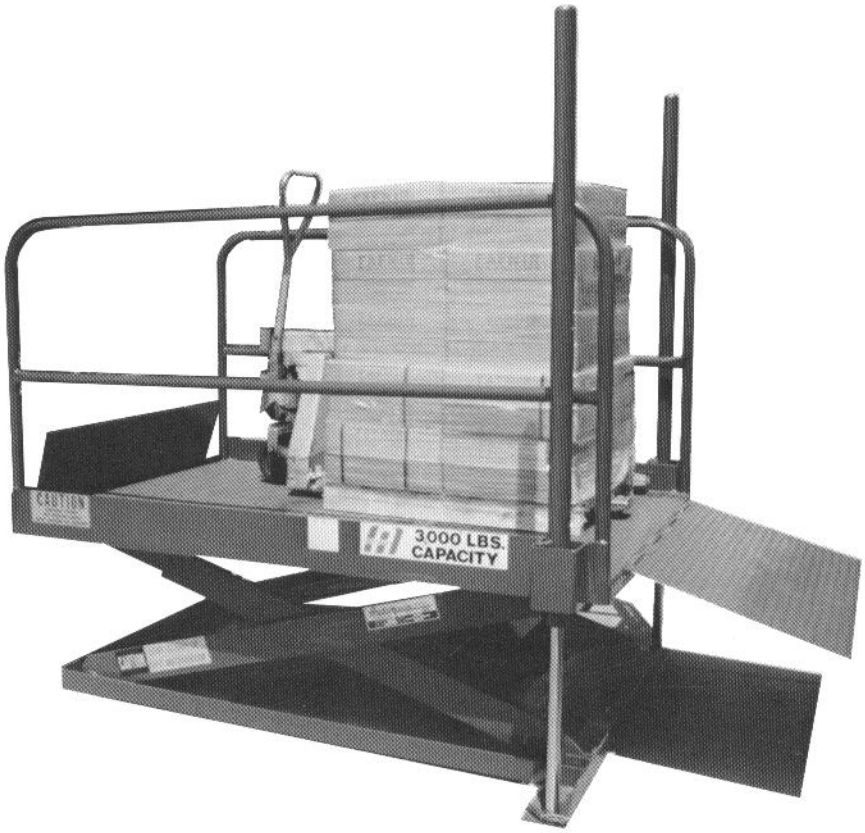
INSTALLATION, OPERATION AND SERVICE MANUAL

PLD SCISSORS LIFT



Autoquip®
CORPORATION

P.O. Box 1058 • 1058 West Industrial Avenue • Guthrie, OK 73044-1058 • 405-282-5200
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Item # 830PLD

Version 1.0
09/2001

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IMPORTANT

Please read and understand this manual prior to installation or operation of this lift. Failure to do so could lead to property damage and/or serious personal injury. If questions arise, call a local representative or *Autoquip Corporation* at 1-888-811-9876 or 405-282-5200.

PLANNED MAINTENANCE PROGRAM

A local *Autoquip* representative provides a Planned Maintenance Program (PMP) for this equipment using factory-trained personnel. Call a local representative or *Autoquip Corporation* at 1-888-811-9876 or 405-282-5200 for more information.

IDENTIFICATION & INSPECTION

IDENTIFICATION

When ordering parts or requesting information or service on this lift, PLEASE REFER TO THE MODEL AND SERIAL NUMBER. This information is on a nameplate attached to the leg assembly. Replacement parts are available from a local *Autoquip* distributor.

INSPECTION

Immediately upon receipt of the lift, a visual inspection should be made to determine that the lift has not been damaged in transit. Any damage found must be noted on the delivery receipt. In addition to this preliminary inspection, the lift should be carefully inspected for concealed damage. Any concealed damage found that was not noted on the delivery receipt should be reported in writing to the delivering carrier within 48 hours.

The following is a checklist that will aid in the inspection of the lift.

1. Examine entire unit for any signs of mishandling. Pay special attention to the power unit and controls.

2. Thoroughly examine all connections, making sure they have not vibrated loose during transit.

3. After installation, raise the lift and inspect the base frame and scissors assembly.

DANGERS, WARNINGS & CAUTIONS

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.

DANGER!

Identifies a hazardous situation that presents the imminent probability of death or of severe personal injury!!

WARNING!

Identifies a hazardous situation that has the potential of causing death or serious personal injury.

CAUTION!

Identifies a hazardous situation that could lead to the possibility of personal injury of death, and/or may result in equipment damage.

DANGERS, WARNINGS & CAUTIONS

Read and understand this manual and all labels prior to operating or servicing the lift. All labels are provided in accordance with ANSI Z535.4.

DANGER!

Do not work under lift without maintenance device! To avoid personal injury, NEVER go under the lift platform until the load is removed and the scissors mechanism is securely blocked in the open position. See "Lift Blocking Instructions" section.

DANGER!

To avoid personal injury, stand clear of scissors leg mechanism while lift is in motion.

DANGER!

HIGH VOLTAGE!! Disconnect and/or lock out the electrical supply to the power unit prior to any maintenance being performed.

DANGER!

Extending the platform length or width beyond the factory limit could cause the unit to tip, which could result in personal injury or death.

DANGERS, WARNINGS & CAUTIONS

DANGER!

Do not attempt to remove the velocity fuse until the maintenance locks securely support the lift and all hydraulic pressure has been removed from the lifting cylinders and hydraulic hoses. Failure to do so could result in personal injury or death!

WARNING!

Do not operate this equipment without handrails and snap chains in place.

WARNING!

Under no circumstances should the speed control orifice be removed from the Deltatrol to obtain faster lowering speed. A loaded lift can reach dangerous and destructive speed!!

WARNING!

All warning and information decals should be in place as outlined in the “Label Identification” section. If decals are missing or damaged, they should be replaced with new ones. Contact an *Autoquip* representative for replacements.

WARNING!

Lift platforms traveling below floor levels my 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

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DANGERS, WARNINGS & CAUTIONS

CAUTION!

Never run the pump for more than a couple of seconds without pumping oil. This applies to low oil conditions, improper motor rotation, running the pump against the relief pressure after the lift is fully raised against the physical stops, running overloaded beyond capacity, or running at reduced speed because of pinched or obstructed hydraulic lines.

CAUTION!

Do not continue to depress the “UP” button on the controller if the lift is not raising or if the lift has reached the fully raised position. To do so may result in permanent damage to the motor or pump.

CAUTION!

Do not operate the power unit on relief for more than a few seconds. When on relief, the valve will make a squealing sound.

CAUTION!

Precautions should be taken to prevent the introduction of contaminates such as dirt or other foreign material into the system through open fittings, pipes or disassembled components. Contamination will ruin the hydraulic system.

CAUTION!

Use only approved oils in the lift. See “Specifications” section.

LABEL IDENTIFICATION

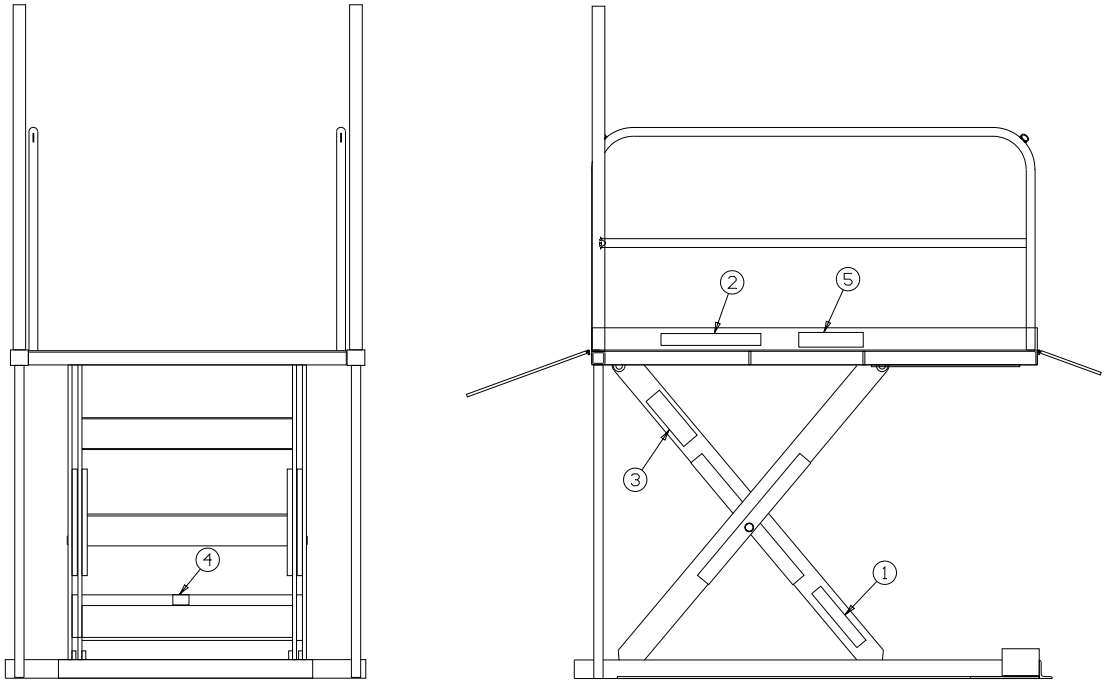


Figure 1 Label Placement

PLD Scissors Lift			
Item No.	**Qty**	**Description**	**Part No.**
1	2	Caution: Familiarize Yourself With Operators Manual	36401487
2	2	Danger – Do Not Put Hands Or Feet . . .	36430050M
3	1	*Autoquip* Serial Number Nameplate	36401511
4	2	Capacity	36401586
5	1	Fill with Recommended Oils Only	36400661

LABEL IDENTIFICATION

Note: Labels shown here are not actual size.

