

Nozzle torque wrench

G.design

VIEW IN BROWSER

updated 9. 6. 2024 | published 9. 6. 2024

Summary

The “must have” 3D printed torque wrench for nozzle tightening.

Hobby & Makers > Tools

Tags: wrench nozzle e3dhotend e3dv6 torque torquewrench e3dnozzle nozzletorquewrench

ATTENTION!!

Always keep in mind that the generate torque will slightly varies depending on the used filament brand.

The original piece was printed with Prusament PETG Galaxy Black, so a filament with similar or better quality should generate enough torque to prevent any leaks without braking something.

==========

********** For additional information read @SebastianHelm‘s comment **********

==========

UPDATE 10.02.2024:
A new stator (case) is added.

UPDATE 29.12.2023:

Added new rotors with fins thickness from 1,3 mm to 1,5 mm, so now you can try with different torque values.

UPDATE 28.07.2023:

Added new stator (case) and new rotors. The rotors were redesigned for permit direct use of 6,35 mm and 6,5 mm square shanks. Thanks to **Brandon M** for sharing the files of his adapter!

UPDATE 28.07.2023:

Added a square to hexagonal adapter, designed by **Brandon M**. It can be downloaded **from here**.

IMPORTANT UPDATE 07.10.2022:

Thanks to EMAXX620's tests it is known that the wrench produces constant torque of 1.7 Nm. Thank you EMAXX620!

Still take in mind that the results will vary a little due to the quality of the filament from different manufacturers.

According to Slice Engineering, you need at least 1.5 Nm to avoid leakage w/o need of sealing the thread of the nozzle with thermal compound (but it won't do any harm if it's applied - you never know).

Use PETG.

3D printed torque wrench for right nozzle tightening. You can use up to ø10x2 mm neodymium magnet as option (not mandatory). The assembly process is shown on the photos. Use the four openings on the cap to tighten it.

Screw-in the nozzle to the end, turn back 1⁄4 (90°), tighten the heatbreak against the nozzle. Use the wrench to tighten, until it clicks. That's all.

Printing tip:

Use PET-G.

It's recommended to use as small as possible layers height when printing a thread.

Layer height of 0.15 mm or lower will give you the best results.

And please if you like it, click on ❤

Thanks!

Model files



3mf_stator-3.3mf



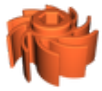
3mf_stator-2.3mf



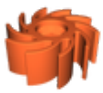
3mf_stator-1.3mf



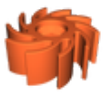
3mf_cap.3mf



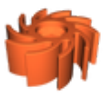
3mf_rotor-12mm.3mf



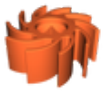
3mf_rotor-13mm.3mf



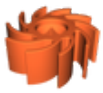
3mf_rotor-14mm.3mf



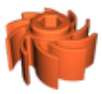
3mf_rotor-15mm.3mf



3mf_rotor-sqr-65mm-shank.3mf



3mf_rotor-sqr-635mm-shank.3mf



stl_rotor.stl



stl_case.stl



stl_cap.stl



square-to-hex-adapter.stl

Designed by Brandon M (@BrandonM_1065112)

License

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

Attribution—Noncommercial—Share Alike

✖ | Sharing without ATTRIBUTION
✔ | Remix Culture allowed
✖ | Commercial Use
✖ | Free Cultural Works
✖ | Meets Open Definition