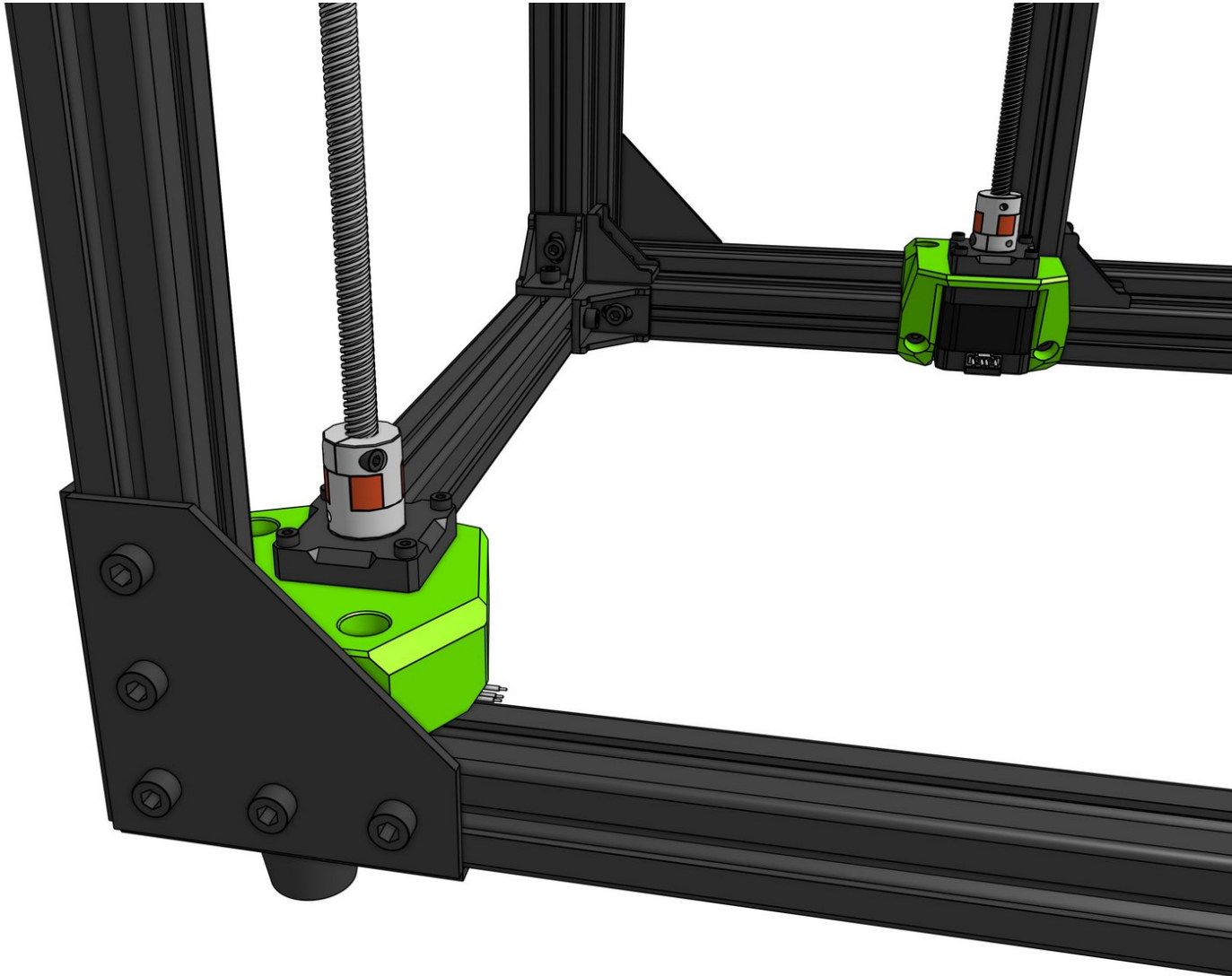


# Rat Rig

## 04. Z motor mounts

Written By: Paweł Kucmus



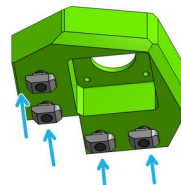
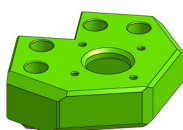
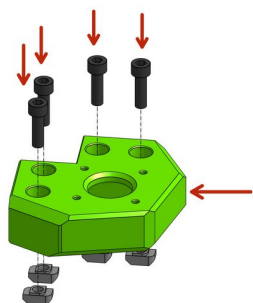
## Step 1 — Base Panel



