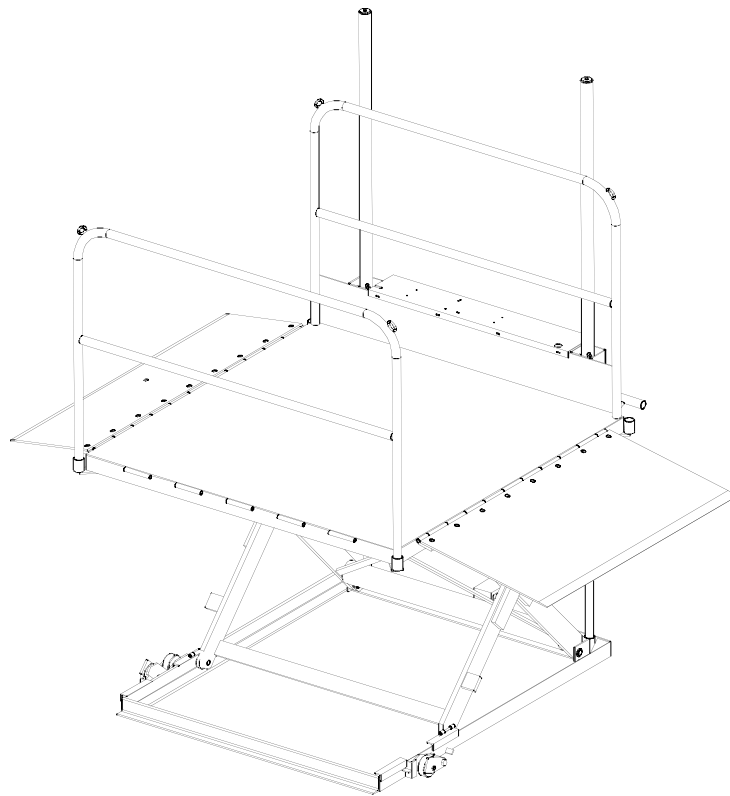


INSTALLATION, OPERATION AND SERVICE MANUAL

CMD PORTABLE DOCK SCISSORS LIFT



P.O. Box 1058 • 1058 West Industrial Avenue Guthrie, OK 73044-1058 • 405-282-5200 •
FAX: 405-282-8105 • www.autoquip.com

Item #830CMD

Version 1.0
07/2001

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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 any 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 it 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 you in the inspection of this lift:

1. Examine entire unit for any signs of mishandling. Pay special attention to the power unit and pushbuttons.
2. Thoroughly examine all connections, making sure they have not vibrated loose during transit, and inspect wiring for any signs of damage.
3. After installation, raise the lift and inspect the base frame, platform, scissors assembly, and cylinder plumbing connections.

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!

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.



DANGER!

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

DANGERS, WARNINGS & CAUTIONS



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.



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, stanchion, 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.

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 contaminants 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

