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Pneumatic Division
Richland, Michigan USA
www.parker.com/pneumatics

BW / SLIDEAIR VALVE SERIES

	Bulletin Number	Bulletin Description
☐	V377P	B3 to Slideair Valve Manifold, Installation & Service Instructions
☐	V632P	Replacement Operators for W215 & CN/BW Series, Service Instructions
☐	Safety Guide	PDN Safety Guide

Visit www.pdnplu.com for additional instruction sheets.

Pneumatic Division North America
Richland, Michigan 49083

Installation & Service Instructions: V-377P

B3 Valve to Slideair Valve Manifold Transition Plate

ISSUED: March, 2000
Supersedes: None

NPR# 6928

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only.

Operating Inlet Pressure:

	kPa	psig	bar
Min.	140	20	1.4
Max.	689	100	6.8

NOTE: Solenoid operated valves, when specified with external pilot, may have operating pressures down to vacuum in the main valve. External pilot pressure and air pilot signals must be greater than or equal to that in the main valve, but not outside the ratings above.

Ambient Temperature Range: 0°C to 50°C (32°F to 120°F)

Voltage Range: Rated Voltage +10%, -15%

Installation Instructions (See Figure 1)

1. Remove Slideair Valve and o-ring seals from manifold and discard. Lightly lubricate (2) o-rings **(A)** and o-ring **(B)** and place them in their recessed locations on the manifold body. NOTE: O-ring **(B)** is slightly larger than o-ring **(E)**.
2. Assemble bottom plate **(C)** to manifold using phillips head screws **(D)**. Torque to .56 to .64 Nm (80 to 90 in. ozs.)
3. Lightly lubricate (2) o-rings **(A)** and o-ring **(E)** and assemble to counterbores in underside of top plate **(F)**. Place top plate **(F)** on bottom plate **(C)** orienting to center screw locations. Assemble screws **(G)** and torque to 1.7Nm (240 in.ozs.).
4. Lubricate lightly (3) remaining o-rings **(E)** and assemble to counterbores in top plate **(F)**.
5. Fasten B3 valve down using (2) mounting screws **(H)** included in kit. Tighten to 1.7 Nm (240 in. ozs.) torque.
6. Plumb the valve according to Installation Instructions that came with the valve. Apply air pressure and check assembly for leakage.

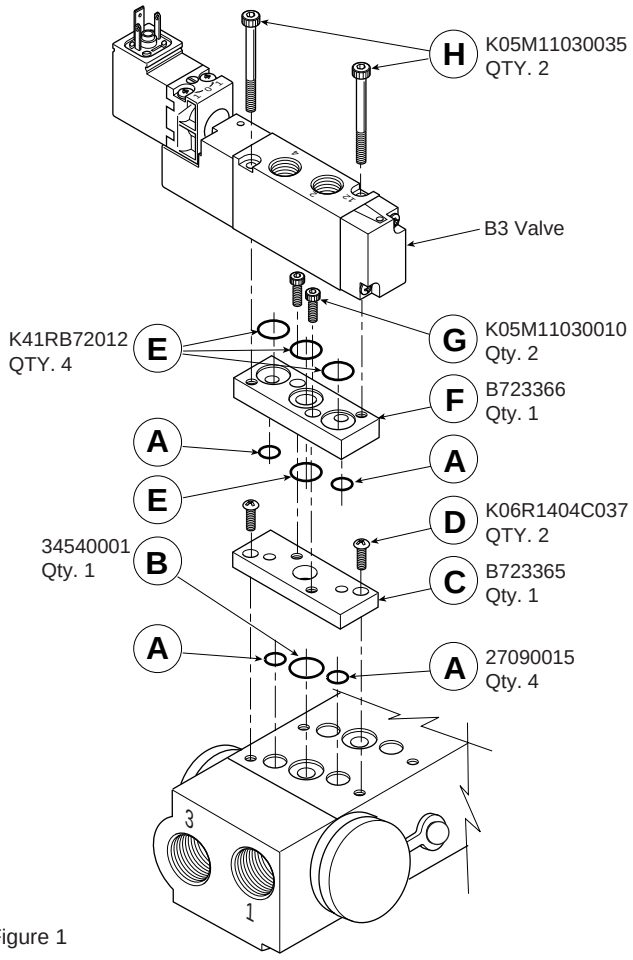

Figure 1

⚠ WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.

