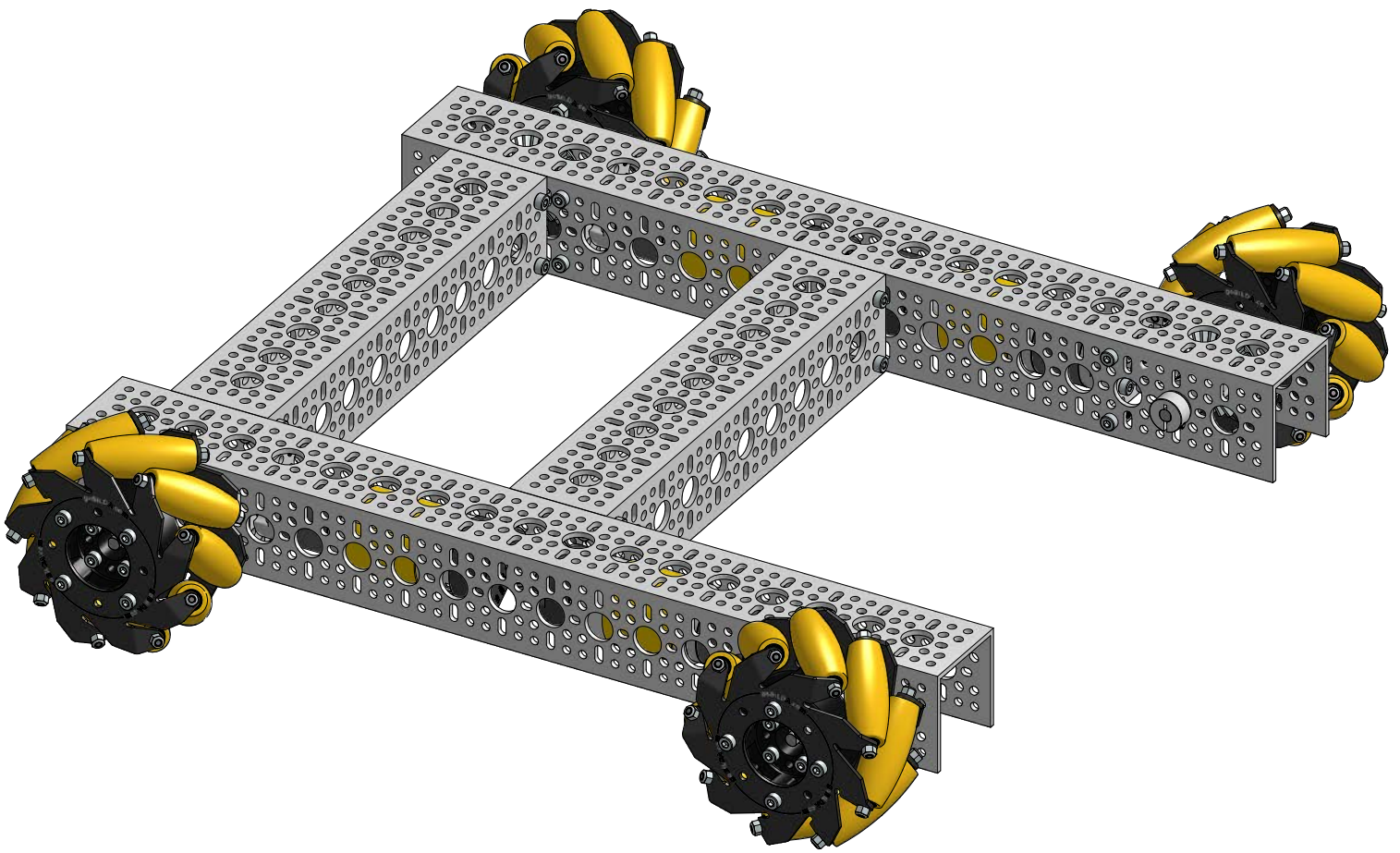


Assembly Instructions for **Strafer Chassis Kit**

SKU: 3209-0001-0002



Kit Contents:

Shim, 0.25mm Thickness
SKU: 2807-0609-0250
QTY: 12 (one 12 pack)



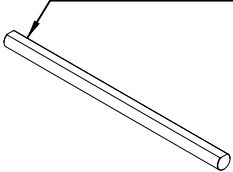
Ball Bearing, 6mm Bore
SKU: 1611-0514-0006
QTY: 8 (four 2 packs)



Clamping Collar, 6mm Bore
SKU: 2910-0816-0006
QTY: 8



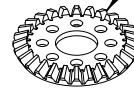
6mm D-Shaft, 100mm Length
SKU: 2101-0006-0100
QTY: 4