Figure 2 Label 36401487

Figure 3 Label 36430050M

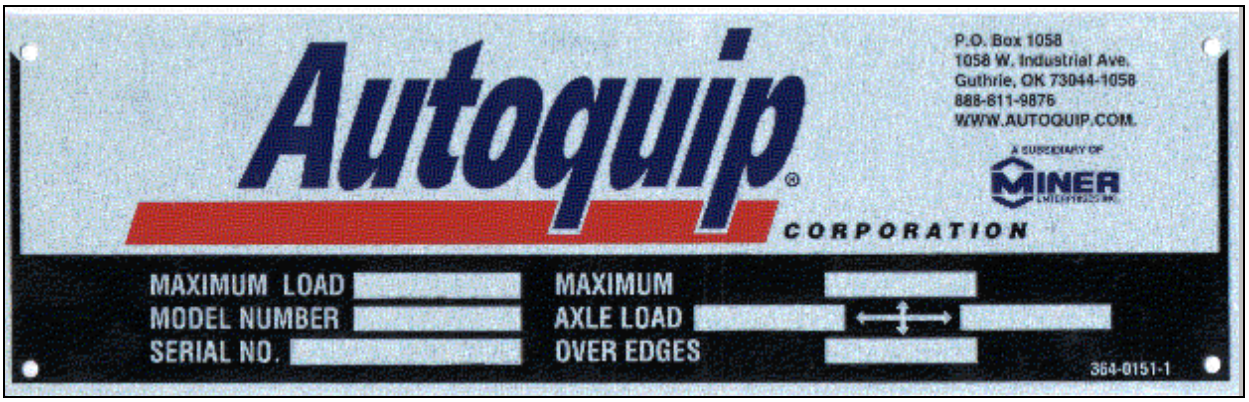


Figure 4 Label 36401511

LABEL IDENTIFICATION

Figure 5 Label 36401594

Figure 6 Label 36400661

SPECIFICATIONS

Model	Lifting Cap. (lbs)	Std. Motor HP	Axle Load Capacity Over Bridge End (lbs)	Max Raised Height (Inches)	Min. Lowered Height (Inches)	Travel Speed	Platform Size (Inches)	Base Frame Size (Inches)	Ship Wt (lbs)
PLD-20	2,000	¾	1,500	62	6 1/2	6	60 x 84	48 x 78	1,200
PLD-30	3,000	¾	1,500	62	6 1/2	6	60 x 84	48 x 78	1,350
PLD-50	5,000	5	3,000	61 1/2	6	12	72 x 96	70 x 93 1/2	3,000

NOTE: All models have 2 rams, an approach ramp size of 24" x 48", and have a maximum travel of 55 ½".

LOAD CAPACITY

The load capacity rating is stamped on a metal plate attached to one side of the lift. This figure is a net capacity rating for a lift furnished with the standard platform. The relief valve of the pumping unit has been set to raise the weight, plus a small amount for overload. Where gravity roll-sections, special tops, etc, are installed on the lift after leaving the plant, deduct the weight of these from the load rating to obtain the net capacity. **Lifts should not be overloaded beyond the established capacity as damage and/or personal injury may result.**

UNBALANCED LOADING

The stabilization provided is basically for balanced loads. If special attachments extend beyond the length and/or width dimensions of the platform, the end and/or side load capacity must be reduced (contact an Autoquip Sales representative).

PUMP PRESSURE

This lift incorporates a positive displacement pump machined to a high degree of accuracy and specially adapted to requirements of higher-pressure ranges over that of a standard pump. Therefore, standard factory models of the same manufacture cannot replace it.

The pump can operate efficiently at intermittent pressures up to 3200 PSI and continuous duty to 2500 PSI. The safety relief valve in the pump assembly is factory-set to stay within the parameters of the pump and lift requirements.

LIFT BLOCKING INSTRUCTIONS

1. Remove all load from the platform. Never block the lift when loaded.

2. Raise the platform sufficiently for the base rollers to rollback past the flip-over maintenance locks, located on the base frame of the lift.

3. Engage both maintenance locks by flipping them into the base frame (see Figure 7).

4. Lower the platform until the base rollers come into contact with and rest against the maintenance locks. Always hold the “DOWN” switch a few seconds more until all pressure is gone and the platform is supported entirely and safely by the maintenance locks.

5. Always shut off the main electrical switch, when blocked, to prevent someone from turning it on.

DANGER!

To avoid personal injury, NEVER go under the platform until the load is removed and the lift is securely blocked in the open position.

6. To remove the maintenance locks, raise the platform by activating the “UP” switch to provide sufficient clearance for the removal of the maintenance locks.

DANGER!

Maintenance locks that are bent, damaged, or non-functional must be replaced immediately to avoid personal injury. Contact the Autoquip Service Department for replacement parts and installation instructions.

LIFT BLOCKING INSTRUCTIONS

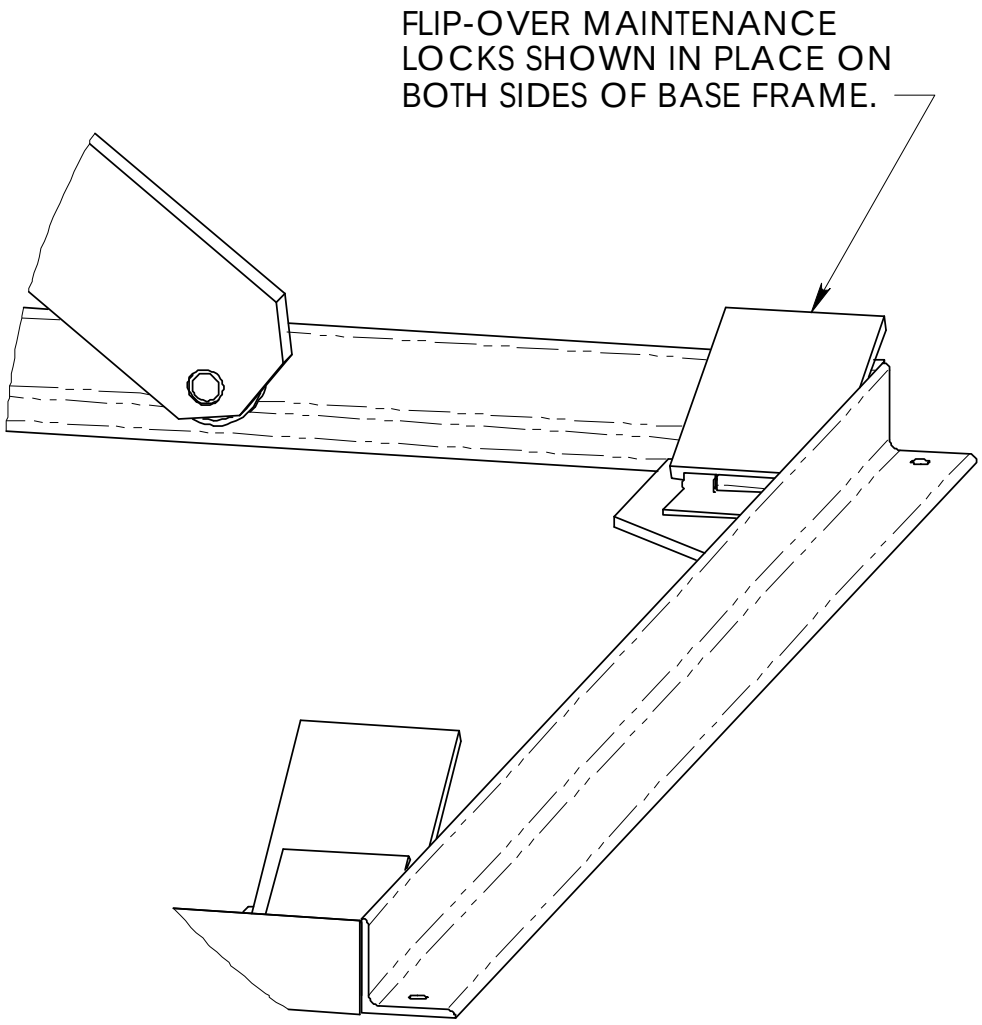


Figure 7 Maintenance Locks

INSTALLATION INSTRUCTIONS

CAUTION!

