



Assembly Guide



Spring Extend Assembly



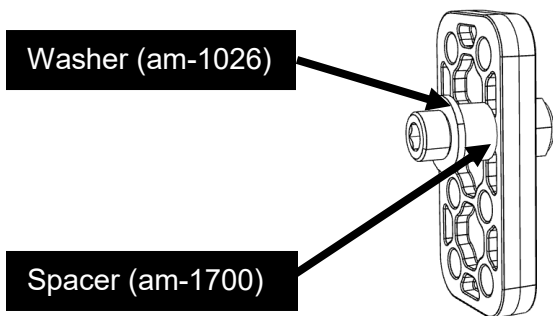
Required Tool List

AM Part Name	AM Part #
Hex Driver, Ball End 2.5mm with Handle	am-3724
Hex Driver, Ball End 3/32" with Handle	am-3173
Hex Driver, Ball End 5/32" with Handle	am-2751
3/8 Combination Wrench	am-4961

Spring Extend Assembly

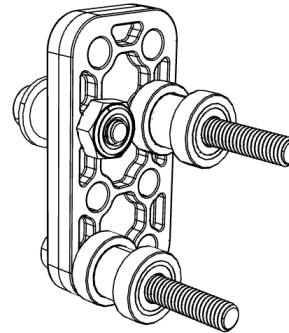
AM Part Name	AM Part #	Quantity
Robits Motor Mount (Side 2 Hole)	am-5012	1
Robits 2x4 Plate	am-5006_2x4	4
Robits 150° Angle	am-5010_150	2
Robits Spool 0.375IN Hex Bore	am-5027	1
1.4mm Power String (100')	am-3159	1
0.500IN Wide, 30IN Long Constant Force Spring	am-4666	1
5mm ID, 13mm OD, 4mm Thick Bearing	am-4724	8
10-32 Nylock Jam Nut	am-1063	13
Screw, SHCS, 10-32 x 0750	am-1047	2
Screw, SHCS, 10-32 x 1000	am-1056	2
Screw, SHCS, 10-32 x 1500	am-1014	6
Screw, SHCS, 10-32 x 2000	am-1049	3
M3-0.5 x 8 mm Socket Head Cap Screw with Thread Patch	am-1500	4
#10 Steel Washer	am-1026	11
Spacer, 0.430 ID x 0.500 OD x 0.500 Long Aluminum	am-1699	1
Spacer, 0.194 ID x 0.375 OD x 0.250 Long Nylon	am-1700	5
Spacer, 0.194 ID x 0.375 OD x 1.000 Long Nylon	am-1696	1
Additional Required Parts – Not Included		
Robits 0.5 x 0.5 Tube (Not Included)	am-5001-XXXX	2
NeveRest Orbital Motor (Not Included)	various	1
6mm D to 375IN Hex-Shaft Adapter (Not Included)	am-3444	1

1. Install one #10 washer (am-1026) and one 1/4" screw spacer (am-1700) onto one 2x4 plate (am-5006_2x4) with one 10-32 x 0750 screw (am-1047) and one 10-32 Nylock nut (am-1063).

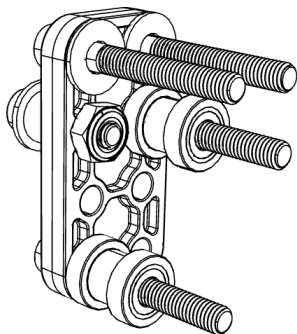


2. Add two bearings (am-4724) with a 1/4" screw spacer (am-1700) between them onto one 10-32 x 1500 screw (am-1047) to create a roller shaft as shown.

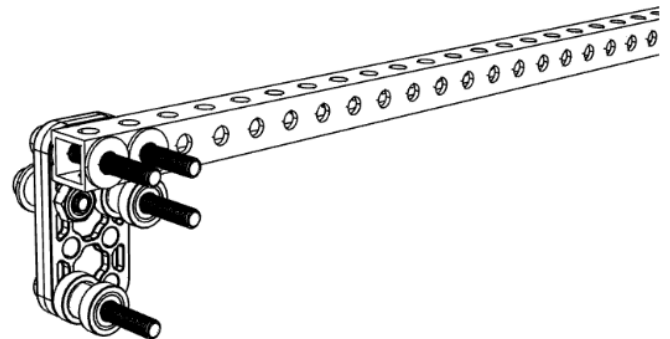
Repeat to create a 2nd roller shaft on the plate in the location shown below.



