

Universal Spur Gears Collection, module = 1,5



JBoe

[VIEW IN BROWSER](#)

updated 13. 8. 2023 | published 13. 8. 2023

Summary

A set of universal spur gears as a base for user modifications with slicer functions only. No CAD required!

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

Tags: [gears](#) [metric](#) [collection](#) [spurgear](#) [zahnrad](#)
[metrisch](#) [stirnrad](#) [gearscollection](#)

Object Description:

This is a collection of spur gears with a pressure angle of 20°, module = 1,5 and 12 to 40 teeth.

You can easily modify this basic models for your needs with slicer functions only.

For example:

- all models are 5mm thick. You can modify it by changing the Z-value only.
- add a round bore hole by adding a cylinder as a negative volume.
- add a square bore hole by adding a cube as a negative volume.
- add a elliptical bore hole by adding a cylinder with different X and Y values as a negative volume.

- add a recess by adding a positive volume.
- add a round bore hole in horizontal direction for a thread insert, that you can fix the spur gear with a screw.
- these are just some examples. More modifications are possible and depends on your fantasy and your needs.

Very important notes. Please read before print:

- All models will be automatically loaded with one tooth showing exactly in positive Y-direction.
- **Please note that all spur gears with an uneven number of teeth will be loaded slightly out of its center to the print plate center.**
- **For this reason it is absolutely necessary that you correct its position to the print plate center right after the import before you start adding positive or negative volumes.** Otherwise this additional volumes will be slightly out of center.
- Assuming that a pre-correction by me will fail with the use of other slicers than Prusa Slicer, I have provided a table with correction values for all provided spur gears in the download section.
- **Please move the model by this value in positive direction first.**
- If you are not sure in which direction you should move it, load the test piece and add a positive cylindrical volume of dia. 6mm to the middle of the print plate, and have a look to the gap of the bore hole with dia. 6.1mm. This test piece must be moved by 0,151mm in Y-direction to be in the middle of the print plate.

Calculation of the center distance:

- a = center distance [mm]
- $z1$ = number of teeth of spur gear 1
- $z2$ = number of teeth of spur gear 2
- m = module
- **Formula: $a = (z1 + z2) * m / 2$**

Cross-references to other spur gears with different module:

- Spur Gear Collection, alpha = 20 deg., module = 0,7: [Module0,7](#)
- Spur Gear Collection, alpha = 20 deg., module = 0,8: [Module0,8](#)
- Spur Gear Collection, alpha = 20 deg., module = 0,9: [Module0,9](#)
- Spur Gear Collection, alpha = 20 deg., module = 1: [Module1](#)
- Spur Gear Collection, alpha = 20 deg., module = 1,25: [Module1,25](#)
- Spur Gear Collection, alpha = 20 deg., module = 2: [Module2](#)
- Spur Gear Collection, alpha = 20 deg., module = 2,5: [Module2,5](#)
- Spur Gear Collection, alpha = 20 deg., module = 3: [Module3](#)
- Spur Gear Collection, alpha = 20 deg., module = 4: [Module4](#)

- Spur Gear Collection, alpha = 20 deg., module = 5: [Module5](#)

Cross-reference to a gear rack collection with the same modules as listed above:

- Gear Rack Collection, alpha = 20 deg, different modules: [Gear Rack Collection](#)

If you need a version not available in the download section, don't hesitate to contact me.

Print settings:

Material: For best function Nylon is recommended, but PETG, PLA, ABS/ASA does also.

Layer height: 0,15-0,30mm, depending on your application

Nozzle diameter: 0,4-0,6mm, depending on your application


Infill: 20%-100%, depending on your application


Perimeters: 2-X, depending on your application


Brim: no

Support: no

Model files

 **Spur Gears, alpha=20deg, module=1,5** 29 files

 **m15-z12.stl**

 **m15-z13.stl**



m15-z14.stl



m15-z15.stl



m15-z16.stl



m15-z17.stl



m15-z18.stl



m15-z19.stl



m15-z20.stl



m15-z21.stl



m15-z22.stl



m15-z23.stl



m15-z24.stl



m15-z25.stl



m15-z26.stl



m15-z27.stl



m15-z28.stl



m15-z29.stl



m15-z30.stl



m15-z31.stl



m15-z32.stl



m15-z33.stl



m15-z34.stl



m15-z35.stl



m15-z36.stl



m15-z37.stl



m15-z38.stl



m15-z39.stl



m15-z40.stl



Spur Gear Testpiece with 6mm bore hole

1 file



spur-gear-testpiece.3mf



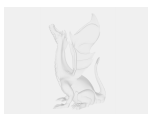
Demo Model

1 file



spur-gear-demo-model.3mf

Other files



spur-gear-position-correction-values.pdf

License



This work is licensed under a
[Creative Commons \(4.0 International License\)](#)

Attribution-NonCommercial

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