Assembly Instructions
Affordable Wheelchair Lift
Model KCSPM3648
Series "E"

(757) 524-3420
Version 1.0.0

1. Introduction

Congratulations on your purchase of a new wheelchair lift! We sincerely hope that this lift will help you accomplish the things that are important to you and those you love.

Note: If you are like me, then you hate reading instructions almost as much as you hate having to doing things over because you did it wrong. Unfortunately, **this product can be assembled backwards**, and doing so cannot be remedied without taking it all apart and starting over. These instructions are specifically written to prevent those mistakes. So, please refer to these instructions with each step, and have a pleasant assembly.

Note: The photos in this guide display lifts in various stages of installation. It is often the case that some recommended safety feature is not yet in place in a specific photo. In particular, the Toe Shear Guard and a basic stair handrail are missing in some of the scenarios we photographed.

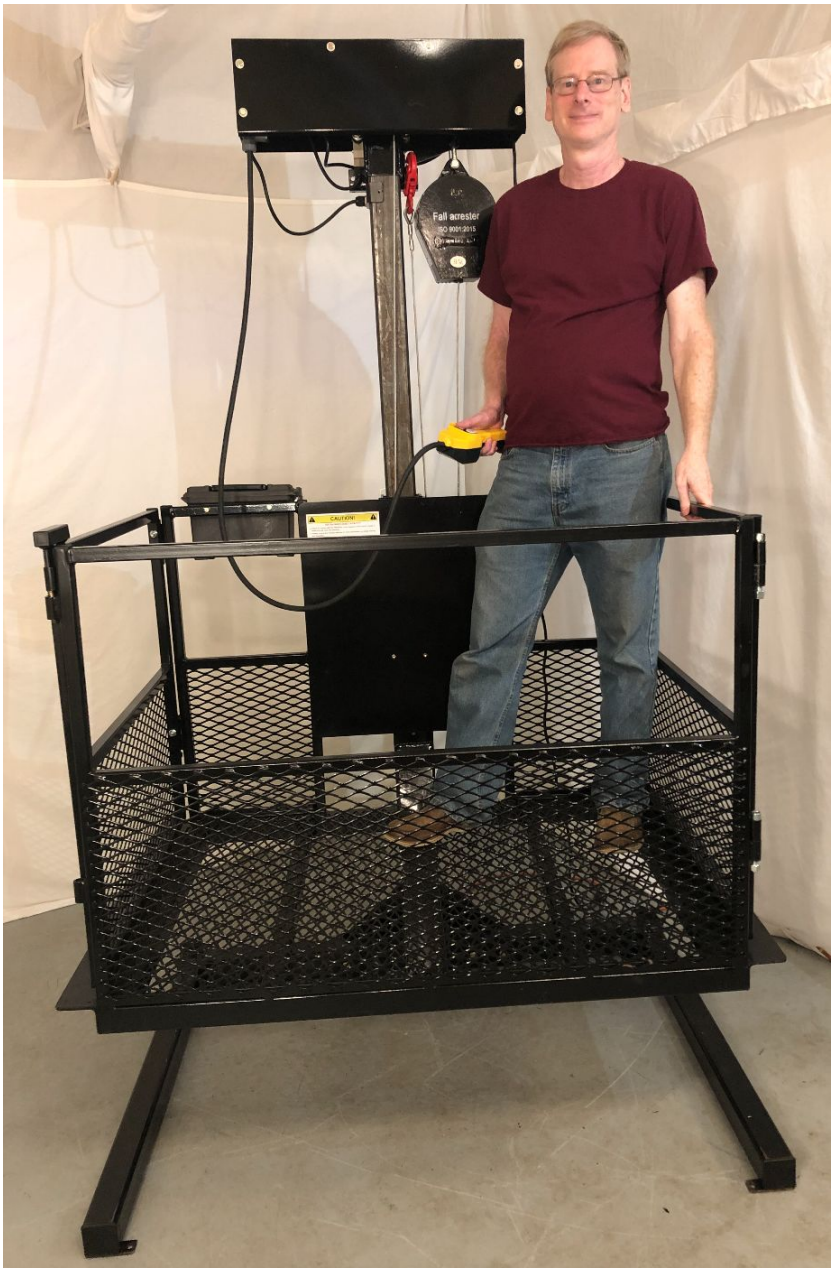
Note: There are some minor design changes between different lifts pictured here. These photos might not exactly match your particular lift. In particular, many of the photos are of lifts that have a half height mesh wall on the gates and sides. Your lift might not have those.

Note: Even if your lift was shipped disassembled, some portions of it may have been pre assembled for you.

Note: If your lift was shipped with some bolts and fasteners already in place and you find it necessary to temporarily remove them, they must be removed and then re-inserted in the same direction. Inserting the bolt the opposite direction may cause problems.

Note: Throughout this document this is used as a caution symbol: 

Photo of a typical "E" Series lift



Here is a video of a wheelchair lift in operation. (This is an older model):
https://www.youtube.com/watch?v=z47PNqNFF_I

2. Safety

Safety is paramount! If you have a question or concern about safe installation or operation please give Affordable Wheelchair Lifts a call.
Use common sense when installing or operating this equipment.
The installer and operator are responsible for the safe operation of this equipment.
It is your responsibility to ensure and verify that this equipment is safely installed. It is your responsibility to know and comply with all applicable legal codes and regulations regarding your wheelchair lift.

Misuse of this equipment can cause serious injury or even death.

3. Assistance

If damage has occurred during shipping immediately document it with photographs and notify Affordable Wheelchair Lifts.
If you have questions or problems during assembly please give Affordable Wheelchair Lifts a call. We are here to help.

4. A Note On Gates

Gates are shipped already assembled and attached to the Platform. You can easily switch the hinging configuration on the gates from left to right. Instructions are below.

5. Assembly Expertise And Physical Ability Requirements

To assemble this equipment you should be familiar with and able to use wrenches, ratchets and sockets, mallets, screwdrivers and a pry-bar.
You must be able to turn a wrench to 80 ft/lbs of torque.

6. Required Or Recommended Tools

6.1. Required Tools

- 6.1.1. ½" wrench (2)
- 6.1.2. 9/16" wrench (2)
- 6.1.3. ⅝" wrench (2)
- 6.1.4. 3/4" wrench (2)
- 6.1.5. Hammer
- 6.1.6. Regular screwdriver
- 6.1.7. Prybar
- 6.1.8. Vaseline (petroleum jelly) - used to make slip pad stick to metal holder
- 6.1.9. Temporary support (block, jackstand, or saw horse)

6.2. Recommended Tools

- 6.2.1. Dolly for moving the Platform
- 6.2.2. Level

6.2.3. Voltmeter (or some other way of establishing that the unit has power)
6.2.4. An additional prybar
6.2.5. Measuring tape
6.2.6. Drop cloth or newspaper to protect floors and walls from paint spray
6.2.7. Stud finder (if attaching bracing to a sheetrock wall)
6.2.8. Short ladder

7. Terminology

7.1. **See the "Glossary of Terms" document** for definitions and photographs of the components of your lift.

