

USER'S MANUAL

2-Post Lifts

ASSEMBLY & OPERATION INSTRUCTIONS



T38

PLEASE READ THROUGH THIS MANUAL BEFORE ANY INSTALLATION AND OPERATION.

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Definition

The following lift is 2-Column Hydraulic, Leaf chain driven.

The name/model numbers are designated below:

T38: 2-Column Lift, with NO Overhead Beam type, 9000 lbs. Capacity, Asymmetrical Swing Arm set up.

Note-Symmetrical arm kit is also available for the T38.

This lift is a 9000 lb. capacity, 2-Post Lift. The safety latch system is very similar to an extension ladder. The safety latch is in contact with the rack as the lift ascends and drops into place as the lift rises. Safety latch engages in rack in 3" increments at about 16" from the ground. The latch must be manually disengaged for the lift to descend. The latch is released by pulling the release cable raising the latch up off the latch rack. Once the raise button is pressed, the latch will automatically re-engage after approximately 3" of travel. Heavy bearings and heavy-duty leaf chains are used throughout the lift. The work is done with the heavy-duty chain connected to a 2-¹/₂" cylinder, driven by a hydraulic pump capable of providing 3,000 psi.

Please read the Safety Procedures and operation instructions in this manual before operating the lift. Proper installation is very important. To minimize the chance of making an error in installation, please read this manual through carefully before beginning installation. Check with building owner and/or architect's building plans when applicable. The lift should be located on a relatively level floor with 4" 3000 psi concrete sufficiently cured.

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.

PREPARATION

The installation of this lift is relatively simple and can be accomplished by 2 men in a few hours. The following tools and equipment are needed:

AW 32, 46 or other good grade Non-Detergent Hydraulic Oil SAE-10 (12 quarts)

Chalk line and 12' Tape Measure

**Rotary Hammer Drill with 3/4" Drill Bit. Core Drill Rebar Cutter recommended
Transit and a 4' Level**

Sockets and Open Wrench set, 1/2" thru 1-1/2"(1-1/8"for 3/4" Anchors)

Vise Grips

GENERAL INFORMATION

1. Identify the components and check for shortages. If shortages are discovered, contact us immediately. Save the shipping bolts for use in the installation.
2. Lift location - check with building owner and/or architect's building plans when applicable. The lift should be located on a relatively level floor with 4" 3000 psi concrete sufficiently cured with no cracks within 36" and no seams within 6" of the base plate. Remember any structure is only as strong as the foundation on which it is located.

Check for ceiling clearance -(lifting height plus vehicle height if installing). Check for clearance in the front and rear of vehicle when on lift - will the garage door open.

Basic Specification

| Model | Description | Capacity | Lifting Time | Overall Height | Overall Width | Between Posts |
|-------|------------------------|----------|--------------|----------------|---------------|---------------|
| T38 | Floor Cover/Asymmetric | 9000lbs | 45 sec. | 111" | 134.63" | 110" |

Please also read the general information about this lift shown of Fig 1 for T38 Floor Plate type and Fig 4 for Symmetric type and Fig 5 for Asymmetric type.

IMPORTANT CONCRETE AND ANCHORING INFORMATION

- 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 3¹/₄". When using the standard supplied 3³/₄" x 5¹/₂" long anchors, if the top of the anchor exceeds 2¹/₄" above the floor grade, you DO NOT have enough embedment.**

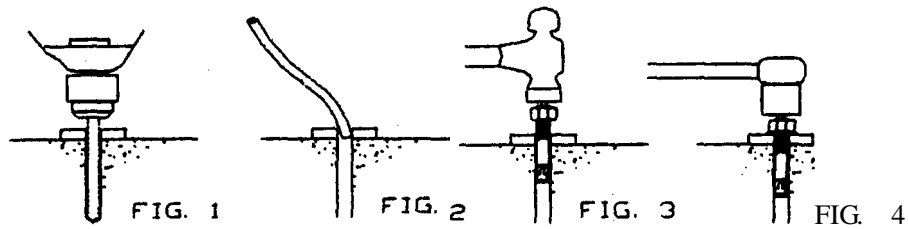
- 2. Before drilling 3³/₄" dia. Holes in concrete floor using holes in column base plate as guide. Make sure the hole distance from the edge is not less than 6". Hole to hole spacing should not be less than 6¹/₂" in any direction. Concrete thickness or hole depth should be a minimum of 4¹/₂".**

- 3. CAUTION. DO NOT Install on asphalt or other similar unstable surface. Columns are supported only by anchoring in floor.**

- 4. Shim each column base 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 (Reference Shim Kit). Torque anchors to 150 ft-lbs. Shim thickness MUST NOT exceed 1¹/₂" when using the 5¹/₂" long anchors provided with the lift. Adjust the column extensions plumb.**

- 5. If anchors do not tighten to 150 ft-lbs. Installation torque, replace 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. Let concrete cure before installing lifts and anchors.**

ANCHORING TIP SHEET



1. Use a concrete hammer drill with a carbide tip, solid drill bit the same diameter as the anchor, $\frac{3}{4}$ ". (.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 equal to the length of anchor.
5. For better holding power blow dust from the hole.
6. Place a flat washer and hex nut over threaded end of anchor, leaving approximately $\frac{1}{2}$ inch of thread exposed carefully tap anchor. 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 concrete (28-day cure). If the concrete is very hard only one or two turns may be required.

INSTALLATION INSTRUCTION FOR T38 2-COLUMN HYDRAULIC LIFTS

MODEL: T38

PLEASE READ THIS INSTRUCTION BEFORE STARTING TO OPERATE THE LIFT.

