

**Pneumatic Division**

Richland, Michigan USA

[www.parker.com/pneumatics](http://www.parker.com/pneumatics)**ADEX VALVE SERIES**

<b>Bulletin Number</b>	<b>Bulletin Description</b>		
<input type="checkbox"/> <a href="#">V330CP</a>	Rev. 4	A05 / A12 Ported Valve & Manifold, Installation & Service Instructions	
<input type="checkbox"/> <a href="#">V331CP</a>	Rev. 4	A05 / A12 Subbase Valve & Manifold, Installation & Service Instructions	
<input type="checkbox"/> <a href="#">V332CP</a>	Rev. 5	A00 Valve, Installation & Service Instructions	
<input type="checkbox"/> <a href="#">V338CP</a>		A05 / A12 Collective Wiring System, Installation Instructions	
<input type="checkbox"/> <a href="#">V339P</a>		A05 / A12 Manifold Isolator Plug, Installation Instructions	
<input type="checkbox"/> <a href="#">Safety Guide</a>		PDN Safety Guide	



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**Pneumatic Division North America**  
 Richland, Michigan 49083

**Installation & Service Instructions**  
**V-330CP**

**A05/A12 Body Ported Valve**  
**& Manifold**

**ISSUED: February, 2001**

**Supersedes: July, 2000**

**REV. 4 ECN-9323**

**! 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 and operating the product.

**Application Limits**

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

**Valve Inlet Air Supply Operating Pressures:**

Valve Piloting Method:	kPa	psig	bar
<b>Internally Piloted Manifold</b>			
2-Pos, Single Solenoid (S25)	150~700	22~100	1.5~7.0
2-Pos, Double Solenoid (D25)	100~700	15~100	1.0~7.0
All 3-Pos, Double Solenoid (D35, E35, 035)	200~700	30~100	2.0~7.0

**Temperature Range:** -5°C to 50°C (23°F to 123°F)

**Voltage Range:** Nominal Rated Voltage -10% to + 10%

**Port Connections**

	Port	Function
<b>Body Ported:</b>	1	Inlet
	4	Cylinder
	2	Cylinder
	5	Exhaust 4
	3	Exhaust 2

**Installation / Operating Instructions**

A05 and A12 valves should be installed with reasonable accessibility for service whenever possible. Keep pipe or tubing lengths to a minimum with inside clean and free of dirt and chips. Pipe joint compound should be used sparingly and applied only to male pipe - never into female pipe. Do not use PTFE tape to seal pipe joints - pieces have a tendency to break off and lodge inside the unit, possibly causing a malfunction. Care should be taken to avoid undue strain on the valve.

**Air Quality** - Air applied to the valve must be filtered to realize maximum component life.

To avoid freezing up of valve at temperatures below 5°C (41°F) an upstream air dryer should be employed to ensure a dry air supply.

**Mounting Position** - It is highly recommended that these valves be mounted so that the axis of the main valve spool is in the horizontal plane. The valve may be rotated to any angle around the axis for mounting convenience.

**Life Expectancy** - Normal multi-million cycle life expectancy of these valves is based on the use of properly filtered and lubricated air at room temperature.

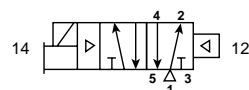
**Factory Pre-Lubrication** - Valves are pre-lubricated at assembly.

**In-Service Lubrication** - In-service lubrication is not required; however, if lubrication is to be used, F422 oil is recommended. This oil is specifically formulated to provide peak performance and maximum service life from all air operated equipment. Otherwise, use an air line lubricant which will readily atomize and be of the medium aniline type. Aniline point range must be between 180°F and 220°F. Viscosity at 100°F: 140 to 170 SUS.

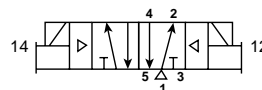
**NOTE:** Once in-service lubrication is initiated, the practice should be continued in order to maximize valve life.

**! CAUTION:** Do not use synthetic, reconstituted, or oils with an alcohol content or detergent additive.

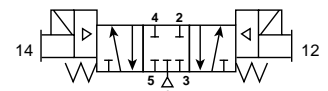
**ISO Symbols**



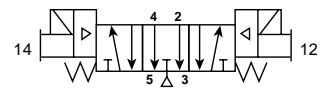
**2-Position, Single Solenoid**



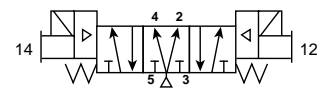
**2-Position, Double Solenoid**



**3-Position, All Ports Blocked**



**3-Position, Cylinder Exhaust**



**3-Position, Pressure Center**

**! 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.**

**A05/A12 Body Ported Valve & Manifold**

**Wiring Instructions**

**NOTE:** In addition to the following instructions, follow all requirements for local and national electrical codes.

Do not attach or remove connectors unless power is off. Attach the electrical connector to the solenoid terminals by pinching the top and bottom of the connector clip and inserting the connector straight into the solenoid terminals. To remove connectors, again pinch the clip and pull the connector straight out.

**For Non-Collective Wiring Applications**

Valves should have power connected to the two terminals on the solenoid. The polarity of the terminals is shown by raised (+) and (-) above the terminals on the solenoid cover. Use the solenoid wire leads (See Kits Available) and attach the 2-Pin connector to each individual solenoid terminal. Red lead is positive (+) and black lead is negative (-).

**For Collective Wiring Applications**

Reference V-338\*P Instruction Sheet for instructions.

**Override Operation**

A manual override is located at the top of the body of the solenoid.

**Non-Locking Operation**

Push the orange locking button down with a screwdriver and hold. This energizes the valve. Releasing the screwdriver from the locking button, causes the valve to return to the non-energized position.

**Locking Operation**

Push the orange locking button down with a slotted screwdriver and then turn button 90° clockwise. The valve is locked in the energized position. To unlock valve, turn button back 90° counterclockwise and release screwdriver from the locking button. The valve will then be in the non-energized position.

