



Maxxeshop3D

product guide

# Squeeze Powered Flywheel Fan

Rack-and-pinion hand fan with resettable squeeze drive

## PRODUCT OVERVIEW

### Build fan speed with every squeeze.

This compact hand-powered fan uses a rack and pinion drive. Push the rack to spin the fan, release it to reset, and squeeze again to keep increasing the flywheel speed.

The threaded axle lets you remove the fan easily, and the included plain hub makes it easy to experiment with custom

**No glue assembly** **Rack + pinion** **Reset return**



## Key features

### SQUEEZE DRIVE

**Each push drives the fan. The return motion resets the rack without stalling the spinning rotor.**

### DISENGAGING GEAR

**As soon as torque drops, the larger gear disengages the smaller one to let the fan continue coasting.**

### MODULAR HUB

**The fan mounts on a threaded axle and can be swapped or remixed using the included plain hub step file.**



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# Mechanism and assembly

How the flywheel fan works and how it goes together

## Working principle

This is a gif of the working principle:



### HOW IT WORKS

#### A resettable squeeze drive.

- Push the rack to rotate the main gear and spin the fan.
- When torque drops, the larger gear disengages so the fan can coast freely.
- The rubber band pulls the rack back for the next squeeze without reversing the fan.

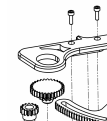
### ASSEMBLY ESSENTIALS

**No glue needed** Threaded shaft **Snap together**

- Print the threaded shaft at 100% infill for strength.
- Use 2x M3x10 screws and a small rubber band for the reset stroke.

### RUBBER BAND ROUTING

Thread the return band through the handle as shown in the exploded assembly diagram.



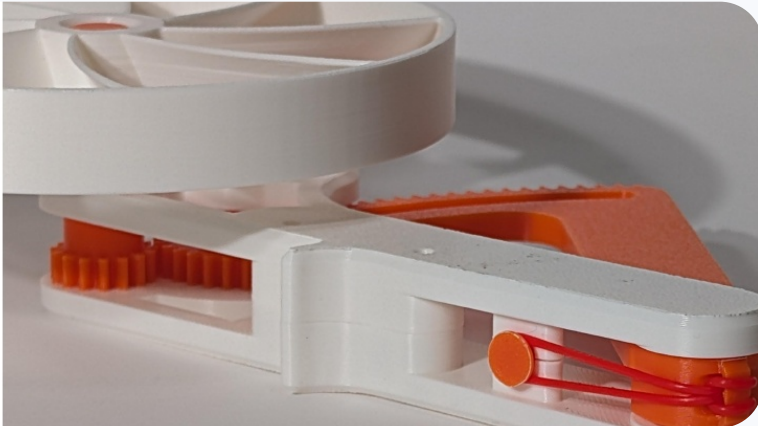


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# Materials and included files

Recommended materials, behavior notes, and packaged model files



## MATERIAL NOTES

### Material behavior at a glance.

- ABS worked especially well in the original build because the plain bearing surfaces glide smoothly and the parts resist warping when printed with brim.
- PLA is the next best choice for an easy print and should work well for most builds.
- PETG can work too, but it may benefit from a small amount of grease on the moving surfaces.
- Airflow is noticeable, and alternate blade designs can be explored with the included plain hub.

## Included files

### CURRENT BUILD

- assembly-v12.stl  
Main assembly model.
- printplate-v12.stl  
Prepared print plate layout.
- more-powerfull-fan-assembly-v11.stl  
Alternate rotor focused on improved airflow.
- plain-hub-for-your-own-fans.step  
Base hub for custom blade remixes.

### ALTERNATE / LEGACY FILES

- assembly-v10.stl  
Earlier assembly version.
- printplate-v10.stl  
Earlier print plate layout.
- Rubber band return  
Use a small band to reset the rack after each squeeze.
- 2x M3x10 screws  
Longer screws up to 18 mm can also be used.