
Instruction Manual for the Taylor PVA Glue Pump

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Installing the Glue Applicator:



1. Place the Glue Applicator on top of the Panel-Mint where it will be used. Mount the motor on it's mount if it is not in place. Install the V belt between the motor and the main drive pulley if it is off.
2. The sheet metal glue pan is equipped with a double bottom so that cold water may be circulated through it and this should be connected to the water source with a flexible rubber hose. This glue pan will not stand any pressure and the water must be circulated in such a way that no pressure over 5 PSI is exerted on the pan. This glue pan may be very easily lowered for cleaning by removing the two pins which hold it up, and the flexible hose makes it possible to do this without any extra work.
3. The doctor roll on the Glue Applicator can be adjusted by moving the two screws which are arranged to adjust the positions of the doctor roll bearings. In the top of these small doctor roll bearings, are two slotted set screws. These must be removed weekly and oil must be put in for lubricating the bearings of the doctor roll. This is the only revolving part of the machine which is not mounted on ball bearings and must therefore be lubricated frequently.
4. Extra rivets and extra cross angles are supplied with each machine. If the chain becomes loose in time, it can be tightened by adjusting the bearing boxes at each end of the machine. Oil the track Of the machine daily where these rivets ride on the track.
5. All pieces set on edge on the conveyor between the two guard rails on the infeed side of the Applicator will receive a coating of glue, as they are conveyed to the discharge side.
6. It is customary to set a large tub of water on a low stand directly under the glue pan, so the glue pan can be lowered into the tub for washing. After removing the glue pan, the glue roll is easily removed by pulling on the "quick release" pin. The glue roll and doctor roll can be cleaned with a short bristle brush and so the drippings will drip into the tub of water. It requires no more than 10 minutes to do a good cleaning job on the glue roll and glue pan.
7. The mechanisms of the Glue Applicator are protected by a slip clutch mounted on the geared stage of the drive. The slip clutch is factory set to allow slippage when the conveyor chain is held back by hand. After the machine has been placed in service, it may be necessary to adjust the clutch to compensate for the added friction of dried glue, etc. The gear guard will have to be removed to make the adjustment. Replace the guard when adjustment is complete.

Introduction

We at James L. Taylor Mfg. Co. would like to thank you and your company for selecting the Taylor PVA Glue Pump. With proper care, your PVA Glue Pump will provide you with many years of trouble-free service.

This manual contains important information about the installation, operation and maintenance of your PVA Glue Pump. We urge you to read it carefully, become familiar with the components and features it describes, and follow its recommendations, to help make your gluing trouble-free and productive.

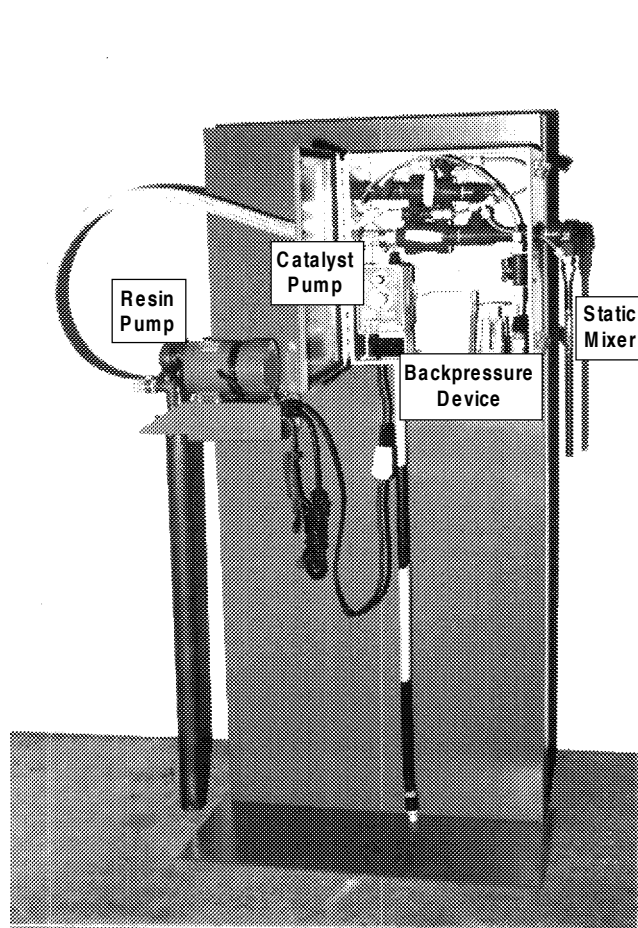
Installation

	<div data-bbox="773 604 1432 737"> WARNING</div> <div data-bbox="773 827 1432 1087">Lockout ALL energy sources before servicing.</div>
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Installation

1. Attach the enclosure of the Catalyzed PVA Mixer to the frame of the glue applicator.
Be sure that the static mixer is situated such that it will discharge into the glue pan of the applicator.
2. Remove the plug from the large (2") bung on a 55-gallon drum of PVA resin and insert the resin pump into the bung. The resin pump should rest securely on top of the drum. Connect one end of the 1" resin tube to the outlet of the resin pump, and the other end onto the inlet of the mixer assembly.
3. Place a 5-gallon pail of liquid catalyst on the floor, under the catalyst pump.
4. Remove the large cap from the top of the pail of catalyst.
5. Install the proper length of 1/4" clear tubing with strainer onto the pickup fitting of the catalyst pump such that the strainer will reach to the bottom of the pail of catalyst. Feed the tube into the pail of catalyst. Use the tube stiffener supplied to keep the tubing straight and the foot valve in an upright position. This is *Very Important!*
6. Install a length of 1/4" clear tubing between the outlet of the catalyst pump and the catalyst line tee fitting on the mixer assembly. Tighten all fittings securely by hand.
7. Set the catalyst pump stroke to 50%. Set the speed also to 50%.
8. Connect a water line (with shut-off valve) to the mixer water inlet.
9. Mount the glue level probe support to the frame of the glue applicator. Insert the probe (insulated from the support by a short piece of 1/4" rubber tubing) and adjust for proper glue level. Attach one of the two level sensor electrical leads to the probe, and the other to the edge of the glue pan.
10. Plug the catalyst pump power cord into the female resin pump power cord.
11. Plug the male resin pump power cord into a 120V AC outlet.



SUCTION TUBING STRAIGHTENER Model No. 32293

- Aids in maintaining optimum pump performance by keeping the suction tubing and foot valve straight.
- For use with all LMI suction tubing sizes (1/4" 3/8" and 1/2" and recommended metric tubing sizes).
- Simplicity of design for easy assembly and installation.
- Helps prevent loss of prime
- Makes priming easy
- Constructed of polyethylene. Resistant to a wide variety of solutions.
- Four piece modular construction for adjustable length.

INSTALLATION

1. Install foot valve on the end of the suction tubing included with pump. See Liquid Handling Assembly sheet for complete instructions.

2. Determine and cut length of suction tubing required for application (maximum suction lift must not exceed 5 feet [1.5m]).

Note: The bottom of the foot valve should be at least 2 inches (51mm) above the bottom of the solution tank for sediment accumulation if tank or drum is not changed regularly.

3. Assemble tubing straightener by interlocking alternate black and yellow tubes (Fig. 1). Adjust tubing straightener length by equally forcing one black tube inside one yellow tube. Twist the tubes in opposite directions to lock into place. (Maximum tubing straightener height must not exceed 33 inches (.8 m) fully assembled.)

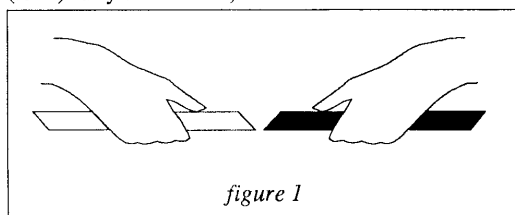


figure 1

4. Slide the tubing straightener over the suction tubing (black tube first) so the black inner tube contacts the top of the foot valve coupling nut (Fig. 2).

5. A minimum of 6" (152 mm) of suction tubing should exit the tubing straightener at the top so the connection can be made at the suction fitting on the pump head (Fig. 2) according to the instructions on the Liquid Handling Assembly sheet.

6. Install foot valve, tubing and tubing straightener assembly into solution tank and attach tubing to suction fitting on pump head (Fig. 2).

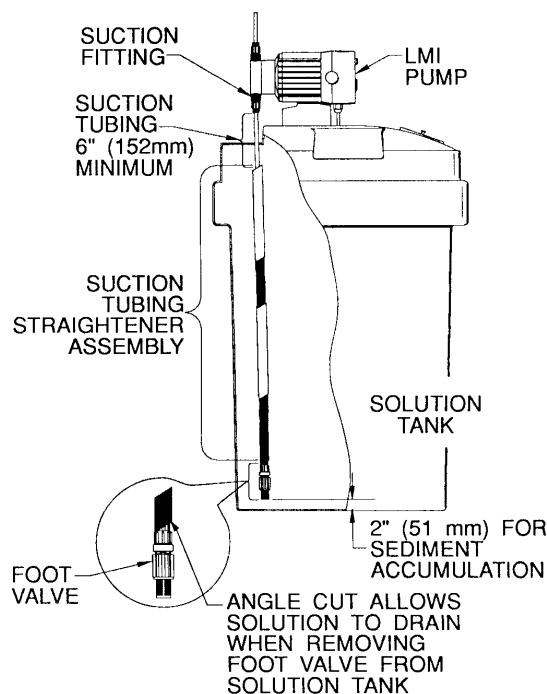
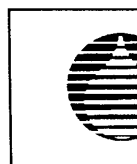


figure 2



WALCHEM

WALCHEM CORPORATION

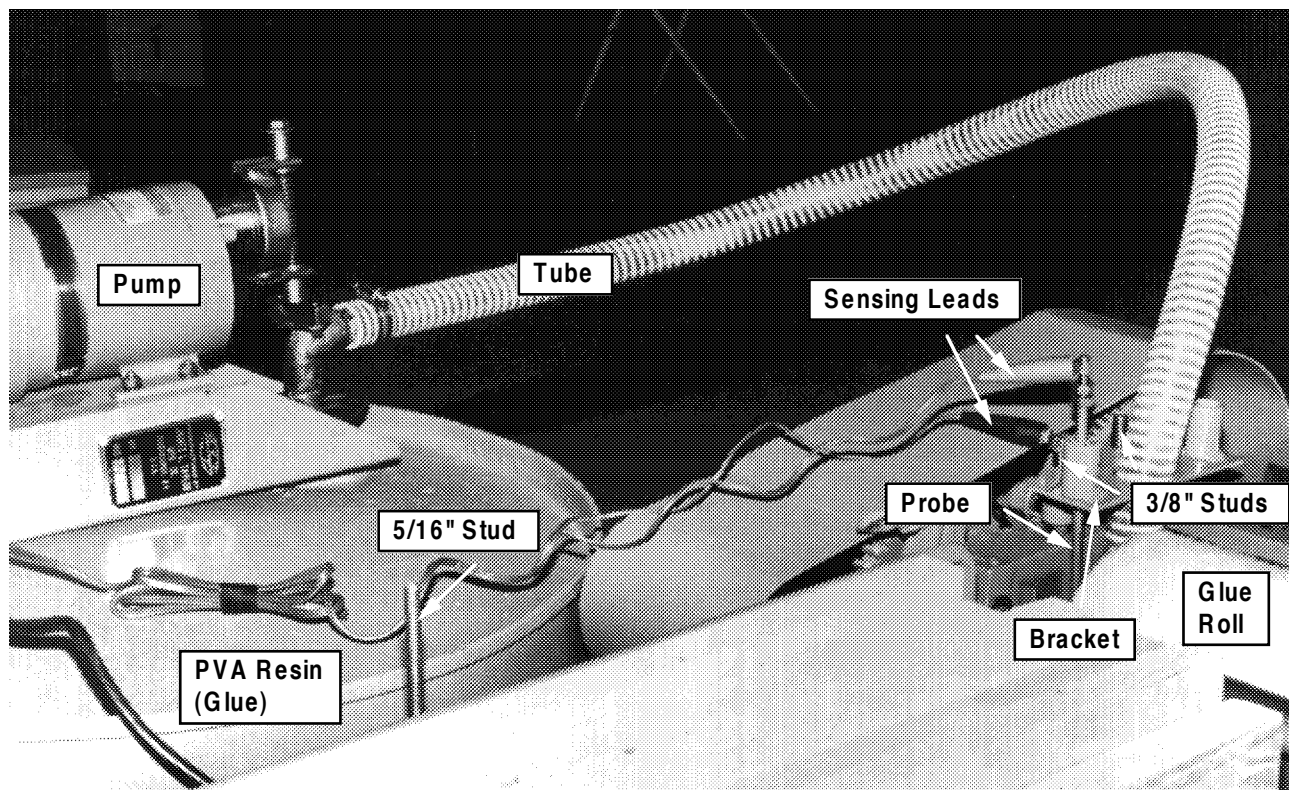
5 Boynton Road
Hopping Brook Park
Holliston, MA 01746 USA

TEL: 508-429-1110
FAX: 508-429-8737
TLX: 923478

PVA Glue Pump (GA) Installation

Installing the PVA Glue Pump:

1. Place a 55-gallon drum of PVA or aliphatic resin glue (white or carpenter's glue) close to the Glue Applicator, as shown in the photo below.
2. Remove the 2" bung from the top of the drum. Lift the PVA Glue Pump and guide the lift tube into the drum.
3. Insert the two 3/8" studs with nuts into the 3/8" tapped holes adjacent to the glue pan. Tighten the nuts. Slip the bracket over the two studs as shown in the photo below.
4. Insert the 5/16" stud into a 3/8" tapped hole (as shown) to hold the bracket when not in use.
5. Attach one end of the tube to the fitting on the Pump. Insert the other end into the bracket on the Glue Applicator.
6. Insert the probe, with the short length of rubber tubing acting as an insulator, into the bracket. Slide the tubing up or down the probe to adjust its height. The bottom of the probe will determine the level of glue in the glue pan.
7. Attach one of the sensing leads to the probe. Attach the other lead to one of the 3/8" studs installed in step #3. Plug the free end of the sensing lead cord into the receptacle on the back of the Pump.
8. Plug the PVA Glue Pump's power cord into a properly grounded and fused 110 volt, 1 phase electrical outlet.
9. Turn the Pump on with its toggle switch and fill the glue pan. Adjust the probe if necessary.



