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1. INTRODUCTION AND WARRANTY

1.1 Introduction

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 you have any questions, call a local dealer or Autoquip Corporation at 1-888-811-9876 or 405-282-5200.

Please record the following information and refer to it when calling your dealer or Autoquip.

Model Number:________________ Serial Number:________________________
Installation Date _____/_____/_____

1.1.1 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.

1.1.2 Inspection

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

Use the following checklist for inspection of lift:

1. Examine entire unit for any signs of mishandling. Carefully check power unit and controls.

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 lift and inspect base frame, platform, scissors assembly, and cylinder plumbing connections.

1.1.3 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.
1.2  Responsibility Of Owners/Users

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

1.2.2  **Inspection & Maintenance**
Lift must be inspected and maintained in accordance with Autoquip’s operating/maintenance (O&M) manual and with other applicable safe operating practices.

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

1.2.4  **Repairs**
All repairs must be made by a qualified technician in conformance with Autoquip’s instructions.

1.2.5  **Operators**
Only trained personnel and authorized personnel shall be permitted to operate lift.

1.2.6  **Before Operation**
Before using lift, operator must:
- Read and/or had explained, and understood, manufacturer’s operating instructions and safety rules.
- Inspect lift for proper operation and condition. Any suspect item must be carefully examined and a determination made by a qualified person as to whether it constitutes a hazard. All items not in conformance with Autoquip’s specification must be corrected before operating lift.

1.2.7  **During Operation**
Use lift in accordance with Autoquip’s O&M manual.
- Do not overload lift.
- Verify all safety devices are operational and in place.
- Autoquip warrants this lift for 60,000 cycles each warranty year. This number of cycles represents normal, single shift duty. Exceeding this number of cycles shortens life of lift and length of your warranty.

1.2.8  **Modifications Or Alterations**
Modifications or alterations to this equipment may be made only with written permission of Autoquip. Unauthorized modification or alteration will void warranty.
1.3 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.
## 2. SPECIFICATIONS

### 2.1 Model Specifications

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2.2 Lift Specifications

There are many custom designs whose specifications may vary from those published for standard models. Please consult the specific General Arrangement (GA) Drawing to obtain the specifications for application-specific designs.

2.3 Load Capacity

Load capacity rating is stamped on a metal nameplate attached to lift. This figure is a net capacity rating for a lift furnished with a standard platform. If optional items are installed on lift after leaving manufacturer, deduct weight of these from load rating to obtain net capacity.

Do not exceed rated capacity of lift. Loading lift beyond its rated capacity is unsafe, will shorten operational life of lift, and will void warranty.

2.4 Unbalanced Loading

The stabilization provided is basically for balanced loads. If special attachments extend beyond the length and/or width dimensions of platform, end and/or side load capacity is reduced 2% for each one-inch extension from edge of platform. If load is rolling onto platform (in any but fully-lowered position) end and/or side load capacity is reduced by dividing the rated end/side load by 1.50 to establish an available “axle” load.

2.5 Pump Pressure

This lift incorporates a unique, positive displacement pump. Therefore, standard factory models of same manufacture cannot replace it.

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

2.6 Lift Duty

It is the responsibility of the user to notify Autoquip whenever a specific application is likely to demand “above normal” duty from lift. Above normal duty typically requires supplemental design features to enhance serviceable life of lift and to avoid loss of warranty.
3. SAFETY

3.1 Safety Signal Words

This Owner’s Manual covers Series 35 Lift models produced by Autoquip. Before installing, operating or servicing lift, you must read, understand and follow the instructions and safety warnings in this manual. Your lift may not be equipped with some optional equipment shown in this manual.

The safety information in this manual is denoted by the safety alert symbol: ⚠

The level of risk is indicated by the following signal words.

⚠️ DANGER

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

⚠️ WARNING

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

⚠️ CAUTION

CAUTION – Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

⚠️ NOTICE

NOTICE – Indicates a situation that could result in damage to the lift or other property.

3.2 Installation

⚠️ WARNING

Do not install lift in a pit unless pit has a bevel toe guard or other approved toe protection. A shear point can exist which can cause severe foot injury.
Lift platforms traveling below floor levels may create a toe hazard as load passes top edge of pit. This may require guarding in accordance with Federal Regulations. Guarding must be installed prior to operating lift.

⚠️ WARNING

Prevent serious injury or death.

Depending on model, standard weight of lift ranges from 500 – 4700 lbs.

Use a properly rated lifting device to move and install lift.
3.3 Operation

**WARNING**

Prevent serious injury or death.

Scissor lifts are designed for a specific load and application. Do not change load or application from original design.

Overloading, or uneven loading, could result in load instability and cause serious personal injury.

Stay clear of lift while lift is in motion.

Never stand, sit or ride on lift unless equipped with OSHA-compliant personnel guarding on the platform.

**WARNING**

Prevent serious injury or death.

Lifts which travel to an elevation above floor level where distance between floor and the underside of lift platform exceeds 60" must have the scissors mechanism guarded per ANSI MH29.1.

3.4 Hydraulics

Fluids can be hazardous. Before servicing lift, check Material Safety Data Sheet (MSDS) to understand the product, safe handling procedures, and first aid measures relating to product. Follow this information when servicing or repairing lift.

Do not drain or pour any fluids or lubricants into ground. Check with local environmental agencies, recycling centers, or your Autoquip dealer for correct disposal information.

**CAUTION**

Any time velocity fuses have been tripped, investigate cause of trip and verify necessary corrective actions have been taken prior to operation of lift.

**WARNING**

Prevent serious injury or death.

Do not attempt to remove Hydraulic Velocity Fuse (HVF) until maintenance device securely supports lift and all hydraulic pressure has been relieved.

HVF is attached to elbow fitting in pressure port of cylinder. Do not use a swivel fitting between HVF and cylinder. If HVF is installed improperly, it will not lock up in event of a hydraulic line failure.
Pressurized fluids can penetrate the skin.

Hydraulic hoses can fail from age, damage and exposure.

Do not search for hydraulic leaks without body and face protection. A tiny, almost invisible leak can penetrate the skin, thereby requiring immediate medical attention.

Use wood or cardboard to detect hydraulic leaks, never your hands.

