



PAGE 1 OF 2  
DATE: 7-15-1997  
REVISION:A  
W.O. NO: 62141  
CUSTOMER: EMHART  
LOCATION:

## INFRARAIL SPECIAL NUMBER R708

### PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL AIR REGULATION PANEL TO DISTRIBUTE CUSTOMER SUPPLIED AIR TO A MAXIMUM OF 4 DIFFERENT LOCATIONS. THIS SPECIAL REGULATION PANEL IS USED IN PART WITH SPECIAL R706, AND DISTRIBUTES AIR TO THE SPECIAL ENCLOSURES AND SENSORS INVOLVED WITH THAT SPECIAL. THE AIR REGULATION MODULE SPECIAL P.N. ARM-708 CONSISTS OF THE FOLLOWING:

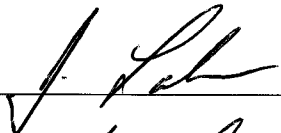
REGULATION PANEL 15" X 7"  
AIR FILTER/REGULATOR  
4 POSITION AIR PURGE MANIFOLD  
CUSTOMER CONNECTION KIT (FITTINGS AND PLUGS).

NOTE: THIS SPECIAL IS USED IN CONJUNCTION WITH SPECIALS R614 AND R706.  
REFERENCE EMHART P.N. ARM-708 .

### GENERILITY OF APPLICATION AND RESTRICTIONS:

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: \_\_\_\_\_



APPROVED BY: \_\_\_\_\_



DATE: \_\_\_\_\_

7.15-97

**INFRARAIL SPECIAL NUMBER R708**

REVISION: A  
DATE: 7-15-1997

**PRODUCTION INSTRUCTIONS:**

SECURE FROM ENGINEERING THE SPECIAL REGULATION PANEL ASSEMBLY.

**CALIBRATION INSTRUCTIONS:**

NOT REQUIRED.

**MANUAL INSTRUCTIONS:**

NOT REQUIRED.



# PURCHASE REQUISITION

Supplier

Meto-GRAPHICS INC.

Date 3-24-98

P.O. # \_\_\_\_\_

Requisitioner AMI DONADO

Purpose/Reason LABEL FOR

FMHART SPECIAL R708

Attn MIKE EMRICH

Phone (847) 639-0044

Date needed A.S.A.P.

FAX (847) 639-5144

Route to AMI DONADO

**Material Safety Data Information:**

New chemical MSDS received on \_\_\_\_\_  for sample only  routine use

Previously purchased chemical: Active Index No. \_\_\_\_\_

Qty	U/M	Part No.	Rev. Level	Description	Price Ea	Total	Acct or W/O No.
30		EX-4388		LABEL TO READ FM-4	227	6810	431-109-65074
30		EX-4390		LABEL TO READ 2SNP-R706	339	10170	11

Confirming to \_\_\_\_\_

Approval (under \$100 - Authorized Requisitioner) [Signature]

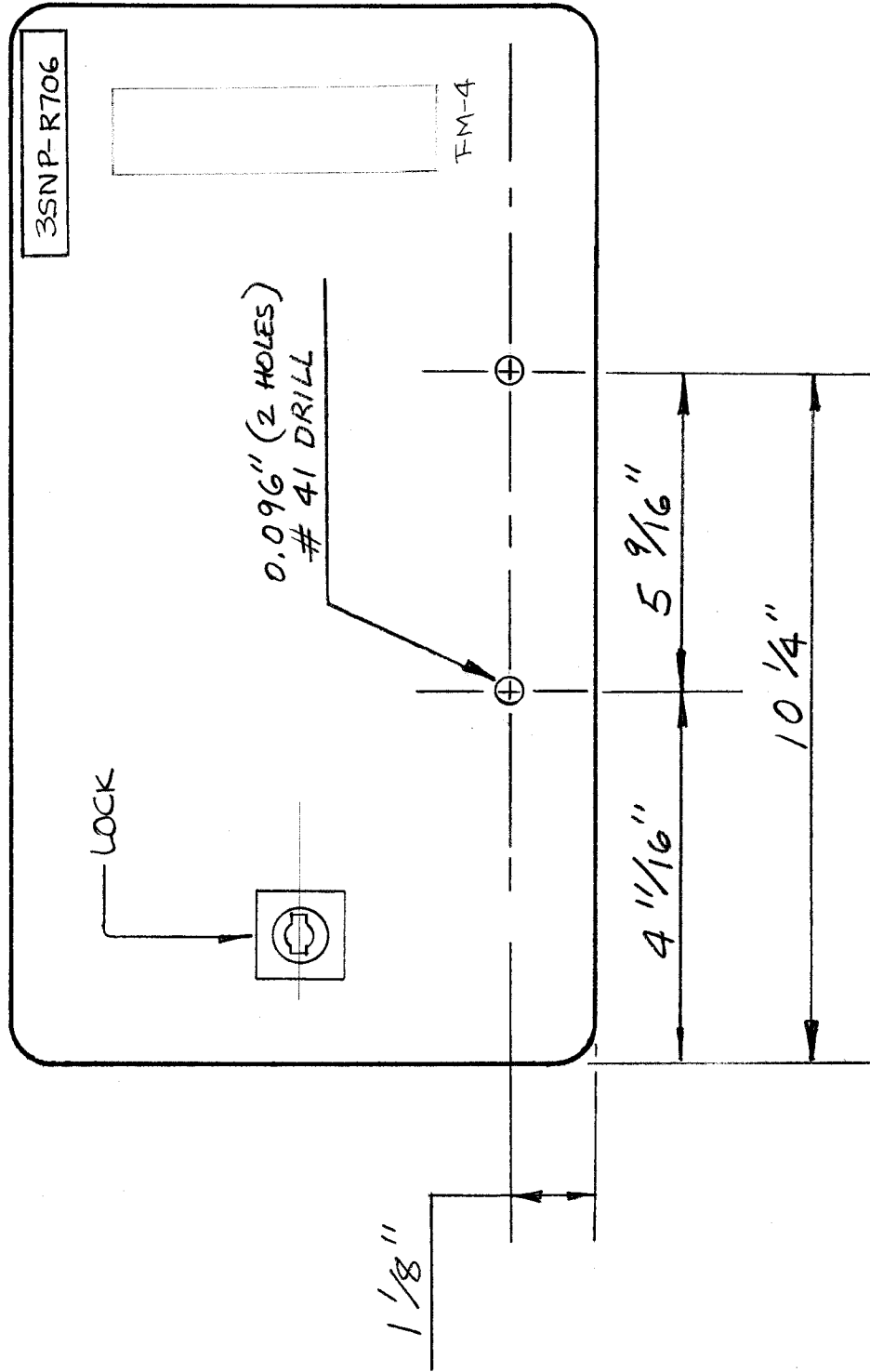
(\$100 - \$5000 - Department Manager) \_\_\_\_\_

(over \$5000 - General Manager) \_\_\_\_\_

Total \$ 16980

INFRARAIL ENCLOSURE DOOR  
(DRILL GUIDE FOR EMHART GLASS LABEL)  
SPECIAL R708

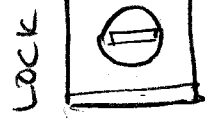
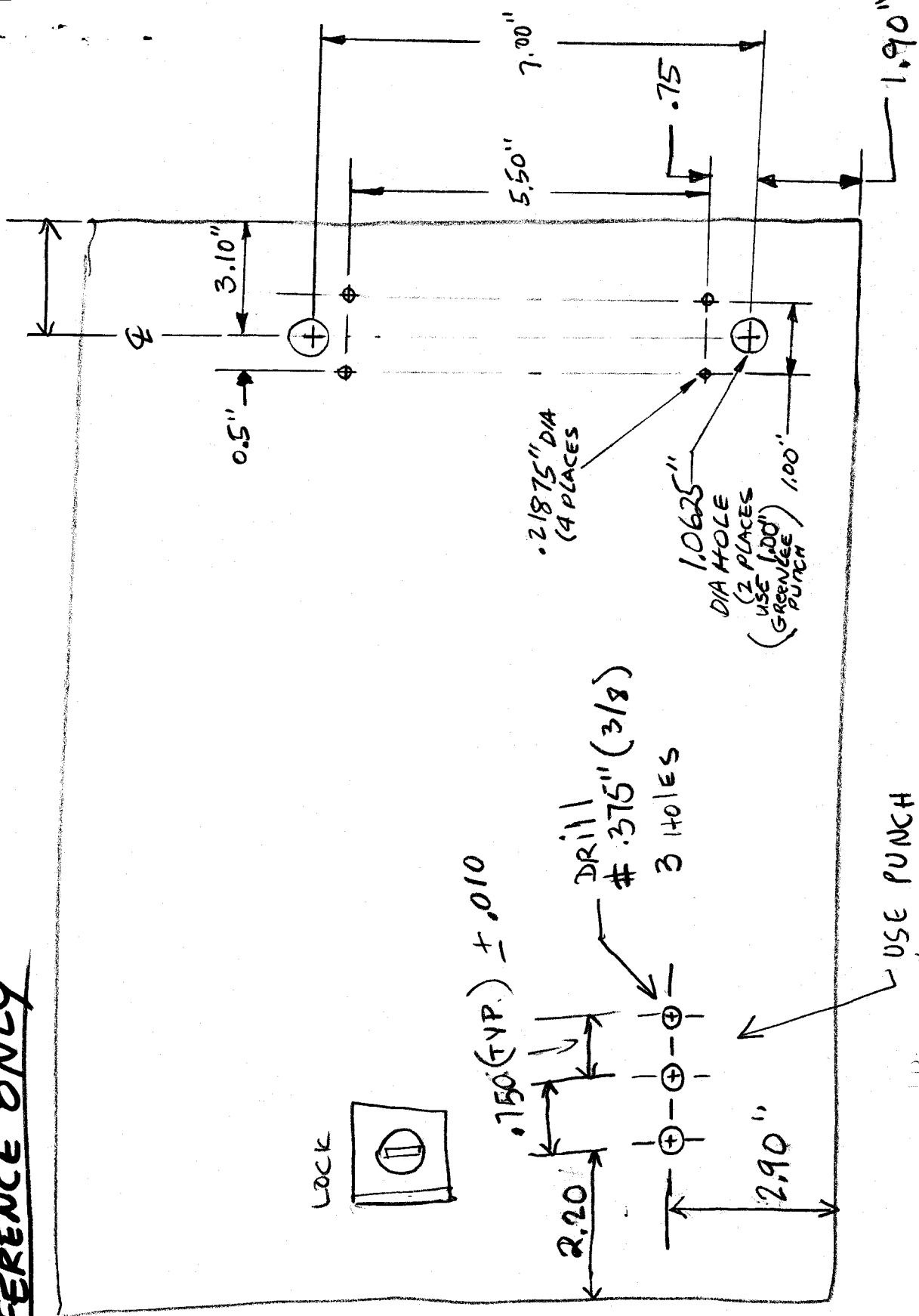
10-09-97  
A.D.



SAVE.

# DOOR DRILL GUIDE SPECIAL R708

FOR  
REFERENCE ONLY



0.150 (TYP.) ± 0.010

DRILL  
# .375" (3/8)  
3 HOLES

.21875" DIA  
(4 PLACES)

1.0625"  
DIA HOLE  
(2 PLACES  
USE (.001")  
GREENLEE  
PUNCH)

USE PUNCH  
# CP-5  
FOR 3 SQUARE  
HOLES  
(THERMACOUPLES)

## Section 1 — GENERAL INFORMATION

### 1.5 SPECIAL MODIFICATIONS

The customer has requested that Ircon, Inc. develop a special Glass Forehearth Temperature Measurement System comprised of an air regulation module and temperature sensor module(s). Depending on system requirements, the air regulation module PN ARM-R708 is capable of delivering air for 1 to 4 sensor module enclosures. The sensor module enclosures consist of 2 or 3 sensors with or without power supplies.

Part Numbers for the different module enclosures are as follows:

2S - R706	2 sensor module with a power supply
2SNP - R706	2 sensor module without power supply
3S - R706	3 sensor module with a power supply
3SNP - R706	3 sensor module without power supply

The sensor modules feature Ircon Infrarail Models DNFFE-99F temperature measurement systems calibrated for 4 - 20 mA DC linear output over a temperature range of 1800 - 2500°F and an optical resolution of D/30. Fiber Optics are connected to each of the sensors located inside the enclosure. Air flow from the Air Regulation Module is directed into the sensor module enclosure, through the Flow Meters, located on the outside of the front door of the enclosure. Air then is directed toward the air purge located at the mounting bracket. Depending on the power option selected, terminal blocks for DC and/or AC power are provided. Also provided are 3 R Type standard thermocouple jacks located on the front door.

### INSTALLATION INSTRUCTIONS

All module enclosures have been assembled with sensors and electronics. The Infrarail Processor Modules have been wired for a multiple loop configuration. Refer to Section 3 of this manual for more information.

### POWER CONNECTIONS

For modules provided without a power supply, connect DC power to terminals marked +24V and 24 COM . Refer to Section 3.4 of this manual for power supply and load requirements.

Connect the Recorder, the Controller, etc... in a series loop to the DC terminal blocks labeled + and - under labels 1, 2, and/or 3. Terminal Block 1 connects to the processor module for the sensor labeled SEN-1 on the side of the enclosure. Terminal block 2 connects to the processor module for SEN-2, and/or terminal block 3 connects to the processor module for SEN-3.

For modules with power supplies, connect AC supply to terminal blocks for AC connections. Connect sensor output as previously described.

### FIBER OPTIC CABLE ASSEMBLY

Connect the fiber optic cable assemblies to the type F sensors as shown in Section 2F of this manual.

**NOTE:** Each sensor , fiber optic cable, and reimaging lens assembly are calibrated as individual systems. Match Serial numbers to each sensor , fiber optic cable, and reimaging lens assembly. Mixing optical components and/or lens assemblies will result in calibration errors.

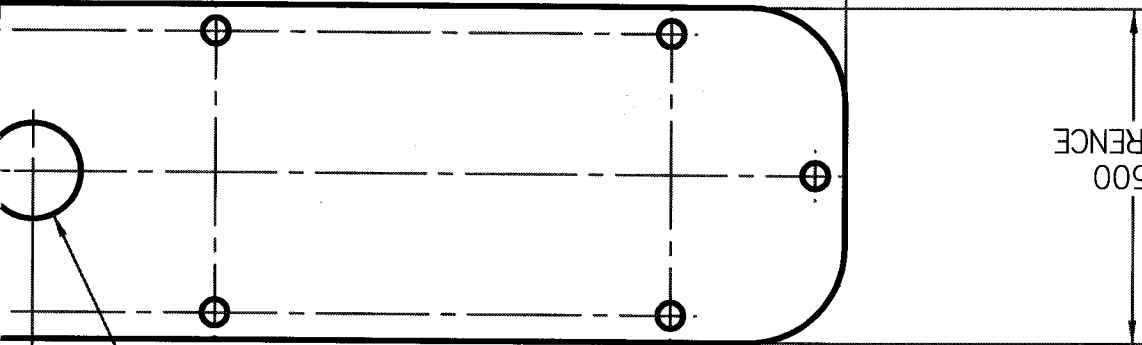
### AIR SUPPLY CONNECTIONS

The Air Regulation Module PN. ARM - 708 supplies air to each sensor module enclosure and air purge located at the mounting bracket. The Air Regulation Module includes the following:

- ½ in. bulkhead union fitting for air input
- Air Filter/Regulator
- Air Manifold
- ¾ in. bulkhead unions for air out to the sensor modules

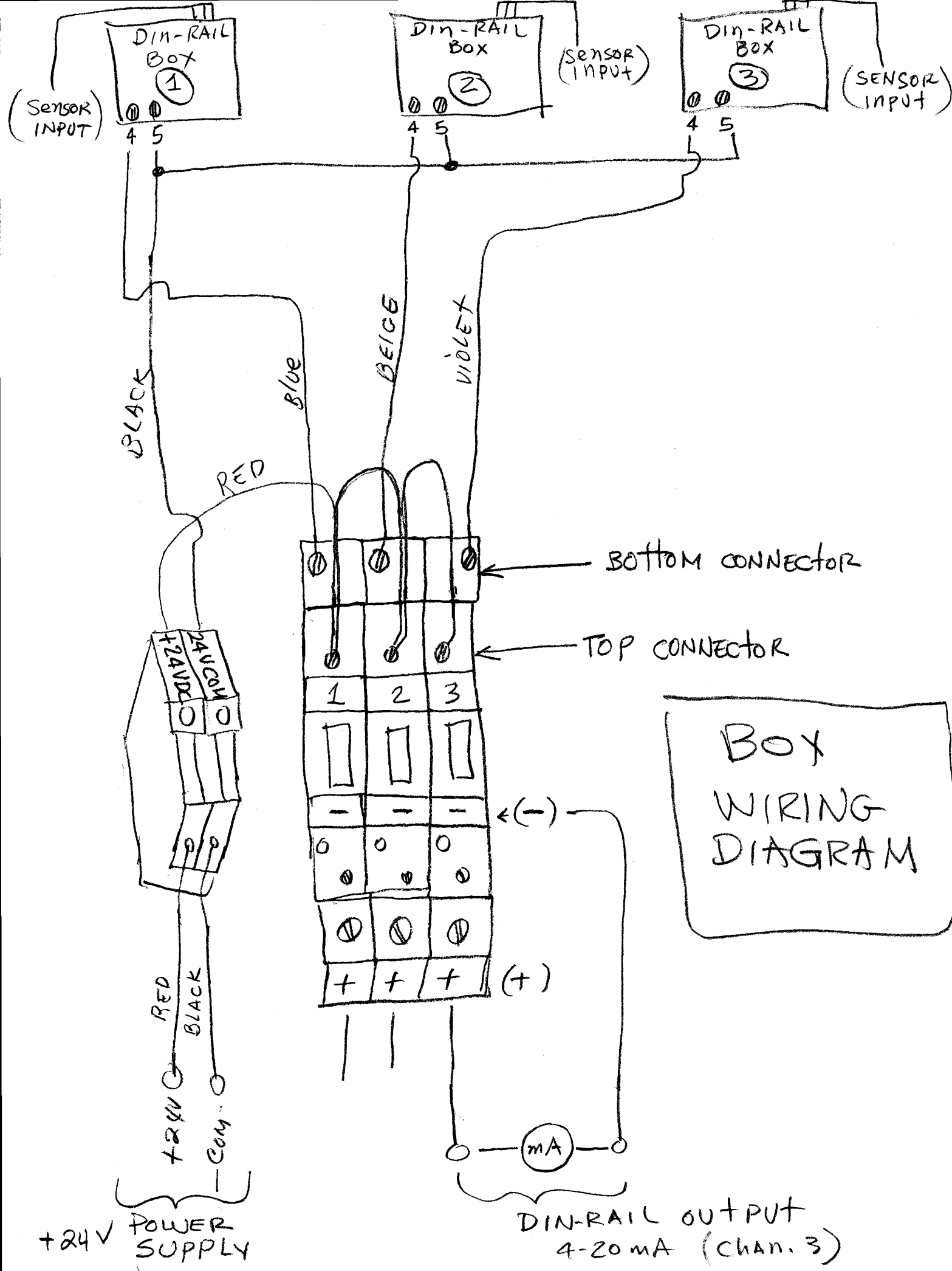
3	
4	
5	MATERIAL

13.000  
REFERENCE



3.500  
REFERENCE

$\varnothing 1.000 \pm 0.005$



(SENSOR INPUT)

Din-RAIL Box ①

Din-RAIL Box ②

(SENSOR INPUT)

Din-RAIL Box ③

(SENSOR INPUT)

BLACK

RED

Blue

BEIGE

VIOLET

BOTTOM CONNECTOR

TOP CONNECTOR

1 2 3

(-)

BOX WIRING DIAGRAM

+ + + (+)

mA

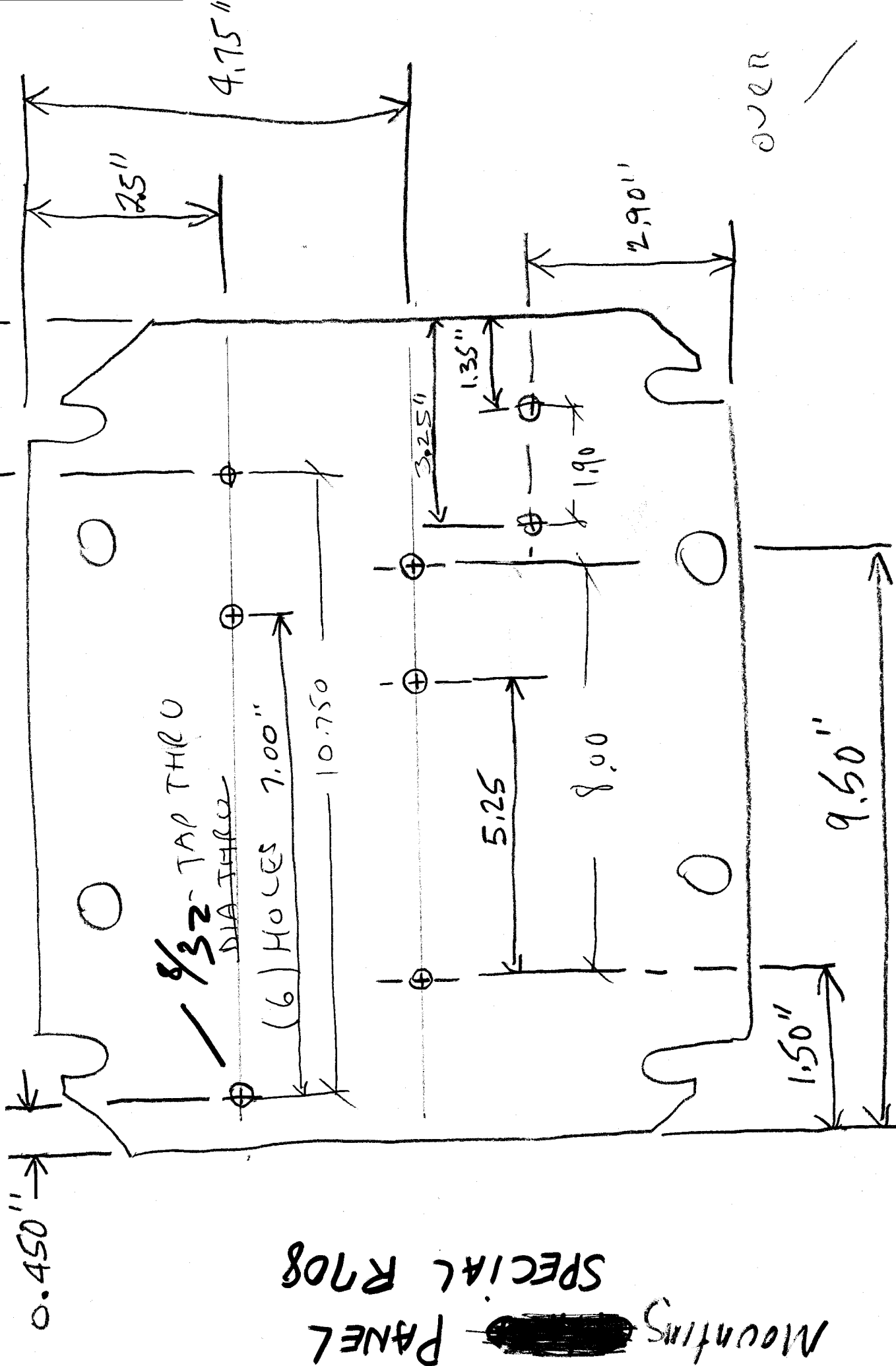
+24V POWER SUPPLY

DIN-RAIL OUTPUT 4-20 mA (chan. 3)