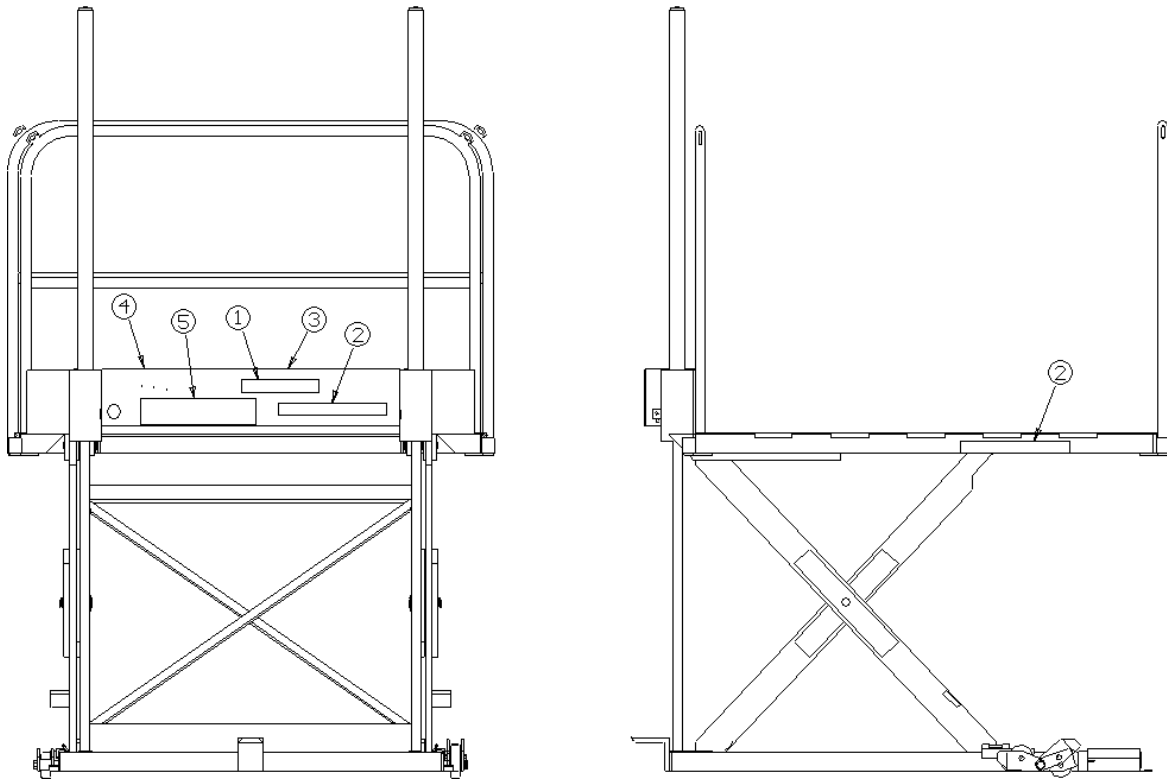


Figure 1 Label Placement Diagram

| CMD | | | |
|-----------------|------------|--|-----------------|
| Item No. | Qty | Description | Part No. |
| 1 | 2 | Caution – Familiarize Yourself With Operators Manual | 36401487 |
| 2 | 4 | Danger – Do Not Put Hands or Feet . . . | 36430050M |
| 3 | 1 | <i>Autoquip</i> Serial Number Nameplate | 36401511 |
| 4 | 1 | Fill with Recommended Oils Only | 36400661 |
| 5 | 2 | Capacity | 36401594 |

LABEL IDENTIFICATION

Note: Labels shown here are not actual size.



Figure 2 Label 36401487



Figure 3 Label 36430050M

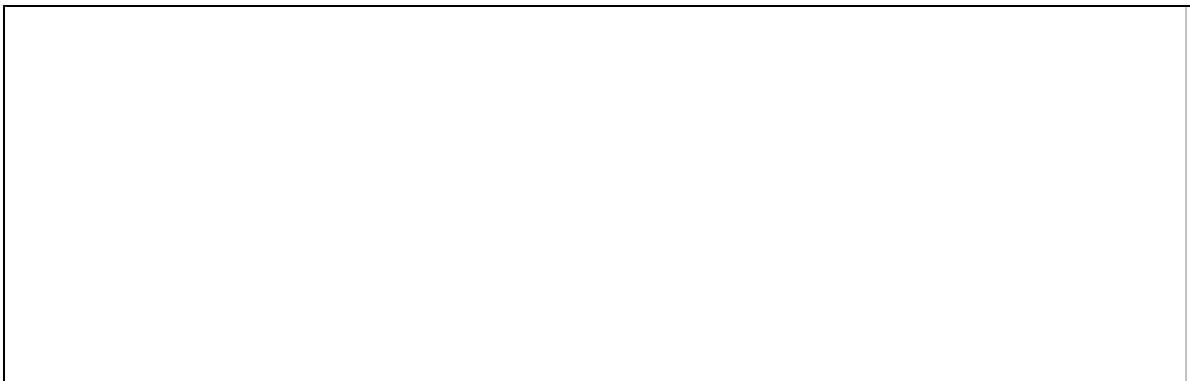


Figure 4 Label 36401511

LABEL IDENTIFICATION



Figure 5 Label 36400661



Figure 6 Label 36401594

SPECIFICATIONS

| Model | Lifting Cap. (lbs) | Axle Load Capacity Over Bridge End (lbs) | Axle Load Capacity Opposite Bridge End (lbs) | Axle Load Capacity Over Sides (lbs) | Approx. Std. Power Unit Dim (Inches) | Standard Platform (Inches) | Base frame Size (Inches) | Min. Lowered Height (Inches) |
|--------|--------------------|--|--|-------------------------------------|--------------------------------------|----------------------------|--------------------------|------------------------------|
| CMD-30 | 3000 | 1500 | 1500 | 1500 | Built-in | 72 x 72 | 60 x 75 | 5 3/8 |
| CMD-40 | 4000 | 2000 | 2000 | 2000 | Built-in | 72 x 72 | 60 x 75 | 5 3/8 |

NOTE: Both models have 2 rams, a standard 2 HP motor (230/60/1PH), a standard speed of 8 fpm, a 50" travel, and a shipping weight of 2450 pounds.

LOAD CAPACITY

The load capacity rating is stamped on a metal plate attached to 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 is reduced 2% for each one-inch extension from the center.

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 over (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.

