# ATLAS PV-15P
## 15,000 lb. Capacity
## Two-Post Overhead Lift

# INSTALLATION & OPERATION MANUAL


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# IMPORTANT INFORMATION

## Two Post Lifts

- Any freight damage must be noted on the freight bill before signing and reported to the freight carrier with a freight claim established. Identify the components and check for shortages. If shortages are discovered, please contact the Distributor / Sales Representative in your area for service.
- Consult building owner and / or architect's plans when applicable to establish the best lift location. The lift should be located on a relatively level floor with 6 in. minimum thickness, 3000-psi concrete slab that has been properly cured.
- Make sure you have extra help or heavy duty lifting equipment when unloading and assembling the lift.
- Please read the safety procedures and operating instructions in this manual before operating lift. Keep this manual near lift at all times. Make sure all operators read this manual.
- The lift should be located on a relatively level floor of less than 3 degrees slope. If slope is questionable, consider a survey of the site and/or the possibility of pouring a new level concrete slab.
- Make sure you have enough area and ceiling height to install lift. (See Lift Specifications)
- Never raise a car until you have double checked all bolts, nuts and hose fittings.
- Always lock the lift before going under the vehicle. Never allow anyone to go under the lift when raising or lowering.

# Safety Summary

## General Safety Instructions

This summary describes physical and chemical processes that may cause injury or death to personnel, or damage to equipment if not properly followed. This safety summary includes general safety precautions and instructions that must be understood and applied during operation and maintenance to ensure personnel safety and protection of equipment. Prior to performing any task, the WARNINGs, CAUTIONs, and NOTEs included in that task should be reviewed and understood.

## Warnings, Cautions, and Notes

WARNINGs and CAUTIONs are used in this manual to highlight operating or maintenance procedures, practices, conditions or statements that are considered essential to protection of personnel (WARNING) or equipment (CAUTION). WARNINGs or CAUTIONs immediately precede the step or procedure to which they apply. NOTEs are used in this manual to highlight operating or maintenance procedures, practices, conditions or statements that are not essential to the safeguarding of personnel or equipment. NOTEs may precede or follow the step or procedure, depending on the information to be highlighted. The Headings used and their definitions are as follows.

**WARNING**

Highlights essential operating or maintenance procedure, practice, condition, statement, etc. that if not strictly observed, could result in injury to, or death of, personnel or long term health hazards.

**CAUTION**

Highlights essential operating or maintenance procedure, practice, condition, statement, etc. that if not strictly observed, could result in damage to, or destruction of equipment.

## Hazardous Material Description, Precautions and First Aid

This lift uses ISO Grade 32 AW, 46 or other good grade non-detergent hydraulic oil. Its toxicological properties, precautionary measures to take, and first aid measures are stated below.

# General Information

This lift is a 15,000 lb. capacity, two-column lift. The safety system in this lift is attached to the back of the carriage to provide a single point release that saves time when operating. This lift is equipped with two heavy-duty direct-drive cylinders to provide consistent power to the lift. An electrical-hydraulic power unit included with the lift will provide up to 3000 psi of hydraulic pressure to actuate the cylinders.

# Specifications

The specifications are shown in the following table.

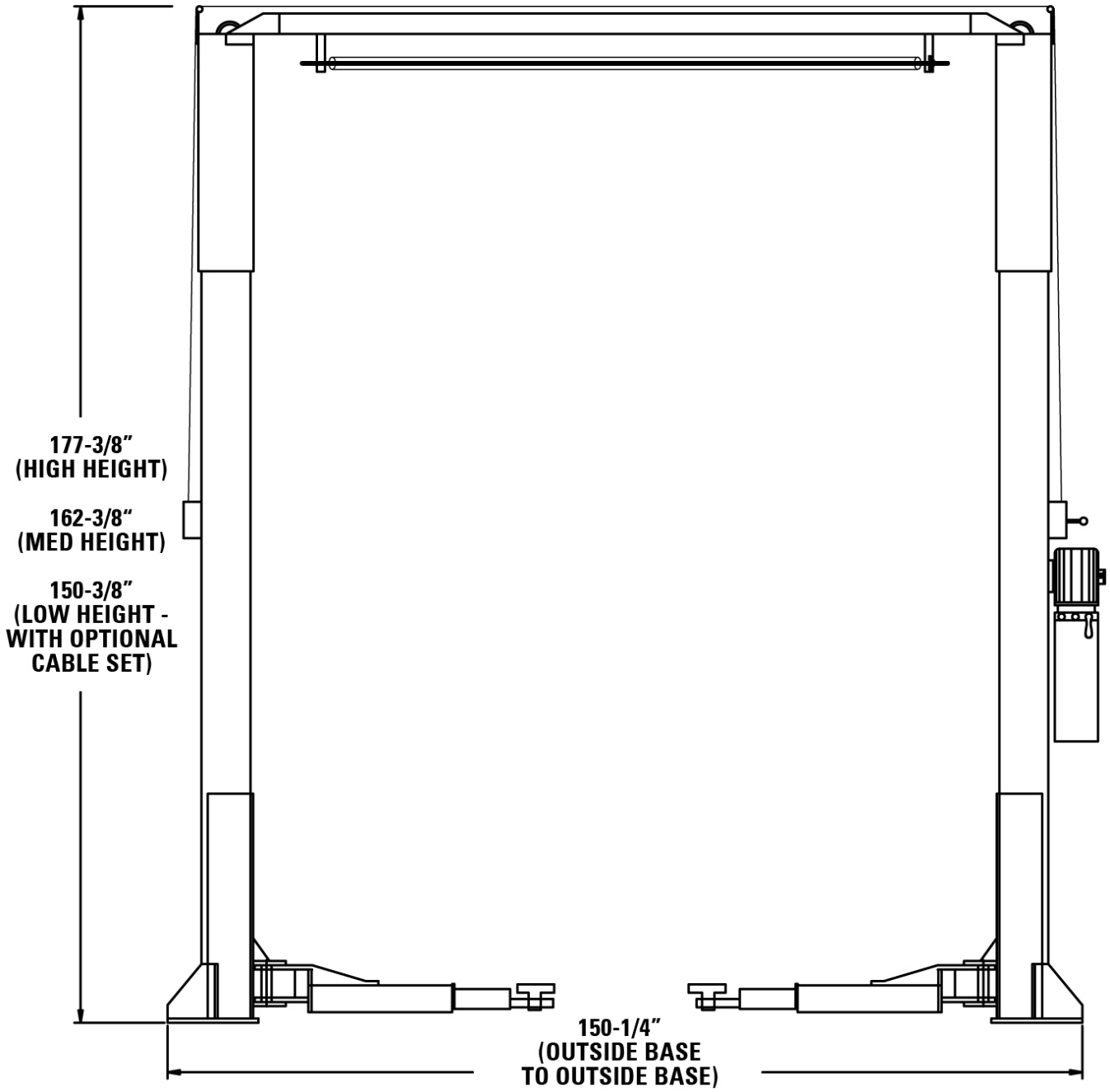
| **Specification** | **Value** |
|---|---|
| A. Rise Height | 79-3/42" Highest position, with long truck adapter |
| B. Adjustable Overall Height | 150-3/8" (LOW Setup – with optional cable set);<br>162-3/8"(MED Setup), 177-3/8" (HIGH Setup) |
| C. Width Overall | 150-1/4" |
| D. Drive Through | 109" |
| E. Floor to Overhead Switch | 140-3/4" (LOW Setup – with optional cable set);<br>152-3/4"(MED Setup), 167-3/4" (HIGH Setup) |
| F. Front Arm Reach | Min.38-1/4" / Max. 58-1/4" |
| G. Real Arm Reach | Min.38-1/4" / Max. 58-1/4" |
| H. Lifting Pad Height | 6-5/8" |
| I. Between Columns | 122-7/8" |
| Lifting Capacity | 15000 Lbs |
| Max. Load Per Arm | 3750 Lbs per arm |
| Cylinders | Dual Cylinder, Direct Drive |
| Motor | 2 HP |
| Voltage | 208v - 230v |
| Speed of Rise | 60 Seconds |

## General Information

- Any freight damage must be noted on the freight bill before signing and reported to the freight carrier with a freight claim established. Identify the components and check for shortages. If shortages are discovered, contact the manufacturer immediately.
- Consult building owner and / or architect's plans when applicable to establish the best lift location. The lift should be located on a relatively level floor with 6 in. minimum thickness, 3000-psi concrete slab that has been properly cured. There can be no cracks in the slab within 36 in. of the base plate location, and no seams in the foundation within 6 in. of its' location! Remember: any structure is only as strong as the foundation on which it is located!

## DIFFERENT INSTALLATION HEIGHT OPTIONS

**NOTE:** This lift has three set-up height dimensions as noted below:
(Check for ceiling clearance first to see how high the lift can be set up in your bay)

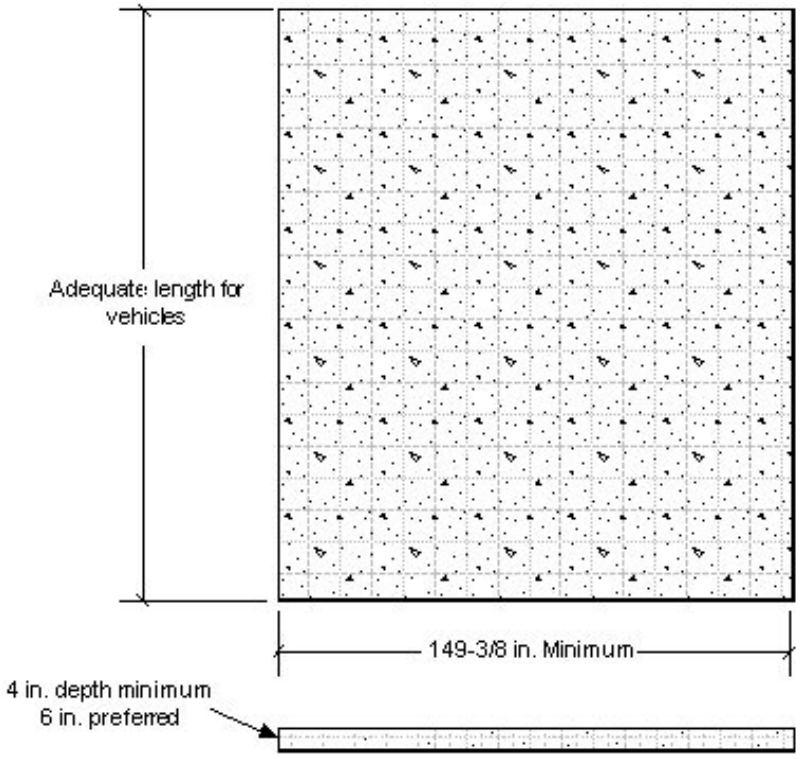


# FOUNDATION AND ANCHORING REQUIREMENTS

**CAUTION**

Columns are supported only by anchoring in the floor. DO NOT install on asphalt or other similar unstable surface Failure to follow the requirements of the following step could result in damage to, or destruction of equipment.

The foundation has to be long enough for the vehicles to be supported, wide enough to provide support for the lift, and the concrete shall have compression strength of at least 3,000 PSI and a minimum thickness of 6 in. in order to achieve a minimum anchor embedment of 3-1/4 in. When using the standard supplied ¾ in. x 5 ½ in. long anchors, if the top of the anchor exceeds 2-1/4 in. above the floor grade you **DO NOT** have enough embedment. Figure 2-1 provides an overview of the foundation sizing requirements.



# TOOLS & EQUIPMENT REQUIRED FOR INSTALL

**The installation of this lift is relatively simple and can be accomplished by two men in a few hours.**
**The following tools and equipment are needed:**

- Hoist or Forklift (optional)
- Two 10' to 12' step ladders
- ISO 32 Light Hydraulic Oil (approx. 12 quarts)
- Rotary Hammer Drill with ¾ in. Drill Bit (Core Drill Rebar Cutter recommended)
- Torque wrench
- Tape Measure
- 4' Level
- Vise grips
- 8mm Socket Head Wrench
- Sockets and Open Wrench set, ½ in. thru 1-1/2 in. (1-1/8 in. for ¾ in. Anchors)
- Teflon Tape

# INSTALLATION PROCEDURE

**STEP 1:** After unloading the lift, place it near the intended installation location.

**STEP 2:** Remove the shipping bands and packing materials from the lift. The power unit will be unpacked from the top. Take out all parts and components packed inside the column other than carriage, including cylinders.

