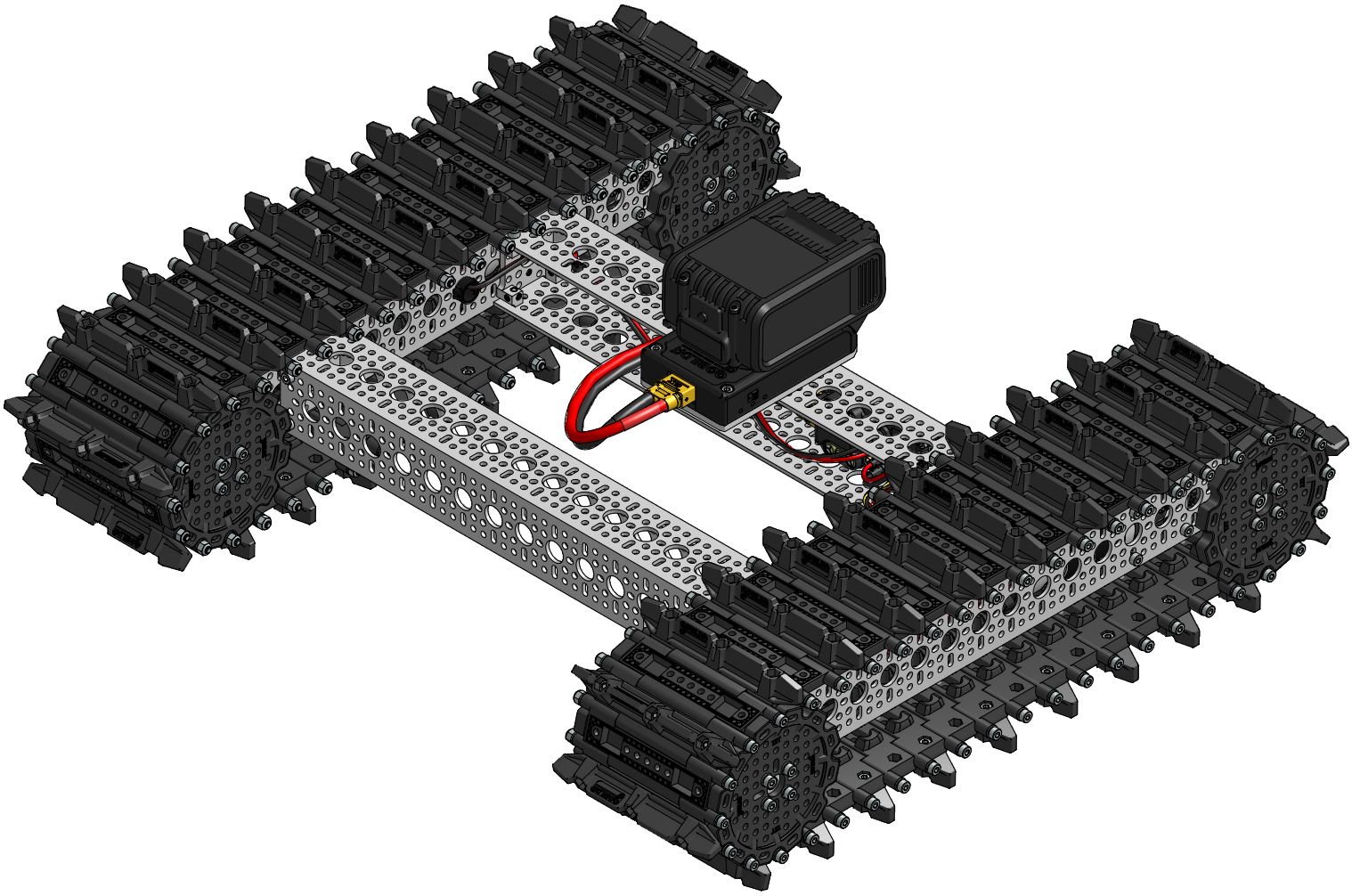
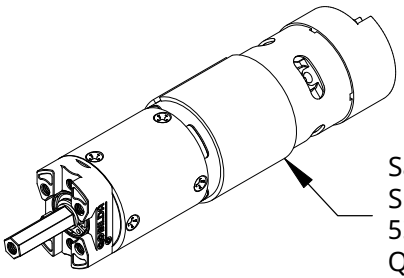
Assembly Instructions for
Bravo RC Tank Chassis
SKUs: 3209-0008-0004
and 3209-0008-0005

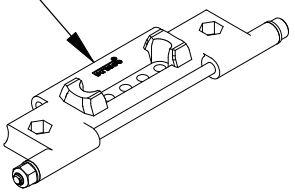


Kit Contents:

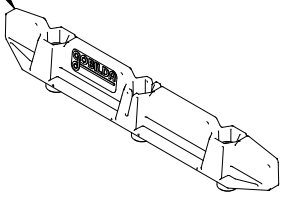


Saturn Planetary Gear Motor
SKU: 5303-2402-0051 or
5303-2402-0100
QTY: 2

Grid-Track
SKU: 2400-0112-0002
QTY: 90 (15 Packs)



terraGROUSER
SKU: 2400-0112-0002
QTY: 48 (8 Packs)



Bravo Bare-Bones Chassis Kit

3mm Length Spacer
SKU: 1522-0010-0030
QTY: 4 (1 Pack)

4mm Length Spacer
SKU: 1522-0010-0040
QTY: 4 (1 Pack)

6mm Length Spacer
SKU: 1514-0010-0060
QTY: 4 (1 Pack)

7mm Length Spacer
SKU: 1522-0010-0070
QTY: 4 (1 Pack)

8mm REX Bearing
SKU: 1611-0514-4008
QTY: 10 (5 Packs)

Clamping Mount
SKU: 1401-0043-0036
QTY: 2

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

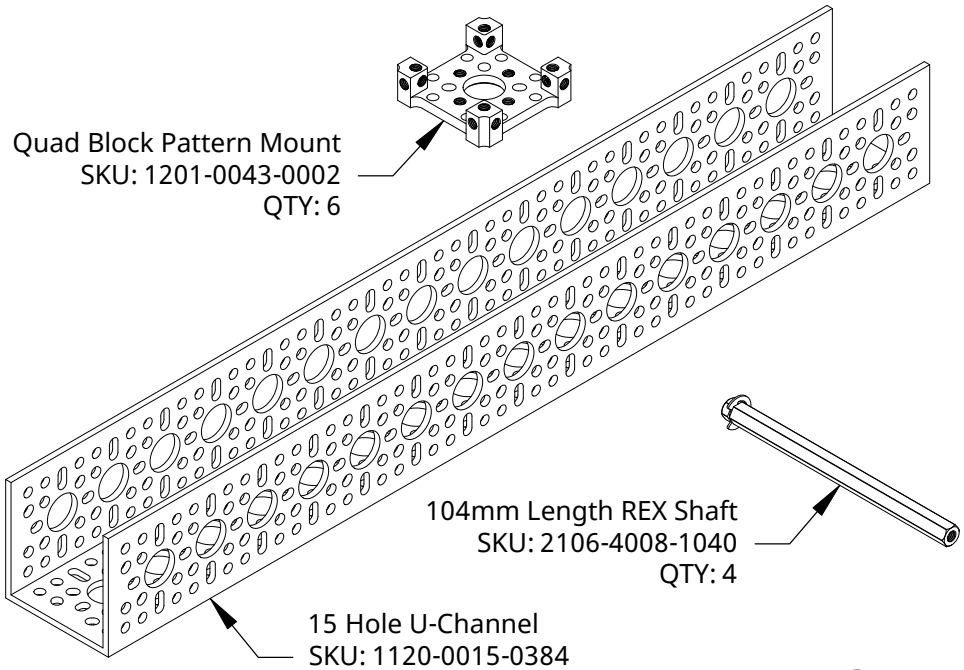
11mm Length Screw
SKU: 2800-0004-0011
QTY: 50 (2 Packs)

14mm Length Screw
SKU: 2800-0004-0014
QTY: 50 (2 Packs)

Washer
SKU: 2801-0004-0008
QTY: 50 (2 Packs)

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

Quad Block Pattern Mount
SKU: 1201-0043-0002
QTY: 6



104mm Length REX Shaft
SKU: 2106-4008-1040
QTY: 4

15 Hole U-Channel
SKU: 1120-0015-0384
QTY: 4

Miter Gear
SKU: 2315-4008-0030
QTY: 4

Hyper Hub
SKU: 1310-0016-4008
QTY: 8

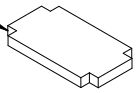
Track Sprocket
SKU: 2401-0014-0012
QTY: 8

Plastic Grommet
SKU: 2911-0014-0001
QTY: 12 (1 Pack)

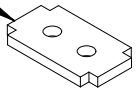
Long Tensioner Kit for 2400 Series Tracks x2

11mm Length Screw
SKU: 2800-0004-0011
QTY: 25 (1 Pack)

