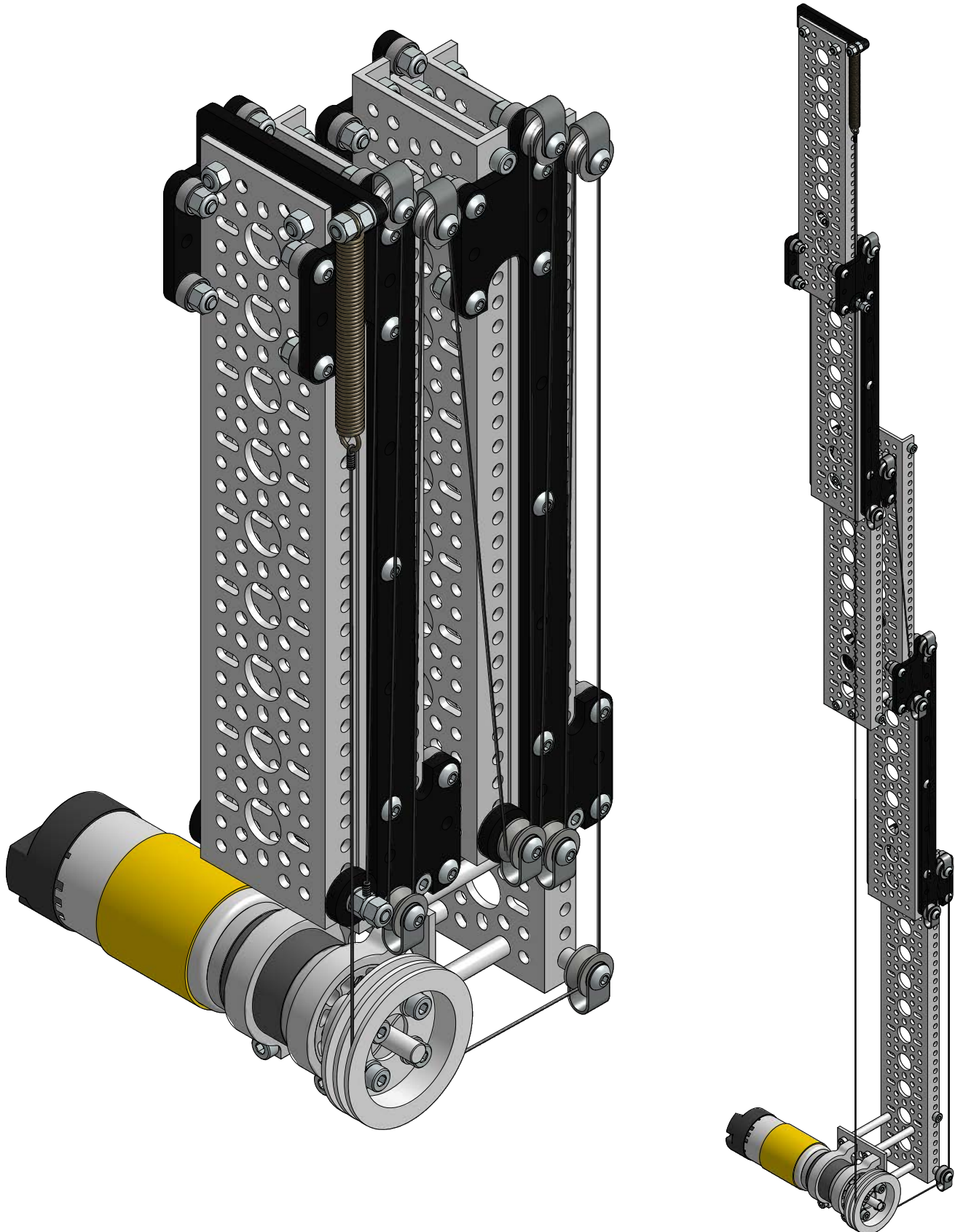


Assembly Instructions for **Low-Side Cascading Kit (Four Stage)**

SKU: 3210-0001-0003



Motor Not Included

Kit Contents

9-Hole Low-Side U-Channel
SKU: 1121-0009-0240
QTY: 5

1-Hole Pattern Plate
SKU: 1123-0048-0048
QTY: 1

Spring Mounting Plate
SKU: 3705-0001-0006
QTY: 1

Stop Plate
SKU: 3705-0001-0005
QTY: 4 (two 2 packs)

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

Side Plate
SKU: 3705-0001-0004
QTY: 4 (two 2 packs)

10mm Length Socket Head Screw
SKU: 2800-0004-0010
QTY: 50 (two 25 packs)

12mm Length Button Head Screw
SKU: 2802-0004-0012
QTY: 25 (one 25 pack)

14mm Length Button Head Screw
SKU: 2802-0004-0014
QTY: 25 (one 25 pack)

16mm Length Button Head Screw
SKU: 2802-0004-0016
QTY: 25 (one 25 pack)

22mm Length Button Head Screw
SKU: 2802-0004-0022
QTY: 25 (one 25 pack)

25mm Length Button Head Screw
SKU: 2802-0004-0025
QTY: 25 (one 25 pack)

0.25mm Thick Shim
SKU: 2807-0407-0250
QTY: 48 (four 12 packs)

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

7mm Hex Locknut
SKU: 2812-0004-0007
QTY: 75 (three 25 packs)

2.5mm Hex Key
(for the Button Head Screws)
SKU: 4200-0090-0025
QTY: 1

5mm Length Spacer
SKU: 1502-0006-0050
QTY: 4 (one 4 pack)

30mm Length Standoff
SKU: 1501-0006-0300
QTY: 4 (one 4 pack)

42mm Length Standoff
SKU: 1501-0006-0420
QTY: 4 (one 4 pack)

10mm OD Non-Flanged Ball Bearing
SKU: 1600-0410-0004
QTY: 32 (16 two packs)

V-Groove Bearing
SKU: 1609-0613-0004
QTY: 8 (four 2 packs)

V-Groove Bearing Shield
SKU: 2914-0002-0001
QTY: 8 (four 2 packs - includes 2 shims per shield)

