

**OPERATION AND MAINTENANCE INSTRUCTIONS
LINEAR SPRING RETURN PNEUMATIC ACTUATOR
WITH HYDRAULIC DAMPER**

**LSRC REFERENCE ASSEMBLY DRAWING B-516807
LSRO REFERENCE ASSEMBLY DRAWING B-517820**

STORAGE:

If the actuators are to be stored prior to installation, they should be kept under cover and protected from the elements with pressure ports plugged. If the actuators are to be stored for an extended length of time, the actuators should be cycled several times periodically to keep the seal energized.

OPERATION:

Normal operation is accomplished by applying pressure to the appropriate port by means of a proper control valve.

Damper speed is controlled by adjusting the flow control valves piped into the damper cylinder ports.

MAINTENANCE:

It is important to keep supply pressure to actuator clean and moisture free. Actuator should be cycled periodically to prevent seal sticking. The only recommended spare parts are the seals.

The damper cylinder uses Exxon ATF Dexron II or III.

Oil level in damper tank should be two to three inches deep when the actuator rod is fully extended.

Once installed and properly adjusted, routine maintenance is generally unnecessary.

DISASSEMBLY:

1. Dismount the actuator from the valve at the point of the adapter bracket to the adapter flange, leaving coupler block on valve stem.
2. Remove all accessories from actuator and drain oil from damper.

3. Remove lower stop screw (Item 2-150). Note: On SR actuators, supply pressure must be used to remove stop screw. Do not over pressure the cylinder.
4. Remove hex nuts screw (Item 4-60) which attached cylinder to spring cartridge.
5. Remove damper upper head (Item 4-50), tie bars (Item 5-70) and cylinder barrel (Item 5-80).
6. Remove damper piston (Item 4-40).
7. Unscrew damper piston rod (Item 5-60) from spring cartridge.
8. Remove hex cap screws (Item 2-170) then remove spring cartridge (Item 5-40) from pneumatic cylinder assembly.
9. Remove hex nuts (Item 2-120) and pneumatic tie bars (Item 5-10).
10. Remove upper head (Item 2-30) from cylinder.
11. Remove cylinder barrel (Item 5-50) from lower head (Item 2-10), leaving piston assembly (Item 2-20) with lower head (Item 2-10).
12. Remove piston (Item 2-20), tail rod (Item 5-30), and piston rod (Item 5-20) assembly from lower head (Item 2-10). Unscrew rods from each other and remove from piston.
13. Remove adapter bracket from lower head (Item 2-10).
14. Remove bearing retainer from both upper and lower heads and then push bearings out of head.

REASSEMBLY:

Lubricate all seals and any edge that passes over a seal. Normally, all seals should be replaced when reassembling an actuator.

Reverse the disassembly procedure.

NOTE: The dimple which is centered between the pin slots at end of pneumatic piston rod should be installed in same direction as the front of the adapter bracket will be mounted to the cylinder.