**NOTE:** Use a screwdriver with a blade width of 2.3 to 2.4 mm (0.09 to 0.10 in).

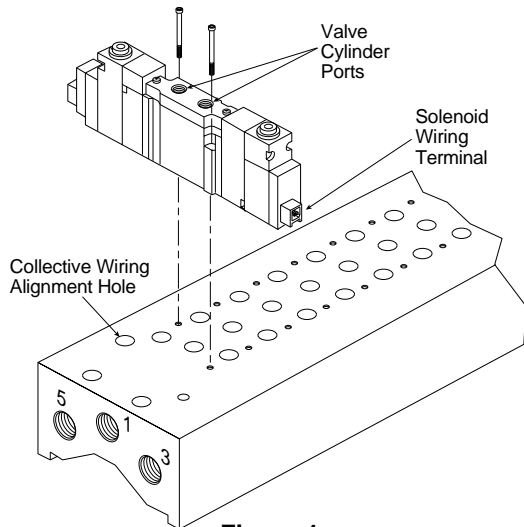
**Manifold Application**

Multiple valves may be installed on a manifold, providing that sufficient pressure is realized in the circuits downstream of the valve outlets and sufficient pressure is available for shifting the valves. Means to increase pressure levels include supply connections at both ends of the manifold and sequencing the valve operation to maximize time between different valve shifts.

**⚠ WARNING:** Air exhausting from one valve into the exhaust gallery of the manifold may pressurize other valve circuits open to the same gallery. Design the circuit so that there is no hazard or damage consequences from this action.

**Valve Mounting Procedures**

1. Clean top surface of manifold and bottom surface of valve body of any dust or dirt.
2. If gasket is not already in place, assemble the gasket to the bottom of valve, pressing the (2) protruding alignment nibs on the gasket into holes in the bottom of the valve body. When gasket is properly assembled on valve body, it will not overhang the valve body or internal ports.



**Figure 1  
(Collective Wiring Option)**

3. Place the valve and gasket assembly on top of the manifold and aligning the (2) thru holes in the valve with the corresponding screw holes in the manifold. (See Figure 1 or 2)
4. Insert (2) valve mounting screws. Tighten screws on A05 series valves from 0.25 to 0.30 Nm (35-42 in-oz). Tighten screws on A12 series valves from 0.70 to 1.0 Nm (6-8 in-lb).
5. Repeat steps 1 - 4 for each subsequent valve on the manifold.

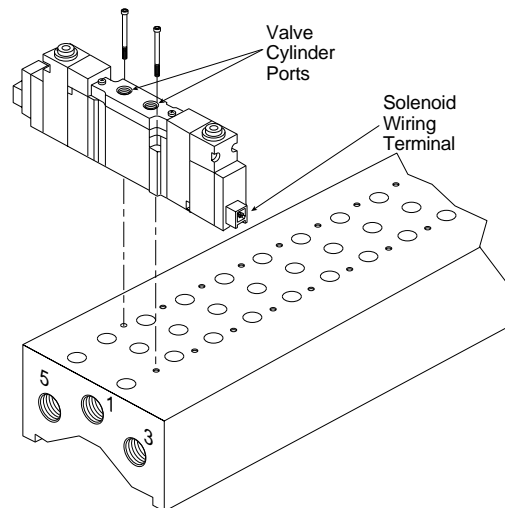
Any stations on manifold without a valve installed must be covered with a blanking plate (See Kits Available) before operating. These are installed in the same manner as the valves.

**Service Kits Available:**

Part #	Part / Kit Description
<b>A05 VALVES</b>	
A05RG	A05 Body Ported Manifold Gasket (Pack of 10)
A05RS	A05 Body Ported Manifold Mounting Screws (Pack of 20)
A05RABM5	A05 A&B Port Plate, M5 Fitting
A05RABC4	A05 A&B Port Plate, 4mm Press-in Tube Fitting
A05RABC6	A05 A&B Port Plate, 6mm Press-in Tube Fitting
A05RGBP	A05 Body Ported Blanking Plate Kit
A05PSCC*	A05 Single Solenoid Connector (Collective Wiring)
A05PDCC*	A05 Double Solenoid Connector (Collective Wiring)
A05PDCCL5	Solenoid Wire Leads (500mm long)
A05PDCCL10	Solenoid Wire Leads (1000mm long)
MCS**A05PDL	Collective Wiring System, Sub-D 25
MCS**A05PML	Collective Wiring System, 26-Pin Ribbon
MCUA05RP	Collective Wiring Adapter Plate - A05 Inline Manifold
<b>A12 VALVES</b>	
A12RG	A12 Body Ported Manifold Gasket (Pack of 10)
A12RS	A12 Body Ported Manifold Mounting Screws (Pack of 20)
A12RABN1	A12 A&B Port Plate, 1/8" NPT Fitting
A12RABC6	A12 A&B Port Plate, 6mm Press-in Tube Fitting
A12RABC8	A12 A&B Port Plate, 8mm Press-in Tube Fitting
A12RGBP	A12 Body Ported Blanking Plate Kit
A12PSCC*	A12 Single Solenoid Connector (Collective Wiring)
A12PDCC*	A12 Double Solenoid Connector (Collective Wiring)
A05PDCCL5	Solenoid Wire Leads (500mm long)
A05PDCCL10	Solenoid Wire Leads (1000mm long)
MCS**A12PDL	Collective Wiring System, Sub-D 25
MCS**A12PML	Collective Wiring System, 26-Pin Ribbon

**NOTE:** \* Positive or "sourcing" (NPN) Bus: For negative or "sinking" (PNP) Bus, add "M" to part number.

\*\* Indicates the number of stations (2 thru 12 station only). Wiring connectors are not included and must be purchased separately.



