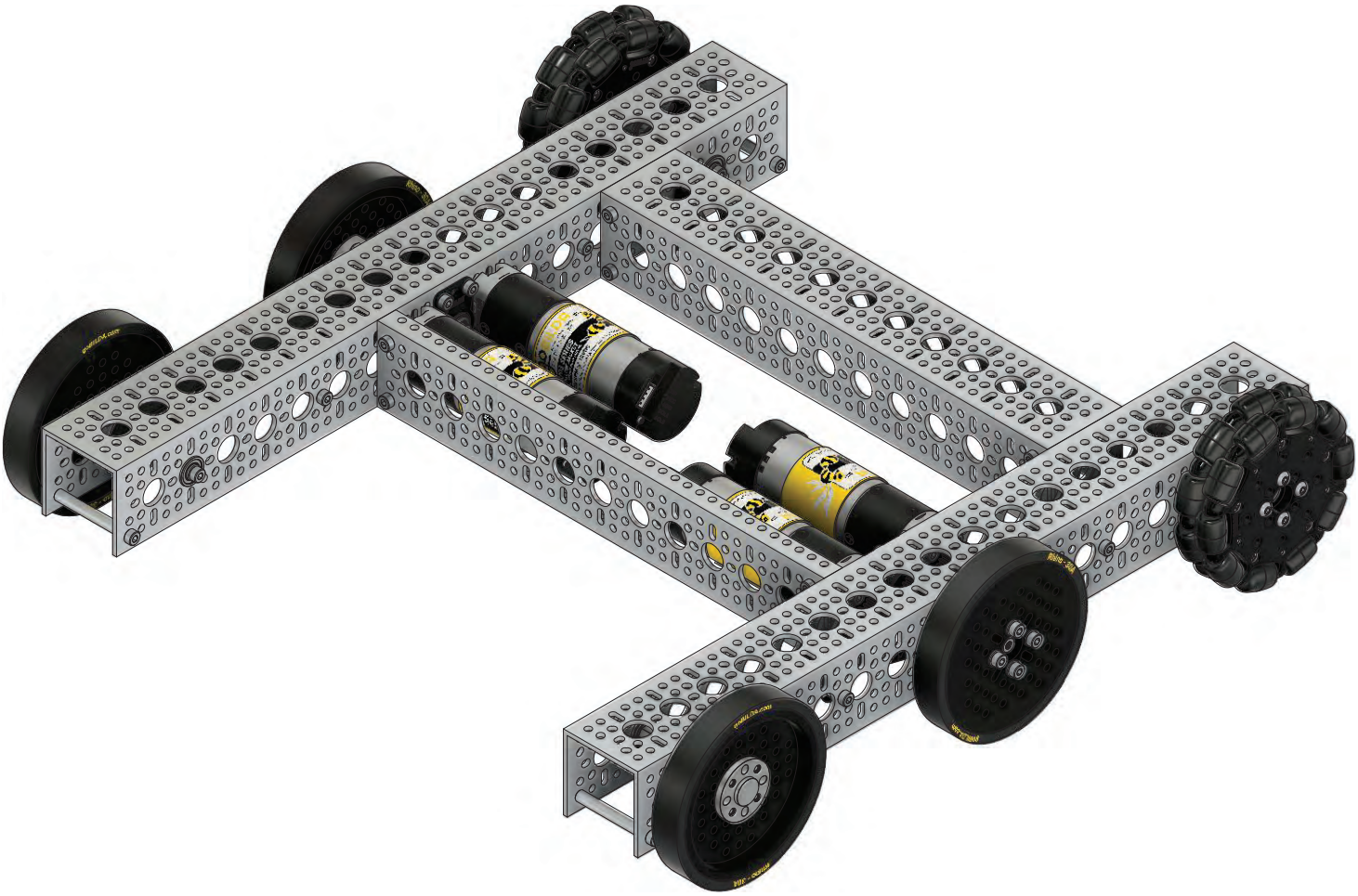
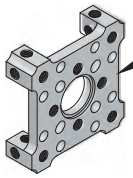
Assembly Instructions for

Beeline Chassis Kit V2

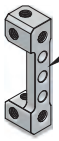
SKU: 3209-0002-0002



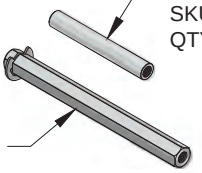
Kit Contents:



Quad Block Pattern Mount
SKU: 1201-0043-0002
QTY: 2



Dual Block Mount
SKU: 1205-0001-0005
QTY: 2 (1 Pack)



43mm Long Standoff
SKU: 1501-0006-0430
QTY: 8 (2 Packs)

8mm REX Shaft
SKU: 2106-4008-0800
QTY: 2

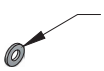
8mm Length Screw
SKU: 2800-0004-0008
QTY: 25 (1 Pack)

10mm Length Screw
SKU: 2800-0004-0010
QTY: 50 (2 Packs)

12mm Length Screw
SKU: 2800-0004-0012
QTY: 25 (1 Pack)

16mm Length Screw
SKU: 2800-0004-0016
QTY: 25 (1 Pack)

30mm Button Head Screw
SKU: 2802-0004-0030
QTY: 25 (1 Pack)



Washer
SKU: 2801-0004-0008
QTY: 25 (1 Pack)

Locknut
SKU: 2812-0004-0007
QTY: 25 (1 Pack)

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

11 Hole U-Channel
SKU: 1120-0011-0288
QTY: 1

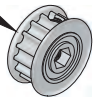
11 Hole Low-Side U-Channel
SKU: 1121-0011-0288
QTY: 1

Timing Belt Idler
SKU: 3413-0001-0001
QTY: 4 (2 Packs)

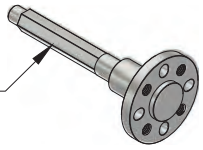
Sonic Hub
SKU: 1309-0016-4008
QTY: 2

8mm ID, 4mm Spacer
SKU: 1522-0010-0040
QTY: 4 (1 Pack)

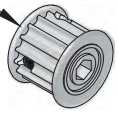
6mm ID Bearing
SKU: 1611-0514-0006
QTY: 4 (2 Packs)



Timing Belt Pulley
SKU: 3417-4008-0016
QTY: 4



Hub-Shaft
SKU: 2110-0608-0001
QTY: 4

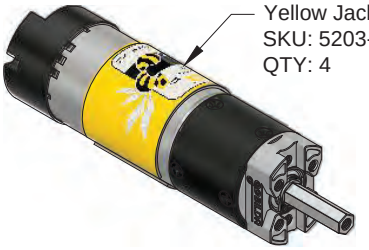


Dual Belt Pulley
SKU: 3424-4008-0016
QTY: 2

8mm ID Bearing
SKU: 1611-0514-0008
QTY: 4 (2 Packs)

8mm REX ID Bearing
SKU: 1611-0514-4008
QTY: 4 (2 Packs)

Drop-Center Plate
SKU: 1616-0016-0002
QTY: 4 (1 Pack)



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

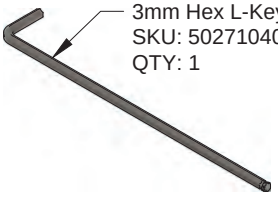
Timing Belt
SKU: 3412-0009-0420
QTY: 4

30T Pinion Gear
SKU: 2303-4008-0030
QTY: 6

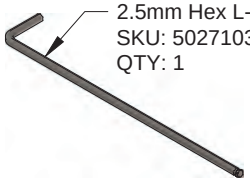
0.5mm Shim
SKU: 2807-0811-0500
QTY: 12 (1 Pack)

