stl**

---



**platform.stl**

---



**motorcase.stl**

---



**lowerbottom.stl**

---



**axisconnect.stl**

---



**bottomring.stl**

---



**upperbottom.stl**

# License

This work is licensed under a  
**Creative Commons (4.0 International License)**



**Attribution—Noncommercial—Share Alike**

---

- ✗ | Sharing without ATTRIBUTION
- ✓ | Remix Culture allowed
- ✗ | Commercial Use
- ✗ | Free Cultural Works
- ✗ | Meets Open Definition