Tensioner Back Plate
SKU: 1131-0004-0013
QTY: 4

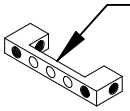


Tensioner Front Plate
SKU: 1131-0004-0012
QTY: 4



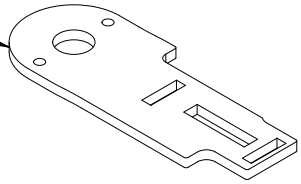
38mm Length Standoffs
SKU: 1501-0006-0380
QTY: 4 (1 Pack)

Dual Block Mount
SKU: 1205-0001-0003
QTY: 2 (1 Pack)



43mm Length Standoffs
SKU: 1501-0006-0430
QTY: 8 (2 Packs)

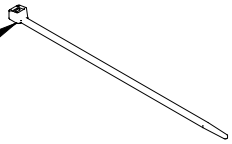
Tensioner Side Plate
SKU: 1131-0004-0011
QTY: 2



Spring
SKU: 2916-0001-0003
QTY: 4 (1 Pack)

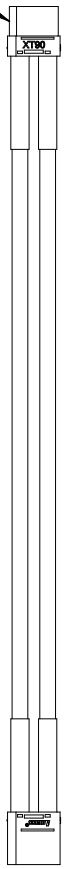
20V Radio Control Bundle

Zip Tie
SKU: 2909-0101-0100
QTY: 100 (1 Pack)



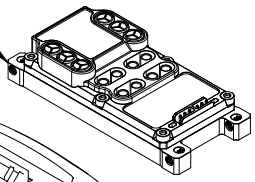
12mm Length Screw
SKU: 2800-0004-0012
QTY: 25 (1 Pack)

XT90 Extension
SKU: 3802-4041-0300
QTY: 1



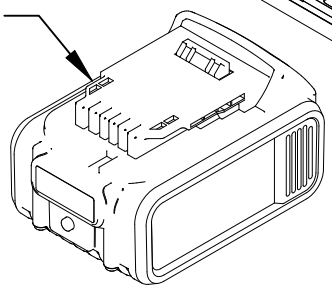
14mm Length Screw
SKU: 2800-0004-0014
QTY: 25 (1 Pack)

2x40 ESC
SKU: 3105-0201-0040
QTY: 1

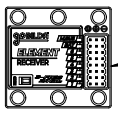


Locknut
SKU: 2812-0004-0007
QTY: 25 (1 Pack)

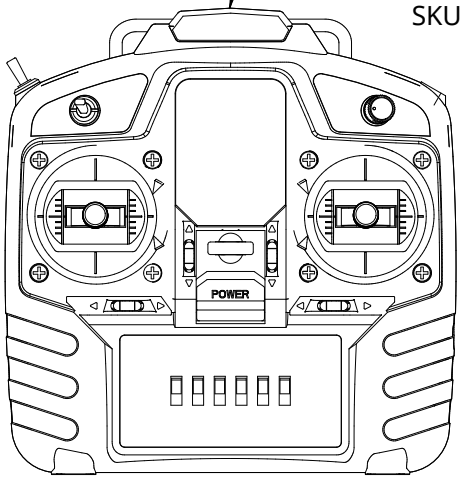
20V Li-ion Battery
SKU: 3100-1020-0001
QTY: 1

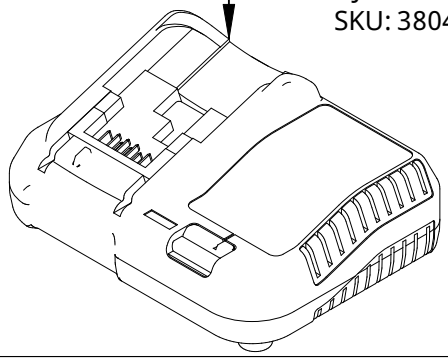


Element-6 Transmitter & Receiver
SKU: 3113-2006-0001
QTY: 1

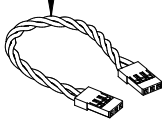


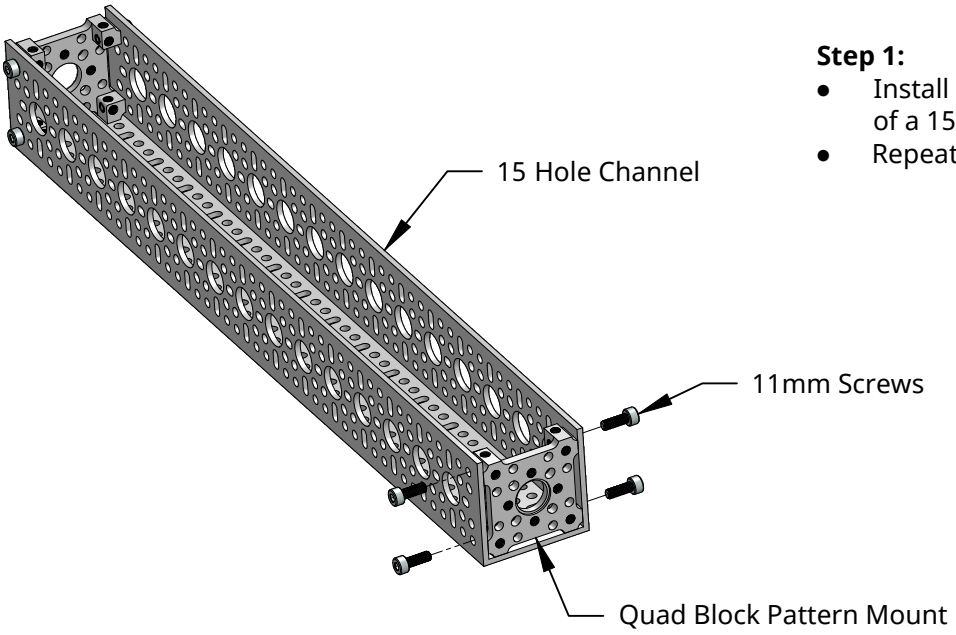
Battery Charger
SKU: 3101-1020-0001
QTY: 1





TJC8 Servo Extension
SKU: 3804-1717-0100
QTY: 2





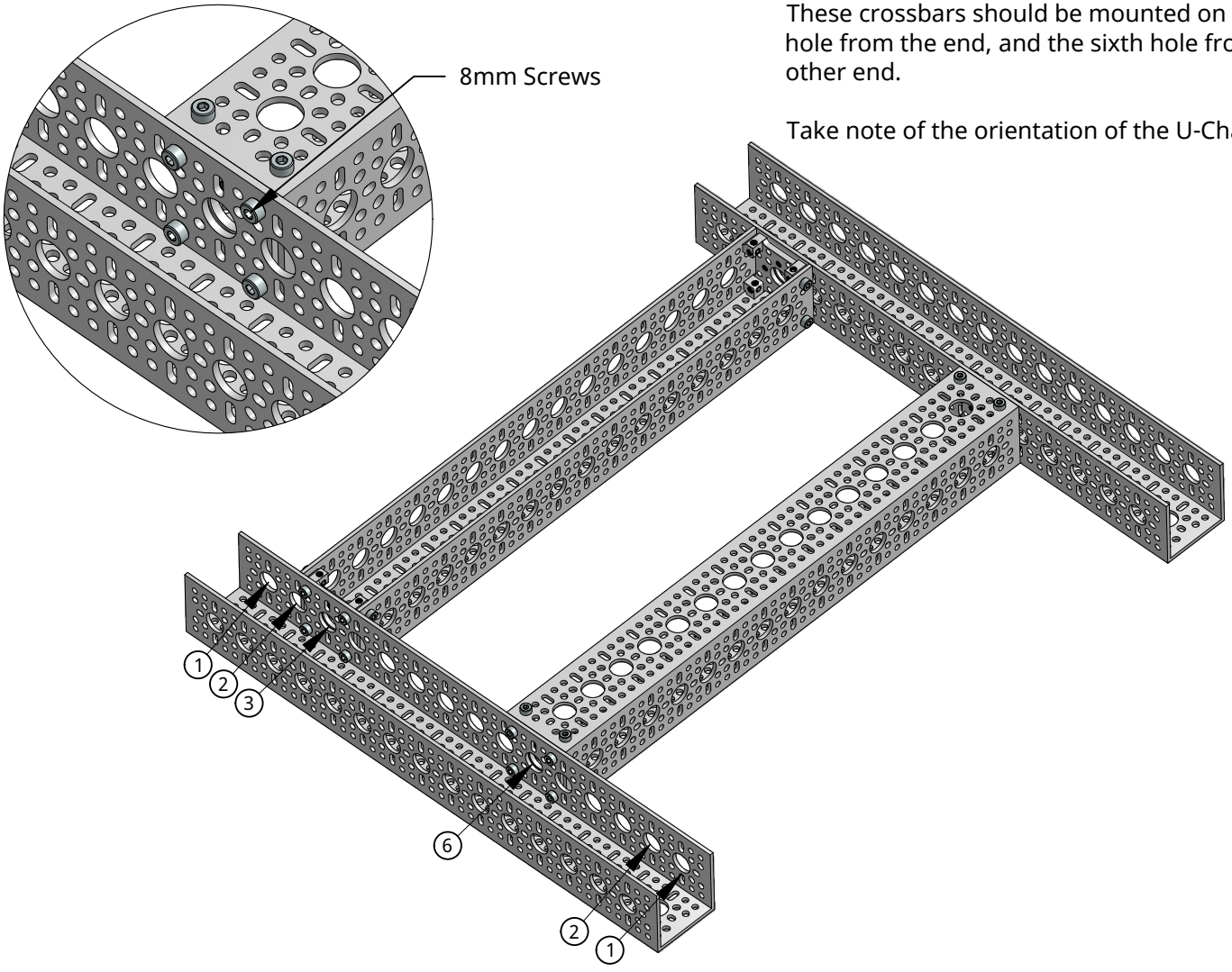
Step 1:

- Install a Quad Block Pattern Mount in each end of a 15 Hole U-Channel using 11mm Screws.
- Repeat this step to create two identical crossbars.