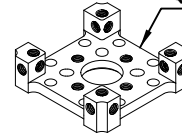
Pinion Bevel Gear, 14 Tooth, 6mm D-Bore
SKU: 2306-0006-0014
QTY: 4



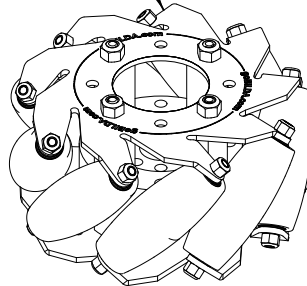
Hub Mount Bevel Gear, 28 Tooth
SKU: 2307-0014-0028
QTY: 4



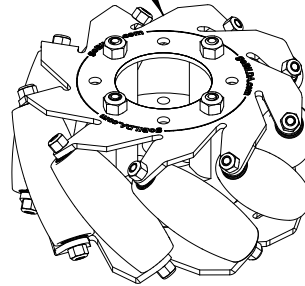
Quad Block Pattern Mount
SKU: 1201-0043-0002
QTY: 4



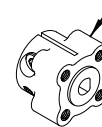
Mecanum Wheel
(Left Slant)
3606-0000-0100
QTY: 2



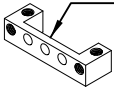
Mecanum Wheel
(Right Slant)
3606-0100-0100
QTY: 2



Hyper Hub, 6mm D-Bore
SKU: 1310-0016-1006
QTY: 8



Dual Block Mount
SKU: 1205-0001-0002
QTY: 8 (four 2 packs)



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



Washer
SKU: 2801-0004-0008
QTY: 25 (one 25 pack)



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



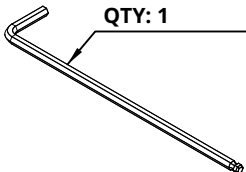
11mm Length M4 Screw
SKU: 2800-0004-0011
QTY: 75 (three 25 packs)



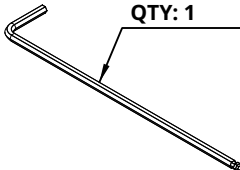
22mm Length M4 Screw
SKU: 2800-0004-0022
QTY: 25 (one 25 pack)



