Rat Rig

08. Bed & Y-Axis Endstop Assemblies

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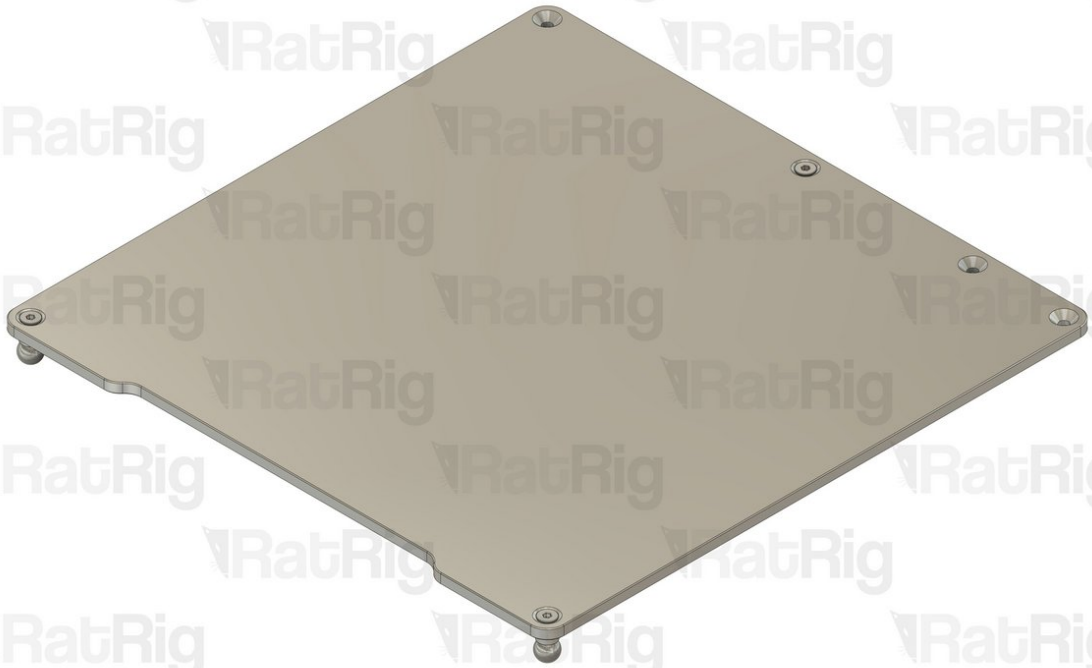


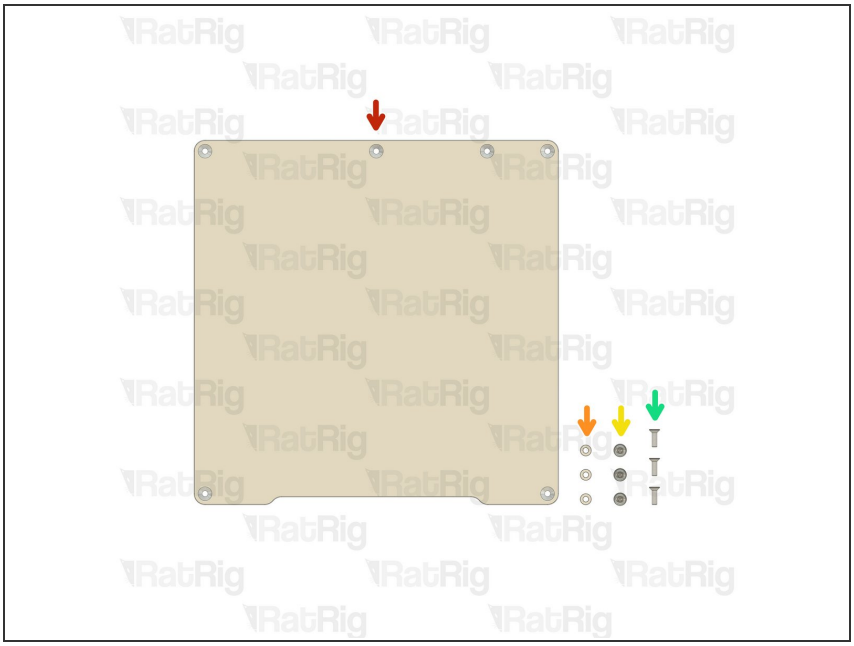
INTRODUCTION

Please note: The bed measurements provided in this guide are based upon building a 300x300 V-Core 3.

