

# INSTALLATION, OPERATION, and TROUBLESHOOTING

## Electrical Actuator's-Model's P-912 & E-230



Figure #1

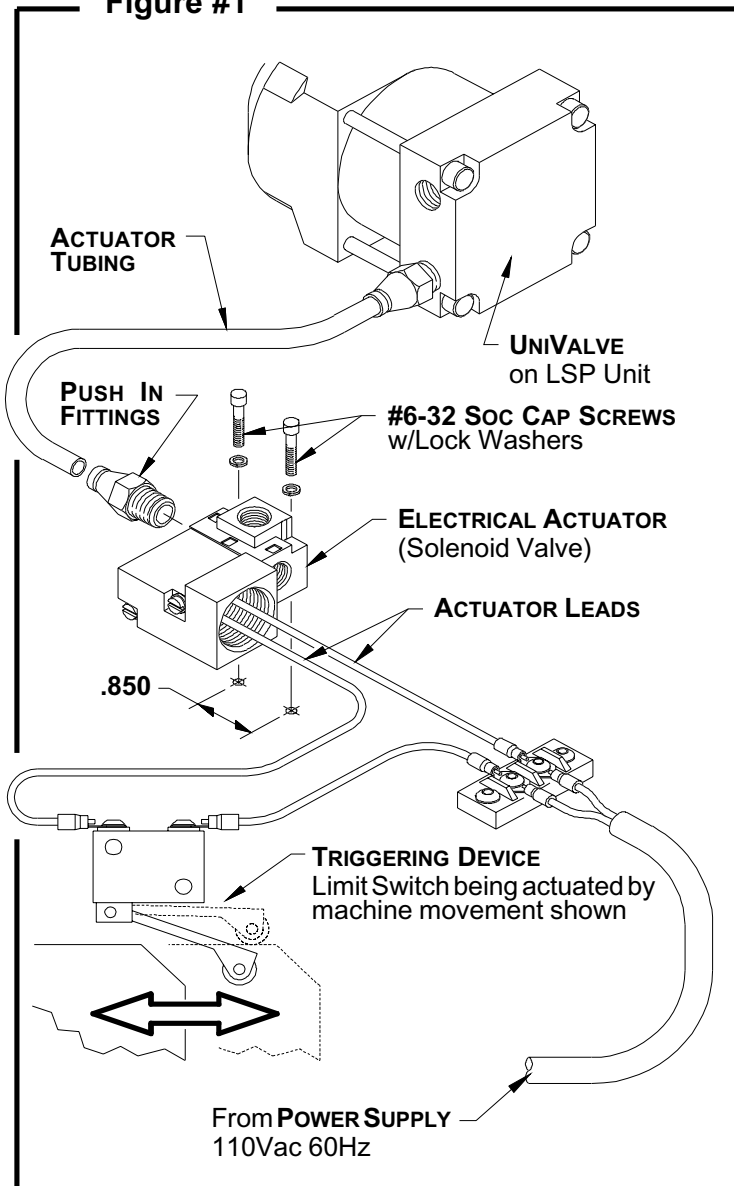
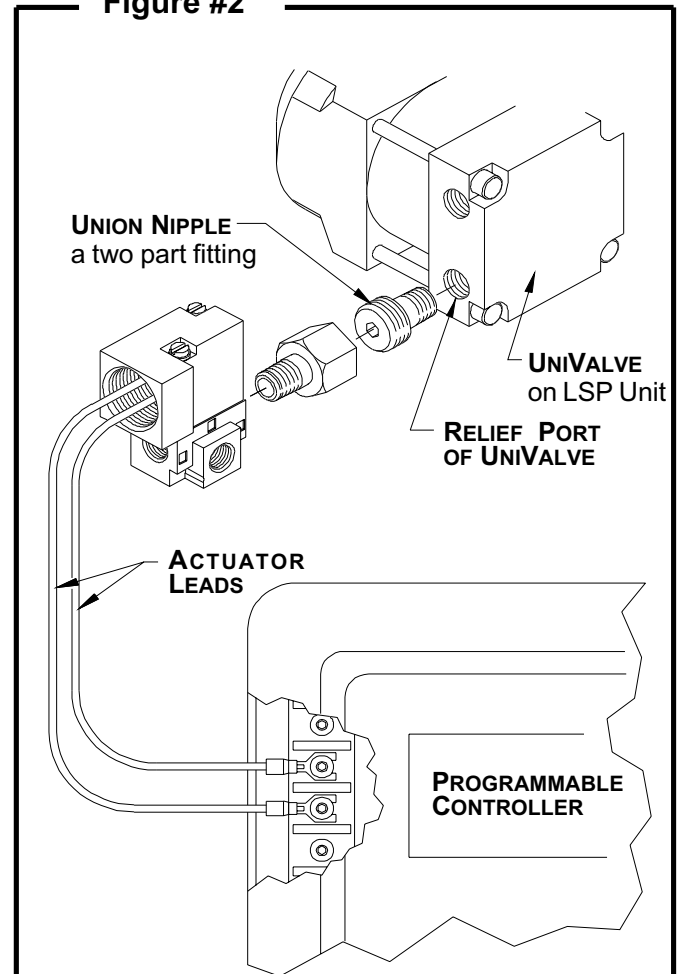


