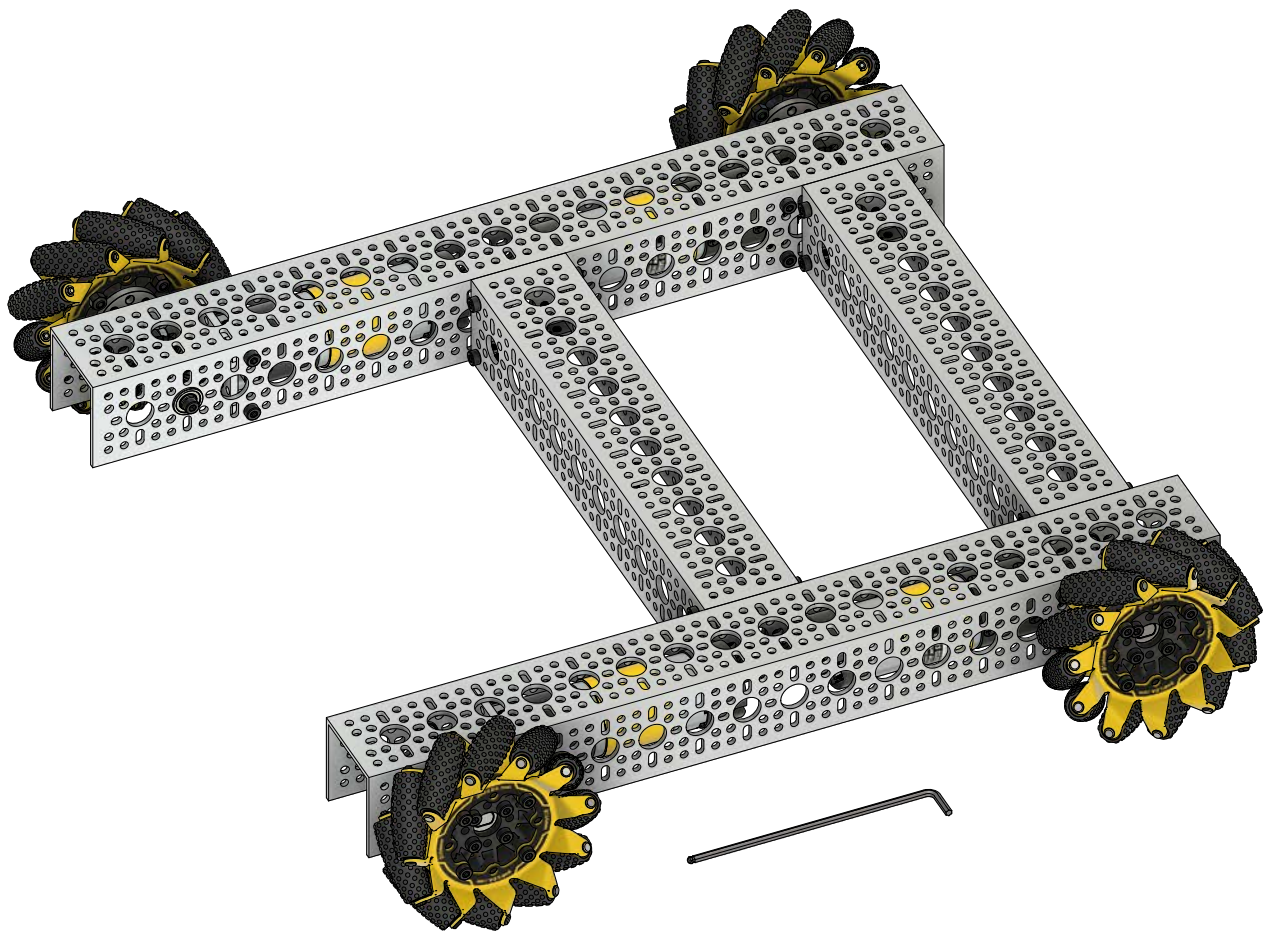


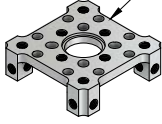


Assembly Instructions for
Strafer™ Chassis Kit (104mm GripForce™ Mecanum Wheels)
SKU: 3209-0001-0007

