

Gate Valve Operator Type GVO-LP-FS/SR

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This document assigned to: _____

Applies to Operator Model: _____

Tag #: _____

Customer: _____

P.O.#: _____

W.O.#: _____

Date: _____

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Erichsen Gate Valve Operator Type GVO-LP-FS/SR

INSTALLATION

- If shipped attached to valve, actuator has been factory tested and adjusted and valve can be installed directly in line.
- If shipped without valve, the valve must be disassembled for installation. See instructions shipped with unit. The most important point is to be sure travel is stopped in each direction by the actuator, not the valve gate, at the fully open and fully closed positions.
- When connecting to supply, be sure to use internally clean pipe or tubing, and assure appropriate pressure and flow capacity for the actuator. Clean, dry supply gas will help to assure trouble free operation.

OPERATION (FAILSAFE CLOSED REVERSE ACTING - IE. GATE "DOWN" TO OPEN)

- Details will vary, but in general this actuator will be controlled by a three way, normally closed valve, which directs supply gas to pressurize the "top" of the piston to hold the valve open or, when vented, the combined forces of the spring and line pressure in the valve lift the drive rod and valve gate to close the valve.
- If jackscrew manual override is included as shown, be sure to retract after use to allow normal operation.

SERVICE

- CAUTION:**
1. The spring is under considerable preload. Use mechanical means to back off piston until spring is unloaded.
 2. Be sure drive rod can be (Serial No. Prefix 10 cannot be) and is backseated (check bonnet bleed and/or body bleed) before attempting to remove cylinder plate on pressurized valve.

TO DISASSEMBLE

- Mark or note port and tubing locations to facilitate reassembly.
- Depressurize and remove tubing, stay rod nuts and end cap.
- Remove cylinder and setscrew on indicator rod.
- Loosen indicator rod no more than 6 turns, then use end cap and two stay rods and nuts or other mechanical means to hold down the piston while removing the indicator rod.
- Back off piston, keeping it level, to unload spring.
- Remove piston support and stop tube, if applicable.
- Remove cylinder plate only after checking for back seat, block and bleed, or depressurizing the valve - valve packing could blow out otherwise.

TO RE-ASSEMBLE

- Inspect and clean parts checking in particular sealing and rubbing surfaces.
- Use new replacement seals (available as kits) with compatible lubricant on the o-rings, rods and cylinder bore.
- Be sure to seat seals, gaskets, guides and springs properly in their grooves.
- Replace setscrews, re-drilling counterseats since they probably won't return to exactly their original position.
- Tighten stay rods evenly and thoroughly.
- Check for leaks on actuator, and valve if re-packed.
- Replace tubing, re-connect supply, and operational test.

TESTING

System operation should be tested at regular intervals, and performance noted to catch any problems early. Use the checklist which follows to trace the source of problems before proceeding to a major actuator overhaul, since the actuator itself is generally the least likely component to malfunction, and requires the most time and effort to service.

TROUBLE SHOOTING

1. NO MOVEMENT, SLOW, JERKY OR PARTIAL STROKE?

- Check for sufficient supply pressure and flow, that is, check upstream accessories.
- Check for a change in operating conditions, that is, higher line pressure, different fluid, valve packing tightened excessively.
- Check that manual override hasn't been left in locking position and is interfering.
- Check speed control valves (if used) - sometimes fully opening while switching will remove blockage.
- Check for continuous leakage - see below.

2. CONTINUOUS LEAKAGE?

- If through line valve itself, check for complete stroke and for actuator stop adjustment, particularly if actuator recently installed or serviced.
- If from near the valve bonnet try to eliminate the valve as a source, that is, check valve packing if exposed. If actuator is close coupled, check if leakage continues when the actuator cylinder port nearest the valve bonnet is vented.
- If from the main switching valve exhaust, check the switching valve and actuator (see below).
- If elsewhere, check for loose fittings or defective components.
- If from around actuator cylinder to atmosphere, cause could be loose tie rods on pneumatic cylinder, or defective o-ring/gasket.

