



Turbine blower (two planetary gears 36:1 - faster, stronger, louder)



Tomek

[VIEW IN BROWSER](#)

updated 1. 9. 2025 | published 1. 9. 2025

Summary

This is a remix of my planetary gear blower.

[Learning](#) > [Other 3D Objects for Learning](#)

Tags: [fan](#) [turbine](#) [wind](#) [blower](#) [planetarygear](#) [blowerfan](#)

My **hand cranked turbine blower** is cool and works fine - however you have to crank it really fast for a nice blow. So i tried to add another planetary gearbox - and it works so much better (and unfortunately louder).

All parts are 3d printed - **no additional hardware needed**. If you want a bigger one - feel free to scale it up.

How it's working

Here is a video showing you how powerful (and a bit loud) it is :)

Left-handed or Right-handed

If you want to have a blower with the crank on the opposite site - just mirror all the pieces before printing.

How to print

I recommend setting **Seam location** to **Random** (just to avoid bumps in single spot and make the rotation even). I also recommend printing in PET-G. It should also be OK in PLA, but PET-G works better for me.

Make sure to set **Slice gap closing radius** to **'0'** - **some parts are pretty close to each other - we don't want them to fuse together**

Besides that just print it with the settings that works for you.

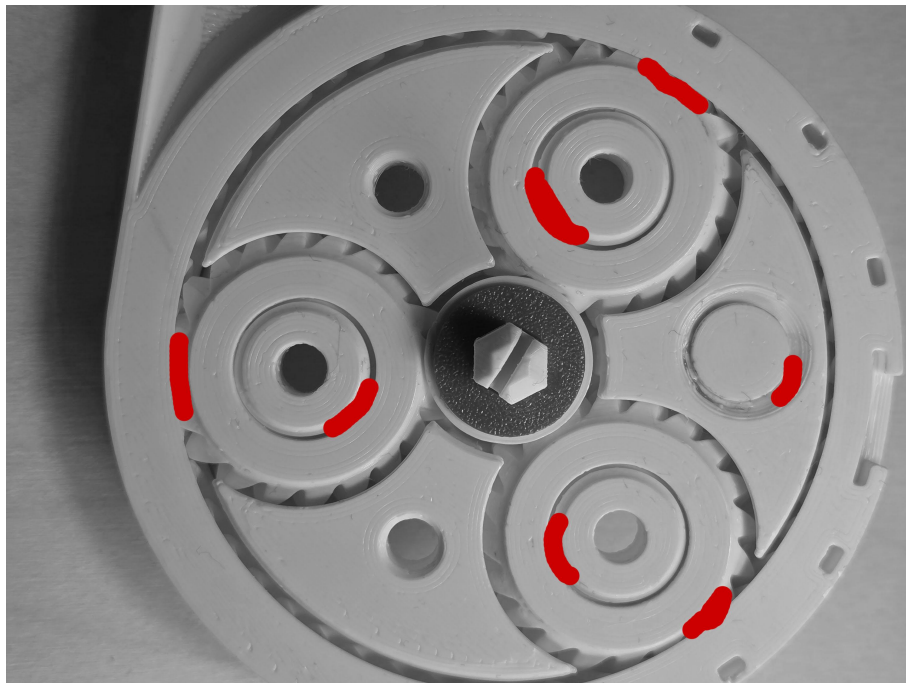
No supports required.

both planetary gears are designed to be printed in place - do not split them into individual parts - they cannot be assembled after printing separately.

After print

The planetary gear after printing can have parts fused together a bit. Just wiggle them back and forth carefully until they rotate smoothly. Adding a bit of **oil** can help **a lot**.

Here are the places when you can add a drop of lubricant (bicycle chain oil or even cooking oil should work)



How to assemble

Step 1. Take the crank part and insert small snap connectors into the slots (15 pieces)

Step 2. connect to second gear

Step 3. Insert the core joint into the hexagonal hole of the second gear

Step 4. Add the round spacer

Step 5. Place the rotor (thing with blades) on the core joint

Step 6. Insert the handle in the slot

Step 7. Insert small snap connectors into the slots in second gear (7 pieces)

Step 8. Place the cover on top and make sure all the joints are in the right place

Step 9. push firmly the cover to snap in. And that's it.

I will upload photos soon, but here is a simple animation to help you understand assembly process

After project thoughts

I am no aerodynamics expert. I designed the turbine the way I think it should work. The air flow is pretty decent, but I am sure this can be tweaked to work even better. If you have any thoughts - let me know.

Update Log:

06.07.2005 - As several people reported fused or hard to crank gears, I decided to release another version with slightly bigger gaps between the gears. There are v3 files: **second_gear_v3.stl**, **crank_v3.stl** and for your convenience **full_plate_v3.3mf**. Hope this will turn into more successful makes. Good luck with printing.

30.06.2025 - I added some internal structures to the **second_gear** part - it should help with all the bridges that are there

This remix is based on



Turbine blower (with planetary gear crank)

by Tomek

Model files



Source

1 file



blower2025_x36-v12.step



Sets

3 files



full_plate.3mf



full_plate_v2.3mf

☐ improved bridging



full_plate_v3.3mf

☐ better tolerances



Parts

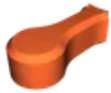
13 files



core.stl



cover.stl



handle.stl



crank.stl



crank_v3.stl

☐ better tolerances



nozzle.stl



second_gear.stl



second_gear_v2.stl

☐ improved bridging



second_gear_v3.stl

☐ better tolerances



snap_connector.stl

☐ you need 22 of these - print couple more - just in case



spacer.stl



wide_nozzle.stl



blades.stl

License

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



Attribution-ShareAlike

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