Precautions should be taken to prevent the introduction of contaminates such as dirt or other foreign material into the system through open fittings, pipes or disassembled components. Contamination will ruin the hydraulic system.

1. Make temporary hose connections with high-pressure hose (see chart below) to allow the lift to be operated when it is set in the pit.

Hydraulic Piping/Hose Size

Up to 25 feet	½" ID
26 feet to 50 feet	¾" ID
Over 50 feet	1" ID

2. Using ¾" 10 UNC eyebolts and a chain spreader, place the lift into the pit as illustrated in Figure 9.

3. Remove the shipping bolt and eye bolts from the lift and hydraulically raise the platform. Failing to remove the shipping bolts before operation will cause permanent damage to the lift.

4. Check the routing of the temporary hydraulic lines to assure that the hose is clear of legs, bas frame, and platform when lift is in the lowered position.

5. Make positioning adjustments of the lift to align the platform with a one-inch clearance around the edges of the pit. Raise and lower the platform several times to confirm the alignment is correct.

6. Raise the platform and install the maintenance locks (see "Lift Blocking Instructions" section).

7. Lag down the base frame in the holes provided. Lag bolts should be able to withstand 2000 lbs. minimum upward pull at each corner.

8. Replace the temporary hose connections with permanent hydraulic lines from the power unit (refer to **Hydraulic Piping/Hose Size** chart above). The female end connection on the lift base frame is ½" NPT.

INSTALLATION INSTRUCTIONS

Leveling to Grade

1. The platform top should be solid and flush with the pit curb angles. The pit depth includes ½" added to the lowered height of the lift for leveling purposes (see Figure 8).

2. Fully lower the lift platform into the pit and check for proper height.

3. Shims and/or grout must be placed under the entire base frame assembly and the platform support members to support the platform top at grade level. DO NOT "spot" shim! Shims and/or grout must be able to support the lift base frame while loaded at full rated lifting capacity and rollover load.

Final Preparation

1. To remove (bleed) air from the cylinders, fully lower the lift and hold the "DOWN" button for 30 to 40 seconds. Cycle the lift 10 to 15 times and repeat the process by fully lowering the lift and holding the "DOWN" button 30 – 40 seconds.

2. Raise lift slightly to clear the maintenance locks.

3. Carefully loosen the bleeder screw plug at the top end of the ram casing to remove trapped air from the ram.

WARNING!

DO NOT REMOVE BLEED SCREW! This could cause the lift to drop rapidly, resulting in damage or personal injury.

4. Check the oil level of reservoir with the lift in the fully lowered position. Oil should be approximately ½" below the top of the reservoir tank. (See the "Maintenance" section for oil specifications.)

5. Make sure that all applicable labels are in place in accordance to Figure 1.

WARNING!

All DANGER, WARNING, and CAUTION labels and informational decals and plates must be intact and in place on the lift. Contact an Autoquip representative if labels are missing or damaged.

6. Bumper posts are recommended to protect the lift from horizontal force when in the raised and lowered position.

Clean Up

1. Clean up any spilled oil and debris from the area. A clean installation makes a good impression and creates a much safer environment!

2. Touch-up paint is available by request from *Autoquip* for repair of damaged paint surfaces.

INSTALLATION INSTRUCTIONS

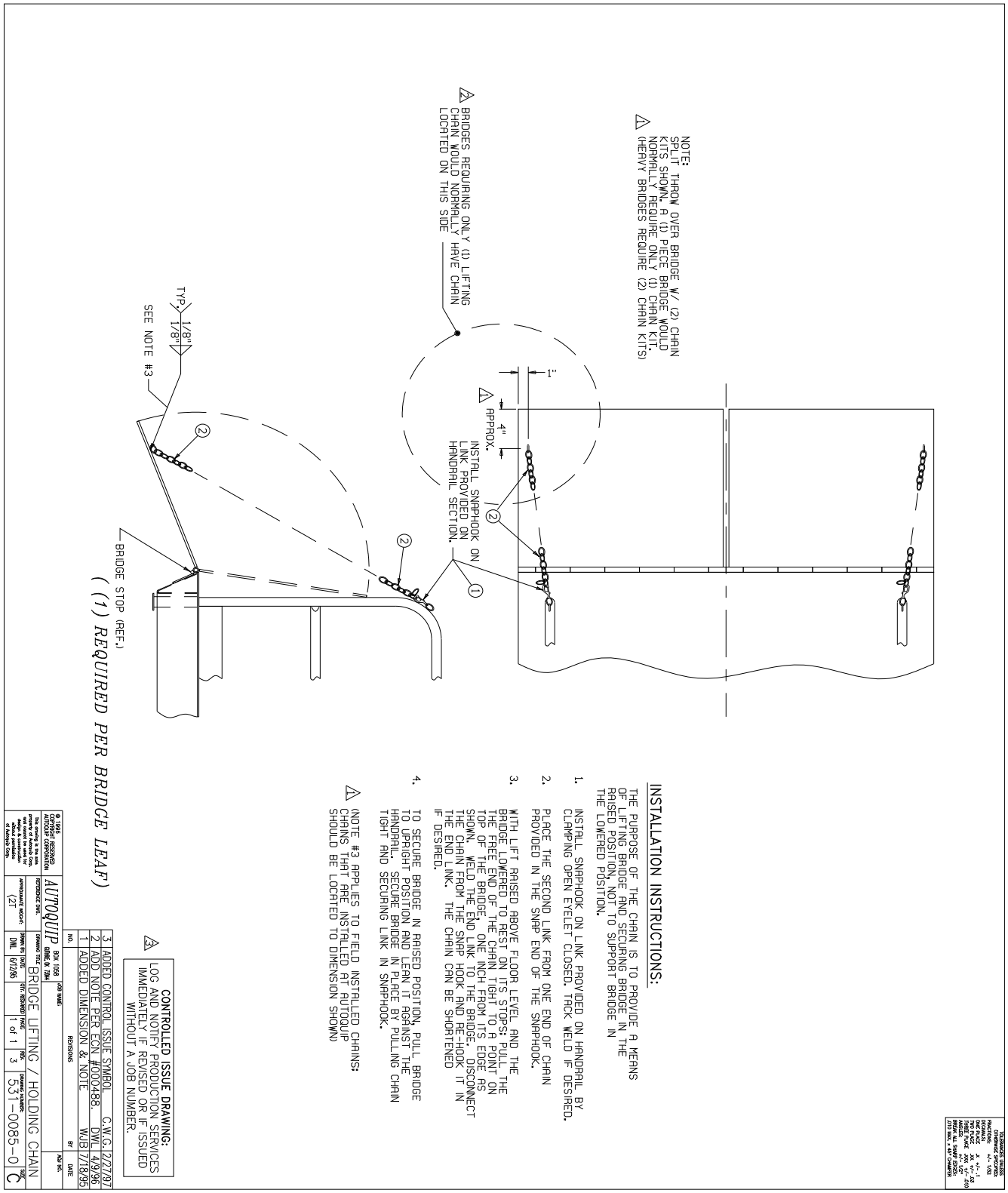


Figure 8 Bridge Installation, Steel

OPERATING INSTRUCTIONS

Familiarize yourself with this operator's manual before operating the equipment!!!

1. Scissors lifts have maximum lifting capacity ratings (see "Specifications" section). The safety relief valve has been factory set to open at a pressure slightly above the rated load capacity and allows the oil to bypass into the reservoir to prevent damage to the lift and its hydraulic power unit. **The safety relief valve should not be adjusted for any reason as it could cause the motor to prematurely burn out.** Applying loads exceeding the rated capacity of the lift may result in excessive wear and damage to the lift.