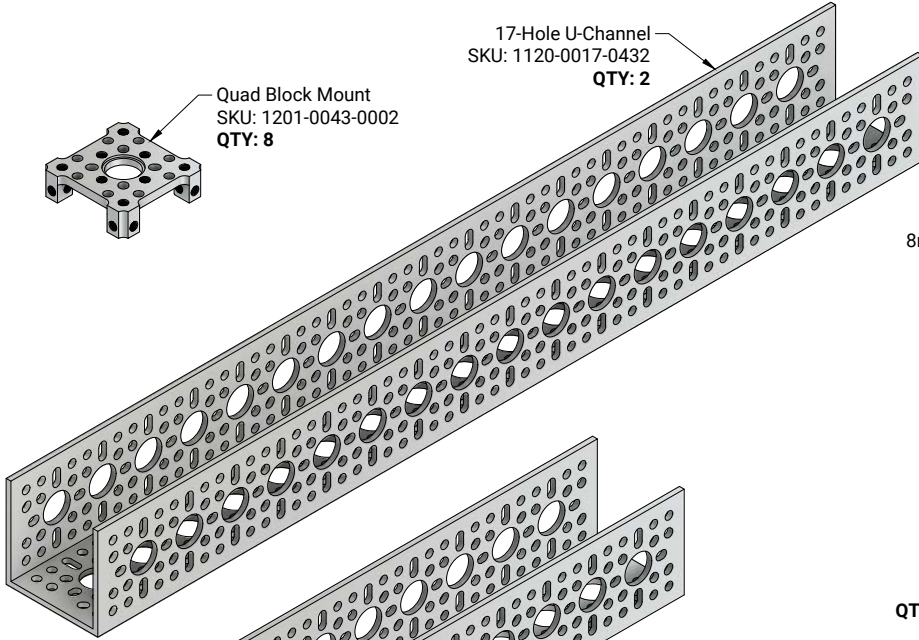


Kit Contents:

Quad Block Mount
SKU: 1201-0043-0002
QTY: 8



17-Hole U-Channel
SKU: 1120-0017-0432
QTY: 2



8mm ID, 9mm Length Spacer
SKU: 1522-0010-0090
QTY: 4



8mm Nylon-Patch Screw
SKU: 2822-0004-0008
QTY: 25 (1 Pack)



10mm Nylon-Patch Screw
SKU: 2822-0004-0010
QTY: 75 (3 Pack)



10mm Socket Head Screw
SKU: 2800-0004-0010
QTY: 4 (Included w/ Hub-Shafts)



4mm ID Washer
SKU: 2801-0004-0008
QTY: 4 (Included w/ Hub-Shafts)



6mm ID Shim
SKU: 2807-0609-0250
QTY: 4 (Included w/ Hub-Shafts)



8mm ID Shim
SKU: 2807-0811-0500
QTY: 12 (1 Pack)



6mm ID Bearing
SKU: 1611-0514-0008
QTY: 4 (2 Packs)



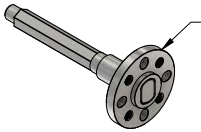
6mm ID Bearing
SKU: 1611-0514-0006
QTY: 4 (2 Packs)



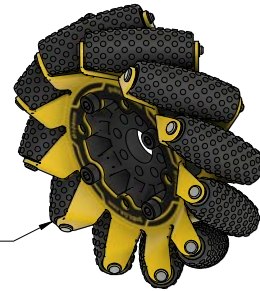
Miter Gear
SKU: 2320-4008-0024
QTY: 8



Hub-Shaft
SKU: 2110-0608-0002
QTY: 4



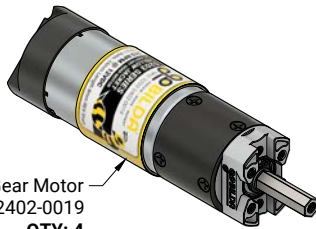
Left-Slant GripForce™ Mecanum Wheel
SKU: 3625-0202-0104
QTY: 2 (1/2 of Pack)



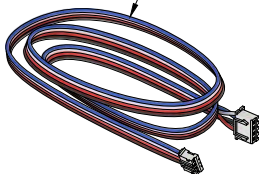
Right-Slant GripForce™ Mecanum Wheel
SKU: 3625-0202-0104
QTY: 2 (1/2 of Pack)



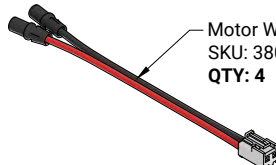
Yellow Jacket Gear Motor
SKU: 5203-2402-0019
QTY: 4