7.2. **Front, Back, Right and Left** - The Column is located on the back side of the lift. The side of the lift opposite the back side is the front side. Right and left are determined when you face the lift from the front.

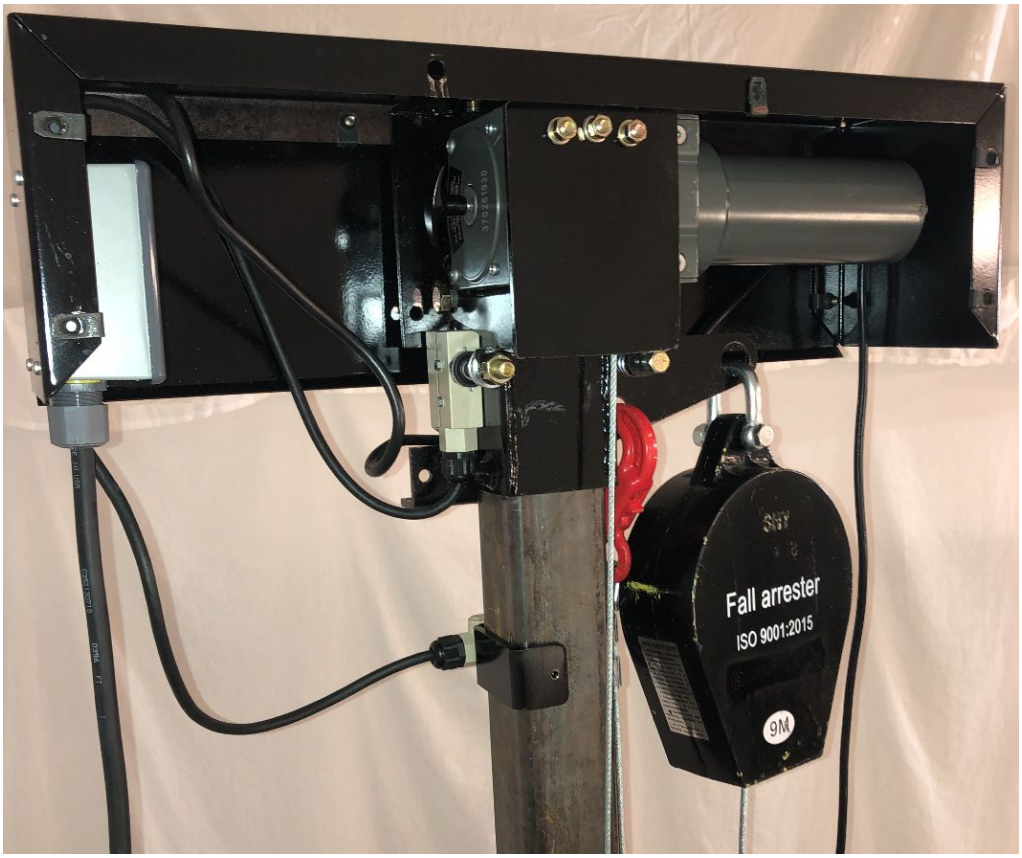
8. Planning

Most customers prefer the lift be oriented for straight-through travel from the ramp to the Platform to the landing to inside the home. Sometimes this is not practical.
We recommend that if possible, the Column side of the lift be placed closest to a nearby wall. If bracing is desired, then this positioning will make bracing easier.

9. What Should Have When We Are Done

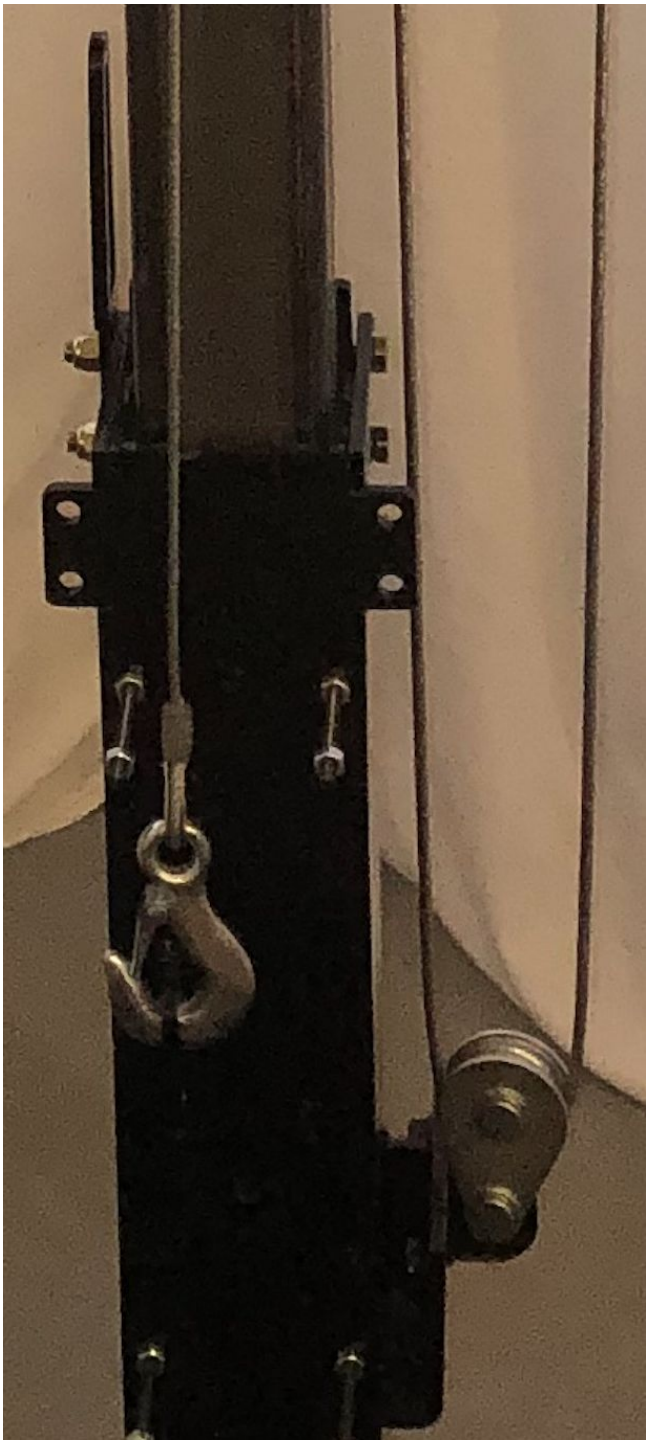
9.1. When going on a journey it helps to know your destination. Below are photos of important sections of the fully assembled lift, with various sheet metal covers removed.

9.2. Here is the Hoist, Hoist Head, Upper Limit Switch and Safety System (in this case an SRL) mounted on top of the Column, looking from the platform side. The front panel of the Hoist Cover is not present.



9.3. Here is the Hoist, Hoist Head, Safety System and upper limit switch mounted on top of the Column, looking from the back side.

9.4. Here is the Hoist Hook, Safety System Pulley, looking from the front side with the Safety Guard removed.



10. Site Preparation Requirements

Before you begin -

- The installation site should be flat and level, clear of debris and as accessible as possible.