Step 2

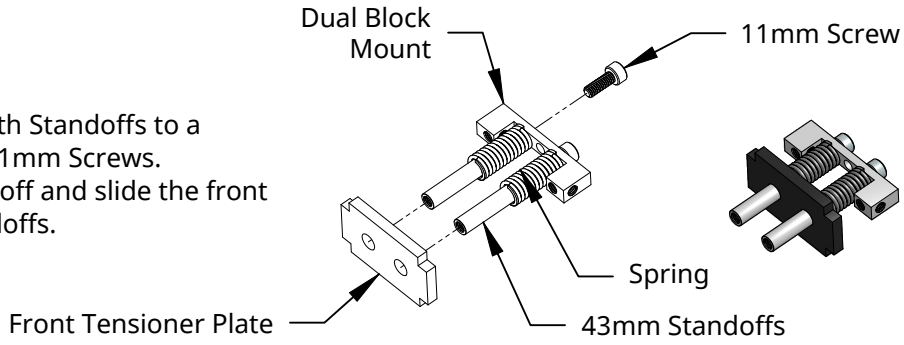
Attach the crossbars you made in Step 1 to two 15 Hole U-Channels using 8mm Screws. These crossbars should be mounted on the third hole from the end, and the sixth hole from the other end.

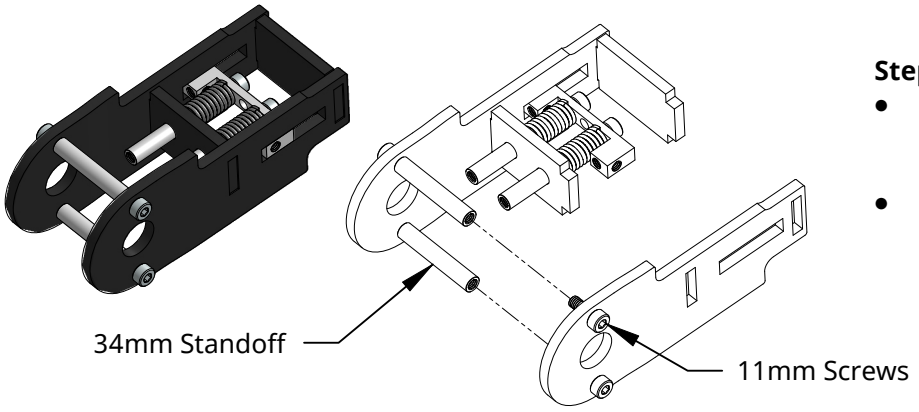
Take note of the orientation of the U-Channels.



Step 3a

- Fasten two of the 43mm Length Standoffs to a Dual Block Mount using two 11mm Screws.
- Slide a spring over each standoff and slide the front tensioner plate over the standoffs.



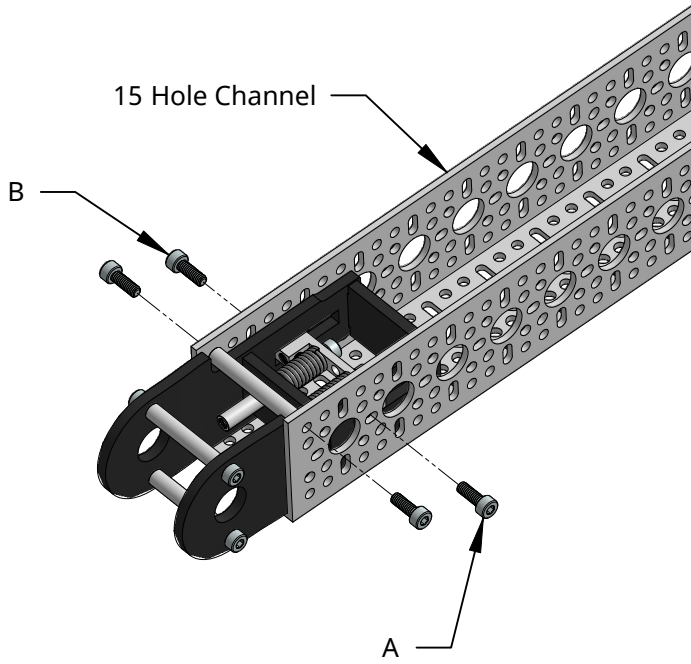


Step 3b

- Insert the assembly from Step 3a (along with the back tensioner plate) into one of the side plates.
- Using two 34mm length standoffs and four 11mm Screws, fasten the second side plate to the opposing side (sandwiching it all together) to create one track tensioner.

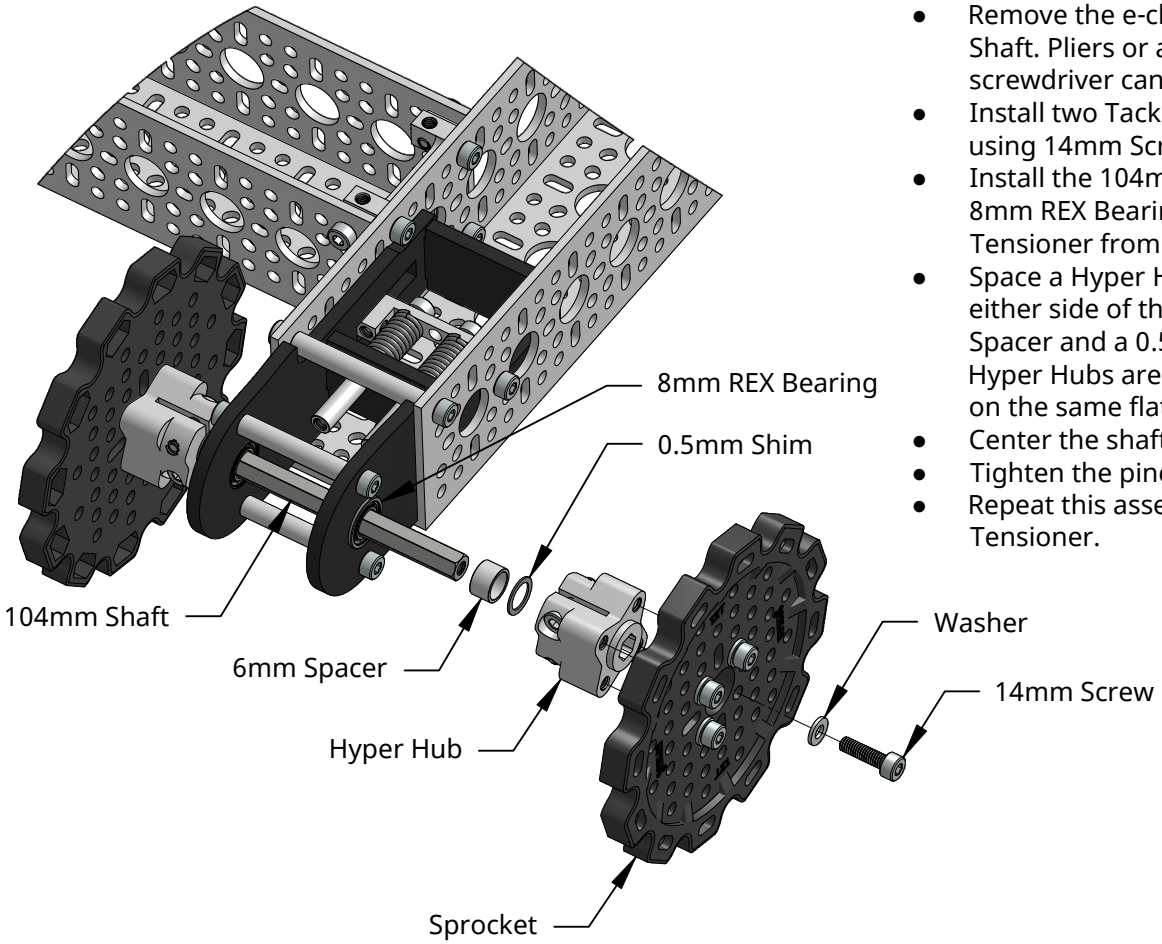
Step 3c

- Insert the assembly from Step 3b into the end of a 15 Hole Channel. Note the orientation.
- Thread two 11mm Screws into the Dual Block Mount. Screws "A" and "B" each go into a slot. Ensure they are slid to the back of the slot (away from the near end).
- Add a 43mm length standoff in the top corner of the channel with two more 11mm screws.
- Repeat steps 3a-3c to create a second tensioner and install it in the other 15 Hole Channel.

