

BLAST-IT-ALL®

LARRY HESS & ASSOCIATES, INC.
185 PIPER LANE
SALISBURY, NC 28144 USA
704-637-3300
WWW.BLAST-IT-ALL.COM

EQUIPMENT MANUAL

SHOT PEENER MACHINES

NUMBER MM-583

DATE: MAY 10, 2006

WARNING

DO NOT USE **SAND**. SAND WILL CAUSE SILICA DUST, WHICH IS THE CAUSE OF SILICOSIS DISEASE, A CONDITION OF MASSIVE FIBROSIS OF THE LUNGS. ***THIS STATEMENT INDICATES POTENTIAL PERSONNEL HAZARD. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.***

WEBSITE FOR SILICOSIS:

<http://www.osha.gov/Silica/IT69D 1.html>

1-1 INTRODUCTION

1-2 PURPOSE AND SCOPE

This publication contains operation and maintenance instructions, with illustrated parts breakdown, for the BLAST-IT-ALL® ABC Abrasive Dry Blast Cabinet, manufactured by BLAST-IT-ALL®, Inc., Salisbury, NC.

1-3 GENERAL INFORMATION

This machine is designed primarily for the cleaning and peening process with heavy media; For shot peening or when cutting action is required. The gun pressure and media is determined by the application. Additionally, the blast cleaning and peening machine has following applications:

- A. Increase tensile strength and relieve stress by microscopic bombardment.
- B. Remove burrs following machining or grinding operation, subminiature space age, or large castings.
- C. Products a metallurgical clean surface for plating, painting and other processes.
- D. Increase tool life by blending minute surface imperfections.
- E. Improve releasing characteristics of molds and dies which process glass, rubber, and plastic parts.
- F. Enhance lubrication by imparting a microscopically controlled dimpled surface.
- G. Retain critical dimensions while producing above results.
- H. Reclaim and recondition parts by removing paint, rust, corrosion, etc. This process is also used on rubber, fiberglass, and plastics. The Blast Cleaning and Peening Machine is of the enclosed type. Parts for processing are loaded into the cabinet through doors on the right or left sides of the unit. The operator's hands are inserted into a pair of gloves connected to the unit. The gloves serve both to protect the operator and to retain the media in the enclosure. Observation of the parts in process is through a glass window in the cabinet front. The unit contains a sealed, two tube, fluorescent light which illuminates the work area when electric power is on.

The media for abrasive blast cleaning or bead peening is propelled by externally supplied air pressure. The air pressure is routed through a moisture separator, pressure regulator, and control valves to the blast nozzle.

1-8 COMPRESSED AIR REQUIREMENTS

Table #1-1

<u>Orifice</u>	<u>CFM Volume</u>	<u>PSIG</u>
No. 4	80	80
No. 5	120	80

EQUIPMENT DESCRIPTION AND FUNCTIONS

BLAST GENERATOR

The 100-lb. capacity, 1.0 cubic foot blast generator, or pressure pot is ASME coded and should not be field modified. It's semi-automatic controls' function in response to the foot treadle. When the foot valve is depressed, the pot is pressurized with supply air to allow blasting. When the foot treadle is released, air supply to the blast generator is shut off. This allows the pot to discharge; thus depressurizing the pot and allowing a new charge of media to enter the vessel.

TROUBLE SHOOTING

MACHINE:

1. The media and debris are not conveyed through the screen drawer to the pressure tank.
 - A. Screen drawer blocked

2. Failure to accumulate media in reservoir above blast generator
 - A. Excessive carry-over into dust collector. Adjust on dust collector.
 - B. Trash screen below hopper blocked.
 - C. Moisture or oil in lines has contaminated media, and media will not flow.

3. Air blast but no media flow.
 - A. Pot is empty.
 - B. Media is wet and will not flow.
 - C. Media metering valve is plugged or closed.

4. Reduced pressure at nozzle, with or without media flow.
 - A. Insufficient air compressor
 - B. Media flow valve open too far.
 - C. Pop-up valve in pressure pot not sealing.
 - D. Poor sealing in blow-down valve.
 - E. Choke valve closed too far.
 - F. Inspect air hose connection and fittings for leaks.
 - G. Check air filter for water accumulation and foreign material
Build up on filter.

WARNING

DO NOT WELD ON BLAST MACHINE. THIS VOIDS NATIONAL BOARD APPROVAL AND CERTIFICATION.

FAULT ISOLATION

Symptom	Probable Cause	Solution
Fogging Cabinet	1. Dirty Dust Bag. 2. Fan Rotation wrong.	Clean or Replace Bag Check
Abnormal Media Consumption	1. Improper Exhaust hook-up.	Check connection Between dust separator And dust bag.
Reduction of Cleaning	1. Low media level. 2. Reduced Air Pressure. 3. Media Hose Clogged. 4. Dirty exhaust bag. 5. Wet media 6. Worn blast nozzle.	Fill as required Check Air System Pressure. Inspect hose for work places or soft spots. Clean or replace bags. Purge system and refill. Inspect and replace or adjust as required.

SAFETY SUMMARY

The following are general safety precautions that personnel must understand and apply during the operation and maintenance to ensure personnel safety and health. Portions of this information may be included in certain sections of this manual for emphasis. Specific precautions may be included in the text potentially hazardous operations in the form of warning or caution statements.

KEEP AWAY FROM LIVE CIRCUITS.

Operating personnel must at all times observe safety regulations. Do not replace components with the voltage supply turned on. To avoid injuries, always remove power and ground a circuit before touching it.

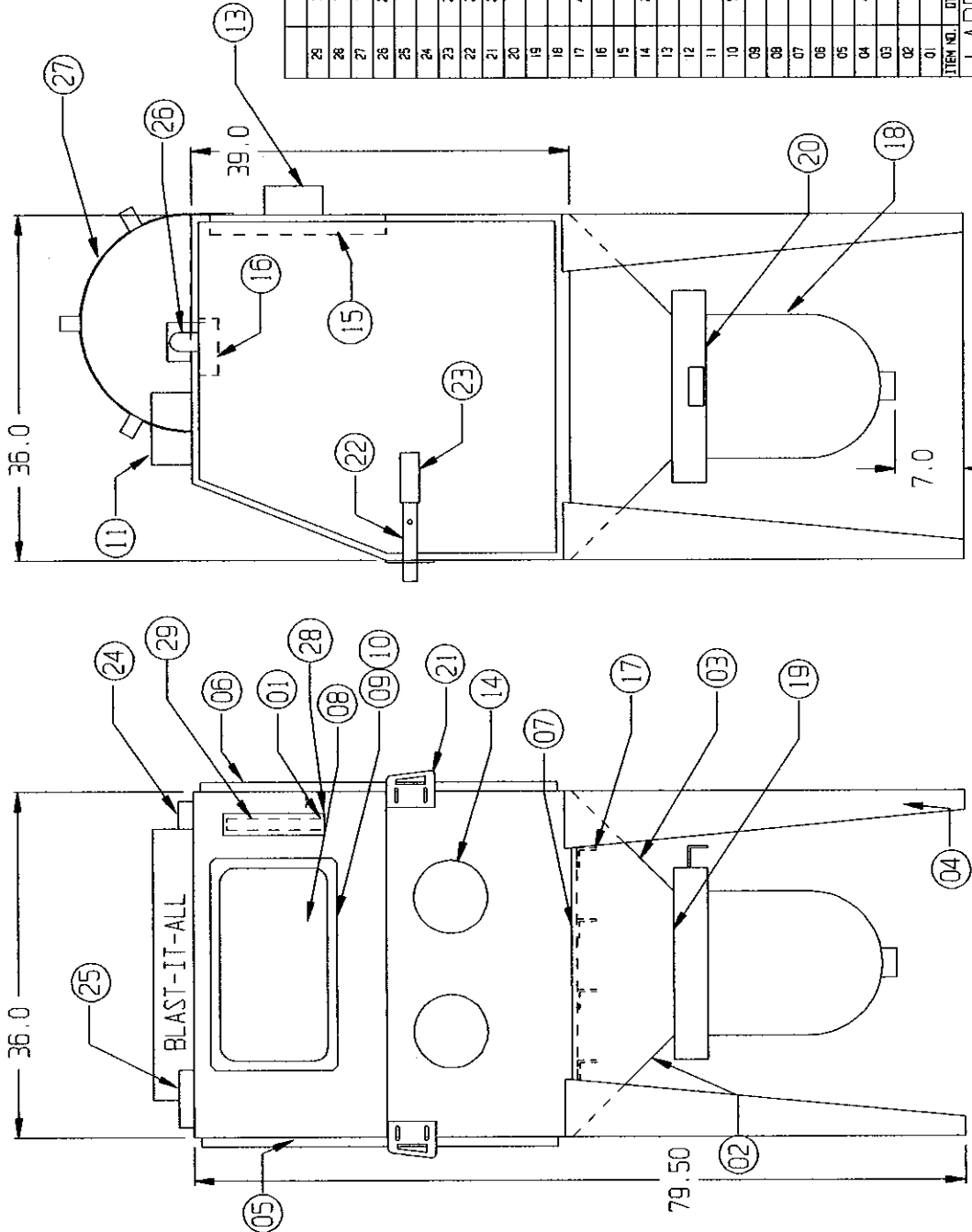
DO NOT WEAR JEWELRY.

Remove rings, watches, and other metallic objects that may cause shock or burn hazards.

DO NOT SERVICE OR ADJUST ALONE.

Do not attempt internal service or adjustment unless another person capable of rendering aid and resuscitation is present.

