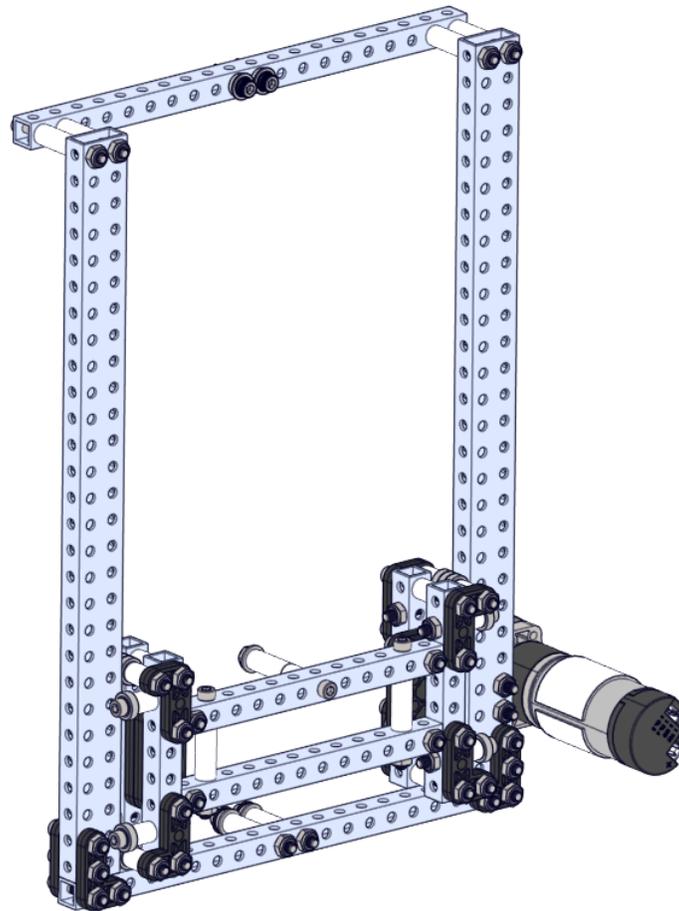




ROBITS 2 Stage Lift

(am-5167a)

Assembly Guide



Revision #	Date	Author	Purpose
0	6/10/2024	E. Scime	Original Document

P. Yeung	6/11/2025
_____ Reviewer Name	_____ Date Reviewed

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Parts & Tools

Recommended Tools List

Component	Part #	QTY	Photo
5/32" Ball End Hex Driver	am-2751	1	
2.5mm Ball End Hex Driver	am-3724	1	
3/8 Combination Wrench	am-4961	1	

Parts List

Component	Part #	QTY	Photo
0.5" 10-32 Socket Head Cap Screw	am-1002	1	
1.5" 10-32 Socket Head Cap Screw	am-1014	23	
#10 Washer	am-1026	4	
1.25" 10-32 Socket Head Cap Screw	am-1041	10	
2" 10-32 Socket Head Cap Screw	am-1049	3	
1" 10-32 Socket Head Cap Screw	am-1056	14	
10-32 Nylock Jam Nut	am-1063	72	
2.25" 10-32 Socket Head Cap Screw	am-1156	24	



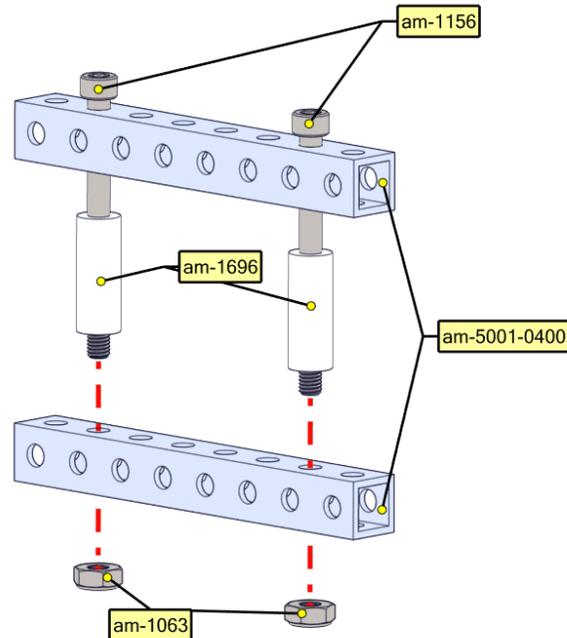
Component	Part #	QTY	Photo
8mm M3 Socket Head Cap Screw	am-1500	4	
3" 10-32 Socket Head Cap Screw	am-1522	2	
0.194 in. ID 0.375 in. OD 1.000 in. Long Nylon Spacer	am-1696	4	
0.194 in. ID 0.375 in. OD 0.500 in. Long Nylon Spacer	am-1697	43	
0.375 OD x 0.194 ID x 0.25 Long Nylon Spacer	am-1700	2	
1" 10-32 0.375" OD Standoff	am-1701	2	
0.194 in. ID 0.375 in. OD 0.125 in. Long Nylon Spacer	am-1732	1	
0.430 in. ID 0.500 in. OD 0.125 in. Long Nylon Spacer	am-1742	1	
Power String, 1.4MM, 100' Spool	am-3159	1	
13.7:1 NeveRest Orbital Gearmotor	am-5441	1	
12" Motor Extension Cable	am-5198-1200	1	

Component	Part #	QTY	Photo
5mm x 13mm x 4mm Unflanged Bearing	am-4724	40	
0.5in. x 0.5in. x 1.5in. Robits Tubes	am-5001-0150	8	
0.5in. x 0.5in. x 4in. Robits Tubes	am-5001-0400	6	
0.5in. x 0.5in. x 6in. Robits Tubes	am-5001-0600	2	
0.5in. x 0.5in. x 10in. Robits Tubes	am-5001-1000	2	
Robits L Gusset	am-5004_2x3	20	
Robits 1x4 Beam	am-5011_1x4	2	
Robits Motor Mount	am-5012	1	
1in. x 0.5in. x 14in. Robits Tubes	am-5026-1400	4	
Large Robits Spool	am-5036	2	
0.375" OD x 1.56" Long x 0.33" Wire Diameter Extension Spring	am-5169	1	
5mm x 11mm x 4mm, Flanged Bearing	am-5606	8	

Assembly

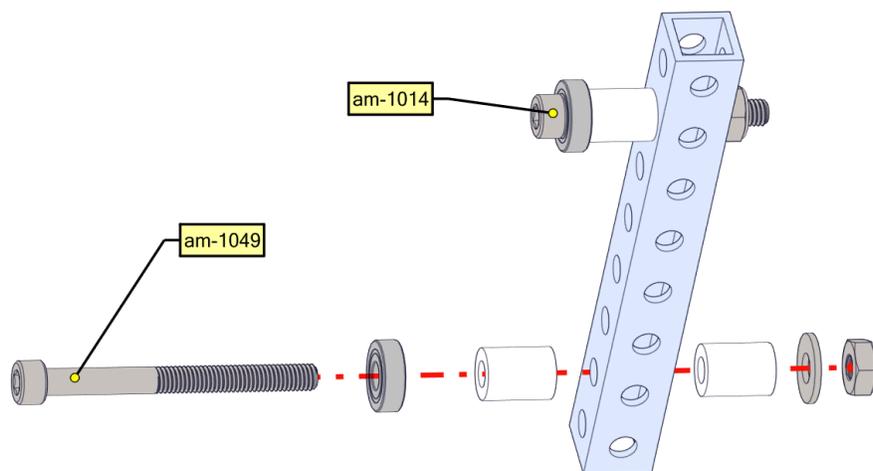
Step 1

Install [2] 1" screw spacers (am-1696) between [2] 0.5" x 0.5" x 4" tubes (am-5001-0400) using [2] 2.25" 10-32 screws (am-1156) and [2] 10-32 nylock nuts (am-1063).