- The lift should sit on a solid surface (concrete, asphalt, etc) or substantial pavers.
- The landing area should also be flat and level. Toe shear protection should already be installed.
- Any needed modifications to landing railings, such as cutting away a railing section or installing a railing safety gate, should be made prior to or during installation.
- Children and pets should be excluded from the area during assembly.
- The amount of electrical power needed to run the lift depends upon which hoist motor you have chosen. Most require 15 amps. GFI circuits should be used where appropriate.

  The site in the photo below is clear of obstacles, but the stair railings and toe shear prevention board have yet to be installed.

11. Remove the wheelchair lift from the shipping pallet

11.1. What you need: A wrench or socket. Two able-bodied adults.

11.2. Remove the plastic wrapping. Remove all the boxes and components from inside the Platform. Unbolt the Platform from the pallet.

11.3. There are three ways to proceed, depending on how your lift was packaged:

11.3.1. **Packaged fully disassembled** - with the Column not on the pallet, like below (Note that this is an older model)

11.3.1.1. Slide the Platform off of the Base and off of the pallet. Unbolt the Base from the pallet and discard the pallet. Pull the column out of its shipping tube.

11.3.2. **Packaged fully assembled** - with the Column vertically attached to the Platform and the Hoist on top of the Column

11.3.2.1. Unbolt the Base from the pallet. To do this you may have to raise the Platform a few inches. This is easiest to do if you plug in the lift and use the motor to lift the platform several inches. Once the Base is unbolted lower the platform, attach your removable wheels (if present) and pull the lift off of the pallet. Discard the pallet.

If your lift was shipped fully assembled then you can skip most of the remaining assembly instructions.

11.3.3. **Packaged mostly assembled** - just like shipping fully assembled except the Hoist Assembly is shipped on the Platform and not on top of the Column.

11.3.3.1. Unbolt the Base from the pallet. To do this you may have to raise the Platform a few inches. Attach your removable wheels (if present) and pull the lift off of the pallet. Discard the pallet.

If your lift was shipped mostly assembled then you can skip much of the remaining assembly instructions. You will still need to place the Hoist Assembly on top of the Column and attach the cable.

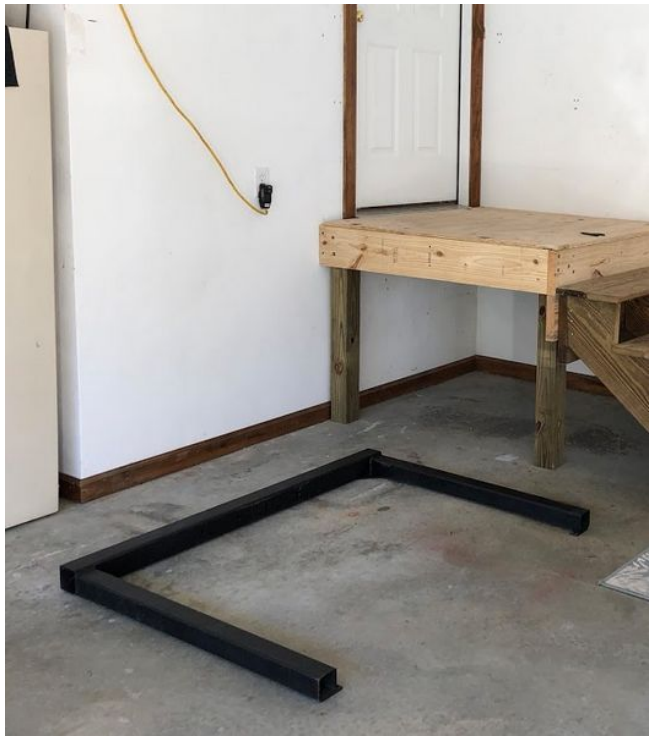
12. Position the Base

12.1. Assembly location versus final location

Assembly is easiest if you have ready access to all sides of the Lift. So we often do most of the assembly a few feet from the final position and then towards the end of the process move the lift to its final position.

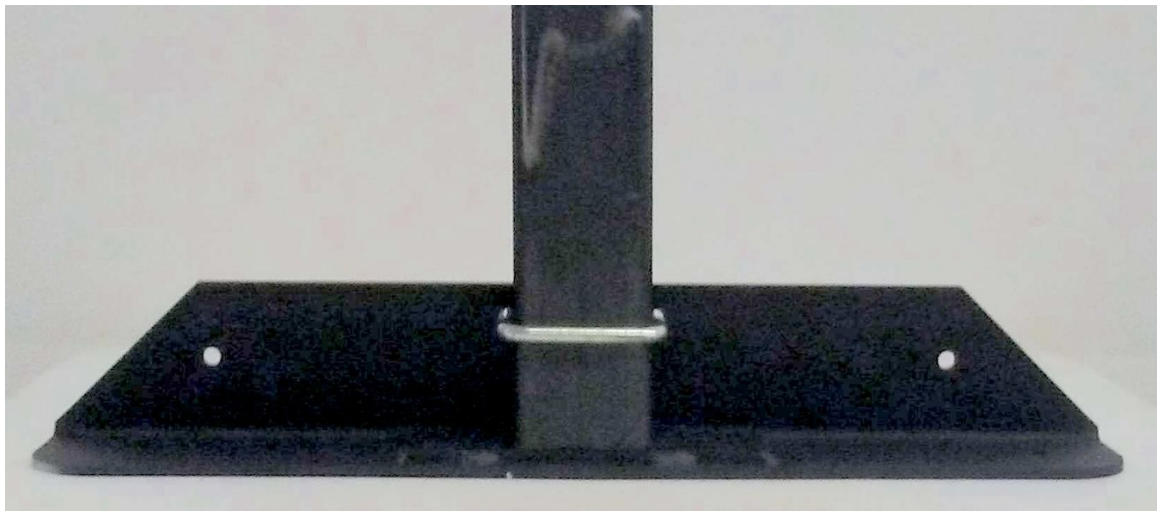
If you have an Armed base - The Armed Base has four anchor pads, be sure that these pads are touching the floor. You will need access to an AC power source during the assembly process.

A typical assembly location (note that some safety features are not yet in place):