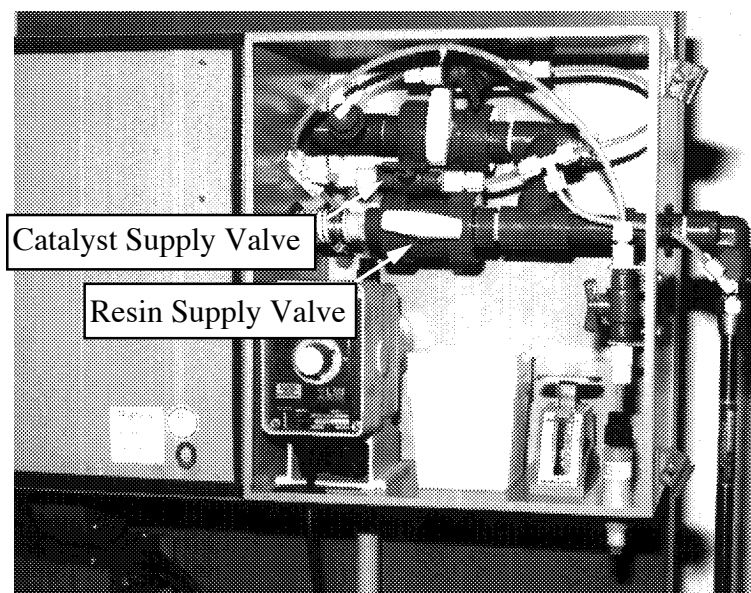
Operation

Startup

1. Open the resin supply valve.
2. Open the catalyst supply valve.

Warning: If either of these two valves are closed when the mixer is turned on, extreme pressures will result, possibly causing lines to rupture or pump motors to stall. Be sure both of these valves are open!

3. Make sure all other valves are closed.
4. Turn on the mixer (with the switch on the back side of the resin pump).



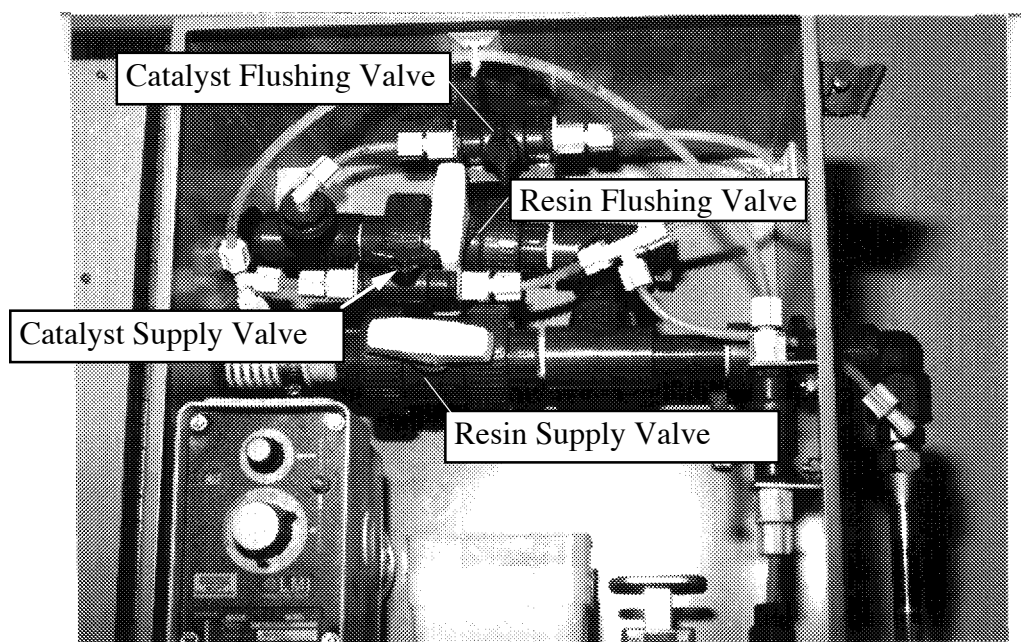
Shutdown

1. Turn off the mixer (with the switch on the back side of the resin pump).
2. Clean up (see the Clean-up section of this manual).

Clean-Up

Clean-up of the Catalyzed PVA Mixer should be performed at the end of each working day. Because of the integral water flushing system, the system is quite simple to clean up:

1. Turn off the mixing system.
2. Place an empty bucket underneath the static mixer.
3. Turn off the resin and catalyst supply valves.
4. Turn on the resin and catalyst flushing valves.
5. Turn on the water supply valve.
6. Turn off and on the resin flushing valve a few times to facilitate flushing of the catalyst line.
7. After approximately 30 seconds, or after the static mixer has been discharging only clear water for a period of time, turn off the water supply valve.
8. Turn off the resin and catalyst flushing valves.



Periodically remove and disassemble the static mixer assembly and wash the elements and the housing with hot water to remove any build up.

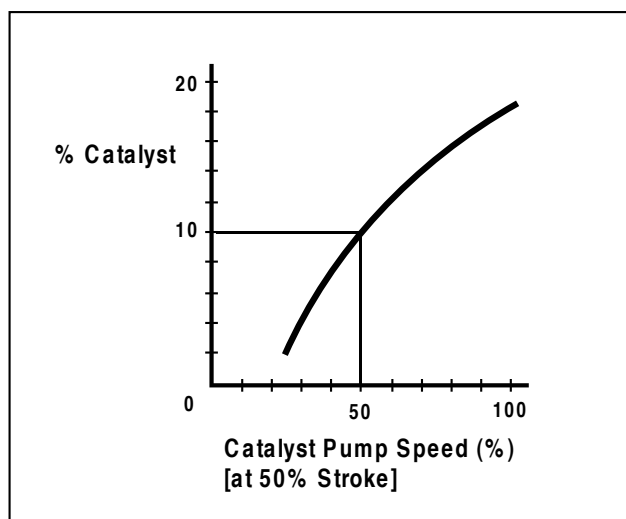
On Installation

The Catalyzed PVA Mixer has two pumps: the resin pump, which sits on top of a 55-gallon drum of PVA resin, and the catalyst pump. The flow rate of the resin pump is constant, so all calibration is performed by adjusting the flow rate of the catalyst pump. The catalyst pump has two adjustment knobs: one for speed and the other for stroke. An initial (rough) calibration can be performed as follows:

1. Set the catalyst pump STROKE to 50%.
2. For a 10% catalyst-to-resin ratio, set the catalyst pump SPEED to 50%. For higher or lower ratios, see the graph below:

Fine Tuning

1. Turn the 3-Way catalyst control valve to the check proportioning position. This allows catalyst to flow through the backpressure device, and prevents catalyst from flowing through the static mixer. Only catalyst will flow through the backpressure device, and only resin will flow through the static mixer.
2. Turn on the mixer.
3. After the mixer has run for a few seconds, place one plastic container under the backpressure device and another container under the static mixer. Collect the catalyst and resin in this manner for approximately one minute, then remove the containers.
4. Turn off the mixer.
5. Weigh the collected catalyst and resin (subtract the weights of the containers).
6. Divide the weight of the catalyst by the weight of the resin. Multiply by 100. The result is the % catalyst.
7. If the result is not the desired catalyst/resin ratio, adjust the catalyst pump SPEED accordingly (the STROKE should always be set at 50%), then repeat steps 3 through 7 until the desired ratio is obtained.
8. Turn on the valve that supplies catalyst to the static mixer.
9. Turn off the valve that supplies catalyst to the back pressure device.



At the end of each day:

1. Turn off the PVA Glue Pump.
2. Remove the glue supply tube from the bracket on the Glue Applicator and plug the end of the tube with the plug supplied. Plugging the tube will prevent the glue from draining out and drying out in the pump and tubes.
3. Remove the glue level sensing probe and clean the end that contacted the glue.

At the beginning of each day:

1. Remove the plug from the end of the glue supply tube and insert the tube into the bracket on the Glue Applicator.
2. Insert the glue level sensing probe into the bracket on the Glue Applicator,
3. Start the Pump. The sensing circuit will automatically turn the Pump off and on as the probe contacts and breaks contact with the glue. Adjustment of the glue level in the pan may be made by sliding the rubber tubing up or down the probe, thus changing the height of the probe.

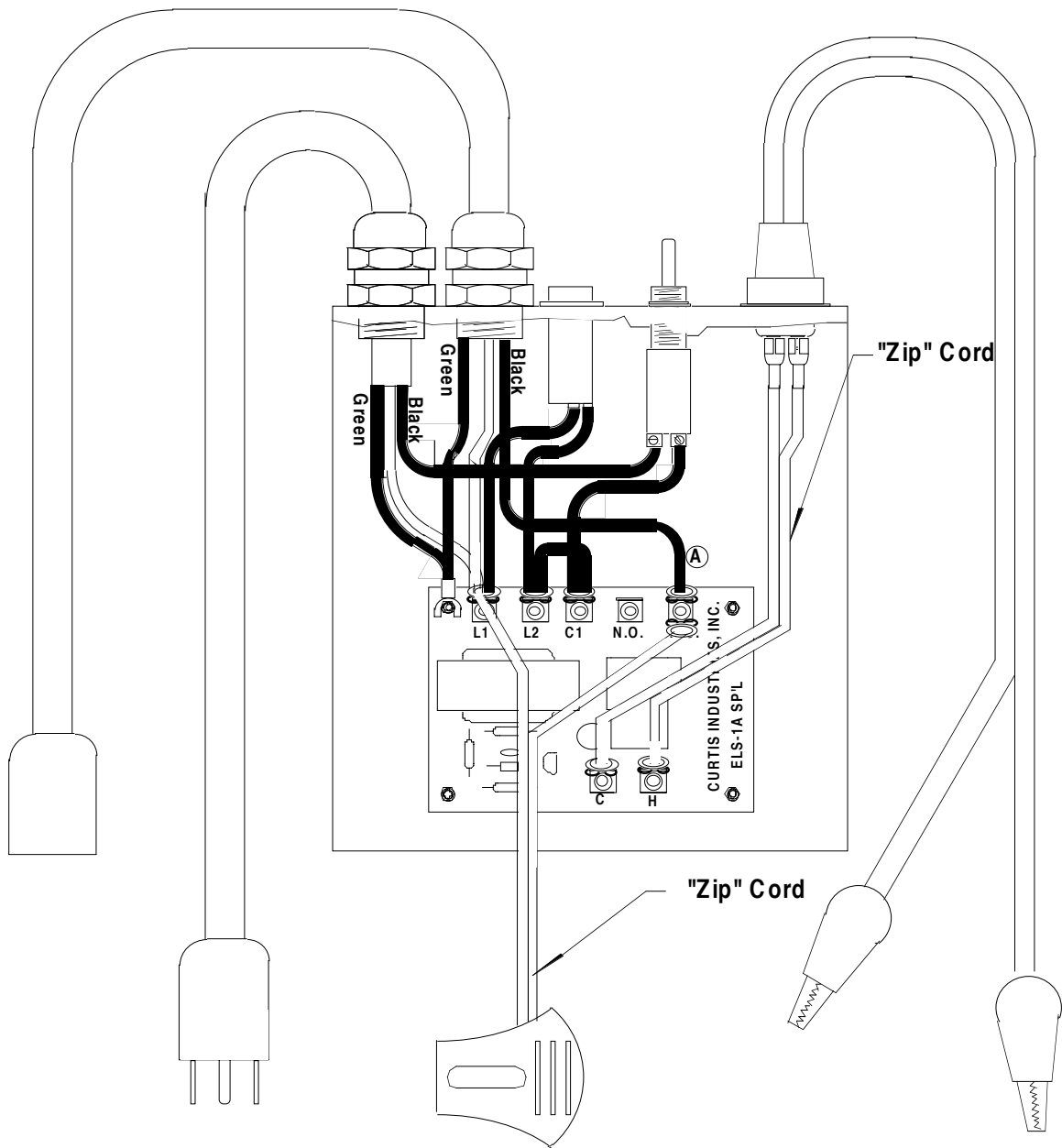
Maintenance

PVA Glue Pump **Maintenance**

Other than routine cleaning of the pump and glue level sensing probe, no maintenance is required for the PVA Glue Pump.

Troubleshooting

128-102



Sensing Unit - Assembly

Scale: None	James L. Taylor Mfg. Co.		
Material:	Poughkeepsie, N.Y., U.S.A.		
See Picklist	9-11-90 G.D.F.	128-102	

A Was to the back of the toggle switch changed to the N.C. terminal 8/3/93 G.D.F.

Pump Will Not Run:

1. Check that the Pump is plugged in and that there is 110v, single phase power at the Pump.
2. Unplug the sensing lead cord from the Pump. If the Pump then runs, there is probably a short in the sensing circuit. Check for a short in the sensing leads.
3. Remove the electrical panel from the Pump and plug the motor directly into an extension cord. If the Pump then runs, there may be a faulty switch in the sensing unit.

Pump Runs but Does Not Deliver Glue:

1. The valves in the Pump are probably obstructed. Clean them by flushing the Pump's lift tube with a water hose. If this does not fix the problem, remove, clean, and replace the valves.

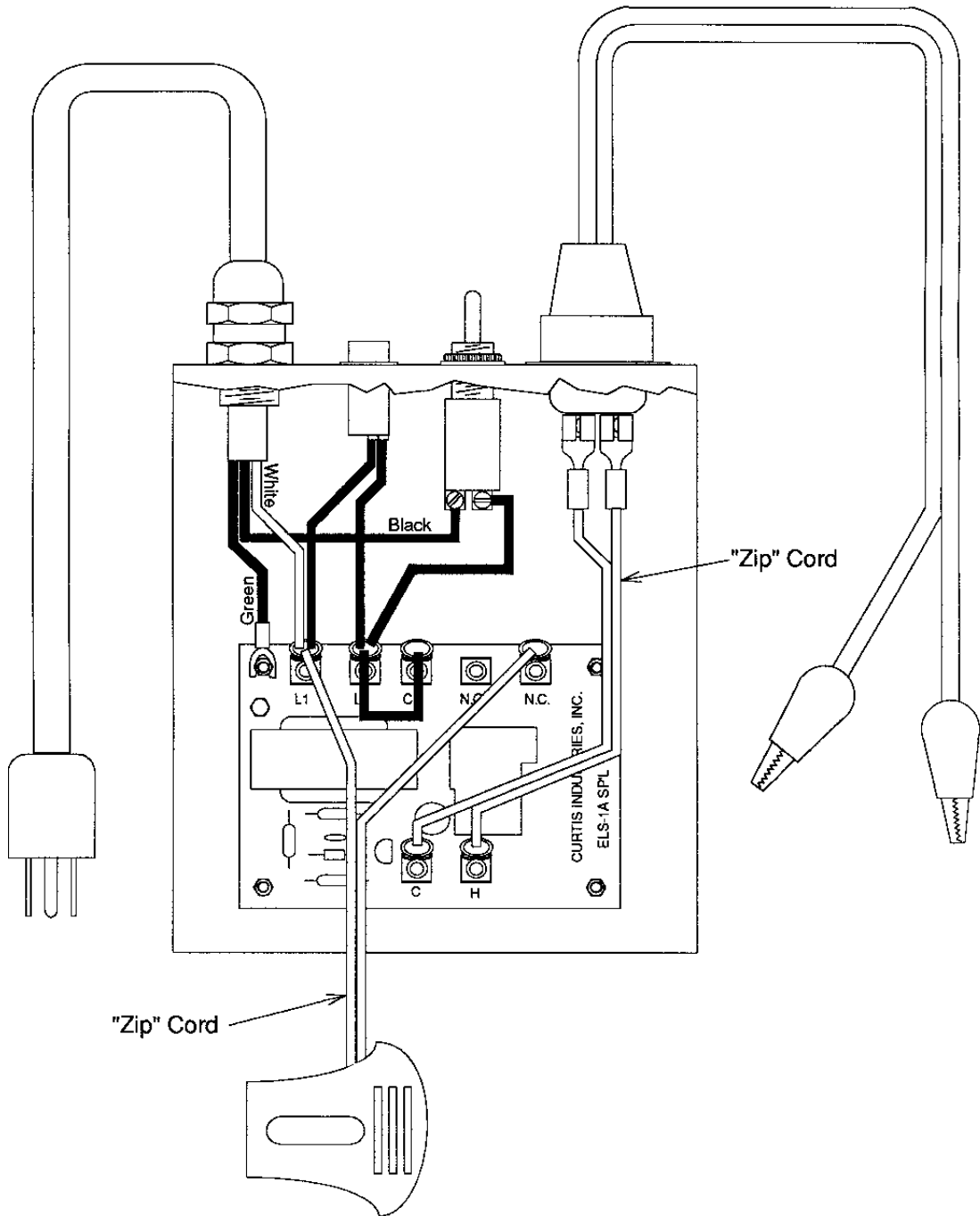
Pump Runs Continuously:

1. Check that there is good electrical contact between the sensing lead and the probe and between the other sensing lead and the glue pan. A build up of glue can sometimes inhibit good contact.
2. Unplug the sensing lead cord from the Pump. Wet a fingertip and bridge the terminal strip on the electrical panel. The motor should turn off and on as contact is made and broken. If not, the sensing unit may be faulty.

