



# **Pulley System for Ludwig Aerial Rig** **Instruction Manual**

Updated as of 9/16/20

Hello! Thank you for purchasing this Pulley System for Ludwig Aerial Rigs from VVolfy MetalWorks. We hope you enjoy using your rig with this new feature. With this pulley system you can:

- Remove your apparatus completely when not in use,
- change between multiple different apparatus fast!
- set your apparatus at varying heights.

**Remember that Aerial Acrobatics is inherently dangerous. Ultimately, you are responsible for your own safety. Thorough understanding of the equipment and setup process is paramount. Please take plenty of time to read these instructions carefully for successful setup and safe use of your new pulley system. See the last page for recommended resources for additional education.**

**At this time, we are in the process of making an instructional video to make the setup process even easier. In the meantime, if you would like to schedule a video call with Customer Service Specialist from VVolfy Metalworks to answer any question or to help guide you through your whole setup process, please do call, text, or email us ASAP at 415-302-4221 or [meredith@vvolfy.com](mailto:meredith@vvolfy.com) Make sure to read Instruction Manuals for both the Ludwig Aerial Rig and this Pulley System at least once before contacting customer service. This will make the learning process much more efficient! Also, by reading all the way through these instruction manuals, you will likely find most (if not all) the questions you may have are answered in the manuals.**

**At VVolfy MetalWorks, safety is the absolute top priority. We will do our very best to be available and to get you the information you need ASAP. If you are uncertain about something, please refrain from using this pulley system until you are able to get in contact with someone at VVolfy Metal Works.**



## **Initial Information:**

- This is a **Symmetrical 2:1 Mechanical Advantage System**.
- It is **not** recommended to use the pulley system to raise or lower an aerialist (or any living being) while on an apparatus.
- **Never** mount the apparatus with one or both ends of the rope unsecured. To secure both ends of rope, follow instructions in Step 10 exactly.
- **No knots** need to be tied in the rope to set up this system. This is to help maintain full strength of the rope.
- Just like when driving a car, **please make sure all participants are of sober mind when interacting with this equipment - during setup, use, and take down of all aerial equipment.**
- If left set up for more than one time use, remember to check your equipment before every time it is used. Look to make sure the equipment was not changed or damaged by weather, animals, other persons, or anything else. Always double check everything is set up according to instruction manuals.

