

BERRY NOTCHERS OPERATING INSTRUCTIONS

SETTING UP THE MACHINE –

- Carefully uncrate the machine and move it to the area where it is to be used.
- Secure to floor using holes provided in machine base legs.
- Connect air supply to ½" NPT port on air tank at rear of machine.
- Connect to power supply (110 volt 60 cycle AC)
- Fill lubricator with air tool oil or equivalent at rear of machine.

AIR PRESURE –

- Adjust air pressure to 70-120 PSI.
- Use the lowest air pressure possible to do the job – this saves much un-needed wear and tear on your machine.
- **DO NOT EXCEED 120 PSI – DAMAGED WILL OCCURE!**

ADJUSTMENTS AND OPERATION –

- Distance between notch centers is obtained by loosening hand knob at rear of notching head and sliding entire unit along back rail to desired position and then retightening hand knob. An index mark is provided on the front of each lower die steel to aid in setting center distances.
- Depth of notch is controlled by adjusting the slotted stops on the depth stop bars.
- After notch spacing and notch depth are set on the machine, close the safety lid and insert sheet metal blank against depth stops and left end stop. Machine will now cycle by depressing the foot switch.

LUBRICATION –

- Oil is required at bushing (#17 – see parts list) once a week.
- Oil is required at bearing block (#8 – see parts list) once a week. A hole is provided on top of each block.
- A light film of oil on the machine back rail is helpful if notching heads do not slide easily.
- Use a lightweight machine oil only – avoid "sticky" or abrasive types of oil.
- Keep lubricator reservoir at rear of machine full as needed with air tool oil.

WARRANTY REGISTRATION

All Notching Machines manufactured by Berry Industries, Inc. are guaranteed for a period of 12 months from the date of shipment against material and workmanship. This warranty does not include cutting edges, as we have no control over the type and thickness of material being cut. We reserve the right to replace or repair all components under this guarantee at our discretion. We will not be liable for any shipping charges, installation costs, or any other expense. This warranty will not apply to machines that have been modified or misused. We make no guaranties as to the adaptability of our equipment to the customer's application. This is determined by the customer and the dealer.

IMPORTANT: In order for your warranty to be valid you must fill out the lower section of this form and return mail it within 10 days of receiving your machine. This information is for our internal use only and will not be released to anyone else. Please mail completed form to:

Berry Industries, Inc.
P.O. Box 161
Cedar Falls, IA 50613

----- CUT HERE -----

PLEASE PRINT

*MODEL #	*SERIAL #	DATE PURCHASED:
COMPANY NAME:		
CONTACT PERSON:	ALT. CONTACT PERSON	
MAILING ADDRESS:		
CITY:	STATE:	ZIP CODE:
SHIPPING ADDRESS:		
CITY:	STATE:	ZIP CODE:
TELEPHONE # ()	FAX # ()	E-MAIL ADDRESS:
PURCHASE FROM:		SALES PERSON:
ADDRESS:		
CITY:	STATE:	ZIP CODE:
HOW DID YOU FIRST HEAR ABOUT BERRY NOTCHING EQUIPMENT:		

* - May be found on the inside cover of your owners manual

Thank you for giving us the opportunity to serve you. We appreciate your business and the confidence you have placed in us!

Please do not hesitate to contact us or your local dealer whenever we can be of further assistance.

Happy Notching!

