ED-3339-2A

Bagging machine manual: Air/Electric H.D. versions. www.abminternational.com

- Installation instructions
- Operational guide
- Troubleshooting guide
- Parts list

Table of Contents

- Section 1.0 - Machine Operation Guide
- Section 2.0 - Troubleshooting guide
- Section 3.0 - Parts List

TABLE OF CONTENTS:

Introduction

Section 1.0 – Safety

Section 2.0 - Machine Setup

Section 3.0 – Machine Operation

Section 4.0 – Troubleshooting guide and notebook

Section 5.0 – Parts List

Figure 0.1 – ED-3339-2A in compression

Introduction

ABM International would like to thank you for the purchase of an ED3339-2A Bagging Machine. ABM is confident that this machine will meet or exceed your expectations for cost, speed and durability.

If at anytime you experience problems with any of your ABM machines we ask that you contact us - 24 hours a day by calling our service department at (281) 443-4440. We can help you solve the problem quickly, and correctly. Your calls, questions, and comments will in turn help us to perfect the quality of our products and services in the future.

Once again, we thank you for your purchase.

ABM International, Inc.

Joe Podolski
Vice President
Engineering Department

Section 1: Safety

1.0 Safety Introduction

As with the operation of all machinery, safe operation of the ED3339-2A is a major concern of ABM International, Inc. The purpose of this section is to inform personnel of the safe and prudent operation of an ED3339-2A.

We have attempted to recommend the most effective methods and calculations to warn against actions that could result in personal injury, or make equipment unsafe. It is important to understand that ABM cannot anticipate, or list all conceivable safety methods and warn of all the possible hazards. In the interest of promoting safety, ABM advises that the operating personnel should always make sure that personal safety and the safe operation of the machine will not be adversely affected by their actions.

It is imperative that the operating personnel of the ED3339-2A read and understand the information in this manual before operating the machine.

1.1 Safety Policy Statement

The conservation of the assets of any company, which include the buildings, equipment, supplies and inventories as well as personnel, must be and is the responsibility of all levels of management. The purpose of a personnel and property conservation program is to insure that all phases of management recognize that personnel and property conservation are both inseparable parts of a company's objective…to produce quality products at the lowest possible cost.

Safety of personnel in every aspect must be of first consideration. The implementation of a conservation program will eliminate human suffering and effectively lower the direct and indirect costs resulting from employee injury. It will substantially reduce the exposure and probability of damage and / or loss of company's physical assets.

1.2 Safety Practices

The safety factors must be observed to ensure safe operation of the ED3339-2A.

1. Read and understand the operating instructions of the ED3339-2A before operating.
2. Use extreme caution when working around the ED3339-2A electrical controls.
3. Keep hands or other body parts away from the moving parts of the ED3339-2A.
4. Wear appropriate personal safety protection.
5. Stop the ED3339-2A immediately at any sign of malfunction or danger.
6. Do not crawl under or into the ED3339-2A for any reason during the operation of the machine.
7. Do not reach into the ED3339-2A at any time during the operation of the machine.
8. Do not climb, walk, or stand on the ED3339-2A at any time.
9. Do not tamper with factory installed guards and or safety devices.

10. Never operate machinery without all ABM installed guards and safety devices intact, and in working order.
11. Before starting the ED3339-2A, ensure that no loose tools, bars or parts are lying in or on any part of the machine.
12. Proper fire fighting equipment should be kept in good operating condition and kept near in the event of fire.
13. Never attempt to service any of the pneumatic components until the unit is relieved of all air pressure.
14. Do not wear loose clothing or jewelry when operating the ED3339-2A.
15. Always keep hair from coming in contact with moving parts.

SECTION 2.0 – Machine Setup

The ED3339-2A ships fully tested ready to operate. As a result, this manual provides a section on machine setup so that you can install the machine. Please read this manual in its' entirety and follow all ABM instructions, especially the inspections. Total setup time, less power and air hook-up, should take approximately 1 hour.

SETUP INSTRUCTIONS:

INSPECTION #1: Upon receipt of the machine, check to ensure that there is no visible damage. Figure 0.1 and the front cover of this manual are enough for this inspection. **Note: that some components may be in different locations depending on the version of the machine.**

Determine the location in your facility for the bagging machine. Attach the four (4) machine legs supplied with the machine to the plates that were used to bolt the machine to its skid. Level and position the machine in the desired location. Though not required, ABM recommends that the machine be bolted to the floor. Place the foot pedal in front of the machine on the floor. Once a final position has been determined for the foot pedal, coil any excess cable and wire tie it to the machine, which will reduce the risk of a tripping hazard.