DIN-RAIL ENCLOSURE BOX  
 MOUNTING PANEL  
 DRILLING GUIDE

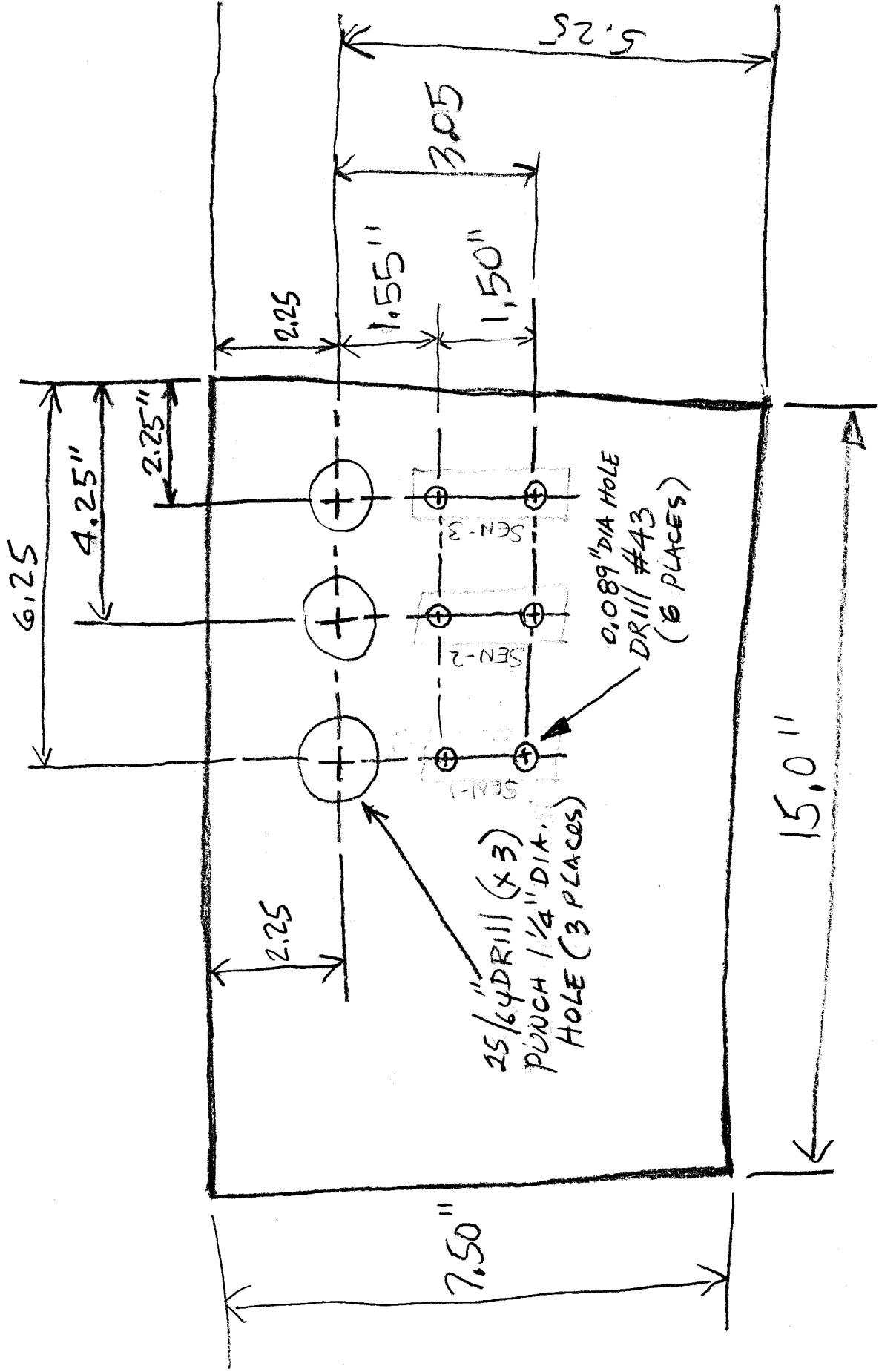
403937



MOUNTING PANEL  
 SPECIAL R708

# DINRAIL ENCLOSURE BOX SPECIAL R708

## SENSOR AND LABEL DRILLING GUIDE

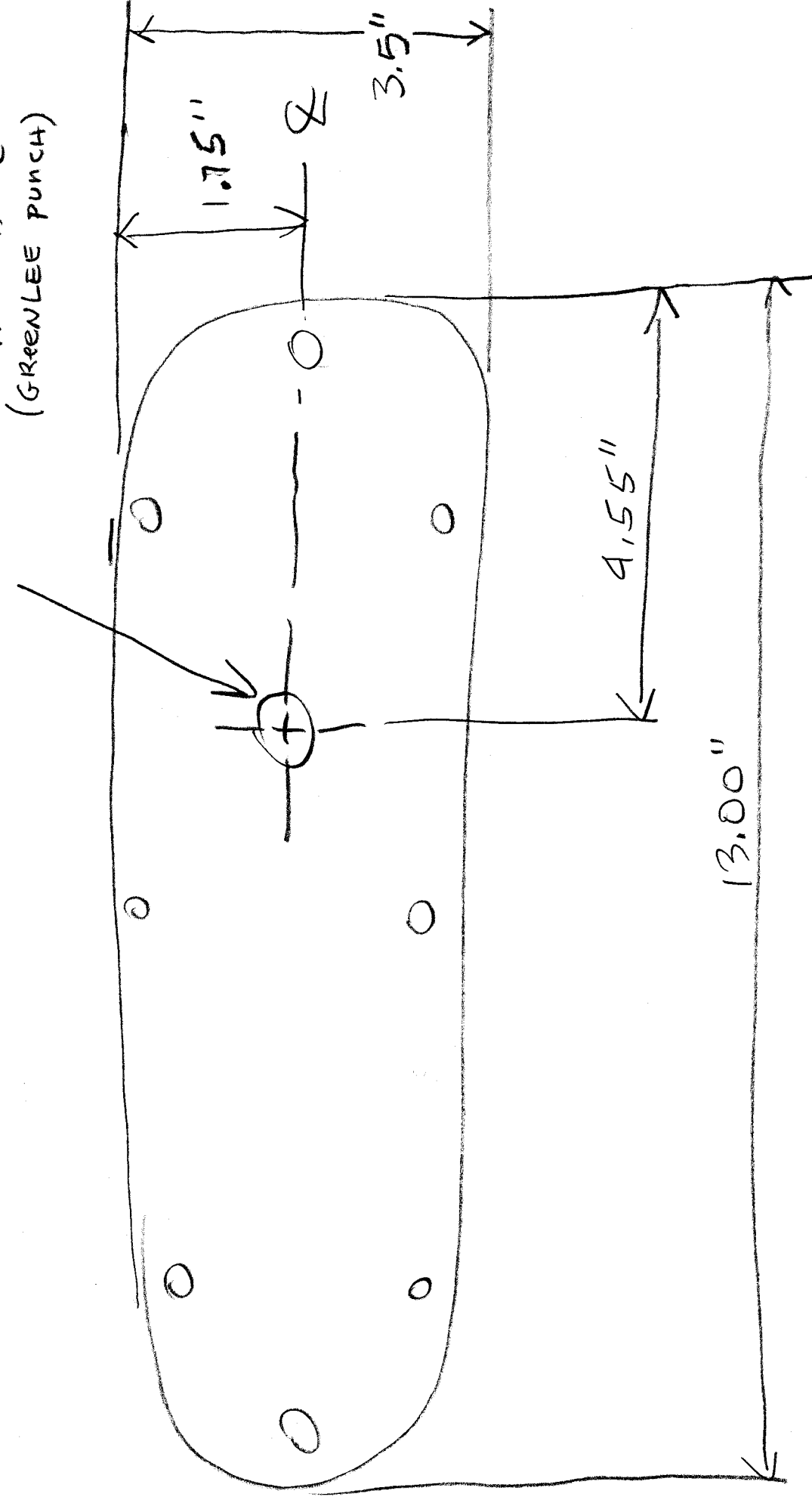


# DIN-RAIL ENCLOSURE SPECIAL R708 GLAND PANEL DRILLING GUIDE

## BILL OF MATERIAL:

1. Gland Panel with mounting hardware & gasket
2. Conduit Hub, 3/4" P.N.

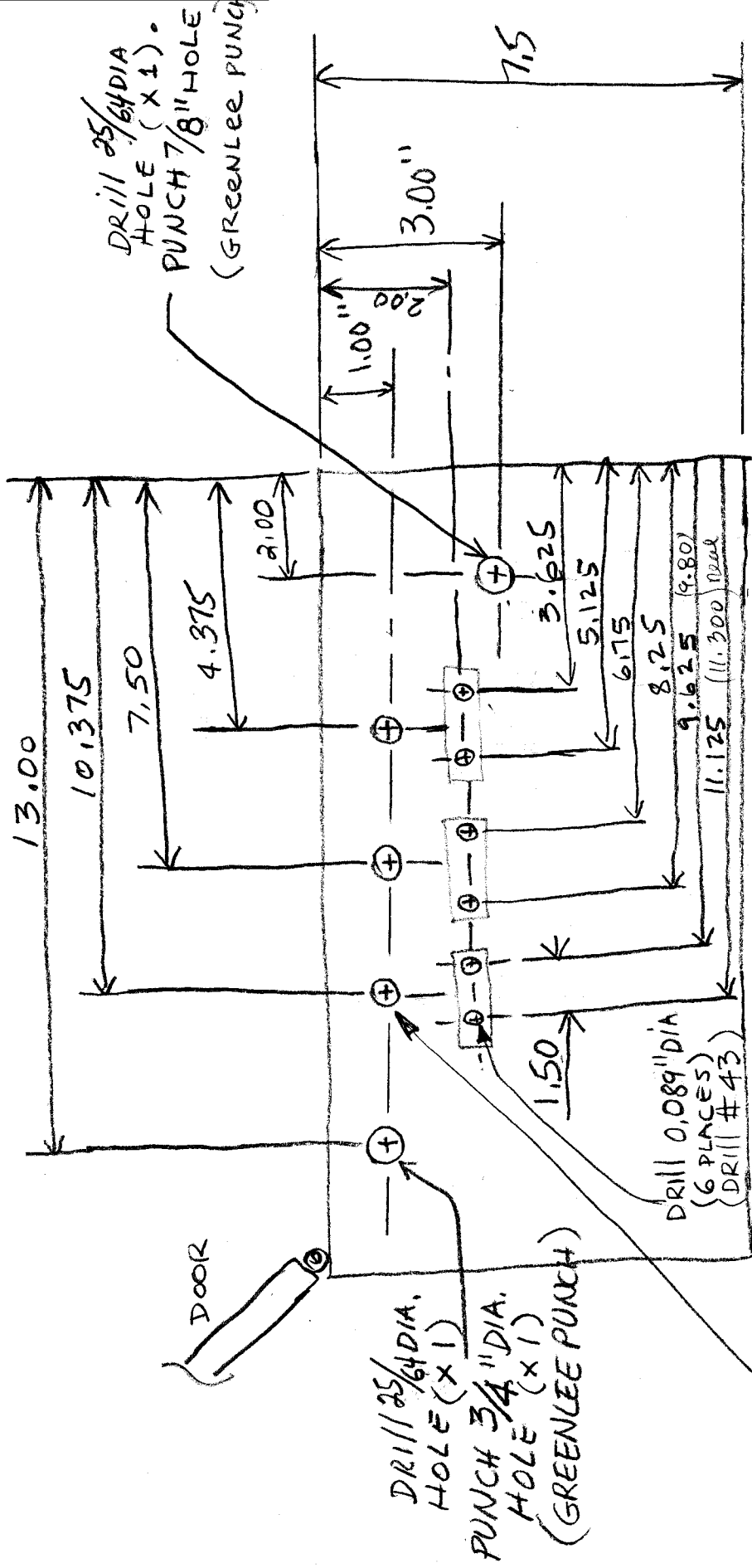
DRILL  $\frac{25}{64}$ " HOLE  
AND PUNCH 1.00" HOLE  
(GREENLEE PUNCH)





# DIN-RAIL ENCLOSURE SPECIAL R708

AIR PURGE, MUFFLER AND LABEL DRILLING GUIDE



DRILL  $\frac{25}{64}$ " DIA. HOLE (X1). PUNCH  $\frac{7}{8}$ " HOLE (GREENLEE PUNCH)

DRILL  $\frac{25}{64}$ " DIA. HOLE (X1). PUNCH  $\frac{3}{4}$ " DIA. HOLE (X1) (GREENLEE PUNCH)

DRILL 0.089" DIA (6 PLACES) (DRILL #43)

DRILL  $\frac{1}{4}$ " DIA HOLE (X3) PUNCH  $\frac{9}{16}$ " DIA HOLE (X3) (GREENLEE PUNCH)

Bill of Mat. →

Bill of Material:

Qty.

P.N.

TRCON P.N.

1.	Flow Meter	0-12 SCFM	1	1358E					
2.	Flow Meter	0-1 SCFM	3	1350E					
3.	THERMO COUPLE PLUG		3	OST-RS-M					
	THERMO COUPLE JACK	TYPE "R"	3	SPJ-RS-F					
4.	LABEL	FM-1	1	EX-4388					
5.	LABEL	FM-2	1	EX-4388					
6.	LABEL	FM-3	1	EX-4388					
7.	LABEL	FM-4	1	EX-4388					
8.	LABEL	"EMHART GLASS"	1						
9.	LABEL	3SNP-R706	1	PER EX-4390					
10.	SCREW	PHILIP HEAD SELF-TAP	12	200408031					(C' stock)
11.	PUSH-IN FITTING	3/8" NPT TO 3/8" O.D.	4	3109-60-18					
12.	PUSH-IN FITTING	1/8" NPT TO 1/4" O.D.	9	3109-5611					
13.	SCREW	10-32 x 7/16 SLOTTED	4	201014030					"C"-Stock
14.	WASHER	<del>10-32 x 7/16</del> #10 LOCK INT. TOOTH	4	221001030					"C"-Stock
15.	POLYETHYLENE TUBING	1/4" O.D. CUT TO 9 3/4"	2						(Bottom) FM-1 FM-2 TO MANIFOLD - Bottom & center
16.	"	" " " CUT TO 8 1/2"	1						(Bottom) FM-3 TO MANIFOLD -TOP
17.	"	" " " 26.0"	1						(TOP) FM-2 TO AP-2
18.	"	" " " 28 1/2"	1						(TOP) FM-1 TO AP-1
19.	"	" " " 23.5"	1						(TOP) FM-3 TO AP-3
20.	POLYETHYLENE TUBING	3/8" O.D. CUT TO 9 1/2"	1						(TOP) MANIFOLD TO FM-4 (Bottom)
21.	"	" " " 28.5"	1						FM-4 (TOP) TO ENCLOSURE.
22.	"	" " " 11.5"	1						MANIFOLD (Bottom) TO MAIN AIR SUPPLY
23.									

4MM, 20" long

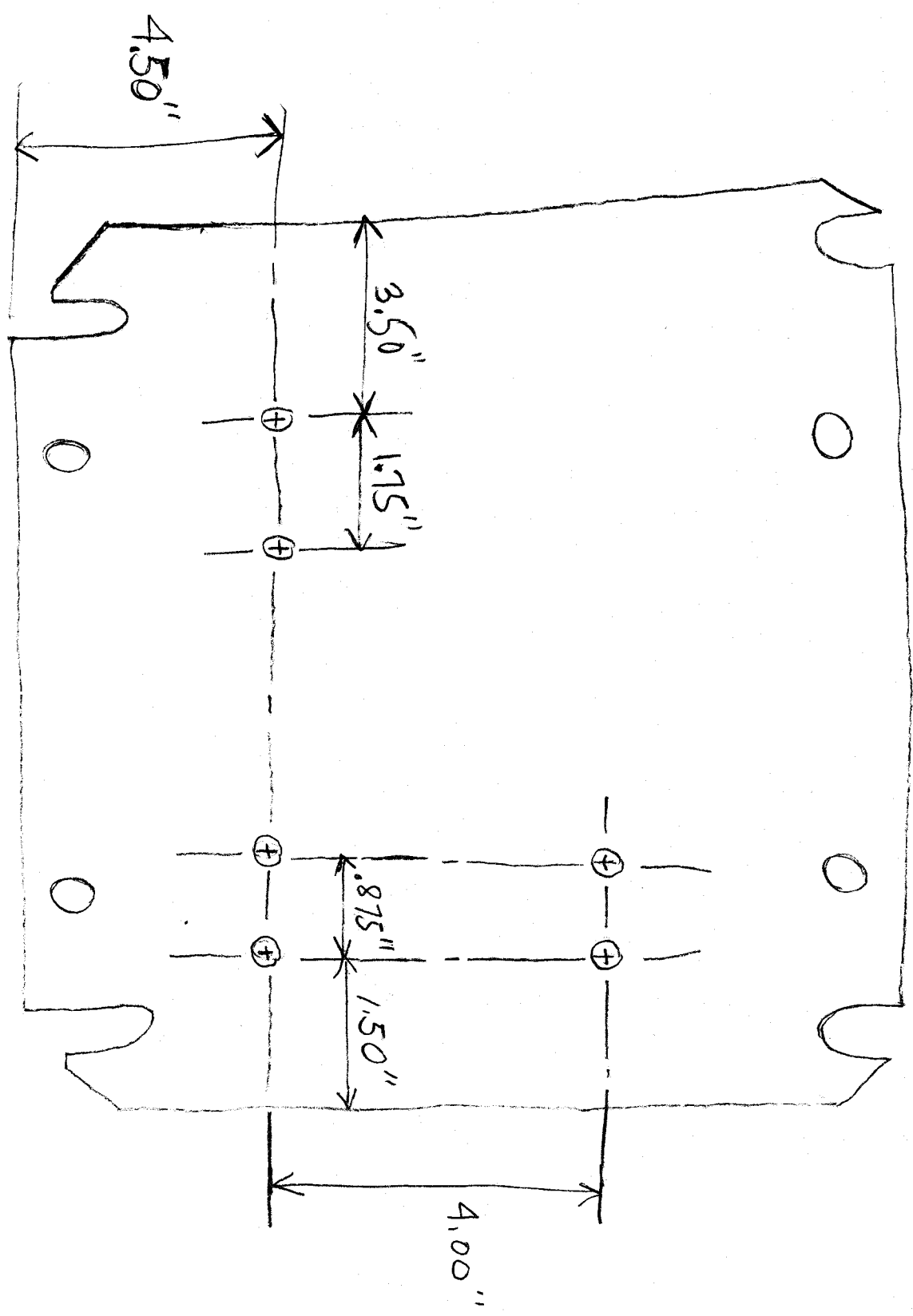
GREEN, GRIMP

Ground WIRE, GRIMP

24 LG GRIMP

24 LG GRIMP

AIR PRESSURE REGULATION BOX  
MOUNTING PLATE DRILLING GUIDE



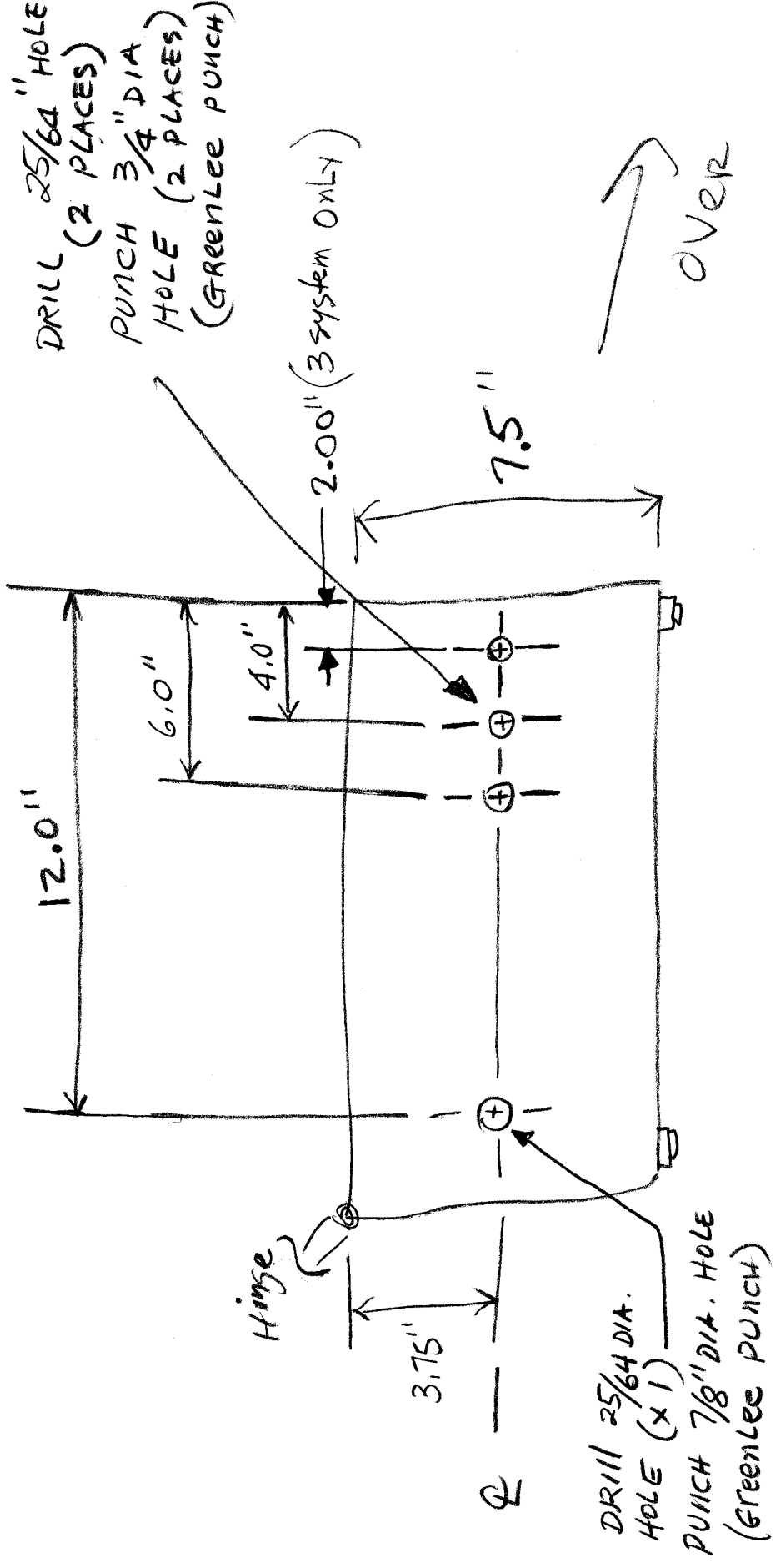
# AIR PRESSURE REGULATION BOX ASSY

## Bill of Material:

	QTY.	MAN. P.N.	IRON P.N.
1. ENCLOSURE, 380 X 380 X 210 MM	1	1380600	
2. MOUNTING PLATE W/HARD-WARE	1		
3. MANIFOLD, # 1000-13, ALUMINUM.	1		
4. BULKHEAD UNION, 3/8", # 62PLBH-6	2		
5. BULKHEAD UNION, 1/2", # 62PLBH-8	1		
6. PLUG, 1/2" MANIFOLD	1		
7. PLU, 3/8" MANIFOLD	2		
8. FITTINGS, PUSH-IN 3/8" NPT, MALE ELBOW TO 3/8" O.D. TUBE	4	3109-60-18	
9. " " 1/2" NPT " " 1/2" O.D. TUBE	1		
10. TUBING, POLYETHYLENE, 3/8" O.D., CUT TO		1P518	
11. TUBING, " " " " " "			
12. TUBING, " " " " " "			
13. TUBING, " 1/2" O.D., CUT TO			
14. FITTING, PUSH-IN NPT, MALE ELBOW TO 1/2" O.D. TUBE	1		
15. REGULATOR, FILTER, W/GAUGE AND BRACKET	1	5Z417	
16. LABEL "EMHART GLASS"	1		
17. LABEL, "ARM-R708"	1		PER EX-4390
18. SCREW, 6-32 X 1/2" PHILIP HEAD	4		20064803P
19. STAR WASHER, # 6 LOCK, INT. TOOTH	4		220601030
20. NUT, Hex Steel, 6-32	4		210600030

# AIR PRESSURE REGULATION BOX

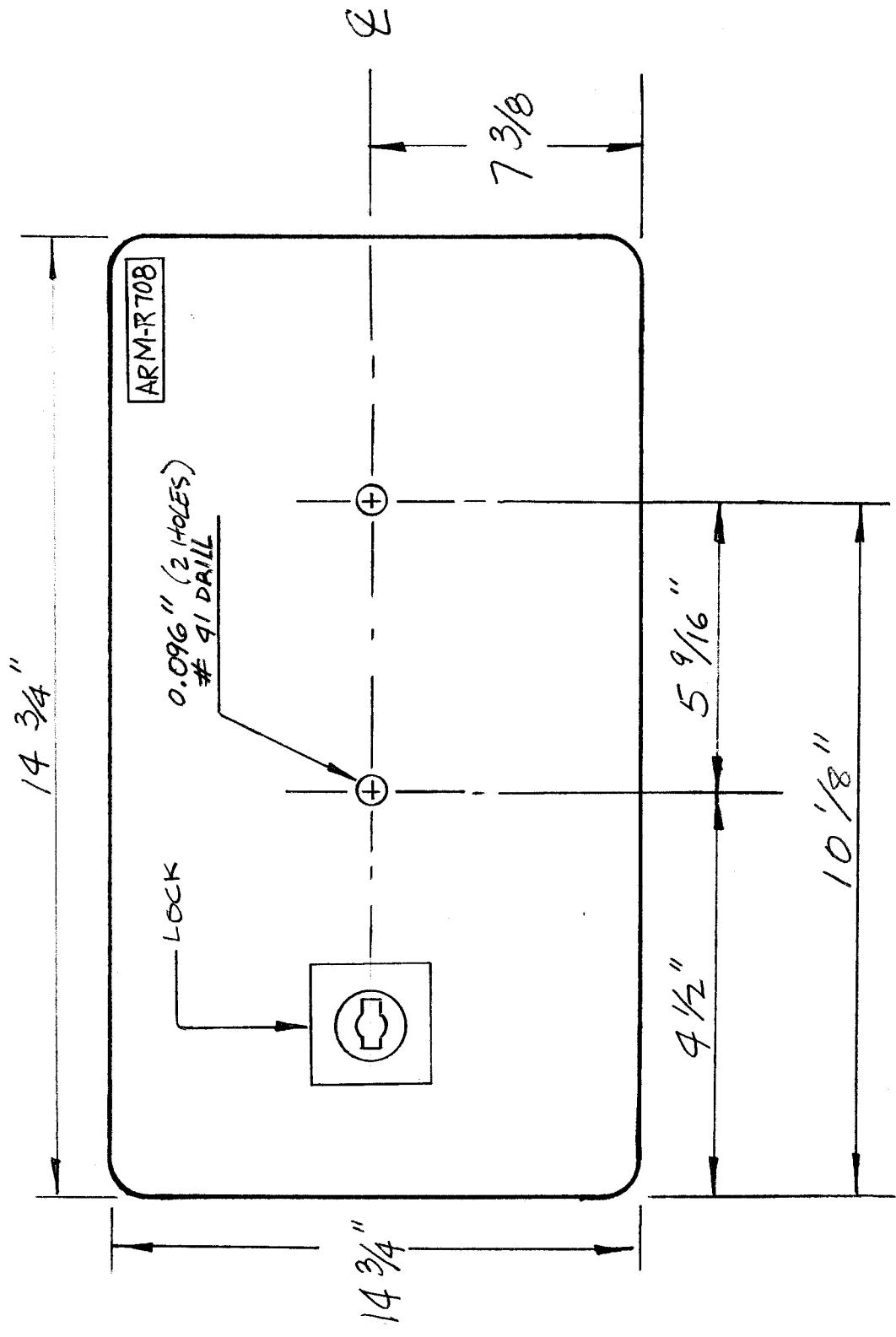
## PUSH-IN-AIR FITTING DRILLING GUIDE



IRCON Inc.

REGULATION PANEL DOOR  
(DRILL GUIDE FOR EMHART GLASS LABEL)  
SPECIAL R708

10-09-97  
A.D.





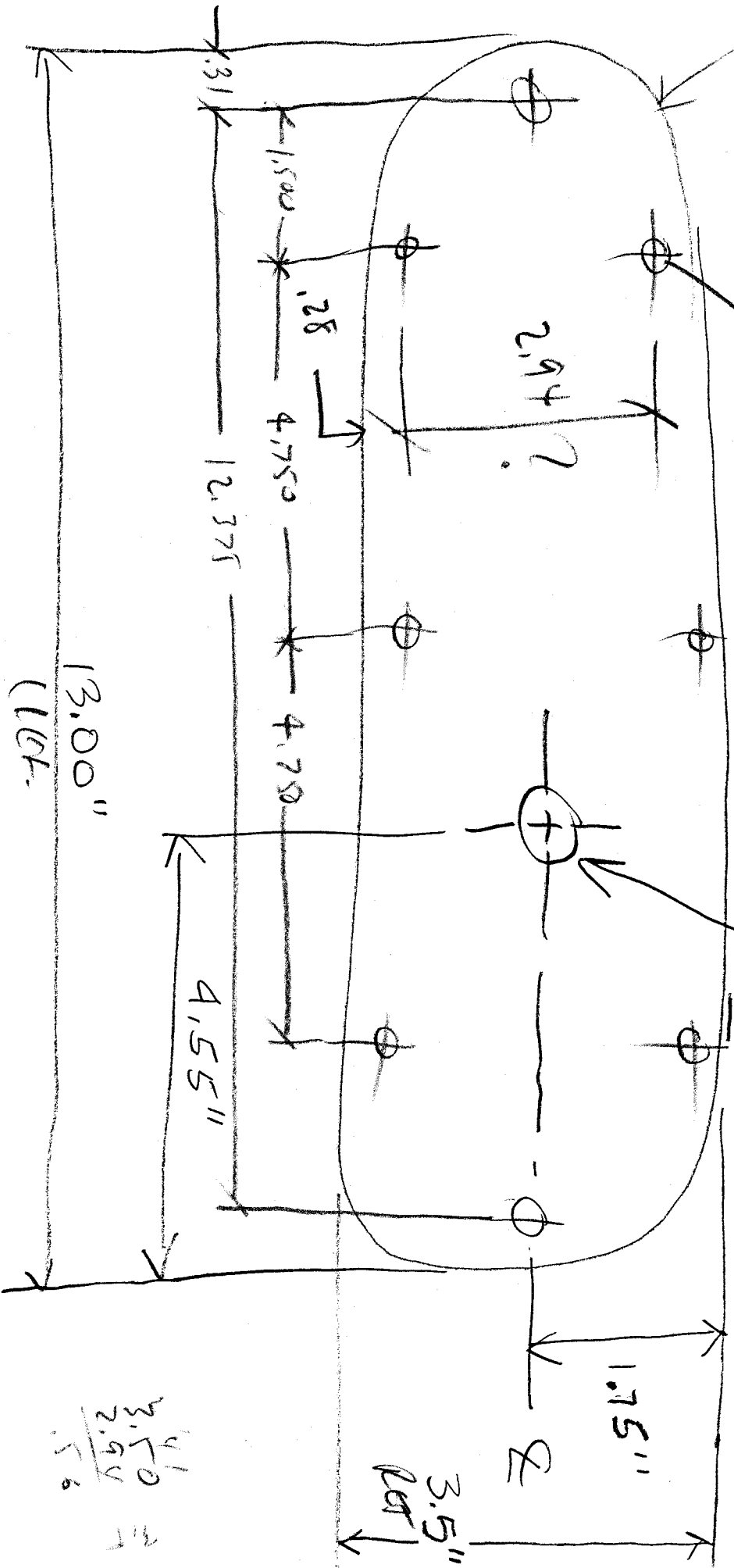
VIN-RAIL ENCLOSURE Special P708  
~~SHARD PANEL~~ DRILLING GUIDE ← OK

THICKNESS ?