2. This type of lift is designed primarily for dock applications and is typically furnished with constant pressure pushbutton controls. Actuating the "UP" button will cause oil to enter the cylinders and the lift will rise.

3. When the desired height or upward travel of the platform is attained, removing pressure from the switch deactivates the "UP" circuit button. The oil stops flowing and the upward movement will stop.

4. To lower the lift, activate the "DOWN" button. Opening the down control valve allows the oil in the cylinders to flow through the down valve at a controlled rate and return oil to the reservoir.

5. When the desired height or downward travel of the platform is attained, removing the operator's foot or hand from the switch deactivates the "DOWN" circuit. The oil stops flowing from the cylinders and the downward movement will stop.

CAUTION!

Do not continue to activate the "UP" button if the lift is not raising or if it has reached the fully raised position. To do so may result in permanent damage to the lift.

CAUTION!

Do not operate the power unit on relief for more than a few seconds. When on relief, the valve will make an audible squealing sound.

ROUTINE MAINTENANCE

Normally scissors lifts will require very little maintenance. However, a routine maintenance program could prevent costly replacement of parts and/or downtime.

WARNING!

To avoid personal injury, NEVER go under the lift platform or perform any maintenance on the lift until the load is removed and the scissors mechanism is securely blocked in the open position. See "Lift Blocking Instructions" section.

MONTHLY INSPECTION

1. Check oil level (see oil recommendations in this section) and add appropriate oil when necessary.

2. Check for any visible leaks. Correct as necessary.

3. Check any unusual noise when it occurs. Determine the source and correct as necessary.

4. Check the snap rings at all rollers, if not in place, and/or secure, replace or repair immediately.

5. Check all rollers for signs of wear. Replace as necessary.

6. Do not grease roller or axles; they have lifetime-lubricated bearings.

7. Check all wiring for looseness or wear. Repair at once.

OIL REQUIREMENTS

Change oil yearly, or more frequently if it darkens materially or feels gummy or gritty. Use detergent motor oils only. Do not use hydraulic-jack oil, hydraulic fluids, brake fluids, or automatic transmission fluid.

ROUTINE MAINTENANCE

Oil Viscosity Recommendations

Environment (Ambient Temperatures)	Recommended Oil
Indoor location, variable temperatures (30 - 100° F)	10W30 or 10W40 Multiviscosity motor oil
Indoor location, consistent Temperatures (70° F)	SAE-20W motor oil
Outdoor location, (-10 - 100° F)	SAE 5W30 Multiviscosity motor oil
Cold-storage warehouse (10 - 40° F)	5W30 Multiviscosity motor oil
Freezer (-40° F to 0° F)	Consult Factory

OIL CAPACITY

Reservoir capacity for the self-contained tank is approximately 3 gallons. The reservoir capacity for the steel "vertical" tank is approximately eleven gallons.

The oil level in the reservoir should be ½" below the top of the reservoir with the lift in the fully lowered position.

PIPE THREAD SEALANT

Loctite PST #567 pipe thread sealant or equivalent is recommended. **Do not use Teflon tape.** Tape fragments can cause malfunctioning of the hydraulic system.

GENERAL MAINTENANCE

DANGER!

HIGH VOLTAGE!! Disconnect and/or lock out the electrical supply to the power unit prior to any maintenance being performed.

1. Change oil once a year or when it materially darkens or feels gritty. Also, check oil for the presence of water (oil will turn milky in color.)

2. NEVER TRY TO DISASSEMBLE OR REPAIR A PUMP IN THE FIELD. These pumps are high-precision devices requiring extreme precision in fit-up. When one is damaged, there is seldom anything that can be repaired in the field. It is also more economical to replace a pump than to refit old parts with new parts.

3. The pin, or roller bushing should be replaced whenever excessive wear is detected. The rollers are furnished with the pressed-in bushing as a unit part.

DANGER!

To avoid personal injury, NEVER go under the lift platform until the load is removed and the scissors mechanism is securely blocked in the open position.

GENERAL MAINTENANCE

DANGER!

HIGH VOLTAGE!! Disconnect and/or lock out the electrical supply to the power unit prior to any maintenance being performed.

INTERNAL POWER UNITS

Because *Autoquip* "Super-Torque" motors actually deliver substantially more horsepower than their nameplate rating, they must always be wired for heavier current-draw than standard motors of the same nameplate rating. However, because of the starting efficiency and superior running characteristics of the "Super-Torque" motor, circuit components do not have to be as large as for standard motors of equal delivered horsepower.

The following chart should be referenced in connecting these motors to power sources, remembering that, where 115-Volt operation is contemplated, the current-draw is too heavy for plugging into ordinary lighting circuits. Heavy wire must be used all the way to the power-source.

3/4 HP / 1 PH	115 Volts	230 Volts
Full Load Amperages	16.6 AMPS	8.3 AMPS

NOTE: 115V/1ph/60Hz operation is not recommended. If 115V/1ph operation is absolutely required, the lift will function properly if adequate power is supplied. However, it is very sensitive to deviations from the required power. Consequently, performance could prove unsatisfactory. To assure proper operation on 115V/1ph/60Hz power supply, a separate circuit, protected by a 30 AMP time delay circuit breaker, and adequate wiring should be provided to allow and actual 115V at the power cord plug during fully loaded operation. Specify if required.

REMOTE POWER UNITS

1. The “vertical” unit utilizes a 5 hp / 208-230 volts / 60 hertz / single phase motor coupled to a high-pressure positive displacement gear pump and *Autoquip Corporation’s* patented Deltatrol valve assembly. It is also available with a 5 hp / 230 or 460 volts / 60 hertz / three-phase motor as an option.

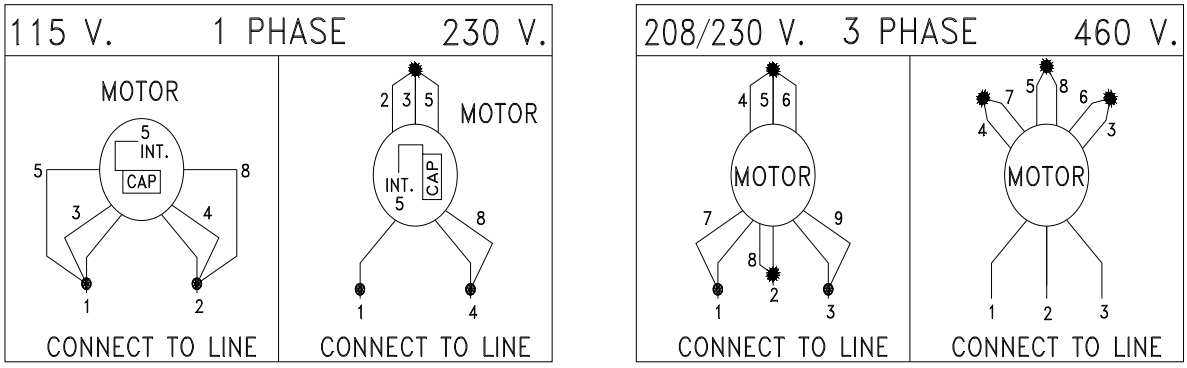
GENERAL MAINTENANCE

2. The following should be referenced in connecting the standard heavy-duty motors to power sources. Remember that heavy wire must be used all the way to the power source.

Power Unit	115 Volts	208 Volts	230 Volts	460 Volts
Standard Three Phase	N/A	16 amps	15.2 amps	7.6 amps
Standard Single Phase	58 amps	N/A	24.5 amps	N/A

NOTE: All amperage draws shown are full-load amperages.

MOTOR CONNECTION DIAGRAMS



AIR BLEEDING PROCEDURE

1. Press and hold the “UP” button, release when the unit has raised halfway up.

2. Crack the bleed screw on top of the cylinder until clear oil (no bubbles) comes from the cracked bleed screw.

3. Tighten the screw; make sure no oil comes from the screw when it is tightened.

4. Clean up any spilled oil. Used oil should be discarded as it may contain flushed contaminates from the line.

NOTE: A small amount of air may remain in the cylinder, but it will be flushed back to the reservoir after a few operations of the system.

GENERAL MAINTENANCE

CYLINDER AND/OR SEAL REPLACEMENT

Cylinder Removal

1. Lower the lift to the fully lowered position.

2. Continue to hold the “DOWN” button an additional 10 seconds after the lift has stopped traveling downward to relieve the system pressure.