Run a 110VAC line (1AMP) to the machine location. Though the machine comes equipped with a 110V plug ABM does not recommend the use of any type of extension cord to power the machine. As with any machine, power should be run through approved conduit and ducting with proper termination. ABM does not supply a main power disconnect with the machine and recommends that the customer install one. You may connect the power to the machine at this time.

Plumb the machine with an air line capable of at least 100psi. ABM recommends that an air line of no less than .5 inches diameter be used for supply air. **NOTE: DO NOT CONNECT AIR TO MACHINE YET. UNTIL PROPER ELECTRICAL FUNCTION IS CONFIRMED. CONNECTING POWER AT THIS TIME CAN POSSIBLY RESULT IN INJURY.**

INSPECTION #2: Will confirm that the electronics of the bagging machine are functioning properly.

WARNING: ELECTRICAL SHOCK HAZARD. THIS INSPECTION WILL REQUIRE POWER TO BE ON WHILE THE ELECTRONICS CABINET IS OPEN. IF A PROBLEM IS FOUND, YOU SHOULD NOT ATTEMPT TO REPAIR IT WITH THE POWER ON. DISCONNECT THE MACHINE PRIOR TO ADJUSTING ANY COMPONENTS WITHIN THE ELECTRICAL CABINET.

Step one; open the electronics cabinet located on the vertical beam of the machine. The internals of the cabinet will look like Figure 1.0. From left to right the components are as

follows: 24Vdc power supply, one (1) fuse block, PLC, three (3) input terminal blocks and two (2) output terminal blocks. With the power turned on, the 24Vdc power supply should have a green LED marked DC ON illuminated. If the green light is not on, check the main power connection and test the fuses located inside the fuse terminal block.

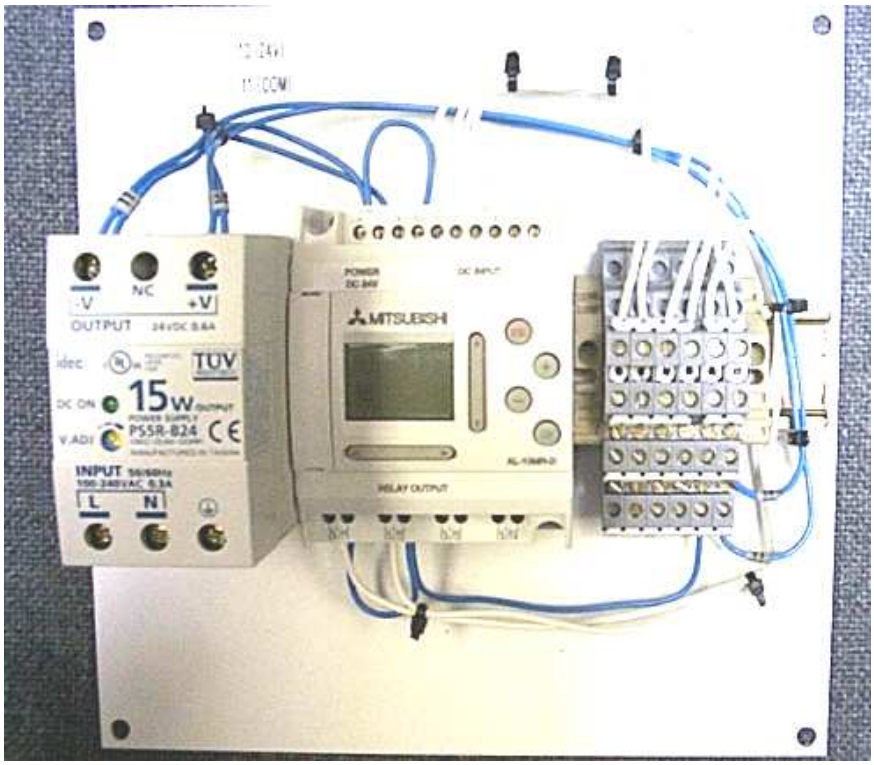


Figure 2.0 – Electrical Panel.

Upon power up, the PLC screen should have a few flashing symbols and two rows of circles visible, this is the function screen of the PLC. If a different screen is visible, repeatedly press the ESC button on the PLC until this screen appears. If text is not visible on the PLC, check the incoming 24Vdc from the power supply. The PLC power terminals are marked with a + and – sign located on the top terminal strip.

When the PLC displays the function screen, the inputs and outputs can be tested. The PLC screen should now have a top row of six (6) circles with the letter I at the beginning (this is the input row). The lower row should have four (4) circles with the letter O at the beginning (this is the output row). A solid, dark circle means the input/output is on and a clear circle means the input/output is off.

