



Dock Lift User's Manual Installation, Operations, Maintenance and Parts

MODEL: LZL 40-2 zero lift table

CAPACITY 2,000 lbs. evenly distributed load

POWER PACK: remote 1 hp 115 volts 1 phase, c/w 10 ft hose, CSA/UI approved power pack. If outdoors must be in enclosure or covered

CONTROLS: Nema 4x push button with 15 ft cable, up limit switch – weatherproof,

PLATFORM: 50" x 60" useable check plate, base: 72" x 66"

lowered height: 0.50", travel: 40", raised height: 40.5"

scissors: constructed from profile-cut steel.

cylinders: hard chrome steel with hydraulic safety velocity fuse

axle pins: 100,000 psi yield strength chrome shafting

pivot points: all with self-lubricating bushings

yellow/black safety stripping – 4 sides with warning labels.

removable lifting lugs,

The entire base frame must rest on minimum 6 inches of concrete. Exact specification must be done by local Site Engineer. If the base frame is shimmed it must be fully supported.

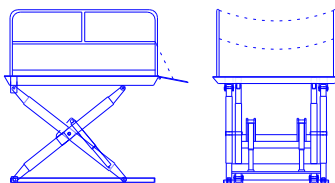
two lagging angles on front pontoons– must be lagged.

maintenance blocks.

COLOR: Lexco green

shipping weight: 1620 lbs.

Ship Dimensions: 72 x 84 x 40 high



⚠ WARNING **⚠ DANGER** Only POWER/RAISE lift with power pack. Do not use forklift or crane to raise platform
Do not install, operate or service this product unless you have Read and understand the Safety Practices, Warnings, Installation and Operating Instructions contained in User's manual. Failure to do so could result in serious injury or death.

Table of Contents

Dock Lift User's Manual	1
Table of Contents	1

SAFETY ALERTS (Required reading!)	3
SAFETY PRACTICES	4
OPERATOR WARNINGS and INSTRUCTION	5
RESPONSIBILITIES OF OWNERS/USERS	6
Deflection	6
Inspection and Maintenance	6
Removal from Service	6
Repairs	6
Operators	6
Modifications or Alterations	6
INSTALLATION INSTRUCTIONS	7
MAINTENANCE CHECK LIST - To be made by authorized personnel	7
SAFETY LABEL LOCATION	8
LABEL ITEM NUMBERS:	9
SAFETY LABELS	10
OPERATIONS	11
Introduction	11
Loading	11
Operation	11
MAINTENANCE INSTRUCTIONS	12
⚠ DANGER	12
Maintenance Safety Strut	12
Mechanical Dock Blocks	13
Adjustment Procedure for Limit Switch (if applicable)	14
TROUBLE SHOOTING POWER PACK ELECTRIC/HYDRAULIC	15
TROUBLE SHOOTING POWER PACK AIR/HYDRAULIC	16
HYDRAULIC CYLINDER OVERHAUL	17
Procedure For Removal Of Cylinder(S)	17
Installation Of New Or Repaired Cylinder(S)	17
PREVENTIVE MAINTENANCE	18
MECHANICAL PARTS LIST	19
ELECTRICAL PARTS LIST	20
ELECTRICAL SCHEMATIC	21
HYDRAULIC PARTS LIST	22
HYDRAULIC SCHEMATIC	23
HYDRAULIC HOSE LAYOUT	24
HYDRAULIC CYLINDER DRAWING	25
POWER PACK DRAWING & PARTS LIST	26
MANUAL OVERRIDE VALVE (If Equipped)	27
LIMITED WARRANTY	28

SAFETY ALERTS (Required reading!)

The following **SAFETY ALERTS** are intended to create awareness of owners, operators and maintenance personnel of the potential safety hazards and the steps that must be taken to avoid accidents. These same alerts are inserted throughout this manual to identify specific hazards that may endanger uninformed personnel. Identification of every conceivable hazardous situation is impossible. Therefore, all personnel have the responsibility to diligently exercise safe practices whenever exposed to this equipment.



This is a safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

▲ DANGER

Indicates imminently hazardous situation which, if not avoided will result in death or serious injury.

▲ WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

▲ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE

Indicates a potentially hazardous situation which, may result in property damage.

SAFETY PRACTICES

⚠ DANGER

Never go under the Dock lift unless the maintenance device is engaged in accordance with the manufacturer's instructions. If maintenance or service is required: Only authorized service personnel shall provide maintenance/service on the Dock lift. Follow approved lock out procedures. Do not work on or under the lift without properly engaging the lift's maintenance device, see Maintenance Device Instructions on page 11. The Dock lift shall not be modified or altered without the written permission of the original manufacturer.

⚠ WARNING

Read these Safety Practices before installing, operating or servicing the Dock lift. Failure to follow the safety practices could result in death or serious injury.

Do not operate this Dock lift unless you have training and authorization.

Read, understand and follow these instructions, the hazard labels on the Dock lift, and other warnings/instructions contained in this User's Manual.

Prior to using the Dock lift: verify that the safety devices supplied with the Dock lift (guard rail, restraint chains, toe guards, and warning bells, if so equipped), are in place and functioning properly. Operate the Dock lift through one complete lift/lower cycle and verify its proper operation. At the same time inspect Dock lift for any visible or obvious damage. If there is any damage, or unusual vibration or noise, remove the lift from service using approved lockout procedures. Notify maintenance personnel immediately.

Do not exceed the lift's capacity as stated on the nameplate and center loads on the lift. Be aware that the lift may have reduced capacity when loads are rolled over the platform's sides and ends.

If load is mobile, secure load in a fixed position before operating lift.

Prior to operating the lift, ensure that all personnel on or near the lift are aware of its imminent operation, and that no person will be in harms ways during the use of the lift.

Ensure that objects are clear of the area beneath the platform, and immediately surrounding the perimeter of the lift, while it is in use.

Keep area around lift free of oil, objects and debris that could cause slipping or tumbling into or under the lift.

Hinged bridge (when provided) must overlap truck bed a minimum of 6" (152 mm) before use. Do not use bridge if it is supported solely by its lifting chains.

On units so equipped, always return hinged lips to the over center raised storage position secured with safety chain hooks and verify snap chains for all openings are securely in place after each use of the Dock lift.

OPERATOR WARNINGS and INSTRUCTION

AMERICAN NATIONAL STANDARD

ANSI MH29.1:2012 (a revision of MH29.1:2008)
Safety Requirements for Industrial Scissors Lifts

6.7 Operator Warnings and Instructions. The operator shall ensure the operation of the industrial scissors lift is in compliance with the following:

- (1) **Slope.** The industrial scissors lift shall only be operated on flat and level surfaces.
- (2) **Guardrail system.** Guardrails shall be installed and positioned, and access gates or openings shall be secured per the manufacturer's instructions.
- (3) **Distribution of load.** The load and its distribution on the platform and any platform extension(s) shall be in accordance with the manufacturer's rated capacity for that specific configuration.
- (4) **Maintaining overhead clearance.** The operator shall ensure that adequate clearance is maintained from overhead obstructions and energized electrical conductors and parts.
- (5) **Point of Operation.** The operator shall not place any part of their body under the platform.
- (6) **Personnel footing.** Personnel shall maintain firm footing on dock lifts and work access lifts while working thereon. Climbing by occupants on the guardrail system is prohibited. The use of planks, ladders, or any other devices on the platform for achieving additional height is prohibited.
- (7) **Precaution for moving equipment.** When other moving equipment or vehicles are present, special precautions shall be taken to comply with the safety standards established for the workplace.
- (8) **Reporting problems or malfunctions.** The operator shall immediately report to a supervisor any problem(s) or malfunction(s) that become evident during operation. The operator shall ensure all problems and malfunctions that affect the safety of operations are repaired prior to continued use.
- (9) **Capacity limitation.** Rated capacity shall not be exceeded when loads are transferred to the platform at any level.
- (10) **Work area.** The operator shall ensure the area surrounding the industrial scissors lift is clear of personnel and equipment before lowering the platform.
- (11) **Battery charging.** Batteries shall be charged in strict accordance with the lift manufacturer's instructions.
- (12) **Securing the industrial scissors lift.** The operator shall comply with the means and procedures provided to protect against use by an unauthorized person(s).
- (13) **Altering safety devices.** Safety devices shall not be altered or disabled.
- (14) **Modifications.** Modifications or alterations of an industrial scissors lift or the fabrication and attaching of frameworks or the mounting of attachments for holding tools or materials onto the platform or the guardrail system shall only be accomplished with prior written permission of the manufacturer.
- (15) **Assistance to the operator.** If an operator encounters any suspected malfunction or any hazard or potentially unsafe condition relating to capacity, intended use or safe operation the operator shall cease operation of the industrial scissors lift and request further instruction from the owner/user.
- (16) **Problems or malfunctions.** Any problem(s) or malfunction(s) that affect the safety of operations shall be repaired prior to the use of the industrial scissors lift.

RESPONSIBILITIES OF OWNERS/USERS

Deflection

It is the responsibility of the user/purchaser to advise the manufacturer where deflection may be critical to the application.

Inspection and Maintenance

The lift shall be inspected and maintained in proper working order in accordance with the manufacturer's operating / maintenance manual and safe operating practices. Only trained personnel and authorized personnel shall be permitted to perform maintenance / service operations on the lift.