**STEP 3:** Unbolt the column from the shipping brackets. Unbolt the up-rights from the columns and assemble it to the column as shown in figure 2-2.

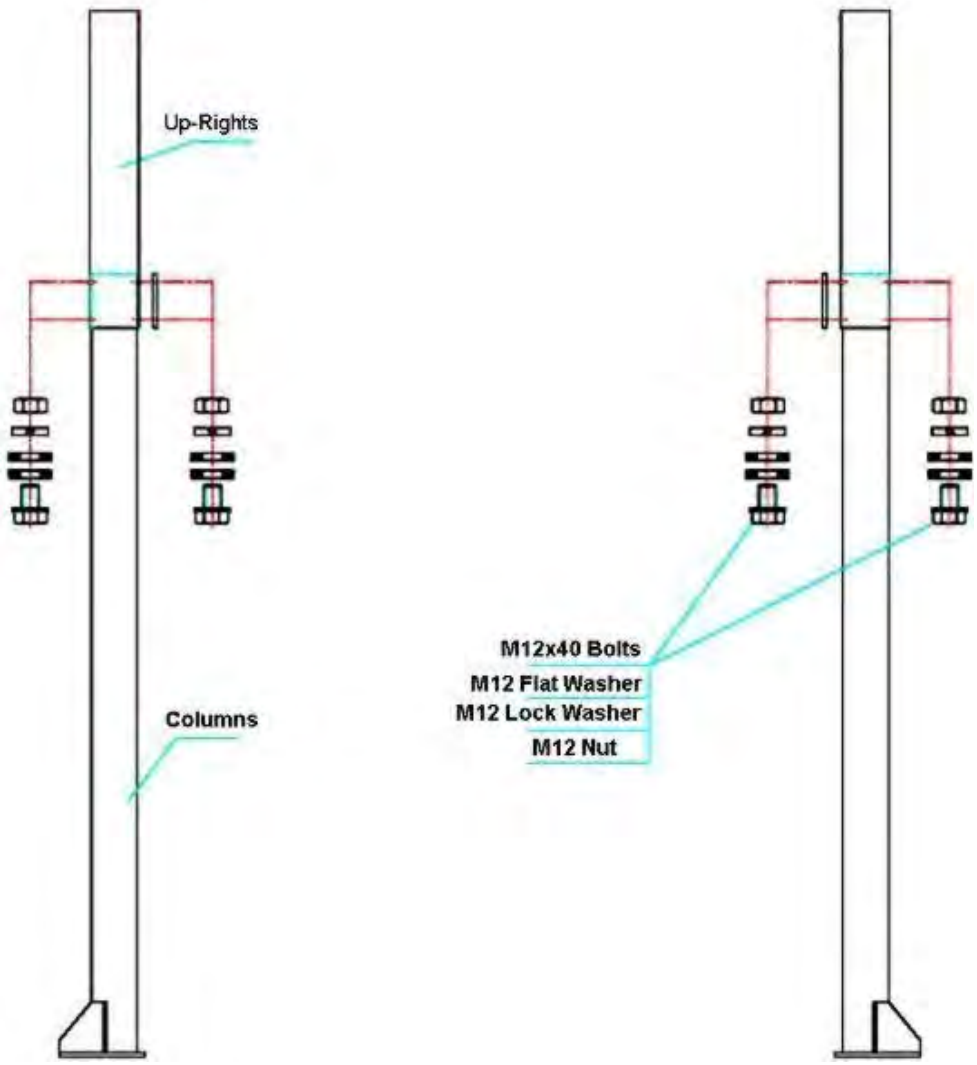



**Figure 2-2. Overhead Beam and Upright Assembly**

**STEP 4:** Open the oil port on each cylinder by unscrewing the black plastic cap. The oil port is located in the cylinder rod end that will fit into the cylinder retainer welded on the bottom plate of the column. Move the carriage up about 50 in. to 60 in. Next, carefully slide the cylinder inside from the bottom of the carriage.

**WARNING**

Failure to position the columns as directed in the following step could result in foundation damage that can cause death or serious injury as well as damage to the equipment. Columns are supported only by anchoring in the floor. DO NOT install on asphalt or other similar unstable surface

**STEP 5:** Position the columns facing each other 150-3/4 in. outside base plates (see figure 2-3). Allow a minimum of 6 in. from the column base plate to the foundation edge. Square the columns by measuring diagonally from corner points on base plates (within1/4 in.). Trace around the column base plates to make sure that positions do not shift in the following steps.

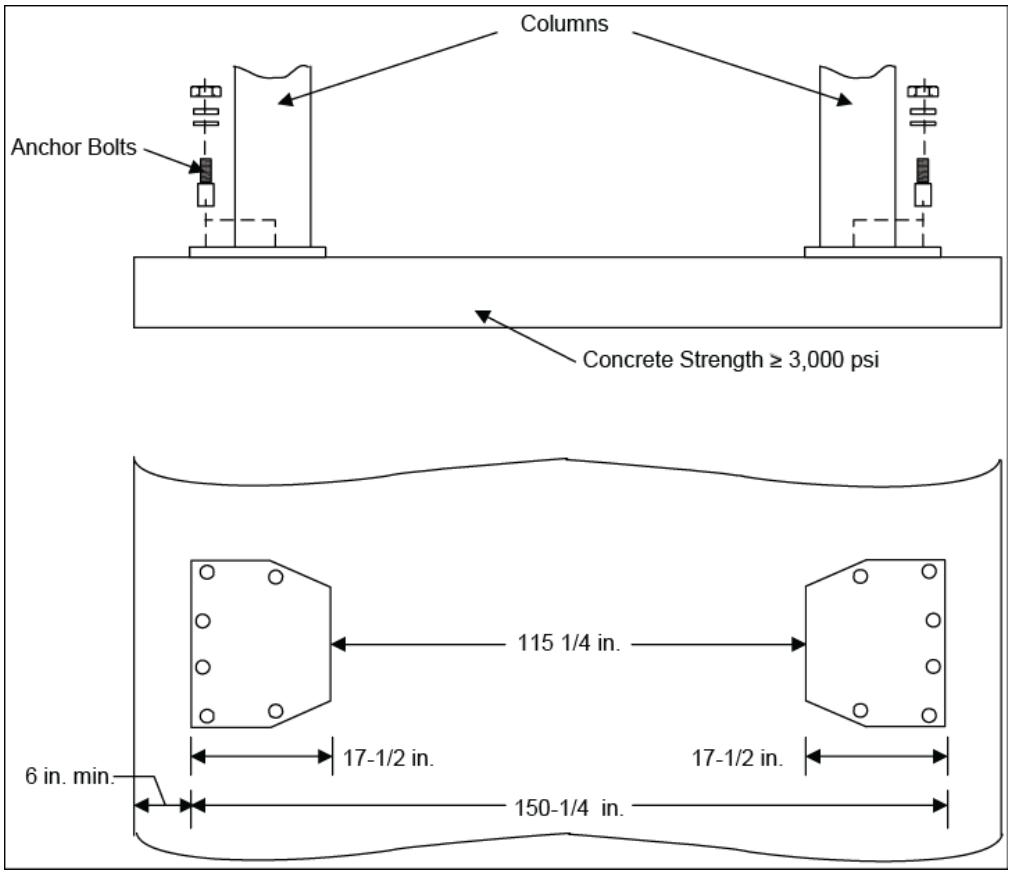



**Figure 2-3. Placement of Columns on Foundation**

**WARNING**

Failure to follow the requirements of the following step could result in damage to, or destruction of equipment. If anchors do not tighten to 85 ft-lbs. Installation torque, replace the concrete under each column base with a 4' x 4' x 6 in. thick 3,000 PSI minimum concrete pad keyed under and flush with the top of existing floor. Allow concrete to cure and return to Step 5.

# ANCHORING TIP INSTRUCTIONS

**STEP 6:** Using a 3/4 in. diameter concrete drill, drill the anchor holes in the concrete for the main side column, installing anchors as you go. Use a concrete hammer drill with a carbide tip solid drill bit the same diameter as the anchor, 3/4". (.775 to .787 inches diameter). Do not use excessively worn bits or bits which have been incorrectly sharpened. Refer to figure 2- 4 Detail A. Use the following guide while drilling the anchor holes in the concrete:

- Keep the drill in a perpendicular line while drilling.
- Use a block of wood or rubber mallet to drive anchor bolts into the concrete.
- Drill to a minimum depth of 4 in. to make sure maximum holding power is achieved. Drilling thru concrete (recommended) will allow the anchor to be driven thru the bottom if the threads are damaged.
- Let the drill do the work. Do not apply excessive pressure. Lift the drill up and down occasionally to remove residue to reduce binding.
- Drill the hole to depth equal to the length of anchor.
- For better holding power blow dust from the hole (.Refer to figure 2-4 Detail B).

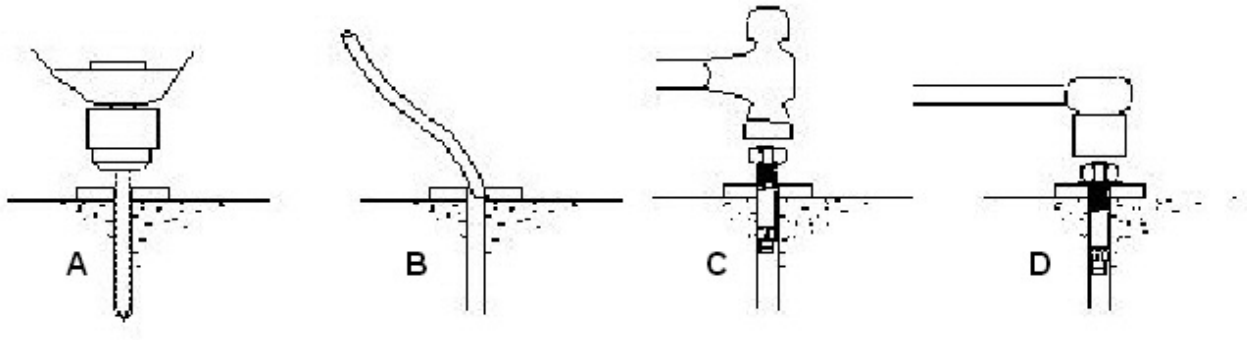



**Figure 2-4. Anchor Hole Drilling and Seating**

**STEP 7:** Place a flat washer and hex nut over threaded end of anchor, leaving approximately ½ inch of thread exposed and carefully tap anchor (Refer to figure 2-4 Detail C). Do not damage threads.

**STEP 8:** Tap anchor into the concrete until nut and flat washer are against base plate. Do not use an impact wrench to tighten (Refer to figure 2-4 Detail D).

**STEP 9:** Tighten the nut (two or three turns on average concrete (28-day cure). If the concrete is very hard, only one or two turns may be required. Check each anchor bolt with torque wrench set to 85 foot-pounds.

**NOTE:** If 85 foot-pounds of torque cannot be obtained on any anchor, return to the warning preceding step 6 and follow the instructions in the warning.

**STEP 10:** Using a level, check column for side-to-side plumb and front-to-back plumb. If needed, use horseshoe shims provided by placing shims underneath the base plate and around the anchor bolt. This will prevent bending the column bottom plates (Shim thickness should not exceed ½ in.). Tighten ¾ in. anchor bolts to 85 ft-lbs. of torque.

**NOTE:** If 85 foot-pounds of torque cannot be obtained on any anchor, return to the warning preceding step 6 and follow the instructions in the warning.

**STEP 11:** Using a tape measure, measure from back corner of the base to the opposite back corner to make sure the legs are square. After confirming dimensions, drill and install the anchors on the other side leg as given in step 6.

**STEP 12:** Level the second column as described in step 7.

**STEP 13:** Install the overhead cross beam as shown in figure 2-5. This cross beam has two pieces, to be connected by six (6) bolts in the center of the beam. Be sure to bolt them together by installing the bolts from inside the cross beam out. This is to avoid interference with the cable when operating the lift.