INPUT INSPECTION: Depress and release the red E-stop button located at the very top of the machines vertical beam to ensure the PLC is reset to the beginning of the operation cycle. The second circle from the left on the input row (input #2) should be the only circle that is darkened. Depress and release the red E-stop button while watching the PLC screen. The second input should turn off and then back on when the button is released (this is the E-stop input). Depress and release the foot pedal. Various inputs and outputs will illuminate, but only concern yourself with the input row at this moment.

When the foot pedal is depressed, the first circle (input #1) should darken. When the foot pedal is released, the input should shut off. Depress the red E-stop button to reset the machine.

OUTPUT INSPECTION: Depress and release the red E-stop button located at the very top of the machines vertical beam to ensure the PLC is reset to the beginning of the operation cycle. At this time none of the four (4) circles in the lower row should be dark. Depress and release the foot pedal once. The first circle of the lower row (output #1) should darken and a light on one of the air valves should illuminate. Depress and release the foot pedal a second time. Output #2 will turn on, the light on the other valve of the valve block will illuminate and now both output #1 and #2 will be on. After a short time interval both outputs will turn off, the lights on both valves will turn off and the PLC will return back to its initial operation cycle. Only input #2, the E-stop should be on.

If both the inputs and outputs have checked out, the electronics cabinet should be securely closed.

FINAL TEST:

WARNING – WHEN CONNECTING AIR TO THE MACHINE, YOU MUST ENSURE THAT THERE ARE NO LOOSE ITEMS SUCH AS TOOLS FOOD DRINKS ETC. ON THE MACHINE AND THAT ALL PESONNEL ARE CLEAR OF THE MACHINE.

The machine is now ready for the air connection. When the air is turned on, the upper half of the mouth should move to its up position and the pusher plate should be fully retracted (see figure 2.1). Adjust the pressure regulator so that a pressure reading of 80-90 psi is visible on the gauge.

Figure 2.1 – ED3339-2A at start of cycle.

Inspect the front of the machine and ensure that the upper and lower mouth halves are clear from obstructions.

Step 1: Depress the foot pedal once. The upper half of the mouth should compress and come to a stop.

Step 2: Depress the pedal again; the pusher plate will extend to the front edge of the mouth. After a 3-5 second interval the mouth and pusher plate will simultaneously return to the up and retracted positions.

Now check the proper function of the E-stop button.

Step 1: Depress and release the foot pedal once. The top mouth half should compress.

Step 2: Now depress and release the E-stop button. The top mouth half should return to its up position. When the E-stop is pressed, both the mouth and pusher plate will return to the start positions and the cycle will be reset to the beginning.

Setup and inspection is now complete.

SECTION 3.0 – Machine Operation

This section will discuss how to properly use the ED3339-2A to fulfill all of your bagging needs.

The ED3339-2A is equipped with an adjustable stainless steel mouth (see figure 2.0). The upper and lower mouth halves are individually adjustable. The width of the mouths are adjusted by loosening the two (2) black handles (see figure 2.1) found on the top or

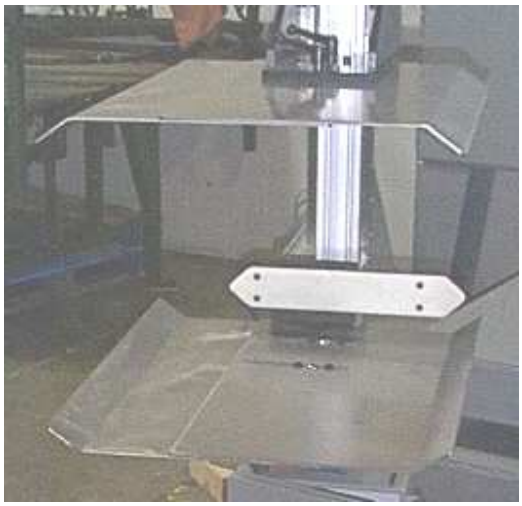


Figure 3.0 – Upper and lower stainless steel mouth.

bottom mouth brackets and pulling the halves to the desired dimension. For the best results, ensure that each mouth half is an equal distance from the center line. The amount of

Figure 3.1 – Lower mouth adjusting handles

compression that the top mouth half performs is also adjustable. To adjust, loosen the two (2) bolts of the stop block (see figure 2.2) and set to the desired height.