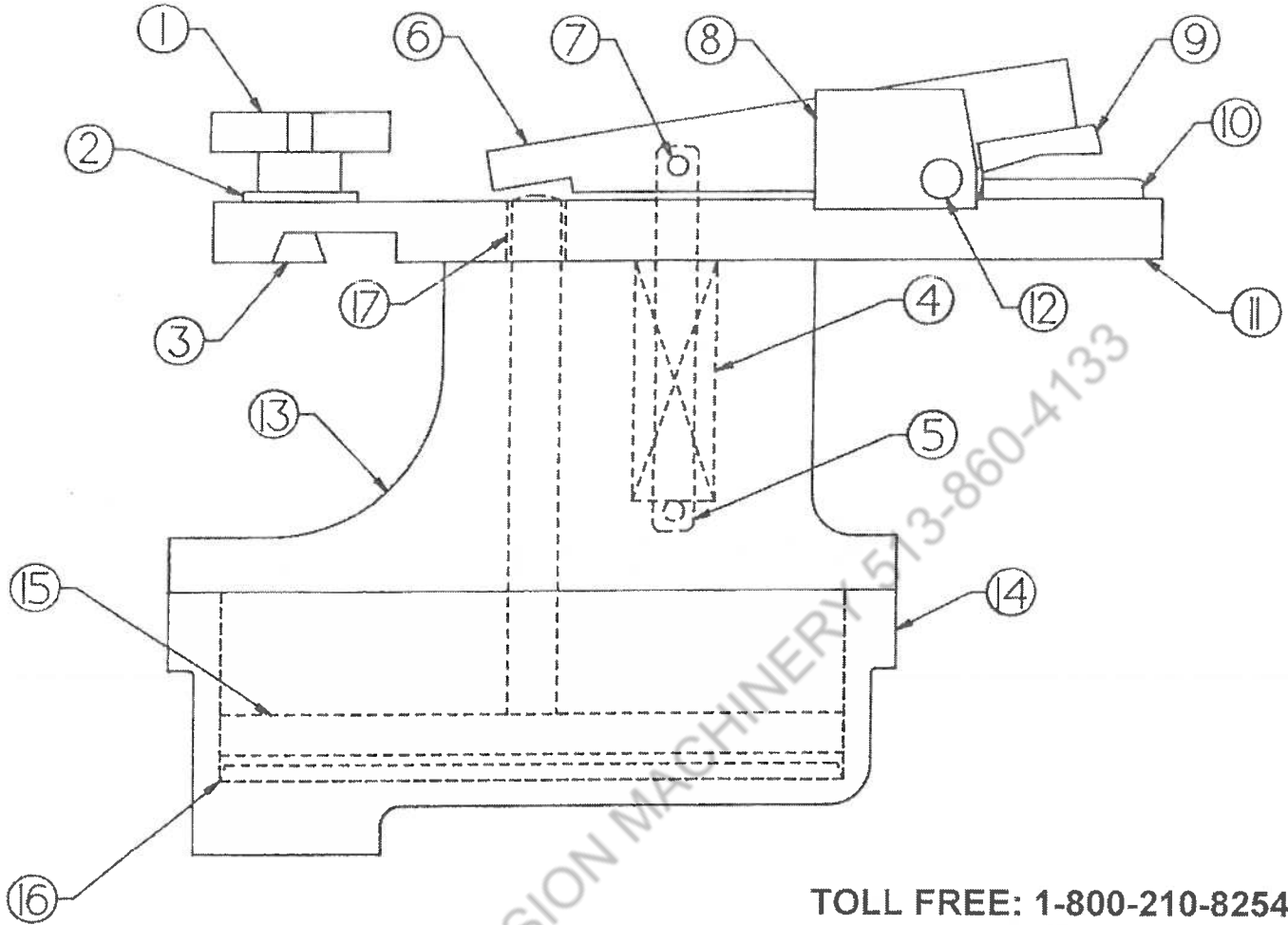


Neil Berry
Owner
Berry Industries, Inc.

When calling for repair parts or service please give us the following information :