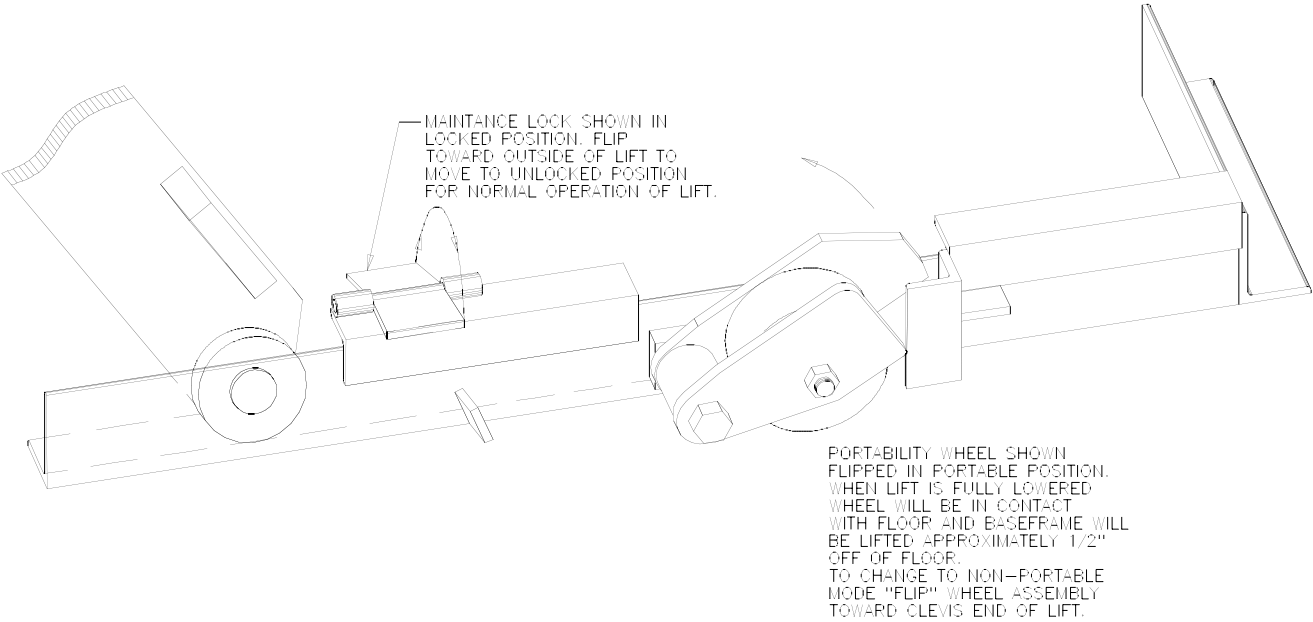
6. To remove the maintenance locks, raise the platform by activating the “UP” valve to provide sufficient clearance for the removal of the maintenance locks.



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



MAINTENANCE LOCK AND PORTABILITY WHEEL DETAILS

Figure 7 Maintenance Locks & Portability Wheels

INSTALLATION INSTRUCTIONS

The CMD is easy to install and operate. It is completely self-contained and ready to go to work as soon as the unit is received. The control is centrally located on the platform to allow operation from any side. All electrical components and wiring are in accordance with the National Electrical Code. Loads can be quickly rolled over the hinged throw-over bridge onto the platform. A removable "T" handle is provided enabling one person to move the empty CMD. No pit is required and the unit can be used to service several locations. The portability wheels are large enough to facilitate ease of movement and to minimize damage to surfaces. The CMD may be used inside or outside. It requires no lagging and is completely weatherproof.