**WARNING**

Spilled fluids and lubricants may be slippery and may also present a fire hazard.

Clean up spilled fluids and lubricants.

### 3.5 Maintenance

**WARNING**

Prevent serious injury or death.

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

**WARNING**

Prevent serious injury or death.

Never go under lift platform until load is removed and scissors mechanism is securely blocked in raised position with maintenance devices.

### 3.6 Modifications

**WARNING**

Prevent serious injury or death.

Do not modify lift. Autoquip cannot foresee and is not responsible for injury or damage which results from unauthorized modifications or misuse of lift.
To protect against death or serious injury, all labels must be on lift and must be legible.

If any of these labels are missing or cannot be read, call Autoquip for replacement labels.
XX,XXX
CAPACITY (lbs)
6 – DECAL_CAPACITY

Autoquip
Innovative Lift Solutions

7 – 36403220

JOB NO. MODEL NO.

MOTOR VOLTS CYCLE PHASE

CONTROL VOLTS

BLACK –
WHITE –
RED –
ORANGE –
BLUE –
GREEN –

WIRE CODE

TO OBTAIN PROPER ROTATION ON 3 PHASE UNITS, RUN PUMP MOTOR 5 TO 10 SECONDS ONLY. IF LIFT DOES NOT RISE CHANGE ROTATION.

PN 364-0334-3

8 – 36403343

DANGER
To avoid bodily injury, read and understand all instructions before operating or servicing lift.

Do NOT enter under this platform unless it is mechanically locked.

9 – 36433670
4. INSTALLATION

4.1 Remote Power Unit Installation

1. The remote power unit is to be located in an area protected from the elements and should be installed prior to the lift to facilitate lift operation during installation into the pit.

2. The remote contractor power unit is equipped with power unit mounting brackets and can be wall or floor mounted using these brackets. If equipped with a vertical power unit, optional power unit mounting brackets must be used for wall mounting.

3. The electrical work is to be done in accordance with local codes by a qualified electrician. See the “Maintenance” section for the standard wiring diagram.

4. If permanent electrical work is not complete, some means of temporary power with an on/off device for the motor will be required.

5. Fill the reservoir with oil per instructions in the "Maintenance" section.

4.2 Power Unit Wiring

4.2.1 Intermittent Remote Power Unit

1. The Intermittent Power Units utilize a 1-½ or 5 HP / 208-230-460 Volt / 60 hertz / 3 phase “Super-Torque” intermittent duty motor with (one full lift cycle per 2 minute period) driving a high pressure positive displacement pump assembly with an internal relief valve, check valve and down solenoid valve.

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

4.2.2 Heavy Duty Remote Power Unit

1. The Vertical 'HD' Power unit utilizes a 5 HP/ 208-230-460 Volt / 60 hertz / 3 phase Heavy Duty motor, (with a 30 minute continuous duty rating). The power unit is coupled with a high-pressure positive displacement gear pump, and Autoquip Corporation’s patented Deltatrol valve assembly.

2. The motor connection diagram should be referenced in connecting the motors to a power source. Remember that heavy wire must be used all the way to the power source.
4.3 Pit Installation

⚠️ WARNING

Do not install lift in a pit unless lift has a bevel toe guard or other approved toe protection. A shear point may exist which can cause severe foot injury.

Lift platforms traveling below floor levels may create a toe hazard as load passes top edge of pit. This may require guarding in accordance with ANSI MH29.1. Guarding must be installed prior to operating lift.

1. Check pit dimensions. Pit must be 2" longer and 2" wider than lift platform to allow a 1" gap between platform and pit. Pit depth should allow ½" for shims or grout.

2. Conduit diameter must be a minimum of 3" with long radius sweeps for necessary hydraulic hosing and field wiring.

3. Verify installation area is clean before starting. Check mounting surface of pit floor with a level or straight edge. If floor is not level, add shims or grout under entire perimeter of base to achieve a level and flat base installation. A level base is essential for proper wheel tracking and smooth lift operation.
Series 35 Pit Detail
See Pit Installation Notes
Prevent serious injury or death.

Depending on model, standard weight of lift ranges from 500 – 4700 lbs.

Use a properly rated lifting device to move and install lift.

4. Lower lift into pit and check for proper height. Lift must be solid and flush with pit curb angle framing (D). If needed, shim to desired height. DO NOT “spot” shim. Shim along full length of frame. This will prevent frame from sagging under load.

5. 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.

**WARNING**

Prevent serious injury or death.

Electrical service installation must be performed by a licensed electrician and conform to all local and national electrical codes.

**NOTE:** For larger horsepower motors, consult factory.

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<td><strong>HZ</strong></td>
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<td>60</td>
</tr>
<tr>
<td>3/4</td>
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**115 V. 1 PHASE 230 V.**

**1-1/2HP THRU 5HP MOTORS**

| 208/230VAC | 3 PHASE | 460VAC |
| 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | CONNECT TO LINE | CONNECT TO LINE | CONNECT TO LINE | CONNECT TO LINE |
6. Temporarily connect electrical service and hydraulic hoses. The hose connection on the end of the base frame is 1/2” female NPT.

**Hydraulic Piping/Hose Size**

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<td>½”</td>
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<tr>
<td>26 feet to 50 feet</td>
<td>¾”</td>
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<tr>
<td>Over 50 feet</td>
<td>1”</td>
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7. Check the routing of the temporary hydraulic lines to assure that the hose is clear of legs, base frame, and platform when lift is in the lowered position.

8. Fill hydraulic reservoir with proper type and volume of fluid.

9. Press “UP button and raise lift one foot.

10. Press “DOWN” button to fully lower lift. Continue to hold down button for 60 seconds. Repeat procedure five to seven times to bleed air out of hydraulic system.

11. Raise and lower lift as needed to make positioning adjustments.

12. Adjust platform to a clearance of 1” minimum around perimeter between platform and pit angle.

**WARNING**

NEVER go under a raised lift platform until load is removed and lift is securely blocked in raised position with maintenance devices.

See "Maintenance Device" section of this manual.

Lock-out/tag-out power source.

13. Base frame of lift has pre-drilled holes for anchoring to the floor. Anchor lift to floor. Lifts with oversize platforms have minimum pull out requirements of 2,000 lbs. for each anchor. See “Shimming And Anchoring Lift To Concrete”.