**Figure 2  
(Non-Collective Wiring Option)**



**Pneumatic Division North America**  
 Richland, Michigan 49083

**Installation & Service Instructions**  
**V-331CP**

**A05/A12 Subbase Valve & Manifold**

**ISSUED: February, 2001**  
**Supersedes: July, 2000**

**REV. 4 ECN-9323**

**! 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**

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**Application Limits**

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

**Valve Inlet Air Supply Operating Pressures:**

Valve Piloting Method:	kPa	psig	bar
<b>Internally Piloted Manifold</b>			
2-Pos, Single Solenoid (S25)	150~700	22~100	1.5~7.0
2-Pos, Double Solenoid (D25)	100~700	15~100	1.0~7.0
All 3-Pos, Double Solenoid (D35, E35, 035)	200~700	30~100	2.0~7.0
<b>Externally Piloted Manifold</b>			
All Models*	VAC~700	VAC~100	VAC~7.0

\*Minimum pressure for pilot air supply: 250 kPa (36 PSIG)

**Temperature Range:** -5°C to 50°C (23°F to 123°F)

**Voltage Range:** Nominal Rated Voltage -10% to + 10%

**Port Connections**

	Port	Function
<b>Subbase:</b>	1	Inlet
	4	Cylinder
	2	Cylinder
	5	Exhaust 4
	3	Exhaust 2
	X	External Pilot Air Inlet*
	Y	External Pilot Air Exhaust*

\*Externally piloted manifolds only

**Installation / Operating Instructions**

A05 and A12 valves should be installed with reasonable accessibility for service whenever possible. Keep pipe or tubing lengths to a minimum with inside clean and free of dirt and chips. Pipe joint compound should be used

sparingly and applied only to male pipe - never into female pipe. Do not use PTFE tape to seal pipe joints - pieces have a tendency to break off and lodge inside the unit, possibly causing a malfunction. Care should be taken to avoid undue strain on the valve.

**Air Quality** - Air applied to the valve must be filtered to realize maximum component life.

To avoid freezing up of valve at temperatures below 5°C (41°F) an upstream air dryer should be employed to ensure a dry air supply.

**Mounting Position** - It is highly recommended that these valves be mounted so that the axis of the main valve spool is in the horizontal plane. The valve may be rotated to any angle around the axis for mounting convenience.

**Life Expectancy** - Normal multi-million cycle life expectancy of these valves is based on the use of properly filtered and lubricated air at room temperature.

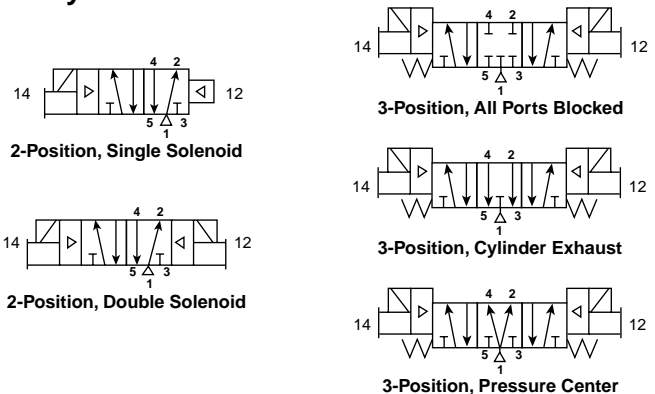
**Factory Pre-Lubrication** - Valves are pre-lubricated at assembly.

**In-Service Lubrication** - In-service lubrication is not required; however, if lubrication is to be used, F422 oil is recommended. This oil is specifically formulated to provide peak performance and maximum service life from all air operated equipment. Otherwise, use an air line lubricant which will readily atomize and be of the medium aniline type. Aniline point range must be between 180°F and 220°F. Viscosity at 100°F: 140 to 170 SUS.

**NOTE:** Once in-service lubrication is initiated, the practice should be continued in order to maximize valve life.

**! CAUTION:** Do not use synthetic, reconstituted, or oils with an alcohol content or detergent additive.

**ISO Symbols**



**! WARNING**

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### Wiring Instructions

**NOTE:** In addition to the following instructions, follow all requirements for local and national electrical codes.

Do not attach or remove connectors unless power is off. Attach the electrical connector to the solenoid terminals by pinching the top and bottom of the connector clip and inserting the connector straight into the solenoid terminals. To remove connectors, again pinch the clip and pull the connector straight out.

#### For Non-Collective Wiring Applications

Valves should have power connected to the two terminals on the solenoid. The polarity of the terminals is shown by raised (+) and (-) above the terminals on the solenoid cover. Use the solenoid wire leads (See Kits Available) and attach the 2-Pin connector to each individual solenoid terminal. Red lead is positive (+) and black lead is negative (-).

#### For Collective Wiring Applications

Reference V-338\*P Instruction Sheet for instructions.

### Override Operation

A manual override is located at the top of the body of the solenoid.

### Non-Locking Operation

Push the orange locking button down with a screwdriver and hold. This energizes the valve. Releasing the screwdriver from the locking button, causes the valve to return to the non-energized position.

### Locking Operation

Push the orange locking button down with a slotted screwdriver and then turn button 90° clockwise. The valve is locked in the energized position. To unlock valve, turn button back 90° counterclockwise and release screwdriver from the locking button. The valve will then be in the non-energized position.

**NOTE:** Use a screwdriver with a blade width of 2.3 to 2.4 mm (0.09 to 0.10 in).

### Manifold Application

Multiple valves may be installed on a manifold, providing that sufficient pressure is realized in the circuits downstream of the valve outlets and sufficient pressure is available for shifting the valves. Means to increase pressure levels include supply connections at both ends of the manifold and sequencing the valve operation to maximize time between different valve shifts.

**WARNING:** Air exhausting from one valve into the exhaust gallery of the manifold may pressure other valve circuits open to the same gallery. Design the circuit so that there is no hazard or damage consequences from this action.

### Valve Mounting Procedures

1. Clean top surface of manifold and bottom surface of valve body of any dust or dirt.
2. If gasket is not already in place, assemble the gasket to the bottom of valve, pressing the (2) protruding alignment nibs on the gasket into holes in the bottom of the valve body. When gasket is properly assembled on valve body, it will not overhang the valve body or internal ports.

