

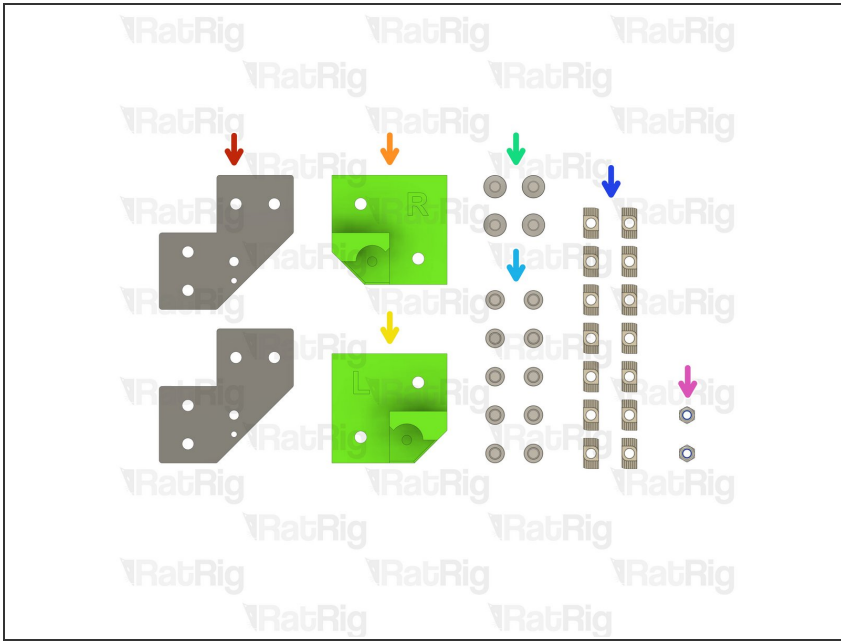
Rat Rig

04. CoreXY Idler Assemblies

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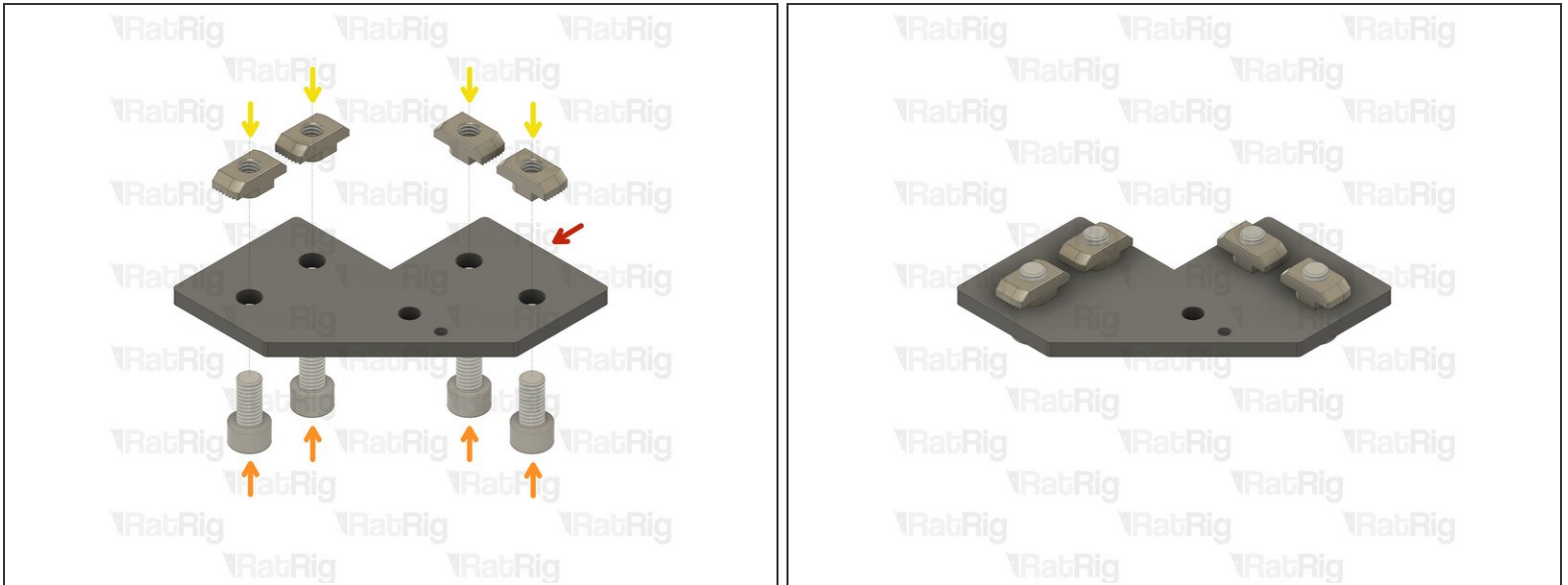