14. Make permanent electrical and hydraulic connections and operate lift through a few cycles.

15. Clean up debris and spilled oil from area. Dispose of oil in an environmentally safe manner.

16. Touch-up paint is available from Autoquip for repair of damaged paint surfaces.

17. Train personnel on lift operation, all safety features and procedures.
4.4 Shimming And Anchoring Lift To Concrete

Recommended concrete anchor bolts are: HILTI “Kwik-Bolt”, Molly Parabolt or similar.

1. Verify lift is positioned correctly.

2. Drill holes in concrete as specified by anchor bolt manufacturer.

3. Install and tighten anchors as specified by anchor bolt manufacturer.

4. After lift has been aligned, leveled and shimmed, and anchors have been installed, pour grout under entire base frame.

5. When grout has set and cured, tighten nuts on anchor bolts.

6. Route hydraulic hose or electrical cord through conduit in pit wall.

4.5 Accordion Skirt Installation

1. Position platform in raised position. Engage maintenance locks (see “Lift Blocking Instructions” section). Position accordion with weight rod pocket at bottom and mounting collar at top. The breathable material when provided must be positioned at top of skirt with mounting collar.

2. Slip skirt over end of platform. Turn skirt as required to slide over other end of platform and leg assembly. The skirt should be in position under platform while enveloping base assembly.

3. Select from the following mounting configurations.

Mounting Accordion Skirt On Platform Side

Raise one side of skirt along with a skirt-mounting bar (1/8” x 1”) to (1) side of platform. When possible, center skirt-mounting collar and skirt-mounting bar (1/8” x 1”) on platform side.

Align pre-drilled holes in side of platform with skirt-mounting bar holes and punch holes in skirt-mounting collar.

Push a nylon drive rivet through each hole in skirt-mounting bar. Hammer aluminum pin into rivet until flush with rivet head. Repeat mounting process for remaining sides of accordion skirt.
Mounting Accordion Skirt Under Platform

Raise one side of skirt along with a skirt-mounting bar (1/8” x 1”) to underside of platform skirt support bar. When possible, center skirt-mounting collar and skirt-mounting bar (1/8” x 1”) on platform support bar.

Align pre-drilled holes in skirt support bar with skirt-mounting bar holes and punch holes in skirt-mounting collar.

Push a nylon drive rivet through each hole in skirt-mounting bar. Hammer aluminum pin into rivet until flush with rivet head. Repeat mounting process for remaining sides of accordion skirt.

Mounting Accordion Skirt On Bevel Toe Guard

Raise one side of skirt along with a skirt-mounting bar (1/8” x 1”) to side of bevel toe guard. When possible, center skirt-mounting collar and skirt-mounting bar (1/8” x 1”) on platform bevel toe guard.

Align pre-drilled holes in bevel toe guard with skirt-mounting bar holes and punch holes in skirt-mounting collar.

Push a nylon drive rivet through each hole in skirt-mounting bar. Hammer aluminum pin into rivet until flush with rivet head. Repeat mounting process for remaining sides of accordion skirt.

4. Install weight rods into weight rod pockets at bottom of accordion skirt. Install spring tempered wire rods into pocket of black convolutions.
4.6 Toe Indicator Skirt

1. Position the platform in the raised position. Install the maintenance locks (see “Lift Blocking Instructions”). Position the Toe Indicator skirt with the weight rod pocket at the bottom and the Internal Horizontal Velcro strip at the top. See Toe Indicator Drawing.

2. The skirt should be mounted to the platform sides to allow the skirt to extend approximately 8” below the bottom of the platform, see Toe Indicator Drawing. At the Skirt starting point, the skirt should have a Vertical Exterior Velcro strip and an Internal Horizontal Velcro strip. Use the Horizontal Velcro strip with adhesive back to attach the skirt to the platform sides, typical for all (4) platform sides. Start the skirt 1/2” from Corner #1 and wrap the Toe Indicator Skirt ‘Clockwise’ around the side of the platform. Keep the skirt smooth and tight during the clockwise installation.

3. Before overlapping the skirt at Corner #1, insert the Weight Rods into the weight rod pockets. (1) Weight Rod into Side ‘A’ pocket and (1) Weight Rod into Side ‘B’ pocket. Check the opposite ends of each weight rod to insure the weight rod is fully inserted into each weight rod pocket. Wrap the skirt around Corner #1 and attach the Vertical Interior Velcro strip on Side ‘A’ to the Vertical Exterior strip on Side ‘B’.

4. After installing the Weight Rods in Side A & Side B, we need to install Weight Rods into Side ‘C’ and ‘D’. At Corner #3, on the OUTSIDE surface cut a 1” (max.) Vertical slot in the TOP of the weight rod pocket. Insert weight rods in this slot, (1) for Side ‘C’ and (1) for Side ‘D’. The un-cut portion of the weight rod pocket will retain the weight rods.
AT CORNER #5 ON OUTSIDE SURFACE, LOCATE OR CUT 1/8 SLOT IN TOP OF WEIGHT ROD POCKET. INSERT RODS INTO SLOT. 1 FOR SIDE C AND 1 FOR SIDE D.

SIDE D

CORNER #3

SIDE C

CORNER #2

SIDE B

CORNER #1

SIDE A

TOE INDICATOR SKIRT

BEFORE OVERLAPPING SKIRT AT CORNER #1
INSERT WEIGHT RODS IN WEIGHT ROD POCKET.
(1) FOR SIDE A AND (1) FOR SIDE B. WRAP SKIRT AROUND CORNER AND ATTACH TO VERTICAL VELOCITY STRIP.

WRAP SKIRT CLOCKWISE AROUND PLATFORM USING VELOCITY TO ATTACH TO SIDE OF PLATFORM

VERTICAL VELOCITY HOOK V STRIP ON OUTER SURFACE OF SKIRT

1/2"

CORNER #1

START PLACING SKIRT APPROX. 1/2 FROM CORNER #1

8" (TYP)

START SKIRT INSTALLATION AT CORNER #1 ON SIDE OF PLATFORM (AS SHOWN)

HANGING TOE INDICATOR SKIRT W/ WEIGHT ROD POCKET ON BOTTOM

INSIDE VELOCITY LOOP MATERIAL SEWN TO SKIRT

OUTSIDE VELOCITY HOOK MATERIAL

STARTING EDGE FOR CORNER #1

WEIGHT ROD POCKET

INSIDE VELOCITY LOOP MATERIAL
5.0 OPERATION

5.1 Raise And Lower Lift

⚠️ WARNING

Prevent serious injury or death.