3. Always shut off the main electrical switch when maintenance is to be performed.

4. Unbolt the two hex head bolts that connect the cylinder to the platform.

5. Disconnect the hydraulic hose from the cylinder.

WARNING!

Do not remove the base clevis pin. This will cause the lift to collapse!

6. While protecting the cylinder rod from damage, pry upward and outward on the cylinder rod.

Seal Replacement

1. Lay the cylinder on its side.

2. To access the seal, push the rod down inside the casing past the seals by threading a bolt into the end of the rod and simply pushing on the bolt. Take all precautions not to scratch the cylinder rod.

3. Remove the old seal ring and backup ring. Inspect the seal groove for nicks and scratches that could affect the seal. Remove as necessary.

4. Clean the groove thoroughly and install the new seal and backup. Lubricate the seal with clean oil or grease.

5. Grasping the bolt in the end of the cylinder rod, pull the rod out of the casing taking precaution against pinching or tearing the seal ring.

Re-Installing the Cylinder

1. Reinstall the new cylinder in the reverse procedure of the above instructions.

2. Once the cylinder is in place and all hydraulic connections are made tight, proceed to bleed air out of the system (see “Air Bleeding Procedure” section).

3. Check the oil level.

4. Clean up any debris and/or spilled oil from the area.

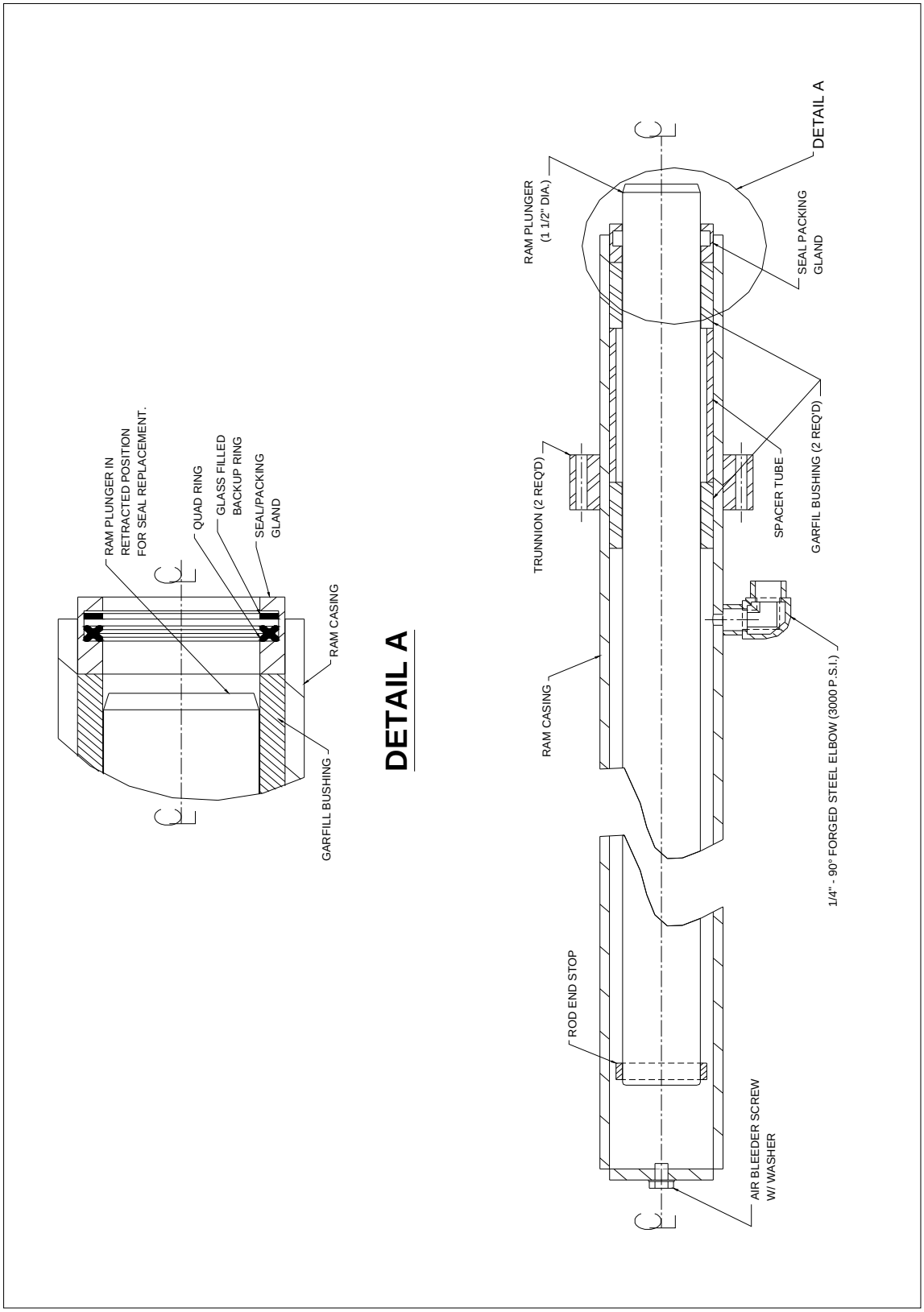


Figure 9 Ram Detail

GENERAL MAINTENANCE

VELOCITY FUSE REPLACEMENT

DANGER!

Do not attempt to remove the velocity fuse until the lift is securely supported with the maintenance locking devices and all hydraulic pressure has been removed from the lifting cylinders and hydraulic hoses. Failure to follow these instructions could result in personal injury or death!

Never attempt to take a velocity fuse apart and repair it. These are precision devices that are factory assembled under exacting conditions. Velocity fuses should always be replaced.

1. The arrow on the exterior surface of the velocity fuse shows the direction of the restriction to the oil flow. The arrow should always point away from the cylinder.

2. **Do not use Teflon tape on the threaded connections of a velocity fuse**. Tape fragments can cause malfunctioning of the fuse.

3. Check all fitting connections for hydraulic leaks and tighten as necessary.

HOSE ORIENTATION

To prevent damage to the cylinder hose and possible failure of lift, it is necessary to establish a correct hose shape and pattern of movement as follows:

1. Raise the lift to its full height and block securely. See “Lift Blocking Instructions”.

2. Install one end of the new hose to the cylinder elbow fitting.

3. Since the hose is fixed at both ends, it is possible to put a twist in the hose that will allow it to describe the same pattern each time the lift is operated. This twist will allow the hose to travel about half way between the cylinder on the right side and the inner leg on the right side.

4. Lower the lift carefully and check to see that the hose is free and clear of the cylinder and the inner leg assembly. If not, twist the hose in the direction necessary to clear it of any obstruction and then lock the swivel fitting securely.

GENERAL MAINTENANCE

ROCK SALT

It has been discovered that rock salt is being used to melt the ice and snow off of the platforms in the northern region and during the winter months. Rock salt will accelerate the deterioration of any paint. Therefore, *Autoquip* recommends the use of a synthetic "Ice Melt" product in lieu of rock salt.

Warranty on the paint finish will be denied when it is suspected that rock salt has been used. Please contact the Product Support Team at Autoquip at 1-888-811-9876 or 405-282-5200.