Step 1 — Prepare the front CoreXY idler parts



- 2x idler_plate
- 1x xy_idler_right_3.1 Printed Part
- 1x xy_idler_left_3.1 Printed Part
- 4x M6x14 Countersink Screw
- 10x M6x12 Cap Head Screw
- 14x 3030 Drop-in T-Nut - M6
- 2x M5 Nylon Locking Hex Nut

Step 2 — Assemble the left CoreXY idler - Part 1



- idler_plate

⚠ Make sure the idler plate is oriented as shown

- M6x12 Cap Head Screw
- 3030 Drop-in T-Nut - M6

ⓘ Loosely thread a 3030 T-Nut onto each of the M6x12 screws. Do not tighten them at this point

ⓘ Set this assembly aside until **Step 6**

Step 3 — Assemble the left CoreXY idler - Part 2



- xy_idler_left_3.1 Printed Part

ⓘ Each xy_idler printed part is stamped with "L" or "R", indicating left or right

- M6x14 Countersink Screw

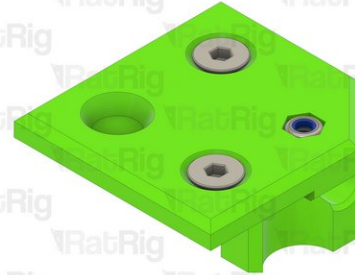
- M5 Nylon Locking Hex Nut

- 3030 Drop-in T-Nut - M6

ⓘ Loosely thread a 3030 T-Nut onto each of the M6x14 screws. Do not tighten them at this point.

ⓘ Set this assembly aside until **Step 8**

Step 4 — Assemble the right CoreXY idler

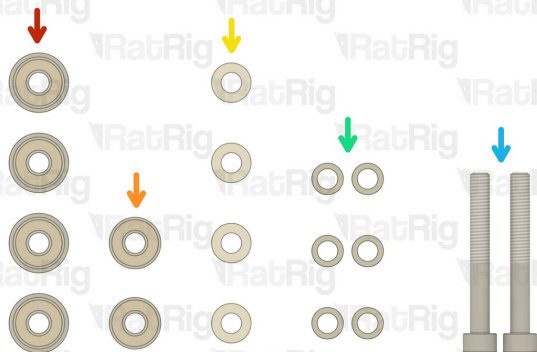


i Repeat the previous two steps for the right CoreXY idler

⚠ Make sure the idler plate is oriented as shown when assembling the right side

i Once both assemblies are complete, place them aside until **Steps 10 & 11**

Step 5 — Prepare the idler bearing parts



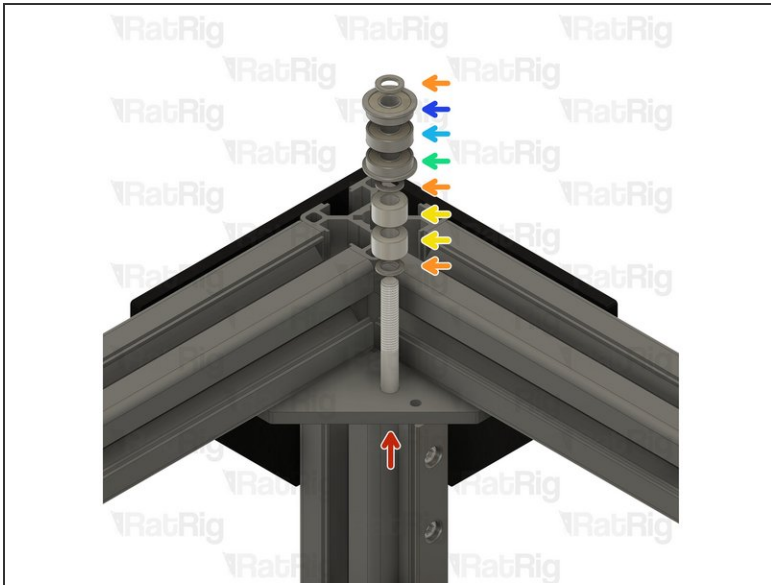
- 4x F695ZZ Ball Bearing
- 2x 695ZZ Ball Bearing
- 4x 6mm Aluminium Spacer
- 6x Mini Precision Shim
- 2x M5x40 Cap Head Screw

Step 6 — Install the left CoreXY idler - Part 1



- V-Core 3.1 Frame Assembly - Front Left Corner
- Assembly from **Step 2**
- Install the left idler_plate assembly to the V-Core 3.1 frame as shown
- Tighten the four M6x12 screws to secure the idler_plate assembly
 - ⓘ Make sure the plate is fully seated against the 3030 extrusion before tightening the M6x12 screws
- Insert one M5x40 Cap Head Screw into the idler_plate in preparation for the next step

