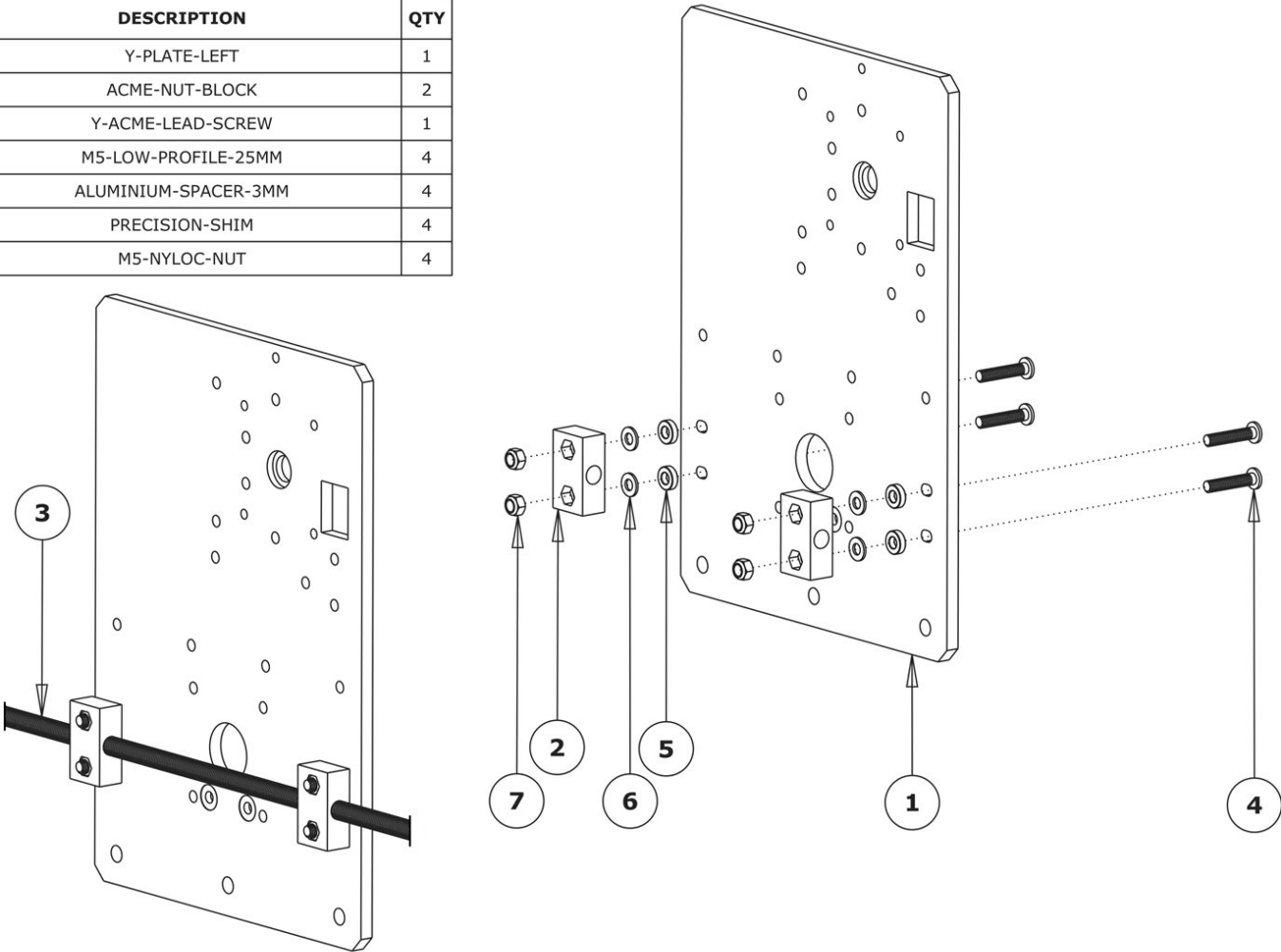




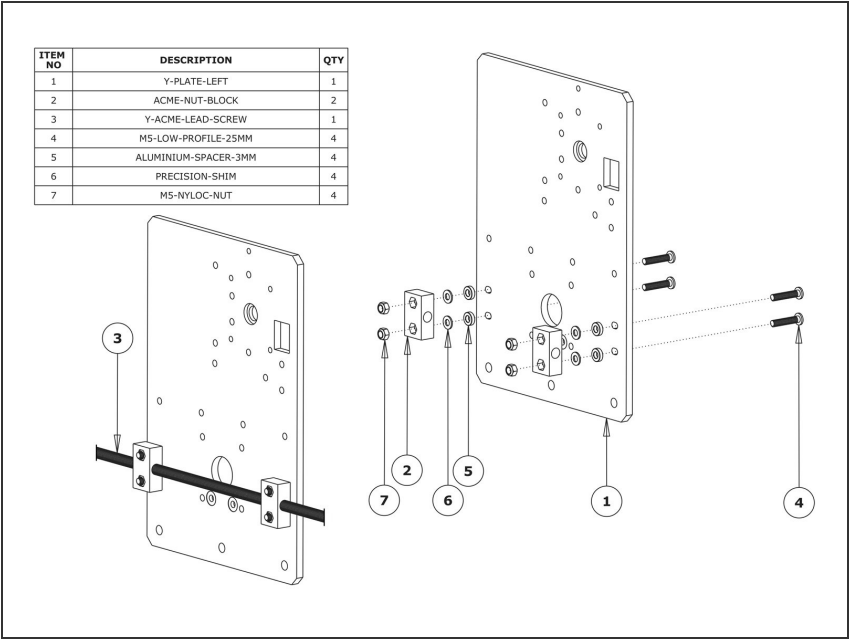
2. Y-Plate Assembly

Written By: Harry Ince

ITEM NO	DESCRIPTION	QTY
1	Y-PLATE-LEFT	1
2	ACME-NUT-BLOCK	2
3	Y-ACME-LEAD-SCREW	1
4	M5-LOW-PROFILE-25MM	4
5	ALUMINIUM-SPACER-3MM	4
6	PRECISION-SHIM	4
7	M5-NYLOC-NUT	4

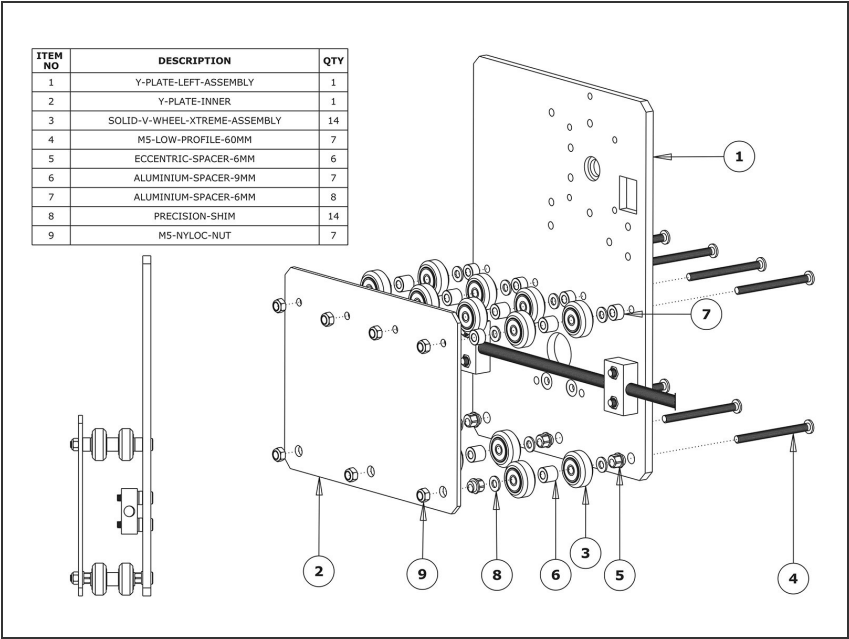


Step 1 — ACME Nut Blocks



- Attach 2 x ACME-Nut-Blocks to the Y-Plate-Left using 4 x M5-Low-Profile-25mm bolts & 4 x M5-Nyloc-Nuts. On each bolt, in-between the ACME-Nut-Block and Y-Plate-Left, there should be an Aluminium-Spacer-3mm and a Precision-Shim. Only loosely tighten these bolts so the ACME-Nut-Blocks can still move side to side.
- Thread a Y-ACME-Lead-Screw through both ACME-Nut-Blocks. Tighten the bolts holding one of the ACME-Nut-Blocks, making sure it is square to the Y-Plate-Left.
- To remove any backlash, pinch the loose ACME-Nut-Block towards the previous one, and tighten the bolts holding it. Leave the Y-ACME-Lead-Screw threaded through the ACME-Nut-Blocks.