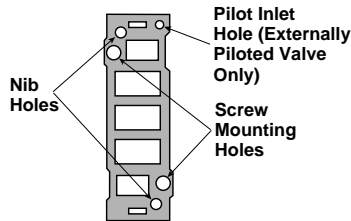


Figure 1  
(Bottom View of Valve Main Body)

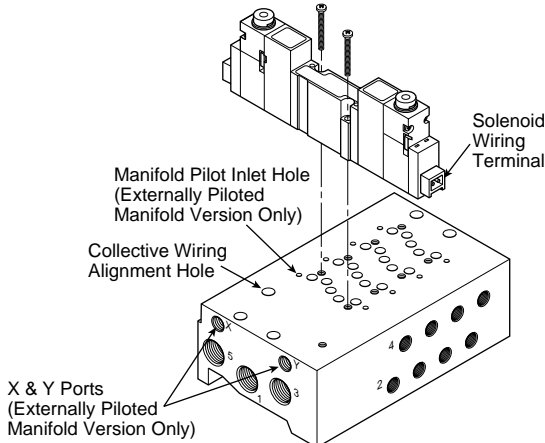


Figure 2  
(Collective Wiring Option)

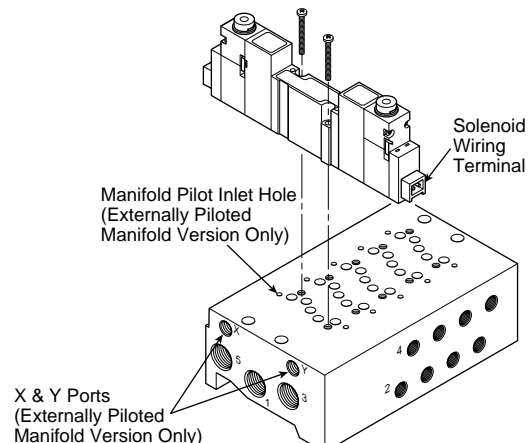


Figure 3  
(Non-Collective Wiring Option)

3. Place the valve and gasket assembly on top of the manifold aligning the (2) thru holes in the valve with the corresponding screw holes in the manifold.

**NOTE:** Locate small circular Pilot Inlet Hole on the valve (See Figure 1). This hole must be aligned with the corresponding hole in the manifold. (See Figure 2 or 3).

4. Insert (2) valve mounting screws. Tighten screws on A05 series valves from 0.25 to 0.30 Nm (35-42 in-oz). Tighten screws on A12 series valves from 0.70 to 1.0 Nm (6-8 in-lb).
5. Repeat steps 1 - 4 for each subsequent valve on the manifold.
6. Any stations on manifold without a valve installed must be covered with a blanking plate (See Kits Available) before operating. These are installed in the same manner as the valves.

### Service Kits Available:

Part #	Part / Kit Description
<b>A05 VALVES</b>	
A05PXG	A05 Subbase Manifold Gasket (Pack of 10)
A05PS	A05 Subbase Manifold Mounting Screws (Pack of 20)
A05PGBP	A05 Subbase Blanking Plate Kit
A05PSCC*	A05 Single Solenoid Connector (Collective Wiring)
A05PDCC*	A05 Double Solenoid Connector (Collective Wiring)
A05PDCCCL5	Solenoid Wire Leads (500mm long)
A05PDCCCL10	Solenoid Wire Leads (1000mm long)
A05PN	Valve Tag (Pack of 10)
MCS**A05PDL	Collective Wiring System, Sub-D 25
MCS**A05PML	Collective Wiring System, 26-Pin Ribbon
<b>A12 VALVES</b>	
A12PXG	A12 Subbase Manifold Gasket (Pack of 10)
A12PS	A12 Subbase Manifold Mounting Screws (Pack of 20)
A12PGBP	A12 Subbase Blanking Plate Kit
A12PSCC*	A12 Single Solenoid Connector (Collective Wiring)
A12PDCC*	A12 Double Solenoid Connector (Collective Wiring)
A05PDCCCL5	Solenoid Wire Leads (500mm long)
A05PDCCCL10	Solenoid Wire Leads (1000mm long)
A05PN	Valve Tag (Pack of 10)
MCS**A12PDL	Collective Wiring System, Sub-D 25
MCS**A12PML	Collective Wiring System, 26-Pin Ribbon

**NOTE:** \* Positive or "sourcing" (NPN) Bus: For negative or "sinking" (PNP) Bus, add "M" to part number.

\*\* Indicates the number of stations (2 thru 12 stations only). Wiring connectors are not included and must be purchased separately.



**Pneumatic Division**  
Richland, Michigan 49083

**Installation & Service Instructions**  
**V-332CP**

**A00 Series Valves**

**ISSUED: December, 2003**  
**Supersedes: February, 2001**

**Doc.# V332P, ECN# 040138, Rev. 5**

**⚠ 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 and operating the product.

**Application Limits**

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

**Valve Inlet Air Supply Operating Pressures:**

Valve Operation:	kPa	PSIG	bar
Normally Closed	0-700	0-100*	0-7.0
Normally Open	0-500	0-70*	0-5.0

\* **NOTE:** When using vacuum and pressure on ports 1 & 3 – maximum allowable pressure is 85 PSIG (587 kPa) Normally Closed; 58 PSIG (400 kPa) Normally Open.

**Temperature Range:** -5°C to 50°C (23°F to 123°F)

**Voltage Range:** Rated Voltage -10% to + 10%.

**Port Connections**

	Port	Function
<b>Normally Closed Valves:</b>	1	Inlet
	2	Outlet
	3	Exhaust
<b>Normally Open Valves:</b>	3	Inlet
	2	Outlet
	1	Exhaust

**Installation / Operating Instructions**

A00 Valves should be installed with reasonable accessibility for service whenever possible. Keep pipe or tubing lengths to a

minimum with inside clean and free of dirt and chips. Pipe joint compound should be used sparingly and applied only to male pipe - never into female pipe. Do not use PTFE tape to seal pipe joints - pieces have a tendency to break off and lodge inside the unit, possibly causing a malfunction. Care should be taken to avoid undue strain on the valve.

**Air Quality** - Air applied to the valve must be filtered to realize maximum component life.

To avoid freezing up of valve at temperatures below 5°C (41°F) an upstream air dryer should be employed to ensure a dry air supply.

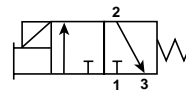
**Life Expectancy** - Normal multi-million cycle life expectancy of these valves is based on the use of properly filtered and lubricated air at room temperature.

**Factory Pre-Lubrication** - Valves are pre-lubricated at assembly.

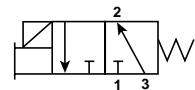
**In-Service Lubrication** - In-service lubrication is not required; however, if lubrication is to be used, F422 oil is recommended. This oil is specifically formulated to provide peak performance and maximum service life from all air operated equipment. Otherwise, use an air line lubricant which will readily atomize and be of the medium aniline type. Aniline point range must be between 180° and 220°F. Viscosity at 100°F: 140 to 170 SUS.

