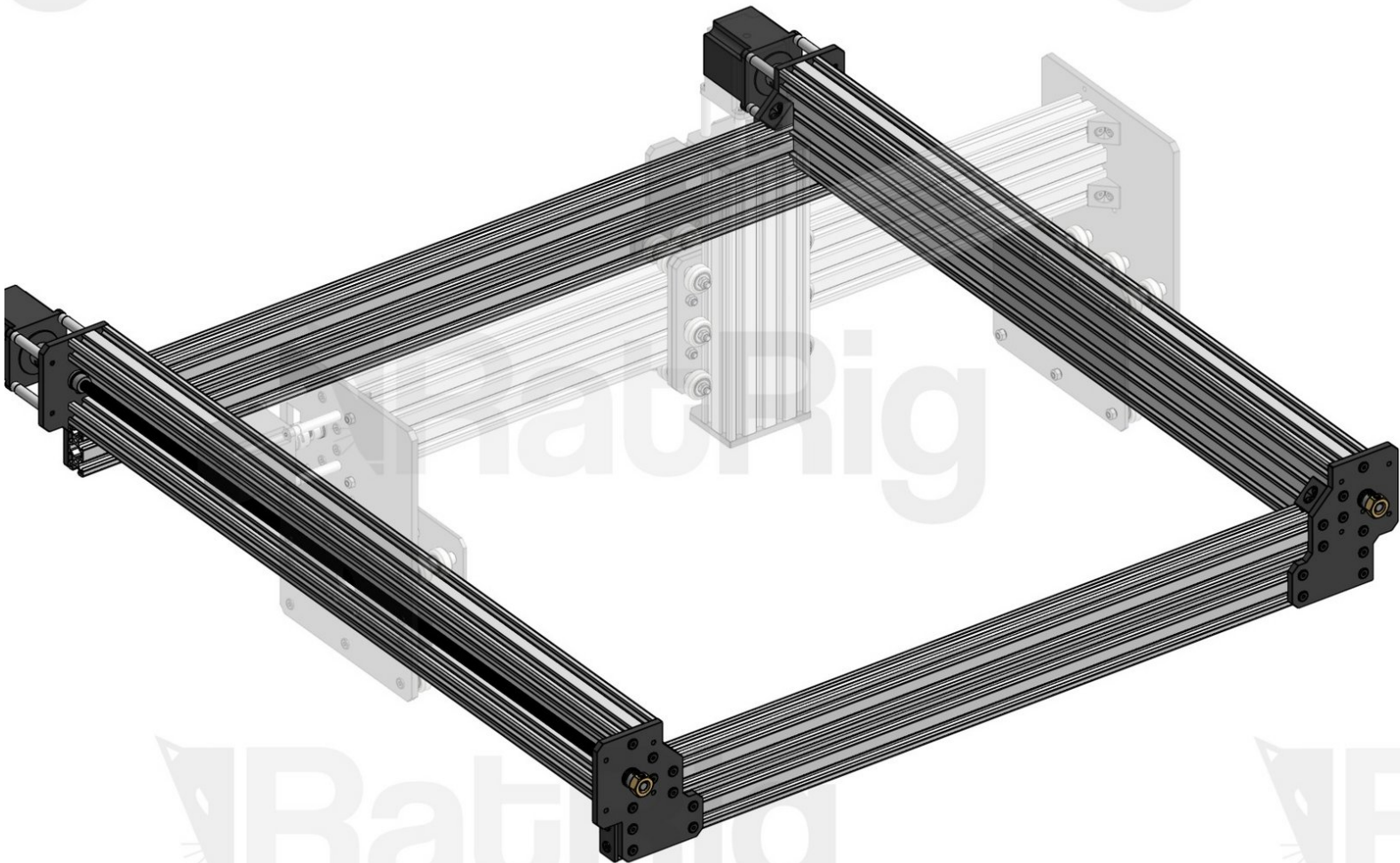


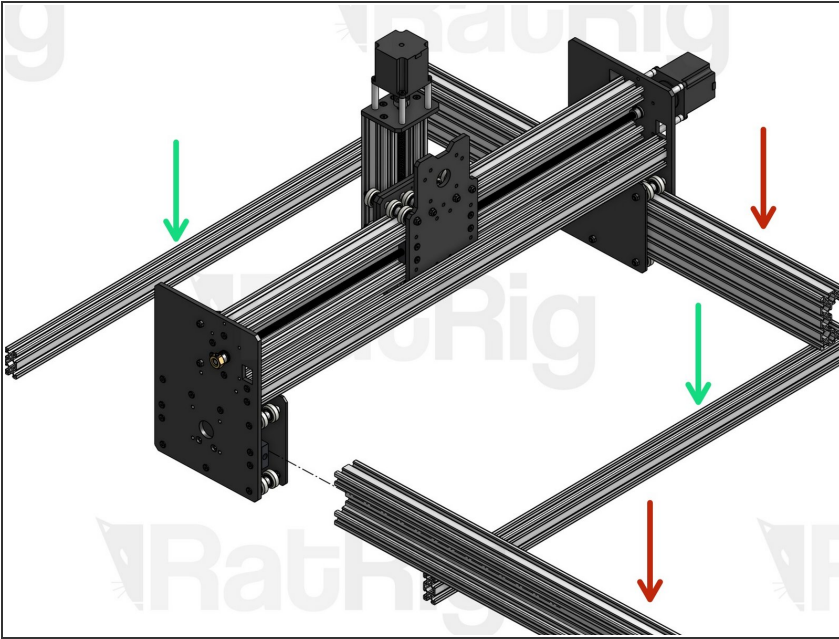
Rat Rig

05. Base Assembly

Written By: Rat Rig

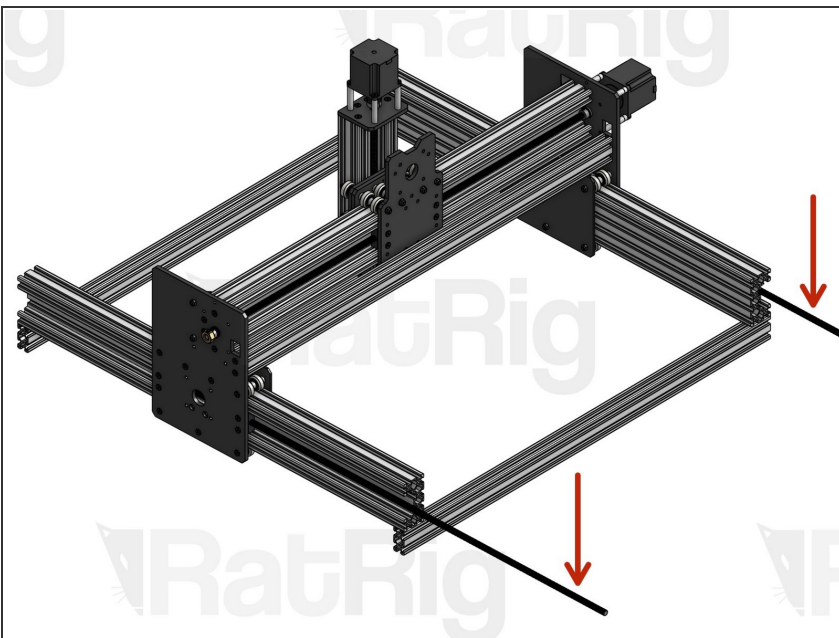