B159



ITEM NO.	QTY.	DESCRIPTION	ENG. NO. / MATERIAL
29	1	MOLAR GLASS PROTECTOR	A248
28	1	MOLAR DISPENSER	011191
27	1	HOSE HOLDER	011190
26	2	STRIKER PLATE	A688-3
25	1	CONTROL REGULATOR PANEL	D135-16
24	1	SAFETY VALVE PANEL	A170
23	2	GRIP	A117
22	2	HANDLE	A17001-03
21	2	LATCH	A17001-01
20	1	TRASH SCREEN	A250-01
19	1	SUMP FLANGE	A267
18	1	I.O. CLIFT. PRESSURE POT	A247-01
17	4	GRATE SUPPORT	A126-10
16	1	AIR BAFFLE	A320
15	1	OUTLET BAFFLE	A754
14	2	SUMP- IN GLOVE	REFER TO A799
13	1	400 BLOWER EXTENSION	A1032
12			
11	1	LIGHT BOX	B198
10	52'	FLEX TRIM W/ SEAL	3100-1/8"
09	1	WINDOW FRAME	A283
08	1	WINDOW	23-050
07	1	GRATE	A128-02
06	1	RIGHT DOOR	A242-02
05	1	LEFT DOOR	A242-01
04	4	LEG	A241-01
03	1	RIGHT SUMP	A240-02
02	1	LEFT SUMP	A240-01
01	1	HOUSING	A236

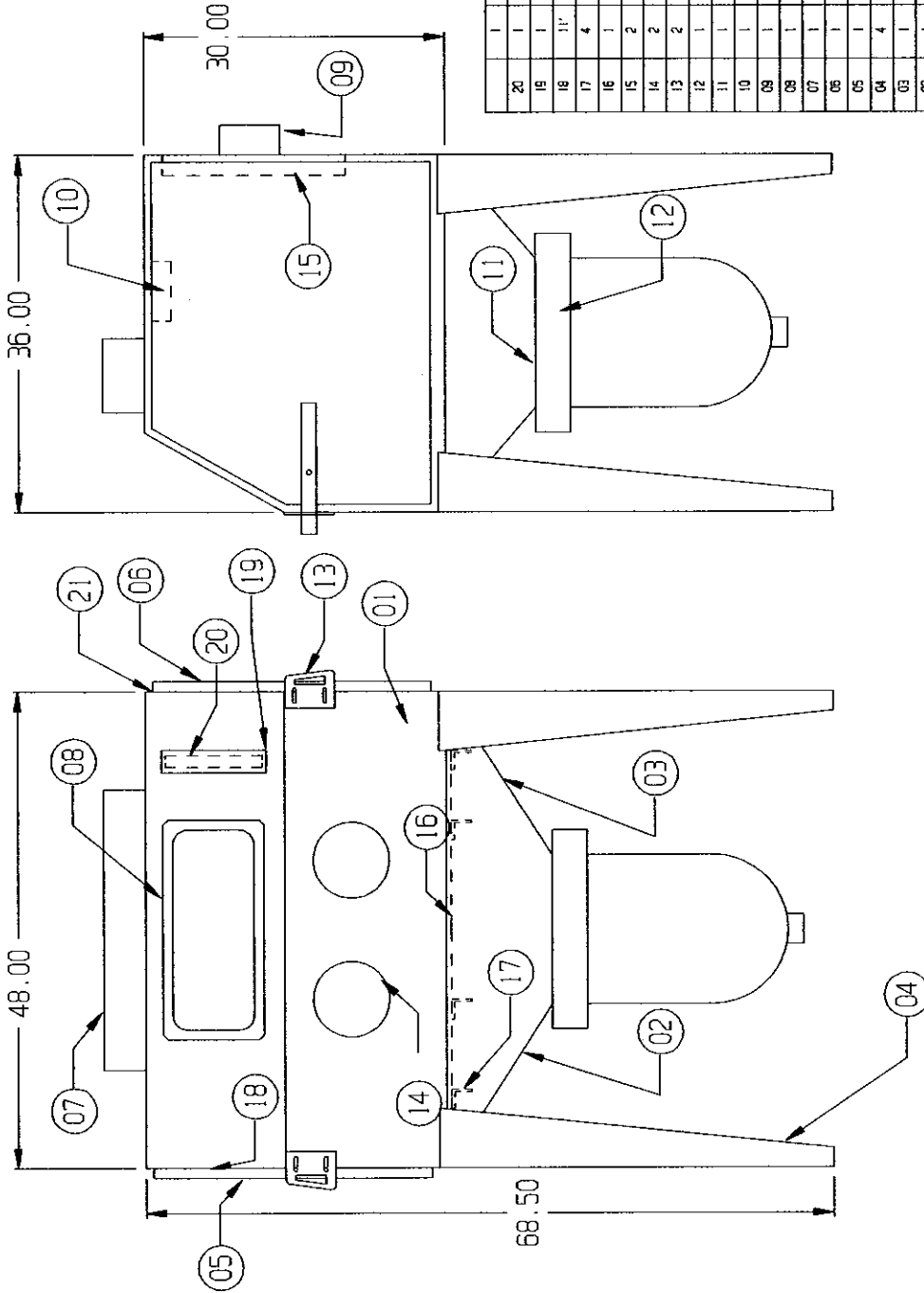
DESCRIPTION: 3636-P		MATERIAL:	
LARRY HESS & ASSOCIATES, INC. SALISBURY, NORTH CAROLINA			
DATE:	SCALE:	BY:	CHKD:
09/15/83	1" = 1'	S.T.D.	
DRAWING NO.:			B159

CONFIDENTIAL

THE DISCLOSURE AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND ARE THE EXCLUSIVE PROPERTY OF LARRY HESS & ASSOCIATES, INC. THIS DRAWING IS NOT TO BE COPIED OR REPRODUCED WHOLLY OR IN PART WITHOUT WRITTEN PERMISSION OF LARRY HESS & ASSOCIATES, INC.

REV.	DESCRIPTION	BY	DATE
4	CONVERT TO CAD		3/3/89
3			8/25/88
2			4/27/88
1			5/30/84

B179



ITEM NO.	QTY.	DESCRIPTION	DWG. NO. / MATERIAL
01	1	HOUSING	482
02	1	LEFT SUMP	A275-01
03	1	RIGHT SUMP	A275-02
04	4	LEG	A241-01
05	1	LEFT DOOR	A242-01
06	1	RIGHT DOOR	A242-02
07	1	LIGHT BOX	B169
08	1	WINDOW ASSY.	A311
09	1	FLEX HOSE ADAPTOR	08028
10	1	AIR BAFFLE	A453
11	1	SUMP FLANGE	A247
12	1	TRASH SCREEN	A267
13	2	LATCH & HANDLE	A250
14	2	SUMP - IN GLOVE	REFER TO A799
15	2	DUCKET BAFFLE	A754
16	1	GRATE	A126-5
17	4	GRATE SUPPORT	A126-13
18	11'	DOOR GASKET 11' PER DOOR	24-025-11
19	1	MILAR DISPENSER	011190
20	1	MILAR GLASS PROTECTOR	011191
21	1	CUT SHEET	A458

LARRY HESS & ASSOCIATES, INC.
SALISBURY, NORTH CAROLINA

DESCRIPTION:	4836-P
MATERIAL:	
DATE:	01.12.03/87
BY:	
REV.:	
SCALE:	1" = 1'
STUD.:	
REV. DATE:	