Replacement parts may be identified and ordered from the parts sheets at the back of this manual.

Glue Level Sensing Unit Assembly Wiring Diagram

128-98



Assembly Sensing Unit

Scale: None	James L. Taylor Mfg. Co. Poughkeepsie, N.Y., U.S.A.		
Material: See Picklist			
	5-25-89 G.D.F.	128-98	

Parts List

SERIES A14,A15,A16,A17,A18 METERING PUMPS

INSTRUCTIONS MAINTENANCE SERVICE

For file reference, please record the following data:

Model No.: _____

Serial No.: _____

Installation Date: _____

Installation Location: _____

When ordering replacement parts for your LMI Metering Pump or accessory,
please include complete model number and serial number of your unit.



**LIQUID
METRONICS
INCORPORATED**

19 Craig Road, Acton, MA 01720-5495 U.S.A.

Tel: (617) 263-9800
TLX: 95-1781
FAX: (617) 264-9172

INSTALLATION

I. UNPACKING

A. Remove tubing, injection check and foot valve from the small cardboard carton included in the pump carton. Notify delivery carrier immediately if there are any signs of damage to the metering pump or parts.

II. LOCATION AND MOUNTING

CAUTION

When pumping chemicals make certain that all tubing is securely attached to the fittings. It is recommended that tubing or pipe lines be shielded to prevent possible injury in case of rupture or accidental damage. Always wear protective face shield and clothing when working on or near a chemical metering pump.

A. Locate the pump in an area that is convenient to both chemical injection point and electrical supply. LMI chemical metering pumps have corrosion resistant housings, but should not be subjected to continuous high temperature (over 122°F or 50°C).

B. Mount pump on a shelf directly above chemical tank. Secure pump by putting size no. 10 (3/16") or 5 mm diameter screws through the four slots at the edge of the pump base.

C. Pump may also be mounted on top of molded chemical tank cover provided the cover has a recess for pump mounting to prevent pump from sliding. A molded cover for this purpose is included with LMI tank and cover assembly, in 10, 35 and 50 gallon size.

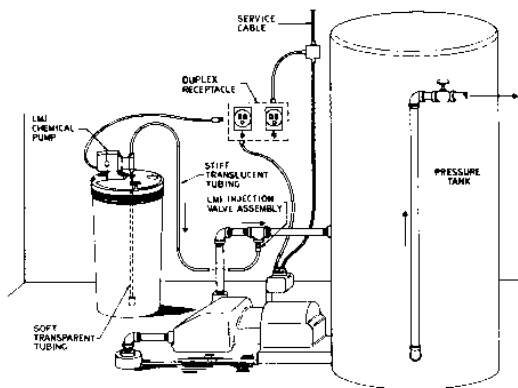
D. Diagrams (below and on the following page) show typical chemical pump installation methods. Note location of **injection check valve** which is most important. Refer to separate **Liquid Handling Assembly Instructions** Section A regarding installation of injection check valve.

E. **BACK PRESSURE REQUIREMENTS**—All electronically controlled magnetically driven pumps maintain maximum velocity on the discharge portion of their stroke regardless of the stroke frequency setting. If there is little or no resistance (back pressure) the velocity of the pumped fluid will be so great as to cause **over-pumping**. Because of this characteristic, back pressure equal to approximately 25 psi must be supplied by an anti-syphon/back pressure valve if the system pressure at the injection point is not high enough to provide the needed back pressure.

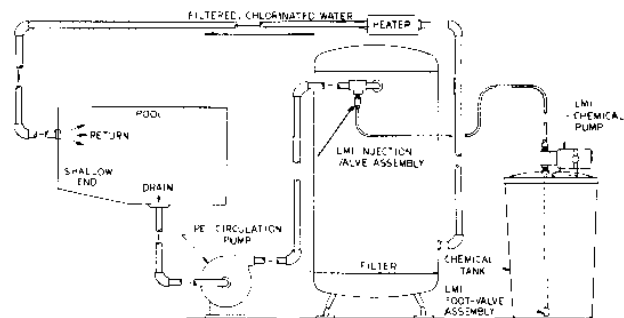
CAUTION

Be sure installation does not constitute a cross connection. Check local plumbing code.

HYDROPNEUMATIC SYSTEMS



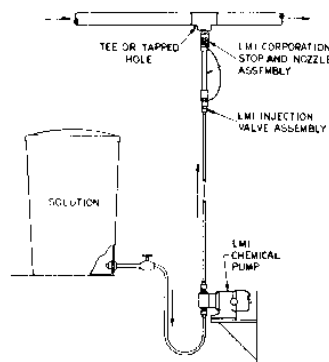
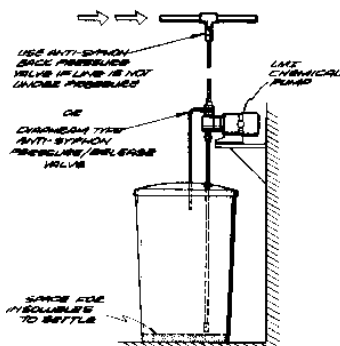
TREATMENT OF SWIMMING POOLS



FLOODED SUCTION INSTALLATION

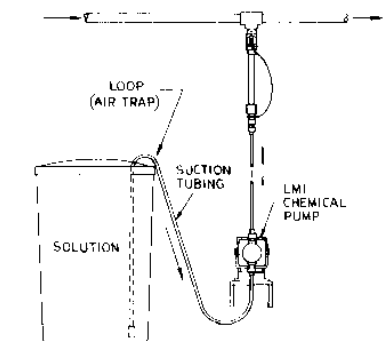
helpful when pumping at very low rate

SUCTION LIFT INSTALLATION



AVOID THIS TYPE OF "FALSE" FLOODED SUCTION INSTALLATION

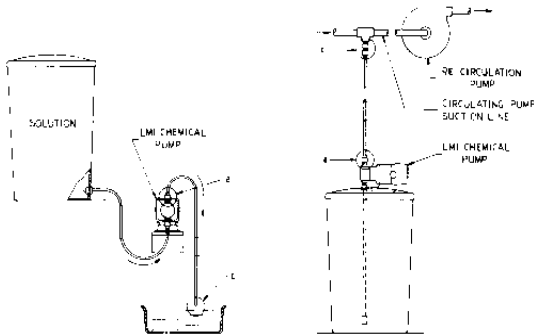
The loop at the top of the tank forms a neat air trap. In time, air and gases can bubble out, accumulate, and cause loss of prime.



Metering Pump Parts List

PREVENT SYPHONING WHEN PUMPING

"Downhill" or into pump suction. Always use anti-syphon/ back pressure valve at pump discharge (a) or at injection point (c).



III. ELECTRICAL

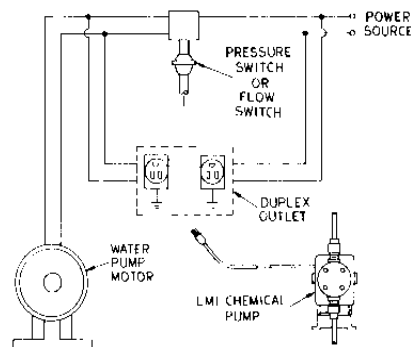
A. Chemical metering pump should be plugged into a 3-prong grounded electrical outlet with ratings conforming to data on the pump control panel.

NOTE: All wiring must be approved under local electrical code.

B. It is extremely important that ground prong of the 3-prong plug is connected to a good ground. Do NOT use adapters.

C. Diagram (below) is example of wiring scheme commonly used.

**WIRING DIAGRAM
PRESSURE OR FLOW SWITCH SYSTEM**



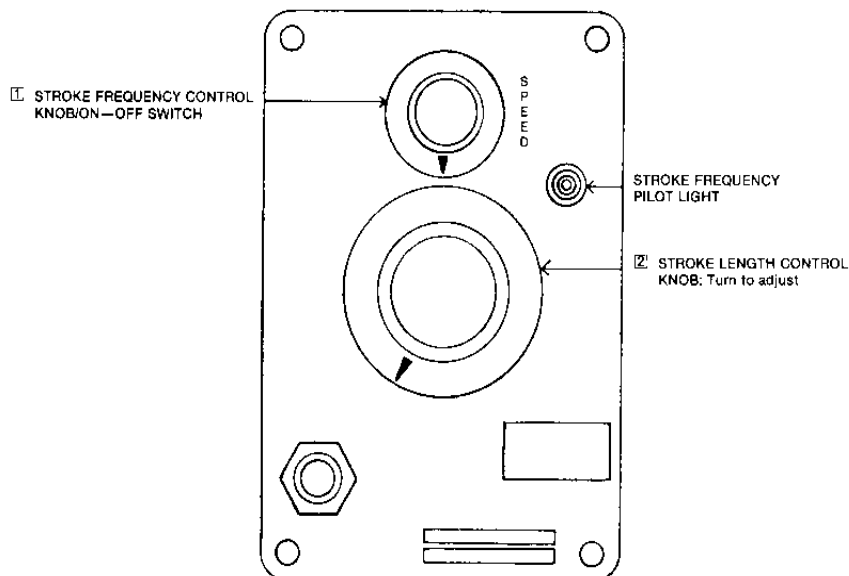
OUTPUT ADJUSTMENT

I. INITIAL APPROXIMATION

A. Stroke frequency adjustment knob is the uppermost of the two knobs on the control panel. Speed control dial is graduated in approximate strokes per minute. Turning this knob clockwise increases pumping frequency.

Output Estimate—Total output of pump may be estimated by multiplying stroke frequency (percent of maximum) by stroke length setting (percent of maximum).

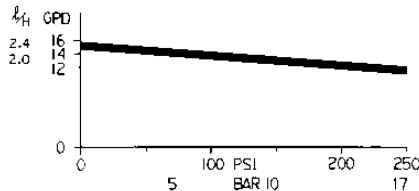
For example, if the stroke length knob is set at 100% of maximum and the stroke frequency is 20% of maximum, total pump output will be approximately 20%; if the stroke length knob is set at 30% of maximum and stroke frequency is 20% of maximum total output of pump will be approximately 6% of the pump's maximum rating. That is, $.2 \times .3 = .06$ or 6%.



Metering Pump Parts List

- B. To determine exact frequency in strokes per minute at any speed knob setting, count number of flashes of stroke frequency pilot light for one minute.
- C. Stroke length adjustment knob is the lower of two control panel knobs. Adjust by rotating to desired setting, while pump is stroking.

OUTPUT CURVE—A14



II. SETTING (See diagram on preceding page)

A. Maximum output—Turn Knob No. 1 (upper, stroke frequency control knob) clockwise to a setting of 100 on its dial.

Turn Knob No. 2 (central, stroke length control knob) clockwise to a setting of 100 on its dial.

B. Reduced output—Turn Knob No. 1 counter-clockwise to a setting representing the desired percentage of the pump's total output capability.

For maximum volumetric efficiency leave Knob No. 2 (stroke length control knob) at its maximum setting (100) unless it is impossible to reduce the pump's output sufficiently by turning Knob No. 1. If Knob No. 2 must be adjusted in order to reduce pump output, avoid turning it into the dial's red zone: doing so reduces the length of the stroke so much that volumetric efficiency is lost.

C. After installation is complete and an initial approximation setting has been made, the pump should be calibrated and the stroke frequency and/or stroke length settings adjusted.

III. CALIBRATION PROCEDURE—ON-SITE VOLUMETRIC CALIBRATION

A. With pump primed and discharge tubing connected to the injection point as it would be in normal service, place foot valve and strainer assembly in a graduated container with a volume of 500 ml or more (so that the volume displaced by tubing and foot valve assembly is minimal in relation to volume of solution in the container).

B. Switch pump on, and pump until air is exhausted from the suction line and pump head.

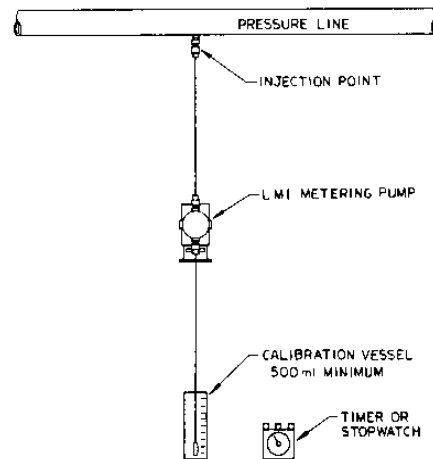
C. Switch pump off, note the solution level in the graduate. Refill graduate if necessary.

D. Switch pump on, and permit it to pump for a measured time. Be sure time is long enough to accumulate an adequate number (minimum 50) pump strokes. In general, the longer the calibration period, the more confidence you can have in accuracy of results.

E. Switch off pump at the end of the calibration period, note volume pumped during the calibration period, and calculate volume of chemical pumped in time unit you choose (minute, hour, day, etc.).

F. Adjust stroke frequency and/or stroke length knobs to your best estimate of required correction, and repeat calibration measurement as a check.

This calibration adjustment should always be made with pumping conditions identical to conditions of normal pumping service. This means that factors such as injection pressure, fluid viscosity, suction lift and others will automatically be accounted for in making final adjustment of the pump.



CALIBRATION TEST

TROUBLE SHOOTING—LIQUID END

I. LOW PUMP OUTPUT:

Low pump output can be caused by many things. Some of the more common ones are:

- Very low stroke setting, i.e. red (or black) zone setting of knob
- Trapped air in pump head (trapped air in discharge tubing has no effect)
- Air leak through valve seal rings
- Ruptured pumping Liquifram™ (diaphragm)
- Clogged Liquid End, or injection point connection
- Injection into pressure within 25 psi of pump's maximum pressure rating with back pressure spring in place (if so supplied)
- Injection into pressure in excess of pump rating—see chart

Pressure Ratings:	PSI	bar
A14	250	17.3
A15	110	7.6
A16	55	3.8

A. Very low stroke setting—check position of stroke length knob (lower knob) by rotating it counter-clockwise until pumping diaphragm (Liquifram™) stops moving with the pump operating. The pumping diaphragm should not stop reciprocating (moving or clicking) until the knob points to zero. If it stops before zero, reset knob by removing yellow cap and loosening hex nut with 8mm (or 5/16") nut driver setting the knob to point to zero and retightening hex nut.

