TP12KSC-DX

Two Post Clear Floor

Automotive Lift

12,000 lb. Capacity

(3,000 lbs. Max Capacity per Arm)

Installation & Operation Manual



IMPORTANT!!

READ MANUAL THOROUGHLY BEFORE INSTALLING, OPERATING, SERVICING OR MAINTAINING LIFT

July 2018-B

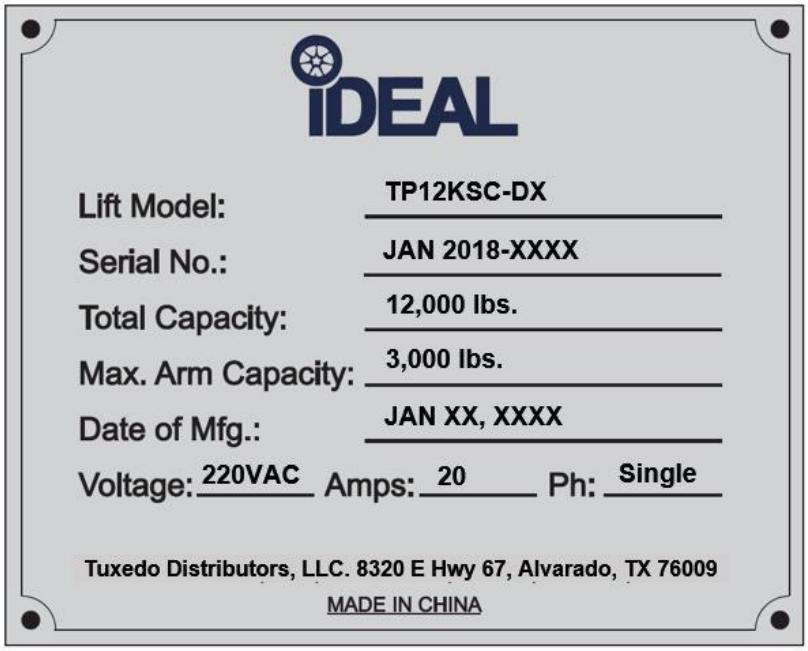
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PREFACE

Prior to the operation of your lift make sure that you have read the instructions thoroughly. These instructions are found in this manual. Please note that your warranty can be voided if you do not read the manual and understand its content.
If you have any questions concerning operation, safety, or application of your lift, please consult your distributor.

PRODUCT IDENTIFICATION



IMPORTANT
SAVE THESE INSTRUCTIONS

OWNER / EMPLOYER OBLIGATIONS

1. The Owner/Employer shall ensure that lift operators are qualified and trained in the safe use and operation of the lift using the manufacturerõs operating instructions; ALI/SM22-1:2022, **ALI Lifting it Right Safety Manual**; ALI/ST-17:2017 **ALI Safety Tips Card**; ANSI/ALI ALOIM:2020, **National Standard for Automotive Lifts - Safety Requirements for Operation, Inspection & Maintenance**; **ALI/WL101 Series, ALI/WL101 ALI Warning / Safety Decals** or more current editions; and in the case of frame engaging lifts, ALI/LP-GUIDE, **Vehicle Lifting Points Guide** for Frame Engaging Lifts**,** updated & published annually.
2. The Owner/Employer shall establish procedures to periodically inspect the lift in accordance with the lift manufacturerõs instructions and/or ANSI/ALI ALOIM:2020 or a more current edition for **National Standard for Automotive Lifts - Safety Requirements for Operation, Inspection and Maintenance**; and the Employer shall ensure that the lift inspectors are qualified and that they are adequately trained in the inspection of the lift.
3. The Owner/Employer shall establish procedures to periodically maintain the lift in accordance with the lift manufacturerõs instructions or ANSI/ALI ALOIM:2020 or a more current edition for **National Standard for Automotive Lifts - Safety Requirements for Operation, Inspection and Maintenance**; and the Employer shall ensure that the lift maintenance personnel are qualified and that they are adequately trained in the maintenance of the lift.
4. The Owner/Employer shall maintain the periodic inspection and maintenance records recommended by the lift manufacturerõs instructions as noted in ANSI/ALI ALOIM:2020 or a more current edition for **National Standard for Automotive Lifts - Safety Requirements for Operation, Inspection and Maintenance**.
5. The Owner/Employer shall display the lift manufacturerõs operating instructions; included most current editions for ALI/SM22-1:2020 **ALI Lifting it Right Safety Manual**; ALI/ST-17:2017 **ALI Safety Tips Card**; ANSI/ALI ALOIM:2020, **National Standard for Automotive Lifts - Safety Requirements for Operation, Inspection and Maintenance**; ALI/WL101**ALI Warning / Safety Label Decals** applied to lift post; and in the case of frame engaging lifts, the ALI/LP- GUIDE for **Vehicle Lifting Points Guide for Frame Engaging Lifts** in a conspicuous location in the lift area convenient to the operator.
6. The Owner/Operator shall provide necessary lockout/tag out means for energy sources per ANSI Z244.1-1982 or a more current edition for **Safety Requirements for the Lockout / Tag out of Energy Sources**, before beginning any lift repairs and maintenance.
7. Installation shall be performed in accordance with **ANSI/ALI ALIS:2022** or a more current edition, for **Safety Requirements for Installation and Service of Automotive Lifts**.
8. The Owner/Employer shall not modify the lift in any manner without the prior written consent of the manufacturer.

IMPORTANT SAFETY INSTRUCTIONS

When using this lift, basic safety precautions should always be followed, including the following:

1. Do not raise a vehicle on the lift until the installation is completed as described in this manual.

2. 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.

3. Do not overload the lift. The capacity of the lift is shown on cover of this document and on the liftôs serial number tag.

4. Note that the removal or installation of some vehicle parts may cause a critical load shift in the center of gravity and may cause the vehicle to become unstable. Refer to the vehicle manufacturerôs service manual for recommended procedures.

5. 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 and never raise vehicle with passengers inside.

6. Position the arms to the vehicle manufacturerôs 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.

7. Keep everyone clear of the lift when the lift is moving, the locking mechanism is disengaged, or the vehicle is in danger of falling.

8. Unauthorized personnel should never be in the shop area when the lift is in use.

9. 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.

10. Service and maintain the unit only with authorized or approved replacement parts.

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 manufacturerôs recommended attachments.

19. Unusual vehicles, such as limousines, RVôs, and long wheelbase vehicles, may not be suitable for lifting on this equipment. If necessary, consult with the manufacturer or the manufacturerôs representative.

20. The troubleshooting and maintenance procedures described in this manual can be done by the liftôs 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, leg replacement, over-head structure 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 they are illegible or missing.

WARNING!! Failure by purchaser to provide the recommended mounting surface could result in unsatisfactory lift performance, property damage, or personal injury.

For additional safety instructions regarding lifting, lift types, warning labels, preparing to lift, vehicle spotting, vehicle lifting, maintaining load stability, emergency procedures, vehicle lowering, lift limitations, lift maintenance, good shop practices, installation, operator training and owner/employer responsibilities, please refer to ñ**Lifting It Right" (ALI/SM22-1:2020),"Lift Safety Tips" (ALI/ST-17:2017)** or more current editions, along with **"Vehicle Lifting Points Guide" (ALI/LP-GUIDE)** updated annually.

For additional instruction on general requirements for lift operation, please refer to ñAutomotive Lift-Safety Requirements for Operation, Inspection and Maintenanceò(ANSI/ALI ALOIM:2020) or a more current edition.

LOCATION

This lift has been evaluated for **INDOOR USE ONLY** with an operating ambient temperature range of 5 - 40°C (41-104°F)

ATTENTION! This lift is intended for **indoor installation only**. It is prohibited to install this product outdoors. Operating environment temperature range should be 41 ï 104 °F (5 ï 40 °C). **Failure to adhere will result in decertification, loss of warranty, and possible damage to the equipment.**

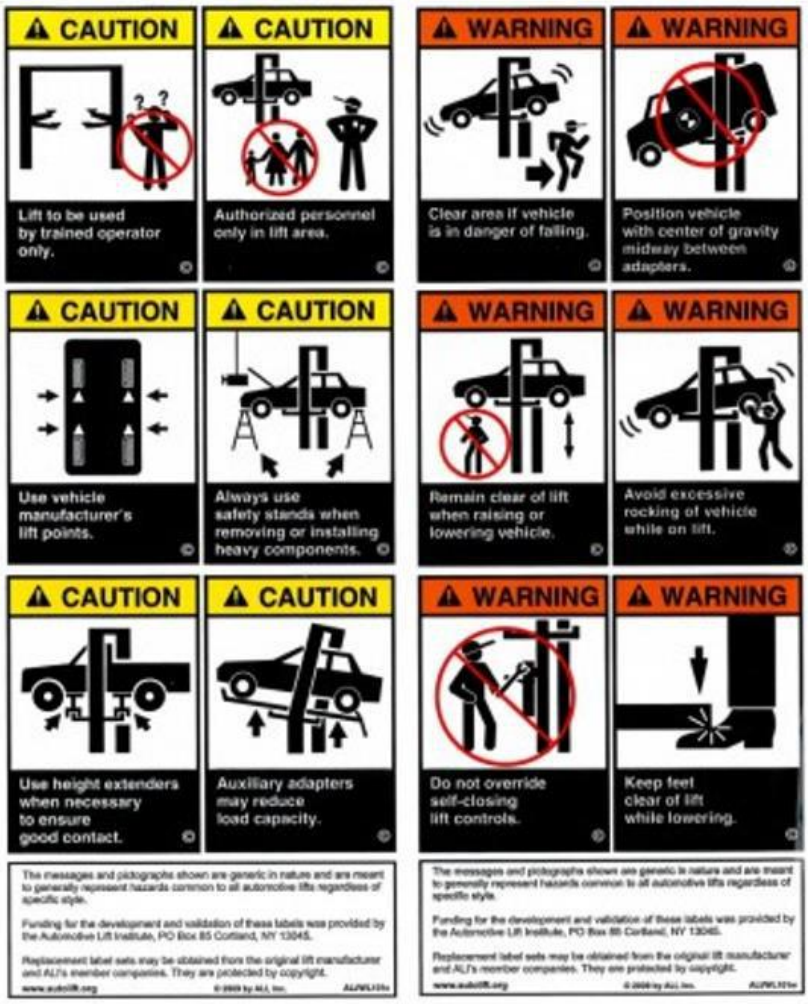
SAFETY DECALS

These Decals Must Be Applied to Lift.