Maintenance / Service personnel shall have:

- Read and/or have explained and understood the manufacturer's operating / maintenance manual, and all safety rules and labels, prior to performing any maintenance/service operations on the equipment.
- Full time unlimited access to the manufacturer's operating/maintenance manual.

Removal from Service

Any lift not in safe operating condition such as, but not limited to excessive leakage, missing rollers, pins or fasteners, any bent or cracked structural members, cut or frayed electric, hydraulic or air lines, damaged or malfunctioning controls or safety devices, etc. shall be removed from service until it is repaired to the original manufacturer's standards.

Repairs

All repairs shall be made by qualified personnel in conformance with the manufacturer's instructions.

Operators

Only trained personnel and authorized personnel shall be permitted to operate the lift.

Before Operation

Before using the lift, the operator shall have:

- Read and or have explained, and understood, the manufacturer's operating instructions and safety rules
- Inspect the lift for proper operation and condition. Any suspect item shall be carefully examined and a determination made by a qualified person as to whether it constitutes a hazard. All items not in conformance with the manufacturer's specification shall be corrected before further use of the lift.

During Operation

The lift shall only be used in accordance with the manufacturer's operating/maintenance manual

- Do not overload the lift.
- Ensure that all safety devices are operational and in place.

Modifications or Alterations

Modifications or alterations of industrial Dock lifts shall be made only with written permission of the original manufacturer. These changes shall be in conformance with all applicable provisions of the standard and shall be as safe as the equipment was before modification. These changes shall also satisfy all safety recommendations of the original equipment manufacturer for the particular application of the lift

⚠ DANGER

*To avoid injury stand clear of Dock mechanism/pinch point while in motion.
Do not work under lift without maintenance strut in place. See Safety Procedure Instructions
High voltage to be handled by authorized personnel only.
Stay clear of pinch points.*

⚠ WARNING

Before installing the Dock lift read and follow the Safety Practices, on page number 4.

⚠ CAUTION

*Stay clear of moving platform.
Dock lift must be anchored to floor.*

INSTALLATION INSTRUCTIONS

- 1. Prior to installation verify that power unit voltage matches the voltage available.*
- 2. Do not install the lift in a pit unless it has a bevel toe guard or other approved toe protection. A shear point can exist which can cause severe injury to the foot.*
- 3. Lift platforms traveling below floor levels may create openings, and the shape of the load and how the load is arranged on the lift may create a toe hazard as the load passes the top edge of the pit. Both situations may require guarding in accordance with Federal Regulations. Any such guarding must be installed prior to operating the lift.*
- 4. Before unstrapping the lift, place it in the desired location.*
- 5. Unstrap the lift.*
- 6. Take the controls and place them where desired.*
- 7. Secure the Dock lift to the floor with anchor bolts thru four (4) holes located at points as marked. If shimming is required under the base frame hinge areas insure it extends the full area. If shimming is required under the area of roller travel, the shim must extend over the full length of travel to avoid bending of the base frame. Shims not included with equipment.*

NOTICE

- 8. Remove all of the Lifting Lugs or Clamping Closures.*
- 9. (if applicable) Feed hydraulic hose through the conduit, **MUST PLUG** the hydraulic hoses before feeding through the conduit to protect from any dirt or debris that could enter the system. Install hydraulic hoses to the power unit.*

⚠ DANGER

Electrical Wiring must be in accordance with all Local Electrical Codes.
Electrical power requirements are to be handled by a certified Electrician to ensure correct hook-up, i.e., correct motor rotation, limit switches and all electrical circuitry are working properly per electrical schematic provided in the manual.

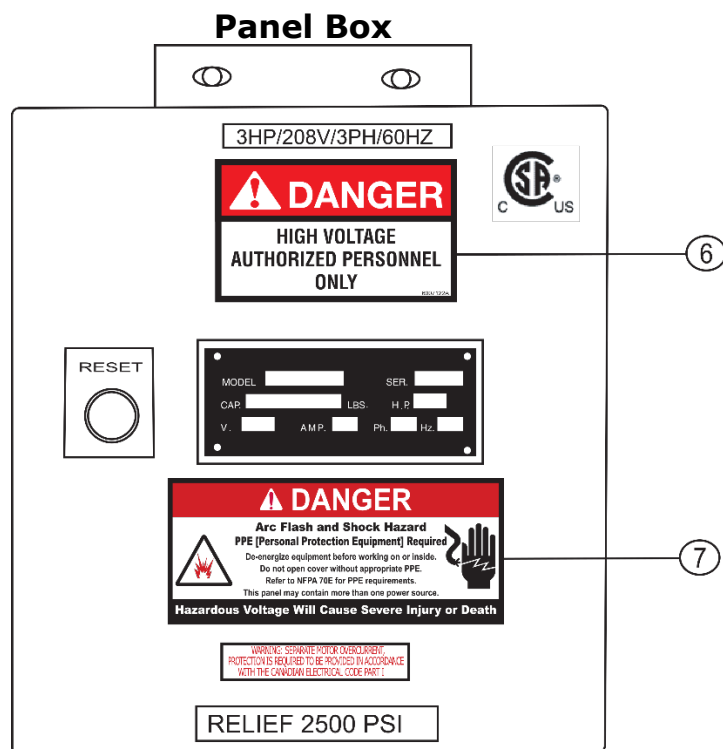
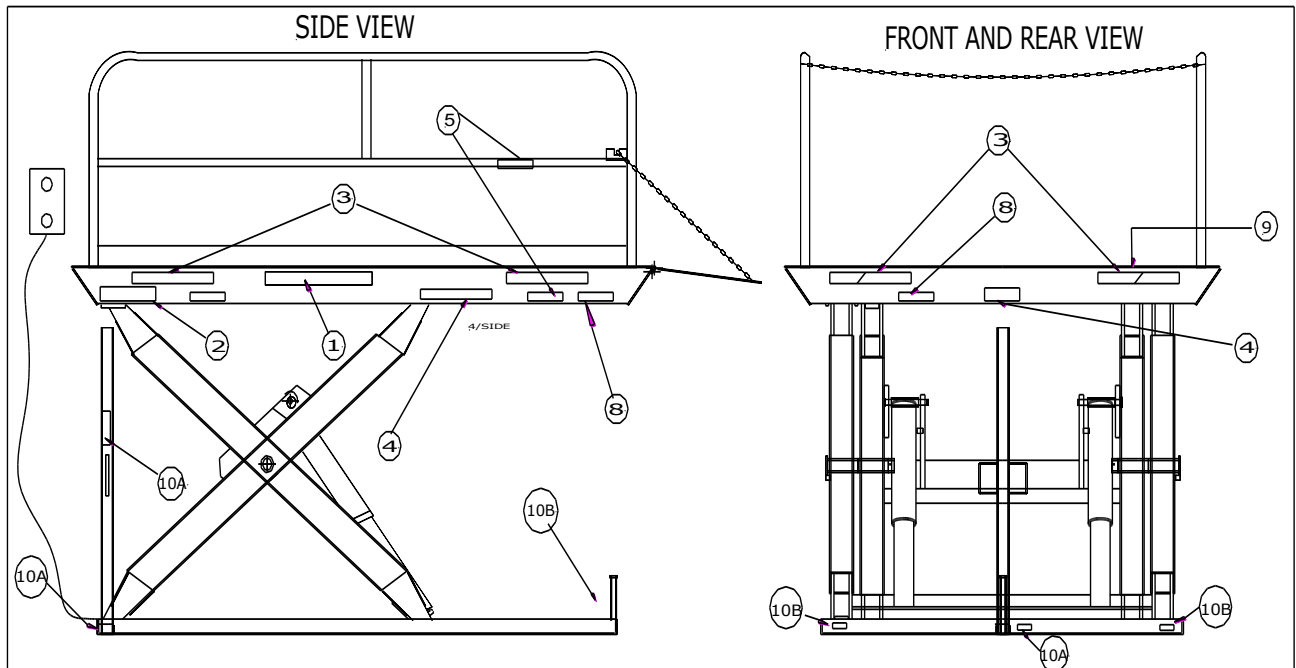
The unit is now ready for normal use. Observe all warning and precautions in this manual and on the Dock lift stickers.