Pneumatic Division North America
Richland, Michigan 49083

Service Instructions: V-632P
Replacement Operators for
W215 and CN/BW Series

ISSUED: November, 1998
Supersedes: K583-301, June, 1993
ECN# 8976

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.
- Disconnect electrical supply before installation, servicing, or conversion.
- Operate within the manufacturer's specified pressure, temperature, voltage and other conditions listed in these instructions.
- Medium must be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed on these instructions.
- Installation, service and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversion, air and electrical supplies should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.
- Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.

Application Limits

These products are intended for use in general purpose compressed air systems only.

Operating Pressure Range:	**kPa**	**psig**	**bar**
Minimum (CN/BW Series)*	172	25	1.72
Minimum (W215 Series)*	103	15	1.03
Maximum (CN/BW Series 1.2 Watt Operator)	414	60	4.14
Maximum (CN Series all others)	689	100	6.89
Maximum (W215 Series)	1034	150	10.34

* These values are minimum shift pressures for the valves piloted.

Operating Temperature Range:

Minimum	0°C (32°F)
Maximum (CN/BW Series)*	52°C (125°F)
Maximum (W215 Series)*	60°C (140°F)

* These values are based on maximum recommended temperatures for the valves piloted.

Voltage Range: +10%, -15% of Rating

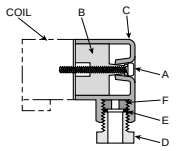

FIGURE 1

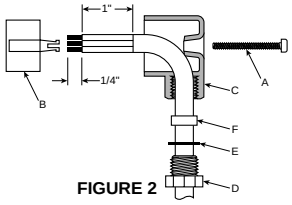

FIGURE 2

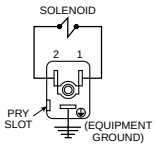

FIGURE 3

Operator Replacement (CN/BW Series)

1. Loosen screw holding cable plug to operator and pull off connector (plug-in style only).
2. Remove the two slotted head screws on top of the operator and retain. Remove and discard operator.
3. Place new operator on top of valve and tighten the screws to 112 to 120 in-ozs.(Make certain o-ring and plunger do not dislodge from bottom of operator.)
4. Reconnect cable plug and tighten screw.

3-Pin Female Connector Kit

Female connector and gaskets must be ordered as kits. Electric cable for use with 3-Pin connector should have an outside diameter of .236 to .315 in (6 to 8mm).

— Without Indicator Light - Kit# **PS2429P**
— With Indicator Light (12V, 60Hz, 12VDC) - Kit# **PS243075P**
— With Indicator Light (24V, 60Hz, 24VDC) - Kit# **PS243079P**
— With Indicator Light (120V, 60Hz) - Kit# **PS243083P**
— With Indicator Light (240V, 60Hz) - Kit# **PS243087P**

Wiring Instructions for Cable Plug (CN/BW Series)

1. Remove the holding screw (A) from the cable plug and pry the contact holder (B) from the plug case (C). (Figure 1).
2. Remove the gland nut (D), thrust washer (E) and gland (F) from the plug case and slide each part over the multiconductor cable in the order removed. Insert cable through the plug case. (Figure 2)
3. Strip the cable as shown in Figure 2.
4. Insert conductors into contacts in contact holder as shown in the wiring schematic and securely tighten the contact screws to retain the conductors. (Figure 3)
5. Work contact holder back into the plug case and snap it into place.
6. Slide the gland, thrust washer and gland nut into the plug case. Tighten the gland nut to provide strain relief for the conductors.
7. Reinsert the holding screw.
8. To connect the cable plug to the solenoid operator, push the plug onto the male terminals and tighten the holding screw.

Note: In addition to above instructions, follow all requirements for local and national electrical codes.

Operator Replacement (W215 Series)

1. Loosen two phillips pan head screws (A) and remove cover assembly (B).
2. Pull flag receptacles (C) off of operators (H).
3. Remove the three socket head cap screws (D) securing the exhaust manifold (F).
4. Loosen the four exhaust adaptors (E) and remove the exhaust manifold (F).
5. Remove the two slotted head screws (G) securing each operator and retain.
6. Remove and discard operator.
7. Clean and seat areas in manifold block (J) with mineral spirits or equivalent cleaning solution.
8. Assemble new operators to manifold block (J) and tighten the screws to 7 to 10 in-lbs (make certain o-ring and plunger do not dislodge from bottom of operator.)
9. Place exhaust manifold (F) on top of plate, align exhaust adaptors (E) and screw each in 2 to 4 turns. (The four small drilled holes must be facing downward.)