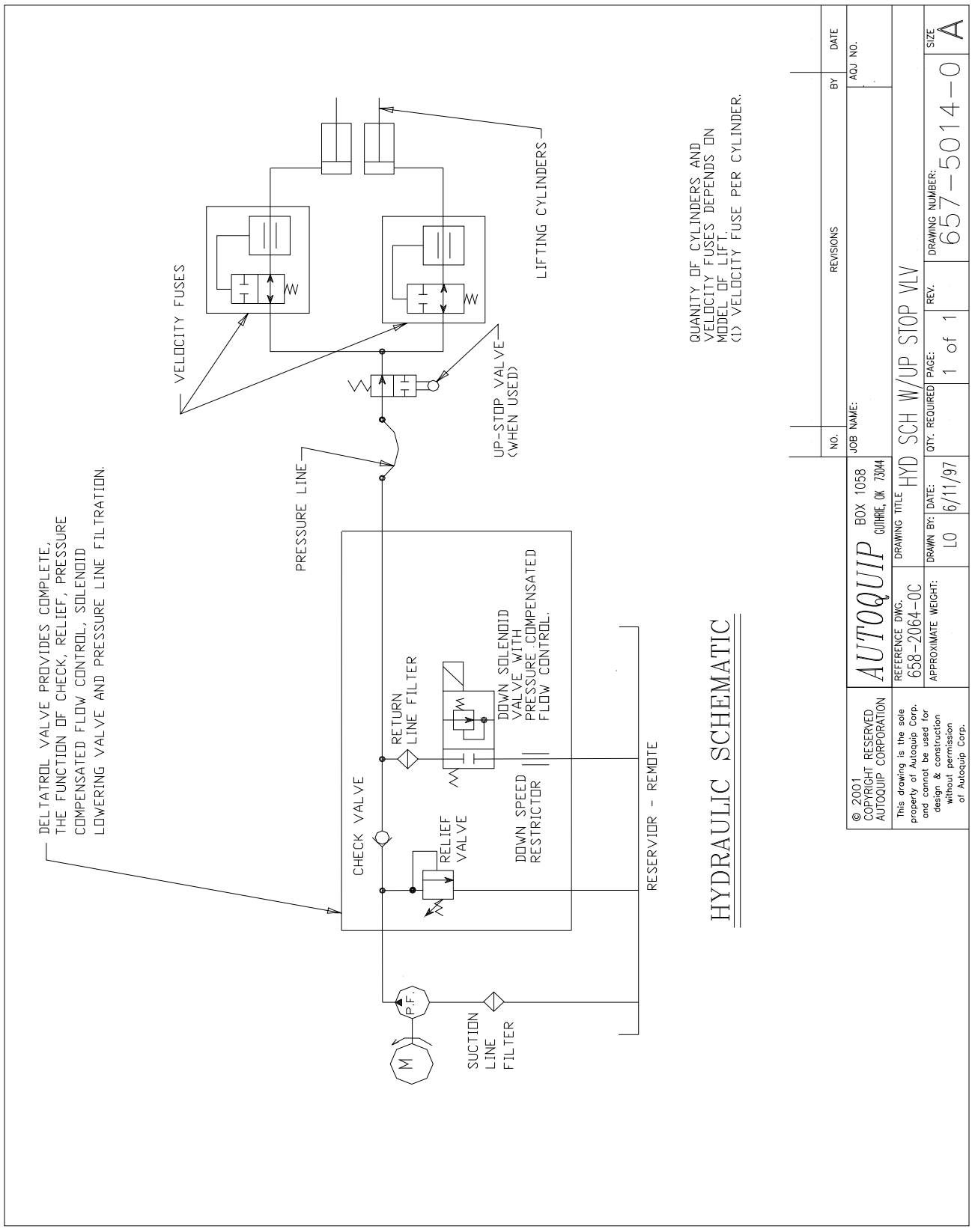


Figure 10 Hydraulic Schematic

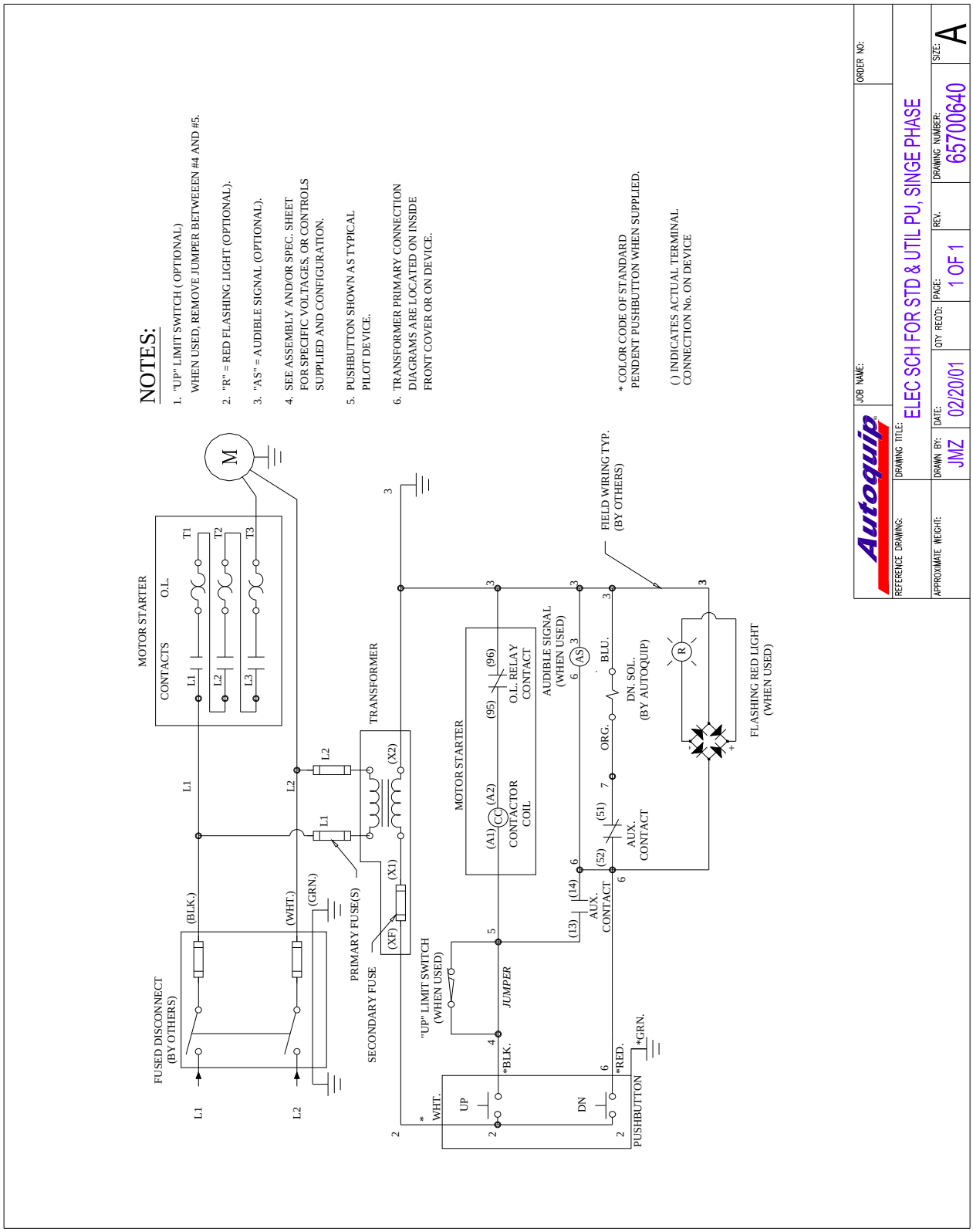
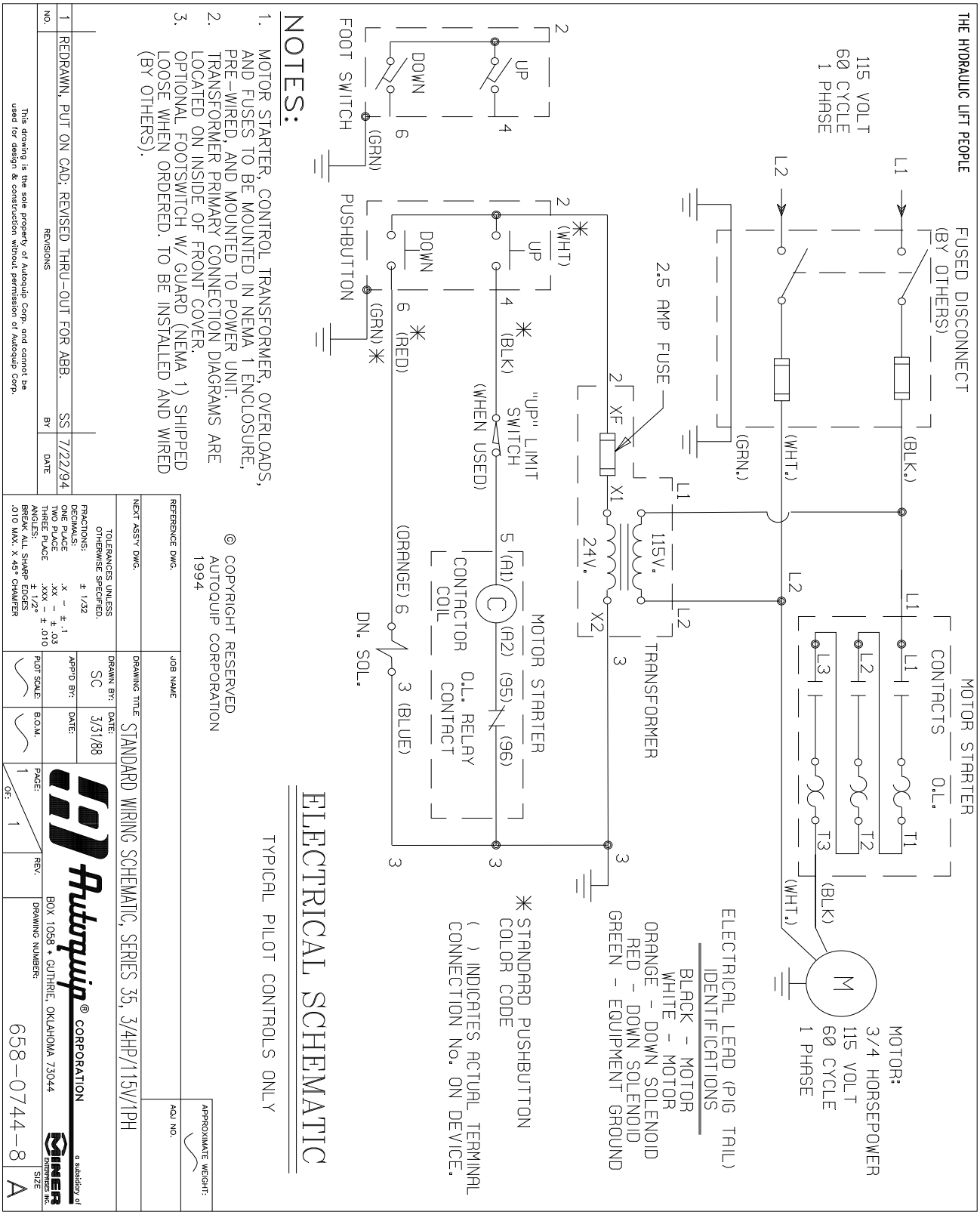


