

EAGLE MS-8000

Installation & Operation Manual

8000 Lbs. Capacity Four-Post Lift | MS-8000



Eagle Automotive Equipment, Inc.
6067 Schumacher Park Dr
West Chester, OH 45069

READ THIS MANUAL BEFORE INSTALLING OR OPERATING THE LIFT. INSPECT THE LIFT UPON DELIVERY. NOTE ANY DAMAGE ON DELIVERY RECEIPT.

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IMPORTANT INFORMATION

Four Post Lifts

1. Always inspect the lift for damage and make note of any damage on the bill of lading.
2. In case of freight damage, call the truck line immediately and report the damage as a freight claim.
3. Make sure you have extra help or heavy duty lifting equipment when unloading and assembling the lift.
4. 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.
5. **NOTE: Are you installing in a level location? (Lift must be anchored in place if slope is greater than 1/8" per foot.)**
6. Make sure you have enough room to install the lock rods. **You will need at least 9' of clearance from the opposite end of the power unit end of the lift and 6' at the power unit end. (See floor plan on page 6).**
The power unit may be installed on the driver's front or the passenger rear corner.
7. Never raise a car until you have double checked all bolts, nuts and hose fittings.
8. Always lower the lift to locks before going under the vehicle or storing another vehicle underneath lift.
Never allow anyone to go under the lift when raising or lowering.

This is a vehicle lift installation/operation manual and no attempt is made or implied herein to instruct the user in lifting methods particular to an individual application. Rather, the contents of this manual are intended as a basis for operation and maintenance of the unit as it stands alone or as it is intended and anticipated to be used in conjunction with other equipment.

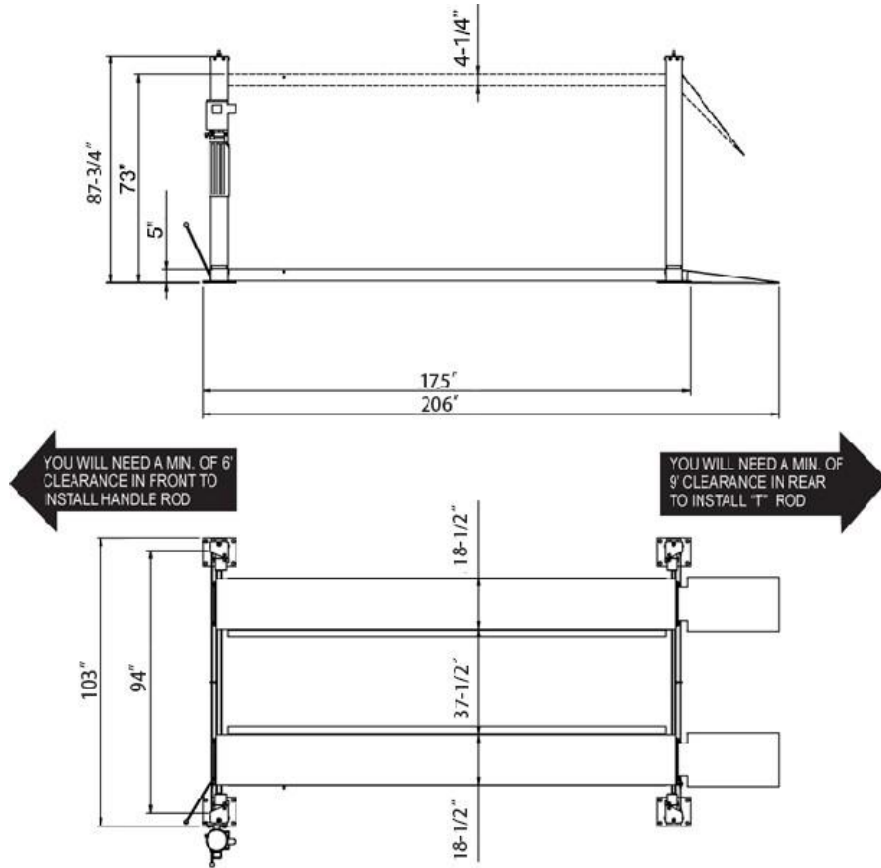
Proper application of the equipment described herein is limited to the parameters detailed in the specifications and the uses set forth in the descriptive passages. Any other proposed application of this equipment should be documented and submitted in writing to the factory for examination. The user assumes full responsibility for any equipment damage, personal injury, or alteration of the equipment described in this manual or any subsequent damages.

Read this manual thoroughly before installing, operating, or maintaining this lift.

When done with installation, be sure to return documents to package and give all materials to lift owner/operator.

When installation is complete be sure to run lift up and down a few cycles with and without "typical" vehicle loaded on lift.

LIFT SPECIFICATIONS & FLOOR PLAN



| Model | PP8S |
|--|------------------------------------|
| Lifting Capacity | 8,000 lbs. |
| Overall Height | 87-3/4" |
| Overall Width (outside of base plate) | 103" |
| Overall Length (outside of base plate) | 175" |
| Overall Length (with Ramps) | 206" |
| Inside Columns (Drive-Through) | 94" |
| Track height | 4-1/4" |
| Track width | 18-1/2" |
| Width between tracks | 37-1/2" |
| Rise (max. clearance under track) | 68-3/4" |
| Lift Height Max. | 73" |
| Motor | 2HP 110 or 220 VAC |
| Time to full rise (NO LOAD) | 45 seconds (220 PU) |
| Shipping Weight | 1,680 lbs. |
| Shipping Dimensions | 167-1/2" L x 22-1/2" W x 28-3/4" H |

TOOLS 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:

- Set of metric wrenches and/or sockets
- Adjustable wrench
- ISO 32 Light Hydraulic Oil (approx. 3 gallons)
- Locking pliers
- 25' Tape measure
- Step Ladder

INSTALLATION PROCEDURE

- STEP 1.** Remove plastic wrap from top runway and remove all hardware, safety lock rods, hoses and cables. You should also find this manual in the top runway.
- STEP 2.** Find the end of the hydraulic hose that is already mounted to the cylinder and tighten the elbow that attaches the hose to the side of the runway using the jam nut. As well as remove the plastic cap from the vent line & route it through the remaining hole in the runway. Make sure all fittings are tight
- STEP 3.** Extend cylinder rod out of the cylinder to about 18" from end of runway. This can be done by pulling on the cables or pushing on the ½" plate on the end of the cylinder. Make sure that the lock nut on the end of the cylinder is tight.
- STEP 4.** Unbolt the top runway from the shipping plates at each end of the package. Be sure to secure runway with hoist to prevent runway from falling. Runway will need to be turned over so it is no longer upside down. Place this runway in your bay with the hydraulic fitting facing towards the outside (see Page 1).
- STEP 5.** Next, unbolt the four columns from the package and place the column with the power unit mounting bracket at the end of the previously unpacked runway nearest to the hydraulic fitting.
- STEP 6.** Unpack the bottom runway. Set out the remaining parts away from the lift. Place the two cross rails at each end of the lift with the locks toward the outside (front or rear) of the lift (see Fig. 1). Remove the shipping brackets from the bottom runway and turn over placing the runway in the bay next to the other runway with the "L" shaped side facing the "L" shaped side of the other runway.
- STEP 7.** lay the columns down to allow the cross rails to be slid into the columns.
- STEP 8.** Slide each cross rail into the front or rear two columns Repeat this step for the other cross rails (see Fig. 1).
- STEP 9.** Position the front cross rail columns at 170" from the rear cross rail columns by measuring from the outsides of the columns. Square the lift by measuring diagonally between the right, front column to the same position on the lift rear column. Compare your measurement between the left front column and the right rear column. This should be within ½" to allow some forgiveness to bolt on runways.
- STEP 10.** Lift the runways onto the cross rails and bolt them in place using the ¾" holes towards the outside of the cross rails.
The four drop-in ramp plates will be used with the spacer side facing the lift and through-bolted from the outside of the cross rail, through the runway using bolts provided with washers. Lock washers and nuts (see Fig. 2).
- STEP 11.** After runways are bolted on, install the column top plates back to their original columns and tighten.