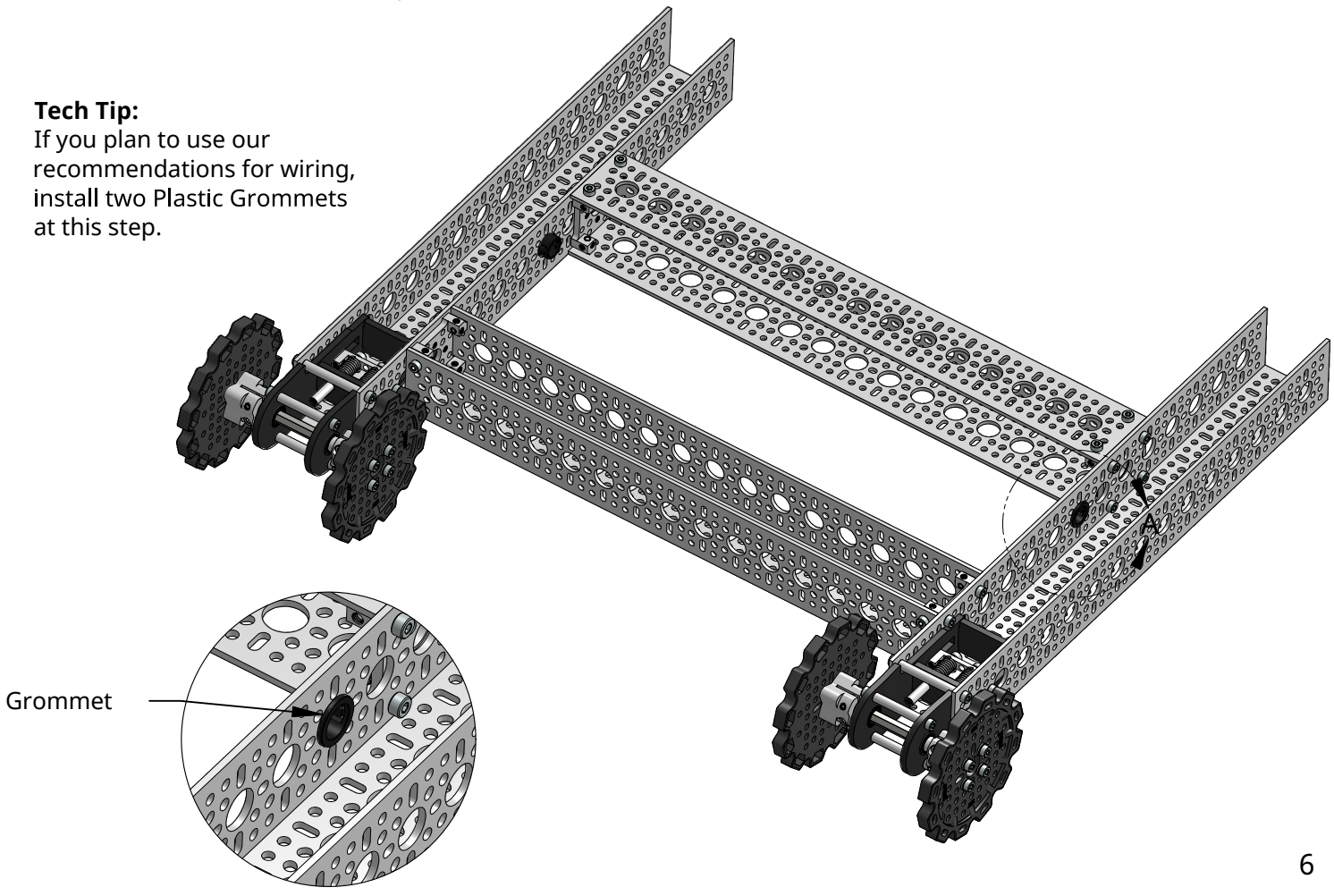


Step 4

- Remove the e-clip from a 104mm 8mm REX Shaft. Pliers or a small flat-head screwdriver can make this easier.
- Install two Tack Sprockets onto Hyper Hubs using 14mm Screws and Washers.
- Install the 104mm Shaft supported by two 8mm REX Bearings into the holes on the Tensioner from the outside.
- Space a Hyper Hub off from the bearing on either side of the Tensioner using a 6mm Spacer and a 0.5mm Shim. Make sure the Hyper Hubs are clocked so that the slots are on the same flat of the 8mm REX Shaft.
- Center the shaft between the two hubs.
- Tighten the pinch bolts on the Hyper Hubs.
- Repeat this assembly on the other Tensioner.



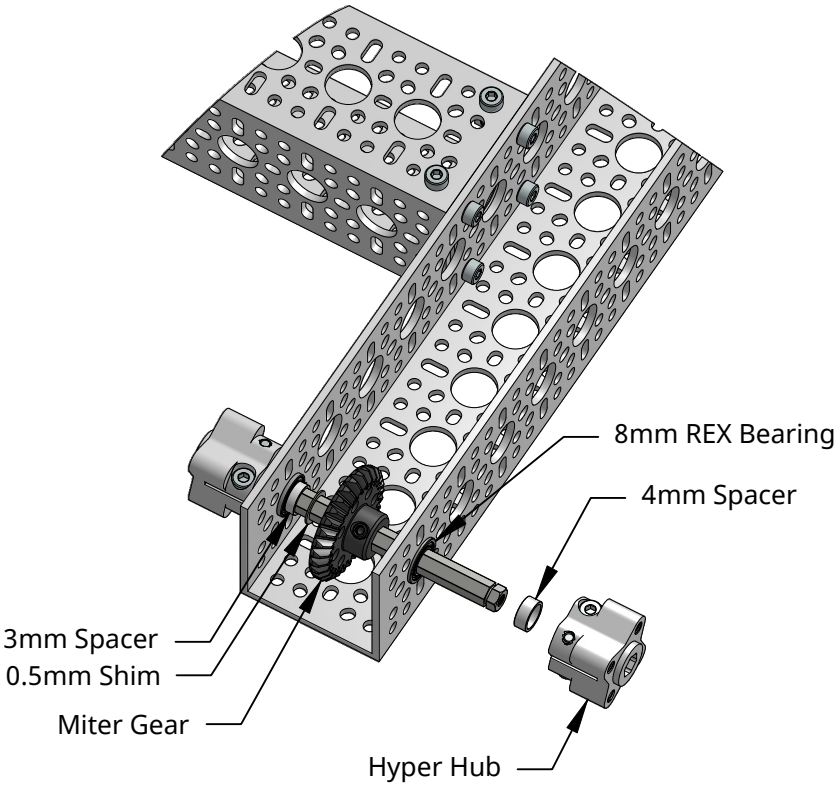
Tech Tip:
If you plan to use our recommendations for wiring, install two Plastic Grommets at this step.



Step 5

- Remove the e-clip from an 8mm REX Shaft.
- Clamp one Hyper Hub onto the end of the shaft, then slide a 4mm Spacer and an 8mm REX Bearing onto the shaft. Make sure the bearing flange is towards the hub. (Figure A)
- Slide this assembly into the open hole on the end of the 15 Hole Channel opposite where you installed the tensioner. Inside the channel, slide a 3mm Spacer, a 0.5mm Shim, and a Miter Gear onto the shaft. (Figure B)
- Slide the shaft through the channel until the Hyper Hub and spacer bottoms out aginst the bearing.
- Install an 8mm REX Bearing in the channel, so that the bearing protrudes into the hole in the channel and the flange rests against the outside.
- Slide a 4mm Spacer and a Hyper Hub on the shaft and tighten the pinch bolts on the Hyper Hub.
- Slide the Miter Gear so that the Miter Gear and shim/spacer bottom- out against the bearing. Then tighten the set screws on the Miter Gear.
- Repeat this step on the last open end of the 15 Hole Channel.