Figure 11 Electrical Schematic; 230V/1PH (PLD-50)



ELECTRICAL SCHEMATIC

TYPICAL PILOT CONTROLS ONLY

NOTES:

1. MOTOR STARTER, CONTROL TRANSFORMER, OVERLOADS, AND FUSES TO BE MOUNTED IN NEMA 1 ENCLOSURE, PRE-WIRED, AND MOUNTED TO POWER UNIT.
2. TRANSFORMER PRIMARY CONNECTION DIAGRAMS ARE LOCATED ON INSIDE OF FRONT COVER.
3. OPTIONAL FOOTSWITCH W/ GUARD (NEMA 1) SHIPPED LOOSE WHEN ORDERED. TO BE INSTALLED AND WIRED (BY OTHERS).

NO.	REVISIONS	BY	DATE
1	REDRAWN, PUT ON CAD; REVISED THRU-OUT FOR ABB.	SS	7/22/94

REFERENCE DWG.
NEXT ASSY DWG.
JOB NAME
DRAWING TITLE: STANDARD WIRING SCHEMATIC, SERIES 35, 3/4HP/115V/1PH
APPROXIMATE WEIGHT:
ADJ. NO.

TOLERANCES UNLESS OTHERWISE SPECIFIED:
FRACTIONS: ± 1/32
DECIMALS:
ONE PLACE .X - ± .1
TWO PLACE .XX - ± .03
THREE PLACE .XXX - ± .010
ANGLES: ± 1/2°
BREAK ALL SHARP EDGES .010 MAX. X 45° CHAMFER

DRAWN BY: SC
DATE: 3/31/88
APP'D BY:
DATE:
PLOT SCALE:
B.O.M.
PAGE: 1 OF: 1
REV:

Autoquip® CORPORATION
BOX 1058 * GUTHRIE, OKLAHOMA 73044
a subsidiary of MINER ENTERPRISES, INC.
DRAWING NUMBER: 658-0744-8
SIZE: A

Figure 12 Electrical Schematic; 115V/1PH (PLD-20, 30)

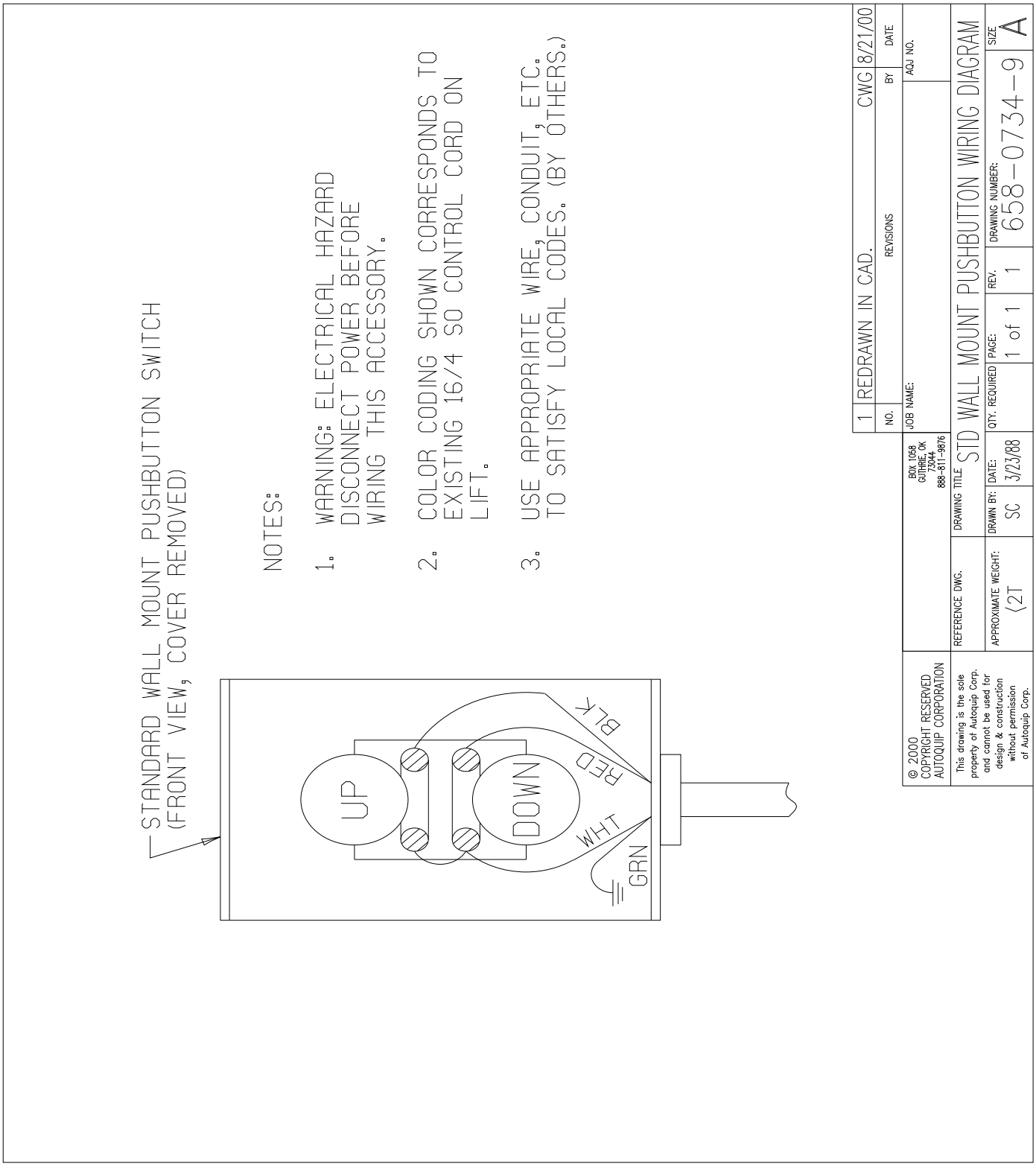


Figure 13 Pushbutton Assembly

REPLACEMENT PARTS LIST

MODELS PLD 20 & 30

PART #	DESCRIPTION
20022851	Clevis Pin Bushing 18DU12
20023965	Pivot Pin Bushing 24DU24
30000020	Motor, ¾ HP, 115-230/60/1/42 Fr/Tang/1725 RPM
32701290	Solenoid, 24VAC
32701370	Solenoid, 115 VAC
35104400	Control Panel Kit, Motor Starter & Fuse Holders
36202150	Push Button
40200255	Pump, 1.12 GPM, Tang
41050147	Suction Strainer
41050840	Deltatrol Valve Replacement Kit
41800541	Velocity Fuse
42300467	Ram Assembly, 1 ½" diameter rod, 56" stroke
45400082	Retaining Ring, 1 1/8"
45400108	Retaining Ring, 1 1/2"
45502234	Packing Set
45901014	Cylinder Bleed Screw , Dyna Seal – ¼"
46000022	Hose, ¼" x 9"
46000097	Hose, ¼" x 36"
46000139	Hose, ¼" x 72"
46200267	½" Suction Hose (12" or 18")
47900006	Aluminum Hex Filler Plug with O Ring, 1/2"
52500154	Base or Platform Clevis Pin, 1 1/8" x 1 ¾" with two snap ring grooves
52500253	Leg Roller Pin, 1 1/8" x 1 ¾" with one snap ring groove
52600269	Upper or Lower Leg Roller, 1 1/8" ID x 3" OD x ¾" with bushing