**⚠** If you intend on installing a base panel on your V-Core 3, it is highly recommended to do so before continuing.

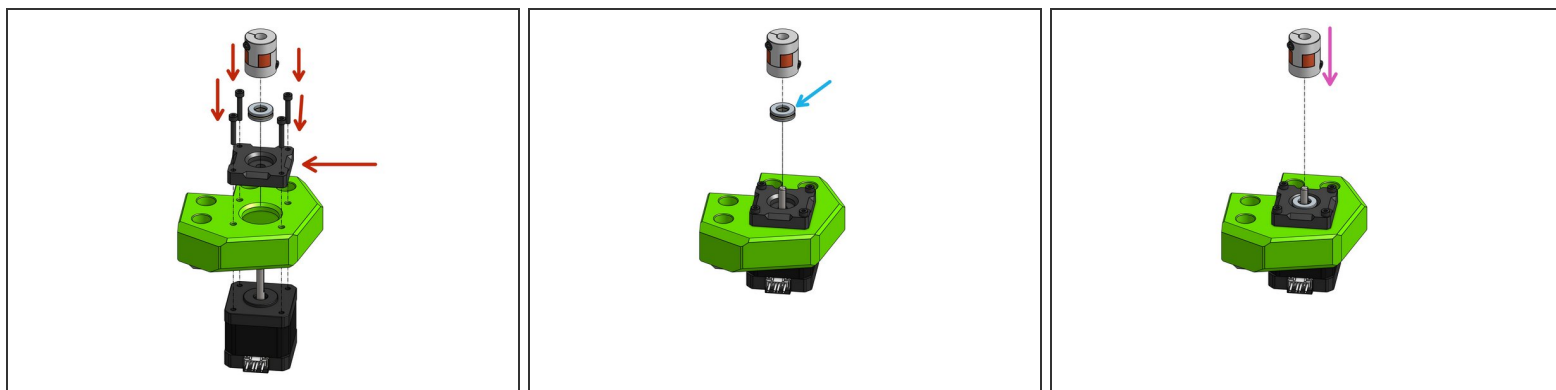
- i** Follow [Step 39](#) of the enclosure assembly guide to prepare the base panel
- i** Follow [Step 48](#) of the enclosure assembly guide to install the base panel
- Once the panel is installed, continue with this guide

## Step 2 — Front Z motor mount assembly



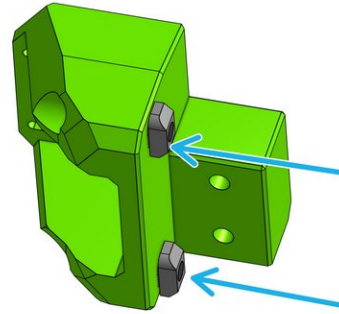
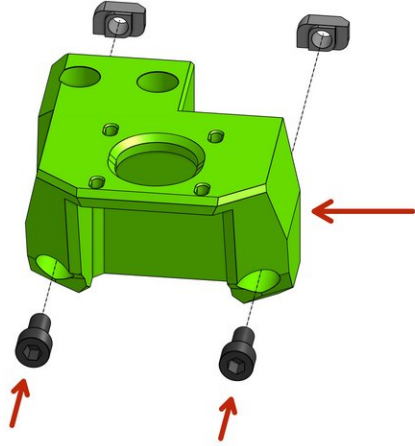
- Thread the **Cap Head Screws M6x20** screws through the **lead\_screw\_motor\_cage\_front** part
- Attach the **3030 M6 T-nuts**
- i** Repeat the same twice - in the case of those Z mounts the left and right assemblies are the same

## Step 3



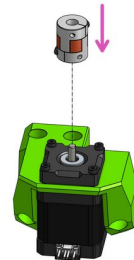
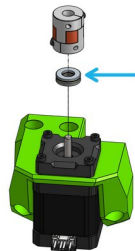
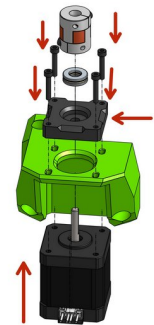
- Attach the NEMA17 stepper motor to the printed part through the **pillow\_block** part with the **Cap Head M3x18** screws
  - Insert the thrust bearing into the pillow block
  - Attach the coupler
- ⚠ The coupler needs to rest on the thrust bearing for the bearing to take the load off the motor shaft. Use the coupler to press the bearing down into the printed part until you hear a "click".
- Repeat this step for the other side of the printer
- ⓘ Be mindful about how the motor wires are aligned, rotate the motor if needed. Routing the wires to the back of the printer gives the opportunity for a clean build

## Step 4 — Assemble the back motor mount



- Thread the two **Cap Head M6x12** screws through the **lead\_screw\_motor\_cage\_back** printed part
- Attach the **3030 M6 T-nuts** on the back

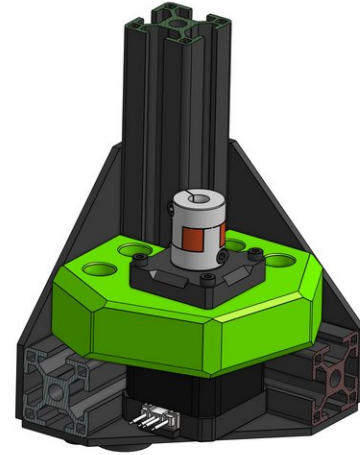
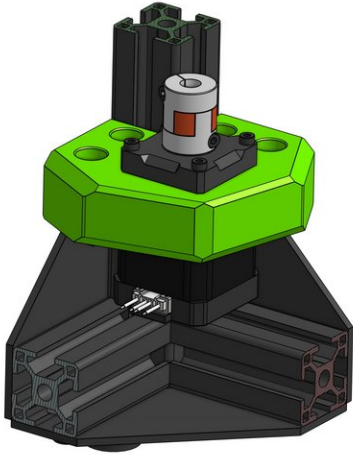
## Step 5