CABLE INSTALLATION

STEP 12.

STEP 13.

STEP 14.

- STEP 15.** Run the threaded cable ends into the hole in the top caps and secure with washer and nylock nut
Hand tighten only, final adjustment will be made later. Do tighten the nylock nut on the end of the cylinder at this time.

HYDRAULIC ASSEMBLY

- STEP 16.** Be sure wiring is in compliance with your local electrical codes.
- STEP 17.** Using the four 5/16" bolts, nuts and lock washers and attach the power unit to the mounting bracket on the column.
- STEP 18.** Remove dust cover from the port on the side of the power unit and attach the "O" ring elbow. Do not over tighten. The backing nut and "O" ring will complete the seal to the power unit.
- STEP 19.** Install the 3/8" hose to the fitting on the side of the runway and connect opposite end to the fitting on the power unit. Tighten JIC fittings carefully, do not over tighten.

LOCK LINKAGE ASSEMBLY

- STEP 20.** The single point safety lock is a system of connecting rods and linkage that disengage the four lock latches that secure the lift to each column.

Locate the six rods:

- a. 2 – long rods
- b. 2 – short rods
- c. 1 – handle rod
- d. 1 – T rod

Also locate hardware:

- a. 1 – rod coupling with 2 jam nuts
- b. 8 – heim ends with connecting nuts and bolts
- c. 2 – spacers

- STEP 21.** Slip spacer over threaded end of handle rod and insert rod into hole on cross bar near power column.
- STEP 22.** Slip spacer over threaded end of T-rod and insert end into hole located on opposite cross rail, taking care to run rod through rod guide located under ramp.
- STEP 23.** Thread jam nuts onto ends of handle rod and T-rod. Attach the handle rod to the T-rod using the rod coupling. Adjust coupling to take the slack out of the rods. The rods should remain free enough to move with no slack. Do not tighten coupler or lock nuts at this time.
- STEP 24.** Locate the two long rods and remove one end from each rod and slide off the eye bolt. Attach eye bolts to center of cross rails by threading 1/2 of the way in and tighten jam nut.
- STEP 25.** Attach short rod on the T side lock and to the bottom of the T and hand tighten. Slide long rod through the eye bolt and attach one end to the top side of T. Attach the other end of the long rod to the lock on the other side. Repeat this process for the other end of the lift. The locking rods should be in perfect alignment since the lift is still sitting in the locked position. Tighten all jam nuts, making sure the linkage does not bind.
- STEP 26.** Go back to the coupler that attaches the T rod to the handle rod and tighten the jam nuts. Do not adjust coupler, only tighten the jam nuts.

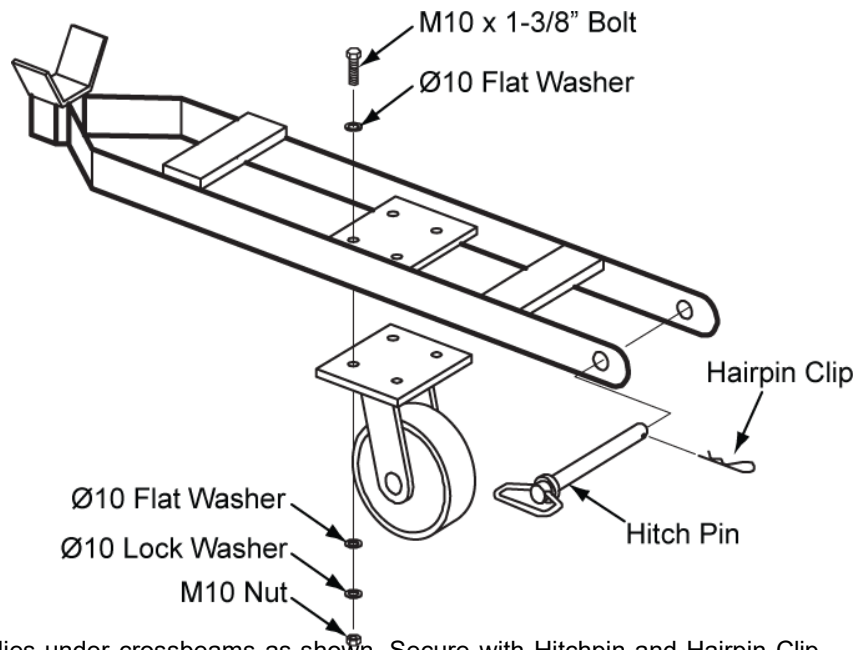
FINAL ADJUSTMENTS

- STEP 27.** Fill the tank with three gallons of R & O, ISO32 Hydraulic Oil (Available at any auto supply store).
- STEP 28.** Check over cables and make sure they are all in their pulleys. Press the up switch on the power unit and the fluid will start to pump into the cylinder. The lift will eventually rise after the cylinder fills up. Once the lift is raised of the locks, release the up switch and pull the lock lever to disengage the locks and lower the lift with the lowering lever on the power unit. Hold the lever after the lift reaches the very bottom until you hear all the air escape.
- STEP 29.** Raise the lift up to the point where the square blocks above the lock aligns with the second column lock, and stop. Look at each column lock to determine the highest point. Adjust the cable on the highest point column until three threads pass through the nylock nut. Now adjust the other three cables to match this height.
NOTE: There will be some initial stretching of the cables in the beginning. It will be necessary to readjust the cables a week after first use, then every six months thereafter. Run the lift up and down a few times to ensure that the locks are engaging uniformly and that the safety release mechanisms are functioning properly. Readjust if necessary.
- STEP 30.** After the cables are installed and adjusted, unbolt the sheave covers (Item # 69), Figure # 2. Slide the sheave covers up the cable until you can access the cable sheave. Install the 8mm cable retention bolts into the threaded holes by the sheaves at the end of the crossbeams (Item # 101 and 102) Figure # 2. Assure they extend across the width of the sheaves and the bolt heads do not interfere with the sheaves. Install the 8mm lock nuts to the end of the bolts to lock them into position. Re-install sheave covers.

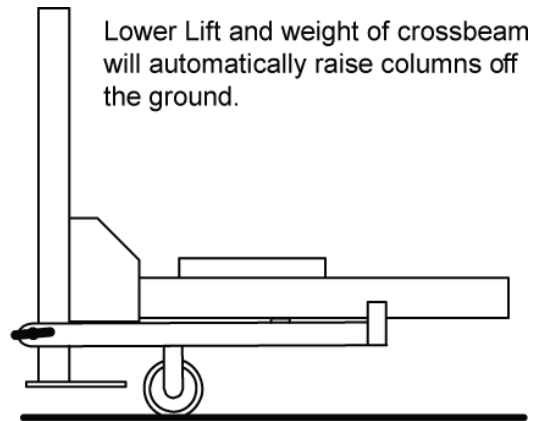
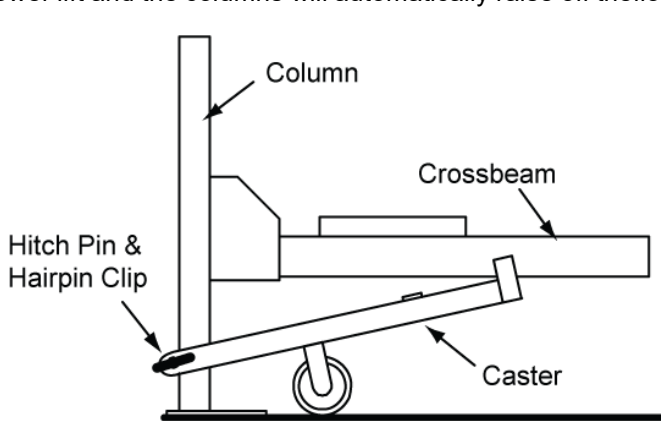
CASTER KIT

1. Install caster wheels to caster frames as shown.

NOTE: Hitch Pin and Hairpin Clip will be used to attach casters to lift in following steps. DO NOT install at this time.



