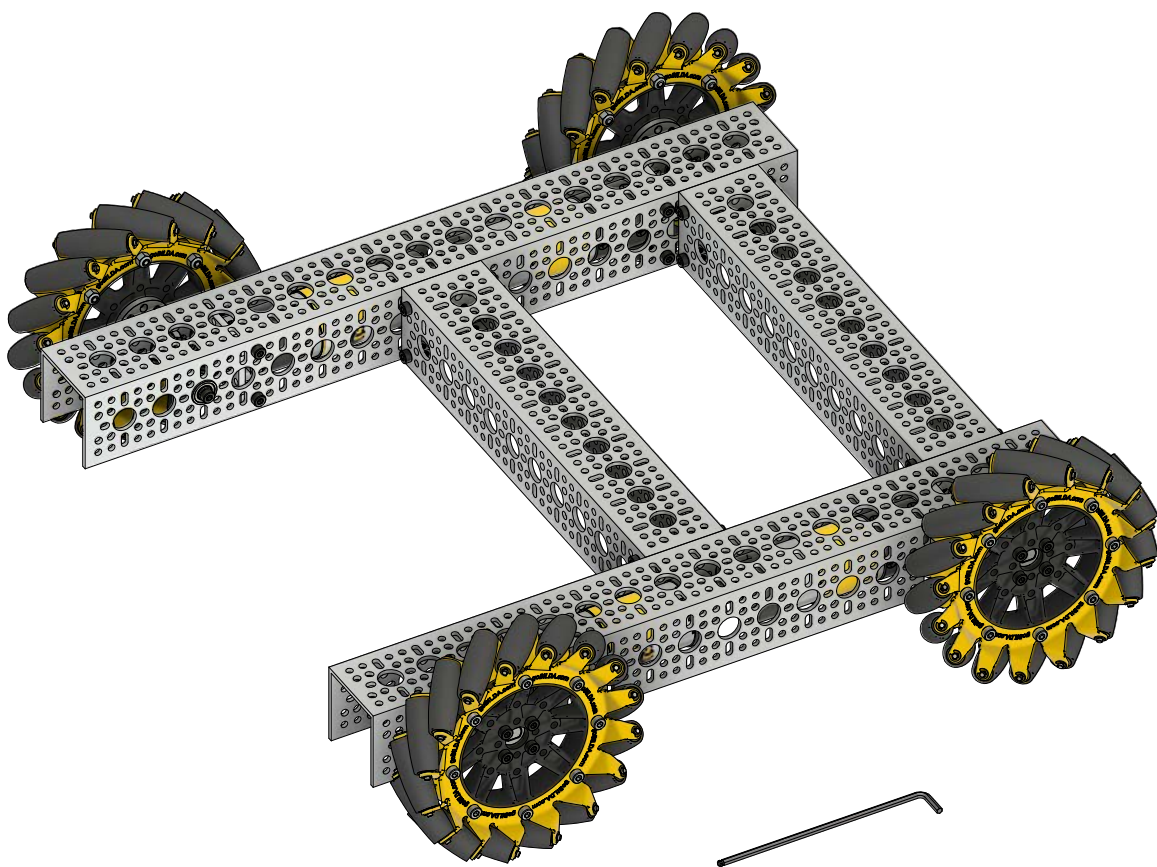
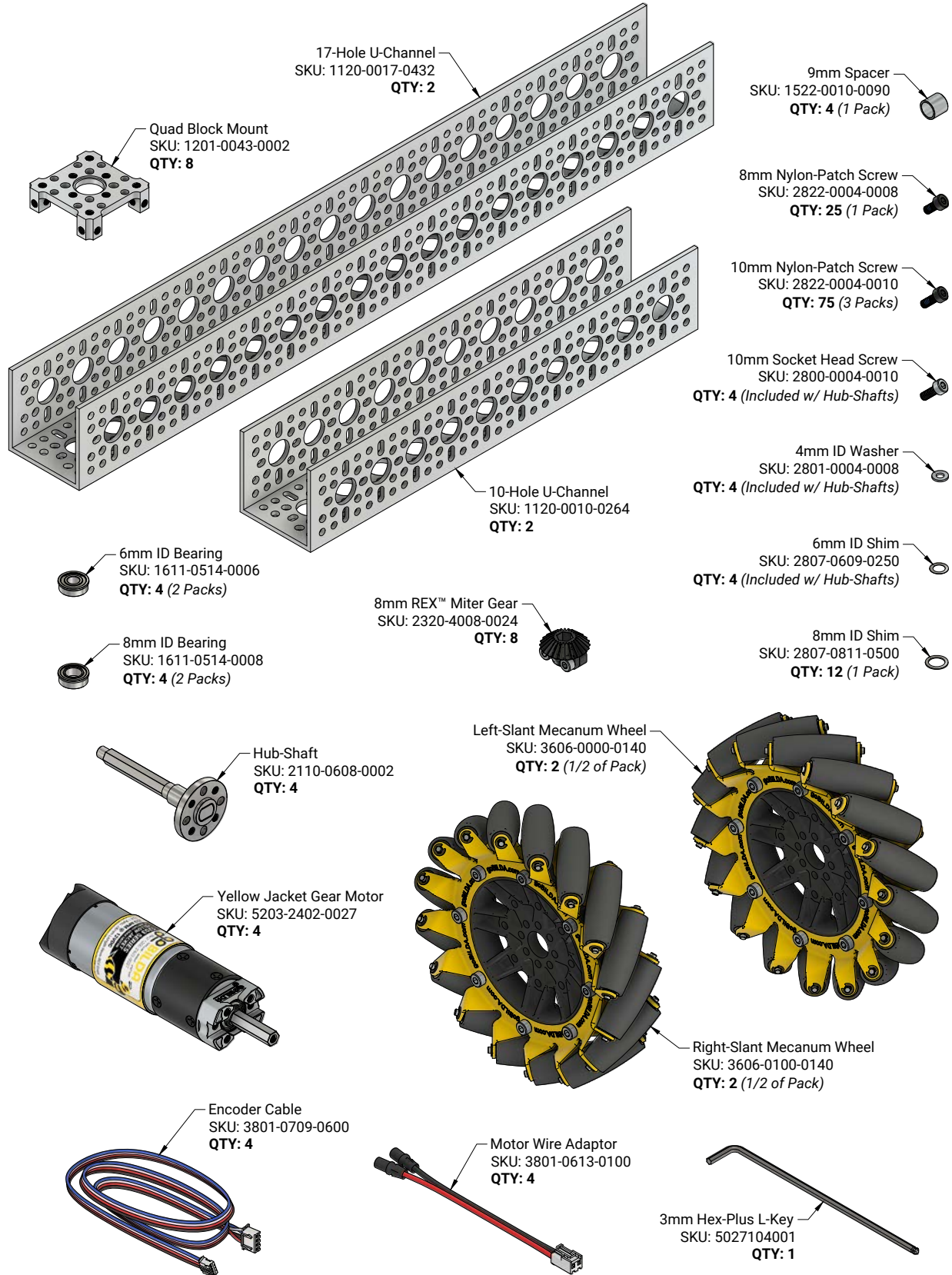