Before operating lift, all personnel interacting with lift must read, understand and follow instructions and safety warnings in this manual.

NOTICE

Adjusting safety relief valve may result in premature motor failure.

Do not adjust safety relief valve.

Raising loads exceeding rated capacity of lift may result in excessive wear and damage to lift.

⚠️ WARNING

Prevent serious injury or death.

Personnel must maintain a safe operating distance of at least 36” any time lift is operated.

1. Verify all personnel are away from lift.

2. Press “UP” button to raise lift. Release button when lift reaches desired position.

NOTICE

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

3. Press “DOWN” button to lower lift. Release button when lift reaches desired position.

4. For lifts supplied with throw-over bridges, make sure bridges are in the stored (raised) position prior to raising or lowering the lift, and when backing up trucks for loading/unloading - to ensure that the bridges will clear all possible obstructions and contact with a moving truck.

Note: Bridges that hang below 45 degrees are in violation of ANSI Standard MH29.1-2012 paragraph 4.12.2 which states “When a hinged bridge is in its fully lowered position and not resting on a truck bed or landing, it should hang down at an angle not to exceed approximately 45 degrees from horizontal…. " Autoquip’s standard is to allow 20° of drop below horizontal.
6. MAINTENANCE

6.1 Maintenance Device

⚠️ WARNING

NEVER go under a raised lift platform until load is removed and lift is securely blocked in raised position with maintenance device.

Lock-out/tag-out power source.

This procedure describes the only factory-approved method of working under a lift. Follow these instructions EVERY time you plan to reach or crawl beneath the lift to perform service or maintenance — no matter how momentary that might be.

If the factory-provided maintenance device is damaged or missing, stop immediately and consult the factory for assistance. The manufacturer is not liable for your failure to use the approved maintenance leg and procedures that have been provided.

1. All loads must be removed from the lift prior to engaging the maintenance devices. These devices are designed to support an unloaded lift only. Failure to remove the load from the lift prior to blocking could cause the failure of the maintenance devices and allow the lift to fall unexpectedly. This can result in personal injury or death.

2. Raise the lift to its fully raised position. If you do not, the maintenance devices may not be able to be placed properly in their designed blocking position.

3. The lift will be provided with two (2) maintenance devices stored on the outside of the base frame. The devices must be securely placed inside the base frame (B) and thus in the roller path of the lift (See Figure 6.1 or 6.2).

   A - Maintenance Devices Disengaged
   B - Maintenance Devices Engaged

4. Lower the lift platform until the leg rollers or platform make contact with both maintenance device(s). Re-check to ensure that both device(s) are fully and properly engaged. If the maintenance device(s) is/are not fully engaged the lift could fall unexpectedly.
If for any reason you are unable to lower the lift completely onto the maintenance devices, stop immediately and consult the factory. Failure to properly use the factory approved maintenance devices could result in severe injury or death.

5. Once the maintenance devices are properly and securely engaged, continue to press the down button, valve or switch for an additional 5-10 seconds to relieve all pressure in the hydraulic system (it could take longer in a pneumatic system).
Failure to relieve operating system pressure could result in the sudden and unexpected release of high-pressure fluids (or air) during maintenance and/or repair of the lift, resulting in severe injury or death.

6. Follow OSHA electrical lock-out/tag-out procedures. Disconnect and tag all electrical and/or other power sources to prevent an unplanned or unexpected actuation of the lift.

7. Once inspection or work is complete, reverse the performance of the steps above to raise the lift off the maintenance locks and place the locks back into the designated storage position.

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

6.2 Routine Maintenance

Prevent serious injury or death.

Lock-out/tag-out power source prior to any maintenance being performed.

Prevent serious injury or death.

Never go under lift platform until load is removed and scissors mechanism is securely blocked in raised position with maintenance devices.

See Maintenance Devices section.

Pressurized fluids can penetrate the skin.

Hydraulic hoses can fail from age, damage and exposure. Do not search for hydraulic leaks without body and face protection. A tiny, almost invisible leak can penetrate the skin, requiring immediate medical attention.

Use wood or cardboard to detect hydraulic leaks, never your hands.
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**WARNING**

Spilled hydraulic fluid is slippery and may also present a fire hazard.

Clean up spilled hydraulic fluid.

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

### 6.2.1 Every Day Or 10 Hours Of Operation

- Check reservoir fluid level.
- Check for fluid leaks.
- Check all hoses and electrical cords for cracks, abrasions, twisting, etc. Small leaks at connections can be remedied by tightening connections or replacing faulty component.
- Check that oil pressure does not exceed 3,000 psi.
- Check all pivot joints & roller bearings for noise and wear.
- Check overall condition of unit (i.e. bends, breaks, loose or missing screws, etc.).

### 6.2.2 Every Month Or 100 Hours Of Operation

- Check quality of oil. Replace if discolored (oxidized), cloudy, or otherwise contaminated. Do not overfill reservoir. Always use clean fluid.
- Inspect lift cylinder rods for scoring and leaking, wipe away any foreign material.
- Inspect all structural and mechanical components for cracked, or broken welds and any distortion caused by collision, overloading, or other misuse.
- Inspect snap rings/bolts at rollers & pivot points for proper retention & tightness.
- Inspect cylinder trunion pin for proper retention.

When all checks have been completed, start unit and operate through all functions. Inspect all components for signs of noise, vibration, erratic movement, and any other abnormal behavior.

### 6.2.3 Every Year Or 1000 Hours Of Operation

- Change oil and clean reservoir. Always use clean fluid. Never return fluid from drip pans, pit, etc. back to reservoir. Dispose of and handle used fluid as a hazardous material.
- If noise or vibration has been noticed, remove lift cylinder pins, pivot pins, and roller bearings. Inspect for wear and replace as necessary.
- Inspect all hydraulic hoses, replace any that show signs of wear or leaking.
- Replace all filters.
- Check for permanent mechanical deformation.
6.2.4 Oil Requirements

Follow recommendations below that apply to your application.

