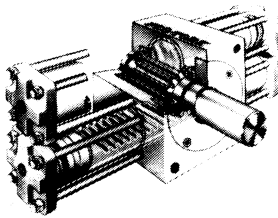
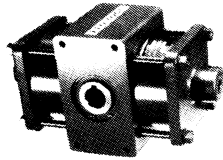




# FLO-TORK®



FS 206  
April 2002

## MAINTENANCE INSTRUCTIONS **SERVICE** A SERIES ROTARY ACTUATORS MODELS A100 AND A500

FLO-TORK, INC.  
1701 N. MAIN ST. P.O. BOX 68, ORRVILLE, OHIO 44667-0068

PHONE 330-682-0010

FAX 330-683-6857

### MAINTENANCE INSTRUCTIONS MAXIMUM OPERATING PRESSURE: AIR – 125 psig

#### GENERAL

STANDARD ACTUATORS ARE DESIGNED FOR USE WITH SHOP AIR OR A GOOD GRADE OF PETROLEUM BASE HYDRAULIC OIL. FOR NORMAL TEMPERATURE CONDITIONS AN OIL HAVING A VISCOSITY RANGE BETWEEN 250-300 SSV @ 100°F IS RECOMMENDED.

FOR MAXIMUM BEARING & SEAL LIFE IN PNEUMATIC SYSTEMS THE AIR SHOULD BE FILTERED & LUBRICATED. UNITS ARE PERMANENTLY LUBRICATED AT ASSEMBLY.

KEY CONSIDERATION IN THE DISASSEMBLY OF THE UNIT IS DETERMINING THE PINION SHAFT KEYWAY RELATIONSHIP TO THE RACK POSITION TO MAINTAIN PROPER TIMING AT RE-ASSEMBLY (NOTE: STANDARD UNITS ARE TIMED WITH THE PINION SHAFT KEYWAY AT 12 O'CLOCK HIGH WHEN LOOKING AT THE FRONT MOUNTING FACE.)