## **Step 1: Read Both of Your Instruction Manuals, At Least Once!**

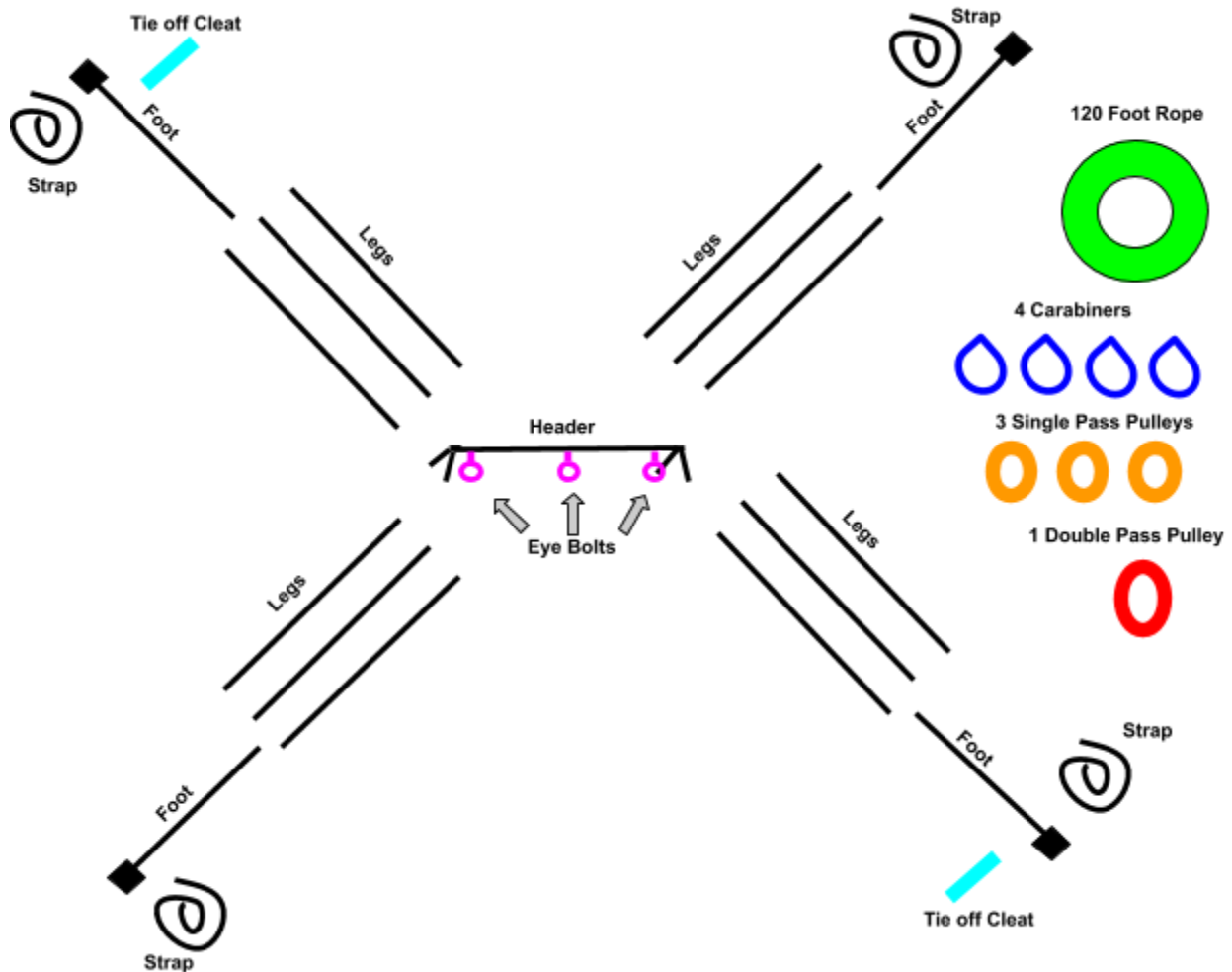
- ❑ Carve out enough time to read both the Ludwig Aerial Rig **and** this Pulley Systems instruction manuals thoroughly before attempting to begin setup! One to two hours is recommended. Do Not Rush this part!
- ❑ Ludwig Aerial Rig instruction manual is found here:  
[http://damnhot.com/trapeze/new\\_style\\_portable\\_rig\\_manual.htm](http://damnhot.com/trapeze/new_style_portable_rig_manual.htm)
- ❑ Make sure that each person you plan to have help you has also had time to read through both this Pulley System Instruction Manual and the Ludwig Aerial Rig Instruction Manual before the time they are expected to help with setup. It is recommended to have 3 or 4 people to set up the Ludwig Aerial Rig.



## **Step 2: Lay Out All of your Equipment**

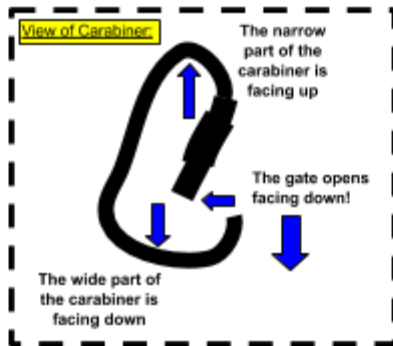
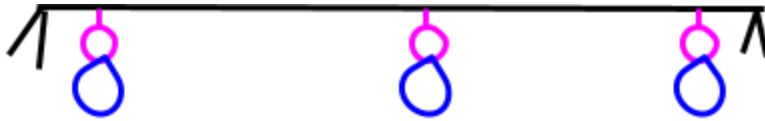
- ❑ Your Ludwig Rig must be disassembled in order to set up the pulley system. (If your Ludwig Aerial Rig is already set up, and you have access to the header via a ladder and have questions about how to set up this way, please contact VVolffy Metal Works Customer Service.)
- ❑ Gather your team of 3 to 4 people.
- ❑ Place the header with 3 eyebolts on the ground, roughly beneath where you want your aerial point to be when the rig is set up. (If you ordered your rig with 3 eye bolts, they should already be installed. If not, see the instruction manual for the Ludwig Aerial Rig for Eye Bolt installation. Install the eye bolts into the outermost holes in the header now.)
- ❑ Place the legs slightly out from the header in the directions in the general area where they will all be going once the Aerial Rig goes up. (It does not matter how many legs you have. This pulley system will fit any Ludwig Aerial Rig 7 to 20 feet high. In the image we have shown 3 aerial rig legs.)
- ❑ Place the feet of the rig out beyond the legs in the general area where they will be going once the aerial rig is set up.
- ❑ Place the Tie Off Cleats near two aerial rig feet diagonal from each other. (See the Ludwig Aerial Rig instruction manual for Tie Off Cleat installation.)
- ❑ Place one strap each near each group of legs so they are ready to go on once the aerial rig is up. There should be 4 straps for 4 different groups of legs.
- ❑ Now that all your equipment is out, take a few minutes to visually inspect each item. Make sure you have every item listed in the Ludwig Aerial Rig Items List, including the small hardware list and the items for the Pulley System. Also make sure every item looks new. If you discover any dents, bends, scrapes, breaks in any item or if something is missing, please refrain from attempting to set up your aerial rig and report your findings to VVolffy Metal Works Customer Service.

