



NUT JOB | Nut, Bolt, Washer and Threaded Rod Factory



mattala

[VIEW IN BROWSER](#)

updated 18. 12. 2021 | published 17. 12. 2021

Summary

Generate your own nuts, bolts, washers and threaded rod by simply typing the required parameters into OpenSCAD

[Hobby & Makers](#) > [Mechanical Parts](#)

Tags: [parametric](#) [nut](#) [screws](#) [socket](#) [hex](#) [screw](#) [button](#) [bolt](#) [thread](#) [rod](#) [wingnut](#) [fasteners](#) [fastener](#) [openscad](#) [threaded](#) [joiner](#) [washer](#) [phillips](#) [openscadcustomizer](#)

Generate your own nuts, bolts, washers and threaded rod by simply typing the required parameters into OpenSCAD. Great for replacing metal equivalents in many applications.

Includes options to generate nuts, bolts, washers and WingNuts for easy hand tightening and removal. Includes socket cap, socket button and socket countersunk head types with support for socket, phillips and slot drives. You can also join threaded rod to form unlimited lengths by creating a custom extended joiner nut.

Go Nuts! :)

Recommended Print Settings

Rafts: No

Supports: No

Infill: 100% recommended for highest structural strength

Notes:

Defaults are for a 8mm diameter bolts, rod, matching nuts and wing nuts that work well together (at least with my printer settings) without cleanup or modification. Please be patient rendering and compiling longer components as the rendering is very calculation intensive.

Some default parameters such as the nut outer diameter are deliberately slightly larger than the bolt diameter to produce a snug fit that can still be hand tightened. Some have suggested a 0.8mm difference works well. This may need to be altered depending on individual printer variances, slicing tools, filament etc. Some cleanup may also be required around socket openings depending on first layer print preferences.

I suggest printing a matching bolt and nut and adjusting as necessary. Note: slow print speeds and solid fill are recommended for best results. Printing more than one at a time to improve layer cooling works well.

Use a brim of about 2mm for printing threaded rod and it should be stable up to about 150 mm in length. You can extend the length by creating nut joiners. For example, an 18mm nut height will join two rod lengths very strongly.

Model files



bolt_25x8_button.stl



bolt_25x8_countersunk.stl



nutjoiner18x9.stl



washer_1_x_85.stl



threaded_rod_8x100.stl



nut_6x9.stl



bolt_25x8.stl



wingnut_6x9.stl



bolt_25x8_socket.stl



nut_job.scad

License

This work is licensed under a
[Creative Commons \(4.0 International License\)](https://creativecommons.org/licenses/by-nc/4.0/)



Attribution-NonCommercial

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