

	NAME	DATE
DRAWN/ENG.	JAKE MALLET	2004
UNITS	inches	
TOLERANCES	+/- .01	
MATERIAL	Plastic	
FINISH	None	



NOAA - CMDL

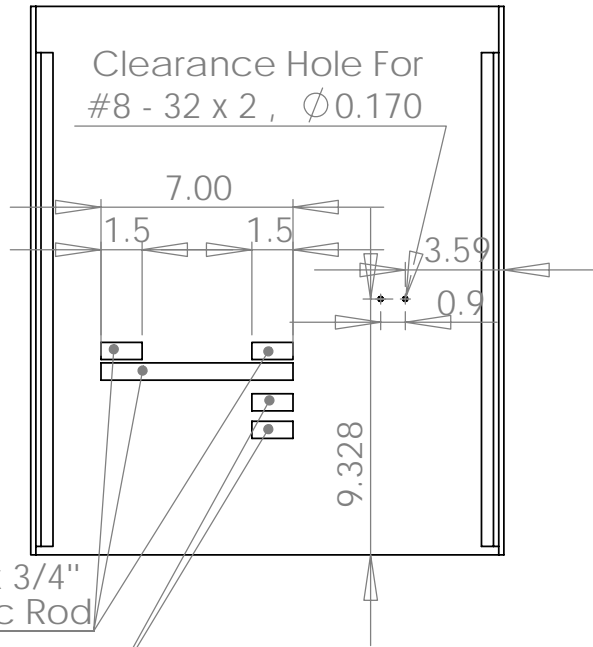
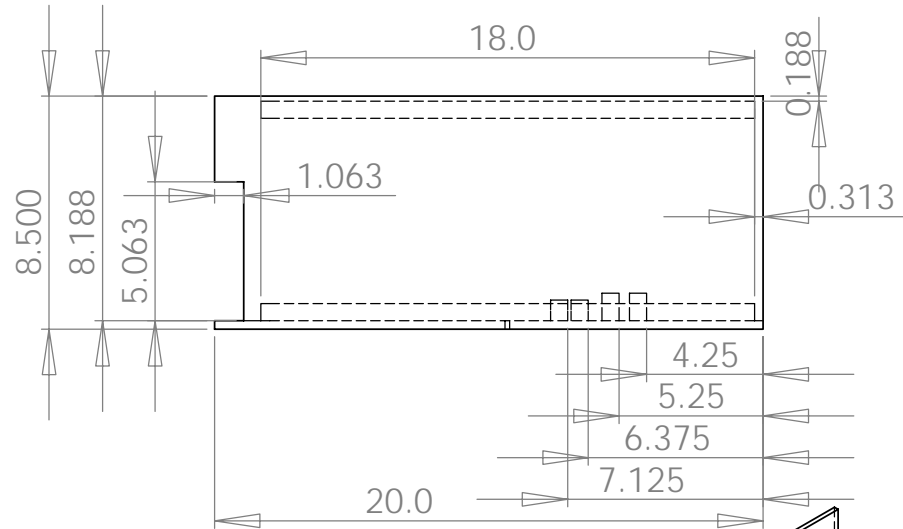
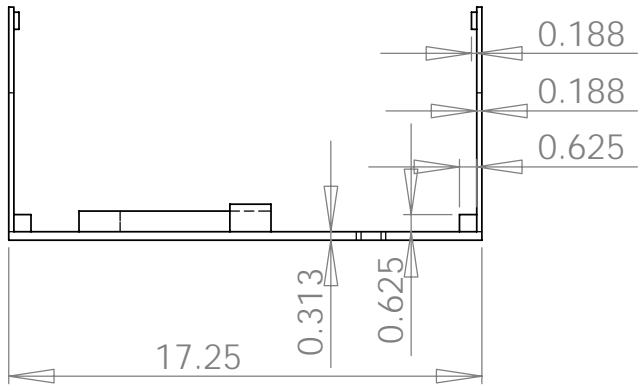


TITLE:

# Impactor Plastic Box Lid Cover

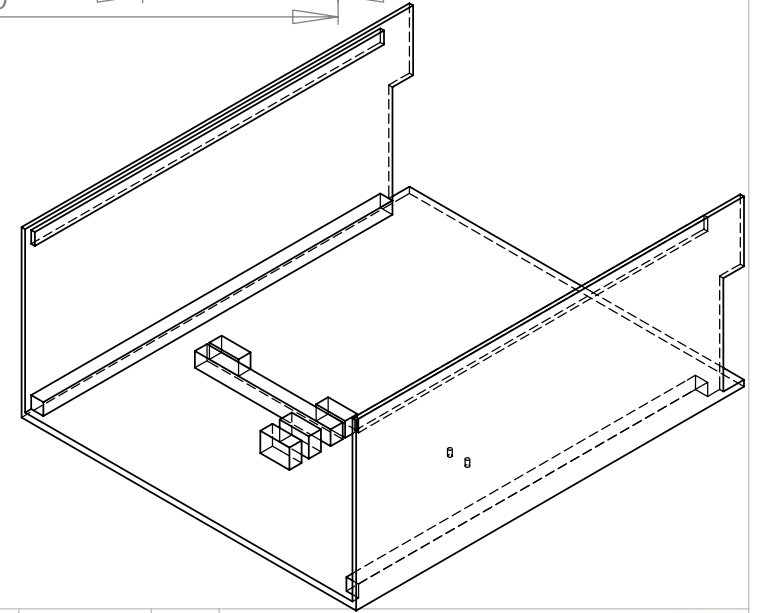
COMMENTS	QUANTITY	x 1
Custom Plastic Box Lid Cover used for enclosing the Impactor Box Assemb.		

SIZE	DWG. NO.	REV
<b>A</b>		



5/8" x 3/4"  
Plastic Rod

5/8" x 1"  
Plastic Rod



	NAME	DATE
DRAWN/ENG.	JAKE MALLET	2004
	UNITS	inches
	TOLERANCES	+/- .01
	MATERIAL	Plastic
	FINISH	None



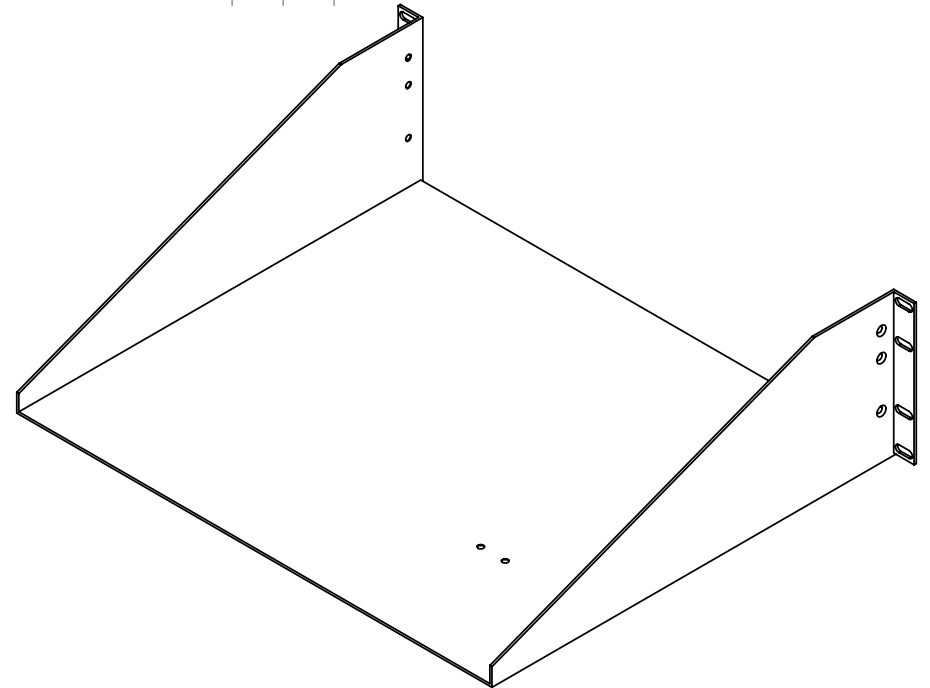
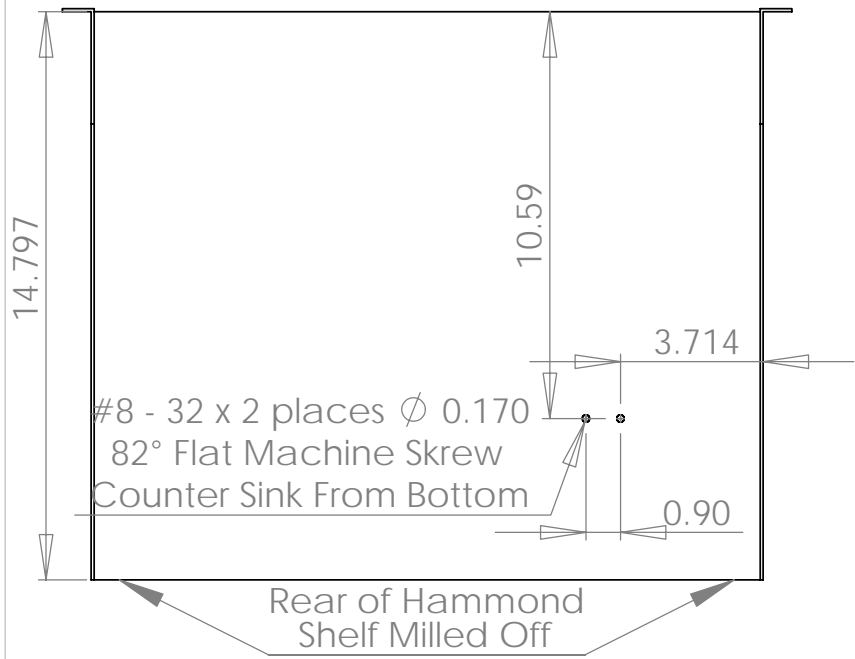
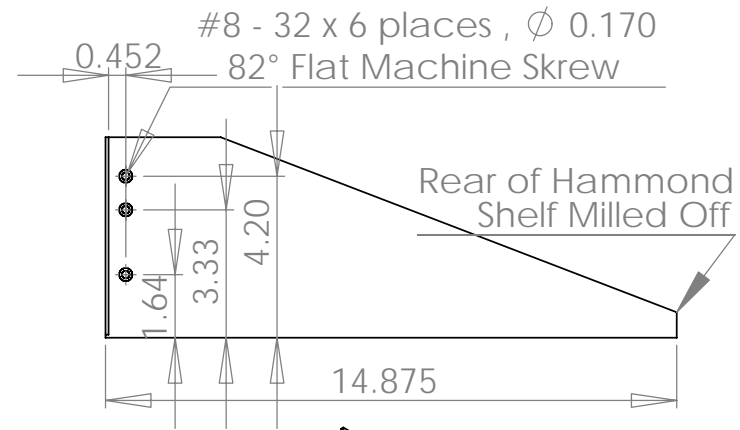
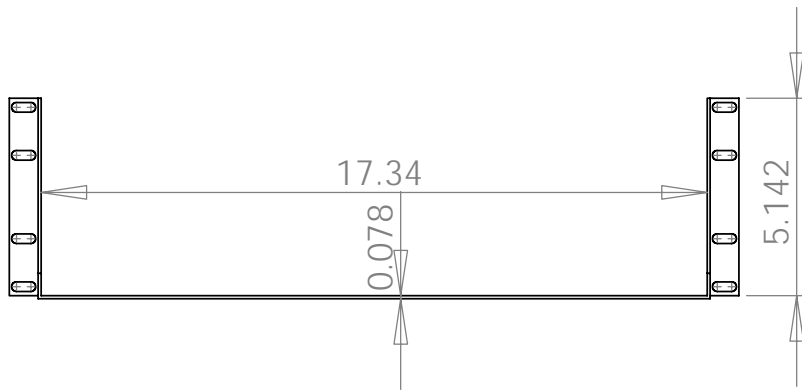
NOAA - CMDL