See the diagram below for an example of equipment layout.



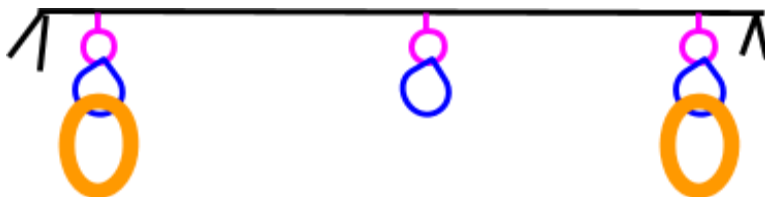
### Step 3: Clip 1 Carabiner on each Eye Bolt (3 total)

- ❑ Clip on 3 carabiners, 1 on each of the 3 eye bolts.  
(note: If you have more than 3 eye bolts, clip carabiners to the outermost eye bolts. If you only have one eye bolt, you may clip your carabiners to the holes in between the aerial rig legs on the outermost sides of the header.)
- ❑ These are automatic locking D shaped carabiners. Make sure the wider part of the carabiner is facing the floor and the gate opens towards the floor.



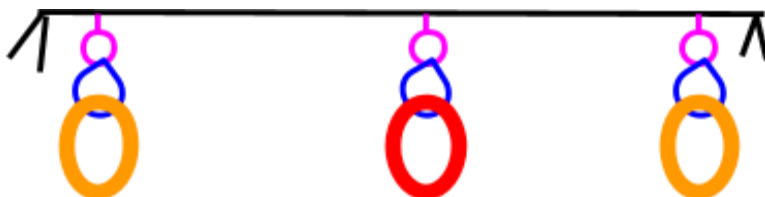
#### **Step 4: Clip 2 Single Pass Pulleys to the Outermost Carabiners**

- ❑ Make sure the carabiner goes through 2 plates on the pulley. There are only 2 plates on the single pass pulley.



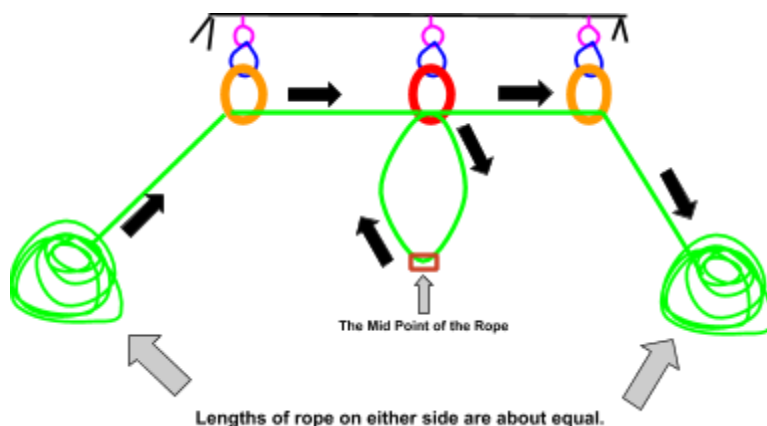
#### **Step 5: Clip 1 Double Pass Pulley to the Middle Carabiner**

- ❑ For the double pass pulley, clip this carabiner (that is connected to the header) through 3 plates, the black plate, the center plate, and the outer red plate. There should be one (the center) plate with a hole left sticking out at the bottom of the pulley.