NOTE: *SOME IMAGES IN THIS MANUAL ARE GENERIC AND MAY NOT RESEMBLE THE LIFT YOU HAVE PURCHASED.*

REFERENCE: AUTOMOTIVE LIFT INSTITUTE, Inc.





NOTICE If attachments, accessories, or configuration modifying components used on this lift are located in the load path and affect operation of the lift, affect the lift electrical listing, or affect intended vehicle accommodation; and if they are not certified for use on this lift, then the certification of this lift shall become null and void. Contact the participant for information pertaining to certified attachments, accessories, or configuration modifying components.

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CAUTION

RELEASE ALL LATCHES BEFORE LOWERING LIFT

MAXIMUM CAPACITY

12,000 LBS.

IMPORTANT INFORMATION

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

2. This lift is designed for indoor use only and **should not** be installed in a pit or depression.

3. The floor on which the lift is to be installed must be **4-1/2" minimum thickness concrete, with a minimum compressive strength of 3,500 psi.**

4. The lift has **specific electrical requirements** as described in the Installation Instructions section of this manual.

5. This lift has a **minimum ceiling height requirement** as described in the Installation Instructions section of this manual.

6. It is **recommended that the lift to be located 10' – 12' from the nearest obstruction in front of the lift and 2' – 3' from the nearest obstruction on each side of the lift.**

7. Failure by the owner to provide the **recommended shelter, mounting surface, electrical supply, and ceiling height** could result in unsatisfactory lift performance, property damage, or personal injury.

8. The operation of the lift **is permitted by authorized person only**.

9. Lift buyers **are responsible for any special regional structural and/or seismic anchoring requirements** specified by any other agencies and/or codes such as the Uniform Building Code (UBC) and/or International Building Code (IBC). When required, it is recommended to contact a qualitied engineer to address the specific UBC and/or IBC code requirements.

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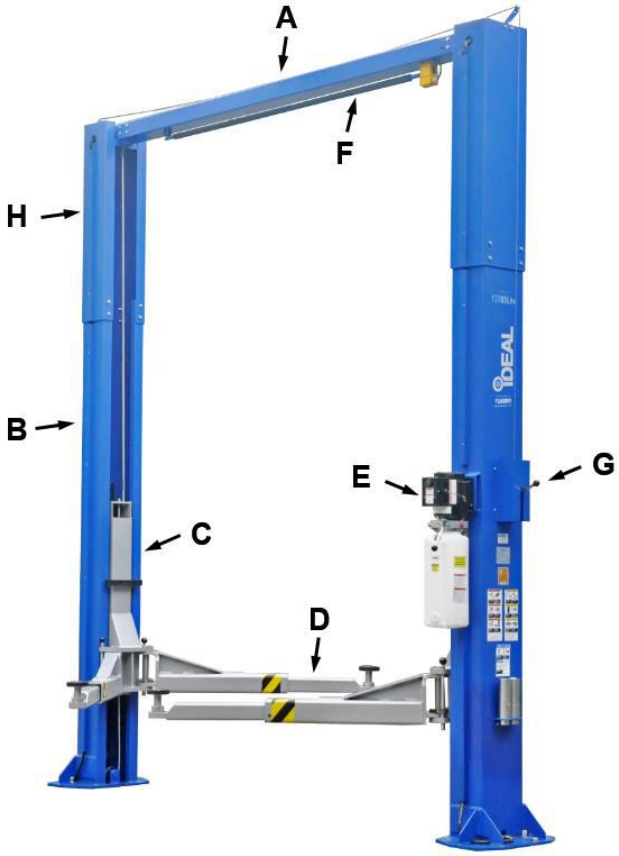
1. PRODUCT INFORMATION

1.1 Product Description

The TP12KSC-DX 2-post hydraulic lift is a surface mounted, frame contact lift incorporating the latest safety technologies. Designed and manufactured for a lifting capacity of 12,000 lbs. (Max 3,000 lbs. per Lifting Arm) and is fully capable for lifting vehicles, vans, light & heavy trucks by safely holding them in an elevated position. The TP12KSC-DX incorporates symmetric swing arms for symmetrical lifting configuration.

The TP12KSC-DX 2-post hydraulic lift consists of a fixed structural unit (Crossbeam, Columns & Uprights), the mobile units (Carriages and Lift Arms), and the Hydraulic Power System and mechanical Safety Latch Release device.

A. Crossbeam
B. Column
C. Carriage
D. Lifting Arm
E. Power Unit
F. Overhead Safety Shut-Off Bar
G. Single Point Safety-Latch Release
H. Upright (column extension)



1.2 Technical Data

Capacity	12,000 lbs. (Max 3,000 lbs. per Arm)
Height Overall	168-1/2ò
Width Overall w/ Power Unit	151-5/16ċ
Max Lifting Height	75ò
Max Lifting Height w/ Tallest Adaptor	80ċ
Width Between Columns	122ò
Min Pad Height	4-7/8ò
Drive Thru Clearance	109ċ
Swing Arm Reach ï Min / Max	37-5/8òï 57ò
Electrical Power	220V, 20 Amp, 1 Phase
Max Operating Pressure	3,050 PSI