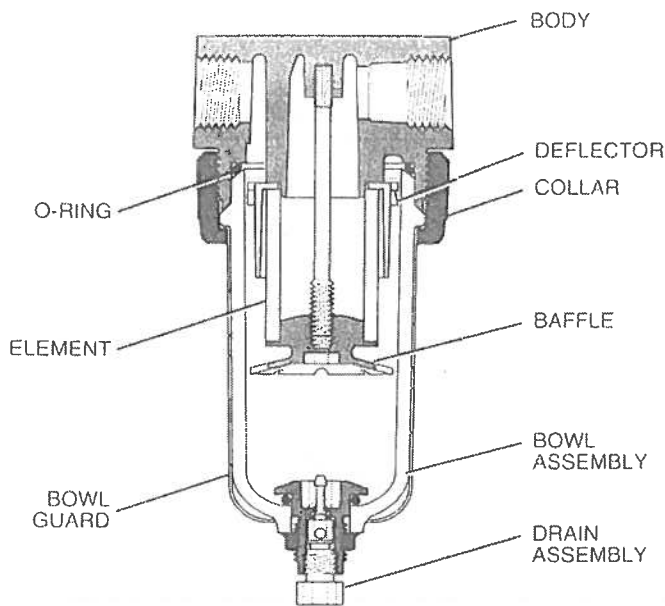
MODEL #	SERIAL #
A2-610-DF-3-HD	07038

BERRY NOTCHING HEAD STANDARD PARTS LIST



TOLL FREE: 1-800-210-8254

ITEM #	NOTCH DEPTH	ORDER NUMBER	DESCRIPTION	PRICE EACH
1	ALL	A2-011	HAND KNOB	
2	ALL	A2-012	WASHER	
3	ALL	A2-010	LOCK KEY	
4	ALL	A2-009	RETURN SPRING	
5	ALL	A2-006	SPRING ROD	
6	0 - 1.5"	A2-XXX-01	ARM - REPLACE "XXX" WITH MODEL # WHEN ORDERING	
6	1.5" +	A2-XXX-01	ARM - REPLACE "XXX" WITH MODEL # WHEN ORDERING	
7	ALL	A2-008	ROLL PIN	
8	ALL	A2-005	BEARING BLOCK	
9	0 - 1.5"	A2-XXX-P	PUNCH - REPLACE "XXX" WITH MODEL # WHEN ORDERING	
9	1.5" +	A2-XXX-P	PUNCH - REPLACE "XXX" WITH MODEL # WHEN ORDERING	
10	0 - 1.5"	A2-XXX-D	DIE - REPLACE "XXX" WITH MODEL # WHEN ORDERING	
10	1.5" +	A2-XXX-D	DIE - REPLACE "XXX" WITH MODEL # WHEN ORDERING	
11	0 - 1.5"	A2-XXX-02	BASE - REPLACE "XXX" WITH MODEL # WHEN ORDERING	
11	1.5" +	A2-XXX-02	BASE - REPLACE "XXX" WITH MODEL # WHEN ORDERING	
12	ALL	A2-XXX-007	PIVOT PIN - REPLACE "XXX" WITH MODEL # WHEN ORDERING	
13	ALL	A2-002	UPPER CYLINDER CASTING	
14	ALL	A2-001	LOWER CYLINDER CASTING	
15	ALL	A2-003	PISTON ASSEMBLY	
16	ALL	A2-004	DIAPHRAM	
17	ALL	A2-013	BUSHING	



Installation

1. The filter should be installed with reasonable accessibility for service whenever possible – repair service kits are available. 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 the male pipe – never into the female port. Do not use Teflon[®] tape to seal pipe joints – pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction. Also, new pipe or hose should be installed between the filter and equipment being protected.
2. The upstream pipe work must be clear of accumulated dirt and liquids.
3. Select a filter location as close as possible to the equipment being protected and upstream of any pressure regulator.
4. Install filter so that air flows in the direction of arrow on body.
5. Install filter vertically with bowl drain mechanism at the bottom. Free moisture will thus drain into the sump ("quiet zone") at the bottom of the bowl.

Application Limits

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

Adsorber Filters are **not effective** on: Carbon monoxide, carbon dioxide, methane, ethane, ethylene or hydrogen. For a complete list of vapors that can and cannot be adsorbed effectively by activated charcoal adsorbers consult the factory.

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.
- Operate within the manufacturer's specified pressure, temperature, and other conditions listed on 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 supply 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.

Maximum Recommended Pressure Drop:

	psig	Bar	kPa
Particulate Filter	10	0.7	70
Adsorber Filter	1.5	0.1	10

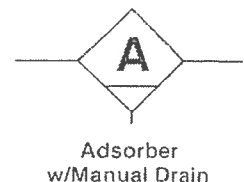
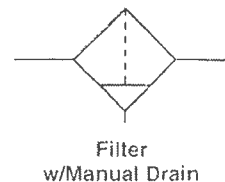
With Polycarbonate Bowl

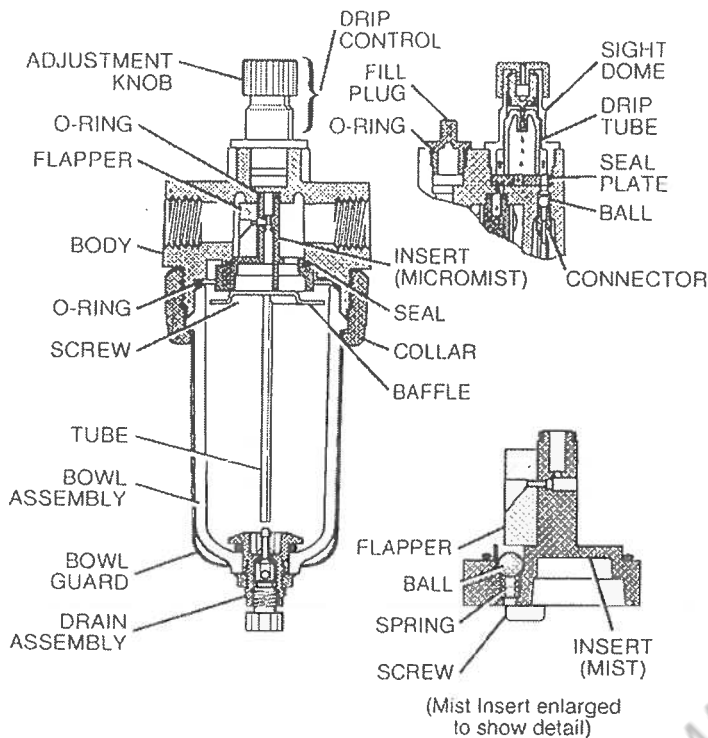
	psig	Bar	kPa
Operating Pressure Maximum	150	10.3	1000
Operating Temperature Maximum	+125°F (+52°C)		