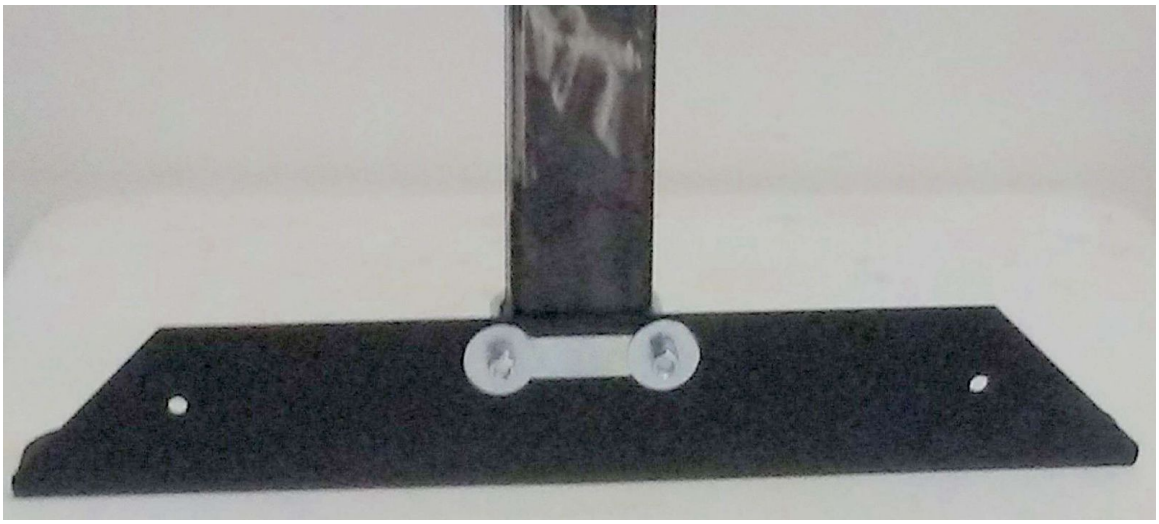


13. If you have a Base Bracket instead of an Armed Base - Attach the Column to the Base Bracket

13.1. Wall mounted lifts can have a Base Bracket - a base with no arms. When attached to the column a Base Bracket looks like this:
Front:



13.2. Back:



13.3. Side:

13.4. Here is one installed. Note the wooden block between it and the wall that serves to brace it:

13.5. When attaching a Column to a Base Bracket be sure **the seam on the Column faces to the right or left, not to the front or back.** And the vertical flange must face the wall or support it will be bolted to.

14. (If you have a Base with Arms) Attach the Column to the Base

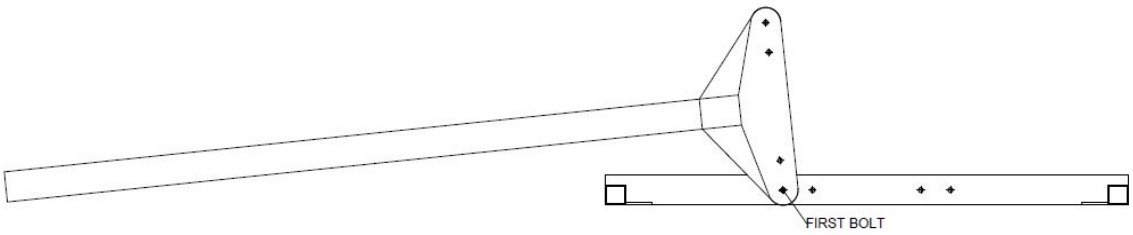
14.1. A free-standing lift must have a base with arms, even if it has a Brace Kit to steady it.

14.2. Here is a video of this step: https://youtu.be/WdD1nXEfCrk

14.3. What you need:
The Base and Column. Two ¾" wrenches and/or sockets and ratchets

14.4. Lower the Column over the Base so that the Column flanges straddle the back beam of the Base. **It is IMPORTANT that the shorter Column flange is on the inside of the base (towards the side with the base arms).** When looking straight along the Column beam ensure that it is parallel with the back beam of the base. **Failure to make the Column parallel with the Base will make bolt hole alignment difficult, and bolt insertion impossible.**

14.5. Line up the bottom hole in the flange with the end hole of the four (4) hole pattern in the Base. In the case of the illustration below, the BOTTOM hole of the flange must be aligned with the LEFT most hole in the Base.



14.6. Insert a ½-13 x 4 Hex head bolt through the bottom hole. **Insert the bolt from the arm side of the Base.** By design, the holes are snug on the bolt. It will probably be necessary to tap the bolt through the beams. Do not beat on the bolt if the holes are not aligned. Doing so will only ruin the bolt.

14.7. Install a nut on the bolt. No washers are needed. DO NOT TIGHTEN. Once the Column is attached to the Base by a bolt that bolt will serve as a pivot when you later set the Column upright.

15. Attach the Hoist Head and "Walk" the Column upright

15.1. Here is a video of this step. Your hoist assembly and hoist cover may look different: https://youtu.be/mknoWX6cfY4

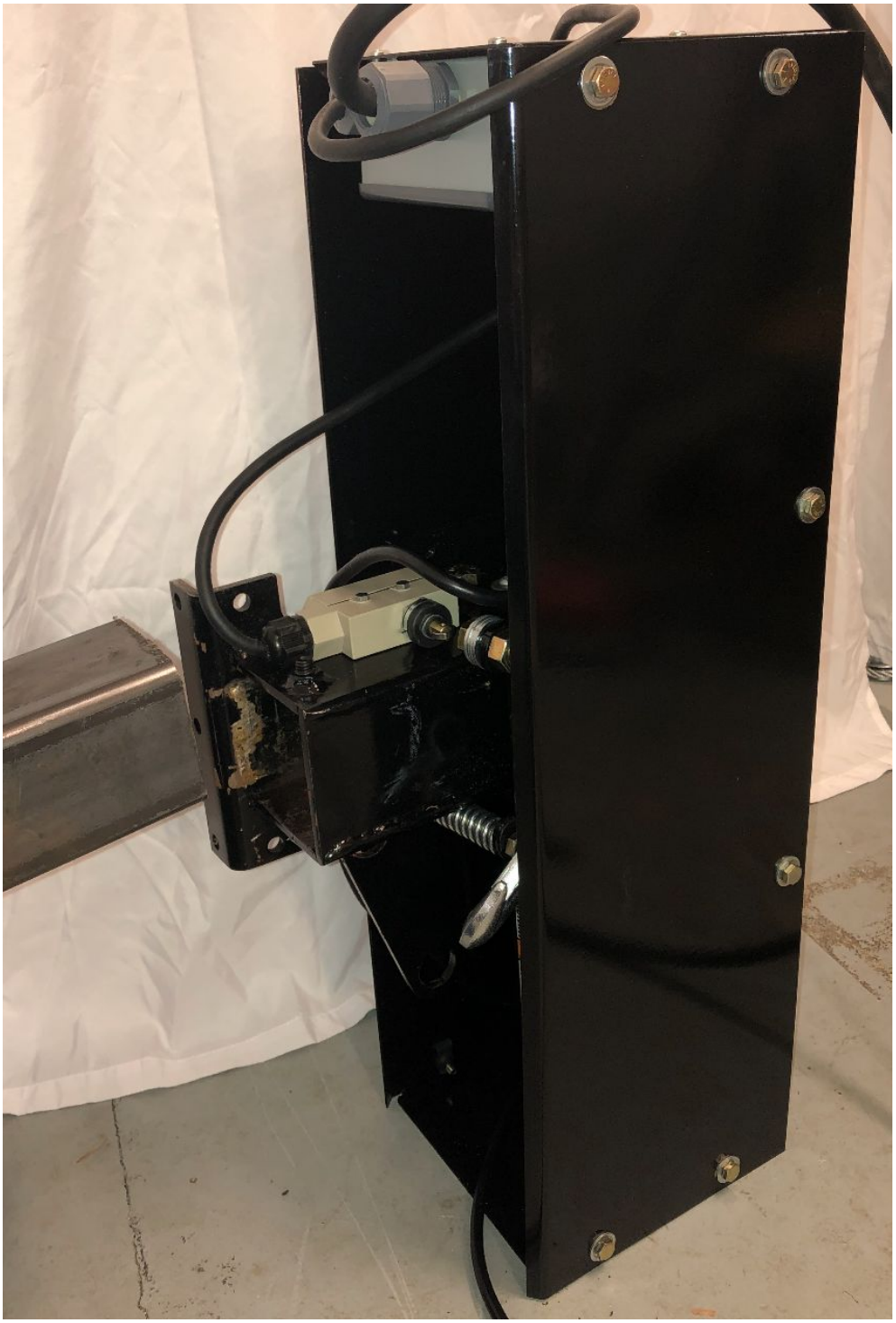
15.2.  - Without the weight of the Platform on the base the lift is top heavy and not very stable. Especially if the unit is not on a level surface. So

before doing this step you should move the platform onto the end of the base arms to secure the Base, as shown below:

15.3. Raise the end of the Column and rest it on a suitable support. This raises it so that the Hoist Head can be attached.