Figs. 1 & 2 Elevation & Floor Layout

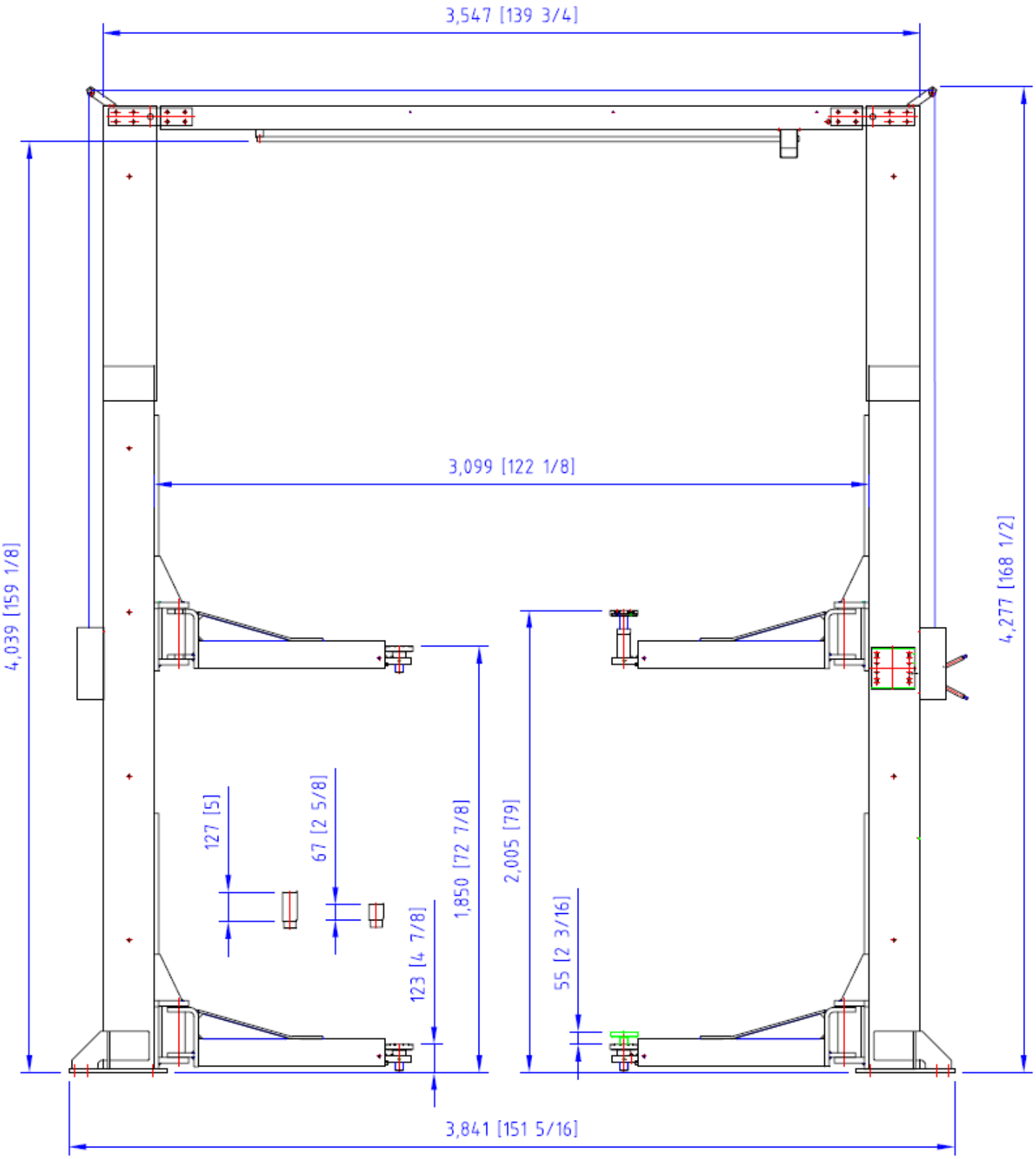


Fig. 1 - Elevation View

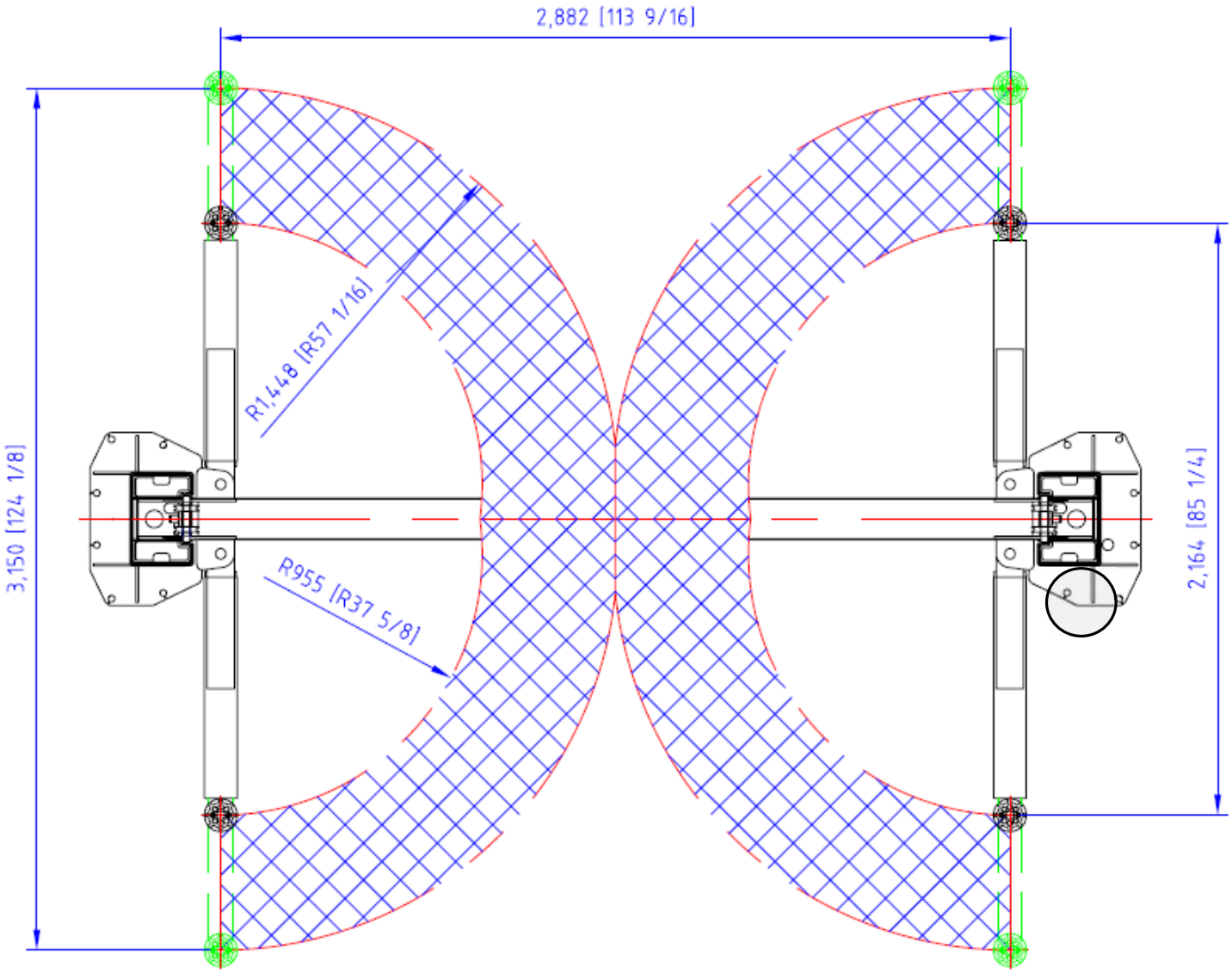


Fig. 2- Floor Layout

NOTE

THE POWER UNIT COLUMN CAN BE LOCATED ON EITHER SIDE. IT IS HELPFUL TO TRY AND LOCATE THE POWER SIDE ON THE PASSENGER SIDE OF THE VEHICLE WHEN LOADED ON THE LIFT, IN ORDER TO SAVE STEPS DURING OPERATION.

NOTE

ENSURE TO POSITION OVERHEAD LIMIT SWITCH BOX ASSEMBLY ON SAME SIDE AS THE MAINSIDE COLUMN WITH POWER UNIT. SEE INSTALLATION INSTRUCTIONS FOR DETAILS.

2. INSTALLATION

2.1 Site Selection

The hydraulic lift is designed only for indoor use. Application in a room with explosion hazard is not permitted. Setting in a wet place, a car wash center for instance, is forbidden.

2.2 Surface Condition / Foundation & Anchoring

The 2-post hydraulic lift should be installed on level ground. The foundation must be 4-1/2òminimum thickness concrete, with a minimum compressive strength of 3,500 psi. Failure in accomplish the foundation requirement may cause lift instability or personal injury. Installing on asphalt, soft clay floor or near the expansion gap is prohibited.

FOUNDATION and ANCHORING REQUIREMENTS

1. Concrete shall have compression strength of at least 3,500 PSI and a minimum thickness of 4-1/2òin order to achieve a minimum anchor embedment of 3-1/2ò NOTE: When using the standard supplied 3/4òx 7òlong anchors, if the top of the anchor exceeds 3-1/2òabove the floor grade, you DO NOT have enough embedment.

2. Maintain a 6òminimum distance from any slab edge or seam. Hole to hole spacing should be a minimum 6òin any direction. Hole depth should be a minimum of 4-1/2ò

3. DO NOT install on asphalt or other similar unstable surface. Columns are supported only by anchoring to floor.

4. Using the horseshoe shims provided, 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 110 ft-lbs. Shim thickness MUST NOT exceed 1/2òwhen using the 7òlong anchors provided with the lift.

5. If anchors do not tighten to 110 ft-lbs. installation torque, replace the concrete under each column base with a 6ôx 6ôx 10òthick 3,500 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).

ANCHORING TIPS

1. Use a concrete hammer drill with a carbide tip, solid drill bit the same diameter as the anchor, 3/4ò- (.775 to .787 inches diameter). Do not use excessively worn bits or bits which have been incorrectly sharpened.

2. Keep the drill in a perpendicular line while drilling.

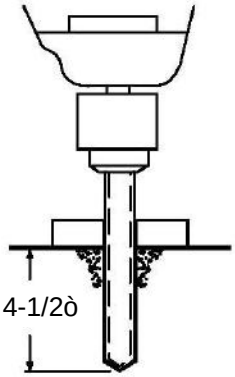
3. Let the drill do the work. Do not apply excessive pressure. Lift the drill up and down occasionally to remove residue to reduce binding.

4. Drill the hole to depth of 2òdeeper than the length of anchor. NOTE: Drilling thru concrete (recommended) will allow the anchor to be driven thru the bottom of foundation if the threads are damaged or if the lift will need to be relocated.

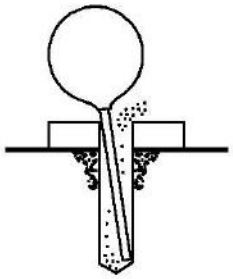
5. For better holding power blow dust from the hole.

6. Place a flat washer and hex nut over threaded end of anchor, leaving the nut almost flush with the top of the anchor bolt. Carefully tap anchor into hole. Do not damage threads. Tap anchor into the concrete until nut and flat washer are against base plate. Do not use an impact wrench to tighten! Tighten the nut, two or three turns on average after the concrete has cured (28-day cure). If the concrete is very hard only one or two turns may be required.

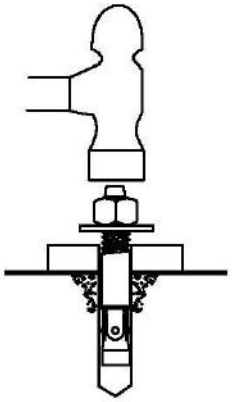
FOUNDATION and ANCHORING REQUIREMENTS



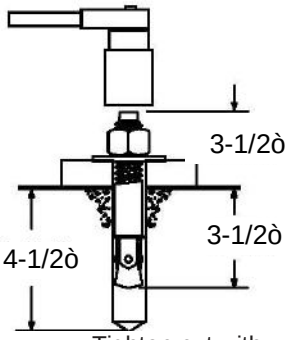
Drill holes using 3/4ò carbide tipped masonry drill bit per ANSI standard B94.12.1977



Clean hole.



Run nut down just below impact section of bolt. Drive anchor into hole until nut and washer contact base.



Tighten nut with Torque wrench to 110 ft.-lbs.

2.3 Tools & Equipment Required

- 12 quarts of Non-Detergent / Non-Foaming Hydraulic Oil - SAE-10, AW 32 or equivalent
- Chalk line and 12ôTape Measure
- Concrete hammer drill with 3/4òbit
- 11/16òopen end wrench
- 3/4òopen end wrench
- Torque wrench
- 15/16òdeep socket or wrench
- 1-1/8òsocket
- 13/16òopen end wrench
- Level (18òminimum length)
- Vise grips
- Tape measure
- Funnel
- Hoist or Forklift (optional)
- Two 12ôstep ladders
- 1/4òdrive ratchet with 5/16òsocket

2.4 Installation Procedure

1. Read this manual thoroughly before Installing, Operating, or Maintaining this lift.

2. Site Evaluation and Lift Location

A. Always use an architectõs plan when provided. Before unpacking the lift entirely, determine if the site is adequate for the lift model being installed see Figures 1 & 2 for typical bay layout and ceiling height requirements. It is recommended to have 170ò(14-2ò) minimal celling height.

B. Determine which side will be the approach side.

C. Now determine which side you prefer the power unit to be located on. The MAIN column has the power-unit mounting bracket attached to the side



THE POWER UNIT COLUMN CAN BE LOCATED ON EITHER SIDE. IT IS HELPFUL TO TRY AND LOCATE THE POWER SIDE ON THE PASSENGER SIDE OF THE VEHICLE WHEN LOADED ON THE LIFT, IN ORDER TO SAVE STEPS DURING OPERATION.

D. Once a location is determined, use a carpenterõs chalk line to layout a grid for the columnõs locations.

E. After the post locations are marked, use a chalk or crayon to make an outline of the posts on the floor at each location using the post base plates as a template.

F. Double check all dimensions and make sure that the layout is perfectly square.



DO NOT USE THESE LINES TO POSITION THE COLUMNS, FOLLOW THE INSTRUCTIONS IN THIS MANUAL.

3. Unpack the Lift

A. **Remove the lifting arms, lifting pads, height adapters, hardware box, hoses, covers, power unit box, column extensions and overhead beam from packaging.**

B. **Save all packing hardware**, as these components may be required to complete the installation.

C. **Remove the packing bolts** from brackets, which hold the two columns together.

D. **Remove the upper column**. **Do not stand the columns up now** but lay the columns with their backs on the floor.

4. Attach Uprights / Column Extensions

A. Connect column uprights / extensions to each column **using M10 bolts, washers, and nuts.**



DUE TO HEAVY WEIGHT OF COLUMN ASSEMBLY, IT IS HIGHLY RECOMMENDED TO USE A HOIST OR FORKLIFT TO ASSIST IN STANDING THE COLUMNS TO AN UPRIGHT POSTION.