TITLE:  
**Impactor Plastic Box**

COMMENTS	QUANTITY	x 1
Custom Plastic Box used for housing the Impactor Box Assemb.		

SIZE	DWG. NO.	REV
<b>A</b>		



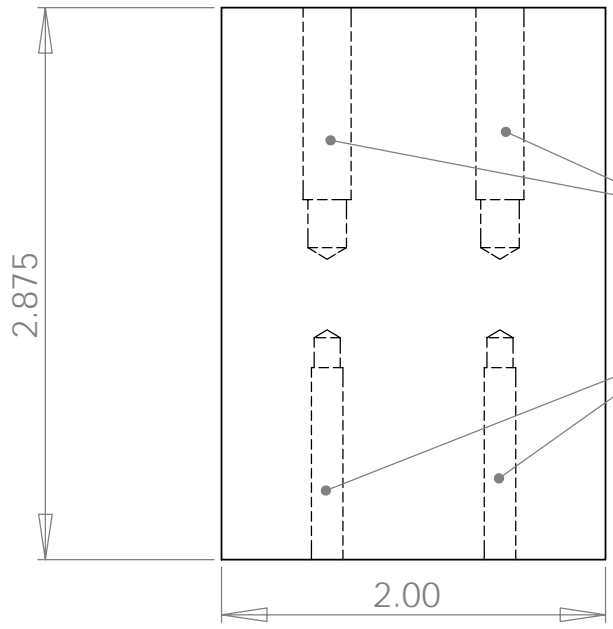
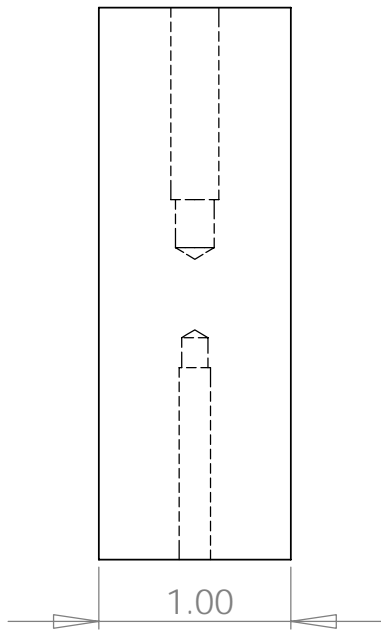
	NAME	DATE
DRAWN/ENG.	JAKE MALLET	2004
UNITS	inches	
TOLERANCES	+/- .01	
MATERIAL	Aluminum	
FINISH	None	



TITLE:  
**Hammond Rack  
For Impactor Box**

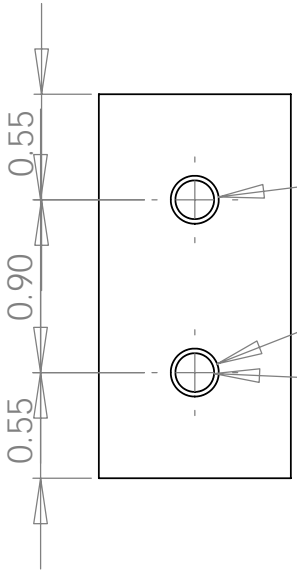
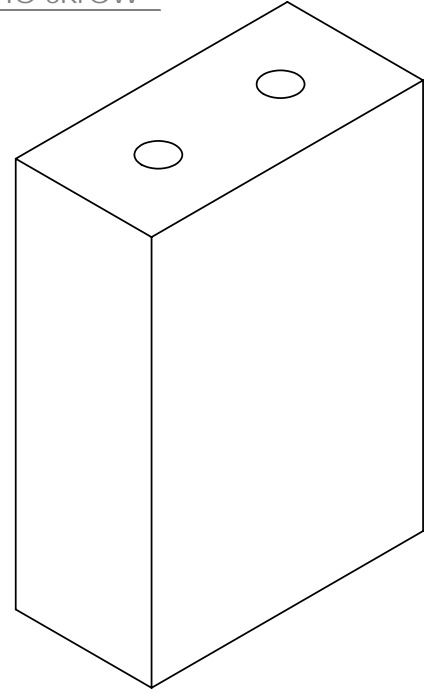
COMMENTS	QUANTITY	x 1
Hammond Rack Shelf RASU190515BK1 for Custom Mod.		

SIZE	DWG. NO.	REV
<b>A</b>		
SCALE: 1:1		SHEET 1 OF 1



Tap for a 1/4 -20 UNC x 1.25" Deep Socket head Machine screw

Tap for #8 - 32 x 1.25" Deep Flat 82deg Machine screw

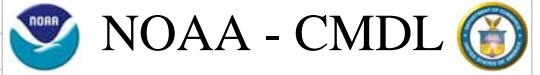


$\phi$  0.201  $\nabla$  1.250  
1/4-20 UNC - 2B  $\nabla$  1.000

$\phi$  0.201  $\nabla$  1.250  
1/4-20 UNC - 2B  $\nabla$  1.000

$\phi$  0.201  $\nabla$  1.250  
1/4-20 UNC - 2B  $\nabla$  1.000

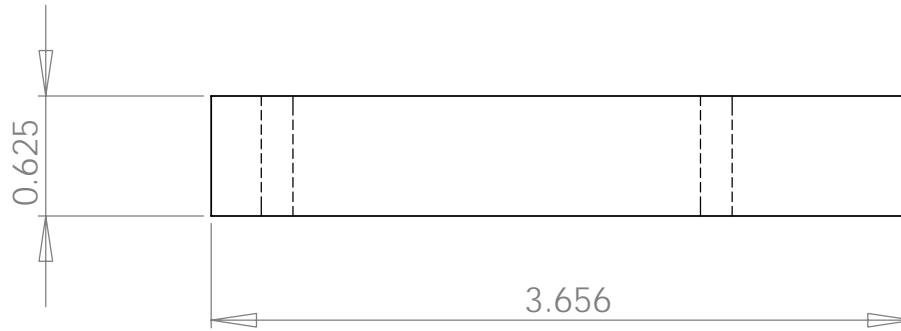
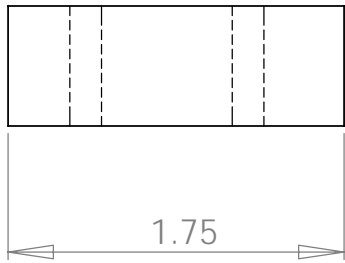
	NAME	DATE
DRAWN/ENG.	JAKE MALLET	2004
UNITS	inches	
TOLERANCES	+/- .05	
MATERIAL	Aluminum	
FINISH	None	