If you are building a machine of a different size, please refer to the following list for the correct bed measurement for your machine:

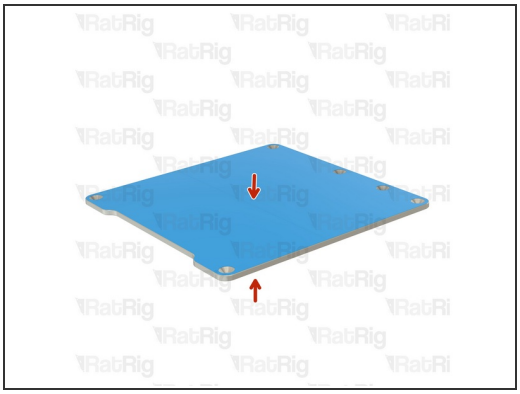
- **200x200:** 229x229x5mm
- **300x300:** 329x329x6mm
- **400x400:** 429x429x6mm
- **500x500:** 529x529x6mm

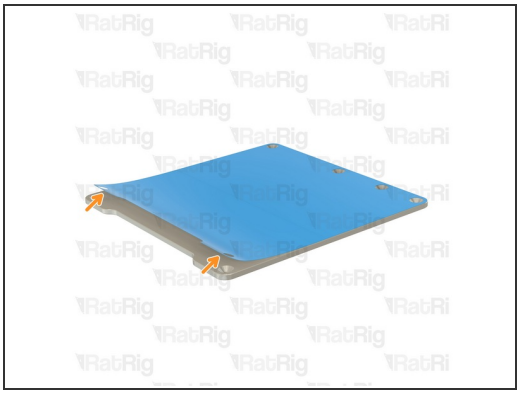
Step 1 — Prepare the bed parts

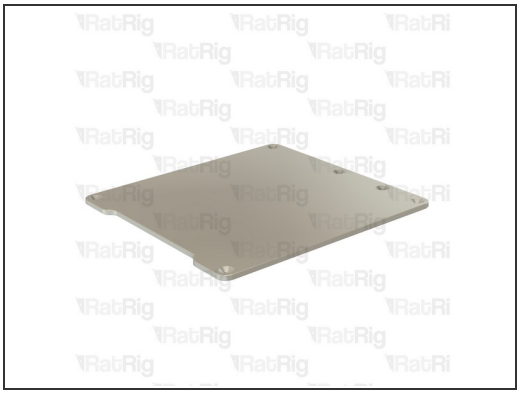


- 1x 329x329x6mm Machined Bed Plate
- 3x Aluminium Spacer - 6mm
- 3x Threaded Steel Ball
- 3x M5x16 Countersink Screw