15.4. Carefully attach the Hoist Head by sliding it down as far as it will go onto the end of the Column. The hoist cable needs to run down the Platform side of the Column.
Secure the Hoist Head by using a 3/16" allen wrench to tighten the Hoist Head set screw on the left front side of the hoist head.

Here is a photo of this step:



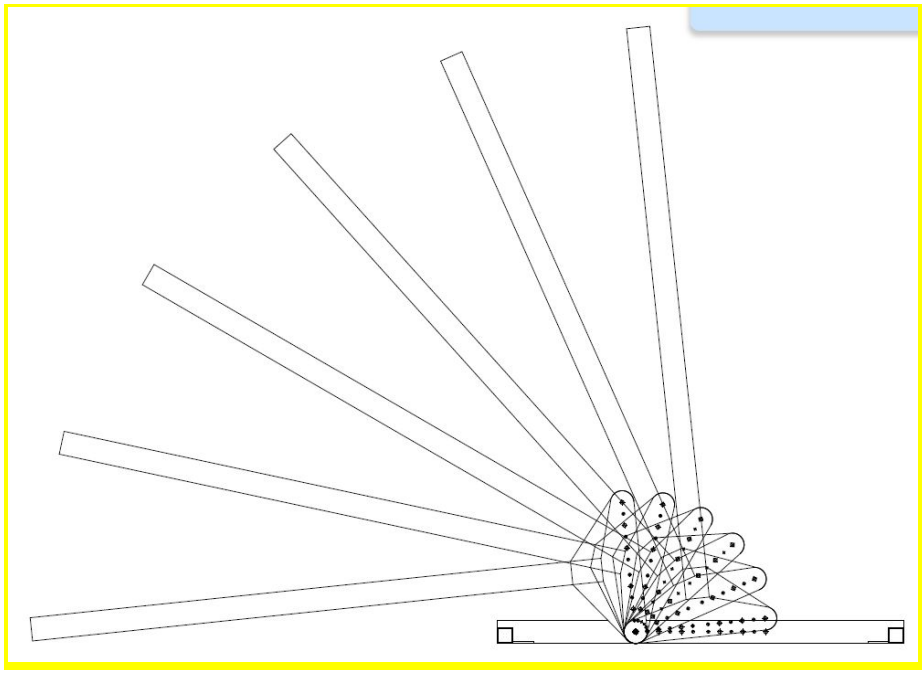
15.5. Note: As an alternative approach, you can also first attach the column to the base (using all 4 bolts), lay the Column on its back w/ the base arms

perpendicular to the ground, attach the Hoist Assembly to the Column top, and then upright the Column.

15.6. Note: For tall lifts it may be necessary to put the column upright before attaching the Hoist.

15.7. By lifting the Hoist end of the Column, carefully "walk" the Column to a vertical position. Note that the Hoist Head is heavy. This operation may look easy, but it helps to have two people involved.

15.8. Note that the Hoist Head on the end of the column is not displayed in the diagram below.



15.9. Insert the remaining 3 bolts holding the Column to the base. Tighten all four bolts to 80 ft/lbs.

15.10. Here is a video of this step: https://youtu.be/rbYgvBYk7U4

15.11. Now your Base and Column by themselves look something like this (though your Hoist Head and Hoist Cover may be a different style):

15.12. Do not yet position the lift close to a wall, as you have more work to do on the back of the Column.

16. Attach the Platform's Collar to the Column

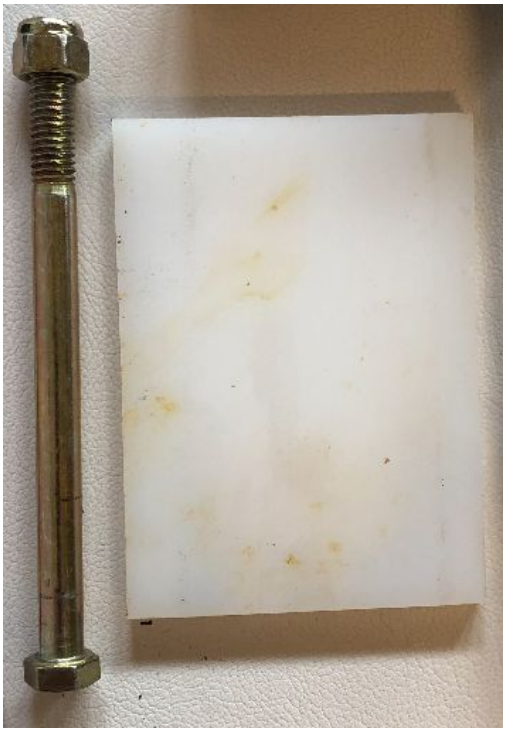
16.1. Here is a video of this step: https://youtu.be/VspyFkIxf0o

16.2. What you need:
- 16.2.1. Two 9/16” wrenches and/or sockets
- 16.2.2. Grease or petroleum jelly
- 16.2.3. Regular screwdriver

16.3. Slide the Platform and Collar to about a foot away from the Column.

16.4. Clean all of the plastic slip pads of dirt and debris. Ensure that they remain clean throughout the assembly process. On one of the regular size slip pads and put a little grease or petroleum jelly on one side of the pad. Use the grease to stick the pad to the inside of the Collar between the pad retainer rails near the bottom of the Collar.