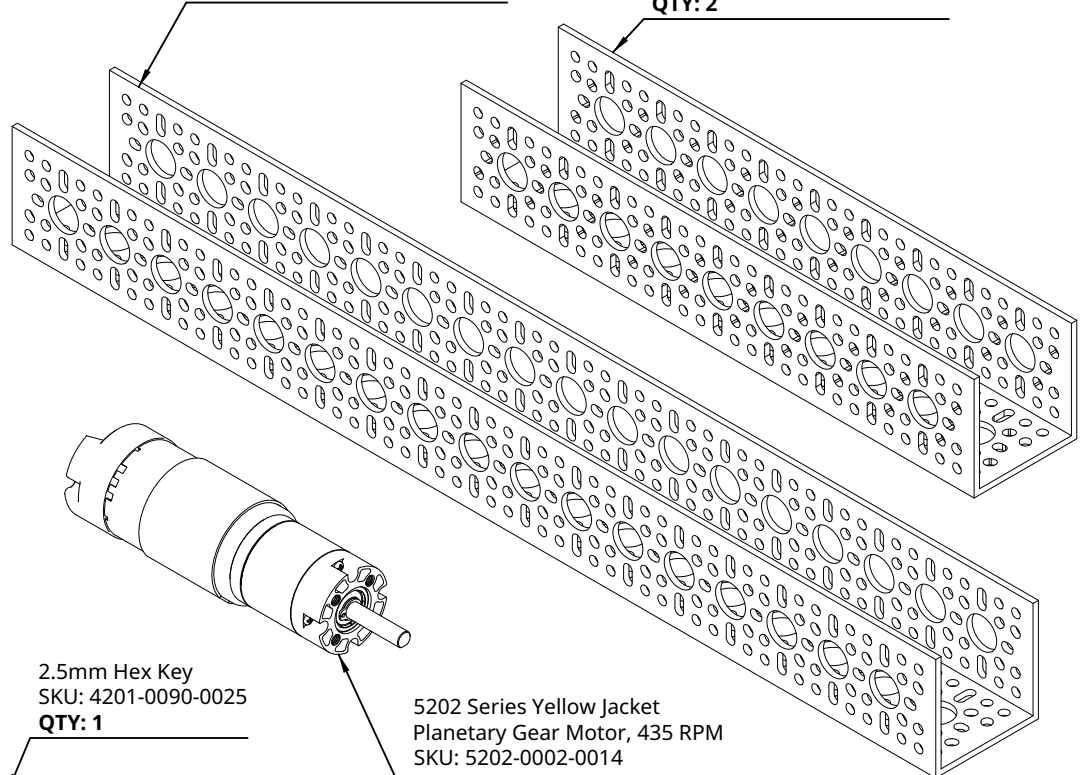
3mm Hex Key
SKU: 4201-0090-0030
QTY: 1



2.5mm Hex Key
SKU: 4201-0090-0025
QTY: 1

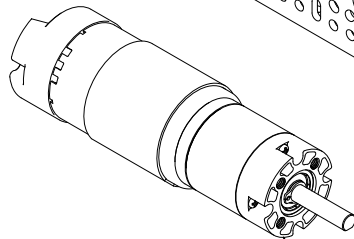


1120 Series U-Channel, 17 Hole
SKU: 1120-0017-0432
QTY: 2



1120 Series U-Channel, 9 Hole
SKU: 1120-0009-0192
QTY: 2

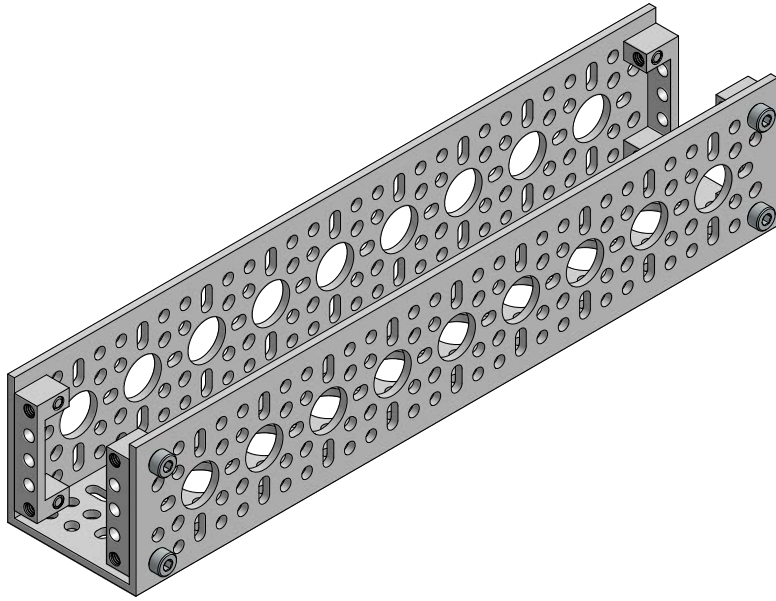
5202 Series Yellow Jacket
Planetary Gear Motor, 435 RPM
SKU: 5202-0002-0014
QTY: 4



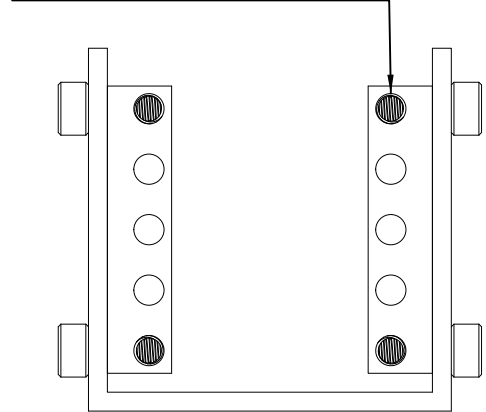
STEP 1

Using eight of the 11mm long screws, fasten two Dual Block Mounts per end of a Nine Hole U-Channel as shown. Note the orientation of the Dual Block Mounts in the straight-on view below. Because the holes are closer to one side than the other, the orientation matters.

Repeat this process on the other seven hole U-Channel.