1. Raise lift 2' – 3' high.
2. Place caster assemblies under crossbeams as shown. Secure with Hitchpin and Hairpin Clip.
3. Lower lift and the columns will automatically raise off the floor.



FOUNDATION REQUIREMENTS

Concrete shall have compression strength of at least 3,000 PSI and a minimum thickness of 4".
CAUTION!! DO NOT use on asphalt or similar unstable surfaces.

SPECIAL NOTE:

**This Lift does not require bolting to the floor
(BUT)**

**If you choose the option to anchor the Lift to the floor please follow
the detailed instructions and criteria below.**

FOUNDATION and ANCHORING REQUIREMENTS

1. Concrete shall have compression strength of at least 3,000 PSI and a minimum thickness of 4" in order to achieve a minimum anchor embedment of 3 1/4".

NOTE: When using (3/4" x 5 1/2") long anchors; if the top of the anchor exceeds 2 1/4" above the floor grade, you DO NOT have enough embedment.

2. Maintain a 6" minimum distance from any slab edge or seam. Hole to hole spacing should be a minimum 6 1/2" in any direction. Hole depth should be a minimum of 4".
3. Shim each column base as required until each column is plumb. If one column has to be elevated to match the plane of the other column, full size base shim plates should be used. Torque anchors to 85 ft-lbs. Shim thickness MUST NOT exceed 1/2" when using the 5 1/2" long anchors with the lift. Adjust the column extensions plumb.
4. 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" thick 3,000 PSI minimum concrete pad keyed under and flush with the top of existing floor. Allow concrete to cure before installing lifts and anchors (typically 2 to 3 weeks).

CAUTION!!

**LUBRICATE ALL CABLE SHEAVES, BEARINGS, AND SHAFTS WITH 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.

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, contactors, 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.
 - a. 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 noticeable color, and states not to operate device or remove tag.
 - b. 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.
- 5) The equipment is now locked out and ready for the required maintenance or service.

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) and 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).

IMPORTANT SAFETY INSTRUCTIONS

When using your garage equipment, basic safety precautions should always be followed, including the following:

1. Read all instructions
2. Care must be taken as burns can occur from touching hot parts.
3. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged - until it has been examined by a qualified service person.
4. Do not let a cord hang over the edge of the table, bench, or counter or come in contact with hot manifolds or moving fan blades.
5. If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat.
6. Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
7. Let equipment cool completely before putting away. Loop cord loosely around equipment when storing.
8. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
9. Adequate ventilation should be provided when working on operating internal combustion engines.
10. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
11. To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
12. Use only as described in this manual. Use only manufacturer's recommended attachments.
13. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are not safety glasses.

SAVE THESE INSTRUCTIONS

SAFETY PROCEDURES

- Never allow unauthorized persons to operate lift. Thoroughly train new employees in the use and care of lift.
- Caution - the power unit operates at high pressure.
- Remove passengers before raising vehicle.
- Prohibit unauthorized persons from being in shop area while lift is in use.
- Total lift capacity is 8,000-lbs. Do not exceed this capacity.
- Prior to lifting vehicle, walk around the lift and check for any objects that might interfere with the operation of lift and safety latches; tools, air hoses, shop equipment.
- When approaching the lift with a vehicle, make sure to center the vehicle between the columns. Slowly drive the vehicle up with someone outside the vehicle guiding the driver.
- Prior to lowering vehicle, walk around the lift and check for any objects that might interfere with the operation of lift and safety latches; tools, air hoses, shop equipment.
- Slowly drive the vehicle on and off of the lift. Have someone outside the vehicle guide the driver.

OPERATION INSTRUCTIONS

NOTE: ALWAYS CHOCK WHEELS AND SET PARKING BRAKE BEFORE LIFTING VEHICLE!

Only authorized personnel are to operate lift.

- Properly maintain and inspect lift in accordance to owner' 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 alltimes.
- Never override the lift 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 on lift runways by having another person guide you onto the runways. Check for proper weight distribution (center of gravity should be evenly distributed between columns).
- Set vehicle parking brake and chock tires to prevent vehicle movement.
- Use caution before lifting pickup trucks, SUV's and othervehicles. The individual axle weight capacity should not exceed 1/2 of lift capacity.
- Make sure vehicle is neither front nor rear heavy.

Raising Lift:

- Push up switch to raise lift until platform runways clearfloor.
- Stop and check for vehicle movement and vehicle weight distribution. If secure raise to desired height.
- Always lower the lift to the nearest lock position by pressing the lower lever to relieve the hydraulic pressure and let the latch set tight 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 lift operator is in the lift area.
- Stay clear of lift and raise the liftoff the safety locks.
- Pull safety latch releases and press the lower lever to begin descent.
- Ensure lift is fully lowered, and having another person guide you, carefully unload the lift by driving off of the lift runways.

CAUTION

PAY ATTENTION TO THE LOWERING SPEED OF ALL FOUR CORNERS. MAKE SURE THEY ARE MOVING DOWN AT THE SAME SPEED.

STOP LOWERING THE LIFT BY RELEASING THE LOWERING LEVER ON THE POWER UNIT AND MOVING THE LOCK LEVER TO THE LOCK POSITION IF ANY CORNER STOPS MOVING OR IS SLOWER IN DESCENT. ALWAYS LOCK THE LIFT BEFORE GOING UNDER THE VEHICLE. NEVER

PREVENTIVE MAINTENANCE SCHEDULE

The periodic Preventive Maintenance Schedule given is the suggested minimum requirements and minimum intervals; accumulated hours or monthly period, whichever comes sooner.

Periodic maintenance is to be performed on a daily, weekly, and yearly basis as given in the following paragraphs. In the event you need replacement parts

WARNING!

!

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 are any indications of impending lift failure - **CEASE OPERATION IMMEDIATELY!** - Inspect, correct and/or replace parts as required.

Daily Pre-Operation Check (8-Hours)

- Check safety lock audibly and visually while in operation
- Check safety latches for free movement and full engagement with rack.
- Check hydraulic connections, and hoses for leakage.
- Check cables connections bends, cracks-and for loose fittings.
- Check for frayed cables in both raised and lowered position.
- Check snap rings at all rollers and sheaves.
- Check bolts, nuts, and screws and tighten if needed.
- Check wiring & switches for damage.
- Check floor for stress cracks near columns.
- Check Lubrications on cable sheaves and shafts.

Weekly Maintenance (every 40-Hours)

- **IF LIFT IS ANCHORED TO FLOOR** - Check anchor bolts torque to **50 ft-lbs** for the $\frac{3}{4}$ in. anchor bolts. Do not use an impact wrench to tighten anchor bolts.
- Check floor for stress cracks near columns
- Check hydraulic oil level.
- Check and tighten bolts, nuts, and screws.
- Check all cable sheaves/assembly for free movement or excessive wear on cable sheave shaft.