1. Wire the heavy-duty power cord into a suitable single-phase outlet.
2. Check to insure there is proper pump rotation.

INSTALLATION INSTRUCTIONS

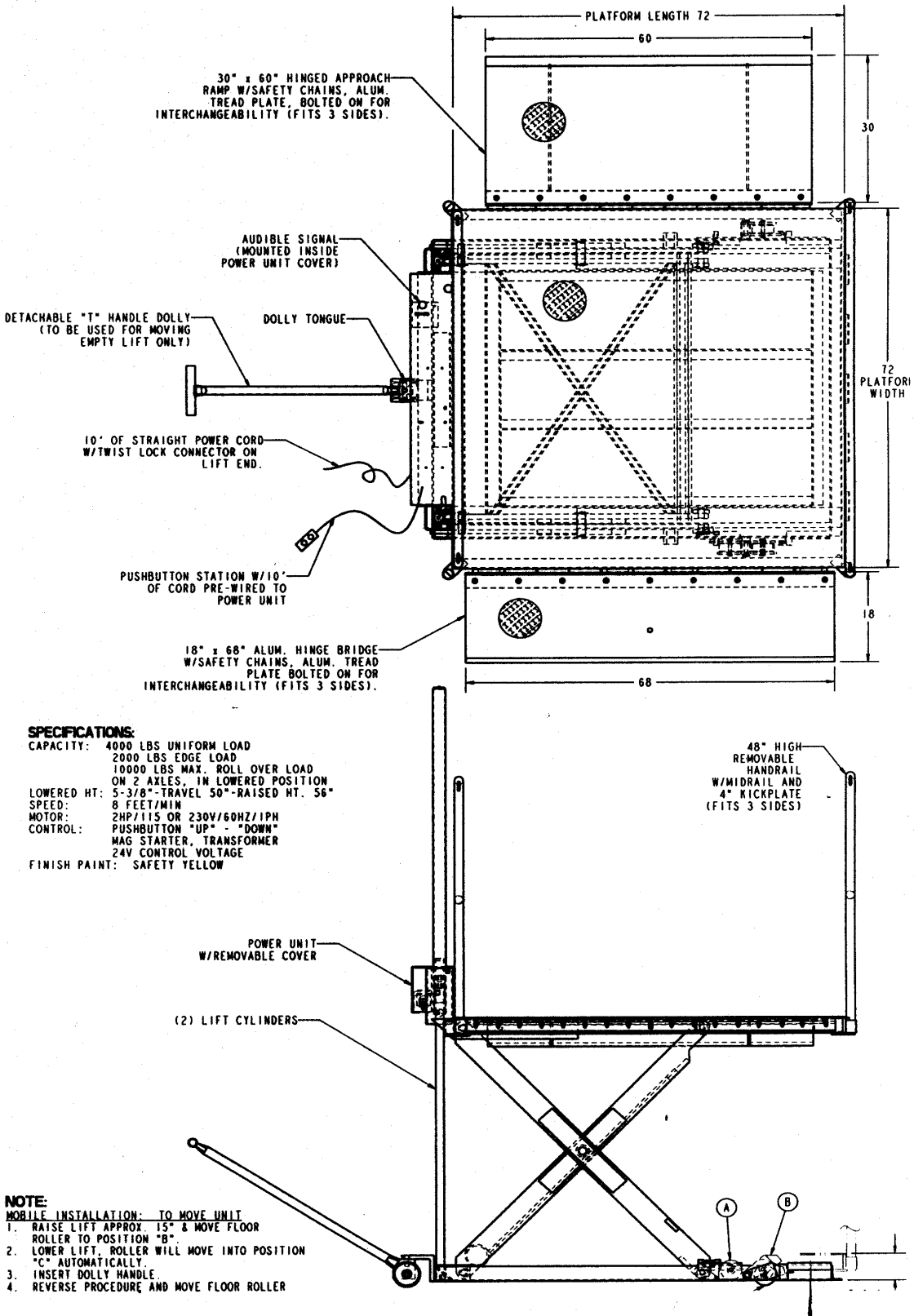


Figure 8 General Arrangement

OPERATING INSTRUCTIONS

1. Scissors lifts have maximum lifting capacity ratings (See the "Specifications" section). The safety relief valve has been factory set to open at a point slightly above the rated load and allows the oil to bypass into the reservoir. **The safety relief valve should not be adjusted for any reason as it could cause the motor or pump 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 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 the operators' hand 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 hand from the switch deactivates the "DOWN" circuit. The oil stops flowing from the cylinders and the downward movement will stop.



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.

PORTABILITY

The portability set is provided on the CMD as a means of moving the lift from one location to another without a load on the lift. The portability wheels are located on each side of the lift where the lifting cylinder is mounted to the lift platform (See Figure 7). Each lift is supplied with a Dolly-T-Handle that is also necessary for making the unit portable.

1. Raise the lift approximately half way.
2. Flip the portability wheels on the platform over to a vertical hanging position.

3. Lower the lift until the base frame, at the cylinder end, picks itself off of the floor approximately one inch.
4. The lift can then be moved by pulling or pushing on the “T” handle.

To disengage the portability set:

1. Lift the “T” handle to a vertical position and remove it from under the tang. Be careful, as the handle will have a tendency to pull away as the base is lowered to the floor.
2. Raise the lift approximately half way and rotate the portability wheels on the platform to their raised and stored position. The lift can then be operated in a normal manner.

NOTE: The lift must not be used for loading or unloading with the wheels in the portability position.

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. 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

Standard polyethylene tank capacity is approximately five quarts.

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

CYLINDER REPLACEMENT

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.
7. When the rod is free from the base, push the rod into the cylinder and remove the cylinder by lifting it up through the cylinder mounting tube.
8. Reinstall the new cylinder assembly in the reverse procedure of the above instructions.