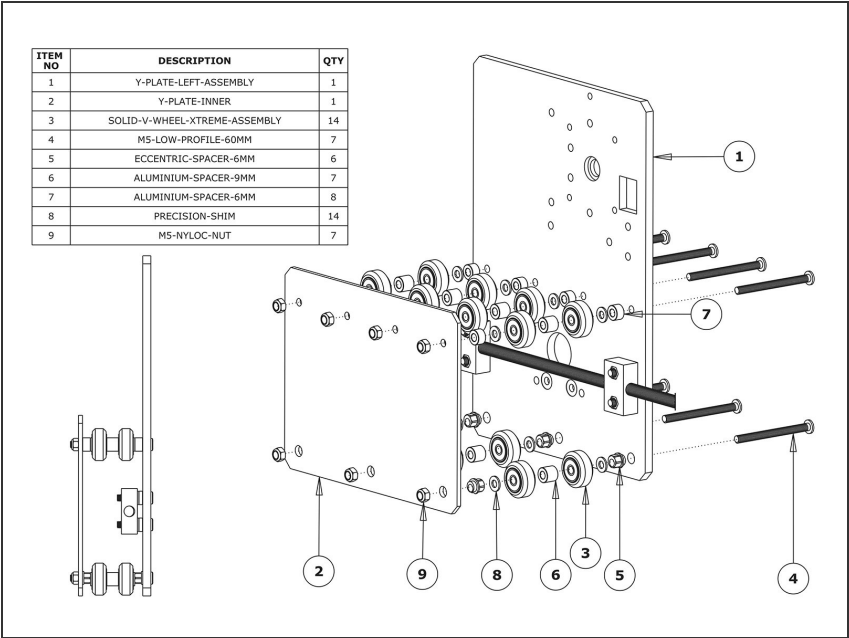
Step 2 — Y Wheels & Y-Plate-Inner



- First attach the bottom right wheel set; insert a M5-Low-Profile-60mm bolt through the Y-Plate-Left-Assembly from the back. On to this bolt, add an Eccentric-Spacer6mm, Precision-Shim, Solid-V-Wheel-Xtreme-Assembly, Aluminium Spacer-9mm, Solid-V-Wheel-Xtreme-Assembly, Precision Shim, and a Eccentric-Spacer-6mm in this order.
- Next, add a Y-Plate-Inner onto the top of this assemblage, and then slightly thread on a M5-Nyloc-Nut. The rounded portion of the Eccentric-Spacer-6mm should be inserted into the hole on either the Y-Plate-Left-Assembly or Y-Plate-Inner (depending on which side it is on).
- Repeat for the other two wheel sets on the bottom row.
- Repeat for the 4 wheel sets on the top row, however for these sets use Aluminium-Spacer-6mms instead of Eccentric-Spacer-6mms.

- Once all of the wheels are attached the M5-Nyloc-Nuts can be tightened down. Ensure that the Solid-V-Xtreme-Wheels can still rotate freely. On the hexagonal portion of the Eccentric-Spacer-6mm, there will be one face that is marked with ‘6mm’.
- Using a spanner, adjust each Eccentric-Spacer-6mm so that this face is facing downwards. Doing this maximizes the gap between the top and bottom row of wheels.

