



Passive Hanger Hook Kit Assembly Directions



Recommended Tool List

Component	Used On	Product Number	Product Photo
1 - Cordless Drill or Driver	Drivers	Not Available from AndyMark	
1 - 7/16 in. Magnetic Driver	1/4-20 Hex Head Screws	am-2756	
1- 3/8 in. - 7/16 in. Combo Wrench	1/4-20 Nuts	am-2745	
2 - 1/2 in. - 9/16 in. Combo Wrench	3/8-16 Hex Head Screws & 3/8-16 Nuts	am-2746	
1 - 4.5 in. Diagonal Cutters	Cable Ties & Surgical Tubing	am-3910	

am-4689 Components

Component	Product Number	Qty	Product Photo
3/8-16 Nylock Nut	am-1054	2	
1/4-20 Nylock Jam Nut	am-1102	20	
0.375 In. ID 0.5 In. OD Bushing	am-1371	4	
1/4 in. Inside Diameter Fender	am-1421	2	
8 in. Black Cable Tie	am-1552	10	
1/4-20 x 3.5 in. Hex Head Screw	am-1605	2	
1/4-20 x 2.0 in. Hex Head Screw	am-1624	4	
3/8-16 x 2.25 in. Hex Head Screw	am-1625	2	
1/4-20 x 0.75 in. Hex Head Screw	am-1626	10	
1/8 in. ID 3/8 in. OD 5 ft. Long Black Surgical Tubing	am-3581-5	1	
0.5 in. OD 0.257 in. ID 1.125 in. Long Aluminum Spacer	am-3944	6	
Passive Hanger Backing Plate	am-4689_back	2	
Passive Hanger Double Hook Plate	am-4689_hook	4	

STOP AND READ BEFORE ASSEMBLY:

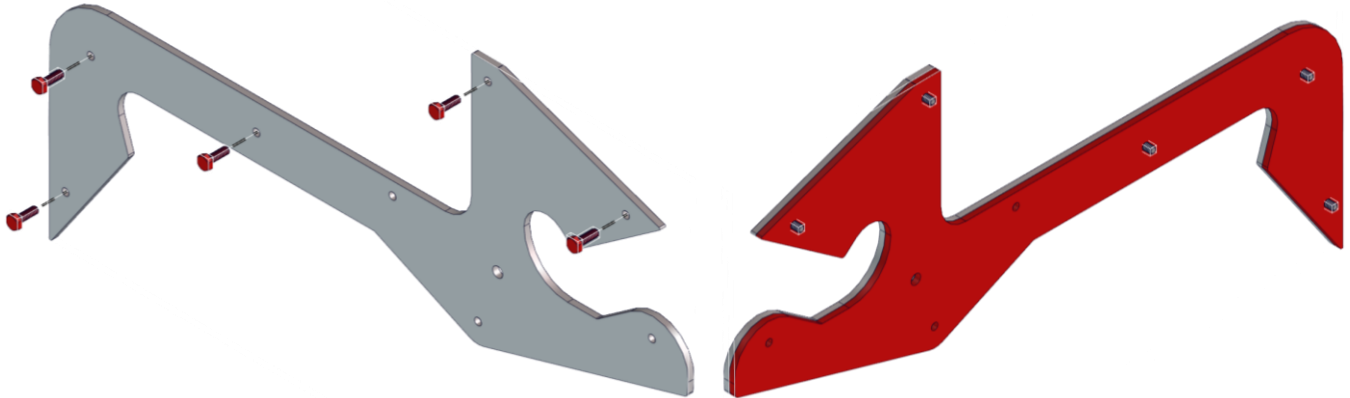
This passive hanger hook kit is inspired by the efforts of the Everybot team. The hook geometry uses their design with few small tweaks.

This passive hanger hook kit is intended to be used with the AndyMark Passive Hanger Structure Kit, am-4690. The directions for that structure kit set you up to use this hook kit. This hook kit may be used with your own custom structure kit however.

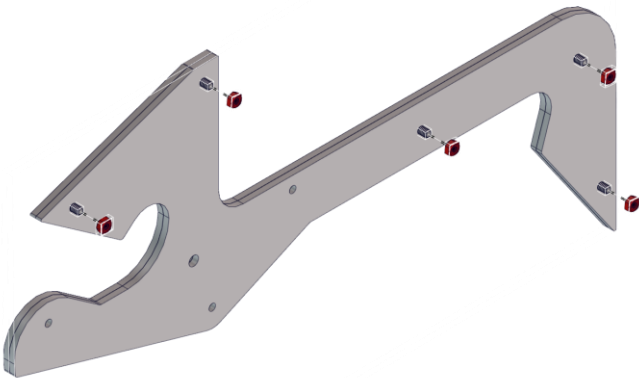
One of the final steps is attaching the surgical tubing between the hook kit and the structure kit. The tension the surgical tubing provides to the hook assembly will need to be dialed in. The tension should be great enough to prevent the hook assembly from freely leaving either position, but not so great to prevent its travel. You may need to try a few different levels of tension to find the right amount.