Step 2 — Prepare the bed





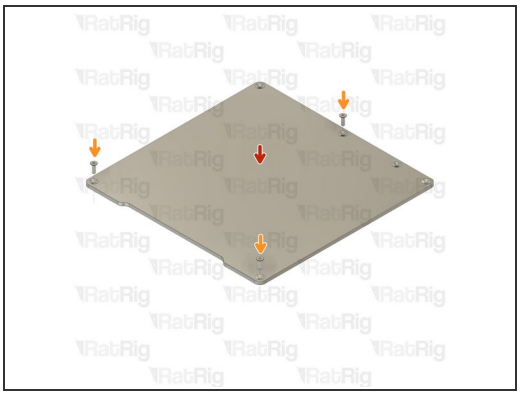
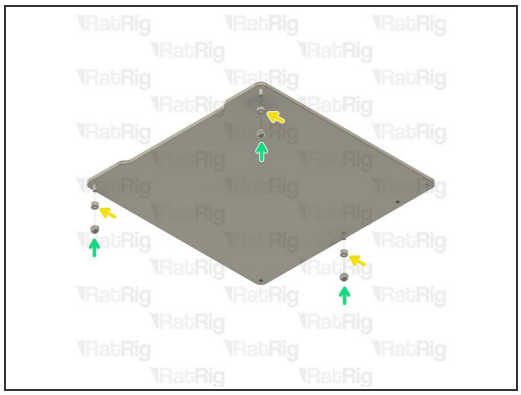
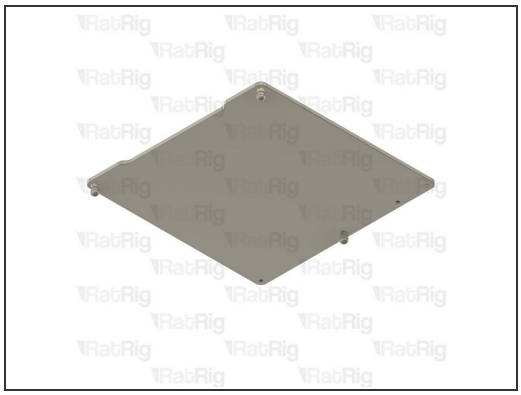


- To prevent scratches, the bed plate is shipped with a protective film on **both sides**.
- Gently peel off the protective film.

ⓘ Repeat for the other side.

⚠ The magnetic sheet and heater pad will be installed later during the commissioning guide. **Do not install them now.**

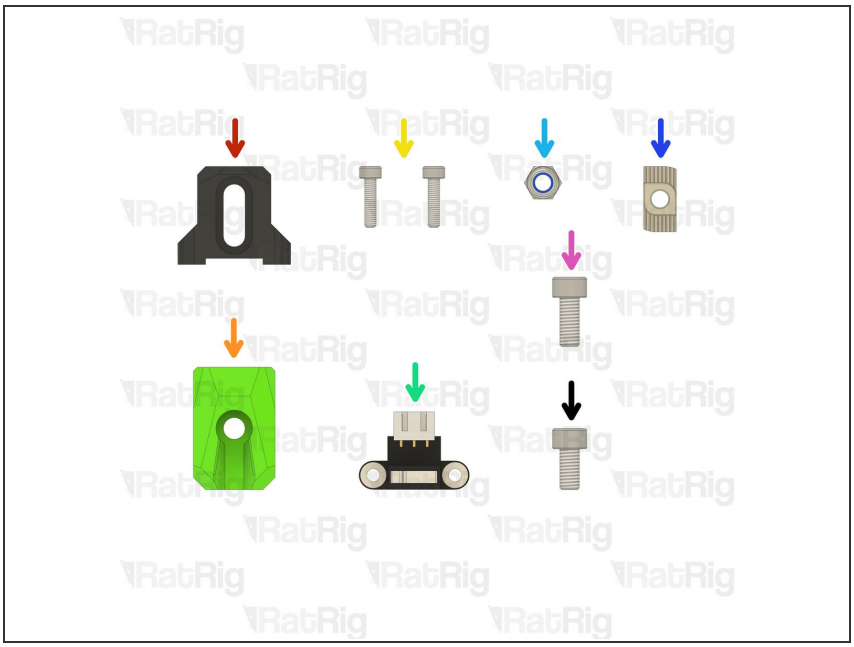
Step 3 — Assemble the bed

- 329x329x6mm Machined Bed Plate
- M5x16 Countersink Screw
  - Insert an M5x16 countersink screw into each of the positions shown on the bed
- Aluminium Spacer - 6mm
- Threaded Steel Ball
  - Add an aluminium spacer and threaded steel ball to each of the M5x16 screws

