

TOP MOUNT Spool Valves Operating/Service Instructions



Thank You!

You have purchased a premium-quality AV pneumatic valve. It is a high quality top mounting spool valve, designed for ease of installation and maintenance.

With care in its installation and maintenance you can expect it to have a long and economical service life. Before you service your valve, please read the information in this document completely, and save it for future reference. A general user manual with more detailed information is available online, visit AV's website at www.automaticvalve.com.

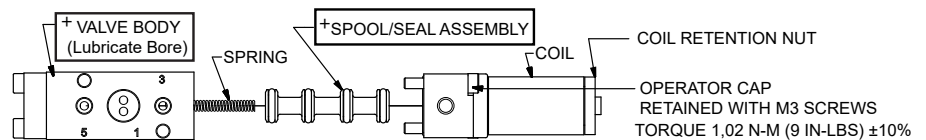
SERVICE INFORMATION

Please read and make sure you understand all instructions before proceeding with the service.

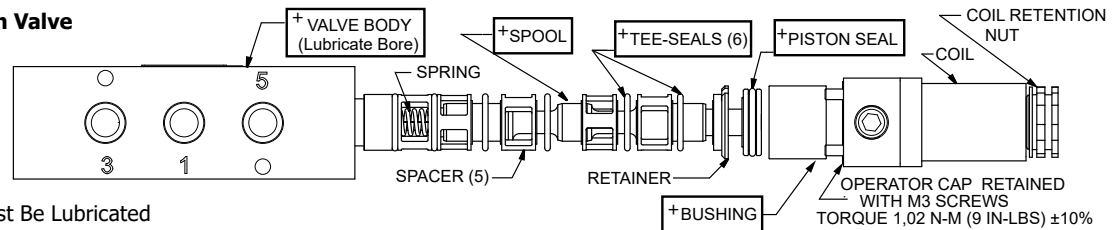
If you have any questions about installation or servicing your product, please contact AUTOMATIC VALVE or your authorized AVI distributor, see contact information listed at the back of this document, or visit www.automaticvalve.com.

Service Kit Installation Instructions

Shown: L05 Single 2 Position Valve



Shown: L21 Single 2 Position Valve



+ = Items that Must Be Lubricated

Pneumatic equipment should be serviced only by persons trained and experienced in pneumatic products. Turn off the electrical supply to the valve. Shut off and exhaust the air supply.

- Follow appropriate lock-out/tag-out procedures. Do not attempt to service a valve, if you are not familiar with lock-out/tag-out procedures.
- Turn off electrical power to the valve.
- Remove valve from all electrical and air power sources.
- Ensure all stored air power is exhausted.
- Remove coil by first removing the coil retention nut.
- Remove operator cap by first removing socket head cap screws (L05: 2 screws) (L07, L21, & L45: 4 screws).
- Remove existing serviceable components by "pushing" internal components gently out of the valve body.
- For L05, discard spool.
For L07, L21, or L45, clean the spool with a clean cloth.
- Discard the spring (Single Spring Return models only).
- Lubricate the designated "+" items in the above assembly drawing with a thin film of lubricant - the item should look "WET" with no excess lubricant visible.
- Replace components as shown above.
 - For L05:
 - Replace spring and spool.
 - For L07, L21 & L45:
 - Replace spring pad and spring (Single Spring Return models only).
 - Alternate Tee-seals and spacers.
 - Once all 6 Tee-seals are installed, replace the spool, retainer, bushing and piston.
- Orientate the operator cap by aligning the open end of the gasket with the pilot hole in the valve body.
- Torque cap screws into body to 1,02 N-m (9 in-lbs) ±10%. Alternate tightening of the screws, so cap "squeezes" evenly onto the body.

Air Line Lubrication of AUTOMATIC VALVE products is not required, but is recommended to maximize service life. Oils should be compatible with seal material, have an ISO 32 or lighter viscosity, and have an aniline point between 82°C (180°F) and 99°C (210°F).

Series	Valve Type	Kit Model Number		Contents			
		Buna-N	Fluoroelastomer	Tee-Seals	Piston Seal	Spring	Spool Assembly
L05	Single	K-L05-SGL	-	-	-	1	1
	Double	K-L05-DBL	-	-	-	1	1
L07	Single	K-L07-SGL	K-L07-SGL-A	6	1	1	-
	Double	K-L07-DBL	K-L07-DBL-A	6	2	-	-
L21	Single	K-L21-SGL	K-L21-SGL-A	6	1	1	-
	Double	K-L21-DBL	K-L21-DBL-A	6	2	-	-
L45	Single	K-L45-SGL	K-L45-SGL-A	6	1	1	-
	Double	K-L45-DBL	K-L45-DBL-A	6	2	-	-

CAUTIONS And WARNINGS



ROSS OPERATING VALVE, ROSS CONTROLS®, ROSS DECCO®, and AUTOMATIC VALVE INDUSTRIAL, collectively the “ROSS Group”.

PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure all sources of energy are turned off, the entire pneumatic system is shut down and exhausted, and all power sources are locked out (ref: OSHA 1910.147, EN 1037).
2. All ROSS Group Products, including service kits and parts, should be installed and/or serviced only by persons having training and experience with pneumatic equipment. Because any product can be tampered with and/or need servicing after installation, persons responsible for the safety of others or the care of equipment must check ROSS Group Products on a regular basis and perform all necessary maintenance to ensure safe operating conditions.
3. All applicable instructions should be read and complied with before using any fluid power system to prevent harm to persons or equipment. In addition, overhauled or serviced valves must be functionally tested prior to installation and use. If you have any questions, call your nearest ROSS Group location.
4. Each ROSS Group Product should be used within its specification limits. In addition, use only ROSS Group components to repair ROSS Group Products.

WARNINGS: *Failure to follow these instructions can result in personal injury and/or property damage.*

FILTRATION and LUBRICATION

1. Dirt, scale, moisture, etc., are present in virtually every air system. Although some valves are more tolerant of these contaminants than others, best performance will be realized if a filter is installed to clean the air supply, thus preventing contaminants from interfering with the proper performance of the equipment. The ROSS Group recommends a filter with a 5-micron rating for normal applications.
2. All standard ROSS Group filters and lubricators with polycarbonate plastic bowls are designed for compressed air applications only. Use the metal bowl guard, where provided, to minimize danger from high pressure fragmentation in the event of bowl failure. Do not expose these products to certain fluids, such as alcohol or liquefied petroleum gas, as they can cause bowls to rupture, creating a combustible condition and hazardous leakage. Immediately replace crazed, cracked, or deteriorated bowls.
3. Only use lubricants which are compatible with materials used in the valves and other components in the system. Normally, compatible

lubricants are petroleum base oils with oxidation inhibitors, an aniline point between 180°F (82°C) and 220°F (104°C), and an ISO 32, or lighter, viscosity. Avoid oils with phosphate type additives which can harm polyurethane components, potentially leading to valve failure which risks personal injury, and/or damage to property.

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AVOID INTAKE/EXHAUST RESTRICTION

1. Do not restrict air flow in the supply line. To do so could reduce the pressure of the supply air below minimum requirements for the valve and thereby causing erratic action.
2. Do not restrict a valve's exhaust port as this can adversely affect its operation. Exhaust silencers must be resistant to clogging and must have flow capacities at least as great as the exhaust capacities of the valves. Contamination of the silencer can result in reduced flow and increased back pressure.

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SAFETY APPLICATIONS

1. Mechanical Power Presses and other potentially hazardous machinery using a pneumatically controlled clutch and brake mechanism must use a press control double valve with a monitoring device. A double valve without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All double valve installations involving hazardous applications should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.
2. Safety exhaust (dump) valves without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All safety exhaust valve installations should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.
3. Per specifications and regulations, the ROSS L-O-X® and L-O-X® with EEZ-ON®, N06 and N16 Series operation products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

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STANDARD WARRANTY

All products sold by the ROSS Group are warranted for a one-year period [with the exception of Filters, Regulators and Lubricators (“FRLs”) which are warranted for a period of seven (7) years] from the date of purchase. All products are, during their respective warranty periods, warranted to be free of defects in material and workmanship. The ROSS Group's obligation under this warranty is limited to repair, replacement or refund of the purchase price paid for products which the ROSS Group has determined, in its sole discretion, are defective. All warranties become void if a product has been subject to misuse, misapplication, improper maintenance, modification or tampering. Products for which warranty protection is sought must be returned to the ROSS Group freight prepaid.

THE WARRANTY EXPRESSED ABOVE IS IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES AND THE ROSS GROUP EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ROSS GROUP MAKES NO WARRANTY WITH RESPECT TO ITS PRODUCTS MEETING THE PROVISIONS OF ANY GOVERNMENTAL OCCUPATIONAL SAFETY AND/OR HEALTH LAWS OR REGULATIONS. IN NO EVENT IS THE ROSS GROUP LIABLE TO PURCHASER, USER, THEIR EMPLOYEES OR OTHERS FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM A BREACH OF THE WARRANTY DESCRIBED ABOVE OR THE USE OR MISUSE OF THE PRODUCTS. NO STATEMENT OF ANY REPRESENTATIVE OR EMPLOYEE OF THE ROSS GROUP MAY EXTEND THE LIABILITY OF THE ROSS GROUP AS SET FORTH HEREIN.