Rotate knob clockwise and operate pump with stroke length setting above the dial's red (or black) zone.

B. Trapped air in pump head—May be caused by leaks in the suction line, where the suction line joins the suction fitting, or at the seal ring between suction fitting and pump head. It may also be caused by air or gases coming out of the solution. Trapped air or bubbles in the discharge line have no effect on the pump's operation. They may be ignored.

To remove trapped air from the pump head, operate the pump with both stroke frequency knob and stroke length knob set at 100.

Metering Pump Parts List

It may be necessary to disconnect the discharge tubing from the injection point temporarily in order to relieve the pressure on the pump discharge or pull on both knobs of "Anti-Syphon/Pressure Release Assembly" if so equipped. Follow "Priming" instructions in the Liquid Handling Assembly sheet inserted in this instruction book and operate the pump for a few minutes to purge the head and valves of air or gas.

C. Air leak through valve seal rings—usually caused by worn or damaged seal rings or loose fittings. Tighten fittings by hand until they are very snug. If there is no improvement, replace both seal rings in pump head. See enclosed Liquid Handling Assembly sheet.

D. Ruptured pumping Liquifram™ (diaphragm)—If rupture is severe, and pump is injecting into pressure, chemical leak will be obvious through the 3/16" (5 mm) diameter hole at the bottom of the spacer directly behind the pump head. Replace pumping Liquifram™ (diaphragm). If rupture is a small pin hole, there may be oozing of solution through the 3/16" (5 mm) diameter hole described above. Replacement of pumping Liquifram™ (diaphragm) will be necessary.

E. Clogged Liquid End—will cause low pump output. Disassemble Liquid End. Clean individual parts with water and detergent or appropriate cleaning solution.

F. Injection into excessive pressure—If discharge pressure is within 25 psi of maximum pump rating, remove spring in injection check valve, if so supplied.

II. CHANGING LIQUIFRAM™

A. Make sure size code markings on top of disk and replacement Liquifram™ are the same. Liquifram™ and disk size code must match in order for pump to function.

Always wear protective clothing, gloves and face shield when working on or near chemical metering pumps.

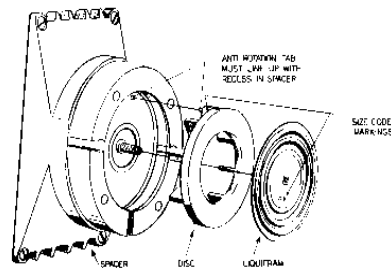
B. Move foot valve from chemical solution into a container of water or appropriate flushing or neutralizing solution. Pump until head assembly is flushed, then lift foot valve and pump until air enters pump head. Remove pump head. If water or neutralizing solution cannot be pumped, remove head carefully and immerse in water or neutralizing solution.

C. Set stroke length knob (lower knob) to zero by rotating it counter-clockwise ⚙ to the pump running, then stop the pump by turning speed knob to off.

D. Grasp outer edge of Liquifram™ with your fingers or, if Liquifram™ is not to be used again, pierce it with a pointed tool, and rotate it counter-clockwise ⚙ to unscrew it.

E. Before installing new Liquifram™, restart pump and rotate stroke length control knob to 90. With pump stroking, screw on new Liquifram™ until the center begins to buckle inwards during the latter half of the stroke. Stop pump and check Liquifram™ position with a pencil or similar straight edge held firmly against the spacer (take care not to scratch sealing flange of Teflon-faced Liquifram™). Center of Liquifram™ should be flush with outer edges of spacer. See illustration below.

F. Reinstall pump head and tighten head mounting screws in criss-cross pattern. Do not overtighten.

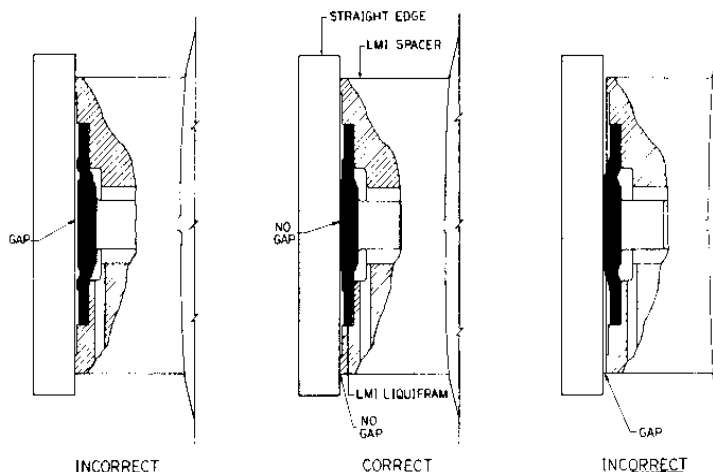


III. EXCESSIVE PUMP OUTPUT:

A. Syphoning—will cause excessive pump output. Check to be sure back pressure spring is in place in the injection check valve, and that the seal ring is in good condition. However, for service within 25 psi below pump pressure rating back pressure spring must be removed. Liquid Ends with a suffix "S" have a diaphragm type anti-syphon valve which prevents syphoning and over-pumping but does not affect pump pressure rating.

B. Incorrect knob setting—check stroke length knob (lower knob) by rotating it counter-clockwise ⚙ to zero position. The pumping diaphragm should stop reciprocating. If it does not, continue counter-clockwise ⚙ rotation until motion stops. Remove yellow cap and loosen hex nut with 8mm (or 5/16") nut driver, reset knob by setting the knob to point to zero, and retightening hex nut.

NOTE: This illustration For All "A" Series Pumps



TROUBLE SHOOTING—ELECTRICAL SERIES A

NOTE: All tests should be conducted with pump head and Liquifram™ installed. If pump head is removed it is normal for Liquifram™ shaft to hang forward and not pulsate if speed is at or near maximum.

- I. Plug power cord into appropriate outlet.
- A. Set speed knob (upper knob) to 100.
- B. Set stroke knob (lower knob) to 100.
- II. Listen for pulsation.
- A. If pump pulses according to number on table below, electronic pulser module is working correctly.
- B. If pilot light stays on, go to step III.
- C. If pilot light stays off, go to step IV.
- D. If pump pulses faster than maximum allowable per table below, pulser module is defective and should be replaced.
- E. If pump pulses slower than minimum allowable per table below, go to step V.

III. Unplug power cord and remove control panel from housing. The control panel is secured by a screw in each corner. In addition the stroke length knob must be removed by removing yellow cap and loosening hex nut with 8mm (or 5/16") nut driver. Check that all electrical connections are tight and correspond to the wiring diagram. Also check that no corrosion has formed around the connections. If the wiring is all OK, proceed as follows:

- A. Disconnect yellow EPU wires from pulser terminal 3 (YEL EPU + Light) and pulser terminal 5 (YEL EPU - Light).
- B. Measure the resistance across the EPU wires. Resistance readings should be in accordance to the table below. If resistance reads infinity, remove spacer assembly and check resistance across EPU leads at EPU coil. If resistance is incorrect, EPU is bad and should be replaced. If resistance is okay check for blown fuses and replace if necessary. (Blown fuse may be caused by either faulty EPU or faulty pulser.) If resistance readings are according to table, the problem then is the pulser module which should be replaced.
- C. Cold (18°C-22°C or 64°F-75°F). Coil resistances other than the table indicates that the EPU is defective and should be replaced.

Pump Drive No.	EPU Resistance	EPU Assembly Part No.	Allowable Pulses (blinks) At Top Speed
A141—	65 to 93 ohms	28085	110 95
A142—, A143— A145—, A146—	260 to 300 ohms	28086	110 95
A151—	65 to 93 ohms	27465	110 95
A152—, A153— A155—, A156—	260 to 300 ohms	27466	110 95
A161—	65 to 93 ohms	27467	110 95
A162—, A163— A165—, A166—	260 to 300 ohms	27468	110 95

IV. Check line voltage at outlet. 115 to 120 VAC or 220 to 250 VAC is normal (depending upon model). If line voltage is OK proceed as follows:

- A. Plug in power cord and observe pilot light.
- B. If pump does not operate at all unplug power cord, remove control panel and check wiring as in step III above.

C. If wiring is OK, carefully plug power cord into outlet. USING EXTREME CAUTION measure voltage between pulser terminal 1 (BLK) and pulser terminal 2 (WHT). If it reads zero volts, cord is defective.

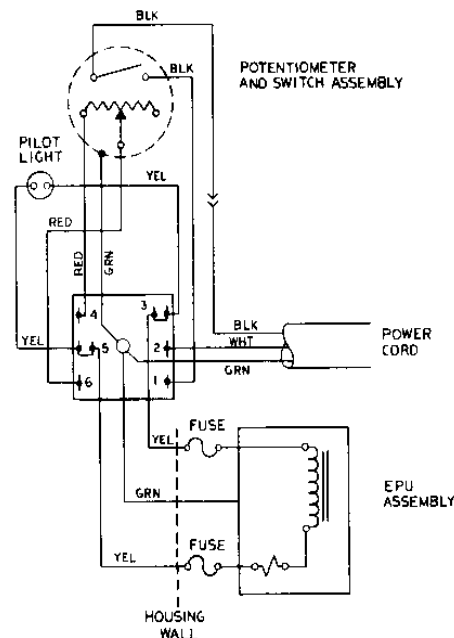
D. If terminals 1 and 2 (BLK and WHT) of pulser are getting proper voltage and EPU is clicking, pilot light is defective and should be replaced.

E. If EPU is not clicking, unplug power cord. Remove red speed control wires from terminals labeled RED POT (4 and 6) of pulser. Measure resistance across these wires making sure speed knob is set fully clockwise. It should read less than 100 Ohms. Turn speed knob fully counter-clockwise and the resistance should read 1,000,000 Ohms (1 MegOhm $\pm 20\%$). If the resistance is not correct replace the potentiometer and switch assembly. If the resistance checks out OK, the pulser is defective and should be replaced.

V. A. Unplug unit, remove control panel from housing, and check wiring as in step III. If wiring is OK go to step IV E.

B. When replacing potentiometer and switch assembly or the pulser, be sure to re-connect the appropriate ground wires.

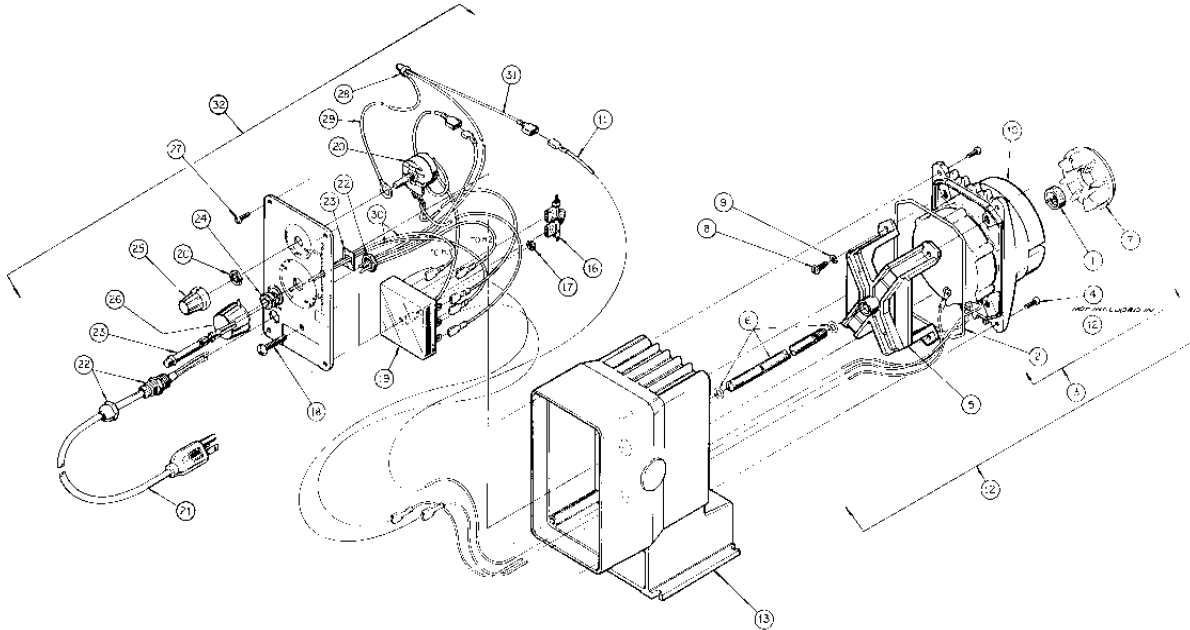
**WIRING DIAGRAM
A14, A15, A16 SERIES**



PULSER TERMINALS

No.	Label	Function
1	BLK	AC HOT (SWITCHED) + MOV
2	WHT	AC NEUTRAL + MOV
3	EPU + YEL • LIGHT	DC + EPU/SOLENOID + PILOT LIGHT
4	RED • POT	SPEED CONTROL
5	EPU - YEL • LIGHT	DC - EPU/SOLENOID + PILOT LIGHT
6	RED • POT	SPEED CONTROL

SERIES A14, A15, A16 DRIVE ASSEMBLY PARTS LIST



SERIES A14, A15, A16 DRIVE ASSEMBLY PARTS LIST

Key No.	Model Series	Part No.	Description	Quantity
1	A14, A15, A16, A17, A18	10973	Seal	1
2	A14, A15, A16, A17, A18	10166	O-Ring	1
3	A141	28085	EPU and Spacer Assembly, 115 V	W/Disk 1
3	A142 A143 A145 A146 A147	28086	EPU and Spacer Assembly, 230 V	W/Disk 1
3	A151	27465	EPU and Spacer Assembly, 115 V	W/Disk 1
3	A152, A153, A155, A156, A157	27466	EPU and Spacer Assembly, 230 V	W/Disk 1
3	A161	27467	EPU and Spacer Assembly, 115 V	W/Disk 1
3	A162, A163, A165, A166, A167	27468	EPU and Spacer Assembly, 230 V	W/Disk 1
3	A171	29272	EPU and Spacer Assembly, 115 V	W/Disk 1
3	A172 A173 A175 A176 A177	29273	EPU and Spacer Assembly, 230 V	W/Disk 1
3	A181	29274	EPU and Spacer Assembly, 115 V	W/Disk 1
3	A182, A183, A185, A186, A187	29275	EPU and Spacer Assembly, 230 V	W/Disk 1
4	A14, A15, A16, A17, A18	10168	Screw, 10—24 x 7/16" PH S.S.	4
5	A14, A15, A16, A17, A18	26838	Bracket	1
6	A14, A15, A16, A17, A18	27298	Adjustment Shaft Assembly	1
7	A14, A17	29445	Disk	1
7	A15, A18	29437	Disk	1
7	A16	29442	Disk	1
8	A14, A15, A16, A17, A18	10598	Screw	4
9	A14, A15, A16, A17, A18	10415	Washer	4
10	A141, A151	30123	EPU and Spacer Assembly, 115 V	1
10	A142, A152 A143, A153 A145, A155 A146, A156 A147, A157	30124	EPU and Spacer Assembly, 230 V	1
10	A161	30128	EPU and Spacer Assembly, 115 V	1
10	A162, A163 A165, A166 A167	30129	EPU and Spacer Assembly, 230 V	1
10	A171, A181	30100	EPU and Spacer Assembly, 115 V	1
10	A172, A182 A173, A183 A175, A185 A176, A186 A177, A187	30101	EPU and Spacer Assembly, 230 V	1