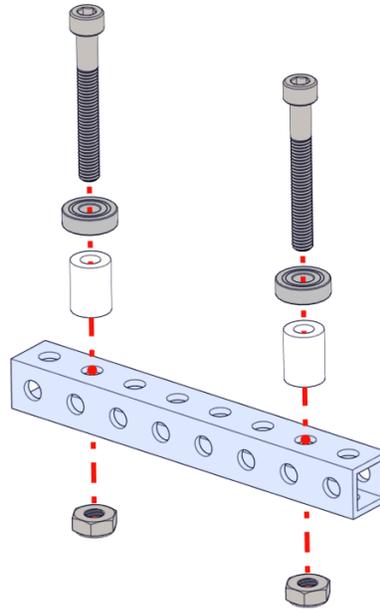
Step 2

Fasten [2] bearings (am-4724) to [1] 0.5" x 0.5" x 6" tube with [1] 2" 10-32 screw (am-1049), [1] 1.5" 10-32 screw (am-1014), [3] 0.5" screw spacers (am-1697), [2] 10-32 nylock nuts (am-1063), and [1] #10 washer (am-1026) as shown. **Do not completely tighten these screws.**



Step 3

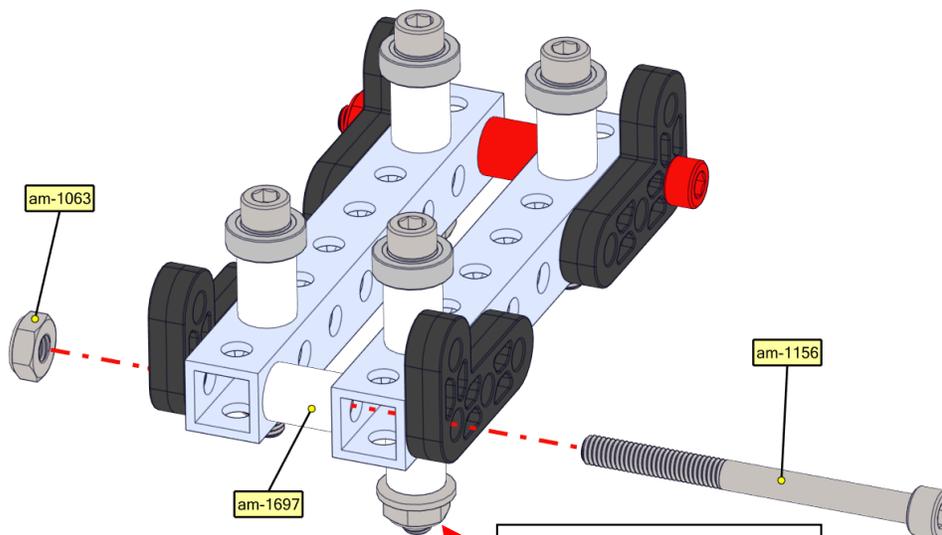
Install [2] bearings (am-4724) and [2] 0.5" screw spacers (am-1697) on [1] 0.5" x 0.5" x 4" tube (am-5001-0400) with [2] 1.5" 10-32 screws and [2] 10-32 nylock nuts. Do this twice. Do not completely tighten these screws. They will be tightened during the carriage installation later.



3X

Step 4

Fasten the assemblies created in Steps 2 and 3 together by slipping on [4] 2x3 L gussets (am-5004_2x3), [2] 10-32 nylock nuts (am-1063), and [2] 0.5" screw spacers onto [2] 2.25" 10-32 screws (am-1156) as shown.



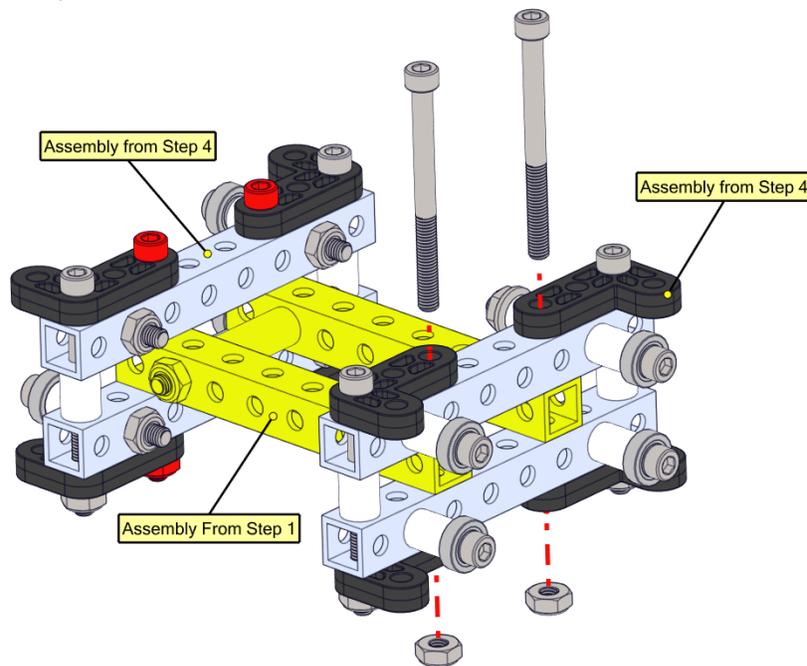
Note: Only [1] screw is extra long across BOTH assemblies.

2X



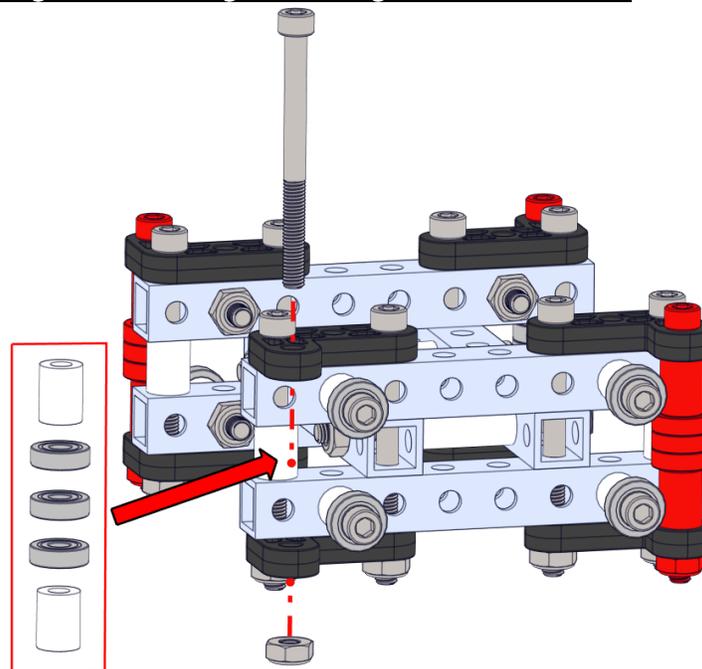
Step 5

Connect the assemblies from Steps 1 & 4 together using [4] 2.25" 10-32 screws and [4] 10-32 nylock nuts (am-1063) as shown.



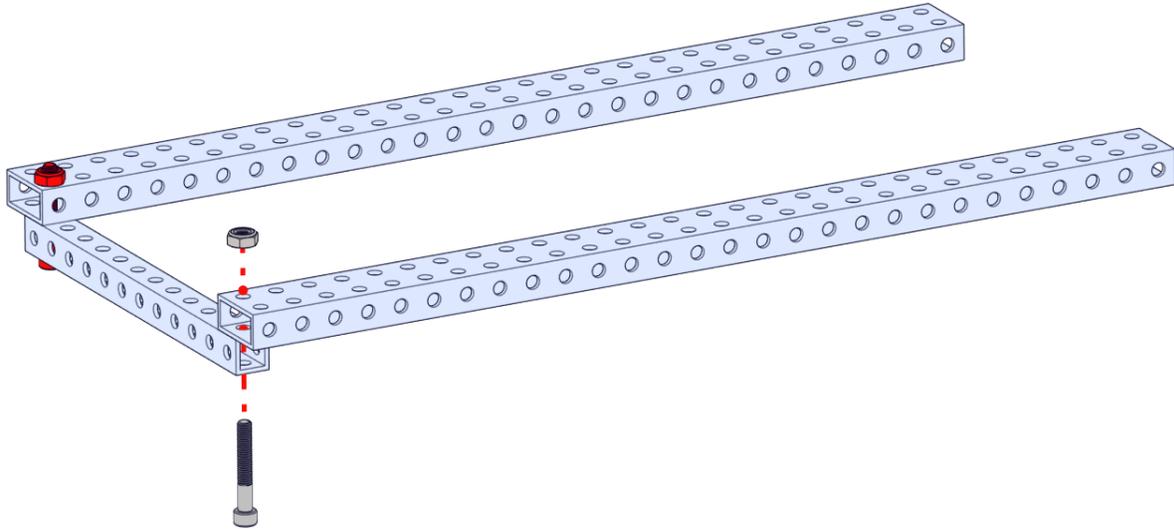
Step 6

Create [4] stacks of [2] 0.5" screw spacers (am-1697) and [3] bearings (am-4724) each. Pin them in place on the assembly using [1] 2.25" 10-32 screw and [1] 10-32 nylock nut (am-1063) each through the remaining holes in the L-gussets as shown. **Do not completely tighten these screws. They will be tightened during the carriage installation later.**