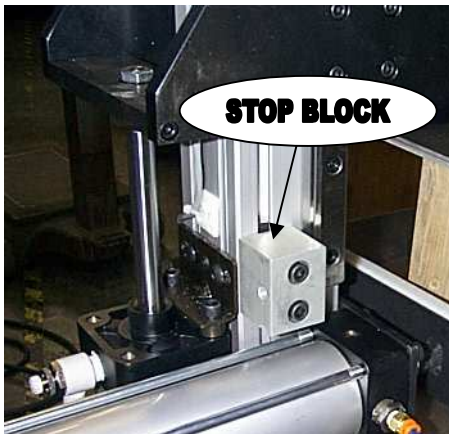


Figure 3.2 – stop block

Basic Operation: (Operator instructions)

Step 1: Insert product to be compressed into bagging machine.

Step 2: Make sure all body parts are clear of stainless steel mouth. Depress and release the foot pedal

Step 3: Insert bag or product container completely over stainless steel mouth

Step 4: Depress and release the foot pedal

Step 5: Remove filled or the packed good; from the machine and repeat the process again

SECTION 4.0 – Troubleshooting guide

This section is included to help diagnose and solve any problems that may occur with the ED3339-2A. ABM has done its best to include as much information as possible. However, not all problems are listed, therefore ABM asks that whenever a problem occurs you contact a service technician at our home office. To reach service dial 281-443-4440 and ask for a service technician, they are on call 24 hours a day, seven days a week.

Electrical power:

The ED3339-2A runs on a 1 amp, 110VAC supply line. The PLC, inputs and outputs (valves) run on 24Vdc produced by the power supply found in the cabinet. The PLC has its' incoming power fused through a terminal block found inside the cabinet. A fuse with a 1/2A rating is standard.

Verifying inputs and outputs:

Table 4.0 lists the inputs and outputs, their location on the PLC and their normal wired condition.

Description	PLC location	Wired Condition
Foot pedal	Input #1	Normally Open (N.O.)
E-stop	Input #2	Normally Closed (N.C.)
Compression cyl. valve	Output #1	Normally Open (N.O.)
Pusher cyl. Valve (1 or 2)	Output #2	Normally Open (N.O.)

Table 4.0 – PLC inputs and outputs.

To verify that an input or output is functioning properly, the PLC displays a status screen of the I/O. To enter the status screen, depress the escape button until a screen with two rows of circles is displayed. The top row of six (6) circles, marked with a letter I, displays the inputs. A darkened in circle signifies the input is on; a clear signifies the input is off. Depressing either the foot pedal or E-stop will cause their corresponding input to turn on and off. Outputs function the same way, if a circle in the lower row is darkened in; the output is on.

Pneumatic systems:

The pneumatic system of an ABM ED3339-2A is very straightforward. The system consists of a valve block with four (4) valves, a cylinder for compression, (2) cylinders for ejecting the product, four (4) quick exhaust valves (optional), and two (2) filter/regulator combo units.

Valve block: a device used to distribute air to multiple valves from a common location. The valve block on the ED3339-2A has four (4) valves and a 25-pin connector for communication to the PLC.

Valve (individual): A valve is a device found on the valve block that is operated individually through the PLC. It is possible to manually cycle an individual valve by depressing the small orange button located directly on the valve. A small screwdriver or a pen may be needed to depress the button properly. Removal of a valve for service is accomplished by loosening the small socket head cap screw located directly above the valve, and gently pulling the valve out away from the manifold. Installation is made by reversing the above procedure.

Cylinders: The cylinders are uneconomical to repair and thus any damage that may occur to a cylinder should be rectified by replacing the cylinder.

Quick exhaust valves (optional): These valve are mounted directly to the cylinder ports. They allow the cylinders to move more quickly by exhausting the air inside the cylinder faster than the main manifold can. The machine can operate normally with or without the valves installed.

Filter/regulator combo unit: The combo unit is the machines last line of defense against foreign materials (water, steel particles, etc.) found in a facilities pneumatic lines. The machine can be run without a combo unit but serious damage can occur to the valve block and cylinders. The combo unit also performs the task of regulating the incoming air pressure. Air pressure on both the compression and ejection cylinders is individually adjustable. Pressures should be set according to machine demand. Lower pressures may cause the machine to function improperly.

Troubleshooting notes:

A few blank pages are provided so that you and your personnel can keep records and notes of machine problems. By using this section and keeping it attached to the manual, you will always have your own personalized quick reference repair section.