<table>
<thead>
<tr>
<th>Environment (Ambient Temperature)</th>
<th>Recommended Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor locations with variable temperatures: 30 - 100 degrees F.</td>
<td>5W 30 or 5W 40 Multiviscosity Motor Oil</td>
</tr>
<tr>
<td>Indoor locations with constant temperatures: 60 - 80 degrees F.</td>
<td>SAE 20 Motor Oil</td>
</tr>
<tr>
<td>Outdoor locations: 30 - 120 degrees F.</td>
<td>5W 30 or 5W 40 Multiviscosity Motor Oil</td>
</tr>
<tr>
<td>Outdoor locations: 10 degrees F below 0 to 100 degrees F.</td>
<td>5W 20 or 5W 30 Multiviscosity Motor Oil</td>
</tr>
<tr>
<td>Cold Storage Warehouse: 10 - 40 degrees F.</td>
<td>Contact local Autoquip Service Rep.</td>
</tr>
</tbody>
</table>

Note: All oils are detergent type.

Note: Oil level should be 1” to 1-1/2” below the top of the reservoir.

6.2.5 Oil Capacity


Contractor polyethylene Tank: Approximately: 5.5 gal.

Vertical Steel Tank: Approximately: 10 gal.

NOTICE

Use approved fluids only. Use of unauthorized fluids may cause damage to seals and hosing.

Do Not Use:

- Automatic Transmission Fluid (ATF)
- Hydraulic Jack Oil
- Brake Fluids
6.3 General Maintenance

6.3.1 Hydraulic Cylinder Repair

6.3.1.1. Cylinder Plunger Removal

1. Raise lift to its full height and engage maintenance devices. See “Maintenance Devices”.

2. Disconnect electrical power to lift. Follow lock out-tag out procedure.

3. Disconnect cylinder hose at power unit end and insert into reservoir oil-fill hole.

4. Loosen the setscrew or hex bolt in the cylinder upper leg clevis (otherwise known as the Trunnion clevis).

5. Remove the cylinder pin from the upper leg clevis.

6. Lift the cylinder out of the leg assembly.

7. Push the piston rod into the cylinder to eject as much oil as possible into a container.

6.3.1.2. Replace Cylinder Seals

1. Insert spanner wrench and turn upper bearing assembly clockwise until tip of retainer appears in slot. Place a small screwdriver under retainer and turn retainer to remove.

2. Be sure hose port is open to allow air into cylinder. Pull piston rod out to remove upper bearing.

3. After all internal components have been removed, inspect inner walls of barrel. Use a cylinder hone to remove any apparent nicks or scratches. Clean and flush barrel after honing.

4. Remove piston head nut from rod. Upper clevis and pin may be used to prevent rotation of rod while loosening. Remove old piston.

5. Inspect groove for nicks or scratches that could affect seal or barrel walls; remove as necessary.

6. Install new piston, seals, and rod wiper.

7. Install and tighten piston head nut to 600-650 ft•lb of torque on 3½ inch bore cylinders or 850-950 ft•lb on 4 inch bore cylinders. Upper clevis and pin may be used to prevent rotation of rod while tightening.

8. Liberally lubricate piston and seal with clean grease or oil.

9. Insert piston into barrel, taking care not to damage seal.

10. Slip bearing assembly into place and align retainer hole with slot in barrel.

11. Turn bearing with spanner wrench until retainer is reinserted completely.
6.3.1.3. Placing Cylinder Back Into Service

Loctite PST #567 pipe thread sealant or equivalent is recommended.

**NOTICE** Do not use Teflon tape on hydraulic threaded connections. Tape fragments may damage hydraulic system.

Autoquip recommends replacing any NPT fittings that have been disassembled due to their inherent design for sealing.

1. Check that lift anchors are tight (when used). Check all pins and other mechanical and hydraulic connections.

2. Restore oil level. See oil recommendations in “Oil Requirements” section.

3. Turn on electrical power and press “UP” button. Loosen bleeder plug at the top end of ram casing and operate pump to remove trapped air from ram. When clear oil appears, tighten plug and raise lift slightly to disengage maintenance locks.

4. Lower lift completely and hold “DOWN” button for 60 seconds to allow air in cylinders to bleed back into reservoir.

5. Raise lift to 25 – 50% of full travel, then lower and hold “DOWN” button for an additional 60 seconds. Repeat procedure 8 – 10 times.

6. Clean oil fill breather cap.

**6.3.2 Bleeding Air From System**

1. Bleed air from system by raising lift to 25-50% of full travel, then lower completely.

2. Hold “DOWN” button for 60 seconds.

3. Repeat procedure 8-10 times. If this does not bleed all air from system, contact Autoquip.

4. Clean up any spilled oil. Dispose of spilled oil in an environmentally safe manner.
6.3.3 **Hydraulic Velocity Fuse (HVF) Replacement**

**Velocity Fuses were used on units built prior to November, 2017**

**WARNING**

Prevent serious injury or death.

Never go under lift platform until load is removed and scissors mechanism is securely blocked in raised position with maintenance devices and hydraulic pressure is relieved.

The HVF is attached to elbow fitting in rod port of cylinder. Do not use a swivel fitting between HVF and cylinder. If HVF is installed improperly, it will not lock up in the event of a hydraulic line failure.

Velocity fuse is not repairable. Replace velocity fuse if defective.

1. Arrow on hydraulic velocity fuse indicates direction of oil flow restriction. Hydraulic velocity fuse must be installed with arrow pointing away from cylinder.

   **NOTICE** Do not use Teflon tape on hydraulic threaded connections. Tape fragments may damage hydraulic system.

2. Apply Loctite PST #567 pipe thread sealant or equivalent to threads and install fuse to cylinder with arrow pointing away from cylinder. Tighten fuse.

   Autoquip recommends replacing any NPT fittings that have been disassembled due to their inherent design for sealing.