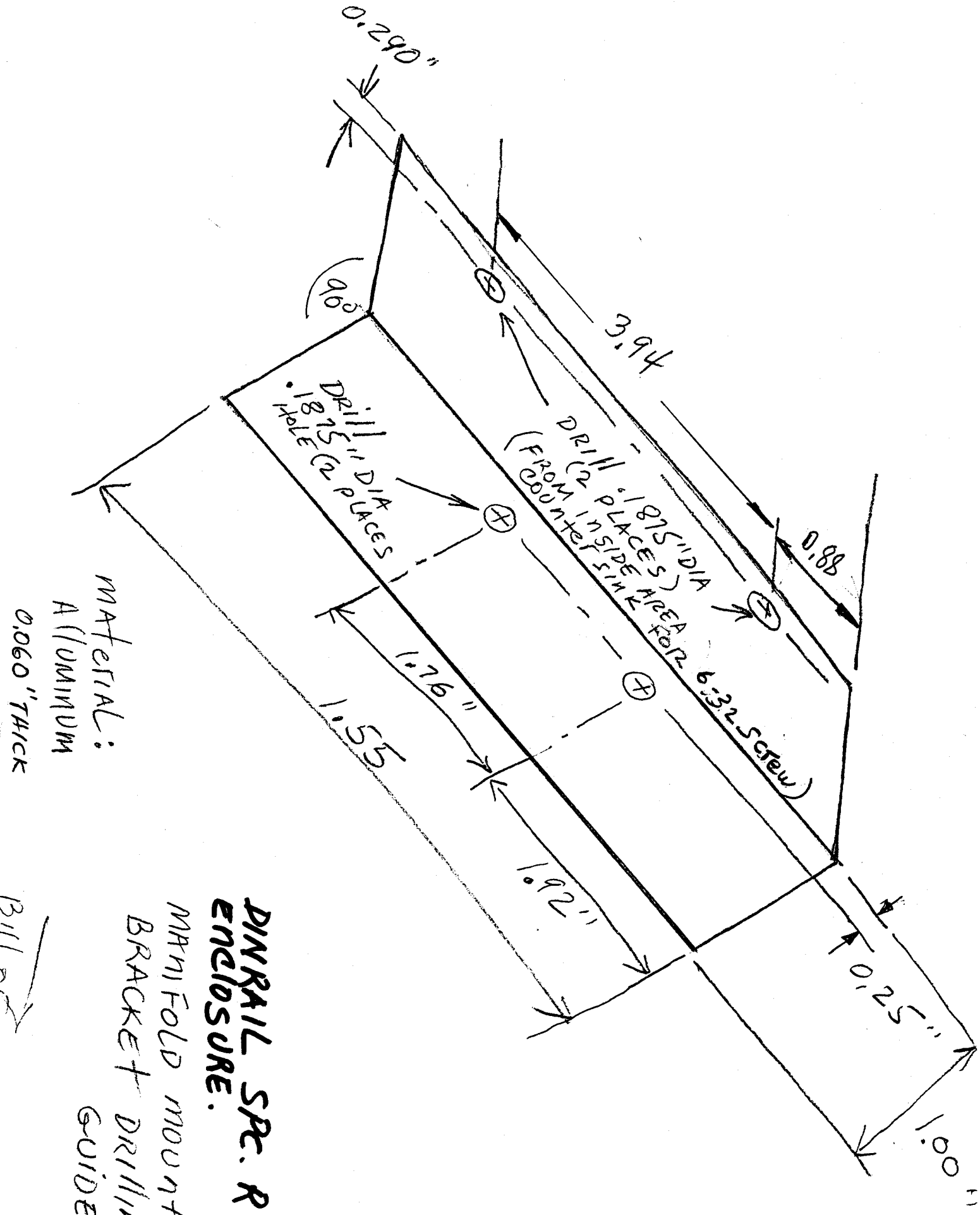
1.00" R

1.275" Ø  
 (18) HOLES  
 RDR

Drill 1.00" Hole  
 AND RDR CH 1.00" HOLE  
 (GREENLEE PUNCH)



3.5" RDR  
 1.75"  
 4.55"  
 4.750"  
 12.375"  
 4.750"  
 1.500"  
 1.28"  
 2.94"  
 13.00" (11GT)

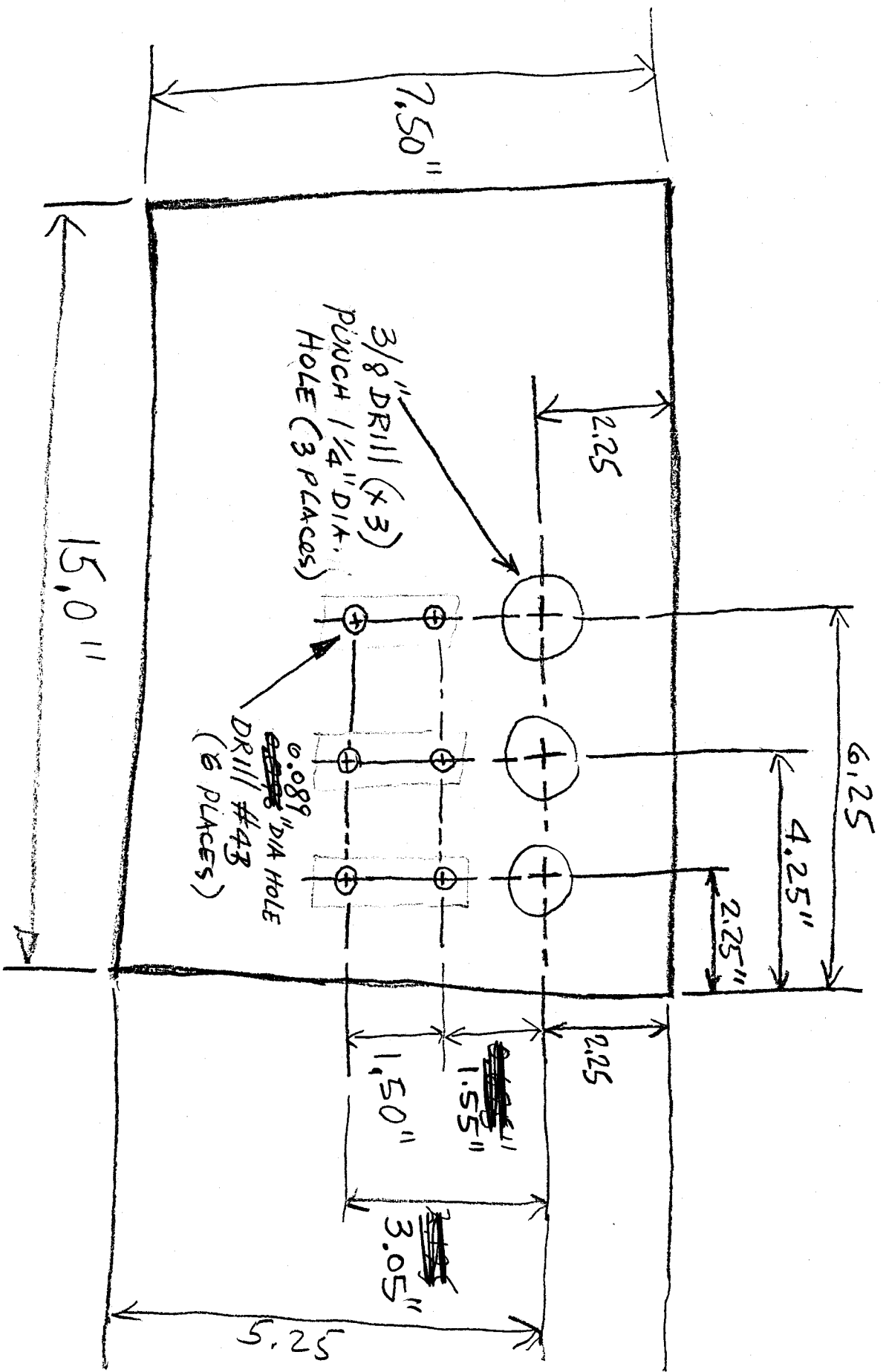


material:  
ALUMINUM  
0.060" THICK

**DINRAIL SPR. R708**  
ENCLOSURE.  
MANIFOLD MOUNTING  
BRACKET DRILLING  
GUIDE

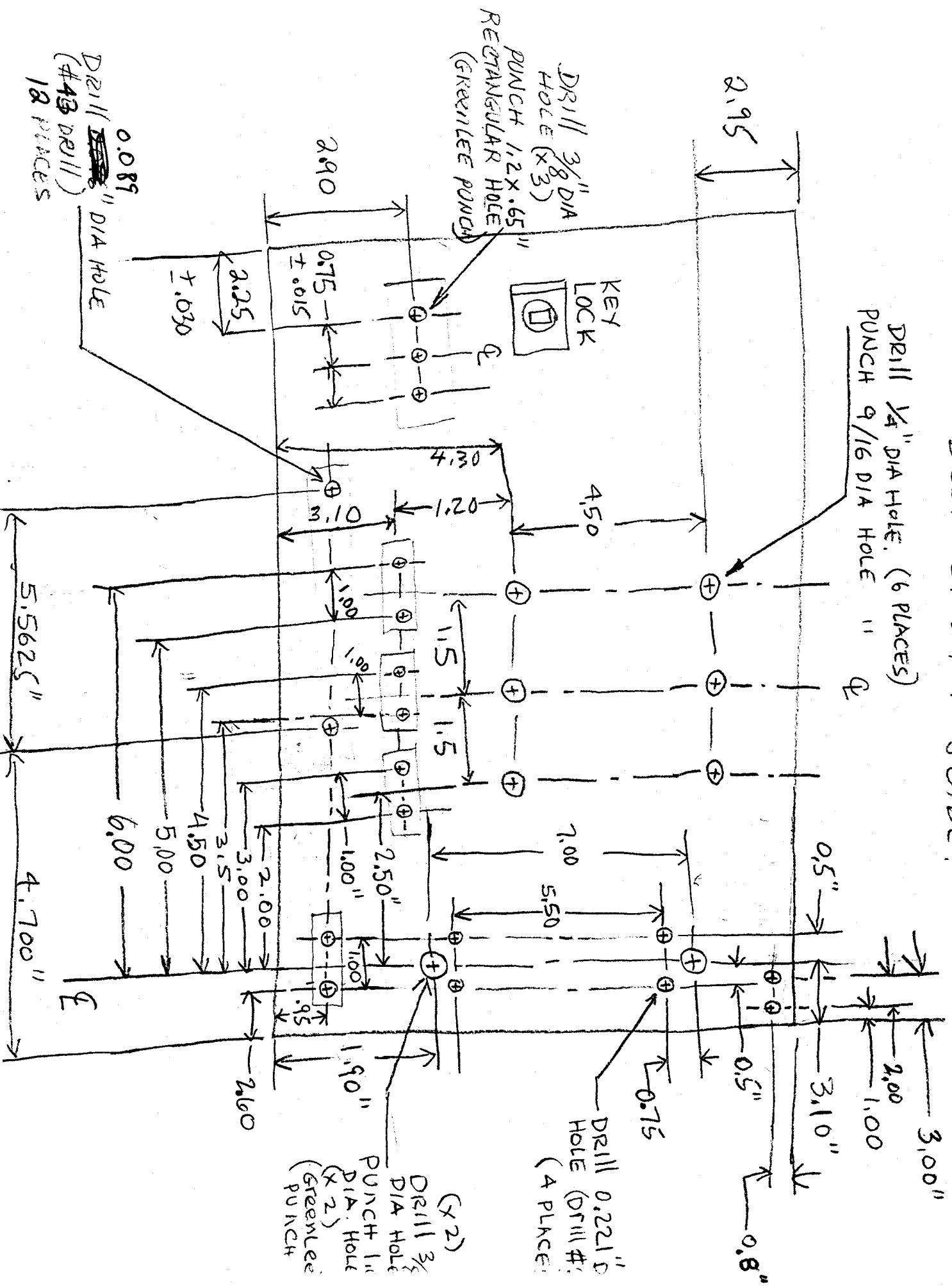
Bill of  
Material

# DRILL ENCLOSURE BOX SPECIAL R708 SENSOR AND LABEL DRILLING GUIDE



# DINRAIL ENCLOSURE BOX, SPECIAL R708

## DOOR DRILLING GUIDE



AD

SPECIAL R708-R706

~~BILL OF MATERIAL~~

STOCK AS OF 10-1-01

<u>ITEM</u>	<u>STOCK</u>	<u>COST EACH</u>	<u>TOTAL</u>
ENCLOSURE	5	\$114.00	\$570.00
MANIFOLD	1	19.60	19.60
MANIFOLD	1	29.00	20.00
LEGRIS FITTING	8	3.50	28.00
LEGRIS FITTING	15	2.00	30.00
LEGRIS FITTING	2	5.30	10.60
EXHAUST MUFFLER	1	37.00	37.00
LABEL, EMHART	11	12.50	137.50
LABEL, ARM-R708	27	4.00	108.00
LABEL, 3SNP-R706	25	4.00	100.00
LABEL, 2SNP-R706	30	4.00	120.00
LABEL, SEN-1	26	2.50	65.00
LABEL, SEN-2	24	2.50	60.00
LABLE, SEN-3	25	2.50	62.50
LABEL, FM-1	23	2.50	57.50
LABEL, FM-2	23	2.50	57.50
LABEL, FM-3	22	2.50	55.00
LABEL, FM-4	24	2.50	60.00
LABEL, AP-1	25	2.50	62.50
LABEL, AP-2	24	2.50	60.00
LABEL, AP-3	25	2.50	<u>62.50</u>
		<b>TOTAL</b>	<b>\$ 1783.20</b>

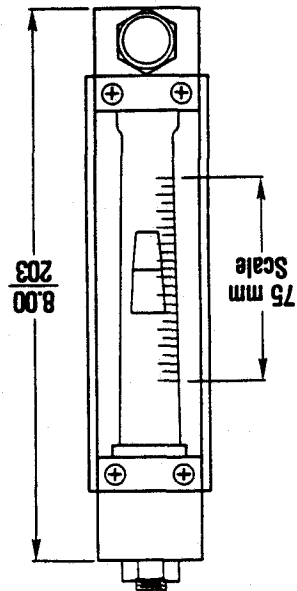
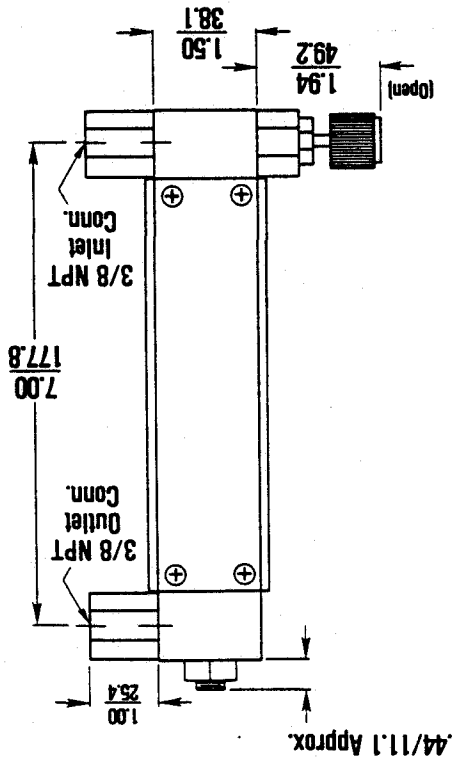
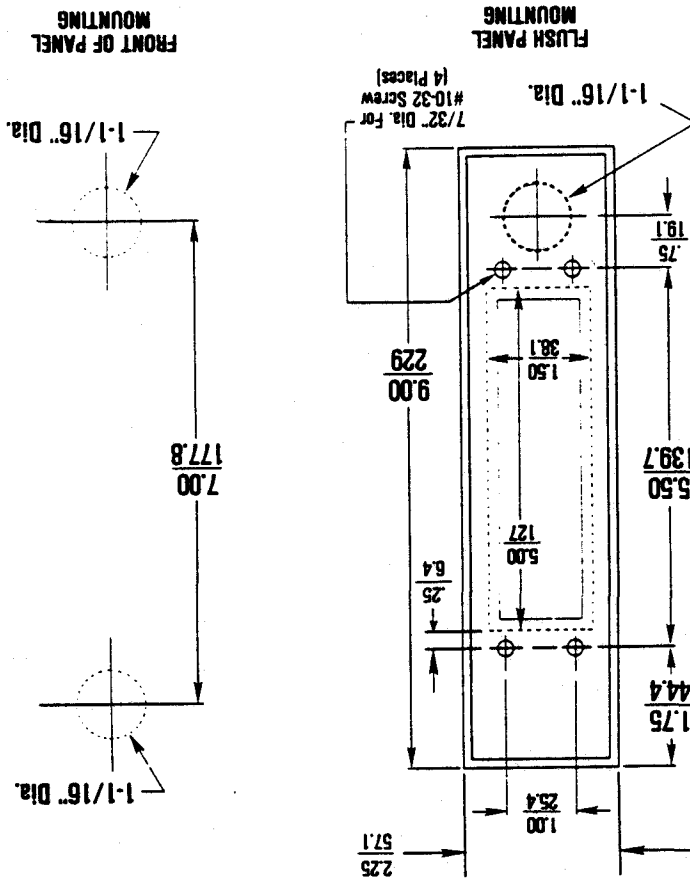
**SPECIAL R708-R706  
BILL OF MATERIAL**

<u>ITEM</u>	<u>STOCK</u>	<u>COST EACH</u>	<u>TOTAL</u>
GROUND STRAP	3 BAGS	\$ 12.80	\$ 38.40
GROUND STRAP	2 BAGS	9.80	19.60
COPPER TUBING	50 FEET	32.00/60 FT.	26.00
FLOW METER	1	97.00	97.00
PLASTIC TUBING	60 FEET	13.55/100FT	8.13
PLASTIC TUBING	50 FEET	8.50/100FT	4.25
SELF TAP SCREW	450	7.50	7.50
PIPE BUSHING	3	0.98	2.94
CORD GRIP	9	1.56	14.00
BULKHEAD UNION	9	2.69	24.21
BULKHEAD UNION	5	4.07	20.35
BULKHEAD UNION	4	5.63	22.52
END CLAMP	30	0.60	18.00
MOUNTING CLIP	48	17.60/50	16.90
WIRING DUCT	3	109.00/5	65.00
DUCT COVER	3	18.60/5	11.00
STEEL DIN-RAIL	1	19.36	<u>19.36</u>
		<b>TOTAL</b>	<b>\$ 415.16</b>

**SPECIAL R708-R706  
BILL OF MATERIAL**

<u>ITEM</u>	<u>STOCK</u>	<u>COST EACH</u>	<u>TOTAL</u>
SYMBOL (+)	80	0.03	\$ 2.40
SYMBOL (-)	70	0.03	2.10
SYMBOL ( 1 )	93	0.05	4.65
SYMBOL ( 2 )	93	0.05	4.65
SYMBOL ( 3 )	94	0.05	4.70
SYMBOL (+24VDC)	36	0.05	1.80
SYMBOL ( 24V COM)	36	0.05	1.80
FLANGE, SIGHT TUBE	2	249.00	<u>498.00</u>
		<b>TOTAL</b>	<b>\$ 520.10</b>
		PAGE 1	1783.20
		PAGE 2	415.16
<b>PAGE 3</b>		<b>GRAND TOTAL</b>	<b>\$ 2718.46</b>

Figure 2-6 Dimensions - Sho-Rate "50" (Size 8)



Inches/Millimeters

Section 3 O  
 3-1 Operat  
 Caution: Do  
 specification  
 After the fit  
 system, it is  
 control valv  
 through fid  
 signed for  
 damage the  
 control val  
 recommen  
 installed in  
 meter.  
 Flow indic  
 float as th  
 Section 4  
 4-1 Disa  
 It is reco  
 tube and  
 materials  
 inaccura  
 tube (Bo  
 ultrason  
 which do  
 following  
 a. Remo  
 b. Loos  
 coun  
 tube  
 ing.  
 c. On r  
 float  
 be  
 hoo  
 met  
 not  
 d. Paco  
 rem  
 e. Wit  
 jac  
 It s  
 spi  
 rec  
 lon  
 t. Th  
 m  
 w  
 be  
 in  
 a. L  
 s  
 b. F  
 R  
 4-2



# PURCHASE REQUISITION

Supplier

Date 3-26-98

Mc MASTER-CARR

P.O. # \_\_\_\_\_

Requisitioner AMI DONADO

Purpose/Reason EMHART SPECIAL  
R708, R706, R614

Attn \_\_\_\_\_

Date needed A.S.A.P.

Phone \_\_\_\_\_

Route to AMI DONADO

**Material Safety Data Information:**

New chemical MSDS received on \_\_\_\_\_

for sample only

routine use

Previously purchased chemical: Active Index No. \_\_\_\_\_

Qty	U/M	Part No.	Rev. Level	Description	Price Ea	Total	Acct or W/O No.
1		3449A102		PUNCH, ROUND, KNOCKOUT 3/4" DIAMETER		27 <sup>80</sup>	431-109-00 65074
5		4837K2		PIPE BUSHING	0.84	4 <sup>20</sup>	11

Confirming to \_\_\_\_\_

Approval (under \$100 - Authorized Requisitioner) *[Signature]*

(\$100 - \$5000 - Department Manager) \_\_\_\_\_

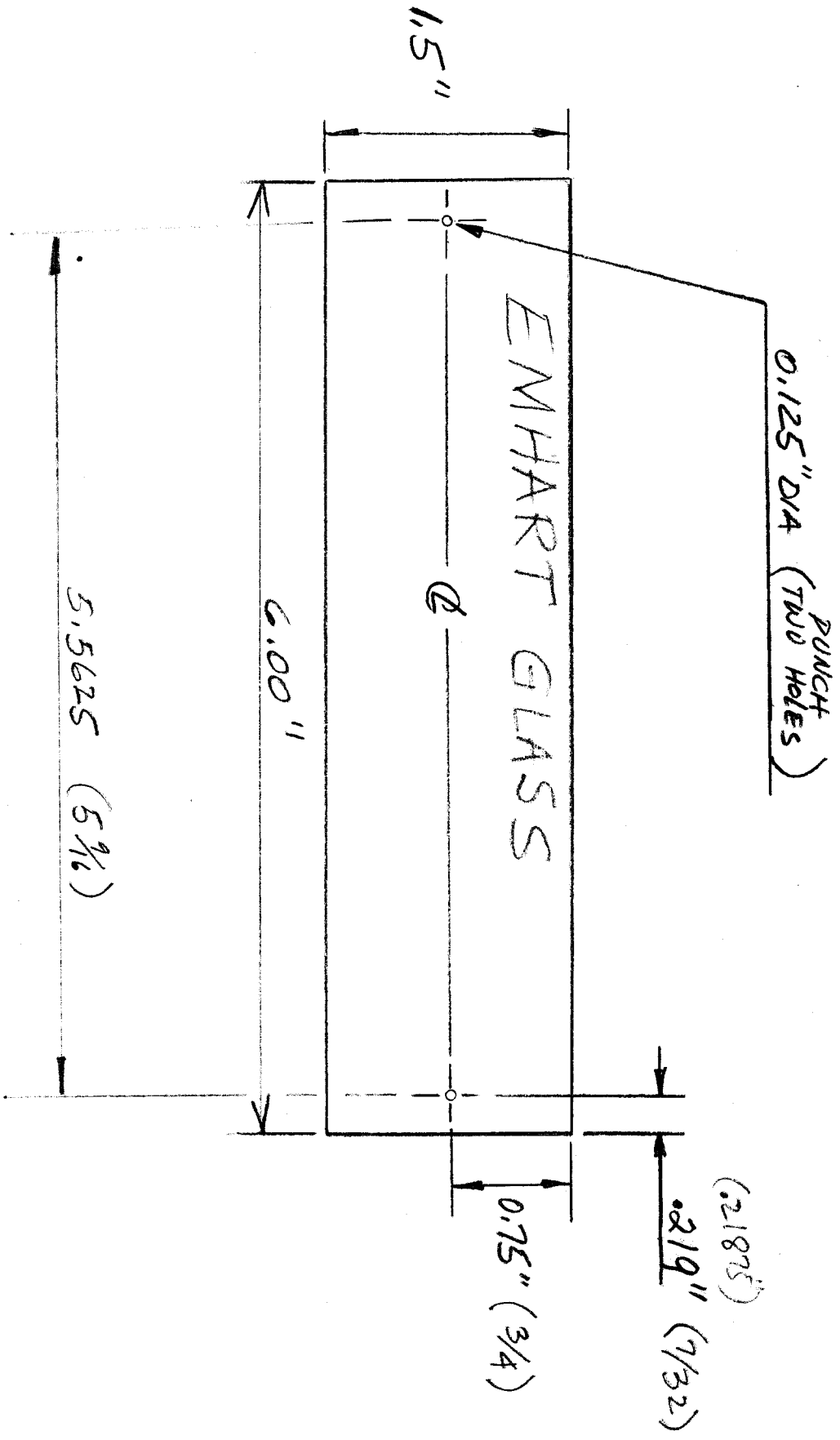
(over \$5000 - General Manager) \_\_\_\_\_

Total \$ 32<sup>00</sup>

SPECIAL  
R 708

DIVIRAIL SPECIAL R 708  
(EMHART LABEL)  
DRILL GUIDE

10-09-97  
A.D.