MAINTENANCE CHECK LIST - To be made by authorized personnel

⚠ DANGER

*Do not work under lift without maintenance strut/blocks in place.
Check all hoses and fittings at the base for signs of leaks.
Check the anchor bolts to make sure that they are tight, secure and not damaged.
See the maintenance section for cam follower lubrication.
Check electrical cords and wiring for any fraying or cuts.
Check electrical switches and controls for damaged or broken fittings.*

SAFETY LABEL LOCATION



NOTE: It is the owner's responsibility to ensure that all safety labels are affixed in their original position, and remain legible throughout the life of the Dock lift

LABEL ITEM NUMBERS:

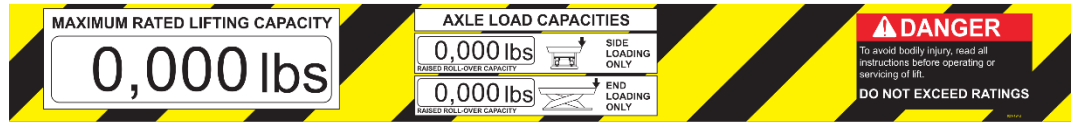
ITEM	Q-TY	DESCRIPTION	PART NO	LOCATION
1	2	Maximum rated Capacity Label Intended to warn personnel to read operating instructions before operating dock lift and the maximum weight capacity with an evenly distributed load, side and end axle loads.	921-194B	One each long side platform edge
2	1	KELLEY Label/Serial Number Plate	921-235D	One only long side of platform edge
3	8	Safety Stripping Label Intended to caution personnel the dock lift may be in operation and to stand clear		All sides of platform edge
4	6	Avoid Bodily Injury Label Intended to warn personnel to read operating instructions before using the lift, to warn of possible bodily injury hazard	6002569A	One each side of platform and one each side of scissor legs
5	4	Do Not Operate Personnel Guarding Label Intended to warn personnel against using lift without personnel guarding in place that were supplied with the lift		One on each side of long platform and one each side top rail
6	1	High Voltage Label Intended to warn personnel of high voltage hazard	6007122A	One on electrical panel box
7	1	Arc Flash & Shock Label Intended to warn personnel of both electrical shock and arc flash hazards	ART 1275A	One on electrical panel box
8	3	Do Not Work Under Platform Intended to warn personnel to have the maintenance device in place before going under lift	6007074A	One on base adjacent to maintenance device and 2 on long side of base
9	1	Bolted Close for Shipping Label Intended to notify installer the dock lift is bolted down for shipping and to avoid damaging the table bolts must be removed before operating		One on top of platform
10	10A-2 10B-3	Maintenance Device Intended to warn personnel not to use before reading instructions in manual for proper usage Strut displayed as 11A, Block used for 3 sided pit 11B Not to support lift when loaded	921-234A	11A Strut one on strut and one on base 11B Block two on base frame and on one each block

SAFETY LABELS

SAFETY LABELS

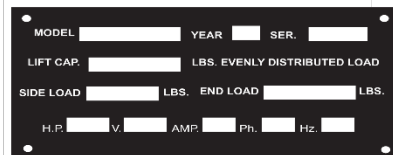
LABELS NOT TO SCALE

1



Maximum Rated Capacity Label - Part No. 921-194B
(Yellow and Black Strips, Red and Black on White)

2



Serial Number Label
(Black on Silver)

3



Safety Stripping
(Black on Yellow)

4



Avoid Bodily Injury Label Part No. 6002569A
(Red, Blue & Black on White)

This section removed on
Loading docks

5



Do Not Operate without Personnel Guarding Label
(Orange, Red, Blue & Black on White)

6



High Voltage Label Part No. 6007122A
(Red & Black on White)

7



Arc Flash & Shock Label Part No. ART1275A
(Red & Black on White)

8



Do Not Work Enter Under Platform Unless Mechanically Locked Label - Part No. 6007074A
(Red, Blue & Black on White)

9



Bolted Close for Shipping Label
(Black and Yellow on White)

10



Maintenance Device Label -
Part No. 921-234A
(Black on Yellow)

OPERATIONS

READ CAREFULLY BEFORE USING

⚠ WARNING

Before operating the Dock lift read and follows the Safety Practices on page 4. Always be certain the vehicle wheels are chocked and the parking brakes are set before loading or unloading. Hinged bridge (lip) (when equipped) must overlap vehicle bed a minimum of 6" (152 MM) before use. DO NOT USE BRIDGE IF IT IS SUPPORTED SOLELY BY ITS Lifting CHAINS.

Introduction

The elevating Dock lift features a deck of reinforced checker plate or smooth plate. The Dock arms are of ample section with chromed hinge pins running in bushings at the stationary ends and cam followers or hardened rollers at the rolling ends. Torque tubes connecting the Dock arms into pairs carry the mounting points for the lifting cylinders. Bearing or bushings are provided at all major wear points.

The hydraulic system consists of a power pack comprising a direct-coupled motor and fully-submerged pump with suction strainer, oil reservoir, solenoid-operated lowering valve, check valve, relief valve, compensated flow control valve, manual lowering valve (on all units except the 1Hp and 3Hp single phase) and one or more hydraulic cylinders with a flow control valve. All necessary hoses and electrical equipment are provided including a two-button control switch operating on 120 volt circuit.

Loading

Although, the unit will accept an unbalanced loading, every effort should be made to load the deck in a uniform, balanced manner for safe, trouble-free operation. When handrails and safety chains are provided, these should be used at all times across the "open" ends of the deck. Hinged loading lips are fitted at the factory and greatly ease the operation of larger Docks. Safety chain hooks are used to securely hold the hinged loading lips in their over center raised position between use. Always return the hinged lips to the storage position secured with safety chain hooks after each use.

Operation

To raise the elevating Dock lift, the "up" button is depressed on the control switch. This starts the motor (via the starter on the power pack) and pump, sending hydraulic oil from the reservoir into the cylinder(s). As the oil forces the cylinder rods to extend, the deck will rise until the button is released at the desired elevation. Upon releasing the button, the motor and pump stop and a check valve maintains the deck at that level.

Pressing the "down" button on the control switch actuates the solenoid-operated lowering valve only, allowing the hydraulic oil to return to the reservoir along the pressure line and by-pass the pump. The deck will continue to descend until all the oil is exhausted from the cylinder and the stops on the base prevent further movement. The downward motion can be halted at any point by releasing the "down" button. This returns the lowering valve to its closed position.

⚠ WARNING

Before servicing the Dock lift, read and follow the Safety Practices on page 4 and the Operations section of this manual, on page 10

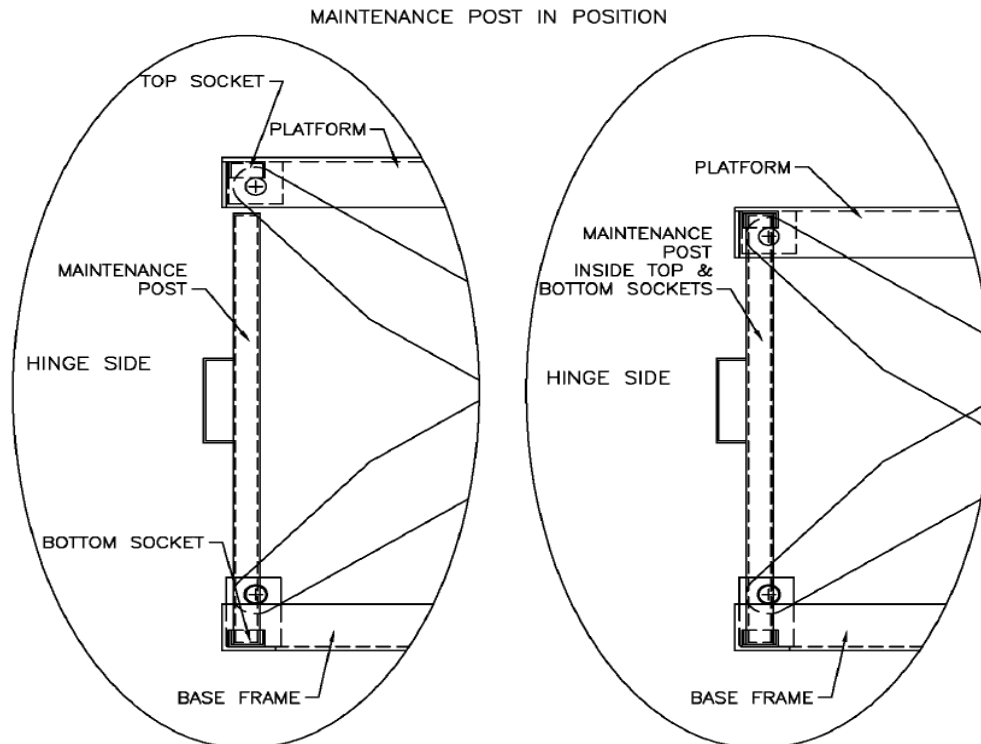
MAINTENANCE INSTRUCTIONS

⚠ DANGER

Maintenance Safety Strut

To ensure safe working conditions for personnel while performing maintenance and when using a maintenance strut, follow the procedure as outlined below:

1. Elevate the deck/platform to maximum upper travel.
2. Place by hand one end of the maintenance strut in the designated area in the base at the hinge end of the Dock assembly. Do not expose your person to the under-table area!
3. Slowly lower the deck, holding the strut vertically and guide the strut into its designated area of contact on the deck. Deck should stop when the strut is engaged. Ensure proper engagement both top and bottom before proceeding.
4. Perform a "Lock Out" procedure on the unit's power pack to ensure that the Dock lift cannot be raised prematurely or in error while maintenance is still being performed.
5. Proceed with the maintenance desired.
6. To bring the Dock lift back into service and remove the maintenance strut, have all personnel stand clear of the Dock lift.
7. Bring the power pack back on line.
8. While holding the strut from outside the perimeter of the deck/base area, elevate the deck until the strut can be removed.
9. Step away from the Dock lift before proceeding to test proper function of the Dock lift.