TROUBLESHOOTING NOTES:

Date	Problem	Solution

TROUBLESHOOTING NOTES:

Date	Problem	Solution

TROUBLESHOOTING NOTES:

Date	Problem	Solution

TROUBLESHOOTING NOTES:

Date	Problem	Solution

SECTION 5.0 – Parts List

This section lists the ABM part numbers needed to order any part on the ED3339-2A. The section is divided into two lists. Both lists show the quantity, item description and ABM part number for all the components needed to completely rebuild a machine. ABM carries all of the components below in stock at all times. Any order placed before 6:00 P.M. CST can be shipped the same day for next day delivery. The parts/service department can be reached at (281)443-4440. As with any machine, buying the correct parts from the correct manufacturer will allow your machines to operate their best. Buying parts from sources other than ABM will void your warranty.

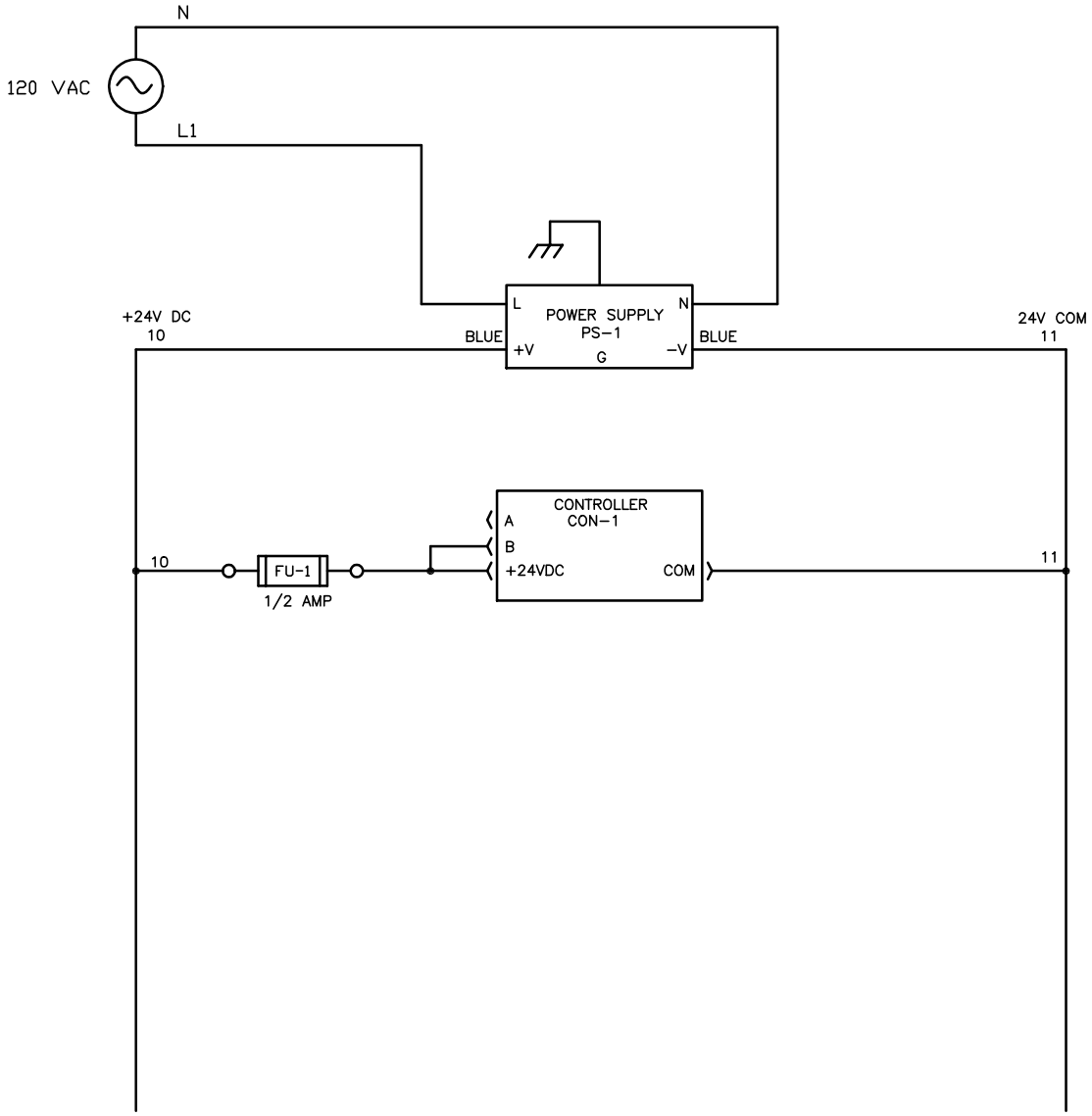
Mechanical Components:

Qty	Item Description	ABM Part #
1	Foot switch guard	C-1003-003
1	Black end cap for 3x3 extrusions	C-1003-004
4	Machine foot	C-1003-006
4	Adjustable clamping handle	C-1003-007
1	Plastic ejection deflector (specify size)	C-1003-008
	6 x 12 x 5mil Plastic Tape	C-1003-009
1	Aluminum inch ruler	C-1003-010
1	Hard stop collar	C-1003-011
1	Hard stop handle	C-1003-012
4	Linear bearing blocks	D-1003-400-V01
2	Linear bearing rail	D-1003-401-V01
4	¼-20 x 1-1/2 BHCS	F-1003-400-V01
10	¼-20 x ¾ SHCS	F-1003-401
18	¼-20 T-nut	F-1003-402
4	¼-20 Lock Nut	F-1003-403
24	5/16-18 x 5/8 SHCS	F-1003-500
8	5/16-24 x ¾ SHCS	F-1003-504
24	5/16-18 T-nut	F-1003-505
4	3/8-16 x 1 BHCS	F-1003-600
4	3/8-16 x 2 BHCS	F-1003-601
2	3/8-16 x 1-1/4 Carriage bolt	F-1003-602
2	3/8-16 x 2-1/4 Carriage bolt	F-1003-603
16	M6 x 12mm SHCS	F-1003-800
4	Mouth bracket (specify size)	M-1003-105
1	Main frame vertical beam	M-1003-110
2	Pusher bearing plate	M-1003-200
1	Pusher cylinder adapter plate	M-1003-201
1	Pusher horizontal lower plate	M-1003-202
2	Bottom gusset	M-1003-203
1	Bottom support plate	M-1003-204
1	Pusher cylinder mounting plate	M-1003-205E
1	Pusher mounting plate	M-1003-206C

Qty	Item Description	ABM Part #
1	Pusher plate	M-1003-207A
2	Compression cylinder bracket modified	M-1003-210
1	Bagger base weldment	M-1003-215A
1	Upper mouth spacer (1”)	M-1003-216
1	Valve assembled manifold (3 valves and 1 block plate included)	P-1003-001-V01
3	Valve (only)	P-1003-002
4	Quick exhaust air valve (optional)	P-1003-003
1	Air cylinder for compression	P-1003-004-V01
2	Air cylinder for ejection	P-1003-005-V02
2	Regulator/Filter Combo Unit	P-1003-800
1	Regulator bracket	P-1003-800-01
1	Regulator gauge	P-1003-800-02
6	¼” Tube x 3/8NPT Elbow	P-1003-903-V01
2	¼” Tube plug	P-1003-904
2	3/8” Tube x 1/4NPT Elbow	P-1003-905
4	Mufflers for quick exhaust valve (optional)	P-1003-906
	¼” blue hose	P-1003-910
	3/8” black hose	P-1003-911

Electrical Components:

Qty	Item Description	ABM Part #
1	Enclosure	E-1003-001
1	Enclosure panel	E-1003-002
1	PLC controller	E-1003-003
1	Power supply 24VDC	E-1003-004
1	Treadle foot switch	E-1003-400
1	E-stop mushroom head push button station	E-1003-600
1	25-Pin valve cable 1M long	E-1003-800
4	Liquid-tite conduit fittings	E-1003-900
1	DIN Rail – 8” long	E-1003-902
1	Fuse holder	E-1003-903
3	Sensor terminal blocks	E-1003-904
2	Output terminal blocks	E-1003-905
2	Terminal end block	E-1003-906
1	½ Amp Fuse	E-1003-907
1	Power cord 110VAC	E-1003-908



NOTES:

INCHES
UNLESS OTHERWISE SPECIFIED

DO NOT SCALE DRAWING
ALL DIMENSIONS ARE IN INCHES
ALL STOCK AND CUT-OFF DIMENSIONS ±0.031
ALL TWO PLACE DECIMAL DIMENSIONS ±0.010
ALL THREE PLACE DECIMAL DIMENSIONS ±0.005
ALL FOUR PLACE DECIMAL DIMENSIONS ±0.0005
ALL MACHINED ANGLES ±0°-15'
C'SINK ALL TAPPED HOLES.
REMOVE ALL BURRS AND SHARP CORNERS.
UNFINISHED CASTING AND WELDMENT DIM. ±0.125
BURNOUT DIMENSIONS ±0.125
DO NOT USE REF. DIMENSIONS FOR MFG.
DIMENSIONS IN [xx] ARE IN INCHES.
125 OR BETTER ON ALL MACHINED SURFACES.