NOMENCLATURE

COLOR STANDARD BLACK  
ENGRAVED

FM-1, FM-2, FM-3, FM-4

EX-4386

LABEL-PLATE  
1/2 x 1 1/4

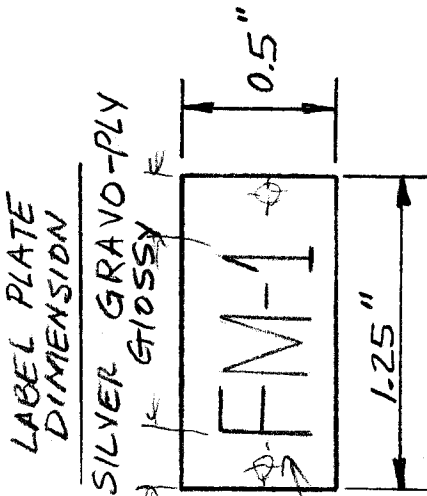
SEN-1, SEN-2, SEN-3

AP-1, AP-2, AP-3

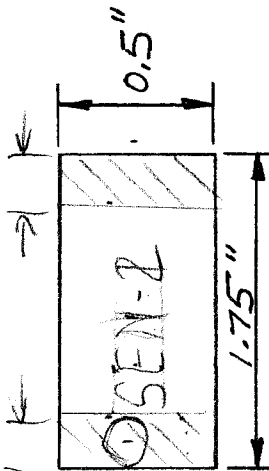
EX-4389

3SNP-R706, ARM-R708

3/4 x 6 1/2  
EX-4390



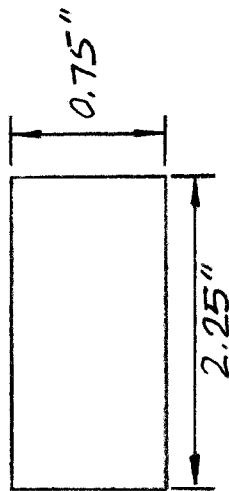
FM 2101



25 HIGH  
ARIAL

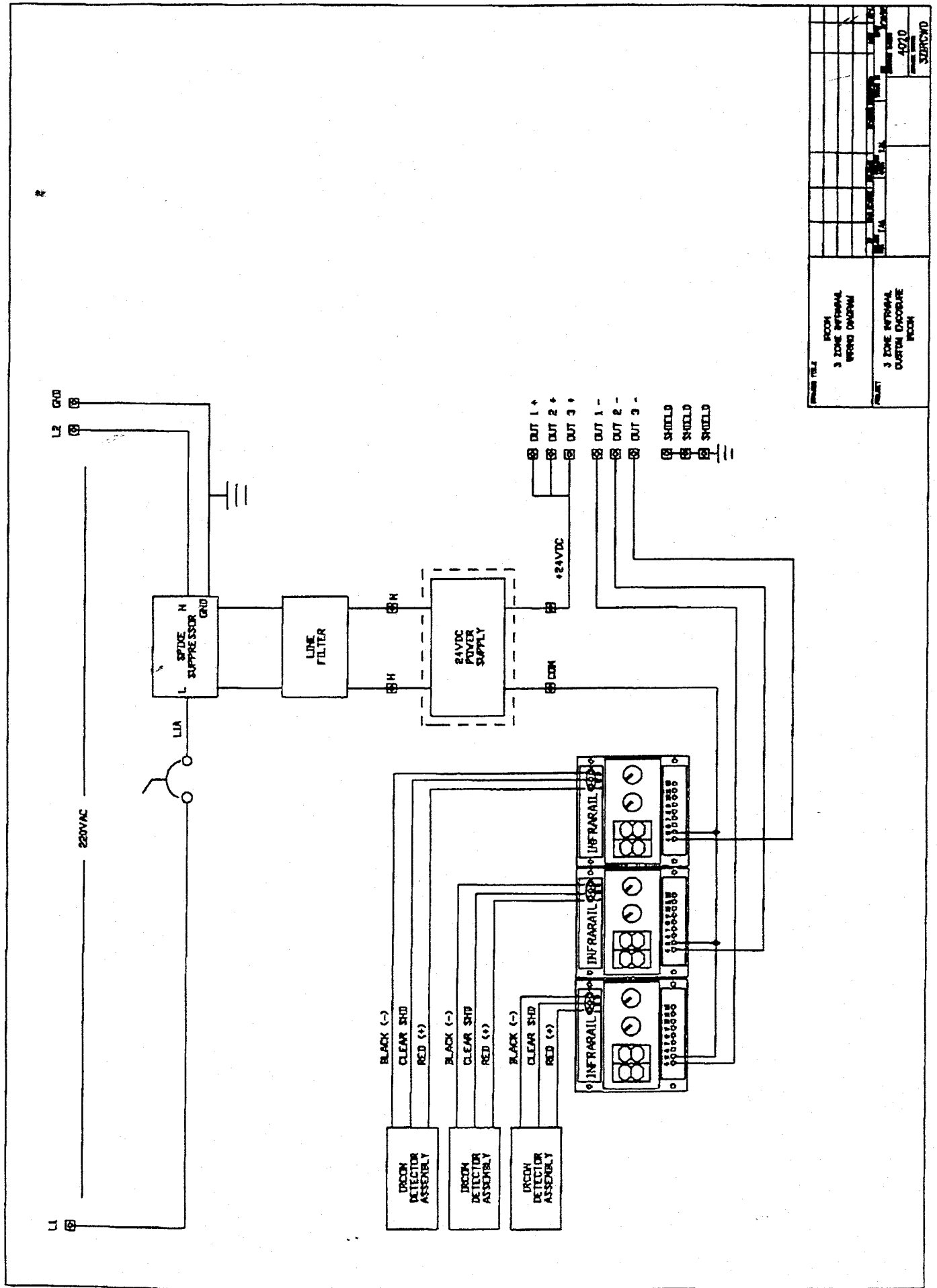
FONT  
CENTERED  
CO. 2001-573

25  
NO LETTERING  
MTG AREA









ROOM	ROOM
3 ZONE INFRARED CURTAIN DETECTOR	3 ZONE INFRARED CURTAIN DETECTOR
4970	4970
SUBCIRCUIT	SUBCIRCUIT

Radio Dispatched

# ORDER BLANK



## Skokie Valley Reproductions

7400 North Melvina  
Niles, Illinois 60714  
Phone: 847-647-1131  
Fax: 847-647-2321



CO. NAME IRCON WC

DATE 7/24/97

ADDRESS 7300 N NATCHEZ

P.O. # Mo. BILWY

CITY NILES IL

JOB # EMHART LABEL

TELEPHONE 847 967 5151

PRINT NAME M. SIKORA

AMMONIA						PMT		PHOTOGRAPHIC								
BLUE LINES	BLACK LINES	BLACK LINE PLASTIC	SEPIA PAPER		BLACK LINE MYLAR	SEPIA MYLAR		REG.	REV.	FILM NEG.	FILM POS.	PAPER PRINT	PRINTED CIRCUIT			
			RIGHT	REV.	3 MIL	2 MIL	3 MIL						NEG. .004	POS. .004	NEG. .007	POS. .007

PRINTING										LITHO TRACING REPRODUCTION								
OFFSET		COLOR LASER	COLOR STATS	XEROX 9900		XEROX 5080			XEROX 990		CRONAFLEX				WASHOFF			
8 1/2 x 11	11 x 17			1-SIDE	2-SIDE	BOND	MYLAR	VELLUM	VEL	BOND	DIRECT	RIGHT	REV.	DIRECT	RIGHT	REV.		
								V	EV									

NO. OF COPIES OF EACH	TYPE OF PRINT WANTED	NO. OF ORIG.	BIND IN SETS	DESCRIPTION OF ORIGINALS AND INSTRUCTIONS
3	PMTs	1		SHOOT 115% OF ORIGINAL SIZE FOR "EMHART BRASS, A BLACK & DECKER Co"
3	PMTs	1		"FOREHEARTH INFRARED F/O SYSTEM" - SHOOT S/S AS ORIGINAL
				NEED TOMORROW BY 11 AM
				THANKS.
				2400-

6 CODE

NOT RESPONSIBLE FOR DAMAGE TO UNPROTECTED ORIGINALS  
PLEASE DO NOT GIVE VERBAL INSTRUCTIONS TO MESSENGER OR DRIVER

# Fax Transmittal Fax Transmittal



IRCON, INC.  
7300 North Natchez Avenue  
Niles, Illinois 60714 USA

Telephone 847-967-5151  
Admin Fax 847-647-0070  
Sales /Service Fax 847-647-0948



EMHART LABEL

Date 7/18/97

To METO GRAPHICS Fax No 847 639 5144

Attn LINDA CARLSON - <sup>7/22/97</sup> quote ~~639-0044~~ TELE: <sup>847</sup> ~~639~~ 639-0044

From MAXINE SIKORA <sup>by hand</sup> need latest week. No. of pages (including this page) 2

FOR SPECIAL R708

COST FOR 3 1/4 x 9 1/4 LABEL, PER ATTACHED.

MATERIAL: GRAVO-PLY GLOSSY SILVER  
(SAME MATERIAL USED FOR IRCON NAMEPLATES  
& TRADE SHOW BADGES),

COPY: SILKSCREENED, IRCON TO SUPPLY ARTBOARDS  
COLOR: "EMHART" - PROCESS RED  
ALL OTHER COPY - STANDARD BLACK

DELIVERY: 1 WK AFTER ORDER PLACEMENT (IF POSSIBLE)

QTY: 25 OR 35 OR 50

COST:

NEED INFO ASAP. THANKS.

REGARDS —

Maxine



# PURCHASE REQUISITION

Supplier

Date

7/25/97

P.O. #

83546

Requisitioner

M. SIKORA

Purpose/Reason

EMPHASIS

LABEL/PLATES

Date needed

8/01/97 LATEST

Route to

M. SIKORA

JTD INSTANT SERVICES  
5614 DEMPSTER STREET  
MORTON GROVE, IL 60053

Attn DICK HULTBERG

Phone 847 965 2800

### Material Safety Data Information:

New chemical MSDS received on \_\_\_\_\_

for sample only

routine use

Previously purchased chemical: Active Index No. \_\_\_\_\_

Qty	U/M	Part No.	Rev. Level	Description	Price Ea	Total	Acct or W/O No.
25				6" x 1-1/2" LABEL PLATE, Red # 9720 AND STANDARDS BLACK SILKSCREENED COPY ON SILVER ENGRAVING STOCK, PER ARTBOARDS.	12.25	306.25	Dick Hultberg 481-109-6355 300-731-40

Confirming to

*Dick Hultberg*

Approval (under \$100 - Authorized Requisitioner)

(\$100 - \$5000 - Department Manager)

(over \$5000 - General Manager)

*[Signature]*

Total \$

306.25

"EMHART" RED : SEE ABOVE SCOUTEK  
PROCESS RED : SEE ABOVE SCOUTEK  
ALL OTHER COPY- STANDARDS BLACK

# EMHART GLASS

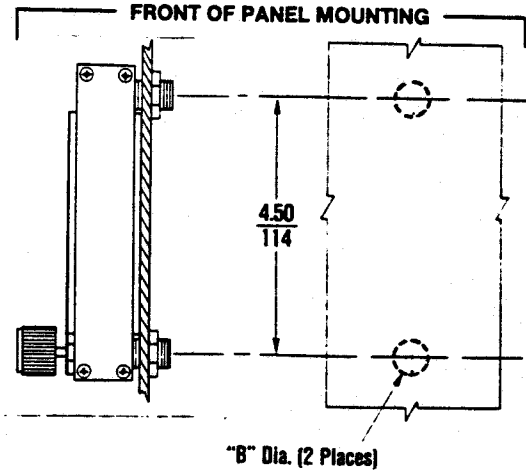
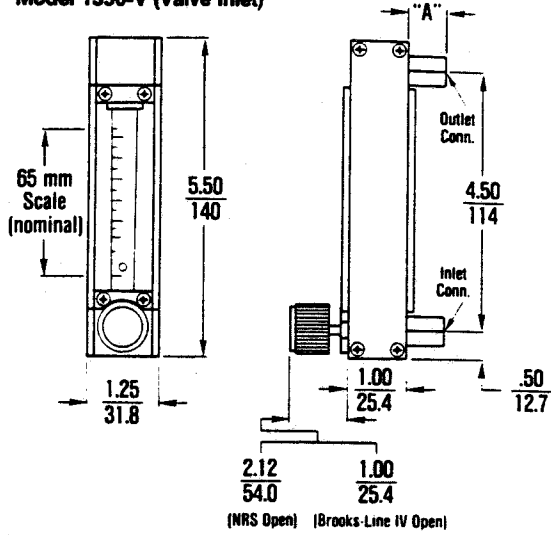
A  BLACK DECKER COMPANY

Forehearth Infrared  
Fiber Optic System

Actual size AS shown 9 1/4 x 3 1/4

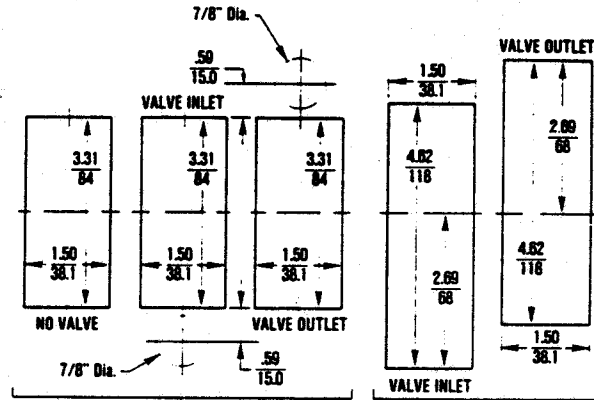
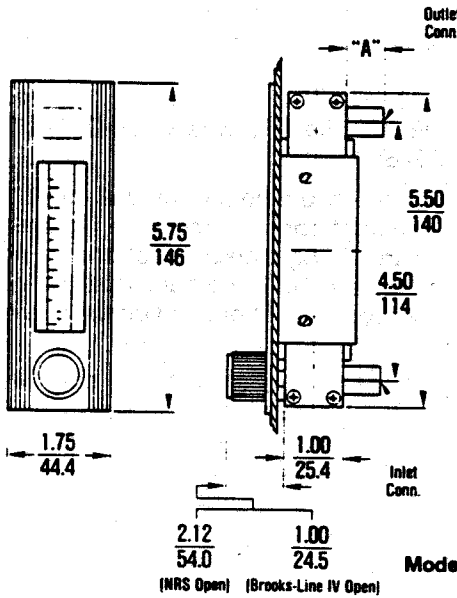
MATERIAL: G-KANO-PLY GLOSSY SILVER

**Model 1350-V (Valve Inlet)**



Threaded Adapters & Lock Nuts

Conn. Adapter	1/8" NPT	1/4" NPT
"B" Dia.	50/15.1	30/7.22

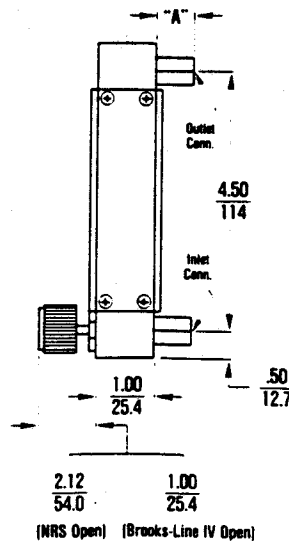
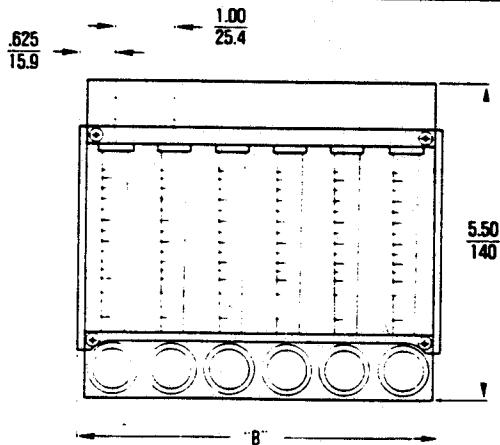


For Panel Thickness 1/8" or Less

For Panel Thickness Greater than 1/8"

(Remove rear shield, if furnished, when mounting on panels thicker than 1/4".)

**Model 1350-VB (Valve Inlet with Aluminum Bezel)**



AN 10050-2 O-Ring Boss Seal (All Fittings)	1/4" ID Hose	.78 / 19.8
1/4" NPT	1/4" Compression	.812 / 20.6
1/8" NPT	1/8" Compression	.719 / 18.3

Dimension "A" Connection Adapter

Inches/Millimeters

**Model 1360-6T-V**

Size	2 Tube	3 Tube	4 Tube	5 Tube	6 Tube
"C"	2.25/57.2	3.25/82.6	4.25/108	5.25/133	6.25/159

Figure 2-2 Dimensions - Sho-Rate II "50" (Sizes 1-6)

# Purchase Order



IRCON, INC.  
7300 N. Natchez Ave.  
Niles, IL 60714 USA

Phone 847-967-5151  
Fax 847-647-0070



001220/630 543 4049

P/NUMBER	PAGE	P/O DATE	ORDER TYPE	CHANGE/CANCEL
85084-00	01	02/12/98	NORMAL	ORIGINAL 02/12/98

ORDERED FROM  
VISION MANUFACTURING INC.  
723 ANNORENO DRIVE  
ADDISON IL 60101

SHIP TO  
IRCON, INC.  
7300 N. NATCHEZ AVE.  
NILES, IL. 60714

BUYER	TERMS	ACKNOWLEDGE	CONFIRM	FOB	SHIP VIA	COL/F
RON DEFOE, P/MGR.	NET 30	YES	YES	SHIPPING PT.	BEST WAY	PP.

LINE NO.	QTY. ORDERED	U/M	OUR ITEM NUMBER DESCRIPTION/COMMENTS	YOUR ITEM NUMBER	PRICE/UNIT REQUESTED DATE	EXTENDED PRICE	CHANGE CANCEL
001	150	EA	444732 COVER PRISM MAX COMPLETE PER PRINT, REV. D		1.850 03/16/98	277.50	
002	10	EA	574973 ENCLOSURE POWER SUPPLY LINE SCANNER D-DWG COMPLETE PER PRINT, REV. C PUNCH HOLES IN DOOR* USE TOUCH-UP PAINT. USE HINGE EXTRACTOR AT BOWER'S FURNISH 574972		72.000 03/02/98	720.00	

*Pick-up*

*Doc# 148070*

ILLINOIS PERMIT #2415-9425

TOTAL EXTENDED PRICE 997.50

NOT FOR RESALE  
 FOR RESALE  
PURCHASE ORDER NUMBER AND IRCON PART NUMBER, (IF STATED) MUST APPEAR ON ALL ACKNOWLEDGMENTS, PACKING SLIPS AND INVOICES.  
THIS ORDER MUST BE ACKNOWLEDGED WITHIN 7 DAYS.

COMMENTS AS QUOTED ON 02/12/98 CONFIRMING TO DARRIN

Part No. 020192 Rev H 10/96  
*[Signature]*

INTERNAL USE

ORDERED BY

ACKNOWLEDGEMENT

ACCEPTED BY (SIGNATURE)

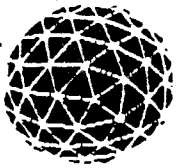
SHIPPING DATE

**IRCON, INC.**  
7300 N. Natchez Avenue  
Niles, Illinois 60714 USA



VISION MANUFACTURING INC  
723 ANNORENO DRIVE  
ADDISON ILLINOIS 60101





# SYNERGY SYSTEMS

INC.

**SENSORS TO SYSTEMS**

## PROPOSAL

<b>INQUIRY NUMBER</b>
Fax-Lackner
<b>DATE</b>
Wednesday, October 09, 1996
<b>TERMS</b>
Net 30 Days
<b>PRICES QUOTED ARE FOR</b>
Shipping Point
<b>DELIVERY</b>
4 - 6 Weeks ARO
<b>REFERENCE NUMBER</b>
TM-100996-01.

TO•

Joe Lakner  
Ircon, Inc.  
7300 North Natchez

Niles, IL 60714

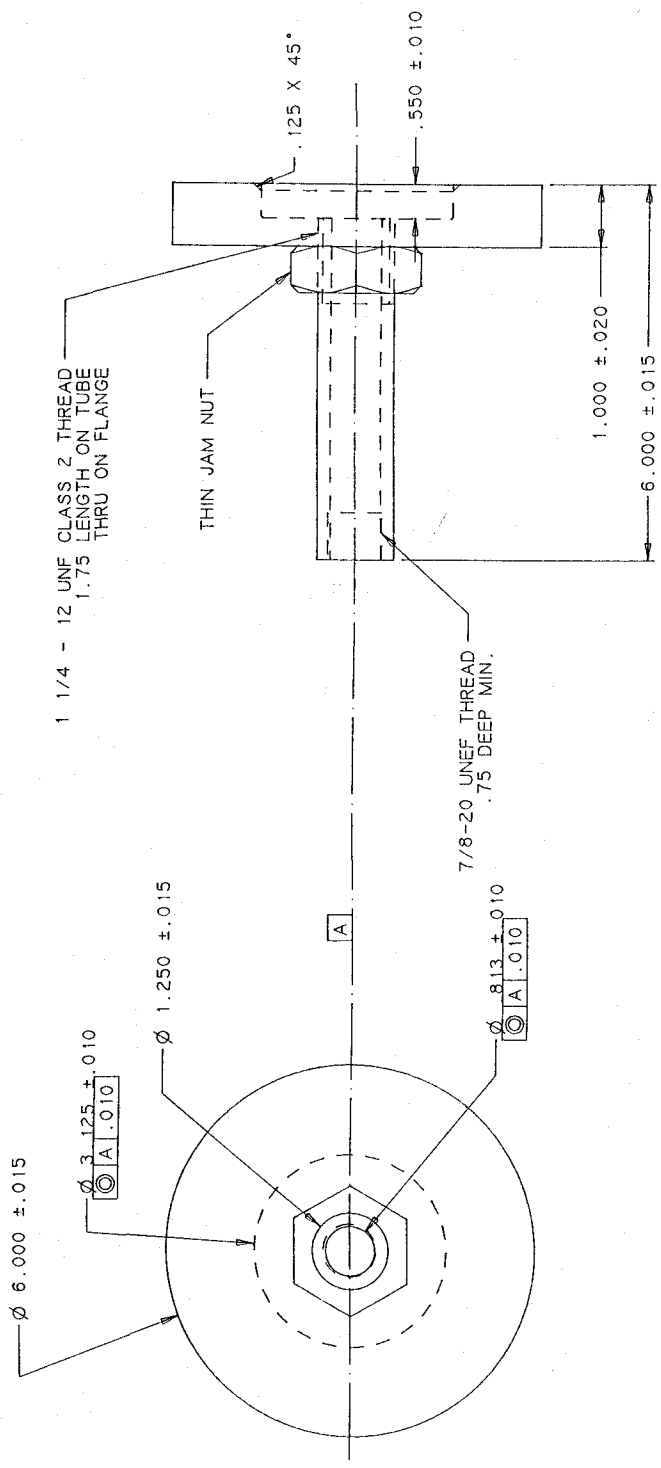
We are pleased to offer the following Proposal:

QUANTITY	DESCRIPTION	PRICE	AMOUNT
1	<u>Regulation Panel</u> 15"H X 7"W Steel Mounting Plate with the Following Components: (1) Coalescing Filter/Regulator with Guage. (1) 4 Position Air Purge Manifold. (1) Customer Connection Kit ( Fittings and Plugs ). (lot) Hardware and Labor to Assemble. <div style="text-align: right;">Total</div>		\$ 400.00
1	Optional 16 X 8 X 5 Enclosure with Window for Above.		\$ 175.00
1	Engineering and Drawings		\$400.00

Submitted by: Tim Millard  
Synergy Systems Inc.

THE ABOVE PRICES SHALL REMAIN IN EFFECT FOR 30 DAYS FROM DATE OF QUOTATION UNLESS OTHERWISE NOTED ABOVE. CANCELLATION OF ORDERS ONCE PLACED AND ACCEPTED BY US CAN BE MADE ONLY WITH OUR CONSENT. DELIVERY DATES PROMISED ARE SUBJECT TO DELAYS BEYOND OUR CONTROL.

DRAWING NO.		REV.
EX-4305		A
REVISION		
LTR.	DESCRIPTION	BY/DATE
A	THREADED PARTS, REMOVED WELD NOTE	8/13/97



THIS DRAWING IS THE PROPERTY OF IRCON, INC. AND IS NOT PART OF THE EXPRESS UNDERSTANDING AND AGREEMENT BETWEEN IRCON AND ANY OTHER PARTY. IT IS TO BE USED ONLY FOR THE PROJECT AND SPECIFICALLY FOR THE PART OR PARTS IDENTIFIED HEREIN. ANY REUSE OR REPRODUCTION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF IRCON, INC. IS STRICTLY PROHIBITED.