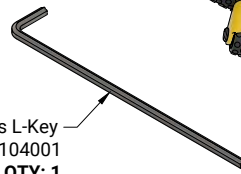
Encoder Cable
SKU: 3801-0709-0600
QTY: 4



Motor Wire Adaptor
SKU: 3801-0613-0100
QTY: 4



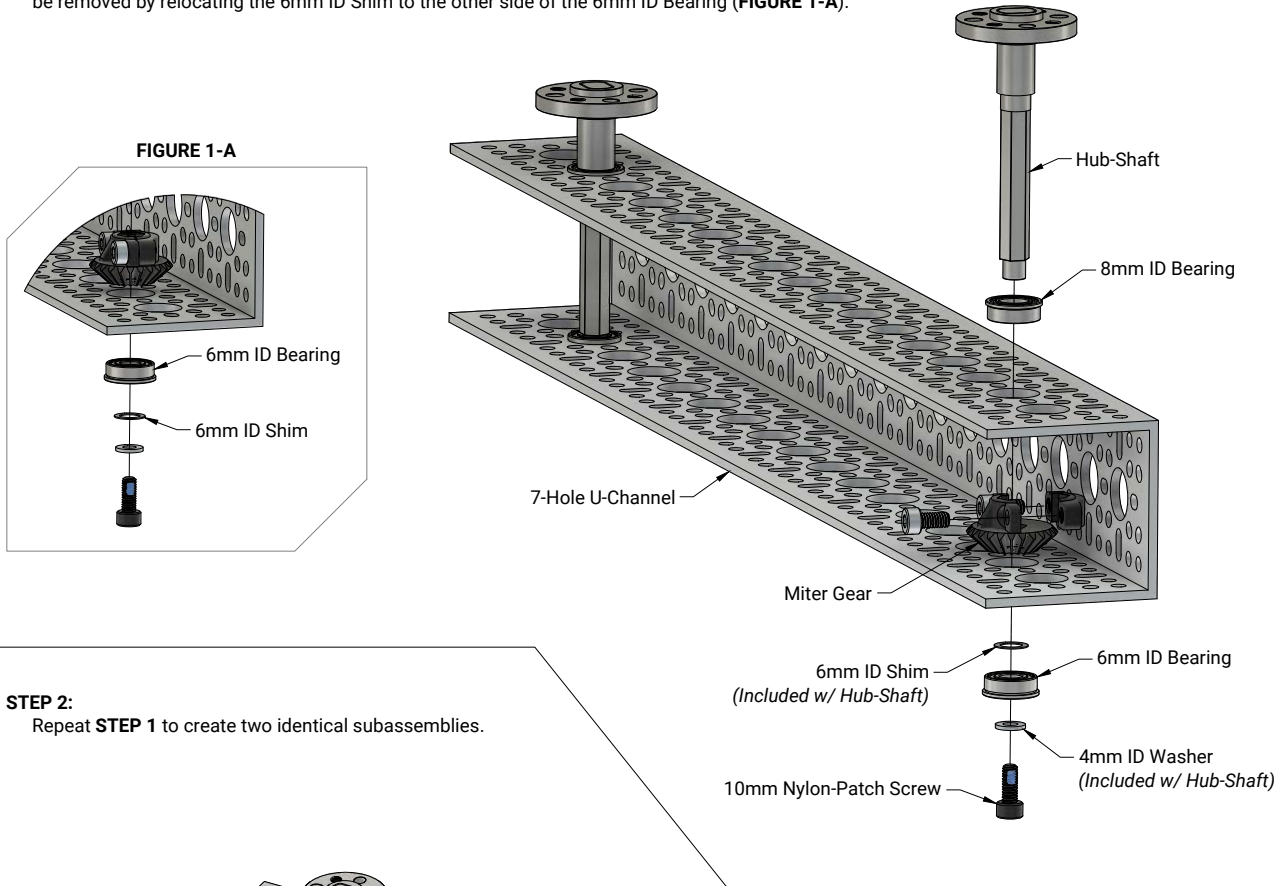
3mm Hex-Plus L-Key
SKU: 5027104001
QTY: 1



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 with one Hub-Shaft in the second hole from either end, as shown. When assembling the Miter Gears, note the orientation of the built-in shim.

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-A**).