- STEP 1:** After unloading the lift, place it near the intended installation location.
- STEP 2:** Remove the shipping bands and packing materials from the unit.
- STEP 3:** Remove the packing brackets and bolts holding the two columns together (do not discard bolts, they are used in the assembly of the lift)
- STEP 4:** Once the power unit column location is decided, insure that the proper lift placement is observed from walls and obstacles. Also check the ceiling height for clearance in this location. Note the power unit column can be located on either side. It is helpful to try and locate the power side with the passenger side of the vehicle when loaded on the lift to save steps during operation.
- STEP 5:** Position the columns facing each other 134" outside base plates.
- STEP 6:** Using a 3/4" concrete drill, drill the anchor holes in the main side column, installing anchors as you go (see Fig. 5). Use a block of wood or rubber mallet to drive anchor bolts in. Drill to a minimum depth of 4" to insure maximum holding power. Drilling thru concrete (recommended) will allow the anchor to be driven thru the bottom if the threads are damaged.
- STEP 7:** Using a level , check column for side-to-side plumb and front-to-back plumb. Use 3/4" washers or shim stock, placing shims as close as possible to the hole locations. This will prevent bending the column bottom plates. Tighten 3/4" anchor bolts to 150-lbs.
- STEP 8:** Using a tape measure, measure from back corner of the base on main side column to the opposite back corner of the offside column to insure legs are square.
- STEP 9:** Installing the equalizing cables: refer to Fig 8 for general cable arrangement for T38. Set carriages on the first safety latch engagement. Be sure each carriage is at the same height by measuring from the top of the base to the bottom of the carriage (double check the latches before working under the carriages). This dimension should be within 1/4". Tighten nut on one cable stud so that the end of stud passes the nylon on the nut. Pull the other end of cable and run nut on it. Tighten both nuts. Repeat above for second cable.

SYEP 10: Install the cylinders: Put one cylinder into each carriage by sliding it all the way down to the top of the cylinder mount at column base. Make sure the “tip” on the bottom of the cylinder will fix into the center hole on top of the cylinder mount in base. Pull the pre-attached leaf chain in both sides up and over the chain sheave on top of the cylinders. Refer to Fig 9 for T38 Floor Plate Type.

STEP 11: Connecting the hydraulic hoses, as shown on Fig for T38 Floor Plate Type.

STEP 12: For model T38 mount the floor plate as Fig 5.

STEP 13: Install the swing arms on the carriages using the included 1 1/2” diameter pins. Check for proper engagement of the arm lock- the rack on the lock should fully engage the gear on the arm.

STEP 14: Adjust the carriage cables tension. Adjust each cable to approximately 1/2” side-to-side play. Check the latch releases to insure the carriage is still sitting on the appropriate latch.

STEP 15: Remove the vent plug from the power unit and fill the reservoir. Use a Ten Weight (SAE-10) non-foaming, non-detergent hydraulic fluid (Texaco HD46 or equal). The unit will hold twelve quarts of fluid.

STEP 16: Make the Electrical hookup to the power unit. 220V Single Phase. It is recommended that a 220 Volt, 30 Amp twist lock plug be installed in the power line just ahead of the power unit. Size wire for 30-amp circuit.

Warning-the wiring must comply with local code. Have a certified electrician make the electrical hook-up to the power unit. Protect each circuit with time delay fuse or circuit breaker 208v.230v single Phase. 60Hz 30 Amp. Motor can not run on 50hz with out a physical change to motor.

STEP 17: Do not place any vehicle on the lift at this time. Cycle the lift up and down several times to insure latches click together and all air is removed from the system. To lower the lift, latch releases must be manually released. Latches will automatically reset once the lift ascends approximately 17" from base. If latches click out of sync, tighten the cable on the one that clicks first.

RAISE - LIFT

Press button on power unit

Lock -The latch mechanism will 'trip over' when the lift raises and drop into each latch stop. But, to lock the lift you must press the Lower lever to relieve the hydraulic pressure and let the latch set tight in a lock position.

Always lock the lift before going under the vehicle. Never allow anyone to go under the lift when raising or lowering. Read the safety procedures in the manual.

Note: It is normal for an empty lift to lower slowly - it may be necessary to add weight.

LOWER LIFT

1. Raise the lift until the latch clears.

2. Pull both latch releases

Warning- Always Release Both Sides

3. Press the lever at the power unit to lower the lift.

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 9000.lbs. with 2250-1bs. per arm pad.
- 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, center the vehicle between the columns so that the tires will clear the swing arms easily. Slowly drive the vehicle up between the post. Have some one outside the vehicle guide the driver.
- Always lift vehicle using all four arms.
- Never use lift to raise one end or one side of vehicle.
- Raise vehicles about 3' and check stability by rocking.
- 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. Swing the arms out of the path and slowly drive the vehicle out. Have some one outside the vehicle guide the driver.

ALWAYS LOCK THE LIFT BEFORE GOING UNDER THE VEHICLE. NEVER ALLOW ANYONE TO GO UNDER THE LIFT WHEN PAISING OR LOWERING.

MAINTENANCE SCHEDULE

The following periodic maintenance is the suggested minimum requirements and minimum intervals; accumulated hours or monthly period, whichever ever comes sooner. If you hear a noise or see any indication of impending failure-cease operation immediately-inspect, correct and/or replace parts as required.

WARNING-USERS SHOULD ALWAYS INSPECT LIFTING EQUIPMENT AT THE START OF EVERYSHIFT.THESEANDOTHERPERIODICINSPECTIONSARETHERESPONSIBILITY OF THE USER.

