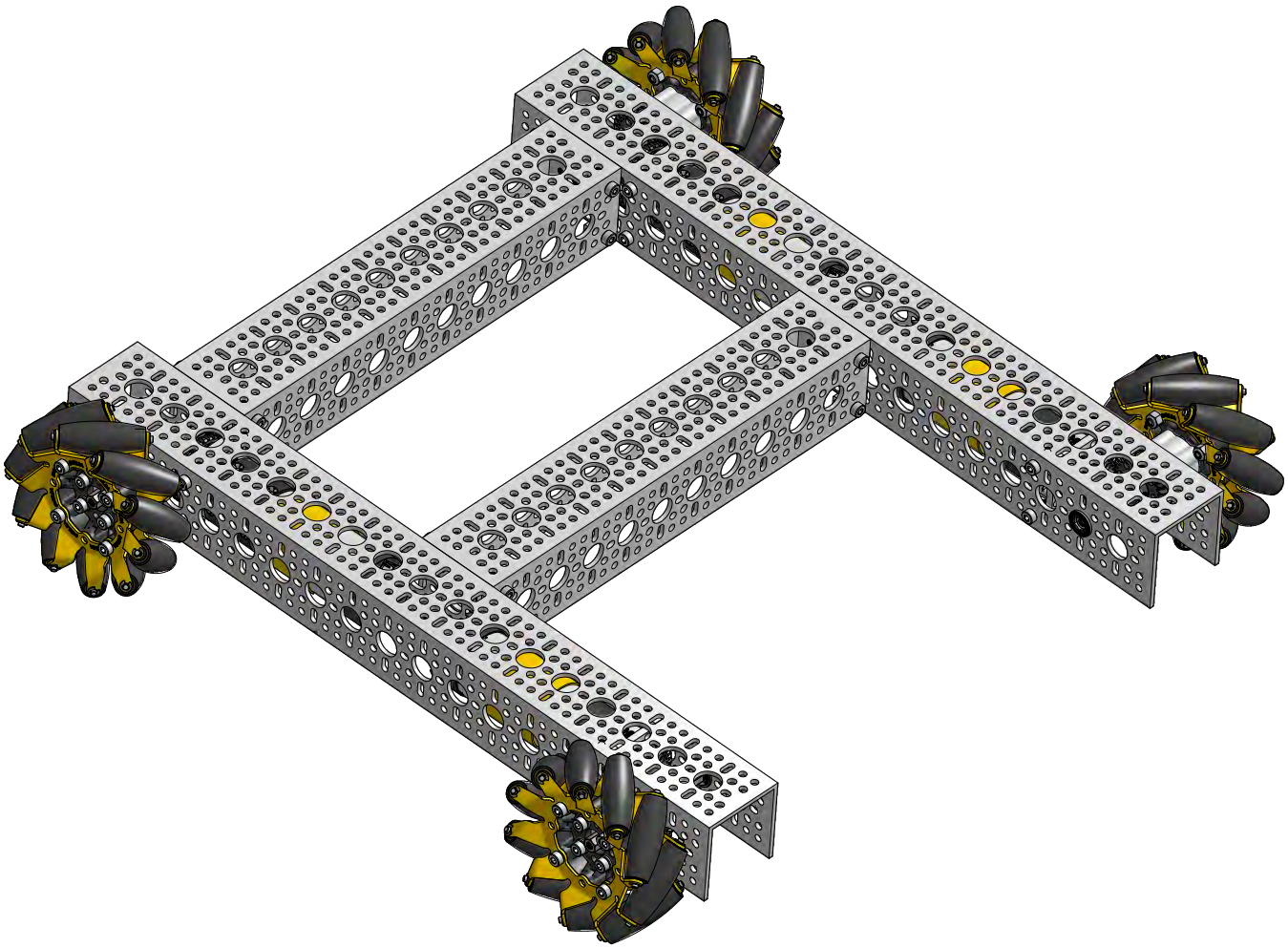
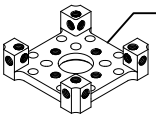
Assembly Instructions for

Strafer Chassis Kit V4

SKU: 3209-0001-0004



Kit Contents:



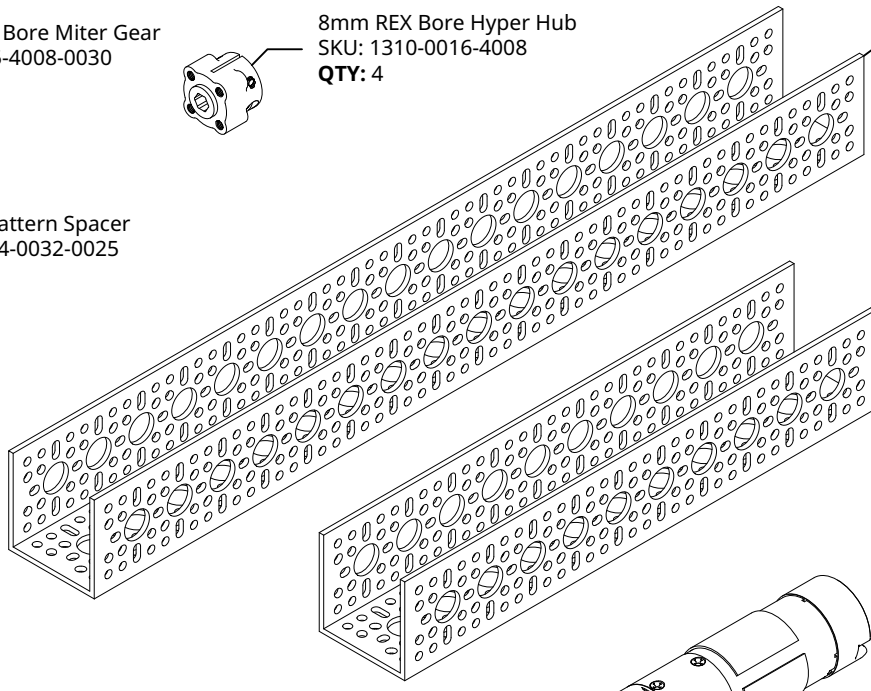
Quad Block Mount
SKU: 1201-0043-0002
QTY: 8

Thrust bearing 8mm ID
SKU: 1613-0516-0008
QTY: 8

8mm REX Flanged Ball Bearing
SKU: 1611-0514-4008
QTY: 8 (Four 2 packs)

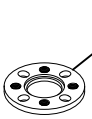
8mm REX Bore Miter Gear
SKU: 2315-4008-0030
QTY: 8

8mm REX Bore Hyper Hub
SKU: 1310-0016-4008
QTY: 4

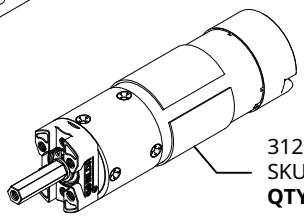


17 Hole U-Channel
SKU: 1120-0017-0432
QTY: 2

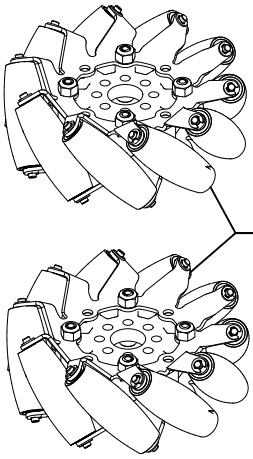
10 Hole U-Channel
SKU: 1120-0010-0264
QTY: 2



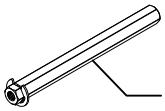
2.5mm Pattern Spacer
SKU: 1504-0032-0025
QTY: 4



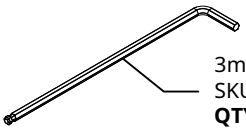
312 RPM Yellow Jacket Gear Motor
SKU: 5203-2402-0019
QTY: 4



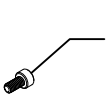
96mm Mecanum Wheel
SKU: 3213-3606-0002
QTY: 4 (*Two Right Slant, Two Left Slant)*



80mm REX Shaft
SKU: 2106-4008-0800
QTY: 4

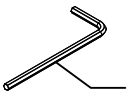


3mm Ball-End Hex L-Key
SKU: 4201-0090-0030
QTY: 1

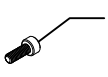


8mm Length M4 Screw
SKU: 2800-0004-0008
QTY: 25 (One 25 pack)

4mm ID Steel Washer
SKU: 2801-0004-0008
QTY: 25 (One 25 pack)



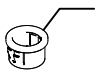
2.5mm Hex L-Key
SKU: 4200-0090-0025
QTY: 1



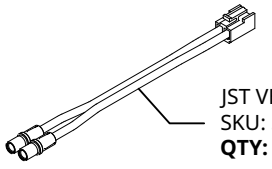
11mm Length M4 Screw
SKU: 2800-0004-0008
QTY: 50 (Two 25 packs)

8mm ID, 0.5mm Thick Shim
SKU: 2807-0811-0008
QTY: 12 (One 12 pack)

16mm Length M4 Screw
SKU: 2800-0004-0016
QYT: 50 (Two 25 packs)