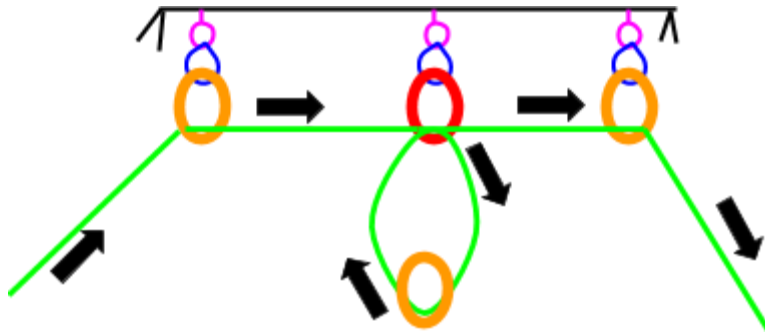
## Step 6: Run the Rope Through

- ❑ Take the rope on one side of the header. Run it in through one single pass pulley.
- ❑ Continue the rope into one side of the double pass pulley.
- ❑ Make a loop about the size of a basketball. Maintain that space in the rope for Step 7.
- ❑ Continue the Rope back up through the same side of the double pass pulley, but bring the rope through the other wheel, so that the rope runs parallel to itself at the top of the pulley.
- ❑ Bring the rope all the way through the single pass pulley on the opposite side of the header from where you began.
- ❑ Pull the rope all the way through so that the center of the rope is at the bottom of the basket ball sized loop under the double pass pulley. Estimate the center of the rope by looking to see that the lengths of both ends of the rope are about equal to each other as they exit the single pass pulleys.



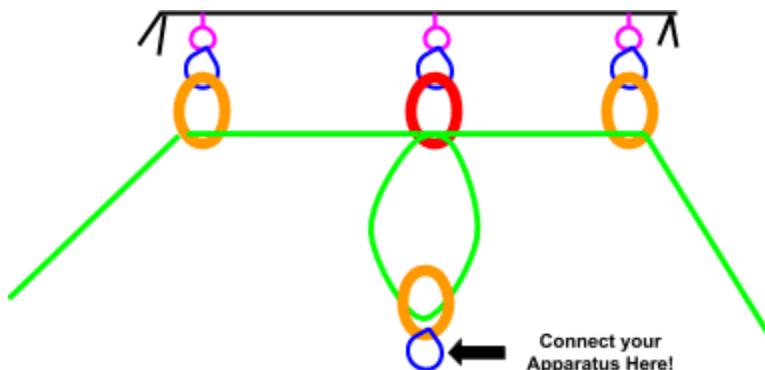
## Step 7: Place the 3rd Single pass Pulley on the Rope at the Bottom of the Loop

- ❑ Slide the two plates of the single pass carabiner apart from each other.
- ❑ Place the Rope into that space.
- ❑ Slide the plates back together. Make sure
  - ❑ The wheel of the pulley sits evenly on the rope
  - ❑ 2 plates with holes are in line with each other and facing down.



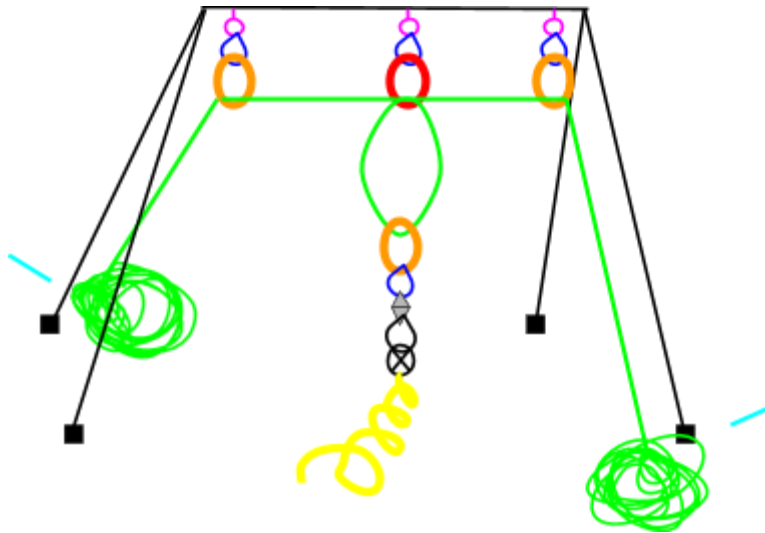
### **Step 8: Clip the 4th Carabiner onto the Single Pass Pulley at the bottom of the Loop**