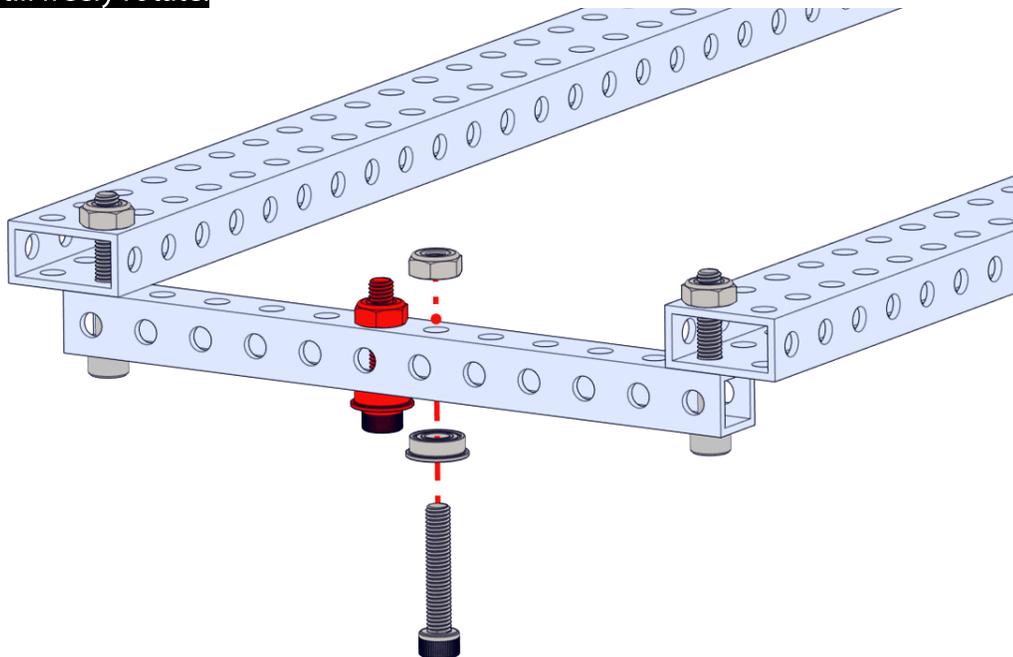
Step 7

Set the carriage assembly aside for now. Attach [2] 1" x 0.5" x 14" tubes (am-5026-1400) to [1] 0.5" x 0.5" x 6" tube (am-5001-0600) using [2] 1.25" 10-32 screws (am-1041) and [2] 10-32 nylock nuts (am-1063).



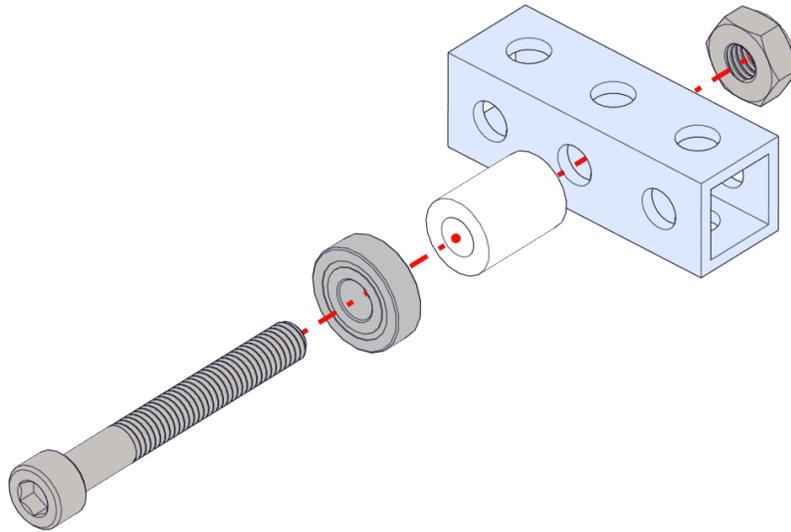
Step 8

Install [2] 1" 10-32 screws (am-1056) with [2] 5mm bearings (am-5606), and [2] 10-32 nylock nuts (am-1063) at the center of the 6" tube as shown. **Once tightened, the bearings should be snug but still freely rotate.**



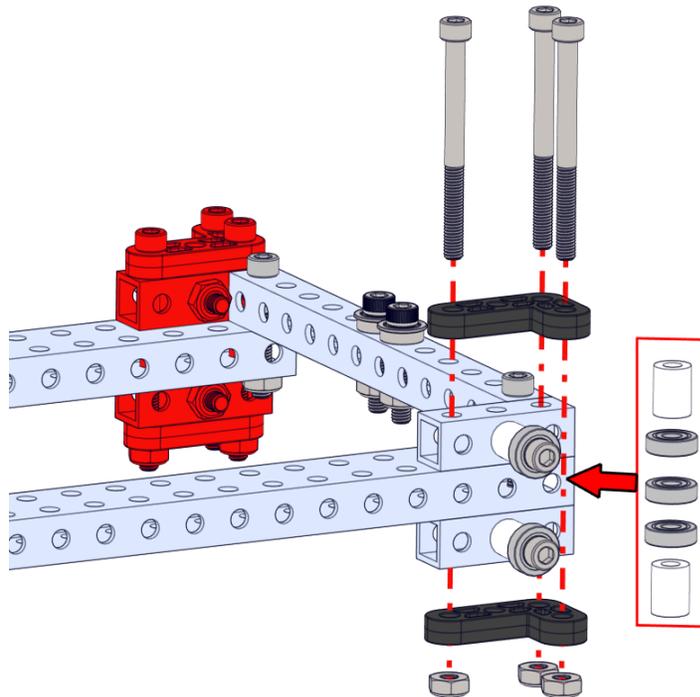
Step 9

Install [1] bearing (am-4724) on [1] 0.5" x 0.5" x 1.5" tube (am-5001-0150) using [1] 1.5" 10-32 screw, [1] 0.5" screw spacer (am-1697), and [1] 10-32 nylock nut (am-1063). Repeat to make [4] total Corner Assemblies. Do not completely tighten these screws. They will be tightened during the carriage installation later.