DAILY PRE-OPERATION CHECK (8 HOURS)

The user should perform daily check. **ATTENTION! LOOK OUT!** Daily check of safety latch system is very important - the discovery of device failure before needed could save you from expensive property damage, lost production time, serious personal" injury and even death.

- 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 chain connections - bends, cracks-and looseness.
- Check cables connections- bends, cracks-and looseness.
- 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.
- Check wiring & switches for damage.
- Keep base plate free of dirt, grease or any other corrosive substances.
- Check floor for stress cracks near anchor bolts.
- Check swing arm restraints.

WEEKLY MAINTENANCE(40 HOURS)

- Check anchor bolts torque to 150 ft-lbs for the 3/4" anchor bolts.
Do not use impact wrench.
- Check floor for stress cracks near anchor bolts.
- Check hydraulic oil level.
- Check and tighten bolts and nuts, and screws.
- Check cylinder puller assembly for free movement or excessive wear on cylinder yoke or pulley pin.
- Check cable pulley for free movement and excessive wear.

YEARLY MAINTENANCE

- Lubricate chain
- Grease rub blocks and column surface contacting rub blocks.
- 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.

The following items should only be performed by a trained maintenance expert.

- Replace hydraulic hoses.
- Replace chains and rollers.
- Replace cables and sheaves.
- Replace or rebuild air and hydraulic cylinders as required.
- Replace or rebuild pumps / motors as required.
- Check hydraulic and air cylinder rod and rod end (threads) for deformation or damage.
- Check cylinder mount for looseness and damage.

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 - cleanliness - contamination is the most frequent cause of malfunction or failure of hydraulic equipment.

TROUBLE SHOOTING

1. Motor does not run:
 - A. Breaker or fuse blown.
 - B. Motor thermal overload tripped. Wait for overload to cool.
 - C. Faulty wiring connections call electrician.
 - D. Defective up button call electrician for checking.
2. Motor runs but will not raise:
 - A: A piece of trash is under check valve. Push handle down and push the up button at the same time. Hold for 10-15 seconds. This should flush the system.
 - B. Check the clearance between the plunger valve of the lowering handle. There should be $\frac{1}{16}$ ".
 - C. Remove the check valve cover and clean ball and seat.
 - D. Oil level to low. Oil level should be just under the vent cap port when the lift is down!!

- 3 Oil blows out breather of power unit:**
- A. Oil reservoir overfilled.**
 - B. Lift lowered too quickly while under a heavy load.**
- 4 Motor hums and will not run:**
- A. Impeller fan cover is dented. Take off and straighten.**
 - B. Faulty wiring.....call electrician**
 - C. Bad capacitor.....call electrician**
 - D. Low voltage.....call electrician**
 - E. Lift overloaded...**
- 5. Lift jerks going up and down: Air in hydraulic system. Raise lift all the way to top and return to floor; Repeat 4-6 times. Do not let this overheat power unit.**
- 6 Oil leaks:**
- A. Power unit: if the power unit leaks hydraulic oil around the tank-mounting flange; check the oil level in the tank. The level should be two inches below the flange of the tank. Check with a screwdriver.**
 - B. Rod end of the cylinder: the rod seal of the cylinder is out. Rebuild or replace the cylinder.**
 - C. Breather end of the cylinder: the piston seal of the cylinder is out. Rebuild or replace the cylinder.**
- 7. Lift makes excessive noise:**
- A. Leg of the lift is dry and requires grease.**
 - B. Cylinder pulley assembly or cable pulley assembly is not moving freely.**
 - C. May have excessive wear on pins or cylinder yoke.**

OWNER/EMPLOYER RESPONSIBILITIES

The owner/employer:

Shall establish procedures to periodically maintain, inspect and care for the lift in accordance with the manufactures recommended procedures to ensure it's continued safe operations.

Shall provide necessary lockout / tag outs of energy sources per ANSI Z244.1

- 1982 before beginning any lift repairs.

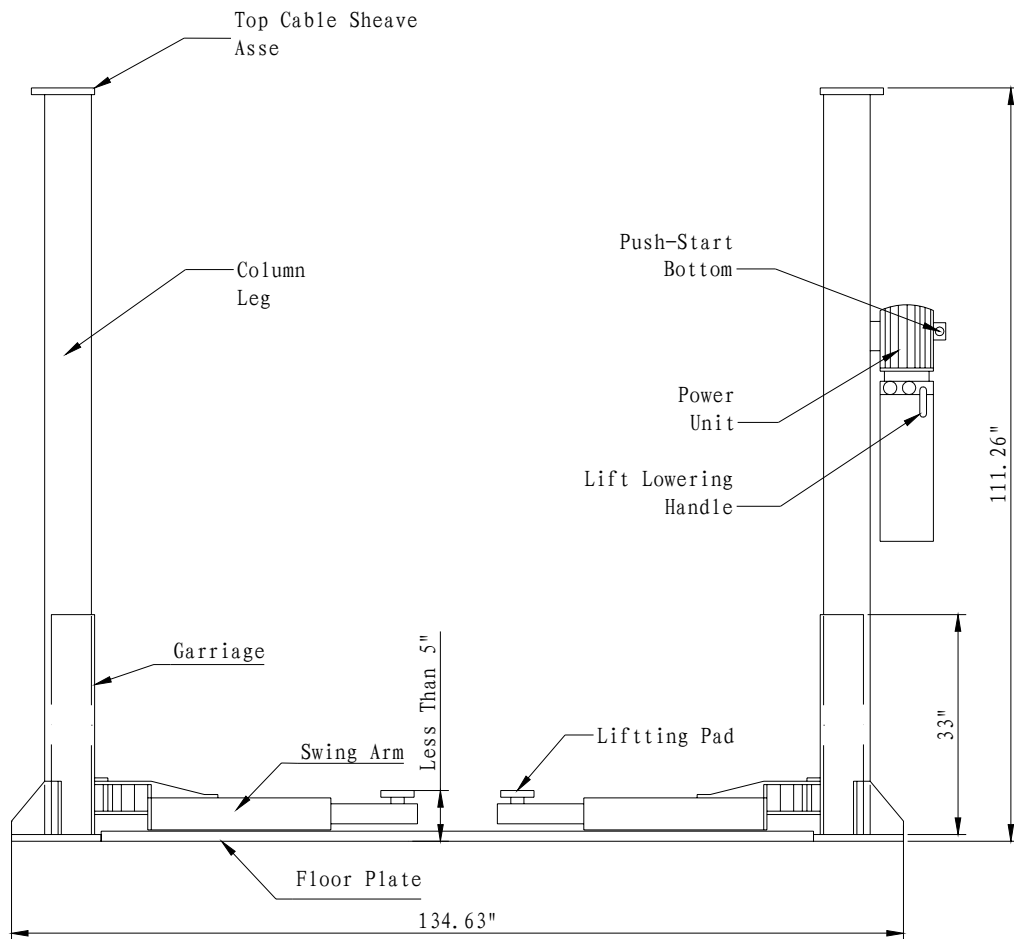
Shall not modify the lift in any manner without prior written consent of the manufacturer.