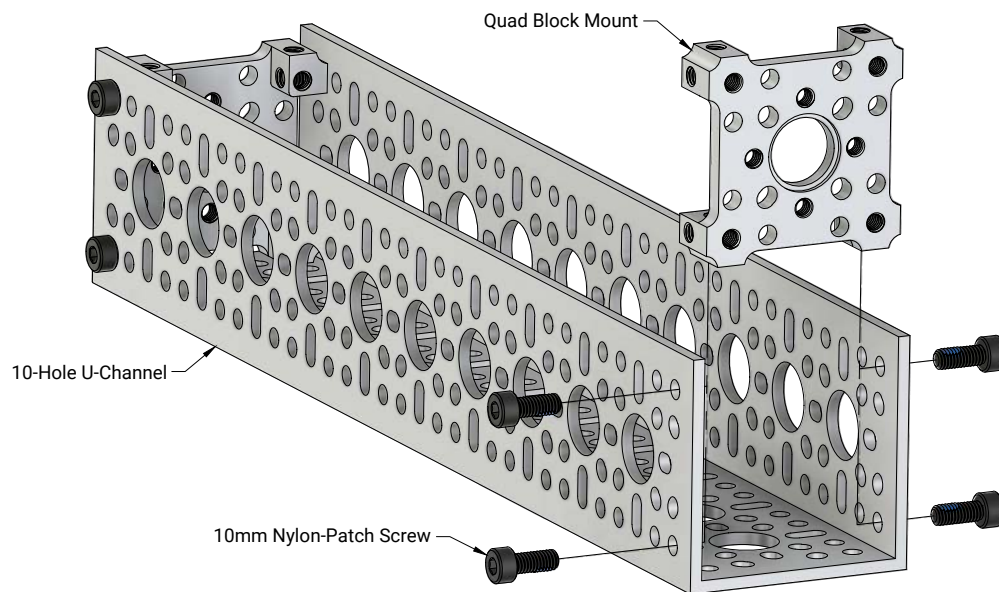
STEP 2:

Repeat **STEP 1** to create two identical subassemblies.



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 two identical subassemblies.



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 on the ninth (center) hole.