Step 1 — Set up Base Profiles



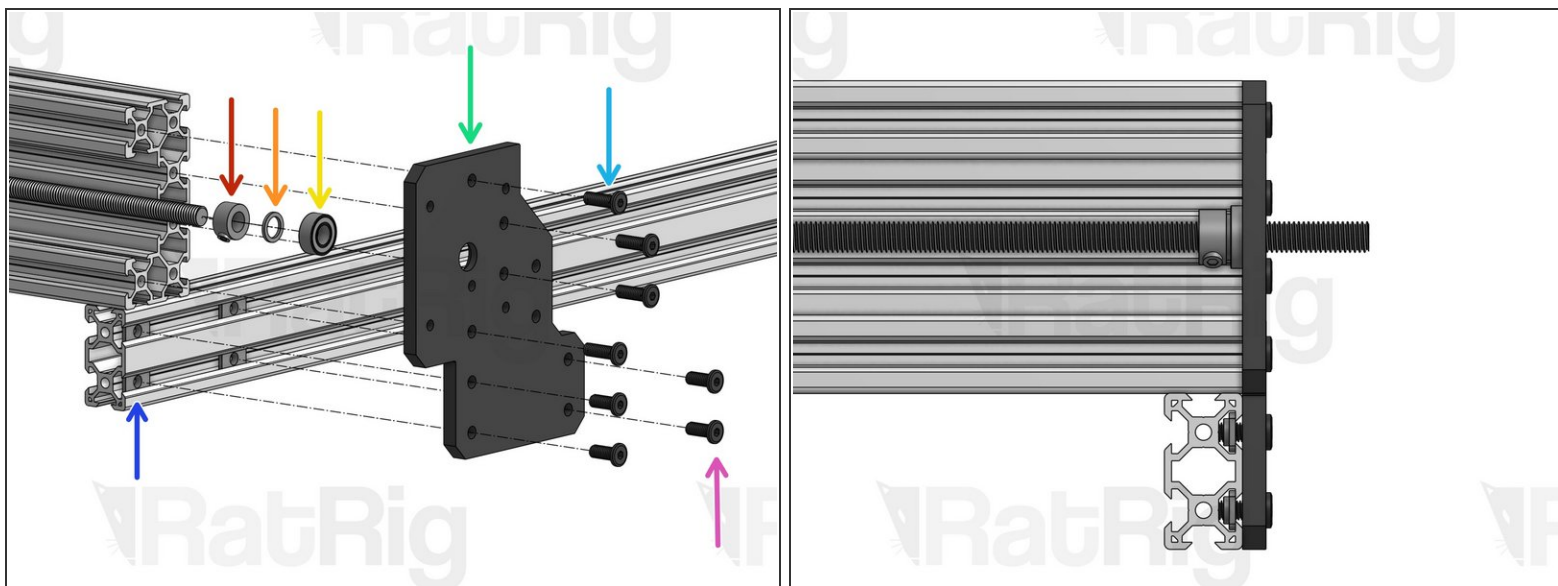
- X Base 2040 Profiles (x2)
- Y C-Beam Profiles (x2). Slide them inside the X-Gantry carriages.

Step 2 — Y Lead Screws



- Thread the 2 Y Lead Screws through the Nut Blocks on the X-Gantry carriages.
- Once you're done, you should see about 3cm of lead screw coming out of each end of each C-Beam.
- Y Lead Screws (x2)