Yearly Maintenance

- Lubricate the cable sheave shaft by using grease gun at least once a year after the lift is in service.
- Check for excessive wear of cable. Replace them if necessary.
- 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:

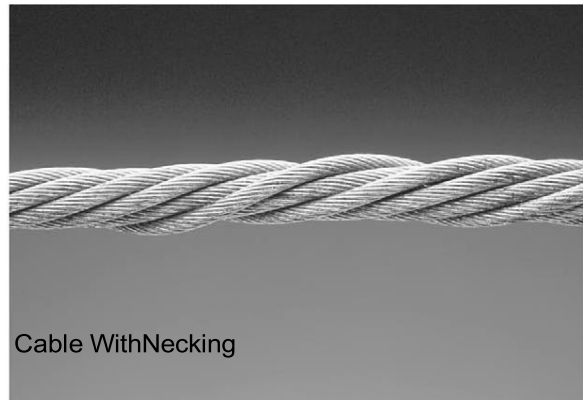
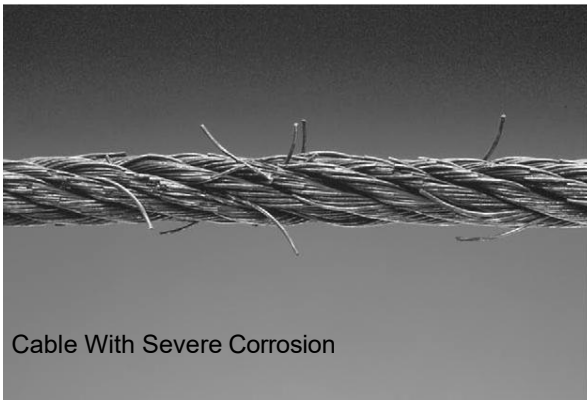
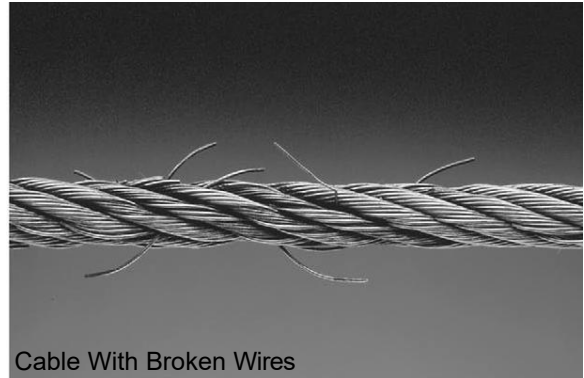
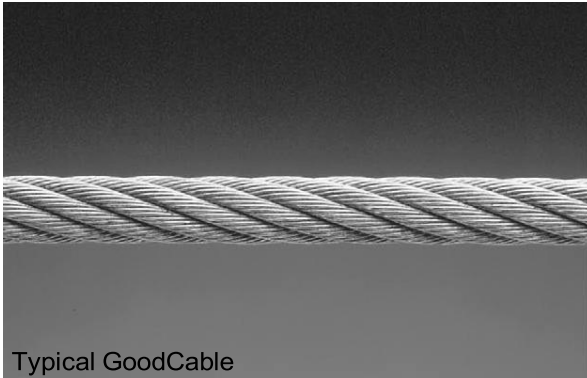
- Replacement of hydraulic hoses.
- Replacement of cables and sheaves.
- Replacement or rebuilding air and hydraulic cylinders as required.
- Replacement or rebuilding pumps / motors as required.
- Checking of hydraulic cylinder rod and rod end (threads) for deformation or damage.

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.

CABLE INSPECTION GUIDE

| Maximum Allowable Cable Necking | |
|---------------------------------|----------------------------|
| Nom. Cable Diameters | Max. Reduction in Diameter |
| Up to 5/16" | 1/64" |
| 3/8" to 1/2" | 1/32" |
| 9/16" to 3/4" | 3/64" |
| 7/8" to 1-1/8" | 1/16" |
| 1-1/4" to 1-1/2" | 3/32" |



Daily Inspection & Maintenance

1. Cleanliness: Cables, Columns, Runways and other lift parts should be kept free of corrosive agents, solvents, and road salts. If such agents are spilled or splashed on any lift component, immediately rinse thoroughly with water and wipe down with a clean rag. Spray wire rope cables as required with Penetrating Oil and wipe down.

Failure to keep lift free of corrosive agents and solvents will lead to reduced component service life, cable failure, etc., which could result in property damage and/or personal injury.

2. Fasteners: Check all the attaching bolts and nuts for tightness.
3. Cables: Check wire rope cables for wear or damage. Any cable with broken wires, severe corrosion, excessive stretch, deformed strands, variations in diameter (necking), or any change from its normal appearance, must be replaced. If any cable is found to be in need of replacement, the entire cable set must be replaced immediately. Refer to figures below.
4. Sheaves: Check sheaves (pulleys) for wear or damage, i.e. wobble (tilt), cracks, loose on pin, or excessive noise during operation.
5. Sheave Pins: Check for loose or missing sheave (pulley) pins.
6. Locking Latches and Slack Cable Devices: Watch locking latches and slack cable devices during lift operation to ensure that latches work properly and line up with slots in latch plate located in columns.

Monthly Inspection & Maintenance

1. Cables
 - a. Clean wire rope cables with lift in both lowered and raised position by spraying with Penetrating Oil and wiping the cable down.
 - b. Adjust cables using procedures on following pages.
2. Slack Cable Device: Inspect slack cable devices using procedure on page 5.
3. Column Anchor Bolts: Check column anchor bolts for tightness. Re-torque anchors bolts to 65 ft/lbs. If anchors do not tighten to the required installation torque, replace concrete under each column base per installation instructions. Let concrete cure before installing lifts and anchors.
4. Columns: Look for corrosion, giving special attention to the area at the base of the column. Check severely corroded areas by pecking with an awl or welder's chipping hammer. If column is corroded through at any point it must be replaced immediately. If not corroded through, remove old paint and rust scale, then coat with a high-quality corrosion resistant paint.