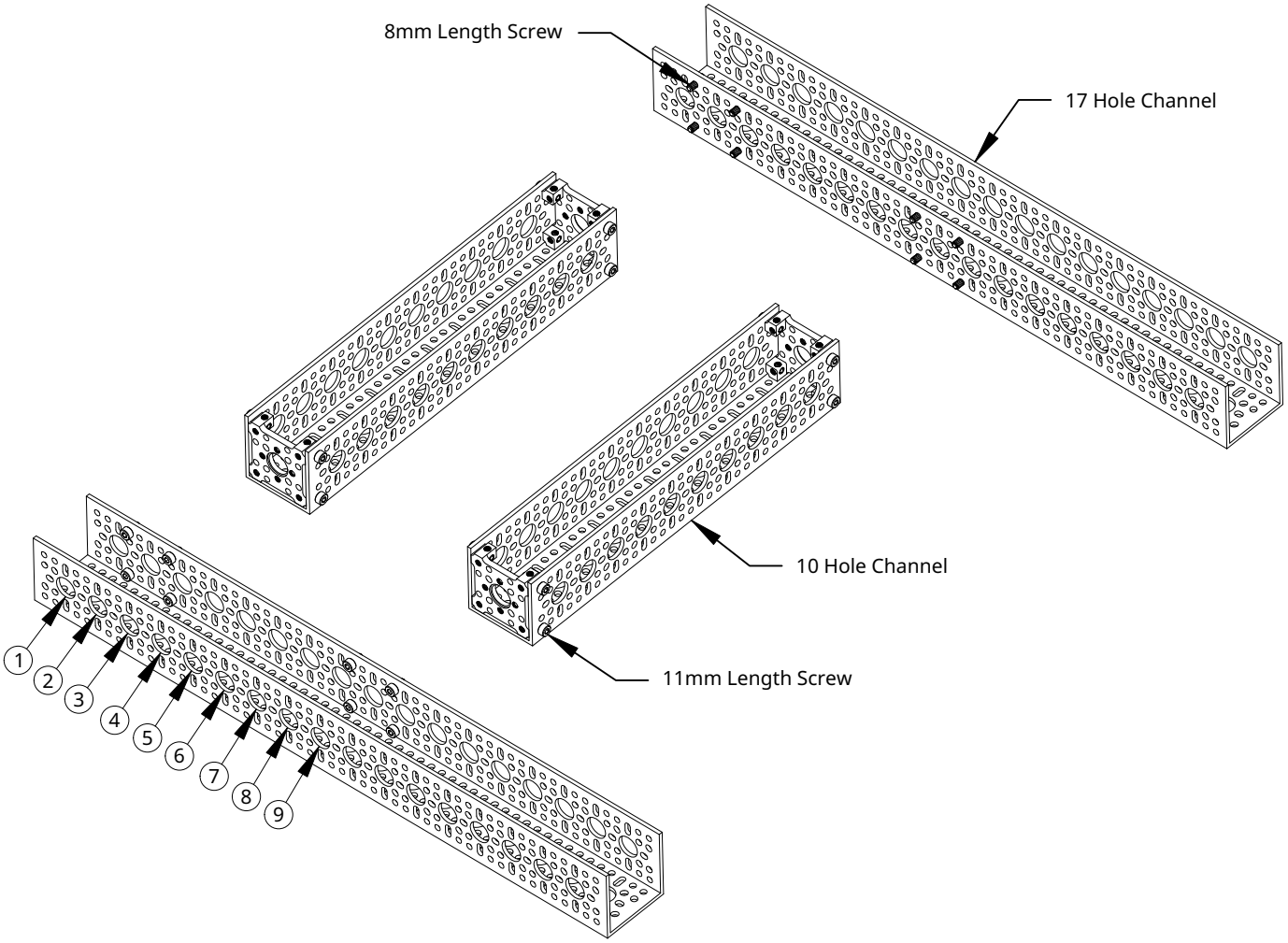
Grommet
SKU: 2911-0014-0001
QTY: 12 (One 12 pack)