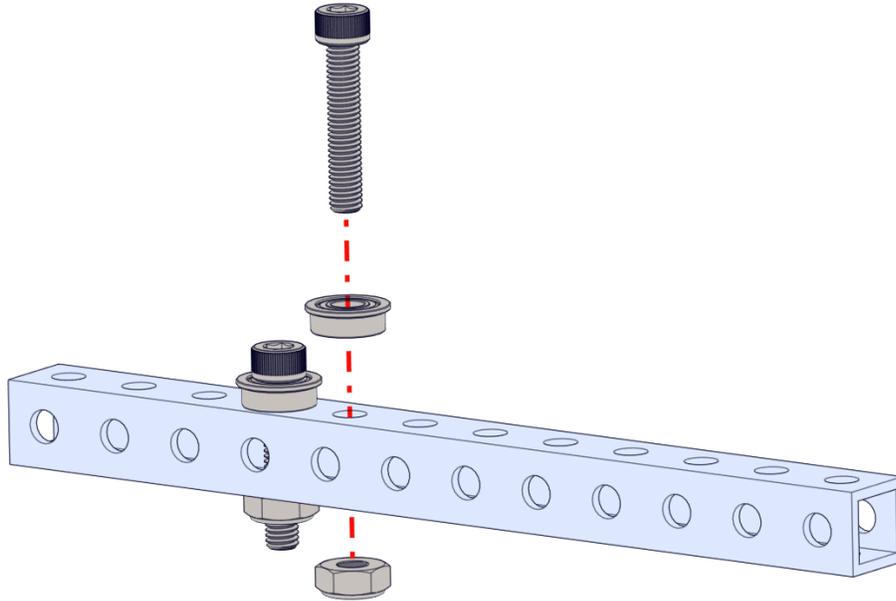
Step 10

Fasten the assemblies from Step 9 to the assembly in Step 8 using [6] 2.25 10-32 screws (am-1156), [4] 2x3 L Gussets (am-5004_2x3), [6] 10-32 nylock nuts (am-1063), [6] bearings (am-4724), and [4] 0.5" screw spacers (am-1697) as shown. Do not completely tighten these screws. They will be tightened during the carriage installation later.



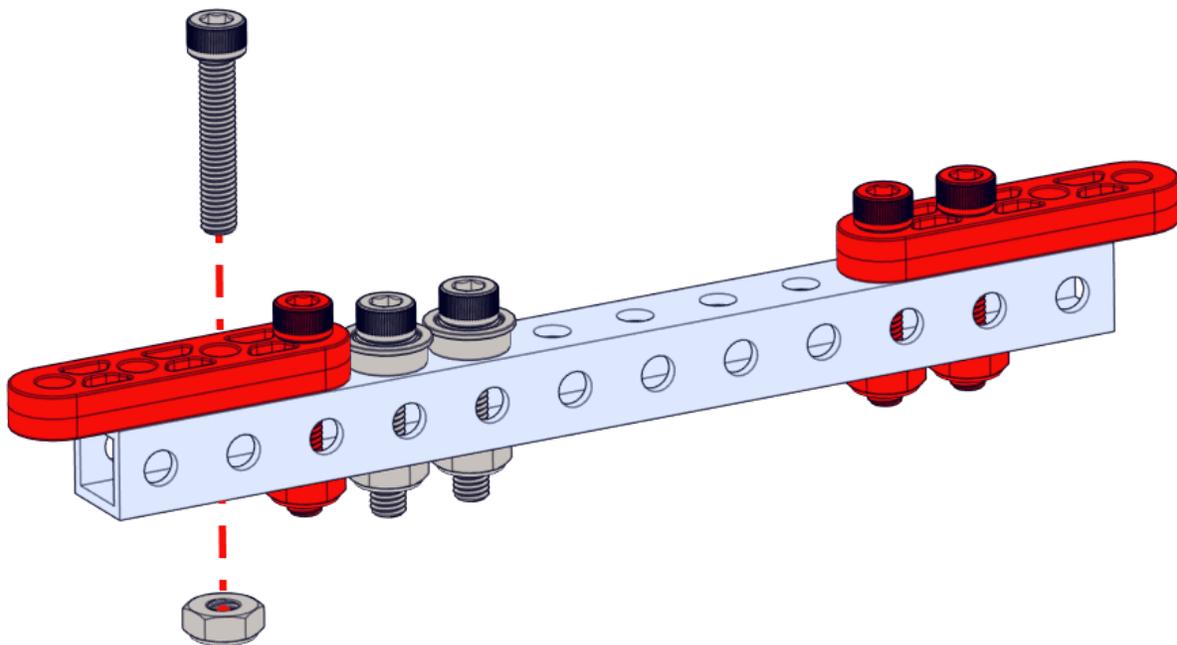
Step 11

Attach [2] 5mm (am-5606) bearings to [1] 0.5" x 0.5" x 6" tube (am-5001-0600) using [2] 1" 10-32 screws (am-1056) and [2] 10-32 nylock nuts as shown. **Once tightened, the bearings should be snug but still freely rotate.**



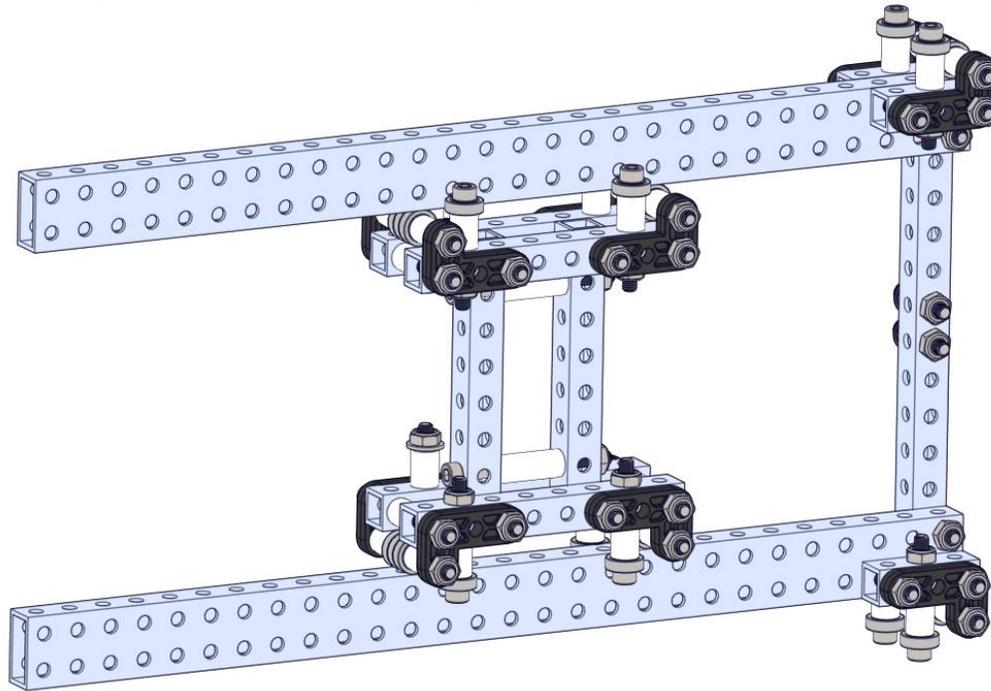
Step 12

Install [2] 1x4 beams (am-5011_1x4) to either side of the tube using [4] 1" 10-32 screws (am-1056) and [4] 10-32 nylock nuts.



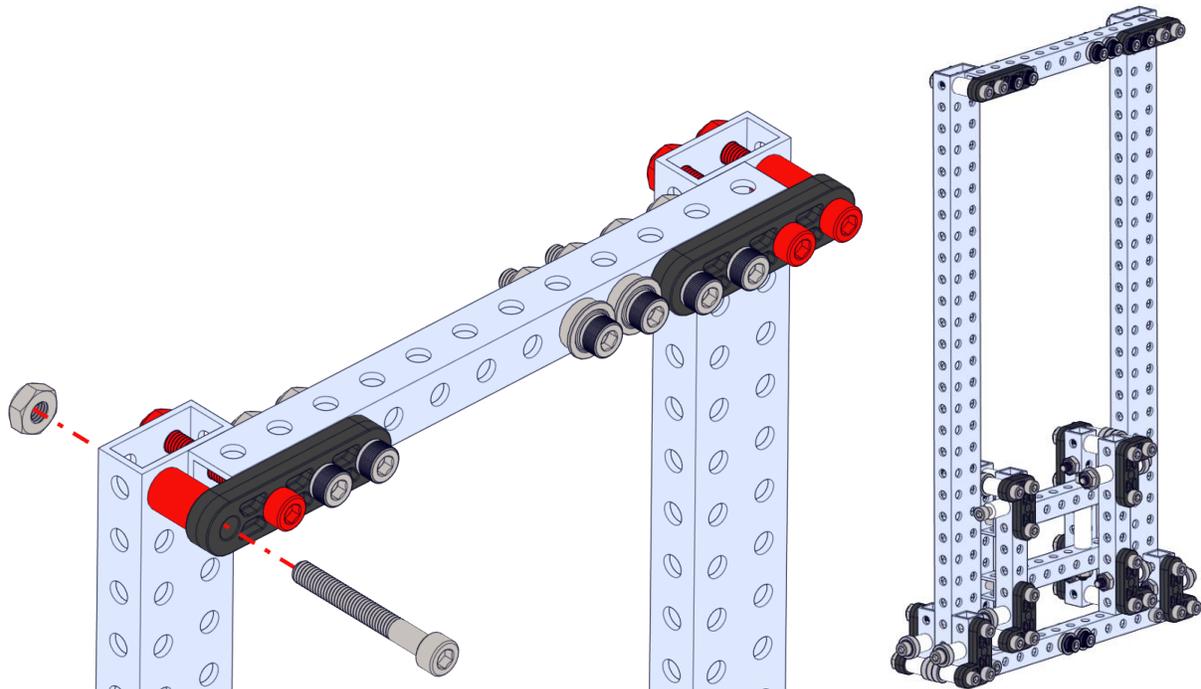
Step 13

Insert the carriage assembly into the first stage as shown.