With Metal Bowl

	psig	Bar	kPa
Operating Pressure Maximum	250	17.0	1700
Operating Temperature Maximum	+175°F (+80°C)		

ANSI Symbols





Micromist Shown

! 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.
- Operate within the manufacturer's specified pressure, temperature, and other conditions listed on 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 supply 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.

Installation

1. The lubricator should be installed with reasonable accessibility for service whenever possible – repair service kits are available. 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 the male pipe – never into the female port. Do not use Teflon¹ tape to seal pipe joints – pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction.
2. Install lubricator so air flows in the direction of arrow on body.
3. Installation should be upstream of the device it is to lubricate (valve, cylinders, tool, etc.).

Application Limits

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

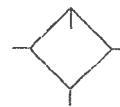
With Polycarbonate Bowl

	psig	bar	kPa
Operating Pressure Maximum	150	10.3	1000
Operating Temperature Maximum	+125°F (+52°C)		
Operating Temperature Minimum	+32°F (0°C)		

With Metal Bowl

	psig	bar	kPa
Operating Pressure Maximum	250	17.0	1700
Operating Temperature Maximum	+175°F (+80°C)		
Operating Temperature Minimum	+32°F (0°C)		

ANSI Symbol



Operation and Service

1. Filling — The Mist lubricator can be filled without turning off the upstream pressure. Slowly remove the fill plug (black) by turning counterclockwise. This allows the bowl pressure to vent.

The inlet pressure of the Micromist lubricator must be turned off and depressurized before the fill plug (yellow) is removed. Turn counterclockwise to remove. Fill to oil level line.

Suggested lubricant:

Parker F442P

Petroleum based oil of 100 to 200 SSU viscosity at 100°F and an aniline point greater than 200°F. (Mobil DTE24 and Sun Company Sunvis 932 are good examples). Do not use oils with adhesives, compound oils containing solvents, graphite, detergents or synthetic oils.

2. Replace the fill plug (by turning clockwise) and seat firmly. Excessive torque is not required. Turn on air supply for Micromist type. The lubricator is now ready for setting.



Pneumatic Division
Richland, Michigan 49083

Installation & Service Instructions
V510EP

B6, B7, B8 Series Air Control Valves
3/8", 1/2", 3/4" Inline

ISSUED: May, 2002

Supersedes: March, 2001

DOC# V-510P, ECN# P28949, 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, operating, or servicing the product

Application Limits

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

2-Position Operating Pressure:

	B6			B7 / B8		
	kPa	PSIG	bar	kPa	PSIG	bar
Minimum	138	20	1.4	207	30	2.0
Maximum	1030	145	10.0	1030	145	10.0

3-Position Operating Pressure:

	B6			B7 / B8		
	kPa	PSIG	bar	kPa	PSIG	bar
Minimum	207	30	2.0	310	45	3.0
Maximum	1030	145	10.0	1030	145	10.0

NOTE: Solenoid operated valves specified for external pilot or double air pilot operated valves may have 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 exceed the ranges above.

Ambient Temperature Range: -15°C to 49°C (5°F to 120°F)

Voltage Range: Rated Voltage ±10% / -15%

Lubrication

Filtered and lubricated air is necessary for maximum valve life and minimum maintenance. If in-service lubrication is used, lubricate with a straight paraffin based mineral oil having an ISO viscosity grade of 32 (e.g. Sunvis 932)

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

Maintenance & Trouble Shooting Hints

Valve Not Shifting Completely When Energized:

1. Check to insure that the proper voltage is supplied to the solenoids
2. Check to insure that the minimum supply pressure is equal to that shown in the Application Limits chart above.
3. Check for possible restrictions in air supply, such as undersized hoses, fittings, or quick disconnects.
4. Check to insure that the spool moves smoothly
5. Check spool seals for proper installation, dirt, or damage

Air Leakage Through Exhaust Ports:

1. Check for internal leakage in the cylinder being operated by the valve
2. Check condition of the spool seals for proper alignment, damaged (nicked or broken) seals and dirt contamination.
3. Check for missing, damaged, or incorrectly assembled o-rings and gaskets

If installing new spool: Remove old spool assembly, taking care not to scratch bore. Install new spool assembly into clean bore, taking care to install squarely and push slowly to avoid damaging seals or the valve bore.