Metering Pump Parts List

SERIES A14, A15, A16 DRIVE ASSEMBLY PARTS LIST

Key No.	Model Series	Part No.	Description	Quantity
12	A141	28088	EPU and Spacer Assembly With Stroke Adjustment, 115 V	W/Disk 1
12	A142 A143 A145 A146 A147	28089	EPU and Spacer Assembly With Stroke Adjustment, 230 V	W/Disk 1
12	A151	27689	EPU and Spacer Assembly With Stroke Adjustment, 115 V	W/Disk 1
12	A152, A153, A155, A156, A157	27690	EPU and Spacer Assembly With Stroke Adjustment, 230 V	W/Disk 1
12	A161	27691	EPU and Spacer Assembly With Stroke Adjustment, 115 V	W/Disk 1
12	A162, A163, A165, A166, A167	27692	EPU and Spacer Assembly With Stroke Adjustment, 230 V	W/Disk 1
12	A171	29308	EPU and Spacer Assembly With Stroke Adjustment, 115 V	W/Disk 1
12	A172 A173 A175 A176 A177	29309	EPU and Spacer Assembly With Stroke Adjustment, 230 V	W/Disk 1
12	A181	29310	EPU and Spacer Assembly With Stroke Adjustment, 115 V	W/Disk 1
12	A182, A183, A185, A186, A187	29311	EPU and Spacer Assembly With Stroke Adjustment, 230 V	W/Disk 1
13	A14, A15, A16, A17, A18	10200—7	Housing	1
16	A141, A151, A161, A171, A181	10626	MOV Assembly, 130 V	1
16	A142, A152, A162, A172, A182	10627 25268	MOV Assembly, 230 V	1
16	A143, A153, A163, A173, A183 A145, A155, A165, A175, A185 A146, A156, A166, A176, A186 A147, A157, A167, A177, A187	10627	MOV Assembly, 250 V	1
17	A14, A15, A16, A17, A18	10199	Nut, 1/4—20, Nylon	1
18	A14, A15, A16, A17, A18	10198	Screw, 1/4—20, Nylon	1
19	A141, A151, A161, A171, A181	10150	Pulser, 115 V	1
19	A142, A152, A162, A172, A182 A143, A153, A163, A173, A183 A145, A155, A165, A175, A185 A146, A156, A166, A176, A186 A147, A157, A167, A177, A187	10268	Pulser, 230 V	1
20	A14, A15, A16, A17, A18	27718	Potentiometer Assembly	1
21	A141, A151, A161, A171, A181	27719	Power Cord Assembly, 115 V	1
21	A142, A152, A162, A172, A182	27720	Power Cord Assembly, 230 V	1
21	A143, A153, A163, A173, A183	27721	Power Cord Assembly, 230 V, DIN Plug	1
21	A145, A155, A165, A175, A185	27722	Power Cord Assembly, 230 V, British (U.K.) Plug	1
21	A146, A156, A166, A176, A186	27723	Power Cord Assembly, 230 V Australian/NZ Plug	1
21	A147, A157, A167, A177, A187	27724	Power Cord Assembly, 230 V Swiss Plug	1
22	A14, A15, A16, A17, A18	25957	Connector	1
23	A141, A151, A161, A171, A181	10181—G	Pilot Light, 115 V	1
23	A142, A152, A162, A172, A182 A143, A153, A163, A173, A183 A145, A155, A165, A175, A185 A146, A156, A166, A176, A186 A147, A157, A167, A177, A187	10423—B	Pilot Light, 230 V	1
24	A14, A15, A16, A17, A18	10486	Grommet	1
25	A14, A15, A16, A17, A18	25889	Knob	1
26	A14, A15, A16, A17, A18	29099	Knob	1
27	A14, A15, A16, A17, A18	25866	Screw, 10—24 x 3/4" PH S.S.	4
28	A14, A15, A16, A17, A18	25038	Wire Connector	1
29	A14, A15, A16, A17, A18	26285	Wire Assembly	1
30	A14, A15, A16, A17, A18	10225	Wire Assembly	2
31	A14, A15, A16, A17, A18	26286	Wire Assembly	1
32	A141	28207	Control Panel Assembly, 115 V	1
32	A142	28208	Control Panel Assembly, 230 V	1
32	A143	28209	Control Panel Assembly, 230 V	1
32	A145	28210	Control Panel Assembly, 240—250 V	1
32	A146	28211	Control Panel Assembly, 240—250 V	1
32	A151, A161	27726	Control Panel Assembly, 115 V	1
32	A152, A162	27727	Control Panel Assembly, 230 V	1
32	A153, A163	27728	Control Panel Assembly, 230 V	1
32	A155, A165	27729	Control Panel Assembly, 240—250 V	1
32	A156, A166	27730	Control Panel Assembly, 240—250 V	1

LE-155 LE-196 LIQUID HANDLING ASSEMBLIES

CAUTION

When pumping chemicals make certain that all tubing is securely attached to the fittings. It is recommended that tubing or pipe lines be shielded to prevent possible injury in case of rupture or accidental damage. Always wear protective clothing when working on or near chemical metering pump.

MATERIALS

Fittings	Polypropylene
Seal Rings	Teflon
Balls	Ceramic
Head	Polypropylene
Liquifram	Teflon Face
Suction	.250" O.D. Polyethylene
Discharge	.250" O.D. Polyethylene

A. INSTALLING INJECTION CHECK VALVE

1. The injection check valve should always be installed as close as possible to the point of chemical injection, at the very end of the tubing run.
2. Purpose of injection check valve is to prevent backflow from treated line.
3. A 1/2" NPT female fitting with sufficient depth will accept the injection check valve.
4. In order to insure correct seating of the ball inside the check valve, the injection check valve must be installed vertically upwards.

B. CONNECTING DISCHARGE TUBING

NOTE: Cut tubing to length needed for discharge line.

1. Route tubing from injection check valve to chemical metering pump, making sure it does not touch hot surfaces, sharp surfaces, or is bent so sharply that it kinks.
2. Slide small end of coupling nut onto tubing.
3. Slide the long, straight end of the ferrule onto tubing such that tubing exits at the cone shaped end of the ferrule.
4. Insert tubing into discharge valve housing so that tubing butts up against valve housing and will not go any further.
5. Slide ferrule down so that cone shaped end fits snugly into discharge valve housing.
6. Slide down the coupling nut until threads are engaged. Tighten coupling nut by hand, maintaining pressure on tubing towards valve housing until tubing is held securely in place.

Excessive force will crack or distort fittings.

DO NOT USE PIPE WRENCH.

7. Follow the same procedure for connecting tubing to injection valve.

C. CONNECTING SUCTION TUBING

1. Cut suction tubing to a length such that the foot valve hangs just above the bottom of the chemical container. Maximum recommended vertical suction lift is 5 ft. (1.5m).
2. Follow same procedure (see B) in connecting suction tubing to suction valve and foot valve.

D. PRIMING

1. Connect pressure release tubing to pressure release port.
2. Route tubing to solution reservoir and anchor with plastic tie provided.
3. Set pump at 80% speed and 100% stroke. Start pump.
4. Pull on Pressure Release knob (red or black knob), holding knob out until chemical is visible through translucent return tubing.
5. Pump is now primed.

NOTE:

- (a) Pump is normally self-priming if suction lift is no more than 5 ft. (1.5m), valves in the pump are wet with water (pump is shipped from factory with water in pump head) and the above steps (D1 thru D5) are followed.
- (b) If the pump does not self prime, remove Anti-Syphon/Pressure Release Valve Assembly and discharge valve ball and pour water or chemical slowly into discharge port until head is filled. Replace valve ball and valve assembly and follow steps D1 thru D5 thereafter.



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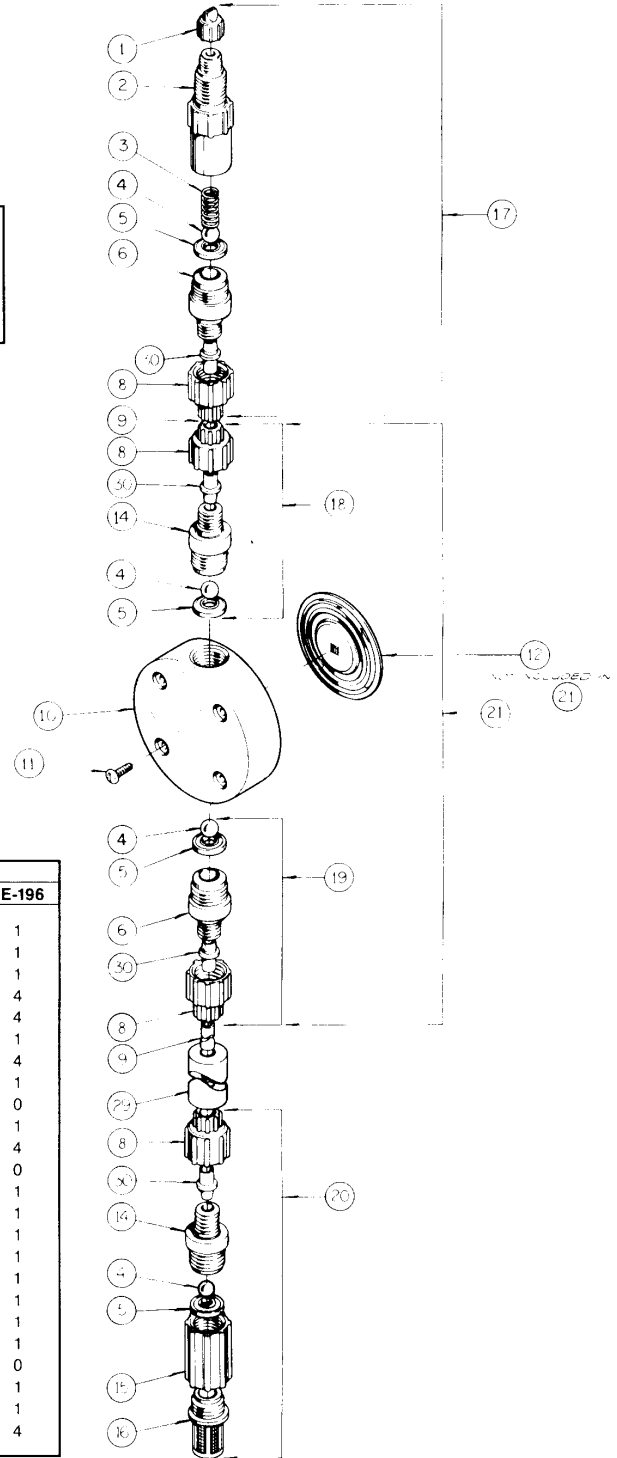
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Liquid Handling Assembly Parts List

Threaded connections into pump head are 3/4"-16 straight threads.
Do not use Teflon tape. These joints are sealed by seal ring valve seats (item 5 on exploded view).

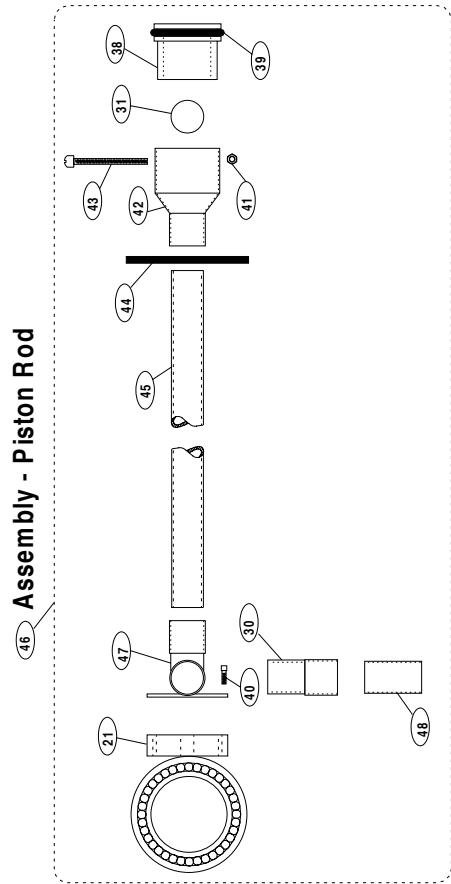
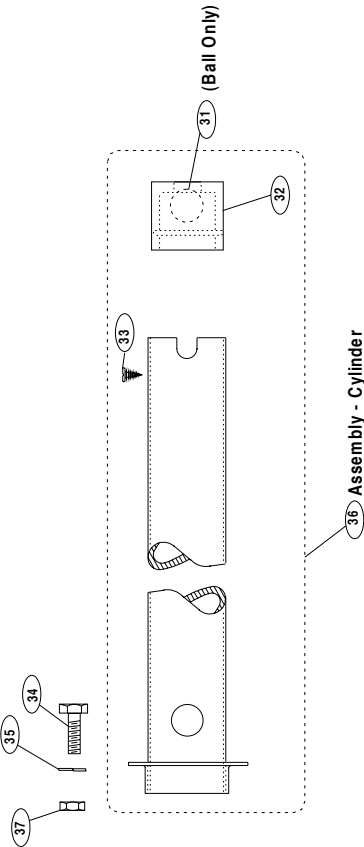
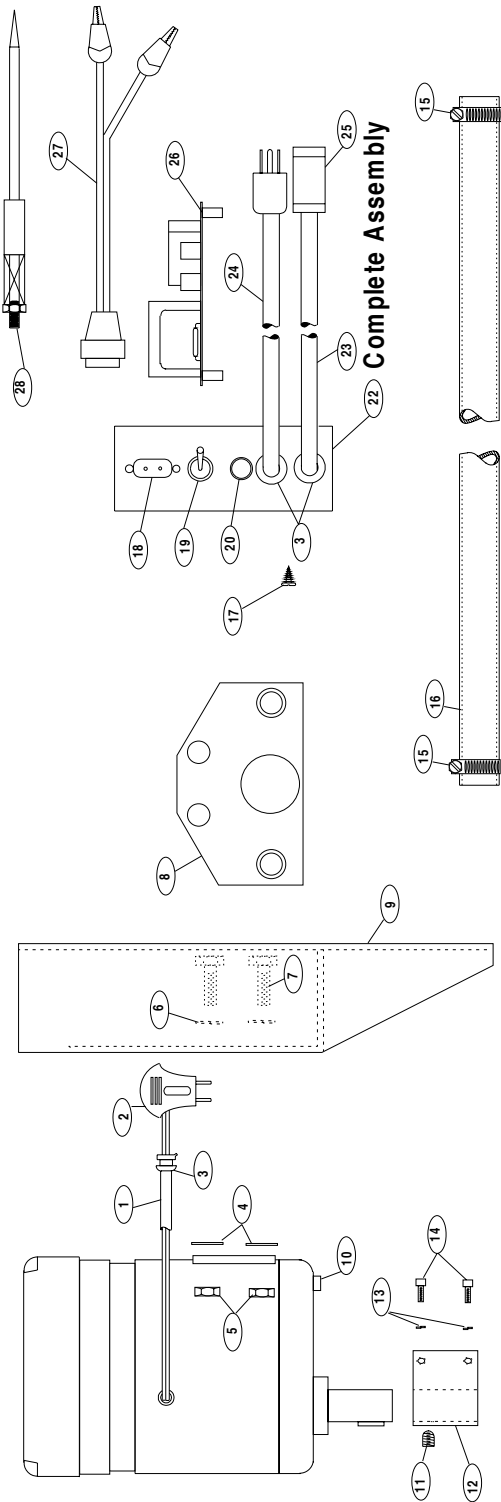
Maximum pump pressure rating is reduced by 25 psi (1.7 bar) with back pressure spring installed.
Do not remove back pressure spring if pressure at injection point is less than 20 psi (1.4 bar).