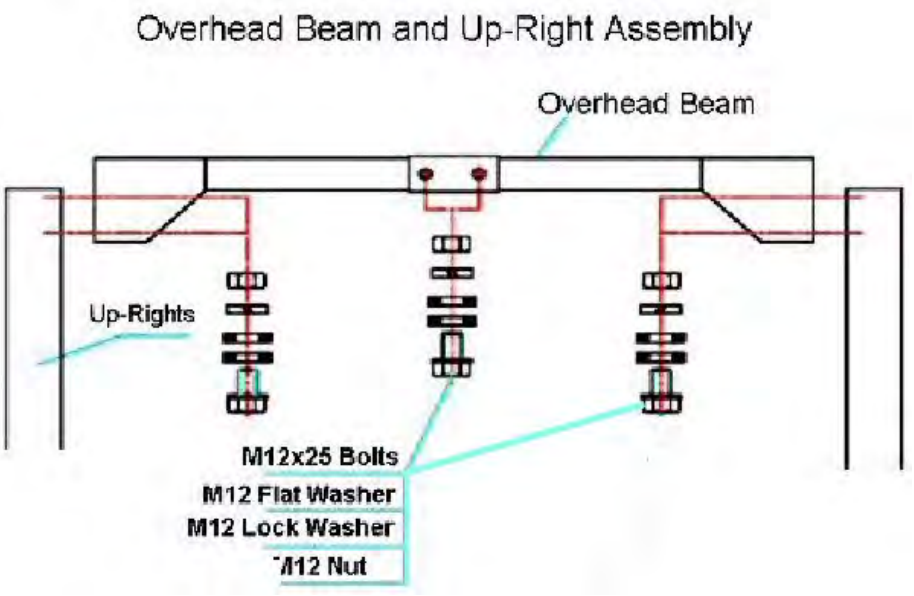



**Figure 2-5. Overhead Beam Installation**

**STEP 14:** Connect the safety release cable between the two latches as shown on figure 2-6 on page 2-8. Check that the tension of the cable is tight. Pull the single point release handle several times and check the tension again by making sure both latches release at the same time when the handle is pulled.

**STEP 15:** Mount the power unit on the main side leg to the power unit bracket using the four 5/16 in. bolts and nuts. Install the "T" fitting with o-ring on the power unit, and then install the 6 in. pipe into the backside of the main column cylinder (power unit side).

**STEP 16:** Connect the 90-degree hydraulic fitting on the other end of the 6 in. pipe

**STEP 17:** Connect the short hydraulic hose to one side of the "T" fitting at power unit, then run the hose down the column and connect to the fitting on the base of cylinder.

**STEP 18:** Connect the long hydraulic hose to the other side of the "T" fitting. Place the hose across over the overhead beam to the opposite column, then down the side and connect to the fitting on the other column cylinder.

**STEP 19:** Connect the equalizing cables as shown in figure 2-8 on page 2-10 by doing the following in the order given:

**NOTE:** Do not tighten at this stage of assembly.

- Note – The cable stud that connects to the front right corner of the carriage should be connected first by pulling the stud through the carriage hole and up where it is easy to be held by locking pliers. Pull the stud back into place after threading at least ½ in. of the stud past locknut.
- Connect the other ends to the rear right corners of the carriage with at least ½ in. of thread showing past lock nut (cables run on inside of carriage). It may be necessary to manually raise both carriages above the cylinder to provide enough space to use the locking pliers. Make sure the carriage is set in the LOCK position.
- Adjust the carriage cable tension. This is accomplished by tightening the center nut on top of each carriage. The center carriage adjustment nut adjusts the opposite post carriage height. The left post carriage nut adjusts the right column carriage, and the right column carriage nut adjusts the left column carriage. Adjust each cable to approximately 1/2 in. side-to-side play. Check the latch releases to make sure the carriage is still engaged in the appropriate latch.
- Install the half moon gear locks on each swing arm. Position the swing arms on the carriages using the included 1 1/2 in. diameter pins (2 short for front arms and 2 long for rear arms). Check for proper engagement of the arm lock – the rack on the lock should fully engage the gear on the arm.