6mm D-Bore Sonic Hub
SKU: 1309-0016-1006
QTY: 1

Winch Pulley
SKU: 3407-0016-0001
QTY: 1

32mm Bore Motor Mount
SKU: 1400-0032-0032
QTY: 2

Spring
SKU: 2915-0001-0001
QTY: 1

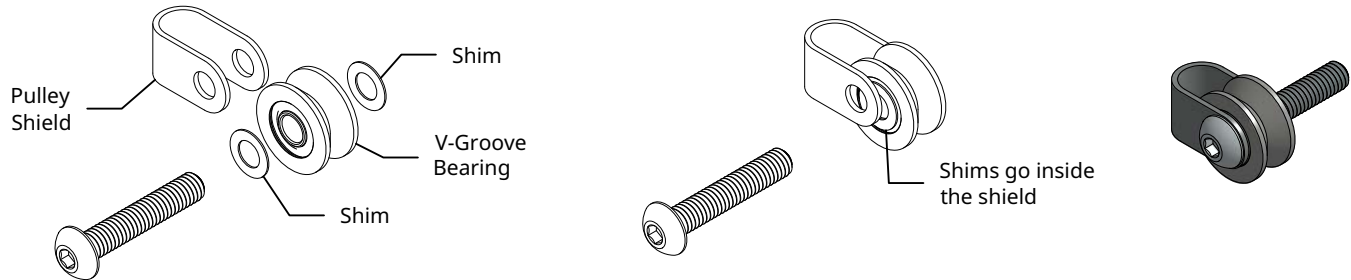
Cable (5M Length)
SKU: 2908-0075-0005
QTY: 1

7mm Hex Combination Wrench
SKU: 4202-0070-1070
QTY: 1

3mm Hex Key
(for the Socket Head Screws)
SKU: 4200-0090-0030
QTY: 1

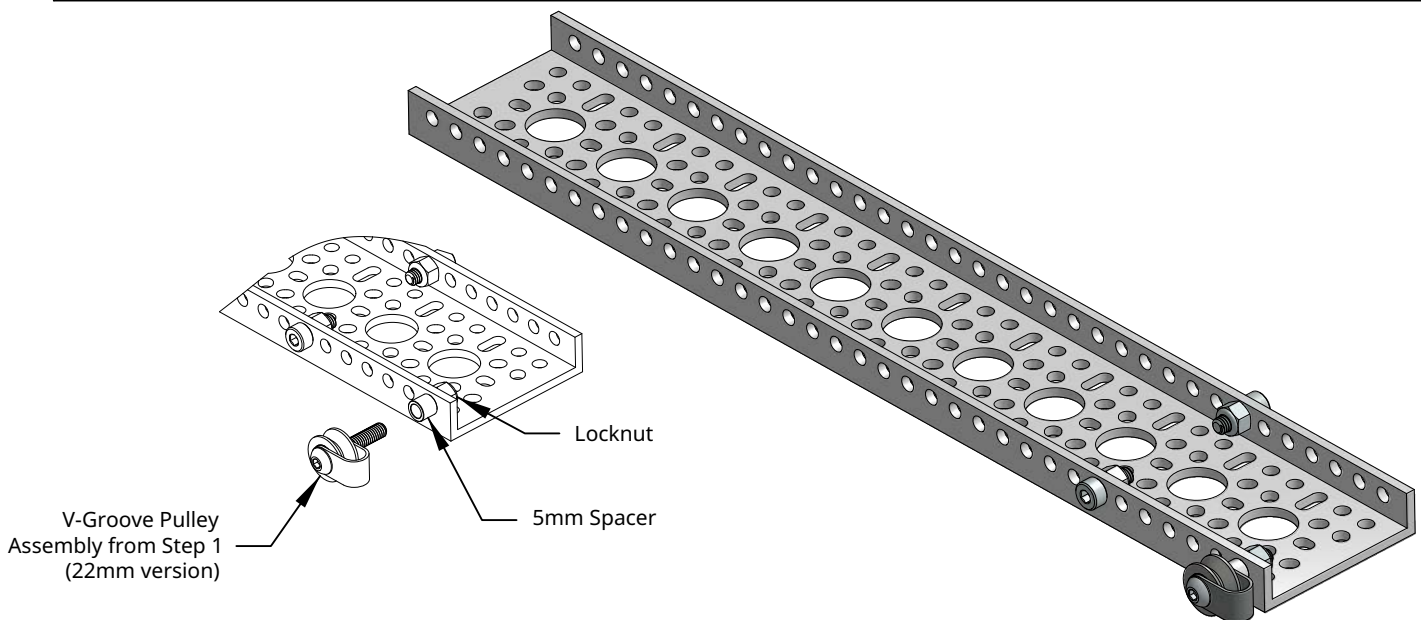
STEP 1

Sandwich two shims onto a v-groove bearing, then slide the stack into a pulley shield, and insert a 22mm button head screw through the bore. Make 4 more assemblies like this. Next create 3 more assemblies using 25mm (instead of 22mm) button head screws. Use the 2.5mm hex key with the button head screws in this kit.



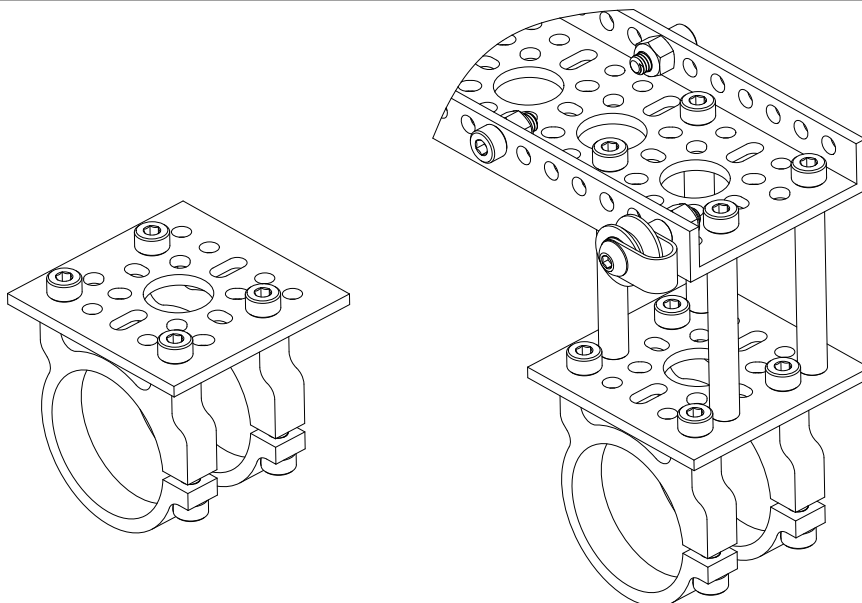
STEP 2

Using the 11 hole Low-Side U-Channel, a 22mm v-groove pulley assembly from Step 1 a 5mm spacer and a locknut, create the assembly below. This will act as the base of your kit. Fasten 2 socket head screws with locknuts where shown. Use the 3mm hex key with the socket head screws in this kit. The socket head screws here will act as retraction stops for the 1st stage.