KEY NO.	PART NO.	DESCRIPTION	QTY.	
			LE-155	LE-196
1	28352	Flapper Valve	1	1
2	29961	Injector Fitting, Polypropylene	1	1
3	10339 *	Spring	1	1
4	10338 *	Ball, Ceramic	4	4
5	10407 *	Seal Ring, Polyprel	4	4
6	28664	Valve Seat, GFR Polypropylene	1	1
8	10299	Coupling Nut	4	4
9	25636-16	Tubing, 250" O.D. Polyethylene	1	1
10	27877	Head, 0.5 SI GFR Polypropylene	1	0
10	10313M	Head, 0.9 SI Polypropylene	0	1
11	10340	Screw, 10-24 x 3/4" SS	4	4
12	26042 *	Liquifram, 0.5 SI PFA	1	0
12	10302 +	Liquifram, 0.9 SI Teflon Face	0	1
14	28665	Valve Housing, GFR Polypropylene	1	1
15	10978	Foot Valve Seat	1	1
16	10123	Strainer, Polypropylene	1	1
17	28053	Inj. Check/Back Pressure Valve Asm.	1	1
18	28057	Anti-Syphon/Pressure Relief Valve Asm.	1	1
19	28056	Suction Valve Asm.	1	1
20	28054	Foot Valve Asm.	1	1
21	28080	Head Asm., LE-155	1	0
21	28055	Head Asm., LE-196	0	1
29	10322	Weight, Ceramic	1	1
30	28663	Ferrule	4	4

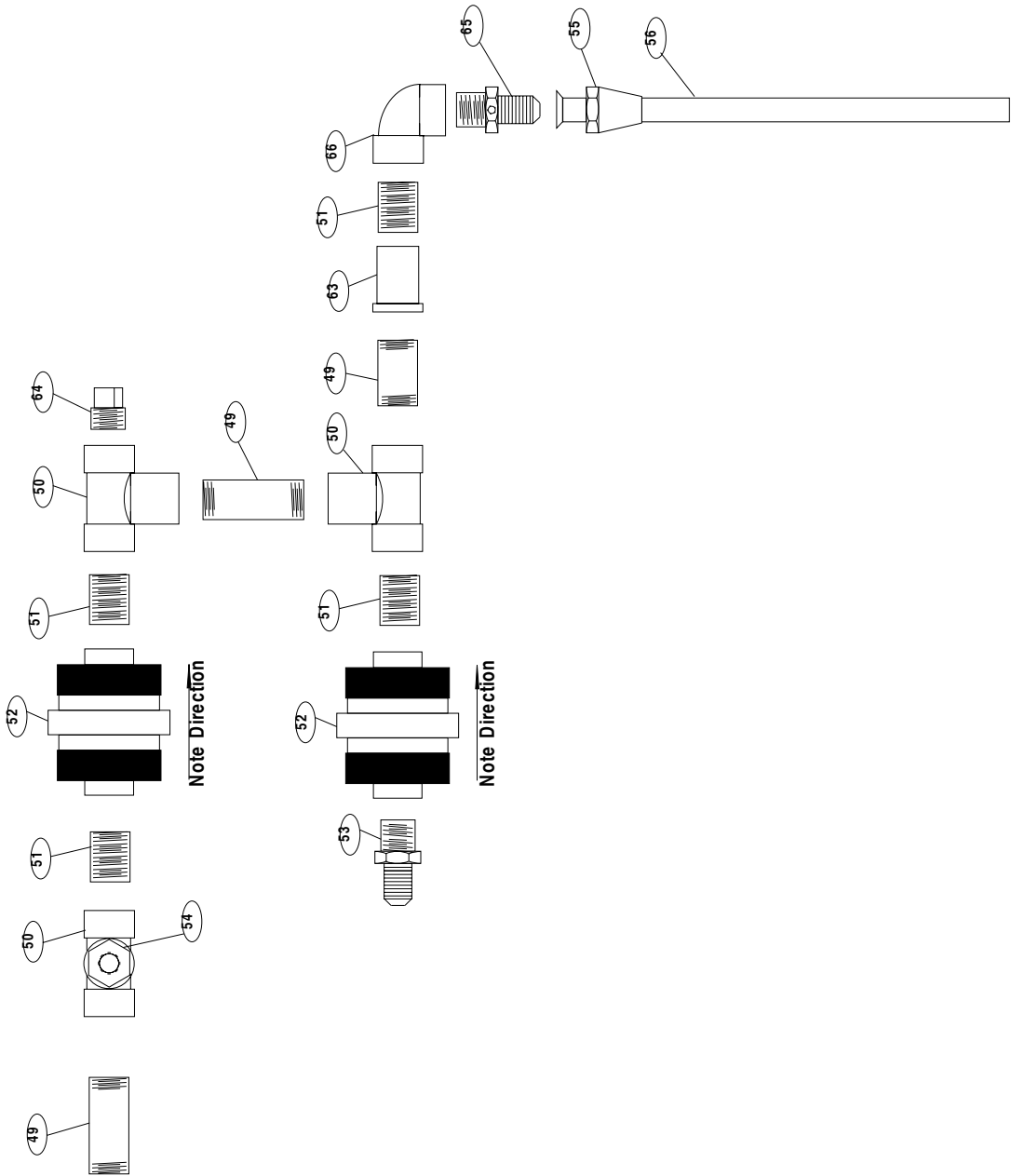
+ Parts included in Spare Parts Kit SP-U1

* Parts included in Spare Parts Kit SP-U9

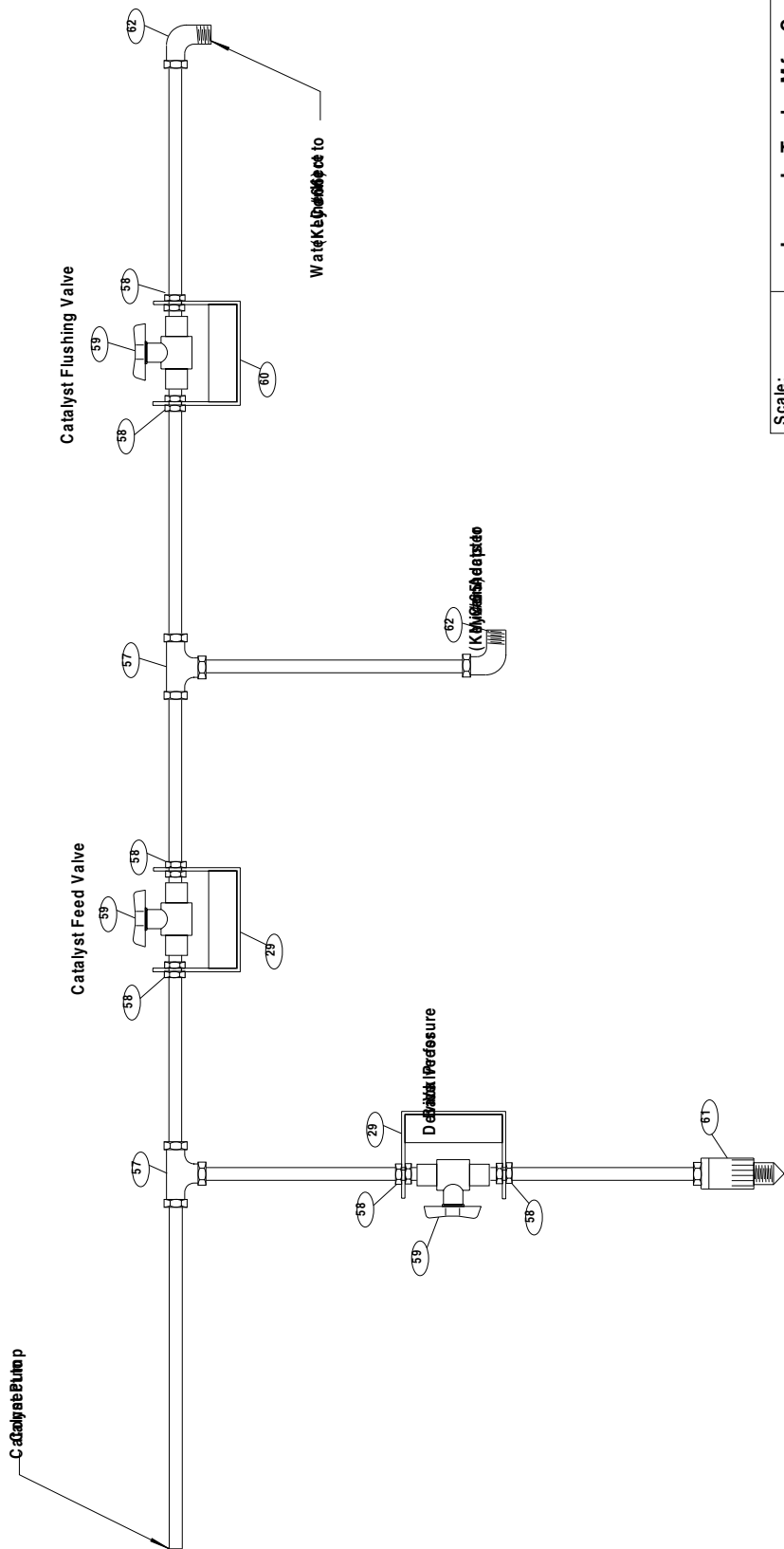


Scale:	James L. Taylor Mfg. Co.		
	Poughkeepsie, N.Y., U.S.A.		
Material:	12-30-92	Model	128020
	G.D.F.		

Please Use Model No. 128020 When Ordering



Scale:	James L. Taylor Mfg. Co.	
Material:	Poughkeepsie, N.Y., U.S.A.	
G.D. 50-92		Model 128020



Scale:	James L. Taylor Mfg. Co.		
Material:	Poughkeepsie, N.Y., U.S.A.		
	G.D. 30-92	Model	128020

Key #	Part Name	Description	Quantity
1.	TUBERU06.1	3/8 x 1/4 x 1/16 Rubber Tube	1'
2.	CLAQU.20	GE1710 Male Quick Clamp	1
3.	BUSH.1	6-N-3-4 Strain Relief Bushing	3
4.	WASHFL04	1/4" Flat Washers	4
5.	NUTHX04.20	1/4-20 Hex Nut	6
6.	WASHLO04	1/4" Lock Washers	6
7.	SCRHH0412	1/4 x 3/4 Hex Head Cap Screws	6
8.	128-35	Assembly - Bracket - Glue Feed Tube	1
9.	128-7	Assembly - Base	1
10.	MOTGR.127	3M127 Dayton Gear Motor	1
11.	SCRSS0505	5/16 x 5/16 Socket Set Screws	1
12.	128-61	Cam Special	1
13.	WASHLO04HI	1/4" Hicollar Lock Washer	2
14.	SCRSH0408	1/4" x 1/2" Socket Head Cap Screws	2
15.	CLAHO.20	#5220 Hose Clamp	2
16.	128-62-Length	Assembly - Glue Feed Tube (State Length)	1
17.	SCRPH.1008A	10 x 1/2 Type A Pan Head Screw	2
18.	INTERLOCK.10	IL-003 Interlock Plug	1
19.	SWITCHAP.1	L40A Circle F Applicator Switch	1
20.	LIG.IN10	#1050-C-1 125V Red Lite	1
21.	128-69	Arm Assembly - Bearing	1
22.	128-102	Assembly - Sensing Unit	1
23.	WIRERC183SJ	18-3SJ Rubber Cover Wire	4'
24.	CORD.04	1W364 Supply Cord	1
25.	CONTC.5269	#5269C Connector	1
26.	CONTRELS.1AR	ELS W/Relay 1 Level Liquid Sensing	1
27.	128-33	Cord - Sensing	1
28.	128-12	Probe	1
29.	128-121	Bracket - Long	2
30.	COUCO12	3/4" Copper Coupling	1
31.	BALLSS14	7/8" Dia. Stainless Steel Ball	2
32.	128-45	Body - Foot Valve	1
33.	SCRPH.1006AS	10 x 3/8" Type A Stainless Screw	2
34.	SCRHH0412	1/4 x 3/4 Hex Head Cap Screws	6
35.	WASHLO04	1/4" Lock Washers	6
36.	128-57	Assembly - Cylinder	1
37.	NUTHX04.20	1/4-20 Hex Nut	6
38.	128-51	Piston	1
39.	RINGO622729	#622729 "O" Ring	1
40.	SCRSH.103210	10-32 x 5/8 Socket Head Cap Screws	2
41.	NUTHX.0632SS	6-32 Stainless Hex Nut	1
42.	COUCO2412	1 1/2 x 3/4 Copper Coupling	1
43.	SCRRH.063232	6-32 x 2 Round Head Stainless Screw	1
44.	128-70	Seal Cylinder	1
45.	128-72	Tube - Piston Rod	1
46.	128-73	Assembly - Piston Rod	1
47.	ELBCO00122	3/4" Copper Drop Ear Elbow	1
48.	128-71	Tube - Output	1
49.	NIPPVC1248	3/4" x 3" Nipple PVC Threaded	3
50.	TEEPVC12TH	3/4" PVC SCH 80 Threaded Tee	3
51.	NIPPVC0012	3/4" Threaded SCH 80 Close Nipple	4
52.	VALVEPVC12BU	3/4" PVC Socket UN Ball Valve	2
53.	FIT.437	1 Barb x 3/4 MPT Straight Fitting	1
54.	140-121	Bushing	1
55.	CAPRETAINER	Cap Retainer	1
56.	MIXER.10	60/0029-A/50 Static Mixer	2

Key #	Part Name	Description	Quantity
57.	TEEPOLYP0404	1/4 x 1/4 Polypr x Polypr	2
58.	COUPOLYPR04F	1/4 X 1/4 Female Polypr Coupling	6
59.	VALVE04PVC.2	1/4 PVC Universal Valve	3
60.	128-120	Bracket - Short	3
61.	PUMPZZ.06	#28053 Injector Check Valve	1
62.	ELBPOLYP0402	1/4 x 1/8 Polyp tube x MPT Elbow	2
63.	128-126	Coupling Special PVC	1
64.	PLUGPVC12	3/4" PVC Plug	1
65.	128-107	Mixer Adapter	1
66.	ELBPVC1280TH	3/4" PVC Elbow SCH 80	1

Read the Gearmotor Installation and Maintenance Information Manual included with this product before installing or performing maintenance. Read this document carefully before attempting to disassemble, reassemble, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and / or property damage! Retain instructions for future references.

Initial Inspection and Handling

- After opening carton, look for concealed damage. If concealed damage is found, immediately file claim with carrier.
- Check the nameplate to verify that data conforms to specifications of gearmotor ordered.