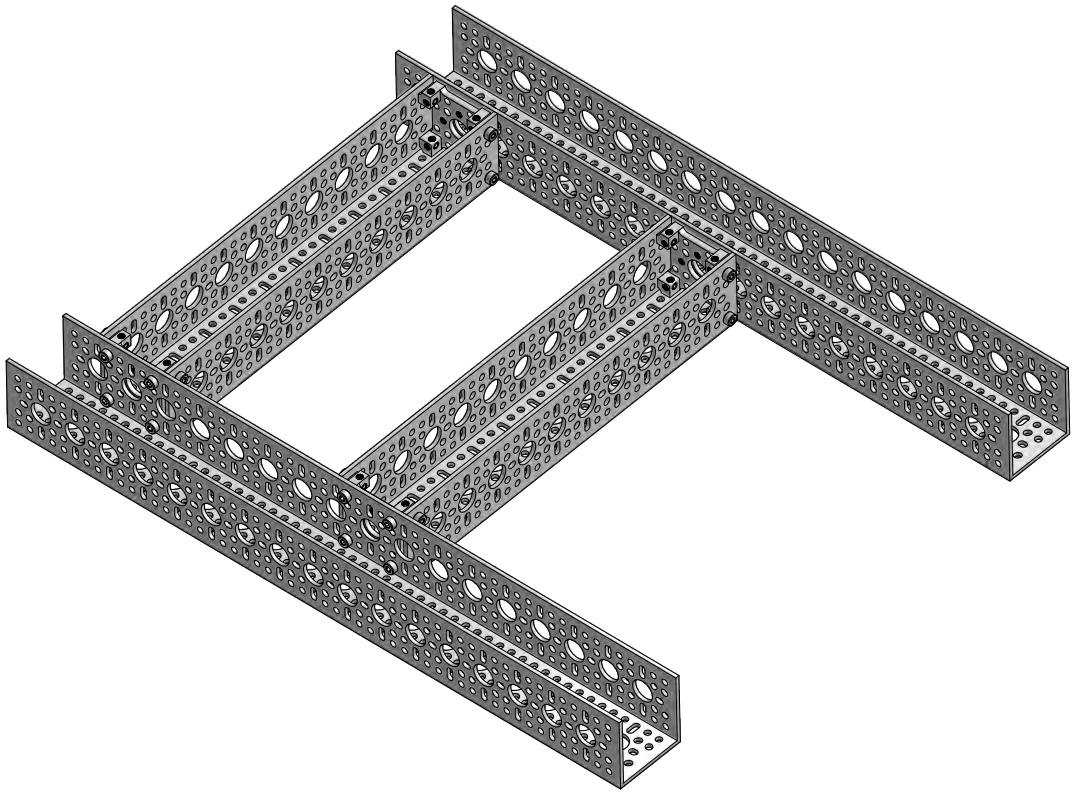


JST VH to Bullet Adaptor
SKU: 3801-0613-0100
QTY: 4

STEP 1 - Chassis Frame Assembly

Use sixteen 11mm length screws to attach four Quad Block Mounts to the ends of the two 10 Hole channels as shown. These channels will be the "crossbars" of the chassis. Then use sixteen 8mm length screws to fasten the crossbars to the 17 hole channels on holes 2 and 9, as shown.





STEP 2 - Output Shaft Assemblies

When this page is complete, your chassis will look like Figure A. The sub-steps on this page show the process of assembling one output shaft in the circled area within figure A. Once you complete one output shaft assembly, repeat the process for the other three corners of the chassis.