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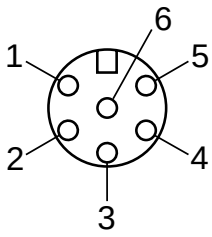
The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

10. Reassemble the three socket head cap screws (D) and tighten to 35 to 40 in-lbs.
11. Tighten the exhaust adaptors to 30 to 50 in-ozs.
12. Refer to the wiring diagram at right and the solenoid numbers marked on the top of the manifold block (J). Slide the pair of flag receptacles (C) with the proper colored wires onto the two parallel tabs on top of each operator (H). The operators are not polarity sensitive. If unit was purchased without cover and 5-pin plug, refer to Wiring instructions for Cable Plug found on front of this sheet.
13. Reassemble the cover assembly (B) and tighten phillips pan head screws (A) 5 to 10 in-lbs.

Wiring Instructions (W215 Series)

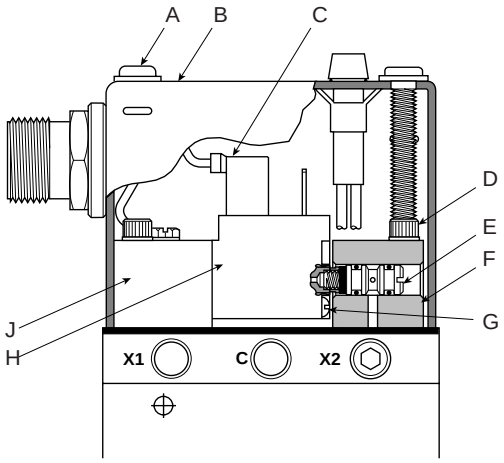
If unit is equipped with 6-pin male receptacle, convert to female connector (Brad Harrison 42602 or Cam-Lok E2118-625). Wire per following table:



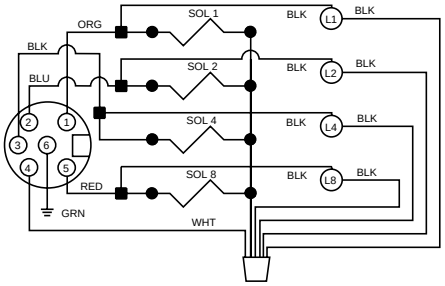
Pin	Wire Color	Function
1	Orange	Input 1
2	Blue	Input 2
3	Black	Input 4
4	White	Common
5	Red	Input 8
6	Green	Equipment Ground

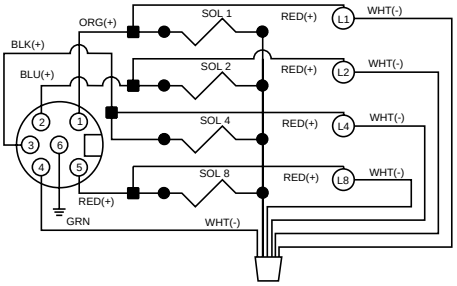
If unit is not equipped with 6-pin male receptacle, use cable plugs or other similar wiring devices approved by local and national electrical codes. Wire each solenoid operator per Wiring Instructions for Cable Plug found on front of this sheet. Solenoid operator numbers are found on top of the manifold block (J).

Note: In addition to above instructions, follow all requirements for local and national electrical codes.



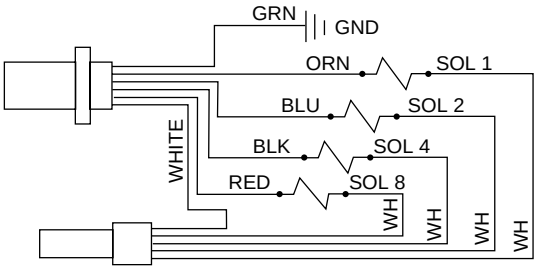
With Lamps





Caution: DC solenoids with indicator lamps are polarity sensitive. Observe polarities indicated.

Without Lamps



Replacement Operators

Voltage/ Hertz	Operator Normally Closed Plug-in	Operator Normally Closed 18" Leads	Operator Normally Closed 72" Leads	Operator Normally Open Plug-In †
24V/60Hz	H172 150	—	—	H172 155
120V/60Hz 110V/60Hz	H172 146	H172 161	H172 162	H172 151
240V/60Hz 220V/50Hz	H172 149	—	—	H172 154
12VDC	H172 147	—	—	H172 152
24VDC	H172 148	H172 159	H172 160	H172 153
24VDC (1.2W)	H172 156	—	—	—
120VDC	H172 157	—	—	H172 158

† Used only with W215 Series.