GENERAL MAINTENANCE

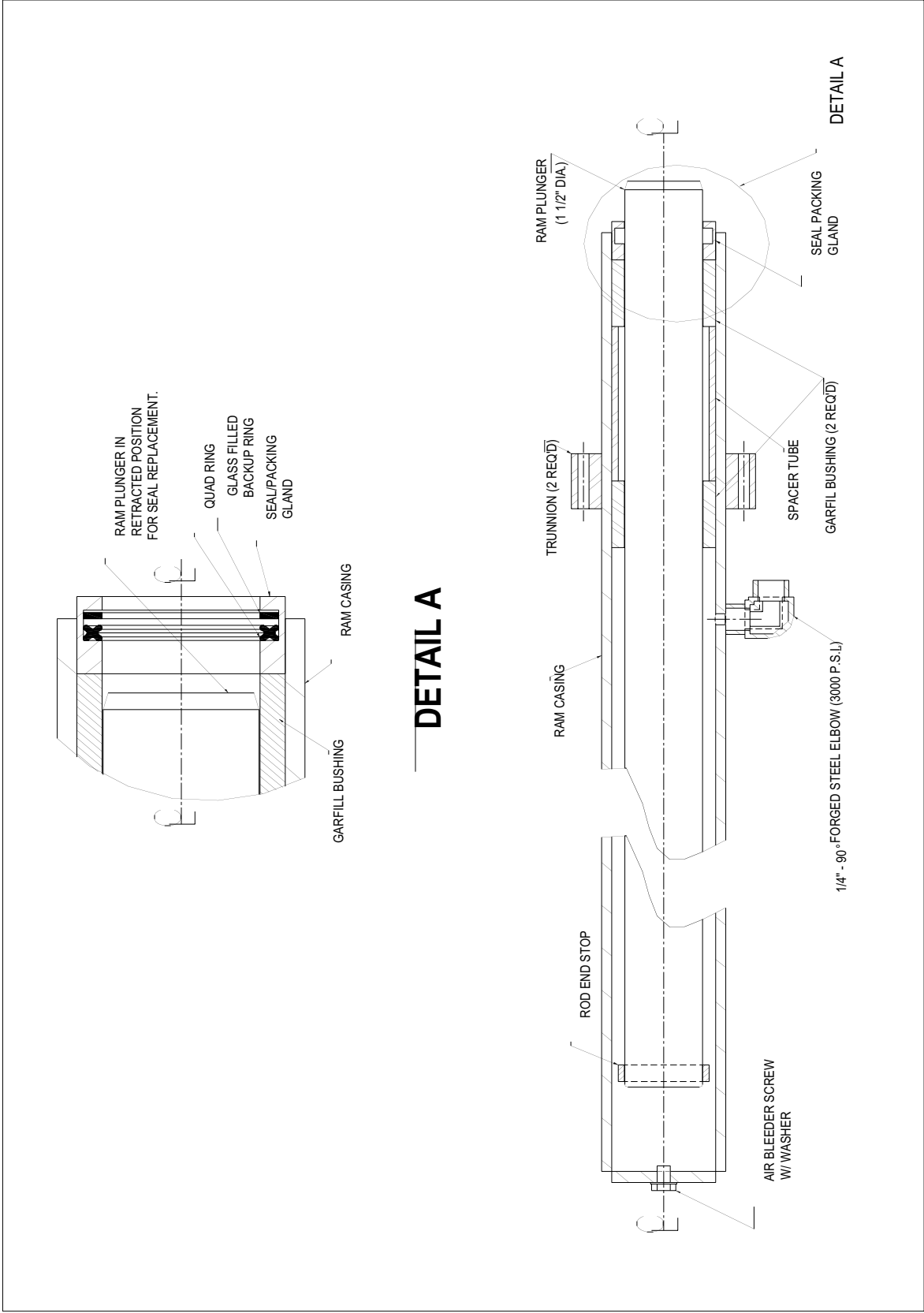


Figure 9 Ram Detail

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.