DO NOT SCALE

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED	
MATERIAL	304 STAINLESS
DRAWN BY	JPB
DATE	9/9/96
APPROVED	
DATE	
SCALE	1/2

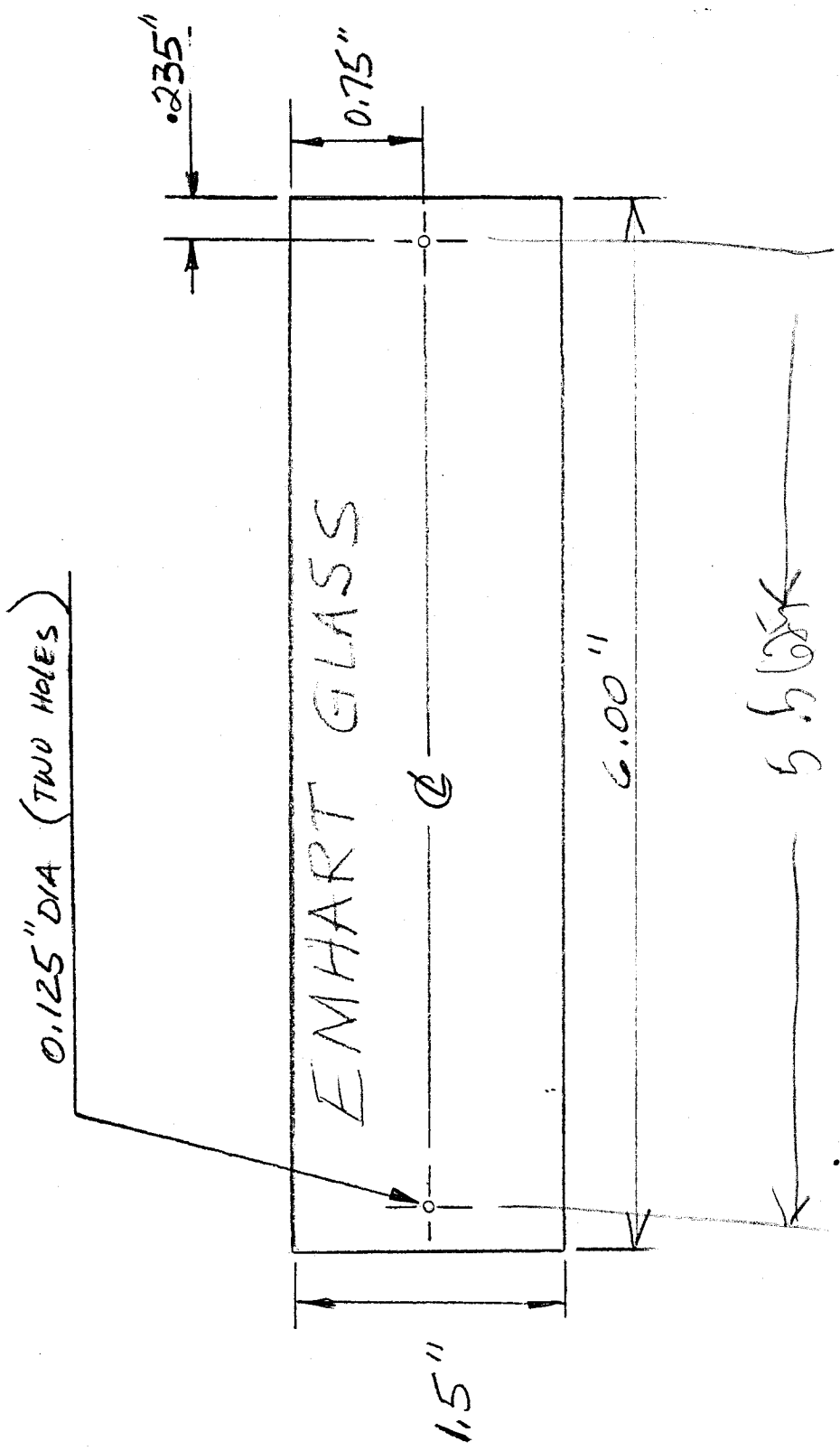


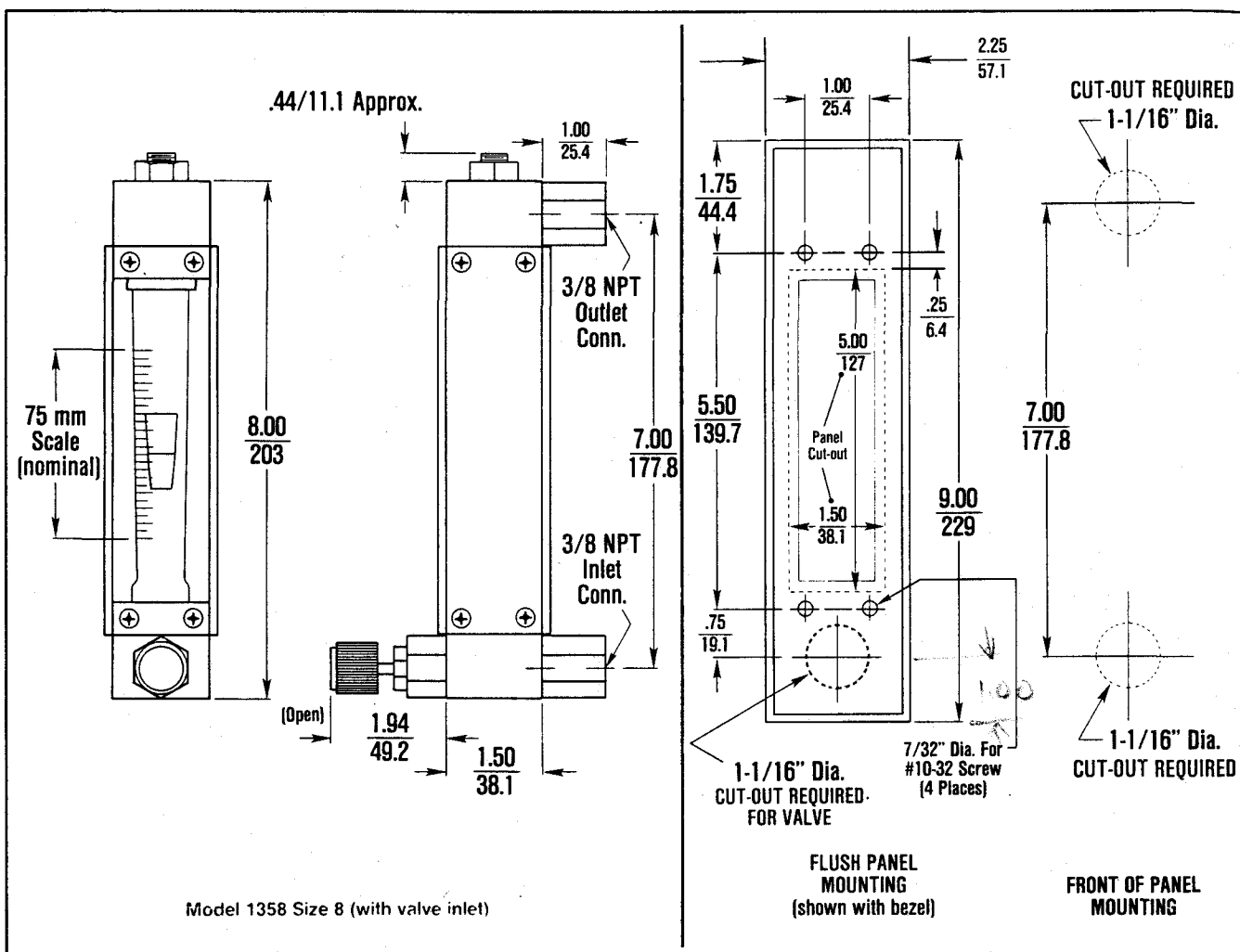
IRCON, INC.  
7300 North Natchez Ave.  
Niles, IL 60714

DRAWING NO.		REV.
SIGHT TUBE/FLANGE		A
EX-4305		

SHEET # 1 OF 1

DINRAIL SPECIAL R 614  
(EMHART LABEL)





- WINDOW: Clear Polycarbonate  
 BACK COVER: Milk White Polycarbonate  
 FLOAT STOPS: Stainless Steel  
 TUBE PACKING: Standard: Neoprene™ (Brass Meters),  
 Viton-A™ (316 Stainless Steel Meters).  
 Optional: Teflon™, EPM  
 O-RINGS: Standard: Buna-N (Brass Meters), Viton-A  
 (316 Stainless Steel Meters) Optional: EPM, Kalrez™

#### Dimensions

See Figure 1

#### Optional Equipment

- Integrally mounted needle control valve on inlet or outlet
- Flush panel mounting bezel
- Front of panel mounting locknuts
- Externally piped flow controller and needle valve  
(see DS-8800, 8900)
- Multi-tube construction up to six tubes

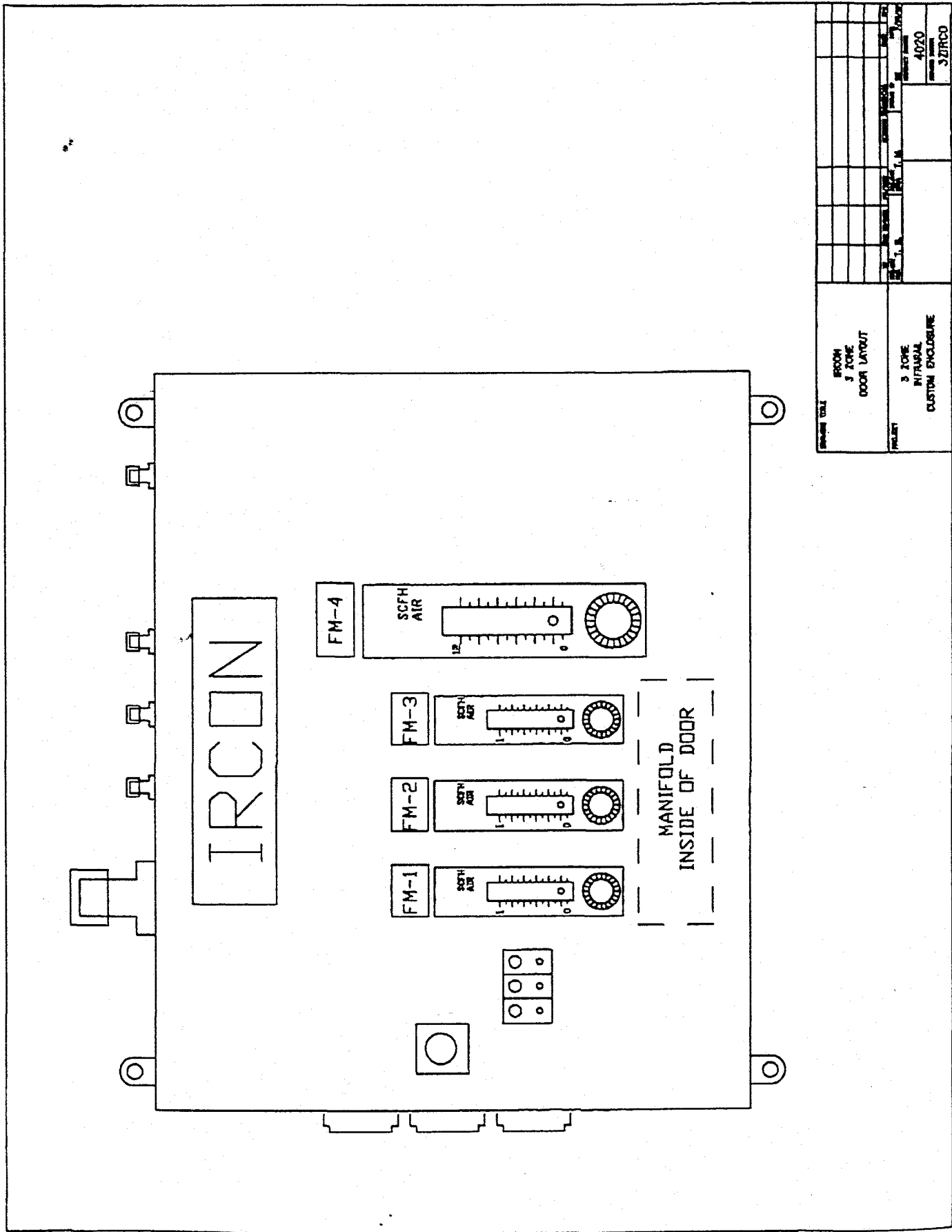
Specifications Subject to Change Without Notice

## WARNING

Glass metering tubes are designed for operation up to the maximum operating pressures and temperatures as specified herein. Due to the inherent brittle characteristics of glass and conditions beyond our control, tube breakage could result even within specified operating conditions. Do not use glass tube meters with fluids that are toxic, or chemically react with glass such as water above 140°F, steam, alkalis, fluorine, hydrofluoric acid, or molten metal. Failure to heed warning can result in serious personal injury and/or damage to the equipment.

#### TRADEMARKS

Brooks ..... Brooks Instrument, Division of Emerson Electric Co.  
 Fisher-Rosemount ..... Fisher-Rosemount Grp. of Companies  
 Kalrez ..... E. I. DuPont deNemours & Co.  
 ManagingThe Process Better ..... Fisher-Rosemount Grp. of Companies  
 Neoprene ..... E. I. DuPont deNemours & Co.  
 Sho-Rate ..... Brooks Instrument, Division of Emerson Electric Co.  
 Teflon ..... E. I. DuPont deNemours & Co.  
 Viton-A ..... E. I. DuPont deNemours & Co.





X-1350  
March, 1987  
Issue 12



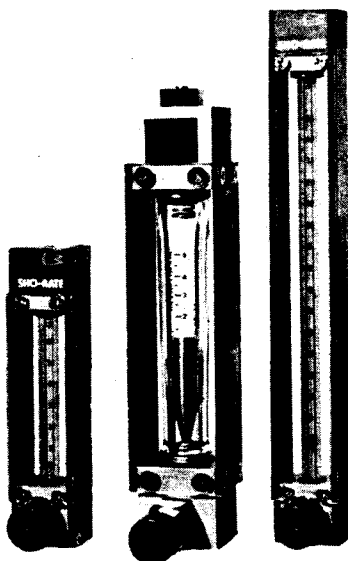
# INSTRUCTIONS



EMERSON®

BROOKS INSTRUMENT DIVISION  
EMERSON ELECTRIC CO.  
HATFIELD, PENNSYLVANIA 19440

## INSTALLATION AND OPERATING INSTRUCTIONS Sho-Rate® "50" and "150" Size 1-6, Sho-Rate "50" Size 8



### WARNING

It is recommended that this publication be read in its entirety before performing any operation. Failure to understand and follow these instructions could result in serious personal injury and/or damage to the equipment.

Should this equipment require repair or adjustment, contact the nearest Brooks Sales Office. It is important that servicing be performed only by trained and qualified service personnel. If this equipment is not properly serviced, serious personal injury and/or damage to the equipment could result.

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## Section 1 INTRODUCTION

### 1-1 Description

The Sho-Rate Flowmeters are variable area, glass tube, flow rate indicating meters. The basic elements are a tapered glass metering tube and a metering float. Features include quick and simple removal or installation of the tube and float while the meter remains in the process piping.

**Warning: Glass metering tubes are designed for operation to the maximum operating pressures and temperatures as specified herein. Due to the inherent brittle characteristics of glass and conditions beyond our control, tube breakage represents a potential hazard to operating personnel; therefore, operator protection should be supplied where operating pressures may exceed 50 psig. A customer supplied safety shield constructed of 1/2 inch acrylic plastic may be used or the glass tube meter may be replaced with an all metal (armored) meter.**

### 1-2 Specifications

#### PRESSURE RATING

200 psig at temperatures up to 250°F (121°C)

#### STANDARD ACCURACY

65 mm - meter specified to have an accuracy  $\pm 10\%$  of maximum scale from 100% to 10% of scale reading. (Conforms to ISA R.P. 16.1, Spec. 10-S-10)

150 mm - meter specified to have an accuracy of  $\pm 5\%$  of maximum scale from 100% to 10% of scale reading (Conforms to ISA standard, 5-S-10)

#### REPEATABILITY

1/2% full scale

#### RANGEABILITY

10:1

#### CONNECTIONS:

Standard - 1/8" female NPT with locknuts  
(Other connections available), 3/8" NPT on size 8

## Section 2 INSTALLATION

### 2-1 Receipt of Equipment

When the equipment is received, the outside packing case should be checked for any damage incurred during shipment. If the packing case is damaged, the local carrier should be notified at once regarding his liability. A report should be submitted to the Product Service Department, Brooks Instrument Division, Emerson Electric Co., Hatfield, PA 19440.

### 2-2 Unpacking

Carefully unpack the meter and inspect it for any damage that may have occurred during shipment. The flowmeters are shipped completely assembled and tested. It should not be necessary to tighten or adjust any of the parts when it is received.

### 2-3 Return Shipment

Do not return any assembly or part without a Return Materials Report. The Return Materials Report is available from all District Sales Offices and the Product Service Department, Hatfield, PA 19440. Infor-

mation describing the problem, corrective action, if any, and the work to be accomplished at the factory must be included.

### 2-4 Recommended Storage Practice

If intermediate or long term storage is required for equipment, as supplied by Brooks Instrument Division, it is recommended that said equipment be stored in accordance with the following:

- Within the original shipping container
- Stored in a sheltered area, preferably a warm, dry, heated warehouse.
- Ambient temperature 70°F (21.0°C) nominal
- Relative humidity 45% nominal 60% maximum/25% minimum

Upon removal from storage, a visual inspection should be conducted to verify the condition of equipment is "as received". If the equipment has been in storage for an excess of two (2) years or in conditions in excess of those recommended, all pressure boundary seals should be replaced and the device subject to a Hydrostatic/Pneumatic pressure test in accordance with applicable pressure vessel codes.

### 2-5 Installation (See Figures 2-1, 2-2, 2-3, 2-4, 2-5 and 2-6)

The flowmeter should be mounted within 6° of true vertical. The inlet connection to the flowmeter is in the bottom end fitting. The connections are normally horizontal, female NPT. Be sure that the piping is adequately supported to prevent undue strain on the meter.

**Warning: If the inlet and outlet valves adjacent to the flowmeter are to be closed for any reason, the flowmeter must be completely drained. Failure to do so may result in thermal expansion of the liquid which can cause rupture of the meter and possible personal injury.**

Care must be taken in the system piping to this instrument to prevent sudden excessive pressure or flow surges. Protective devices should be installed upstream of this instrument, such as flow controllers, pressure regulators, pressure snubbers and rupture discs.

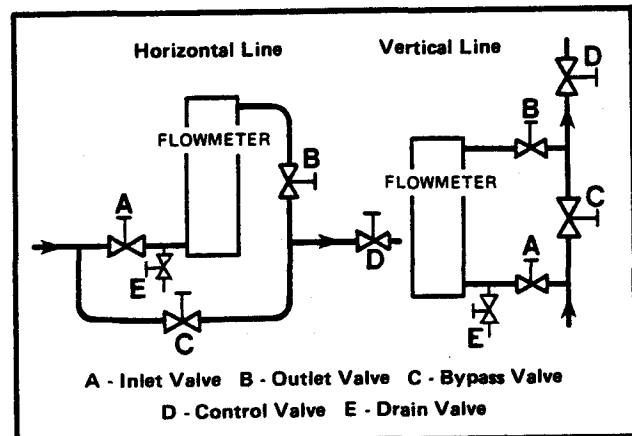
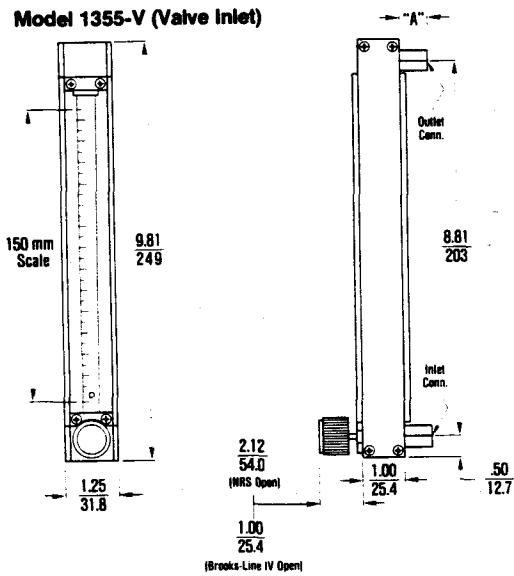
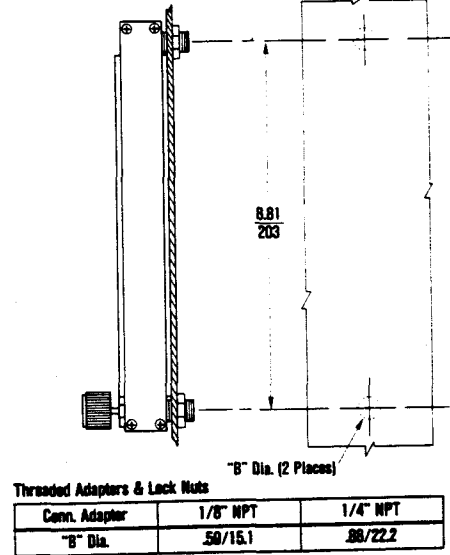


Figure 2-1 Typical Flowmeter Installation

**Model 1355-V (Valve Inlet)**

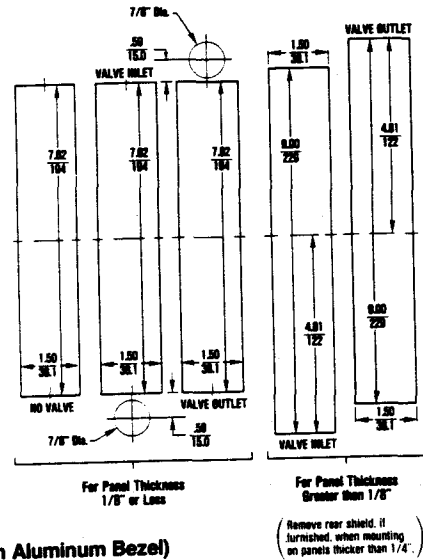
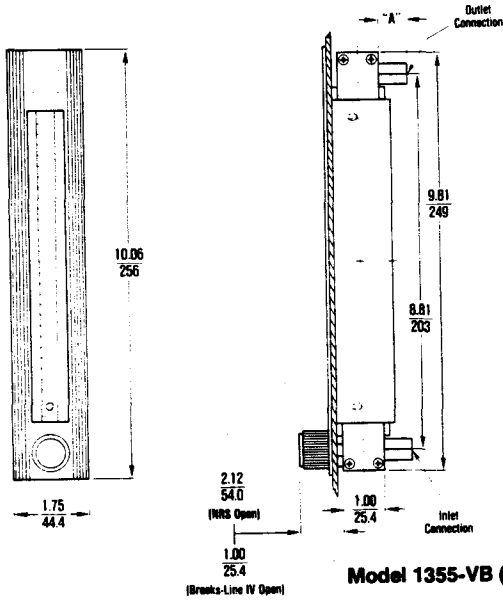


**FRONT OF PANEL MOUNTING**



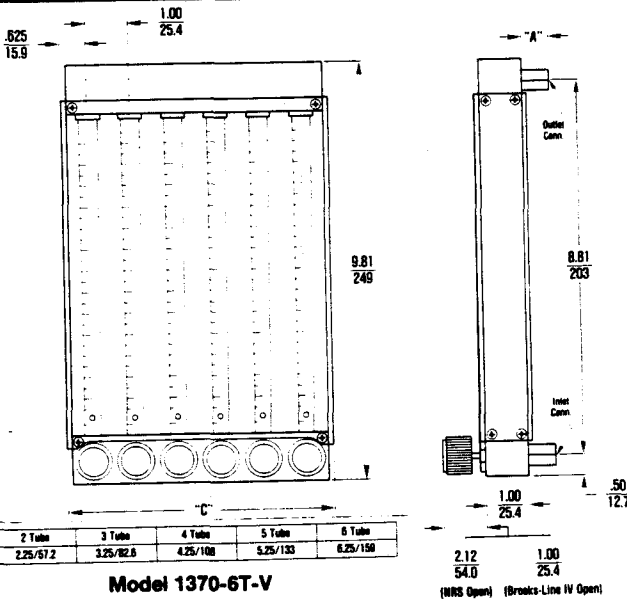
**Threaded Adapters & Lock Nuts**

Conn. Adapter	1/8" NPT	1/4" NPT
"B" Dia.	.50/15.1	.88/22.2



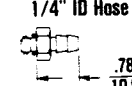
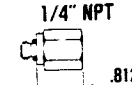
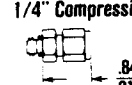
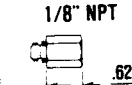
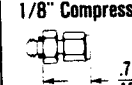
**Model 1355-VB (Valve Inlet with Aluminum Bezel)**

(Remove rear shield, if furnished, when mounting on panels thicker than 1/4".)



Max. "C"	2 Tubes	3 Tubes	4 Tubes	5 Tubes	6 Tubes
	2.25/57.2	3.25/82.6	4.25/108	5.25/133	6.25/158

**Model 1370-6T-V**

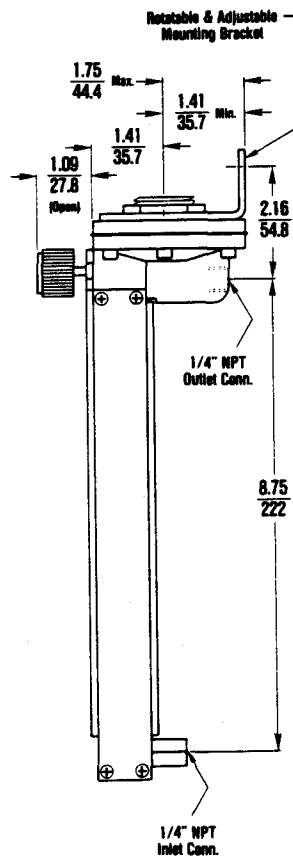
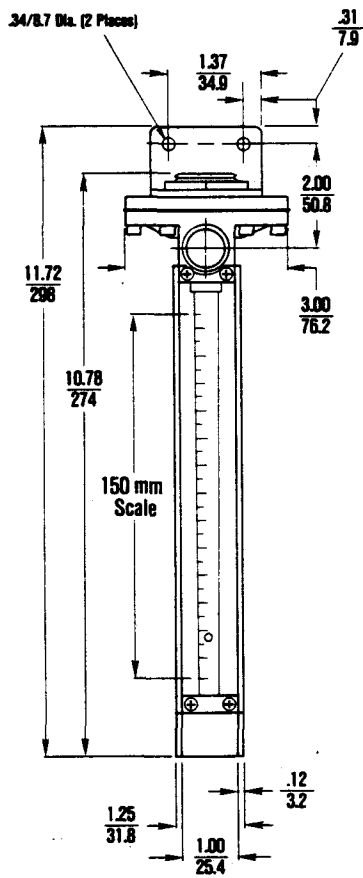
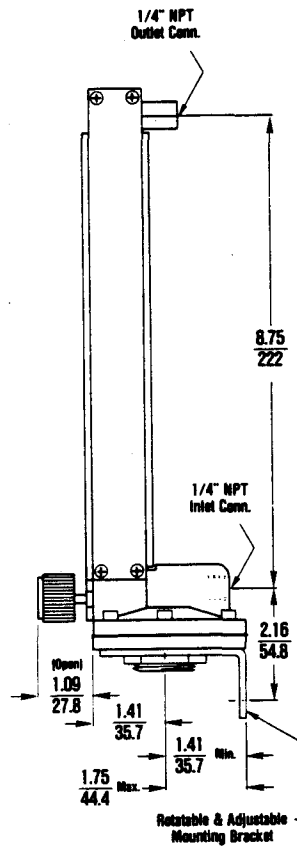
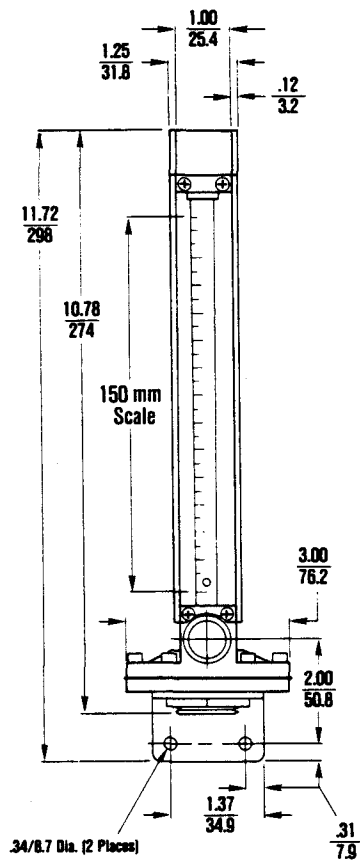
AN 10050-2 O-Ring Boss Seal (All Fittings)	1/4" ID Hose  .78 19.8
1/4" NPT  .812 20.6	1/4" Compression  .843 21.4
1/8" NPT  .625 15.9	1/8" Compression  .719 18.3

**Dimension "A" Connection Adapter**

Inches/Millimeters

Figure 2-3 Dimensions - Sho-Rate II "150" (Sizes 2-6)

Model 1355-8800



Model 1355-8900

Inches/Millimeters

Figure 2-5 - Sho-Rate "150" (Sizes 2-6) with Integral Controller

## Section 3 OPERATION

### 3-1 Operation

**Caution: Do not operate this instrument in excess of specifications.**

After the flowmeter has been installed in the flow system, it is ready for operation. A built-in needle control valve may be provided to control the flow through flowmeter. These control valves are designed for fine control. Excessive tightening may damage the valve seat and limit its effectiveness as a control valve. If tight shut-off is required, it is recommended that a separate shut-off valve be installed in the line immediately before the flowmeter.

Flow indication is measured using the center of the float as the reference point.

## Section 4 MAINTENANCE

### 4-1 Disassembly and Cleaning

It is recommended the user periodically inspect the tube and float, and clean if necessary. Dirt or foreign materials adhering to the tube and float may cause inaccuracy and sticking of the float. The metering tube (Borosilicate glass) and related parts may be ultrasonically cleaned or cleaned with any solvent which does not attack glass. To disassemble, use the following procedures:

- a. Remove the plastic safety shield and back plate.
- b. Loosen the seal spindle or jack screw by turning it counterclockwise with a 5/32" hex wrench. The tube may now be canted out of the meter housing.
- c. On meter sizes 1 through 6, the tube, float, and float stops may be cleaned as an assembly or may be disassembled for cleaning. Using a small hook, remove either Teflon<sup>†</sup> float stop from the metering tube and remove the float. Be careful not to chip the tube.
- d. Packing seats and packing inserts now may be removed.
- e. With the metering tube out, the seal spindle or jack screw may be rotated clockwise for removal. It should not be necessary to remove the seal spindle unless the O-ring which seals the spindle requires replacement. The O-ring may be used as long as it is not torn or distorted.
- f. The needle control valve assembly may be removed by turning the valve body counterclockwise. The valve seat, stem and packing then may be removed easily from the valve body for cleaning or replacement.