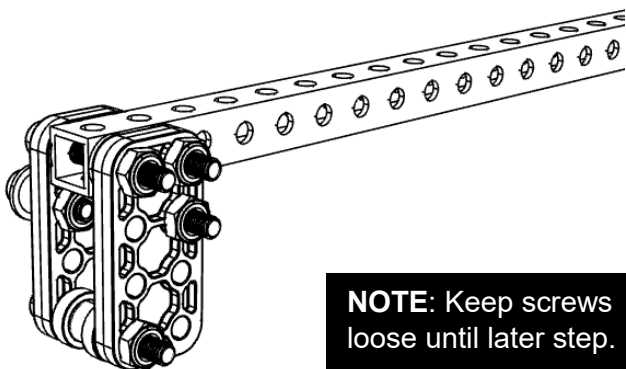
3. Place two 10-32 x 1500 screws (am-1047) through the 2x4 as shown and add a #10 washer (am-1026) on each.



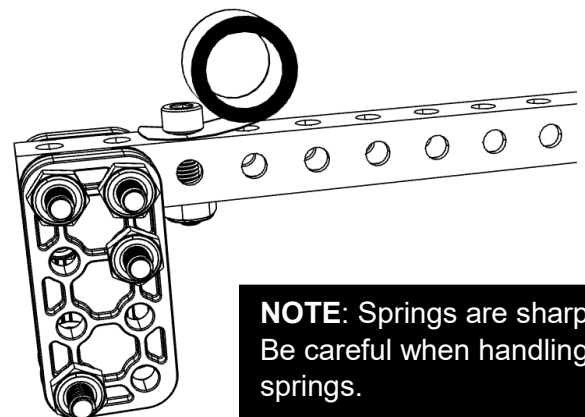
4. Place the top two screws in the assembly through the end holes on one 0.5 x 0.5 Robits Tube. Add a #10 washer (am-1026) next to the tube onto each of the two screws.



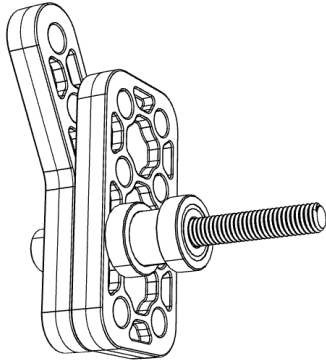
5. Place one 2x4 plate (am-5006_2x4) onto the four screws and loosely secure with four 10-32 Nylock nuts (am-1063).



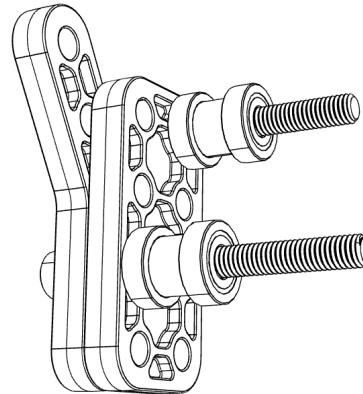
6. Fasten one spring (am-4666) to the next hole on the tube using one 10-32 x 0750 screw (am-1047) and one 10-32 Nylock nut (am-1063).



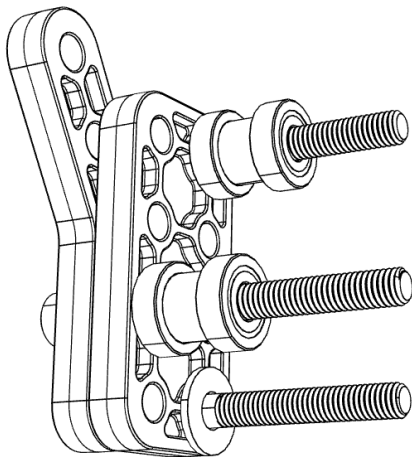
7. Align one 150° angle bracket (am-5010_150) to one 2x4 plate (am-5006_2x4) as shown. Install two bearings (am-4724) with a ¼" screw spacer (am-1700) between onto one 10-32 x 2000 screw (am-1049).



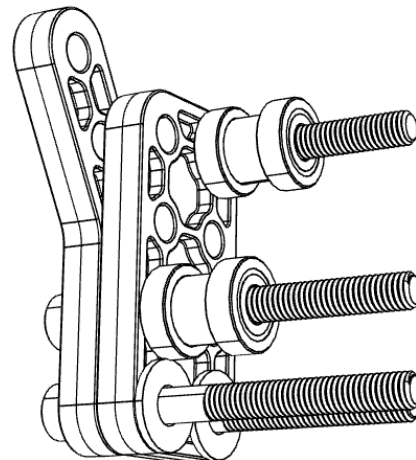
8. Install two bearings (am-4724) with a ¼" screw spacer (am-1700) between them onto one 10-32 x 1500 screw (am-1047) in the plate assembly as shown.