Rhino Wheel
SKU: 3619-0014-0096
QTY: 4

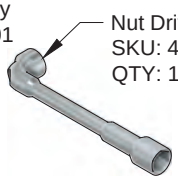
Omni Wheel
SKU: 3604-0014-0096
QTY: 4



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



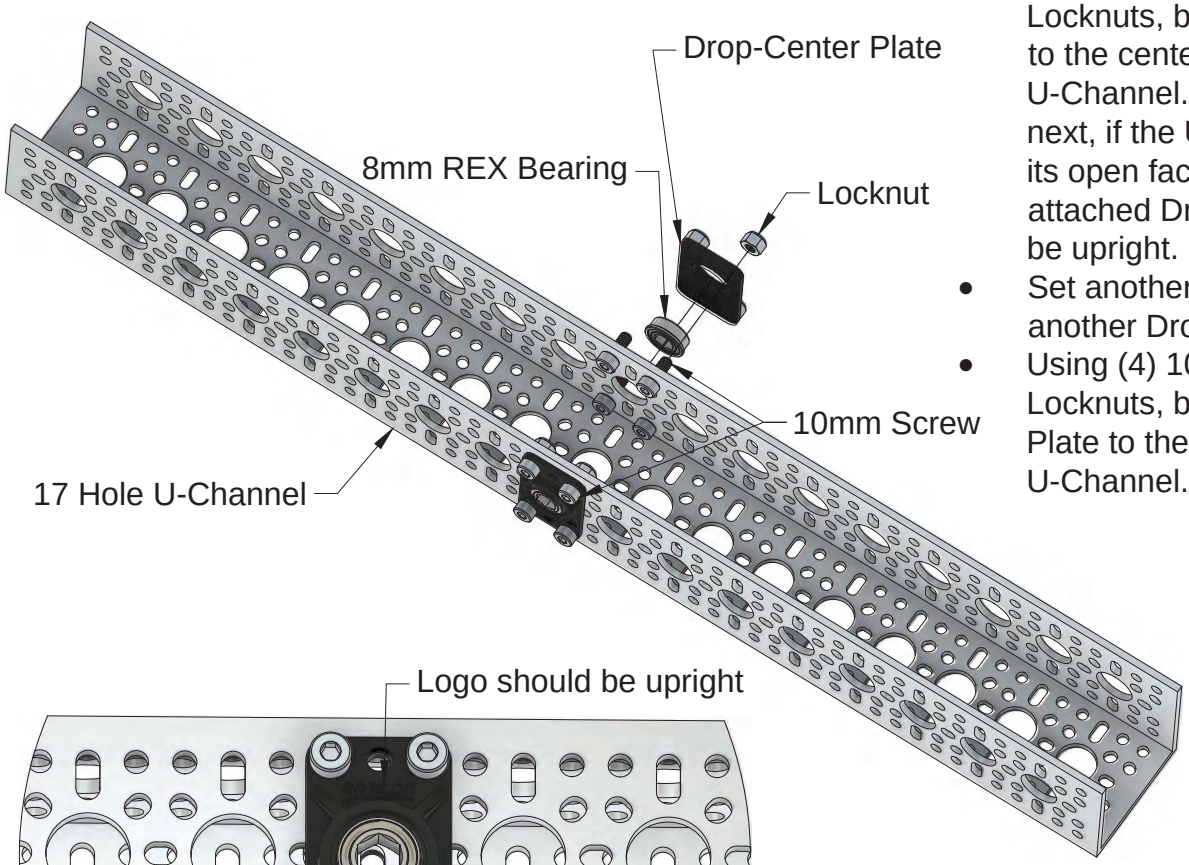
2.5mm Hex L-Key
SKU: 5027103001
QTY: 1

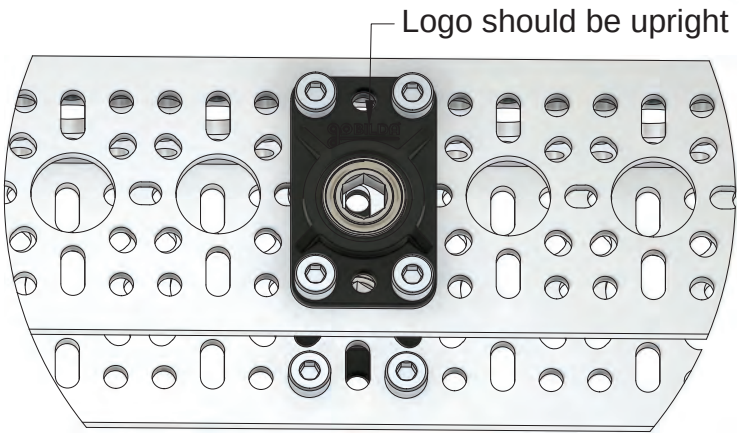


Nut Driver
SKU: 4206-0070-0001
QTY: 1

Step 1

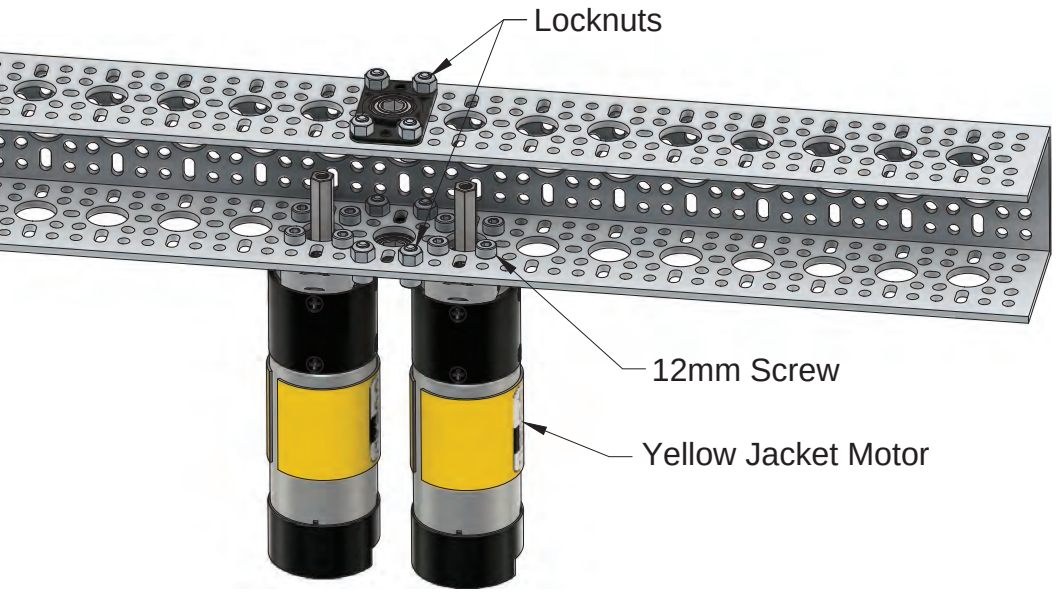
- Set an 8mm REX Bearing into a Drop-Center Plate, with the bearing flange on the flat side of the plate.
- Using (4) 10mm Screws and (4) Locknuts, bolt a Drop Center Plate to the center hole of a 17 Hole U-Channel. In this step and the next, if the U-Channel is held with its open face down, the logo on the attached Drop Center Plate should be upright.
- Set another 8mm REX Bearing into another Drop-Center Plate.
- Using (4) 10mm Screws and (4) Locknuts, bolt another Drop-Center Plate to the opposing side of the U-Channel.