Pneumatic Division
Richland, Michigan 49083
269-629-5000

PDNSG-1
Pneumatic Division Safety Guide
ISSUED: August 1 , 2006
Supersedes: June 1, 2006

Safety Guide For Selecting And Using Pneumatic Division Products And Related Accessories

⚠ WARNING:

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF PNEUMATIC DIVISION PRODUCTS, ASSEMBLIES OR RELATED ITEMS ("PRODUCTS") CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE. POSSIBLE CONSEQUENCES OF FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THESE PRODUCTS INCLUDE BUT ARE NOT LIMITED TO:

- Unintended or mistimed cycling or motion of machine members or failure to cycle
- Work pieces or component parts being thrown off at high speeds.
- Failure of a device to function properly for example, failure to clamp or unclamp an associated item or device.
- Explosion
- Suddenly moving or falling objects.
- Release of toxic or otherwise injurious liquids or gasses.

Before selecting or using any of these Products, it is important that you read and follow the instructions below.

1. GENERAL INSTRUCTIONS

1.1. Scope: This safety guide is designed to cover general guidelines on the installation, use, and maintenance of Pneumatic Division Valves, FRLs (Filters, Pressure Regulators, and Lubricators), Vacuum products and related accessory components.

1.2. Fail-Safe: Valves, FRLs, Vacuum products and their related components can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of associated valves, FRLs or Vacuum products will not endanger persons or property.

1.3 Relevant International Standards: For a good guide to the application of a broad spectrum of pneumatic fluid power devices see: ISO 4414:1998, Pneumatic Fluid Power – General Rules Relating to Systems. See www.iso.org for ordering information.

1.4. Distribution: Provide a copy of this safety guide to each person that is responsible for selection, installation, or use of Valves, FRLs or Vacuum products. Do not select, or use Parker valves, FRLs or vacuum products without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.

1.5. User Responsibility: Due to the wide variety of operating conditions and applications for valves, FRLs, and vacuum products Parker and its distributors do not represent or warrant that any particular valve, FRL or vacuum product is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:

- Making the final selection of the appropriate valve, FRL, Vacuum component, or accessory.
- Assuring that all user's performance, endurance, maintenance, safety, and warning requirements are met and that the application presents no health or safety hazards.
- Complying with all existing warning labels and / or providing all appropriate health and safety warnings on the equipment on which the valves, FRLs or Vacuum products are used; and,
- Assuring compliance with all applicable government and industry standards.

1.6. Safety Devices: Safety devices should not be removed, or defeated.

1.7. Warning Labels: Warning labels should not be removed, painted over or otherwise obscured.

1.8. Additional Questions: Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to www.parker.com, for telephone numbers of the appropriate technical service department.

2. PRODUCT SELECTION INSTRUCTIONS

2.1. Flow Rate: The flow rate requirements of a system are frequently the primary consideration when designing any pneumatic system. System components need to be able to provide adequate flow and pressure for the desired application.

2.2. Pressure Rating: Never exceed the rated pressure of a product. Consult product labeling, Pneumatic Division catalogs or the instruction sheets supplied for maximum pressure ratings.

2.3. Temperature Rating: Never exceed the temperature rating of a product. Excessive heat can shorten the life expectancy of a product and result in complete product failure.

2.4. Environment: Many environmental conditions can affect the integrity and suitability of a product for a given application. Pneumatic Division products are designed for use in general purpose industrial applications. If these products are to be used in unusual circumstances such as direct sunlight and/or corrosive or caustic environments, such use can shorten the useful life and lead to premature failure of a product.

2.5. Lubrication and Compressor Carryover: Some modern synthetic oils can and will attack nitrile seals. If there is any possibility of synthetic oils or greases migrating into the pneumatic components check for compatibility with the seal materials used. Consult the factory or product literature for materials of construction.

2.6. Polycarbonate Bowls and Sight Glasses: To avoid potential polycarbonate bowl failures:

- Do not locate polycarbonate bowls or sight glasses in areas where they could be subject to direct sunlight, impact blow, or temperatures outside of the rated range.
- Do not expose or clean polycarbonate bowls with detergents, chlorinated hydro-carbons, keytones, esters or certain alcohols.
- Do not use polycarbonate bowls or sight glasses in air systems where compressors are lubricated with fire resistant fluids such as phosphate ester and di-ester lubricants.

