



Gear Ball, Free Spinning, Smooth Edges, Great for Kids



Fleeelinlan3D

[VIEW IN BROWSER](#)

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Summary

Remixed gear ball with smooth edges for less risk of pinching little fingers! Freely spinning and less material usage.

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Get in on the hype!

Welcome to the gear ball! A fun mind blowing fidget toy you've probably seen on social media, but had no clue how it works! Well, rest assured, with these profiles you can make your own free spinning version! The best part is, they cost 10,20,30\$ online and yours can be just a few dollars!

Why the remix?

I found the original ball to be quite hard to turn, requiring "working in" and even then it wasn't quite as good as I liked. I also found the size to be unnecessarily large and the edges to be pretty sharp, even for me, much less my kids.

What's different?

- Integrated the Gear Ball Connector by Caleb into this Gear Ball - Many thanks!
- Imported design from thingaverse by skylarnt (OG Designer **RuvenBals**) - Many thanks!
- Scaled entire model to 75% to make it easier for kids to use, and use less material (scale back to 125% for bigger)
- Scaled gear pieces 103% in the Z to make it easier to turn without compromising connector pocket strength.
- Added 1 to 1.5mm rad to gear edges to make smooth edges with softer handling and less risk of pinching with small fingers (and adults too if I'm honest!)

Printing Instructions

Choose a print profile attached above. I have my Centauri Carbon and A1Mini as a machine (with different profiles), but you should be able to import into any slicer.

Bed adhesion is critical with this one - It definitely requires a freshly washed/degreased build plate with (preferably) Dawn dish soap. After washing you can also try glue/nano adhesive or a brim (although preferably not, brims are hard to get off the parts).

Because I've believe in this stuff so much, I've become a Vision Miner Nano Adhesive affiliate. I have purchased their 50\$ bottles time and time again because of it's clean application (I use a shop towel) and fast drying. It goes on clear and isn't messy like glue stick. The application lasts between build plate washings. And washes off easily. I highly highly recommend this stuff for critical jobs, and I use it on every gear ball that I print, for peace of mind.

You can try a sample here:

<https://visionminer.com/zwnbed>

Or get a full bottle (50ml or 120ml) here:

<https://visionminer.com/hzhxy6>

Be sure to keep the following properties!

Slicer Settings:

- Nozzle: 0.6 (or 0.4)
- Strength
 - Walls: 3
 - Layer Height: 0.12-0.18
 - Sparse Infill: 10% Gyroid (or more if you want)

- Quality
 - Wall Generator: Arachne //preferably not classic - better with small details
 - Walls Printing Order: Inner / Outer
 - Detect Overhanging Walls: Checked
- Speed
 - Other layers speed
 - Outer wall: 40mm/s //slower outer wall speed for nice looking wall but depends on your printer
 - Travel Speed: 250mm/s //halved to reduce risk of catching tall objects and knocking over
 - Acceleration //halved to reduce risk of catching tall objects and knocking over
 - Normal Printing: 5000mm/s
 - Outer Wall: 2500mm/s
 - Jerk (optional) - reduce this from 9 to 5 for reasons above.
- Supports: Disabled
- Others: Brim --> No-brim

Recommended Filament:

- Silk PLA
 - I used Elegoo PLA Silk and Eryone PLA Silk
 - In both I Calibrated (in Orca Slicer) and Dried them (using my creality drier) and used the following overrides (your mileage may vary:
 - Nozzle Temp: 225C
 - Flow Ratio: 0.98
 - Pressure Advance: 0.02
 - Max Volumetric Speed: 7.5mm/s
 - Setting Overrides --> Retraction --> 0.5mm