Assembly Instructions for
Strafer™ Chassis Kit (140mm Mecanum Wheels)
SKU: 3209-0012-0002



Kit Contents:



STEP 1:

Assemble **one** 17-Hole U-Channel, **two** Hub-Shafts, **two** 6mm ID Shims, **two** 8mm ID Bearings, **two** Miter Gears, **two** 6mm ID Bearings, **two** 4mm ID Washers, and **two** 10mm Nylon-Patch Screws as shown. One Hub-Shaft should be in the second hole from the end, and one Hub-Shaft should be in the third hole from the end (**FIGURE 1-A**).

Check each Hub-Shaft to observe if it can slide up and down in the bearings. If it can, some slack can be removed by relocating the 6mm ID Shim to the other side of the 6mm ID Bearing (**FIGURE 1-B**).

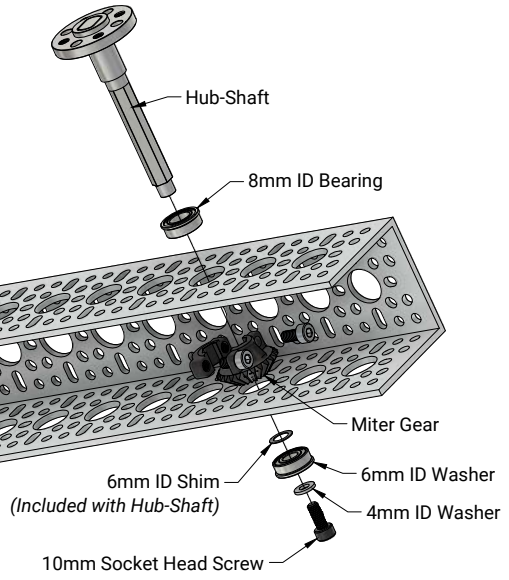


FIGURE 1-A

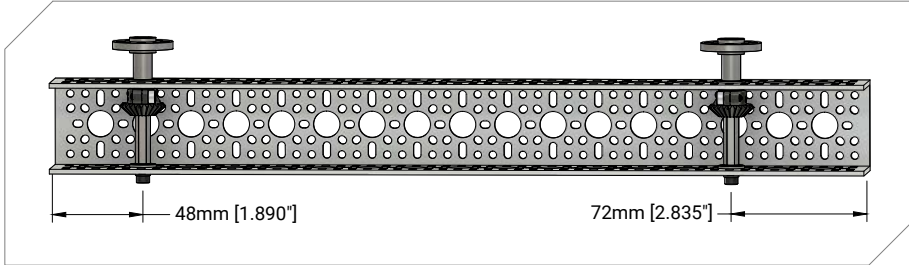
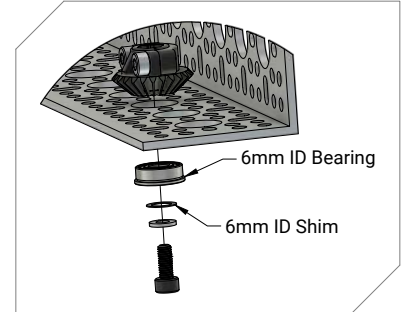
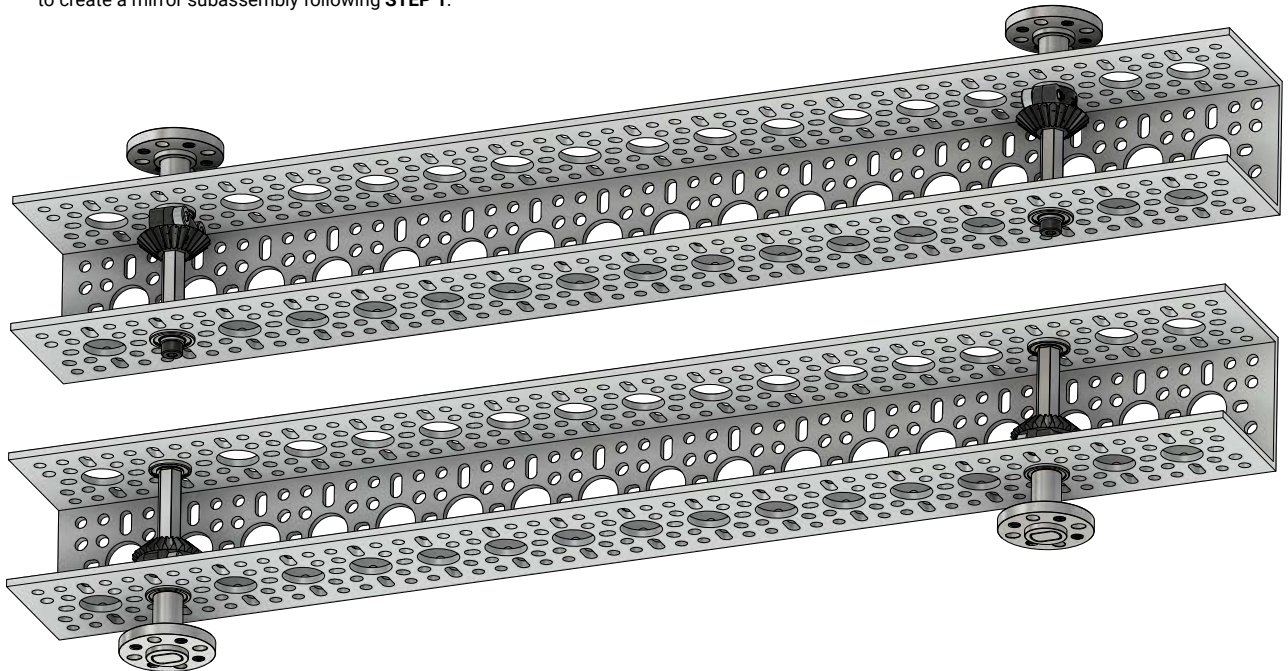


FIGURE 1-B



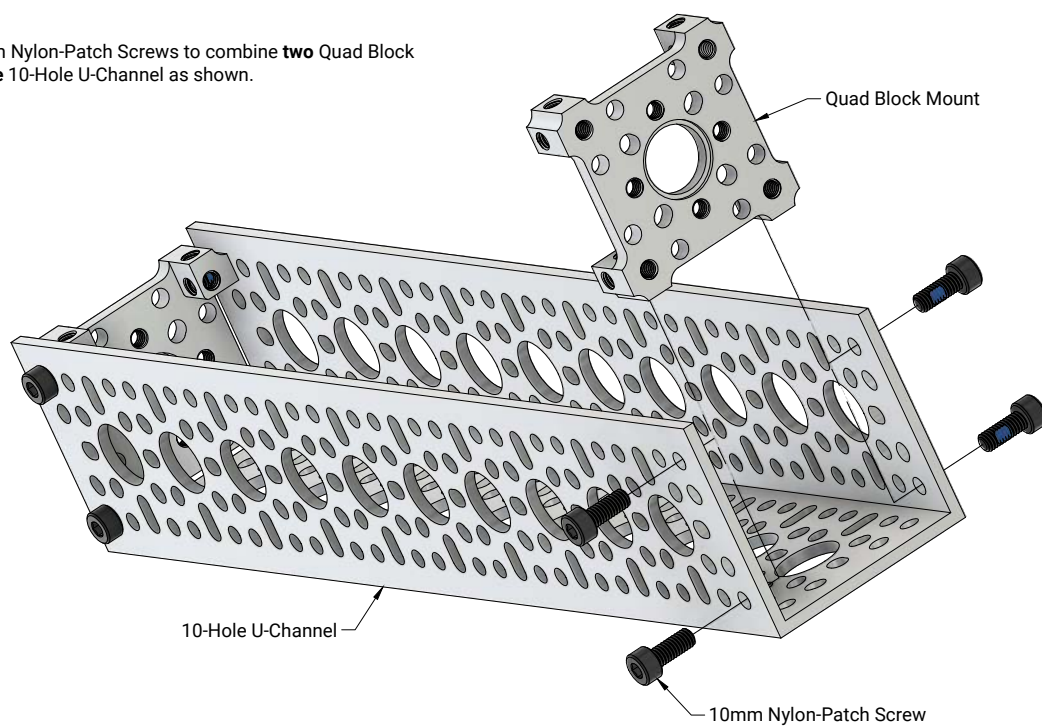
STEP 2:

Use **one** 17-Hole U-Channel, **two** Hub-Shafts, **two** 6mm ID Shims, **two** 8mm ID Bearings, **two** Miter Gears, **two** 6mm ID Bearings, **two** 4mm ID Washers, and **two** 10mm Socket Head Screws to create a mirror subassembly following **STEP 1**.