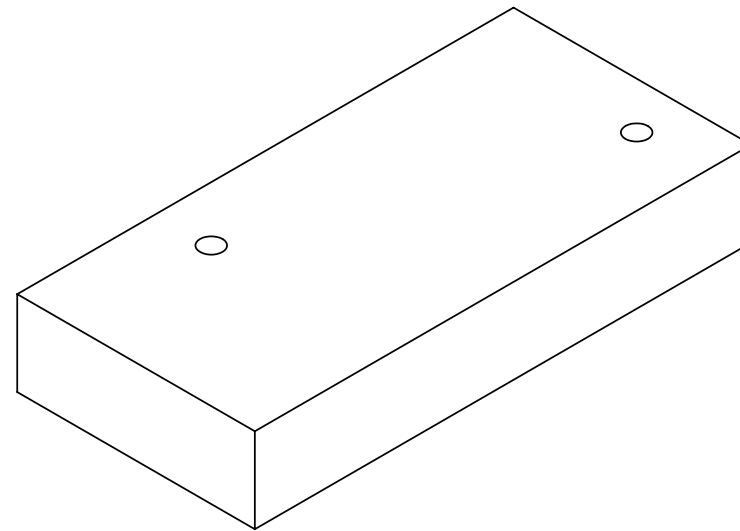
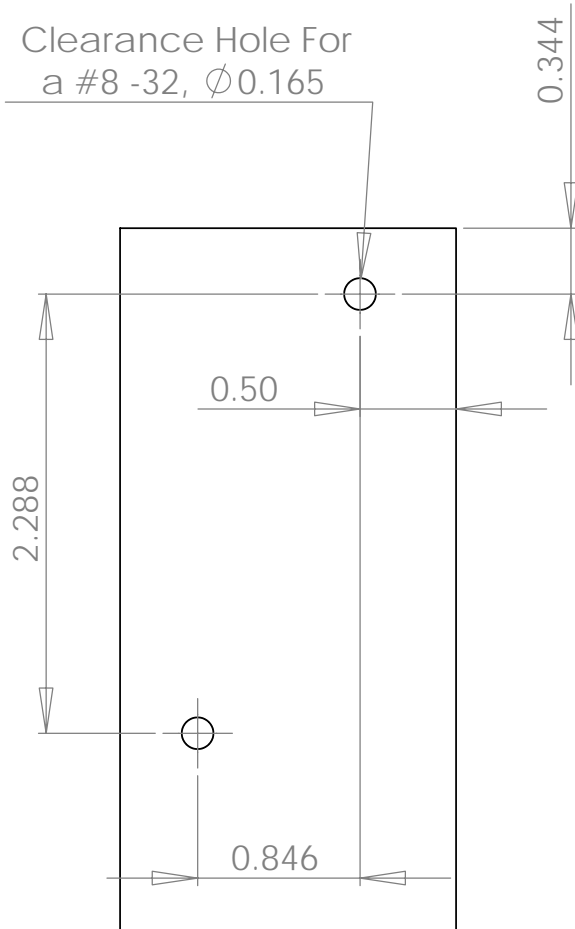
TITLE:  
**Alum. Impactor  
Box Spacer**

COMMENTS	QUANTITY	x 1
Spacer block to support the SwageLok Actuator Ball valve.		

SIZE	DWG. NO.	REV
<b>A</b>		
SCALE: 1:1		SHEET 1 OF 1



Clearance Hole For  
a #8 -32,  $\phi$ 0.165



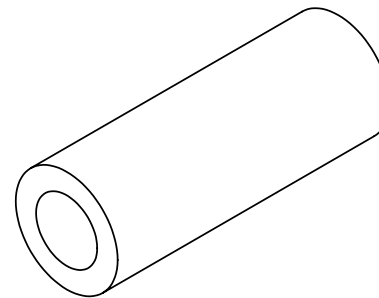
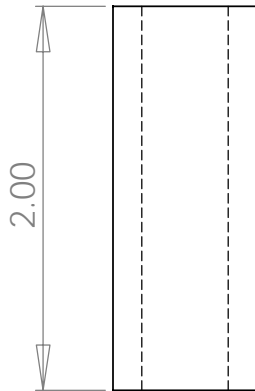
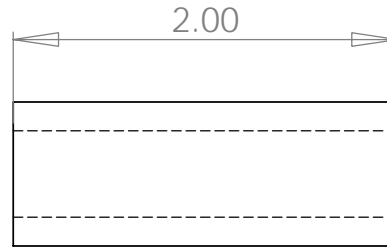
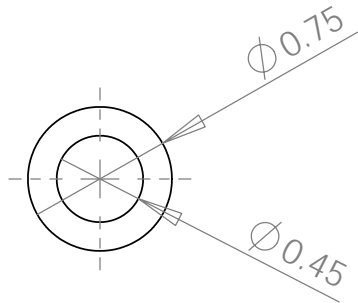
	NAME	DATE
DRAWN/ENG.	JAKE MALLET	2004
UNITS	inches	
TOLERANCES	+/- .001	
MATERIAL	Aluminum	
FINISH	None	

COMMENTS	QUANTITY	x 1
Spacer block to support the Mass Flow Controller 5851E		



TITLE:  
**Mass Flow Cont.  
Alum. Spacer**

SIZE	DWG. NO.	REV
<b>A</b>		
SCALE: 1:1		SHEET 1 OF 1



	NAME	DATE
DRAWN/ENG.	JAKE MALLET	2004
UNITS	inches	
TOLERANCES	+/- .05	
MATERIAL	Nylon	
FINISH	None	
COMMENTS	QUANTITY	x 1

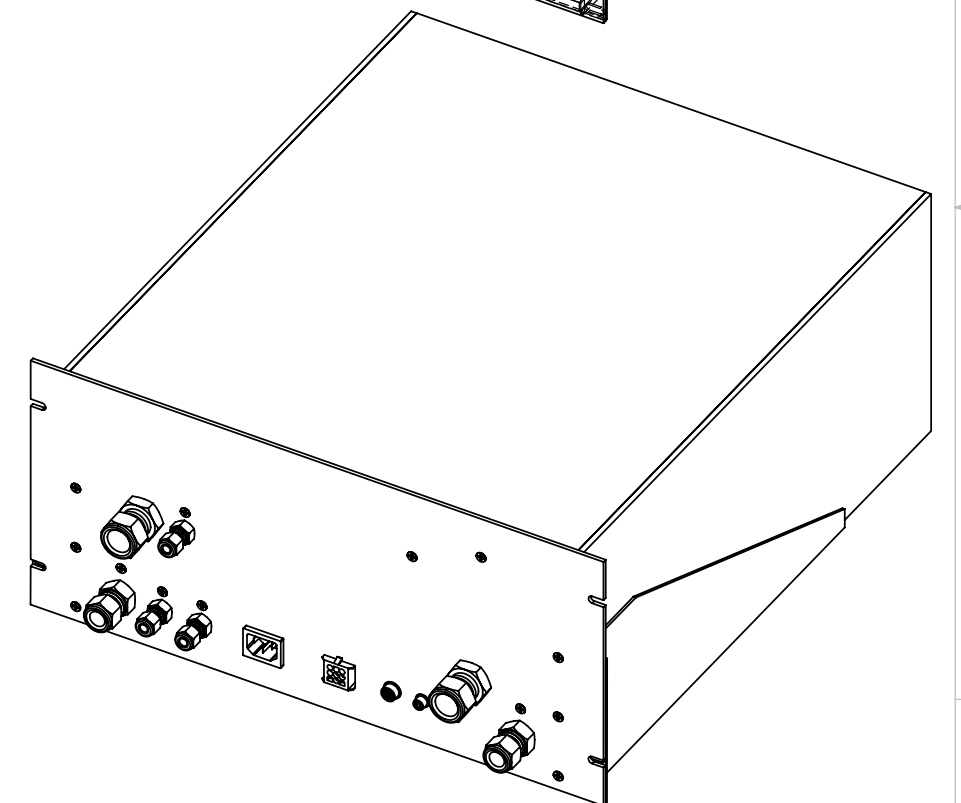
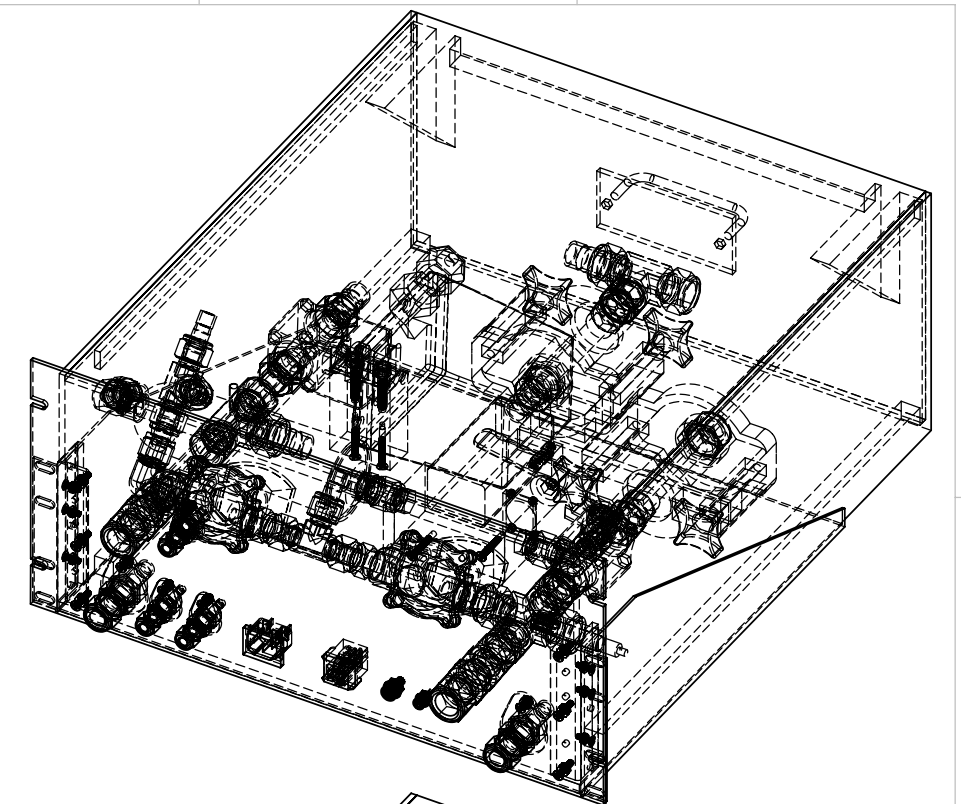
Nylon Tube Spacer to support the Vaisala Sensor Humitter.