Figure B



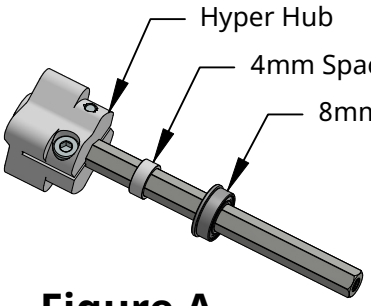


Figure A

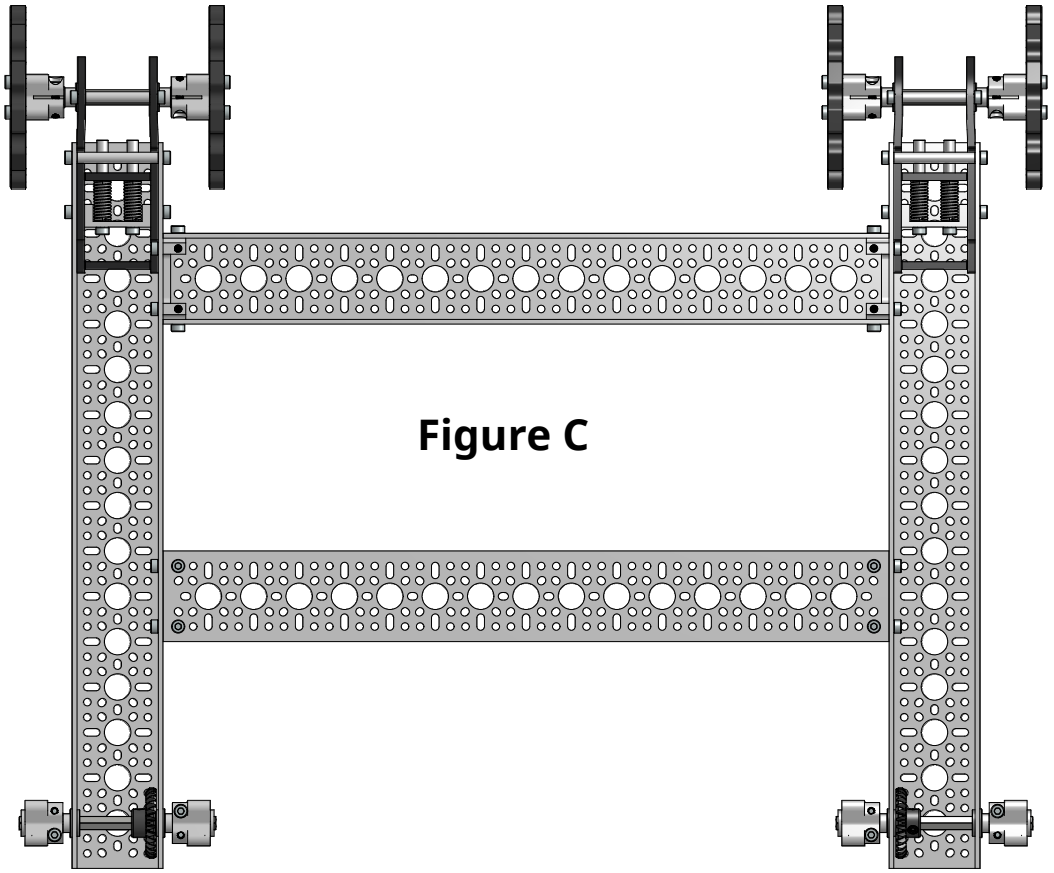
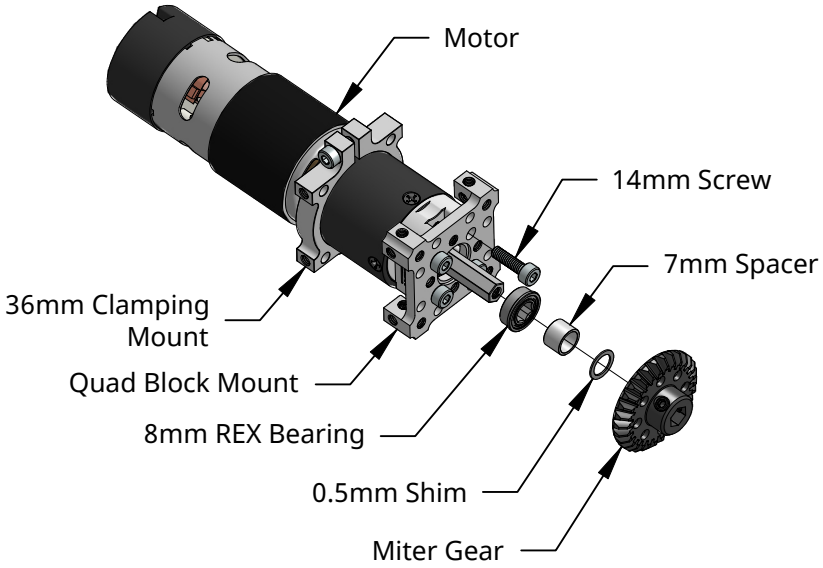


Figure C

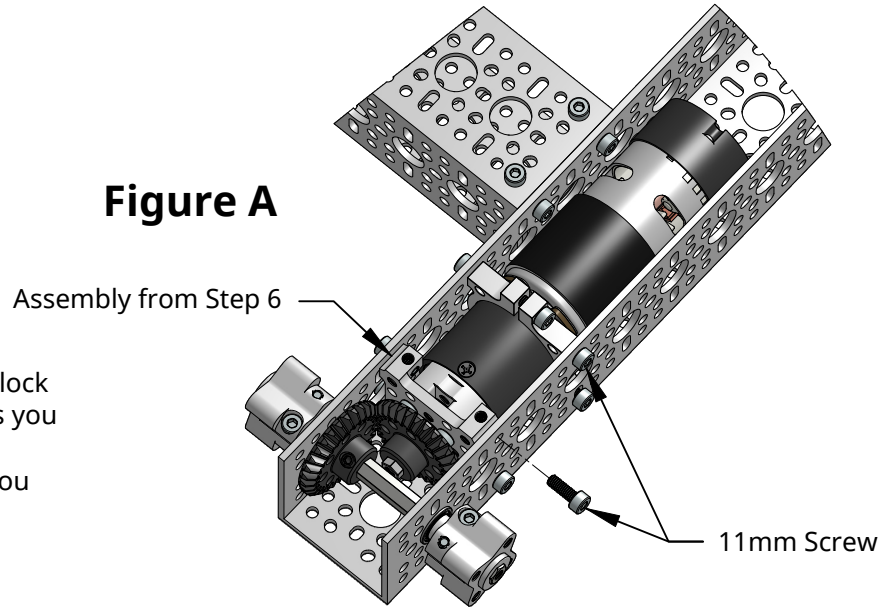
Tech Tip:
We've included Thread Locker in your kit, we recommend you apply this to the set screws in the Miter Gears. But you can apply it to any screw that is not threading into a Locknut.



Step 6

- Slide a 36mm Clamping Mount onto the Motor's Gearbox. Leave it's pinch-bolt loose.
- Bolt a Quad Block Pattern Mount to a motor using 14mm Screws. Leave these screws slightly loose.
- Install an 8mm REX Bearing over the Motor Shaft and into the hole on the Quad Block Pattern Mount. After it is installed, tighten the four screws that secure the Quad Block Pattern mount to the motor.
- Slide a 7mm Spacer, a 0.5mm Shim, and a Miter Gear onto the motor shaft and then tighten the Miter Gear set screws.
- Repeat this step to create a second motor drive assembly.

Figure A



Step 7

- Use four 11mm Screws to bolt the Quad Block Pattern Mount from one of the assemblies you created in Step 6 into one of the 15 Hole U-Channels to mesh with the Miter Gear you installed in Step 5.
- Use four 11mm Screws to bolt the 36mm Clamping Mount to the channel before tightening the pinch bolt.
- Repeat this step by bolting the second assembly from Step 5 in the 15 Hole U-Channel.