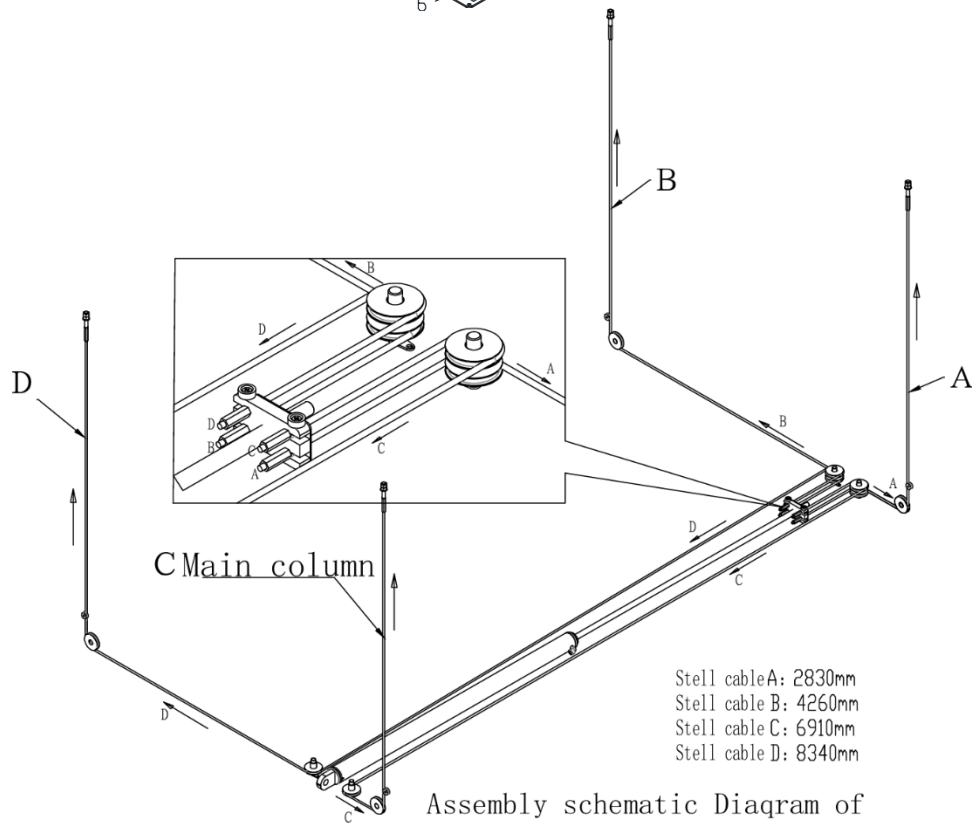
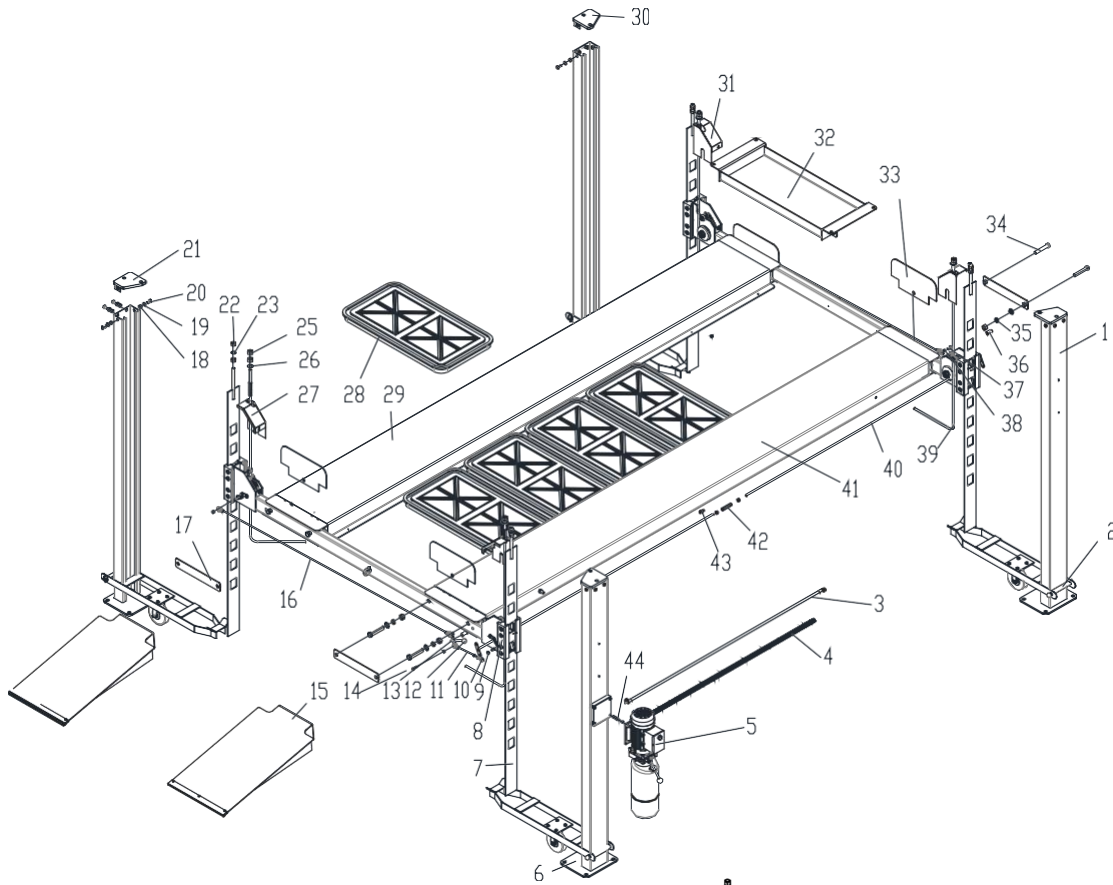
NOTE: A thorough inspection of the lifting system must be performed quarterly by qualified lift service personnel; more frequently (monthly) under extreme service conditions such as outside installations or high usage (10 or more cycles per day, etc.).

Quarterly Inspection & Maintenance

1. Cables
 - a. Inspect cables in both lowered and raised position. The cables may also be viewed through various inspection holes and openings in yokes and runways. Check all the following:
 - i. That cables have no broken wires visible, reference Daily Inspection & Maintenance.
 - ii. That cables are free of severe corrosion and pitting, reference Daily Inspection & Maintenance. A light surface corrosion on exposed outer wires is normal. Penetrating Oil should be applied during monthly periodic inspection.
 - iii. That there are no areas on the cable that have a greatly reduced diameter or "necking", reference Daily Inspection & Maintenance. When any cable is found with excessive necking, all cables must be replaced immediately.
 - iv. That cables do not have excessive stretch. It is normal for new cable to require adjustment during "break-in", after which small periodic adjustments may be required. However, if a cable that has been in service for 6 months should suddenly require frequent adjustments or has used all the cable adjustment available, all cables must be replaced immediately.
 - v. If any cable is found to be in need of replacement, the entire cable set must be replaced immediately.
 - vi. Cables are expendable items and should be replaced as a set every 20,000 cycles (estimated) or every 6 years, unless earlier replacement is indicated during inspection.
2. Sheaves and Pins
 - a. Inspect sheaves and pins in yokes and runways. Sheaves are expendable items. Sheaves and pins should be replaced when worn. Use of sheaves and pins with excessive wear will lead to reduced service life of cables.
 - b. Inspect sheaves (pulleys) in yoke ends with lift in lowered position or resting on the locking latches.
 - i. Hold lowering handle down and pull on cable in column to create slack in cables.
 - ii. Check for excessive side to side wobble. Grasp rim of sheave and attempt to wobble (tilt) side to side. If sheaves wobble (tilt) more than 3/16" (4.8 mm) side to side or move up and down on shaft more than 1/32" (0.8 mm), the sheave and pin (shaft) should be replaced, refer figures below.
 - iii. Check sheaves and replace if cracks are found.
 - iv. Check for ease of rotation. If sheaves do not turn freely, the sheave and sheave pin should be removed, inspected, lubricated, and reinstalled or replaced.
 - c. Fully raise lift. Inspect sheaves (pulleys) in runway ends with lift in raised position.
 - i. Visually inspect alignment of sheaves, see figure above. Misalignment of sheave(s) indicates excessive wear; the sheave(s) and sheave pin should be removed and inspected. Replace as required.
 - ii. Hold lowering handle down to lower lift onto latches. Pull on cables under runway to create cable slack.
 - iii. Check for excessive side to side wobble. Grasp rim of sheave and attempt to wobble (tilt) side to side, refer to figures above. If sheaves wobble (tilt) more than 1/16" (1.6 mm) side to side, or move in and out more than 1/32" (0.8 mm), the sheave and sheave pin (shaft) should be replaced, refer to figures above.
3. Hydraulic Cylinder Inspect the hydraulic cylinder mounting to the runway. Inspect cylinder and hydraulic hoses for leaks. Repair or replace as required.
 - a. Check and tighten the hydraulic cylinder rod nuts holding the cable pull bar.
4. TRACKS for Rolling Jack and Oil Drain Pan