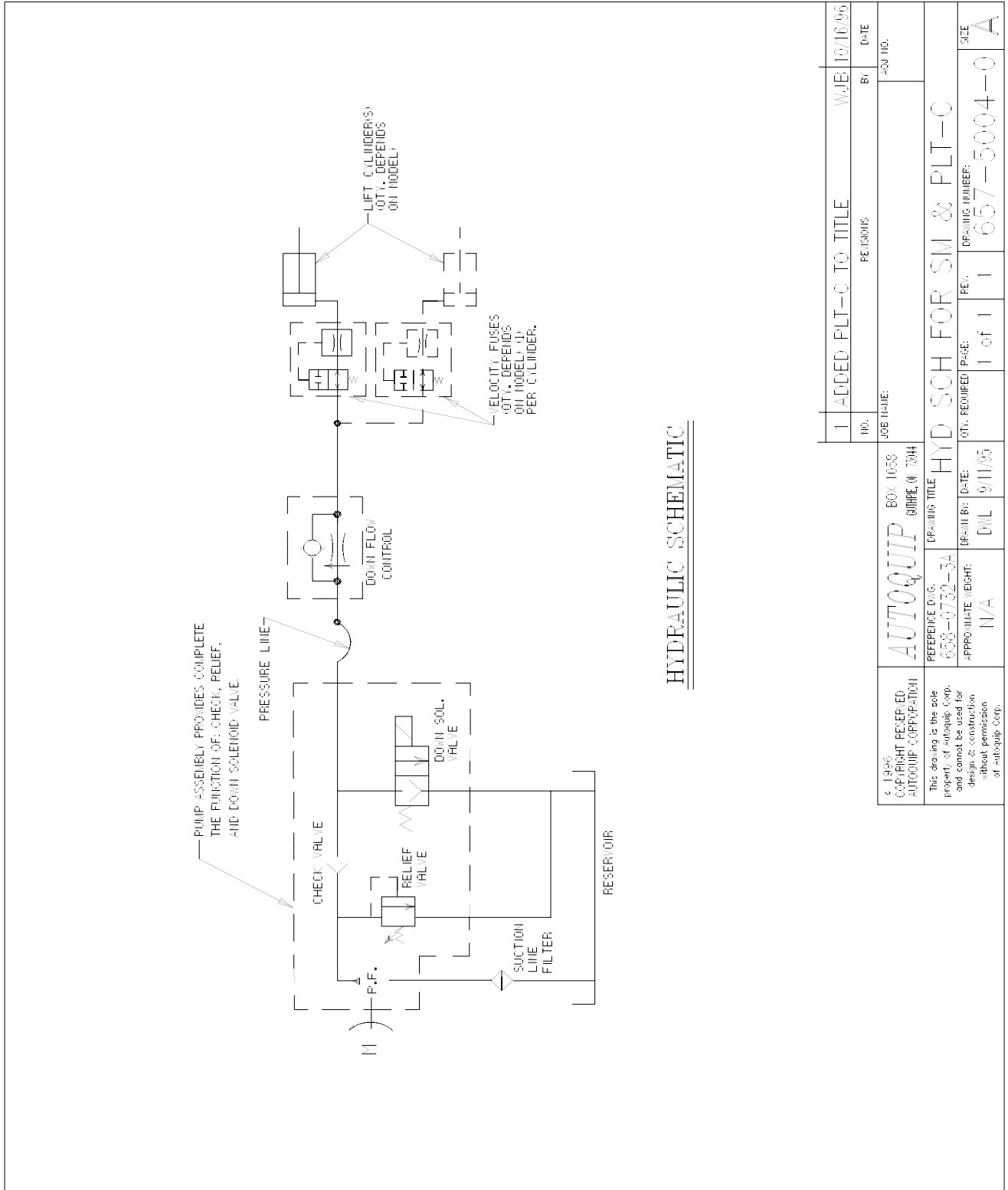
1. The arrow on the exterior surface of the velocity fuse shows the direction of the restriction to the oil flow. The arrow should always point away from the cylinder.
2. **Do not use Teflon tape on the threaded connections of a velocity fuse.** Tape fragments can cause malfunctioning of the fuse.
3. 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.
4. Lower the lift carefully and check to see that the hose is free and clear of the cylinder and the 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



HYDRAULIC SCHEMATIC

| | | | |
|--|----------------------|------------------------|----------|
| 1 | ADDED PLT-C TO TITLE | WJB | 10/16/96 |
| NO. | REVISONS | BY | DATE |
| JOB TITLE: | | ACO. NO. | |
| AUTOQUIP BOX 1038 | | | |
| COURTSHIP RESERVED: AUTOQUIP CORPORATION | | DRAWING TITLE | |
| This drawing is the sole property of Autoquip Corp. and cannot be used for design or construction without permission of Autoquip Corp. | | HYD SCH FOR SM & PLT-C | |
| REFERENCE DIV. | APPROXIMATE WEIGHT | QTY. REQUIRED | PAGE |
| 658-0732-3A | N/A | 1 of 1 | 1 |
| DRAWN BY | DATE | DRAWING NUMBER | |
| DML | 9/11/95 | 657-5004-0 | |
| | | | SCALE |
| | | | A |

Figure 10 Hydraulic Schematic CMD 30/40

GENERAL MAINTENANCE

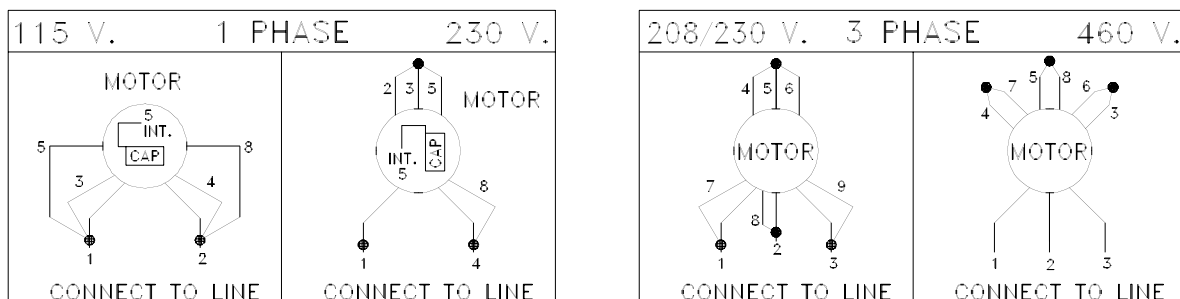
WIRING THE MOTOR

Use the following chart in connecting these motors to power sources.

| HP and Source | AMP Draw (full load) |
|-------------------------|----------------------|
| 2 HP / 115 V/60 CY/1 PH | 22 A |
| 2 HP / 230 V/60 CY/1 PH | 11 A |