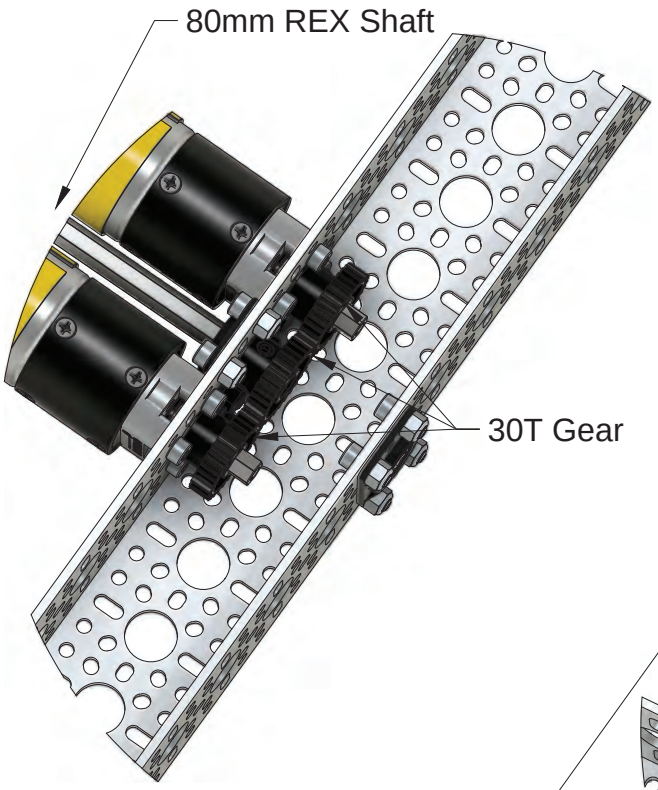




Step 2

- Using (8) 12mm Screws, bolt two motors into the 17 Hole U-Channel on holes adjacent to the center, right beside where you installed a Drop-Center bracket.
- Taking note of the orientation of the screws in the Drop-Center Plates, install your motors on the side with Locknuts on the inside of the channel, and screws on the outside.



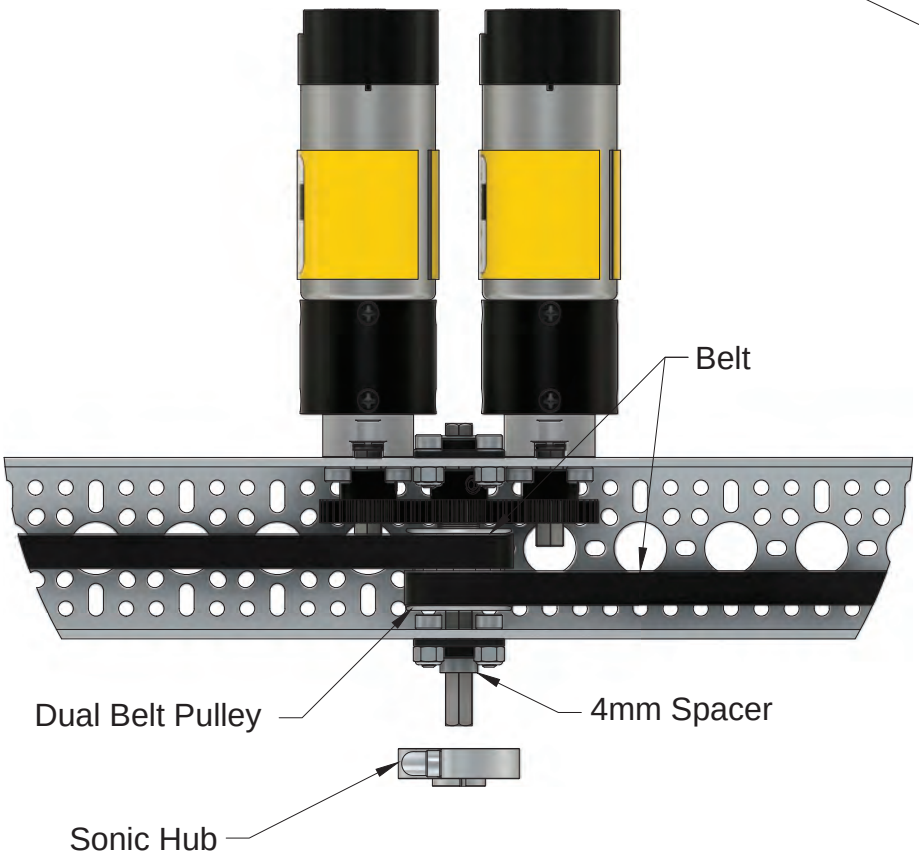


Step 3a

- Slide an 8mm REX Shaft through the bearing in the Drop-Center Plate.
- Slide it partially into the channel and install a 30T gear on the shaft. Leave the set-screws loose.
- Install a 30T gear on each motor shaft, making sure the gear teeth mesh with the central gear.

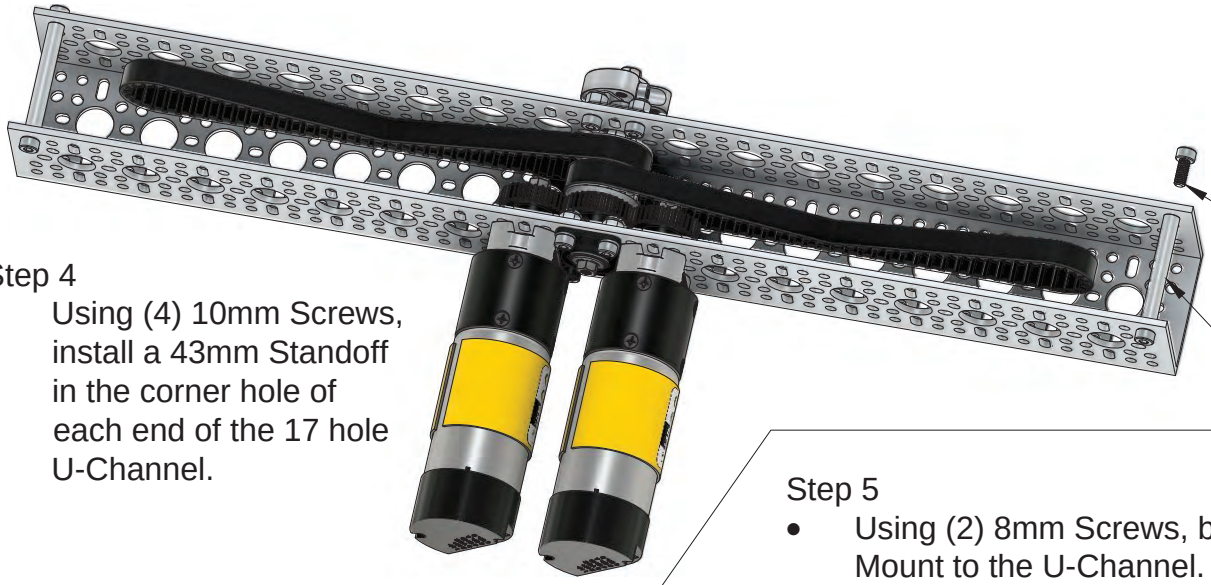
Step 3b

- Slide the REX Shaft through the assembly further and slide a 0.5mm shim, and a 1mm shim onto the shaft.



Step 3c

- Install an 8mm REX Dual Belt Pulley on the shaft, in addition to two belts.
- Slide the shaft through the pulley, and through the bearing in the Drop-Center Plate. Slide the shaft until the E-Clip rests against the bearing between the two motors.
- Install a 4mm Spacer, and a Sonic Hub onto the shaft and tighten the pinch bolts on the Sonic Hub.
- Move all 3 pinion gears slightly away from the channel wall, and tighten their set screws.
- Slide the pulley towards the gear until it bottoms out against the shims and tighten the set screws.