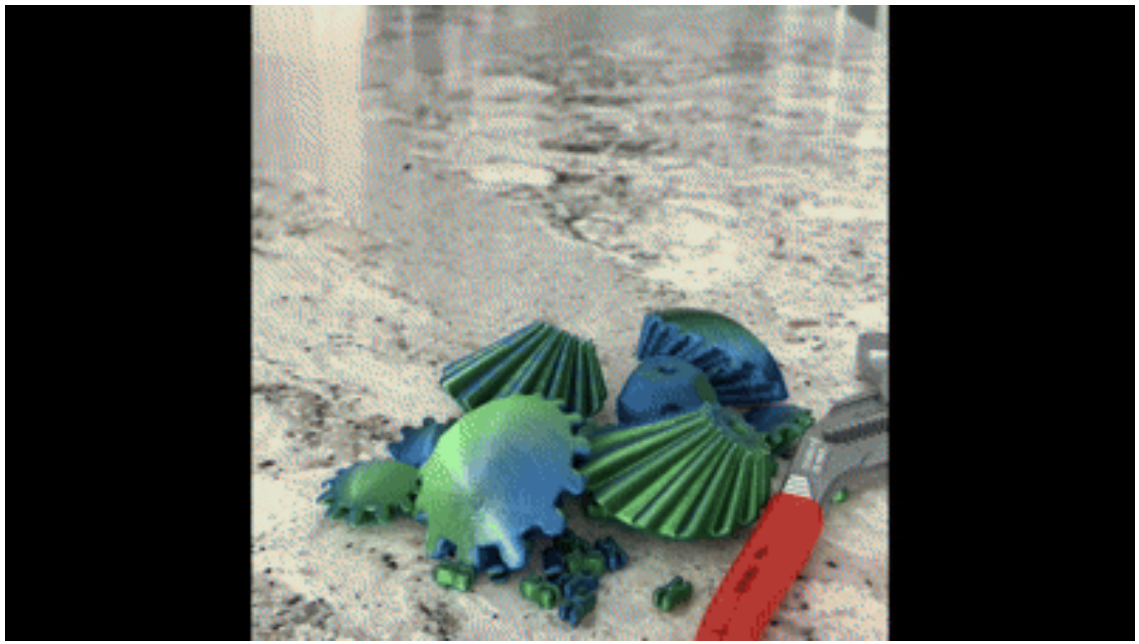
Assembly:

***NOTE* Pliers HIGHLY recommended. Otherwise assembly can be challenging.**



I assembly the gear ball using knipex pliers to assemble the pins (video following)

- Press the pins/connectors into the gear "heart".
- Assemble the little gears
 - Try to align the top of each gear to the pin directly above it
 - Keep track of their "alignment" when pressing them in, when done they should make smooth ring all the way around. Any offset gear will be obvious. This is important for the next step!
- Assemble the big gears
 - Use the same assembly method as the little gears, aligning the top of each gear to the pin directly above it





More detailed assembly videos:

See this video on youtube (by the original creator): <https://www.youtube.com/watch?>

Or TikTok: https://www.tiktok.com/@3dprintexplorer/video/7377173734882594094?is_from_webapp=1

Notes:

- If you need to pull gears out and try again - you can, but be aware every time you remove a pin it might make it less durable, and more prone to popping out. But pins can be easily reprinted Reprinting Objects: You can disable the other objects before you print. Both in the app and the on PC version. In Bambu Studio under "Objects" near Global, you'll see checkboxes to disable the bigger objects. In Bambu Handy under "Select Parts to Print" you can also disable the bigger objects.

Title Image was created with AI, but you can see my original model photos in the files. I keep printing them for friends and family - they're AWESOME!!

If you have any feedback let me know and I'll do my best to correct it. I'm not immune to being human...

That's it! Enjoy!

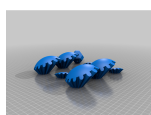
If want to support my work, just like, download, print and share it with more people! And share your makes! I appreciate it!

This remix is based on



Gear Ball Connector - Improved

by Caleb



Gear Ball

by skylarnt

Model files



gearball_a1m_06.3mf

☐ Orca 2.3.1. Importable to other slicers.



gearball_centauri_carbon_06.3mf

☐ Orca 2.3.1. Importable to other slicers.



gearball_a1m_04.3mf

☐ Orca 2.3.1. Importable to other slicers.



gearball_centauri_carbon_04.3mf

☐ Orca 2.3.1. Importable to other slicers.



gearball_stl_75pct.stl

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