If installing new piston: Refer to drawing for proper orientation. Install piston/seal assembly into the operator bore, taking care to assure the lips of the seal pass smoothly into the bore.

⊕ Lightly grease with provided lubricant.

⊙ Inspect for nicks, scratches, and surface imperfections. If present, reduced service life is probable and future replacement should be planned

⊙ Clean with lint-free cloth.

* If more aggressive cleaning is required, use mineral spirits or equivalent solvent and dry thoroughly.

General Installation & Operating Instructions

Valve should be installed with reasonable accessibility for service whenever possible. Repair service kits are available. Keep pipe or tubing clean and free of dirt and chips. Pipe joint compound should be used sparingly and applied only to the male pipe - never into the female port. Do not use PTFE tape to seal pipe joints - pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction. After valve assembly is complete, plumb the valve, turn on air pressure and electrical power source. Test valve for functional operation and internal and external leakage. If leakage is audible (indicating improper assembly is likely), do not operate. Conduct assembly again.

Service Kits Available:

The following service kits contain the appropriate seals and parts necessary for ordinary field service. Consult local representative for kits not listed.

B6	B7 / B8	Description
PS2601P	PS2501P	2-Position body service kit, 4-Way
PS2602P	PS2502P	3-Position all ports blockad body service kit
PS2603P	PS2503P	3-Position cylinder to exhaust body service kit
PS2604P	PS2504P	3-Position pressure center body service kit
PS267101P	PS257101P	Body service kit, 3-Way, NC
PS267102P	PS257102P	Body service kit, 3-Way, NO

Service Instruction Sheets

V-513P	Manifold & accessory instruction sheet
V-402P	15mm Solenoid Replacement Kits

⚠ 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.

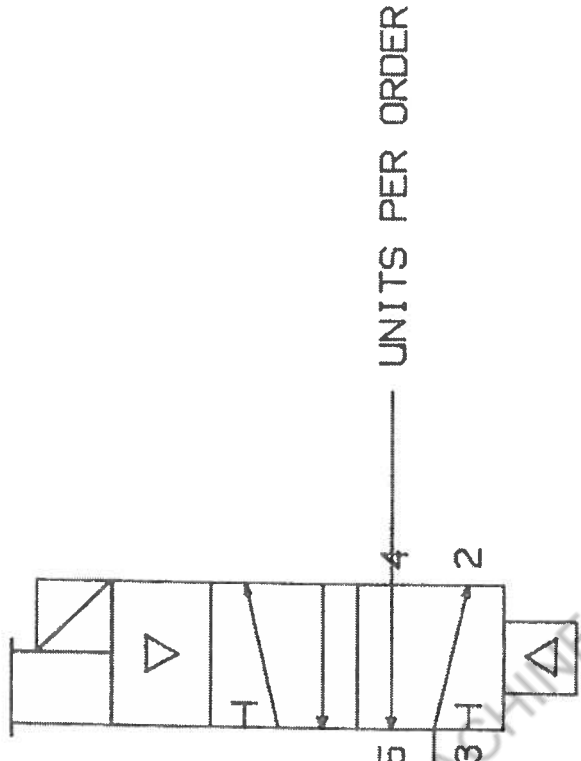
CINCINNATI PRECISION MACHINERY 513-860-4133