**NOTE:** Once in-service lubrication is initiated, the practice should be continued in order to maximize valve life.

**⚠ CAUTION: Do not use synthetic, reconstituted, or oils with an alcohol content or detergent additive.**



**Single Solenoid Normally Closed**



**Single Solenoid Normally Open**

**⚠ 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.**

**ISO Symbols**

**Wiring Instructions**

**NOTE:** In addition to the following instructions, follow all requirements for local and national electrical codes.

Do not attach or remove connectors unless power is off. Attach the electrical connector to the solenoid terminals by pinching the top and bottom of the connector clip and inserting the connector straight into the solenoid terminals. To remove connectors, again pinch the clip and pull the connector straight out.

Valves should have power connected to the two terminals on the solenoid. The polarity of the terminals is shown by raised (+) and (-) above the terminals on the solenoid cover. Use the solenoid wire leads (See Kits Available) and attach the 2-Pin connector to each individual solenoid terminal. Red lead is positive (+) and black lead is negative (-).

**Override Operation**

A manual override is located at the top of the body of the solenoid.

**Non-Locking Operation**

Push the orange locking button down with a screwdriver and hold. This energizes the valve. Releasing the screwdriver from the locking button causes the valve to return to the non-energized position.

**Locking Operation**

Push the orange locking button down with a slotted screwdriver and then turn button 90° clockwise. The valve is locked in the energized position. To unlock valve, turn button back 90° counterclockwise and release screwdriver from the locking button. The valve will then be in the non-energized position.

**NOTE:** Use a screwdriver with a blade width of 2.3 to 2.4 mm (0.09 to 0.10 in).

**Manifold Application**

Multiple valves may be installed on a manifold, providing that sufficient pressure is realized in the circuits downstream of the valve outlets. Means to increase pressure levels include supply connections at both ends of the manifold and sequencing the valve operation to maximize time between different valve shifts.

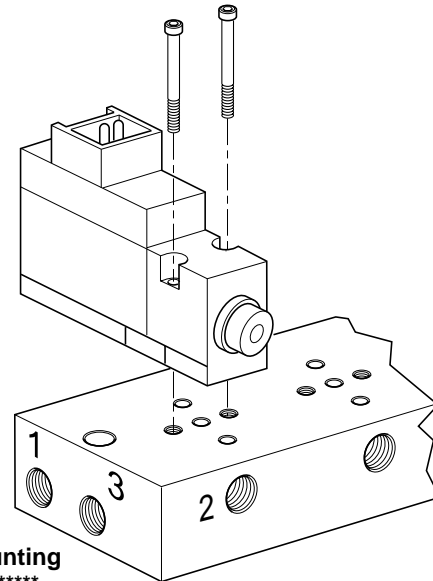
<b>WARNING</b>
<p><b>Air exhausting from one valve into the exhaust gallery of the manifold may pressure other valve circuits open to the same gallery. Design the circuit so that there is no hazard or damage consequences from this action.</b></p>

**Valve Mounting Procedures**

1. Clean top surface of manifold and bottom surface of valve body of any dust or dirt.
2. If gasket is not already in place, assemble the gasket to the bottom of valve. When gasket is properly assembled on valve body, it will not overhang the valve body or internal ports.
3. Place the valve and gasket assembly on top of the manifold and aligning the (2) thru holes in the valve with the corresponding screw holes in the manifold. See Figure 1 and Figure 2.
4. Insert (2) valve mounting screws and tighten. Tighten screws from 0.08 to 0.10 Nm (11-13 in-oz).
5. Repeat steps 1 - 4 for each subsequent valve on the manifold.

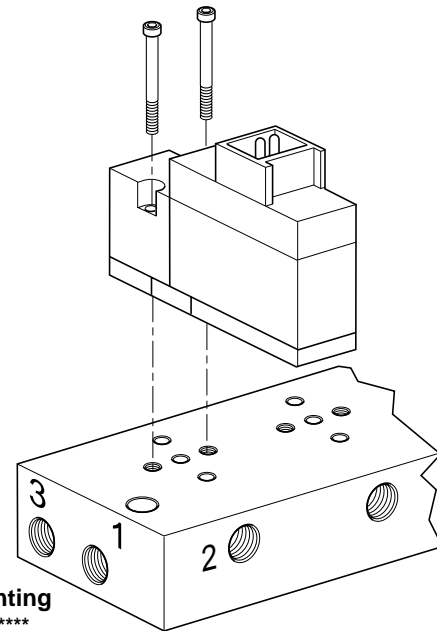
6. Any open stations must be covered with a blanking plate (See Kits Available). These are installed in the same manner as the valves.

**NOTE:** Normally Closed and Normally Open A00 Valves cannot be mounted on the same manifold together.



**A00 Mounting on MMFS\*\*\*\* Manifold**

**Figure 1**



**A00 Mounting on PSS3Y\*\*\*\* Manifold**

**Figure 2**

**Service Kits Available:**

Part #	Part / Kit Description
A00SBP	A00 Blanking Plate Kit
A00SG	A00 Gasket (Pack of 10)
A00SS	A00 Mounting Screws (Pack of 20)
A05PDCCL5	Solenoid Wire Leads (500mm long)
A05PDCCL10	Solenoid Wire Leads (1000mm long)
A00SBM3	A00 Single Solenoid Subbase



Pneumatic Division North America  
Richland, Michigan 49083

Installation Instructions:  
V-338CP

A05/A12 Collective Wiring System

ISSUED: July, 2000

Supersedes: April, 2000

ECN# 9285

## ⚠ WARNING

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

- Disconnect electrical supply 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, voltage and other ratings listed on these instructions.
- Medium should be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed on service sheets.
- Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic valves are to be applied.
- After installation, servicing, or conversion, air and electrical supplies should be connected and the valve tested for proper function and leakage. If leakage is present or valve does not function 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 the product.