Shall display the operating instructions and “Lifting It Right” and “Safety Tips” supplied with the lift in a conspicuous location in the lift area convenient to the operator.

Shall insure that lift operators are instructed in the proper and safe use and operation of the lift using the manufacturer’s instructions and “Lifting It Right” and “Safety Tips” supplied with the lift.

INSTALLATION INSTRUCTION

Fig1



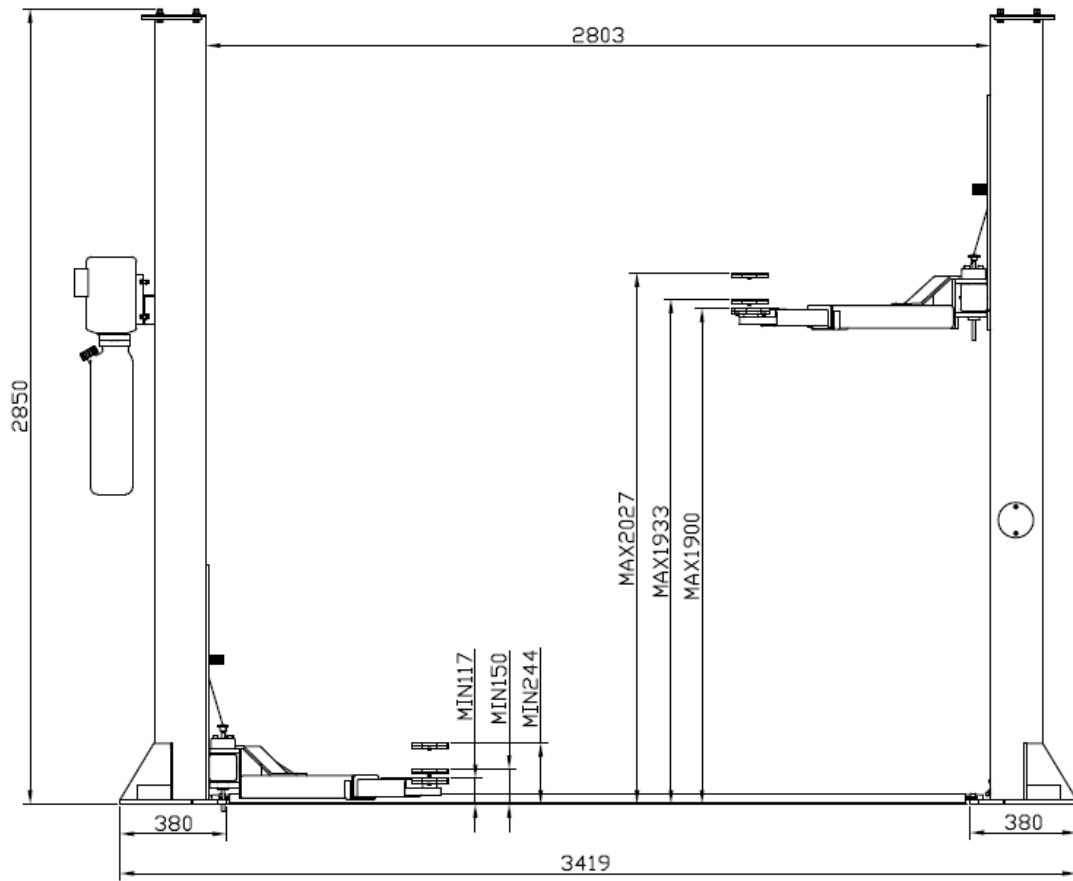
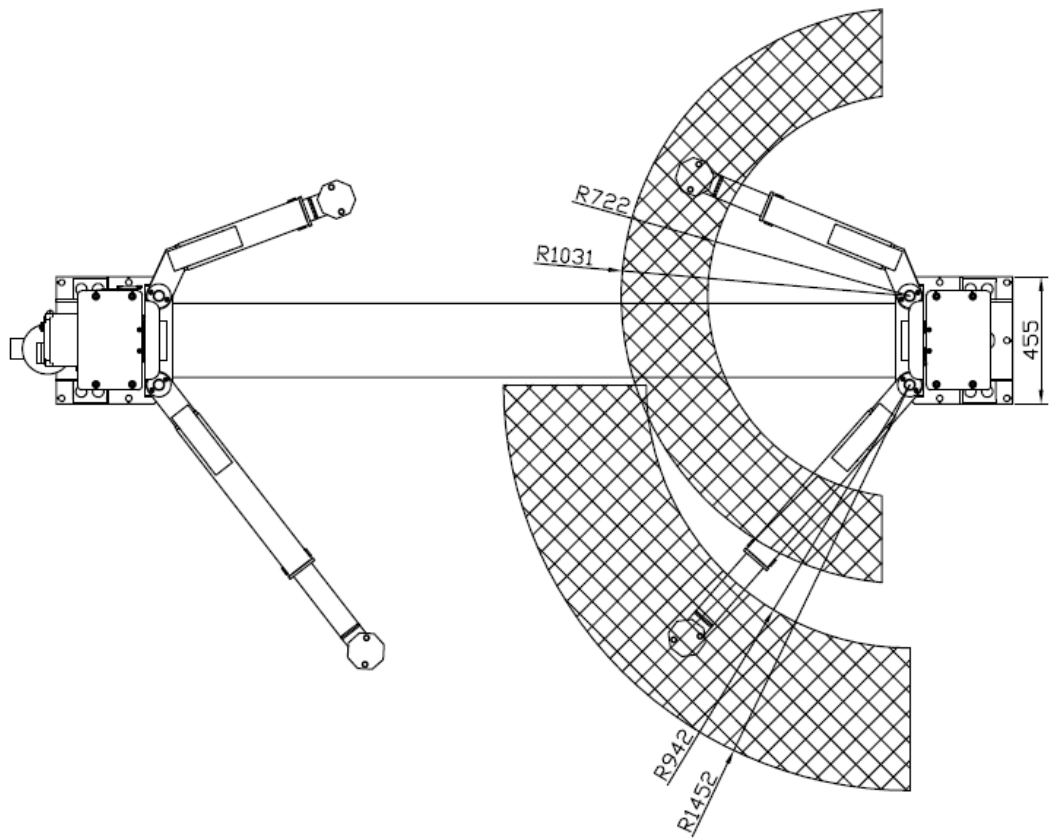
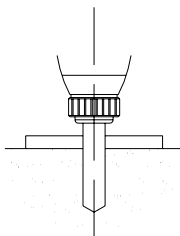
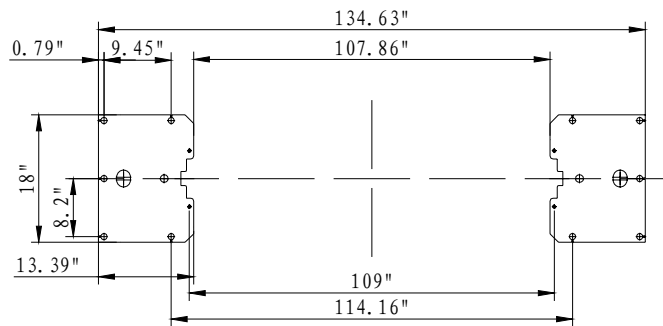
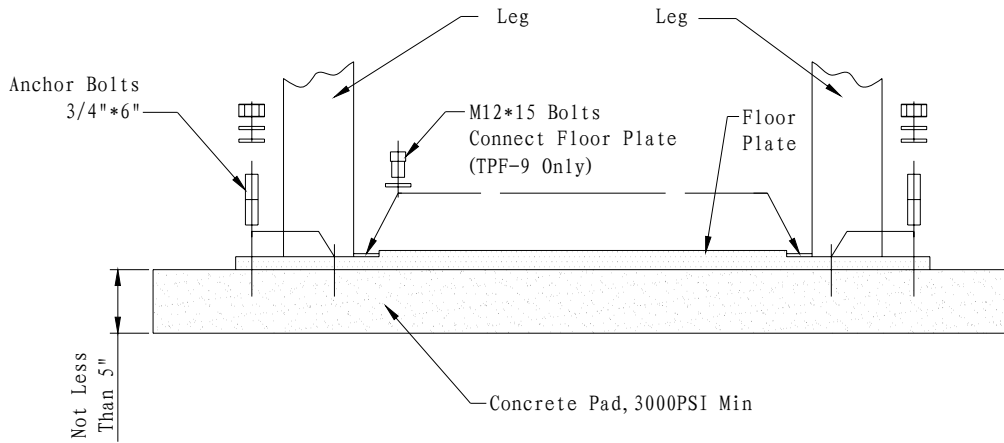


Fig 4

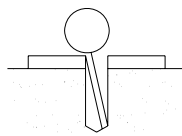


INSTALLATION INSTRUCTION

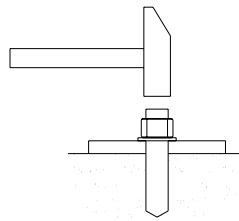
Fig5



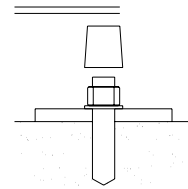
Drill
3/4"