16.5. Here is a slip pad and collar bolt. **In some of these photos the slip pads are black.**

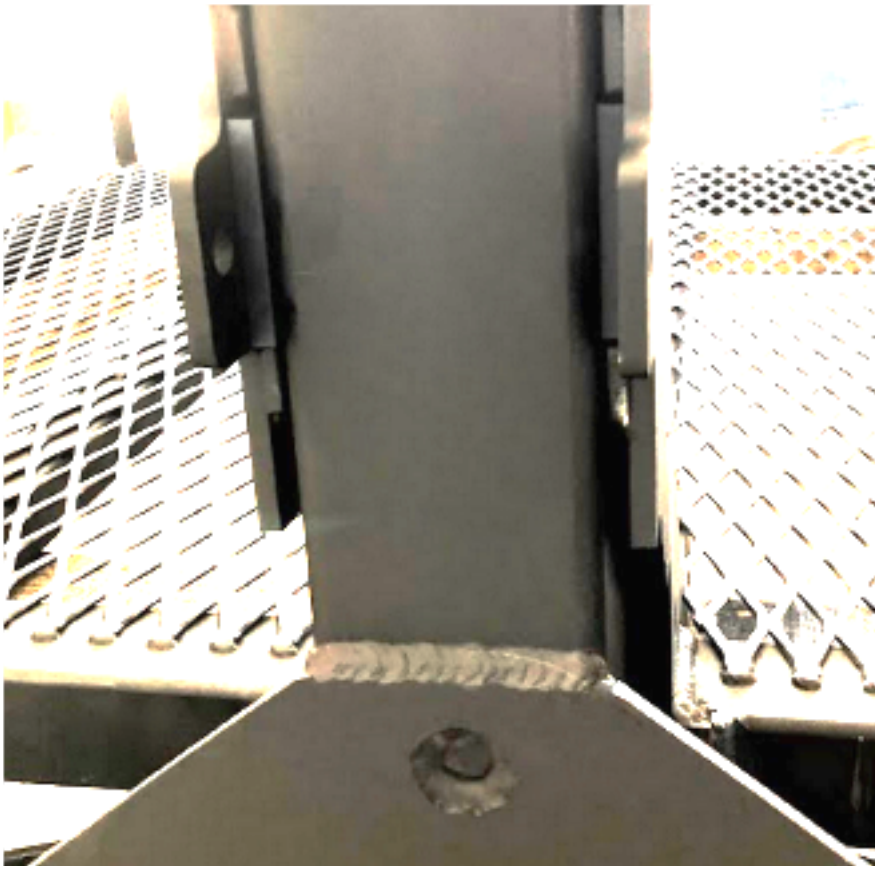


16.6. Here is a photo of where the three slip pads go inside the lower collar.

16.7. Slide the Platform back so that the Collar surrounds the Column:

16.8. Ensure that the front inside slip pad has not fallen out. Insert one of the slip pads into the pockets on each side of the Collar. If they are a bit tight you may need to pry the opening wider using a screwdriver or tap them with a hammer and screwdriver.

16.9. Both lower collar side slip pads are now in place.



16.10. There is no back slip pad for the lower Collar.

16.11. Loosely secure bolt and lock nut.

16.12. Tighten the lock-nut until it will not come off the bolt and no more. **The bolt should be able to be spun freely by hand.**

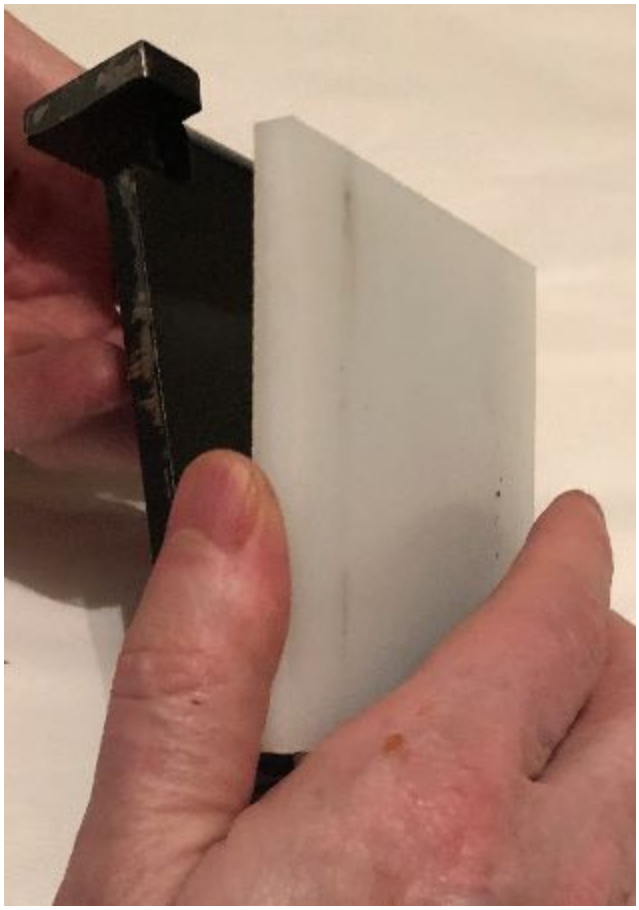
16.13. **If you over tighten then the Platform will not descend properly under its own weight**.

16.14. There is no front slip pad for the top of the Collar.

16.15. Here is a video of this step: https://youtu.be/NS4qUb8--dg

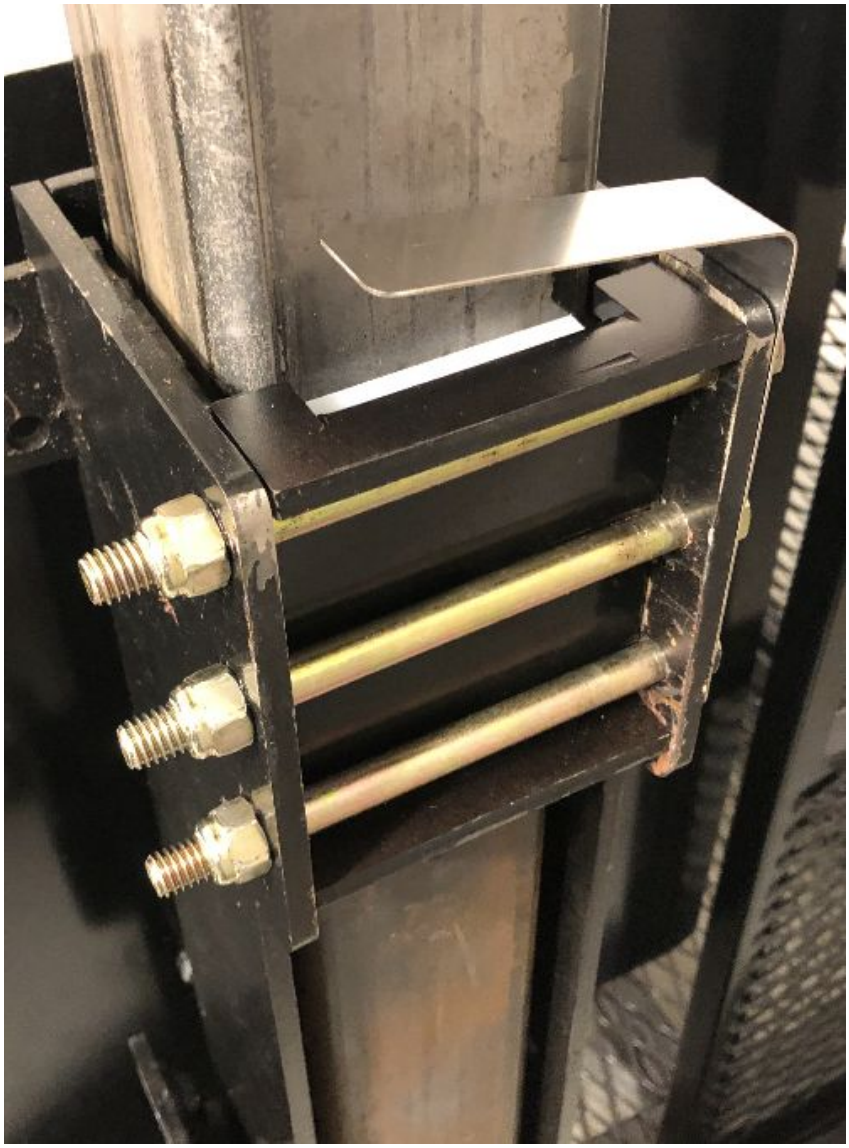
16.16. Insert two slip pads along the Column at the top of the Collar.