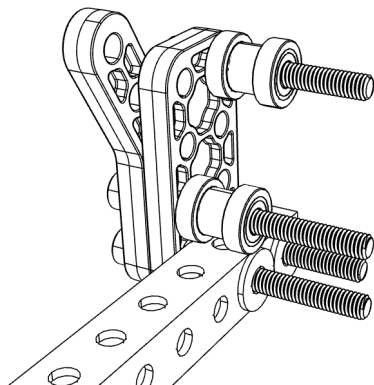
9. Place one 10-32 x 1500 screw (am-1047) through the plate assembly and add one #10 washer (am-1026) to the screw.



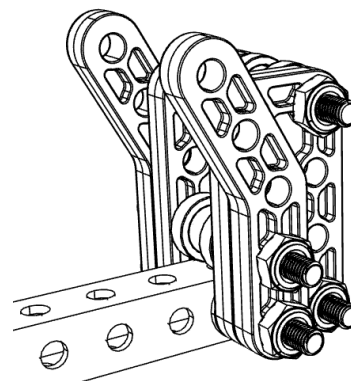
10. Place one 10-32 x 2000 screw (am-1049) through the plate assembly and add one #10 washer (am-1026) to the screw.



11. Place the bottom two screws in the assembly through the end holes in one 0.5 x 0.5 Robots Tube. Add a #10 washer (am-1026) next to the tube onto each of the two screws.

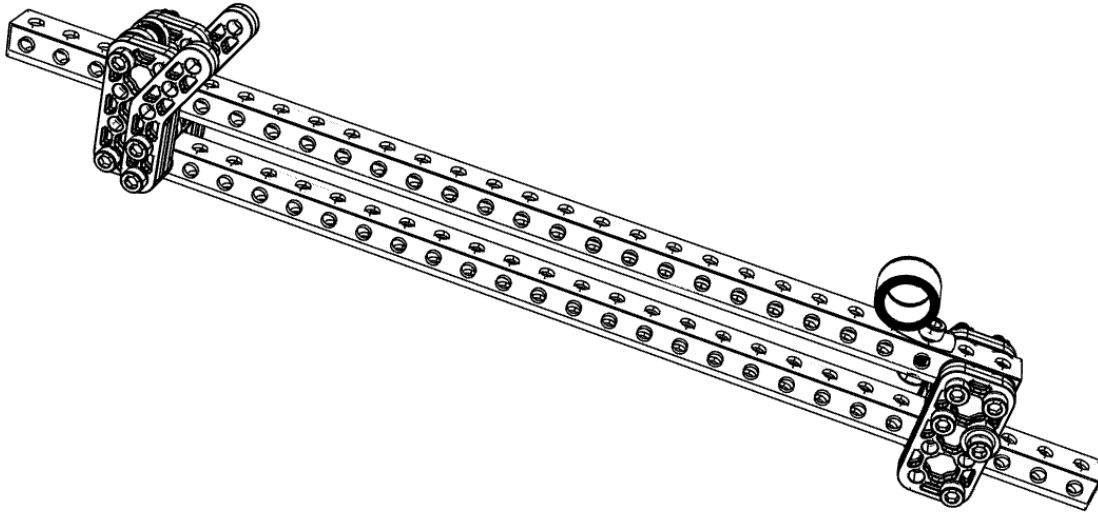


12. Place one 2x4 plate (am-5006_2x4) and one 150° angle bracket (am-5010_150) onto the four screws. Loosely secure with four 10-32 Nylock nuts (am-1063).

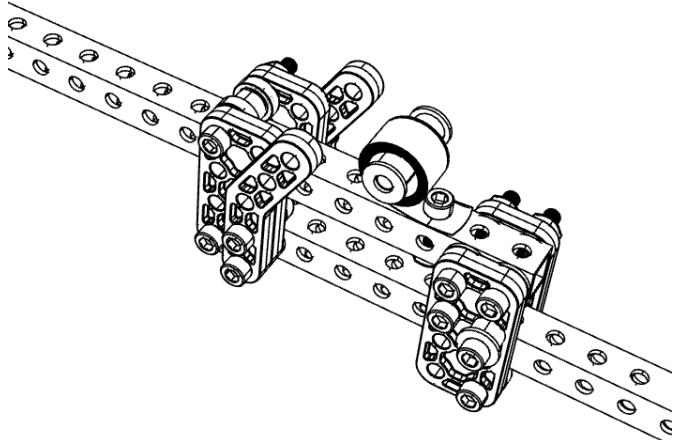


NOTE: Keep screws loose until later step.