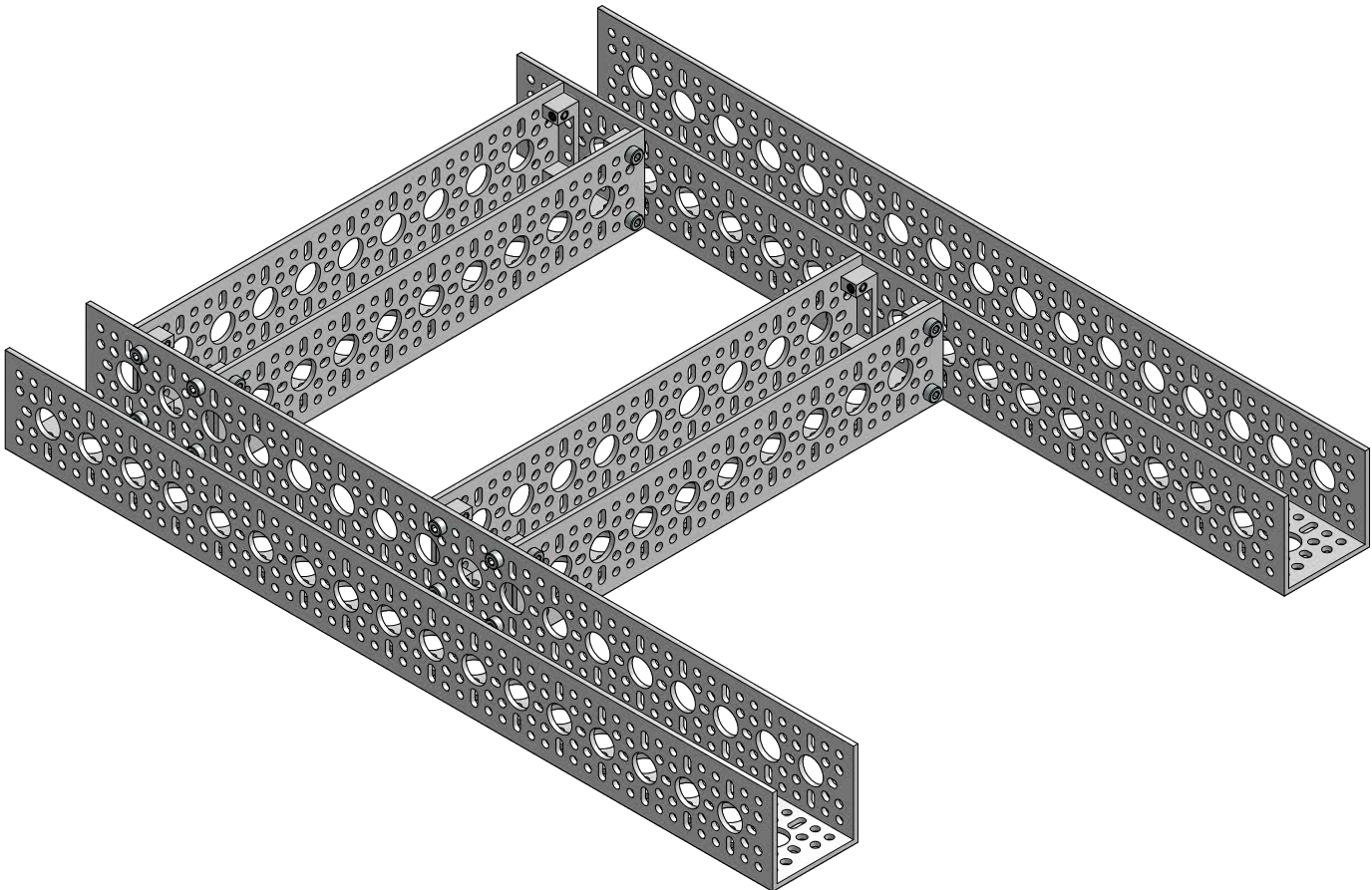
Note the holes are offset. Orient the mounts so the holes are away from the channel walls.



Straight-On View

STEP 2

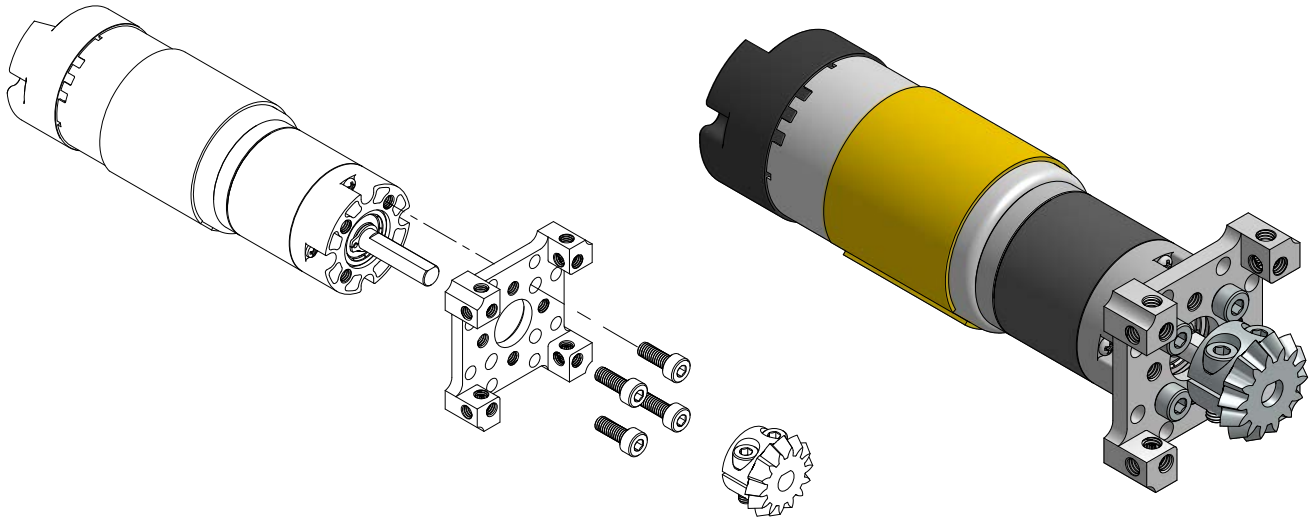
Using sixteen of the 8mm long screws, fasten the Nine Hole U-Channels to the Seventeen Hole U-Channels as shown. A recommended location is shown but the location you choose could be different based on your needs.