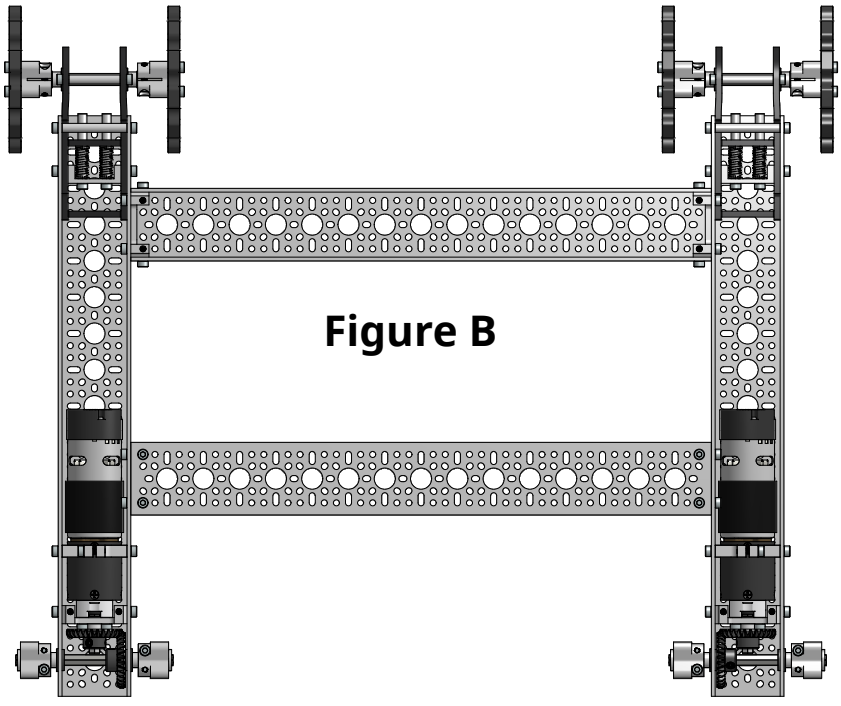
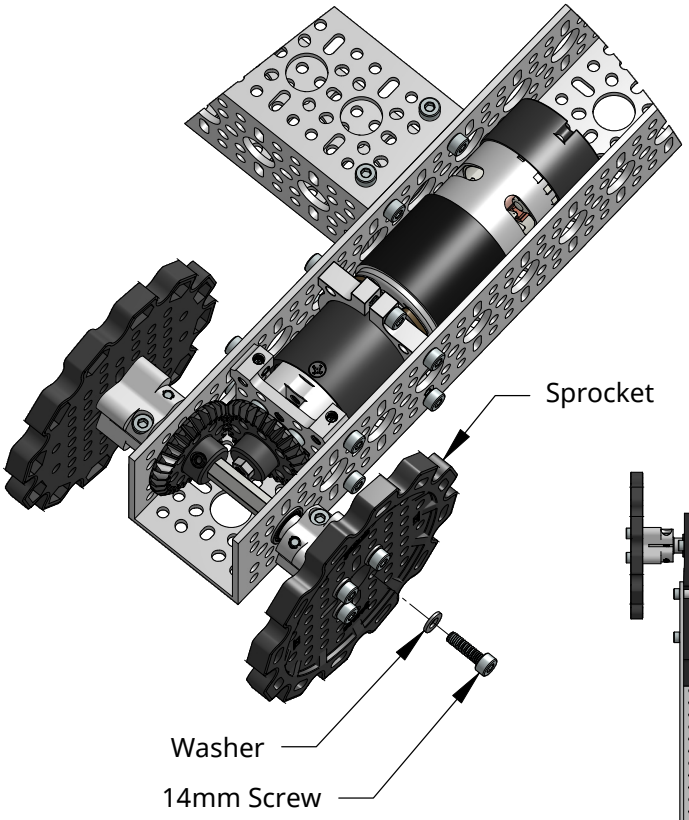
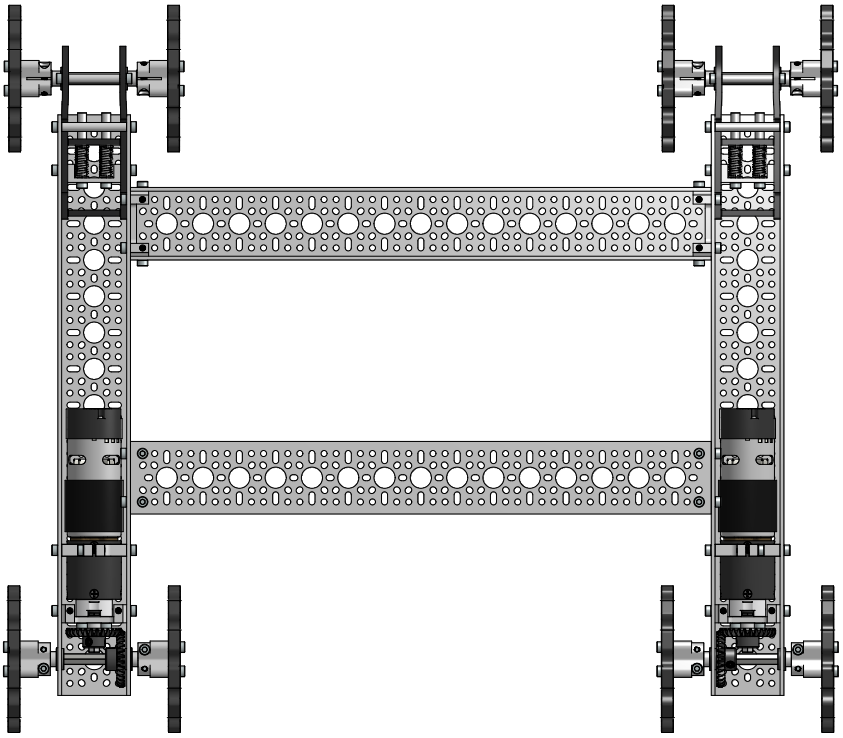


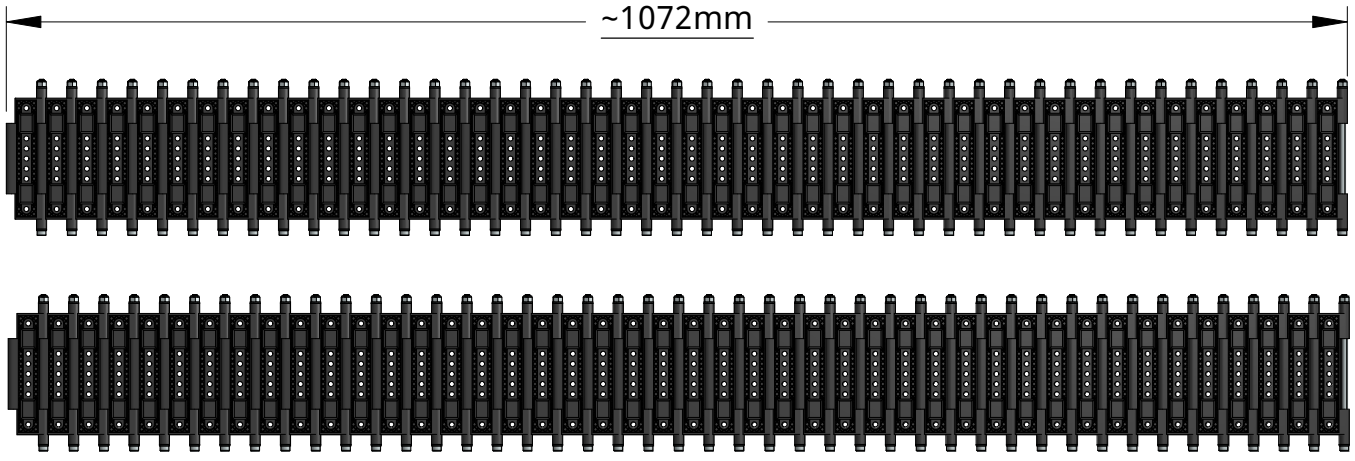
Figure B



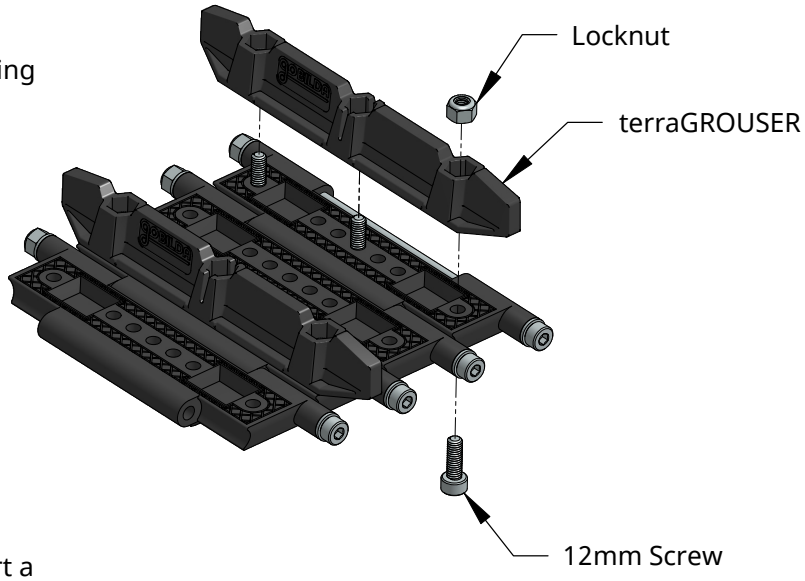
Step 8
Bolt a Sprocket to each of the four Hyper Hubs using sixteen 14mm Screws and Washers.



Step 9
Assemble two sets of 44 Track links. You should have 2 links left over, one per section. These bolts should be loose enough to spin freely in the track, so that each track joint pivots smoothly.
44 Tracks should measure aproximately 1072mm or 42.2".