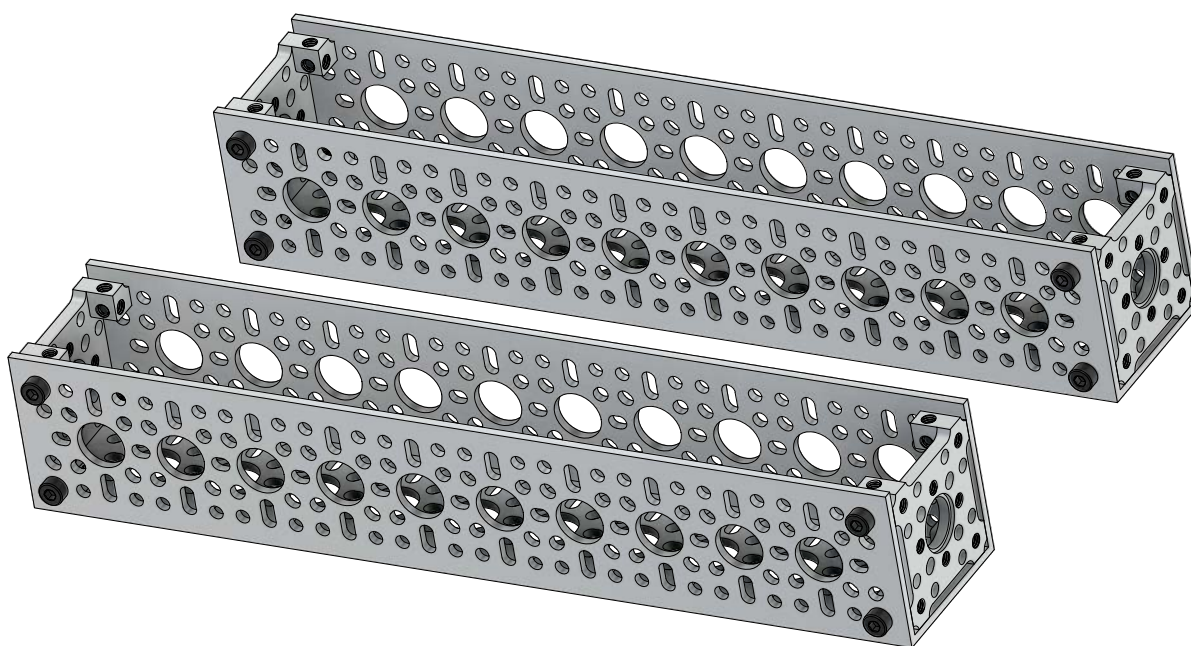
STEP 3:

Use **eight** 10mm Nylon-Patch Screws to combine **two** Quad Block Mounts and **one** 10-Hole U-Channel as shown.



STEP 4:

Repeat **STEP 3** to create a second identical subassembly.



STEP 5:

Use **sixteen** 8mm Nylon-Patch Screws to combine the subassemblies from **STEP 2** and **STEP 4** as shown.

Note the mounting locations (**FIGURE 5-A**), with one crossbeam located on the second hole from the end of the sides, and the other located in the ninth (center) hole.