5. Columns Positioning & Main Side Column Anchoring

A. Determine which side will be the approach side.

B. Now determine which side you prefer the power unit to be located on. The MAIN column has the power unit mounting bracket attached to the front side, if installed on the passenger side. (If the MAIN column is installed on the driver side, the power unit mounting will be positioned to the backside.)



THE DISTANCE BETWEEN COLUMN'S BACK EDGE TO WALL, SHOULD BE AT LEAST 2 TO 3 FEET FOR SAFETY.

C. **Carefully stand up the Main side column (w/ power unit bracket) & Offside column**, position the columns where they are to be secured. Ensure columns openings are facing each other.

D. Before proceeding, double check measurements and make certain that the bases of each column are square and aligned with the chalk line.

E. Using the column base as a template, drill the anchor bolt holes for the **Main side column only!** (Refer to FOUNDATION REQUIREMENTS & ANCHORING TIPS ON PAGES 11 & 12)
NOTE: DO NOT ANCHOR OFFSIDE COLUMN AT THIS TIME!

F. Install the anchor bolts, assemble washers & nuts onto the anchor bolts. Thread the nuts onto the anchors bolts where the tops of the nuts are just above the top of the anchor bolts. Carefully tap the anchor bolts into the concrete until the washer rests against the base plate. **Ensure not to damage threads**.

G. Using a level, plumb the Main side column both side to side and front to back. Shim the leg as necessary using the Shims provided. Tighten anchor bolts to 110 ft. lbs. as noted on page 11. Re-check to ensure column is plumb.

NOTE: REFER TO 'FOUNDATION & ANCHOR REQUIREMENTS' IF MORE THAN 1/2" OF SHIMS ARE REQUIRED.

H. Ensure Offside column is in the correct location. **DO NOT DRILL HOLES FOR ANHORS at this time**.

6. Install Overhead Beam & Limit Switch Bar (Figs. 3, 4 & 5)

A. Ensure the cable pulleys are assembled onto shafts with spacers prior to attaching overhead beam to top of columns, as shown below in Fig 3.

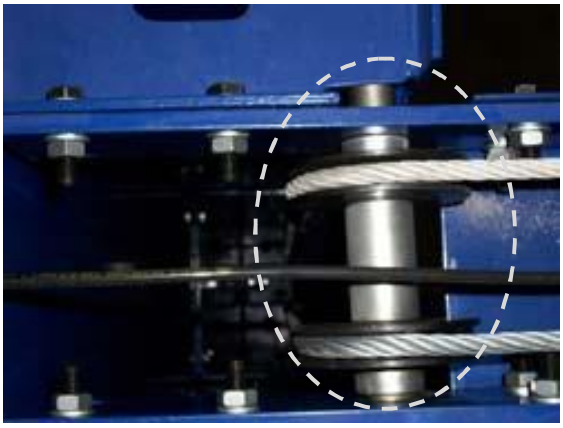


Fig. 3

B. Install the overhead beam to the connection plates on each end with 8ea nuts & bolts, as shown below in Fig.4.

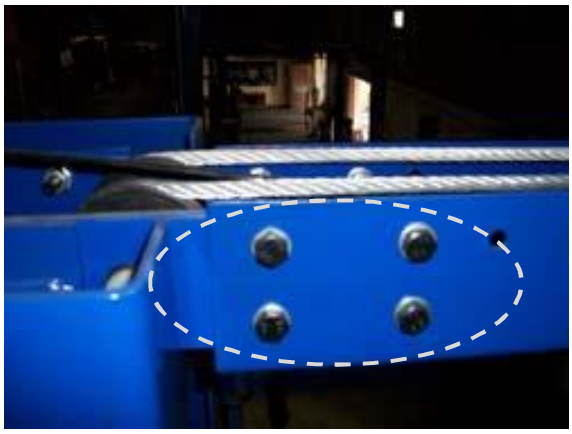


Fig. 4

NOTE

ENSURE TO POSITION OVERHEAD LIMIT SWITCH BOX ASSEMBLY ON SAME SIDE AS THE MAINSIDE COLUMN WITH POWER UNIT.

C. Attach the shutoff bar and switch housing to the underside of the overhead beam. Attach single bolt and bar first, then install switch housing.



Fig. 5

D. Run electrical cord for overhead limit switch into the hole on the underside of cross beam and back out of the column using provided bulkhead fittings.

7. Anchoring Offside Column

A. Using a level, check the alignment and plumbness of the entire structure. Plumb the offside column both side to side and front to back.

B. The base of the column may vary from the preliminary layout, as it is more important that the column be perpendicular to the floor and parallel to the other column.

C. Install the anchor bolts and shim the base as described in Step 5.

8. Equalization Cable Routing

A. The carriages should be resting on the same column latches for proper equalization. Ensure to measure the height above the baseplate to each carriage. The measurement should be within 3/8ò of each other.

B. Using the diagrams, rout the equalization cables according to Figs. 6a, 6b & 6c from carriage to carriage through the cable rollers. Cables are routed identically the same on both columns. Cable on right is routed down and around the sheave then up and over the overhead beam. Then routed down to the top of the carriage.



Fig. 6a



Fig. 6b

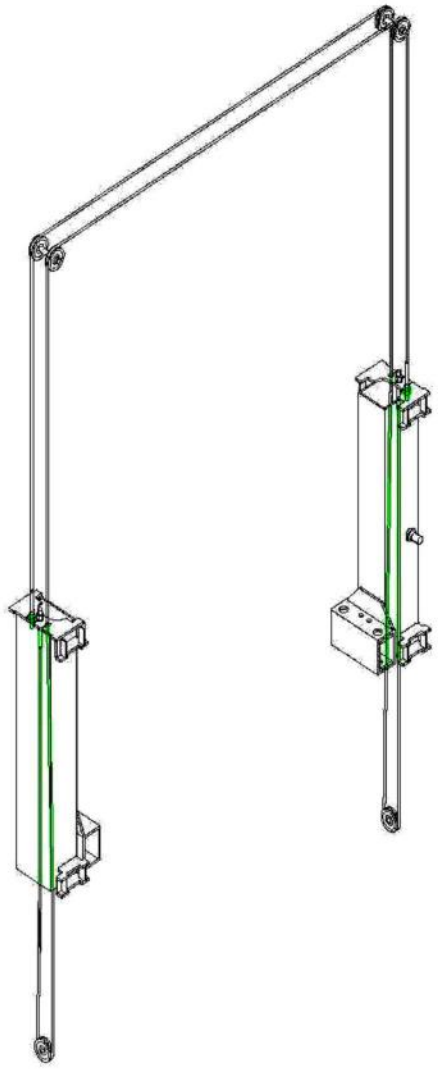


Fig. 6c

C. Secure to carriages using Hex Nuts & Washers. Ensure that cables are not crossed together. Take out slack but **DO NOT TIGHTEN CABLES AT THIS TIME.**

D. After equalizations cables are routed and connected to carriages, take out the slack in both cables by turning down the nuts on top of each carriage top. Use vise grips to hold the cable end but be very careful not to damage the threads.

NOTE

CARRIAGES MUST REMAIN AT THE SAME COLUMN LOCK HEIGHT POSITION WHILE CABLES ARE BEING TIGHTENED. FAILURE TO DO WILL CAUSE THE CARRIAGES SAFETY LATCHES TO BE OUT OF SYNC.

E. Alternately tighten the cable nuts at both carriages until the cables are tightened. The correct tension in the cables are indicated by being able to pull the cables together with approximately 15 lbs. effort at midpoint in the column. If the cables are installed correctly, both carriages will rise together.

9. Install the Hydraulic Fittings & Hoses



When attaching hydraulic fittings with pipe threads to the cylinders use Teflon tape. DO NOT start the Teflon tape closer than 1/8" from the end of the fitting. Failure to comply may cause damage to the Hydraulic system.



When tightening connections with flared (JIC) fittings, always follow the following tightening instructions. Failure to follow the below instructions may result in cracked fitting and/or leaks.

- *Use the proper size wrench.*
- *The nut portion of the fitting is the only part that should turn during tightening. The flare seat **MUST NOT** turn.*
- *Screw the fittings together hand tight.*
- *Rotate the nut portion of the fitting 2-1/2 hex flats.*
- *Back the fitting off one full turn.*
- *Again, tighten the fitting hand tight, and then rotate the nut portion of the fitting **2-1/2 hex flats.***

A. Fittings & Hoses Connections:

1. Install longest hose first. Connect the 90 degree hose end to bottom of the offside cylinder and then route hose through the leg gusset. (Fig.7)

2. Route hose from offside cylinder and up the side of the Offside column, then through the upper hole on side of Offside column. While keeping the hose centered, route hose across the top of the overhead beam and through upper hole on side of Main side column, then route down towards the power unit mount bracket.



Fig. 7

3. Route hose through top of power unit bracket until the end of the longest hose comes down through the backside of the power unit bracket, as shown in Figs. 8 & 9.

4. Locate T-Fitting & shortest hydraulic hose. Connect the longest hose to top of T-fitting, which is to be positioned behind the power unit bracket. Then, connect the shortest hose to the side of T-fitting as shown. (Figs. 8 & 9)



Fig. 8

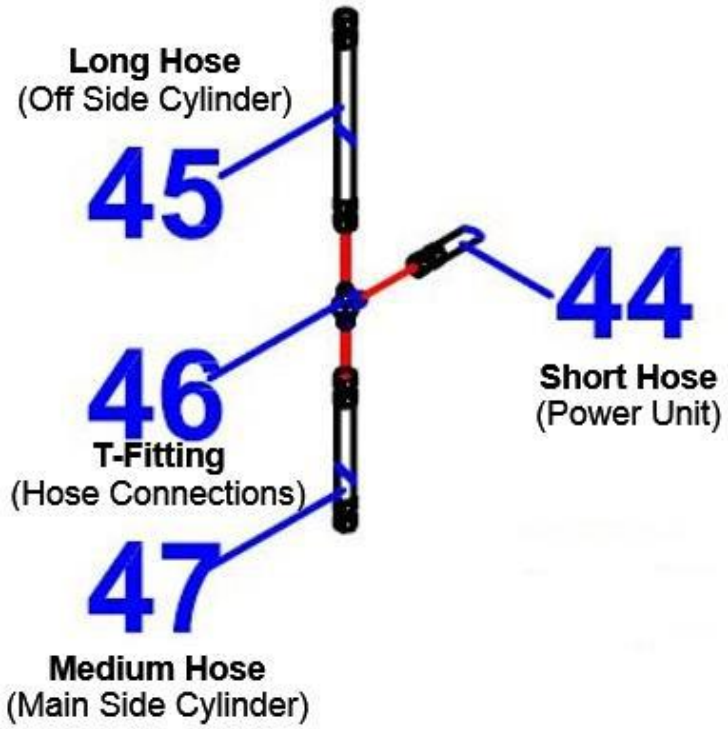


Fig. 9

5. Connect medium length hose (with 90 degree fitting) to main side cylinder, ensuring to route through leg gussets, as shown in Fig. 7. Route hose up to T-fitting and tighten.