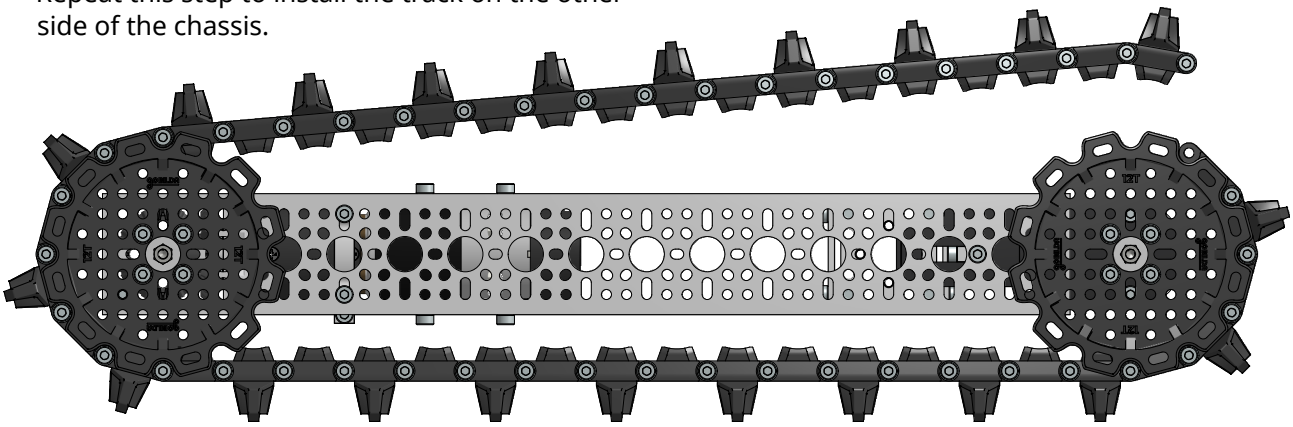


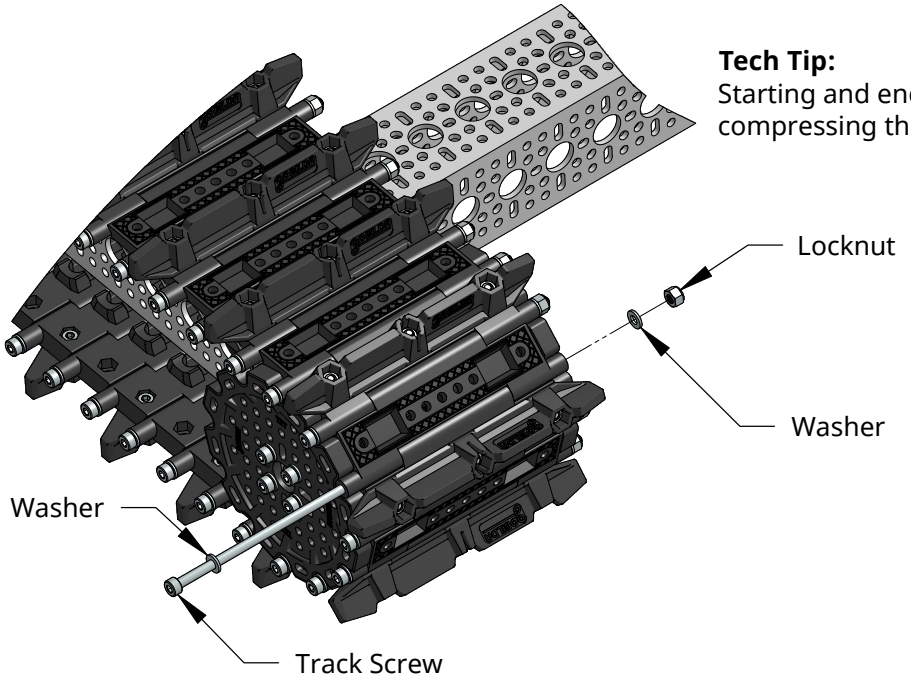
Step 10
On every other Grid-Track, bolt a TerraGROUSER using the included 12mm Screws and Locknuts.



Step 11

- Wrap the tracks around the two sprockets. Line up the ends of the track sections and insert a bolt through the tracks, then install the washer and locknut on the other side.
- Repeat this step to install the track on the other side of the chassis.

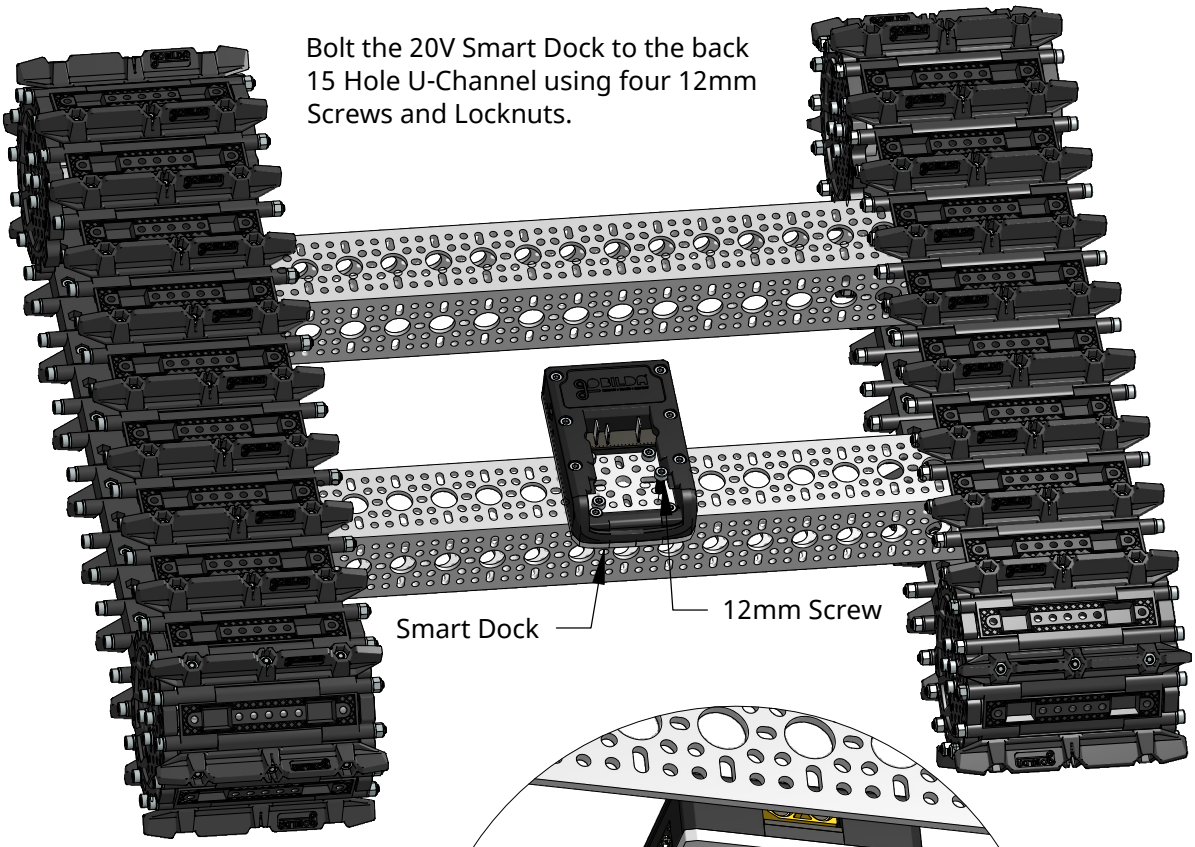


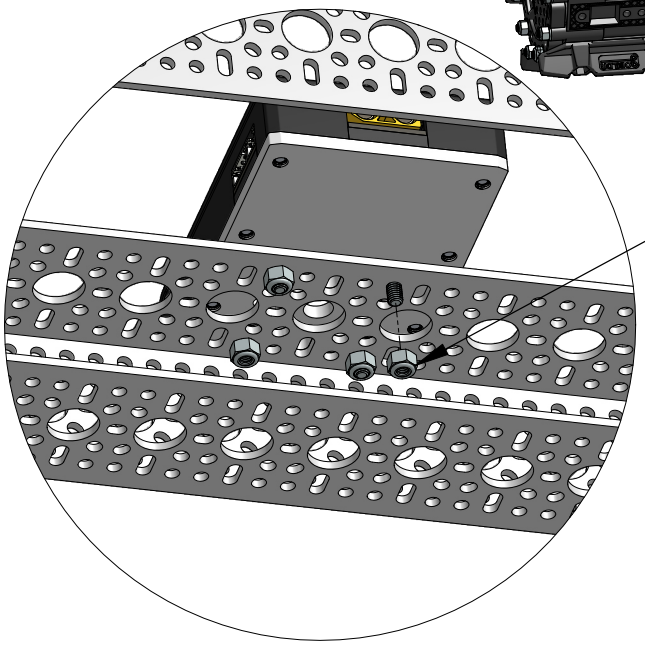


Tech Tip:
Starting and ending the track segment on a sprocket makes compressing the tensioner and lining up the tracks much easier.