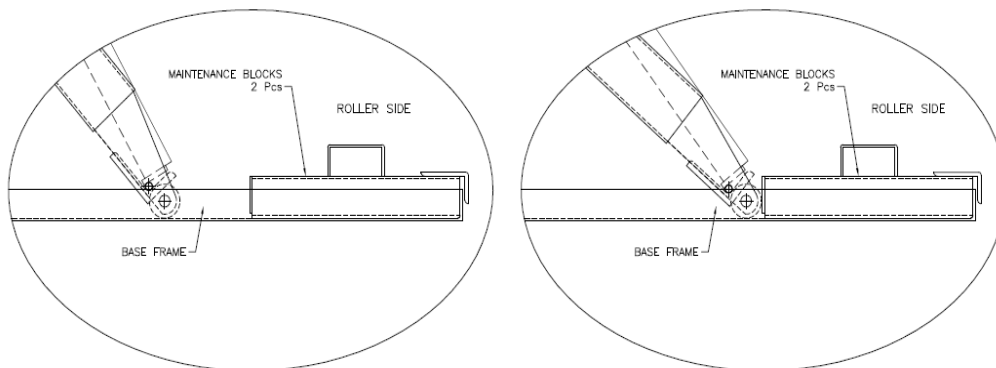
⚠ DANGER

Mechanical Dock Blocks

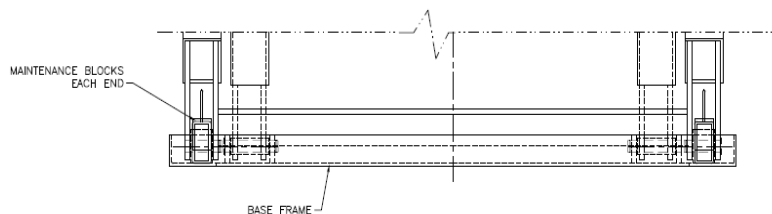
To ensure safe working conditions for personnel while performing maintenance and when using mechanical Dock blocks, note the procedure outlined below:

1. Elevate the deck/platform to maximum upper travel. This will provide the necessary clearance at the roller end of the Dock assembly for block insertion.
2. Place by hand each block in the base at the roller end of the Dock assembly. Placement of the blocks should be such that the roller/Dock leg is contacted squarely and in line with the axis of the base. Do not expose your person to the under-table area!
3. Slowly lower the deck, observing that, as the Docks close, the blocks are pushed along the roller track. The near end of the blocks should contact the base end member squarely and simultaneously. Deck should stop when the blocks contact the member. Ensure proper engagement on each side before proceeding with any maintenance.
4. Perform a "Lock Out" procedure on the unit's power pack to ensure that the Dock lift cannot be raised prematurely or in error while maintenance is still being performed.
5. Proceed with the maintenance desired.
6. To bring the Dock lift back into service and remove the mechanical blocks, have all personnel stand clear of the Dock lift.
7. Bring the power pack back on line.
8. Elevate the deck to maximum and free the blocks.
9. With care, remove the blocks from the roller track area.
10. Step away from the Dock lift before proceeding to test proper function of the Dock lift.

SIDE VIEW
MAINTENANCE BLOCKS IN POSITION



END VIEW—ROLLER SIDE
MAINTENANCE BLOCKS IN POSITION



Adjustment Procedure for Limit Switch (if applicable)

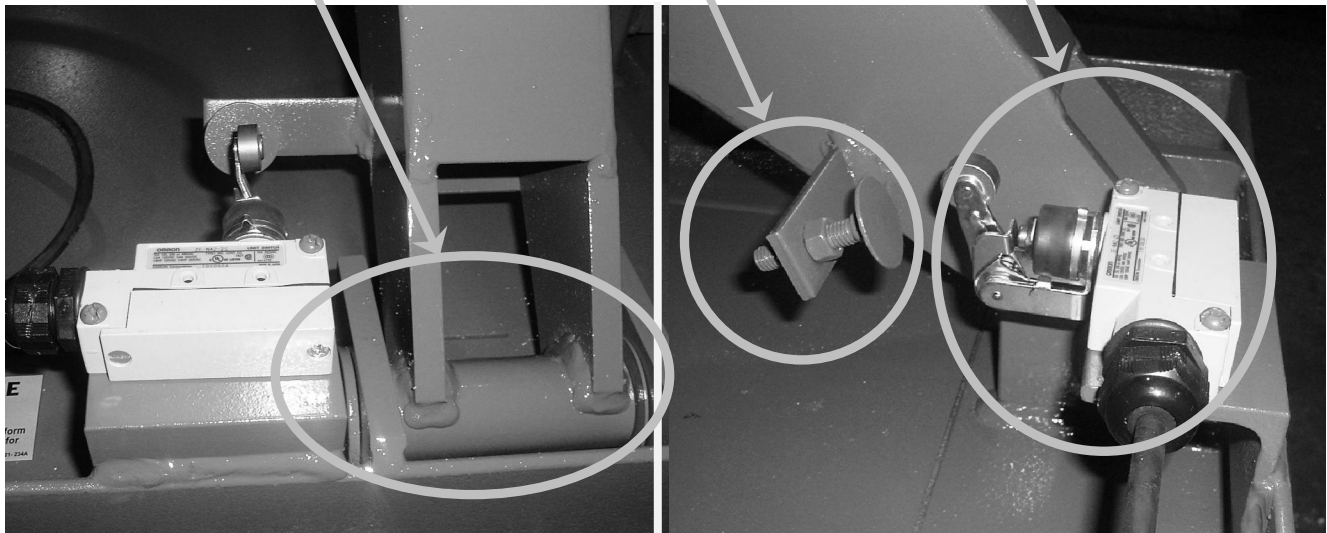
- Up travel limit switch (located at the hinged side set at requested travel) can be adjusted to set proper height by adjusting the "Elevator Bolt".
- To increase raise height, loosen nut by turning it counter-clockwise then turn Elevator bolt clockwise (Note: 1 clockwise turn gives approximately 1" of travel). Once the required height is reached, tighten nut by turning it clockwise.
- To decrease raise height, loosen nut by turning it counter-clockwise then turn Elevator bolt counter-clockwise. Once the required height is reached, tighten nut by turning it clockwise.

Hinged Side

Elevator bolt

Up travel limit switch

Note: Limit switch may vary.



⚠ WARNING

Before servicing the Dock lift, read and follow the Safety Practices on page 4 and the Operations section of this manual, on page 10.

TROUBLE SHOOTING POWER PACK ELECTRIC/HYDRAULIC

Problem - Table does not lift:

Possible Solutions

If motor does not operate

- check fuse and overload reset
- check for loose wall plug, etc.

If Dock lift does not lift

- check oil level
- ensure reservoir is installed correctly (horizontal/vertical) based on style of power unit
- check solenoid
- check pump by removing hydraulic hose from outlet. If oil spurts out of fitting when the pump is operated, then check to see if proper pressure is developed by connecting a pressure gauge.

If the pressure is too low

- either the pump is worn out
- the solenoid valve is leaking
- the solenoid valve is stuck open or the relief valve is sticking.

Problem - Table does not maintain steady height

- check for leakage of hydraulic fluid at hydraulic fittings power pack and hydraulic cylinders.
- raise the Dock lift by holding down the 'up' button, while raising the Dock lift; jog the 'down' button by pressing and releasing it many times
- solenoid valve may be sticking, lower the Dock lift to the collapsed position, remove and if possible blow it clean with an air gun and re-install
- lower the Dock lift to the collapsed position remove the check valve and inspect for dirt if possible blow it clean with an air gun

Problem - Table locked in the "Up" position

- Lowering velocity of the Dock lift could be too high, which locks the velocity fuse. To unlock the Dock lift, unlock set screw on flow control valve. Close flow control valve completely. Push the up button on control to pressurize the cylinder(s). Then press and hold the down button on the control station and open the flow control valve very slowly. When Dock lift begins to come down at desired speed, lock flow control set screw on the knob.

Note: Down speed cannot be too fast or velocity will lock again. If up limit switch is included in up circuit, call factory to describe solution.

- Check the operation of the Peripheral Safety Stop, Electrical Circuit (if equipped). When the Down Button is depressed, the solenoid should operate. If the Peripheral Toe Guards do not operate, then the problem could be a bent bar or a sticking trip bar switch. If the Dock lift is installed into a pit, there is a possibility that the Peripheral Safety Stops (if equipped) are hung up on snow, ice or debris, which has accumulated in the pit.

⚠ WARNING

Before servicing the Dock lift, read and follow the Safety Practices on page 4 and the Operations section of this manual, on page 10

TROUBLE SHOOTING POWER PACK AIR/HYDRAULIC AIR POWERED UNITS ONLY

Problem - Table does not lift: Possible solutions.

If motor does not operate

- check for sufficient Air Supply (is air line lubricated and filtered?)
- check Air Line for any leaks

If Dock lift does not lift

- check oil level
- check cartridge release assembly (is it sticking?)
- check pump by removing hydraulic hose from outlet. If oil spurts out of fitting when the pump is operated, then check to see if proper pressure is developed by connecting a pressure gauge.

If the pressure is too low

- either the pump is worn out
- the cartridge release valve is stuck open or the check valve is sticking.

Problem - Table does not maintain steady height

- check for leakage of hydraulic fluid at hydraulic fittings power pack and hydraulic cylinders.
- raise the Dock lift by holding down the 'up' button. While raising the Dock lift jog the 'down' button by pressing and releasing it many times
- cartridge release valve may be sticking, lower the Dock lift to the collapsed position, remove and if possible blow it clean with an air gun and re-install
- lower the Dock lift to the collapsed position remove the check valve and inspect for dirt, if possible blow it clean with an air gun

Problem - Table locked in the "Up" position

Lowering velocity of the Dock lift could be too high, which locks the safety valve. To unlock the Dock lift, first pressurize the system using the power pack. Secondly, close the Flow Control valve, which is located at the hose end (power pack). Once you have re-pressurized the cylinders press the 'down' and begin opening the Flow Control slowly.

