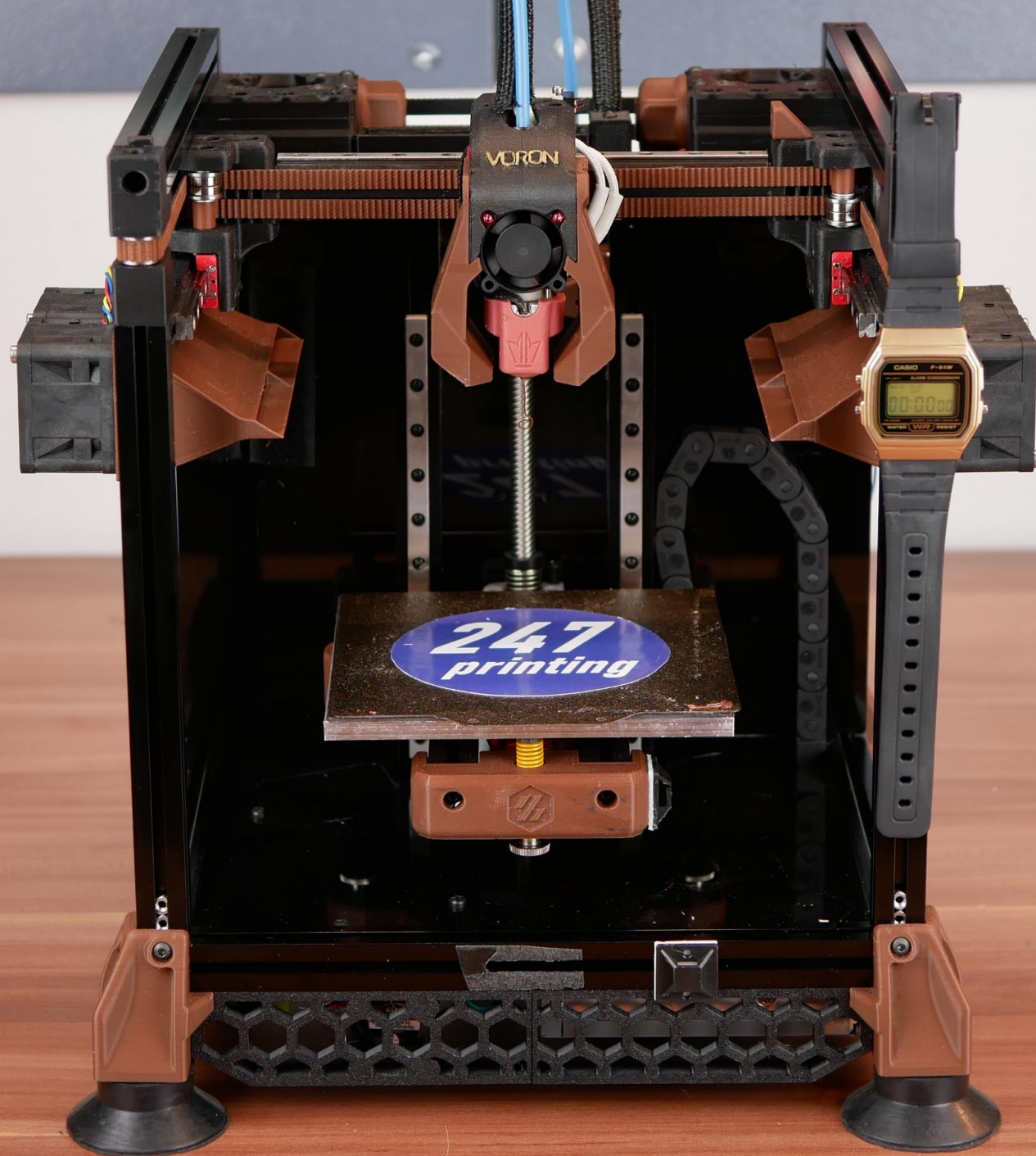


# 247zero

## **BETA1** INSTRUCTIONS

Based on **VORON0**  
by VoronDesign.com



# DISCLAIMER.

EXPERIMENTAL RELEASE FOR **HIGH SPEED 3D PRINTING.**

**USE AT YOUR OWN RISK\*:**

**247printing is not responsible** for any HARM OR DAMAGE taken by these upgrades.

\*by downloading the STL-files, the user confirms the use at own risk.



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# 1. PREPARATIONS (1/2).