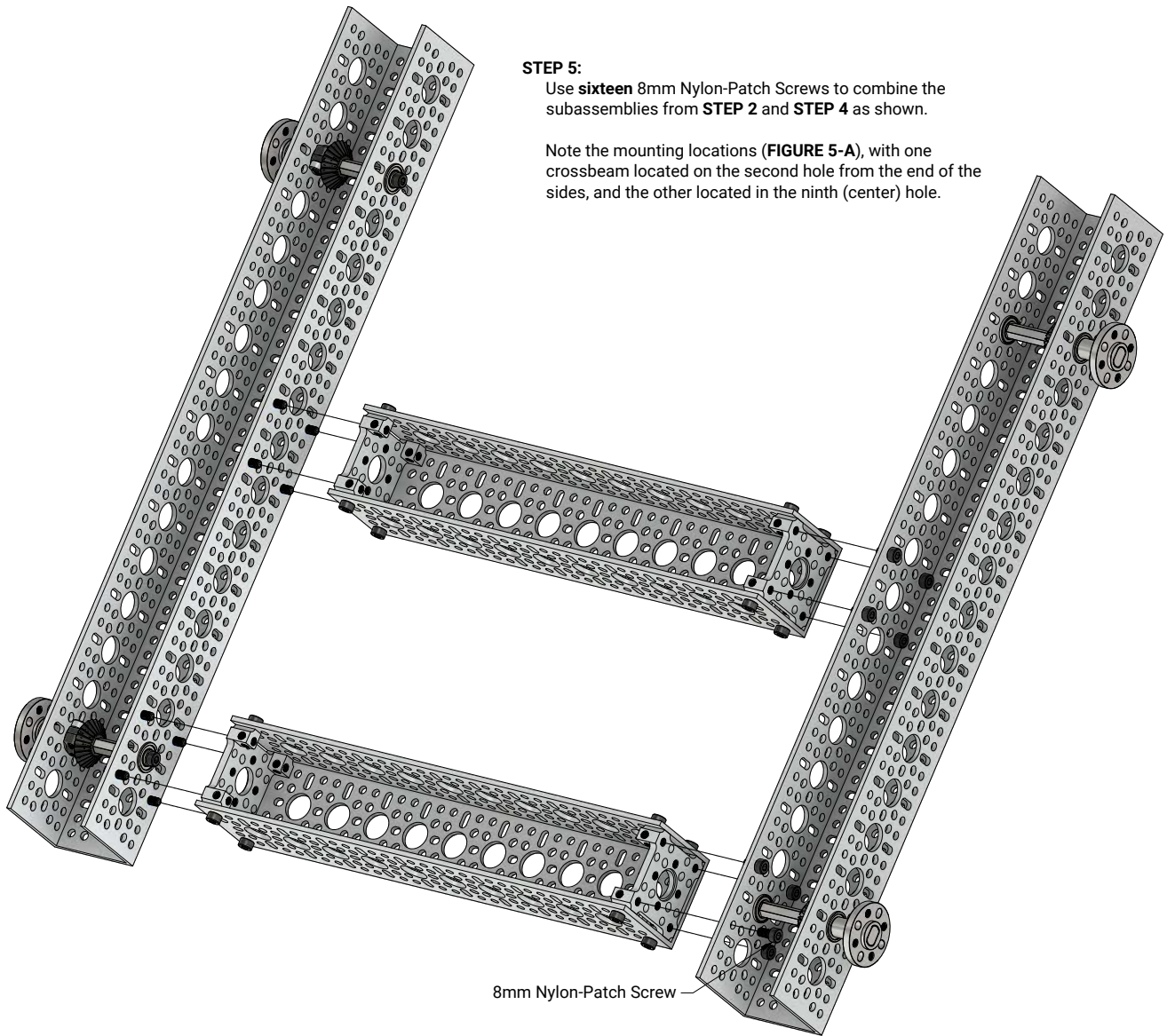
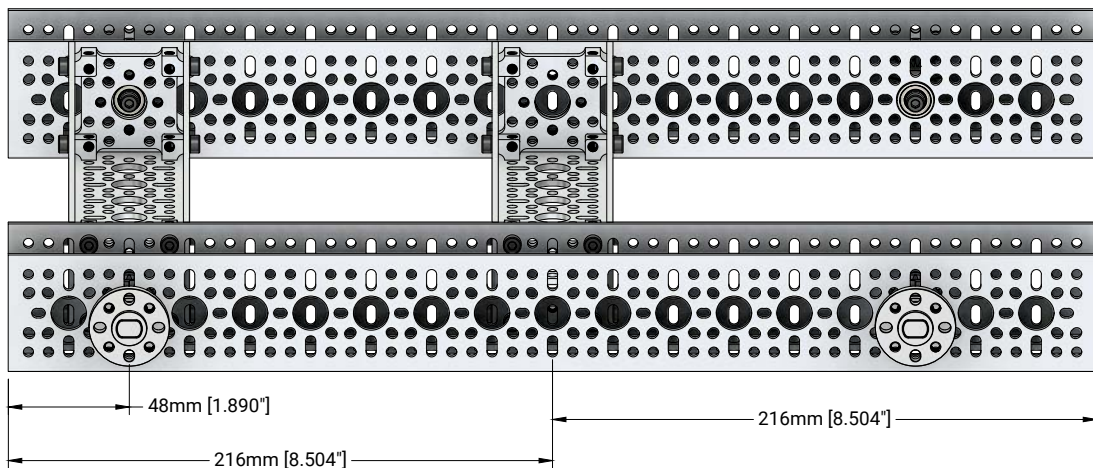
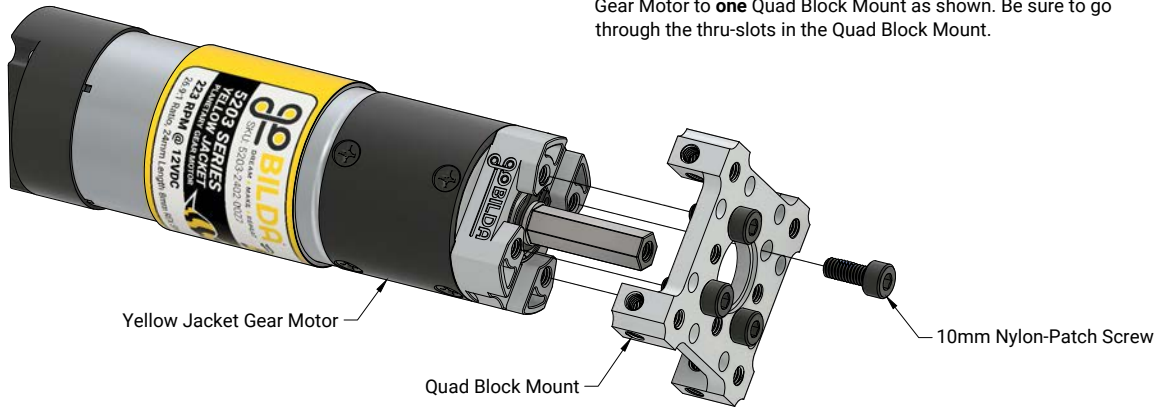