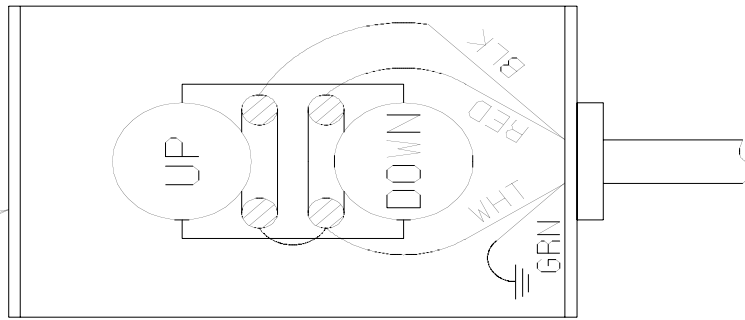
NOTE: 115V/1ph/60Hz operation is not recommended. If 115V/1ph operation is absolutely required, the lift will function properly if adequate power is supplied. However, it is very sensitive to deviations from the required power. Consequently, performance could prove unsatisfactory. To assure proper operation 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.

MOTOR CONNECTION DIAGRAMS



GENERAL MAINTENANCE

STANDARD WALL MOUNT PUSHBUTTON SWITCH
(FRONT VIEW, COVER REMOVED)



NOTES:

1. WARNING: ELECTRICAL HAZARD
DISCONNECT POWER BEFORE
WIRING THIS ACCESSORY.
2. COLOR CODING SHOWN CORRESPONDS TO
EXISTING 16/4 SO CONTROL CORD ON
LIFT.
3. USE APPROPRIATE WIRE, CONDUIT, ETC.
TO SATISFY LOCAL CODES. (BY OTHERS.)

| | | | | |
|---|-----------------------------------|---|-----------------------------|-------------------------------|
| © 2000 COPYRIGHT RESERVED AUTOMATIC CORPORATION This drawing is the sole property of Automatic Corp. and cannot be used for design & construction without permission of Automatic Corp. | 800-455- 67344 888-311-8776 | JOB TITLE: 73344 | 1 REDRAWN IN CAD. | DATE 08/21/00 |
| | REFERENCE D.W.G. (2T) | DRAWING TITLE STD WALL MOUNT PUSHBUTTON WIRING DIAGRAM | REVISIONS BY 400 HIG. | 1 of 1 |
| APPROXIMATE WEIGHT: (2T) | DATE: 3/23/00 | DTG. REQUIRED PAGE: 1 of 1 | REV. 1 | DRAWING NUMBER: 658-0734-9 |

Figure 12 Pushbutton Assembly

REPLACEMENT PARTS LIST

| PART # | DESCRIPTION |
|----------|--|
| 20022877 | 18DU16 Bushing |
| 20024006 | 24DU24 Bushing |
| 20036059 | Caster, 4" OD x 1_ " face, steel |
| 20038006 | Wheel, 5" x 1_ " x _ " steel |
| 28003176 | Cotter Pin |
| 30000710 | Motor, 2HP |
| 32701290 | Solenoid, 24VAC |
| 32701370 | Solenoid Coil, 115 VAC |
| 35108200 | Control Panel, 230V/1PH/24VAC |
| 35700947 | Connector Body, Hubbel 230V/1PH/20A |
| 35903610 | Flanged Inlet, Hubbel 230V/1PH/20A |
| 35903228 | Hinged Plug Cover |
| 40200640 | Pump, 0.7 GPM @ 1725 RPM, 3000 PSI, Tang shaft |
| 41050147 | Suction Coil Strainer, 90 degree elbow |
| 41503030 | Flow Control, 1.5 gpm |
| 41800541 | Velocity Fuse, 2.0 gpm |
| 42300467 | Ram 1_ " dia rod, 56" stroke |
| 45400058 | Retaining Ring, _ " |
| 45400082 | Retaining Ring, 1 1/8" |
| 45400259 | Retaining Ring (heavy duty) 1_ " |
| 45400462 | Retaining Ring, Truarc #n5000-200 |
| 45502234 | Cylinder Packing Kit |
| 45901014 | Dyna-Seal, _ " |
| 46000030 | Rubber Hose, _ " x 12 with swivel one end only |
| 46000071 | Rubber Hose, _ " x 24", NPT male fittings |
| 46000097 | Rubber Hose, _ " x 36", NPT male fittings |
| 46200432 | Suction Hose, 3/8" |
| 46200267 | Push-on Hose, _ " |
| 50110014 | Detail of floor roller fmk-CMD was #2-3171 |
| 52500303 | Pin, _ " diameter x 5 9/16" long, 2 ring |
| 52500311 | Pin, _ " diameter x 2 1/4" long, no ring |
| 52500667 | Pin, 1 1/8" diameter x 2 7/16" long, 2 ring, CMD upper leg pivot pin |
| 52500675 | Pin, 1 1/8" diameter x 2 1/8" long, 2 ring, CMD lower leg pivot pin |
| 52502226 | Axle Pin-PL with heavy duty snap ring, 2 ends, 1 1/8" diameter x 5" long |
| 52502432 | Clevis Pin, 1 1/8" diameter x 2 3/32" long |
| 52600269 | Roller Assembly, 3" OD x 1 1/8" ID x _ " long |
| 60950003 | "T" Handle Assembly |
| 64200603 | Hydraulic Reservoir (Series 35) |