**BILL OF MATERIAL:**

[Link to BOM](#)

**PRINTERS (DIY):**

VORON<sup>0</sup> (v0.0 or v0.1 ) → Info/documentation: [vorondesign.com](http://vorondesign.com)

**VORON v0.1 KITS:**

LDO Kit [\(LINK\\*\)](#) or Kit at AliExpress [\(LINK\\*\)](#)

**HOTEND:**

Slice Engineering Mosquito (regular or magnum) [\(LINK\\*\)](#)

**HEATER BLOCK:**

Volcomosq [\(LINK\\*\)](#) or Mellow CRAZY-NF Volcano [\(LINK\\*\)](#)

**EXTRUDER:**

E3D HEMERA bowden [\(LINK\\*\)](#)

# 1. PREPARATIONS (2/2).

**Threaded Inserts used:**

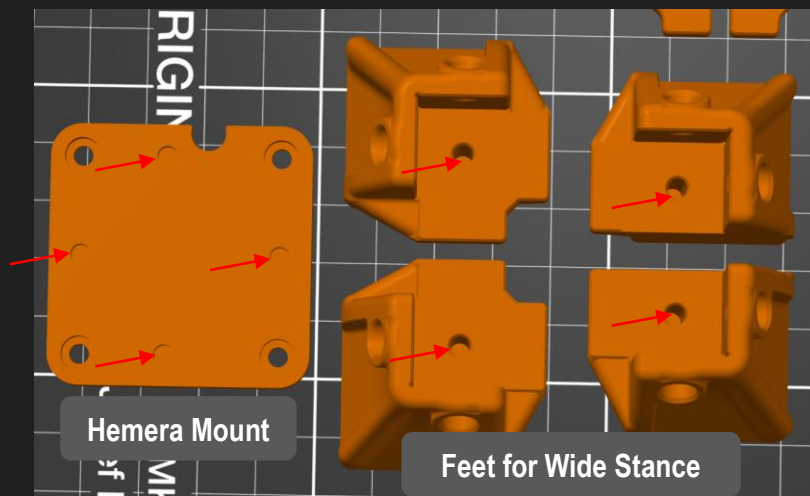
M3xD5.0xL4.0 ([LINK\\*](#)) and M4xD6.0xL8.0 ([LINK\\*](#))

**Washers used (ISO7093):**

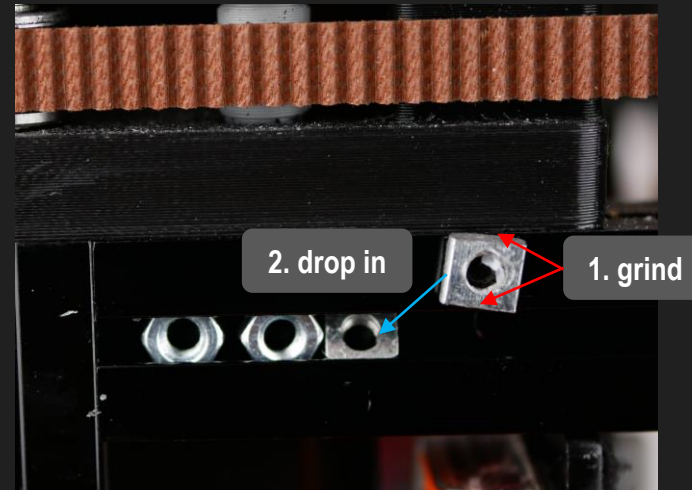
For M3: 3.2mm/9.6mm (inner/outer diameter)

For M4: 4.3mm/12.9mm (inner/outer diameter)

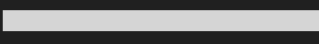
Drill or poke these 3mm holes (bridging layer):

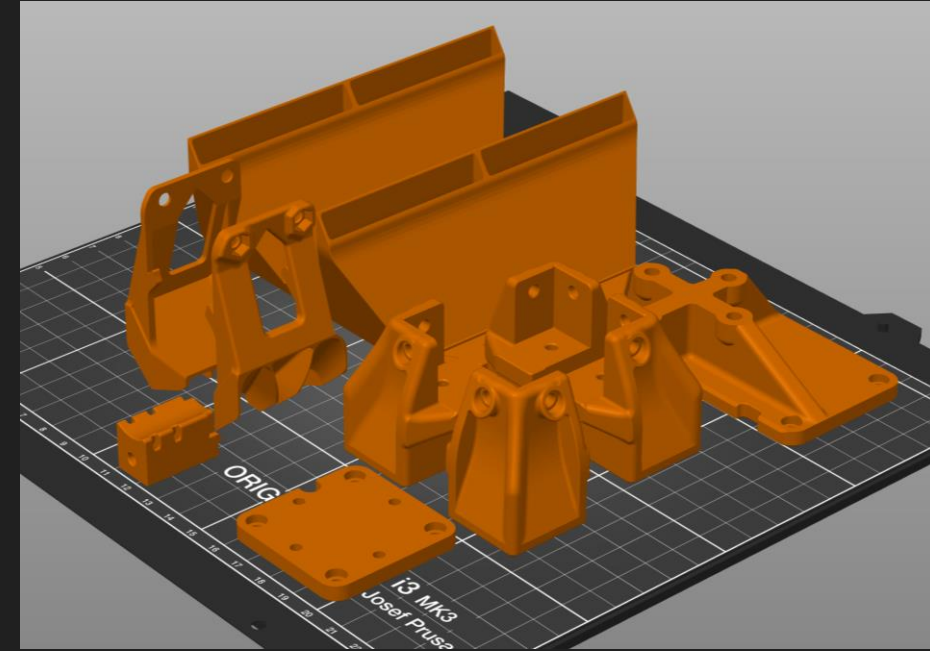


Additional M3 nuts into 1515 extrusions:  
Grind M3 square nuts and drop in:



# 2. RECOMMENDED PRINT SETTINGS\*.

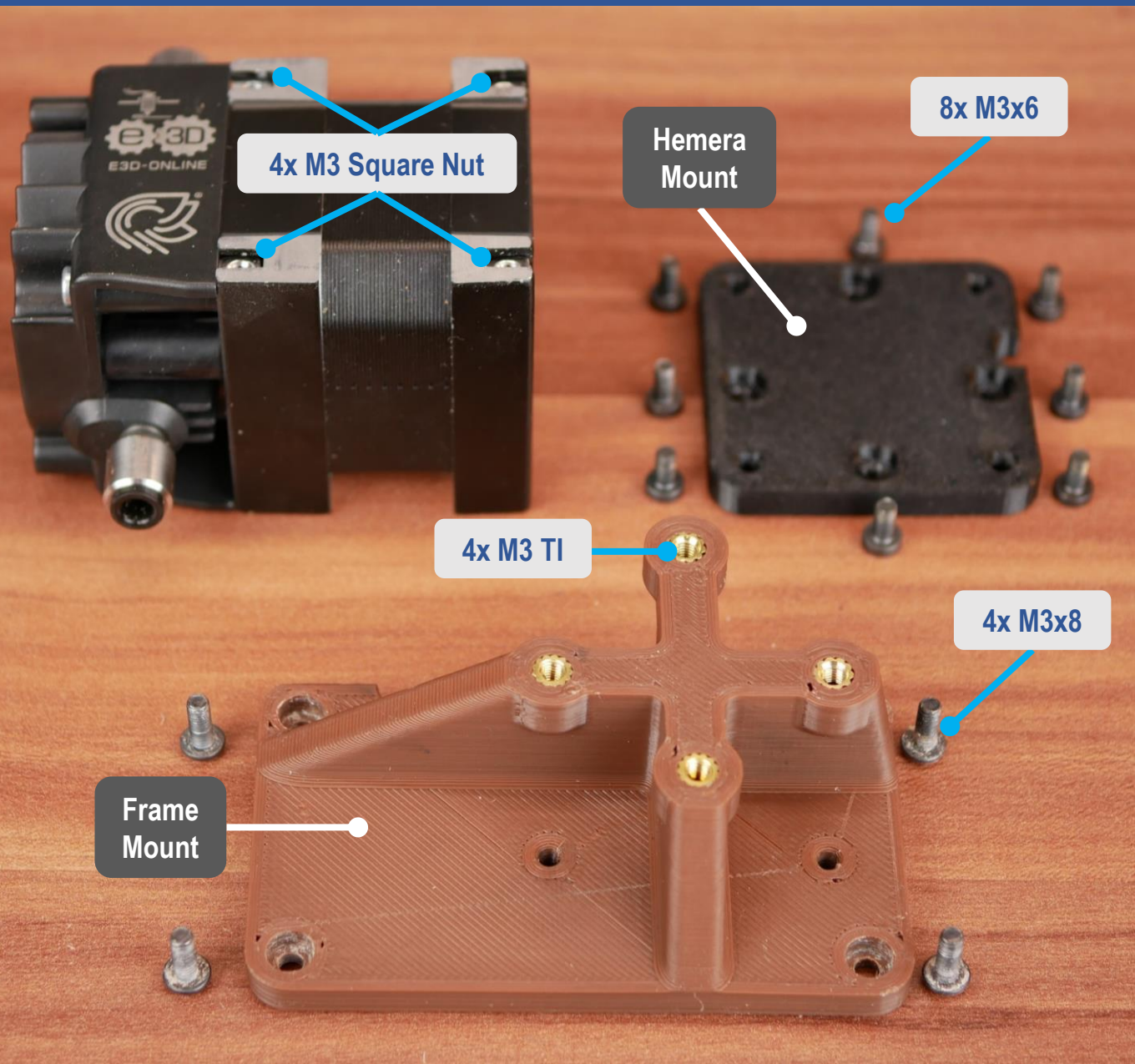
|                                 |   |
|---------------------------------|---|
| <b>Print Process:</b>           | FDM-Printing  |
| <b>Orientation:</b>             | Given with the STL files.  |
| <b>Material:</b>                | ABS/ABS+  |
| <b>Supports:</b>                | Only needed for Hemera Mount (frame side)   |
| <b>Layer Height:</b>            | 0.2mm   |
| <b>Extrusion Width:</b>         | Forced 0.4mm  |
| <b>Infill Percentage:</b>       | 40%   |
| <b>Infill Type:</b>             | Grid, Gyroid, Honeycomb, Triangle or Cubic  |
| <b>Wall Count:</b>              | 4 minimum   |
| <b>Solid Top/Bottom Layers:</b> | 5 minimum   |



\*as recommended by [VoronDesign.com](https://VoronDesign.com). ADVANCED USERS: print based on your expertise.