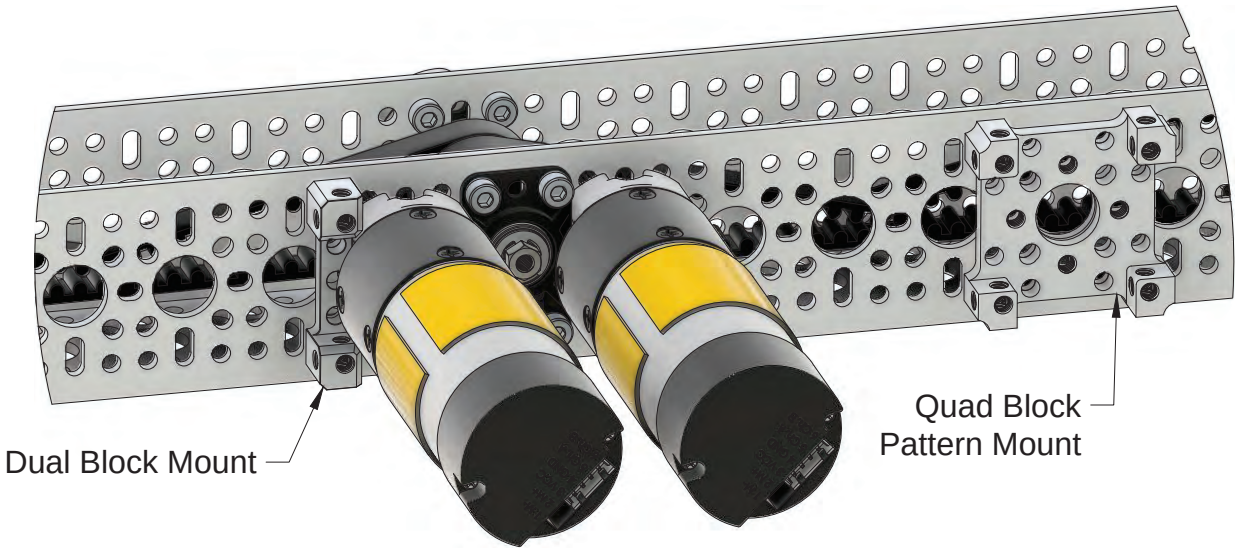


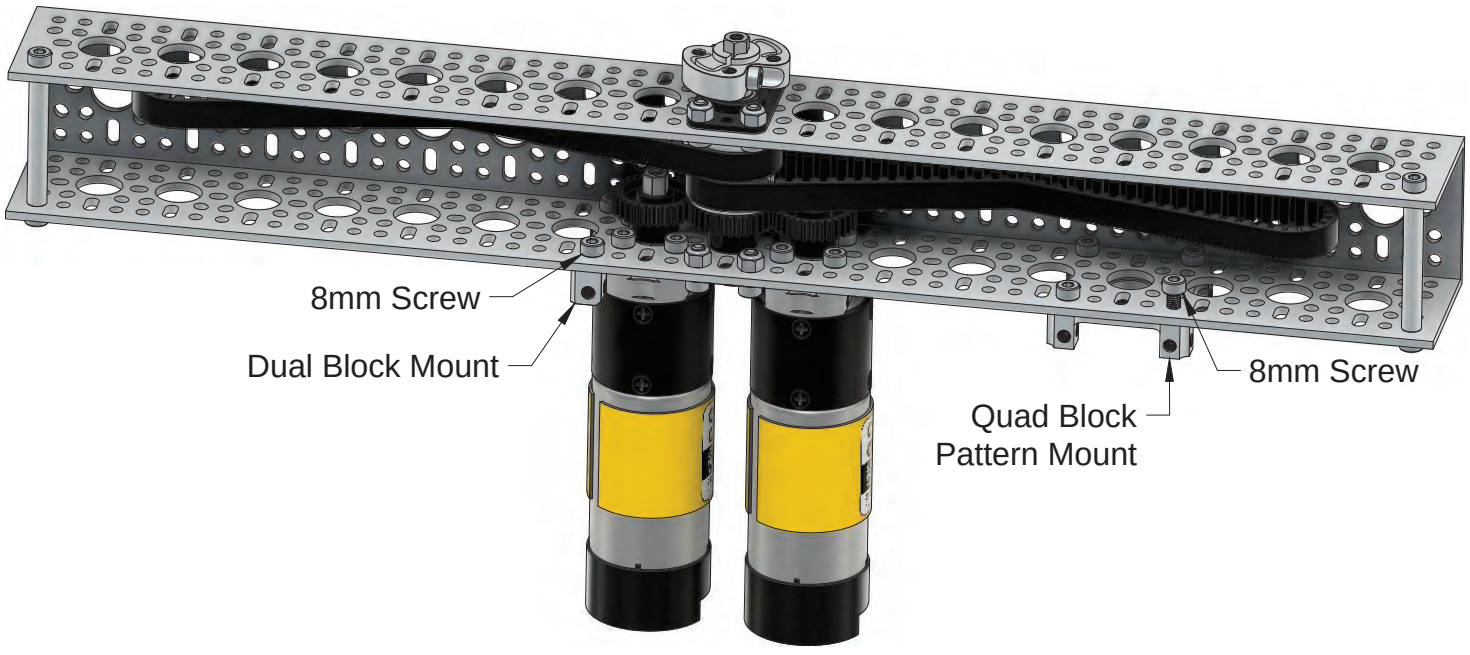
Step 4

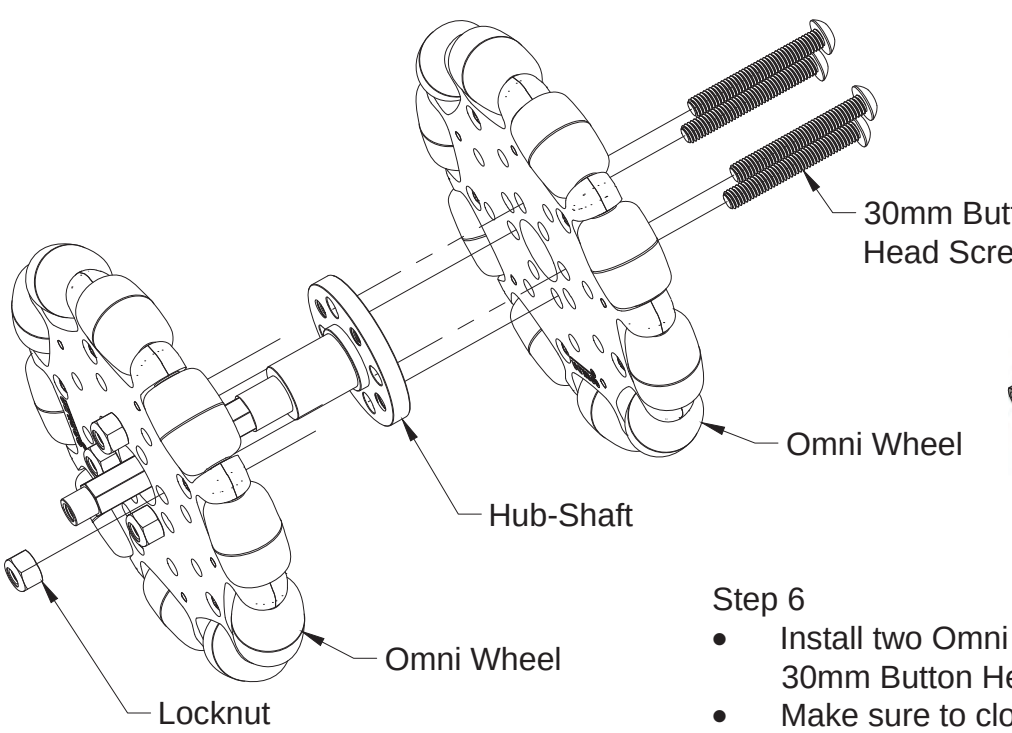
- Using (4) 10mm Screws, install a 43mm Standoff in the corner hole of each end of the 17 hole U-Channel.

Step 5

- Using (2) 8mm Screws, bolt a Dual Block Mount to the U-Channel. Take note of the orientation below.
- Using (4) 8mm Screws, bolt a Quad Block Pattern Mount onto the 17 Hole U-Channel.