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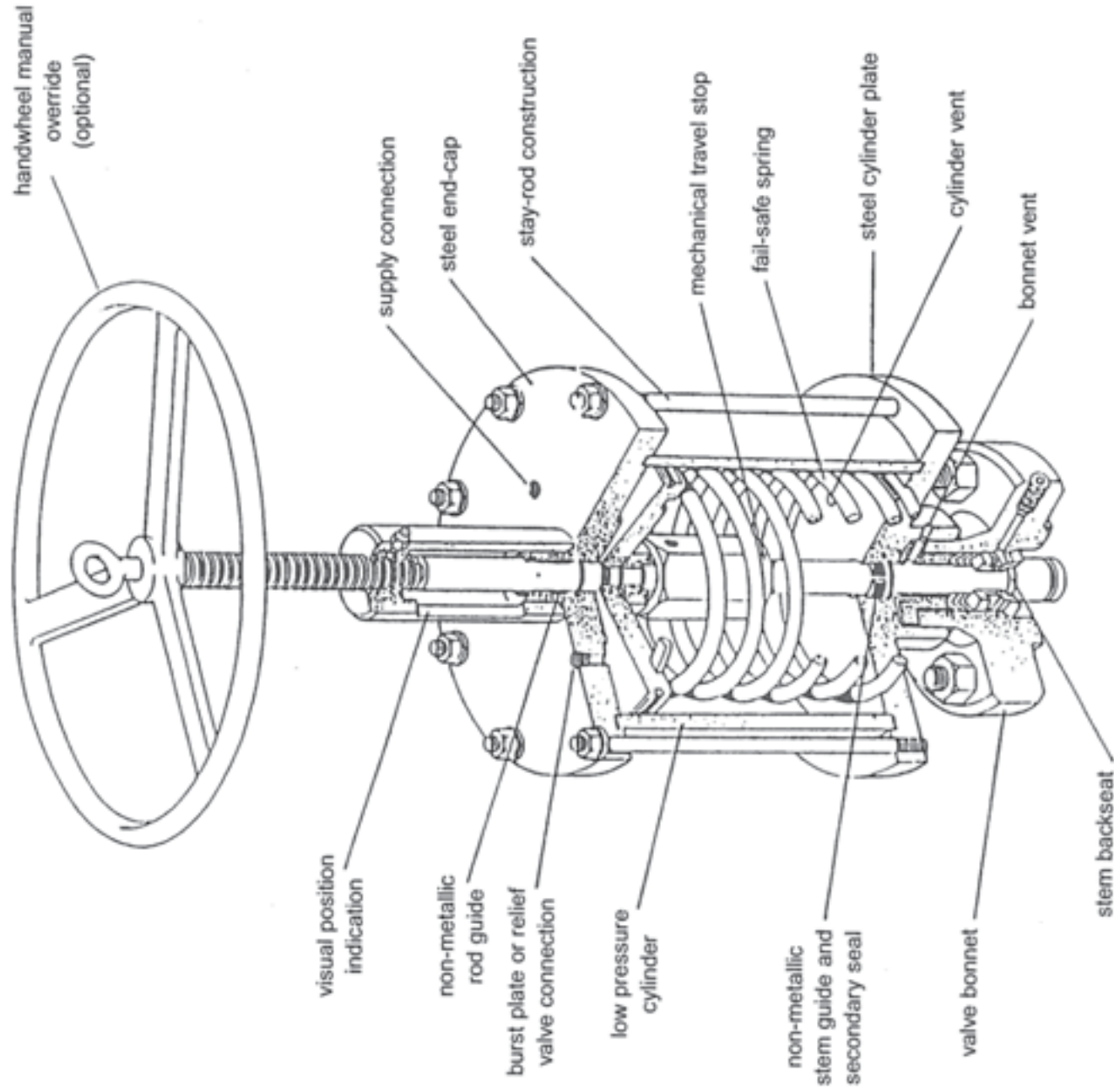
- If from around actuator drive rod, cause is probably a defective seal.
- 3. BLOW BY FROM MAIN SWITCHING VALVE EXHAUST?**
 - Cause could be defective switching valve or actuator. Remove the fitting at the cylinder port which is vented to atmosphere. Leakage from this port indicates actuator defective. Leakage continuing at switching valve indicates this valve defective. Replace the fitting and repeat the procedure for the other direction.
 - If actuator repair is indicated, see the cutaway drawing, parts list and instructions which apply to the particular actuator style. Soft parts replacement lists are available from factory or representative.
 - If switching valve repair is indicated, consult service manual for this component.

REGULAR MAINTENANCE

- Check and lubricate jackscrew (if supplied) with grease occasionally - every three months if outdoors.
- Check hydraulic fluid reservoir (if supplied) for level and accumulated moisture each Autumn. Drain and change fluid if necessary.