- ❑ Make sure the wider part of the carabiner is facing the floor and the gate opens towards the floor. (Refer to the image on Step 3.)
- ❑ This is the point from which you will hang your apparatus! Go ahead and clip your apparatus (or any 5+ pound weight) onto this carabiner now.



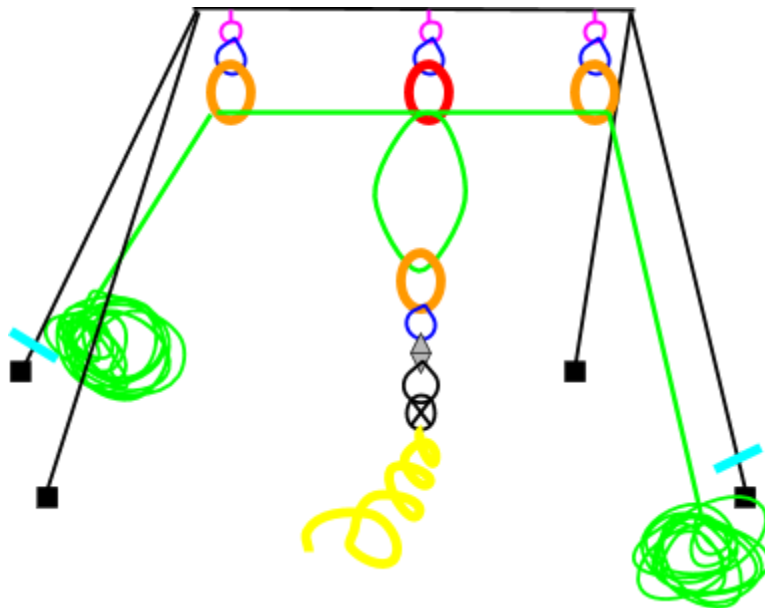
### **Step 9: Follow the Instructions provided by VVolfy MetalWorks to SetUp the Ludwig Aerial Rig Completely**

- ❑ As the aerial rig goes up, keep an eye on the Pulley System equipment. Make sure the rope stays even and does not slide out of any of the pulleys.
- ❑ Allow the Apparatus (or weight) to stay on the ground. That should help the rope stay aligned.
- ❑ Do not let either end of the rope fly up out of reach!



### Step 10: Install the Tie Off Cleats

- ❑ Choose two aerial rig feet diagonal from each other to install the tie off cleats. In order to distribute forces evenly, you must choose two legs that are as far apart from each other as possible. Choose one tie off cleat that will mostly stay secured. The other can be the one you untie frequently in order to make your adjustments.
- ❑ Follow Directions provided by VWolffy Metal Works to install the tie off cleats.