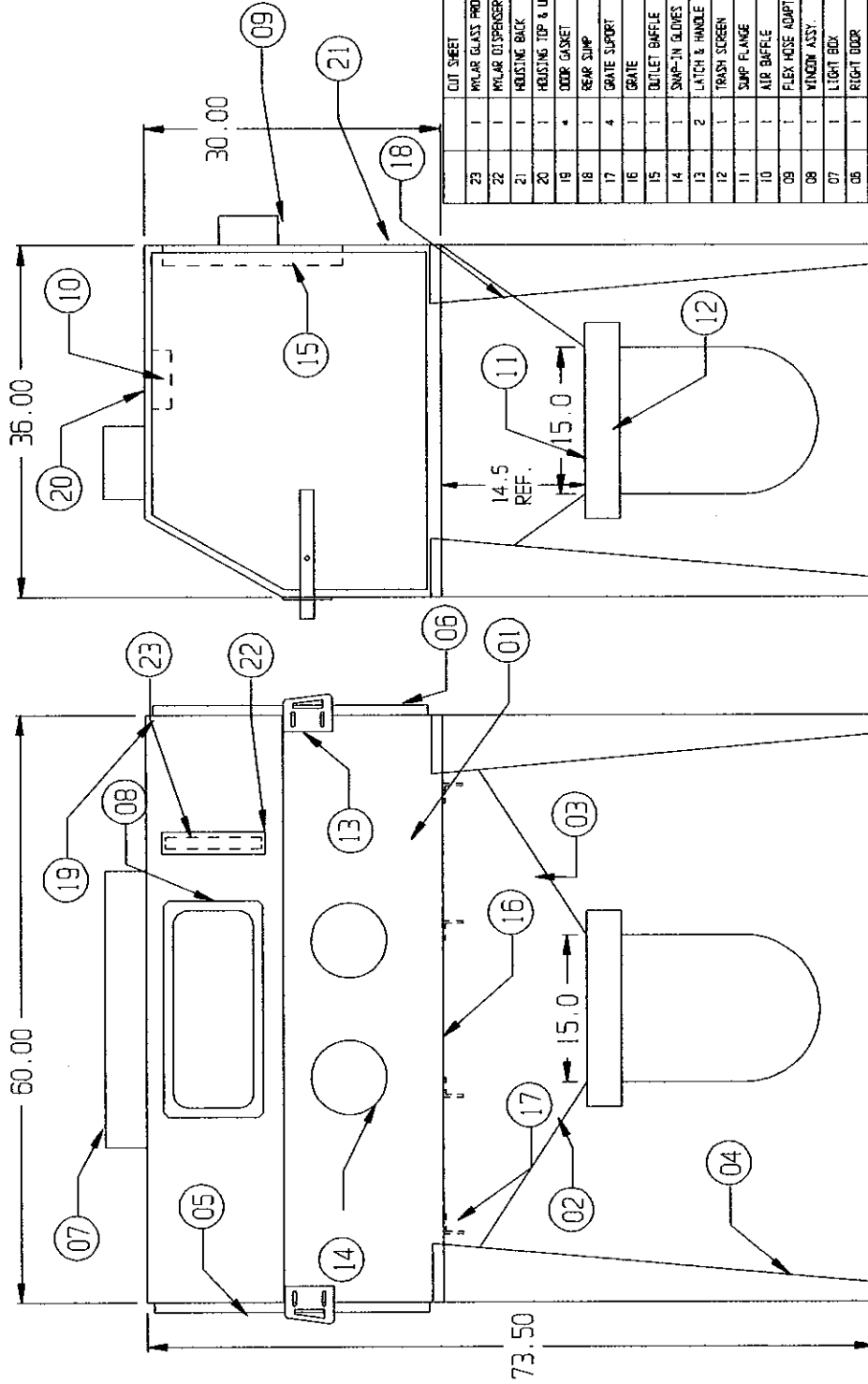
CONFIDENTIAL

THE DISCLOSURES AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND ARE THE EXCLUSIVE PROPERTY OF BLAST-IT-ALL (INC) A DIV. OF LARRY HESS & ASSOCIATES, INC. THIS DRAWING IS NOT TO BE COPIED OR REPRODUCED WHOLLY OR IN PART WITHOUT WRITTEN PERMISSION OF LARRY HESS & ASSOCIATES, INC.

REV.	DESCRIPTION	BY	DATE
3	CONVERT TO CAD	L.F.	3/2/98
2		DEC	7/31/98
1		D.S.	3/24/98

B179

B259-M



* SPECIFY LENGTH

ITEM NO.	QTY.	DESCRIPTION	DWG NO. / MATERIAL
23	1	MILAR GLASS PROTECTOR	A798 011191
22	1	MILAR DISPENSER	011190
21	1	HOUSING BACK	A790
20	1	HOUSING TOP & UPPER FRONT	A765
19	4	DOOR GASKET	24-025
18	1	REAR SUMP	A787
17	4	GRATE SUPPORT	A126-13
16	1	GRATE	A126-15
15	1	OUTLET BAFFLE	A754
14	1	SUMP-IN GLOVES	REFER TO A799
13	2	LATCH & HANDLE	A453
12	1	TRASH SCREEN	A267
11	1	SUMP FLANGE	A247
10	1	AIR BAFFLE	A453
09	1	FLEX HOSE ADAPTOR	A12765
08	1	WINDOW ASSY.	A311
07	1	LIGHT BOX	B169
06	1	RIGHT DOOR	A792-02
05	1	LEFT DOOR	A792-01
04	4	LEG	A791
03	1	RIGHT SUMP	A786-02
02	1	LEFT SUMP	A786-01
01	1	HOUSING LOWER FRONT	A788

LARRY HESS & ASSOCIATES, INC.
SALISBURY, NORTH CAROLINA

DESCRIPTION:	6036-P
MATERIAL:	
DATE:	DEC 10/26/05
BY:	
SCALE:	1" = 1'
REV. NO.:	B259-M

CONFIDENTIAL

THE DISCLOSURES AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND ARE THE EXCLUSIVE PROPERTY OF BLAST-IT-ALL A DIV. OF LARRY HESS & ASSOCIATES, INC. THIS DRAWING IS NOT TO BE COPIED OR REPRODUCED WHOLLY OR IN PART WITHOUT WRITTEN PERMISSION OF LARRY HESS & ASSOCIATES, INC.