16.17. Position the remaining slip pad on its holder:



16.18. If in the next step you have trouble pulling the Collar close to the column, you can wedge the front of the Platform upwards as shown below:

16.19. Loosely secure the slip pad holder using bolts and lock nuts. There is no top or bottom end for the slip pad block. Tighten the lock-nuts until the bolt does not slide in the holes. **The bolts need only be snug.**



17. **NOTE**:

17.1. It is critical that the bottom adjustment bolt across the back of the collar is adjusted properly.

17.2. This bolt has a Nylock nut, and does not need to be tight to prevent tis becoming loose. **If this bolts is too tight, the platform may bind and may not descend as the hoist pays out the wire rope. If this happens, the hoist may produce several inches (or feet) of slack, and the platform may then fall until the slack is used up, or the platform will fall until the anti-fall device locks up and stops the platform.** Either condition is undesirable.

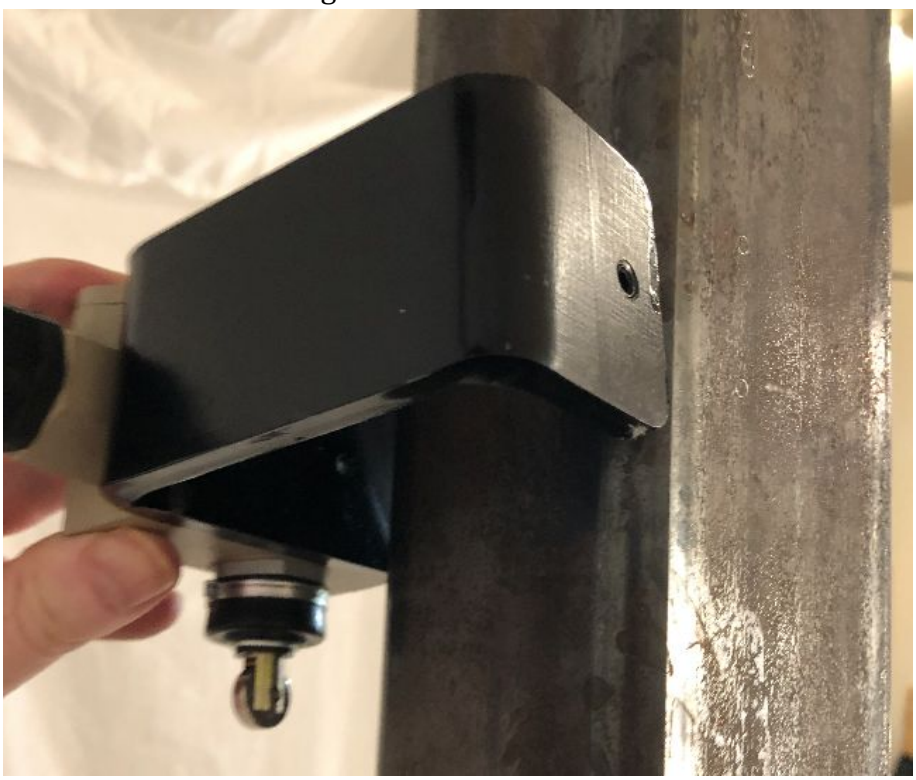
17.3. Adjust the lower bolt on the back, near the bottom of the collar so that side to side wobble is acceptable and the unit descends smoothly with no weight in the carriage. **It is better to be too loose than too tight.**

18. Attach the Upper Limit Switch

18.1. Here is a video of this step: https://youtu.be/2Ue4KML5frg

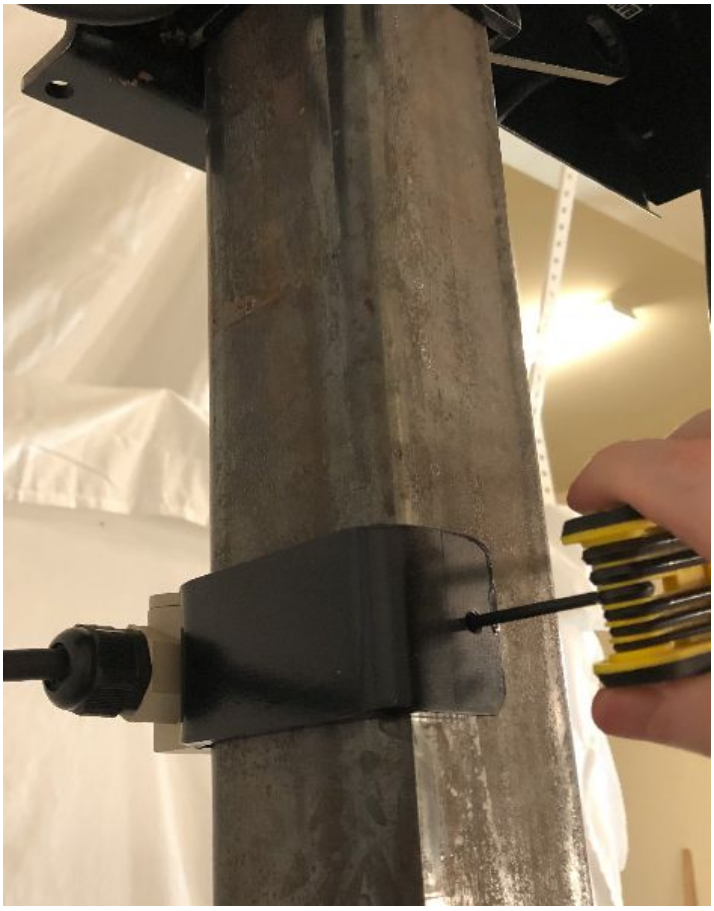
18.2. Required: a ⅛" allen wrench

18.3. This is what the new (6/1/2020) version of the upper limit switch looks like as you place it on your Column, with the switch plunger located on the back of the Column and facing downwards.



18.4. The upward facing spring steel installed in the last step will contact and trigger this downward facing switch.

18.5. Slide the Upper Limit Switch up or down on the column until the bottom of its mounting bracket is 33” above the landing.. TIghten the single set screw using a 1/8” allen wrench. You may need to adjust this mounting height slightly later.



19. Attach the Cable Hook

19.1. Here is a video of this step: https://youtu.be/HxfFx8_F7XI

19.2.  - Use gloves when handling the cable. Do not run you hand along the cable, as a loose cable strand can cause a painful injury. This can be true even if you are wearing gloves.

19.3. **Avoid kinking or sharply bending the cable as this reduces the cable strength.**

19.4.  **- When the hoist has power, anyone with a controller can cause it to activate. If you have wireless controllers for your hoist, then someone in another room playing with a wireless controller can activate the hoist motor. Make sure no one is playing with a controller while the hoist has power and you are working on it or its cables.**

19.5. Unspool enough cable to reach the attachment point on the Collar. You can do this by pulling out the "free spool" handle on the left side of the hoist and **gently** pulling on the cable.