## Application Limits

These products are intended for use in general purpose compressed air systems only. Compliance with the rated pressure, temperature, and voltage is necessary - see Installation & Operating Instructions packed with the valve. (Subbase valves - V-331\*P, Body Ported Valves V-330\*P)

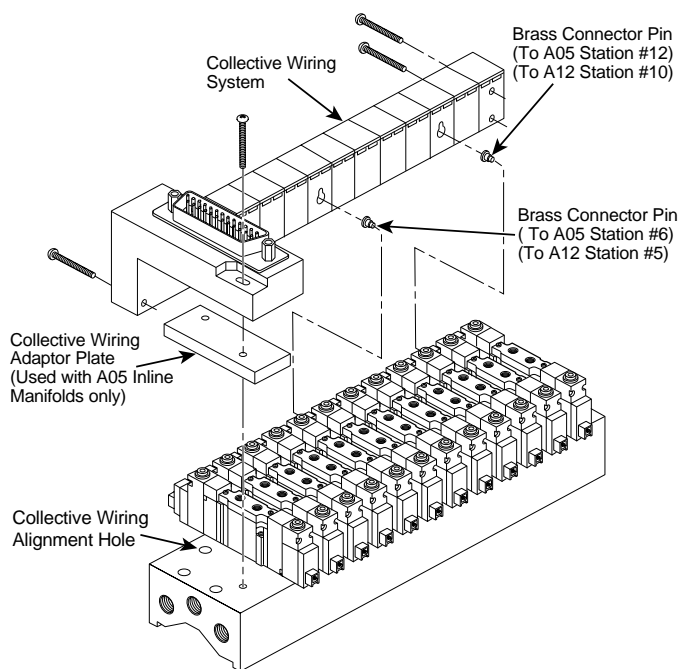


Figure 1  
(12 Valve Body Ported Manifold Example)

## Collective Wiring System Installation

1. For collective wiring stations 6 or more for A05, and 5 or more for A12, brass connector hanger pins must be installed. Press fit pins into one or more holes in the side of the manifold. (See Figure 1) The number of pins required is determined by the number of stations being assembled.
2. Place collective wiring assembly on top of manifold. Align the protruding nib underneath the connector with the large alignment hole on the top of the manifold. When installing with A05 Inline manifolds, assemble collective wiring adapter plate between manifold and collective wiring assembly. Collective wiring adapter plate is properly assembled when collective wiring assembly overhangs adapter plate. (See Figure 1)
3. Screw in (1) self tapping mounting screw on the top of the connector and the other (3) self tapping mounting screws on the side of the assembly with the individual station connectors.

## Wiring Instructions

**NOTE:** In addition to the following instructions, follow all requirements for local and national electrical codes.

⚠ Do not attach or remove connectors unless power is off.

### Single Solenoid Valves:

1. Use the Single Solenoid Connector (see KITS AVAILABLE).
2. Attach the 2-Pin connector into the solenoid terminal.
3. Attach the 4-Pin connector to the corresponding collective wiring terminal below the valve.
4. Repeat for all single solenoid valves.

### Double Solenoid Valves:

1. Use the Double Solenoid Connector (see KITS AVAILABLE) and attach the 2-Pin connector with the shorter leads into the solenoid closest to the manifold side with collective wiring terminals.
2. Attach the other 2-Pin connector to the other solenoid terminal.
3. Attach the 4-Pin connector to the corresponding collective wiring terminal below the valve.
4. Repeat for all double solenoid valves.

## ⚠ WARNING

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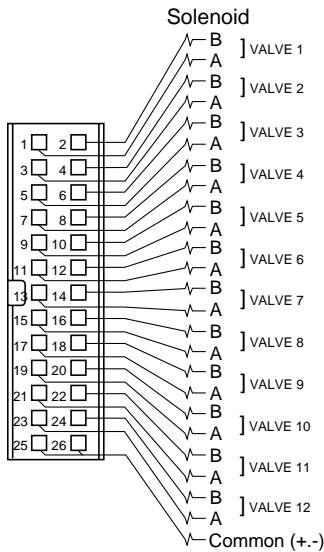
### Connector Wiring Instructions

Collective wiring assemblies can be either the 26-Pin ribbon connector or the Sub-D 25 connector. Signal Pin Maps for the 26-Pin ribbon connector and Sub-D 25 connector are shown in Figure 2 and Figure 3, respectively.

The addressing of the valves on the manifold is shown in Figure 4.

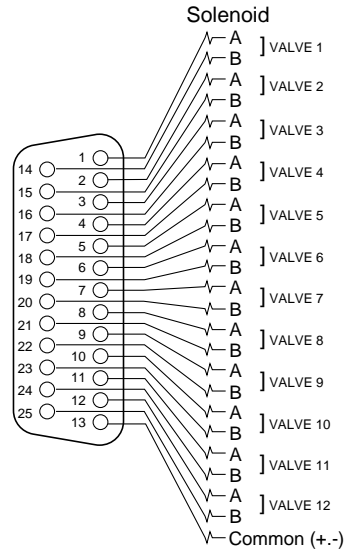
**Notes:**

1. The MCS Collective Wiring System is "Polarity Neutral". Polarity is determined by the Collective Wired Connectors. *Example:* When positive Bus (NPN) is required for an A05 single solenoid valve, use A05PSCC. When negative Bus (PNP) is required, use A05PSCCM.
2. The MCS Collective Wiring System provides for both the "A" and "B" addresses at each valve location. When single solenoid valves are used, skip the "B" address for both wiring and controller programming.
3. Be sure that the leakage current of the controller outputs is less than 1.5 ma.