REV.	DESCRIPTION	BY	DATE

LARRY HESS & ASSOCIATES

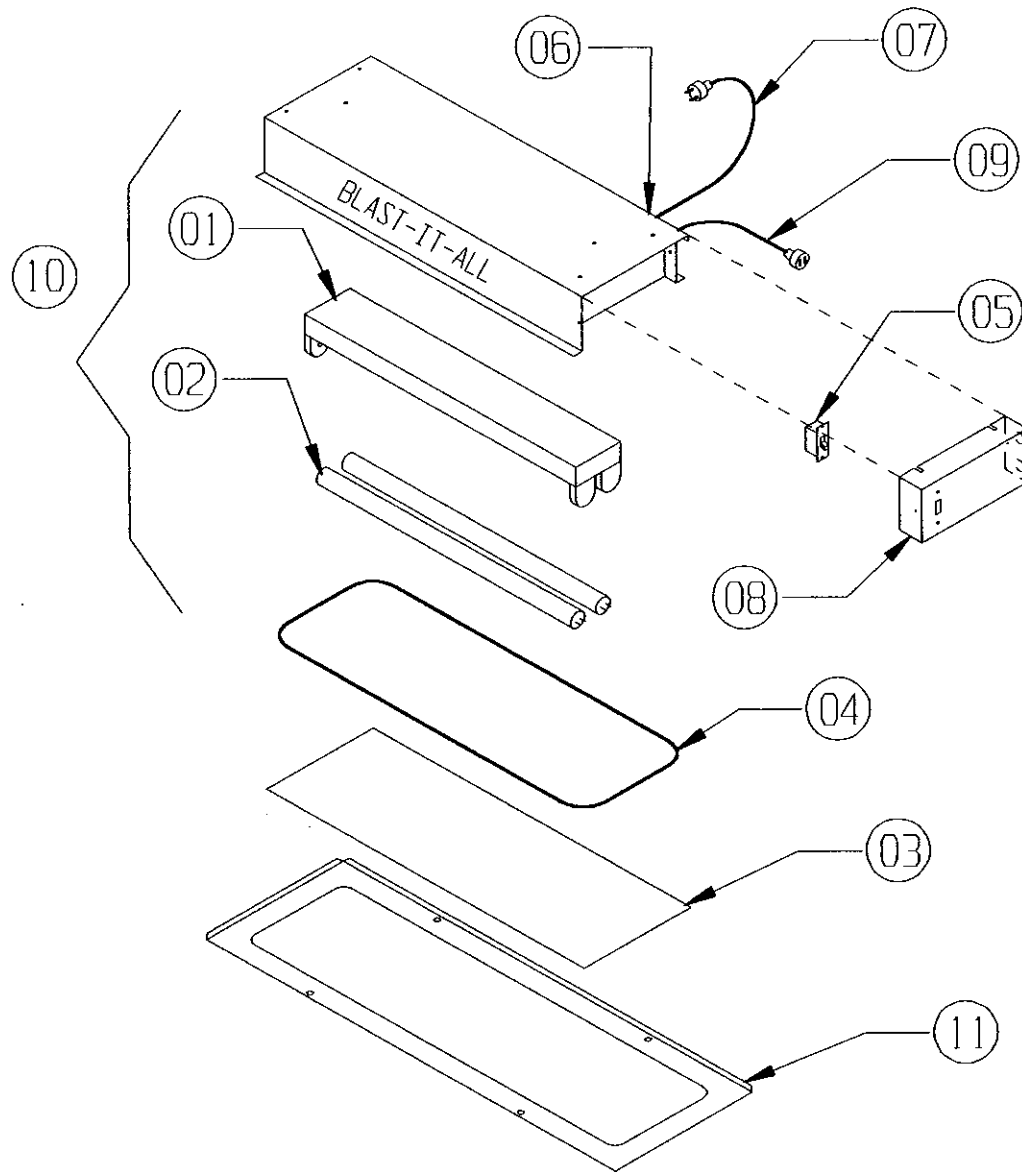
DESCRIPTION

BIA LIGHT BOX

DATE
4/23/96

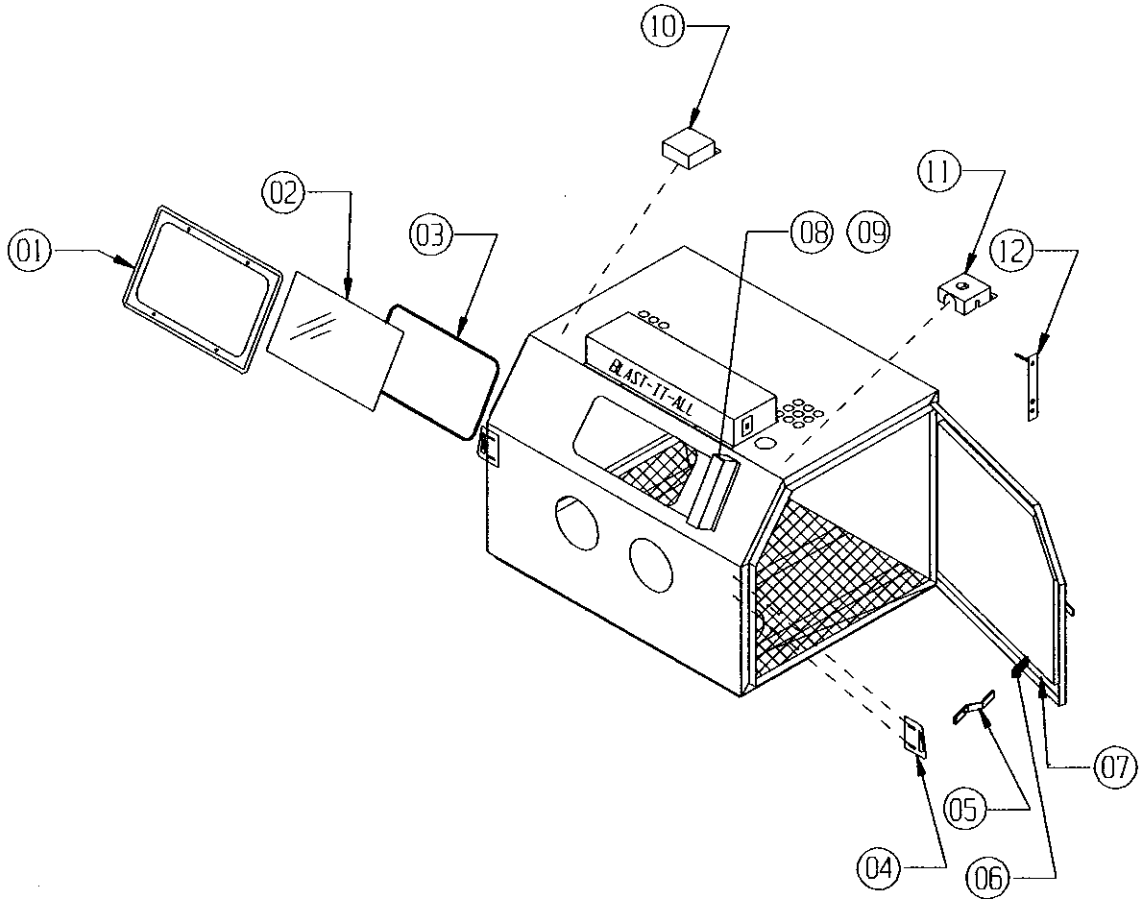
ENGINEER
DEC

DRG. NO.
M129



ITEM NO.	PART NO.	DESCRIPTION
1	13-533	FLUORESCENT FIXTURE, (NO TUBES)
2	13-534	24" FLUORESCENT TUBE
3	23-058	PROTECTOR, LIGHT
4	23-059	GASKET
5	13-655	SWITCH
6	13-605	ROUND CONNECTOR
7	13-550	POWER CORD, 3 WIRE
8	B198-2	SWITCH MOUNTING PLATE
9	010172F	CORD WITH FEMALE PLUG
10	010801	COMPLETE LIGHT BOX (EXCEPT 3 & 4 & 11)
11	A506	LIGHT BOX WINDOW FRAME

LARRY HESS & ASSOCIATES
 DESCRIPTION STANDARD MACHINE REPLACEMENT PARTS
 DATE 05/09/06
 ENGINEER DEC
 DWG. NO. M157



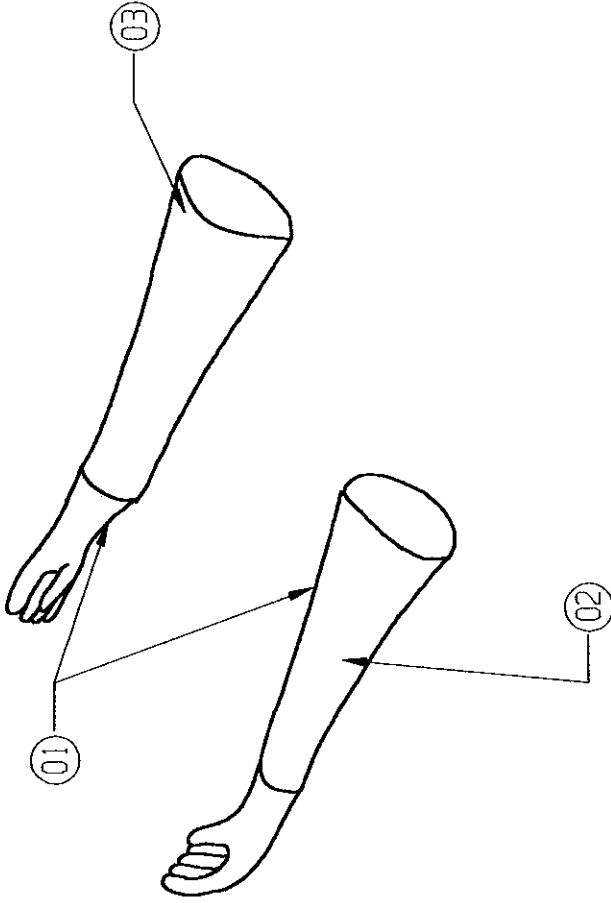
ITEM NO.	PART NO.	DESCRIPTION
1	23-053	WINDOW FRAME
2	23-050	WINDOW, VIEWING
3	24-059	WINDOW GASKET (SPECIFY LENGTH)
4	15-730	DOOR STRIKER (EITHER SIDE)
5	15-719	DOOR CAM (EITHER SIDE)
6	15-720	DOOR CAM RUBBER GRIP
7	-----	DOOR GASKET (REFER TO CHART #1)
8	011191	MYLAR GLASS PROTECTOR
9	011190	MYLAR HOLDER
10	A117	SAFETY VALVE PANEL
11	A7170	CONTROL REGULATOR PANEL
12	A237	SAFETY DOOR CONTROL ARM

CHART #1

MACHINE MODEL	DOOR GASKET NO.
3636	24-025-12'
4836	24-025-13'
6036	24-025-13'

* EACH DOOR

A799



03	1	RIGHT GLOVE	22-112
02	1	LEFT GLOVE	22-111
01	1	PAIR SNAP-IN GLOVES	22-110
ITEM NO.	QTY.	DESCRIPTION	DMG. NO. / MATERIAL

LARRY HESS & ASSOCIATES, INC.
SALISBURY, NORTH CAROLINA

DESCRIPTION:
SNAP-IN GLOVES

MATERIAL:

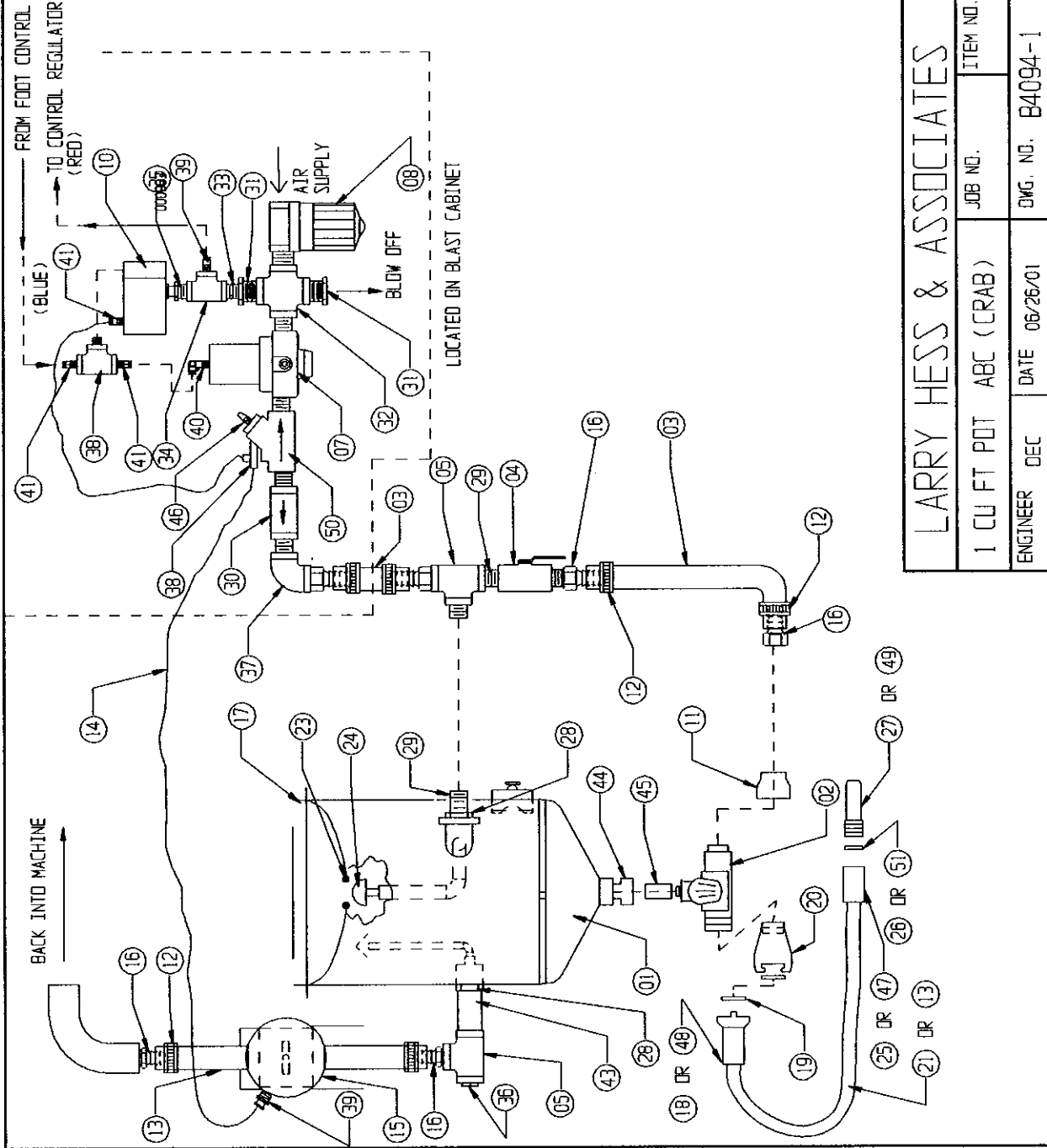
DATE: 08/17/88
JOB NO. STD.
DRAWING NO.: A799

CONFIDENTIAL

THE DISCLOSURES AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND ARE THE EXCLUSIVE PROPERTY OF BLAST-IT-ALL® A DIV. OF LARRY HESS & ASSOCIATES, INC. THIS DRAWING IS NOT TO BE COPIED OR REPRODUCED WHOLLY OR IN PART WITHOUT WRITTEN PERMISSION OF LARRY HESS & ASSOCIATES, INC.