FIGURE 5-A



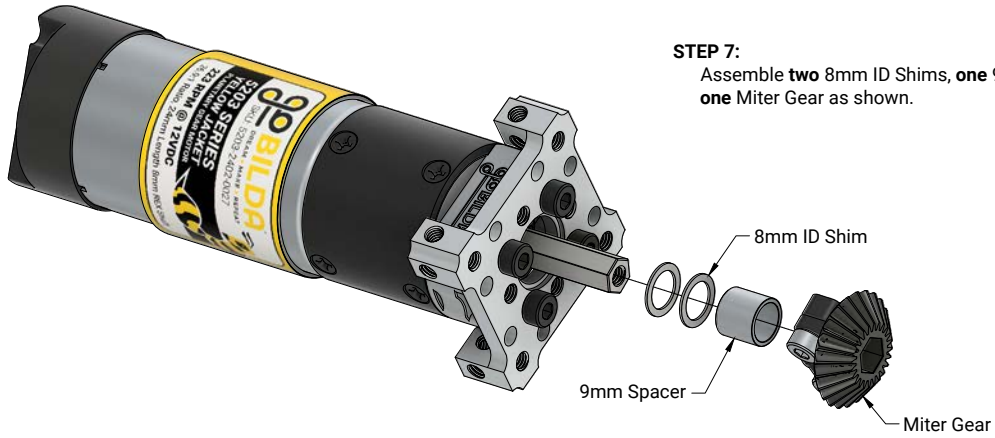
STEP 6:

Use **four** 10mm Nylon-Patch Screws to attach **one** Yellow Jacket Gear Motor to **one** Quad Block Mount as shown. Be sure to go through the thru-slots in the Quad Block Mount.



STEP 7:

Assemble **two** 8mm ID Shims, **one** 9mm Spacer, and **one** Miter Gear as shown.



STEP 8:

Repeat **STEP 6** and **STEP 7** three times to create four identical subassemblies.



STEP 9:

Integrate the subassemblies from **STEP 8** into the subassembly from **STEP 5** using **sixteen** 10mm Nylon-Patch Screws as shown. Make sure that the Yellow Jacket Gear Motors are oriented to allow access to their encoder ports.

Take note of the gear mesh. It is recommended to ensure the gears are "in-phase" (**FIGURE 9-A**), as opposed to "out-of-phase" (**FIGURE 9-B**). The easiest way to tell is to make sure the pinch-bolts on one of the Miter Gears is "exposed", which the others are "hidden".