**Figure 2**

**Pin Map for 26-Pin Ribbon Connector**



**Figure 3**

**Pin Map for Sub-D 25 Connector**

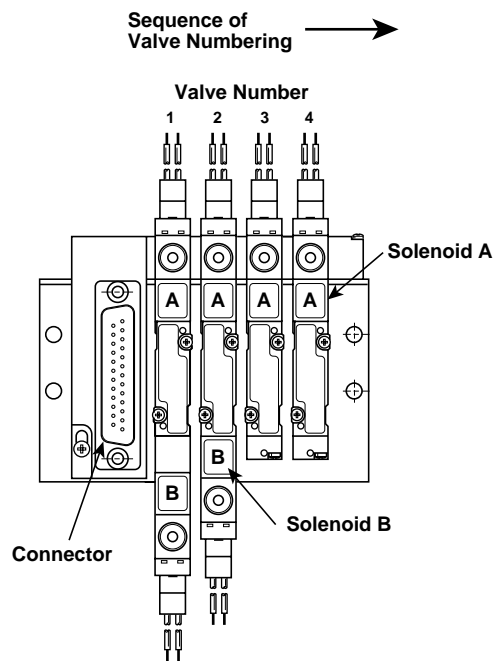
**Kits Available:**

Part #	Part / Kit Description
<b>A05 VALVES</b>	
MCS**A05PDL‡	Collective Wiring System, Sub-D 25
MCS**A05PML‡	Collective Wiring System, 26-Pin Ribbon
A05PSCC*	A05 Single Solenoid Connector
A05PDCC*	A05 Double Solenoid Connector
MCUA05RP	Collective Wiring Adapter Plate - A05 Inline Manifold
<b>A12 VALVES</b>	
MCS**A12PDL‡	Collective Wiring System, Sub-D 25
MCS**A12PML‡	Collective Wiring System, 26-Pin Ribbon
A12PSCC*	A12 Single Solenoid Connector
A12PDCC*	A12 Double Solenoid Connector

\* Positive or "sourcing" (NPN) Bus: For negative or "sinking" (PNP) Bus, add "M" to part number. (One solenoid connector is required for each individual station).

\*\* Indicates number of stations, even numbers only, 2 thru 12.

‡ These kits include brass connector hanger pins for mounting to manifold.



**Figure 4**

**Valve and Solenoid Addresses**



**Pneumatic Division North America**  
 Richland, Michigan 49083

**Installation Instructions:**  
 V-339P  
 Isolator Plug For  
 A05 / A12 / B2 Manifold  
**ISSUED: October, 2000**  
**Supersedes: None**  
 NPR# R06920

**! WARNING**

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

- Disconnect electrical supply 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, voltage and other ratings listed on these instructions.
- Medium should be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed on service sheets.
- Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic valves are to be applied.
- After installation, servicing, or conversion, air and electrical supplies should be connected and the valve tested for proper function and leakage. If leakage is present or valve does not function 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, the unit's application limits, wiring instructions, and instructions for the proper installation of the valves and manifold that was included with the original valve and manifold. The following instructions are applicable. V-331CP (A05/A12 Subbase Valve & Manifold), V-330CP (A05/A12 Body Ported Valve & Manifold), V-421P (B2 Series Air Control Valves), V-423P (B2 Series Valve Extruded Manifolds). Copies of instruction forms are available from your local representative.

**! CAUTION:** It is recommended that the installation of isolation plugs be made before assembling valves. Before beginning, check galleries for any foreign debris. Bore to be grease free. Obstructions can prohibit proper installation, either by making it difficult for installation or having the isolation plug function improperly.

**Assembly Procedure**

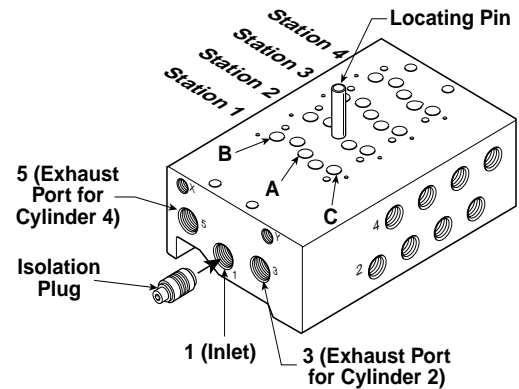
**Installing Isolation Plugs**

1. Before inserting the isolation plug into the manifold (Figure 1), determine the best location and orientation for the isolator plug. The location and orientation of the plug may be affected by the length of the manifold and the length of available tools. Figure 2 and Figure 3 both show isolation between station 1 and 2. Note that there is a choice of orientation for the isolation plug.
2. Install the dowel pin in the station to be isolated. The dowel pin is used to locate the isolator plug for proper function.
3. Adjust tension on the socket head cap screw to allow o-rings to slide into the port without dragging on the inside diameter of the port. Gently install the isolator plug into the port. The isolator plug must be orientated such that the brass slotted end is facing the dowel pin.

4. Gently slide the isolator plug down the port until the brass slotted end is touching the dowel pin. If the isolator plug is snug, loosen the socket head cap screw.
5. Tighten the socket head cap screw per chart below. Pushing the isolator plug against the dowel pin will prevent the body from rotating while torque is applied to the socket head cap screw. If necessary, remove the dowel pin and use a screw driver to prevent the body from rotating. Use the screw driver for back up use only. Do not apply torque by turning the screwdriver. Always apply torque by turning the socket head cap screw.

Valve Series	Hex Wrench Size	Torque
A05 Isolator Plug	2.0mm	0.7 To 0.9 Nm (6 To 8 In-lb)
A12 Isolator Plug	2.5 mm	0.9 To 1.1 Nm (8 To 10 In-lb)
B2 Isolator Plug	2.5 mm	0.9 To 1.1 Nm (8 To 10 In-lb)

6. Remove dowel pin. Place each valve onto its corresponding base and assemble using instructions provided with valve. Make plumbing and electrical connections
7. When assembly is complete, turn on air pressure and check for external leakage. If leakage is audible (indicating improper installation), do not operate - conduct assembly again.