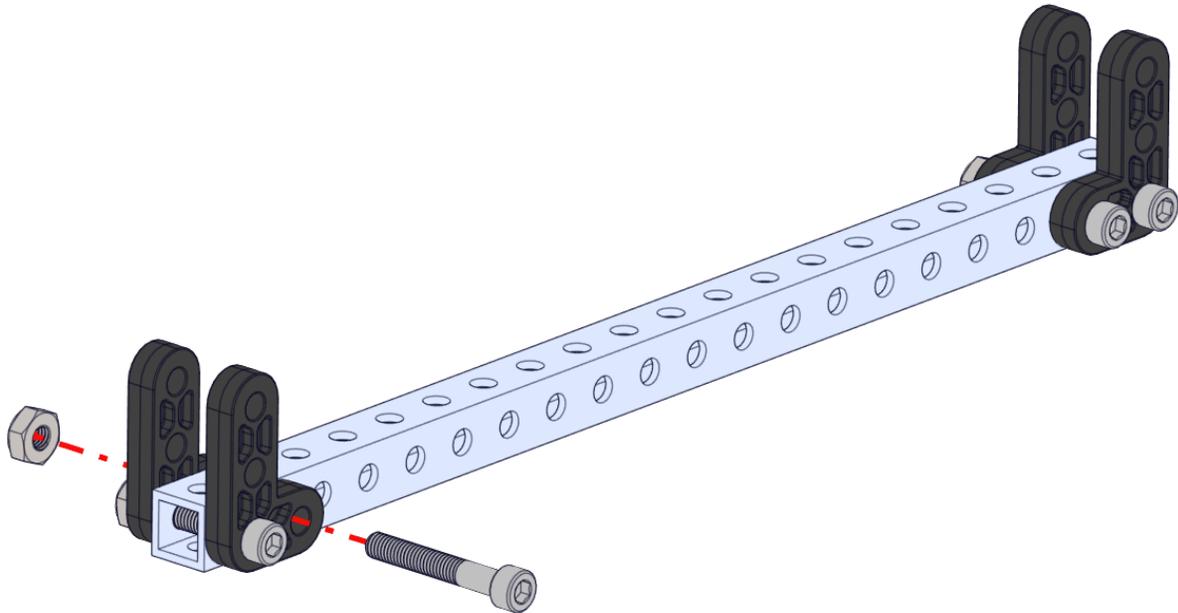
Step 14

Connect the assembly from Step 12 to the top of the first stage to contain the carriage using [4] 1.5" 10-32 screws (am-1014), [4] 10-32 nylock nuts (am-1063), and [2] 0.5" screw spacers (am-1697) as shown.



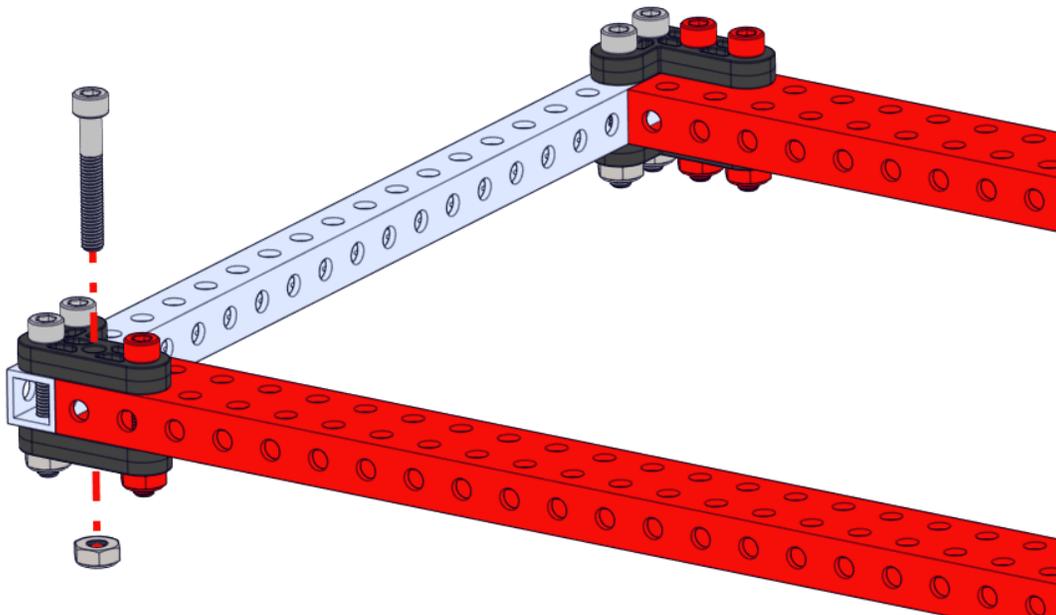
Step 15

Install [4] 2x3 L gussets (am-5004_2x3) on [1] 0.5" x 0.5" x 10" tube (am-5001-1000) using [4] 1.25" 10-32 screws (am-1041) and [4] 10-32 nylock nuts (am-1063).



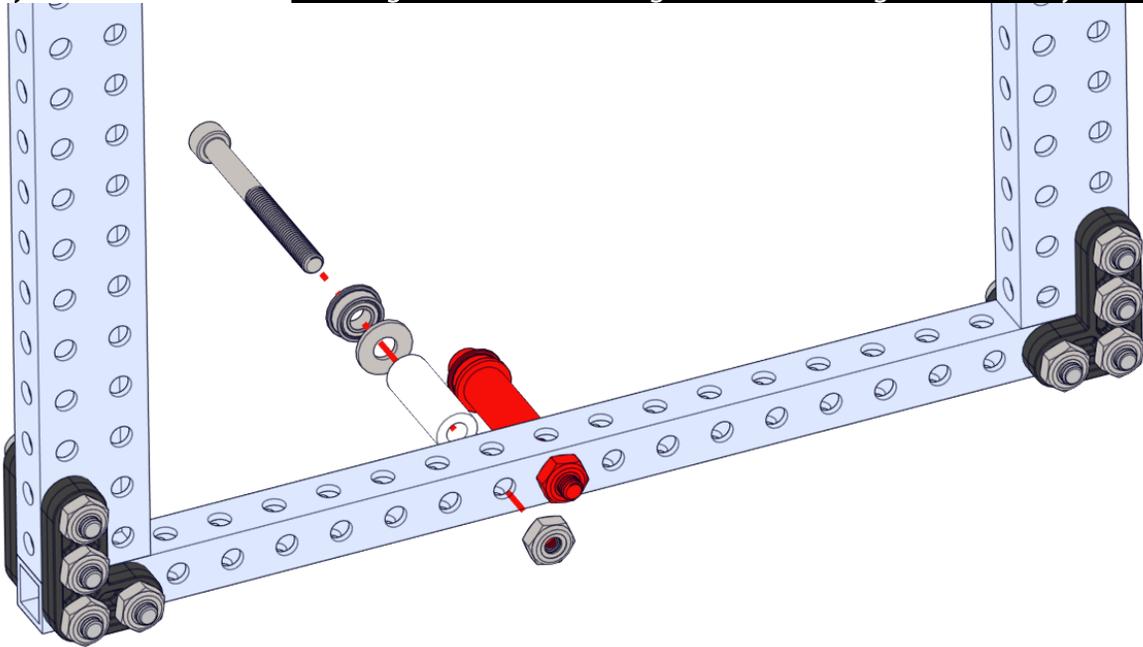
Step 16

Install [2] 1" x 0.5" x 14" tubes (am-5026-1400) between the L gussets in Step 15 using [4] 1.25" 10-32 screws (am-1041) and [4] 10-32 nylock nuts (am-1063).