2.7. Chemical Compatibility: For more information on plastic component chemical compatibility see Pneumatic Division technical bulletins Tec-3, Tec-4, and Tec-5

2.8. Product Rupture: Product rupture can cause death, serious personal injury, and property damage.
- Do not connect pressure regulators or other Pneumatic Division products to bottled gas cylinders.
- Do not exceed the maximum primary pressure rating of any pressure regulator or any system component.
- Consult product labeling or product literature for pressure rating limitations.

3. PRODUCT ASSEMBLY AND INSTALLATION INSTRUCTIONS

3.1. Component Inspection: Prior to assembly or installation a careful examination of the valves, FRLs or vacuum products must be performed. All components must be checked for correct style, size, and catalog number. DO NOT use any component that displays any signs of nonconformance.

3.2. Installation Instructions: Parker published Installation Instructions must be followed for installation of Parker valves, FRLs and vacuum components. These instructions are provided with every Parker valve or FRL sold, or by calling 1-800-CPARKER, or at www.parker.com.

3.3. Air Supply: The air supply or control medium supplied to Valves, FRLs and Vacuum components must be moisture-free if ambient temperature can drop below freezing

4. VALVE AND FRL MAINTENANCE AND REPLACEMENT INSTRUCTIONS

4.1. Maintenance: Even with proper selection and installation, valve, FRL and vacuum products service life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a component failure, and experience with any known failures in the application or in similar applications should determine the frequency of inspections and the servicing or replacement of Pneumatic Division products so that products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.10.

4.2. Installation and Service Instructions: Before attempting to service or replace any worn or damaged parts consult the appropriate Service Bulletin for the valve or FRL in question for the appropriate practices to service the unit in question. These Service and Installation Instructions are provided with every Parker valve and FRL sold, or are available by calling 1-800-CPARKER, or by accessing the Parker web site at www.parker.com.

4.3. Lockout / Tagout Procedures: Be sure to follow all required lockout and tagout procedures when servicing equipment. For more information see: OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – (Lockout / Tagout)

4.4. Visual Inspection: Any of the following conditions requires immediate system shut down and replacement of worn or damaged components:
- Air leakage: Look and listen to see if there are any signs of visual damage to any of the components in the system. Leakage is an indication of worn or damaged components.
- Damaged or degraded components: Look to see if there are any visible signs of wear or component degradation.
- Kinked, crushed, or damaged hoses. Kinked hoses can result in restricted air flow and lead to unpredictable system behavior.
- Any observed improper system or component function: Immediately shut down the system and correct malfunction.
- Excessive dirt build-up: Dirt and clutter can mask potentially hazardous situations.

Caution: Leak detection solutions should be rinsed off after use.

4.5. Routine Maintenance Issues:
- Remove excessive dirt, grime and clutter from work areas.
- Make sure all required guards and shields are in place.

4.6. Functional Test: Before initiating automatic operation, operate the system manually to make sure all required functions operate properly and safely.

4.7. Service or Replacement Intervals: It is the user's responsibility to establish appropriate service intervals. Valves, FRLs and vacuum products contain components that age, harden, wear, and otherwise deteriorate over time. Environmental conditions can significantly accelerate this process. Valves, FRLs and vacuum components need to be serviced or replaced on routine intervals. Service intervals need to be established based on:
- Previous performance experiences.
- Government and / or industrial standards.
- When failures could result in unacceptable down time, equipment damage or personal injury risk.

4.8. Servicing or Replacing of any Worn or Damaged Parts: To avoid unpredictable system behavior that can cause death, personal injury and property damage:
- Follow all government, state and local safety and servicing practices prior to service including but not limited to all OSHA Lockout Tagout procedures (OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – Lockout / Tagout).
- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to system and Pneumatic Division products before installation, service, or conversion.
- Installation, servicing, and / or conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversions air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or if the product does not operate properly, do not put product or system into use.
- Warnings and specifications on the product should not be covered or painted over. If masking is not possible, contact your local representative for replacement labels.

4.9. Putting Serviced System Back into Operation: Follow the guidelines above and all relevant Installation and Maintenance Instructions supplied with the valve FRL or vacuum component to insure proper function of the system.