### 4-2 Reassembly Procedure

- a. Use the reverse of steps a through f of the disassembly procedure to reassemble the meter.
- b. Prior to installing the needle control valve assembly make certain that the valve stem is turned completely counterclockwise to prevent damage to the valve seat.

- c. When replacing the packing seats in the flowmeter body be sure the packing inserts are approximately 1/16" above the top of the packing seat. Also be certain the tube seats firmly on the packing seats and does not overlap onto the end block.
- d. The seal spindle serves to axially compress the tube seat gasket and exert a uniform pressure on the metering tube to prevent any possibility of leakage. Do not overtighten the seal spindle.
- e. After the flowmeter has been reassembled, it is important that it be leak tested with air at a minimum pressure of 15 psig at room temperature. To detect a leak; brush soapy water around all possible leak points (tube packing, connections, and seal spindle) and check if bubbles are being formed. Should a leak be detected, tighten that particular joint to see if the leak can be stopped. If leak persists, disassemble the area involved and check for dirt or damaged elastomer. Clean and or replace elastomer.

## Section 5 PARTS LIST

### 5-1 General

When ordering parts please specify: Brooks Serial Number, Model Number, Part Number, Description and Quantity. Refer to Table 5-1 and 5-2.

#### †TRADEMARKS

Brooks-Line IV . . . Brooks Instrument Division, Emerson Electric Co.  
Buna . . . . . E. I. DuPont de Nemours & Co.  
Buna-N . . . . . E. I. DuPont de Nemours & Co.  
Flo-Gard . . . Brooks Instrument Division, Emerson Electric Co.  
NRS . . . . . Brooks Instrument Division, Emerson Electric Co.  
Sho-Rate . . . Brooks Instrument Division, Emerson Electric Co.  
Teflon . . . . . E. I. DuPont de Nemours & Co.  
Viton . . . . . E. I. DuPont de Nemours & Co.

Table 5-1 Parts List - Sho-Rate "50" and "150" (Sizes 1-6)

Ref. No.	Qty.	Description	Part No.
1*	1	Metering Tube Assembly	Per S/N
2	1	Glass Metering Tube	Per S/N
3	1	Ball Float (Size 1.5-1350 Only) Size 1 3/32" Glass Size 1 3/32" 316 SS Size 2 1/8" Glass Size 2 1/8" Sapphire Size 2 1/8" 316 SS Size 2 1/8" Carboloy Size 2 1/8" Tantalum Size 5 7/32" Glass Size 5 7/32" 316 SS Size 6 1/4" Glass Size 6 1/4" Sapphire Size 6 1/4" 316 SS Size 6 1/4" Carboloy Size 6 1/4" Tantalum	345B055WYA 345B051BMA 345C054WYA 345C068VGA 345C067BMA 345C069CKA 345C051JNA 345F013WYA 345F012BMA 345G055WYA 345G071VGA 345G072BMA 345G073CKA 345G051JNA
4	1	Inlet & Outlet Teflon Float Stops	Per S/N
5	1	Inlet/Outlet Tube Packing	Per S/N
6	1	Seal End Fitting (Outlet) Aluminum Brass 316 SS	325A087ELJ 325A087GGL 325A087BMF
7	1	Seal Spindle Aluminum Brass 316 SS	817A001ELJ 817A001GGJ 817A001BMA
8	1	Valve End Fitting (Inlet) Aluminum Brass 316 SS	325B091ELJ 325B091GGL 325B091BMF
8A	1	Valve Plug Aluminum Brass 316 SS	618J019ELJ 618J019GGJ 618J019BMA
9A*	1	Upper Seal Spindle O-ring Buna† Viton† Teflon	375B010SUA 375B010QTA 375B010QMA
9B*	1	Lower Seal Spindle O-ring Buna Viton Teflon	375B111SUA 375111QTA 375111QMA
9C	2	Adapter O-ring Buna Viton Teflon	375B009SUA 375B009QTA 375B009QMA
9D*	1	Plug O-ring Buna Viton Teflon	375B015SUA 375B015QTA 375B015QMA
10	1	Side Plate (STD) 1350 Aluminum STN. STL. 1355 Aluminum STN. STL.	614A165FBJ 614A165BMF 614B200FBJ 614B200BMF
11	1	Side Plate 1350 Standard Aluminum STN. STL. For Detached Scale Aluminum STN. STL. For Flo-Gard† Alarm Aluminum STN. STL. Detached Scale & Flo-Gard Aluminum STN. STL.	614A165FBJ 614A165BMF 614A150FBJ 614A150BMF 614A151FBJ 614A151BMF 614A152FBJ 614A152BMF

\*Recommended Spare Parts

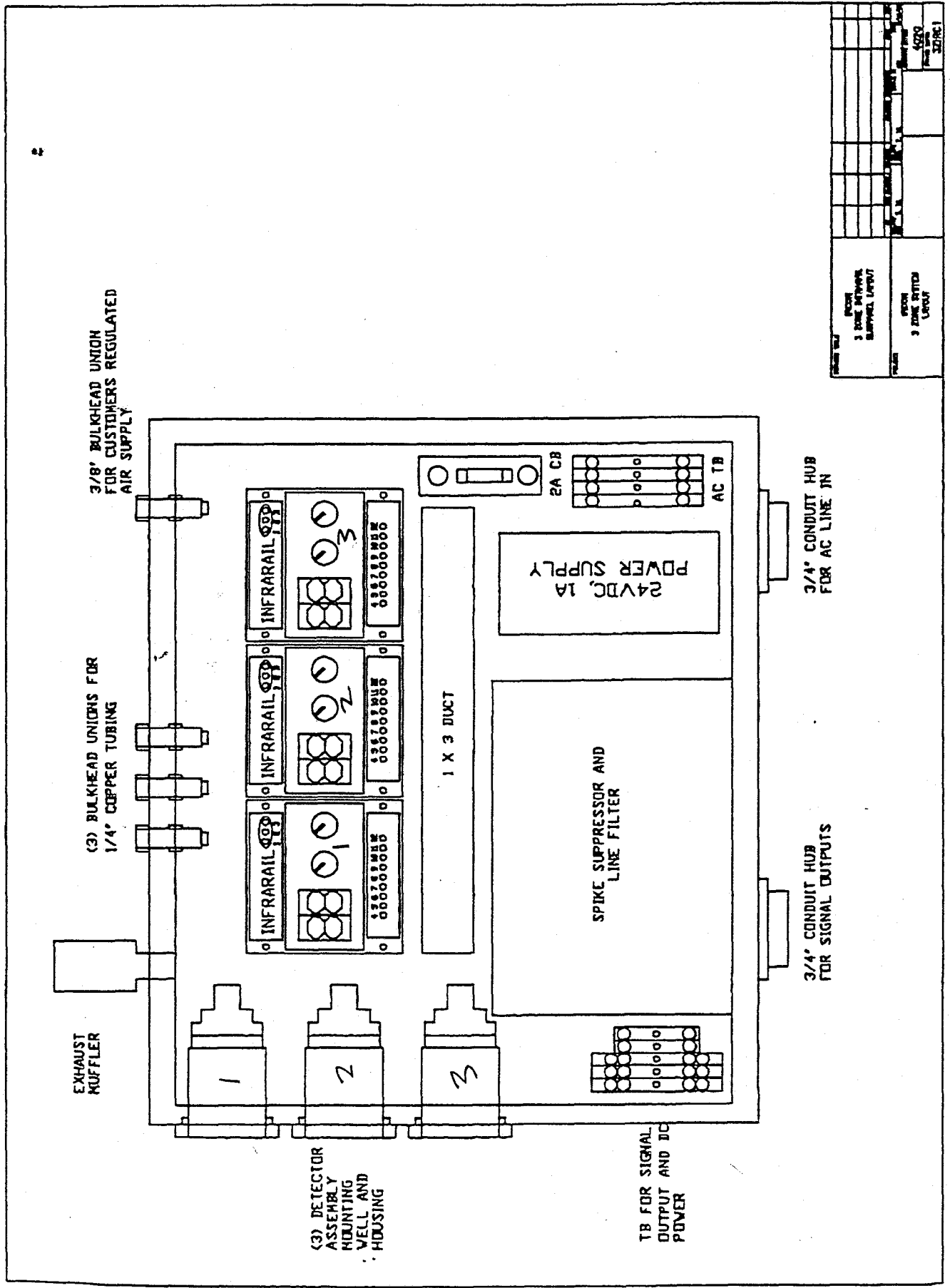
Ref. No.	Qty.	Description	Part No.
11	1	(Cont'd)1355 Standard Aluminum Stn. Stl. For Detached Scale Aluminum Stn. Stl. For Flo-Gard Alarm Aluminum Stn. Stl. Detached Scale & Flo-Gard Aluminum Stn. Stl.	614B200FBJ 614B200BMF 614B183FBJ 614B183BMF 614B184FBJ 614B184BMF 614B185FBJ 614B185BMF
12	1	Front Shield 1350 1355	794A042NZA 794B004NZA
13	1	Back Plate 1350 1355	615A009PBA 615B027PBA
14	16	Side Plate & Shield Screw	753L267CEA
15A	1	Aluminum Det. D/R Scale	Per S/N
15B	2	Stn. Stl. Scale Screws	753L268AWA
15C	2	Stn. Stl. Scale Washers	926B006BYA
15D	2	Stn. Stl. Scale Nuts	573D012AWA
16	1	Aluminum Bezel 1350 (No Valve) 1355 (With Valve) 1355 (No Valve) 1355 (With Valve)	S075B078FEG S075B079FEG S075D088FEG S075D089FEG
17	1	Optional Valve Assembly Brooks-Line IV Brass/Buna-N† - Low Brass/Buna-N - Med Brass/Buna-N - Hi 316 S.S./Viton - Low 316 S.S./Viton - Med 316 S.S./Viton - Hi NRST† Valve Brass/Buna-N - Size 1 Brass/Buna-N - Size 2 Brass/Buna-N - Size 3 Brass/Buna-N - Size 4 Brass/Buna-N - Size 5 Brass/Buna-N - Size 6 316 S.S./Viton - Size 1 316 S.S./Viton - Size 2 316 S.S./Viton - Size 3 316 S.S./Viton - Size 4 316 S.S./Viton - Size 5 316 S.S./Viton - Size 6	S947M078REA S947M079REA S947M080REA S947M081BMA S947M082BMA S947M083BMA S947L001GEA S947L002GEA S947L003GEA S947L004GEA S947L005GEA S947L006GEA S947L007BMA S947L008BMA S947L009BMA S947L010BMA S947L011BMA S947L012BMA
18	2	1/8" NPT Thd. Adapter w/Locknut Aluminum w/Buna Brass w/Buna 316 SS w/Viton 1/8" NPT Adapter Aluminum w/Buna Brass w/Buna 316 SS w/ Viton 1/4" NPT Adapter Aluminum w/Buna Brass w/Buna 316 SS w/Viton 1/8" Compression Adapter Brass w/Buna 316 SS w/Viton 1/4" Compression Adapter Brass w/Buna 316 SS w/Viton 1/4" I.D. Hose Adapter Aluminum w/Buna Brass w/Buna 316 SS w/Viton	S014C336ELA S014C284GGA S014C285BMA S014C335ELA S014C282GGA S014C283BMA S014C332ELA S014C286GGA S014C287BMA S0146189GGA S014G190BMA S0146G193GGA S014G194BMA S014H225ELA S014H225GGA S014H226BMA
19*	1	Orifice O-ring NRS Buna-N Viton Brooks-Line IV Buna-N Viton	375B007SUA 375B007QTA 375G031SUA 375G031QTA

Table 5-2 Parts List - Sho-Rate "50" (Size 8)

Ref. No.	Qty.	Description	Part No.
1*	1	Metering Tube Assembly (Tube, Float, Float Stop)	Per S/N
2	1	Glass Metering Tube	Per S/N
3	1	316 S. S. Float (Not Shown)	Per S/N
4	1	Float Stop (Not Shown)	Per S/N
5	1	Tube Seal Packing	Per S/N
6	1	Seal End Fitting (Outlet) Brass 316 SS	325G001GGL 325G001BMF
7A	1	Seal Spindle Brass 316 SS	817A055GGJ 817A055BMA
7B	1	Seal Plug Brass 316 SS	618Z021GGJ 618Z021BMA
7C	1	Jackscrew Plug Brass 316 SS	618J055GGJ 618J055BMA
8	1	End Fitting w/o Valve (Inlet) Brass 316 SS End Fitting w/ Valve (Inlet) Brass 316 SS	325J006GGL 325J006BMF 325H002GGL 325H002BMF
8A	1	Valve Plug	618Q005BMA
9A*	1	Upper Seal Spindle O-ring Buna Viton	375B010SUA 375B010QTA
9B*	1	Lower Seal Spindle O-ring Buna Viton	375B211SUA 375B211QTA
9C*	2(3 w/vlv ftg)	Adapter O-ring Buna Viton	375B908SUA 375B908QTA
9D*	1	Plug O-ring Buna Viton	375B905SUA 375B905QTA
10	1	Side Plate (STD) Aluminum 316 SS	614A008FBJ 614A008BMF
11	1	Side Plate Standard Aluminum 316 SS For Detached Scale Aluminum 316 SS	614A008FBJ 614A008BMF 614A009FBJ 614A009BMF

\*Recommended Spare Parts

Ref. No.	Qty.	Description	Part No.
12	1	Front Shield	794A012NZA
13	1	Back Plate	615A012PBA
14	16	Side Plate & Shield Screw	753L423CEA
15A	1	Aluminum Det. D/R Scale	Per S/N
15B	2	Stn. Stl. Scale Screws	753L268AWA
15C	2	Stn. Stl. Scale Washers	962B006BYA
15D	2	Stn. Stl. Scale Nuts	573D012AWA
16A	1	Plastic Bezel w/o Valve (Not Shown)	075B025NZZ 0751325NZZ
16B	4	Plastic Bezel w/ Valve Mounting Screws (Not Shown)	753A429AWA
17	1	Optional Needle Valve Brass 316 SS	S947B110GGJ S947B110BMA
18	2	3/8" NPT Adapter w/o Locknut Brass 316 SS 3/8" NPT Thd. Adapter Brass 316 SS	014C023GGJ 014C023BMA 014C034GGJ 014C034BMA
19	2	Locknuts for Optional Front of Panel Mounting (Not Shown)	573B018ACO

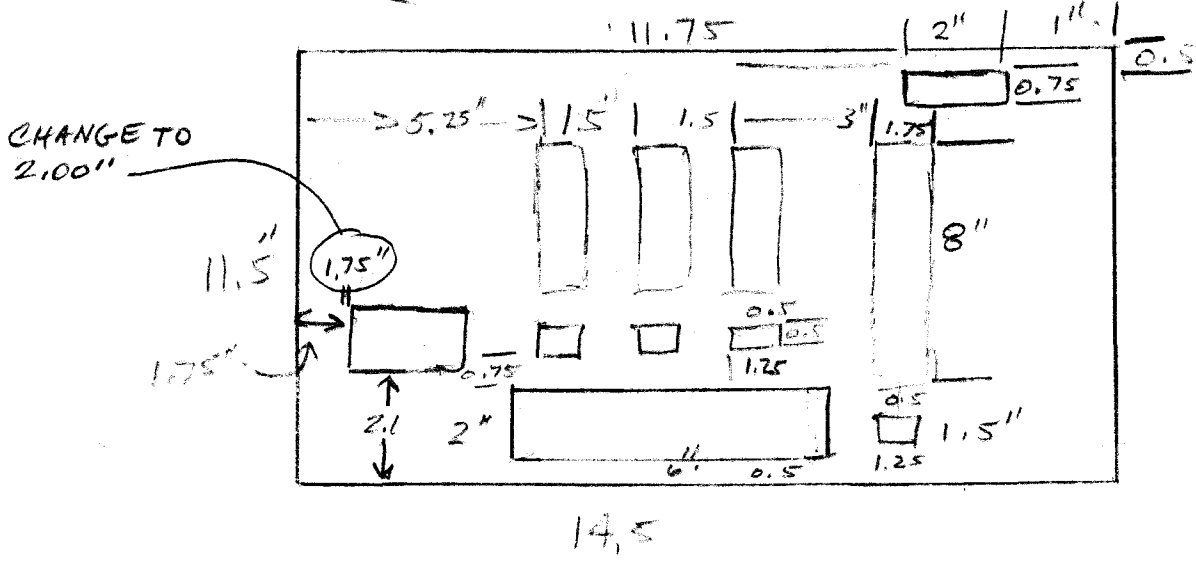


SPC. R708

RITUAL AETO31

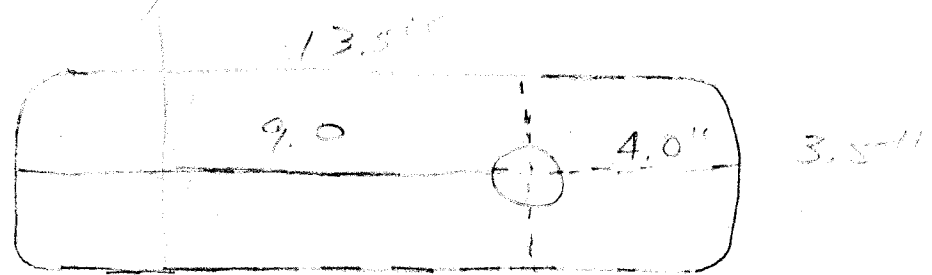
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FRONT DOOR

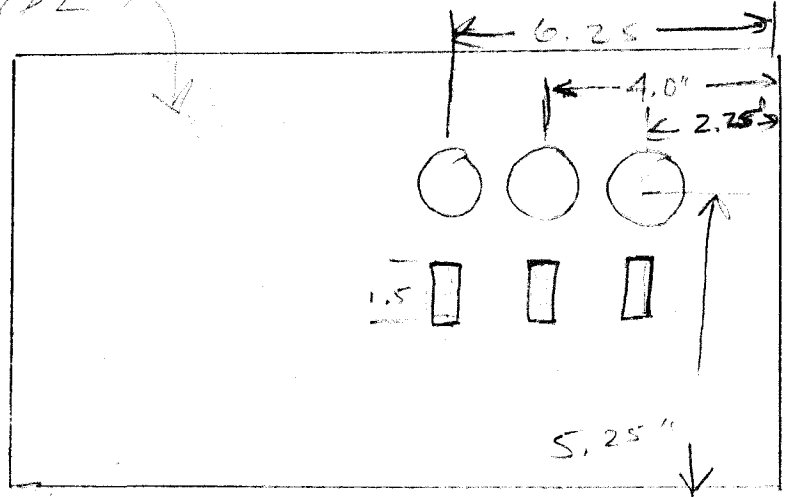


14.5

CLAND PANEL BOTTOM



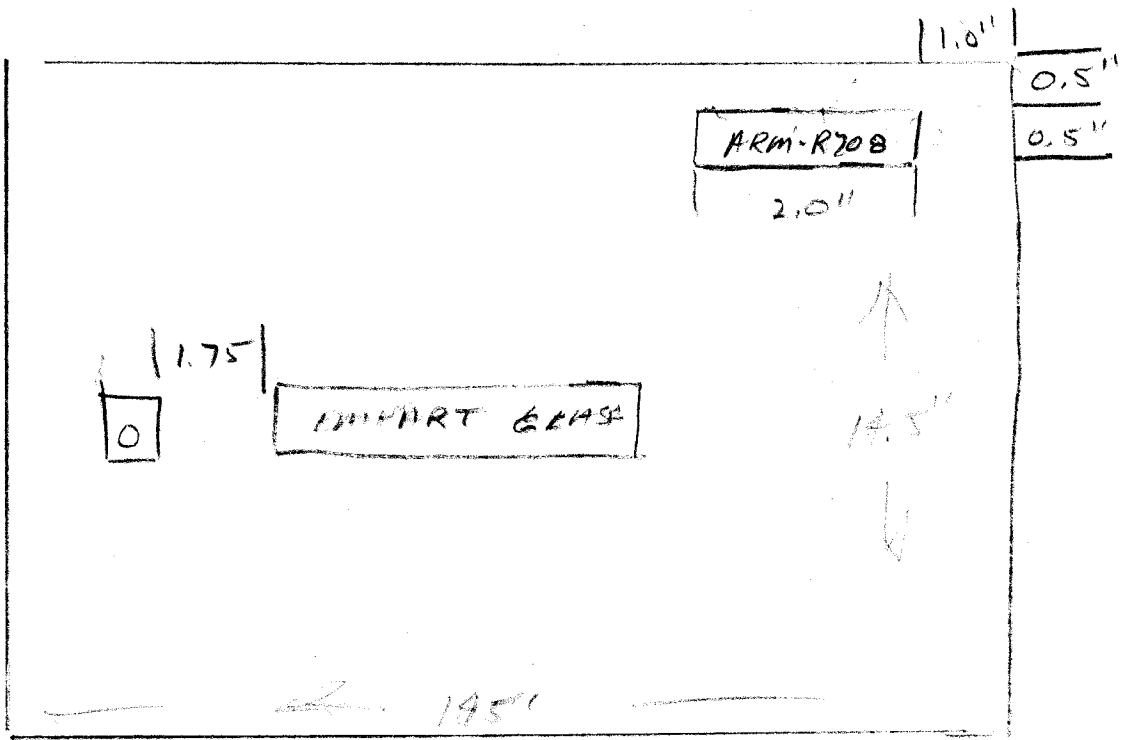
LEFT SIDE



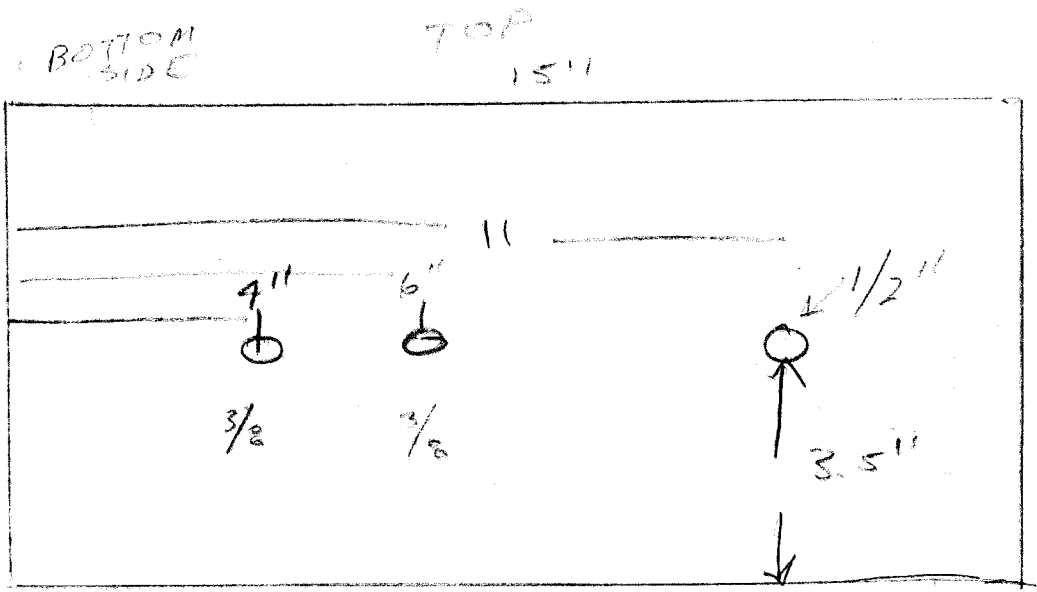


# ARM BOX R708

RITIAL # AE1380



DOOR



DOOR SIDE

**DRAWING (S) TOO LARGE  
TO SCAN.**

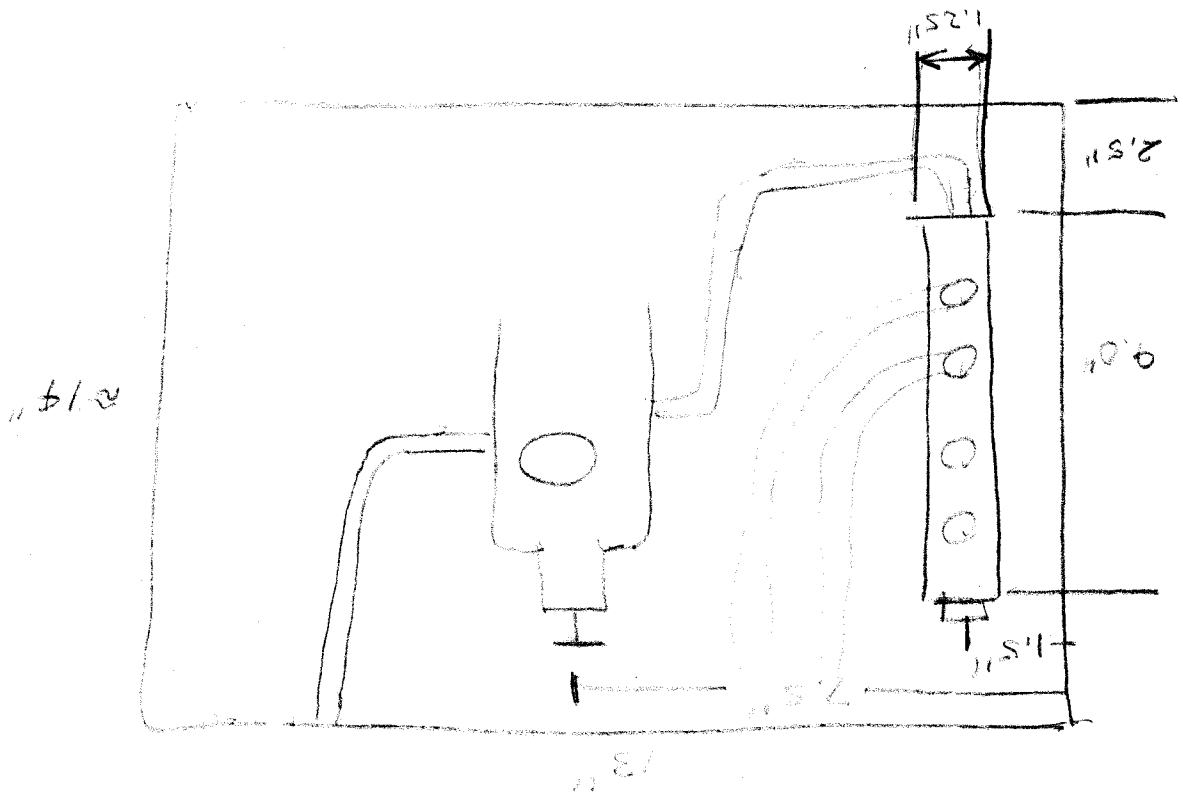
**TO VIEW THE ORIGINAL**

**DESIGN,**

**A REQUEST TO VIEW**

**PHYSICAL FILE**

**IS YOUR NEXT OPTION.**



ARM - F208  
 PANEL FOR RTT P.L. BOX AB/280

# 594972  
574973

AE 1380

106.46  
175.21

3 4000

# FaxTransmittal Fax Transmittal



IRCON, INC.  
7300 North Natchez Avenue  
Niles, Illinois 60714 USA

Telephone 847-967-5151 ← EX-# 310  
Admin Fax 847-647-0070  
Sales /Service Fax 847-647-0948



Date 3-23-98

To METO-GRAFICS Inc

Fax No 847 639-5144

Attn MIKE EMRICH

From AMILIO DONADO

No. of pages (including this page) 3

DID NOT RECEIVE LABELS:  
EX-4388, FM-1, FM-2, FM-3  
PERHAPS DUE TO INCORRECT PART#.