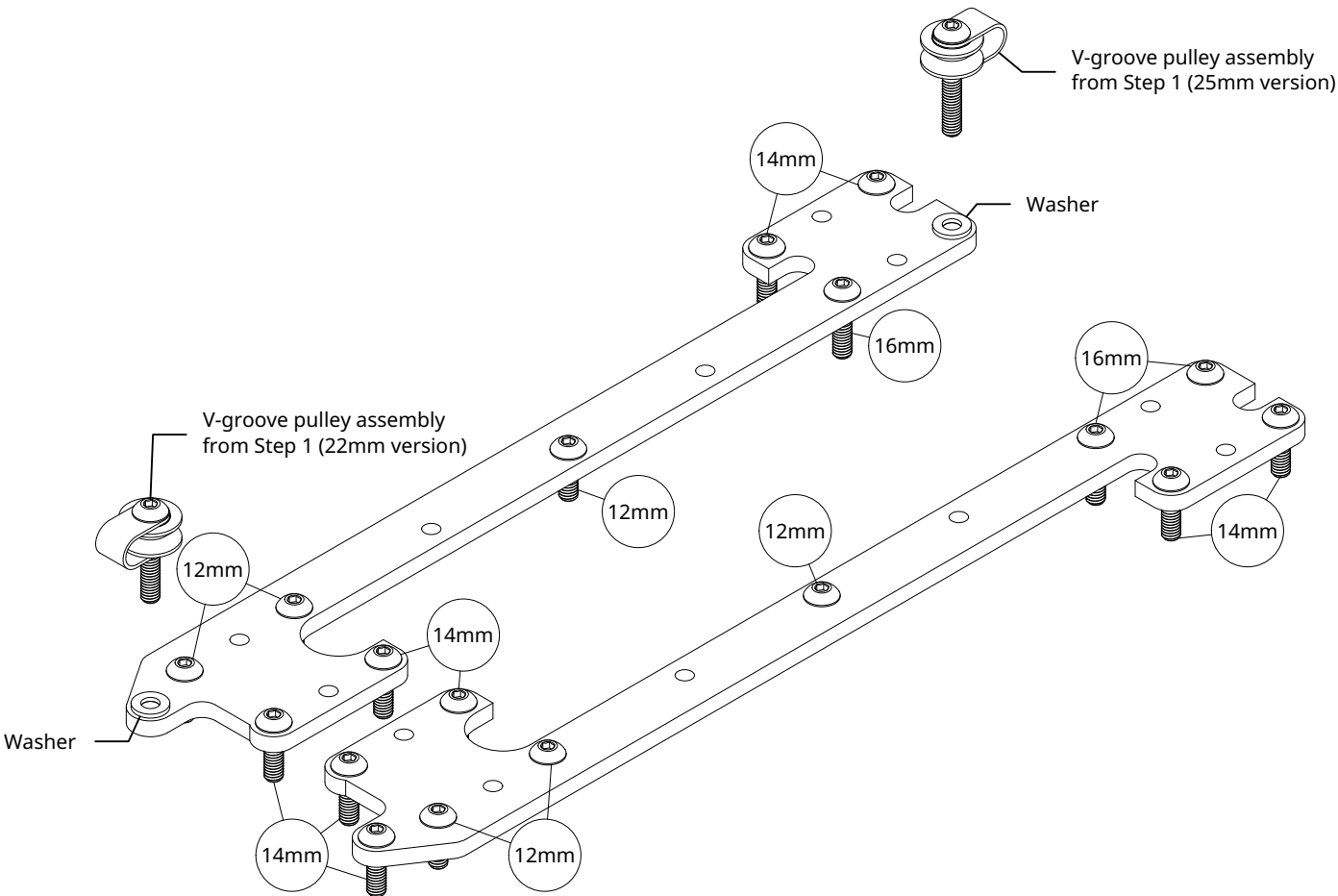
STEP 3

Using 4 socket head screws, fasten the motor mounts to the pattern plate as shown. Then use 8 socket head screws and four 42mm length standoffs to attach the motor mount assembly to the base as shown.