TITLE:  
**Vaisala Sensor Humitter Spacer**

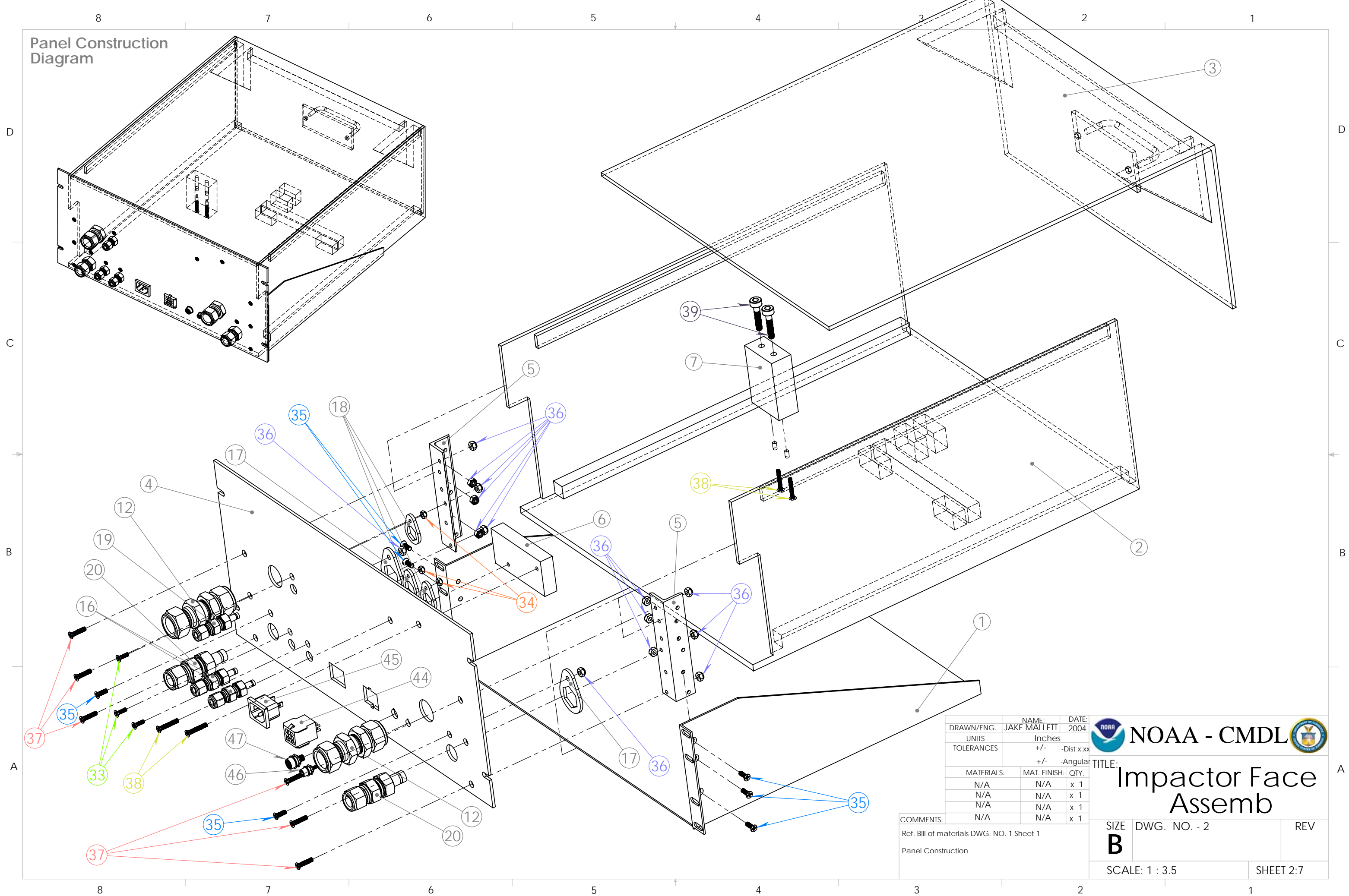
SIZE	DWG. NO.	REV
<b>A</b>		
SCALE: 1:1		SHEET 1 OF 1

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	HAMMOND Rack Shelf RASU190515BK1	
2	1	Impactor Plastic Box	
3	1	Impactor Plastic Box Lid	
4	1	Impactor Box Mounting Face Plate	
5	2	1x1x5in aluminum angle Al	
6	1	Mass Flow Controller Al. Spacer	
7	1	Aluminum Block Spacer 1 x 2 x 2.875 in	
8	1	Flow Filter	
9	1	Brooks Mass Flow Controller 5851E	
10	1	Red Hat Gen. Pur. Valve 104R 1_2in (NO, 8210G34)	
11	1	Red Hat Shutoff Valve 104R 1_2in (NC, 8210G94)	
12	2	Swagelok Bulkhead Union - SS-1210-61 3_4Tubing	Bulkhead Union - Fractional
13	1	Swagelok Male Connector - NY-810-1-6 1_2Tubing	Male Connector (Tapered Thread) - Fractional
14	1	Swagelok Union Cross - SS-1210-4 3_4Tubing	Union Cross - Fractional
15	6	Swagelok Port Connector - SS-1211-PC 3_4Tubing	Port Connector - Fractional
16	2	Swagelok Bulkhead Reducer - SS-400-R1-4 1_4Tubing	Bulkhead Reducer - Fractional/Fractional
17	2	Bulkhead Retainer_S-812-61F_15_16	Bulkhead Retainer
18	3	Bulkhead Retainer_S-402-61F_5_8	Bulkhead Retainer
19	1	Swagelok Bulkhead Reducer - B-400-R1-4 1_4Tubing	Bulkhead Reducer - Fractional/Fractional
20	2	Swagelok Bulkhead Reducer - B-810-R1-8 1_2Tubing	Bulkhead Reducer - Fractional/Fractional
21	1	Swagelok Ball Valve SS_63 TS 12 w90deg	
22	1	Swagelok Male Elbow - NY-810-2-6 1_2Tubing	Male Elbow (Tapered Thread) - Fractional
23	1	Swagelok Male Adapter - SS-12-TA-1-8 3_4Tubing	Male Adapter (Tapered Thread)- Fractional
24	2	Swagelok Union Tee - B-810-3 1_2Tubing	Union Tee - Fractional
25	2	Swagelok Male Adapter - B-8-TA-1-8 1_2Tubing	Male Adapter (Tapered Thread)- Fractional
26	5	Swagelok Port Connector - B-811-PC 1_2Tubing	Port Connector - Fractional
27	1	Swagelok Male Elbow - B-810-2-8 1_2Tubing	Male Elbow (Tapered Thread) - Fractional
28	1	Swagelok Ball Valve SS_63 TS 12_42 AC	
29	1	Swagelok Union Elbow - NY-810-9 1_2Tubing	Union Elbow - Fractional
30	1	Swagelok Reducing Port Connector - B-811-PC-4 1_2Tubing	Reducing Port Connector - Fractional
31	1	Swagelok Union Tee - SS-1210-3 3_4Tubing with 1_4 Tube Mod.	Union Tee - Fractional
32	1	Swagelok Union Tee - SS-1210-3 3_4Tubing	Union Tee - Fractional
33	3	#6 - 32 x .5 - 82deg flat head machine skrew	
34	3	Machine Skrew Nut - #6 - 32	
35	8	#8 - 32 x .5 - 82deg flat head machine skrew	
36	14	Machine Skrew Nut - #8 - 32	
37	6	#8 - 32 x .75 - 82deg flat head machine skrew	
38	4	#8 - 32 x 1.0 - 82deg flat head machine skrew	
39	2	Socket Cap 1_4 - 20 x 1.5 Machine Skrew	
40	1	S.S. Tubing 3_4 x 2in	Length can vary for instaltion 2" - 3"
41	1	Custom 3_4 x 4in S.S. Tubing with Pitot tube	
42	1	Impactor (10 micro meter)	
43	1	Impactor (1 micro meter)	
44	1	AMP Mate 'n LoK connector	For 1/8" face plate mounting
45	1	120V IEC Connector	
46	1	Vaisala Bulkhead Surface Mount Connector - Hi Rose HR10A	
47	1	Flow Meter Bulkhead Surface Mount Connector - Hi Rose HR10A	
48	1	Vaisala Sensor NYLON Custom Space Reducer	
49	1	Vaisala - Humitter	



DRAWN/ENG.	NAME:	DATE:	
JAKE MALLETT	JAKE MALLETT	2004	
UNITS	Inches		<b>TITLE:</b> <b>Impactor Box</b> <b>Bill Of Materials</b>
TOLERANCES	+/- -Dist x.xx		
	+/- -Angular		
MATERIALS:	MAT. FINISH:	QTY.	<b>SIZE</b> DWG. NO. - 1 <b>REV</b> <b>B</b>
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	
COMMENTS:	Ref. for Bill of materials		<b>SCALE:</b> 1 : 6 <b>SHEET</b> 1:7

Panel Construction Diagram



NAME:	JAKE MALLET	DATE:	2004
DRAWN/ENG.:	JAKE MALLET	UNITS:	Inches
TOLERANCES:	+/-	-Dist x.xx	+/-
		-Angular	
MATERIALS:	MAT. FINISH:	QTY.	
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	



