

Electric Lost Motion Actuator

Instructions for Conversion From 115V, 60 Hz to 220V, 50 Hz

Parts Required: 1) Motor Assembly W210214-001
2) Fuse W209542-001
3) Warning Label W208880-000

Numbers in parentheses refer to items as shown in attached NEMA 4 cross sectional and exploded isometric drawings.

- 1) Remove all power from the system and disconnect the primary power wiring for safety.
- 2) Manually position the pump stroke mechanism to zero stroke using the adjustment knob at the back of the pump (509).
- 3) Remove the seven 10-32 screws and lock washers (614, 615) that secure the actuator cover to the back plate and remove the cover (629).
- 4) Mark the exact position of the feedback potentiometer gear with tape or other suitable means. Reference this mark to the mounting bracket to ensure that the potentiometer does not move during the remainder of the conversion operation.
- 5) Remove the manual stroke adjustment knob (509) by loosening the two 6-32 set screws (508) in the knob. Remove the knob from the shaft. Be careful not to turn the adjustment knob or otherwise tamper with the zero adjustment as set in Step 2.
- 6) Remove the micrometer dial (511) by loosening the 3-56 set screw (510) that secures it to the adjustment shaft. Again, be careful not to turn the adjustment shaft or otherwise tamper with the zero adjustment as set in Step 2.
- 7) Remove the two 8-32 screws and washers (616, 636) that secure the belt guard (638) to the back plate and remove the guard, support bar (642), and spacers (609).
- 8) Loosen the screw that secures the belt tensioner (619) and remove the timing belt (640) from both timing gears. It may be necessary to fully remove the belt tensioner from the back plate in order to remove the timing belt.

- 9) Loosen the 6-32 set screw in the top timing gear (643) and remove it from the shaft.
- 10) Remove the three connector plugs from the circuit board at locations P2, P3 and P4. Note that the plugs at P2 and P4 have locking tabs which must be depressed. If any connections have been made to the orange terminal strip at TB1 remove it also by gently prying it from the circuit board.
- 11) Remove the four 8-32 hex nuts and lockwashers (606, 607) located at each corner of the circuit board and then remove the circuit board.
- 12) Remove the four standoffs (648, 603, 605) that secure the motor/capacitor assembly to the back plate and remove the assembly.
- 13) Place the new motor/capacitor assembly on the actuator and secure with the standoffs removed in Step 12. Be careful not to disturb the alignment of feedback potentiometer or adjustment shaft.
- 14) Before reinstalling the circuit board it must be reconfigured for operation at 115V. This is accomplished by removing the jumpers at locations J1 and J3 and soldering in a new jumper at J2. These jumpers are located along the right edge of the circuit board. A piece of 22 AWG bare wire can be used for the new jumper.
- 15) Reinstall the circuit board and connector plugs.
- 16) Place the timing gear (643) removed in Step 9 on the motor shaft. Reinstall the timing belt and align the top timing gear with the bottom one, also make sure that the position of the adjustment shaft and potentiometer has not been disturbed. Firmly tighten the 6-32 setscrew in the top timing gear.
- 17) Reassemble the remaining components in the reverse order of disassembly. When installing the micrometer dial (511) make certain that it indicates a 0 setting.
- 18) Remove the 0.25 amp fuse from the fuseholder in the supply wiring harness and replace it with the supplied 0.50 amp fuse.
- 19) Replace the warning label on the belt guard with the one supplied which indicates the appropriate supply voltage.

- 20) After final wiring proceed with the calibration instructions given in the Bulletin 421.

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