HYDRAULIC CYLINDER OVERHAUL

The cylinder seals generally have a long life. However, due to an adverse or an extremely dusty environment, premature failure of the seals can occur. This problem will always be evident by leakage of oil out of the cylinders or oil in the breather line (if equipped).

Note: Opening the cylinder to check or replace the seals requires special tools. Most hydraulic technicians and service centers do not have these tools. The manufacturer of the cylinders has the necessary tools to service the cylinders. If you encounter cylinder(s) that are leaking, consult factory.

Procedure For Removal Of Cylinder(S)

DANGER

Do not work under lift without maintenance strut in place.

- 1.) Prepare for some leakage/spillage of oil when removing cylinder(s) Have the necessary containers and or absorbing materials to capture hydraulic fluid and avoid environment contamination.
- 2) Raise the Dock lift to the highest point
- 3) Block both sides of the Dock assembly or insert maintenance strut. See the Mechanical Parts Diagram and follow the **Maintenance Device Instructions** on page 11.
- 4) Insert the end of a crow bar between the ram angle and the piston rod pivot. Force the piston rod back into the cylinder casing while depressing down button. This will allow most of the oil back to the tank.
- 5) Disconnect the hydraulic line and breather line (if equipped) from cylinder port. Make sure you plug the end of hose line(s).
- 6) Remove pin from cylinder bracket. This will allow the cylinder to be removed from the Dock mechanism.
- 7) The cylinder can be returned for repair.

Installation Of New Or Repaired Cylinder(S)

- 1) Make certain that all parts are clean.
- 2) Insert pin back into the bracket.
- 3) Remove plugs from hydraulic lines and or breather line (if equipped).
- 4.) Reconnect the hydraulic line and or breather line (if equipped).

THE DOCK LIFT IS IN THE HIGHEST UP POSITION AND PROPERLY BLOCKED

- 5) Reconnect electricity to the power unit.
- 6) With the Dock lift still blocked in the up position push the up button allowing the rod to extend. Do this in short intervals to control the positioning of the rod. Make sure the rod pivot is captured in the ram angle. Once pressure is off of the maintenance block or strut, they can be removed.
- 7) Power the Dock lift up and down several times to eliminate air from the hydraulic lines

PREVENTIVE MAINTENANCE

It is recommended that regular preventative maintenance and repairs be carried out by service representatives employed by Kelley or its dealer. In the case where a skilled mechanic(s) is available to the owner to perform these duties it is imperative that they be familiar with the equipment and the code requirements, if in doubt contact Kelley or its dealer, so as not to present a danger to themselves or others.

⚠ DANGER

To avoid personal injury, NEVER go under the lift platform or perform any maintenance on the lift until the load is removed and the Docks mechanism is securely blocked in the open position. See "Maintenance Device Instructions" on page 11

Oil

Change oil once a year or when it materially darkens, feels gritty or has presence of water (oil will turn milky in color)

Temperature above 32° F. (0° C.). - use Shell Tellus 32 or equivalent.

Temperature below 32° F. (0° C.). - use Shell Tellus S2 V 32 Low Thermo Oil.

The used fluids should be disposed of according to your local environmental codes.

Filter

Remove and clean strainer each time you replace the oil, more frequently depending on dust conditions in the area

Oil Level

When the Dock lift is in the lowered position,

- a) if equipped with a sight gauge, the level should register on the gauge, to maximum line – not above.
- b) Tanks without sight level gauge – the oil level should be 1 inch below the top of tank.

Monthly Inspection

- a) Check all hydraulic circuit for any visible leaks. Repair or replace faulty components.
 - b) Check any unusual noise when it occurs determine the source and correct as necessary.
 - c) Check the snap rings, rollers and all pivot points. If not in place and/or secure replace or repair immediately.
 - d) Check all rollers for sign of wear. Replace as necessary.
 - e) Visually inspect the unit for possible damage caused by abuse or misuse.
 - f) Inspect that all hazard labels are in place and legible. Replace if required.
 - g) Check electrical panel and all wiring for any loose connections or wear of material.
- Use a proper certified electrician for any repairs required.

Lubrication

Lubrication of cam followers (if equipped) should be performed on a regular maintenance schedule. Lubrication of pivot points is not required. All pivot points are equipped with self-lubricating bushings or sealed bearings.

For Dock lifts fitted with spherical bearings at various pivot points, special lubrication considerations should be followed with respect to load, frequency and speed. Maintenance departments must monitor bearing performance regularly and determine adequate lubrication frequency. Incorporate bearing lubrication into the maintenance program of the Dock lift, or the minimum on a weekly basis.

Pit

The pit should be kept clean of debris and fluids.

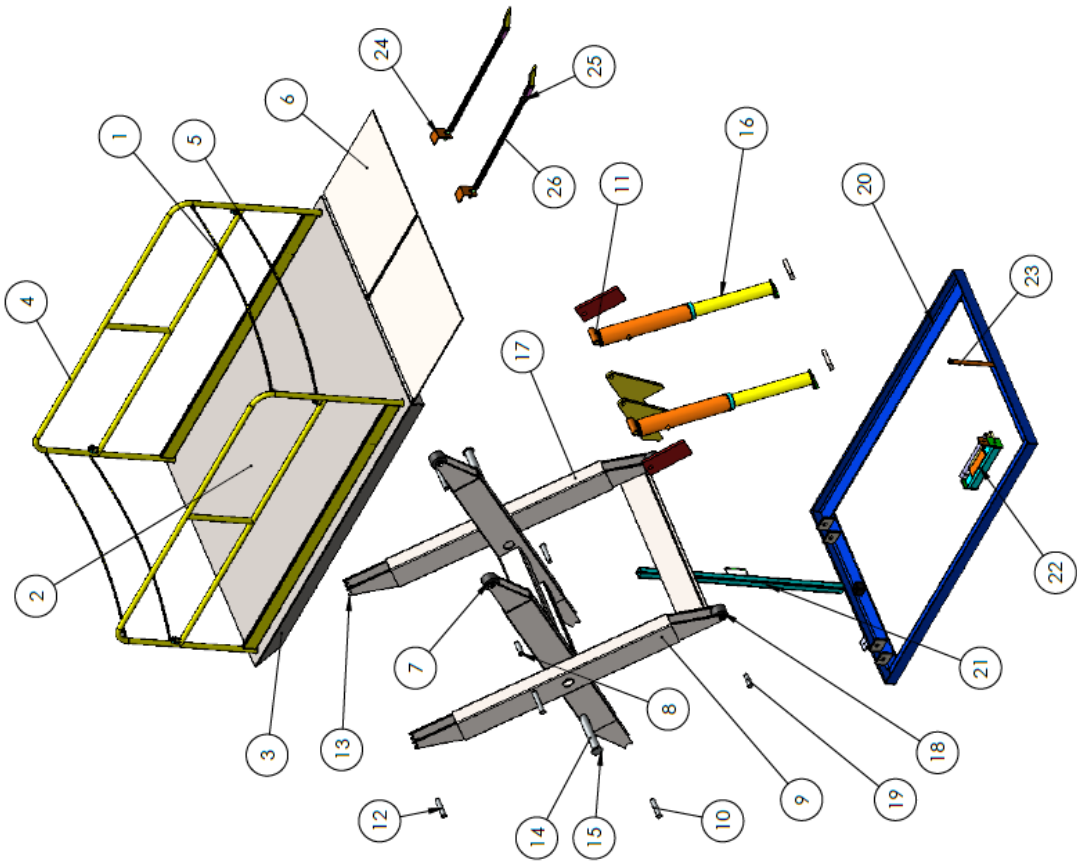
Under no circumstances shall safety devices be by-passed in order to keep the unit operational