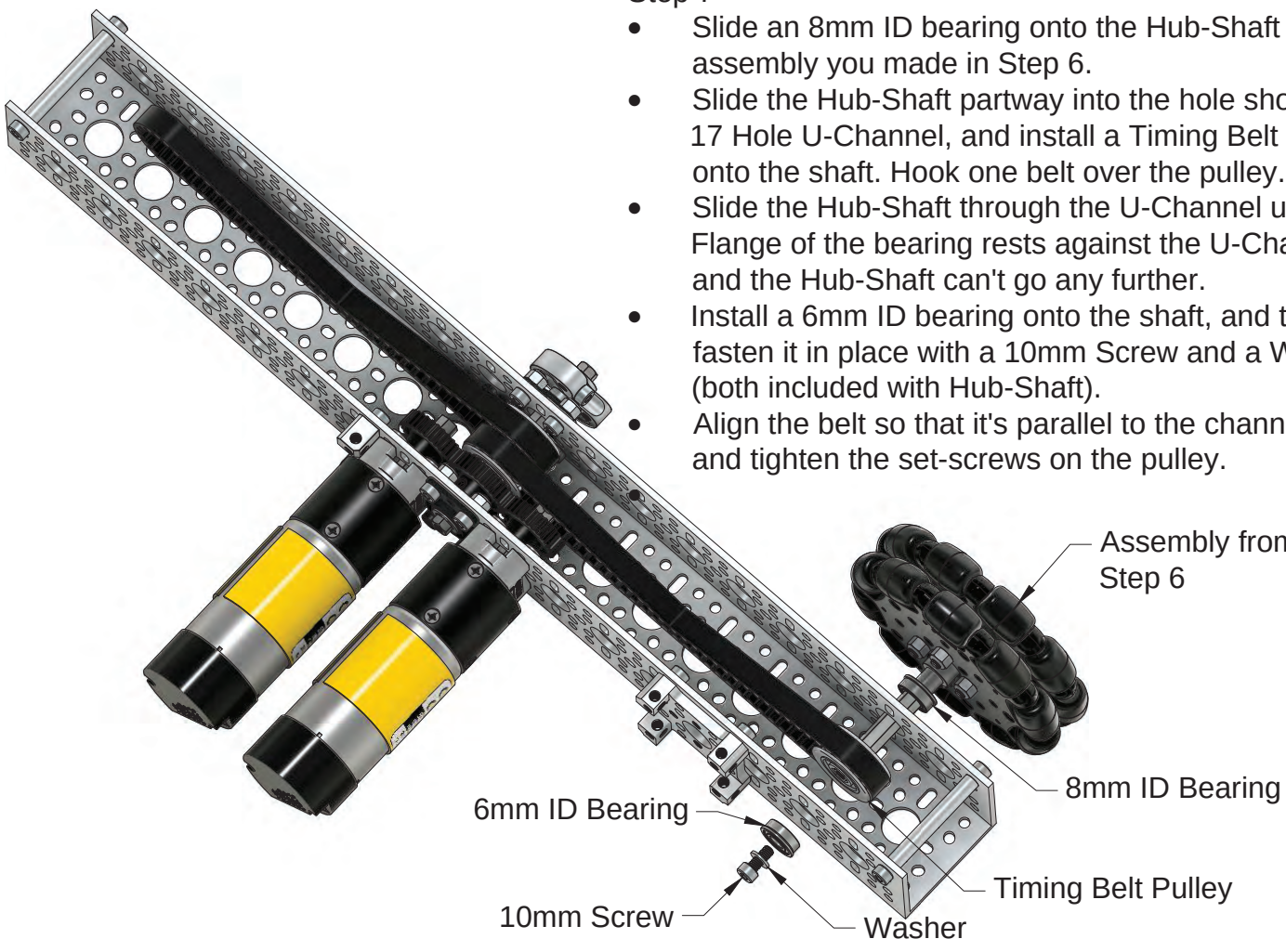


Step 6

- Install two Omni Wheels onto a Hub-Shaft using (4) 30mm Button Head Screws and (4) Locknuts.
- Make sure to clock the wheels so that the rollers are offset from each other and together create a smooth outer diameter.

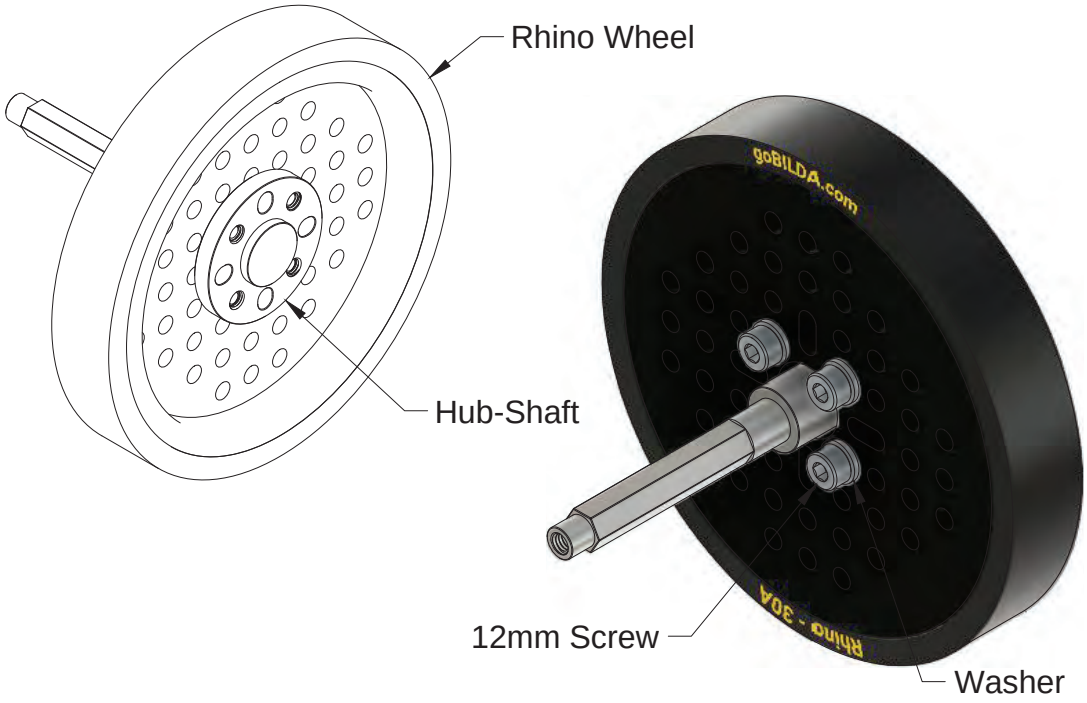
Step 7

- Slide an 8mm ID bearing onto the Hub-Shaft of the assembly you made in Step 6.
- Slide the Hub-Shaft partway into the hole shown in the 17 Hole U-Channel, and install a Timing Belt Pulley onto the shaft. Hook one belt over the pulley.
- Slide the Hub-Shaft through the U-Channel until the Flange of the bearing rests against the U-Channel wall, and the Hub-Shaft can't go any further.
- Install a 6mm ID bearing onto the shaft, and then fasten it in place with a 10mm Screw and a Washer (both included with Hub-Shaft).
- Align the belt so that it's parallel to the channel wall, and tighten the set-screws on the pulley.