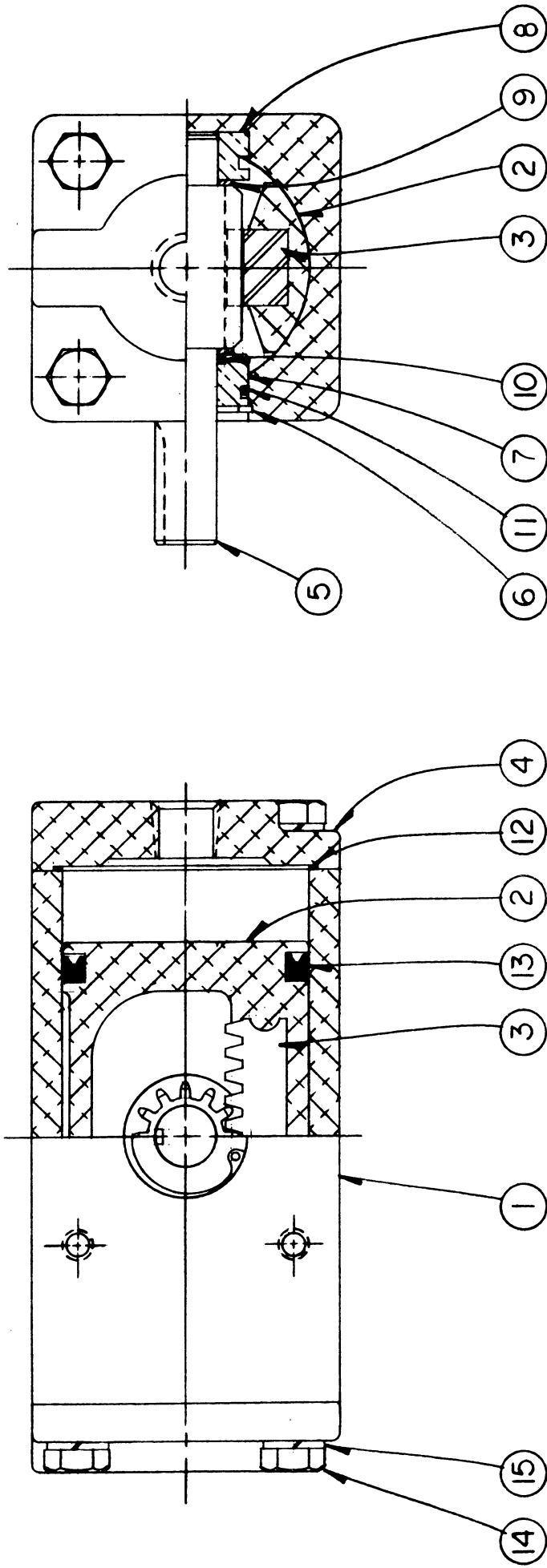
#### DISASSEMBLY

1. Disconnect air lines and be sure the actuator is not under pressure.
2. Remove the actuator from its mounting within the system.
3. Place the actuator in a vise, with pinion vertical and bearing retaining ring up (side with no mounting holes).
4. Remove cylinder head bolts & lockwashers.
5. Remove cylinder heads by pulling from housing.
6. Position the rack at mid-point of travel (Equal amounts of rack extended on each side of housing). Note and record the pinion shaft keyway location for re-assembly.
7. Remove the front bearing retainer ring (snap ring).
8. Remove the pinion & bearing (retainer ring side) by laying the actuator (retainer ring side) down and by pulling down on the pinion while tapping gently on the pinion with a mallet.
9. Tap out the back bearing (opposite the retainer ring side) in a similar manner.
10. Remove all seals. DO NOT reuse seals. Replace with new at reassembly. Seal kits are available from stock at factory.
11. Thoroughly clean all parts, inspect for wear or damage & replace as required.
12. If the unit is equipped with cushions remove the cushion nose from the piston. Procedures for the disassembly and re-assembly of the cushion adjustor(s) is given in Appendix A.
13. Procedure for disassembly and re-assembly of the adjustor stops (if the unit is so equipped) is given in Appendix B.
14. Thoroughly clean all parts, inspect for wear or damage and replace as required.

#### RE-ASSEMBLY

1. Position the actuator housing in a vise so that the retainer ring groove is up.
2. Lightly lubricate all seals with Vaseline or light oil before installation.
3. Install seals as shown in drawings.  
**NOTE:** Install the back (side opposite the retainer ring groove) bearing O.D. seal in the housing & the I.D. seal in the bearing before installing the back bearing in the housing.
4. Install the back bearing (opposite the retainer ring groove) in the housing & check to see that it seats properly (tap lightly).
5. If the unit is equipped with cushions, the cushion assembly (cushion check, compression spring, cushion o-ring, cushion bolt and dyna-seal) should be installed on one piston. Use Loc Tite No. 271 (red) on the bolt and torque to 5 lb. ft.
6. Grease rack with Grade 2 grease and install so that the pinion shaft keyway is positioned at the 12 o'clock high position (standard timing) with the rack centered.
7. If applicable, install cushion assembly on the other piston as described in No. 5 above.
8. Position rack at mid-point in housing.
9. Grease pinion with Grade 2 grease and install so that the pinion shaft keyway is positioned at the 12 o'clock high position (standard timing) with the rack centered.
10. Install the front pinion bearing. Check to insure that the retainer ring groove is completely exposed above the bearing.
11. Install the retainer ring (snap ring) to secure the pinion and bearings in place. Check to make sure the retainer ring is properly seated in its groove.
12. Clamp the actuator in a vise so that the pistons are readily available.
13. Install the seals on the pistons. Check to insure that the open end of the lipseal faces toward the pressure source (toward the face of the piston).
14. Install the O-ring seats in the cylinder heads.
15. Install the cylinder heads.
16. Install and tighten cylinder head lockwashers & bolts. Torque alternately and evenly to 4 to 6 ft. lbs.

# A100



ITEM	PART NAME	REQ.
1	HOUSING	1
2	PISTON RACK	1
3	RACK INSERT	1
4	END CAP-PORT	2
5	PINION	1
6	RETAINER-BEARING	1
7	FRONT BEARING	1
8	REAR BEARING	1
9	THRUSTWASHER	2
10	O-RING-PINION	1
11	O-RING-BEARING	1
12	B.U.-RING-END CAP	2
13	BLOCK VEE-PISTON RACK	2
14	BOLT-END CAP	8
15	LOCKWASHER-BOLT	8

**ALWAYS USE SERIAL NUMBERS  
AND MODEL NUMBERS WHEN ORDERING  
PARTS.**