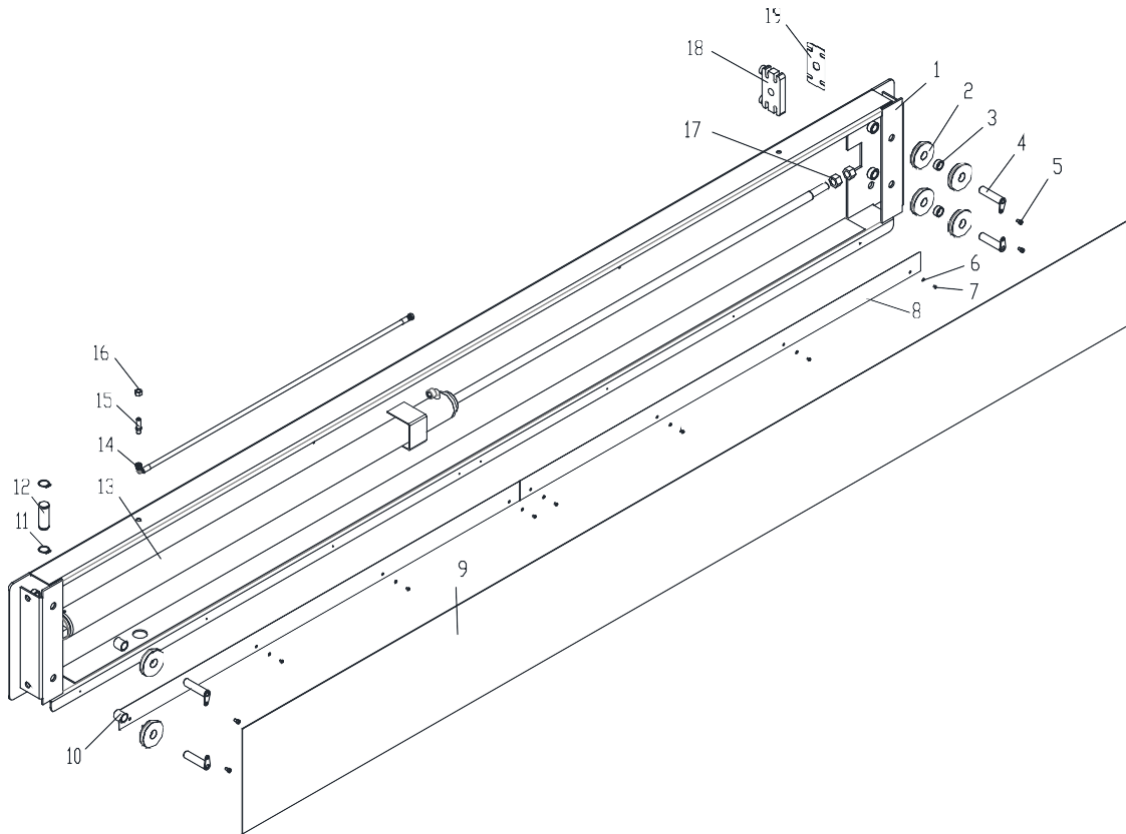
- a. Inspect rolling jack/oil drain pan tracks for cleanliness, corrosion, excessive wear or damage.
 - b. Clean dirty tracks.
 - c. Worn or damaged tracks must be repaired immediately. Failure to do so will lead to reduced service life which could result in property damage and/or personal injury.
- 5. Latch Inspection and Adjustment**
- a. Check locking latches for proper operation. Inspect for worn or missing parts. Replace worn or damaged parts and adjust as required.
 - b. Latches - Check latch operation on all four corners.
 - c. Latch and Latch Bar Line-Up - Observe locking latches during lift operation to ensure that all latches line up with slots in latch bar located in all four columns. If not, relocate and/or re-shim columns.
 - i. Check slack cable devices for proper operation. Inspect for worn or missing parts. Replace worn or damaged parts as required.
 - ii. Observe both locking latches and slack cable devices during lift operation to ensure that all latches line up with slots in latch bar located in all four columns.
- 6. Cable Adjustment**
- a. Initial Adjustment
 - i. Adjust cable with lift fully lowered. Loosen jam nut and tighten nut on cable stud on top of column until yoke end is raised 1/4" (6.4 mm) and back off nut one turn. Retighten jam nut. Repeat for all four cables.
 - b. Final Adjustment
 - i. Load a typical vehicle on lift.
 - ii. Raise lift as high as it will travel (full height). You should hear the locking latches click through all latch slots simultaneously.
 - iii. Lower lift onto top latch position.
 - iv. Check clearance:
 - v. Starting with the right front column, use a straight edge to mark the position of the yoke bottom on the column.
 - vi. Raise lift to full height again. Mark second position. If gap between two marks is less than 2", adjust locking latch bar to reach clearance of 2". Repeat for the other three columns.
 - vii. Adjust locking latch bar adjusting nut so that the bottom of the topmost latch bar slot is at least 2" below locking latch. After adjustment, tighten jam nut underneath column top plate, Fig. 11.
 - viii. If entire 2" clearance cannot be attained by adjusting the locking latch bar, adjust the cable. Turn cable adjusting nut to raise the locking latch 2" above bottom of latch bar slot. Tighten cable jam nut.
 - ix. Lower lift and remove vehicle.
 - x. Raise the lift to full height. LISTEN and WATCH as the first locking latch clicks into place. Synchronize the other three columns with this column by adjusting their cables so all four latches click at same time. Tighten jam nuts. When making changes to adjustment nuts on cable end or latch bar stud, always leave at least two threads showing between nut and stud end. Latches may not click in at the same time when vehicle is being raised. They should be close. Be sure all four corners have passed the locking latch bar slot before lowering lift on locking latches