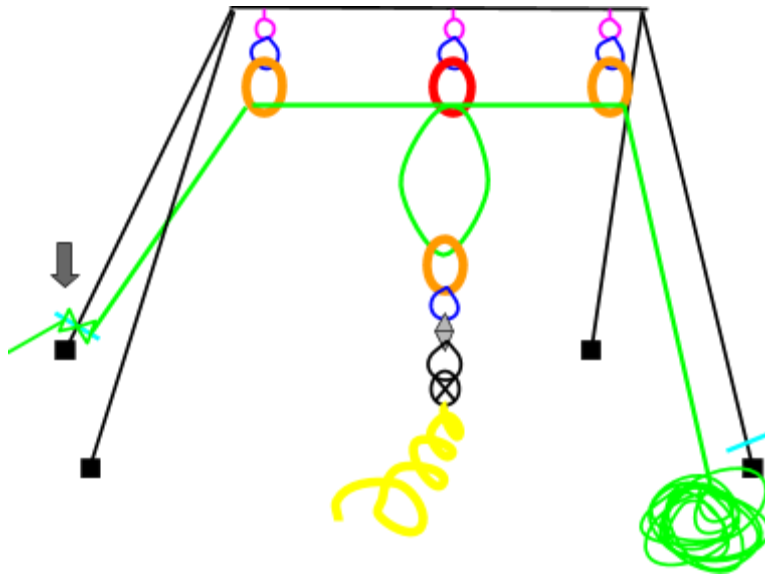






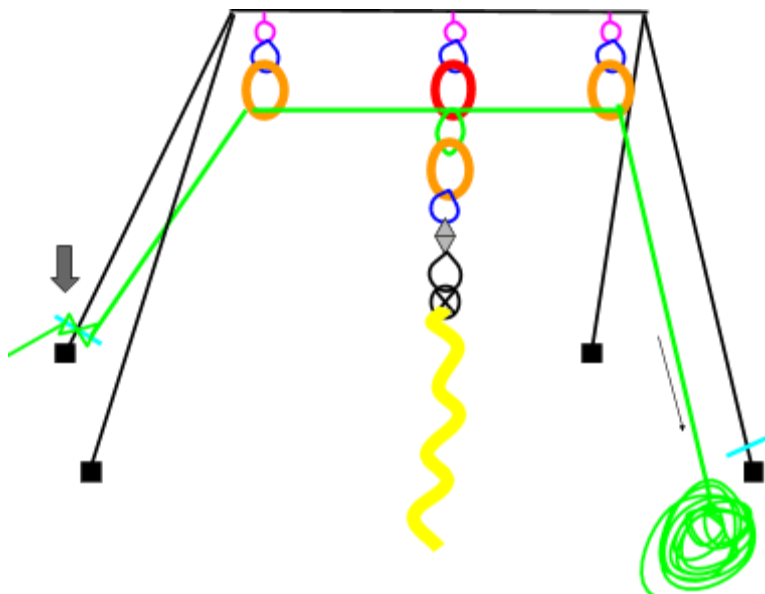
## **Step 11: Tie off one end of the Rope**

- ❑ To tie off the ends of the rope, you will make a figure 8 wrap (**not a knot**) 4 times around the tie off cleat. On the 5th wrap, twist the active part of the rope over the tail, then pull it tight. Do that once more on the other side. Further breakdown:
  - ❑ Take the rope down the leg. Keep it taught, but make sure not to lose the rope on the other side.
  - ❑ Wrap the rope down and behind one side of the cleat,
  - ❑ drag the rope from under the cleat diagonally up and across over the aerial rig foot,
  - ❑ Drag the rope under and down behind the cleat on its other side, creating a figure 8 shaped wrap (**not a knot**).
  - ❑ Wrap this figure 8 shape onto the cleat 4 times.
  - ❑ On the 5th time, wrap the tail under the active part of the rope (the part of the rope that leads from your hand back into the rig) creating a hitch.
  - ❑ Wrap the active part of the rope over the tail, creating a hitch 2 times.
  - ❑ When finished, you should have 5 total figure 8 shaped wraps on your cleat.
  - ❑ Make sure you have at least 2 to 3 extra feet of rope after the tie off cleat on this side. If you ever notice this extra length of the rope slipping or reducing in any way, cease all aerial activity and re-do your tie off on that cleat. Always check your wraps daily before doing any aerial activity.



### Step 12: Choose the Height of your Apparatus Point

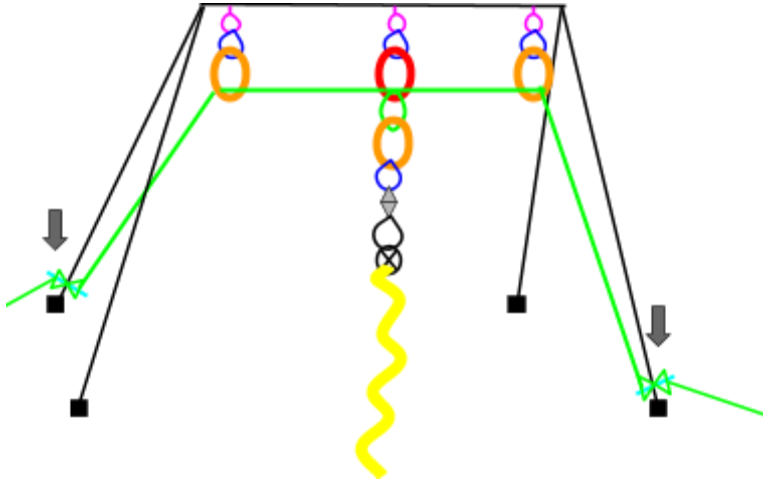
- ❑ (Replace the weight with your chosen apparatus if you have not done so already.)
- ❑ Using the open rope on the other side, choose the height you want for your apparatus. Pull the rope to raise the apparatus. Let the rope out to lower the apparatus.
- ❑ Remember, it is **not** recommended to raise or lower the apparatus while a living being is on the apparatus!