- Attach the NEMA17 stepper motor to the printed part through the **pillow\_block** part with the **Cap Head M3x18** screws
- Insert the thrust bearing into the pillow block
- Attach the coupler

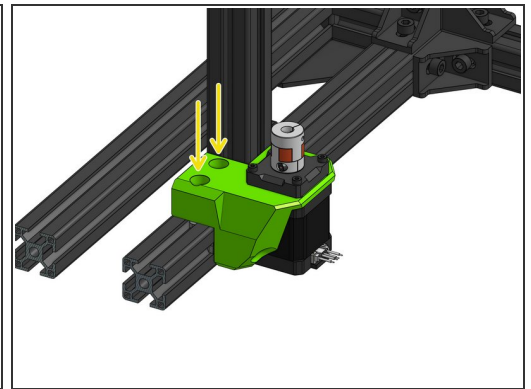
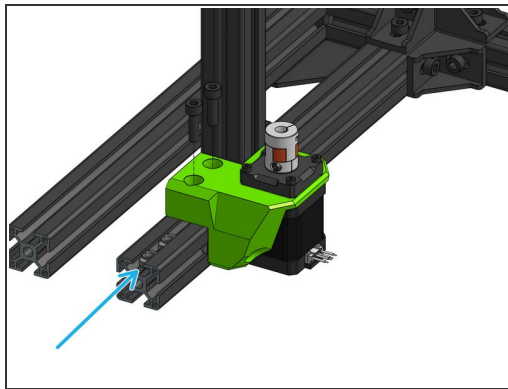
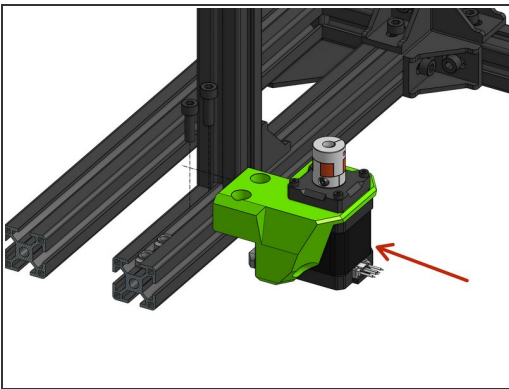
**⚠ The coupler needs to rest on the thrust bearing for the bearing to take the load of the motor shaft**

## Step 6 — Attach the Z drive assemblies to the frame



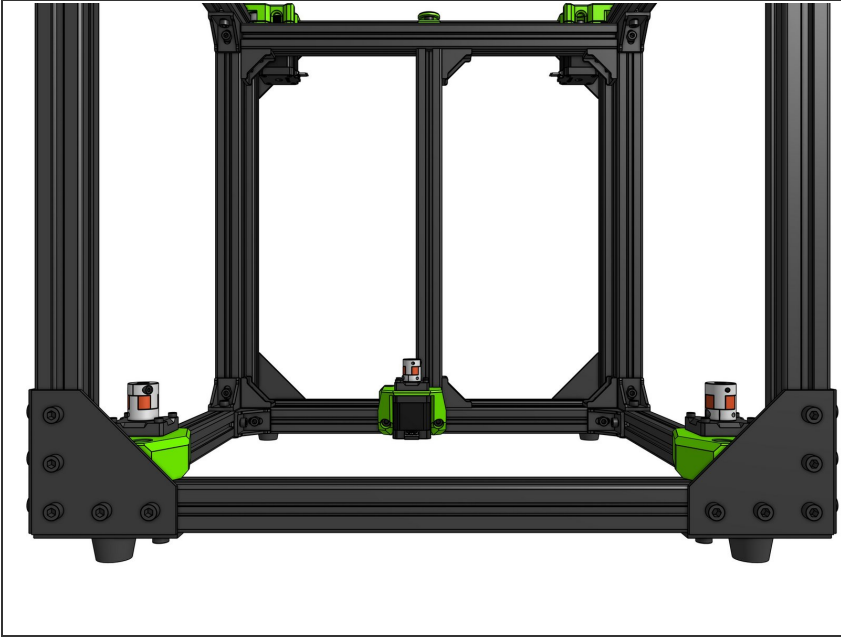
- Put the assembly in the bottom-front corner of the frame
- Loosely bolt the assembly
- ❗ You'll likely notice there's room for adjustment - this will be important later

## Step 7



- Slide the back motor assembly onto the frame. Bolt it loosely
- Slide the **3030 M6 T-nuts** under the back side of the part
- Loosely bolt the part from the top with the **Cap Head M6x20** screws

## Step 8



**i** In the final steps of the assembly the Z motor mounts will need to be adjusted in their XY positions to ensure the lead screws are parallel to the rails

## Step 9 — Next guide...



- [05. Linear rails](#)