TITLE: Impactor Face Assemb

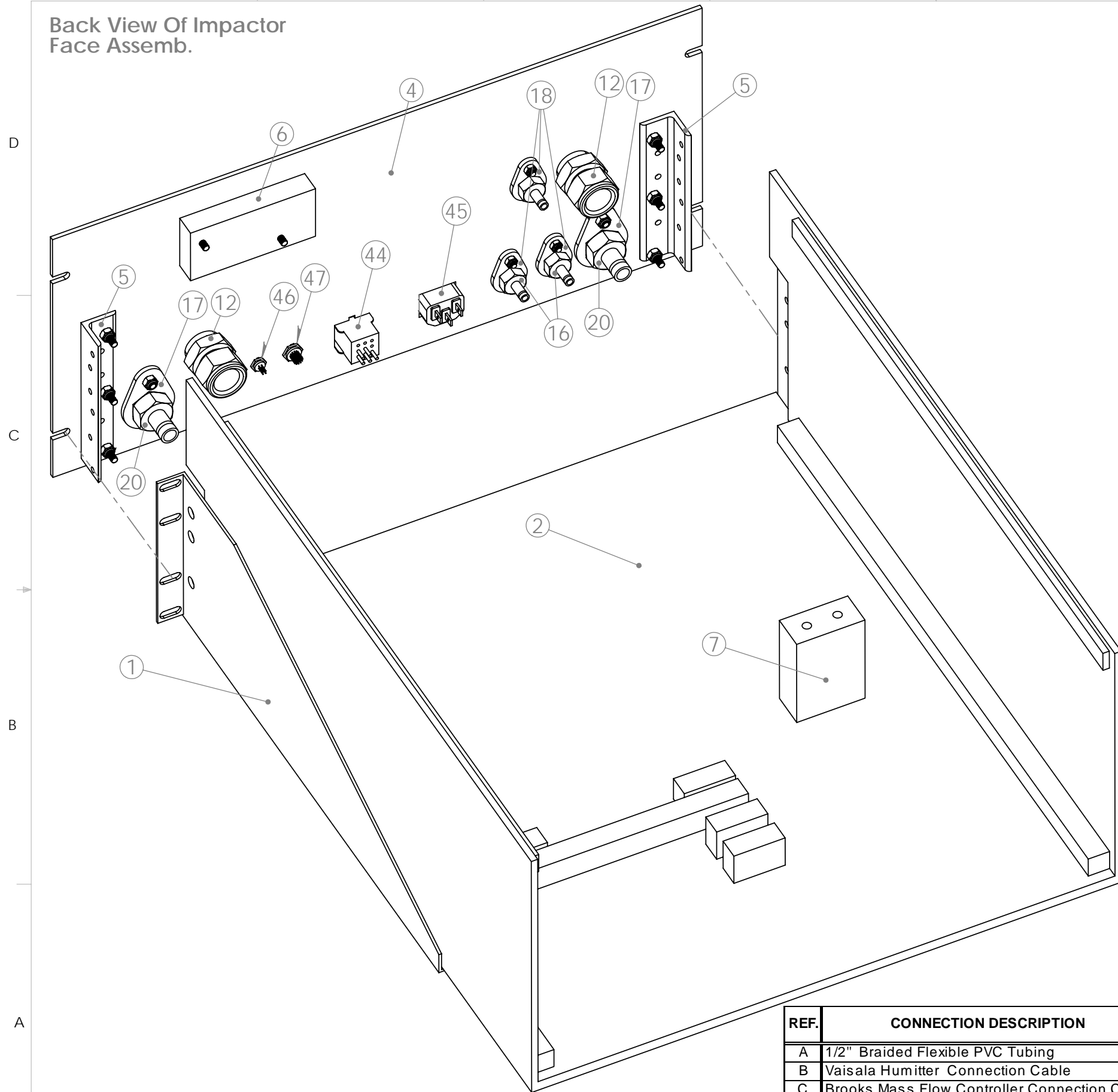
COMMENTS:  
Ref. Bill of materials DWG. NO. 1 Sheet 1  
Panel Construction

SIZE DWG. NO. - 2 REV

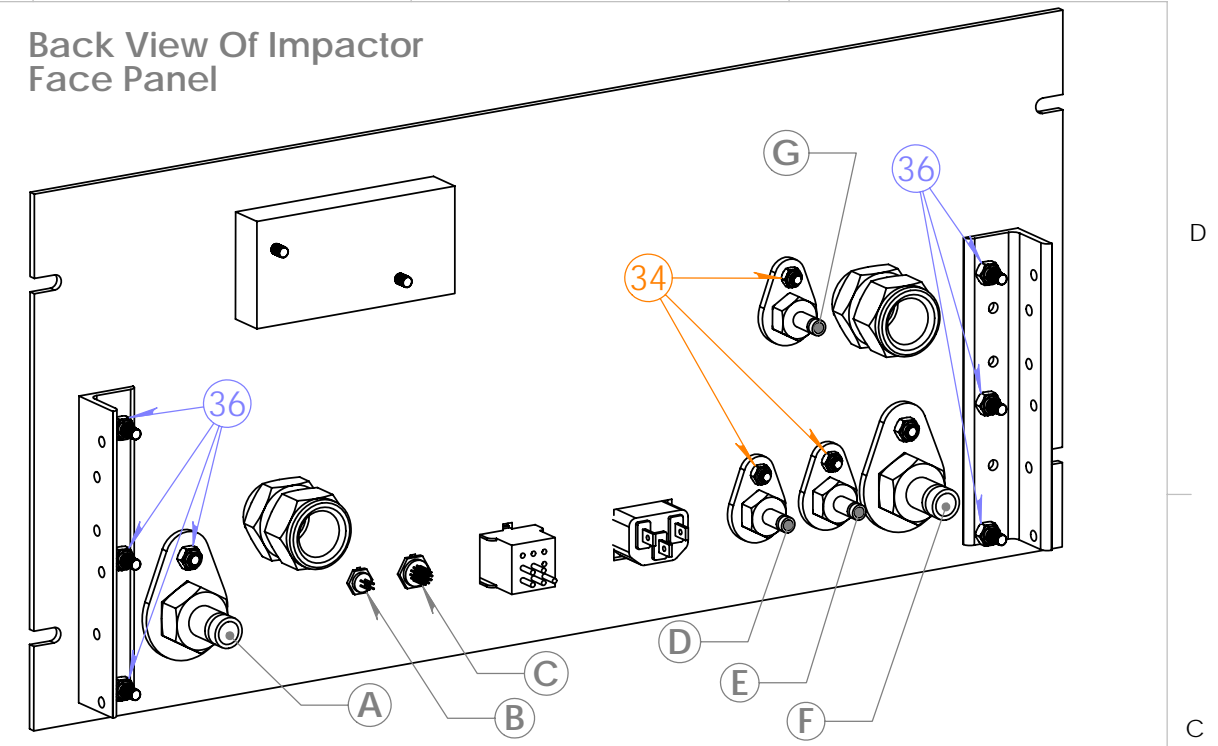
SCALE: 1 : 3.5 SHEET 2:7



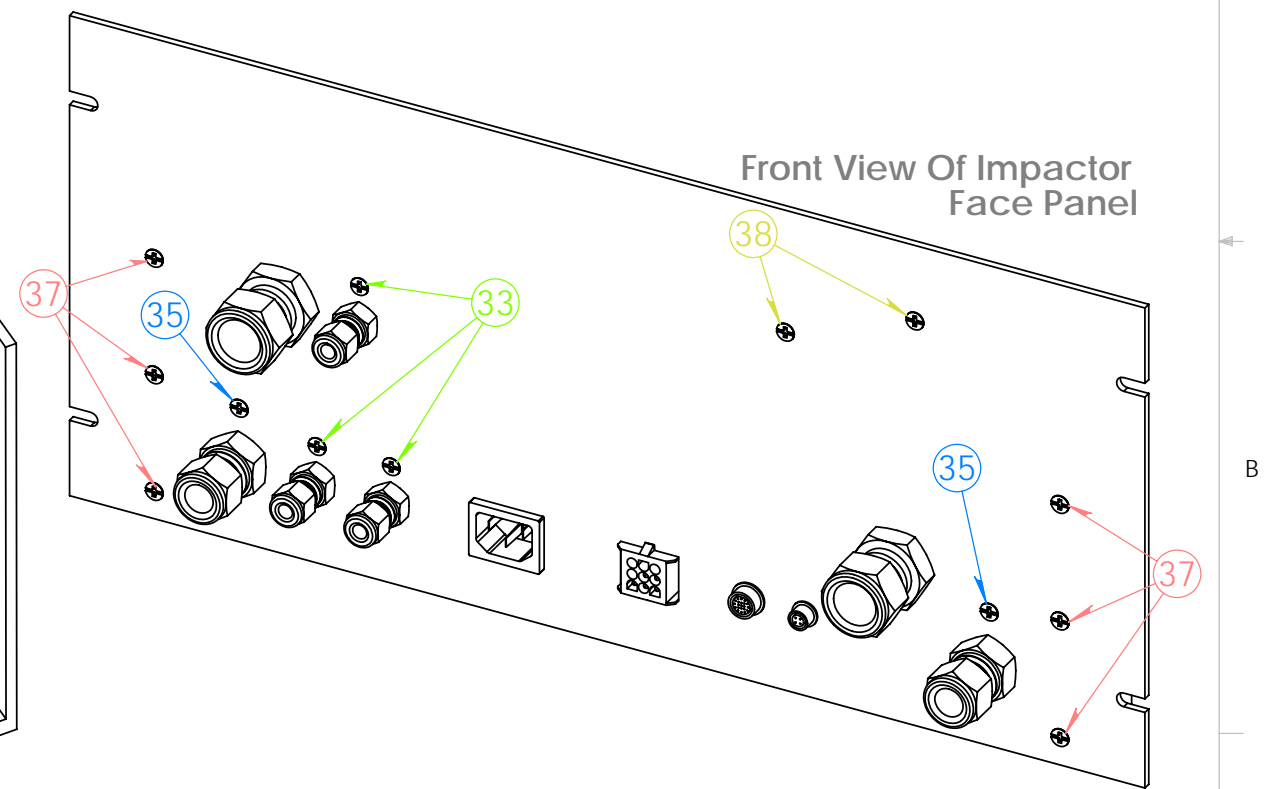
Back View Of Impactor Face Assemb.