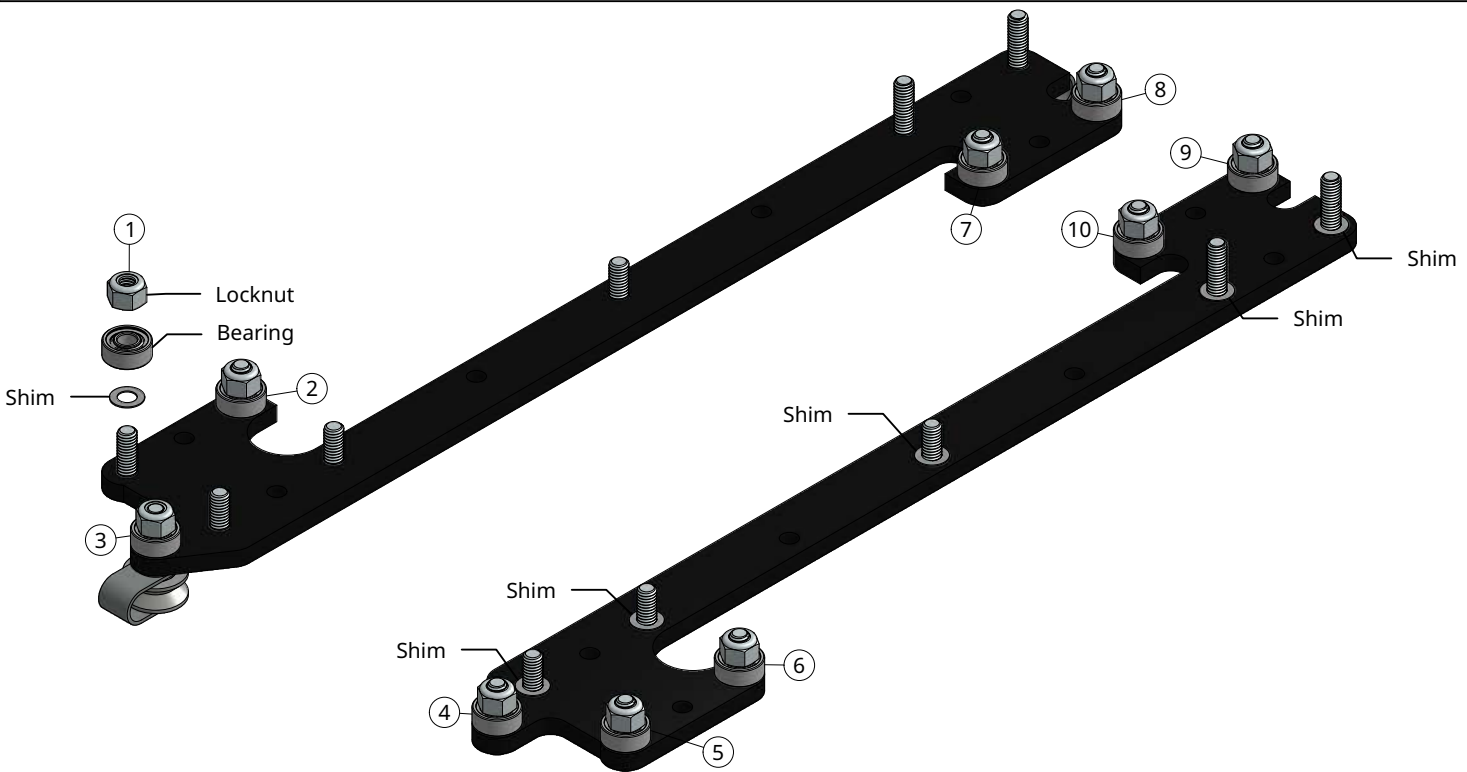
STEP 4

Insert the v-groove pulley assemblies and button head screws into two slide plates as shown. The holes on the slide plates are slightly underized such that the screws will thread lightly into the plastic. This makes them more precise as well making assembly easier because the screws are held in place while you flip the plates over in the next step.



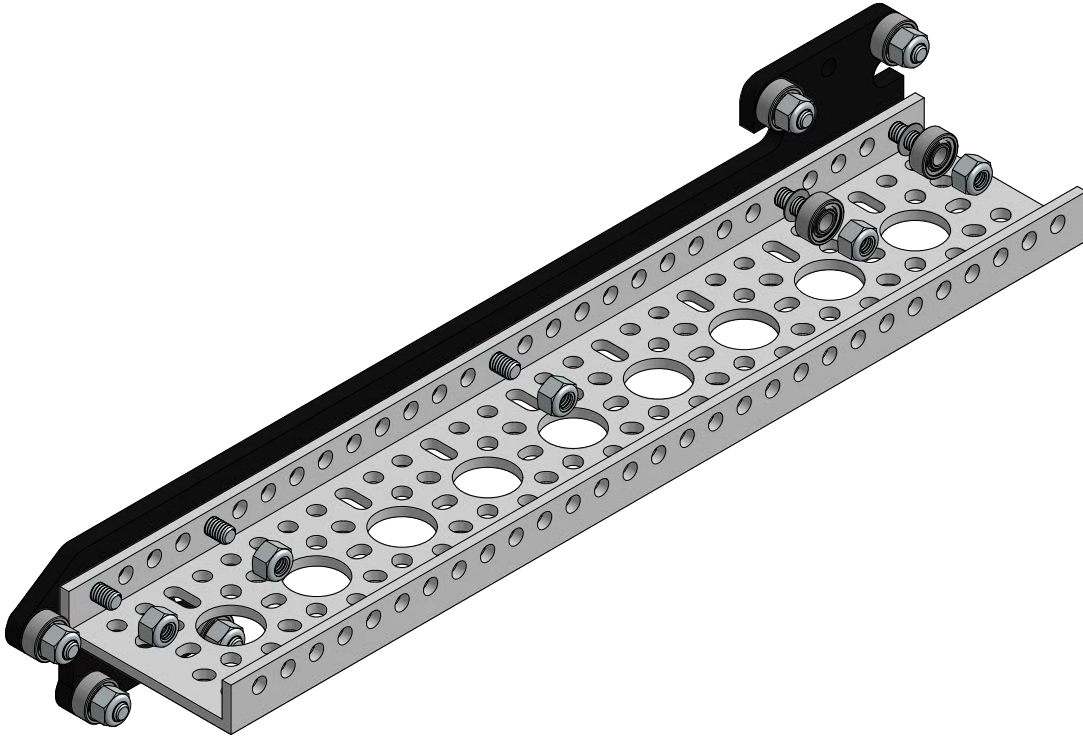
STEP 5

Flip the two side plate assemblies over. Add a 0.25mm shim, bearing, and locknut to the 10 locations shown below. Then add a 0.25mm shim to the 5 unused screws on the side plate without pulleys.



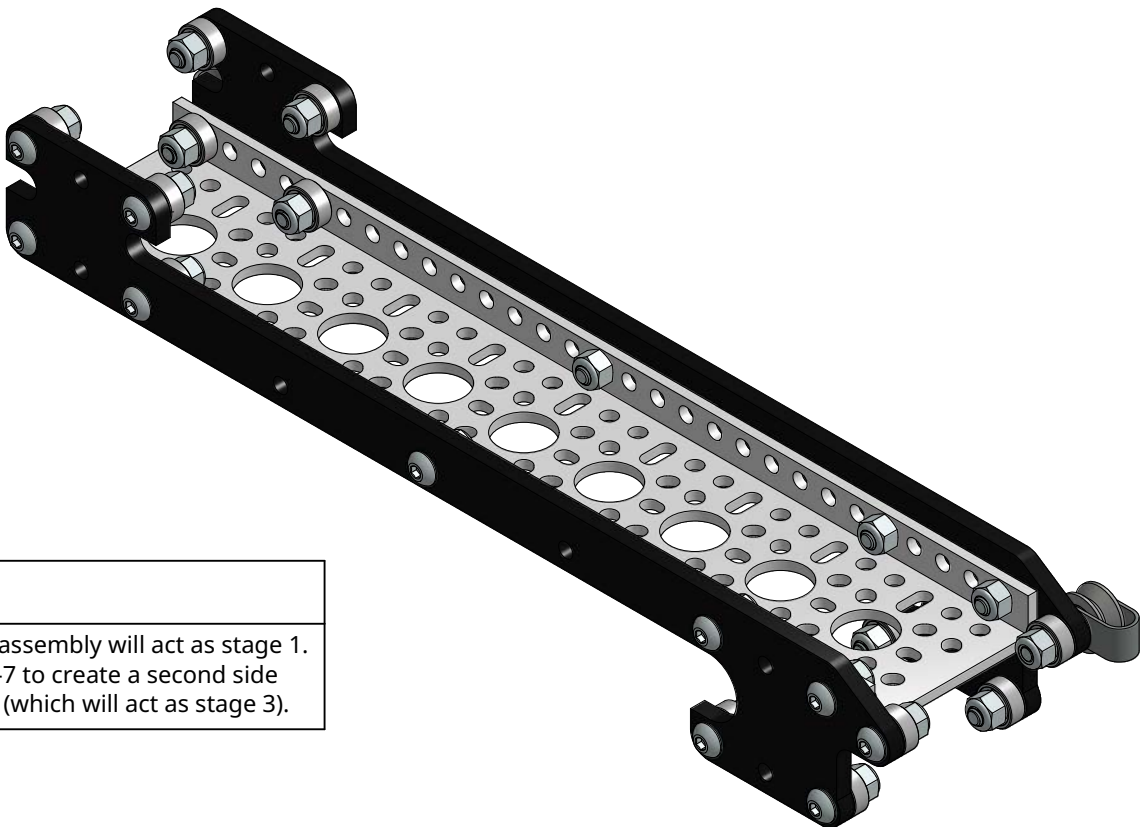
STEP 6

Making sure the shims are in place, fasten the non-pulley side plate assembly to a 9-hole Low-Side U-Channel as shown. The 3 screws to the left below just need a locknut. The 2 to the right each need a shim plus bearing and locknut.