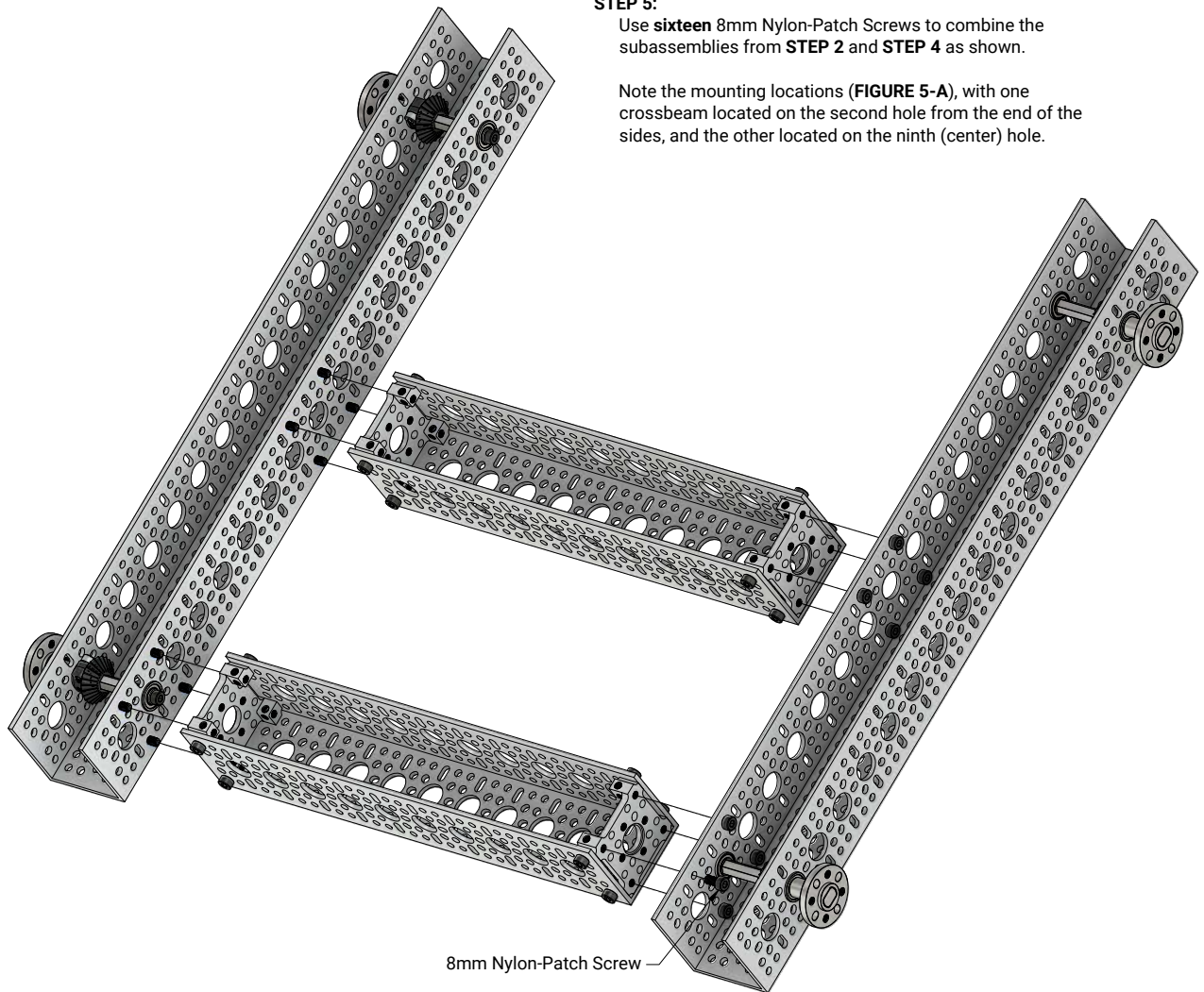
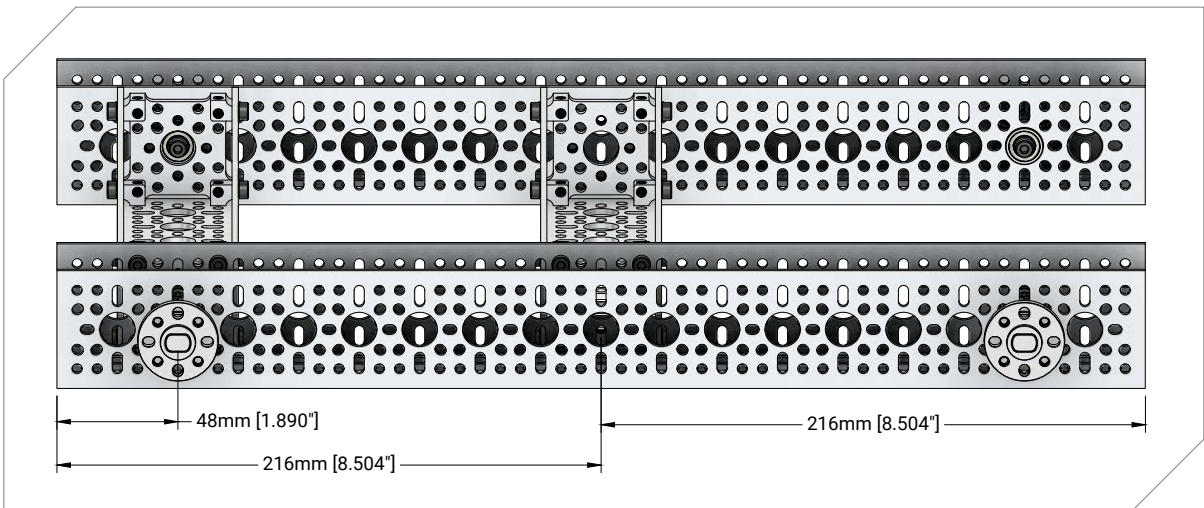
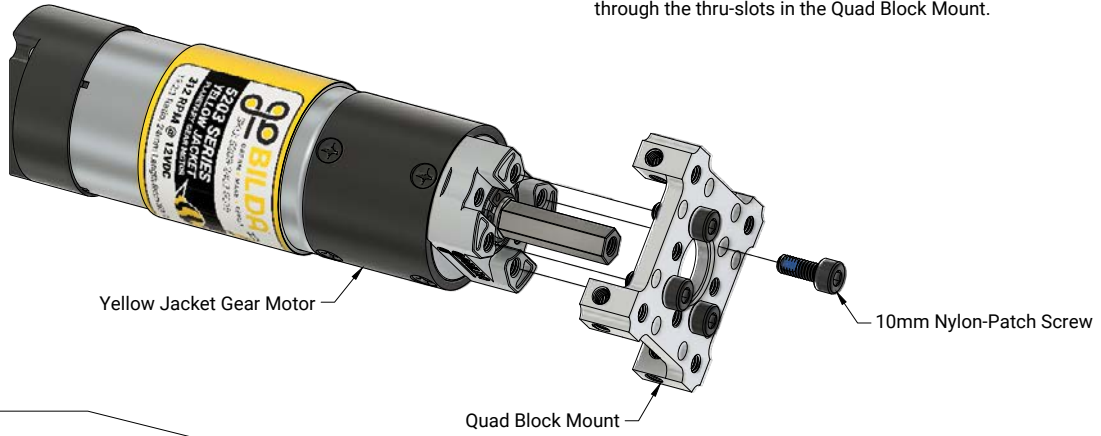