REV. DESCRIPTION BY DATE

51	1	WASHER, NEW 1" ID x 1-1/2	14-113
50	1	VALVE, AIR 3/4"	14-157
49	1	NOZZLE, 1-1/4" THREADS	20-622
48	1	QUICK CONNECT COUPLER 3/4" HOSE	14-102
47	1	HOLDER, HOLDER 1-1/4" THREADS	14-109
46	1	MUFFLER, 1/8"	000983
45	1	NIPPLE, 1-1/4" CLOSE	14-350
44	1	BUSHING, 2" x 1-1/4"	14-528
43	1	NIPPLE, 3/4" x 3" LG.	14-520
42	1	NIPPLE, 1/8" CLOSE	001151
41	3	FITTING, STRAIGHT CONNECTOR 1/8" x 1/4"	16-951
40	1	FITTING, 90° ELBOW CONNECTOR 1/4" x 1/4"	003083
39	2	FITTING, STRAIGHT CONNECTOR 1/4" x 1/4"	004623
38	1	TEE, 1/8" BRASS	14-326
37	1	STREET ELL, 3/4"	14-466
36	1	PLUG, 3/4"	000835
35	1	BUSHING, 1/4" x 1/8"	14-389
34	1	TEE, 1/4" BRASS	14-329
33	1	NIPPLE, 1/4" CLOSE	14-320
32	1	CROSS, 3/4"	14-516
31	2	BUSHING, 3/4" x 1/4"	14-386
30	1	VALVE, CHECK IN-LINE	006271
29	7	NIPPLE, CLOSE 3/4"	14-341
28	2	BUSHING, 1" x 3/4"	14-371
27	1	NOZZLE, 1/4"	20-602
26	1	WASHER, NEW 1/2" ID x 1-1/8"	14-114
25	1	HOLDER, NOZZLE 3/4" THREADS	14-108
24	1	VALVE, POP-UP	16-706 U
23	1	SEAL, POP-UP	16-707
22	1	PURGE ADAPTOR	010077
21	*	HOSE, BLAST 1/2" ID X 1-1/8" OD SPECIFY LG	18-100
20	1	TANK CONNECT 1-1/4 FPT 2 PRONG AL	14-117
19	2	WASHER, DC & TC	14-107
18	1	QUICK CONNECT OD 2 PRONG AL 1/2" HOSE	14-101
17	1	SCREEN DRAWER ASMB.	010580
16	6	3/4" K.C. NIPPLE	002834
15	1	PINCH VALVE ASMB.	16-1015
14	*	TUBING 1/4" OD VINYL SPECIFY LENGTH	18-111
13	*	HOSE, BLAST 3/4" ID X 1-1/2" OD SPECIFY LENGTH	18-101
12	4	CLAMP	21-031
11	1	BELL REDUCER 1 1/2 X 3/4	006227
10	1	VALVE 3-FORT AIR/SPRING	16-832
09	1	TEE	16-950
08	1	AIR FILTER 3/4" FPT	16-987
07	1	REGULATOR, PILOT OPERATED 3/4" FPT	16-996
06			
05	2	TEE 3/4" 150# MI	14-509
04	1	VALVE, BALL 3/4"	14-464
03	*	HOSE, AIR 3/4" I.D.	18-080
02	1	MICRO VALVE	16-878
01	1	PRESSURE POT 1 CU. FT.	16-935

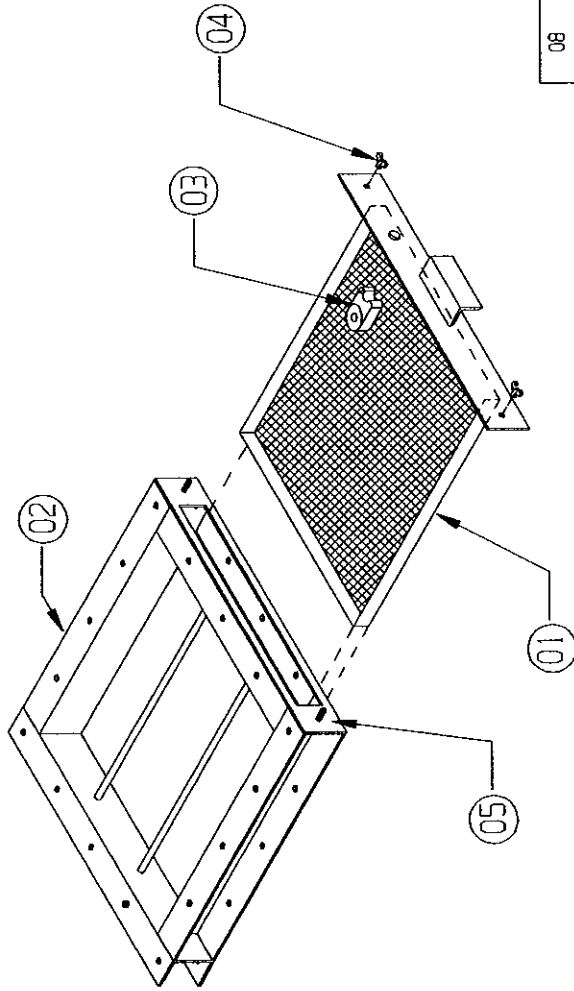


LARRY HESS & ASSOCIATES

1 CU FT POT ABC (CRAB) JOB NO. ITEM NO.

ENGINEER DEC DATE 06/26/01 DWG. NO. B4094-1

A267



CONFIDENTIAL

THE DISCLOSURES AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND ARE THE EXCLUSIVE PROPERTY OF BLAST-IT-ALL, A DIV. OF LARRY HESS & ASSOCIATES, INC. THIS DRAWING IS NOT TO BE COPIED OR REPRODUCED WHOLLY OR IN PART WITHOUT WRITTEN PERMISSION OF LARRY HESS & ASSOCIATES, INC.

REV.	DESCRIPTION	BY	DATE
#1	MADE MANUAL DWG.	DEC	5/28/03

08				
07				
05	3 FT. 1/8" x 3/4" GASKET		24-021	
04	2 1/4" WING NUT		30-510	
03	1 VIBRATOR (OPTIONAL)		16-919	
02	1 TRASH SCREEN HOUSING		A268	
01	1 REPLACEMENT DRAWER (1/4" HOLES)		010581-1	
01	1 REPLACEMENT DRAWER (3/16" HOLES)		010581	
ITEM NO.	QTY.	DESCRIPTION	DWG. NO./ MATERIAL	

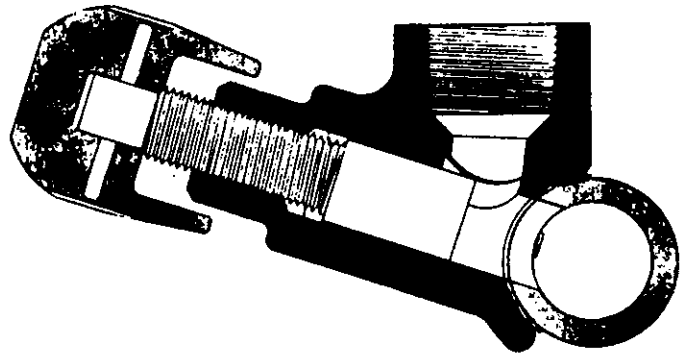
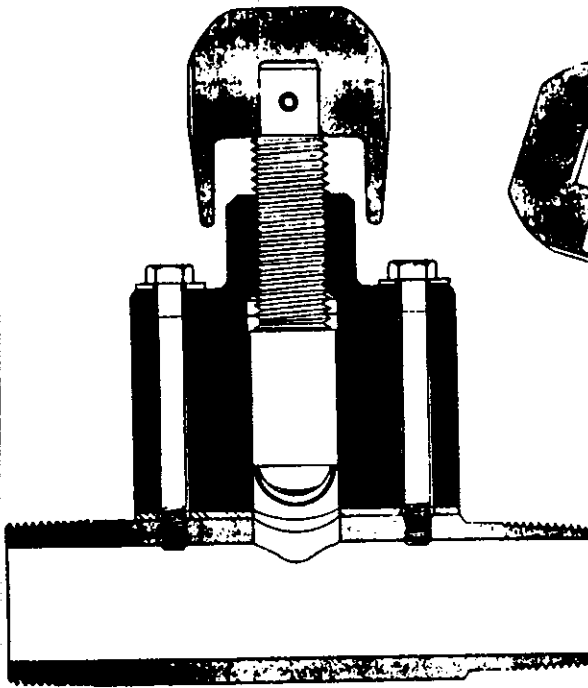
LARRY HESS & ASSOCIATES, INC.
SALISBURY NORTH CAROLINA

DESCRIPTION: TRASH SCREEN ASM.
010580

MATERIAL:

DRAWING NO.: A267

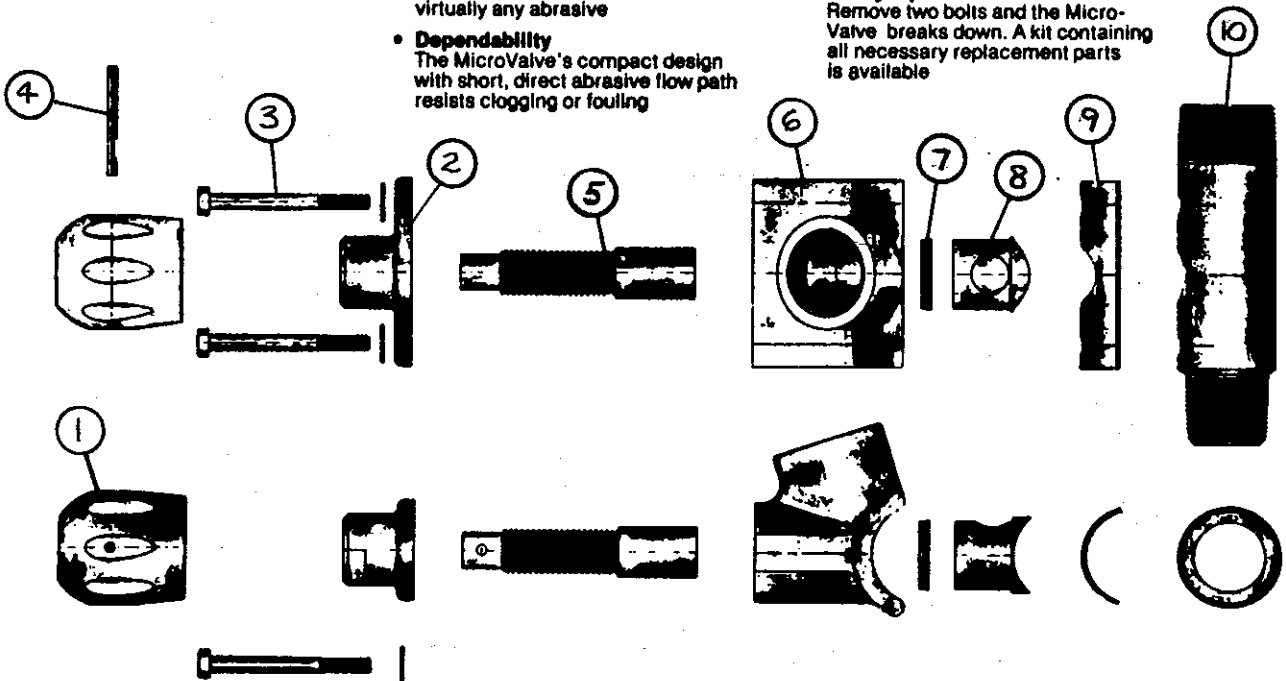
DRAWN BY: S. K.	DATE: 1/19/94	SCALE: 3/32" = 1"	JOB NO. STD.
CHK'D BY:	DATE:	FRACTIONAL: DECIMAL:	REV. ASS'Y: ASSEMBLER:



BLAST-IT-ALL'S MicroValve is the ultimate in control, flexibility, dependability, and durability in abrasive metering. With a simplified design the MicroValve yields the best performance and longest life of any metering device.

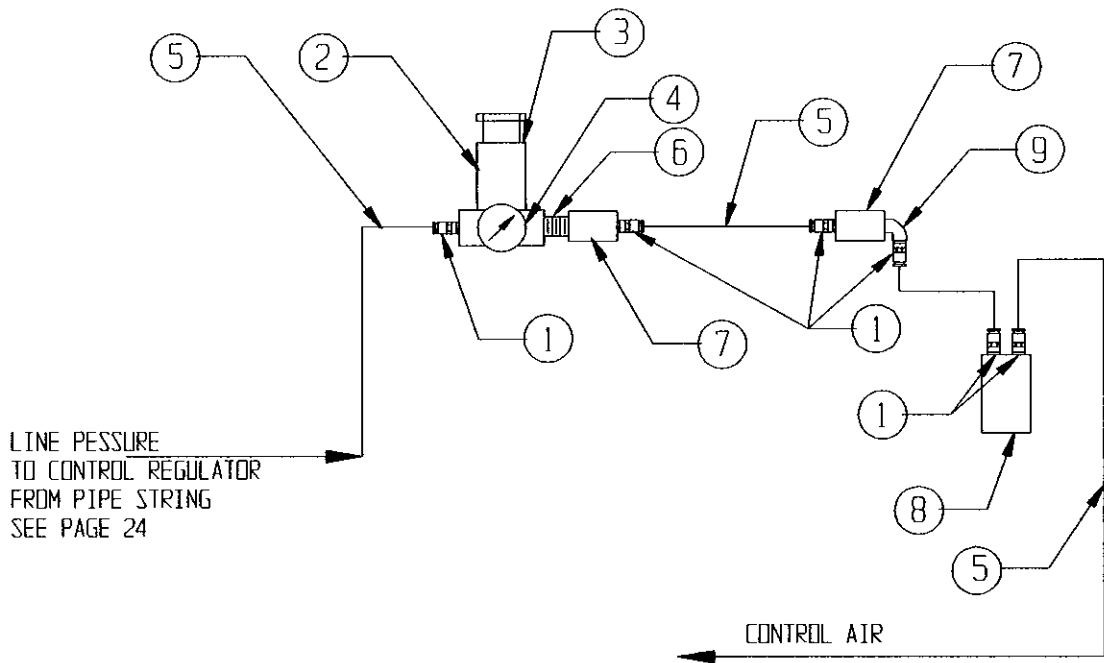
- **Control**
The MicroValve gives precise, accurate abrasive metering through infinitely adjustable control
- **Flexibility**
The MicroValve controls the flow of virtually any abrasive
- **Dependability**
The MicroValve's compact design with short, direct abrasive flow path resists clogging or fouling

- **Durability**
The MicroValve features a tough anodized aluminum body as well as a hardened 17.4 ph stainless steel plunger and sleeve for long life
- **Easily repairable**
Remove two bolts and the MicroValve breaks down. A kit containing all necessary replacement parts is available

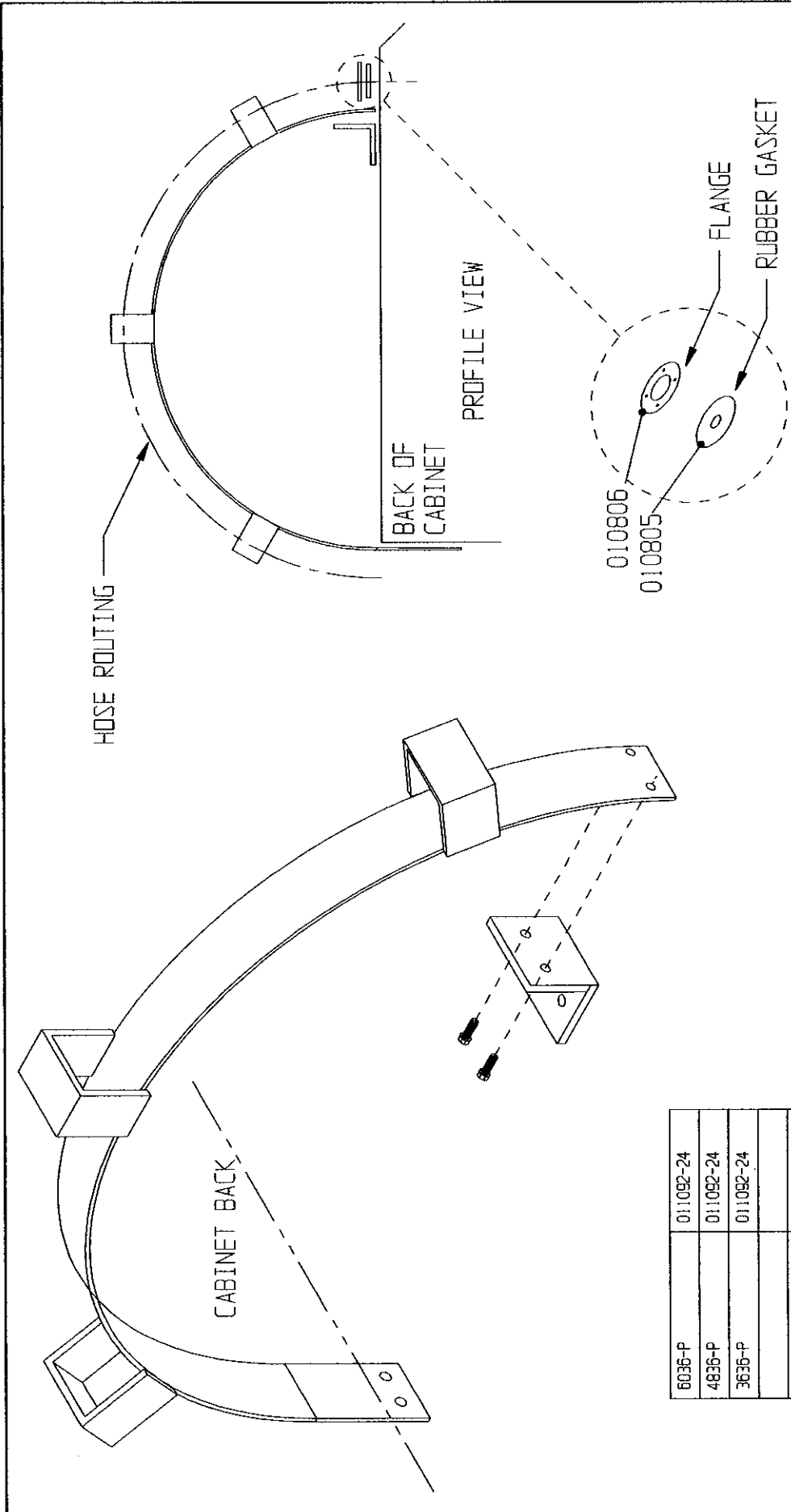


ITEM	DESCRIPTION	PART #	ITEM	DESCRIPTION	PART #
1	KNOB	20-202	6	BODY	20-207
2	CAP	20-203	7	SEAL	20-208
3	BOLT	20-204	8	SLEEVE	20-209
4	ROLL PIN	20-205	9	GASKET	20-210
5	PLUNGER	20-206	10	NIPPLE, INLET	20-211

LARRY HESS & ASSOCIATES
 DESCRIPTION PRESSURE AIR CONTROL
 DATE 5/01/96
 ENGINEER DEC
 Dwg. No. M7024



ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	16-951	7	FITTING 1/4" TUBE x 1/8" NPT
2	001564	1	REGULATOR, 1/8"
3	001564-N	1	NUT FOR REGULATOR
4	16-820	1	GAUGE, 1/8" BACK
5	18-111	*	TUBING 1/4", O.D, VINYL
6	002405	1	CLOSE NIPPLE, 1/8"
7	010600	2	VALVE. AIR 1/8" 3-WAY (SAFETY DOOR)
8	003190	1	VALVE. AIR (FOOT CONTROL)
9	001129	1	1/8" STREET ELL



6036-P	011092-24
4836-P	011092-24
3636-P	011092-24
CABINET MODEL (BIA)	SUPPORT NO.