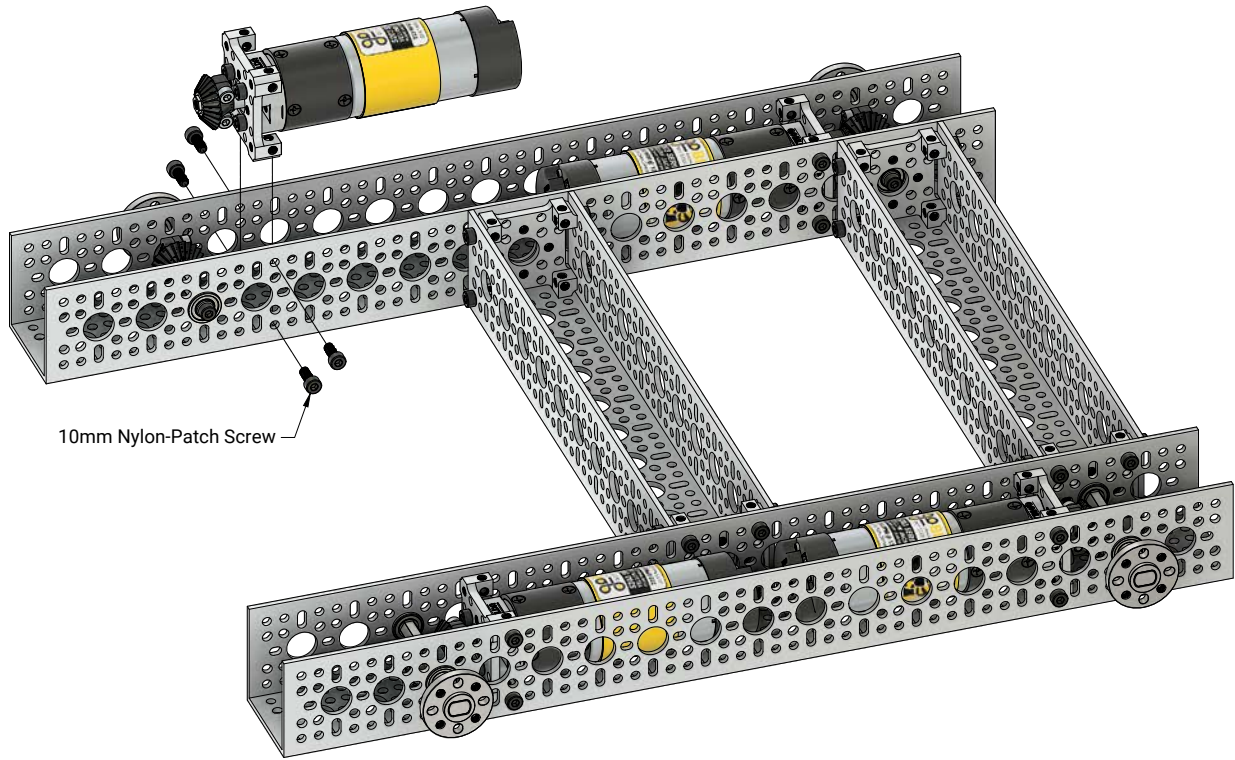


FIGURE 9-A

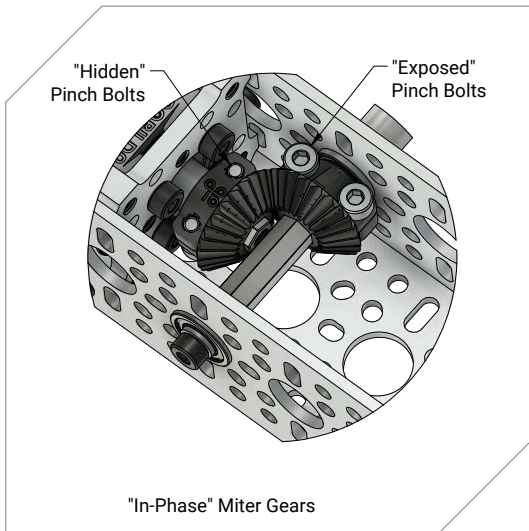
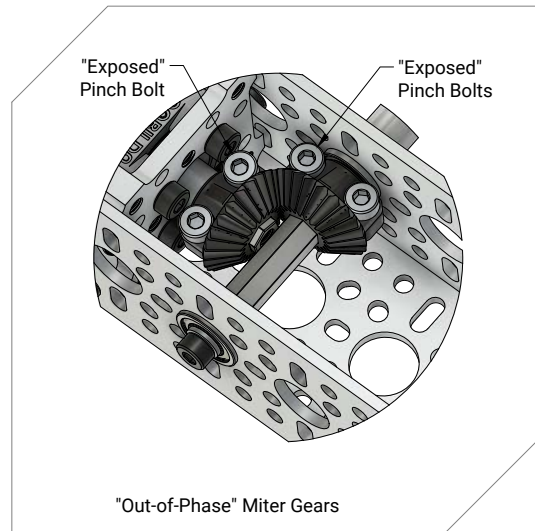


FIGURE 9-B



STEP 10:

Attach **two** Right-Slant Mecanum Wheels and **two** Left-Slant Mecanum Wheels using **sixteen** 10mm Nylon-Patch Screws with the recess on the wheels facing away from the chassis as shown.

Note the configuration of the differently slanted wheels. In the correct configuration, the rollers on the wheels will point out diagonally from the center of the chassis when viewed from above (**FIGURE 10-B**).

