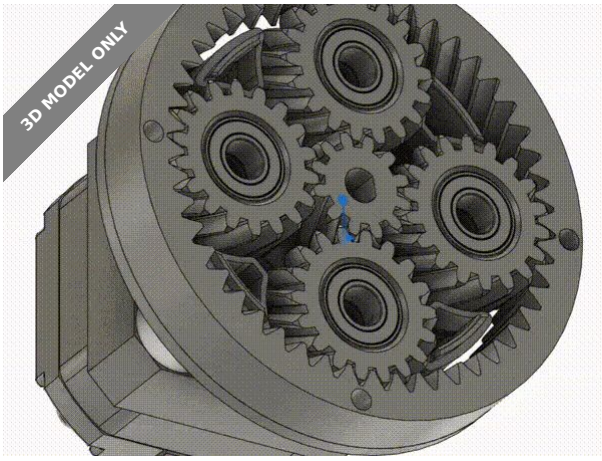

3D Printed Robotic Arm Actuator

homegeek

VIEW IN BROWSER

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Summary

This is a 3D printed Actuator gear. It can be used for a robotic arm, but also as a turn table.

Hobby & Makers > RC & Robotics

Tags: arm gear stepper robotics gearbox actuator course

The entire gear system is 3D printed.

But the following parts will be required for a smoother operation.

All listed parts are from McMaster-Carr but are available in most specialized shops:

- 1x **Stepper motor** NEMA 17: 6627T64
- 4x **Ball bearing** 686-2RS: 4668K231
- 1x **Ball bearing** 7201-2RS: 6680K35
- 4x M2.5 **Screw**, 22 mm Long: 91292A312
- 4x M2.5 **Washer**: 91100A110
- 4x M2.5 **Hex nut**: 90591A270

What is not listed above is the controller (could be an Arduino or esp32), and the stepper motor driver.

You can easily find a stepper driver breakout board. This makes the wiring much easier!

Since it is controlled by a stepper motor, you can define the speed and movement curve.
Note that you will need 4x **Helical_Radial_PlanetGear** for this project.

You can find my full course on how to make your own directly on my Instructable page!

Model files

helical_radial_sungear.3mf

Central sun gear.

helical_radial_planetgear.3mf

Planet gear. x4 needed.

helical_radial_ringgear.3mf

Ring or outer gear.

supportplate_top.3mf

Top support for planet gears.

supportplate_bottom.3mf

Bottom support for planet gears.

motorsupport.3mf

Motor support.

outputshaft.3mf

Output shaft (optional).

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