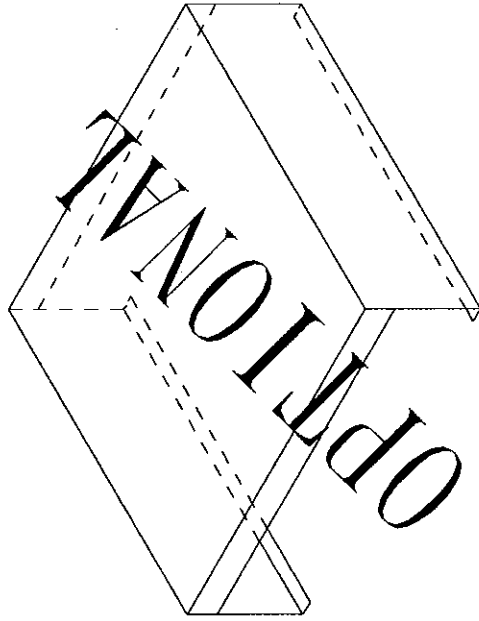
CONFIDENTIAL

THE DISCLOSURES AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND ARE THE EXCLUSIVE PROPERTY OF BLAST-IT-ALL © A DIV. OF LARRY HESS & ASSOCIATES, INC. THIS DRAWING IS NOT TO BE COPIED OR REPRODUCED WHOLLY OR IN PART WITHOUT WRITTEN PERMISSION OF LARRY HESS & ASSOCIATES, INC.

LARRY HESS & ASSOCIATES, INC. SALISBURY NORTH CAROLINA		MATERIAL:	
DESCRIPTION: BLAST HOSE TOP SUPPORT ASSEMBLY		DRAWING NO.: A698-MSP	
DATE: DEC	DATE: 05/10/06	SCALE: N.T.S.	JOB NO: STD.
CHK'D BY:	DATE:	FRACTIONAL: DECIMAL:	NET ASY:

REV:	DESCRIPTION	BY	DATE
------	-------------	----	------

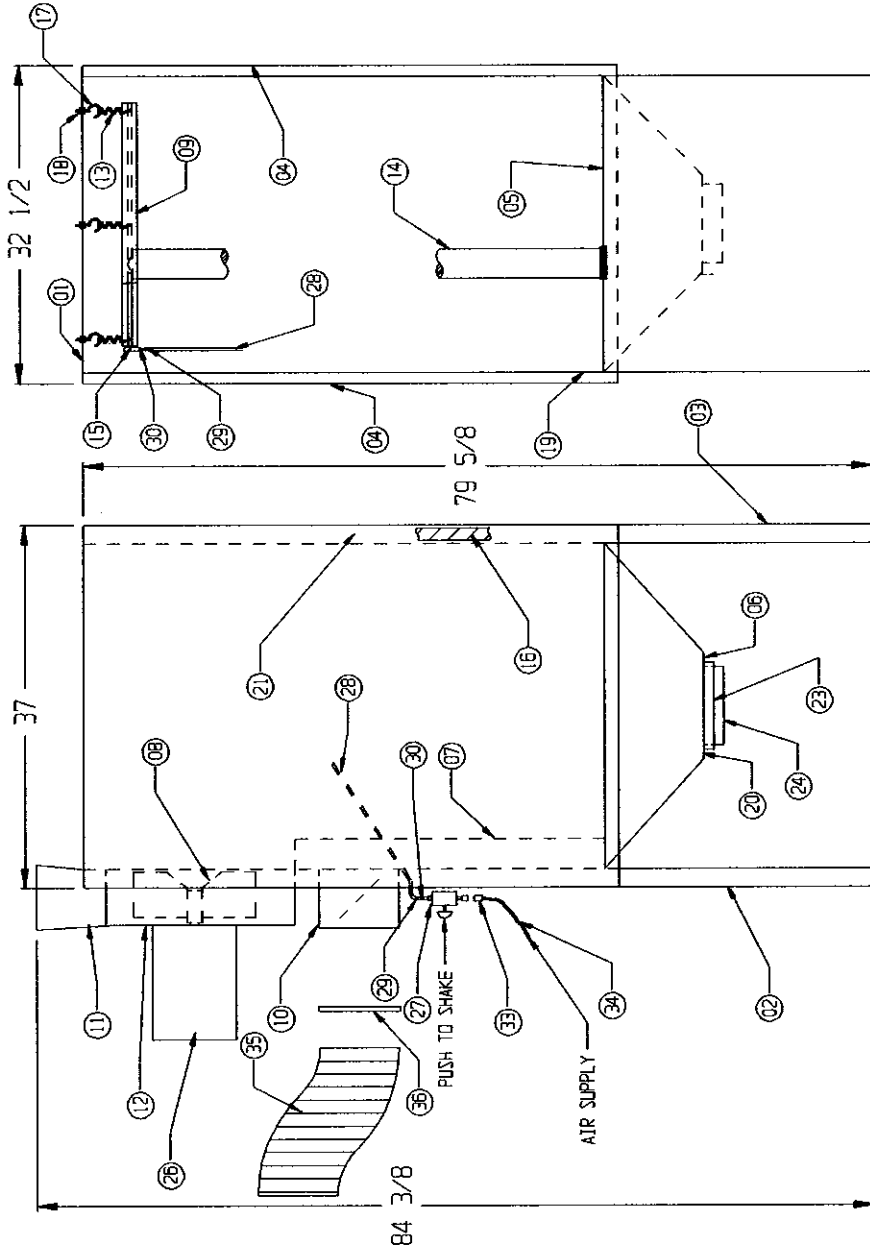
A807



LARRY HESS & ASSOCIATES, INC. SALISBURY, NORTH CAROLINA		MATERIAL: 12 GA. x 28 x 41 1/2	
DESCRIPTION: 6036-P PLATFORM (BIA 6036-P)		DRAWING NO.: A807	
DATE: 05/03/06	SCALE: 3/32" = 1"	JOB NO.:	REV. ASTY.:
DATE:	FRACTIONAL: DECIMAL: ANGULAR:		

CONFIDENTIAL			
THE DISCLOSURES AND CONTENTS OF THIS DRAWING ARE CONFIDENTIAL AND ARE THE EXCLUSIVE PROPERTY OF BLAST-IT-ALL® A DIV. OF LARRY HESS & ASSOCIATES, INC. THIS DRAWING IS NOT TO BE COPIED OR REPRODUCED WHOLLY OR IN PART WITHOUT WRITTEN PERMISSION OF LARRY HESS & ASSOCIATES, INC.			
REV.	DESCRIPTION	BY	DATE

B2131



38			
37			
36	2	SCREW CLAMP (8")	21-038
35	8'	FLEX HOSE (8")	19-098
34	6'	1/4" PLASTIC HOSE	18-111
33	1	MALE CONNECTOR	000718
32	1	FLEX HOSE (7")	19-097
31	1	HEPA BOX (OPTIONAL)	A35025
30	2	1/8" x 1/4" HOSE BARB	14-316
29	2	1/4" SCREW CLAMPS	000496
28	3'	1/4" AIR HOSE	18-074
27	1	SHAKER VALVE 1/8"	16-830
26	1	MOTOR 2HP-220/440V 3PH	13-900
25	2	SCREW CLAMP (7")	21-037
24	1	OUTLET FLANGE 8" DIA.	000725
23	1	SLIDE GATE	000324
22	1	HEPA FILTER	006568
21	6	1/4" WING NUT	000305
20	80	1/4" x 3/4" LG. ROLLOX	000301
19	12	1/4" x 1" LG. ROLLOX	000377
18	12	3/16" HEX NUT	000378
17	6	3/16" EYE BELT	000379
16	50'	1/4" x 1" GASKET	000307
15	1	SHAKER	16-919
14	49	DUST BAG	11-349
13	6	SPRING	000347
12	1	BLOWER/MOTOR PLATE	11-920
11	1	BLOWER HOUSING ASS'Y.	11-916
10	1	INLET DAMPER ASS'Y. (8" DIA.)	001046
09	1	DUST BAG MOUNT ASS'Y.	A2507
08	1	BLADE ASS'Y.	11-718
07	1	D-20 PLENUM ASS'Y.	001051
06	1	SPACER	000328
05	1	JUMP ASS'Y.	A2506
04	2	DOOR PANEL	A2492
03	1	RIGHT SIDE PANEL	A2495
02	1	LEFT SIDE PANEL	A2496
01	1	TOP PLATE	A2494