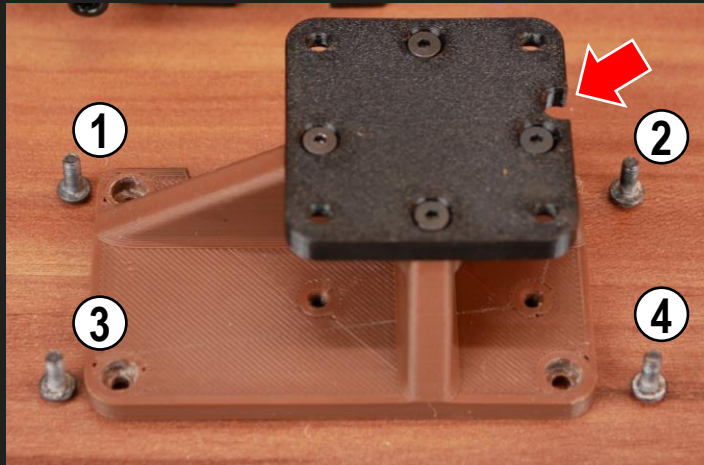
### 3. HEMERA MOUNT (BOWDEN) (1/2).



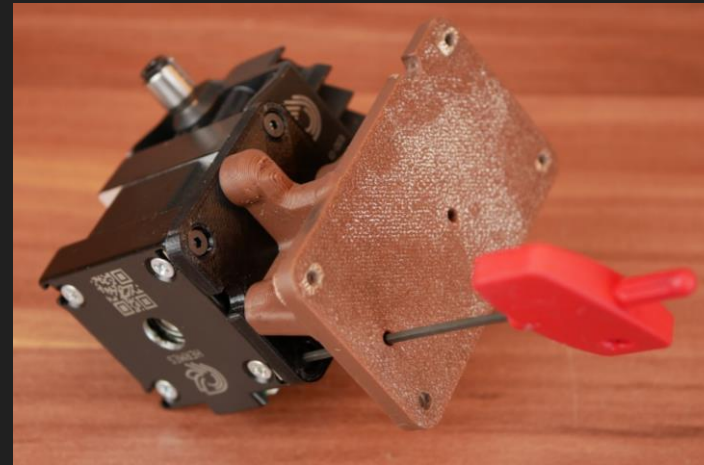
#### PARTS NEEDED:

- 1x STL: 247zero HemeraMount
- 1x STL: 247zero HemeraMountFrame
- 8x M3x6 SHCS
- 4x M3x8 SHCS
- 4x M3 square nut (Hemera)
- 4x M3 Threaded Inserts (TI)

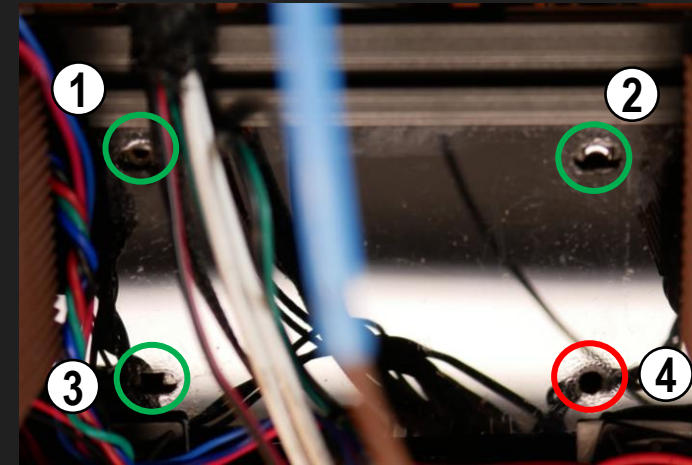
# 3. HEMERA MOUNT (BOWDEN) (2/2).