3. Fill reservoir to full mark if necessary with proper oil.

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

5. Bleed air from system. See “Bleeding Air From System” in this section.

6.3.4 **Hose Orientation**

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

1. Raise lift to its full height and block securely. See “Maintenance Devices”.

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

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

4. Lower lift carefully and verify hose is free and clear of cylinder and inner leg assembly. If not, twist hose in direction necessary to clear any obstruction and tighten swivel fitting.
6.3.5 Schematics and Field Wiring Details

Electric Schematic; 115V / 1 Phase /24V Control
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 WIRING

ELECTRICAL SCHEMATIC
TYPICAL PILOT CONTROLS ONLY
Electric Schematic: 208-230-460V / 3 Phase

NOTES:

1. MOTOR STARTER, CONTROLLER, TRANSFORMER, HEATERS, AND FUSES TO BE MOUNTED IN NEMA 1 ENCLOSURE, AND PRE-WIRED TO POWER UNIT.

2. TRANSFORMER PRIMARY CONNECTION DIAGRAMS ARE LOCATED ON INSIDE OF FRONT COVER.

3. FOOTSWITCH IS SHIPPED LOOSE FOR INSTALLATION BY OTHERS (WHEN ORDERED).

ELECTRICAL SCHEMATIC

TYPICAL PILOT CONTROLS ONLY

115VAC-(RED) (WHITE)-115VAC
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.)
WARNING: ELECTRICAL HAZARD.  
DISCONNECT POWER BEFORE WIRING 
WIRING THIS ACCESSORY.

1. USE 3/16" WIRE TABS FOR WIRING FOOTSWITCH.
2. EXCHANGE BLACK AND RED WIRES IF DESIRED TO SWITCH "UP" AND "DOWN" FUNCTIONS.
3. INSTALL FOOTSWITCH GUARD PER MANUFACTURER'S INSTRUCTIONS.
4. INSTALLER TO APPLY "UP" AND "DOWN" LABELS TO TOP OF COVER AS REQUIRED.
5. ELECTRICAL RATING WITHOUT CORD 15 AMP, 115/230VAC
6. FOOT GUARD PAINTED YELLOW
7. STANDARD FOOTSWITCH ASSEMBLY (TOP VIEW WITH TOP COVERS OF FOOTSWITCHES REMOVED)
8. FOOTGUARD GUARD PAINTED YELLOW
9. 15 AMP, 115/230VAC ELECTRICAL RATING WITHOUT CORD

NOTES:
Guarded Foot Switch Assembly

BARRIER COMES STANDARD.
CAN COME WITHOUT BARRIER
AT CUSTOMER'S REQUEST.

ALL STEEL
CONSTRUCTION

COMMON
WIRING CHANNEL

NON-SKID BASEPAD

10.75" 5.75" 4.83"

38
Optional Limit Switch Wiring Diagram

STANDARD SIDE MOUNT

TO BE USED IN MOST CASES UNLESS INTERFERENCE BETWEEN LEG STOPPER BAR AND LIMIT SWITCH ROLLER WHICH OCCURS IN THE LOWERED POSITION. IF INTERFERENCE OCCURS, SEE OPTIONAL END MOUNT ON PAGE 2. FOR FULLY LOWERED TRIGGER LOCATION, SEE PAGE 3.

1. RAISE LIFT TO DESIRED LIMITED HEIGHT.
2. MARK BASE ANGLE AT CENTER LINE (Q) OF ROLLER.
3. FULLY LOWER THE LIFT.
4. TEMPORARILY HOLD LIMIT SWITCH ON THE OUTSIDE OF THE BASE FRAME AS SHOWN IN TOP VIEW AND CHECK FOR CLEARANCE ON THE LIMIT SWITCH. IF INTERFERENCE OCCURS, SEE OPTIONAL END MOUNT ON PAGE 2.
5. FOLLOW INSTRUCTION MANUAL AND BLOCK LIFT OPEN AT A POSITION THAT ALLOWS ACCESS TO THE MARKED AREA.
6. SET ARM TO TRIGGER AT DESIRED HEIGHT.

WIRING INSTRUCTIONS

1. WARNING - ELECTRICAL HAZARD - FOLLOW INSTRUCTION MANUAL AND DISCONNECT POWER BEFORE WIRING THIS ACCESSORY.
2. USE APPROPRIATE WIRE, CONDUIT, ETC. TO COMPLY WITH LOCAL CODES (BY OTHERS).
3. DISCONNECT EXISTING BLACK CONTROL WIRE FROM TERMINAL “A1” OF THE MOTOR STARTER IN THE CONTROLLER.
4. SPOICE TO THIS WIRE AND CONNECT TO EITHER WIRE OF THE LIMIT SWITCH.
5. WIRE THE REMAINING WIRE OF THE LIMIT SWITCH BACK TO TERMINAL “A1” OF THE STARTER.
**OPTIONAL END MOUNT**

TO BE USED ONLY WHEN INTERFERENCE OCCURS ON STANDARD SIDE MOUNT STYLE EXPLAINED ON PAGE 1.

1. FOLLOW INSTRUCTION MANUAL AND BLOCK LIFT OPEN AT A POSITION THAT Allows ACCESS TO THE AREA SHOWN ABOVE.

2. SET LIMIT SWITCH LOCATION WHERE THE ARM WILL STRIKE THE TAPERED END OF THE LEG AS IT RAISES TO DESIRED LIMIT HEIGHT.

3. FULLY LOWER THE LIFT AND CHECK FOR CLEARANCE ON THE LIMIT SWITCH (IT SHOULD STAY COMPLETELY INSIDE THE BASE FRAME.)

4. SET ARM TO TRIGGER AT DESIRED HEIGHT.
FULLY LOWERED TRIGGER END MOUNT

TO BE USED FOR FULLY CLOSED SIGNALING ON STANDARD SIDE MOUNT STYLE EXPLAINED ON PAGE 1.

1. FOLLOW INSTRUCTION MANUAL AND BLOCK LIFT OPEN AT A POSITION THAT ALLOWS ACCESS TO THE AREA SHOWN ABOVE.

2. SET LIMIT SWITCH LOCATION WHERE THE ARM WILL STRIKE THE BOTTOM OF THE PLATFORM OR BACK UP BAR THAT IS DIRECTLY ABOVE THE END OF THE BASE.