ITEM NO. QTY. DESCRIPTION DWG. NO./ MATERIAL
 LARRY HESS & ASSOCIATES, INC.
 SALISBURY, NORTH CAROLINA

DESCRIPTION: D-20 DUST COLLECTOR ASS'Y. PER DWG.
 MATERIAL: PER DWG.
 DRAWING NO.: B2131

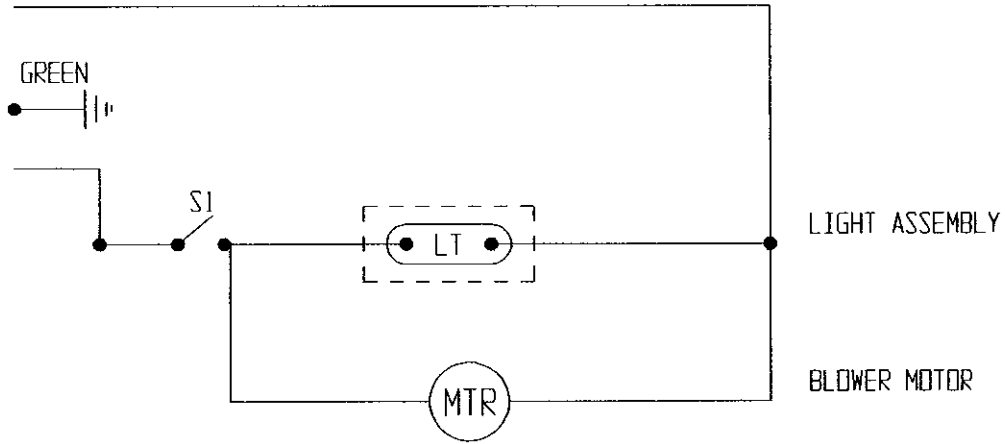
B2131

LARRY HESS & ASSOCIATES
 DESCRIPTION 120 V / 1 PHASE ELECTRICAL SCHEMATIC
 DATE 4/23/96
 ENGINEER DEC
 DWG. NO. A5107

REV. 03/02/05 BY DEC

120 VOLT SINGLE PHASE WIRING

WHITE (NEUTRAL)



SWITCH NO.	FUNCTION	PART NO.
SW1	MACHINE LIGHT - OFF/ ON	13-655
LT	LIGHT FIXTURE	13-655
MTR	MOTOR (1 HP SINGLE PHASE)	13-700
MTR	MOTOR (1/2 HP SINGLE PHASE)	13-400

DRG. NO. A5184

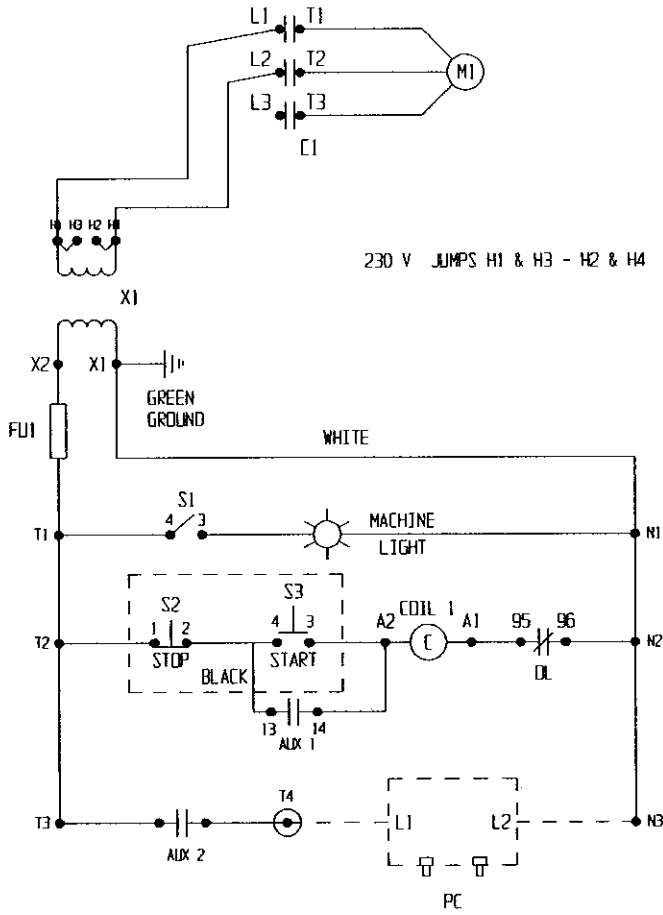
ENGINEER DEC

DATE 05/10/06

DESCRIPTION 208-230 1 PHASE ELECTRICAL SCHEMATIC

LARRY HESS & ASSOCIATES

208 / 230 VOLTS
1 PHASE

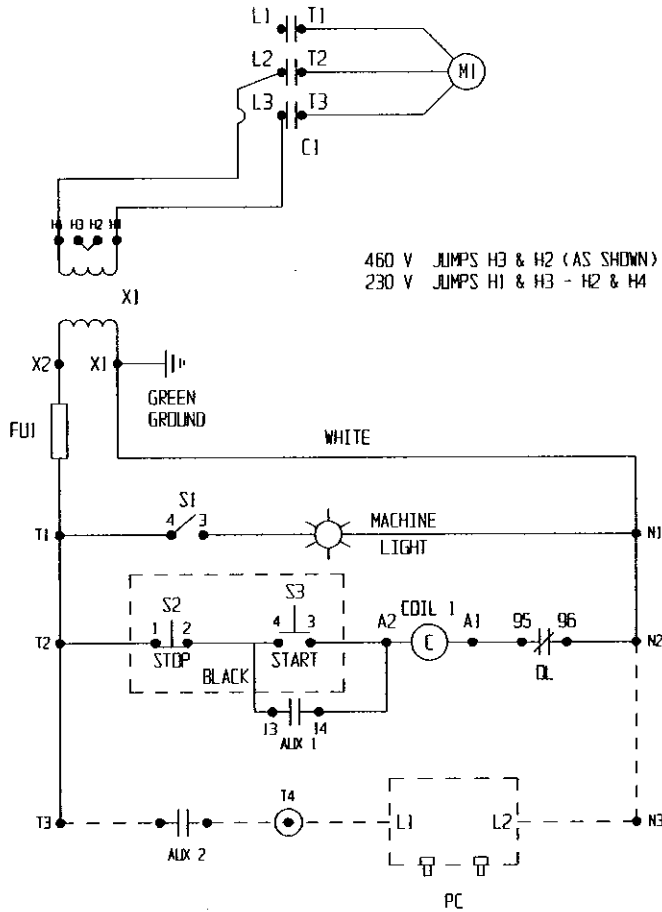


SWITCH NO.	FUNCTION	PART NO.
S1	MACHINE LIGHT - OFF/ ON	13-655
S2	M1 (PUSH TO STOP)	
S3	M1 (PUSH TO START) STARTS M1	
X1	TRANSFORMER (250 VA 2 LIGHTS)	000117
X1	TRANSFORMER (150 VA 1 LIGHT)	010222
FU1	FUSE	13-101-5A
FH	FUSE HOLDER	13-101
C1	CONTACTOR	010210-S
OL	OVERLOAD (230 V) 1HP	010211-S
M1	MOTOR (1 HP) 1 PH	13-700
PC	PULSE CONTROL BOARD (RPJ ONLY)	010453
AUX 1	AUXILLARY CONTACT (2 NO)	011720

LARRY HESS & ASSOCIATES
 DESCRIPTION 208-230/460 3 PHASE ELECTRICAL SCHEMATIC
 DATE 4/23/96
 ENGINEER DEC
 DWG. NO. B5102-M

REV. 03/02/05 BY DEC

208 / 230 / 460 VOLTS
3 PHASE



SWITCH NO.	FUNCTION	PART NO.
S1	MACHINE LIGHT - OFF/ ON	13-655
S2	M1 (PUSH TO STOP)	
S3	M1 (PUSH TO START) STARTS M1	
X1	TRANSFORMER (250 VA 2 LIGHTS)	000117
X1	TRANSFORMER (150 VA 1 LIGHT)	010222
FU1	FUSE	13-101-5A
FH	FUSE HOLDER	13-101
C1	CONTACTOR	010210-S
OL	OVERLOAD (230 V) 2 HP	010223-S
OL	OVERLOAD (460 V) 2 HP	010211-S
M1	MOTOR (2 HP) 3 PH	13-900
OL	OVERLOAD (230 V) 1HP	010211-S
OL	OVERLOAD (460 V) 1 HP	011795
M1	MOTOR (1 HP) 3 PH	13-701
PC	PULSE CONTROL BOARD (RPJ ONLY)	010453
AUX 1	AUXILIARY CONTACT (2 NO)	011720

WARRANTY

Larry Hess & Associates, Inc. Warrants to the original purchaser the merchandise sold to be free from defects in material and workmanship under normal use and service for a period of one (1) year. Upon prompt notification by the buyer, to LHA, components that are determined by LHA to be defective will be repaired or replaced at no additional charge, F.O.B. our factory.

Manufacturer shall have the right to inspect prior to replacing all merchandise in question.

This warranty does not apply to parts that are directly involved in the blasting operation. Example: gun, gun parts, viewing window, hose, gloves, etc.

Manufacturer shall not be required to pay any removal or installation charges whatsoever under this warranty.

Manufacturer shall not be liable for prospective profits, special or consequential damages, nor shall any recovery of any kind against manufacturer be greater in amount than the cost of repairs of defects in workmanship.

This warranty does not apply to damage caused by accidents, damage in transit, alterations by unauthorized personnel, abuse or damage by flood, fire, or acts of God, nor by artificially generated electric currents or any other cause whatsoever except defects in material or factory workmanship.

In all cases, defective parts must be returned to Larry Hess & Associates, Inc. before credit is issued.

If genuine BLAST-IT-ALL® replacement parts are not used, the warranty is void.

This warranty is in lieu of all other warranties expressed or implied and releases Larry Hess & Associates, Inc. of all other obligations and liabilities whatsoever. This warranty neither assumes nor authorizes any person to assume any obligation other than those specified by this warranty.

WARNING

DO NOT USE *SAND*. SAND WILL CAUSE SILICA DUST, WHICH IS THE CAUSE OF SILICOSIS DISEASE, A CONDITION OF MASSIVE FIBROSIS OF THE LUNGS. *THIS STATEMENT INDICATES POTENTIAL PERSONNEL HAZARD. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.*

BLAST-IT-ALL®
Larry Hess & Associates, Inc.
Airport Industrial Park
185 Piper Lane
P.O. Box 1615
Salisbury, NC 28145-1615