STEP 7

Attach the side plate assembly with pulleys to the other side of the channel in the same manner as the first one as shown below.

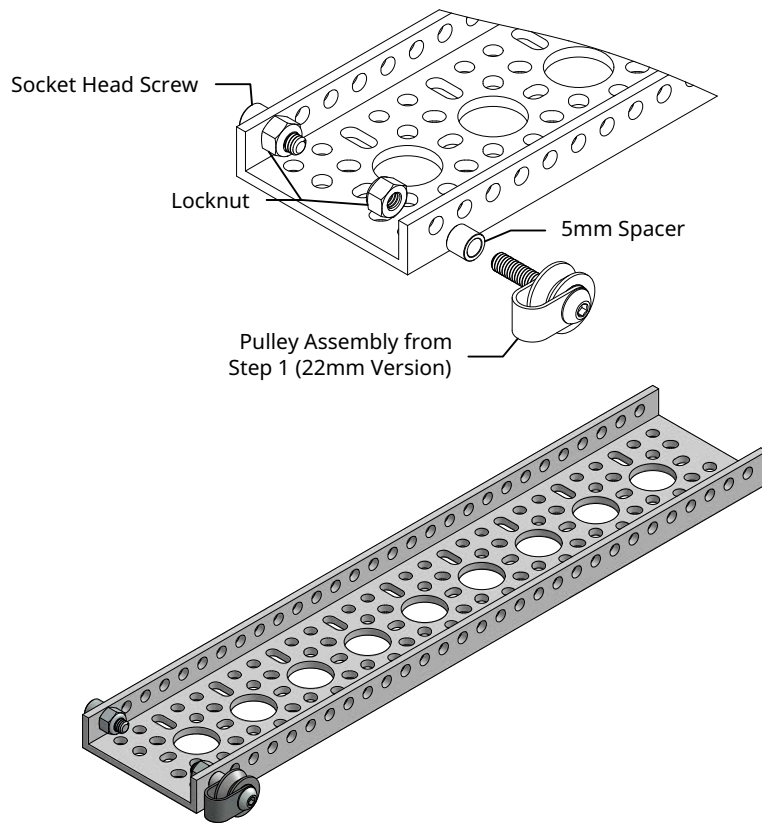


STEP 8

This side plate assembly will act as stage 1. Repeat Steps 4-7 to create a second side plate assembly (which will act as stage 3).

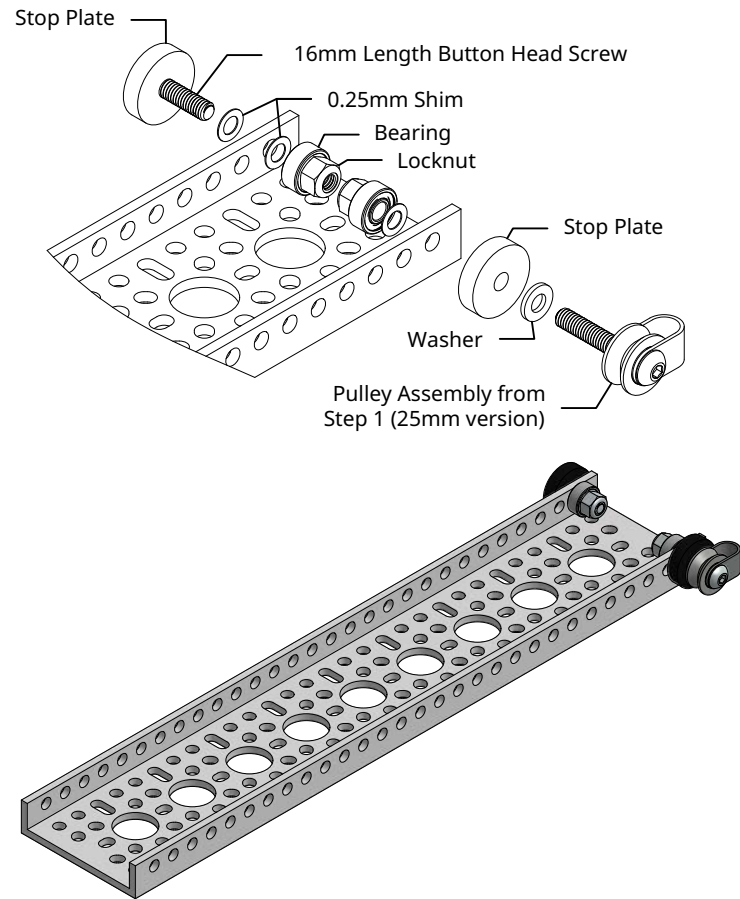
STEP 9

Using a 9-hole channel, create the assembly shown below.