Back View Of Impactor Face Panel



Front View Of Impactor Face Panel



REF.	CONNECTION DESCRIPTION	Hose Clamp Req.
A	1/2" Braided Flexible PVC Tubing	Y
B	Vaisala Humitter Connection Cable	N
C	Brooks Mass Flow Controller Connection Cable	N
D	1/4" Braided Flexible PVC Tubing	Y
E	1/4" Black Flexible Conductive Tubing	Y
F	1/2" Black Flexible Conductive Tubing	Y
G	1/4" Black Flexible Conductive Tubing	Y

NAME:	JAKE MALLET	DATE:	2004
DRAWN/ENG.			
UNITS	Inches		
TOLERANCES	+/-	-Dist x.xx	
	+/-	-Angular	
MATERIALS:	MAT. FINISH:	QTY.	
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	

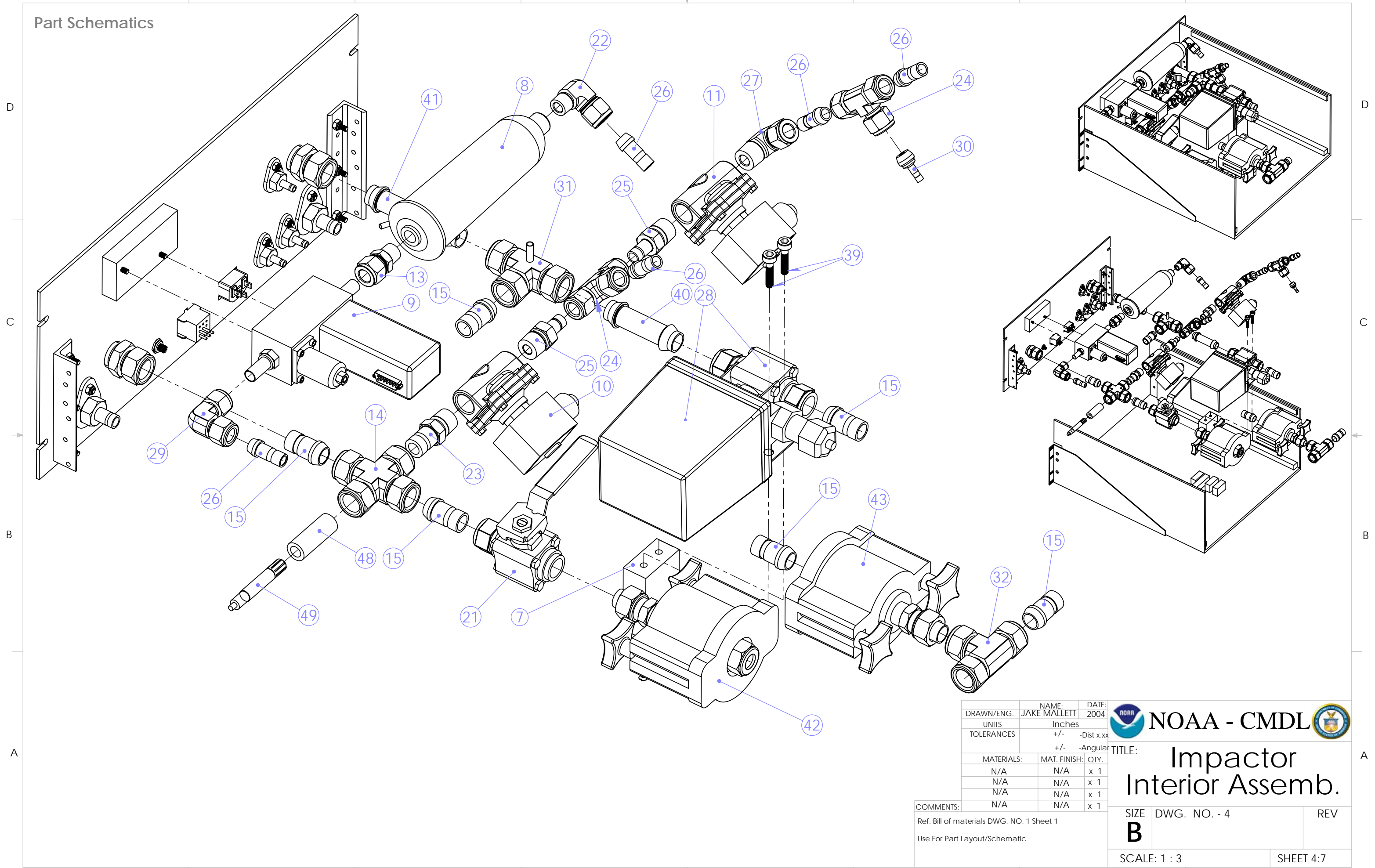
COMMENTS:  
Ref. Bill of materials DWG. NO. 1 Sheet 1



TITLE: **Impactor Assemb.**

SIZE	DWG. NO. - 3	REV
<b>B</b>		
SCALE: 1 : 3	SHEET 3:7	

Part Schematics



NAME:	JAKE MALLET		DATE:	2004
DRAWN/ENG.:	JAKE MALLET			
UNITS:	Inches			
TOLERANCES:	+/-	-Dist x.xx		
	+/-	-Angular		
MATERIALS:	MAT. FINISH:	QTY.		
N/A	N/A	x 1		
N/A	N/A	x 1		
N/A	N/A	x 1		
N/A	N/A	x 1		

COMMENTS:  
 Ref. Bill of materials DWG. NO. 1 Sheet 1  
 Use For Part Layout/Schematic