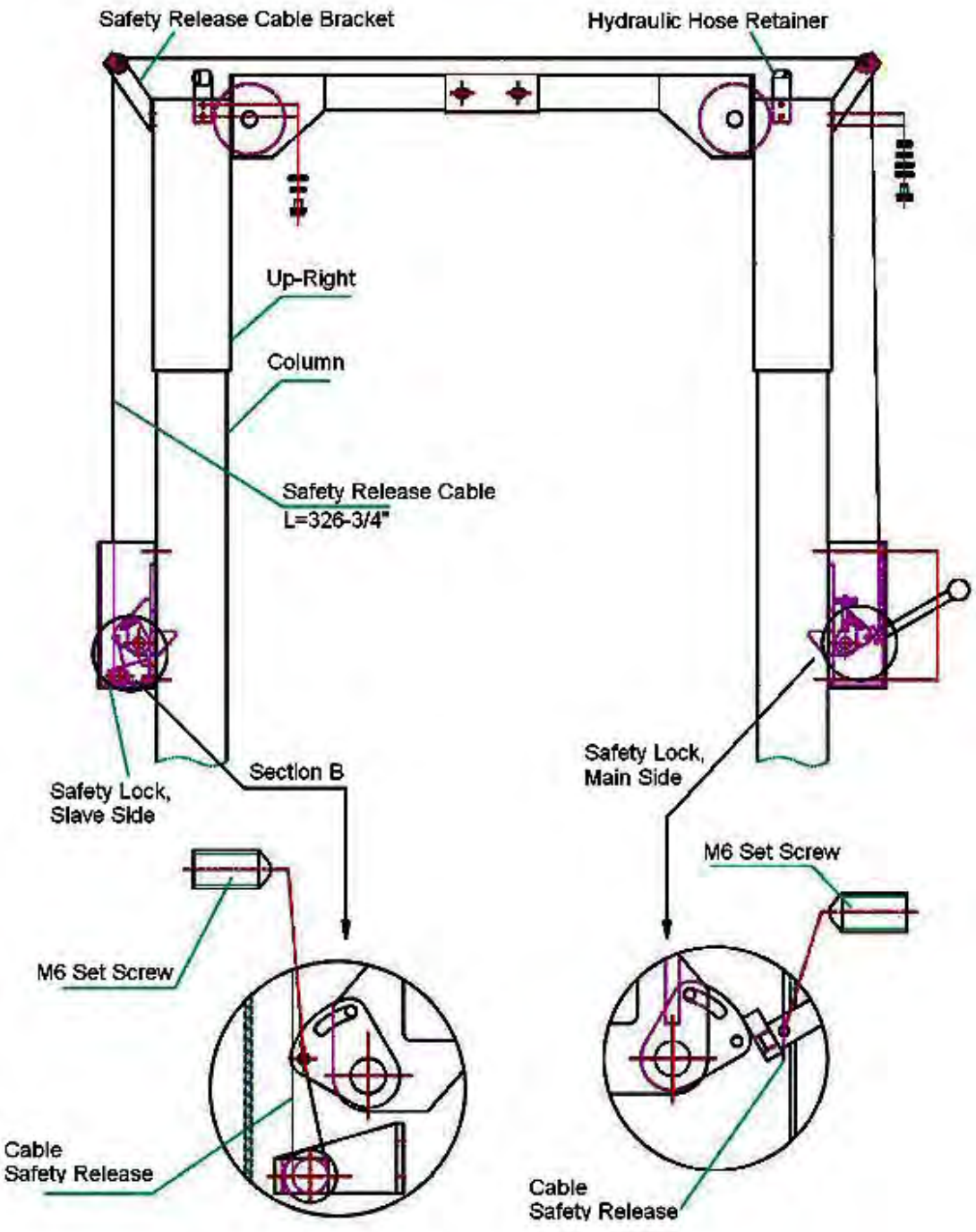



**Figure 2-6. Safety Release Cable Installation**

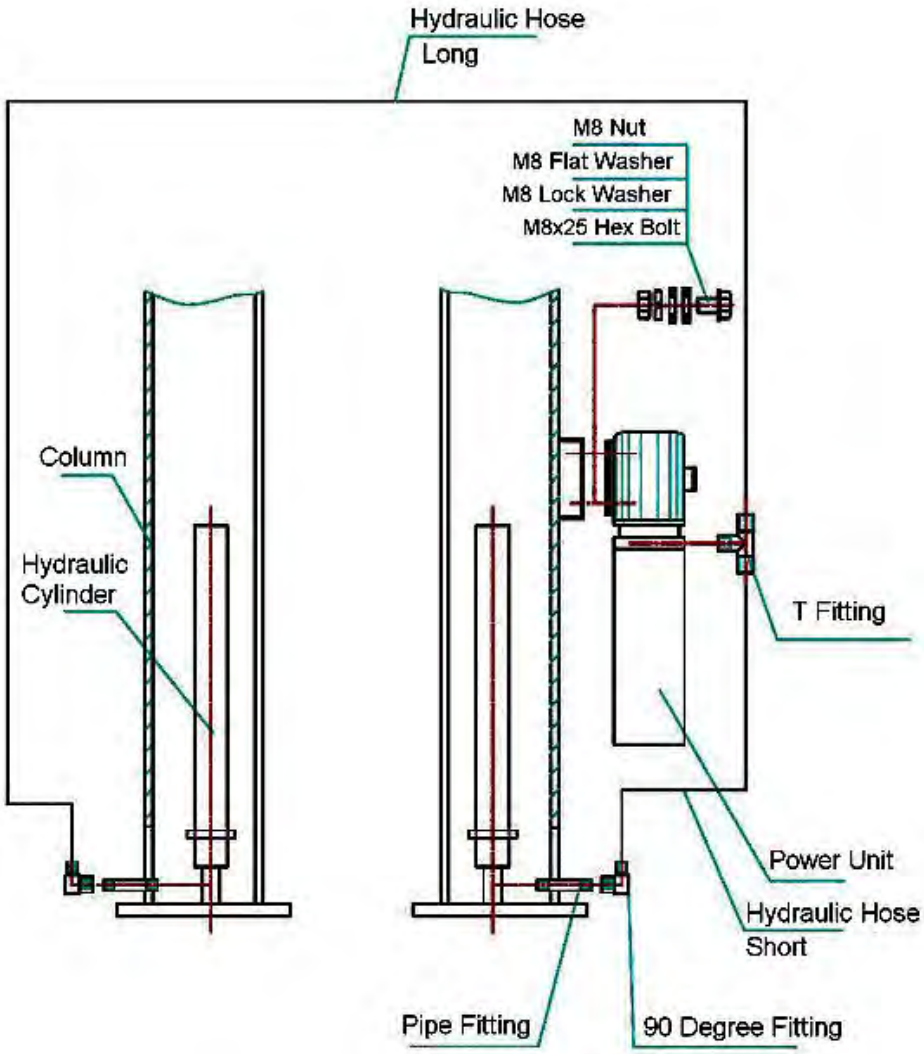



**Figure 2-7. Power Unit Installation**

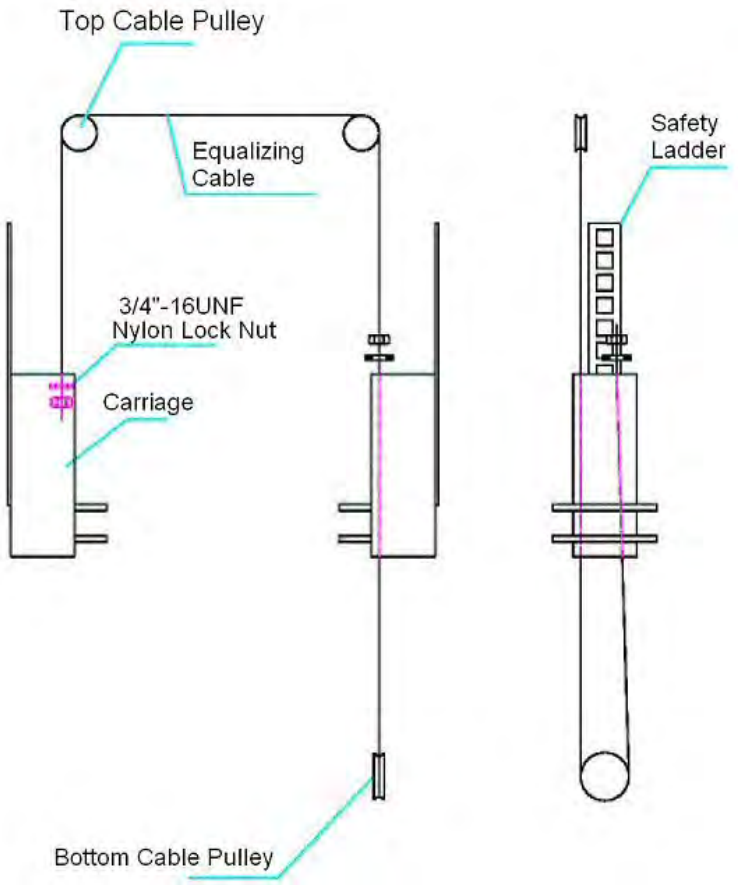
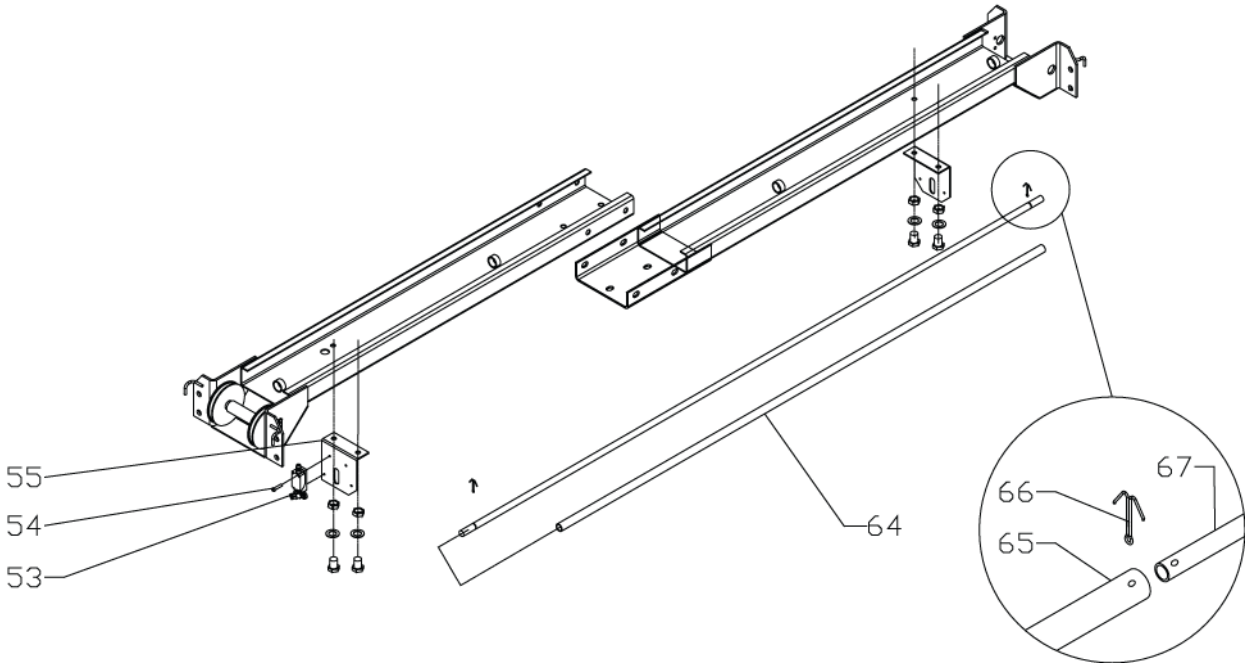



**Figure 2-8. Installation of Equalizing Cables**

**STEP 20:** Install the overhead shut off bar. Use the included hardware to attach the shut off bar brackets to the overhead beam.

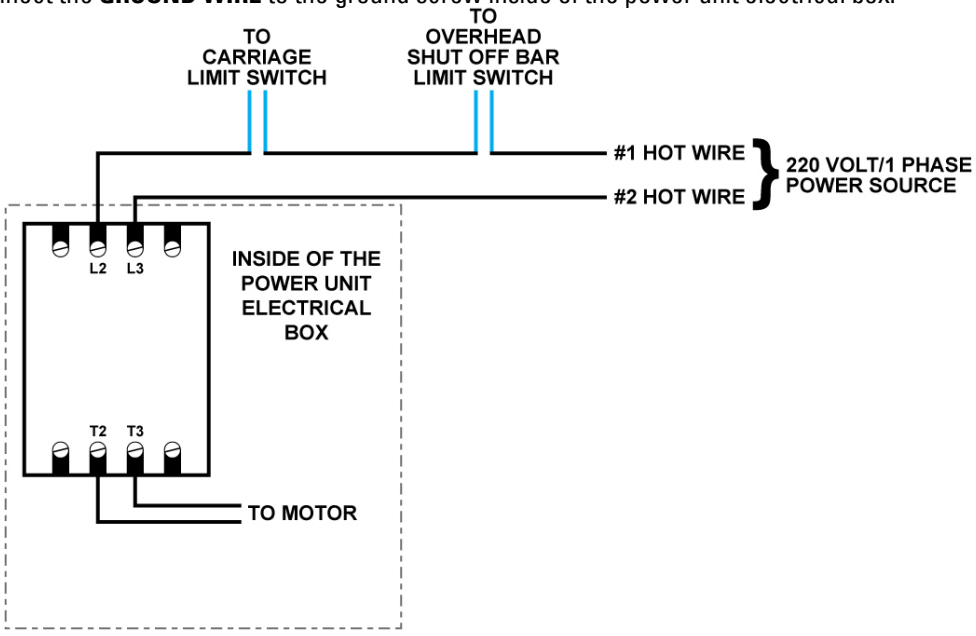


**STEP 21:** Install the "Overhead Shut-Off Bar" limit switch.

Identify the **#1 HOT WIRE** from the power source and connect to the Carriage Limit Switch and the Overhead Shut Off Bar Limit Switch. After both of the limit switches have been connected (wire nut and tape properly) into the **#1 HOT WIRE**, connect the **#1 HOT WIRE** to the **L2** connection inside the power unit electrical box.

Identify the **#2 HOT WIRE** and connect it directly to the **L3** connection inside of the power unit electrical box.

Connect the **GROUND WIRE** to the ground screw inside of the power unit electrical box.




**STEP 22:** Remove the vent plug from the power unit and fill the reservoir. Use a Ten Weight (ISO AW32) non-foaming, non-detergent hydraulic fluid (Texaco HD32 or equal). The unit will hold approximately twelve quarts of fluid.

**WARNING**

Failure to comply with this warning could result in death or injury. The wiring must comply with local code. In the following step have a certified electrician make the electrical hook-up to the power unit. Protect each circuit with time delay fuse or circuit breaker rated at 208v-230v single phase. 60 Hz 30 amp. Motor cannot run on 50 Hz without a physical change to motor

**STEP 23:** Make the Electrical hookup to the power unit; 220V Single Phase. It is recommended that a 220 Volt, 30 Amp twist lock plug be installed in the power line just ahead of the power unit. Use wire capable of supporting a 30-amp circuit.

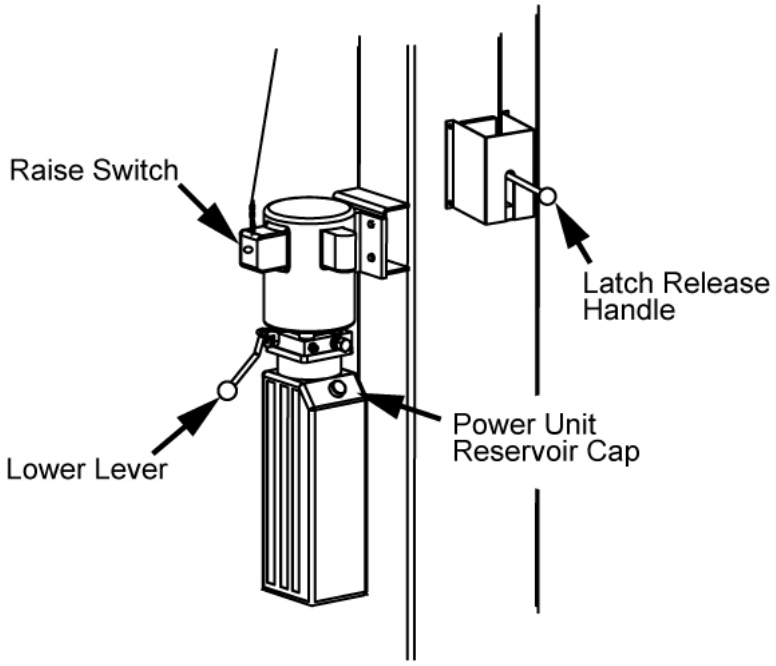
**CAUTION**

Failure to comply with this caution could result in damage to the lift.
Do not place any vehicle on the lift at this time.

**STEP 24:** Do not place any vehicle on the lift at this time. Cycle the lift up and down several times to make sure latches engage properly and all air is removed from the system. To lower the lift, first raised the lift to clear the latches and then pull down the safety release handle to lower the lift. If latches function out of synchronization, tighten the cable on the latch that engages first.

**STEP 25:** Operate lift and apply pressure to cable to insure motor shuts off prior to any part of vehicle coming in contact with overhead crossbeam. Adjust cable if necessary and secure with crimp fitting. Remove any excess cable with wire cutters.

| DEFINITION OF LIFT CONTROLS | | |
|---|---|---|
| Item No. | Type | Purpose |
| 1 | Latch Release Handle | Used to release safety latches when lowering vehicle. |
| 2 | Raise Switch | Controls electrical power to the power unit. Push to turn-on, and push again to turn-off the power unit. |
| 3 | Lower lever | Used to relieve hydraulic pressure when pressed down. |
| 4 | Power Unit Reservoir Cap | Cap for the power unit fluid reservoir. |




**ENSURE THAT ALL CABLE SHEAVES, BEARINGS, AND SHAFTS ARE SUFFICIENTLY LUBRICATED. ALSO, THE CORNERS OF EACH COLUMN SHOULD BE LIGHTLY GREASED WITH QUALITY TYPE LITHIUM GREASE PRIOR TO OPERATING THE LIFT. LUBRICATE ALL ON AN ANNUAL BASIS.**

Motors and all electrical components are not sealed against the weather and moisture. Install this lift in a protected indoor location. Failure by the owner to provide the recommended shelter could result in unsatisfactory lift performance, property damage, or personal injury.

**STEP 26:** Raise the lift by pressing the button on the power unit.

**NOTE:** The safety latch mechanism will 'trip over' when the lift raises and drop into each latch stop. To lock the lift you must press the Lower lever to relieve the hydraulic pressure and let the latch set tight in a lock position.

**NOTE:** In the following step it is normal for an empty lift to lower slowly - it may be necessary to add weight.

**STEP 27:** Lower the lift by doing the following:

1) Raise the lift until the latches clear the safety racks in both sides.

**CAUTION**

Failure to comply with this caution could result in damage to the lift. In the following step always make sure latches on both sides clear the rack at same time when pulling down the release handle by adjusting the cable

2) Pull down and hold the safety release handle.
3) Press the lowering lever at the power unit to lower the lift.

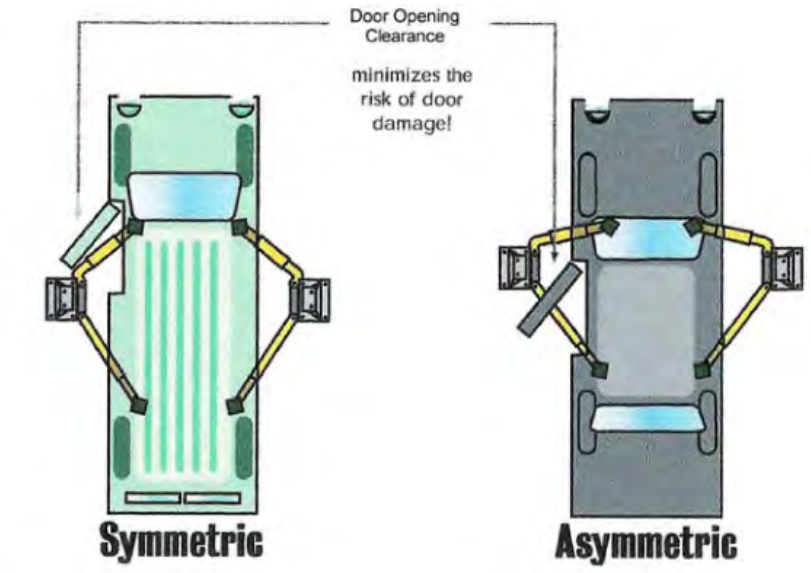
# SAFETY AND OPERATING INSTRUCTIONS
# ONLY AUTHORIZED PERSONNEL ARE TO OPERATE LIFT

**Read operating and safety procedures manual completely before operating lift.**

- Properly maintain and inspect lift in accordance to owner's manual.
- Do not operate a lift that is damaged or in need of repair.
- Allow only authorized personnel in the lift bay.
- Stay clear of Lift when raising or lowering (NO RIDERS)
- Keep hands and feet away from pinch points at all times.
- Never override the Lifts operating and safety controls.
- If a vehicle is suspected of falling, clear area immediately.
- Do not rock vehicle while positioned on lift.
- Always use safety jack stands when removing or installing heavy components.