Step 7 — Install the left CoreXY idler - Part 2

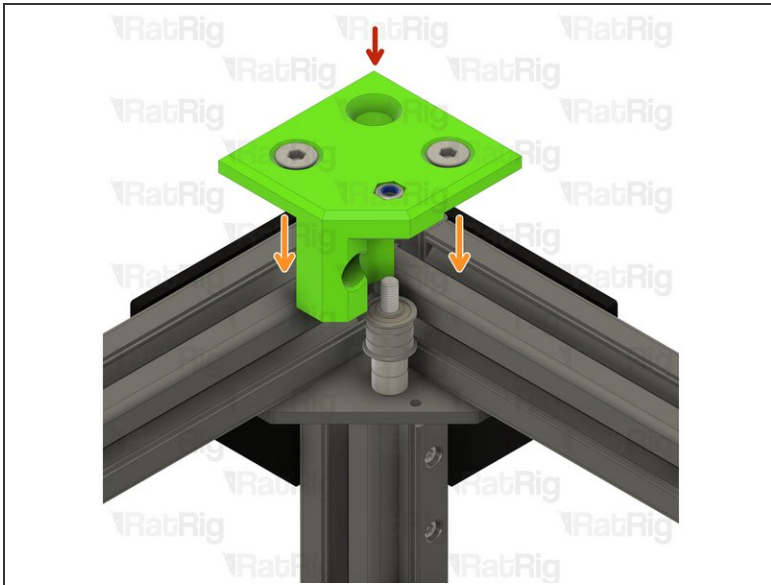


- M5x40 Cap Head Screw

i Install the following components in the order shown in the image

- Mini Precision Shim
- 6mm Aluminium Spacer
- F695ZZ Ball Bearing (Flange at the bottom)
- 695ZZ Ball Bearing
- F695ZZ Ball Bearing (Flange at the top)

Step 8 — Install the left CoreXY idler - Part 3



- Assembly from **Step 3**
- Install the left CoreXY idler onto the frame as shown
- Tighten the two marked M6x14 screws to secure the CoreXY idler to the frame
 - ⚠ Take care not to over tighten the M6x14 screws as you can damage the printed part
- Tighten the M5x40 screw to secure the bearing stack into the CoreXY idler

Step 9 — Install the left CoreXY idler - Part 4



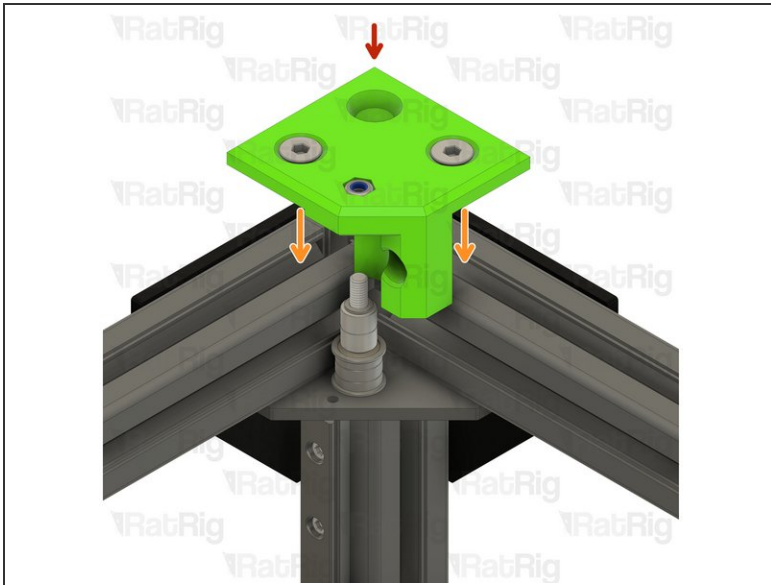
- 3030 Drop-in T-Nut - M6
- Place the 3030 T-nut into the extrusion channel and slide it under the CoreXY idler as shown. Position the T-nut so that you are able to see it through the marked hole
- M6x12 Cap Head Screw
- ① Insert the M6x12 screw as shown and secure it into the previously positioned 3030 T-nut

Step 10 — Install the right CoreXY idler - Part 1



- V-Core 3.1 Frame Assembly - Front Right Corner
- Repeat **Step 6** to install the right CoreXY idler plate to the frame
- ① Install the following components in the order shown in the image
 - Mini Precision Shim
 - F695ZZ Ball Bearing (Flange at the bottom)
 - 695ZZ Ball Bearing
 - F695ZZ Ball Bearing (Flange at the top)
 - 6mm Aluminium Spacer

Step 11 — Install the right CoreXY idler - Part 2



- Assembly from **Step 4**
- Install the right CoreXY idler onto the frame as shown
- Tighten the two marked M6x14 screws to secure the CoreXY idler to the frame
- ⚠ Take care not to over tighten the M6x14 screws as you can damage the printed part
- Tighten the M5x40 screw to secure the bearing stack into the CoreXY idler

Step 12 — Install the right CoreXY idler - Part 3



- 3030 Drop-in T-Nut - M6
- Place the 3030 T-nut into the extrusion channel and slide it under the CoreXY idler as shown. Position the T-nut so that you are able to see it through the marked hole
- M6x12 Cap Head Screw
 - ❗ Insert the M6x12 screw as shown and secure it into the previously positioned 3030 T-nut

Step 13 — Next guide



- Continue with the next guide: [05. CoreXY Motor Assemblies](#)