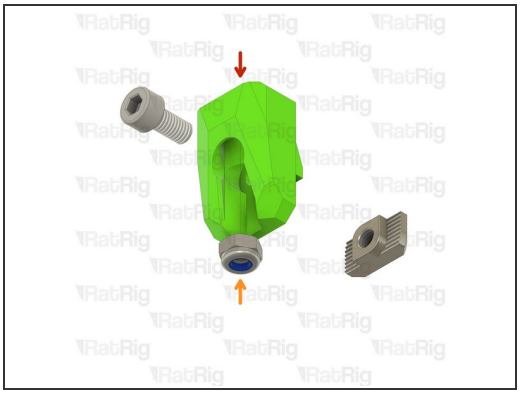
Set the bed assembly aside until **Step 9**

Step 4 — Prepare the y-axis endstop parts



- 1x y_max_endstop_slider_3.1 Printed Part
- 1x y_max_endstop_block_3.1 Printed Part
- 2x M3x12 Cap Head Screw
- 1x Endstop Module
- 1x M5 Nylon Locking Hex Nut
- 1x 3030 Drop-in T-Nut - M5
- 1x M5x12 Cap Head Screw
- 1x M5x10 Cap Head Screw

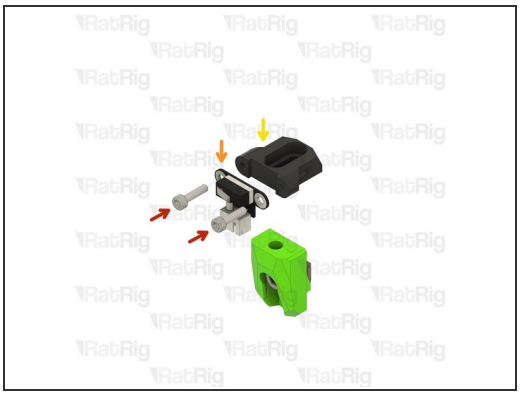
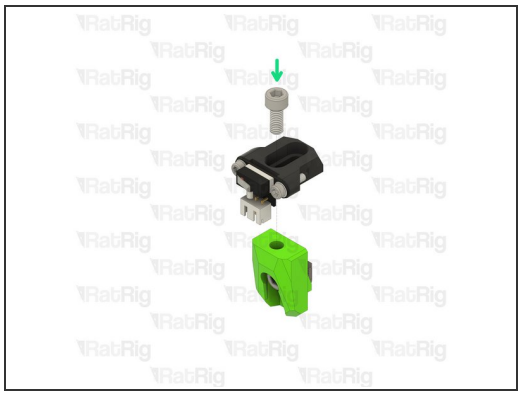
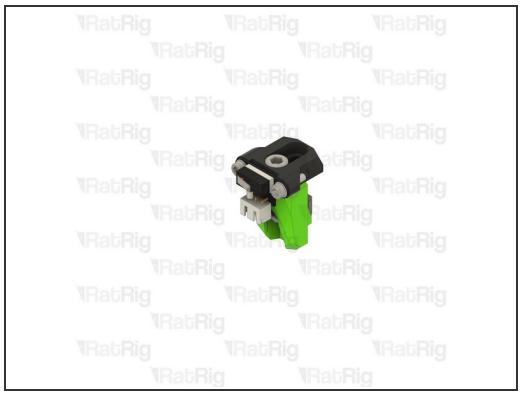
Step 5 — Assemble the y-axis endstop - Part 1



- y_max_endstop_block_3.1 Printed Part
- M5 Nylon Locking Hex Nut
- M5x10 Cap Head Screw
- 3030 Drop-in T-Nut - M5

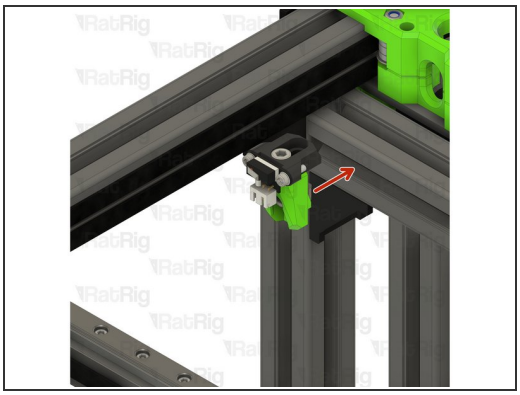
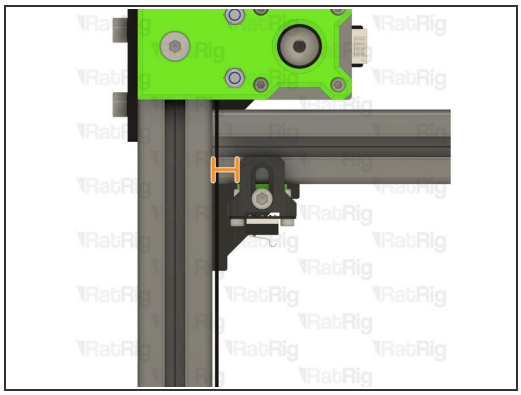
ⓘ Loosely thread the 3030 T-Nut onto the M5x10 screw. Do not tighten it at this point.