**Vehicle Loading**

- Position vehicle for proper weight distribution (center of gravity should be midway between adapters).
- Swing arms under vehicle to allow adapters to contact at the manufacturer's recommended pick up points.
- Use caution before lifting pickup trucks, suv's and other framed vehicles.
  The individual axle weight capacity should not exceed 1/2 of lift capacity.
- Make sure vehicle is neither front nor rear heavy.
- Selecting the proper configuration for the vehicle to be lifted (symmetric/asymmetric) position the lift arms as shown below.
  Make sure the lifting pads are in a proper and safe position to support the vehicle.
  (Ref: Lifting Points Guide and decal on Main side column for typical arm positioning)

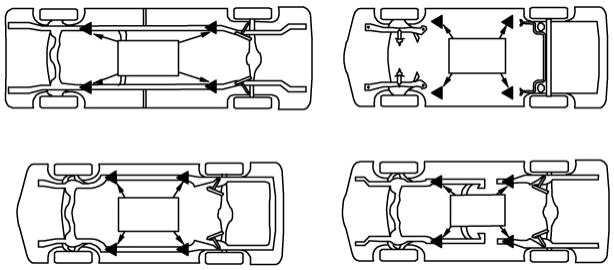



**Raising Lift**

- Push Up switch to raise lift (make sure arm restraints engage or stop and slightly move arm to allow gear to mesh) until tires clear floor.
- Stop and check for secure contact on adapters and vehicle weight distribution. If secure raise to desired height. ALWAYS lower the lift into the nearest lock position by pressing the lower lever to relieve the hydraulic pressure and let the latch set right in a lock position.
- Never work under a lift that is not in the locked position.

**Lowering Lift**

- Clear all obstacles from under lift and vehicle and ensure only the lift operator is in the lift area.
- Stay clear of lift and raise the lift off the safety locks.
- Pull safety latch releases and press the lower lever to begin descent.
- Lift by first completely lowering lift, then swinging arms to drive-thru position before moving vehicle.



**Lift Points Note:**

Refer to the manufacturer's specific vehicle lifting points. Some vehicles display these points on a label inside the right front door lock face or are identified by triangle shape marks on the vehicle's undercarriage, reference SAE J2184.

# SAFETY INSTRUCTIONS:

1. Do not raise a vehicle on the lift until the installation is completed as described in this manual.
2. Anyone who will be in the vicinity of the lift when it is in use should read and refer to the following publications supplied with this lift.
3. Technicians should be trained to use and care for the lift by familiarizing themselves with the publications listed above. The lift should never be operated by an untrained person.
4. Always position the arms and adapters properly out of the way before pulling the vehicle into, or out of the bay. Failure to do so could damage the vehicle and/or the lift.
5. Do not overload the lift. The capacity of the lift is shown on cover of this document.
6. Positioning the vehicle is very important. Only trained technicians should position the vehicle on the lift. Never allow anyone to stand in the path of the vehicle as it is being positioned.
7. Position the arms to the vehicle manufacturer's recommended pickup points. Raise the lift until contact is made with the vehicle. Make sure that the arms have properly engaged the vehicle before raising the lift to a working height.
8. Keep everyone clear of the lift when the lift is moving, the locking mechanism is disengaged, or the vehicle is in danger of falling.
9. Unauthorized personnel should never be in the shop area when the lift is in use.
10. Inspect the lift daily. The lift should never be operated if it has damaged components, or is malfunctioning. Only qualified technicians should service the lift. Replace damaged components with manufacturer's parts, or equivalent.
11. Keep the area around the lift clear of obstacles.
12. Never override the self-returning lift controls.
13. Use safety stands when removing or installing heavy vehicle components.
14. Avoid excessive rocking of the vehicle when it is on the lift.
15. To reduce the risk of personal injury, keep hair, loose clothing, fingers, and all body parts away from moving parts.
16. To reduce the risk of electric shock, do not use the lift when wet, do not expose the lift to rain.
17. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
18. Use the lift only as described in this manual, use only manufacturer's recommended attachments.
19. Unusual vehicles, such as limousines, RV's, and long wheelbase vehicles, may not be suitable for lifting on this equipment. If necessary, consult with the manufacturer or the manufacturer's representative.
20. The troubleshooting and maintenance procedures described in this manual can be done by the lift's owner/employer. Any other procedure should only be performed by trained lift service personnel. These restricted procedures include, but are not limited to, the following: cylinder replacement, carriage and safety latch replacement, and leg replacement.
21. **Anyone who will be in the vicinity of the lift** when it is in use should familiarize themselves with following Caution, Warning, and Safety related decals supplied with this lift, and replace them if the are illegible or missing:

# LIFT LOCKOUT/TAGOUT PROCEDURE

**Purpose**

This procedure establishes the minimum requirements for the lockout of energy that could cause injury to personnel by the operation of lifts in need of repair or being serviced. All employees shall comply with this procedure.

**Responsibility**

The responsibility for assuring that this procedure is followed is binding upon all employees and service personnel from outside service companies (i.e., Authorized Installers, contractors, etc.). All employees shall be instructed in the safety significance of the lockout procedure by the facility owner/manager. Each new or transferred employee along with visiting outside service personnel shall be instructed by the owner/manager (or assigned designee) in the purpose and use of the lockout procedure.

**Preparation**

Employees authorized to perform lockout shall ensure that the appropriate energy isolating device (i.e., circuit breaker, fuse, disconnect, etc.) is identified for the lift being locked out. Other such devices for other equipment may be located in close proximity of the appropriate energy isolating device. If the identity of the device is in question, see the shop supervisor for resolution. Assure that proper authorization is received prior to performing the lockout procedure.

**Sequence of Lockout Procedure**

1) Notify all affected employees that a lockout is being performed and the reason for it.
2) Unload the subject lift. Shut it down and assure the disconnect switch is "OFF" if one is provided on the lift.
3) The authorized lockout person operates the main energy isolation device removing power to the subject lift.
    - If this is a lockable device, the authorized lockout person places the assigned padlock on the device to prevent its unintentional reactivation. An appropriate tag is applied stating the person's name, at least 3" x 6" in size, an easily noticeably color, and states not to operate device or remove tag.
    - If this device is a non-lockable circuit breaker or fuse, replace with a "dummy" device and tag it appropriately as mentioned above.
4) Attempt to operate lift to assure the lockout is working. Be sure to return any switches to the "OFF" position.

**Restoring Equipment to Service**

1) Assure the work on the lift is complete and the area is clear of tools, vehicles, and personnel.
2) At this point, the authorized person can remove the lock (or dummy circuit breaker or fuse) & tag and activate the energy isolating device so that the lift may again be placed into operation.

**Rules for Using Lockout Procedure**

Use the Lockout Procedure whenever the lift is being repaired or serviced, waiting for repair when current operation could cause possible injury to personnel, or for any other situation when unintentional operation could injure personnel. No attempt shall be made to operate the lift when the energy isolating device is locked out.

**Operating Conditions**

Lift is not intended for outdoor use and has an operating ambient temperature range of 41°-104°F (5°-40°C).

# PREVENTIVE MAINTENANCE SCHEDULE

The periodic Preventive Maintenance Schedule given is the suggested minimum requirements and minimum intervals; accumulated hours or monthly period, which ever comes sooner. Periodic maintenance is to be performed on a daily, weekly, and yearly basis as given in the following paragraphs.

WARNING

Occupational Safety and Health Administration (OSHA) and the American National Standards Institute (ANSI) requires users to inspect lifting equipment at the start of every shift. These and other periodic inspections are the responsibility of the user. Failure to perform the daily pre-operational check can result in expensive property damage, lost production time, serious personal injury, and even death. The safety latch system must be checked and working properly before the lift is put to use. Failure to heed this warning can result in death or serious injury, or damage to equipment. If you hear a noise not associated with normal lift operation, or, if there is any indications of impending lift failure - CEASE OPERATION IMMEDIATELY! - Inspect, correct and/or replace parts as required.

## Daily Pre-Operation Check (8-Hours)

1. Check safety lock audibly and visually while in operation
2. Check safety latches for free movement and full engagement with rack.
3. Check hydraulic connections, and hoses for leakage.
4. Check chain connections - bends, cracks-and loose links.
5. Check cable connections- bends, cracks-and looseness.
6. Check for frayed cables in both raised and lowered position.
7. Check snap rings at all rollers and sheaves.
8. Check bolts, nuts, and screws and tighten if needed.
9. Check wiring & switches for damage.
10. Keep base plate free of dirt, grease or any other corrosive substances.
11. Check floor for stress cracks near anchor bolts.
12. Check swing arm restraints.

## Weekly Maintenance (every 40-Hours)

1. Check anchor bolts torque to 50 ft-lbs for the 3/4" anchor bolts. Do not use an impact wrench to tighten anchor bolts.
2. Check floor for stress cracks near anchor bolts.
3. Check hydraulic oil level.
4. Check and tighten bolts, nuts, and screws.
5. Check cylinder pulley assembly for free movement or excessive wear on cylinder yoke or pulley pin.
6. Check cable pulley for free movement and excessive wear.

## Yearly Maintenance

1. Lubricate chains
2. Grease rub blocks and column surface contacting rub blocks
3. Change the hydraulic fluid - good maintenance procedure makes it mandatory to keep hydraulic fluid clean. No hard fast rules can be established; - operating temperature, type of service, contamination levels, filtration, and chemical composition of fluid should be considered. If operating in dusty environment shorter interval may be required.

## Special Maintenance Tasks

**NOTE: The following items should only be performed by a trained maintenance expert:**

- Replacement of hydraulic hoses.
- Replacement of chains and rollers.
- Replacement of cables and sheaves.
- Replacement or rebuilding air and hydraulic cylinders as required.
- Replacement or rebuilding pumps / motors as required.
- Checking of hydraulic cylinder rod and rod end (threads) for deformation or damage.

CAUTION

**Relocating or changing components may cause problems. Each component in the system must be compatible; an undersized or restricted line will cause a drop in pressure. All valve, pump, and hose connections should be sealed and/or capped until just prior to use. Air hoses can be used to clean fittings and other components. However, the air supply must be filtered and dry to prevent contamination. Most important is cleanliness; Contamination is the most frequent cause of malfunction or failure of hydraulic equipment.**

# TROUBLESHOOTING

The common problems that may be encountered and their probable causes are covered in the following paragraphs:

**• Motor Does Not Operate**

Failure of the motor to operate is normally caused by one of the following:

1. Breaker or fuse blown.
2. Faulty wiring connections; call electrician.
3. Defective up button; call electrician for service.

**• Motor Functions but Lift Will Not Rise**

If the motor is functioning, but the lift will not rise do the following in the order given:

1. A piece of trash is under check valve. Push handle down and push the up button at the same time. Hold for 10-15 seconds. This should flush the system.
2. Check the clearance between the plunger valve of the lowering handle. There should be 1/16" clearance.
3. Remove the check valve cover and clean ball and seat.

WARNING

**Failure to properly relieve pressure in the following step can cause injury to personnel. This lift uses ISO Grade 32 AW, 46 or other good grade non-detergent hydraulic oil at a high hydraulic pressure. Be familiar with its toxicological properties, precautionary measures to take, and first aid measures as stated in the Safety Summary before performing any maintenance with the hydraulic system.**

4. Oil level too low. Oil level should be just under the vent cap port when the lift is down. Relieve all hydraulic pressure and add oil as required.

**• Oil Blows out Breather of Power Unit**

If oil blows out of the breather of the power unit, take the following actions:

1. Oil reservoir overfilled. Relieve all pressure and siphon out hydraulic fluid until at a proper level
2. Lift lowered too quickly while under a heavy load. Lower the lift slowly under heavy loads.