Hook Assembly

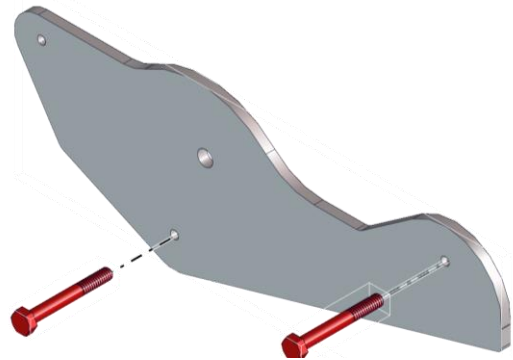
Step 1: Insert five 1/4-20 x 0.75 in. Hex Head Bolts (am-1626) from the left side of a Double Hook Plate (am-4689_hook) at the locations shown through two Double Hook Plates. This will build a right hook assembly. Follow these steps completely before starting a left hook assembly.



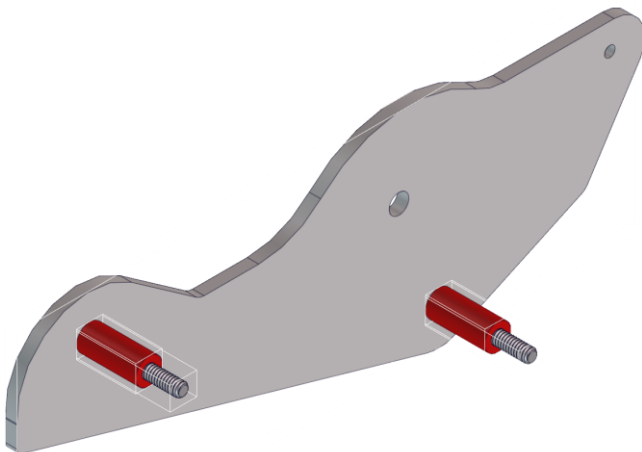
Step 2: Secure the Double Hook Plates together with five 1/4-20 Nylock Jam Nuts.



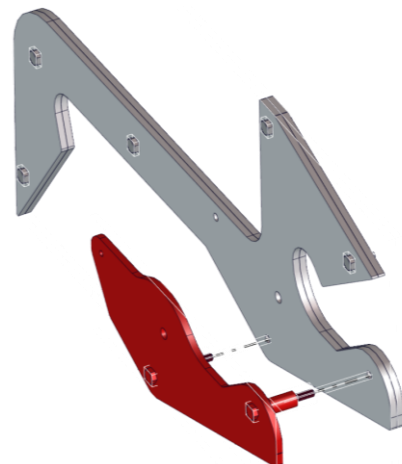
Step 3: Insert two 1/4-20 x 2.0 in. Hex Head Screws (am-1624) through the two holes closest to the flat edge on a Passive Hanger Backing Plate (am-4689_back).



Step 4: Place two Aluminum Spacers (am-3944) over the screws.

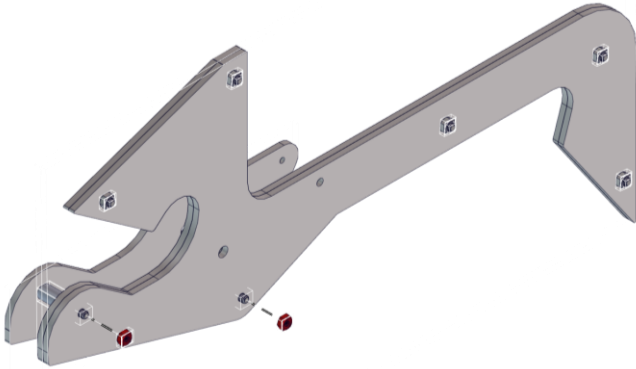


Step 5: Insert the two screws of the Backing Plate Assembly into the Double Hook Plate Assembly as shown.