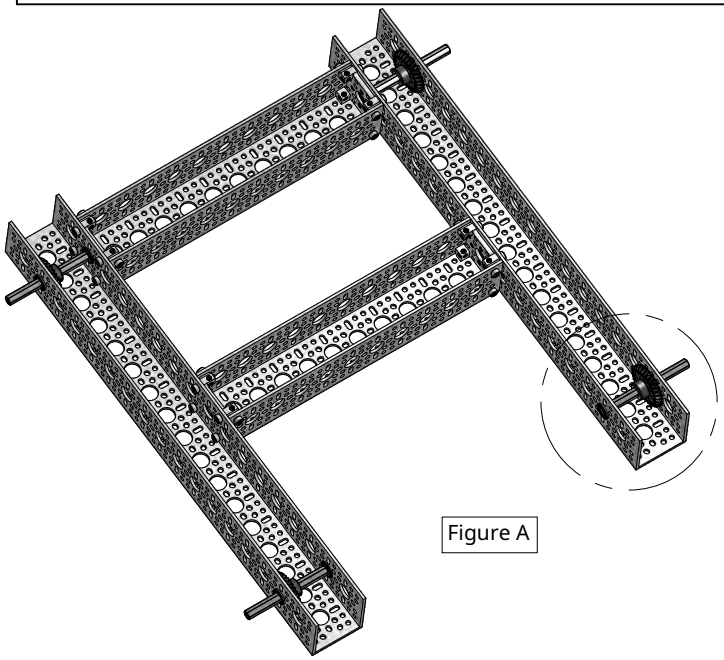


Figure A

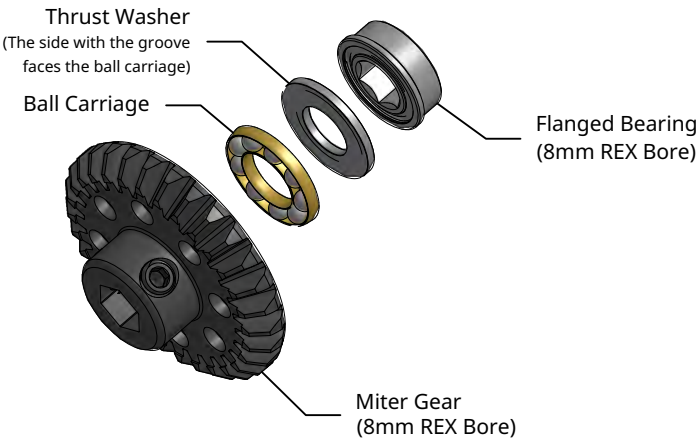
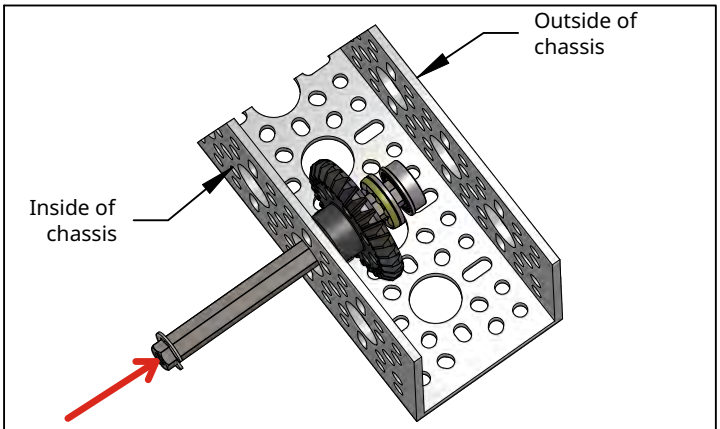
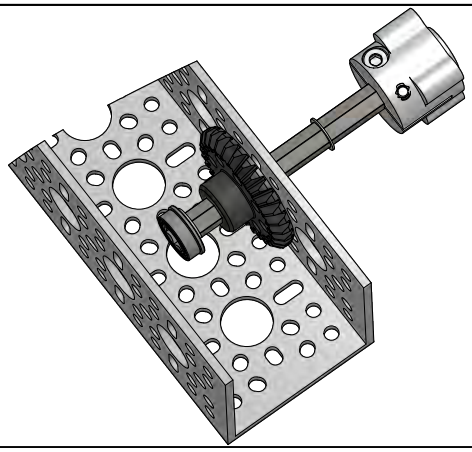


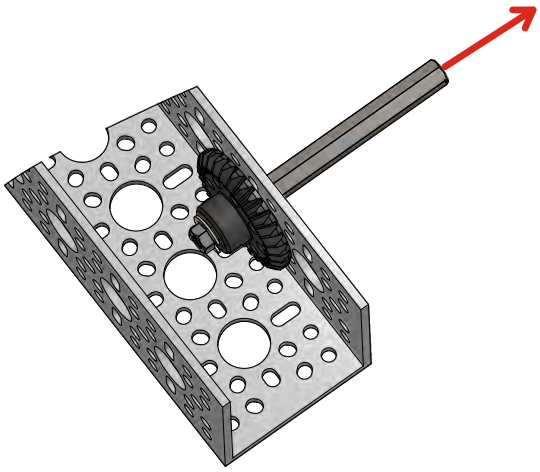
Figure B



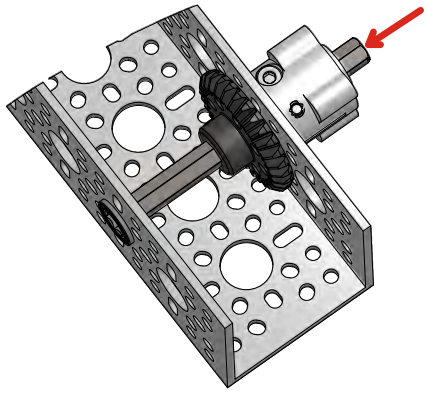
Step 2.1
Slide the shaft (non-E-clip side first) through the second hole from the end. Slide the Miter Gear, thrust bearing and flanged bearing onto the shaft. Refer to Figure B above for order & orientation of the parts. Note only one thrust washer from the thrust bearing is used.



Step 2.3
Slide a bearing (with the flange closest to the E-clip) on the end of the shaft as shown. Slide an 8mm ID shim and a hub onto the onto the other end of the shaft as shown.



Step 2.2
Pull the shaft all the way through until the E-clip contacts the miter gear and the bearing is seated in the 14mm hole of the channel.



Step 2.4
While holding the miter gear in place, slide the shaft back until the bearing on the end containing the E-clip is properly seated in the channel wall. Then (still holding the miter gear) tighten the set-screws of the miter gear. Then slide the hub all the way in and tighten its pinch bolts. Ensure both bearings are properly seated in their respective holes.

STEP 3B - Drive Motor Assemblies

When this page is complete, your chassis will look like Figure D. Create four drive motor assemblies as illustrated in Figures A-C below. Next, using sixteen 11mm length screws, mount the drive motor assemblies into your chassis as shown in Figure D.