**• Motor Hums and Will Not Run**

If the motor hums but fails to run, take the following actions:

1. Lift overloaded. Remove excessive weight from lift

WARNING

**The voltages used in the lift can cause death or injury to personnel. In the following steps, make sure that a qualified electrician is used to perform maintenance**

2. Faulty wiring..…..... Call electrician
3. Bad capacitor..….. Call electrician
4. Low voltage..... Call electrician

**• Lift Jerks Going Up and Down**

1. If the lift jerks while going up and down, it is usually a sign of air in the hydraulic system. Raise lift all the way to top and return to floor. Repeat 4-6 times. Do not let this overheat power unit.

**• Oil Leaks**

Oil leak causes at the power unit and cylinders are normally caused by the following:

1. Power unit: if the power unit leaks hydraulic oil around the tank-mounting flange check the oil level in the tank. The level should be two inches below the flange of the tank. A screwdriver can be used as a "dipstick".
2. Cylinder - Piston Rod: the rod seal of the cylinder is out. Rebuild or replace the cylinder.
3. Cylinder - Vent: the piston seal of the cylinder is out. Rebuild or replace the cylinder.

**• Lift Makes Excessive Noise**

Excessive noise from the lift is normally caused by the following:

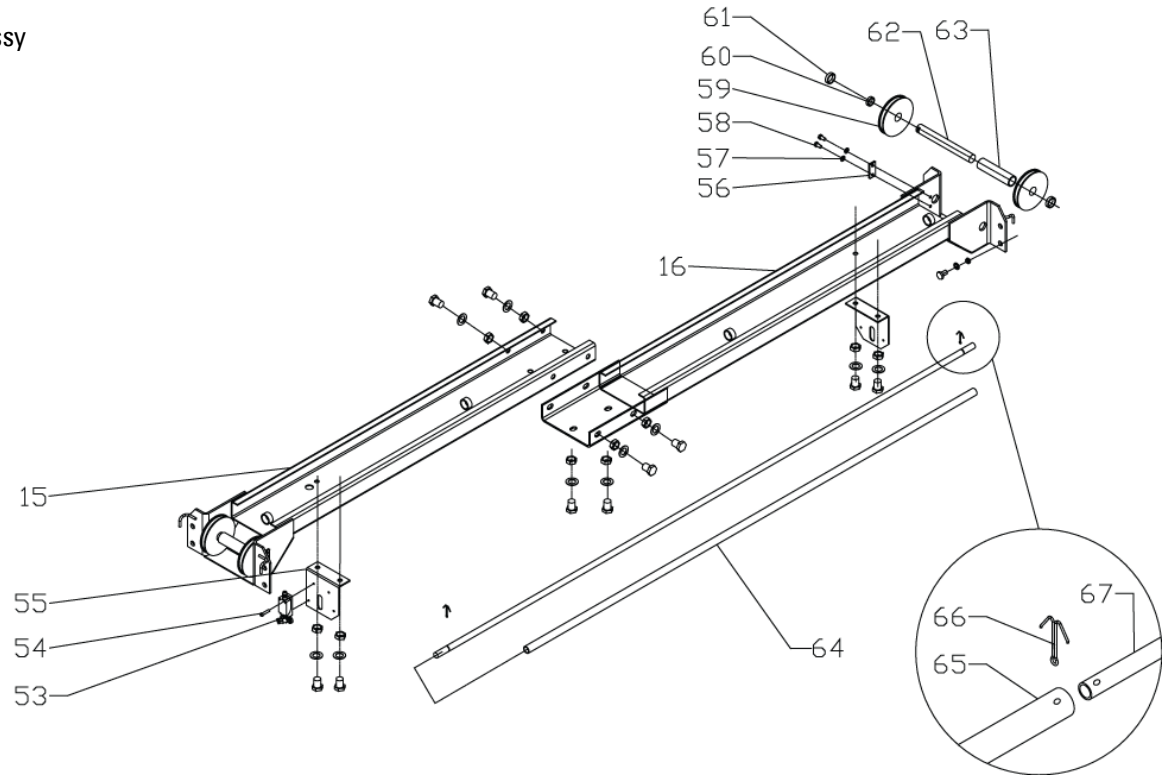
1. Column of the lift is dry and requires grease.
2. Cylinder pulley assembly or cable pulley assembly is not moving freely.
3. May have excessive wear on pins or cylinder yoke.

# ILLUSTRATED PARTS BREAKDOWN

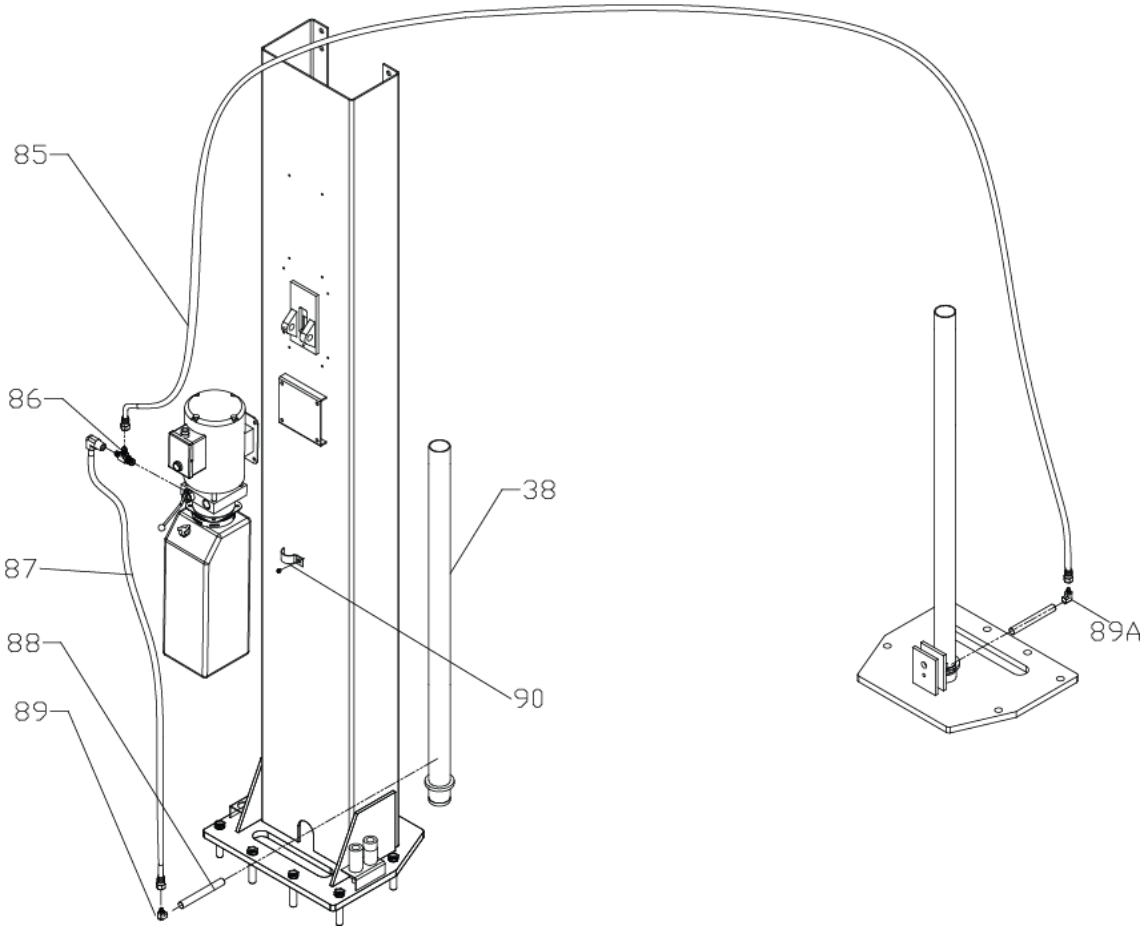
**Illustrated Parts Breakdown Information.**

Detailed illustrations and parts listings for the model PV-15P 15,000 Pound Two-Column Automotive Lift. Certain parts may be shown on more than one figure in order to illustrate their relationship with other components shown in the figure.