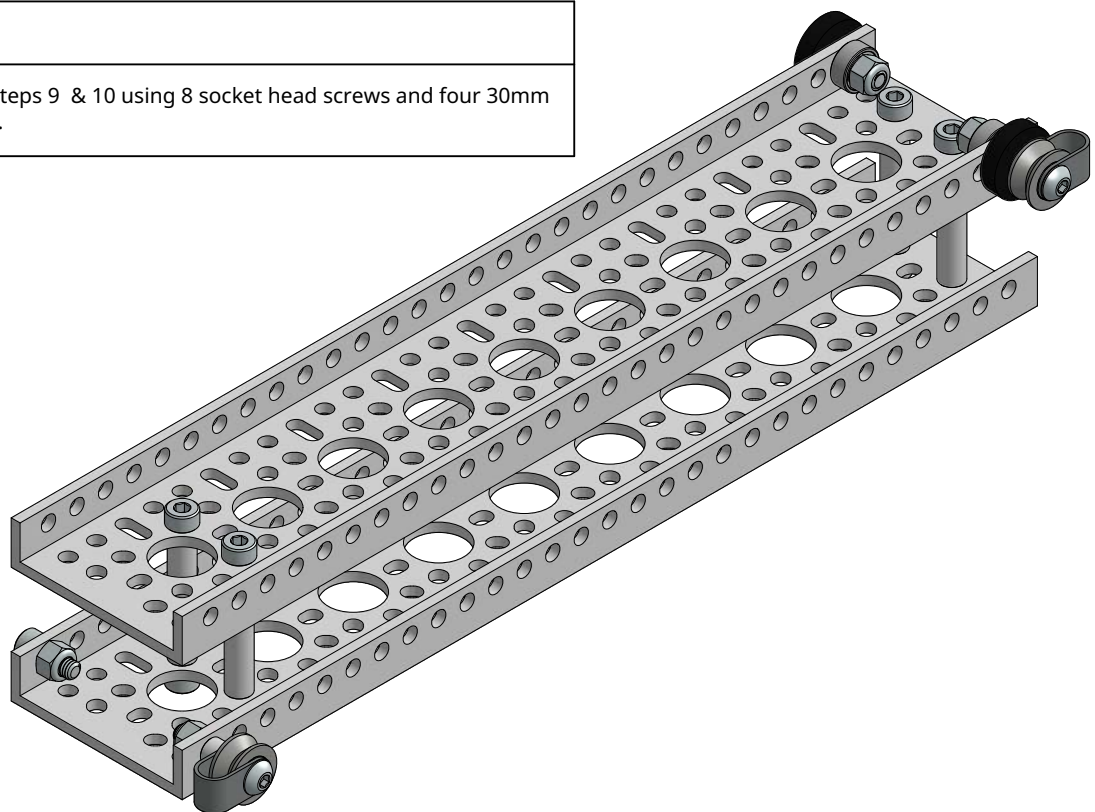
STEP 10

Using a 9-hole channel, create the assembly shown below.



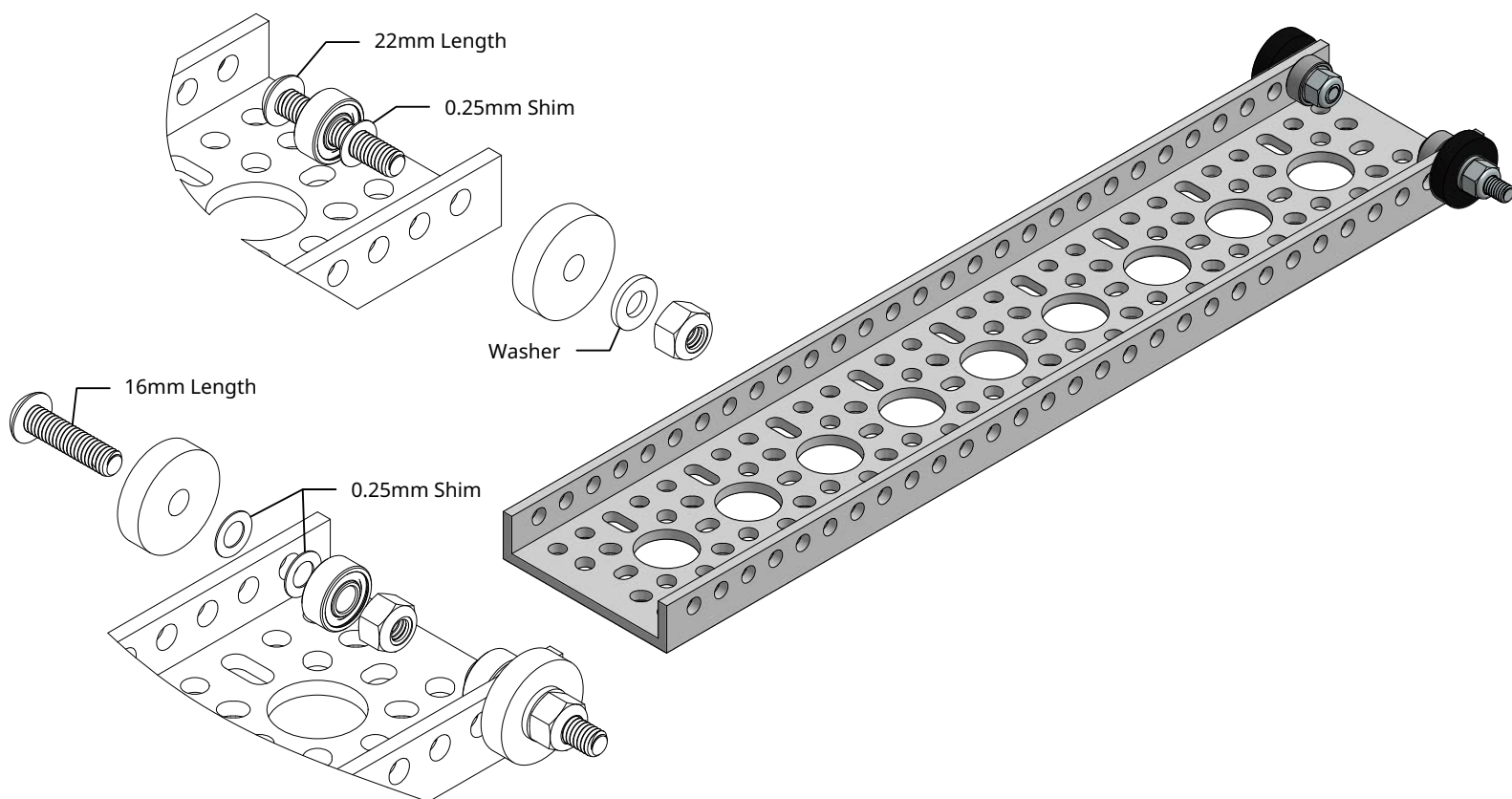
STEP 11

Join the assemblies from Steps 9 & 10 using 8 socket head screws and four 30mm length standoffs as shown.