Figure A1

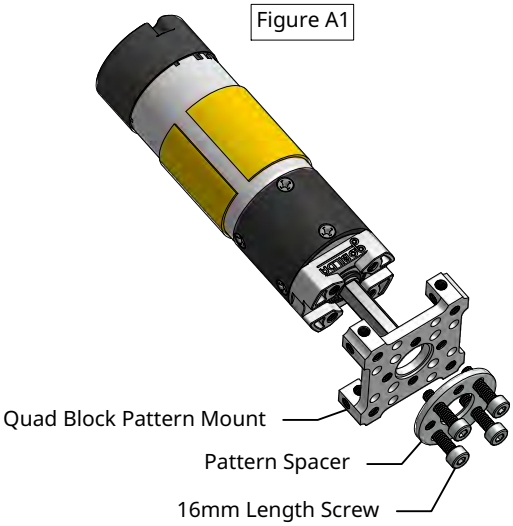


Figure B

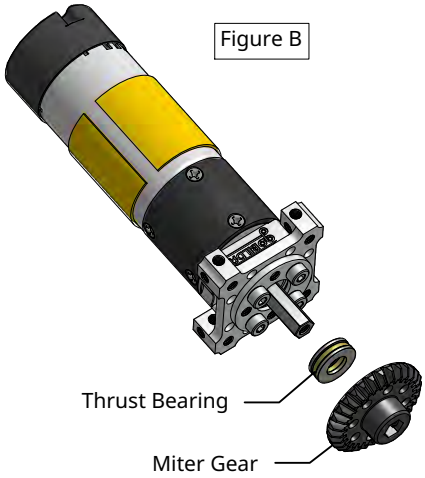


Figure C

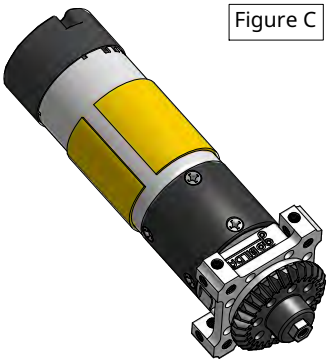
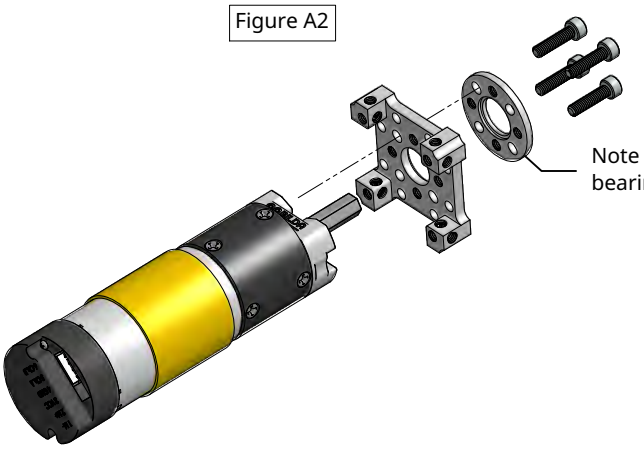