1. Hemera mount on frame mount



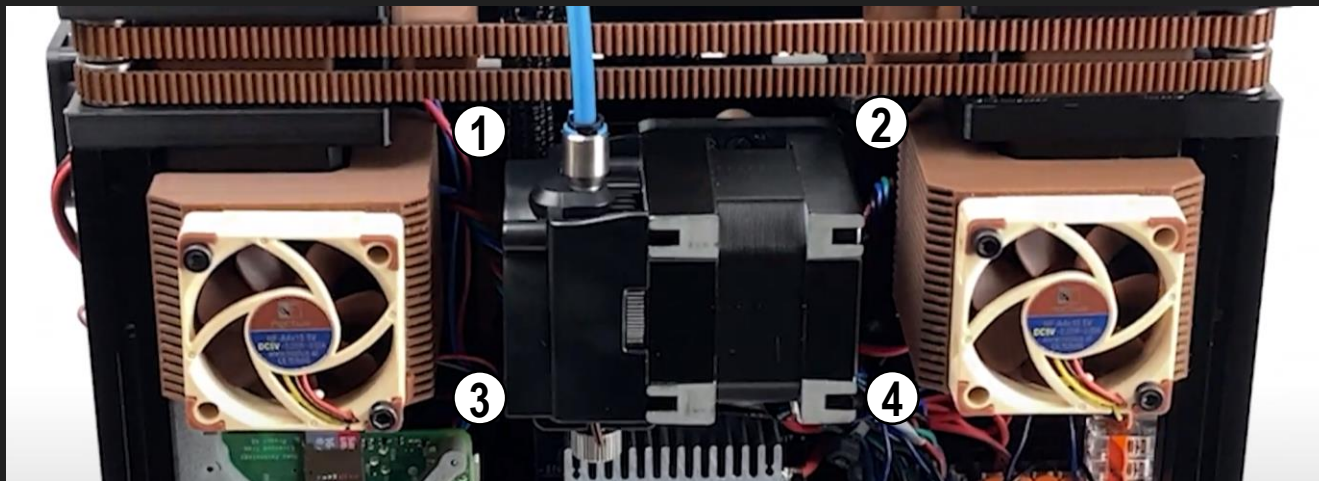
2. Hemera on assembly



3. Hemera assembly on frame

○ use existing holes and M3 nuts

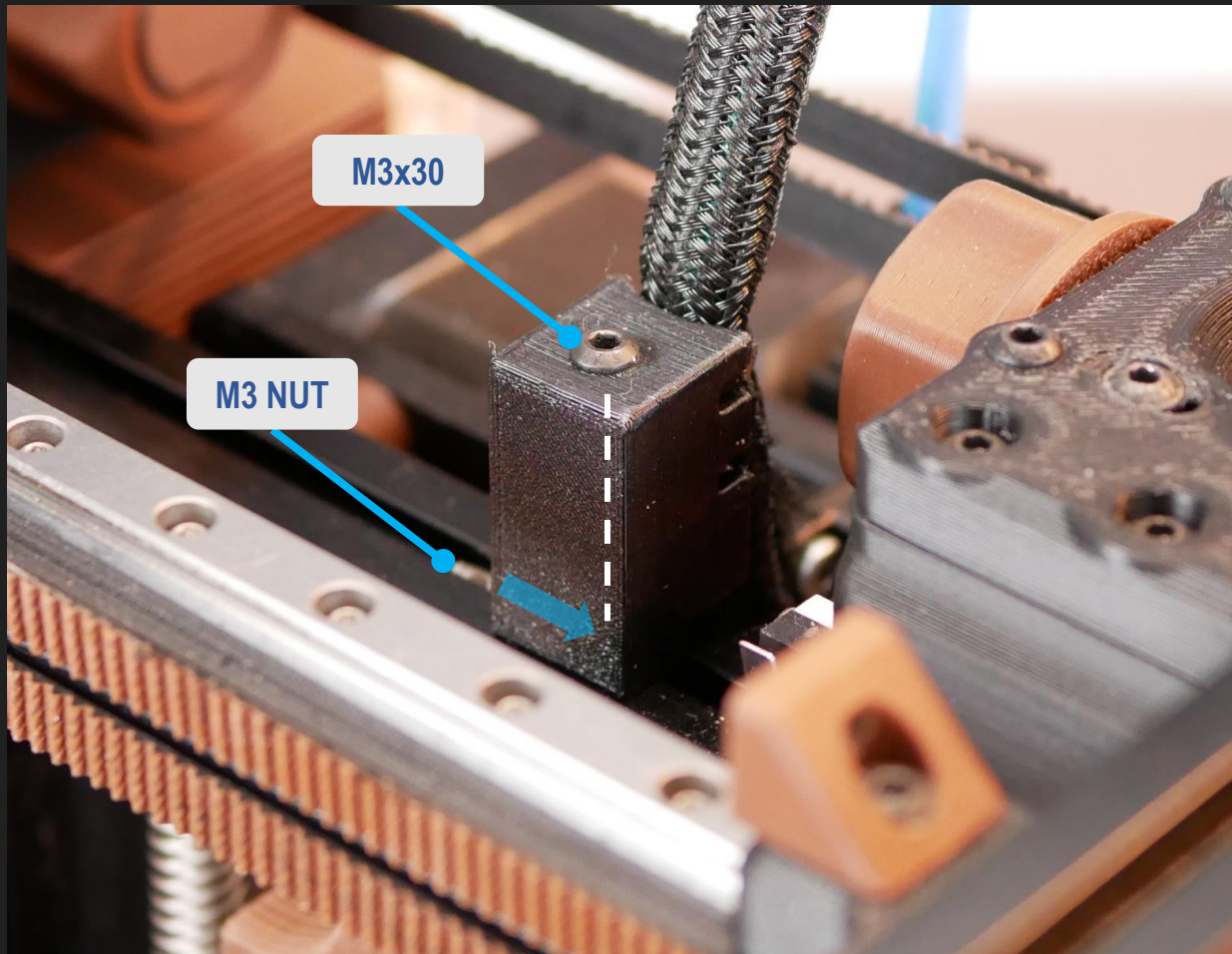
○ optional: drill fourth hole, use existing M3 nut