FIGURE 5-A



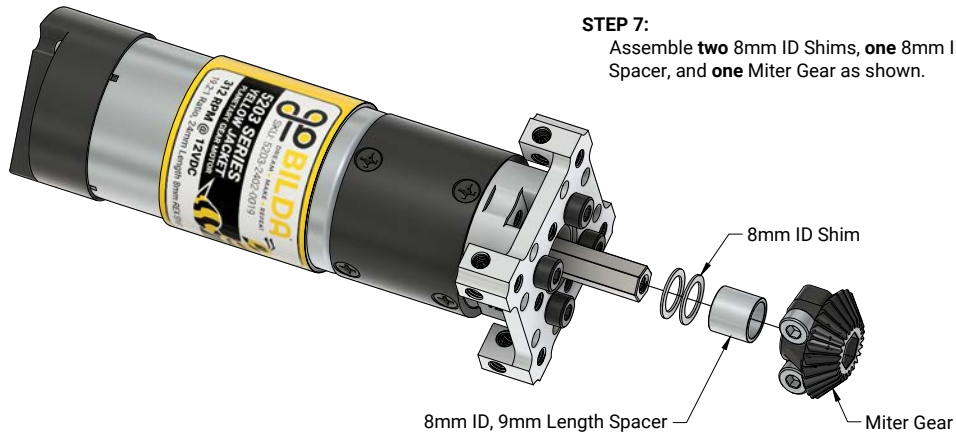
STEP 6:

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** 8mm ID, 9mm Length 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.

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", while the others are "hidden".