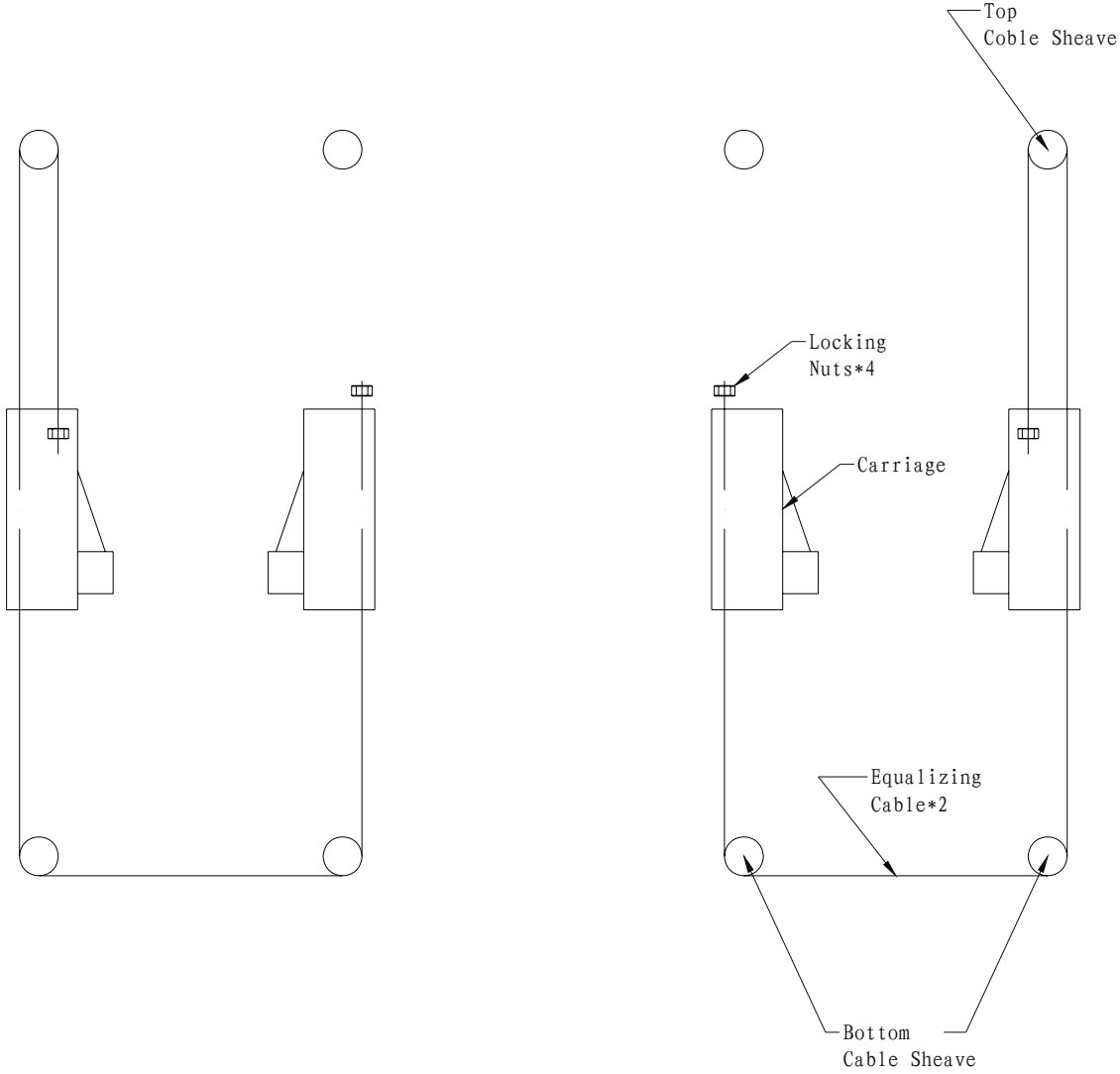
Clean



Run nut down
Drive anchor
down

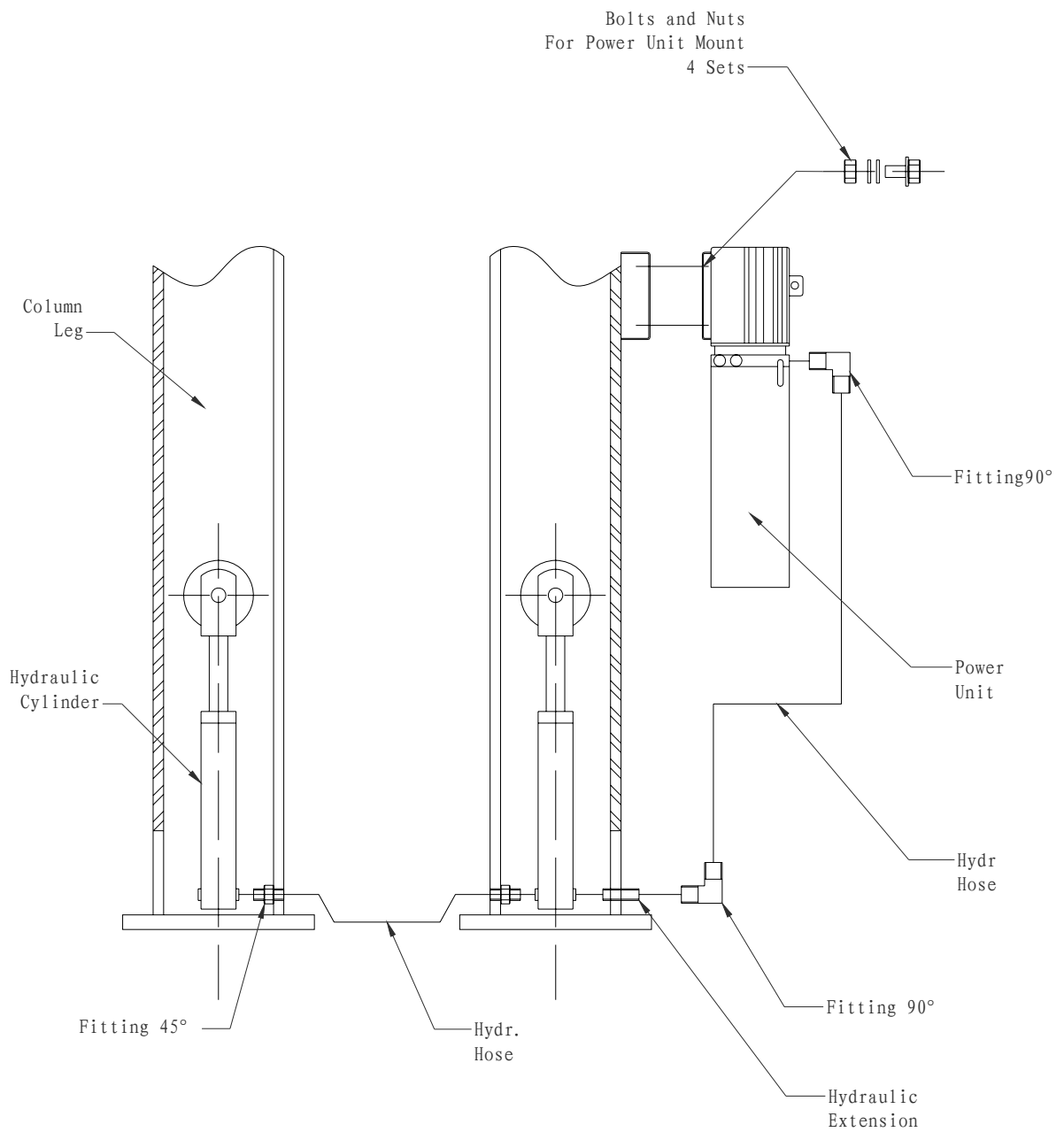


Tight nut

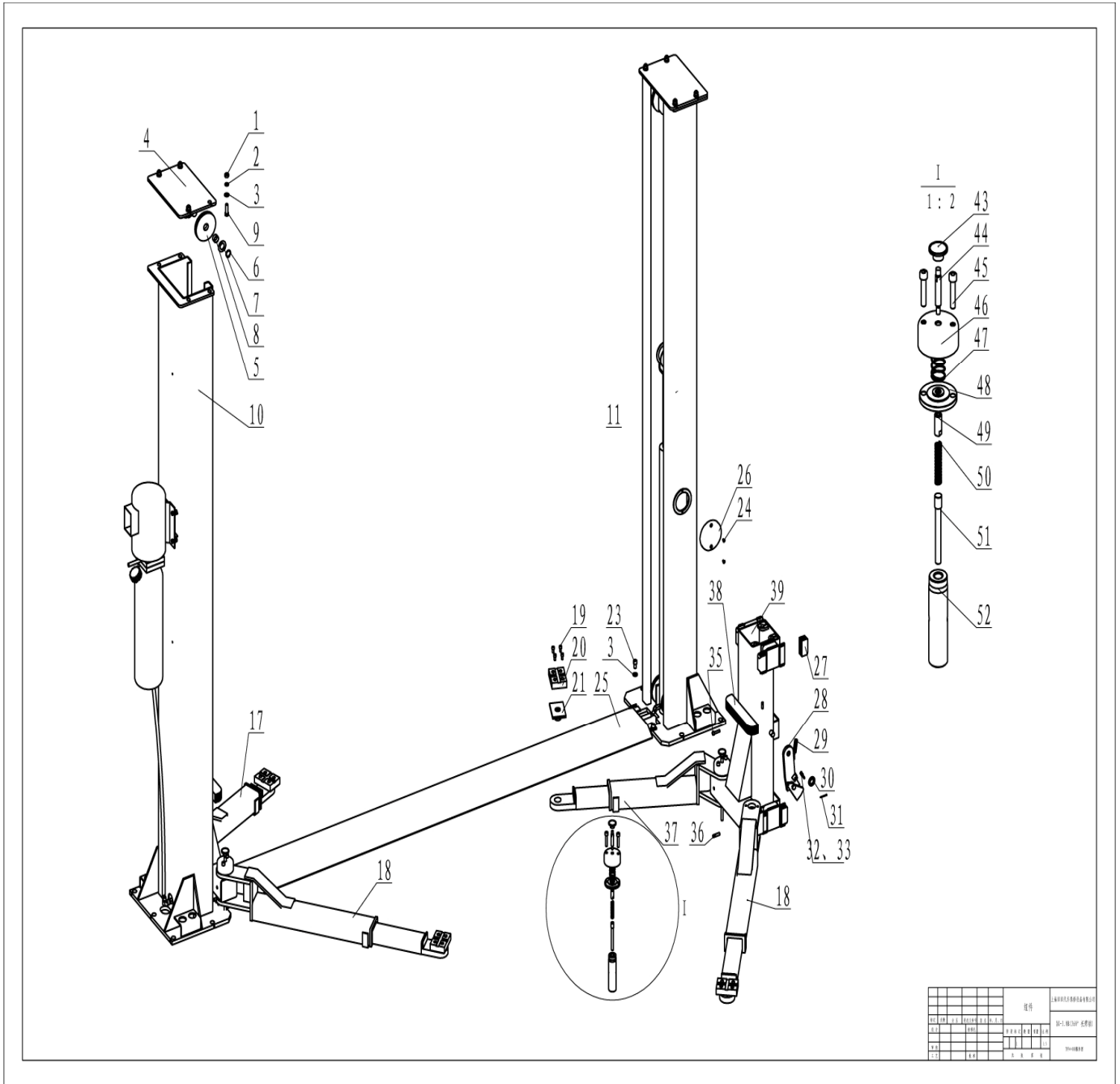


INSTALLATION INSTRUCTION

Fig9



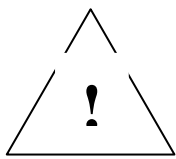
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T38 Explosion List