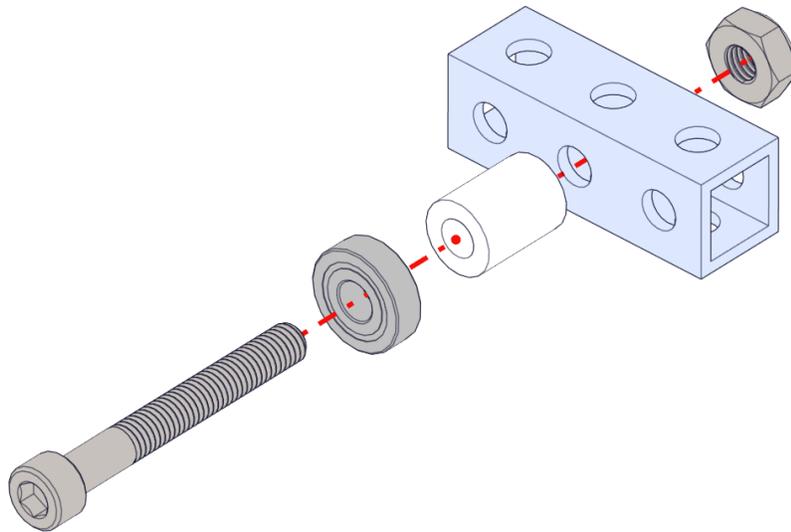
Step 17

Attach [2] 5mm (am-5606) bearings to [1] 0.5" x 0.5" x 10" tube (am-5001-1000) using [2] 2" 10-32 screws (am-1049), [2] 1" screw spacers (am-1696), [2] #10 washers (am-1026), and [2] 10-32 nylock nuts as shown. **Once tightened, the bearings should be snug but still freely rotate.**



Step 18

Install [1] bearing (am-4724) on [1] 0.5" x 0.5" x 1.5" tube (am-5001-0150) using [1] 1.5" 10-32 screw, [1] 0.5" screw spacer (am-1697), and [1] 10-32 nylock nut (am-1063). Repeat to make [4] total Corner Assemblies. **Do not completely tighten these screws. They will be tightened during the carriage installation later.**

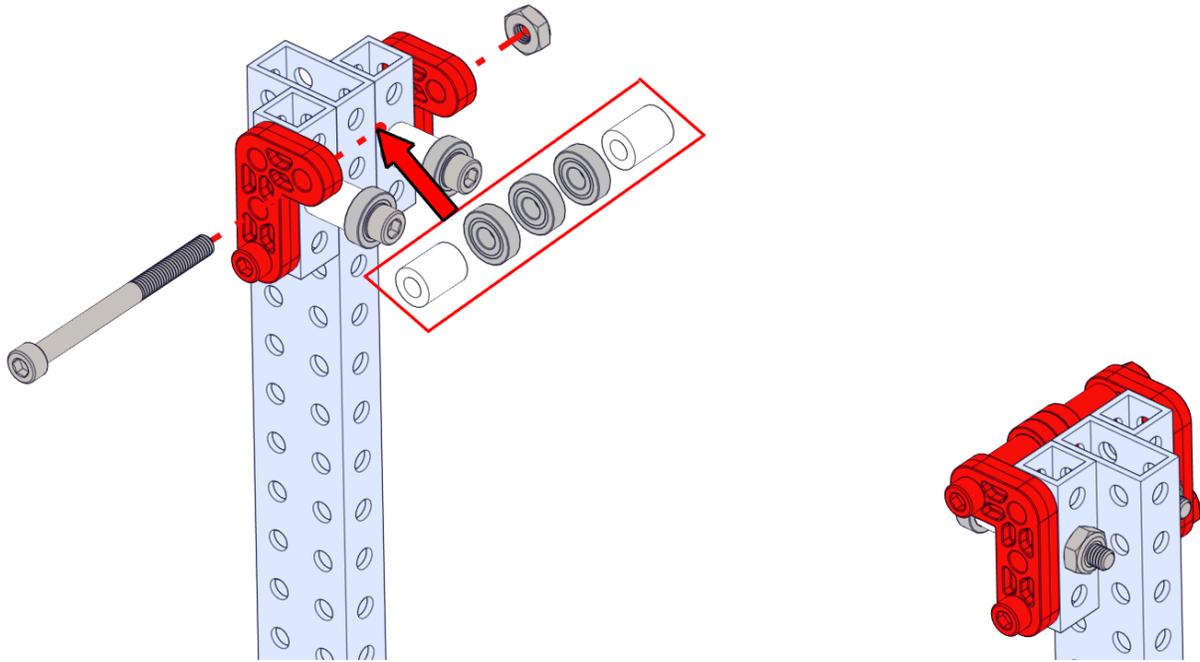


4X



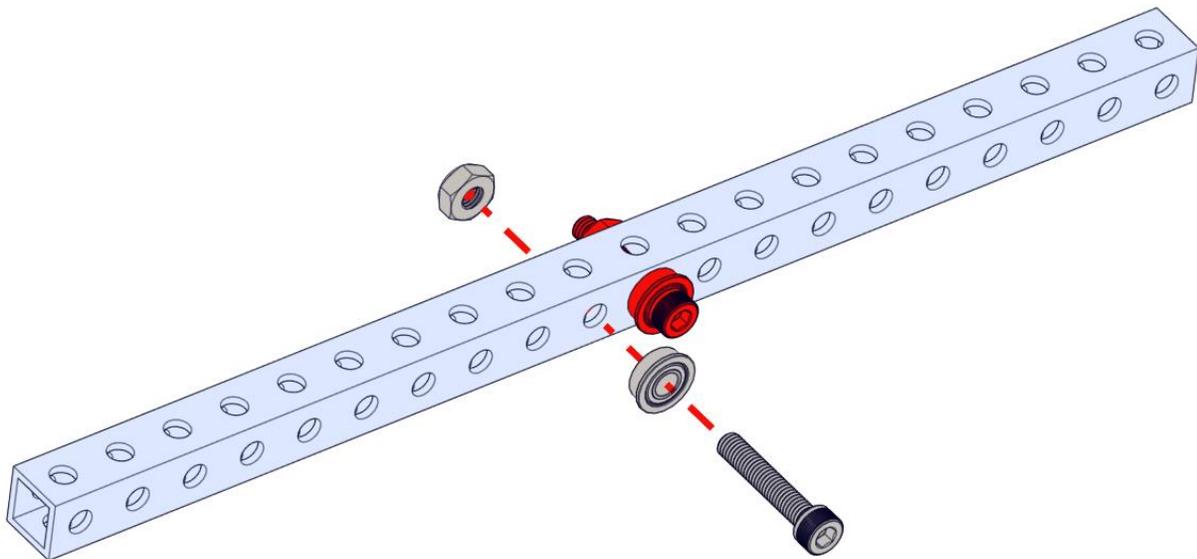
Step 19

Fasten the assemblies from Step 18 to the assembly in Step 17 using [4] 2.25 10-32 screws (am-1156), [4] 2x3 L Gussets (am-5004_2x3), [4] 10-32 nylock nuts (am-1063), [6] bearings (am-4724), and [4] 0.5" screw spacers (am-1697) as shown. Do not completely tighten these screws. They will be tightened during the first stage installation later.