Figure #2



Items called out in these illustrations are identified in the INSTRUCTIONS by ALL CAPITAL LETTERS.

## INSTALLATION INSTRUCTIONS

The following paragraphs give recommendations on the use, location, and mounting of the ELECTRICAL ACTUATOR .

- A. The UNI VALVE  
This item is not part of the ELECTRICAL ACTUATOR. It is an air valve by which an L.S.P. UNIT is powered. The ELECTRICAL ACTUATOR actuates this UNI VALVE, and thereby the L.S.P. UNIT.  
The L.S.P. UNIT (with UNI VALVE) should be installed and put into operation per it's own INSTRUCTIONS before the ACTUATOR is installed.
- B. The ELECTRICAL ACTUATOR  
This item is a solenoid operated air valve. It is used to vent air from the UNI VALVE 's RELIEF PORT. The ACTUATOR is connected to this RELIEF PORT using the supplied UNION NIPPLE or ACTUATOR TUBING. When powered with 110Vac voltage it releases air from the UNI VALVE and thereby activating it.

Figures #1 and #2 above show two of the various ways in which the ACTUATOR might be installed and triggered.

Figure #1 shows the ACTUATOR mounted away from the UNI VALVE, being connected to it by ACTUATOR TUBING. It also shows the ACTUATOR being triggered by a limit switch which is tripped by the movement of a machine part.

Figure #2 shows the ACTUATOR mounted directly on the UNI VALVE using the UNION NIPPLE. It shows triggering and power being supplied from a CONTROLLER (P.L.C.). This CONTROLLER must be capable of supplying 110Vac voltage, and must be adjustable so the time and duration of the triggering can be set.

**Installation (continued)**

**C. Locating the ACTUATOR**

If desired (and performance allows), the ACTUATOR may be located away from the UNI VALVE as in Figure #1. For best performance however; locate the ACTUATOR directly on the UNI VALVE as in Figure #2.

Both methods of installing the ACTUATOR are described below.

**1. Remote located ACTUATOR (see Figure #1)**

Makes use of the ACTUATOR TUBING and PUSH-IN FITTINGS supplied.

NOTE: Use only the 3/16" O.D. Tubing and Fittings supplied. Performance may be adversely affected if any other type of tubing or fittings are used.