80-120 PSI



FILTER

LUBRICATOR



SOLENOID 1

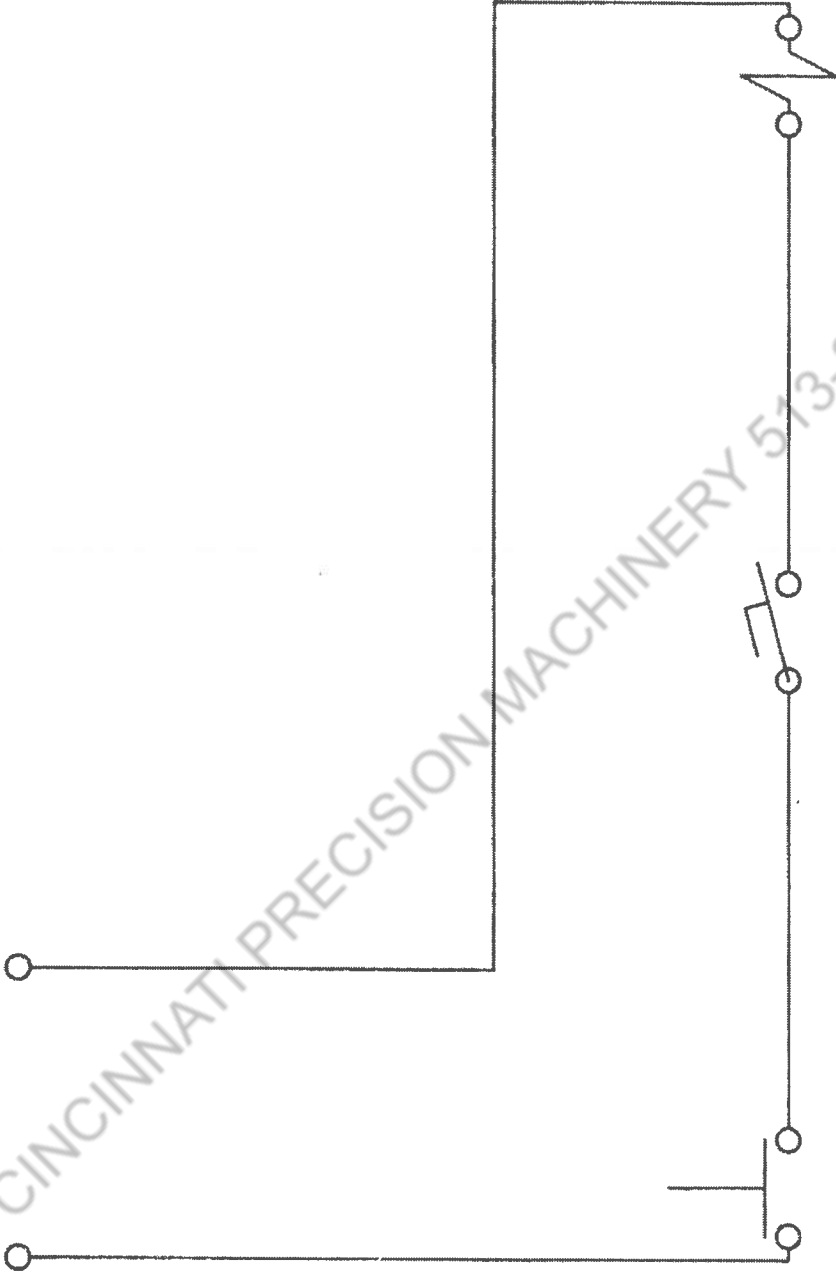
UNITS PER ORDER

BERNARD
INDUSTRIES
 CEDAR FALLS IOWA U.S.A.

TOLERANCES
 UNLESS OTHERWISE
 NOTED
 XXXX - +/- .002
 XXX - +/- .015
 XX - +/- .032
 ANGULAR - +/- 1

DESIGN BY:	DETAILED BY:	APPROVED BY:	DATE:	SCALE:	SHEET	OF
			9/2/99		1	1
PART NUMBER			DESCRIPTION:			
			PNEUMATIC CONTROL DRAWING - STANDARD NOTCHER			
CUSTOMER:			JOB NUMBER:			

115 VOLT AC



SAFETY SWITCH

FOOT SWITCH

SOLENOID 1

TOLERANCES
UNLESS OTHERWISE
NOTED

XXXX = +/- .002
 XXX = +/- .05
 XX = +/- .032
 ANGULAR = +/- 1

BERB

INDUSTRIES
 CEDAR FALLS IOWA U.S.A.

TOLERANCES
UNLESS OTHERWISE
NOTED

XXXX = +/- .002
 XXX = +/- .05
 XX = +/- .032
 ANGULAR = +/- 1

DESIGN BY: _____

DETAILED BY: _____

APPROVED BY: _____

DATE: 9/2/99

SCALE: _____

SHEET: 1

OF: 1

PART NUMBER: _____

DESCRIPTION: ELECTRIC CONTROL DRAWING - STANDARD NOTCHER

CUSTOMER: _____

JOB NUMBER: _____

CINCINNATI PRECISION MACHINERY 513-860-4732