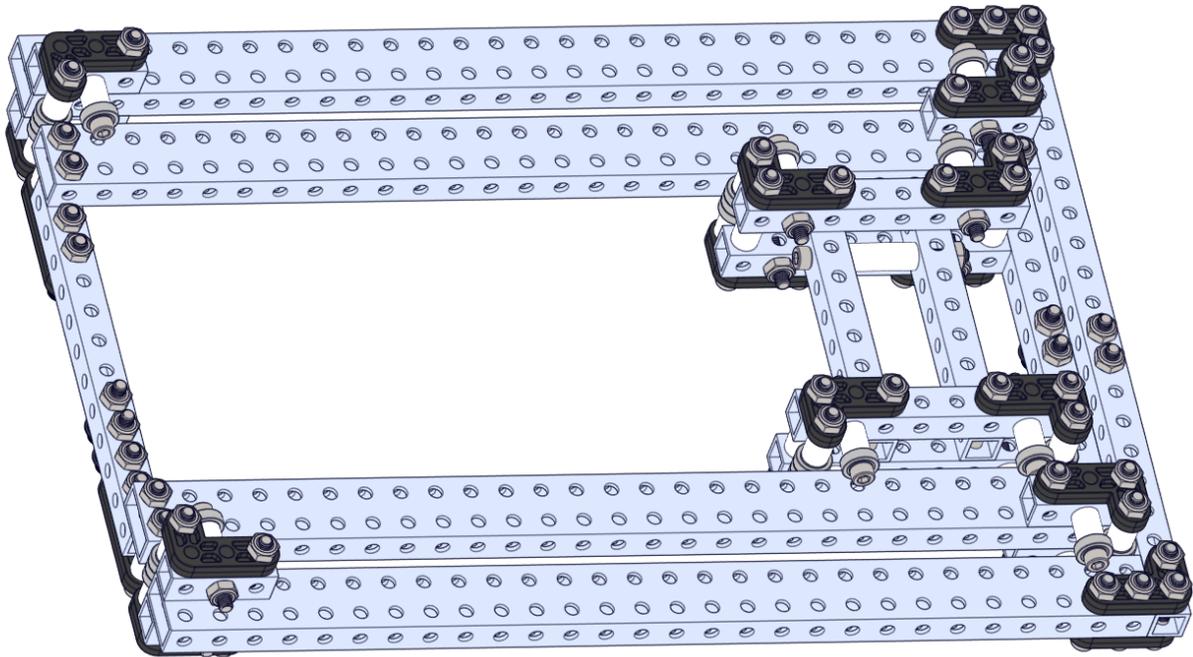
Step 20

Install [2] 1" 10-32 screws (am-1056) with [2] 5mm bearings (am-5606), and [2] 10-32 nylock nuts (am-1063) at the center of [1] 0.5" x 0.5" x 10" tube (am-5001-1000) as shown. Once tightened, the bearings should be snug but still freely rotate.



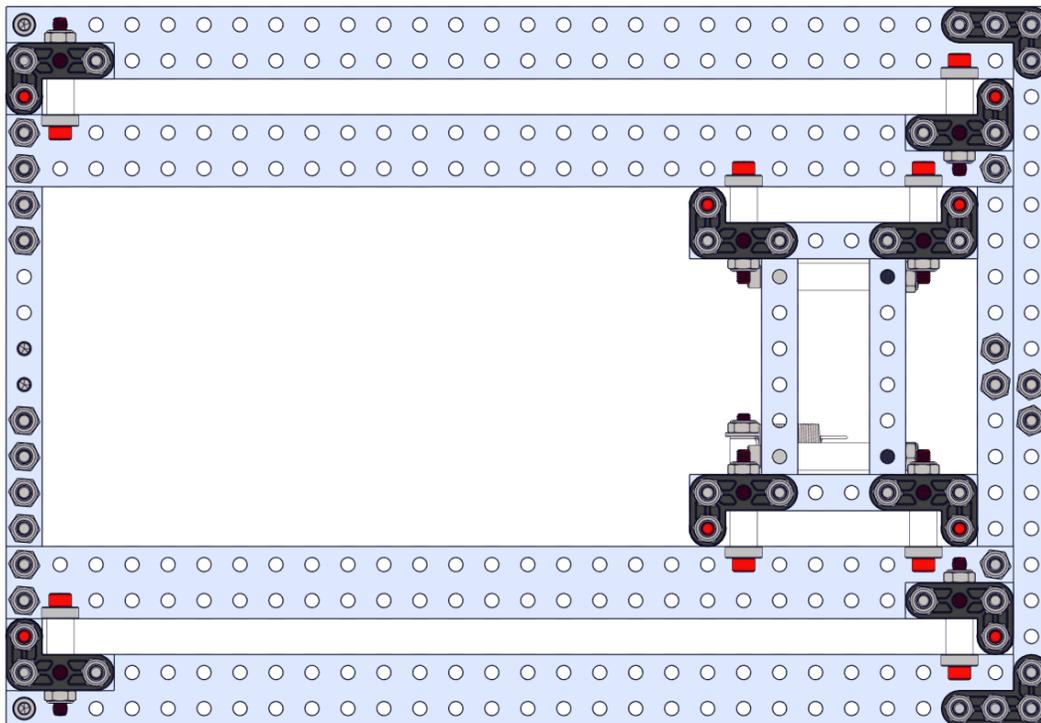
Step 21

Insert the first stage assembly into the frame as shown.



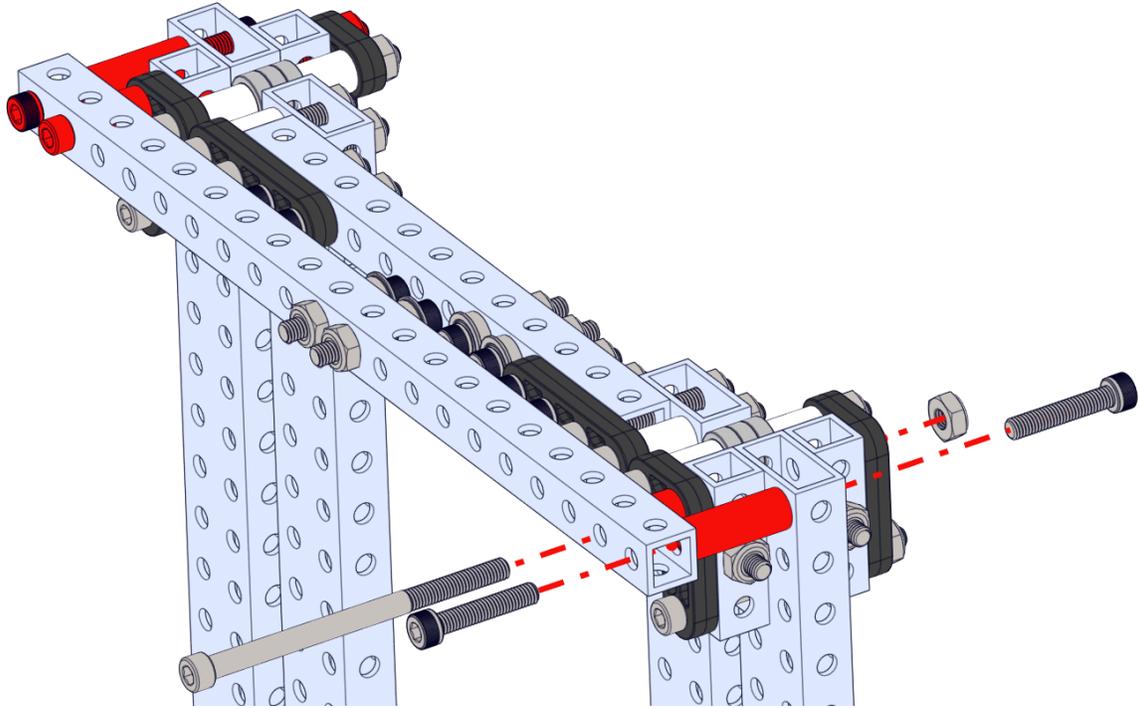
Step 22

Tighten the fasteners indicated below and verify the carriage slides up and down smoothly.