4. OPTIMIZED EXTRUDER POSITION: shorter bowden, improved dynamics, no collisions with belts.



# 4. OPTIMIZED CABLE TIE.

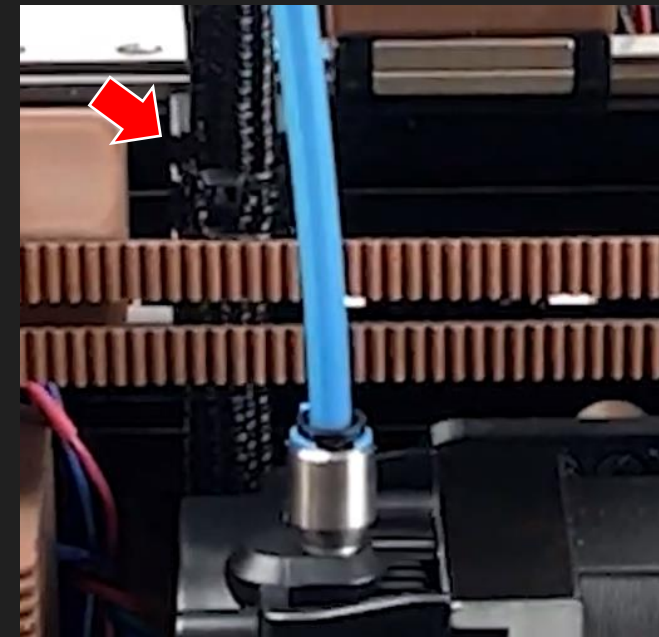


## PARTS NEEDED:

1x STL: 247zero CableTie opt

1x M3x30 SHCS or BHCS

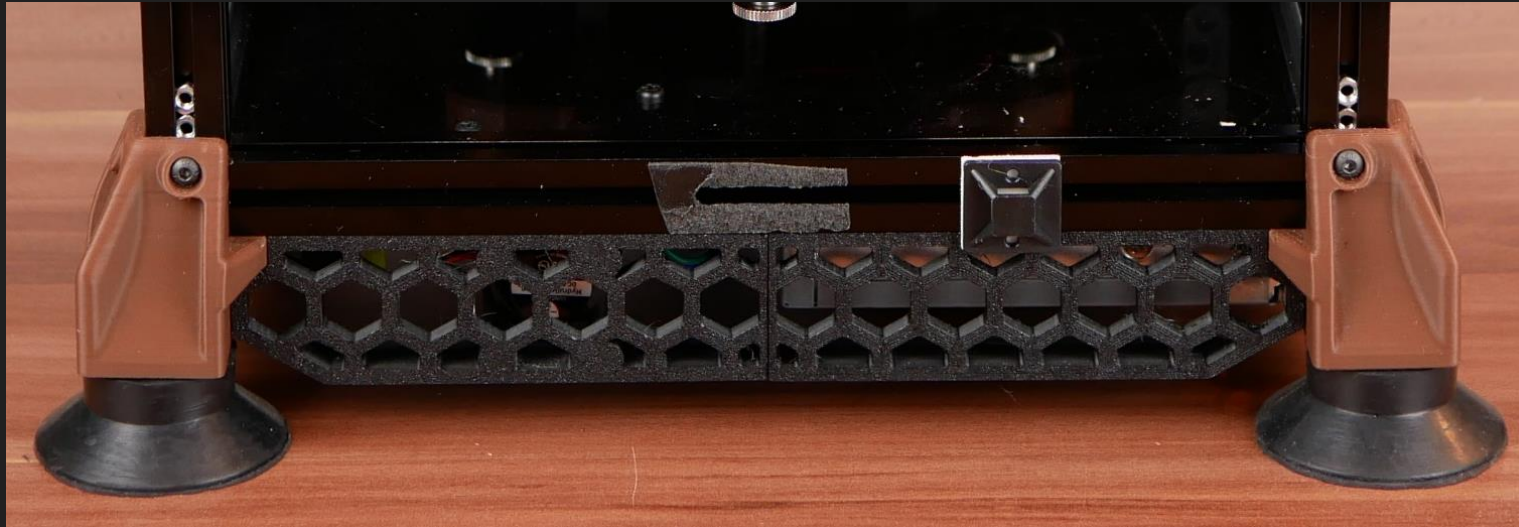
1x M3 nut



**Optimized Cable Tie is needed for Hemera Bowden Mount:**

→ enable cable management and optimized support of the rapid wiring loom movement.

# 5. WIDENED STANCE.



→ Less vibration and printer movement at high accelerations / speeds.