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 raises, then lowers back slowly. | <ul style="list-style-type: none">• The "Down" solenoid may not be seating. Remove the solenoid coil and check again. If the lift does not hold with the solenoid coil removed, the down valve cartridge should be removed and cleaned or replaced as necessary.• The oil line, hose, or fitting may be leaking. Check and repair if necessary.• The "check valve" in the pump assembly may not be seating. This is indicated by the pump shaft and motor turning backward on their own with no power applied. Generally, this condition can be heard. Replace the pump assembly. |
| Lift lowers very slowly. | <ul style="list-style-type: none">• The down-solenoid is not operating properly due to dirt or damage.• Check for pinched tubing or hose. Where pipe is used, check for obstruction in the line.• The oil is extremely viscous due to low ambient temperatures. Add or replace with lower weight oil that stays thinner in cold conditions (5W-15, etc.) |

TROUBLESHOOTING ANALYSIS

| PROBLEM | POSSIBLE CAUSE AND SOLUTION |
|----------------------|--|
| Lift does not raise. | <ul style="list-style-type: none"> • The motor rotation for a 3-phase motor may be reversed. Reverse only two motor electrical leads. • Check for a line or hose leak. • Check for oil shortage in the reservoir. Add oil as necessary (See Oil Requirements in the "Routine Maintenance" section.) • The load may exceed the rating. (See the "Specifications" section.) Remove the excess load. • The suction filter may be clogged, starving the pump. Remove and replace the filter. 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 voltage at the motor terminals may be too low to run the pump with the existing load. Check by measuring the voltage at the motor terminals, or as near as possible, <u>while the pump is running under load</u>. Reading the source voltage or pump-idling voltage is meaningless. Inadequate or incorrect wiring can starve the motor when the source voltage is ample. Correct as necessary. • The "Down" valve may be energized by faulty wiring or stuck open. Remove the solenoid and check. • The motor may be single phasing. Check wiring, fuses, etc. • The pump may be seized if motor is humming or blowing fuses on overload protection devices. Remove the pump. The pump should be able to be rotated by hand. Check for cracks in the housing. • The down solenoid valve stem may be bent, causing the valve to be stuck open. Replace the down solenoid valve. |

TROUBLESHOOTING ANALYSIS

| PROBLEM | POSSIBLE CAUSE AND SOLUTION |
|-------------------|--|
| Lift won't lower. | <ul style="list-style-type: none"> • The solenoid coil may be incorrectly wired, burned out, not rated for the voltage, or the line voltage may be excessively low. Check voltage near the coil. • The velocity fuse may be locked. Do not attempt to remove the velocity fuse. The following steps should be followed: <ol style="list-style-type: none"> 1. Remove the load from the lift. Inspect all fittings, hoses, and other hydraulic components for leaks 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. Repeat this process 8 – 10 times. 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 then lowering. Bleed air from the bleeder screw on top of the cylinder. • Should the above steps not correct the problem, contact <i>Autoquip</i> to obtain instruction for further action. |

TROUBLESHOOTING ANALYSIS

| PROBLEM | POSSIBLE CAUSE AND SOLUTION |
|-------------------------------------|--|
| Lift seems bouncy during operation. | <ul style="list-style-type: none"> • Lower the lift to collapsed position and continue to hold “DOWN” button an additional 10-30 seconds to bleed air from the cylinder. Do not confuse spongy or jerky operation with small surges that may occur when operating on rough or uneven floors • Check for oil starvation. |
| Motor labors or heats excessively. | <ul style="list-style-type: none"> • The voltage may be low. Check at the motor terminals while the pump is <u>running loaded</u>, not at the line source or while the pump is idling. Inadequate wiring can starve the motor even when the source voltage is ample. • Most of <i>Autoquip’s</i> standard motors are rated for intermittent duty (two minute run times with two minute rests). If a single-phase motor is being run more than 15 – 20 motor starts per hour, or a 3-phase motor more than 200 starts per hour, the problem may be motor over-heating. • Running against relief pressure unnecessarily due to over loaded lift or hitting physical stops. • Failure to observe wiring diagram on nameplate for proper voltage connections. • The pump may be binding from oil starvation, which develops high internal heat. Check for low oil level or closed breather holes in the reservoir fill plug. The pump can be irreparably damaged by oil starvation and may have to be replaced. |