ILLUSTRATED PARTS BREAKDOWN

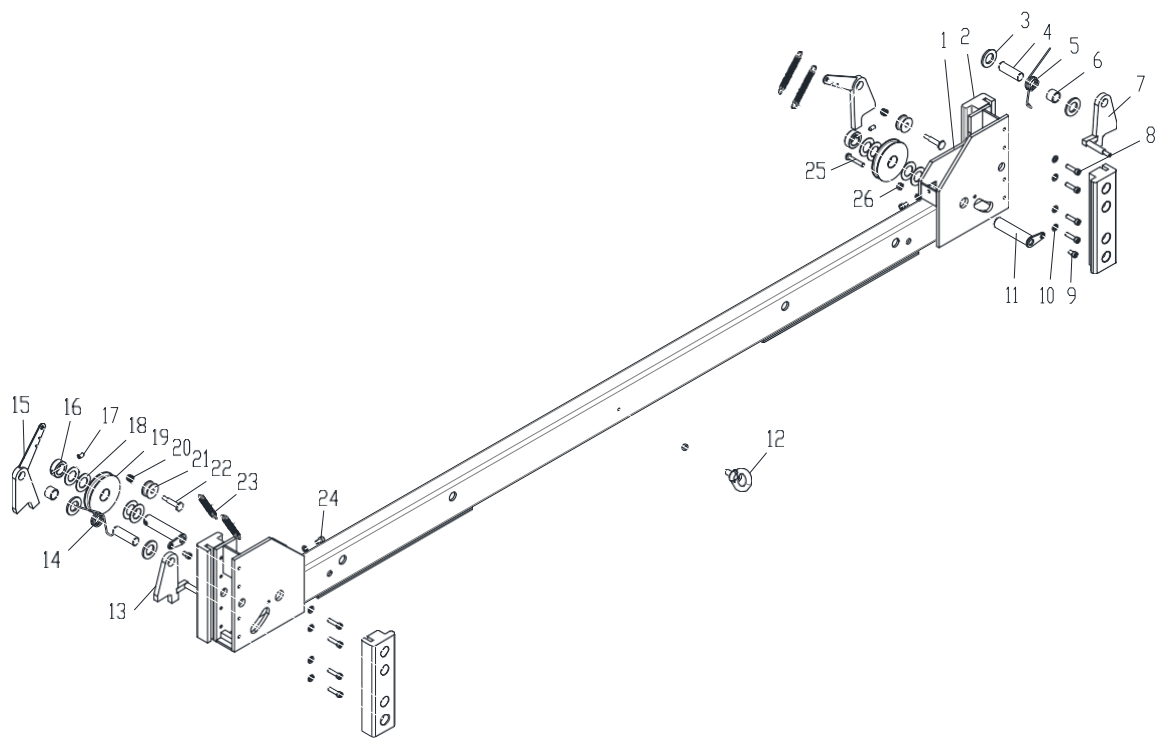


Assembly schematic Diagram of
 stell cable for four pillar
 parking space

| ITEM | Description | PART NUMBER | QT/Y |
|------|-------------------------------|---|------|
| 1 | Welding of auxiliary column | J721-1120000 | 3 |
| 2 | Small car assembly | J721-1140000 | 4 |
| 3 | Oil pipe | J721-1300024 | 1 |
| 4 | Protect the spring | J721-1300026 | 1 |
| 5 | pump station | J721B-100000 | 1 |
| 6 | Main column welding | J721-1110000 | 1 |
| 7 | Long rack welding | J721-1130000 | 4 |
| 8 | Beam assembly | J721-1200000 | 2 |
| 9 | HEXAGON LOCK NUT | GB889.1-M8 | 4 |
| 10 | BEARING JOINTS | J721-1214001 | 8 |
| 11 | Short screw rod | J721-1215001 | 2 |
| 12 | HAND LEVER | MH-12-1360011 | 1 |
| 13 | Bending rod welding | J721-1212100 | 1 |
| 14 | HEXANGULAR BOLT | GB5782-M8×45 | 2 |
| 15 | Assembly of the car board | J721-1350000 | 2 |
| 16 | Long filament rod | J721-1214002 | 2 |
| 17 | Welding of the car bracket | J721-1211000 | 4 |
| 18 | HEXANGULARNUT1-TYPE | GB6170-M12 | 18 |
| 19 | flat washer | GB97.1-12 | 16 |
| 20 | HEXANGULAR BOLT | GB/T5783-2000-M12×30 | 16 |
| 21 | Welding of column top cover B | J721-1112000 | 2 |
| 22 | HEXANGULAR NUT | GB/T6170-2000-M18 | 8 |
| 23 | flat washer | GB/T97.1-2002-18 | 4 |
| 25 | HEXANGULAR NUT | GB/T6170-2000-M20 | 16 |
| 26 | flat washer | GB/T97.1-2002-20 | 4 |
| 27 | Cover welding B | J721-1270000 | 2 |
| 28 | Plastic oil pan | J721-2100000 | 4 |
| 29 | Sub platform components | J721-1320000 | 1 |
| 30 | Welding of column top cover A | J721-1111000 | 2 |
| 31 | Cover welding A | J721-1260000 | 2 |
| 32 | toolbox | 721-1360000 | 1 |
| 33 | Platform baffle | J721-1200016 | 4 |
| 34 | HEXANGULAR BOLT | GB/T5782-2000- M20X100 | 8 |
| 35 | flat washer | GB/T93-1987-20 | 8 |
| 36 | Spacer sleeve | J721-1200010 | 2 |
| 37 | HEXANGULAR BOLT | GB/T5783-2000-M8X25 | 6 |
| 38 | HEXANGULAR NUT | GB/T6170-2000-M8 | 20 |
| 39 | wirerope | J721-1300020 J721-1300021 J721-1300022 J721-1300023 | 4 |
| 40 | Straight screw assembly | J721-1213000 2128mm | 2 |
| 41 | Main platform assembly | J721-1300000 | 1 |
| 42 | Hexagonal nut | J721-1300010 | 1 |
| 43 | Straight joint | M14*1.5-ZG3/8 | 1 |
| 44 | flat washer | GB/T97.1-2002-8 | 4 |



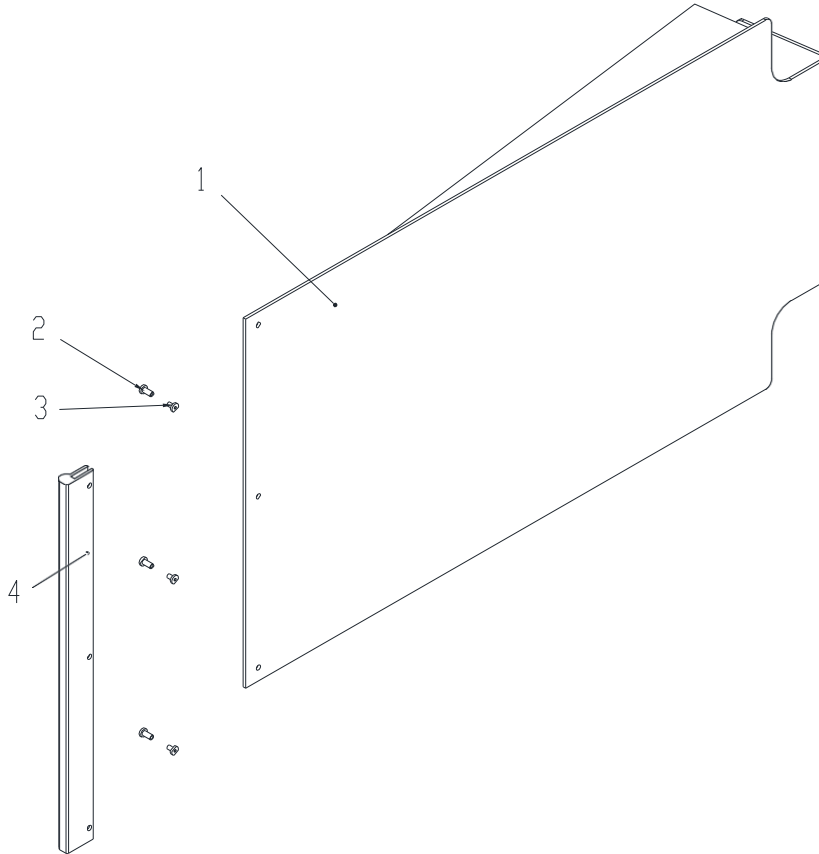
| ITEM | Description | PART NUMBER | QT/Y |
|------|----------------------------|-----------------------|------|
| 1 | Main platform welding | J721-1310000 | 1 |
| 2 | Cable wheel | J721-1200002 | 6 |
| 3 | Long distance sleeve | J721-1300006 | 2 |
| 4 | Welding of rope wheel axle | J721-1330000 | 4 |
| 5 | screw | GB/T70.1-2008-M8X12 | 4 |
| 6 | flat washer | GB/T97.1-2002-5 | 8 |
| 7 | screw | GB/T818-2000-M5X8 | 8 |
| 8 | Uust shield | J721-1300101 | 2 |
| 9 | Protective plate | J721-1300102 | 1 |
| 10 | Spacer sleeve | J721-1300103 | 2 |
| 11 | circlip | GB/T894.1-1986-34 | 2 |
| 12 | pin shaft | J721-1300003 | 1 |
| 13 | Oil cylinder assembly | J721-1380000 | 1 |
| 14 | oil pipe | J721-1300024 | 1 |
| 15 | Excessive joint | M14X1.5D | 1 |
| 16 | Nut | GB/T6170-2000-M14X1.5 | 1 |
| 17 | Nut | GB/T6170-2000-M24 | 2 |
| 18 | Hanging bracket welding | J721-1340000 | 1 |
| 19 | cover plate | J721-1300001 | 1 |



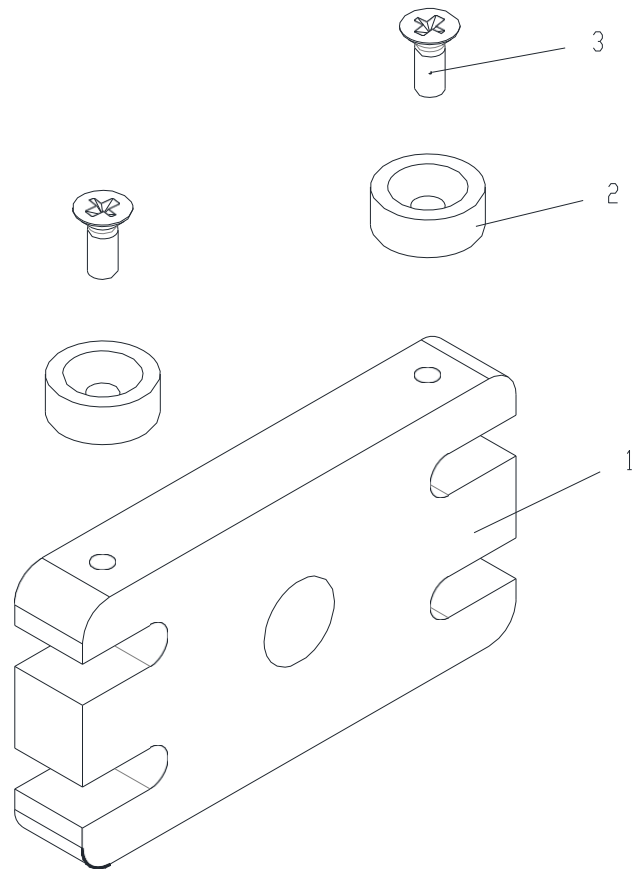
| ITEM | Description | PART NUMBER | QTY |
|------|-------------------------------|-------------------|-----|
| 1 | Beam welding | J721-1210000 | 2 |
| 2 | slider | J721-1200001 | 8 |
| 3 | flat washer | GB/T97.1-2002-20 | 8 |
| 4 | pin shaft | J721-1200009 | 4 |
| 5 | torsional spring | J721-1200007 | 2 |
| 6 | Spacer sleeve | J721-1200010 | 4 |
| 7 | Lock card welding | J721-1220000 | 2 |
| 8 | screw | GB/T70.1-2008 | 32 |
| 9 | screw | GB/T97.1-2002 | 4 |
| 10 | FLAT WASHER | GB/T97.1-2002 | 36 |
| 11 | Welding of crossbeam pin axis | J721-1250000 | 4 |
| 12 | screw | GB/T825 | 2 |
| 13 | Lock card welding | J721-1230000 | 4 |
| 14 | torsional spring | J721-1200006 | 2 |
| 15 | Anti breakage insurance | J721-1240000 | 2 |
| 16 | Fixed sleeve | J721-1200005 | 4 |
| 17 | Jackscrew | GB/T78-2007-M8X16 | 4 |
| 18 | FLAT WASHER | GB95-25 | 16 |
| 19 | Cable wheel | J721-1200002 | 4 |
| 20 | NUT | GB889.1-M8 | 4 |
| 21 | GUIDE WHEEL | J721-1200004 | 4 |
| 22 | Step bolt | J721-1200003 | 4 |
| 23 | tension spring | J721-1200008 | 8 |