3. FULLY LOWER THE LIFT AND CHECK FOR CLEARANCE ON THE LIMIT SWITCH (IT SHOULD STAY COMPLETELY INSIDE THE BASE FRAME.)

4. SET ARM TO TRIGGER AT DESIRED HEIGHT.
PUMP ASSEMBLY PROVIDES COMPLETE THE FUNCTION OF: CHECK, RELIEF, AND DOWN SOLENOID VALVE.

PRESSURE LINE

CHECK VALVE

RELIEF VALVE

DOWN SOL. VALVE

SUCTION LINE FILTER

RESERVOIR

DOWN FLOW

CONTROL VALVE

LIFT CYLINDER(S) (QTY. DEPENDS ON MODEL)

VELOCITY FUSES (QTY. DEPENDS ON MODEL) (1) PER CYLINDER.

THE FUNCTION OF: CHECK, RELIEF, PRESSURE LINE PUMP ASSEMBLY PROVIDES COMPLETE AND DOWN SOLENOID VALVE.

2 (QTY. DEPENDS PER CYLINDER.

LIFT CYLINDER(S) (QTY. DEPENDS ON MODEL)

VELOCITY FUSES (QTY. DEPENDS ON MODEL) (1) PER CYLINDER.

HYDRAULIC SCHEMATIC

REV DESCRIPTION BY DATE

Autoquip

HYD SCH FOR SM & PLT-C

N/A DWL 9/11/95 1 OF 1 2 657-5004-0 A
6.3.6 **Troubleshooting**

⚠️ **WARNING**

Prevent serious injury or death.

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

⚠️ **WARNING**

Prevent serious injury or death.

Never go under lift platform until load is removed and scissors mechanism is securely blocked in open position. Follow OSHA lock-out/tag-out procedure.

See "Maintenance Devices" section.

⚠️ **WARNING**

Pressurized fluids can penetrate the skin.

Hydraulic hoses can fail from age, damage and exposure.

Do not search for hydraulic leaks without body and face protection. A tiny, almost invisible leak can penetrate the skin, thereby requiring immediate medical attention.

Use wood or cardboard to detect hydraulic leaks, never your hands.

⚠️ **WARNING**

Spilled hydraulic fluid is slippery and may also present a fire hazard.

Clean up spilled hydraulic fluid.
<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE AND SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lift Raises, Then Lowers Slowly.</td>
<td>Down solenoid may not be seating. Remove solenoid coil and check. If lift does not hold with solenoid coil removed, remove and clean down valve cartridge or replaced as necessary. Oil line, hose, or fitting may be leaking. Check and repair if necessary. Check valve in pump assembly may not be seating. This is indicated by pump shaft and motor turning backward on their own with no power applied. Generally, this condition can be heard. Replace pump assembly.</td>
</tr>
<tr>
<td>Lift Lowers Slowly.</td>
<td>Down solenoid is not operating properly due to debris or damage. Check for pinched tubing or hose. Where pipe is used, check for obstruction in line. Thick oil due to low ambient temperatures. Add or replace with lower weight oil that stays thin in cold conditions (5W-15, etc.) If foam is visible in tank oil, check for loose connection in suction line between pump and tank. Tighten connections.</td>
</tr>
<tr>
<td>Lift Does Not Raise.</td>
<td>Motor rotation for a 3-phase motor may be reversed. Reverse two motor electrical leads. Check for line or hose leak. Check for low oil in reservoir. Add specified oil as necessary. Load may exceed rating. See the Specifications section. Remove excess load. Suction screen may be clogged, starving pump. Remove and clean screen. Drain and replace oil. Suction line may be leaking air due to a loose fitting. Tighten as needed.</td>
</tr>
<tr>
<td>PROBLEM</td>
<td>POSSIBLE CAUSE AND SOLUTION</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Lift Does Not Raise, Continued.</td>
<td>Breather holes in reservoir fill plug may be clogged. Remove and clean.</td>
</tr>
<tr>
<td></td>
<td>Voltage may be too low to run pump with existing load. Check by measuring voltage at motor terminals, or as near as possible, while pump is running under load. Inadequate or incorrect wiring can starve motor when source voltage is ample. Correct as necessary.</td>
</tr>
<tr>
<td></td>
<td>Down valve may be energized by faulty wiring or stuck open. Remove solenoid and check.</td>
</tr>
<tr>
<td></td>
<td>Motor may be single phasing. Check wiring, fuses, etc.</td>
</tr>
<tr>
<td></td>
<td>Pump may be seized if motor is humming or blowing fuses on overload protection devices. Remove pump. Pump can be rotated by hand unless seized. Check for cracks in housing.</td>
</tr>
<tr>
<td></td>
<td>Down solenoid valve stem may be bent, causing valve to stick open. Replace down solenoid valve.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROBLEM</th>
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</tr>
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<tbody>
<tr>
<td>Lift Won’t Lower.</td>
<td>Solenoid coil may be incorrectly wired, burned out, not rated for the voltage, or line voltage may be excessively low. Check voltage near coil.</td>
</tr>
<tr>
<td></td>
<td>Velocity fuse may be locked. Do not attempt to remove the velocity fuse. The following steps should be followed:</td>
</tr>
<tr>
<td></td>
<td>1. Remove load from lift. Inspect all fittings, hoses, and other hydraulic components for leaks or damage.</td>
</tr>
<tr>
<td></td>
<td>2. If no leak or damage is noticed, attempt to pressurize lifting cylinder by pressing “UP” button on controller for a few seconds. Immediately release “UP” button and press “DOWN” button. If lift starts to lower, continue pressing “DOWN” button until lift is fully lowered.</td>
</tr>
<tr>
<td></td>
<td>3. If lift does not lower after trying Step 2, wait approximately 10 – 15 minutes for pressure in hydraulic system to equalize. Then, press “DOWN” button until lift is fully lowered.</td>
</tr>
<tr>
<td></td>
<td>4. Once lift is fully lowered, hold “DOWN” button for approximately 60 seconds to bleed air from system. This step may need to be repeated several times to fully remove air in system by raising the lift to 50% of its travel and lowering.</td>
</tr>
<tr>
<td></td>
<td>If above steps do not correct problem, contact Autoquip to obtain instruction for further action.</td>
</tr>
<tr>
<td>PROBLEM</td>
<td>POSSIBLE CAUSE AND SOLUTION</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lift Seems Bouncy During Operation.</td>
<td>Lower lift to closed position and continue to hold “DOWN” button an additional 10-30 seconds to bleed air from 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.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Labors Or Heats Excessively.</td>
<td>Voltage may be low. Check voltage at motor terminals while pump is running under load, not at line source or while pump is idling. Inadequate wiring can starve motor even when source voltage is ample.</td>
</tr>
<tr>
<td></td>
<td>Most of <em>Autoquip</em>’s standard motors are rated for intermittent duty. 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.</td>
</tr>
<tr>
<td></td>
<td>Running against relief pressure unnecessarily due to over loaded lift or hitting physical stops.</td>
</tr>
<tr>
<td></td>
<td>Failure to observe wiring diagram on nameplate for proper voltage connections.</td>
</tr>
<tr>
<td></td>
<td>Pump may be binding from oil starvation, which develops high internal heat. Check for low oil level or clogged breather holes in reservoir fill plug. Pump can be damaged by oil starvation.</td>
</tr>
</tbody>
</table>
NOTE:
DIMENSIONS ARE APPROXIMATE