Figure A2



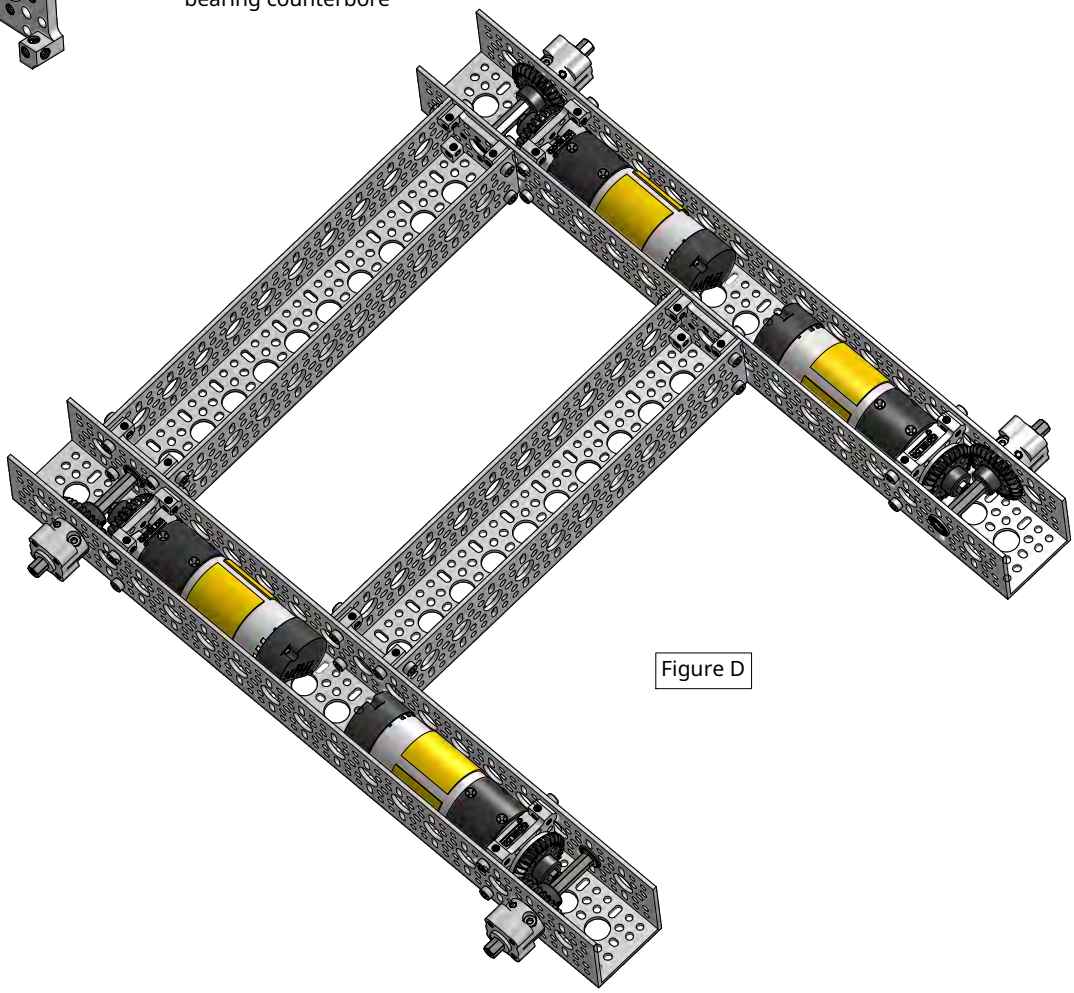


Figure D

STEP 4 - Wheels

The final step is to use sixteen 16mm length screws (each with a washer) to fasten the wheels to the Hyper Hubs. Note that each side of the robot gets one left slant wheel and one right slant wheel. Also note that each wheel's core has a shallow side and a deep side - the deep side will be towards the outside of the chassis (see Figure B). For ease-of-assembly and visibility, we have been looking at this chassis upside-down. Once you flip your chassis right-side-up and look down from above (Figure C). The rollers of the wheels should "point" towards the center of the chassis.