6. Install Hose Covers on sides of columns, using provided hardware. (See Exploded View at back of Manual for location details.)

10. Mounting Power Unit

A. Mount on the motor pump using 5/16òx 1-1/4òbolts and nylon nuts provided in the bolt box to Main side column.

B. Connect the short hydraulic hose from T-Fitting to the 90 degree fitting on side of valve block, as circled in (Fig 10).



Fig. 10

11. Latch-Release Cable Wiring & Accessories mounting

A. Mount the safety latch device & cable on each column, while ensure to route cable wire through tab or handle, then secure with set-screw & clamp, as shown in (Fig. 11a & 11b).



Fig. 11a

Offside Column



Fig. 11b

Main Side Column

(Use Set Screw & Clamp to secure Cable Wiring to Safety Latches)

B. Mount the Cable Pulley and Support Bracket on the top of the Columns. (Fig. 11c)

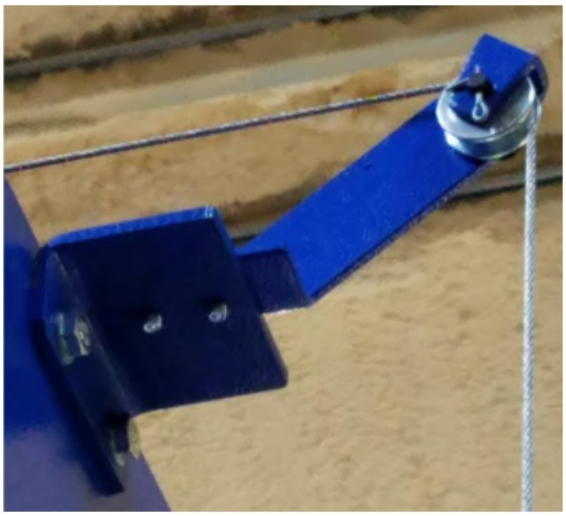


Fig. 11c

C. Route and adjust the cable tension so that when the handle is pressed down, both latches will be released.

D. Install covers for both latch devices on Off Side & Main Side columns, using the provided screws. (Figs. 12a & 12b)



Fig. 12a
Offside Column

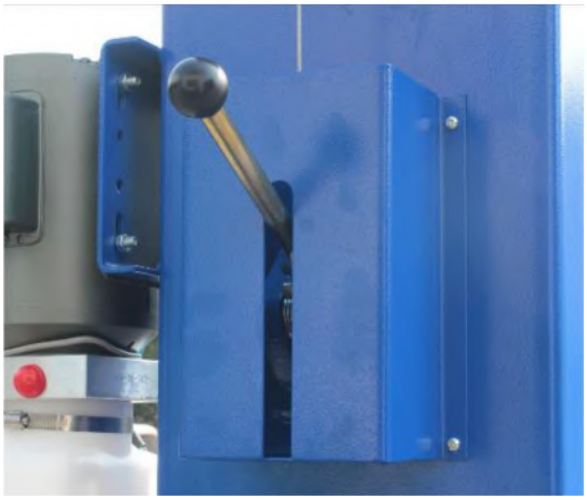


Fig. 12b
Main Side Column

12. Install Arm Restraints & Lifting Arms

A. Locate the arms, arm pivot pins, and hardware. Place the arm clevis end into the clevis on the carriage. Place thrust washer on bottom side of carriage clevis.

B. Install the swing arms to the carriages using the pins. Secure pin to carriage with clip at bottom of pin.

C. Check the operation of the arm restraints. Make sure they engage and disengage properly

DON'T FORCE THE GEARS, IT MAY BE NECESSARY TO PULL UP ON THE RESTRAINT ACTUATOR PIN IN ORDER TO INSTALL THE SWING ARM PIN.

D. Ensure arm restraint gear bolts are tightened to 30 ï 34 ft. lbs.

E. Place lifting pads in end of swing arms.

13. Filling Reservoir Tank

A. Remove the fill level screw of the power unit tank. Fill it with Non-Detergent / Non-Foaming Hydraulic Oil - SAE-10, AW 32 or equivalent, until fluid reaches the bottom of the screw hole. Replace the fill screw.

14. Lubricate the four inside corners of both columns with heavy duty bearing grease.

15. Electrical Connection to Power Unit & Overhead Limit Switch

A. Have a certified electrician make the electrical connection from power supply to the power unit. Use separate circuit for each power unit, as shown below in **(Fig. 14)**.

B. Have a certified electrician make the electrical connection for the overhead limit switch to power unitõs switch box, as shown in **(Fig. 14)**.

208 - 230VAC, 1PH, 60Hz

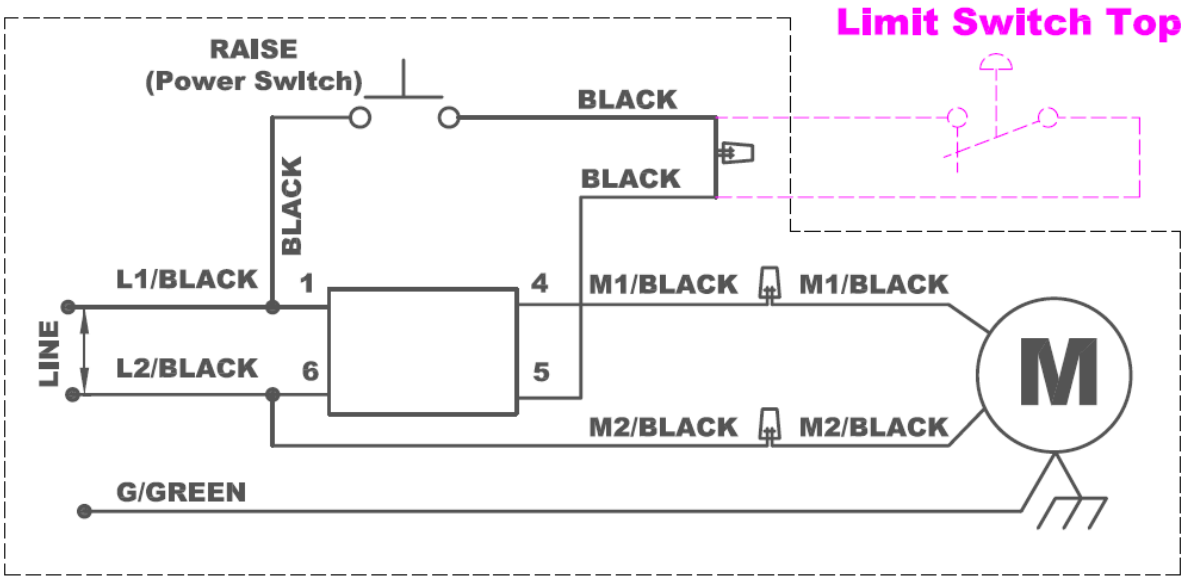


Fig. 14

Electrical Wiring must comply with local code. Protect each circuit with time delay fuse or circuit breaker. For 208V-230V single phase, use 20 amp fuse.
Never operate the motor in line voltage less than 208VAC as motor damage may occur.

16. Testing & Bleeding System

NOTE

- ❖ **In this step A, there is no load on the lift.**
- ❖ **Cycle up and down must be with interval rest of 2 mins.**

A. Without a load, actuate the power unit and hold the button until both carriages lift off the locks and carefully loosen the bleeding screw at top end of the Offside cylinder and allow the trapped air to escape. Once trapped air has escaped, retighten bleed screw on top of cylinder.



THE AIR IN THE CYLINDER IS UNDER PRESSURE. PROTECT YOUR EYES AND COVER THE END OF THE CYLINDER WITH A RAG BECAUSE OIL MAY SPRAY OUT OF THE CYLINDERS.

B. Repeat bleeding process for the Main side cylinder.

C. The latches should click close together as the lift is being raised. If not, adjust cables for proper equalization and tightness.

D. When the carriages are lowered onto the locks, the Latch Release Handle should NOT be capable of being pulled down. Prior to lowering the carriages, always raise up enough to free the latches, then pull down the latch release handle to unlock the carriages to lower. Ensure both latches are properly released.

E. The first time a vehicle is placed on the lift, raise it no higher than three feet. Lower the vehicle onto the safety latches. Raise the lift a few inches and pull latch release lever then lower the vehicle to the floor.

F. Raise the vehicle to full height and lower the carriages onto the safety latches. Lower the vehicle to the floor.

G. After cycling the lift ten times with a vehicle on it, recheck the tightness of the anchors to at least 110 ft-lbs.

The Lift is now ready for Operation.

3. Operation

BE SURE TO READ AND FAMILIARIZE YOURSELF WITH THE SAFETY INSTRUCTIONS AT THE BEGINNING OF THIS MANUAL. FAILURE TO FOLLOW SAFETY INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

3.1 Operating Instructions



BE SURE TO READ AND FAMILIARIZE YOURSELF WITH THE SAFETY INSTRUCTIONS AT THE BEGINNING OF THIS MANUAL. FAILURE TO FOLLOW SAFETY INSTRUCTIONS MAY RESULT IN PROPER DAMAGE, PERSONAL INJURY OR DEATH.



TO AVOID PERSONAL INJURY AND/OR PROPERTY DAMAGE, PERMIT ONLY TRAINED PERSONNEL TO OPERATE LIFT. AFTER REVIEWING INSTRUCTIONS, GET FAMILIAR WITH LIFT CONTROLS BY RUNNING THE LIFT THROUGH A FEW CYCLES BEFORE LOADING VEHICLE ON LIFT.