STEP 3

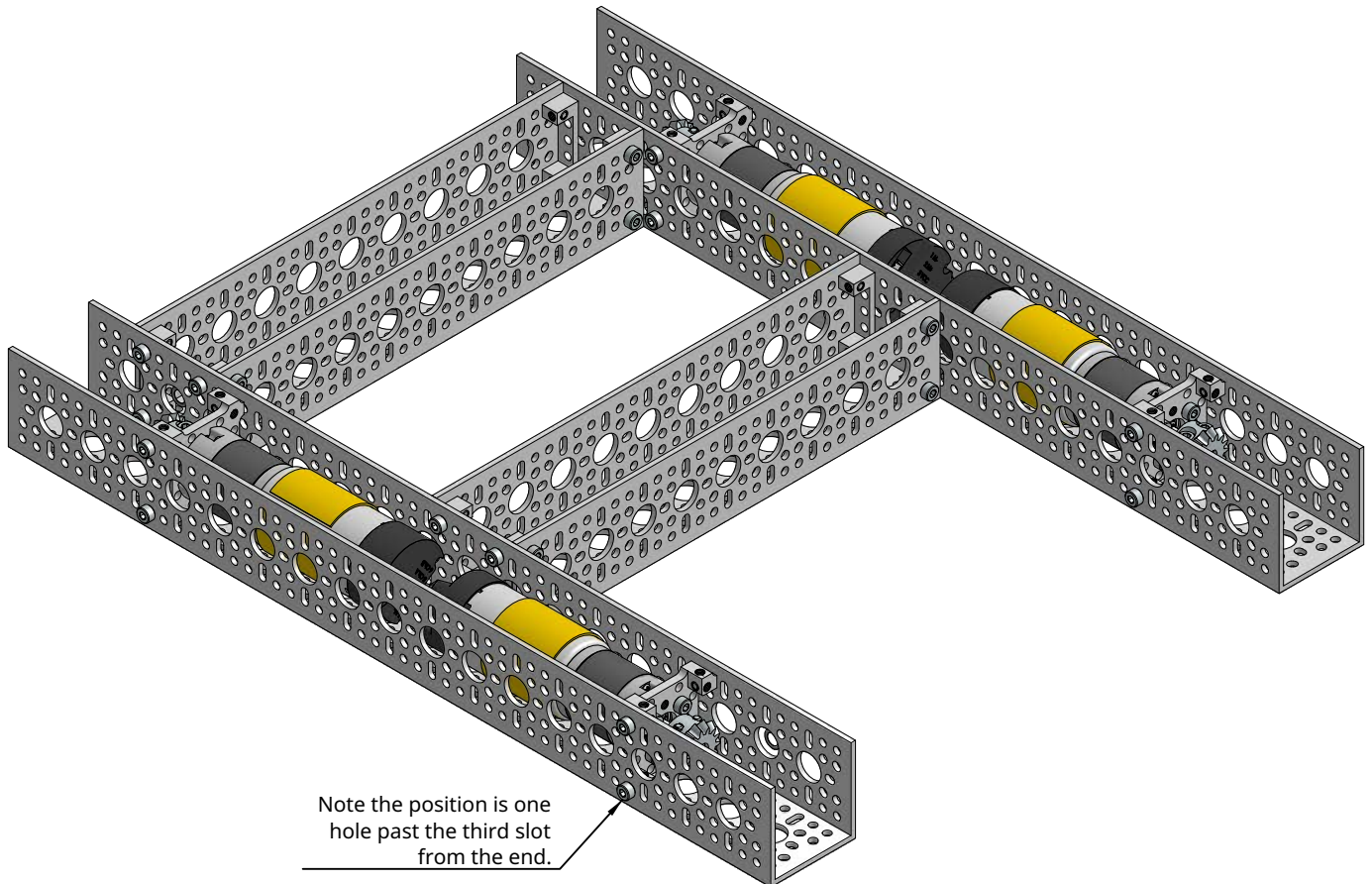
Using four 11mm long screws, fasten a Quad Block Pattern Mount to the face of a motor. Then slide a pinion bevel gear onto the shaft as shown. Tighten the pinch bolts for the gear gently as you will adjust the final spacing later on.