TITLE: **Impactor Interior Assemb.**

SIZE	DWG. NO. - 4	REV
<b>B</b>		

Part Schematics

D

C

B

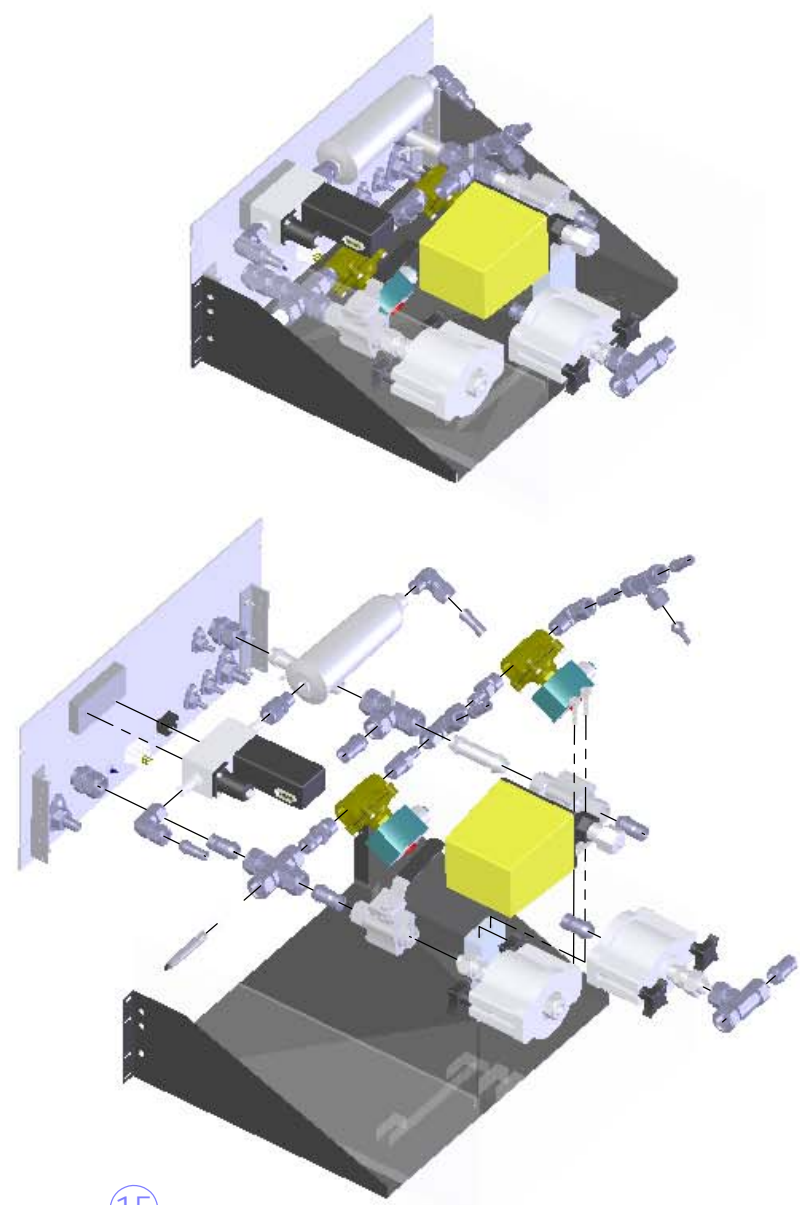
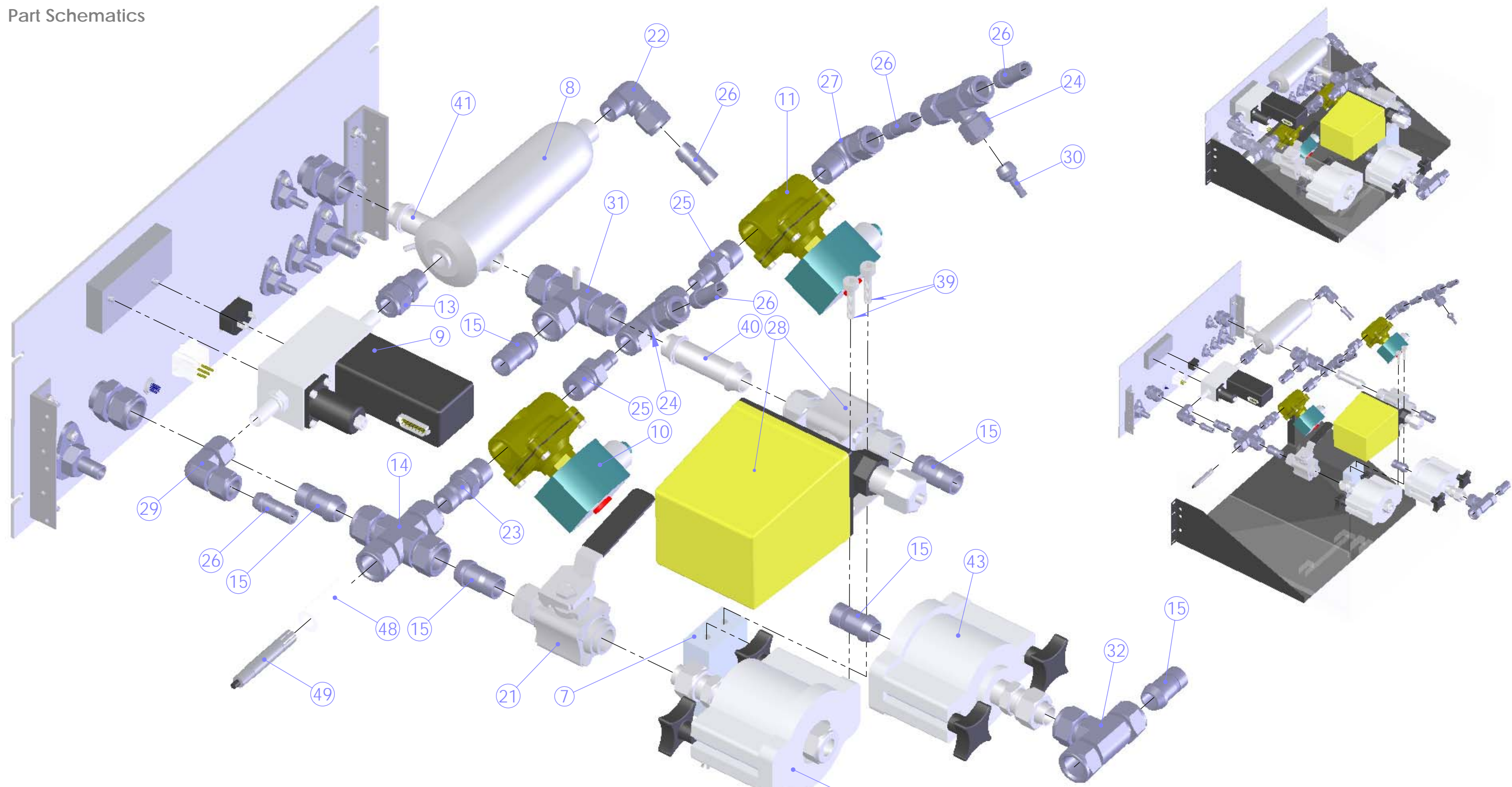
A

D

C

B

A



NAME:	JAKE MALLETT	DATE:	2004
DRAWN/ENG.	JAKE MALLETT	UNITS	Inches
TOLERANCES	+/-	-Dist x.xx	+/-
		-Angular	+/-
MATERIALS:	MAT. FINISH:	QTY.	
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	

COMMENTS:  
 Ref. Bill of materials DWG. NO. 1 Sheet 1  
 Use For Part Layout/Schematic



TITLE: **Impactor Interior Assemb.**

SIZE DWG. NO. - 5 REV

SCALE: 1 : 3 SHEET 5:7

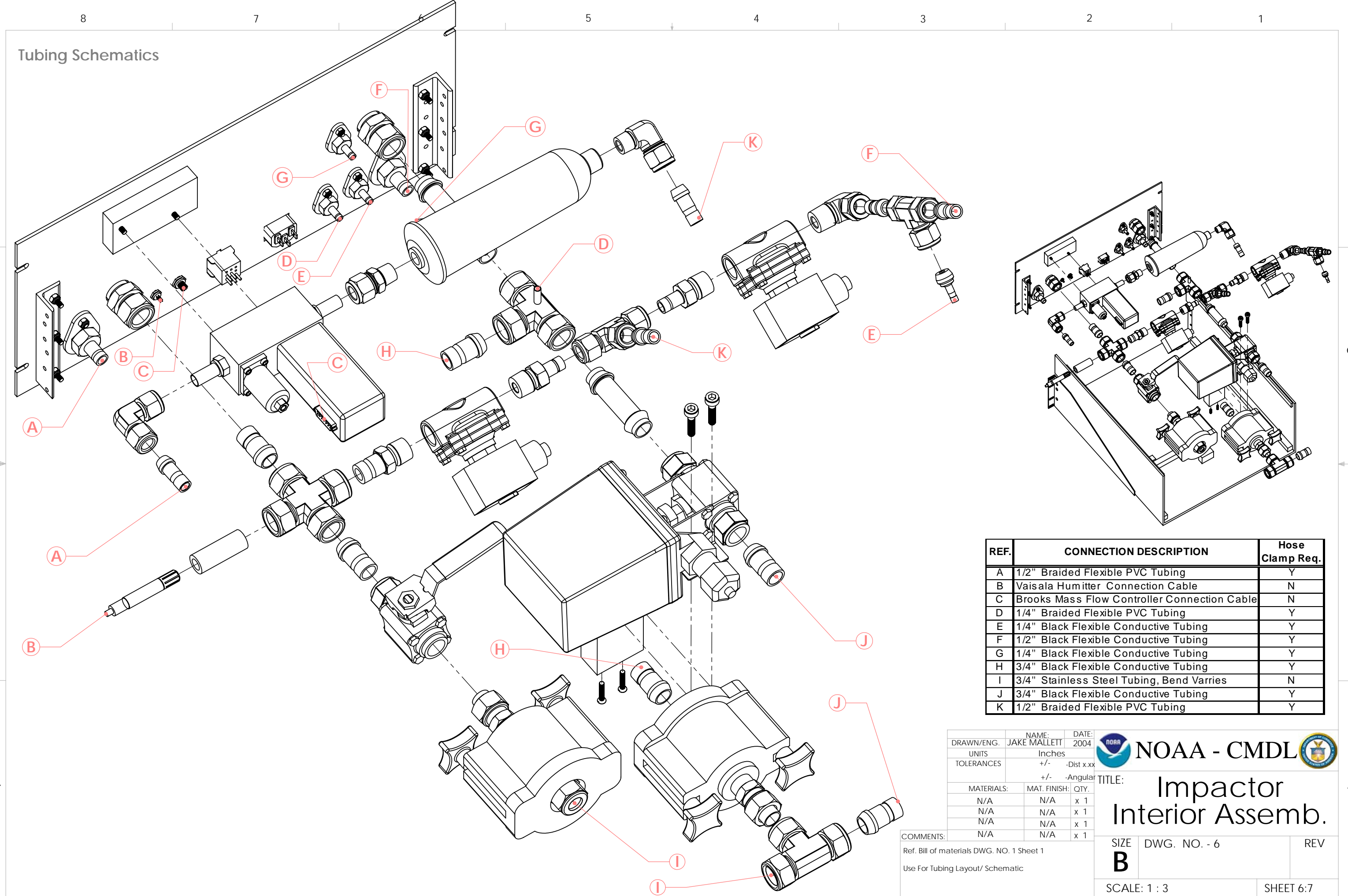
Tubing Schematics

D

C

B

A



REF.	CONNECTION DESCRIPTION	Hose Clamp Req.
A	1/2" Braided Flexible PVC Tubing	Y
B	Vaisala Humitter Connection Cable	N
C	Brooks Mass Flow Controller Connection Cable	N
D	1/4" Braided Flexible PVC Tubing	Y
E	1/4" Black Flexible Conductive Tubing	Y
F	1/2" Black Flexible Conductive Tubing	Y
G	1/4" Black Flexible Conductive Tubing	Y
H	3/4" Black Flexible Conductive Tubing	Y
I	3/4" Stainless Steel Tubing, Bend Varries	N
J	3/4" Black Flexible Conductive Tubing	Y
K	1/2" Braided Flexible PVC Tubing	Y

NAME:	JAKE MALLETT	DATE:	2004
UNITS:	Inches		
TOLERANCES:	+/-	-Dist x.xx	
	+/-	-Angular	
MATERIALS:	MAT. FINISH:	QTY.	
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	

COMMENTS:  
Ref. Bill of materials DWG. NO. 1 Sheet 1  
Use For Tubing Layout/ Schematic