| S. N. | Drawing No. | Name | Number | Remarks |
|-------|-----------------------|---------------------------------|--------|------------|
| 1 | GB6170-86 | Hexagon Nut | 8 | M12 |
| 2 | GB93-87 | Spring Washer | 8 | D12 |
| 3 | GB97.2-85 | Flat Washer | 12 | D12 |
| 4 | TPF4-100-13-00 | Up Board | 2 | Weldment |
| 5 | TPF4-100-10-05 | Pulley | 6 | |
| 6 | GB894_1 | Spring Washer for Spindle | 8 | D25 |
| 7 | XG4_5A01-04 | Septa | 6 | |
| 8 | SF-2515 | Mulriple Bush | 6 | 2515 |
| 9 | GB5781-86 | Hexagon Bolt | 8 | M12×40 |
| 10 | TPF4-100-00AR | Main Column | 1 | Weldment |
| 11 | TPF4-100-00BR | Accessory Column | 1 | Weldment |
| 17 | TT-6939-400-05K-00AMR | Short Lift Swing Arm | 1 | Weldment |
| 18 | TT-6939-400-05-00MR | Long Swing Arm | 2 | Weldment |
| 19 | GB70.1-2000 | Inner Hexagon Screw | 16 | M8×12 |
| 20 | QYS-300-10-03-00 | Slide Block | 4 | |
| 21 | QYS-300-10-00 | Block | 4 | Weldment |
| 23 | GB70-86 | Hexagonal Socket Head Cap Screw | 4 | M12×20 |
| 24 | GB819-85 | Cross Screw | 4 | M6x10 |
| 25 | TT-6939-600-00 | Guard Plate | 1 | Weldment |
| 26 | TPF4A-100-12GM | Cover | 2 | |
| 27 | DL38G-C109A | Nylon Block | 16 | Nylon 1010 |
| 28 | TPF4-300-00 | Arrester | 2 | Weldment |
| 29 | TPF4-300-02 | Pull Spring | 2 | |
| 30 | GB97.2-85 | Flat Washer | 2 | D20 |
| 31 | GB91-86 | Split Pin | 2 | 2.5×32 |
| 32 | GB70-85 | Hexagonal Socket Head Cap Screw | 2 | M6×30 |
| 33 | GB6170-2000 | Hexagon Nut | 2 | M6 |
| 35 | GB70-85 | Inner Hexagon Screw | 4 | M8×35 |
| 36 | GB77-85 | Inner Hexagon Screw | 8 | M10×40 |
| 37 | TT-6939-400-05K-00BMR | Short Right Swing Arm | 1 | |
| 38 | DL38G-C116A | Guarding Bar | 2 | |
| 39 | TT-6939-200-01-00 | Carriage | 2 | Weldment |
| 43 | JBT7241.2-94 | Knurlied Knob | 4 | M10 |
| 44 | TT9B-B3001 | Tie Bar | 4 | |
| 45 | GB70-86 | Hexagonal Socket Head Cap Screw | 8 | M10×50 |
| 46 | TT9B-B0715 | Cover | 4 | ST12 |
| 47 | B0088 | Spring | 4 | |
| 48 | B0209 | Internal Gear | 4 | Weldment |
| 49 | B0089 | Shaft | 4 | |

| | | | | |
|----|----------------|------------------------|---|-------------|
| 50 | B0102 | Spring | 4 | |
| 51 | TT9B-B2009 | Shaft | 4 | |
| 52 | TT9B-B2841 | Shaft | 4 | |
| 53 | TT-6134-500-01 | Cylinder | 2 | |
| 54 | SF-2520 | Mulriple Bush | 4 | 2520 |
| 55 | TPF4-100-14-01 | Idler Wheel | 2 | |
| 56 | TPF4-100-14-02 | Shaft | 2 | |
| 57 | YYZ | Power Unit | 1 | |
| 58 | GB6170-2000 | Hexagon Nut | 4 | M8 |
| 59 | GB93-87 | Spring Washer | 4 | D8 |
| 60 | GB97.2-85 | Washer | 4 | D8 |
| 61 | GB5781-86 | Hexagon Bolt | 4 | M8×25 |
| 62 | TPF4-500-08 | Spacer | 2 | |
| 63 | TPF4-500-09 | Nut | 2 | |
| 64 | TPF4-500-07 | Hydraulic Connection | 1 | |
| 65 | TPF4-500-05 | Elbow Fitting | 1 | |
| 66 | TPF4-500-12 | Hose | 1 | L=1650 |
| 67 | TPF4-500-06 | Elbow Fitting | 1 | |
| 68 | TPF4-500-02 | Direct Outside Fitting | 1 | |
| 69 | TPF4-500-03 | Direct Outside Fitting | 2 | |
| 70 | TPF4-500-10 | Hose | 1 | L=2800 |
| 71 | | Steel Cable | 2 | L=8800 |
| 72 | | Nut | 8 | M16 |
| 73 | | Chain | 2 | LH1244, 127 |

| | |
|---|---|
|  | <p>Operator must stay away from lift area while the lift is being operated.</p> <p>The lift could only be used in explosion-proof environment.</p> <p>Only one person could operate the lift. Lift person is forbidden.</p> <p>Please use No. 46 wearable hydraulic oil.</p> <p>Concrete strength up to 3000PSI (>2.1kg/mm²)</p> |
| CAUTION | |