Repeat this step for each remaining motor.



STEP 4

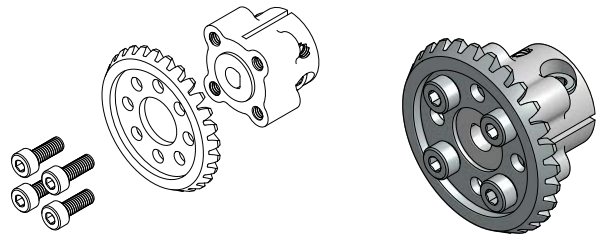
Using sixteen 11mm long screws, mount the motor assemblies from Step 3 into the chassis frame as shown.



STEP 5

Fasten a Hyper Hub (using four 11mm long screws) to one of the larger bevel gears.

Repeat this step for each remaining large bevel gear.

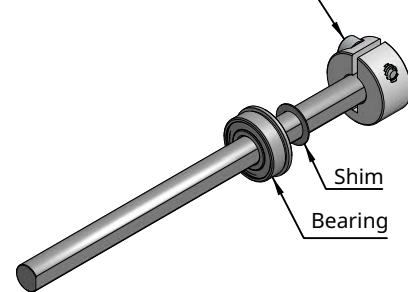


Note: the clamping collars require a 2.5mm hex key whereas everything else in this kit requires a 3mm hex key.

STEP 6

Attach a clamping collar flush on the end of a shaft. Slide a shim and then a bearing onto the shaft as shown.

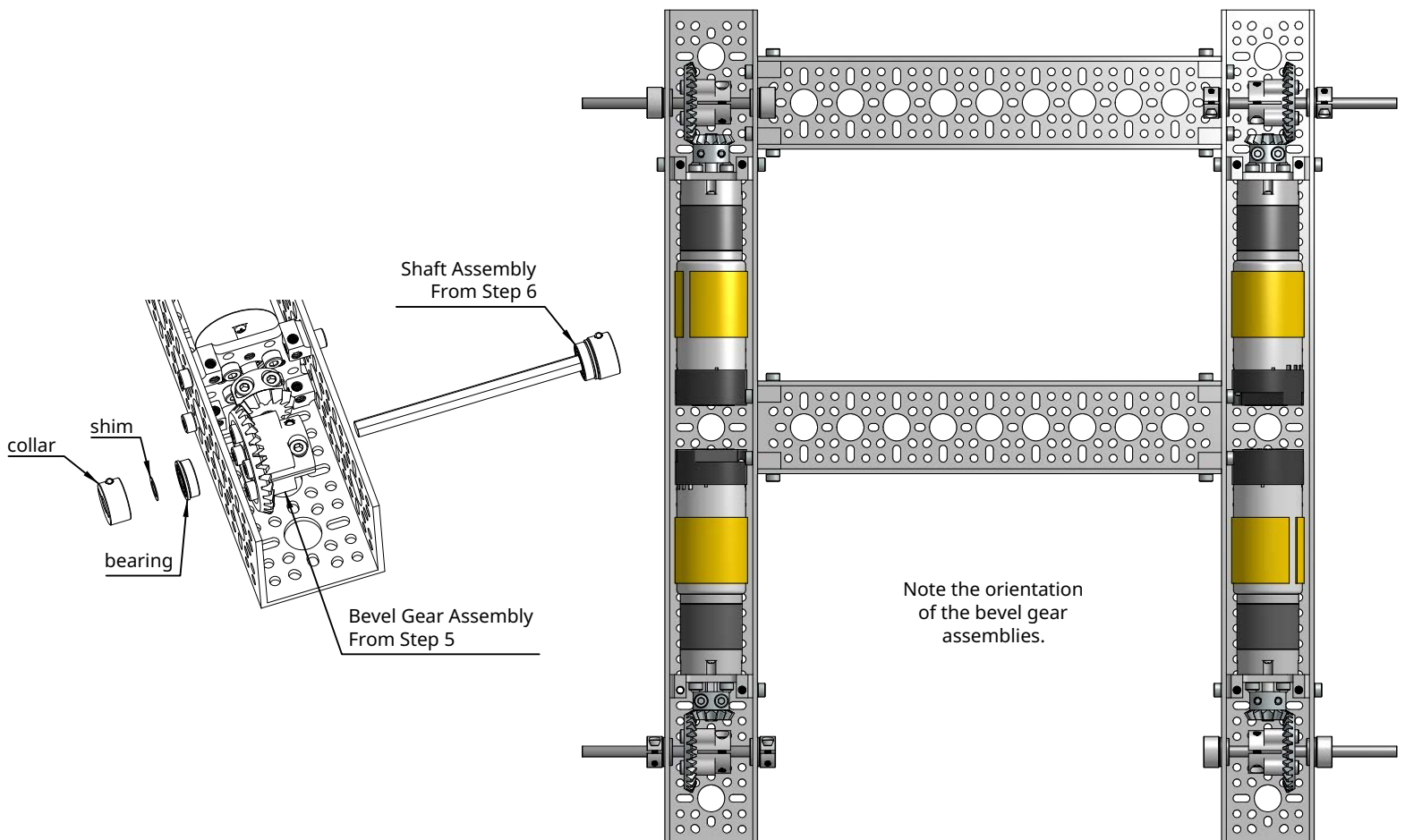
Repeat this step for each remaining shaft.