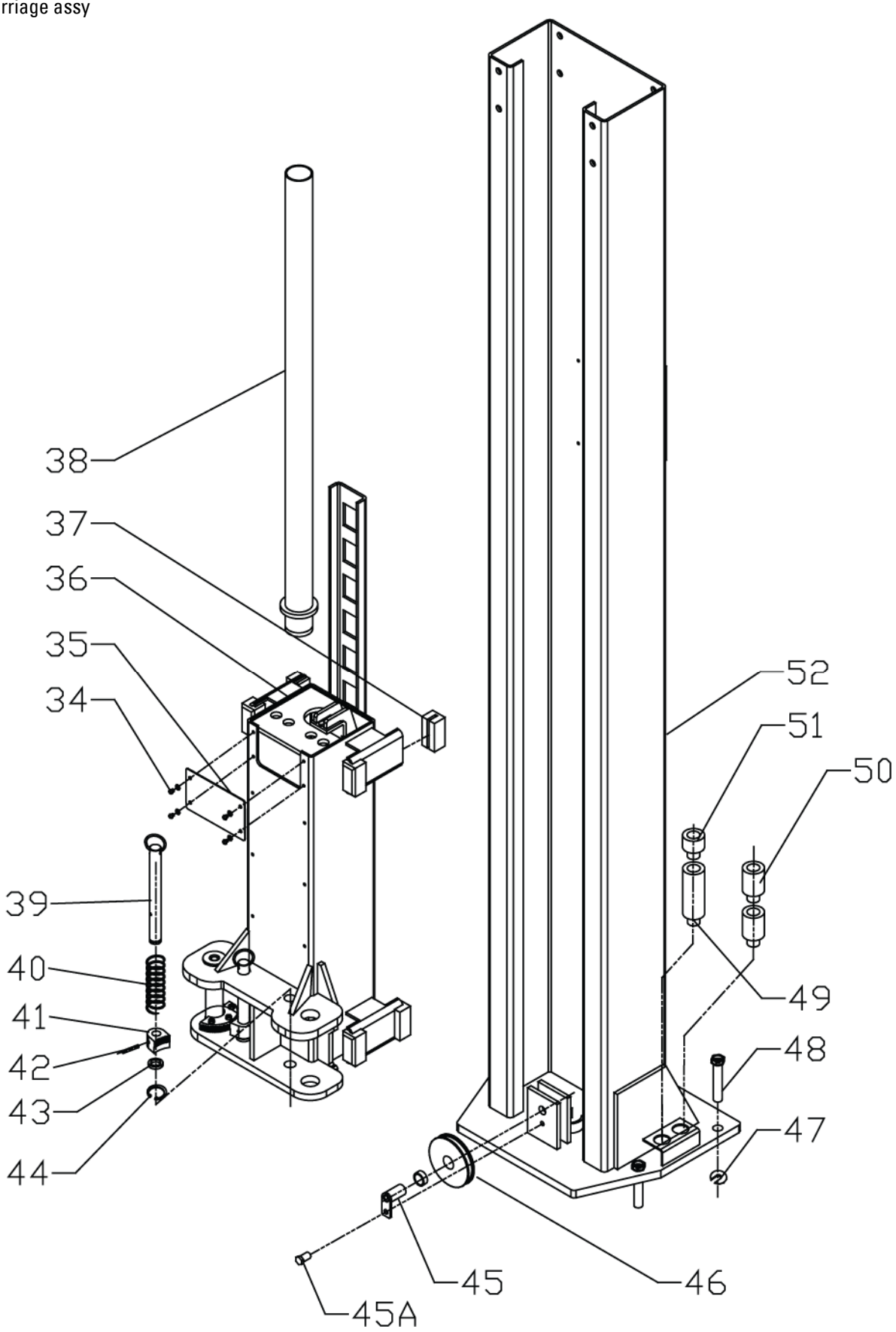
Top beam assy



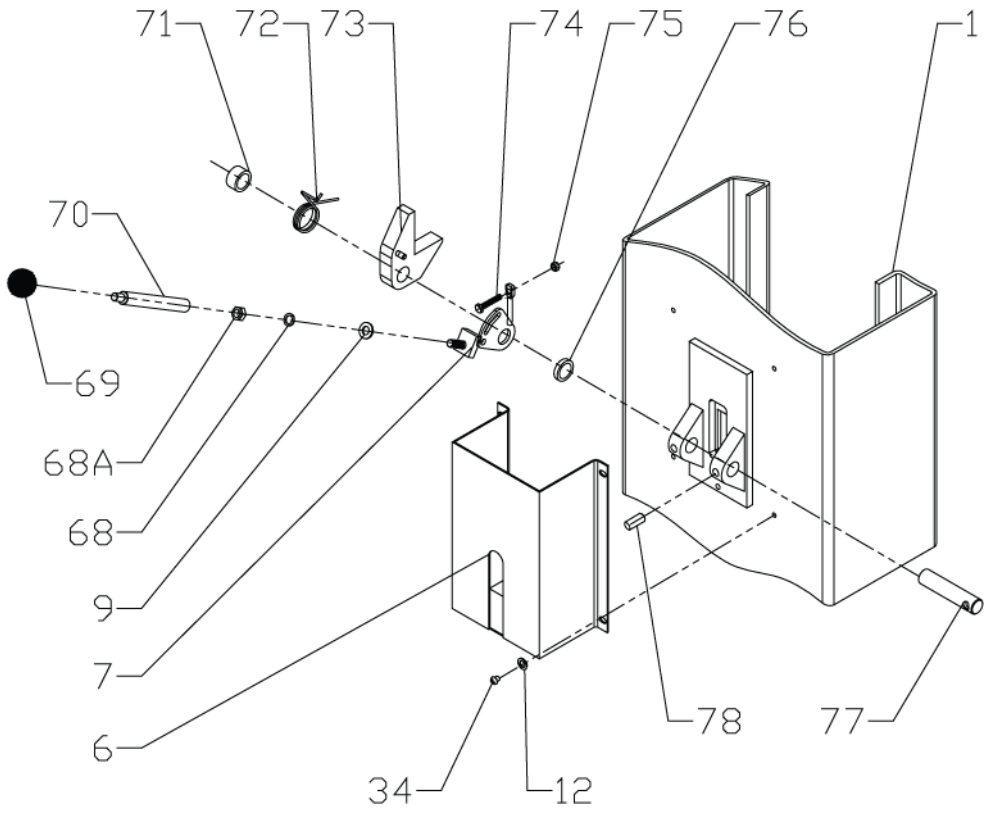

Hose route



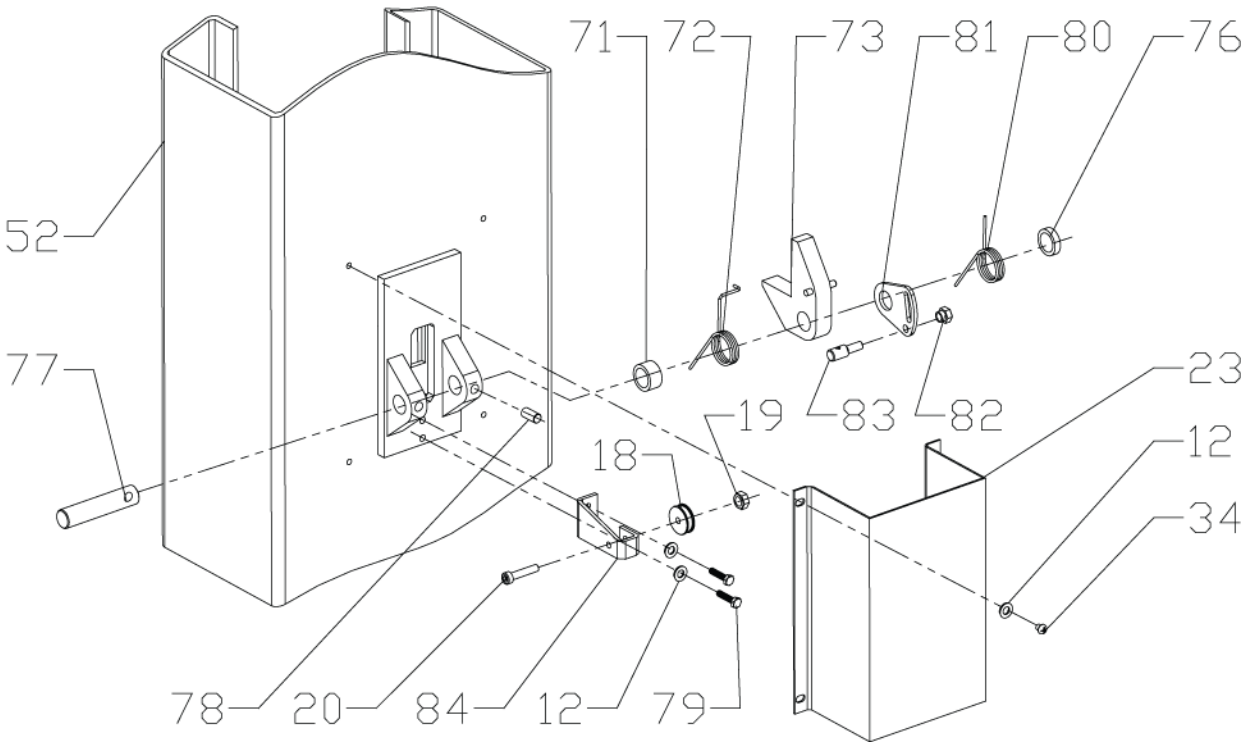
Post and Carriage assy



Safety device

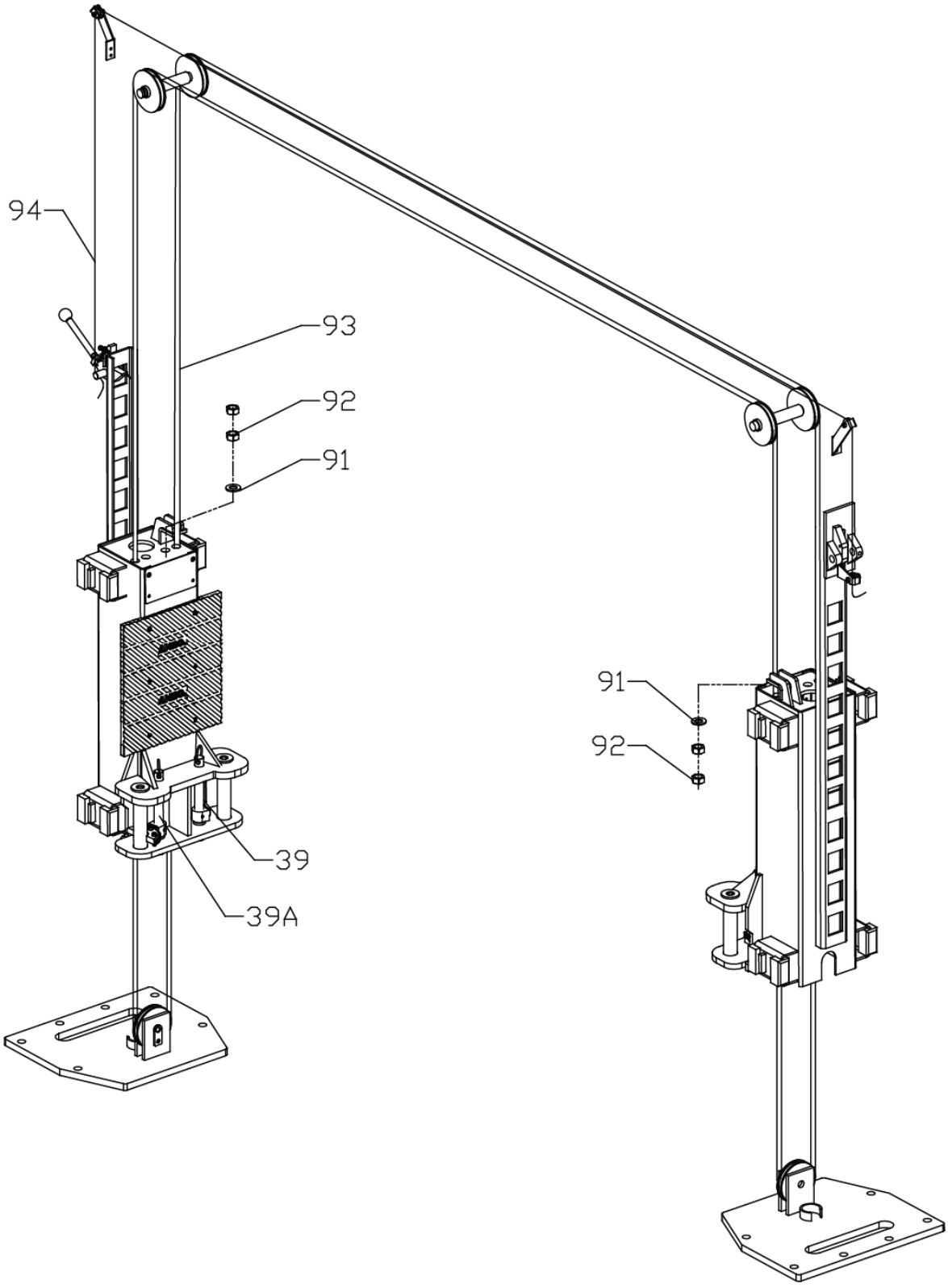



Power side Safety device



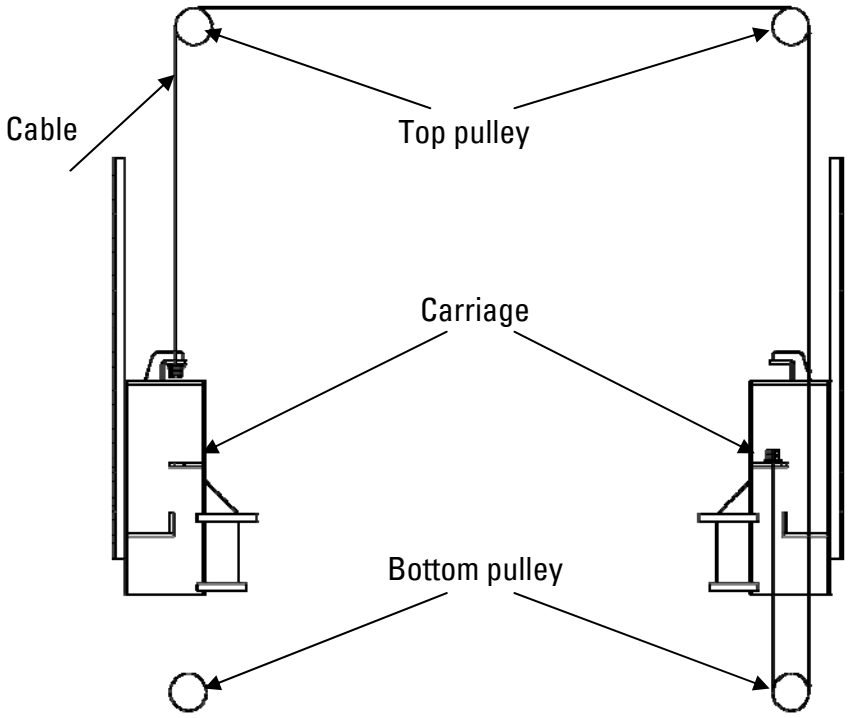

off side Safety device

## Cable route

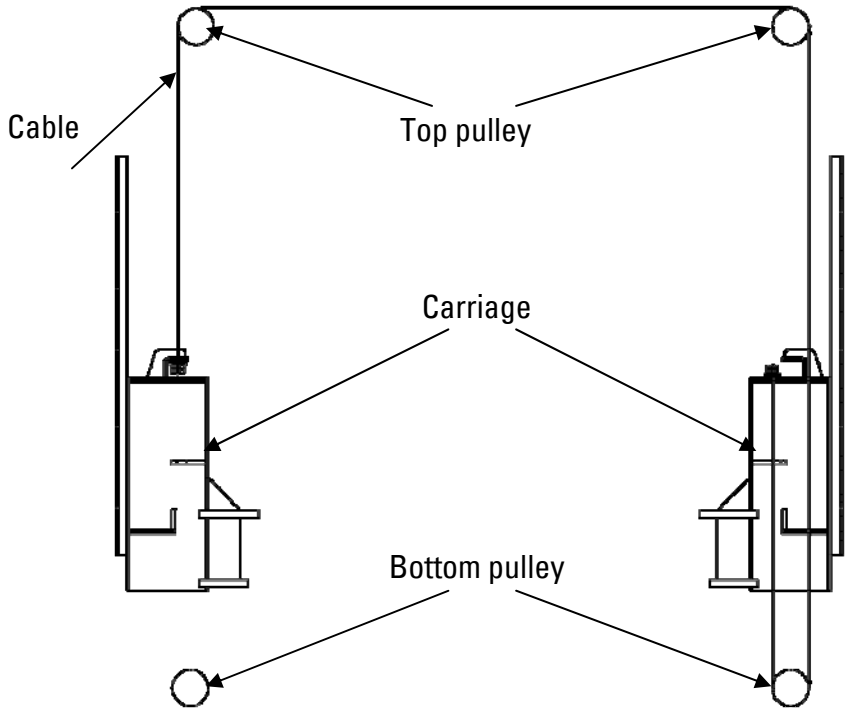


## Cable Connection

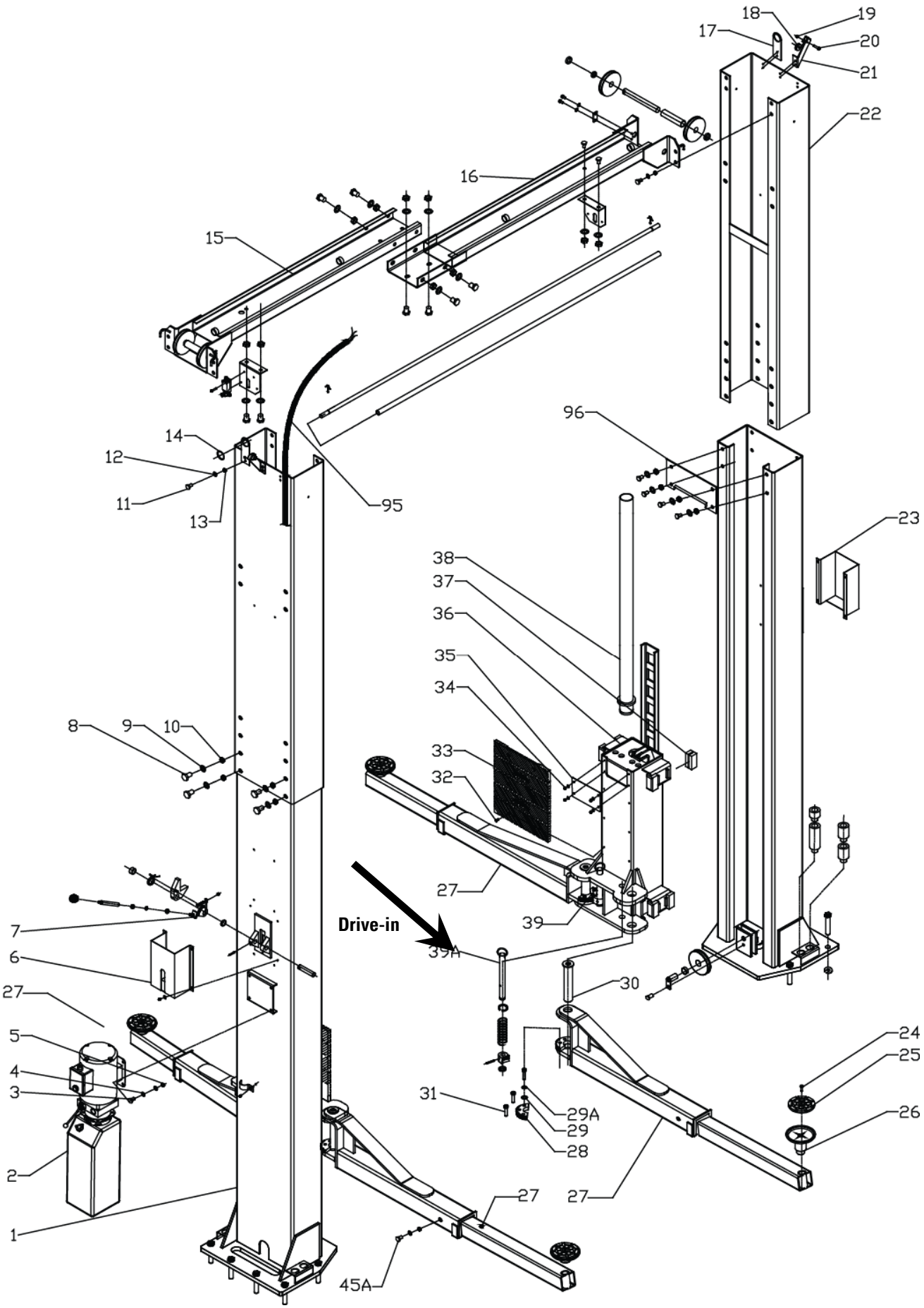
### High Setting




### Low Setting



## Exploded view



# PV-15P PARTS LIST

| NO | PARTS # | DESCRIPTION | QTY |
|---|---|---|---|
| 1 | 217001A | POWERSIDE COLUMN | 1 |
| 2 | 217070 | POWER UNIT | 1 |
| 3 | 209003 | M8 * 25 HEX SCREW | 4 |
| 4 | 209034 | Φ8 ELASTIC MEDIUM | 4 |
| 5 | 217002 | HEX NUT M8 | 4 |
| 6 | 217003 | POWER-SIDE LOCK COVER | 1 |
| 7 | 217004 | MAIN CAM LOCK | 1 |
| 8 | 217069 | M12 * 30 HEX SCREW | 34 |
| 9 | 206006 | M12 * 30 HEX SCREW | 35 |
| 10 | 206023 | M12 SELF-LOCKING NUT | 34 |
| 11 | 217013 | M12 * 30 HEX SCREW | 8 |
| 12 | 217014 | Φ6 HEISUKE | 26 |
| 13 | 211005 | M6 SELF-LOCKING NUT | 8 |
| 14 | 217025 | PROTECTION COIL | 2 |
| 15 | 217015A | RIGHT OVERHEAD BAR | 1 |
| 16 | 217016A | LEFT OVERHEAD BAR | 1 |
| 17 | 217024 | TUBING SUPPORT PLATE | 2 |
| 18 | 209049 | PLASTIC SMALL PULLEY P005A-2 | 3 |
| 19 | 209056 | M10 SELF-LOCKING NUT | 3 |
| 20 | 209046 | M10 * 35 OUTER HEX SCREWS | 3 |
| 21 | 217026 | SMALL WIRE STENT | 2 |
| 22 | 217027B | OUTSIDE COLUMN | 2 |
| 23 | 217028 | NON POWERSIDE LOCK COVER | 1 |
| 24 | 217038 | HEXAGON SCREW M6 * 25 | 4 |
| 25 | 217039 | RUBBER PAD | 4 |
| 26 | 217040 | SUPPORT PAD TRAY | 4 |
| 27 | 217052C | LIFT ARM | 4 |
| 28 | 206049 | LOCATION GEAR | 4 |
| 29 | 209022 | Φ10 HEISUKE | 12 |
| 29A | 209039 | Φ10 SHELLS INTRODUCTION | 12 |
| 30 | 217047A | LIFT ARM PIN | 4 |
| 31 | 206048 | M10 * 30 HEX SCREW | 12 |
| 32 | 209019 | M6 * 16 FLAT HEAD SCREW | 12 |
| 33 | 217053 | RUBBER PROTECTION PAD | 2 |
| 34 | 209009 | M6 * 8 ROUND HEAD SCREWS | 28 |
| 35 | 217054 | LIFTING HEAD COVERED BOARD | 2 |
| 36 | 217055B | LIFT HEAD | 2 |
| 37 | 217071 | SLIDER | 16 |
| 38 | 217072 | CYLINDER Φ 63 * 1727 | 2 |
| 39 | 217046B | RACK HANDLE(RIGHT) | 2 |
| 39A | 217046C | RACK HANDLE(LEFT) | 2 |

| NO | PARTS # | DESCRIPTION | QTY |
|---|---|---|---|
| 40 | 217045A | SPRING Φ26 * Φ 31 * Φ 2.5 * 200 | 4 |
| 41 | 217044 | RACK | 4 |
| 42 | 206036 | FLEXIBLE SHAFT Φ 6 * 40 | 4 |
| 43 | 217043 | LIMIT RING | 4 |
| 44 | 206032 | AXIS WITH THE RETAINER ◘25 | 4 |