PLEASE ADVISE AS WE WILL BE  
PLACING ORDER FOR ABOVE ITEMS.

REGARDS

A. DONADO  
IRCON INC.

# Purchase Order

*Joe LAKAR*



IRCON, INC.  
7300 N. Natchez Ave.  
Niles, IL 60714 USA

Phone 847-967-5151  
Fax 847-647-0070



002341/847-639-0044

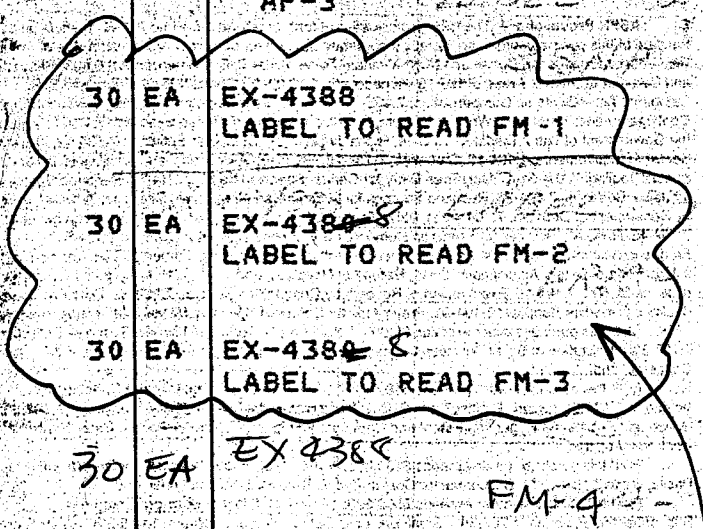
NUMBER	PAGE	P/O DATE	ORDER TYPE	CHANGE/CANCEL
85221-00	02	02/26/98	NORMAL	ORIGINAL 02/26/98

ORDERED FROM: **METO-GRAFICS, INC**  
169 NORTHWEST HWY  
CARY, IL 60013

SHIP TO: **IRCON, INC**  
7300 N. NATCHEZ AVE  
NILES, IL 60714

TERMS	ACKNOWLEDGE	CONFIRM	FOB	SHIP VIA	COL/PPD
2% 10 NET 30	YES	YES	SHIPPING PT	BEST WAY	PPD

QTY. ORDERED	UM	OUR ITEM NUMBER	YOUR ITEM NUMBER	PRICE/UNIT	REQUESTED DATE	EXTENDED PRICE	CHANGE CANCEL
30	EA	EX-4389		2.270	03/24/98	68.10	329
		LABEL TO READ AP-2					
30	EA	EX-4389		2.270	03/24/98	68.10	329
		LABEL TO READ AP-3					
30	EA	EX-4388		2.270	03/24/98	68.10	329
		LABEL TO READ FM-1					
30	EA	EX-4388		2.270	03/24/98	68.10	329
		LABEL TO READ FM-2					
30	EA	EX-4388		2.270	03/24/98	68.10	329
		LABEL TO READ FM-3					
30	EA	EX 4388		2.270		68.10	329
		FM-4					



**DID NOT RECEIVE**

ILLINOIS PERMIT #2415-9425  
TOTAL EXTENDED PRICE: 829.50

FOR RESALE  
PURCHASE ORDER NUMBER AND IRCON PART NUMBER, (IF STATED) MUST APPEAR ON ALL ACKNOWLEDGMENTS, PACKING SLIPS AND INVOICES.

THIS ORDER MUST BE ACKNOWLEDGED WITHIN 7 DAYS.  
THIS ORDER ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN ON THIS AND THE REVERSE SIDE.

INTERNAL USE

Part No. 020192 Rev H 10/96  
*R. Deppa*  
ORDERED BY: **CUSTOMER**

# ***EMHART* GLASS**

A  **BLACK & DECKER** COMPANY

## Forehearth Infrared Fiber Optic System

**IRCON, INC.**  
7300 N. Natchez Avenue  
Niles, Illinois 60714 USA



EMHART LABEL / NILES (1" x 1/2")



Established in 1948

**metographics**

**INCORPORATED**

169 Northwest Highway Cary, IL 60013-2940 U. S. A.

**FACSIMILE**

From: Linda Carlson

To: Melissa Sibora  
Arcon

Date: 07/23/97

FAX No: 647-0070

1 Pages (including cover sheet)

**SPECIAL INSTRUCTIONS**

*Pricing per requested as follows:  
Delivery: Ship date will be 4 weeks  
Don't receipt of P.O. - unable to  
provide 1 week delivery!*

*Also: please provide black & white  
on diskette of all logo copy.*

<i>gn</i>	-	EMHART	/	3 1/4 x 9 1/4
<i>gty</i>		25 per ea		8.59 ea
		35 -		8.03
		50 -		6.93

*non recurring prep charge  
with disk \$44.00  
without disk \$64.00*

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# FaxTransmittal Fax Transmittal



IRCON, INC.  
7300 North Natchez Avenue  
Niles, Illinois 60714 USA

Telephone 847-967-5151  
Admin Fax 847-647-0070  
Sales/Service Fax 847-647-0948



Date 7/18/97

To METO GRAPHICS

Fax No 847 639 5144

Attn LINDA CARLSON

From MAXINE SIKORA

No. of pages (including this page) \_\_\_\_\_

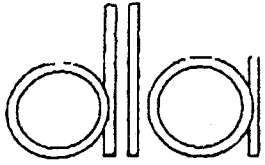
RE: \_\_\_\_\_

pty

4 holes w/ drive holes

25

50



DOUGLAS LEE ASSOCIATES, INC.

Peter FODEN

249 AYER ROAD SUITE 304, HARVARD, MA 01451  
PHONE (508) 772-9887 FAX (508) 772-7723  
e-mail: andy4dla@aol.com

**FAX**

Post-it* Fax Note	7671	Date	5/20/97	# of pages	2
To	JEFF KRESCH	From	ANDY PRICE		
Co./Dept.	IRCON	Co.	DLA		
Phone #		Phone #			
Fax #		Fax #			

<b>TO:</b>	Mr. Peter Foden	<b>FROM:</b>	Andy Price
<b>COMPANY:</b>	Emhart Glass	<b>DATE:</b>	May 20, 1997
<b>FAX NUMBER:</b>	(860) 683-7626	<b>SUBJECT:</b>	Sample Label

**NUMBER OF PAGES INCLUDING THE COVER SHEET: 2**

**MESSAGE:**

Dear Peter:

Ircon is asking for some guidance with respect to the layout and "look" of the label we have asked them to provide. I took the liberty of mocking up a very rough copy of your existing label. Is this what you had in mind? The font type and size, as well as the overall size, can be changed if it doesn't fit the bill. Please mark this copy up and fax it back so I may incorporate your suggestions and send it off to Ircon. Thanks for your help!

Best regards,

Andy Price

AP:me

High ambient temps for label.  
Part #s for mounting Bracket *Handwritten*

# FaxTransmittal Fax Transmittal



IRCON, INC.  
7300 North Natchez Avenue  
Niles, Illinois 60714 USA

Telephone 847-967-5151  
Admin Fax 847-647-0070  
Sales /Service Fax 847-647-0948

ISO 9001  
Quality System  
Certified

Date 7/18/97

To JJD INSTANT SIGNS

Fax No 847 465 2805

Attn DICK HULTBERG

From MAXINE SIKORA

No. of pages (including this page) 2

COST FOR 3 1/4 X 9 1/4 PLATE / LABEL, PER ATTACHED.

MATERIAL: GRAVO-PLY GLOSSY SILVER

COPY: SILKSCREENED. IRCON TO SUPPLY ARTBOARDS.

COLOR: "EMHART" NAME - PROCESS RED

ALL OTHER COPY - STANDARD BLACK

DELIVERY: 1 WK AFTER ORDER PLACEMENT

CIF POSSIBLE - FOR 25 QTY)

QTY: 25, 35, 50

COST:

NEED INFO ASAP. THANKS.

TUEWARDS

Maxine

# Memo Letter Memo Letter



IRCON, INC.  
7300 North Natchez Avenue  
Niles, Illinois 60714 USA

Telephone 847-967-5151  
Admin Fax 847-647-0070  
Sales/Service Fax 847-647-0948

ISO 9001  
Quality System  
Certified

TO DICK HULTBERG  
J+D INSTANT SIGNS  
5614 W. DEMPSTER ST.  
MORTON GROVE, IL 60053

Date 7/23/97  
From M. SIKORA  
Re EMHART GLASS  
PLATE/LABEL

DICK - SEE SAMPLE OF GRAVO-PLY GLOSSY SILVER MATERIAL + COLOR SWATCH FOR "EMHART"

PER MY FAX OF 7/18/97.

QUESTIONS: 1) CAN YOU SILKSCREEN ALL COPY AS SHOWN ON FAX IF I SUPPLY YOU WITH CAMERA-READY ART.

2) CAN YOU CUT LABEL/PLATE TO SIZE AS SHOWN PER FAX (3 1/4 X 9 1/4)?

3) CAN YOU GET MATERIAL?

THANKS -

Mafine P.S. PLS. RETURN SAMPLE + COLOR SWATCH.

Form No. MK1003 Rev A

7/23 PER DICK H.

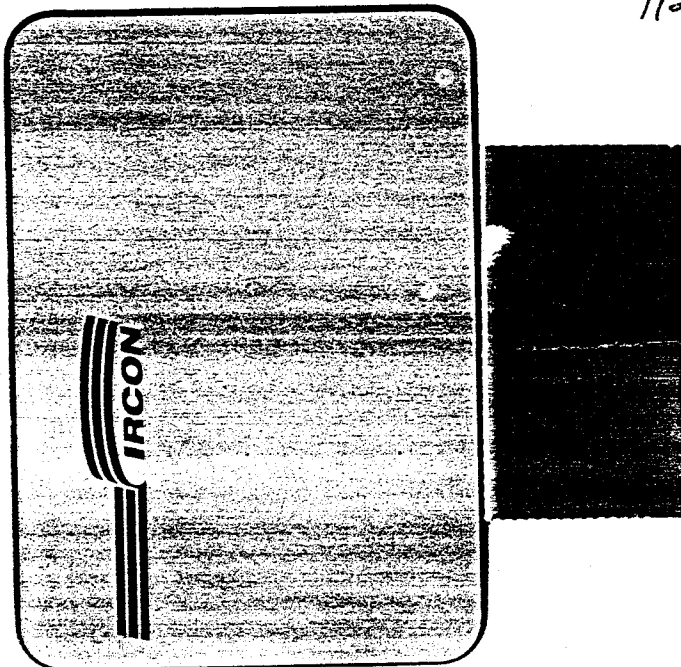
COST: \$12.25 EACH

DELIVERY: 1 WEEK FROM PLACEMENT OF ORDER.

COLOR FOR LOGO: 1 SHADE DEEPER THAN COLOR SWATCH

MATERIAL: SIMILAR TO GRAVO-PLY SILVER

WILL GET SAMPLE TOMORROW.



Emhart Red Coated Stock

Your System Supplier

**EMHART**GLASS  
A  BLACK & DECKER COMPANY

Your System Supplier

**EMHART**GLASS  
A  BLACK & DECKER COMPANY

Your System Supplier

**EMHART**GLASS  
A  BLACK & DECKER COMPANY

Your System Supplier

**EMHART**GLASS  
A  BLACK & DECKER COMPANY

Your System Supplier

**EMHART**GLASS  
A  BLACK & DECKER COMPANY

Your System Supplier

**EMHART**GLASS  
A  BLACK & DECKER COMPANY

Your System Supplier

**EMHART**GLASS  
A  BLACK & DECKER COMPANY

Your System Supplier **EMHART**GLASS

Your System Supplier

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A  BLACK & DECKER COMPANY

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A  BLACK & DECKER COMPANY

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Your System Supplier

**EMHART**GLASS  
A  BLACK & DECKER COMPANY

Your System Supplier **EMHART**GLASS

**Forehearth Infrared Fiber Optic System**

**Forehearth Infrared Fiber Optic System**

**Forehearth Infrared Fiber Optic System**

Your System Supplier

**EMHART GLASS**

A  **BLACK & DECKER COMPANY**

Your System Supplier

**EMHART GLASS**

A  **BLACK & DECKER COMPANY**

7/23/97

GEORGE

RE: EMHART "LABEL"

METRO GRAPHICS (WHERE NAMEPLATES ORDERED)

COST: 8.59/EA

DELIVERY: 4 WEEKS

J&D INSTANT SIGNS

COST: 12.25/EA.

DELIVERY: 1 WK - to 1 1/2 WKS.

MATERIAL: SIMILAR TO NAMEPLATE.  
WILL GET SAMPLES TOMORROW  
(THURS).

LOGO COLOR: 1 SHADE DEEPER THAN  
"EMHART" SHOWN ON COLOR  
SWATCH.

NEW SIZE: 6 x 1 1/2

7/24/97

per MB

# 9720 Red Orange

red #

all other copy  
black



**EMHART GLASS**

A BLACK & DECKER COMPANY

**Forehearth Infrared Fiber Optic System**

Size 6 x 1-1/2"

name of material

silver engraving  
stock

IRCON, INC.  
7300 N. Natchez Avenue  
Niles, Illinois 60714 USA



EMHART 108F1 / DI ATF (1" x 1-1/2")



# Internal Memo

Date: March 5, 1998  
 To: Jim Beck, Tommy Tam, Joe Lakner, Ami Donado,  
 Donna Lopatka  
 From: Julie Kramer  
 Subject: Charge Code for Work Orders  
 cc: Len Ollearis, Al Howard

It has come to our attention that parts removed from the stockroom by Engineering for 'Special' orders and other work orders are being coded to charge code "CGSLD". We would like to change this effective immediately to use charge code "WKORD" with the work order number also listed.

If you have any questions, please contact me at ext. 105.

Thank you in advance for your cooperation in this matter.

Regards,

*Julie Kramer*

				QTY.
EMHART	TR614	65146	4-25-98	1
	"	65287	7-28-98	2
	"	65410	7-25-98	1

# Purchase Order



IRCON, INC.  
7300 N. Natchez Ave.  
Niles, IL 60714 USA

Phone 847-967-5151  
Fax 847-647-0070



002048/847-965-2800

P/O NUMBER	PAGE	P/O DATE	ORDER TYPE	CHANGE/CANCEL
83546-00	01	07/25/97	NORMAL	ORIGINAL 07/28/97

ORDERED FROM

J & D INSTANT SIGNS  
5614 DEMPSTER STREET  
MORTON GROVE IL 60053

SHIP TO

IRCON, INC.  
7300 N. NATCHEZ AVE.  
NILES, IL 60714

BUYER	TERMS	ACKNOWLEDGE	CONFIRM	FOB	SHIP VIA	COL/PPF
SHERRY ADAIR	NET 10	YES	YES	SHIPPING PT.	BEST WAY	PPD

LINE NO.	QTY. ORDERED	BLANKET TYPE	U/M	OUR ITEM NUMBER DESCRIPTION/COMMENTS	YOUR ITEM NUMBER	PRICE/UNIT REQUESTED DATE	EXTENDED PRICE	CHANGE CANCEL
01	25		EA	LABEL PLATE 6" X 1 1/2" LABEL PLATE RED #9720 AND STANDARD BLACK SILKSCREENED COPY ON SILVER ENGRAVING STOCK, PER ARTBOARD		12.250 08/01/97	306.25	458
ILLINOIS PERMIT #2415-9425						TOTAL EXTENDED PRICE	306.25	

*OK - Received  
(has picked up  
30-5 at N/C)  
8/1/97*

<input checked="" type="checkbox"/> NOT FOR RESALE	COMMENTS	MAXINE SIKORA/DICK HULTBERG
--	----------	-----------------------------

FOR RESALE  
PURCHASE ORDER NUMBER AND IRCON PART NUMBER, (IF STATED) MUST APPEAR ON ALL ACKNOWLEDGMENTS, PACKING SLIPS AND INVOICES.  
THIS ORDER MUST BE ACKNOWLEDGED WITHIN 7 DAYS.  
THIS ORDER ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN ON THIS AND THE REVERSE SIDE.

INTERNAL USE  ORDERED BY *R. Deje* CUSTOMER

Pat No. 020192 Rev H 10/96

PACKING LIST

FROM

6782

**METO-GRAFICS, INC.**  
169 Northwest Highway  
Cary, Illinois 60013  
(847) 639-0044 • Fax (847) 639-5144

CONTAINER NO.	CUSTOMER'S NO.	OUR NO.
1	85221-00	
SHIPPED VIA	FOR A/C OF	DATE
UPS		3/20/98
SHIPPED TO		

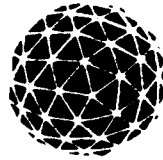
IRCON INC.

7300 N. NATCHEZ AVE.

NILES, IL 60714  
WHEN REFERRING TO THIS SHIPMENT BE SURE TO GIVE ALL DETAILS

✓	QUANTITY	ITEM
	30	EX-4390-3SNP-R706
	30	EX4390-ARM-R708
	30	EX4389-SEN-1
	30	EX4389-SEN-2
	30	EX-4389-SEN-3
	30	EX-4389-AP-1
	30	EX-4389-AP-2
	30	EX-4389-AP-3

RECEIVED



**Ircon Infrarail Custom Assembly  
Spare Parts**

Description	Manufacturer	Part No.	Price ea.
Filter regulator with gauge and bracket	Granger	5Z417	\$ 80.00
Replacement filter element for above	Granger	1R423	\$ 10.00
Exhaust muffler	Granger	4B508	\$ 46.00
Purge meter, 1SCFM	Brooks	1350EHC1BDC1A	\$ 131.00
Purge meter, 12SCFM	Brooks	1358E1C1DB1D1A	\$ 323.00
T/C Jacks, type R/S	Omega	SPJ-R/S-F	\$ 11.00
T/C Plugs, type R/S	Omega	OST-R/S-M	\$ 3.00
2 Pole, fused terminal block with PE ground	Weidmuller	952811	\$ 8.00
1/2A Replacement fuse for above	Littelfuse	218.500	\$ 1.00
Single pole terminal block	Weidmuller	102000	\$ 1.50
2A Circuit breaker for AC power option	Klockner-Moeller	FAZCN 2	\$ 40.00

# Purchase Order

*Joe LAKER*  
 ATTN: MIKE ENRICH

Page 1 of 2



IRCON, INC.  
 7300 N. Natchez Ave.  
 Niles, IL 60714 USA

Phone 847-967-5151  
 Fax 847-647-0070



002341/847-639-0044

FAX 639-5144

P/O NUMBER	PAGE	P/O DATE	ORDER TYPE	CHANGE/CANCEL
85221-00	01	02/26/98	NORMAL	ORIGINAL 02/26/98

ORDERED FROM  
 METO-GRAFICS, INC  
 169 NORTHWEST HWY

SHIP TO  
 IRCON, INC.  
 7300 N. NATCHEZ AVE.  
 NILES, IL 60714

CARY IL 60013

BUYER	TERMS	ACKNOWLEDGE	CONFIRM	FOB	SHIP VIA	COL/PPD
IRCON DEFOE, P/MGR.	2% 10 NET 30	YES	YES	SHIPPING PT.	BEST WAY	PPD

LINE NO.	QTY. ORDERED	U/M	OUR ITEM NUMBER DESCRIPTION/COMMENTS	YOUR ITEM NUMBER	PRICE/UNIT REQUESTED DATE	EXTENDED PRICE	CHANGE CANCEL
01	30	EA	EX-4390 LABEL WITH LETTERING 3SNP-R706 REF QUOTE #RFQ OF 2-11, DATED 2-19-98. ***** NOTE: QUOTE CALLS OUT FOR THE SECOND DIGIT TO BE A 5. IT IS NOT A FIVE, IT IS AN S.		3.390 03/24/98	101.70	329
02	30	EA	EX-4390 LABEL TO READ ARM-R708		3.170 03/24/98	95.10	329
03	30	EA	EX-4389 LABEL TO READ SEN-1		2.490 03/24/98	74.70	329
04	30	EA	EX-4389 LABEL TO READ SEN-2		2.490 03/24/98	74.70	329
05	30	EA	EX-4389 LABEL TO READ SEN-3		2.490 03/24/98	74.70	329
06	30	EA	EX-4389 LABEL AP SERIES LABEL TO READ AP-1		2.270 03/24/98	68.10	329

ILLINOIS PERMIT #2415-9425

TOTAL EXTENDED PRICE

FOR RESALE

COMMENTS

FOR RESALE

PURCHASE ORDER NUMBER AND IRCON PART NUMBER, (IF STATED)  
 MUST APPEAR ON ALL ACKNOWLEDGMENTS, PACKING SLIPS AND INVOICES.

THIS ORDER MUST BE ACKNOWLEDGED WITHIN 7 DAYS.  
 THIS ORDER ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN  
 ON THIS AND THE REVERSE SIDE.

INTERNAL USE

Part No. 020192 Rev H 10/96  
 ORDERED BY *R Deper* CUSTOMER

# Purchase Order

*Joe L. K...*

*11/22/98*



IRCON, INC.  
7300 N. Natchez Ave.  
Niles, IL 60714 USA

Phone 847-967-5151  
Fax 847-647-0070



This order is for the purchase of materials to be furnished by the Seller with respect to the label to the supplier or

002341/847-639-0044

*Pax 1-847-639-5144*

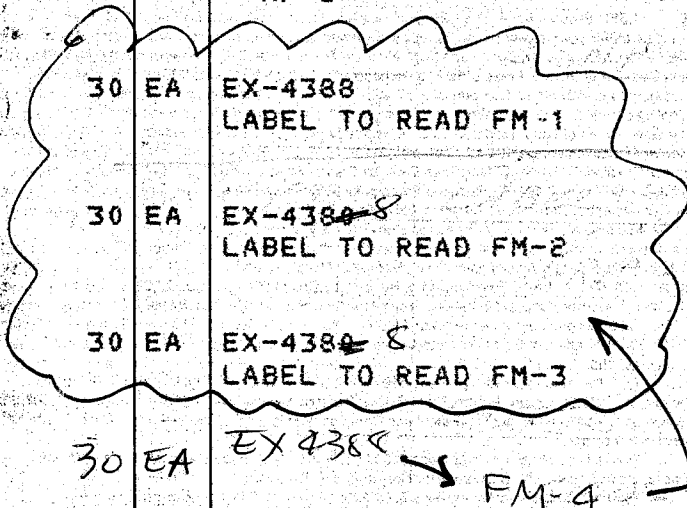
ORDER NUMBER	PAGE	P/O DATE	ORDER TYPE	CHANGE/CANCEL
85221-00	02	02/26/98	NORMAL	ORIGINAL 02/26/98

ORDERED FROM  
**METO-GRAFICS, INC**  
169 NORTHWEST HWY  
CARY IL 60013

SHIP TO  
**IRCON, INC.**  
7300 N. NATCHEZ AVE.  
NILES, IL 60714

BUYER	TERMS	ACKNOWLEDGE	CONFIRM	FOB	SHIP VIA	COL/PPD
ON DEFOE, P/MGR.	2% 10 NET 30	YES	YES	SHIPPING PT.	BEST WAY	PPD

QTY. ORDERED	U/M	OUR ITEM NUMBER DESCRIPTION/COMMENTS	YOUR ITEM NUMBER	PRICE/UNIT REQUESTED DATE	EXTENDED PRICE	CHANGE CANCEL
30	EA	EX-4389 LABEL TO READ AP-2		2.270 03/24/98	68.10	329
30	EA	EX-4389 LABEL TO READ AP-3		2.270 03/24/98	68.10	329
30	EA	EX-4388 LABEL TO READ FM-1		2.270 03/24/98	68.10	329
30	EA	EX-4388 LABEL TO READ FM-2		2.270 03/24/98	68.10	329
30	EA	EX-4388 LABEL TO READ FM-3		2.270 03/24/98	68.10	329
30	EA	EX 4388 FM-4		2.270	68.10	329



*DID NOT RECEIVE*

ILLINOIS PERMIT #2415-9425

TOTAL EXTENDED PRICE 829.50

NOT FOR RESALE

COMMENTS

FOR RESALE  
PURCHASE ORDER NUMBER AND IRCON PART NUMBER, (IF STATED)  
MUST APPEAR ON ALL ACKNOWLEDGMENTS, PACKING SLIPS AND INVOICES.

THIS ORDER MUST BE ACKNOWLEDGED WITHIN 7 DAYS.  
THIS ORDER ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN  
ON THIS AND THE REVERSE SIDE.