## **Step 13: Tie Off the Rope on Opposite Side**

- ~ Take the rope down the leg. Make sure to hold the spot that correlates with the desired height of your apparatus.
- ~ Once you have your apparatus at the height you want, tie off the rope on this side by following **Step 11**.

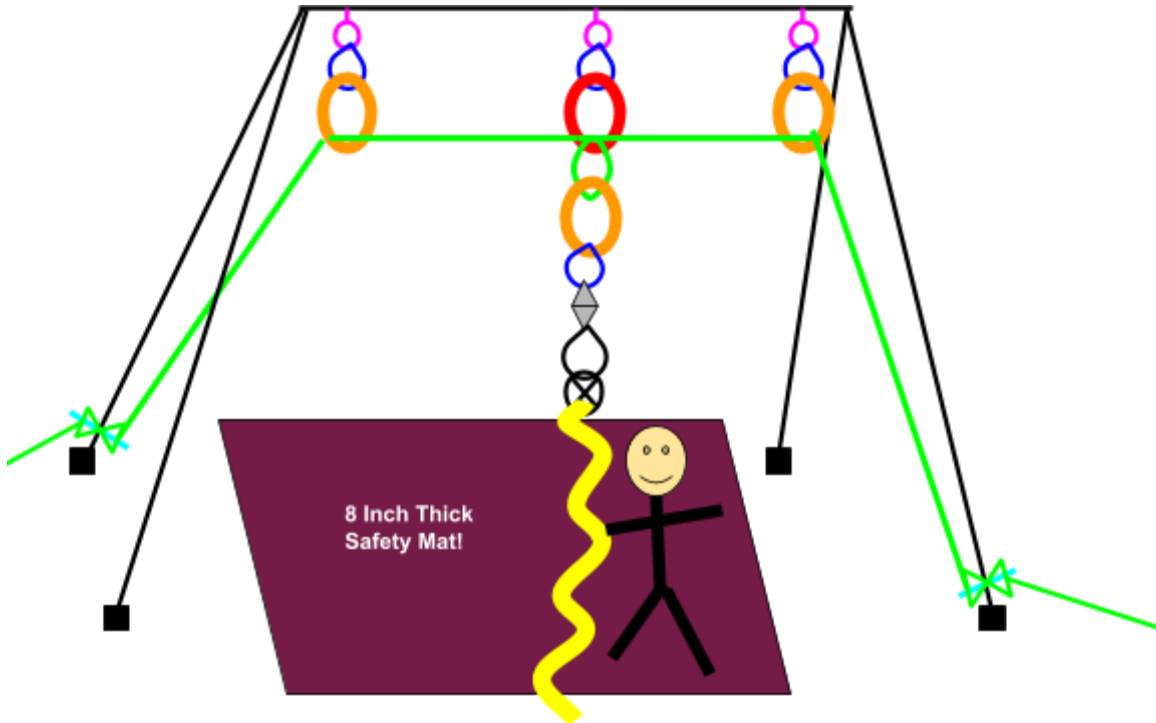


**Last, but not least...**



**Before using, make sure you have an appropriate safety mat in place directly under your Apparatus!**

# Enjoy Your Aerial Rig!



## **Recommended Resources for Additional Safe Rigging Education**

- ❑ Ludwig Aerial Rigs Original Manufacturer Website: [http://damnhot.com/trapeze/New\\_port\\_rig.htm](http://damnhot.com/trapeze/New_port_rig.htm)
- ❑ Delbert Hal - <https://hallriggingacademy.thinkific.com/>
- ❑ American Circus Educators <https://www.americancircuseducators.org/>
- ❑ vRigger, Riggins Systems Calculator <https://vrigger.com/>