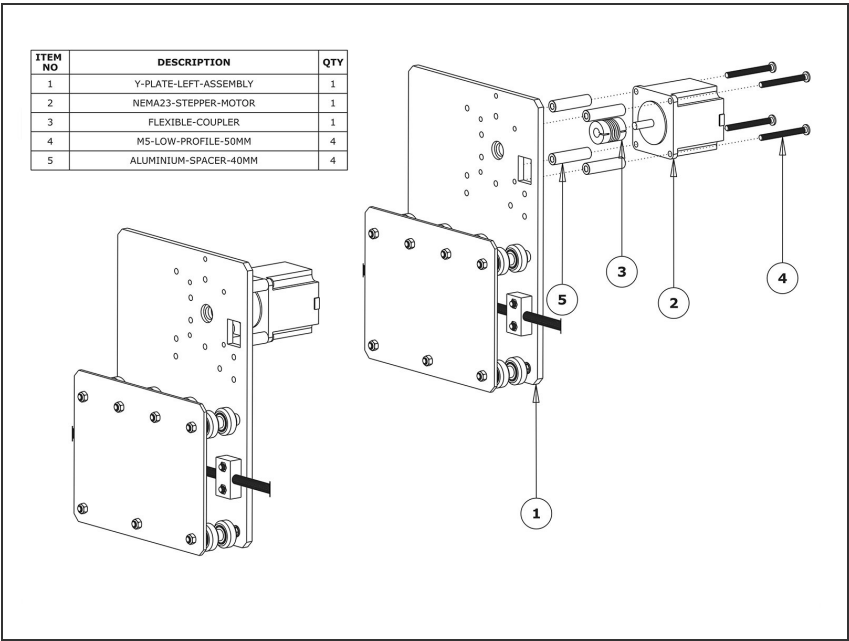
Step 3 — Adjusting Y Wheels



- Run any piece of C-Beam extrusion in between the two rows of wheels. Initially, the C-Beam will wobble between the wheels. Turn the assembly upside down so the C-Beam is sitting on the row of wheels with the Aluminium-Spacer-6mms.
- Starting with an outside pair of wheels, adjust both Eccentric-Spacer-6mms down onto the C-Beam Extrusion until there is a small amount of friction between both wheels and the C-Beam Extrusion.

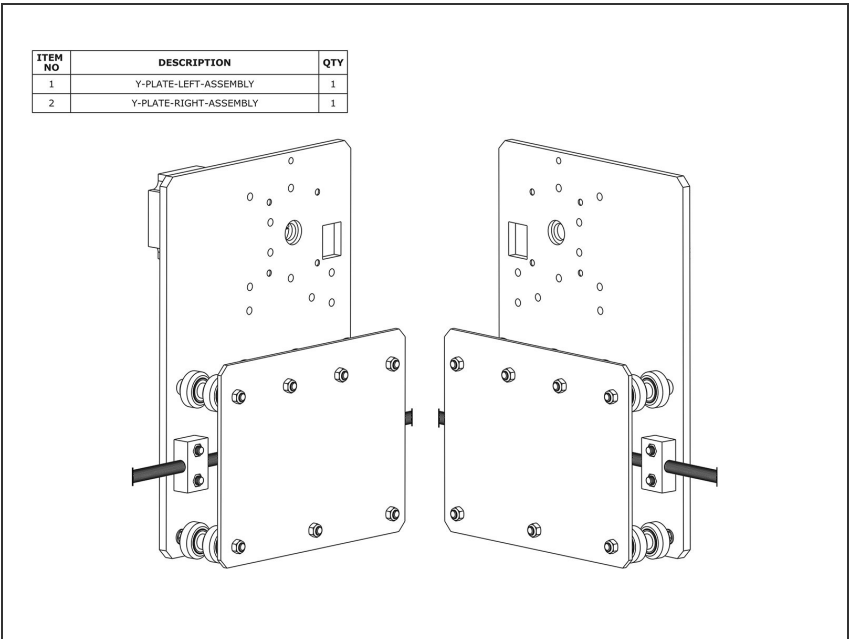
- When adjusting the pair of Eccentric-Spacer-6mms ideally they should be adjusted identically. However, sometimes one will need to be adjusted slightly more than the other to get both wheels engaged with the C-Beam extrusion.
- Repeat for the other outside pair of wheels, and then again for the middle pair.
- Slide the C-Beam extrusion back and forth through the wheels. This should require a small amount of force, and all wheels should spin as it rolls. Also check there is no wobbling of the extrusion. Once happy, double check the tightness of the M5-Nyloc Nuts.

Step 4 — Stepper Motor



- Slide the 1/4" side (the side with the smallest hole) of the Flexible-Coupler onto the shaft of the NEMA23-Stepper-Motor. Don't tighten it down at this point.
- Attach the NEMA23-Stepper-Motor to the threaded holes on the Y-Plate-Left using 4 x M5-Low-Profile-50mm bolts and 4 x Aluminium-Spacer-40mm's.
- ⓘ Orient the NEMA23- Stepper-Motor so that the wire is towards the back of the Y-Plate-Left (the side closet to the small rectangle opening).

Step 5 — Repeat



- Except from Step 4, repeat the rest of this section for the Y-Plate-Right. As seen above it should be a mirror image of the Y-Plate-Left-Assembly apart from the stepper motor.

Thanks for following the guide. Any issues, please contact us!