ALWAYS LIFT THE VEHICLE USING ALL FOUR ADAPTERS. NEVER RAISE JUST ONE END, ONE CORNER, OR ONE SIDE OF VEHICLE.

3.1.1 Lift Preparation

Lift arms must be fully lowered and service bay clear of all personnel before the vehicle be brought into the bay. Swing arms out to full drive-thru position

3.1.2 Vehicle Positioning

a. Positioning the vehicle between columns.
b. Adjust lift arms so that the vehicle is positioned with the center of gravity between the pads. Make sure the arm restraints are fully engaged.
c. Raise the lift by pressing the lifting button on power unit until the lifting pad adaptors contact underside of the vehicle.
d. Make sure the vehicle is secured

3.1.3 Loading Lift

Swing arms under vehicle and position adapters at vehicle manufacturer's recommended lift points. Use height adapters or optional adapters for under body clearance when required.



Also see Vehicle Lifting Points on Page 25 for additional information.

3.1.4 To Raise Lift

a. Push START button of the motor pump.
b. Stop before arms making contact with vehicle. Check arm restraint pins for engagement. If required, slightly move arm to allow restraint gear and pawl to match. DO NOT hammer pin down, as this will damage the restraint gear teeth.
c. Raise vehicle until the wheels clear the floor, then release the START button.
d. Check support adapters for secure contact at vehicle manufacturer recommended lift points.

e. Continue to raise to desired height only if vehicle is secure on lift. Then release the START button.
f. DO NOT go under vehicle if all four adapters are not in secure contact at vehicle manufacture recommended lift point.
g. Repeat complete spotting, loading, and raising procedures if required.
h. Press down the hydraulic pressure release lever on the motor pump to lower the vehicle into the locking position. The locking latches are engaged.



DO NOT GO UNDER VEHICLE IF LOCKING LATCHES ARE NOT ENGAGED.



BEFORE ATTEMPTING TO LIFT PICKUP TRUCKS OR OTHER TRUCK FRAME VEHICLES, BE SURE THAT:

- **Vehicle frame is strong enough to support its weight and has not been weakened by modification or corrosion.**
- **Vehicle individual axle weight does not exceed one-half lift capacity.**
- **Adapters are in secure contact with frame at vehicle manufacturers recommended lift point.**
- **Vehicle is stable on lift**
- **The overhead switch bar will contact the highest point on the vehicle**

3.1.5 While Using Lift

a. Avoid excessive rocking of vehicle while on lift.
b. Always use safety stands as needed or when removing or installing heavy components.

3.1.6 To Lower Lift

a. Remove all tools or other objects from lift area
b. Press START button a few seconds to raise up a little. Then pull down on the single point, latch-release handle with one hand, while at the same time pressing down on the power unit's pressure-release lever with the other hand.



REMAIN CLEAR OF LIFT WHEN LOWERING VEHICLE. OBSERVE PINCH POINT WARNING DECALS.

3.1.7 Unloading Lift

After the lift is lowered down onto the ground, remove adapters from under vehicle and swing arms to full drive-thru position before moving vehicle out.



IF LIFT IS NOT OPERATING PROPERLY, DO NOT USE UNTIL ADJUSTMENT OR REPAIRS ARE MADE BY QUALIFIED LIFT SERVICE PERSONNEL.

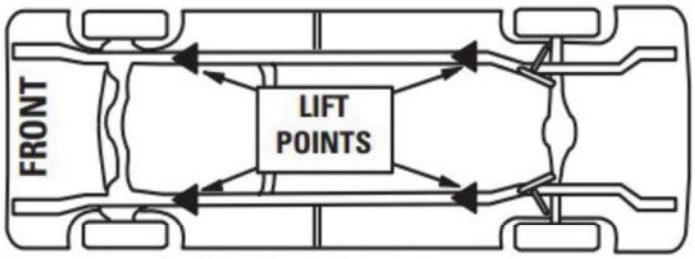
Vehicle Lifting Points

Some vehicles may have the manufacturerôs Service Garage Lift Point locations identified by triangle shape marks on its undercarriage (reference SAE J2184). There may also be a label located on the right front door lock face showing specific vehicle lift points. If the specific vehicle lift points are not identified, please refer to the ñTypical Lift Pointsò illustration below or the ALI/LP Guide - Vehicle Lifting Points / Quick Reference Guide included with your lift. Consider center of gravity, contents of vehicle and weight shifting before operating.

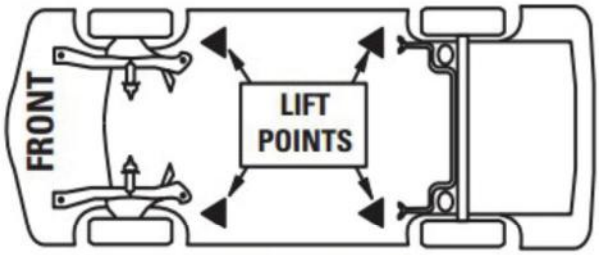
Make sure the vehicle is neither front nor rear heavy. If the specific vehicle lift points are not identified, or if the vehicle has additional or uniquely positioned payload, have a qualified person calculate the vehicle center of gravity or have the vehicle center of gravity determined at a vehicle scale. Load the vehicle with the center of gravity midway between adapters.

Unusual vehicles, such as limousines, RVôs, and long wheelbase vehicles, may not be suitable for lifting on this equipment.

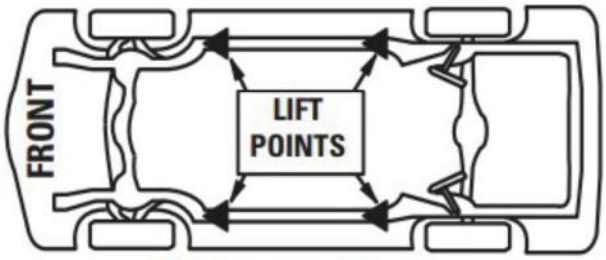
If necessary, consult with your iDEAL Automotive Equipment representative or contact the vehicle manufacturer.



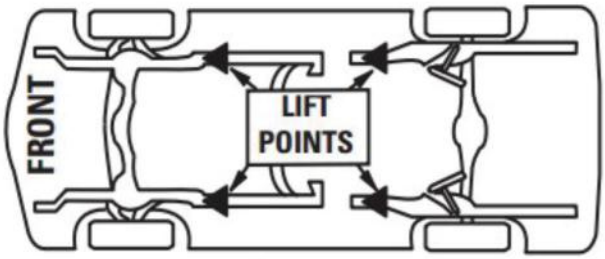
Pickup Truck



Unitized Body



Perimeter Frame



Stub Frame

4. Inspection & Maintenance Instructions

Contact your service provider for instruction before starting up if you are not completely familiar with automotive lift maintenance procedures. Only qualified personnel can perform maintenance on this equipment. Any failure in operation may cause personal injury or death.

Daily

- Always keep bolts tight. Check periodically.
- Always keep lift components clean.
- Always if oil leakage is observed, contact your service provider.
- Check cables and sheaves for wear every day. Replace worn or broken parts with lift manufacturerôs parts, or their equivalent.

Monthly

- Check equalizer cable tension.
- Lubricate locking latch shafts. Push latch handle several times for oil to penetrate joints.
- Lubricate the four inside corners of the columns with heavy duty bearing grease.
- With lift lowered, check the hydraulic fluid level. If necessary, add oil as described in the Installation Instruction section of this manual
- Check carriage latch synching: Latches should click at the same time. If necessary, adjust equalization cables.
- Check tightness of all bolts.
- Check the nuts for tightness every week for the first month, and every month afterwards.

Every 3 Months

- Check anchor bolts for tightness. Anchors should be torque to 110 ft-lbs.
- Check and clean the oil filter

Every 6 Months

- Check fluid level of lift power unit and refill if required.
- If Lift stops short of full rise or chatters, contact your service provider.
- Replace all caution, warning, or safety related decals on the lift if unable to read or missing. Reorder labels from service provider.

Also, see ANSI/ALI ALOIM:2020 booklet or a more current edition for periodic Inspection Checklist and Maintenance Log Sheet.

ALWAYS REPLACE WORN PARTS WITH GENUINE, AUTHORIZED PARTS.

For Parts & Service Assistance
Please contact iDEAL Automotive Equipment @ Toll Free: 877-588-9337

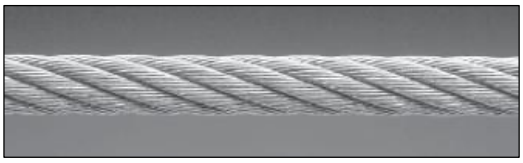
(Also see Additional Information next two pages)

WIRE ROPE INSPECTION

- **Wire ropes are critical to the safe and reliable performance of your lift.**
- **Cables are expendable items and should be replaced as a set.**

CABLE CONDITION 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”



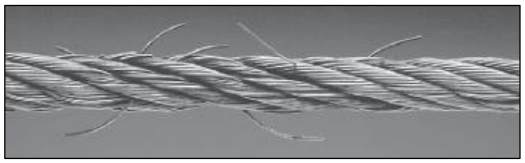
Typical Good Cable



Cable with Necking



Cable with Corrosion



Cable with Broken Wires

WIRE ROPE REPLACEMENT CRITERIA

If any cable is found to be in need of replacement, the entire cable set, pulleys, and safety rollers, must be replaced immediately. See Cable Condition Guide.

The Wire Rope MUST be replaced if One or More of the Following Criteria Are Met:

- More than six (6) randomly distributed broken wires in one rope *lay or 6xd length.
- More than three (3) broken wires in one strand in one rope *lay or 6xd length.
- Three (3) or more broken wires at rope terminations.
- One outer wire broken at the point or contact with the core of the rope which has worked its way out of the rope structure and protrudes or loops out from the rope structure.
- Heavy rusting, corrosion, or pitting. A light surface corrosion on outer wires is normal.
- Wear or scraping of one-third (1/3) of the original diameter of outside individual wires.
- Excessive stretch. It is normal for new cable to require adjustment during ñbreak-in,òafter 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 adjustments available, all cables must be replaced immediately.
- Deformed strands, kinking, crushing, bird-caging, or any other damage or distortion of wire rope structure.
- Variations in diameter (necking) or any change from normal appearance.
- Reductions from nominal diameter of more than 1/32ò(for cables 3/8òto 1/2òdiameter inclusive.)
- End attachments cracked, deformed, or worn.