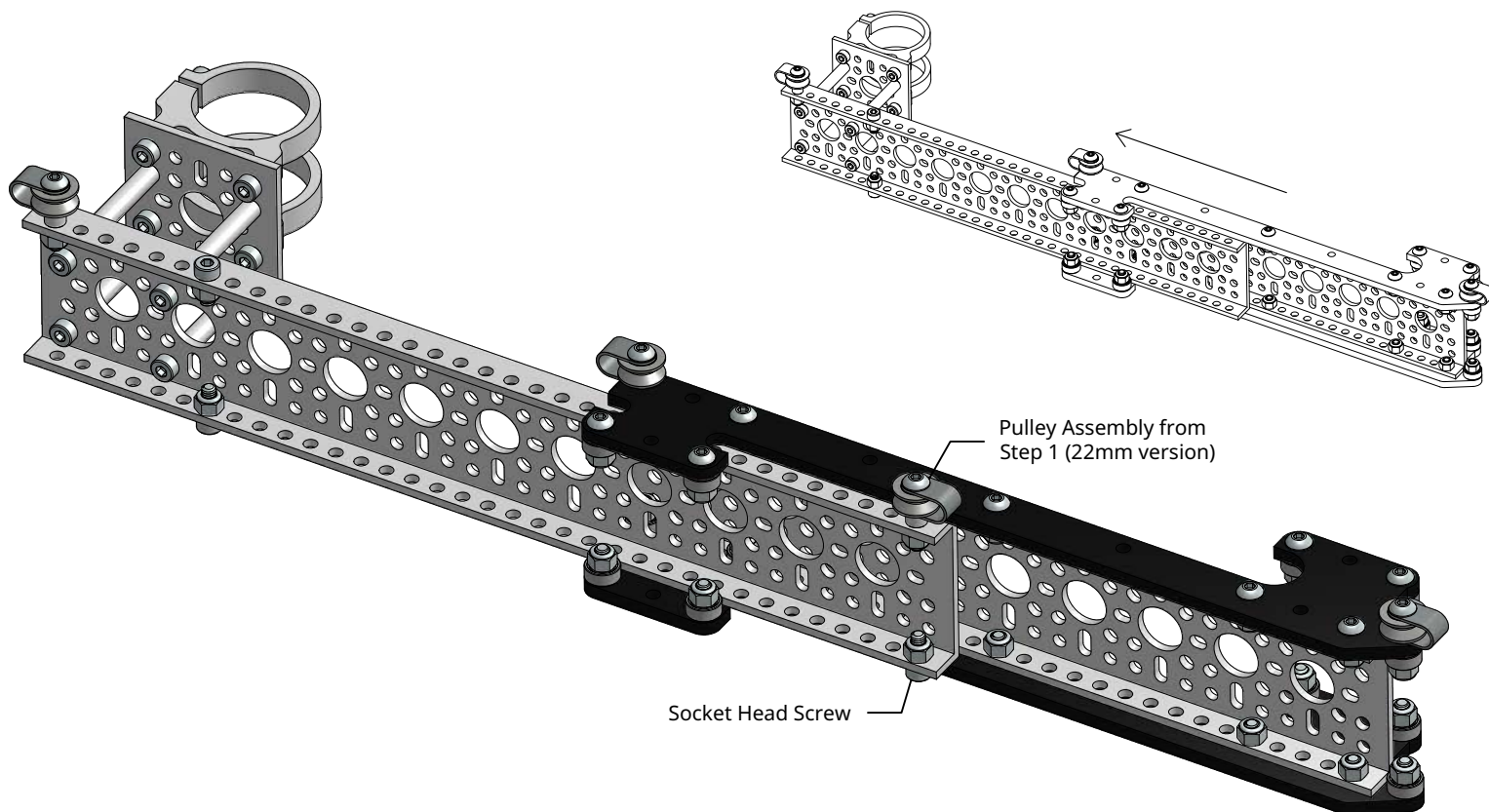
STEP 12

Using the last 9-hole channel, attach the bearings and stop plates as shown below. This assembly will be the fourth and final stage.



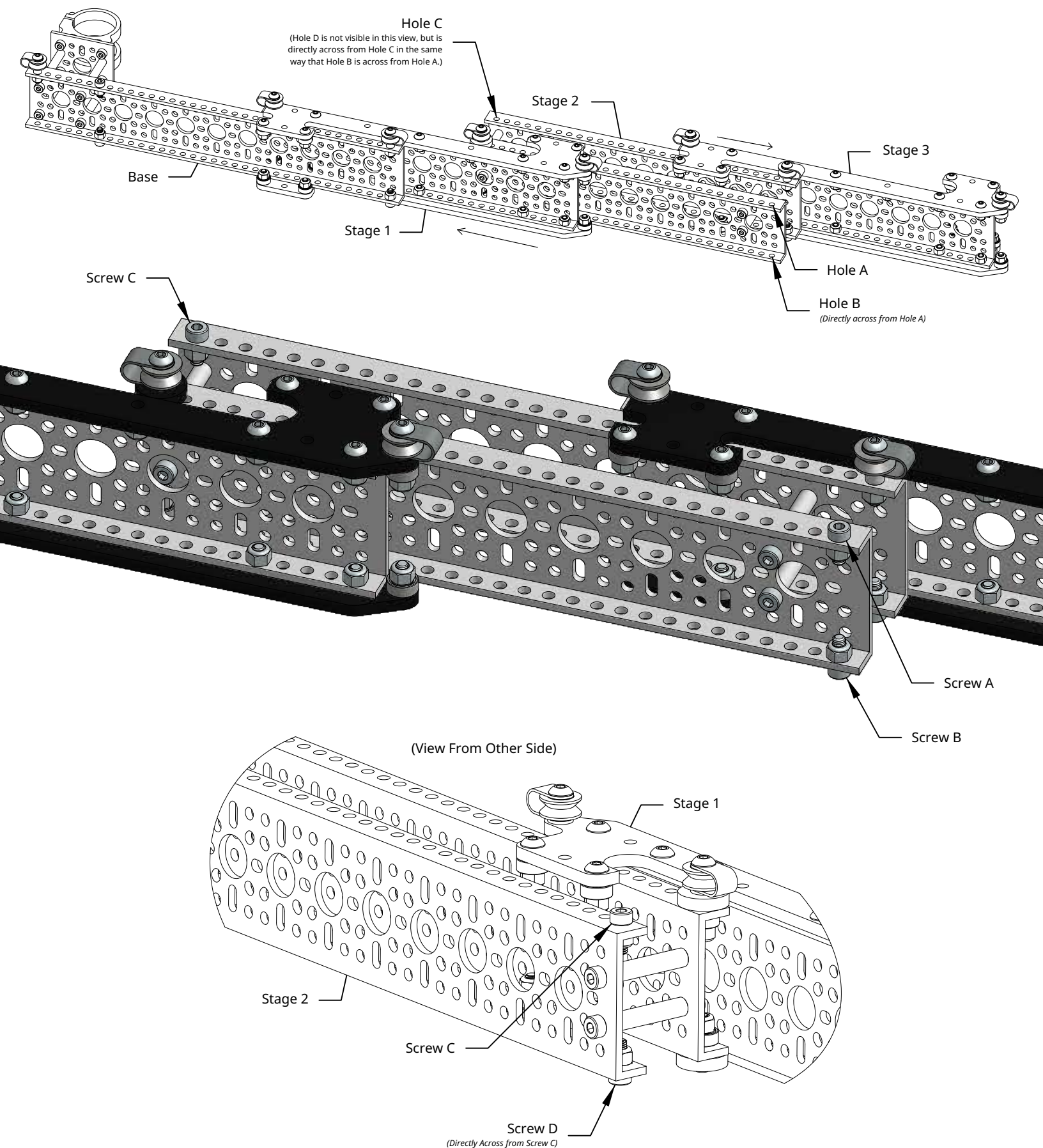
STEP 13

Now it is time to start assembling the stages together! Slide Stage 1 onto the base. Next attach a 22mm pulley assembly on a 5mm spacer to the base as shown. Then add a socket head screw to the base as shown.