MECHANICAL PARTS LIST

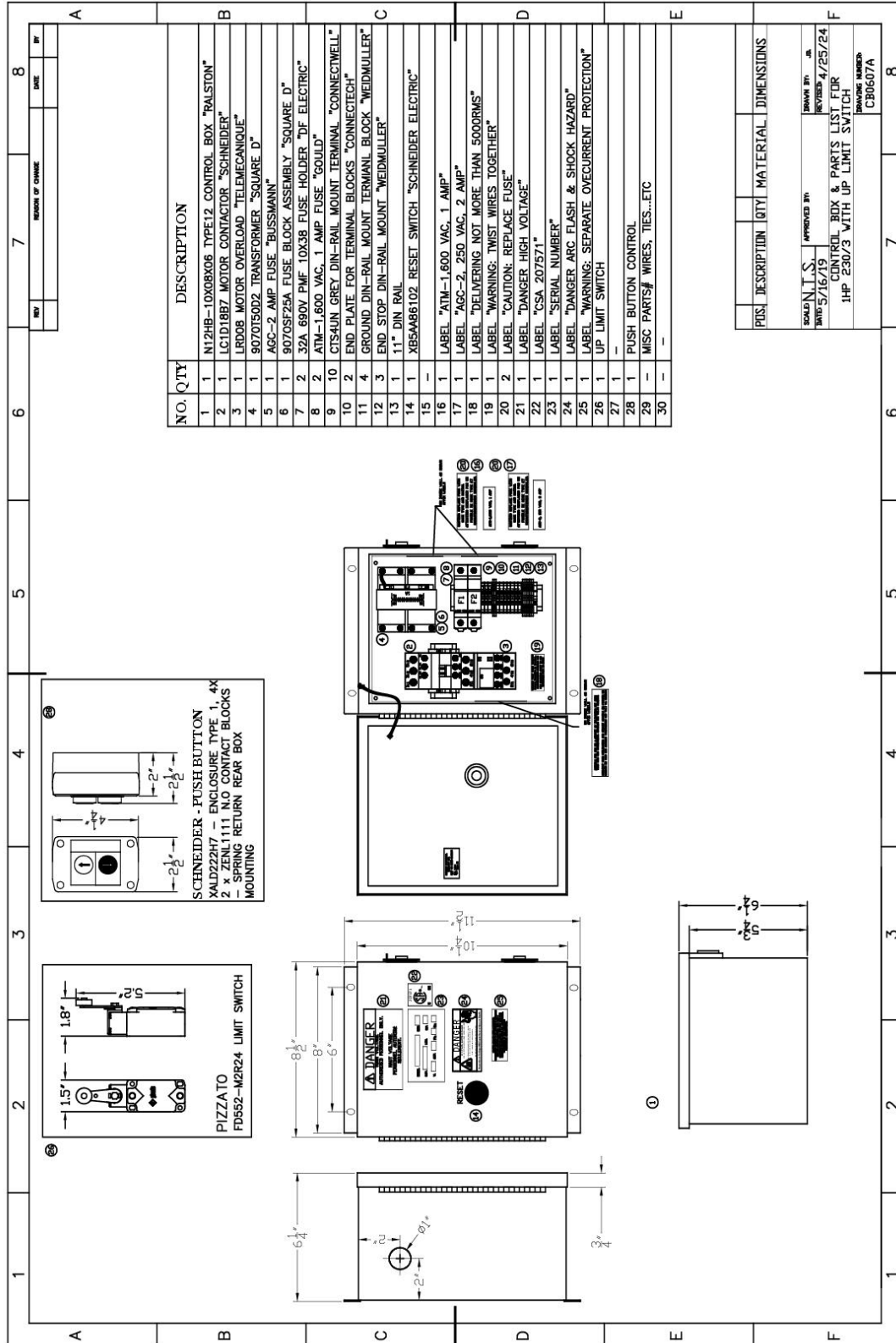
MECHANICAL PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	LD-MP-1	SAFETY CHAINS	4
2	LD-MP-2	PLATFORM	1
3	LD-MP-3	TAPERED TOE GUARDS (4 SIDES)	4
4	LD-MP-4	GUARDRAILS (WHEN PROVIDED) (REFER TO PAGE 1)	2
5	LD-MP-5	LIFTING CHAINS (WHEN PROVIDED) (REFER TO PAGE 1)	2
6	LD-MP-6	ENTRY PLATE (WHEN PROVIDED) (REFER TO PAGE 1)	2
7	LD-MP-7	UPPER ROLLERS	2
8	LD-MP-8	UPPER ROLLER PINS/BUSHINGS	2
9	LD-MP-9	INNER SCISSORS	2
10	LD-MP-10	CYLINDER PINS	2
11	LD-MP-11	HYDRAULIC BUSHINGS	4
12	LD-MP-12	HINGE PINS	4
13	LD-MP-13	HINGE BUSHINGS	4
14	LD-MP-14	AXLE PINS	2
15	LD-MP-15	AXLE BUSHINGS	4
16	LD-MP-16	HYDRAULIC CYLINDERS	2
17	LD-MP-17	OUTER SCISSORS	2
18	LD-MP-18	LOWER ROLLERS/BUSHINGS	2
19	LD-MP-19	LOWER ROLLER PINS	2
20	LD-MP-20	BASE FRAME	1
21	LD-MP-21	MAINTENANCE STRUT (REFER TO PAGE 1)	1
22	LD-MP-22	MAINTENANCE BLOCK (REFER TO PAGE 1)	2
23	LD-MP-23	LIFTING LUGS	-
24	LD-MP-24	SPRING ASSIST BRACKET	2
25	LD-MP-25	ROD WITH BOLT	2
26	LD-MP-26	SPRING	2
27	LD-MP-27	SHIMS (INCLUDE WHEN PROVIDED)	-

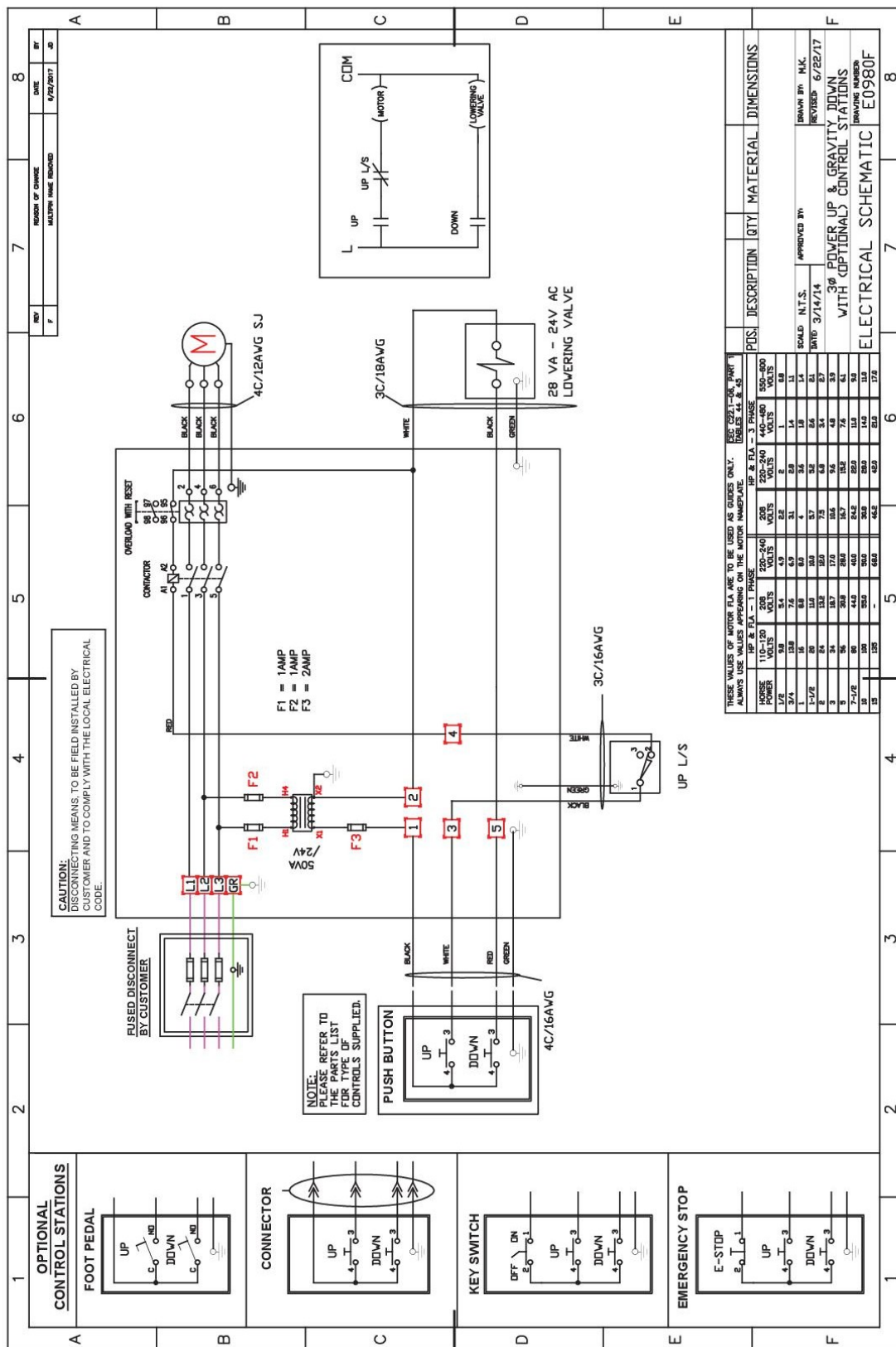
Structural steel parts items 2, 3, 10, 18, 22, 25 not replaceable. Item 3 does not exist on tables with electric trip bars. Items 5, 6, 23, 24, 26, 27 are not on every loading dock. Replacement cylinders and rollers come with bushings. When ordering replacement cylinder specify looking at table from roller end if its left or right cylinder. Pins and Rollers must be replaced in pairs, two top or two bottom. Replacement rails must have a center-to-center measurement of socket to socket included with PO. Replacement entry plate hinge tubes for platform are sent loose and must be welded to platform on site. Replacement spring assist brackets are sent loose and unpainted and must be welded on site to fit.