Step 6 — Assemble the y-axis endstop - Part 2

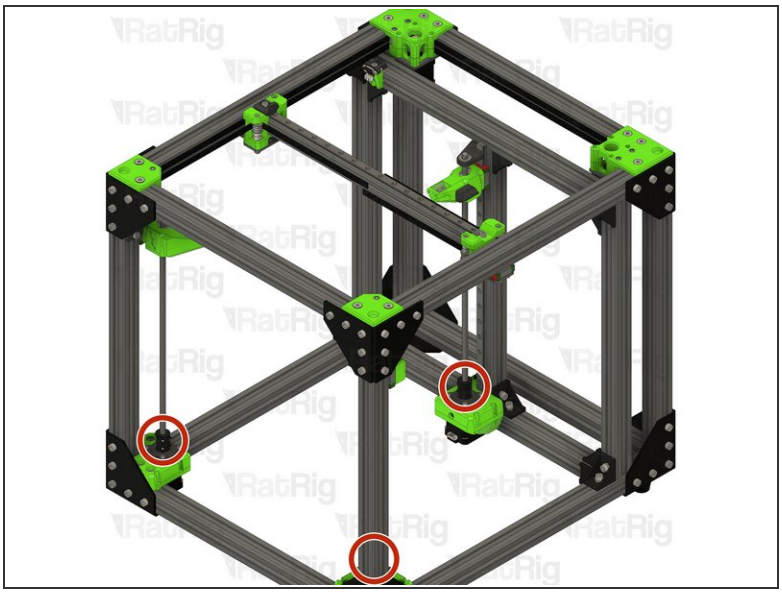
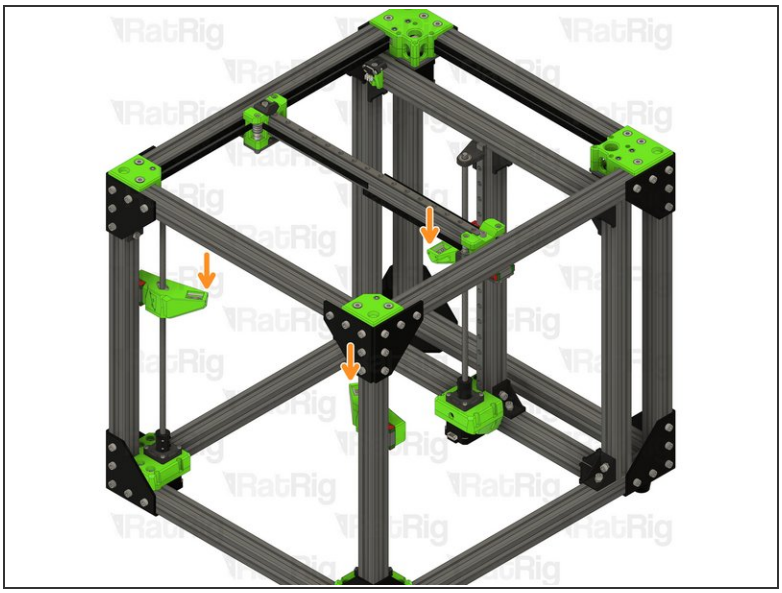
- M3x12 Cap Head Screw
- Endstop Module
- y_max_endstop_slider_3.1 Printed Part
  - ⓘ Install an M3x12 screw through each hole on the endstop module and screw it into the printed part
- M5x12 Cap Head Screw
  - ⓘ Install the M5x12 screw through the y_max_endstop_slider printed part and fasten it into the M5 nylon hex nut