## PARTS NEEDED:

1x STL: 247zero WideStance Feet

8x M3x8 SHCS or BHCS

8x M3 nut

4x M3x25 SHCS

4x M4 threaded inserts ("M4 TI")

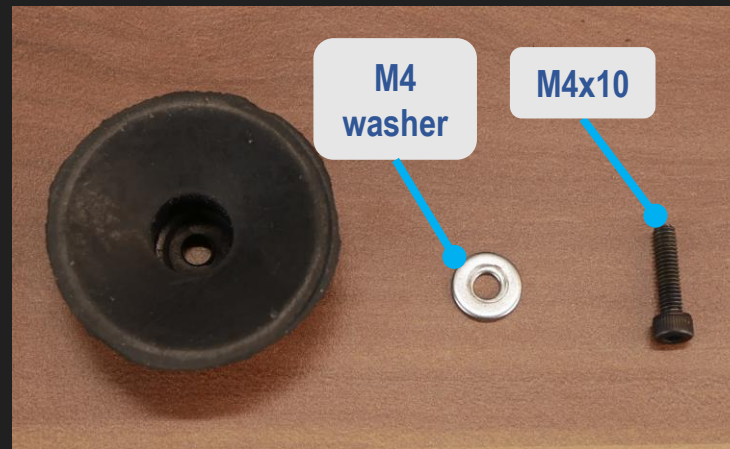
4x M4x10 (SHCS or BHCS)

4x M4 washer

4x rubber foot (for air compressor).



Rear feet: with clearance

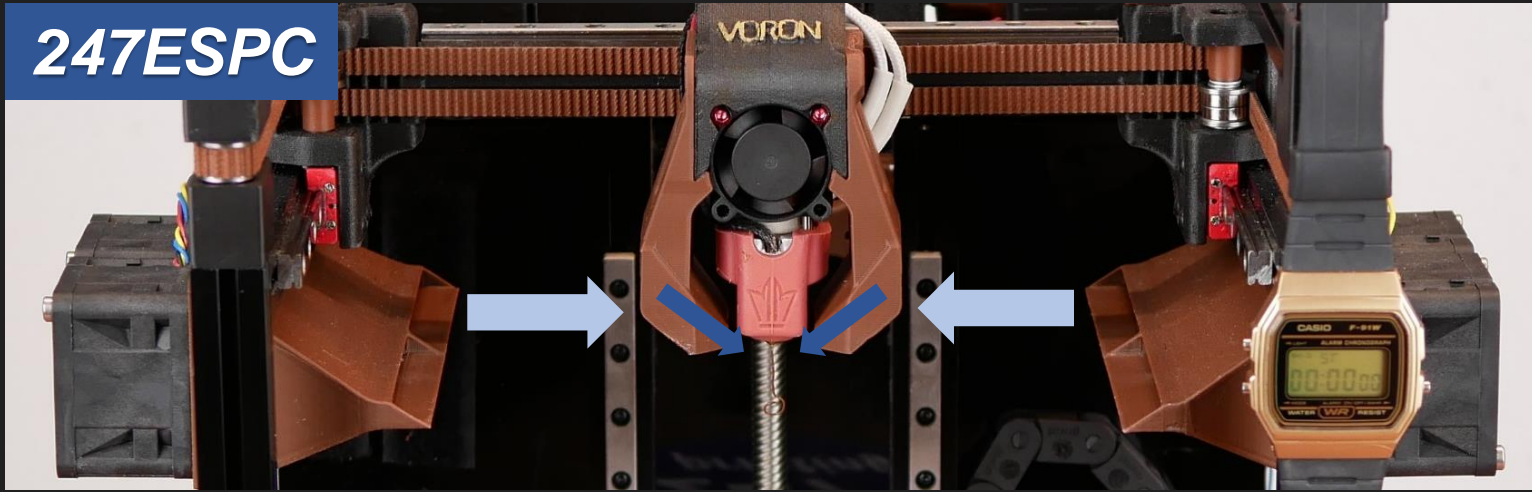


Foot assembly



# 6. EXTERNAL STATIC POINTED COOLING (1/2).

247ESPC



**PARTS NEEDED (V0 bowden toolhead):**

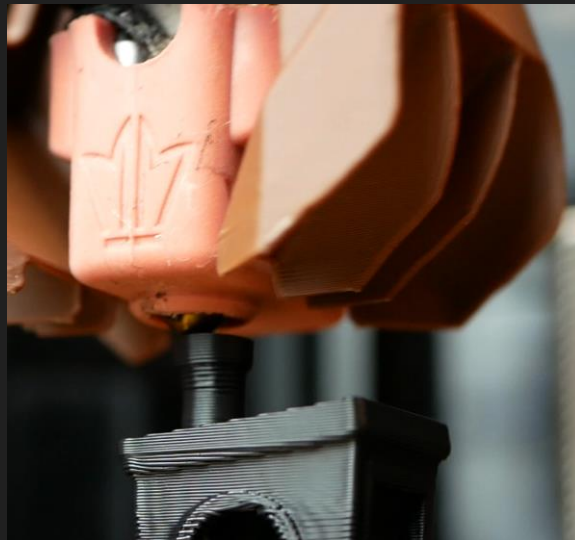
1x STL: 247zero FanlessPointed Volcomosq