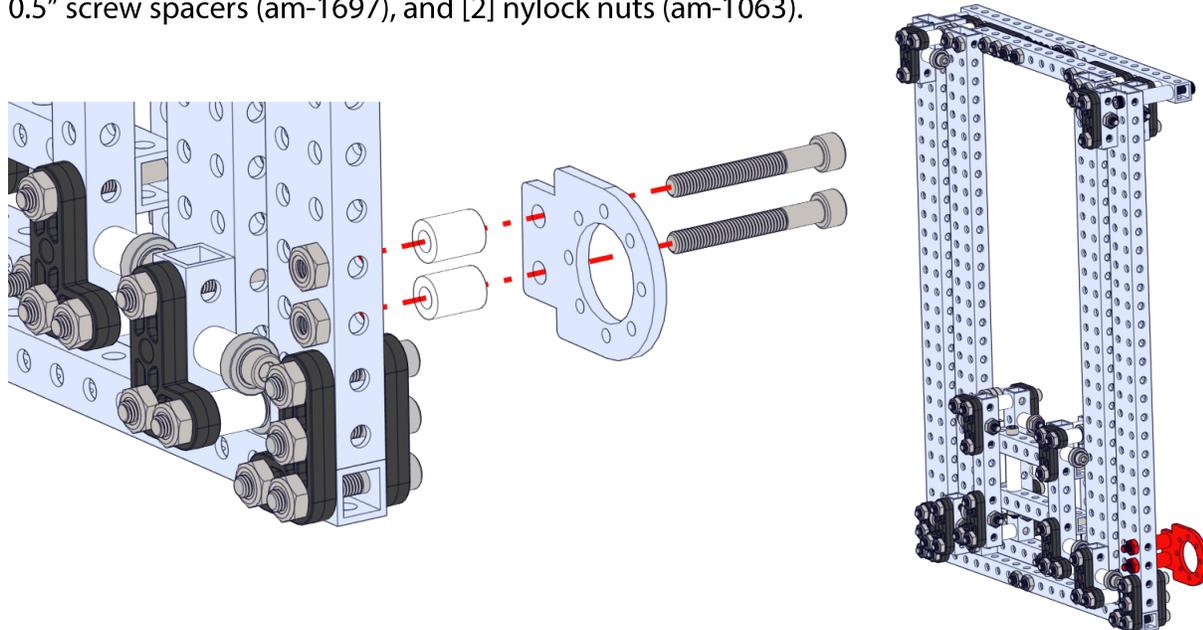
Step 23

Attach the assembly from Step 20 to the frame using [2] 3" 10-32 screws (am-1522), [2] 10-32 nylock nuts (am-1063), [2] 0.25" screw spacers (am-1700), [2] 1" 10-32 standoffs (am-1701), and [4] 1" 10-32 screws (am-1056).



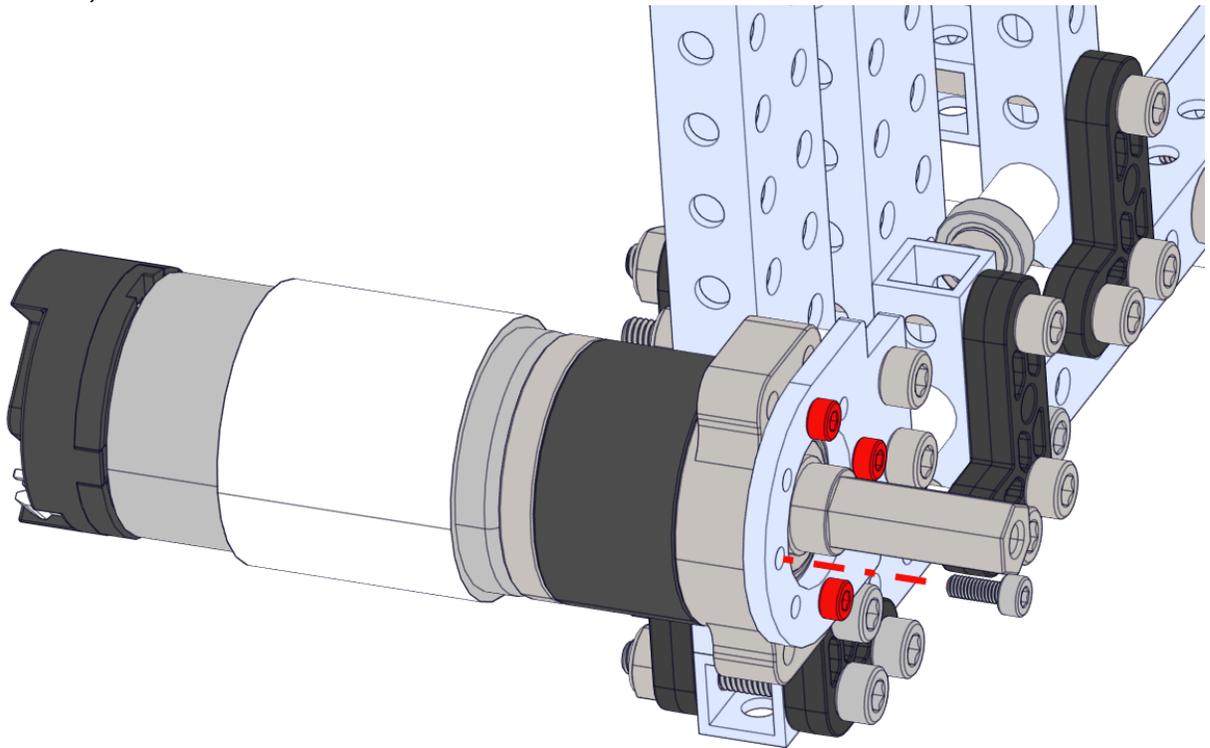
Step 24

Attach [1] motor bracket (am-5012) to the side of the frame using [2] 1.5" 10-32 screws, [2] 0.5" screw spacers (am-1697), and [2] nylock nuts (am-1063).



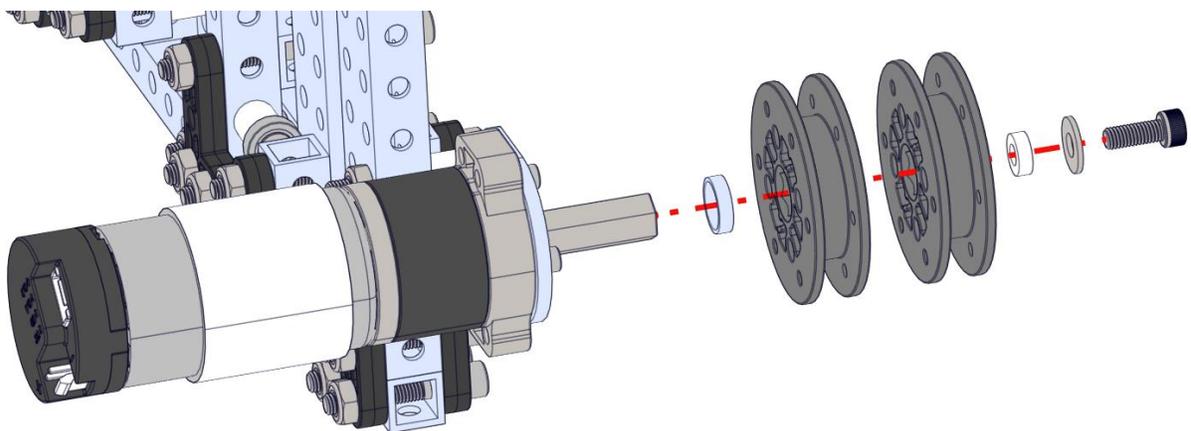
Step 25

Attach [1] NeveRest Hex gearmotor (am-5441) to the motor mount using [4] M3-8mm screws (am-1500).



Step 26

Install [1] 0.125" shaft spacer (am-1742) and [2] spools (am-5036) onto the motor shaft and retain with [1] 0.125" screw spacer (am-1732), [1] #10 washer (am-1026), and [1] 0.5" 10-32 screw (am-1002).



Step 27

String the elevator according to [this video guide](#).