- a) Screw one of the PUSH-IN FITTINGS into the INLET PORT of the ACTUATOR (port marked #1) and torque to 60-80 in.lbs.
- b) Screw other PUSH-IN FITTING into the RELIEF PORT of the UNI VALVE (on the L.S.P. UNIT) and torque to 60-80 in.lbs.
- c) Select a location for the Actuator. The distance between Actuator and UniValve must allow the Actuator Tubing to reach. Keep this distance as short as possible (must be less than 4 feet).
- d) To mount the ACTUATOR using the screws supplied, furnish two holes with #6-32 thread 1/4" deep and spaced .850" apart. Insert the screws (w / washers) through the holes in the ACTUATOR and tighten securely.
- e) Connect one end of the ACTUATOR TUBING into a PUSH-IN FITTING by pushing it in until completely bottomed. Then run the TUBING to the other FITTING by the desired route. Remove excess length from the TUBING by cutting it

squarely (shorter TUBING gives better performance). Connect this end of the TUBING into this FITTING as was done above.

**2. Direct Mounted ACTUATOR (see Figure #2)**

Use this installation unless it is impractical for your application. Makes use of the UNION NIPPLE fitting supplied with the ACTUATOR.

- a) Separate the UNION NIPPLE into it's two parts as shown.
- b) Screw one part of the UNION NIPPLE into the port of the ACTUATOR which is marked #1. Use a 3/16" Allen wrench (.187" hex key) and torque the fitting to 60-80 in.lbs.

NOTE: The other two ACTUATOR ports (marked #2 and #3) must remain open. Do not plug them.

- c) Screw the other part of the UNION NIPPLE into the RELIEF PORT of the UNI VALVE using the 3/16" Allen wrench and torque to 60-80 in.lbs.
- d) Screw both parts of the UNION NIPPLE together using the connecting nut. Orient the ACTUATOR as desired and torque the nut to 60-80 in.lbs..

**D. Triggering the ACTUATOR**

The ACTUATOR is triggered by supplying it with the proper voltage. This triggering must be coordinated with the machine's cycle so the L.S.P. UNIT actuates at the proper time. The method used depends on what you find applicable to your application. Two methods of triggering are shown in Figures #1 and #2.

NOTE: Insure that the device(s) used to trigger the ACTUATOR are rated to handle the power requirements given below.

**E. Electrical Specifications** The P912 ACTUATOR operates on 120Vac 60Hz voltage\*\*.

The power required is 8 Watts (.06 Amps) holding, and 11 Watts (.09Amps) at inrush. Pull in is less than .005 Sec.

\*\* Other voltages, AC and DC, are available by special order.

<b>TROUBLESHOOTING INSTRUCTIONS</b>	
<b>PROBLEMS</b>	<b>SOLUTIONS</b>
I. L.S.P. UNIT is not actuating properly.	A. The problem may be with the ACTUATOR or the L.S.P. UNIT. See the INSTRUCTIONS supplied with the L.S.P. UNIT and check wether it is functioning properly first. B. If the ACTUATOR is found at fault, check if the problem is electrical by operating the ACTUATOR manually. This is done by pressing down on the white cap at the top of the ACTUATOR. If this actuates the UNIT, go to PROBLEM II. C. If the ACTUATOR does not function when operated manually, the ACTUATOR is most probably the cause of the problem and needs to be replaced.
II. ACTUATOR does not trigger, or triggering is erratic.	A. Check if the ACTUATOR is being supplied power and this power is present for a sufficient amount of time (5mSec min). 1. Set the triggering to a longer period of time. If the ACTUATOR begins to operate properly, it indicates the duration of the power pulse was set at too short a period. If this does not solve the problem, continue below. 2. To check the voltage to the ACTUATOR, trigger the ACTUATOR and hold it on, then check the voltage across it's leads. If there is proper voltage present, The ACTUATOR is the cause of the problem and needs be replaced. B. If there is no voltage to the ACTUATOR, check the power supply, the triggering device, and their connections.

If a SOLUTION below does not solve the PROBLEM, the ACTUATOR is probably at fault. If so, there is little that can be done on site. In such cases, contact L.S.P. Industries for a return authorization.



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