Storage

- Gearmotor should be stored in a clean, dry location.

General Safety Information

⚠ DANGER *High voltage and moving parts around gearmotor, and gearmotor driven equipment can cause serious or fatal injuries. Always disconnect power source before working on a gearmotor or its connected load. Installation must conform to all OSHA requirements, the National Electrical Code (NEC) in the United States and all local codes.*

⚠ WARNING *Do not use this gearmotor in a location where fire or explosion hazards may exist as defined by Article 500, Hazardous Locations, of the National Electric Code (NEC) in the United States.*

Gearmotor must not be used in any combustible atmosphere or near any combustible material.

Gearmotors not equipped with a thermal protector are not suitable for installation in remote, unattended applications. Overload or locked shaft condition could result in winding burnout and/or fire and electrical shock.

⚠ CAUTION *When an installation involves a holding or overhauling application (such as a hoist or conveyer), a separate brake or other locking device should be used. Do not depend on gear friction to hold the load.*

Load movement may occur in the event of a gear failure. Gear failures can be a result of loads that produce shock or exceed the rated output torque specified. Over time gear wear could affect the strength of the gears leading to gear failure.

Do not use automatic reset devices (such as an auto reset protector) where unexpected gearmotor starting could be hazardous to personnel or equipment.

Installation, maintenance, troubleshooting, or service to be performed by only qualified personnel.

ELECTRICAL SAFETY

⚠ WARNING *Disconnect power before installing or servicing.*

Make certain that the power source conforms to the requirements of the gearmotor.

Gearmotor must be securely and adequately grounded by wiring with a grounded metallic conduit, or other grounding method approved by the NEC

and local codes. Refer to NEC Article 250 (Grounding) for additional information.

Insulate all connections carefully to prevent grounding or short circuits. Reinstall all conduit and terminal box covers. Do not force connections into the conduit box.

On permanent split capacitor gearmotors, make sure the capacitor rating matches the capacitor rating on gearmotor nameplate. Use proper capacitor ratings (MFD and Voltage). **Always discharge capacitors when working on gearmotor.**

MECHANICAL SAFETY

Remove the output shaft key before running the gearmotor without a connected load.

Guard all moving parts.

Be careful when touching the exterior surface of an operating gearmotor! Gearmotor surface may be hot enough to be painful or cause injury. This condition is normal for most gearmotors when operated at rated load and voltage.

Do not permit the load to exceed the gearmotor torque rating.

Do not exceed gearmotor's overhung load and/or axial load ratings.

Do not modify gearmotor unless otherwise specified by instructions.

When making repairs only use Dayton authorized replacement parts.

THERMAL PROTECTION

Use thermally protected gearmotors or a motor starter incorporating thermal overload protection wherever required by safety regulations; including (NEC), local codes or Underwriters Laboratory (UL) Standards; or where overloading, jamming or other abnormal operating conditions may occur. Under low temperature conditions, manual reset protectors may reset automatically, causing gearmotor to start unexpectedly.

Installation

⚠ WARNING

Do not install or operate this gearmotor in an explosive atmosphere.

LOCATION

Open, Dripproof Gearmotor - Clean dry locations with access to an adequate supply of cooling air.

Totally Enclosed Gearmotors - Harsher environments where damp and dirty conditions may exist. Totally enclosed gearmotors are not water-proof.

Temperature around the gearmotor should not exceed 104°F(40°C). Minimum temperature must be considered in the application of the gearmotor.

Temperatures less than 0°F (-18°C) may result in reduced output or no-start.

If installation is outdoors, make certain that the gearmotor is protected from the environment.

POWER SOURCE

Voltage, frequency and phase of the power supply must correspond to that shown on the gearmotor nameplate. Low voltage can reduce performance and cause overheating.

A 208 volt system requires a gearmotor rated at 200 or 208 volts.

MOTOR CONTROL DEVICES

Power supply lines must have short circuit protection for the gearmotor and controller.

Any switching device used to control gearmotor must have a horsepower rating equal to or greater than the motor.

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Do not use an electronic adjustable speed control device with this gearmotor.

GEARMOTOR MOUNTING

Mount gearmotor to a rigid surface, preferably metallic, using high-quality bolts of the largest possible diameter that will fit mounting holes. Gearmotor must be securely fastened to mounting surface.

COUPLING GEARMOTOR TO LOAD

- For operating conditions, other than a normal 8 hour day and shock-free operation, multiply the rated output torque of the gearmotor by the applicable load factor listed in the LOAD FACTOR TABLE. **Shock loads must be avoided.**

LOAD FACTOR TABLE

Nature of Load	Intermittent	Operating Time	
		Normal 8-hr. day	Continuous 24 hrs.
Uniform	1.0	1.0	0.9
Mod. Shock	1.0	0.9	0.8

- Direct-coupled installations require a careful check of shaft and coupling alignment. Shim gearmotor mounting as necessary. Do not depend on a flexible coupling to compensate for misalignment.
- Avoid excessive side load (e.g., over tightened chain or belt). Overhung load must not exceed unit's OVERHUNG LOAD rating (listed in catalog) at the mid-span point on output shaft.

DETAILED OVERHUNG LOAD CALCULATIONS

Sideward (radial) force on an output shaft is called overhung load. Driving a load through a sprocket, pulley, or gear which is mounted on the output shaft causes overhung load on the shaft. Too much overhung load can break the shaft or cause the bearings to fail prematurely. Locate the center line of the sprocket, pulley, or gear as close to the oil seal as practical to minimize overhung load and increase bearing life.

Calculate the amount of overhung load in your installation as follows:

$$\text{Overhung Load (lbs.)} = \frac{(2) \times (T) \times (D) \times (L)}{(P)}$$

The terms of the above formula are defined as follows:

(T)=Full load torque of gearbox, in in/lbs, from specifications and performance

(D)=Drive factor from following chart, accounting for type of drive

(P)=Pitch diameter, in inches, of drive being mounted on gearbox output shaft

(L)=Leverage factor from following chart, accounting for position of drive along length of gearbox output shaft.

DRIVE FACTORS

Type	Factor
Sprocket	1.00
Pulley	1.50
Gear	1.25
Flat belt pulley	2.50

LEVERAGE FACTORS

Coupling Location	Factor
End of shaft extension	1.20
Center of shaft extension	1.00
Next to shaft extension shoulder	0.80

After calculating the amount of overhung load expected in your installation, compare it to the overhung load rating (limit) listed in catalog. If the expected amount of overhung load is higher than the specified limit, you must change a component or the location of a component in your installation to bring the overhung load within the limit. To increase the operating life of the gearbox bearings, design your installation to reduce overhung load as much as possible.

CONNECTING POWER TO GEARMOTOR

To connect gearmotor for proper voltage and rotation, refer to the connection diagram on the nameplate or inside the terminal/conduit box.

Motor HP	25 Feet 115V 230V		50 Feet 115V 230V		100 Feet 115V 230V		150 Feet 115V 230V		200 Feet 115V 230V	
up to										
1/25	14	14	14	14	14	14	14	14	14	14
1/20	14	14	14	14	14	14	14	14	12	14
1/15	14	14	14	14	14	14	12	14	12	14
1/10	14	14	14	14	12	14	12	14	10	14
1/8	14	14	14	14	12	14	10	14	10	14
1/6	14	14	14	14	12	14	10	14	10	14
1/4	14	14	14	14	12	14	10	14	8	14

NOTE:

- Above wire sizes based on approximate 5% voltage drop during starting; copper conductors. For aluminum wire, increase two wire size steps minimum. See NEC Article 310 for ampacities of aluminum conductors.

▲ WARNING

Determine direction of rotation before connecting driven equipment to prevent damage.

If the gearmotor is exposed to excessive moisture (e.g., flooded, submerged, sprayed), have the gearmotor serviced by a qualified motor repair shop before operating.

On PSC gearmotors, make sure the gearmotor run capacitor rating matches the capacitor rating on the gearmotor nameplate. When replacing an existing gearmotor, the capacitor should also be replaced.

Operating Gearmotor

Connect gearmotor to load and run briefly. Check for unusual noises and vibration (see Troubleshooting). Check gearmotor current; it should not exceed nameplate value.

Visually re-inspect the installation. Make sure that the guards and all other protective devices are securely in place. All covers and gaskets must be re-installed to minimize the entry of dirt and moisture.

During continual operation, the surface temperature of the gearmotor may become hot. For most gearmotors when operated at rated load and voltage, this condition is usually normal. To verify if condition is normal, check gearmotor current and voltage; they should be close to the ratings specified on the nameplate.

PSC Type Gearmotors are not designed for instantaneous reversing. The gearmotor must come to a complete stop before reversing rotation.

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Recommended Maintenance

Remove dirt accumulations in and around gearmotor, specifically around motor vent openings, by vacuuming. **Dirt accumulations can cause motor heating and a fire hazard.** Enclosed motors can be cleaned with an air jet; wear eye protection.

Periodically inspect the installation. Check for dirt accumulations; unusual noises or vibration; overheating; worn or loose couplings, sheaves and belts or sprockets and chain; high motor current; poor wiring or overheated connections; voltage; loose mounting bolts or guards; and worn motor starter contacts.

Exercise caution with solvents; some solvents may attack motor insulation, finish or bearing lubricants; some are highly flammable. If solvents are used, make sure area is well vented.

Dayton gearmotor bearings (ball and/or sleeve) are pre-lubricated at the factory and do not require relubrication.

Ordering Replacement Parts

▲ CAUTION

Use only Dayton authorized replacement parts when repairing gearmotor.

IMPORTANT: For replacement parts information, refer to the enclosed Product Specific Information Manual furnished separately.

***Order Replacement Parts By Calling Toll Free 1-800-323-0620
24 hours a day - 365 days a year***

Please provide following information:

- Model Number
- Serial Number (if any)
- Part Number as shown in Product Specific Information Manual

Address parts correspondence to:

Grainger Parts Operations
P.O. Box 3074
1657 Shermer Road
Northbrook, IL 60065-3074 U.S.A.

Troubleshooting

This chart suggests common answers to gearmotor problems. The information is not all-inclusive and does not necessarily apply in all cases. When unusual operating conditions, repetitive failures, or other problems occur, obtain technical assistance.

Symptom	Possible Cause(s)	Corrective Action
Unit fails to operate	1. No power	1. Consult local power company
	2. Blown fuse or open circuit breaker	2. Replace fuse or reset circuit breaker. Check for grounded motor winding
	3. Voltage too low at motor terminals due to line drop	3. Consult local power company. Check for poor connections. Increase wire size (refer to Minimum Wire Size Table)

Symptom	Possible Cause(s)	Corrective Action
Unit fails to operate (Continued)	4. Improper line connections	4. Check connections against diagram supplied with unit
	5. Defective motor	5. Repair or replace
	6. Defective control switch or starter	6. Repair or replace
	7. If permanent split capacitor unit, capacitor may be defective	7. Replace. Refer to unit's nameplate for correct value
	8. Gearmotor may be overloaded	8. Reduce load or increase gearmotor size. Check load and alignment of coupling
	9. Tight motor shaft on open C-frame type Shaded Pole gearmotors	9. Occasionally during shipment the motor sleeve bearing may misalign causing the motor shaft not to rotate freely. Tap slightly on side of the motor with a plastic mallet to align the bearings. Do not tap on motor bobbin coil or bearing bracket.
Unit stalls during operation	1. Overload	1. Determine cause of overload. Reduce load or increase gearmotor size
	2. Low voltage	2. Verify that nameplate voltage is maintained
Unit operational but no output	1. Defective gear(s)	1. Check and replace if necessary
	2. Gear loose on shaft	2. Check and replace if necessary
	3. Loose coupling, sheave or sprocket	3. Check and tighten if necessary
	4. Sheared key on output shaft	4. Replace key and inspect keyway for damage

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E N G L I S H	Symptom	Possible Cause(s)	Corrective Action
	Intermittent rotation of output shaft	Damaged intermediate gear caused by shock load	Replace and, if possible, avoid shock load
	Excessive noise	1. Bearing worn or damaged	1. Replace
		2. Belt or chain too tight	2. Adjust tension
		3. Overhung-load exceeds rating and causes bearing wear	3. Correct load and/or replace bearing
		4. Defective gear(s)	4. Replace
		5. Output shaft misaligned	5. Realign
		6. Loose sheave or sprocket or misaligned coupling	6. Tighten Set Screw(s). Realign coupling
		7. Defective motor winding	7. Replace
	Unit overheats while running under load	1. Overloaded	1. Reduce load, increase gearmotor size; belts or chain too tight
		2. High or low voltage	2. Check voltage at motor connections, should not be more than 10% above or below
		3. Faulty connection	3. Check and tighten if necessary
		4. Dirt blocking ventilation openings	4. Clean motor
		5. Defective motor	5. Repair or replace
	Unit does not come up to speed or takes too long to accelerate	1. Voltage too low at motor terminals	1. Check for poor connections. Increase wire size (refer to Minimum Wire Size Table)

Symptom	Possible Cause(s)	Corrective Action
Unit does not come up to speed or takes too long to accelerate (Continued)	2. Starting load too high	2. Unit may be under size to start load. Increase unit size. Load contains a bound condition. Clear condition
	3. Excessive loading; tight belts or chain	3. Reduce load; increase unit size. Adjust belt or chain tension
	4. Defective gearmotor	4. Repair or replace
	5. Inadequate starting torque. High inertia load	5. Replace with larger unit

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Limited Warranty

Dayton Two-Year Limited Warranty. Dayton® Shaded Pole and Permanent Split Capacitor Type Gearmotors are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for two years after date of purchase. Any part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at Dayton's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights which vary from jurisdiction to jurisdiction.

Limitation of Liability. To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to and shall not exceed the purchase price paid.

Warranty Disclaimer. Dayton has made a diligent effort to provide product information and illustrate the products in this literature accurately; however, such information and illustrations are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions.

Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in the "LIMITED WARRANTY" above is made or authorized by Dayton.

Product Suitability. Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Dayton attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, review the product applications, and all applicable national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some jurisdictions do not allow a limitation on how long an implied warranty lasts, consequentially the above limitation may not apply to you; and (c) by law, during the period of this limited warranty, any implied warranty of implied merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

Prompt Disposition. Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom the product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date, and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.

Manufactured for Dayton Electric Mfg. Co., 5959 W. Howard St., Niles, Illinois 60714 U.S.A.