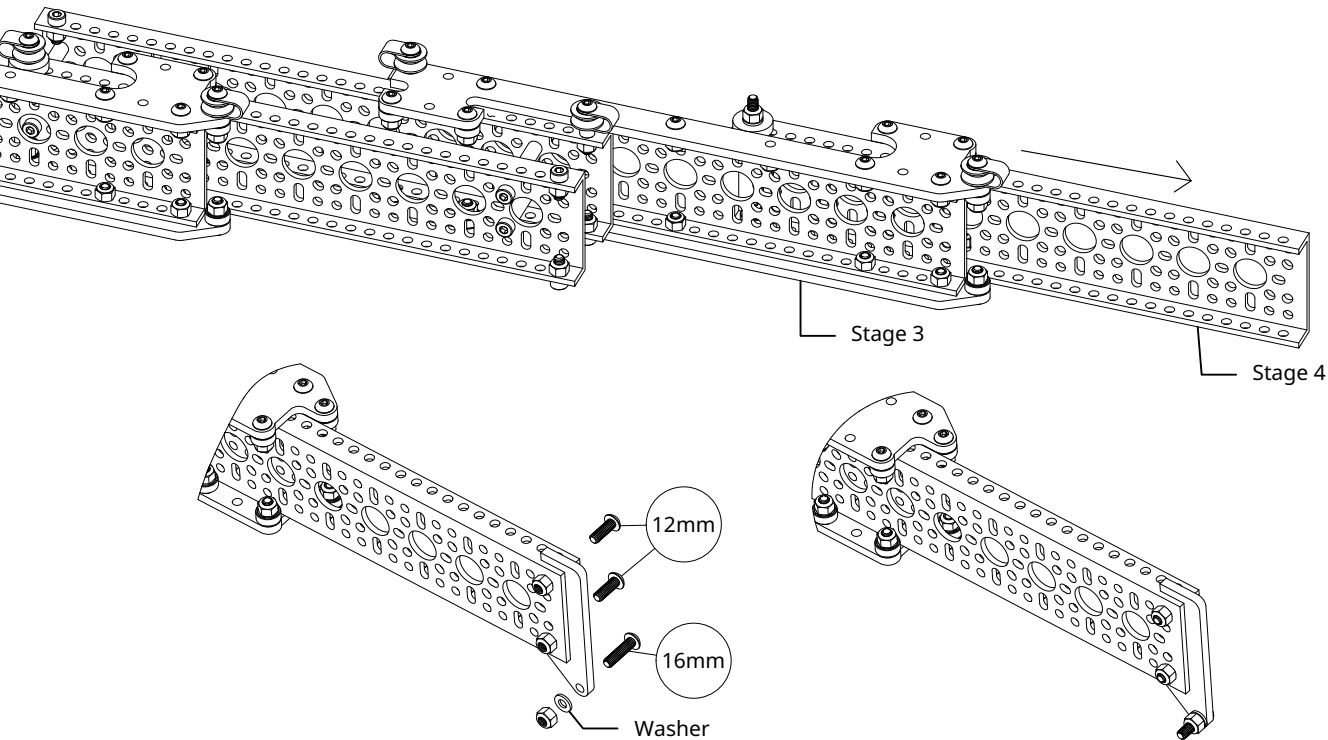
STEP 14

Join Stages 1 & 3 with Stage 2 by sliding them in from opposite directions as shown. Then fasten four socket head screws with four locknuts on Stage 2 where shown (in Holes A-D) to act as stops for Stages 1 & 3.



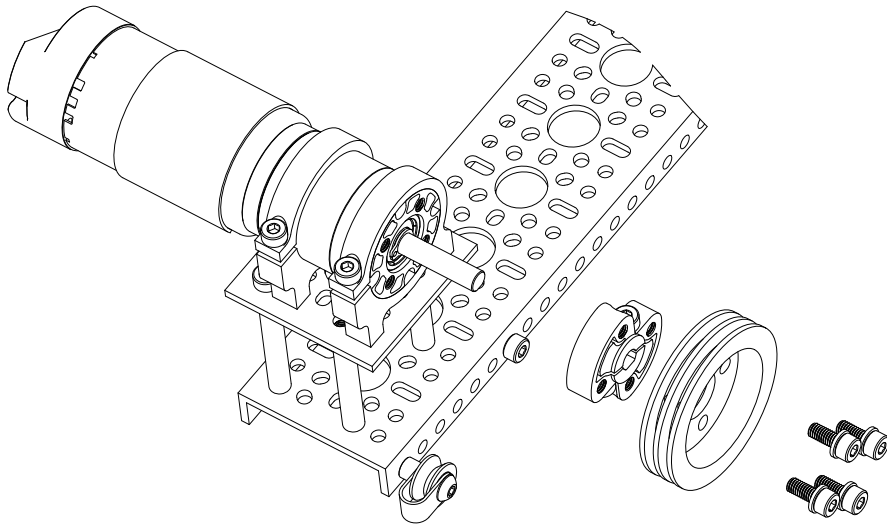
STEP 15

Slide Stage 4 into Stage 3 as shown. Then attach the spring mounting plate at the end of Stage 4 as shown. The spring will be attached as part of the rigging process (See the Rigging Guide for this kit).



STEP 16

Slide your motor into the motor mounts until the face of the motor is flush as shown below. Tighten the pinch bolts on the motor mounts. Slide the Sonic Hub onto the gear motor output shaft until it bottoms out where the flat of the "D" ends. Tighten the pinch bolts on the hub. Attach the winch pulley to the Sonic Hub with four socket head screws and washers.



Motor Not Included

To allow you to select your ratio, this kit does not come with a gear motor. It does come with 32mm ID clamping motor mounts and a 6mm D-bore Sonic Hub. So we recommend using a 5202 Series Yellow Jacket Gear motor with this kit.

Congratulations

You are now ready to start rigging your kit! Please see the Rigging Guide for this kit for more information.