ELECTRICAL PARTS LIST



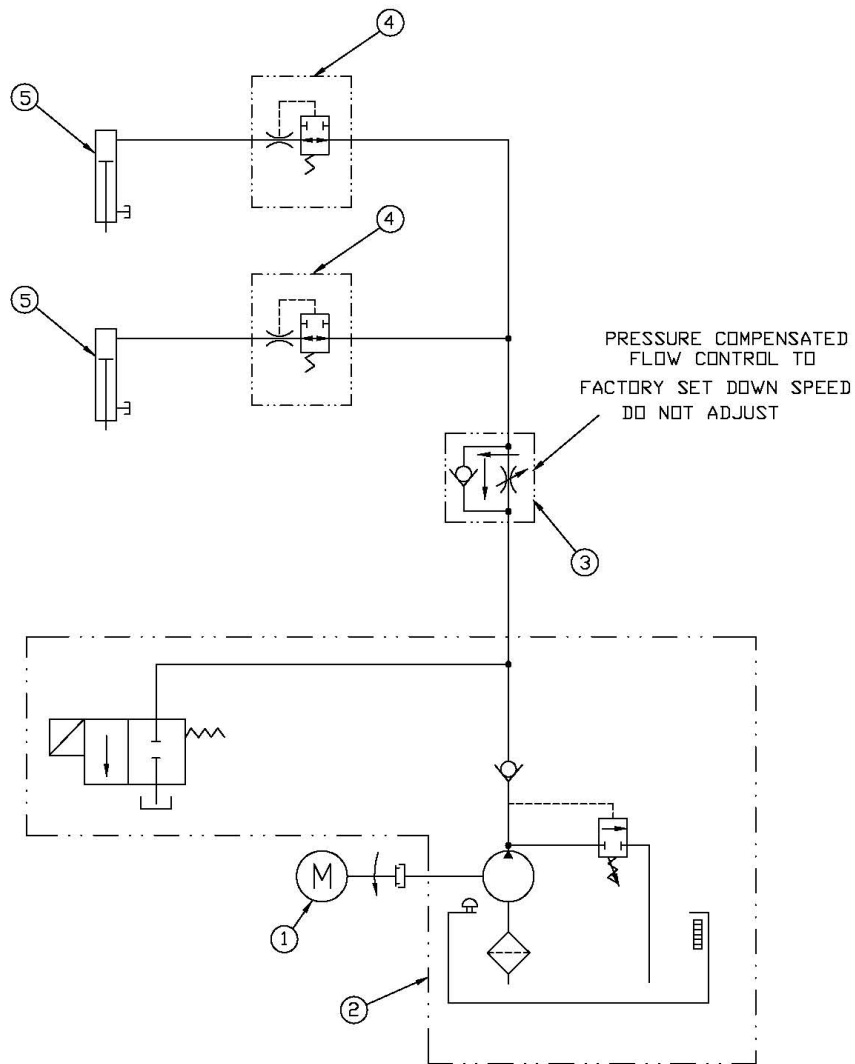
ELECTRICAL SCHEMATIC



HYDRAULIC PARTS LIST

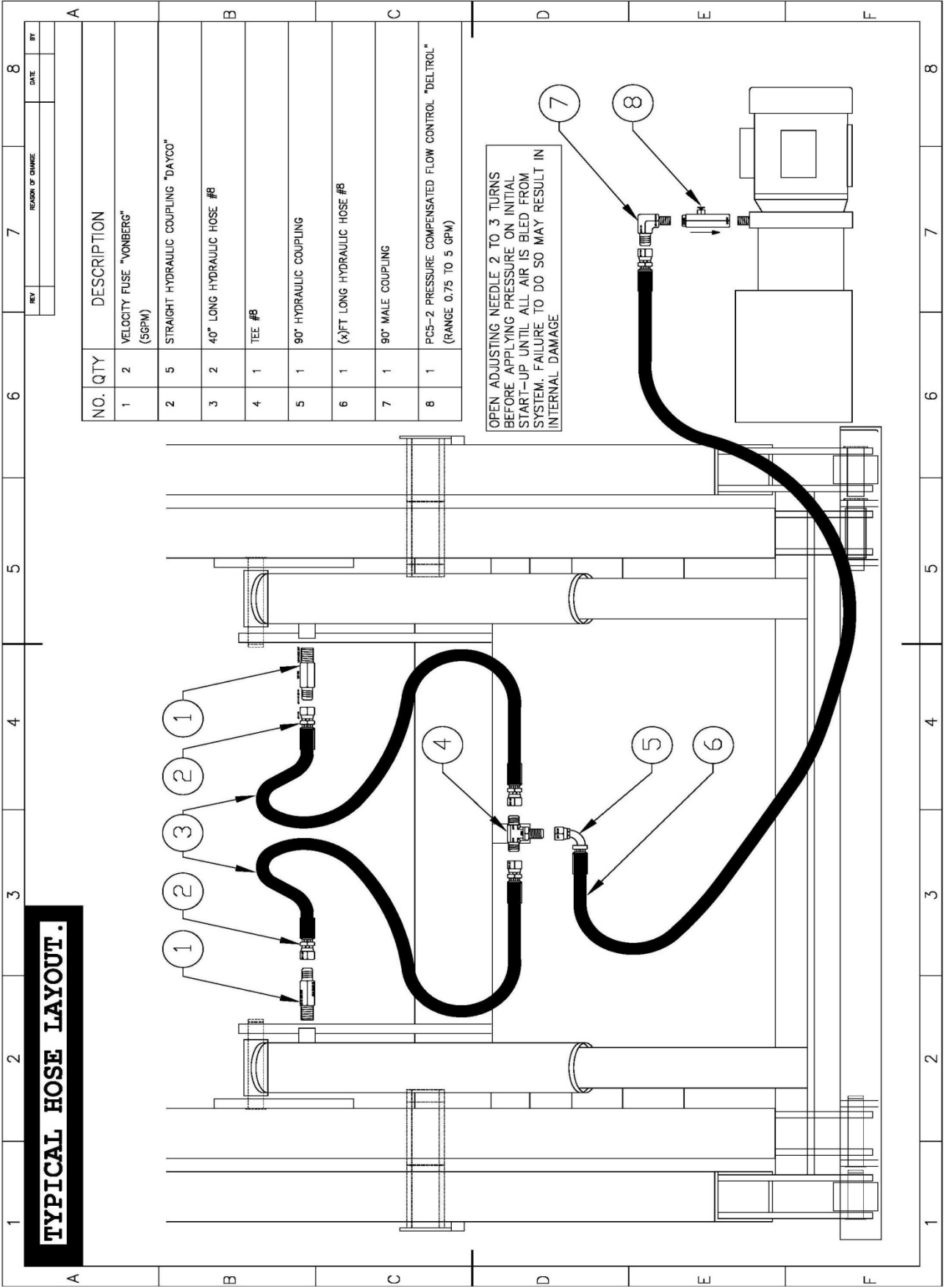
Date: May 12, 2026		Dwg. No.: HD-0135G		Page 1
Name: HYDRAULIC SCHEMATIC PARTS LIST				
Item No.	Qty.	Dwg./Var.	Description	
1	1		1HP/460V/3PH/60Hz Motor	
2	1		# 1E(TT)1D09B1(MO)2615CVET-2500V. Hydraulic Power Unit 'Renum'	
3	1		# PC5-2 Pressure Compensated Flow Control 'Deltrol'	
4	2		# 28001-504-5.0 Velocity Fuse 'Vonberg'	
5	2		# OLY 3 x 14.375 Hydraulic Cylinder 'Olympic'	
			Seal Kit SKV 3 x 1.5	

HYDRAULIC SCHEMATIC

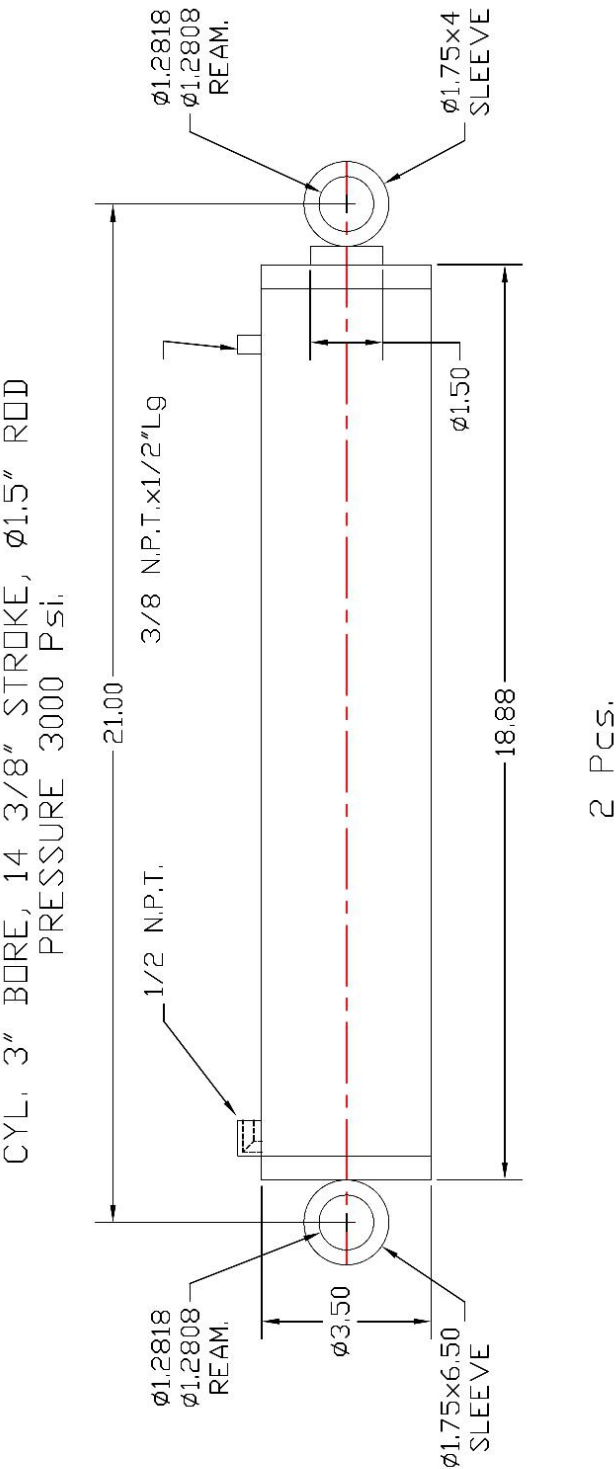


POS.	DESCRIPTION	QTY	MATERIAL	DIMENSIONS
SCALE:	N.T.S.	APPROVED BY:		DRAWN BY: A.Kovtuchenko
DATE:	10/28/05			REVISED:
HYDRAULIC SCHEMATIC				
				DRAWING NUMBER: HD-0135G