Figure A

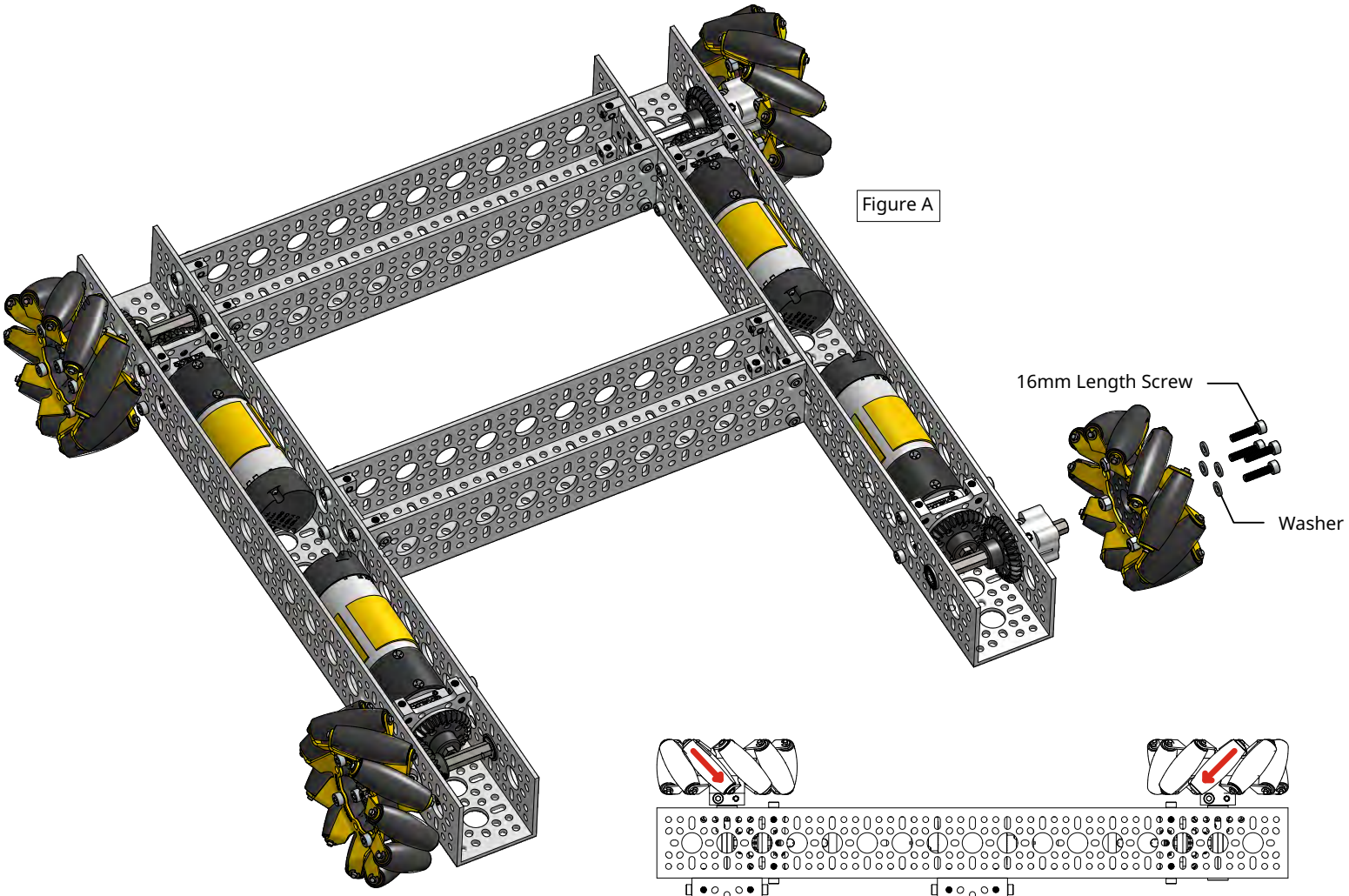


Figure B

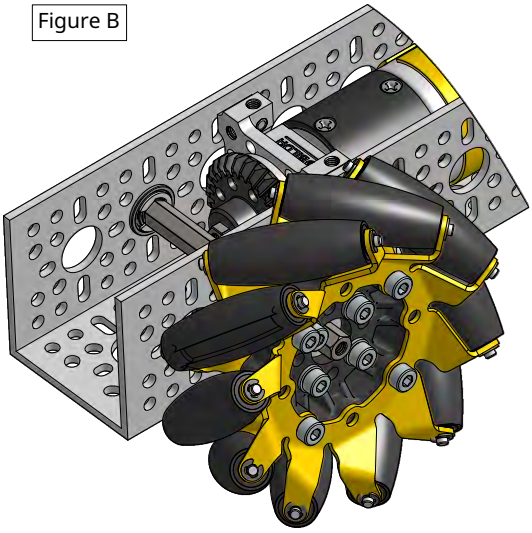
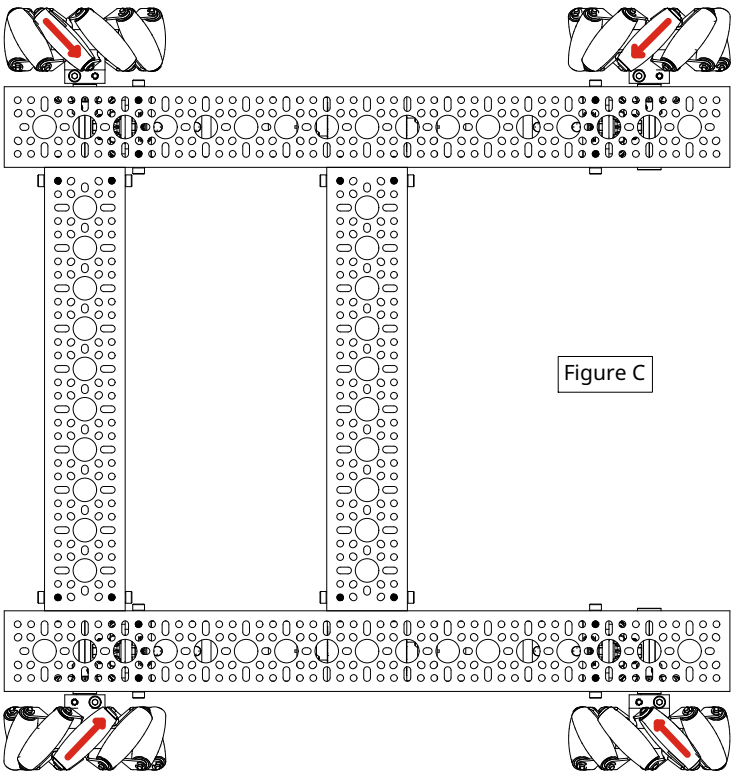


Figure C



Note: Additional Parts Included

For your convenience, we have included grommets for holes through which you route wires. We have also included 4 JST VH to Bullet Adaptors for users running the motors from a REV controller.