1x Mosquito Hotend (Regular/Magnum)

1x Volcomosq / Mellow Crazy-NF Volcano

2x M3x35 BHCS

2x M3 hex nut

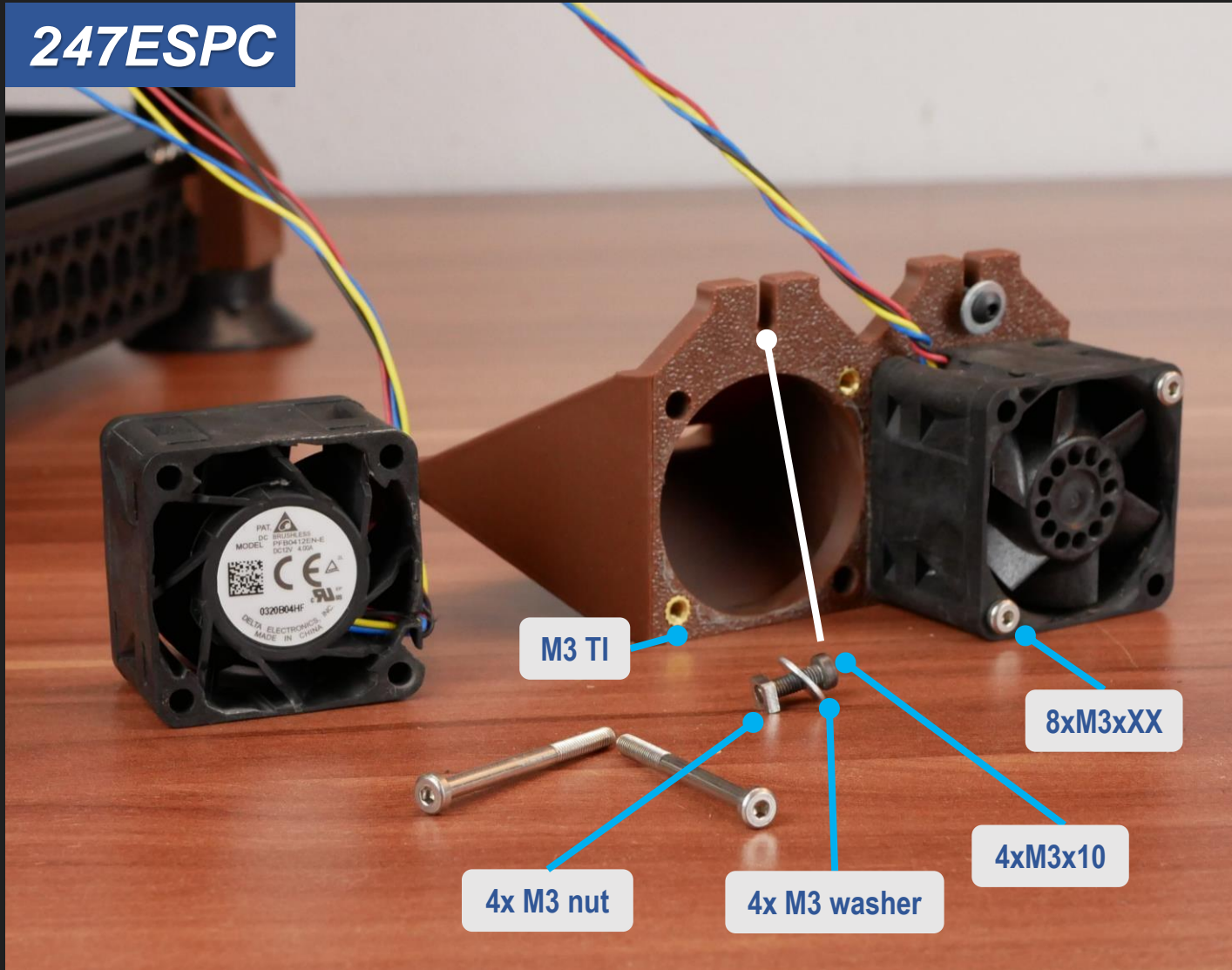


→ Low weight and pointed cooling with fan-less air ducts on toolhead.

→ High power 40mm fans on external static air ducts possible.

# 6. EXTERNAL STATIC POINTED COOLING (2/2).

247ESPC



## PARTS NEEDED (2x external air ducts):

2x STL: 247zero ExternalStatic Volcomosq

4x 40mm axial fans

8x M3 threaded inserts (M3x5x4, M3 TI)

8x M3 BHCS/SHCS (length: depending on fans)

4x M3x10

4x M3 washer

4x M3 nut



# 7. VERDICT.

**GOOD LUCK !**  
**STAY SAFE AND HEALTHY !**  
**HAVE FUN !**