19.6. Here is a photo of the "free spool" handle. Pull it out and turn it 90 degrees to disengage the drum from the load brake:

19.7. An alternative approach to unspooling cable is to temporarily plug in the hoist power cord so you can operate the hoist. Use the “Down” control button to unspool cable. You will need to pull the cable while pressing the controller’s “Down” button because the slack detector will otherwise keep the motor turned off.

19.8. Attach the cable hook to the hangar on the front of the column. You may need to temporarily remove the Safety Guard (as in the photo below) if space is too tight for you to do this.

19.9. If you removed the Safety Guard, re attach it. If you used the “free spool” feature, rotate the “free spool” handle until it snaps back into place and re-engages the load brake.

20. Take aTest Ride

20.1.  **The Safety Retractable Lanyard is not yet installed, so do not go up more than a foot.**

Plug the hoist into a power source. On the controller push the “Up” button to tighten the loose cable. Then go up several inches and down again. Repeat this several times.

20.2. Trouble shooting:

20.2.1. No power - Check the power source to the Hoist using a VOM or a light. Check circuit and GFI breakers

20.2.2. The lift moves up but not down - Make sure your lower collar bolt is loose enough to turn by hand.

21. Attach the Safety System

21.1. You will have one of two safety systems that prevent your Platform from falling in the case of a cable or other failure. Below on the left is the Safety Lock and below on the right is the Fall Arrester. Use the assembly instructions that apply to the device you have.

22. If you have a Safety Lock

22.1. You will need a ¾” wrench.

22.2. Use the carabiner to attach the top of the Safety Lock cable to the inner hole of the hanger on the right side of the Hoist Head.

22.3. Attach the Safety Lock to the right side of the Column behind the Safety Guard. Using gloves to protect your hands, run the cable down through the Safety Lock until no more is available to go through. If you run it through too fast it will lock, just like it would if the Platform was falling. If that happens remove the tension from the cable and while pushing the left lever clockwise also push the right lever clockwise. that will unlock it. You may have to jiggle the cable a bit to get through.

22.4. Attach the bottom of the cable to the flange of the Column.

22.5. Note that by flicking the “Lock” lever, you can prevent the Platform from moving down. This may come in handy if you have to do maintenance on the hoist. You must remove tension from the support cable before you can unlock the Safety Lock.

23. Fall Arrester / Safety Retractable Lanyard (SRL)

23.1. Here is what the Fall Arrester and its hook look like once installed.

23.2. With the SRL itself lying on the ground, pull out enough cable to attach the SRL’s cable hook to the inner hole hole on the Hoist Head’ right hanger. THe hook has a safely latch that must be activated in order for the hook to open.

23.3. Here is a video of this step: https://youtu.be/ZrylaTCa7QU

23.4. With the SRL still lying on the ground run the SRL cable through the SRL pulley and attach the pulley to the hangar on the lower right side of the column.

23.5. Insert the SRL fastener through the outer hanger hole with the threads toward the outside. Lift up the SRL and put in place, securing it with the fastener's bolt and lock nut.

23.6. Using gloves, you can test the SRL by pulling the cable from the SRL body sharply. It should engage and lock. The SRL automatically unlocks when tension is removed from its cable.

23.7. The SRL should be inspected annually or after each significant triggering event for wear and tear.

24. Minimize Platform "Twist"

24.1. Here is a video of this step: https://youtu.be/9kfdEt_R3vg

24.2. Platform "twist" is the side to side movement of the Platform around the Column's vertical axis. Twist can be minimized by carefully tightening the Collar bolt on the lower Collar.

24.3. **If you over tighten the lower Collar bolt then the platform will not be able to descend under its own weight.** If this happens then loosen the lower Collar bolt.

25. A Note on the next steps

25.1. Most of the next, final steps interact with each other, and may end up needing to be repeated as you fine tune your lift. For instance, levelling your lift may require re-adjusting the bracing. If you choose to bolt your lift down, you may need to uninstall and reinstall bracing and shims as a part of that process.

Think ahead to minimize rework, but realize that some adjusting and repetition may be needed. Do what is best for your situation.

26. (Optional) Wheels

26.1. This lift can be moved with a dolly or a pry-bar. If you are doing multiple lift installations or plan to occasionally move your lift you may wish to invest in a set of detachable wheels for moving the lift's base. Contact Affordable Wheelchair Lifts.

27. Move the lift to its potential final position

27.1. Now use a crowbar and some muscle to move the lift into its final position. A dolly might be useful.
27.2. Do not level or shim the lift yet. We will do that later.

28. (Optional) Brace your Lift

28.1. Bracing is required for lifts with more than 6' of rise. Various types of bracing can be done to stabilize your lift.
28.2. On the back of the Hoist Assembly there is this bracing point that you can use to connect your lift to a wall or other stabilizing structure.

28.3. Affordable Wheelchair Lifts sells a Bracket Cap that bolts to the top of your Hoist Assembly, can be rotated 90 degrees and can be connected to other structures. Contact us.

28.4. Affordable Wheelchair Lifts sells a Bracing Kit that mounts to your wall and can help stabilize your lift. Contact us.

28.5. See the Bracing Kit instructions for installation.

29. Position the Entry Ramp

29.1. The ramp sits on the floor next to where one of the platform gates land. A “U” shaped metal connector can optionally be used to keep the ramp from moving over time. This connector rests on its back with one of its arms on the inside of the base’s arm and the other of its arms on the inside of the ramp’s vertical back.

30. Position and Level your Lift

30.1. Use a level and shims to shim the base so that the lift is level.

30.2. You want the edge of the Bridge to be around ¼" from the toe shear board all along the Platform's travel, and especially at the top.

31. Wrap Up

31.1. Here is a video of this step: https://youtu.be/uMsfcsGBHOY

32. (Optional) Anchor your lift to the floor

32.1.  - Do not anchor the lift down until you are sure of the final lift locations. Make sure the gates are properly working and interacting with the landing railings first!

32.2. There are four anchor points built in to the lift base.

32.3. Drilling - If on a concrete pad then drill deep enough so that the anchor can be hammered down into the floor once the lift is removed.

33. Maintenance

33.1. Hoist Cable - The cable is a critical piece of your wheelchair lift. Visually inspect it monthly to make sure it is not kinked, frayed or showing signs of wear. If it is, contact Affordable Wheelchair Lifts for assistance.

33.2. Safety System - The Safety System is important to the safety of your lift. Visually inspect its cable monthly to make sure it is not kinked, frayed or showing signs of wear. If you have an SRL make sure the cable extends and retracts smoothly. While wearing gloves, jerk the cable quickly from the SRL body and insure that it automatically engages. If it fails inspection contact Affordable Wheelchair Lifts for assistance.

33.3. Paint - Your received can of spray paint along with your lift. Its color is the same as was used to paint your lift. You can apply more paint to repair scratches or cover rust at any time. You should not paint the column where the sliding anti-friction pads have regular contact.