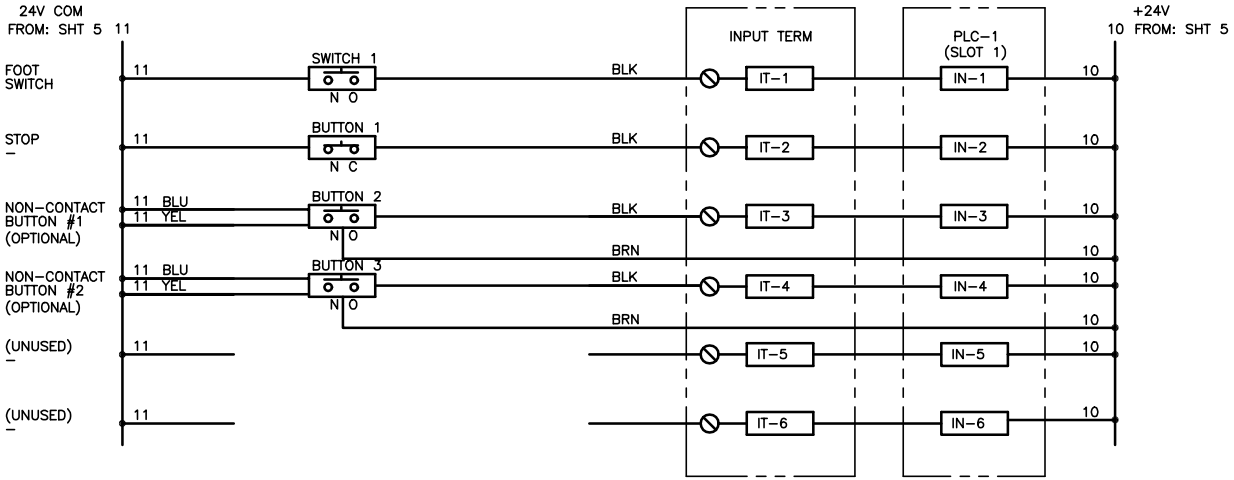
B SIZE

ABM
INTERNATIONAL
211 SEEGERS AVE.
ELK GROVE VILLAGE, IL 60007

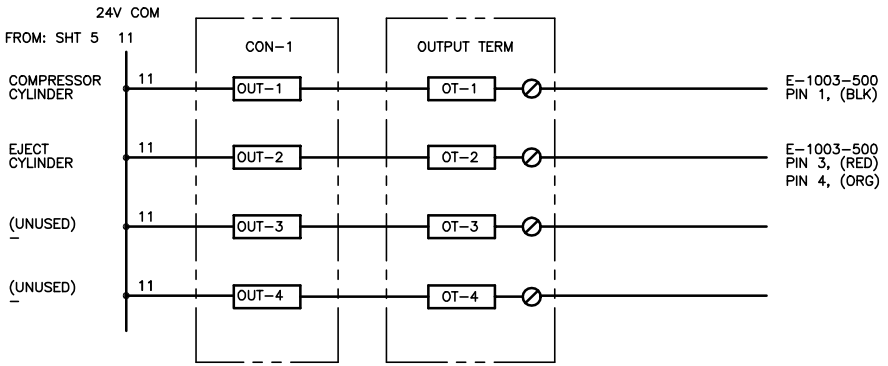
TITLE: SCHEMATIC, WIRING, POWER
ELECTRIC BAGGER

DRAWN BY: SCOTT WILL	DATE: 8-03-00
CHECKED BY: —	DATE: —
PROJ. NO. 1003	SCALE: FULL
SHEET NO. 1	TOTAL SHEETS 1
DRAWING NO. E-1003-110	