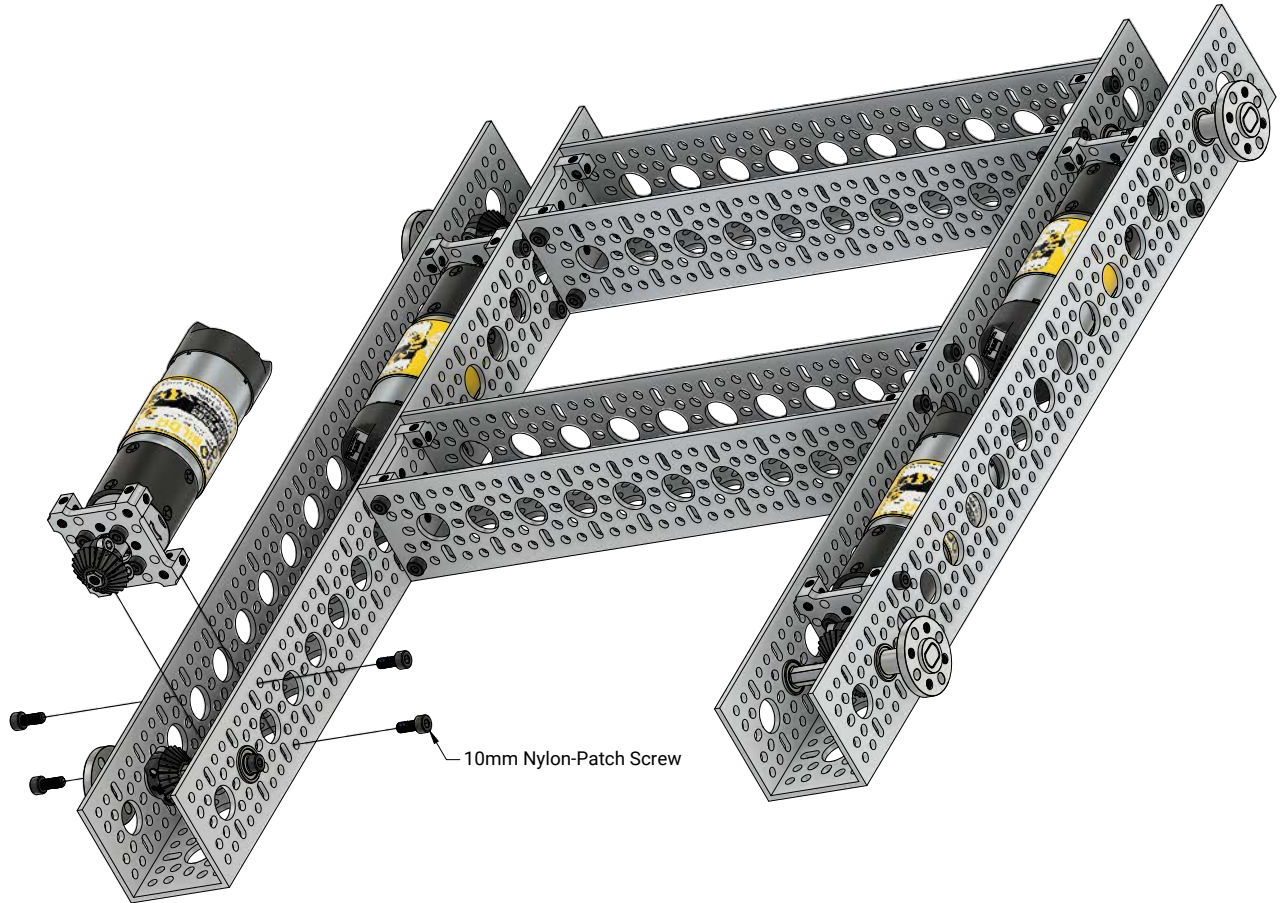


FIGURE 9-A

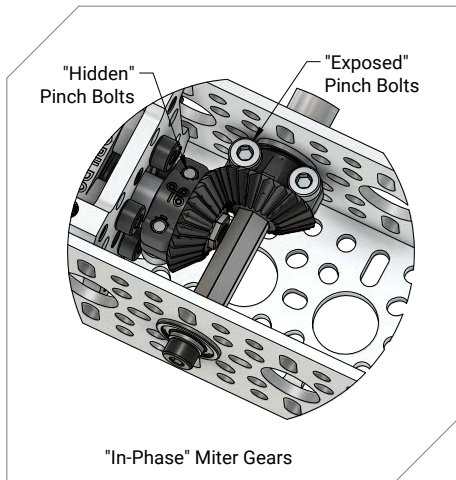
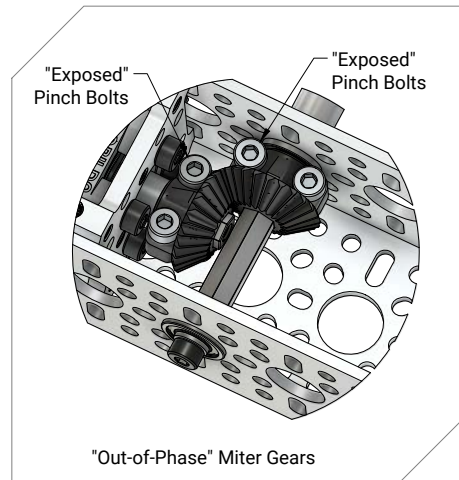


FIGURE 9-B



STEP 10:

Attach **two** Right-Slant Mecanum Wheels and **two** Left-Slant Mecanum Wheels using **sixteen** 4mm ID Washers and **sixteen** 10mm Nylon-Patch Screws 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**).