** Lay is the distance measured, parallel to the rope axis, in which a single strand makes one complete turnaround the rope axis, or the wires make a complete turnaround the axis of the strand.*

Also, reference ANSI/ALI ALOIM current edition for more information on wire rope cable inspection.

Emergency Operation

(If Lift Becomes Inoperable In Raised Position)

If the lift becomes inoperable in the raised position, wait until electrical power is restored to the lift before attempting to lower the vehicle.

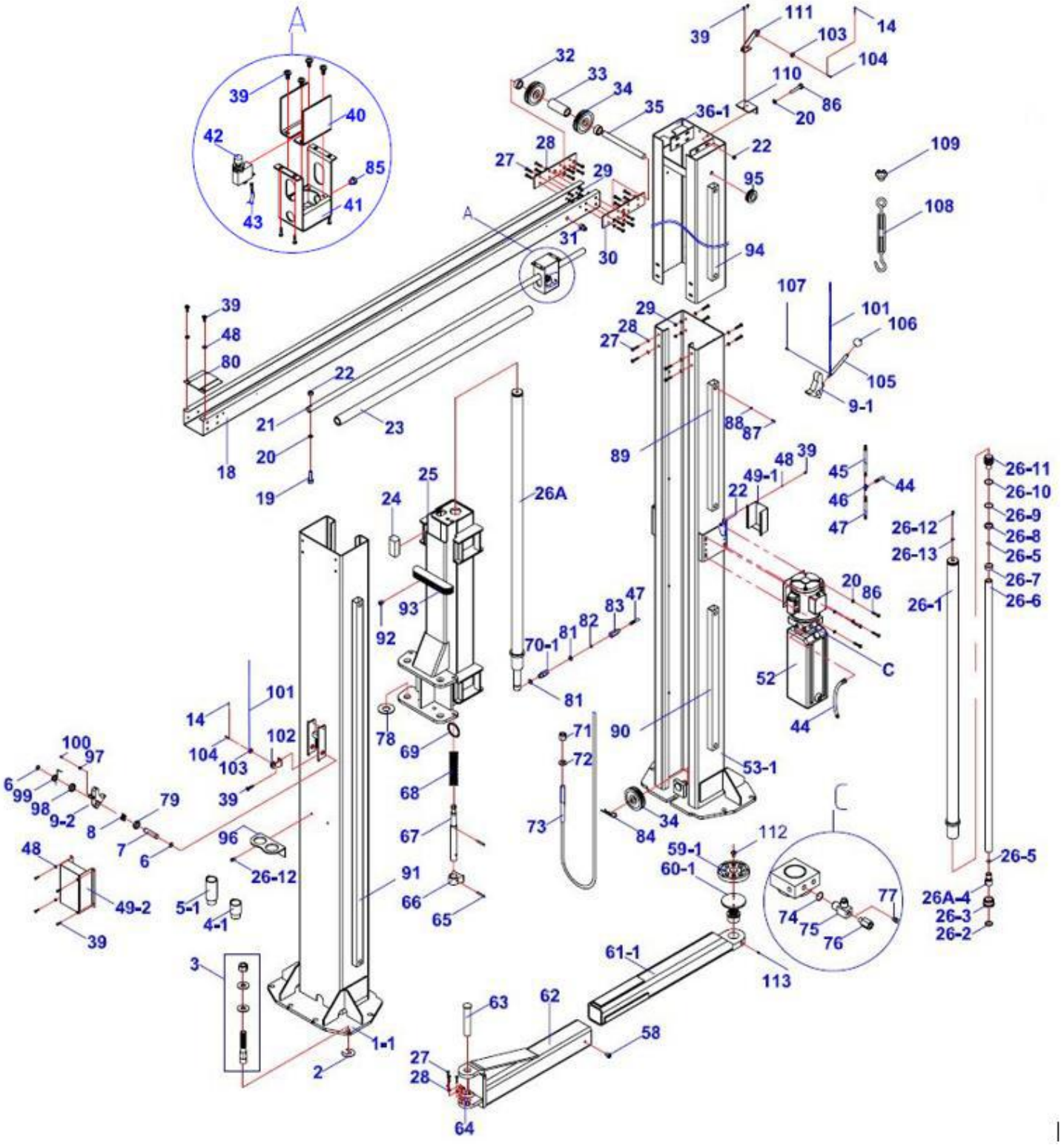


DO NOT LOOSEN OR REMOVE HYDRAULIC CONNECTIONS OR FITTINGS UNDER PRESSURE. SERIOUS INJURY OR DEATH COULD OCCUR.

If it is crucial for reasons of safety that the vehicle be lowered, please DO NOT attempt to do so on your own without first contacting your local authorized service representative or distributor, who can verbally walk you through the process or assist, in person, where necessary.

For assistance, please contact iDEAL Automotive Equipment @ Toll Free: 877-588-9337

5. Exploded View / Parts List



Parts List

For Parts & Service Assistance
Please contact iDEAL Automotive Equipment @ Toll Free: 877-588-9337

ITEM	Tux P/N	M-Ref P/N	DESCRIPTION	QTY
1-1	TP12KSC-DX-001.1	SJ13-12000-A00	Offside Column	1
2	TP12KSC-DX-002	SJ01-12002-000	Shim	12
3	TP12KSC-DX-003	SJ01-12003-ETL	Anchor Bolt, 3/4" x 7"	12
4-1	TP12KSC-DX-004.1	SJ13-00002-A00	Height Adaptor 2.6"	4
5-1	TP12KSC-DX-005.1	SJ13-00001-A00	Height Adaptor 5"	4
6	TP12KSC-DX-006	5304-00025-000	Circlips, D25	4
7	TP12KSC-DX-007	SJ13-00011-000	Latch Shaft	2
8	TP12KSC-DX-008	SJ13-00012-000	Spring #1	2
9-1	TP12KSC-DX-009.1	SJ13-07000-A01	OS Safety Latch-A	1
9-2	TP12KSC-DX-009.2	SJ13-07000-A00	MS Safety Latch-A	1
14	TP12KSC-DX-014	SJ13-00030-000	Split Pin	3
18	TP12KSC-DX-018	SJ13-00009-000	Overhead Crossbeam	1
19	TP12KSC-DX-019	5103-08040-000	Bolt, M8 x 40mm	1
20	TP12KSC-DX-020	5302-00008-000	Washer, D8	13
21	TP12KSC-DX-021	SJ01-00011-000	Overhead Shut-Off Bar	1
22	TP12KSC-DX-022	5206-00008-000	Lock Nut, M8	9
23	TP12KSC-DX-023	SJ01-00010-000	Foam Rubber Tube	1
24	TP12KSC-DX-024	SJ13-00025-000	Sliding Rub Block	16
25	TP12KSC-DX-025	SJ13-02000-ETL	Carriage	2
26A	TP12KSC-DX-026A	SJ13-03000-000	Hydraulic Cylinder	2
26-1	TP12KSC-DX-026.1	SJ13-03100-000	Cylinder body	2
26-2	TP12KSC-DX-026.2	5906-00380-000	Dust Ring	2
26-3	TP12KSC-DX-026.3	BL40-01002-000	Guiding Ring	2
26A-4	TP12KSC-DX-026A.4	BL40-01003-D00	Cylinder Head	2
26-5	TP12KSC-DX-026.5	5901-00260-000	O-Ring, D26 x D3.5	4
26-6	TP12KSC-DX-026.6	BL40-01001-000	Piston Rod	2
26-7	TP12KSC-DX-026.7	SJ13-03001-000	Limit Ring	2
26-8	TP12KSC-DX-026.8	5904-00440-000	Guide Ring	2
26-9	TP12KSC-DX-026.9	5901-00447-000	O-Ring, D44.7 x D3.5	2
26-10	TP12KSC-DX-026.10	5905-00355-000	Seal Ring, D50.5 x D35.5	2
26-11	TP12KSC-DX-026.11	SJ13-03002-000	Piston	2
26-12	TP12KSC-DX-026.12	51050-8010-000	Screw, M8 x 10mm	6
26-13	TP12KSC-DX-026.13	5308-00008-000	Copper Washer, D8	2
27	TP12KSC-DX-027	5103-10040-000	Bolt, M10 x 40mm	56
28	TP12KSC-DX-028	5302-00010-000	Flat Washer, D10	104
29	TP12KSC-DX-029	5201-00010-000	Nut, M10	48
30	TP12KSC-DX-030	SJ13-00010-000	Connecting Plate	4
31	TP12KSC-DX-031	SJ13-00021-000	Cable Nut, M16	1
32	TP12KSC-DX-032	SJ13-00003-000	Spacer 1#	4
33	TP12KSC-DX-033	SJ13-00004-000	Spacer 2#	2
34	TP12KSC-DX-034	SJ13-05000-000	Cable Pulley	6
35	TP12KSC-DX-035	SJ13-00015-000	Pulley Shaft	2
36-1	TP12KSC-DX-036.1	SJ13-09000-A00	Column Extension	2
39	TP12KSC-DX-039	5110-06012-000	Screw, M6 x 12mm	26
40	TP12KSC-DX-040	SJ01-00030-000	Cover Plate, Limit Switch	1
41	TP12KSC-DX-041	SJ03-00028-000	Housing, Limit Switch	1