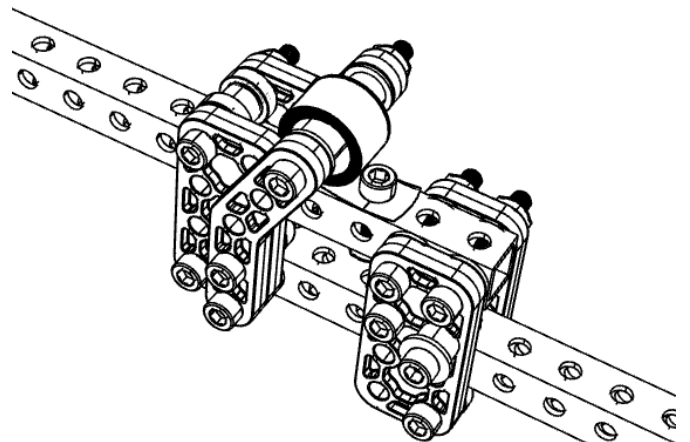
13. Slide the assemblies into each other as shown. The ends of each tube will fit between the bearings attached to each bracket assembly. Tighten all nylock nuts to allow smooth movement.



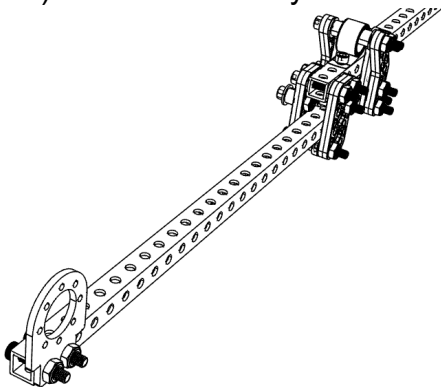
14. Place one 1" screw spacer (am-1696) between two #10 washers (am-1026). This will go inside the spring coil.



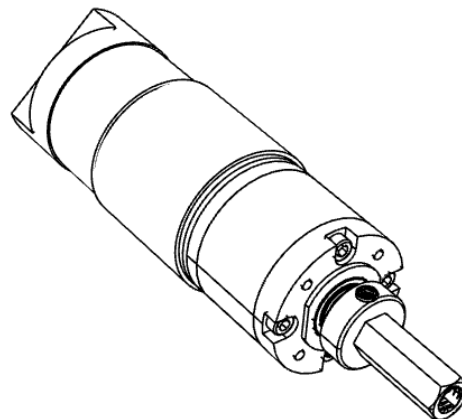
15. Place one 10-32 x 2000 screw (am-1049) through the washers and spacer and secure with one 10-32 Nylock nut (am-1063).



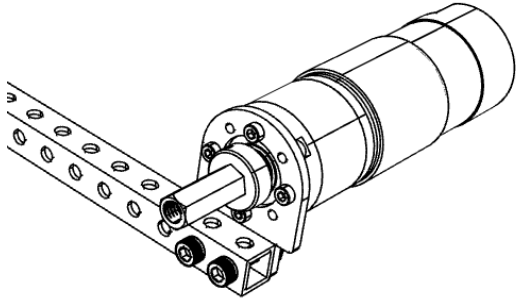
16. Install one motor mount (am-5012) to the end of the 0.5 x 0.5 tube without the spring. Attach with two 10-32 x 1000 screws (am-1056) and two 10-32 nylock nuts (am-1063).



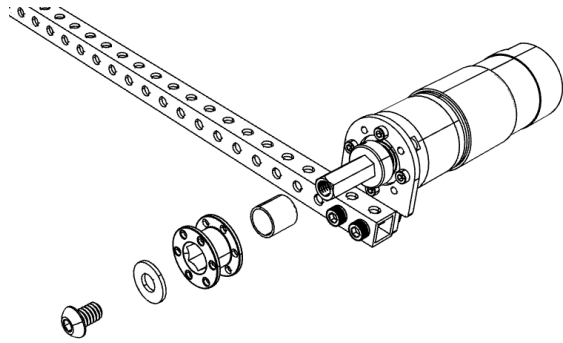
17. Place one 6mm to 375 Hex adapter (am-3444) on the motor shaft. Make sure to secure by tightening the provided 10-32 set screw.