| 45 | 217037 | PULLEY PIN BASE | 2 |
| 45A | 209038 | M10 * 16 HEX SCREW | 6 |
| 46 | 217036 | BOTTOM PULLEY | 2 |
| 47 | 217035 | ADJUST THE CUSHION LEVELS | 10 |
| 48 | 217073 | ANCHOR BOLTS 3/4" x 7" | 12 |
| 49 | 209053 | TRUCK ADAPTER SET OF 6" | 4 |
| 50 | 209052 | TRUCK ADAPTER SET OF 3" | 4 |
| 51 | 209051 | TRUCK ADAPTER SET OF 1.5" | 4 |
| 52 | 217034A | NON POWERSIDE COLUMN | 1 |
| 53 | 206013 | LIMIT SWITCH | 1 |
| 54 | 206011 | M5 * 12 ROUND HEAD SCREW | 2 |
| 55 | 206042 | LEVER FIXED BLOCK | 2 |
| 56 | 217017 | TOP PULLEY AXIS LIMIT BOARD | 2 |
| 57 | 209033 | Φ8 HEISUKE | 8 |
| 58 | 217018 | M8 * 15 HEX SCREW | 4 |
| 59 | 217019 | TOP PULLEY | 4 |
| 60 | 217020 | PULLEY COPPER BUSHING | 6 |
| 61 | 217021 | SHORT SLEEVE TOP PULLEY | 4 |
| 62 | 217022 | TOP PULLEY PIN | 2 |
| 63 | 217023 | LONG SLEEVE TOP PULLEY | 2 |
| 64 | 206025A | BUBBLE TUBE LEVER | 1 |
| 65 | 206025 | LEVER | 1 |
| 66 | 206025B | COTTER PIN Φ4 * 50 | 2 |
| 67 | 206025C | LEVER LINK PIN | 2 |
| 68 | 217067 | Φ12 SHELLS INTRODUCTION | 1 |
| 68A | 420025 | HEX NUT M12 | 1 |
| 69 | 217005 | PLASTIC BALL M10 | 1 |
| 70 | 217006 | LOCK HANDLE | 1 |
| 71 | 217007 | LARGE SPACER | 2 |
| 72 | 217008 | Φ2.5 * 145 ° TORSION SPRING | 2 |
| 73 | 217009 | MAIN LOCK | 2 |
| 74 | 217010 | M6 * 40 HEX SCREW | 1 |
| 75 | 217011 | HEX NUT M6 | 1 |
| 76 | 217012 | SECURITY AGENCIES SLEEVE | 2 |
| 77 | 217050 | SECURITY AGENCIES BOLT | 2 |
| 78 | 217051 | SCREW M10 * 10 | 2 |

# PV-15P PARTS LIST (CONTINUED)

| NO | PARTS # | DESCRIPTION | QTY |
|---|---|---|---|
| 79 | 217066 | M6*15Outside hexagonal screw | 2 |
| 80 | 217030 | Torsional springphi2.5*120° | 1 |
| 81 | 217031 | Driven safe control block | 1 |
| 82 | 217033 | Self-locking nut | 1 |
| 83 | 217032 | Steel wire coupling pin | 1 |
| 84 | 217029 | Pulley support | 1 |
| 85 | 217057B | Drill tubing (continuously one | 1 |
| 86 | 217058 | Hydraulic pressure station | 1 |
| 87 | 217059 | Drill tubing (continuously one | 1 |
| 88 | 217060A | The cylinder lengthens the | 2 |

| NO | PARTS # | DESCRIPTION | QTY |
|---|---|---|---|
| 89 | 217061 | 90° attachment | 1 |
| 89A | 217061A | 90° attachment | 1 |
| 90 | 217048 | Insulating clamp | 12 |
| 91 | 217062 | Steel wire filling piecephi16 | 4 |
| 92 | 209066 | Steel wire nutM16 | 8 |
| 93 | 217063B | Steel wire (including attachment) | 2 |
| 94 | 217064B | Small steel wire | 1 |
| 95 | 217065B | Electric cable line | 1 |
| 96 | 217068 | Enhancement crosspiece | 2 |
| | | | |