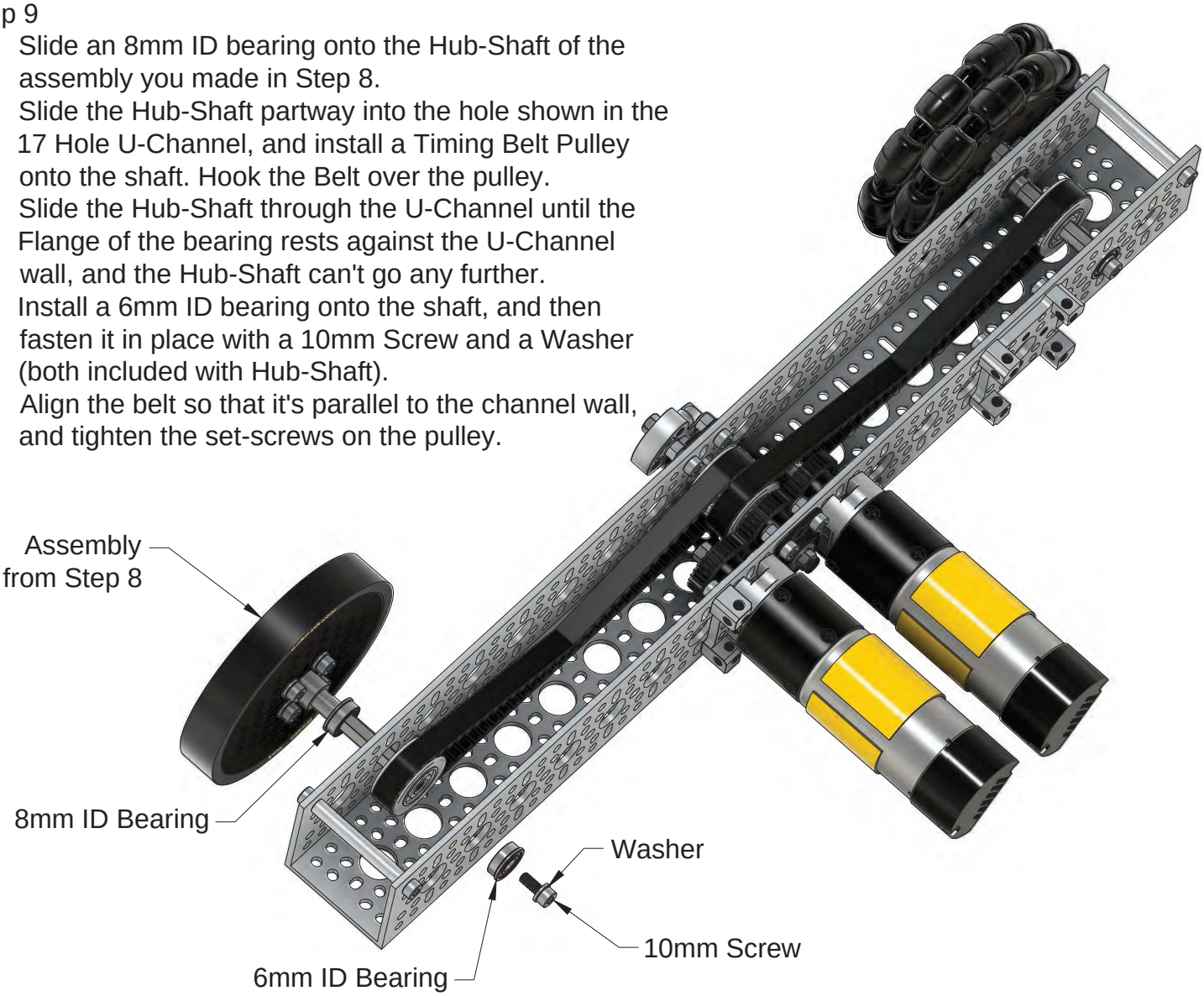
Step 8

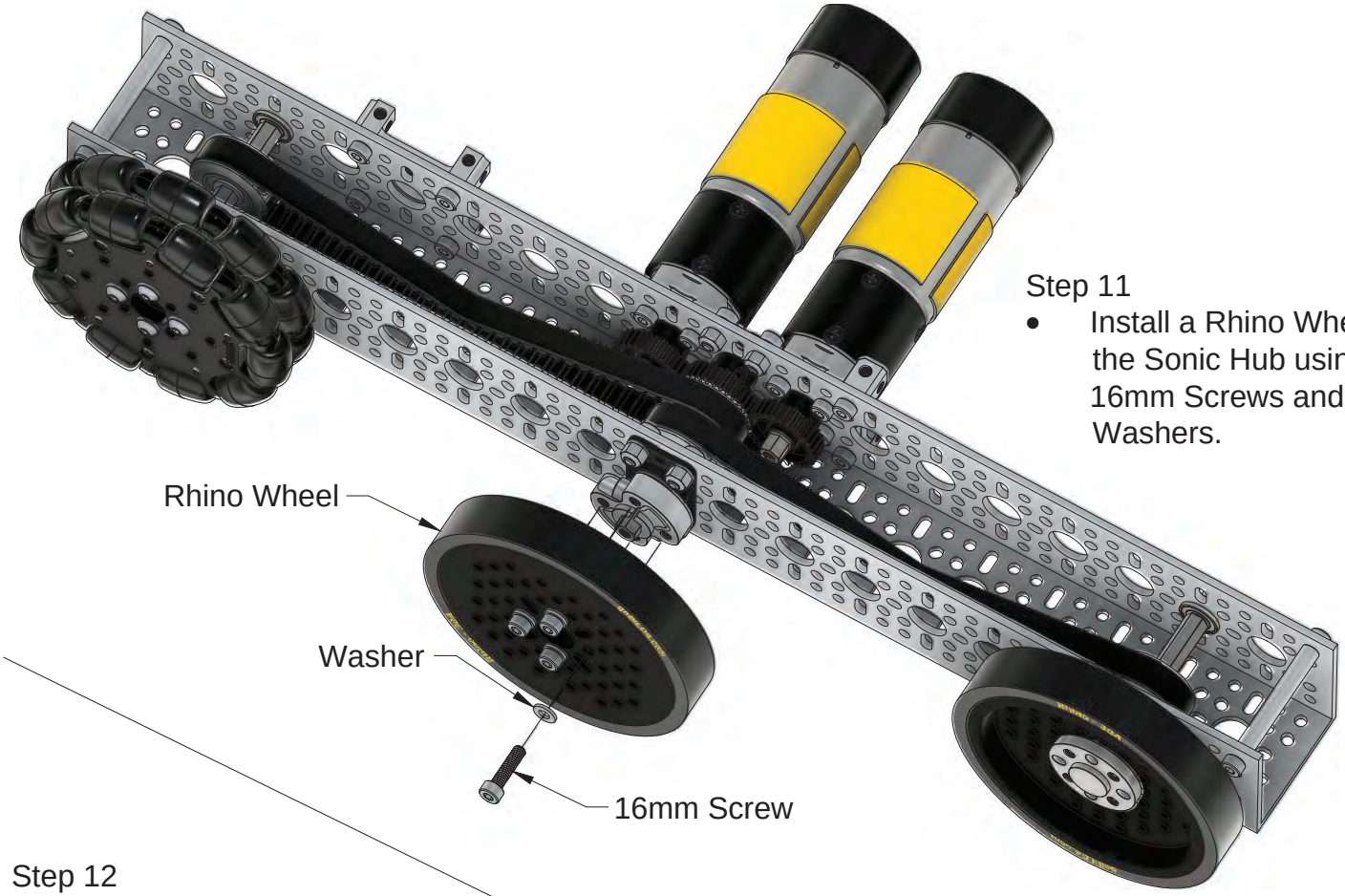
- Using (4) 12mm Screws and (4) Washers, bolt a Rhino Wheel to a Hub-Shaft.



Step 9

- Slide an 8mm ID bearing onto the Hub-Shaft of the assembly you made in Step 8.
- Slide the Hub-Shaft partway into the hole shown in the 17 Hole U-Channel, and install a Timing Belt Pulley onto the shaft. Hook the Belt over the pulley.
- Slide the Hub-Shaft through the U-Channel until the Flange of the bearing rests against the U-Channel wall, and the Hub-Shaft can't go any further.
- Install a 6mm ID bearing onto the shaft, and then fasten it in place with a 10mm Screw and a Washer (both included with Hub-Shaft).
- Align the belt so that it's parallel to the channel wall, and tighten the set-screws on the pulley.