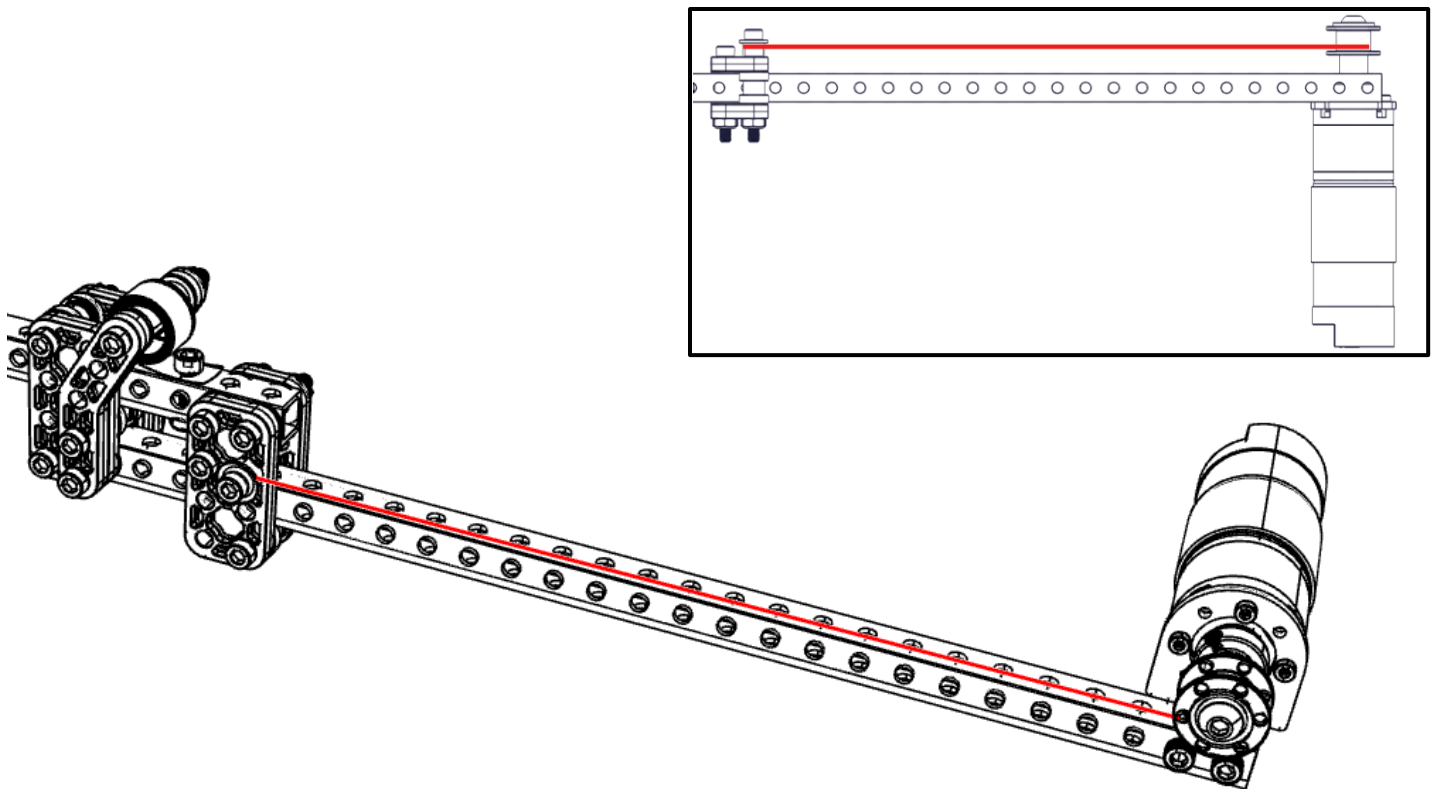
18. Install one NeveRest Orbital gearmotor to the motor mount plate using four M3-8mm patched screws (am-1500).



19. Install one 1/2" shaft spacer (am-1699) and one spool (am-5027) onto the motor shaft. Retain the assembly with the 1/4 inch washer and screw provided with the adapter.



20. Tie a length of string from the 1/4" screw spacer on the extension to the spool.



The Spring Extend Assembly is complete! When the motor turns the string will wrap around the spool and extend the spring.

Note: Be careful when using springs. The edges are sharp and are dangerous when extended.