5.6 GALLON POLYETHYLENE RESERVOIR

FILLER/BREATHER

5 HP MOTOR

DOWN SOLENOID COIL

2.8 GPM PUMP - WITH INTERNAL CHECK, DOWN, RELIEF VALVES

DRAIN PLUG

(2) MOUNTING BRACKETS - SUITABLE FOR FLOOR OR WALL

SUCTION STRAINER
5HP / 208-230-460V / 3 Phase Contractor PU

NOTES:
2. *R* = RED FLASHING LIGHT (OPTIONAL).
4. SEE ASSEMBLY AND/OR SPEC. SHEET FOR SPECIFIC VOLTAGES, OR CONTROLS SUPPLIED AND CONFIGURATION.
5. PUSHBUTTON SHOWN AS TYPICAL PILOT DEVICE.
6. TRANSFORMER PRIMARY CONNECTION DIAGRAMS ARE LOCATED ON INSIDE FRONT COVER OR ON DEVICE.

COLOR CODE OF STANDARD PENDENT PUSHBUTTON WHEN SUPPLIED

FIELD WIRING TYP. (BY OTHERS)

REVISION DESCRIPTION BY DATE

ELEC SCH For VERT & CONTR PU

REV: DESCRIPTION

DATE

65700030

A
Air Requirement: 90 PSI & 110 CFM

Series 35 Air Power Unit (P/N 64306710)

NOTE:
DIMENSIONS ARE APPROXIMATE

FILLER/BREATHER
1.0 GALLON POLYETHYLENE RESERVOIR
DOWN SOLENOID CARTRIDGE
SUCTION STRAINER
PUMP
AIR MOTOR
MUFFLER
Standard & Contractor Air Power Units

AIR / HYDRAULIC SCHEMATIC

- EXHAUST TO ATMOSPHERE
- FILTERED AIR SUPPLY
- LUBRICATOR
- AIR HOSE
- AIR CONTROL VALVE (SHOWN FOR CORRECT VALVE SUPPLIED SEE ASSEMBLY DIAG., OR PACKING LIST)
- AIR CONTROL VALVE (GENERIC)
- MUFFLER
- PUMP
- CHECK VALVE
- RELEIF VALVE
- DOWNFLOW CONTROL VALVE
- PRESSURE HOSE (BY OTHERS)
- HYDRAULIC VALVE PROVIDES COMPLETE FUNCTION OF CHECK VALVE, RELIEF valve, AIR OPERATED DOWN VALVE
- LIFTING CYLINDER OR RAM
- VELLOTY FUSE
- LIFTER VALVE
- AIR OPERATED DOWN VALVE
- AIR OPERATED SUPPLY REGULATOR
- (BY OTHERS)
- FILTER
- RESERVOIR
- AIR HOSE
- FREE AIR

Note: Construction of the actual air power unit for this schematic is based on the specific job requirements and should be verified with the manufacturer before installation.

Quantity of cylinder / rams and velocity fuses depends on the model of lift used.

[1] VELOCITY FUSE PER CYLINDER / RAM.
Air Valve Hose Diagram for Air Power Unit

NOTE:
1. "UP TRAVEL" LIMIT VALVE IS A NORMALLY OPEN VALVE; CAM ACTUATED. REQUIRED TRAVEL OF CAM FOR VALVE ACTIVATION IS 7/32". LOCATE & ADJUST VALVE LOCATION SO THAT MAXIMUM TRAVEL OF CAM DOES NOT EXCEED 1/2" TRAVEL.

2. FOR REMOTE POWER UNIT
   CONNECT FITTING #26140152 TO AIR MOTOR 1/2" PORT. FOR PLUMBING THE 3/8" TUBING USE FITTING #26035709 AND INSTALL IN 1/8" DOWN VALVE PORT ON REMOTE POWER UNIT.
Continuous Running Vertical Power Unit

NOTES:

1. FOR USE WITH PUSHBUTTON CONTROLS.
2. SEE ASSEMBLY AND/OR SPEC. SHEET FOR SPECIFIC VOLTAGES, OR CONTROLS SUPPLIED AND CONFIGURATION.
3. MS = MOTOR STARTER
4. XFMR = TRANSFORMER
5. P.B. = PUSHBUTTON
6. SOL = SOLENOID COIL
7. ALL INTERCONNECTING WIRING (BY OTHERS).
Continental Running Vertical Unit

The Delatrol valve provides the complete function of check, relief, pressure compensated flow control, solenoid lowering valve and pressure line filtration.

Check Valve
Line Filter
Compensated Flow Control, Solenoid
Lowering Valve and Pressure Line Filtration.

Pressure Line

Aq "Up-Stop" Valve (When Used)

Velocity Fuses

Model of Lift Used.

(1) Velocity Fuse Per Cylinder.

Quantity of Cylinders and Velocity Fuses Depends on Model of Lift Used.

Suction Line Filter

Reservoir

Suction Line Filter is Internal to Delatrol Block unless a separate filter is specified.