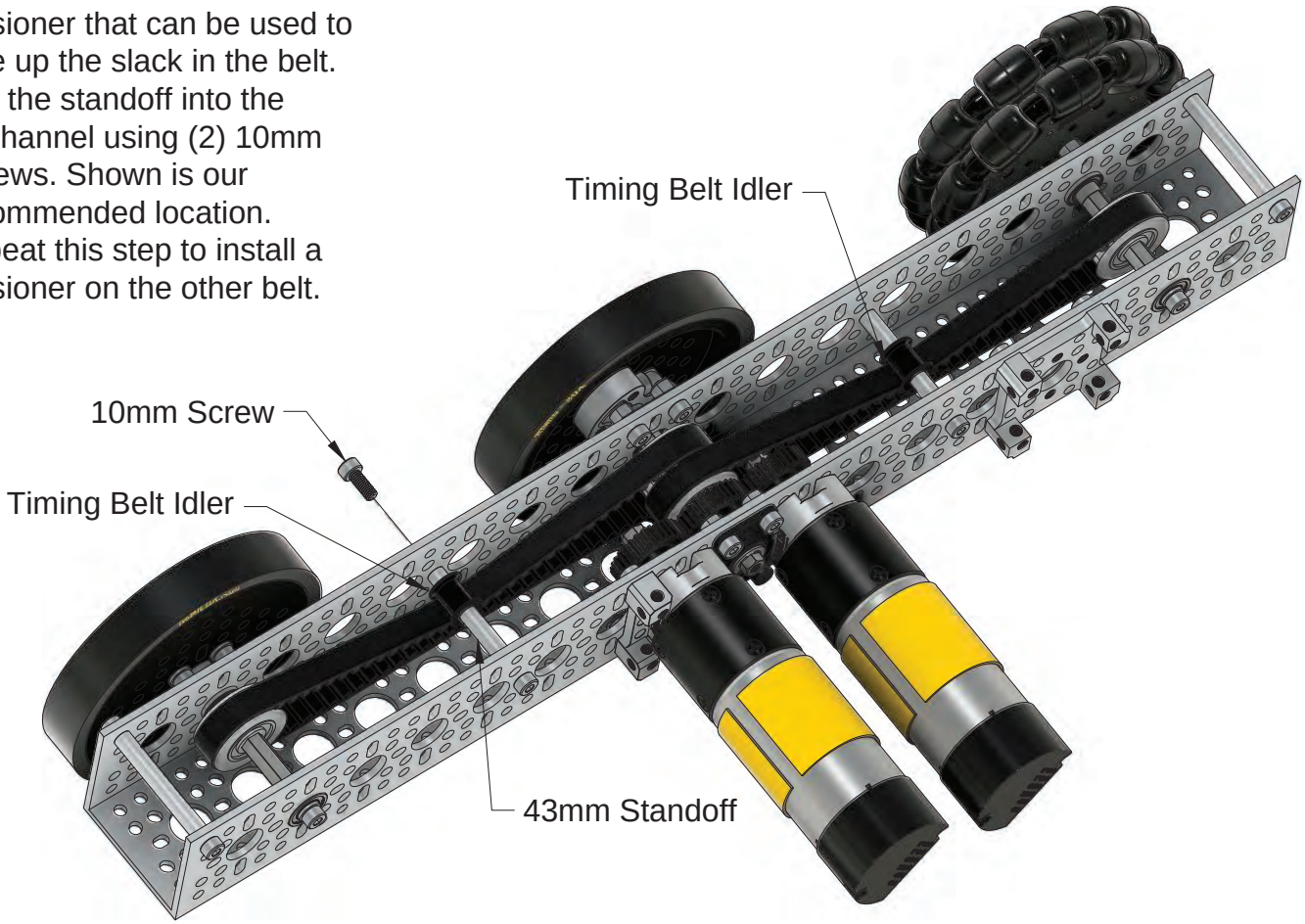


Step 11

- Install a Rhino Wheel onto the Sonic Hub using (4) 16mm Screws and (4) Washers.

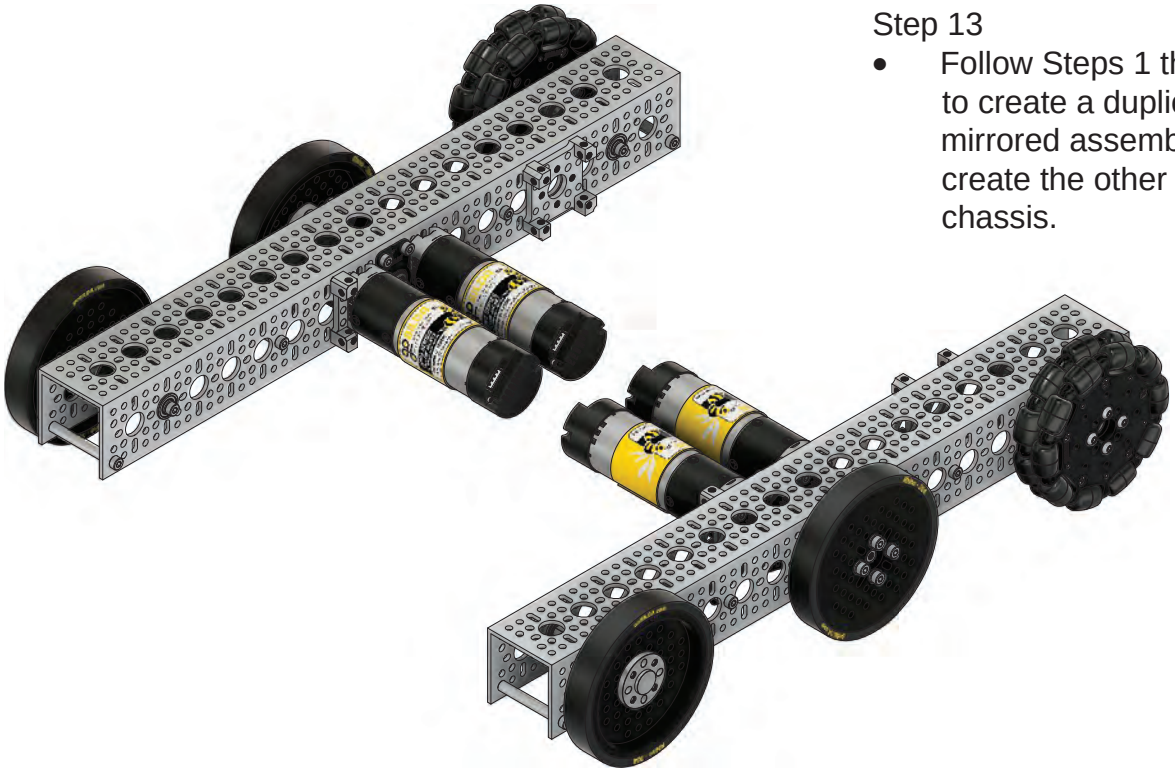
Step 12

- Slide a Timing Belt Idler over a 43mm Standoff. This creates a tensioner that can be used to take up the slack in the belt.
- Bolt the standoff into the U-Channel using (2) 10mm Screws. Shown is our recommended location.
- Repeat this step to install a tensioner on the other belt.