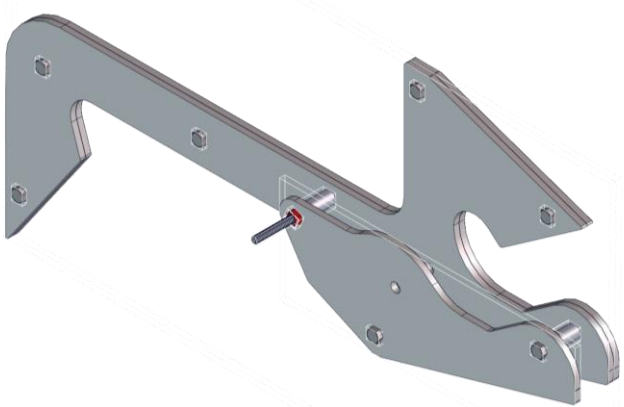


Hook Assembly

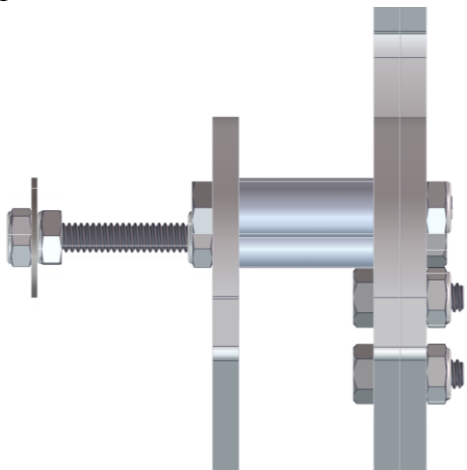
Step 6: Secure the two assemblies together with two 1/4-20 Nylock Jam Nuts.



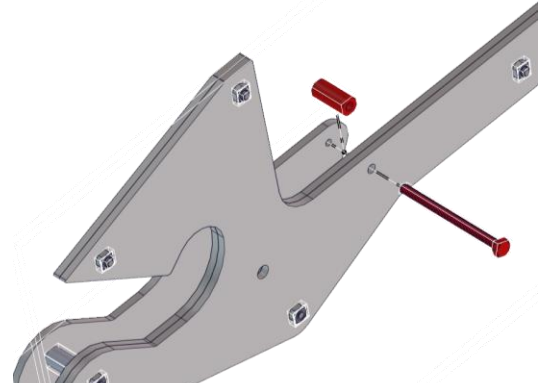
Step 8: Secure the screw on the opposite side with a 1/4-20 Nylock Jam Nut.



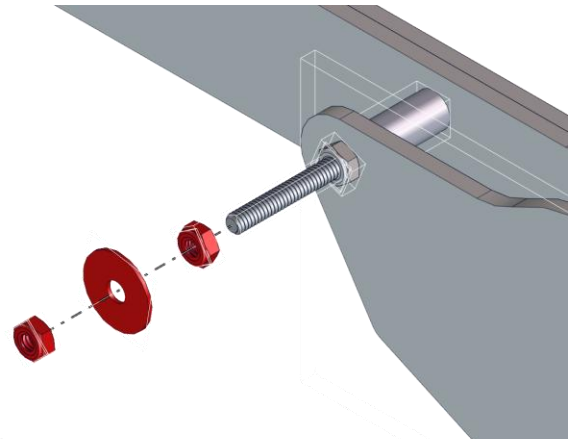
Step 10: Ensure the outermost Nylock Jam Nut is fully engaged with the screw threads.



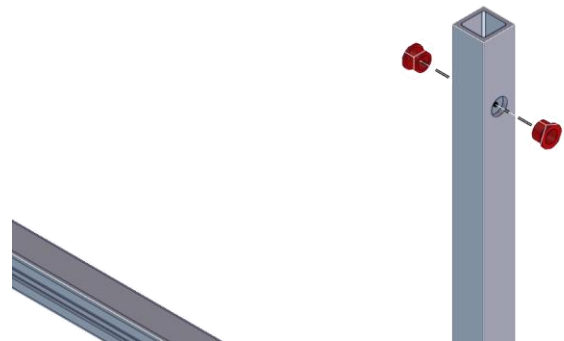
Step 7: From the Double Hook Plate side of the assembly hold an Aluminum Spacer between the right most open hole and pass a 1/4-20 x 3.5 in. Long Hex Head Screw through the three plates and spacer



Step 9: Onto the end of this screw, add an additional 1/4-20 Nylock Jam Nut, Fender Washer (am-1421) and one more 1/4-20 Nylock Jam Nut.