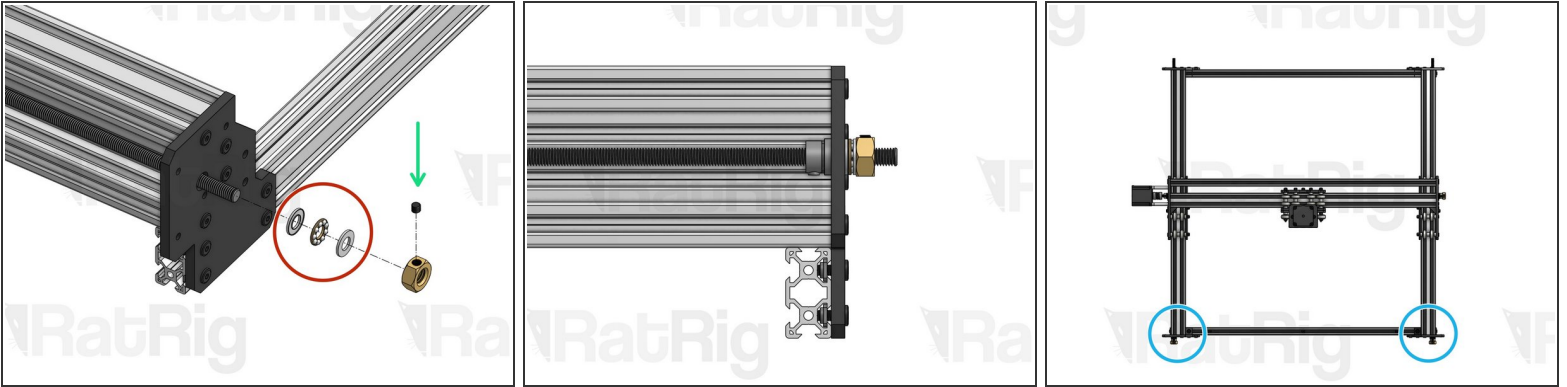
Step 3 — Mount Y End Plates



⚠ Repeat this step for each of the 4 Y End Plates, installing one on each corner of your base. Do not fully tighten before making sure your frame is perfectly square - squareness is really important! Best way to check squareness is to measure the diagonals of the rectangle formed by the 4 profiles. They should have the exact same length.

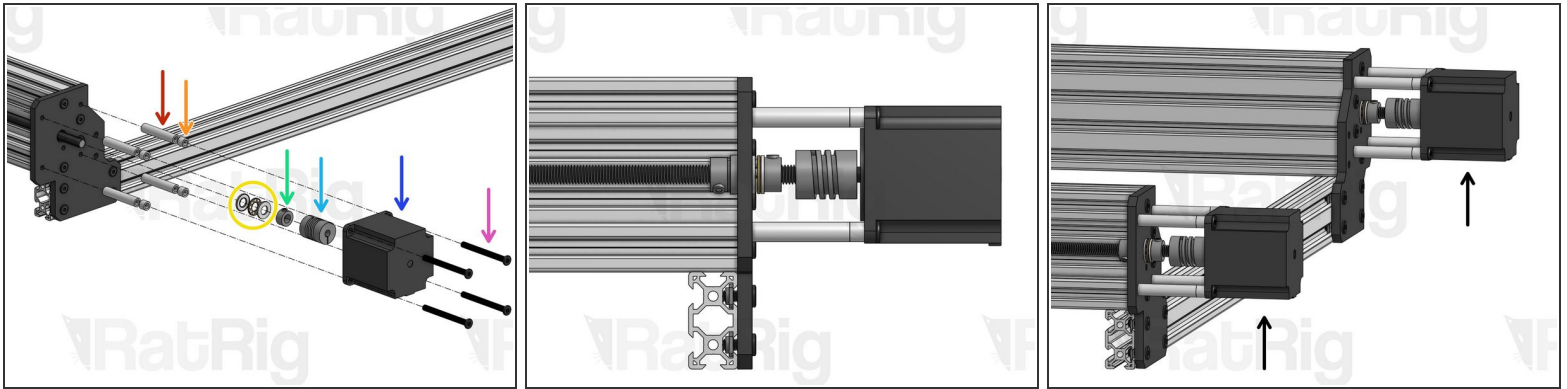
- Lock Collar 8mm. Set it in position, but don't tighten for now.
- Precision Shim 12x8x1mm
- 688ZZ Ball Bearing
- Y End Plate
- Low Profile Screw M5x15mm (for C-Beam profiles)
- Low Profile Screw M5x12mm (for 2040 profiles)
- T-Nut M5

Step 4 — Assemble Y Tensioners (x2)



- Thrust Bearing
- Tensioner Nut. For now, screw it in just a tiny bit, so it holds its position.
- Repeat this step for the front Y End Plates on both sides. Pay close attention to the image to understand exactly where they are (position is not reversible)

Step 5 — Assemble Y Motors



- Aluminium Spacer 40mm
- Aluminium Spacer 6mm
- Thrust Bearing
- Lock Collar 8mm. Set in position, don't tighten yet.
- Flexible Coupling - 1/4" x 8mm. Set in position, don't tighten yet.
- Nema 23 Motor
- Low Profile Screw M5x55mm
- Repeat this step for both Y Motors. Then, tension your lead screws, [just like you did on the X Axis](#).