STEP 7

Place one of the Bevel Gear Assemblies from Step 5 in the chassis frame as shown. Slide one of the Shaft Assemblies from Step 6 through the second large (14mm) hole from the inside, and through your Step 5 assembly. Slide another bearing and shim onto the shaft. Make sure each bearing is properly seated in its corresponding 14mm hole.

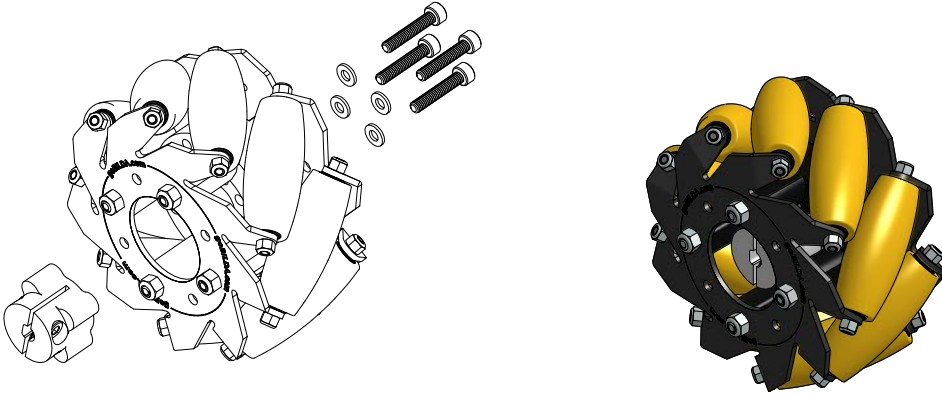
Repeat this step for each of the remaining shaft assemblies.



STEP 8

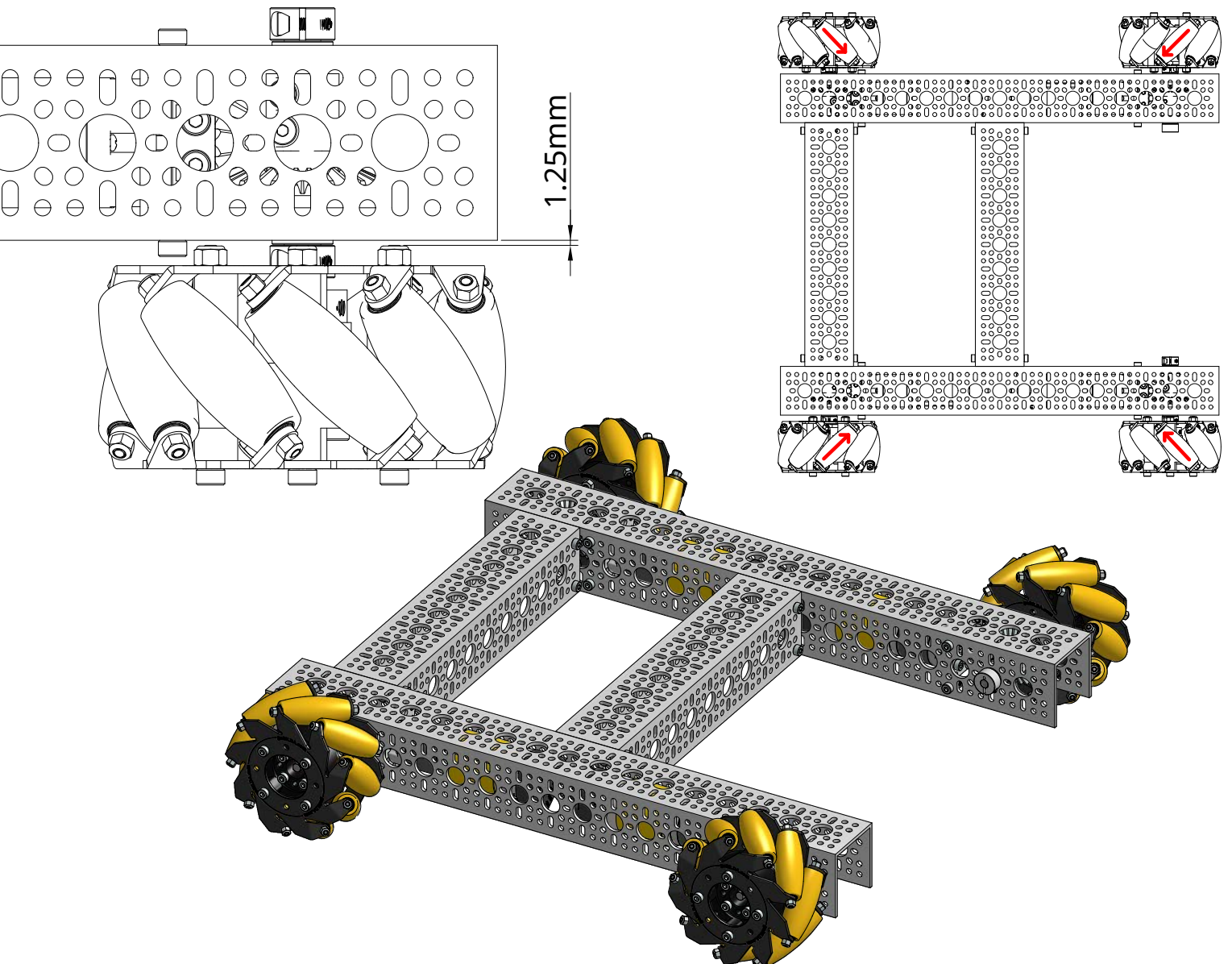
Using four 22mm long screws (each with a washer), fasten a Hyper Hub to one of the mecanum wheels. The hub goes on the side with the deeper offset of the wheel core such that it is completely within the wheel once mounted.