INTERNAL USE

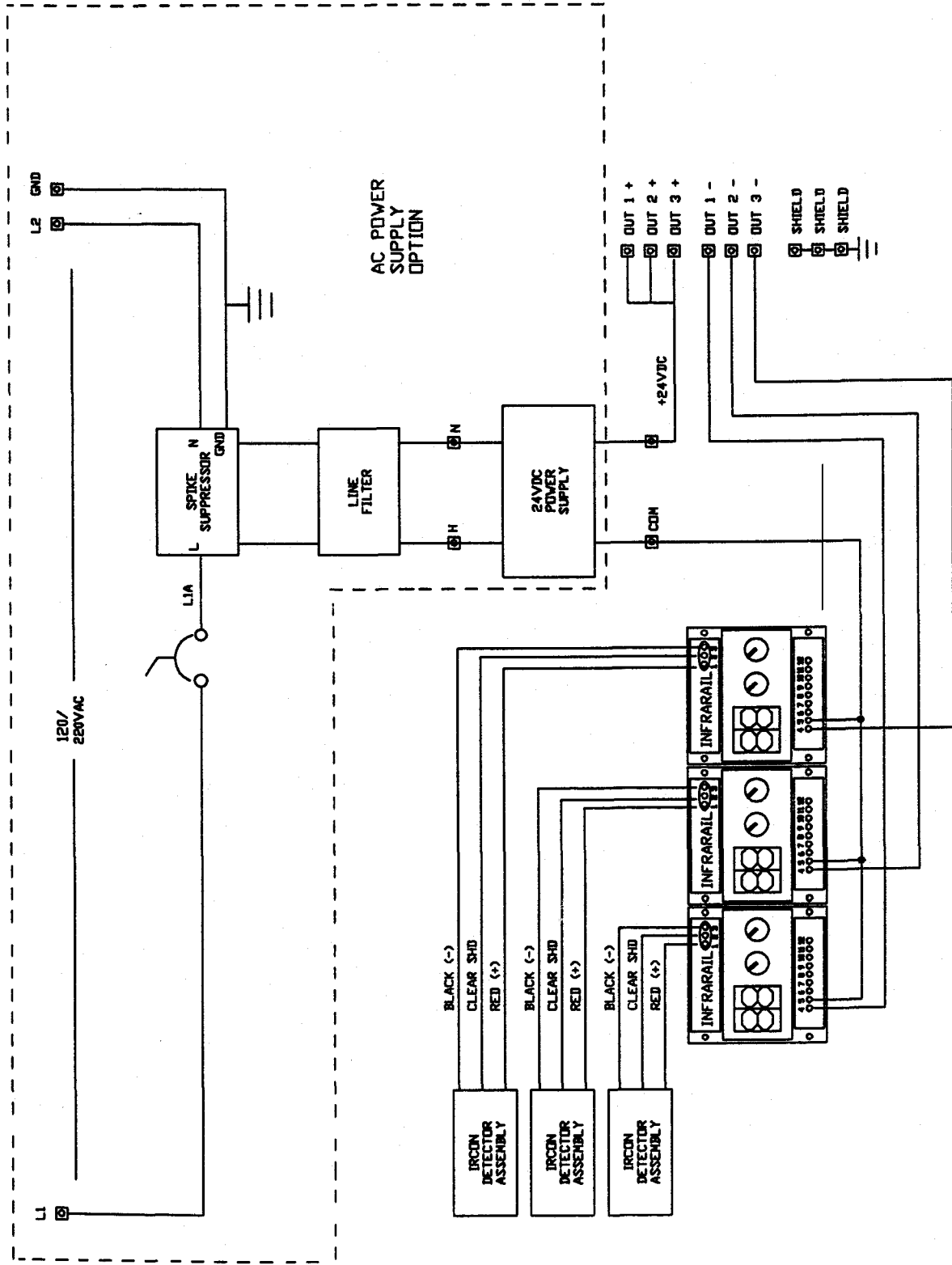
ORDERED BY

Part No. 020192 Rev H 10/96  
*R. De...*  
CUSTOMER



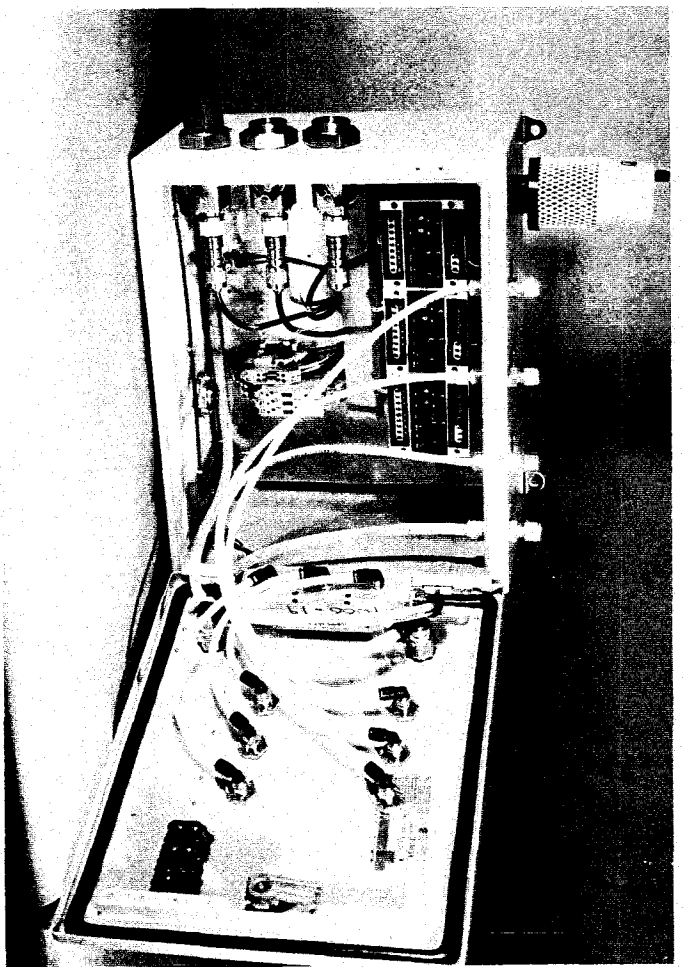
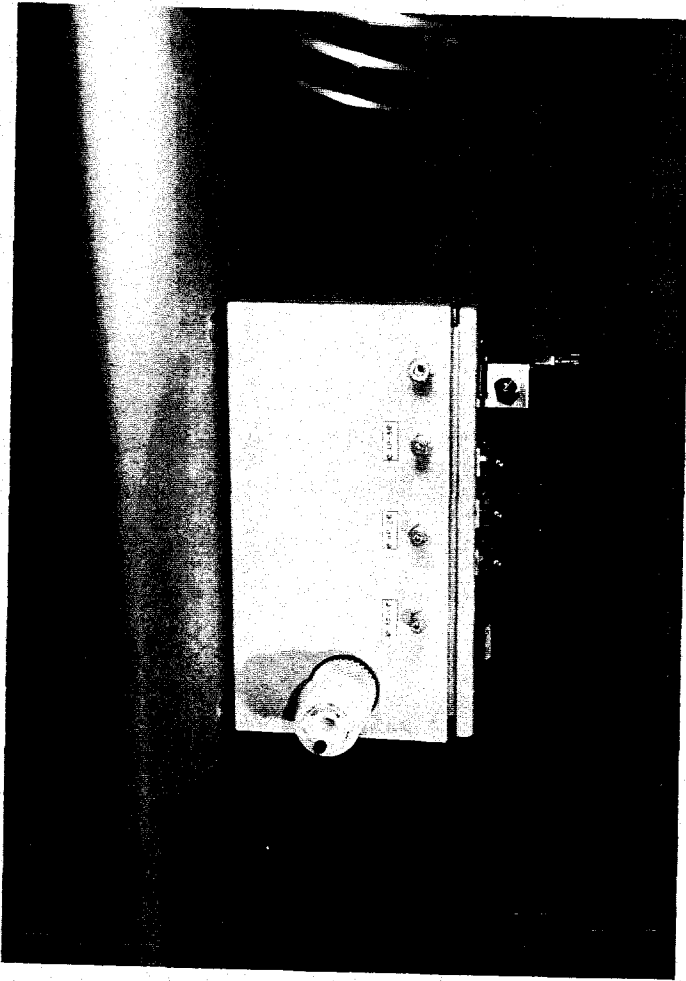
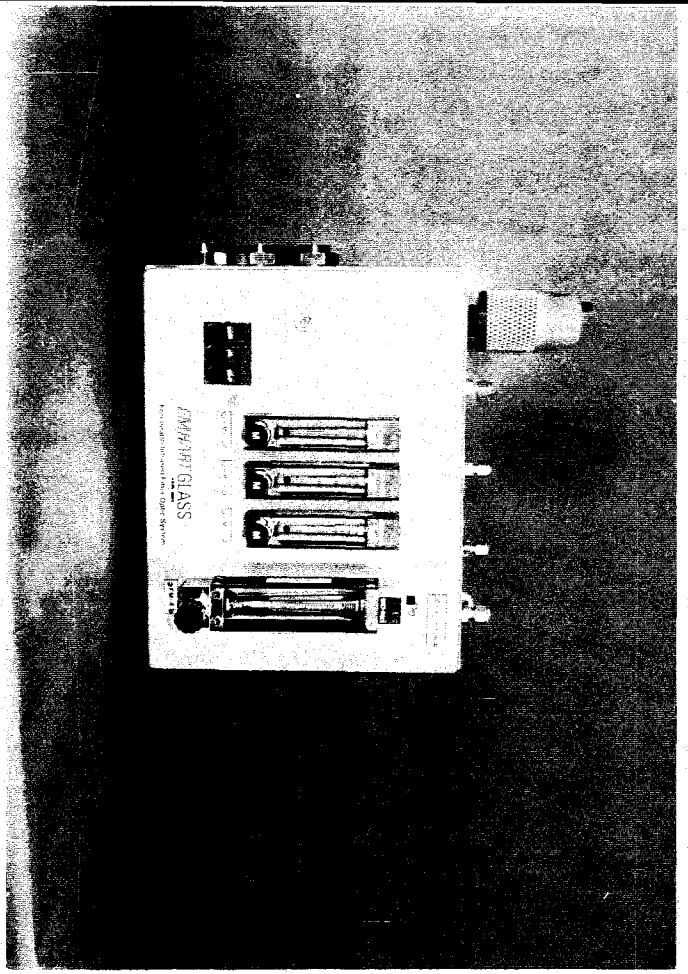
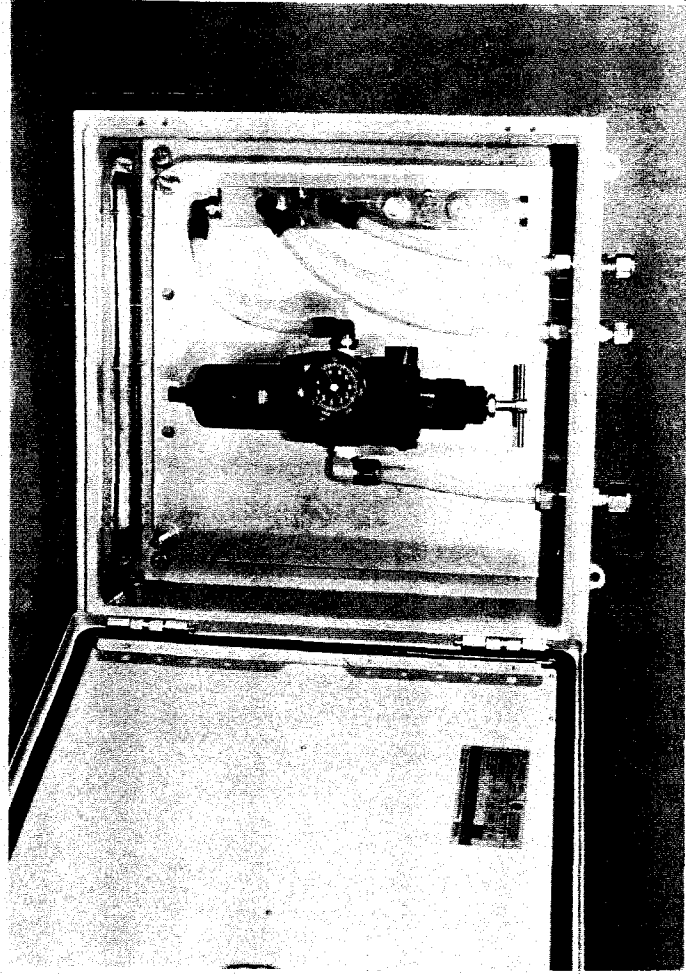
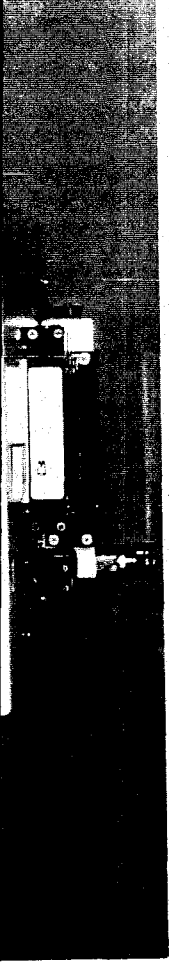
Item	Qty	Cost EACH	TOTAL Cost
Polyethylene Tubing 1/4" OD 4HM13 100' Roll	—	6 <sup>00</sup>	—
— 3/8 100'	—	8 <sup>50</sup>	—
Compression Fitting 3/4" 7150K32	—	1 <sup>65</sup>	—
BULKHEAD Union 1/4" <del>52185-K659</del> 62PLB4-4	9	2 <sup>69</sup>	24 <sup>21</sup>
— 3/8" 52185-K659	5	4 <sup>01</sup>	20 <sup>35</sup>
— 1/2" <del>52185-K659</del> 62PLB4-8	4	5 <sup>63</sup>	22 <sup>50</sup>
End CLAMP	30	.60¢	18 <sup>00</sup>
PIPE BUSHING 1/2 x 3/8	3	—	—
Polyethylene TUBING 3/8" ID 100FT Roll 1/2" OD	60FT	13 <sup>53</sup> /100FT (14¢/FT)	8 <sup>13</sup>
Polyethylene TUBING 3/8 OD 100 FT/roll	50FT	8 <sup>50</sup> /100F (9¢/FT)	4 <sup>25</sup>
SELF TAPPING LABEL Screws 1/4"	450	7 <sup>50</sup>	7 <sup>50</sup>
PIPE BUSHING 1/2 x 3/8"	3	.98¢	2 <sup>94</sup>
			<u>107<sup>40</sup></u>



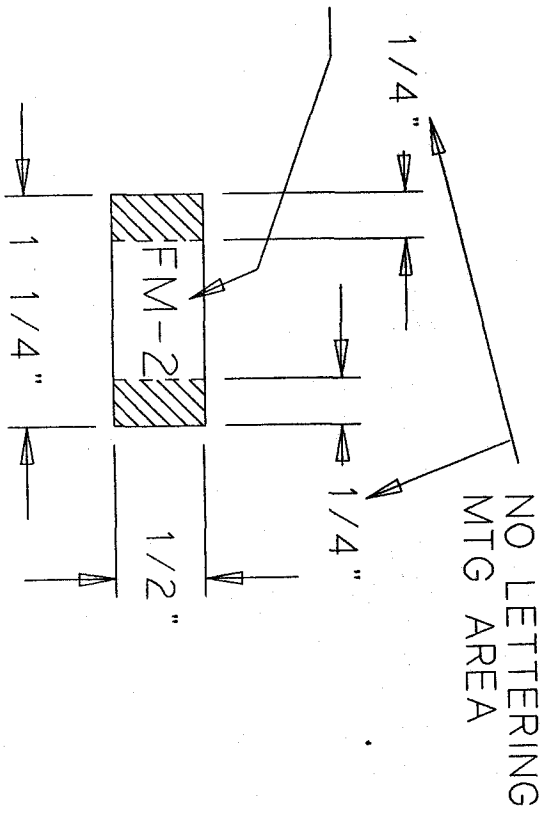


AC POWER SUPPLY OPTION

PROJECT	3 ZONE INFRARAIL CUSTOM ENCLOSURE ROOM
ISSUED AC POWER OPTION/REV. 1	
T. N.	
DATE	
BY	
4020	
3ZIRCHD	



• 18" HIGH ARIAL TYPE FONT  
 CENTERED, COLOR STANDARD  
 BLACK ENGRAVED (SEE LIST)



NO LETTERING  
 MTG AREA

NOMENCLATURE

- FM-1
- FM-2
- FM-3
- FM-4

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

DO NOT SCALE

DRAWING NO. REV.

EX-4388

REVISION		
LTR.	DESCRIPTION	BY/DATE

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SHEET # 1 OF 1

IRCON, INC.  
 7300 North Natchez Ave.  
 Niles, IL 60714

DRAWING NO. REV.

TITLE LABEL-1/2" X 1 1/4"

EX-4388

MATERIAL GRAVO-PLY GLOSSY SILVER

DRAWN BY *ueg* DATE 2/9/98  
 APPROVED DATE

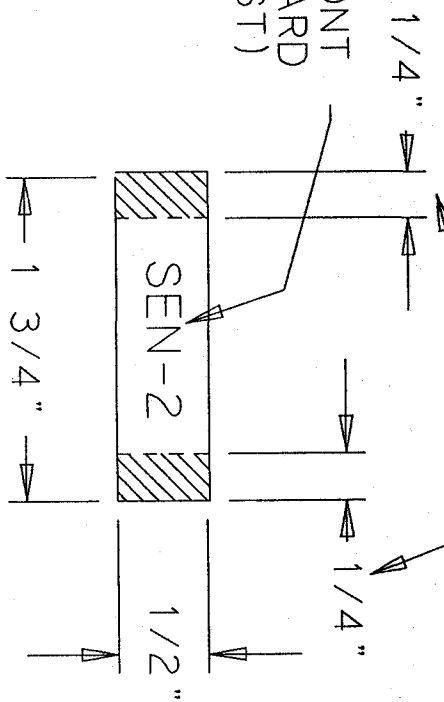
SCALE FULL

DRAWING NO. REV.

EX-4389

REVISION	
LTR.	DESCRIPTION
BY/DATE	

NO LETTERING  
MTG AREA



.18" HIGH ARIAL TYPE FONT  
CENTERED, COLOR STANDARD  
BLACK ENGRAVED (SEE LIST)

NOMENCLATURE

- SEN-1
- SEN-2
- SEN-3
- AP-1
- AP-2
- AP-3

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

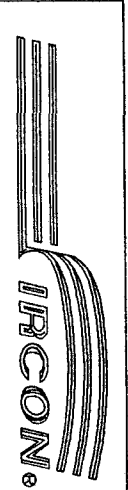
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SHEET # 1 OF 1

MATERIAL  
GRAVO-PLY GLOSSY  
SILVER

DRAWN BY	DATE
MSJ	2/9/98
APPROVED	CATE



IRCON, INC.  
7300 North Natchez Ave.  
Niles, IL 60714

SCALE	FULL
-------	------

TITLE  
LABEL-1/2" X 1 3/4"

DRAWING NO.	REV.
EX-4389	

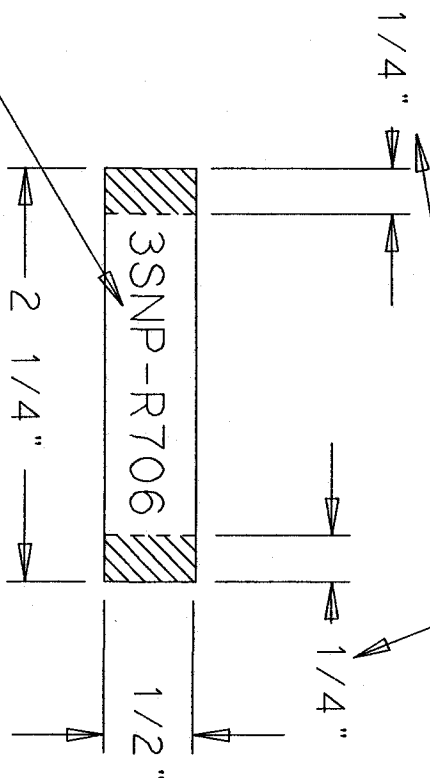
DRAWING NO. REV.

EX-4390 A

REVISION

LTR.	DESCRIPTION	BY/DATE
A	ADDED 2SNP-R706	3/23/98 VES

NO LETTERING  
MTG AREA



18" HIGH ARIAL TYPE FONT  
CENTERED, COLOR STANDARD  
BLACK ENGRAVED (SEE LIST)

NOMENCLATURE

- 3SNP-R706
- ARM-R708
- 2SNP-R706

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SHEET # 1 OF 1

MATERIAL GRAVO-PLY GLOSSY SILVER

DRAWN BY *Mey* DATE 2/9/98  
APPROVED DATE



IRCON, INC.  
7300 North Natchez Ave.  
Niles, IL 60714

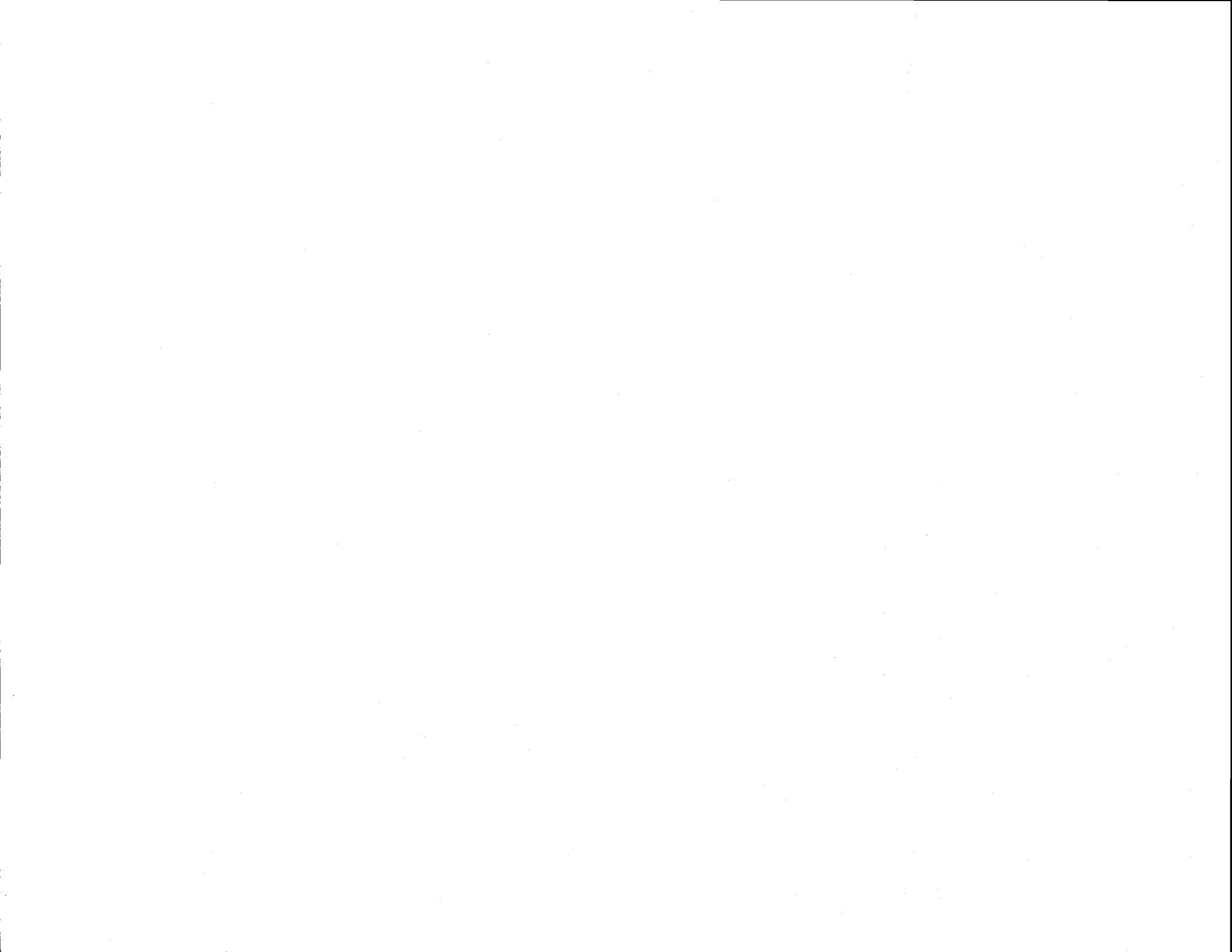
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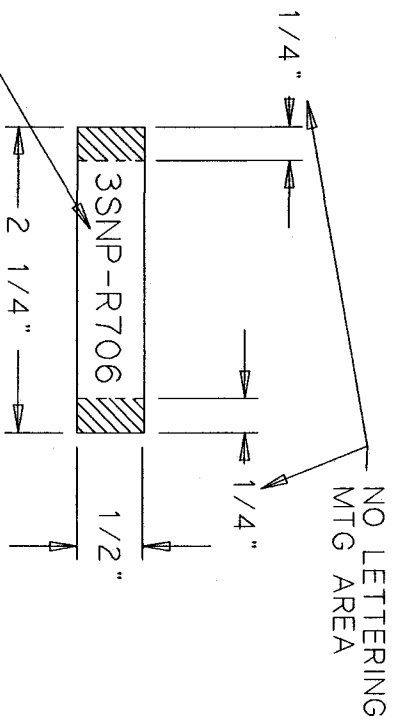
LABEL-1/2" X 2 1/4"

DRAWING NO. REV.

EX-4390 A

SCALE FULL





.18" HIGH ARIAL TYPE FONT  
 CENTERED, COLOR STANDARD  
 BLACK ENGRAVED (SEE LIST)

NOMENCLATURE  
 3SNP-R706  
 ARM-R708  
 2SNP-R706

DRAWING NO. REV.

EX-4390 A

REVISION		BY/DATE
LTR.	DESCRIPTION	
A	ADDED 2SNP-R706	3/23/98 JES

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SHEET # 1 OF 1

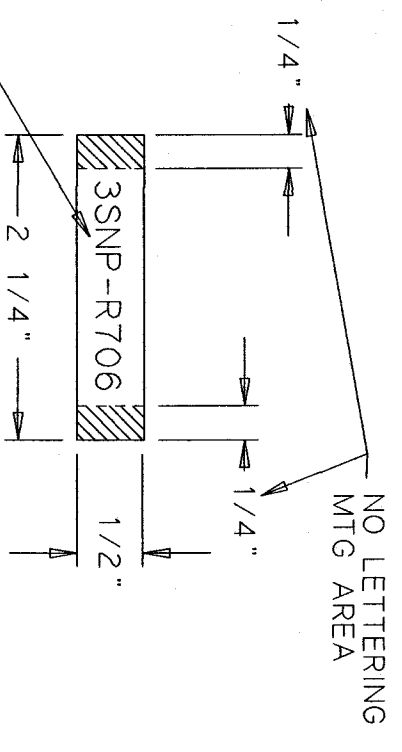
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

MATERIAL	DRAWN BY	DATE
GRAVO-PLY GLOSSY SILVER	JES	2/9/98
	APPROVED	DATE

IRCON, INC.  
 7300 North Natchez Ave.  
 Niles, IL 60714

TITLE LABEL-1/2" X 2 1/4" DRAWING NO. EX-4390 REV. A





.18" HIGH ARIAL TYPE FONT  
 CENTERED, COLOR STANDARD  
 BLACK ENGRAVED (SEE LIST)

NOMENCLATURE  
 3SNP-R706  
 ARM-R708  
 2SNP-R706

DRAWING NO. EX-4390 REV. A

LTR.	REVISION DESCRIPTION	BY/DATE
A	ADDED 2SNP-R706	WES 3/23/98

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DO NOT SCALE

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

MATERIAL	DRAWN BY	DATE
GRAVO-PLY GLOSSY SILVER	WES	2/9/98
	APPROVED	DATE

TITLE LABEL-1/2" X 2 1/4" IRCON, INC. 7300 North Notch Ave. Niles, IL 60714

SHEET # 1 OF 1

SCALE FULL

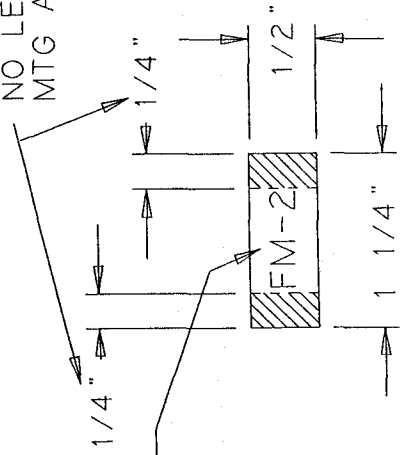
DRAWING NO. EX-4390 REV. A

DRAWING NO. REV.

EX-4388

REVISION LTR. DESCRIPTION BY/DATE

NO LETTERING  
MTG AREA



⊕  
.18" HIGH ARIAL TYPE FONT  
CENTERED, COLOR STANDARD  
BLACK ENGRAVED (SEE LIST)

NOMENCLATURE

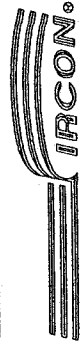
- FM-1
- FM-2
- FM-3
- FM-4

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SHEET # 1 OF 1

DO NOT SCALE

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED	
MATERIAL	GRAVO-PLY GLOSSY SILVER
DRAWN BY	U&J
DATE	2/9/98
APPROVED	
DATE	
SCALE	FULL



IRCON, INC.  
7300 North Natchez Ave.  
Niles, IL 60714

TITLE DRAWING NO. REV.

LABEL-1/2" X 1 1/4"

EX-4388