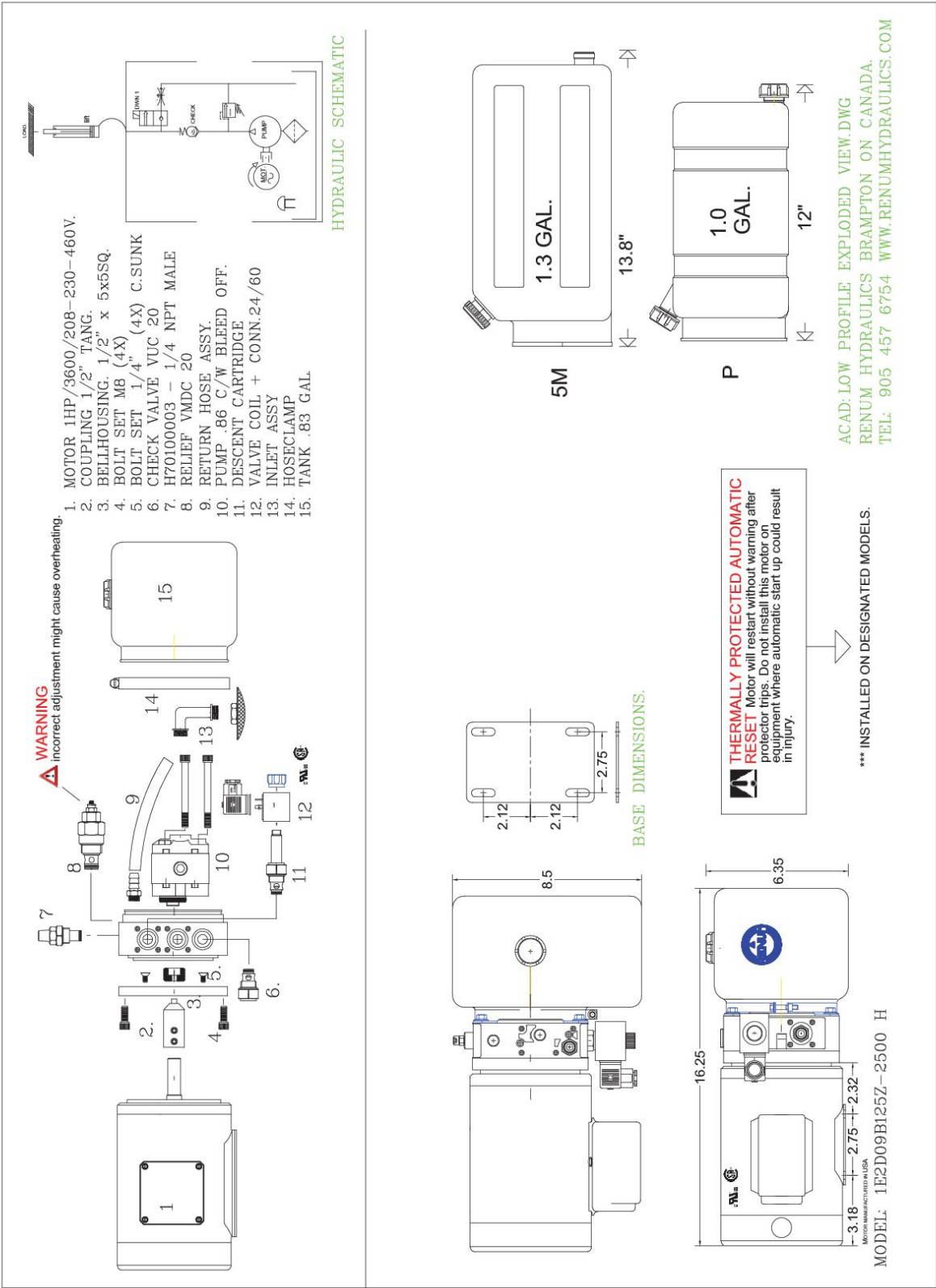
HYDRAULIC HOSE LAYOUT



HYDRAULIC CYLINDER DRAWING



POWER PACK DRAWING & PARTS LIST



MANUAL OVERRIDE VALVE (If Equipped)

COMMONLY USED MANUAL OVERRIDE ON SINGLE ACTING POWERPACKS

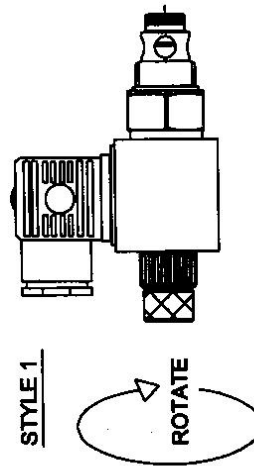
A MANUAL OVERRIDE ON A SINGLE ACTING (POWER UP / GRAVITY DOWN) POWER PACK ALLOWS THE OPERATOR TO LOWER THE LIFT TABLE IN CASE OF AN ELECTRICAL POWER OUTAGE

STYLE 1: TO LOWER, ROTATE KNURLLED KNOB TO THE LEFT (CCW) TO START DESCENT. ROTATE TO THE RIGHT (CW) TO STOP THE DESCENT, AND RETURN TO NORMAL STATE.

STYLE 2: TO LOWER: PULL KNOB TO START DESCENT, RELEASE TO RETURN TO NORMAL STATE.

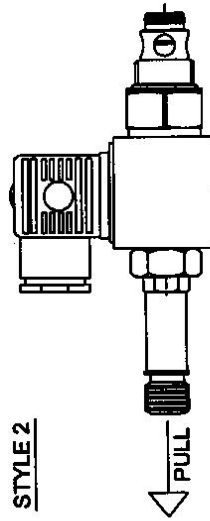
STYLE 3: TO LOWER: PUSH KNOB TO START DESCENT, RELEASE TO RETURN TO NORMAL STATE.

STYLE 1



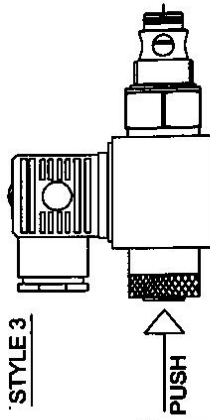
ROTATE KNURLLED KNOB CCW FOR MANUAL LOWERING OF THE LOAD
TURN CLOCKWISE TO STOP.

STYLE 2



PULL STYLE:
FOR MANUAL LOWERING, PULL KNOB.
RELEASE KNOB TO STOP

STYLE 3



PUSH STYLE:
FOR MANUAL LOWERING, PUSH KNOB.
RELEASE KNOB TO STOP



LIMITED WARRANTY

THIS LIMITED WARRANTY IS 4FRONT'S SOLE AND EXCLUSIVE WARRANTY WITH RESPECT TO THE DOCK LIFT AND IS IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED

4FRONT warrants that this DOCK LIFT will be free from flaws in material and workmanship under normal use for a period of one (1) year from the earlier of 1) 60 days after the date of initial shipment by 4FRONT, or 2) the date of installation of the DOCK LIFT by the original purchaser, provided that the owner maintains and operates the DOCK LIFT in accordance with this User's Manual.

Hydraulic Limited Warranty: All hydraulic cylinders are warranted to cover the cost of replacement parts only for an extended period of one (1) additional year beyond the base warranty period.

In the event that this DOCK LIFT proves deficient in material or workmanship within the applicable Limited Warranty period, owner shall so notify 4FRONT, and 4 Front will, at its option:

1. Replace the DOCK LIFT, or the deficient portion(s) thereof, without charge to the owner; or
2. Alter or repair the DOCK LIFT, on site or elsewhere, without charge to the owner.

This Limited Warranty does not cover any failure caused by improper installation, abuse, improper operation, negligence, or failure to maintain and adjust the DOCK LIFT properly. Parts requiring replacement due to damage resulting from vehicle impact, abuse, or improper operation are not covered by this warranty. 4FRONT DISCLAIMS ANY RESPONSIBILITY OR LIABILITY FOR ANY LOSS OR DAMAGE OF ANY KIND (INCLUDING WITHOUT LIMITATION, DIRECT, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES, OR LOST PROFITS OR LOST DOCK LIFTION) arising out of or related to the use, installation or maintenance of the DOCK LIFT (including premature DOCK LIFT wear, DOCK LIFT failure, property damage or bodily injury resulting from use of unauthorized replacement parts or modification of the DOCK LIFT). 4FRONT's sole obligation with regard to a DOCK LIFT that is claimed to be deficient in material or workmanship shall be as set forth in this Limited Warranty. This Limited Warranty will be null and void if the original purchaser does not notify 4FRONT's warranty department within ninety (90) days after the DOCK LIFT deficiency is discovered. .

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, INCLUDING, BUT NOT LIMITED TO, A WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH 4FRONT HEREBY DISCLAIMS.