TITLE: **Impactor Interior Assemb.**

SIZE **B** DWG. NO. - 6 REV

SCALE: 1 : 3 SHEET 6:7

8

7

5

4

3

2

1

8

7

6

5

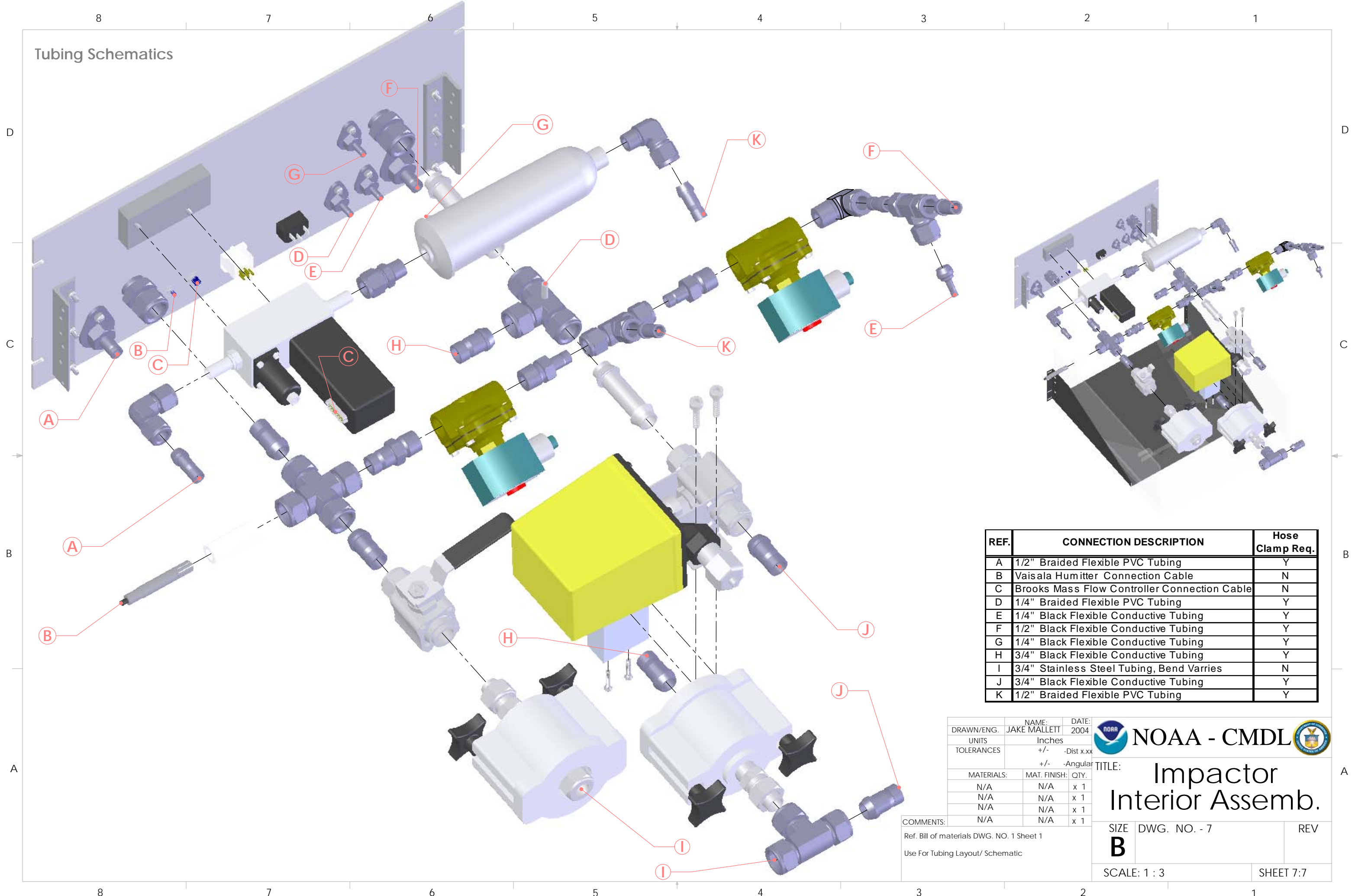
4

3

2

1

Tubing Schematics



REF.	CONNECTION DESCRIPTION	Hose Clamp Req.
A	1/2" Braided Flexible PVC Tubing	Y
B	Vaisala Humitter Connection Cable	N
C	Brooks Mass Flow Controller Connection Cable	N
D	1/4" Braided Flexible PVC Tubing	Y
E	1/4" Black Flexible Conductive Tubing	Y
F	1/2" Black Flexible Conductive Tubing	Y
G	1/4" Black Flexible Conductive Tubing	Y
H	3/4" Black Flexible Conductive Tubing	Y
I	3/4" Stainless Steel Tubing, Bend Varries	N
J	3/4" Black Flexible Conductive Tubing	Y
K	1/2" Braided Flexible PVC Tubing	Y

NAME:	JAKE MALLET	DATE:	2004
UNITS:	Inches		
TOLERANCES:	+/-	-Dist x.xx	
	+/-	-Angular	
MATERIALS:	MAT. FINISH:	QTY.	
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	
N/A	N/A	x 1	

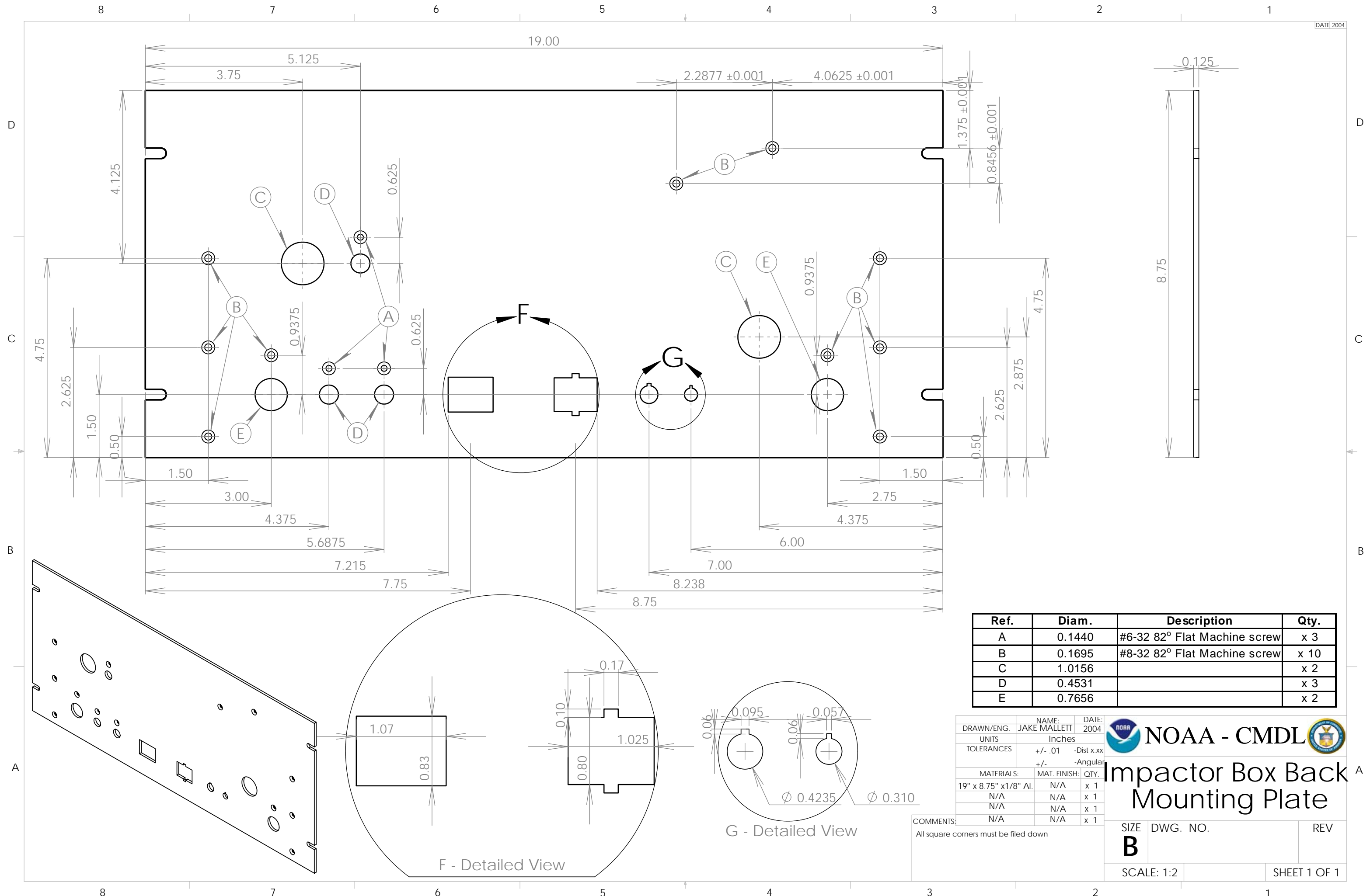
COMMENTS:  
 Ref. Bill of materials DWG. NO. 1 Sheet 1  
 Use For Tubing Layout/ Schematic



TITLE:  
**Impactor Interior Assemb.**

SIZE DWG. NO. - 7 REV

SCALE: 1 : 3 SHEET 7:7



Ref.	Diam.	Description	Qty.
A	0.1440	#6-32 82° Flat Machine screw	x 3
B	0.1695	#8-32 82° Flat Machine screw	x 10
C	1.0156		x 2
D	0.4531		x 3
E	0.7656		x 2

DRAWN/ENG.	NAME:	DATE:
JAKE MALLET	JAKE MALLET	2004
UNITS	Inches	
TOLERANCES	+/- .01 -Dist x.xx +/- -Angular	
MATERIALS:	MAT. FINISH:	QTY.
19" x 8.75" x 1/8" Al.	N/A	x 1
N/A	N/A	x 1
N/A	N/A	x 1
N/A	N/A	x 1



# Impactor Box Back Mounting Plate

COMMENTS:  
All square corners must be filed down

SIZE	DWG. NO.	REV
<b>B</b>		
SCALE: 1:2		SHEET 1 OF 1