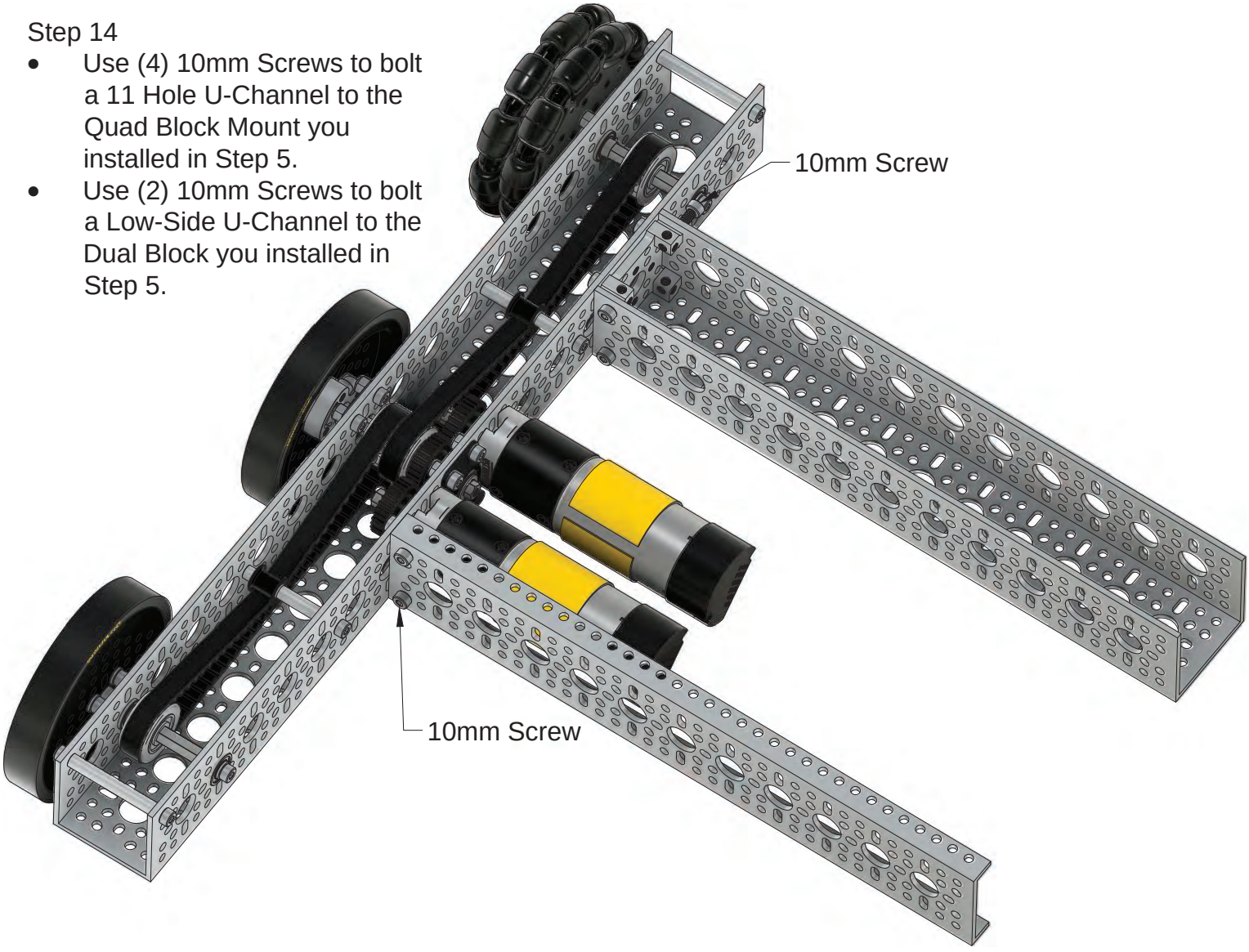
Step 13

- Follow Steps 1 through 12 to create a duplicate, but mirrored assembly. This will create the other half of the chassis.



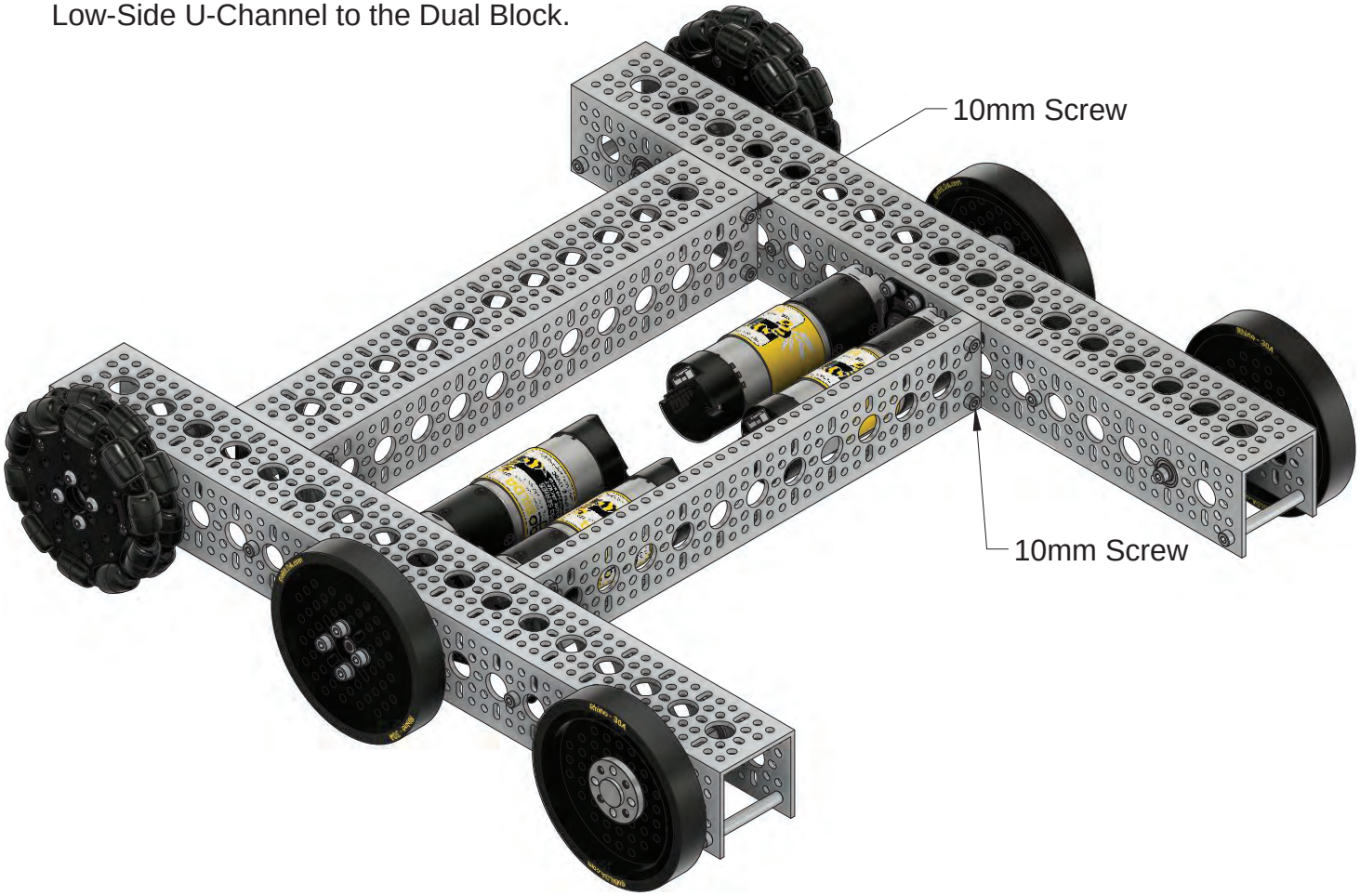
Step 14

- Use (4) 10mm Screws to bolt a 11 Hole U-Channel to the Quad Block Mount you installed in Step 5.
- Use (2) 10mm Screws to bolt a Low-Side U-Channel to the Dual Block you installed in Step 5.



Step 15

- Use (4) 10mm Screws to bolt the 11 Hole U-Channel to the Quad Block installed on the other side of the chassis, to bolt your chassis together.
- Use (2) 10mm Screws to bolt the 11 Hole Low-Side U-Channel to the Dual Block.



Congratulations! Your chassis is fully assembled.