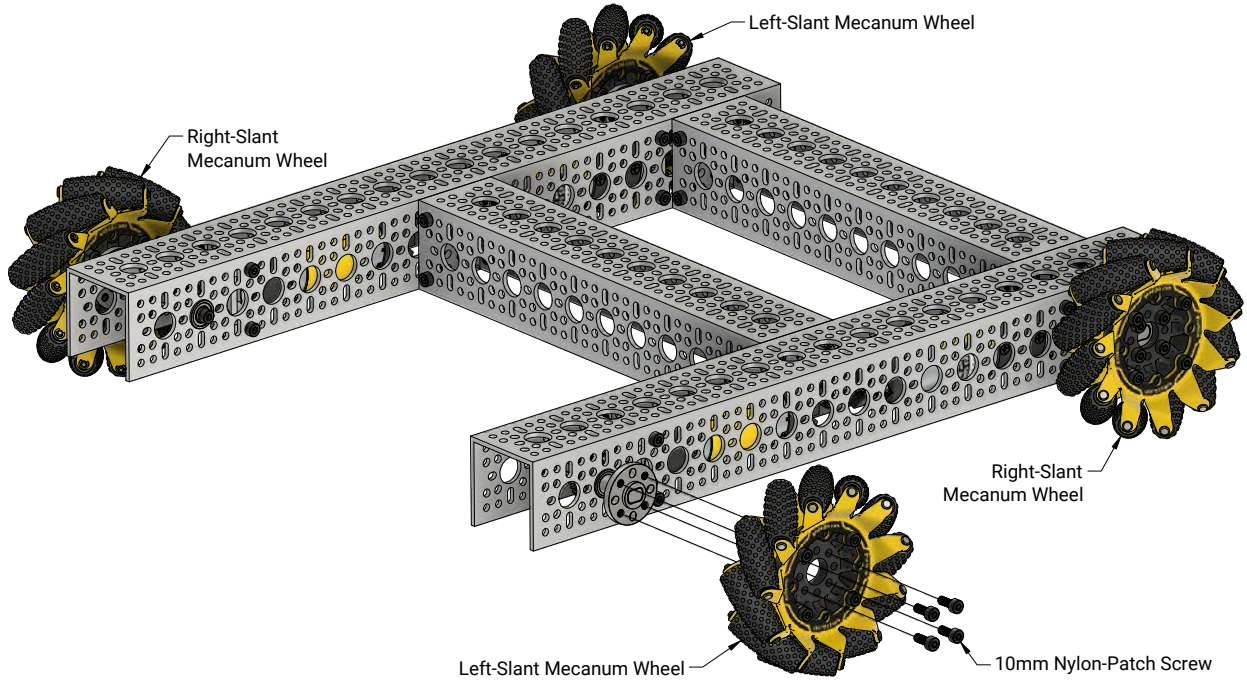
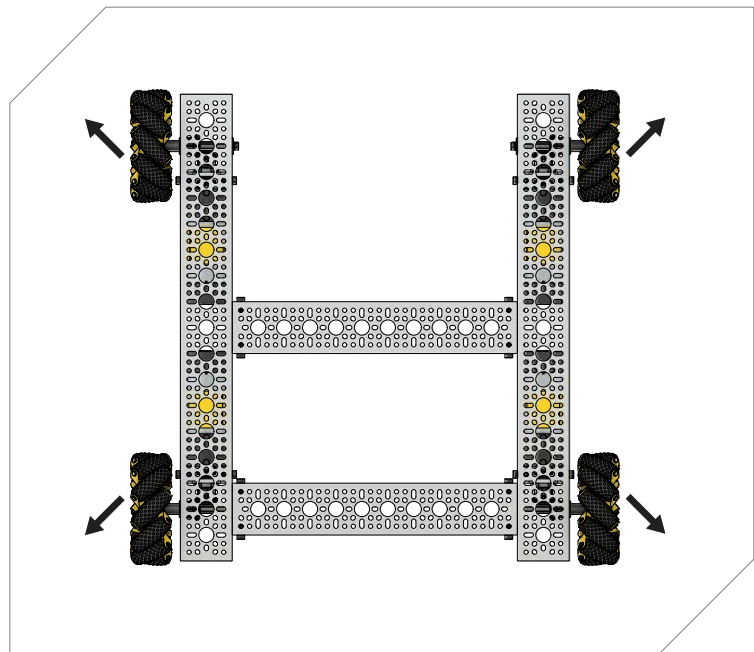


FIGURE 10-B

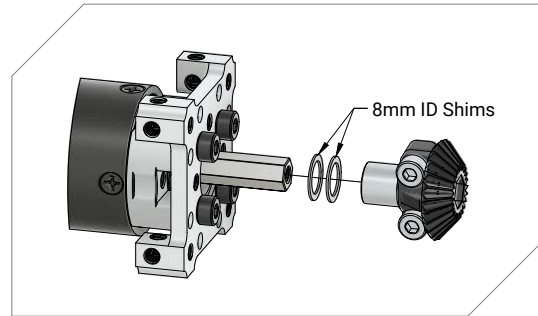




STEP 11:

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. To reduce any excess friction in a wheel's rotation, 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 roll forward—or any other direction you want—into the gripping world of omnidirectional movement!

