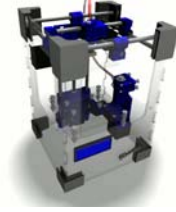


*Tantillus*

## The Portable Open Source 3D Printer

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### Bill of Materials

#### Bolts / Nuts

(All versions)

- 16 - 10-32 x 3/4" Socket head cap screws
- 4 - 8-32 x 1-1/2" Socket head cap screws
- 8 - 8-32 x 1" Socket head cap screws
- 9 - 8-32 x 3/4" Socket head cap screws
- 1 - 6-32 x 2" Socket head cap screws
- 5 - 6-32 x 1-3/4" Socket head cap screws
- 10 - 4-40 x 3/4" Socket head cap screws
- 15 - M3 x 10mm Socket head cap screws
- 8 - 8-32 x 3/8" grub screws
- 2 - 4-40 x 1/4" grub screws
- 16 - 10-32 Hex nuts
- 37 - 8-32 Hex nuts
- 8 - 6-32 Hex nuts
- 16 - 4-40 Hex nuts
- 4 - 1/4"-20 Hex nuts
- 2 - 5/16"-18 Hex nuts
- 19 - M3 Flat washers
- 38 - #8 SAE Flat washers
- 3 - 1/4"-20 Flat washers (or 5/16" needs to have 8mm hole)

(Additional for Printed version)

- 10 - #10-32 x 3/4" Socket head cap screws
- 22 - #10-32 x 1/4" Socket head cap screws
- 8 - #8-32 x 1" Socket head cap screws
- 32 - #10-32 Hex nuts
- 8 - #8-32 Hex nuts
- 16 - #8 x Flat washers

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#### Bearings

(All versions)

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- 11 - 608 skate bearings
- 6 - LM8uu linear motion bearings (24mm long)
- 2 - LM8suu linear motion bearings (17mm long)
- 4 - Printable LM8uu bushings (24mm long)

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## Rods

(Laser cut version)

- 2 - 8mm x 230mm Drill rods
- 2 - 8mm x 170mm Drill rods
- 2 - 5/16" x 230mm Drill rods
- 2 - 5/16" x 210mm Drill rods
- 1 - 5/16" x 22mm Drill rod
- 1 - 1/4"-20 x 170mm Threaded rod

(Printed version)

- 2 - 8mm x 230mm Drill rods
- 2 - 8mm x 170mm Drill rods
- 2 - 5/16" x 220mm Drill rods
- 2 - 5/16" x 197mm Drill rods
- 1 - 5/16" x 22mm Drill rod
- 1 - 1/4" x 170mm Threaded rod

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## Miscellaneous

(All versions)

- 1 - 6.5mm i.d. x 20mm Spring (stronger is better)
- 4 - 4mm i.d. x 20mm Springs ( Or 4 short pieces of aquarium tubing [10mm approximately] )
- 1 - 5/16"-18 x 4-1/4" (or 4") Hobbed bolt (metric 8mm x 105mm)
- 800mm - 1/4" o.d. x 1/8" i.d. (6mm o.d. x 3mm i.d.) PTFE tubing (Zeus is one of the largest brands)
- 8m - 65lb test braided fishing line (Spectra braided line) (or stainless leader)
- 18 - 150mm x 4mm Zip ties (6")
- 50mm - 6mm silicone tubing x (aquarium tubing)

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## Printed Parts

(All versions)

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- 1 - Carriage top
- 1 - Carriage bottom
- 1 - Bowden clamp
- 2 - XY end (left)

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- XY end (right)
- 1 - Z upper bracket
  - 1 - Z lower bracket
  - 1 - Z motor mount
  - 1 - Z lift bracket
  - 2 - Z coupler
  - 1 - Z arm (left)
  - 1 - Z arm (right)
  - 1 - Extruder body
  - 1 - Extruder motor mount
  - 1 - Extruder idler
  - 1 - Extruder large gear
  - 1 - Extruder small gear
  - 2 - Upper gears
  - 2 - Motor gears
  - 2 - Fan mounts
  - 1 - Encoder knob

(Additional for Laser cut version)

- 1 - Top 1 corner connector
- 1 - Top 2 corner connector
- 1 - Top 3 corner connector
- 1 - Top 4 corner connector
- 4 - Bottom corner connectors

(Additional for Printed version)

- 1 - Case top 1
- 1 - Case top 2
- 1 - Case top 3
- 1 - Case top 4
- 1 - Case middle 1
- 1 - Case middle 2
- 1 - Case middle 3
- 1 - Case middle 4
- 1 - Case bottom 1
- 1 - Case bottom 2
- 1 - Case bottom 3
- 1 - Case bottom 4
- 1 - Top front connector
- 2 - Top side connectors
- 1 - Rear lower connector
- 1 - Rear upper connector
- 3 - Middle connectors
- 3 - Base connectors
- 1 - Motor mount reinforcement
- 4 - Upper stiffeners

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## Electronics

Recommended electronics

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- 4 - Nema 17 stepper motors (max length of 40mm recommended)
- 4 - Stepstick or Pololu stepper drivers
- 1 - RAMPS shield

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Arduino mega 2560

- 1 - J-head Mk-Vb
- 2 - 50mm fans (50mm 12+ cfm recommended)
- 1 - 90 watt power supply (15v @ 5/6A)
- 1 - Mechanical endstop switch [Pictures](#)
- 1 - 16 x 2 LCD panel (optional)
- 1 - 20 position encoder (optional)
- 1 - SD card break out board or SDramps (optional)
- 1 - Barrel connector for power supply connection (optional)

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Subject to change without notice.

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