REPLACEMENT PARTS LIST

MODEL PLD 50

PART #	DESCRIPTION
20000030	Pump Coupling
20000154	Motor Coupling
20000162	Coupling Spider
20022877	Clevis Pin Bushing 18DU16
20024006	Axle Pin Bushing 24DU32
22170205	Cylinder Bleed Screw
30000670	Motor, 5 HP
32701380	Solenoid, 24VAC
35150153	Control Panel, 208-230V/1PH
36202161	Push Button
40300162	Pump, MTE, 2.25 GPM
41050900	Deltatrol Valve Kit Assembly (less coil)
41800558	Velocity Fuse, 4.5 GPM
42300467	Ram Assembly, 1 ½” Bore x 56” Stroke
44810380	Cylinder Seal
45400082	Retaining Ring, 1 1/8”
45400249	Retaining Ring, 1 1/2"
45901014	Cylinder Bleed Screw Seal
46000022	Hose, ¼” x 9”
46000048	Hose, ¼” x 14”
46100390	Hose, 3/8” x 18
46000071	Hose, ¼” x 24
46000089	Hose, ¼” x 30
46000097	Hose, ¼” x 36
46000430	Hose, ¼” x 42
46000139	Hose, ¼” x 72
46200267	½” Suction Hose (12” or 18”)
47300629	Pump Mounting Bracket
47700208	Filler Breather
48101315	Cylinder Rod Only, 1 ½” Bore x 56” Stroke
48200067	Cylinder Case 1 ½” Bore x 56” Stroke
52502705	Base or Platform Clevis Pin, 1 1/8” x 2 3/16”
52502697	Main Axle Pin, 1½” x 5 ¾” long
52502432	Leg Roller Pin, 1 1/8” x 2 3/32” long
52600269	Upper or Lower Leg Roller, 1 1/8” ID x 3” OD x ¾” with bushing
64000813	Reservoir, 16” x 16” x 10”

TROUBLESHOOTING ANALYSIS

DANGER!

To avoid personal injury, NEVER go under the lift platform until the load is removed and the scissors mechanism is securely blocked in the open position. See "Lift Blocking Instructions" section.

PROBLEM	POSSIBLE CAUSE AND SOLUTION
Lift does not raise.	• The motor voltage/wiring may be incorrect. • The hydraulic line or hose may be leaking. • Oil in the reservoir may be low. Add oil as necessary (See the “Routine Maintenance” section.) • The load may exceed the rating. (See the “Specifications” section.) • The suction screen may be clogged. Remove and clean the screen. Drain and replace the oil. • The suction line may be leaking air due to a loose fitting. Tighten as needed. • The breather holes in the reservoir fill plug may be clogged. Remove and clean. • The "Down" valve may be energized by faulty wiring or stuck open. Remove the solenoid and check. • The power unit pump may be defective • The structural members of the lift may be in a bind. • The manual lowering device may be engaged.
Lift seems bouncy during operation.	• There may be air in the hydraulic system. Bleed the air from the cylinder • Oil in the reservoir may be low. Add oil as necessary (See the “Routine Maintenance” section.) • The power unit suction strainer may be clogged. • The power unit suction line may be leaking. • There may be foreign material on the roller plate.

TROUBLESHOOTING ANALYSIS

PROBLEM	POSSIBLE CAUSE AND SOLUTION
Lift will not lower.	• The down solenoid may be malfunctioning. • The maintenance leg could be installed. • The structural members may be in a bind. • The tubing or hose is obstructed or broken. Check for obstruction in the line. • The return filter may be clogged. • The velocity fuse may be locked. **Do not attempt to remove the velocity fuse.** The following steps should be followed: 1. Remove the load from the lift. Inspect all fittings, hoses, and other hydraulic components for leads or damage. 2. If no leak or damage is noticed, attempt to pressurize the lifting cylinder by depressing the "UP" button on the controller for a few seconds. Immediately up releasing the "UP" button, depress the "DOWN" button. If the lift starts to lower, continue pressing the "DOWN" button until the lift is in the fully lowered position. 3. If the lift does not lower after trying Step 2, wait approximately 10 – 15 minutes for the pressure in the hydraulic system to equalize. Then, depress the "DOWN" button until the lift is in the fully lowered position. 4. Once the lift is in the fully lowered position, bleed the air from the hydraulic system by depressing the "DOWN" button. Hold the "DOWN" button for approximately 60 seconds. This step may need to be repeated several times to fully remove the air in the system by raising the lift to 50% of its travel and then lowering. • Should the above steps not correct the problem, contact *Autoquip* to obtain instruction for further action.

TROUBLESHOOTING ANALYSIS

PROBLEM	POSSIBLE CAUSE AND SOLUTION
Lift raises slowly.	• The structural members of the lift may be binding. • The tubing or hose is obstructed or broken. Where pipe is used, check for obstruction in the line. • The hydraulic line or hose may be leaking. • The oil viscosity is not suited for the environmental conditions. Refer to “Routine Maintenance” section for oil recommendations. • Check the oil level in the reservoir. • The motor voltage/wiring may be incorrect. • The suction screen may be clogged. Remove and clean the screen. Drain and replace the oil. • The suction line may be leaking air due to a loose fitting. Tighten as needed. • The breather holes in the reservoir fill plug may be clogged. Remove and clean. • The power unit pump may be defective.
Lift lowers slowly.	• The structural members of the lift are binding. • The tubing or hose is obstructed or broken. Where pipe is used, check for obstruction in the line. • The oil viscosity is not suited for the environmental conditions. Refer to “Routine Maintenance” section for oil recommendations. • The return filter may be clogged due to dirt or damage.

TROUBLESHOOTING ANALYSIS

PROBLEM	POSSIBLE CAUSE AND SOLUTION
Lift will not remain in raised position.	• The cylinder packing may be leaking. • The Deltatrol regulator is not seating. • The Deltatrol check valve is not seating. • The hydraulic tubing, hose, or fitting is leaking oil. • The return filter may be clogged.

LIMITED WARRANTY

The user is solely responsible for using this equipment in a safe manner and observing all of the safety guidelines provided in the Owner's Manual and on the warning labels provided with the lift. If you are unable to locate either the manual or the warning labels, please contact Autoquip or access www.autoquip.com for replacement downloads or information.

Autoquip Corporation expressly warrants that this product will be free from defects in material and workmanship under normal, intended use for a period of Two (2) Years for Labor and all electrical, mechanical, and hydraulic components, parts or devices, and warrants the structure of the lift against breakage or failure for a period of Five (5) years. The warranty period begins from the date of shipment. When making a claim, immediately send your dealer or Autoquip notice of your claim. All claims must be received by Autoquip within the warranty time period. The maximum liability of Autoquip, under this Limited Warranty, is limited to the replacement of the equipment.

This warranty shall not apply to any Autoquip lift or parts of Autoquip lift that have been damaged or broken in transit/shipping, or due directly or indirectly to misuse, abuse, vehicle impact, negligence, faulty installation, fire, floods, acts of God, accidents, or that have been used in a manner contrary to the manufacturer's limitations or recommendations as stated in the manual, or that have been repaired, altered or modified in any manner outside of Autoquip Corp's manufacturing facility or which have not been expressly authorized by Autoquip.

Autoquip Corporation makes no warranty or representation with respect to the compliance of any equipment with state or local safety or product standard codes, and any failure to comply with such codes shall not be considered a defect of material or workmanship under this warranty. Autoquip Corporation shall not be liable for any direct or consequential damages resulting from such noncompliance.

Autoquip Corporation's obligation under this warranty is limited to the replacement or repair of defective components at its factory or another location at Autoquip Corp's discretion at no cost to the owner. This is owner's sole remedy. Replacement parts (with exception of electrical components) will be warranted for a period of ninety (90) days. Except as stated herein, Autoquip Corporation will not be liable for any loss, injury, or damage to persons or property, nor for direct, indirect, or consequential damage of any kind, resulting from failure or defective operation of said equipment. All parts used to replace defective material must be genuine Autoquip parts in order to be covered by this Limited Warranty.

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