Step 7 — Install the y-axis endstop

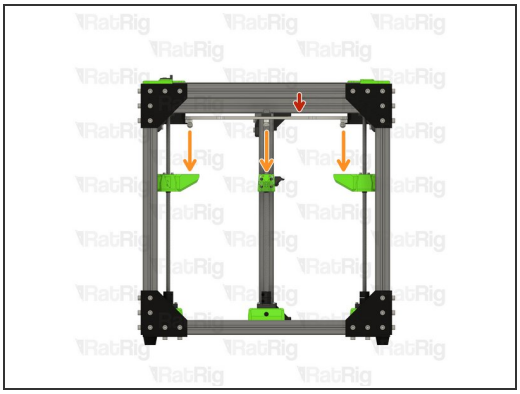
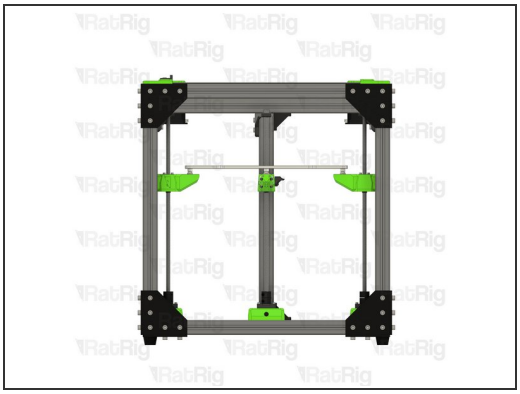
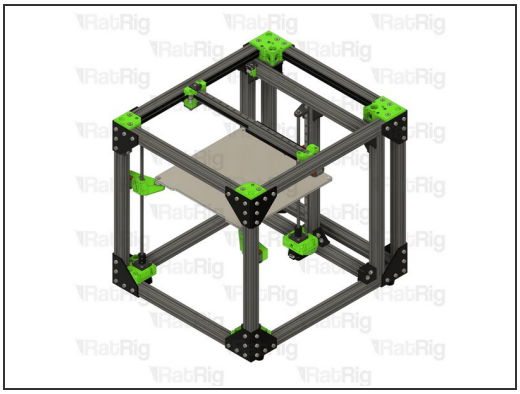

- Position the y-axis endstop on to the V-Core 3.1 frame as shown
- Check that the distance shown measures 11mm
- Fasten the M5x10 screw to secure the y-axis endstop assembly to the frame

Step 8 — Install the bed assembly - Part 1

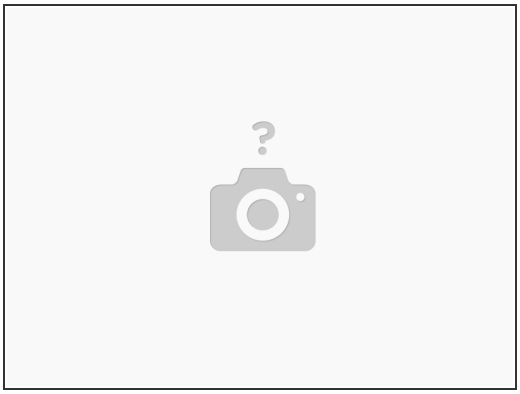
- Rotate each z-axis lead screw counter-clockwise to lower the bed arms
- Stop when the arms are roughly half way down

Step 9 — Install the bed assembly - Part 2

- Bed assembly from **Step 2**
- Install the bed onto the z-axis arms. Each ball on the bed should rest on the dowel pins in each arm

Step 10 — Next guide



- [ ] Follow the guide with the **EVA heat insert assembly** or the **EVA hex nut assembly**
  - Continue with the next guide: 09. EVA 3.0 Heat Insert Assembly
  - Continue with the next guide: 10. EVA 3.0 Hex Nut Assembly