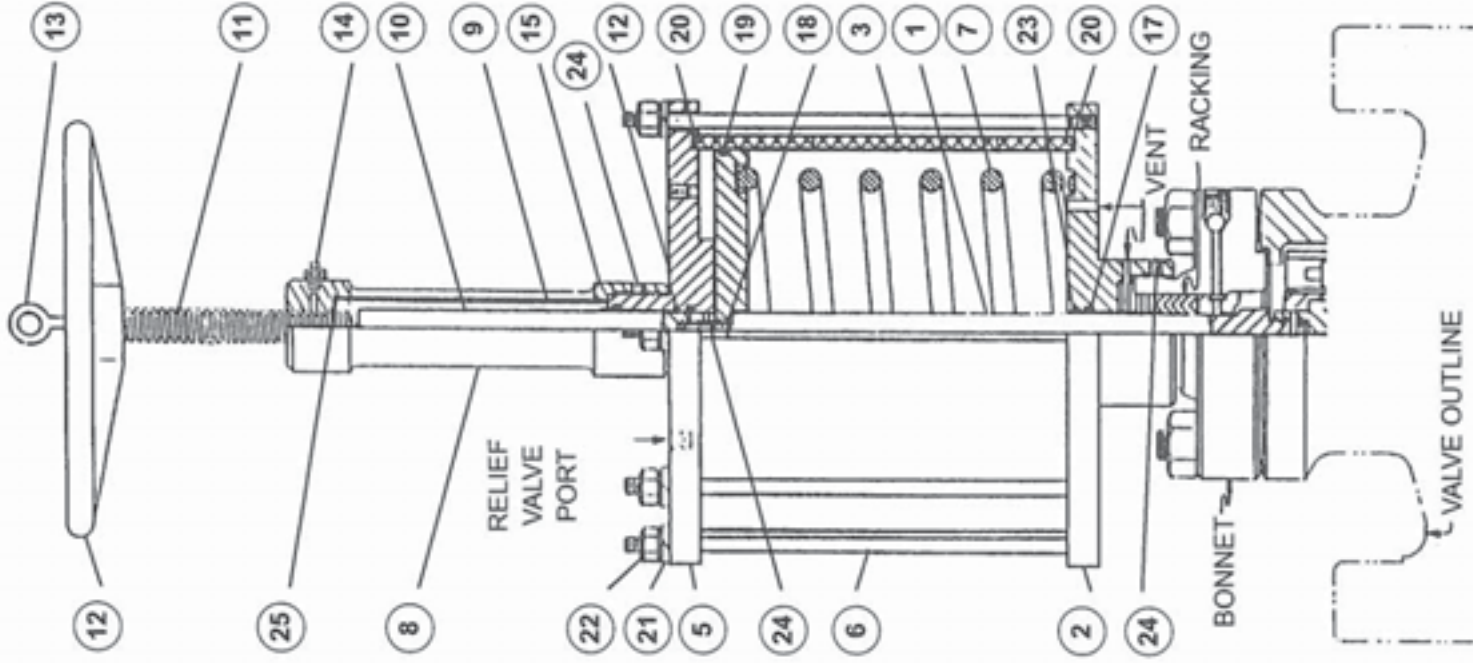


GVO-LP TYPE FS



Erichsen Gate Valve Operator Type GVO-LP-FS/SR

GVO-LP TYPE FS



| ITEM | DESCRIPTION | MATERIAL | ?? |
|------|------------------------|--------------|----|
| 1 | Drive Rod | Steel-CH.PI. | 1 |
| 2 | Cyl. Plate | Steel | 1 |
| 3 | Cylinder | Amalgon | 1 |
| 4 | Piston | Aluminum | 1 |
| 5 | End Cap | Steel | 1 |
| 6 | Stay Rod | Steel | 8 |
| 7 | Spring | Steel | 1 |
| 8 | Indicator Cover | Steel | 1 |
| 9 | Indicator Sleeve | Acrylic | 1 |
| 10 | Indicator Rod | Steel | 1 |
| 11 | Jackscrew | Gr. 8 | 1 |
| 12 | Handwheel | Aluminum | 1 |
| 13 | Eyebolt | Gr. 5 | 1 |
| 14 | Grease Fitting | Steel | ?? |
| *15 | Wiper | Neoprene | 1 |
| *16 | O-Ring End Cap | Buna | 1 |
| 17 | Wear Ring | Delrin | 2 |
| *18 | O-Ring Piston Center | Buna | 1 |
| *19 | O-Ring Piston | Buna | 1 |
| *20 | Gasket | Plant Fiber | 2 |
| 21 | Lockwasher | Steel | 8 |
| 22 | Nut-Stay Rod | Gr. 2H | 8 |
| *23 | O-Ring Cylinder Plate | Buna | 1 |
| 24 | Setscrew | Steel | 3 |
| *25 | O-Ring Indicator Cover | Buna | 1 |
| | NAC APPLICATION | | |
| 1(K) | Drive Rod | K-Model | 1 |

* Recommended Spare Parts