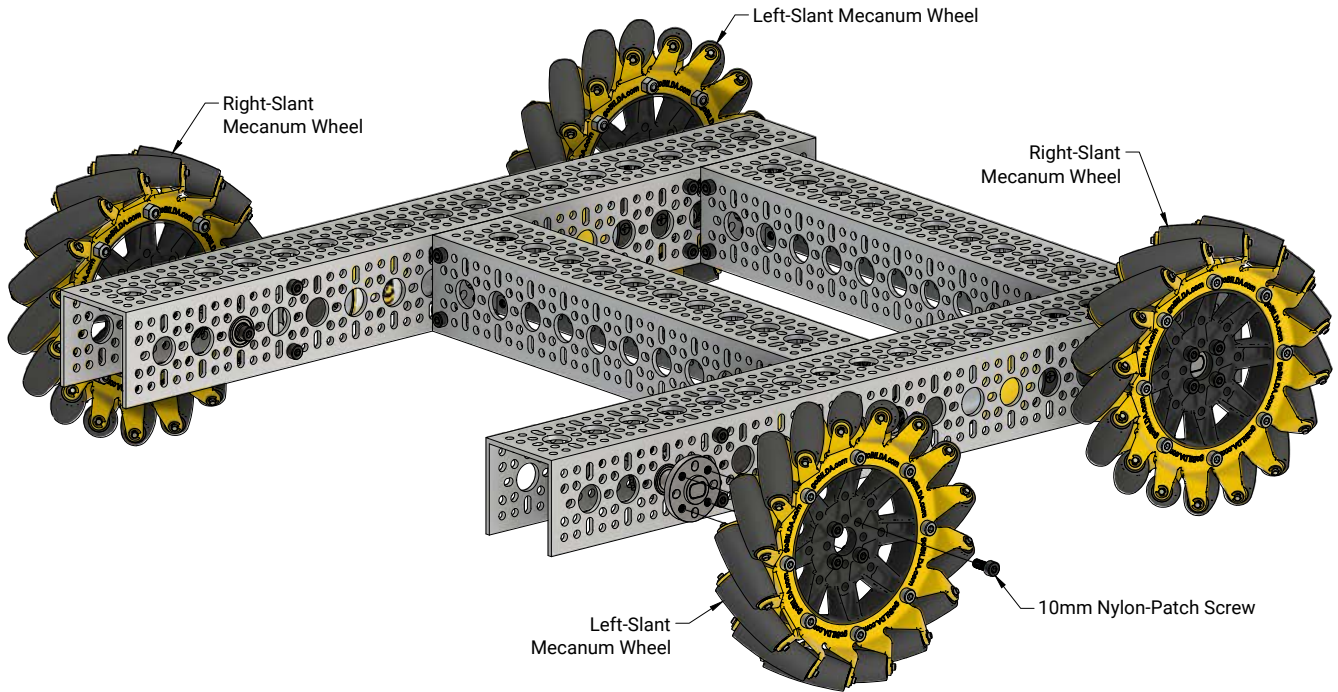
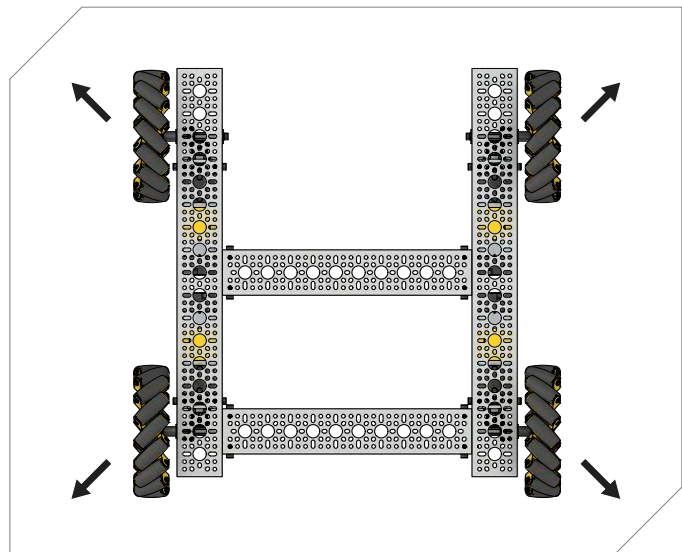
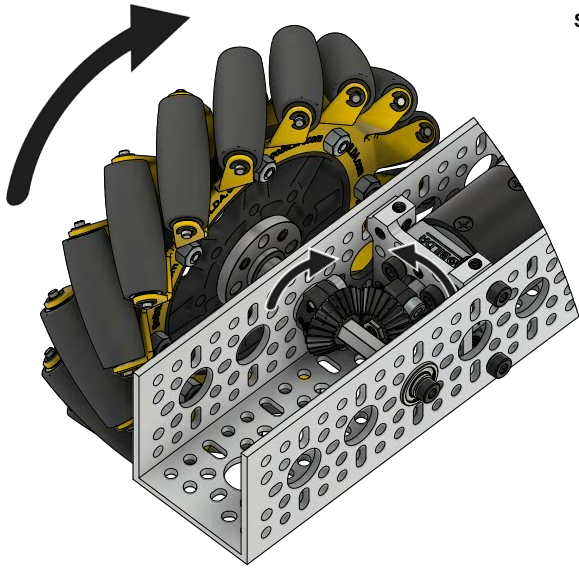


FIGURE 10-A



FIGURE 10-B

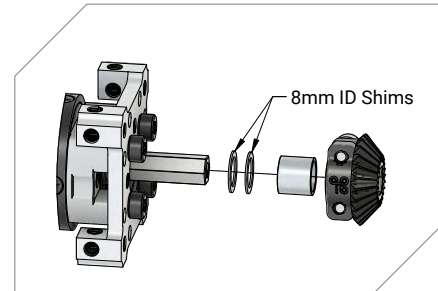




STEP 11:

Before connecting a power source to your completed kit, check the smoothness of each wheel's rotation by hand. A small amount of backlash between the gears is ideal. If the gear mesh is too tight, one 8mm ID Shim can be removed from that wheel's associated subassembly from **STEP 7 (FIGURE 11-A)**.

FIGURE 11-A



Congratulations!

Go forth and conquer the world of omnidirectional movement with the heft of 140mm Diameter Mecanum Wheels—as well as that of your own ingenuity!