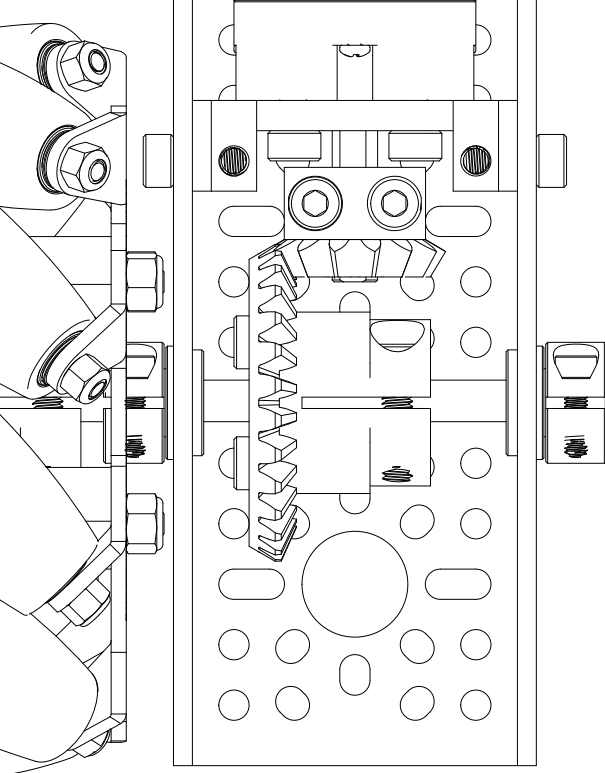
Repeat this step for each remaining wheel.



STEP 9

Attach your wheel/hub assemblies from Step 8 to your chassis as shown. Aim to leave about a 1.25mm air gap between the wheels and the channel. When seen from a top-down view, the rollers on the wheels should appear to point towards the middle of the chassis.





STEP 10

You are now ready to adjust the mesh between the bevel gears. When they are aligned properly, the back side of the gears will line up with one-another and you should feel a very small amount of movement between the two gears. The space between creates what is known as backlash and allows the gears to operate smoothly and without unnecessary friction. A trick to set the gear mesh is to insert a thin piece of material (gum wrapper, plastic bag, piece of paper) between the gears, slide them together, and tighten them in place. Once tight, rotate the assembly to remove the material.

Repeat this step for each bevel gear set.

Pro Tip

We've included plastic grommets that easily snap into the 14mm holes of U-Channel. Use these anywhere you are routing wiring through the channel. This prevents the wire jackets from chaffing against the metal edge of the channel and adds a polished look to your chassis.



CONGRATULATIONS!

Your Strafer Chassis Kit is now assembled and ready to be wired up!