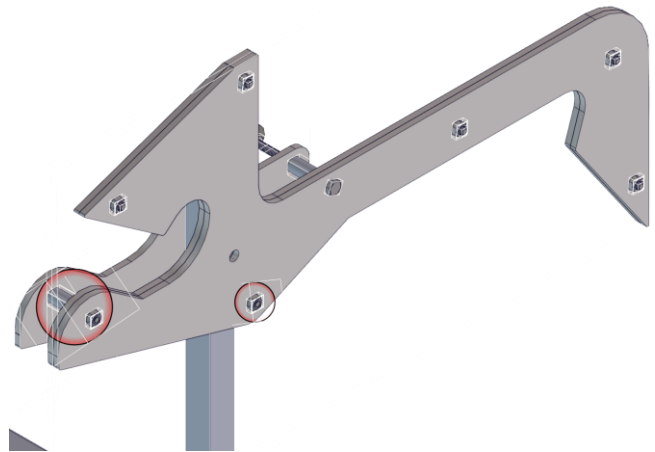
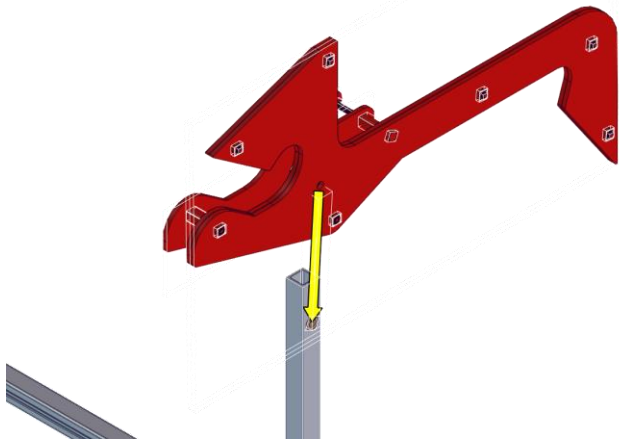


Step 11: Insert two of the Bronze Bushings (am-1371) into the hook pivot point holes. These are the topmost holes on the Passive Structure Kit.

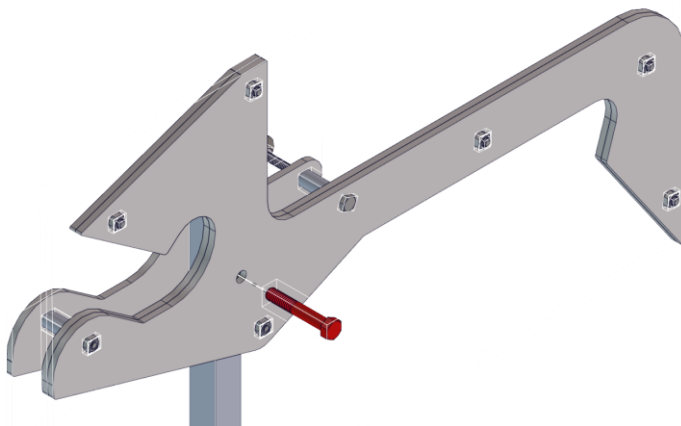


Hook Assembly

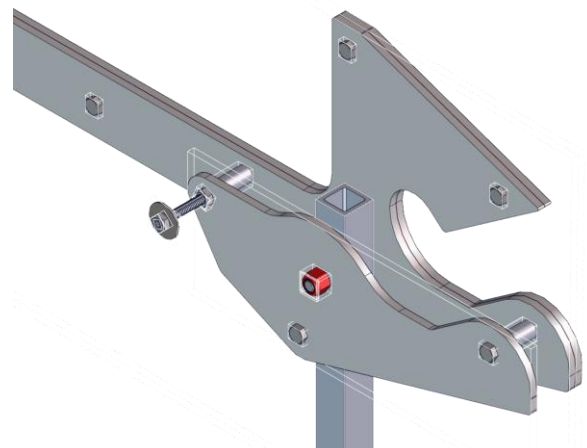
Step 12: Slide the Hook Assembly over the Structure Kit. Ensure the spacer closest to the long hook remains in front of the Structure Kit, while the spacer at the opposite end remains behind the Structure Kit.



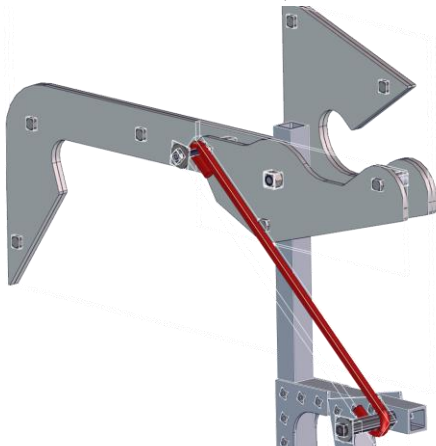
Step 13: Line the remaining open hole of the Hook Assembly, with the bushings, and pass the 3/8-16 x 2.25 in. Hex Head Screw through.



Step 14: Secure the assemblies together with a 3/8-16 Nylock Nut (am-1054.) Do not over tighten. The Hook Assembly should still easily pivot.



Step 15: Cut 15 -17 inch long sections of surgical tubing. Then, using two cable ties (am-1552) secure the Surgical Tubing (am-3581-5) to the exposed screws on the Hook Assembly and Structure Kit.



Step 16: Create a mirrored assembly for a complete Passive Hanger Hook Kit.