INPUTS



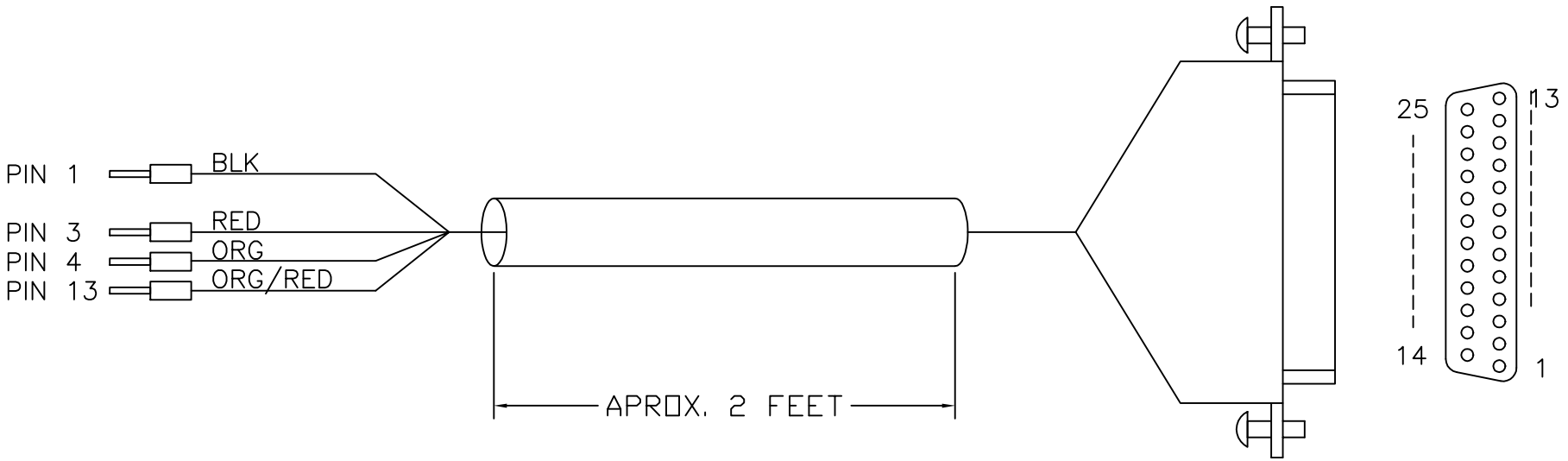
OUTPUTS



NOTE:
1) PIN 13 ON CABLE E-1003-500 MUST BE CONNECTED TO 10 (+24VDC).

(10) — E-1003-500 PIN 13, (ORG/RED)

INCHES UNLESS OTHERWISE SPECIFIED DO NOT SCALE DRAWING ALL DIMENSIONS ARE IN INCHES ALL STOCK AND CUT-OFF DIMENSIONS ±0.031 ALL TWO PLACE DECIMAL DIMENSIONS ±0.010 ALL THREE PLACE DECIMAL DIMENSIONS ±0.005 ALL FOUR PLACE DECIMAL DIMENSIONS ±0.0005 ALL MACHINED ANGLES 45°-15' C'SINK ALL TAPPED HOLES. REMOVE ALL BURRS AND SHARP CORNERS. UNFINISHED CASTING AND WELDMENT DIM. ±0.125 BURNOUT DIMENSIONS ±0.125 DO NOT USE REF. DIMENSIONS FOR MFG. DIMENSIONS IN [xx] ARE IN INCHES. 125 OR BETTER ON ALL MACHINED SURFACES.	ABM INTERNATIONAL 211 SEEGERS AVE. ELK GROVE VILLAGE, IL 60007 TITLE: SCHEMATIC, INPUTS, OUTPUTS ELECTRIC BAGGER DRAWN BY: SCOTT WILL — DATE: 8-3-00 CHECKED BY: — — DATE: — PROJ. NO. 1003 — SCALE: FULL SHEET NO. 1 — TOTAL SHEETS 1 — DRAWING NO. E-1003-111 B SIZE



25 PIN SOCKET CONNECTION

NOTE 1: SMC CABLE PN: VVZS3000-21A-2 (3M LENGTH)
NOTE 2: OTHERWISE USE 22 - 24 GAGE WIRE.

INCHES
UNLESS OTHERWISE SPECIFIED
DO NOT SCALE DRAWING
ALL DIMENSIONS ARE IN INCHES
ALL STOCK AND CUT-OFF DIMENSIONS ±0.031
ALL TWO PLACE DECIMAL DIMENSIONS ±0.010
ALL THREE PLACE DECIMAL DIMENSIONS ±0.005
ALL FOUR PLACE DECIMAL DIMENSIONS ±0.0005
ALL MACHINED ANGLES 45°-0'
C'SINK ALL TAPPED HOLES.
REMOVE ALL BURRS AND SHARP CORNERS.
UNFINISHED CASTING AND WELDMENT DIMENSIONS ±0.125
BURNOUT DIMENSIONS ±0.125
DO NOT USE REF. DIMENSIONS FOR MANUFACTURING.
DIMENSIONS IN [xxx] ARE IN INCHES.
125 OR BETTER ON ALL MACHINED SURFACES.

ABM INTERNATIONAL
A.B.M. INTERNATIONAL Inc.
211 SEEGERS AVENUE
ELK GROVE VILLAGE, IL 60007

TITLE: VALVE MANIFOLD CABLE
ELECTRIC BAGGER

DRAWN BY: SCOTT WILL	DATE: 8-3-00
CHECKED BY: --	DATE: --
PROJ NO. 1003	SCALE: NONE
SHEET NO. 1 / TOTAL SHEETS 1	DRAWING NO. E-1003-500