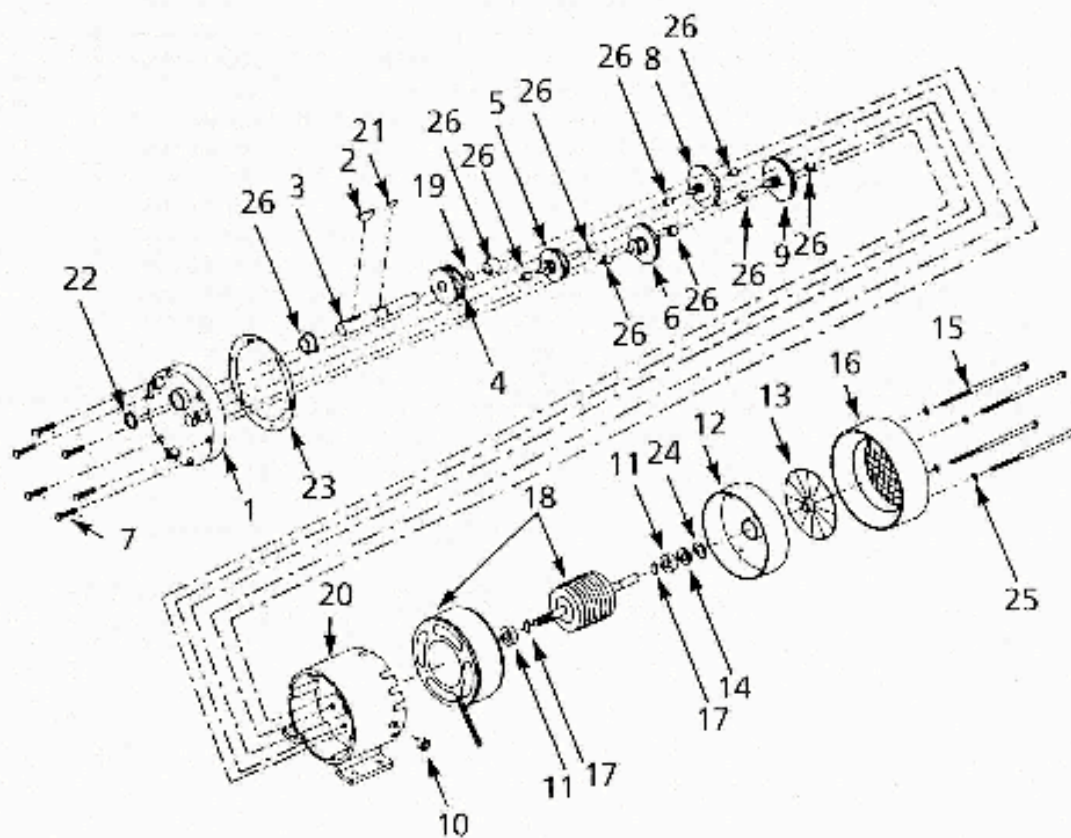
Dayton Product Specific Information Manual

**3M125B, 3M126B,
3M127B and 3M128B***Please provide the following information:*

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

Address parts correspondence to:

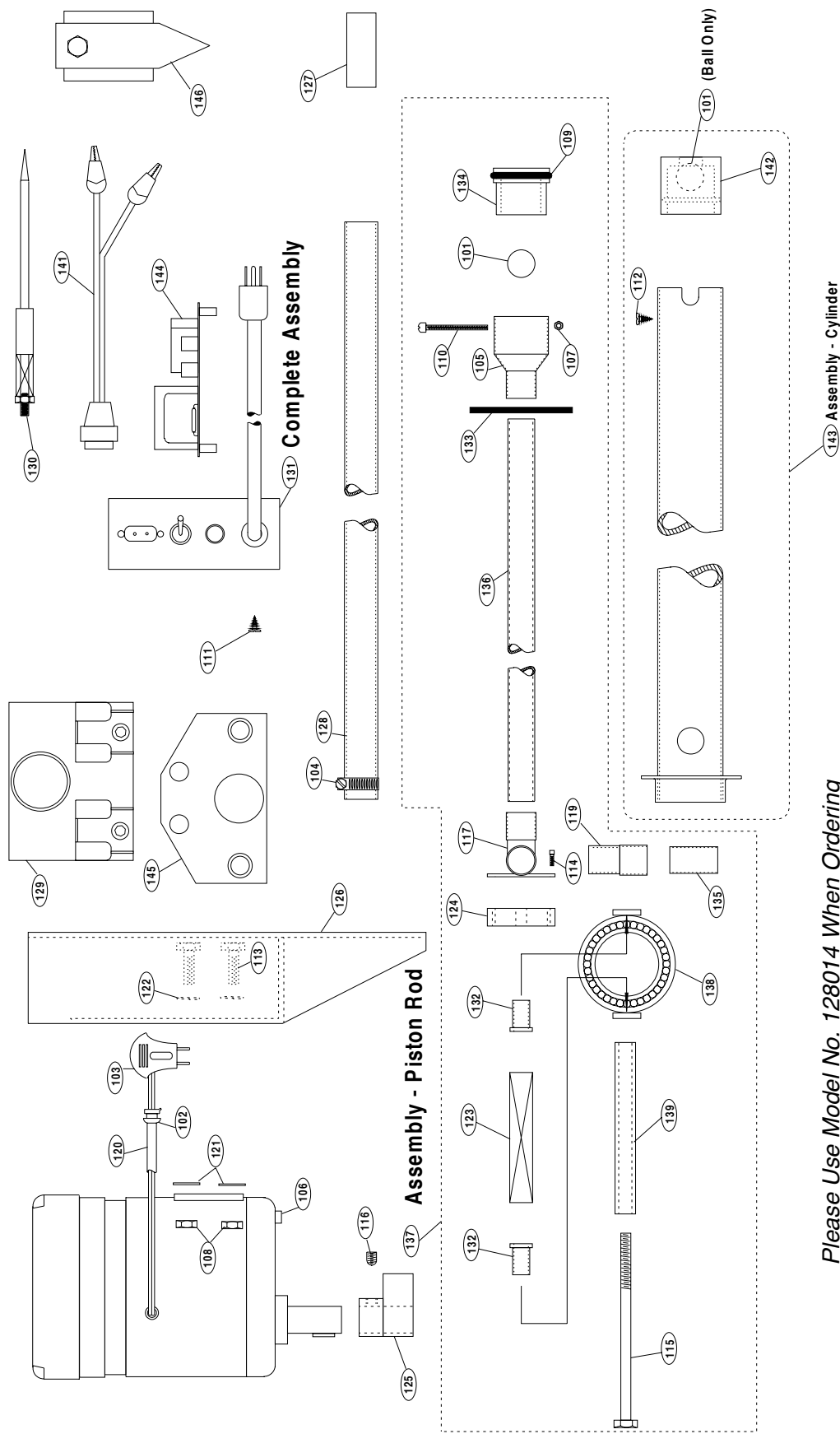
Grainger Parts
P.O. Box 3074
1657 Sherman Road
Northbrook, IL 60065-3074 U.S.A.

**Figure 2 – Repair Parts Illustration**

Repair Parts List

Ref. No.	Description	Part Numbers For Models:				Quantity
		3M125B	3M126B	3M127B	3M128B	
1	Cover Assembly	D00615-0010	D00615-0011	D00615-0011	D00615-0012	1
2	Woodruff Key #605	P00464-0001	P00464-0001	P00464-0001	P00464-0001	1
3	Output Shaft	J00625-0037	J00625-0037	J00625-0037	J00625-0037	1
4	Output Gear	H00555-0001	H00555-0001	H00555-0001	H00555-0001	1
5	Inter. Low Speed Gear	A00559-0002	A00563-0002	A00553-0002	N/A	1
6	Inter. Gear Assy.	A00556-0002	A00560-0002	A00718-0001	A00553-0001	1
7	Screws #10-24	R12022-0011	R12022-0011	R12022-0011	R12022-0011	6
8	Inter. High Speed Gear	A00547-0001	N/A	N/A	N/A	1
9	High Speed Gear Assy.	A04042-0001	A04042-0002	A04043-0001	A04045-0001	1
	Optional Steel Assy.	A04042-0004	A04042-0003	A04043-0004	A04045-0002	1
10	Snap Bushing	P01206-0003	P01206-0003	P01206-0003	P01206-0003	1
11	Ball Bearing	L00647-0002	L00647-0002	L00647-0002	L00647-0002	2
12	Endbell	D13065-0001	D13065-0001	D13065-0001	D13065-0001	1
13	Fan	E13286-0004	E13286-0003	E13286-0003	E13286-0004	1
14	Spring	K02208-0003	K02208-0003	K02208-0003	K02208-0003	1
15	Screws #10	R00F10S408Z	R00F10S408Z	R00F10S408Z	R00F10S408Z	4
16	Fan Shroud	G03150-0002	G03150-0002	G03150-0002	G03150-0002	1
17	Retaining Ring	R02074-0001	R02074-0001	R02074-0001	R02074-0001	2
18	Rotor-Stator Assembly	V00212APAJ	V00212ARAJ	V00212ARAJ	V00212ASAJ	1
19	Retaining Ring	R00627-0001	R00627-0001	R00627-0001	R00627-0001	1
20	Gear Case Assembly	D00791-0024	D00791-0025	D00791-0025	D00791-0027	1
21	Woodruff Key #404	P00423-0001	P00423-0001	P00423-0001	P00423-0001	1
22	Grease Seal	P01694-0026	P01694-0026	P01694-0026	P01694-0026	1
23	Gear Case Gasket	P11141-0001	P11141-0001	P11141-0001	P11141-0001	1
24	Washer	K04656-0001	K04656-0001	K04656-0001	K04656-0001	6
25	Lockwasher	R00655-0001	R00655-0001	R00655-0001	R00655-0001	4
26	Bearing Kit	D12522-0004	D12522-0009	D12522-0009	D12522-0010	1
Δ	Grease Tube (6 oz.)	E13418-0001	E13418-0001	E13418-0001	E13418-0001	1

(Δ) Not Shown.



Please Use Model No. 128014 When Ordering

Scale:		James L. Taylor Mfg. Co.	
Material:		Poughkeepsie, N.Y., U.S.A.	
		11-1-89 G.D.F.	Model 128014

Key #	Part Name	Description	Quantity
101.	BALLSS14	7/8" Dia Stainless Steel Ball	2
102.	BUSHS.1	Bushing - Strain Relief 6N3-4	1
103.	CLAUQ.20	GE-1710 Male Quick Clamp	1
104.	CLAH0.20	Clamp - 5220	1
105.	COUCO2412	1 1/2" x 3/4" Copper Reduce Coupling	1
106.	MOTGR.127	3M127 Dayton Gear Motor	1
	MOTGR.128	Gearmotor - 3M128,30 RPM, 115 Volt	1
107.	NUTHX.0632SS	Nut - 6-32 Hex Stainless	1
108.	NUTHX04.20	1/4-20 Hex Nut	4
109.	RINGO622729	#622729 "O" Ring	1
110.	SCRRH.063232	Screw - 6-32 x 2 R.H. Stainless	1
111.	SCRPH.1008A	Screw - #10 x 1/2 Type A Self Tapping	2
112.	SCRPH.1006AS	Screw - #10 x 3/8 Type A Stainless	1
113.	SCRHH0412	1/4" x 3/4" Hex Head Cap Screw	6
114.	SCRSH.103210	Screw - 10-32 x 5/8" Socket Head Cap	2
115.	SCRHH0580	5/16" x 5" Hex Head Cap Screw	1
116.	SCRSS0505	5/16" x 5/16" Socket Set Screw	1
117.	128-116	3/4" Copper Drop Ear Elbow	1
118.	SCRSH0408	Screw 1/4 x 3/8 Socket Head Cap	2
119.	COUCO12	Coupling 3/4" Sweat Copper	1
120.	TUBERU06.1	Tubing - 1/4 Rubber	Specify Length
121.	WASHFL04	Washer - 1/4" Flat	4
122.	WASHLO04	Washer - 1/4" Lock	4
123.	SPG12.094.2	Spring - 3/4 x 4 x .094 Compression	1
124.	128-84	Bar - Elbow Mounting	1
125.	128-89	Cam	1
126.	128-7	Assembly - Base	1
127.	128-32	Plug - Glue Feed	1
128.	128-62-Length	Assembly - Glue Feed Tube (State Length)	1
129.	128-101	Assembly - Bracket - Glue Feed Tube	1
130.	128-12	Probe - Sensing	1
131.	128-98	Assembly Sensing Unit	1
132.	128-85	Bushing	2
133.	128-70	Seal - Cylinder	1
134.	128-51	Piston	1
135.	128-71	Tube - Output	1
136.	128-83	Tube - Piston Rod	1
137.	128-88	Assembly - Piston Rod	1
138.	128-86	Assembly - Bearing	1
139.	128-87	Tube - Spring Guide	1
140.			
141.	128-33	Cord - Sensing	1
142.	128-45	Body - Foot Valve	1
143.	128-57	Assembly - Cylinder	1
144.	CONTRELS.1AR	ELS W/Relay 1 Level Liquid Control	1
145.	128-35	Assembly - Bracket - Glue Feed Tube	1
146.	128-38	Probe Sensing	1
147.	128-56	Assembly - Valve	1

Parts Order Form

1. Sold to:

Company _____
Address _____
Address _____
City _____
State _____ Zip _____
Your Name _____
Phone # _____
Fax # _____
Purchase Order # _____

2. Ship to:

Company _____
Address _____
Address _____
City _____
State _____ Zip _____
Attention: _____
Phone # _____
Fax # _____
Purchase Order # _____

3. Parts Needed:

Quantity	Part Name (see parts list)	Description	Price (each)

4. Preferred Shipping Method:

- (check one)
- ☐ UPS Regular ☐ Truck ☐ Customer Pickup
☐ UPS Next Day Air Carrier: _____ ☐ Other: _____
☐ Air Freight

5. Fax, Mail, or Phone your Order to:

James L. Taylor Mfg. Co.
P.O. Box 712
108 Parker Avenue
Poughkeepsie, NY 12601
Phone: (845) 452-3780
Fax: (845) 452-0764

We at the James L. Taylor Manufacturing Company are committed to providing you, our customer, with the finest edge gluing machinery possible. We'd like to hear from you as to what we're doing right, what we're doing wrong, and how we might improve in order to serve you and the woodworking industry best in the coming years. After setting up your machine, we would appreciate your filling out the following form and returning it to Taylor. We thank you in advance for your comments.

1. Which Taylor gluing machine have you most recently purchased?

- | | | |
|---|---|--|
| <input type="checkbox"/> Clamp Rack | <input type="checkbox"/> Conveyorized Glue Applicator | <input type="checkbox"/> Catalyzed PVA Mixer |
| <input type="checkbox"/> Clamp Carrier | <input type="checkbox"/> Automated Glue Applicator | <input type="checkbox"/> Steam Heated Panel-Flo |
| <input type="checkbox"/> Automated Clamp Carrier | <input type="checkbox"/> Plate Spreader | <input type="checkbox"/> Steam Heated Panel Mint |
| <input type="checkbox"/> Dual Automated Clamp Carrier | <input type="checkbox"/> Glue Pump | <input type="checkbox"/> Electric Panel Mint |
| <input type="checkbox"/> Opti-Sizer | <input type="checkbox"/> Mix-Mizer | <input type="checkbox"/> Other: |

2. How would you rate your overall satisfaction with this machine so far?

- ☐ Excellent
☐ Good
☐ Fair
☐ Poor

Comments: _____

3. How would you rate the installation/operation manual?

- ☐ Excellent
☐ Good
☐ Fair
☐ Poor

Comments: _____

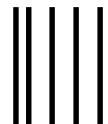
4. What improvements would you like to see Taylor make to future machines like yours?

Comments: _____

5. What new machines would you like to see Taylor develop in the future?

Comments: _____

Name _____
 Company _____
 Address _____
 City _____ State _____ Zip _____



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 JAMES L TAYLOR MFG CO
 108 - 128 PARKER AVE.
 POUGHKEEPSIE NY 12601