| | | | |
|----|-------|---------------------|---|
| 24 | screw | GB/T70.1-2008-M8X10 | 4 |
| 25 | Bolt | GB/T5783-2000-M8X45 | 4 |
| 26 | Nut | GB/T6170-2000-M8 | 6 |

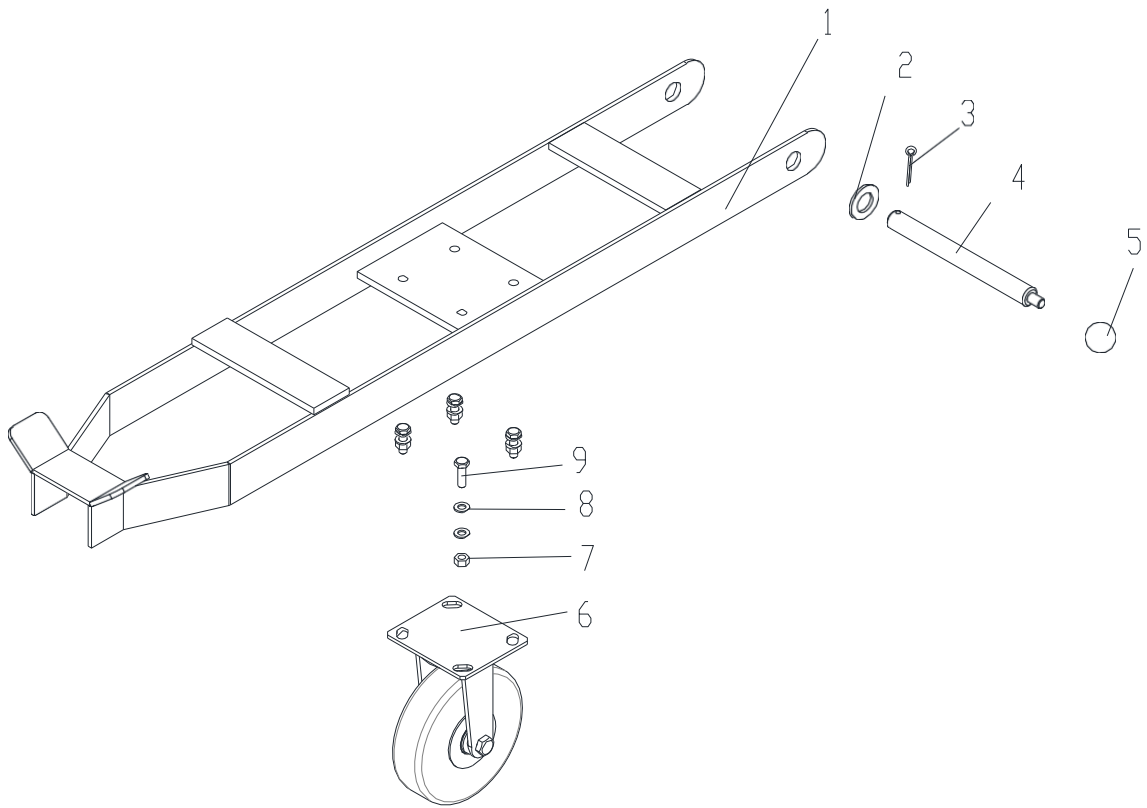
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| ITEM | Description | PART NUMBER | QT/Y |
|------|-------------------------|--------------|------|
| 1 | Approach bridge welding | J721-1351000 | 2 |
| 2 | screw | GB70.2-M5×20 | 6 |
| 3 | NUT | GB6170-M5 | 6 |
| 4 | Yellow plastic pad | J721-1350001 | 2 |



| ITEM | Description | PART NUMBER | QT/Y |
|------|--------------------------|----------------------|------|
| 1 | Hanging bracket welding | J721-1340000 | 1 |
| 2 | Wire rope sliding gasket | J721-1300008 | 2 |
| 3 | Screw | GB/T819.1-2000-M8X20 | 2 |
| | | | |



| ITEM | Description | PART NUMBER | QT/Y |
|------|-------------------------|---------------------|------|
| 1 | Small car welding parts | J721-1141000 | 4 |
| 2 | FLAT WASHER | GB/T97.1-2002-20 | 4 |
| 3 | R-SHAPE PIN | GB/T91-2000-4X30 | 4 |
| 4 | Pin axis welding | J721-1142000 | 4 |
| 5 | HAND LEVER | MH-12-1360011 | 4 |
| 6 | Universal wheel | J721-1143000 | 4 |
| 7 | NUT | GB/T6170-2000-M8 | 16 |
| 8 | FLAT WASHER | GB/T97.1-2002-8 | 32 |
| 9 | HEXANGULAR BOLT | GB/T5783-2000-M8X25 | 16 |

EAGLE EQUIPMENT LIFT WARRANTY

Eagle Equipment warrants to the original retail purchaser of an Eagle Automotive Lift that, under normal use and service within the United States and Canada, it will repair or replace, at its sole discretion, any part found to be defective in material or workmanship during the applicable warranty period.

Warranty Coverage

- **Structure:** Five (5) years from the date of purchase
- **Hydraulic Components:** Two (2) years from the date of purchase
- **Electric/Hydraulic Power Unit:** One (1) year from the date of purchase

This warranty covers replacement parts only. The purchaser is responsible for all labor, travel, shipping, installation, and other related costs.

Exclusions

This warranty does not apply to any lift that:

1. Has not been operated or maintained in accordance with Eagle Equipment's instructions and specifications.
2. Has been abused, misused, neglected, modified, altered, or improperly maintained.
3. Has been improperly installed, assembled, or repaired.

Additional Limitations

This warranty is non-transferable and applies only to the original retail purchaser.

The determination of whether a component is defective and the appropriate remedy shall be made by Eagle Equipment in its sole discretion. Eagle Equipment may elect to repair or replace the defective component or provide replacement parts as it deems appropriate.

Warranty coverage is limited to the specific defective part or component and does not extend the original warranty period of the replacement part.

This warranty does not cover:

1. Routine maintenance items.
2. Normal wear items, including but not limited to cables, slider blocks, chains, rubber pads, filters, hydraulic fluids, and lubricants.
3. On-site service, labor, travel expenses, freight charges, or related service costs.

General Provisions

Eagle Equipment reserves the right to make improvements or design changes to its products at any time without incurring any obligation to modify, update, or retrofit previously manufactured or sold equipment.

This warranty is the sole and exclusive warranty provided for Eagle Automotive Lift equipment and is in lieu of all other warranties, express or implied, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose.

To the fullest extent permitted by law, Eagle Equipment shall not be liable for loss of use, loss of time, inconvenience, commercial loss, lost profits, or any incidental, indirect, special, or consequential damage arising from the use or inability to use the equipment.