42	TP12KSC-DX-042	SJ01-00012-ETL	Limit Switch	1
43	TP12KSC-DX-043	SJ13-00027-000	Limit Switch Wiring	1
44	TP12KSC-DX-044	SJ13-00020-000	Hydraulic Hose, 8-1/4"	1
45	TP12KSC-DX-045	SJ13-00018-001	Hydraulic Hose, 33' 1"	1
46	TP12KSC-DX-046	SJ01-00016-000	T-Fitting	1
47	TP12KSC-DX-047	SJ13-00019-000	Hydraulic Hose, 71"	1
48	TP12KSC-DX-048	5301-00006-000	Flat Washer, D6	12
49-1	TP12KSC-DX-049.1	SJ13-00007-A00	Latch Cover	1
49-2	TP12KSC-DX-049.2	SJ13-00007-A01	Latch Cover	1
52	PU-AC-220V-3.5-3050	MBZ01S-00	DURO 208-230VAC MET Power Unit-3.5G	1
53-1	TP12KSC-DX-053.1	SJ13-01000-A00	Mainside Column	1
58	TP12KSC-DX-058	SJ13-00023-000	Elevator Bolt, M10 x 16mm	4
59-1	TP12KSC-DX-059.1	SJ03-00008-001	Rubber Pad	4
60-1	TP12KSC-DX-060.1	SJ13-06100-A00	Lifting Pad	4
61-1	TP12KSC-DX-061.1	SJ13-08000-A00	Arm Slider	4
62	TP12KSC-DX-062	SJ13-04000-ETL	Swing Arm	4
63	TP12KSC-DX-063	SJ13-00016-ETL	Swing Arm Pin	4
64	TP12KSC-DX-064	SJ01-00025-000	Large Gear	4
65	TP12KSC-DX-065	5402-06038-000	Cotter Pin, D6 x 38mm	8
66	TP12KSC-DX-066	SJ01-00023-000	Small Gear	4
67	TP12KSC-DX-067	SJ13-00017-ETL	Gear Shaft	4
68	TP12KSC-DX-068	SJ13-00035-000	Spring	4
69	TP12KSC-DX-069	SJ03-00013-000	Pull Ring	4
70-1	TP12KSC-DX-070.1	SJ13-00037-001	Cylinder Fitting	2
71	TP12KSC-DX-071	5202-00016-000	Nut, M16	8
72	TP12KSC-DX-072	5302-00016-000	Washer, D16	4
73	TP12KSC-DX-073	SJ13-00008-000	Equalizer Cable, 38'-1-1/2"	2
74	TP12KSC-DX-074	5901-00118-000	O-Ring, D11.8 x D1.8	1
75	TP12KSC-DX-075	SJ03-14001-000	T-Fitting	1
76	TP12KSC-DX-076	SJ03-14002-000	Quick Fitting	1
77	TP12KSC-DX-077	SJ03-14005-000	Close Nut	1
78	TP12KSC-DX-078	SJ03-00032-000	Flat Washer	4
79	TP12KSC-DX-079	SJ13-00022-000	Spacer	2
80	TP12KSC-DX-080	SJ13-00036-000	Cover	2
81	TP12KSC-DX-081	5903-00014-000	Combined Washer	4
82	TP12KSC-DX-082	SJ13-00038-000	Throttle Valve	2
83	TP12KSC-DX-083	SJ13-00024-000	Connector Fitting	2
84	TP12KSC-DX-084	SJ01-00033-000	Pin	2
85	TP12KSC-DX-085	SJ13-00034-000	Cable Nut	1
86	TP12KSC-DX-086	5103-08030-000	Bolt, M8 x 30mm	4
87	TP12KSC-DX-087	5110-04040-000	Screw, M4 x 40mm	12
88	TP12KSC-DX-088	5302-00004-000	Flat Washer, D10	12
89	TP12KSC-DX-089	SJ13-00054-000	Hose Cover, Middle MS	1
90	TP12KSC-DX-090	SJ13-00055-000	Hose Cover, Lower MS	1
91	TP12KSC-DX-091	SJ13-00056-000	Hose Cover, OS	1
92	TP12KSC-DX-092	5105-08040-000	Screw, M8 x 40mm	4
93	TP12KSC-DX-093	EG01-00013-000	Rubber Door Guard	2
94	TP12KSC-DX-094	SJ13-00057-000	Hose Cover, Upper MS	2
95	TP12KSC-DX-095	SJ01-00017-000	Rubber Gromit	4
96	TP12KSC-DX-096	SJ13-00058-A00	Height Adaptor Bracket	2
97	TP12KSC-DX-097	5202-00006-000	Hex Nut, M6	1
98	TP12KSC-DX-098	SJ13-00060-A00	Bushing	2

99	TP12KSC-DX-099	SJ12-00004-000	Spring #2	2
100	TP12KSC-DX-100	5114-06020-000	Screw, M6 x 20mm	1
101	TP12KSC-DX-101	SJ13-00061-A00	Latch Release Cable	1
102	TP12KSC-DX-102	SJ12-00008-000	Small Bracket	1
103	TP12KSC-DX-103	SJ12-00005-000	Pulley, D30 x 10mm	3
104	TP12KSC-DX-104	SJ12-00015-000	Pin #1	3
105	TP12KSC-DX-105	SJ12-00007-000	Latch Release Handle	1
106	TP12KSC-DX-106	SJ12-00011-000	Handle Knob, D40 x M10	1
107	TP12KSC-DX-107	5114-06008-000	Screw, M6 x 8mm	1
108	TP12KSC-DX-108	SJ12-00021-A00	Turnbuckle	1
109	TP12KSC-DX-109	SJ12-00020-A00	Cable Lock	2
110	TP12KSC-DX-110	SJ13-00059-A00	Mount Bracket	2
111	TP12KSC-DX-111	SJ12-00003-000	Latch Release Bracket	2
112	TP12KSC-DX-112	5105-08016-000	Screw, M8 x 16mm	8
113	TP12KSC-DX-113	5105-06018-000	Screw, M6 x 18mm	4

6. Troubleshooting Guide

A.	**Problem**	**Motor does not run.**
	Possible cause:	Solution:
	1. Blown fuse or circuit breaker. 2. Incorrect voltage to motor. 3. Bad wiring connections. 4. Motor up switch burned out. 5. Overhead limit switch burned out. 6. Motor windings burned out.	1. Replace fuse or reset circuit breaker. 2. Supply correct voltage to motor. 3. Repair and insulate all connections. 4. Replace switch. 5. Replace switch. 6. Replace motor.
B.	**Problem**	**Motor runs but lift will not raise.**
	Possible cause:	Solution:
	1. Open lowering valve. 2. Pump sucking air 3. Suction stub off pump. 4. Low oil level.	1. Repair or replace lowering valve. 2. Tighten all suction line fittings. 3. Replace suction stub. 4. Fill tank with SAE-10, AW 32 or equivalent.
C	**Problem**	**Lift will raise up only without load.**
	Possible cause:	Solution:
	1. Motor running on low voltage. 2. Debris in lowering valve. 3. Improper relief valve adjustment. 4. Overloading.	1. Supply correct voltage to motor. 2. Clean lowering valve. 3. Replace relief valve cartridge. 4. Check or balance the vehicle weight on lift.
D	**Problem**	**Lift slowly settles down.**
	Possible cause:	Solution:
	1. Debris in check valve seat. 2. Debris in lowering valve seat. 3. External oil leaks.	1. Clean check valve. 2. Clean lowering valve. 3. Repair external leaks.
E	**Problem**	**Slow lifting speed or oil blowing out breather cap**
	Possible cause:	Solution:
	1. Air mixed with oil. 2. Air mixed with oil suction. 3. Oil over filled.	1. Change oil to ónon-foamingôSAE-10, AW 32 or equivalent. 2. Tighten all suction line fittings. 3. Only fill or add oil to tank when lift is fully lowered.
F	**Problem**	**Lift going up unleveled.**
	Possible cause:	Solution:
	1. Equalizer cables out of adjustment. 2. Lift installed on unleveled floor.	1. Adjust the length of the cables again. 2. Level the floor or level the column base by shims.
G	**Problem**	**Anchors will not stay tight.**
	Possible cause:	Solution:
	1. Holes drilled oversize. 2. Concrete floor thickness or holding strength not sufficient	1. Relocate lift using a new bit to drill holes. 2. Break out old concrete and pour new pads, as required for each lift column.
H	**Problem**	**Locking latches do not engage.**
	Possible cause:	Solution:
	1. Latch shafts rusted. 2. Latch spring broken. 3. Latch cable needs adjustment.	1. Oil latch mechanism. Grease the shaft. 2. Replace broken spring. 3. Adjust clamps at cable end

7. Warranty Policy

LIMITED WARRANTY

Structural Warranty:
The following parts and structural components carry a five year warranty:

Columns	Arms	Uprights	Swivel Pins
Legs	Carriages	Overhead Beam	
Tracks	Cross Rails	Top Rail Beam	

Limited One-Year Warranty:
Tuxedo Distributors, LLC (iDEAL) offers a limited one-year warranty to the original purchaser of Lifts and Wheel Service equipment in the United States and Canada. Tuxedo will replace, without charge, any part found defective in materials or workmanship under normal use, for a period of one year after purchase. The purchaser is responsible for all shipping charges. This warranty does not apply to equipment that has been improperly installed or altered or that has not been operated or maintained according to specifications.

Other Limitations:
This warranty does not cover:

1. Parts needed for normal maintenance
2. Wear parts, including but not limited to cables, slider blocks, chains, rubber pads and pulleys
3. Replacement of lift and tire changer cylinders after the first 30 days. A seal kit and installation instructions will be sent for repairs thereafter.
4. On-site labor

Upon receipt, the customer must visually inspect the equipment for any potential freight damage before signing clear on the shipping receipt. Freight damage is not considered a warranty issue and therefore must be noted for any potential recovery with the shipping company.

The customer is required to notify Tuxedo of any missing parts within 72 hours. Timely notification must be received to be covered under warranty.

Tuxedo will replace any defective part under warranty at no charge as soon as such parts become available from the manufacturer. No guarantee is given as to the immediate availability of replacement parts.

Tuxedo reserves the right to make improvements and/or design changes to its lifts without any obligation to previously sold, assembled, or fabricated equipment.

There is no other express warranty on the Tuxedo lifts and this warranty is exclusive of and in lieu of all other warranties, expressed or implied, including all warranties of merchantability and fitness for a particular purpose.

To the fullest extent allowed by law, Tuxedo shall not be liable for loss of use, cost of cover, lost profits, inconvenience, lost time, commercial loss or other incidental or consequential damages.

This Limited Warranty is granted to the original purchaser only and is not transferable or assignable.

Some states do not allow exclusion or limitation of consequential damages or how long an implied warranty lasts, so the above limitations and exclusions may not apply. This warranty gives you specific legal rights and you may have other rights, which may vary from state to state.

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