**Figure 1**

**! WARNING**

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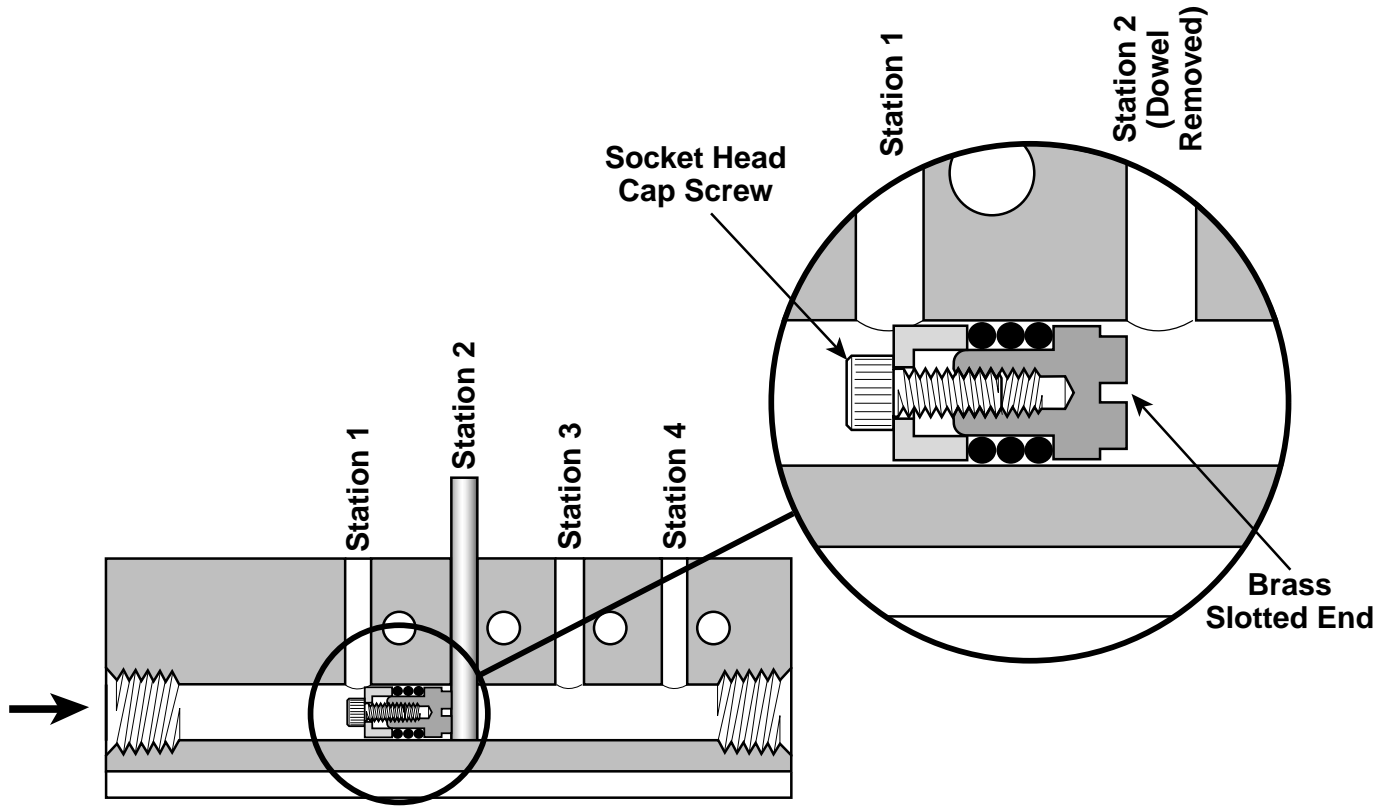


Figure 2

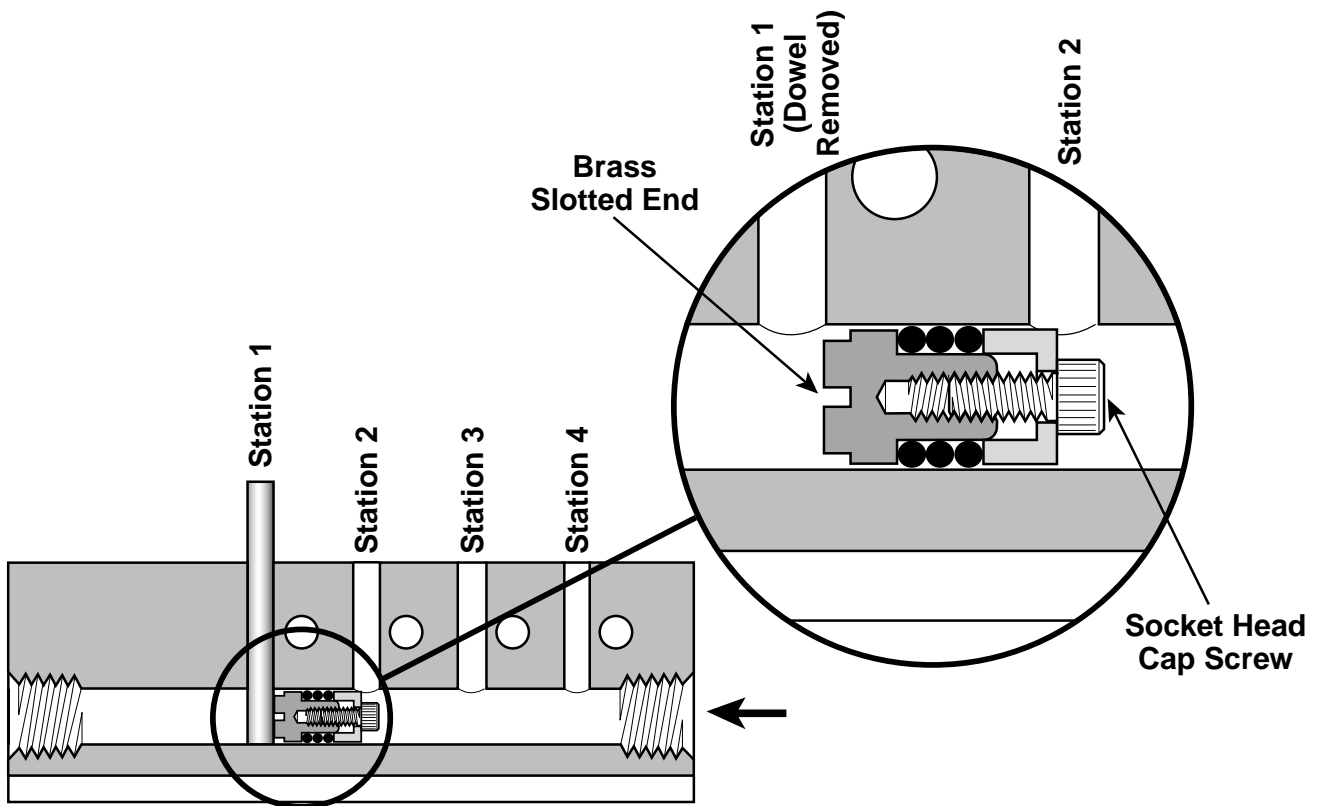


Figure 3



**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](http://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](http://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, ketones, 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.

## Pneumatic Division Safety Guide

- 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](http://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](http://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.