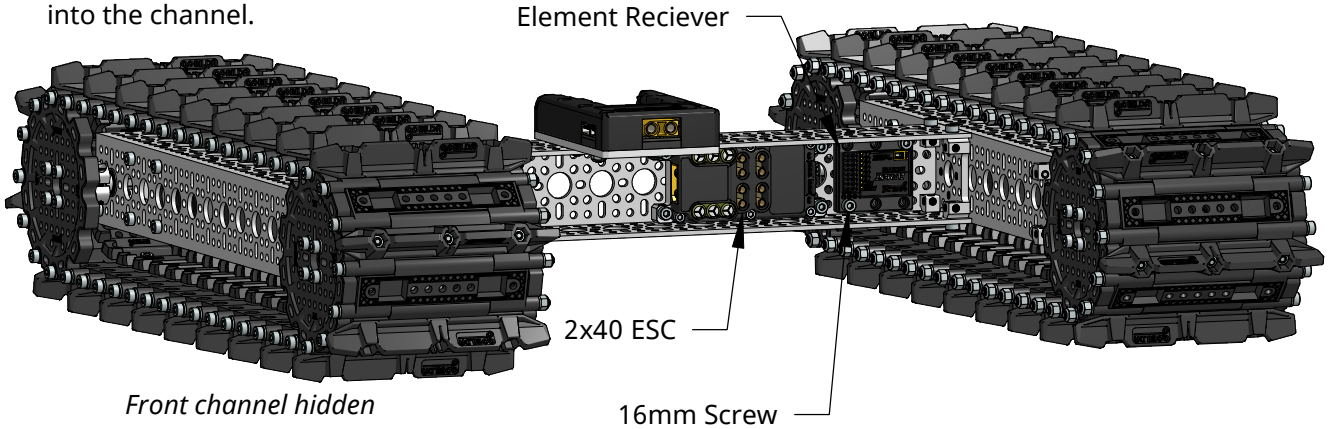
Recommended Electronics Placement

Bolt the 20V Smart Dock to the back 15 Hole U-Channel using four 12mm Screws and Locknuts.





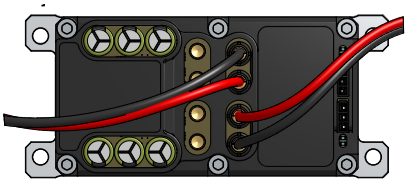
- Using four 16mm Screws and Locknuts, bolt the 2x40ESC into the channel under the Smart Dock.
- Using two 16mm Screws and Locknuts, bolt the Element Reciever into the channel.

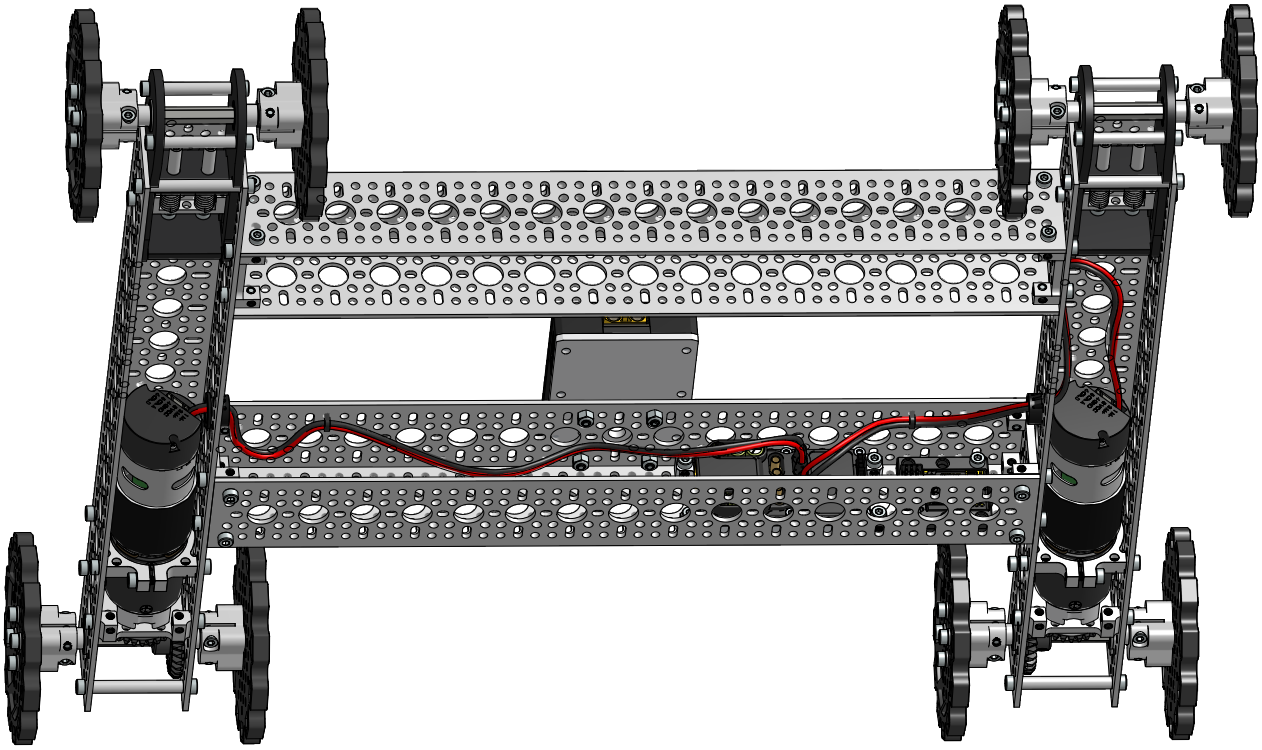


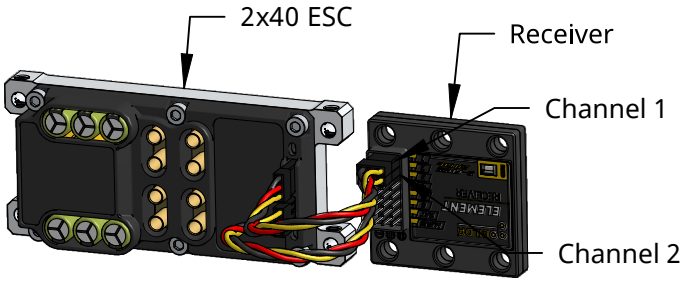
Front channel hidden

Wiring Guide

Route the leads from your motors through the grommets in the channels, and plug them into the 2x40 ESC

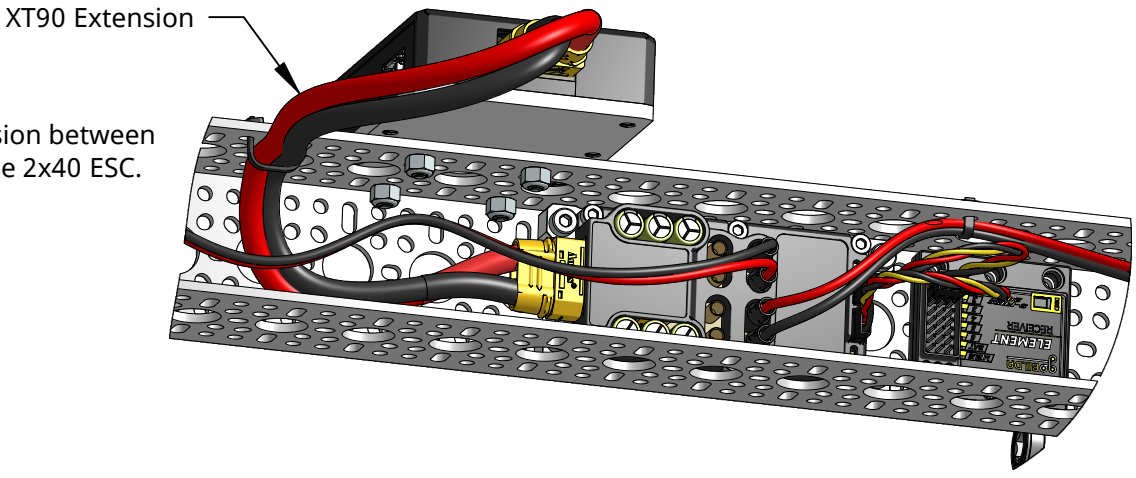






Using two Servo Extensions connect Channels 1 and 2 on the Receiver to the inputs on the 2x40 ESC.
The yellow wires on the connector should go towards the sticker on the receiver, and towards the middle on the ESC.

Install the XT90 Extension between the Smart Dock and the 2x40 ESC.



Transmitter Setup

To bind the Transmitter and Receiver, click the Bind button on the Receiver using a hex key or pen until the LED on the Receiver starts flashing rapidly, then turn on the Transmitter. The Receiver light should turn solid.

Moving the Right Joystick forward should make the chassis drive forward, and pushing it to the left should make the chassis rotate left. If it does not, follow the steps below.

1. If the chassis moves backwards when pushing the stick forwards, change the switch position for both channels 1 and 2. EG If they are set to NORMAL, move the switch to REVERSE.
2. If the chassis turns instead of driving forward, reverse just channel 1 on the transmitter.
3. If the chassis drives straight as desired. But rotates right when it should rotate left, swap the Servo Extensions on the receiver so that what was plugged into channel 1, is plugged into channel 2.