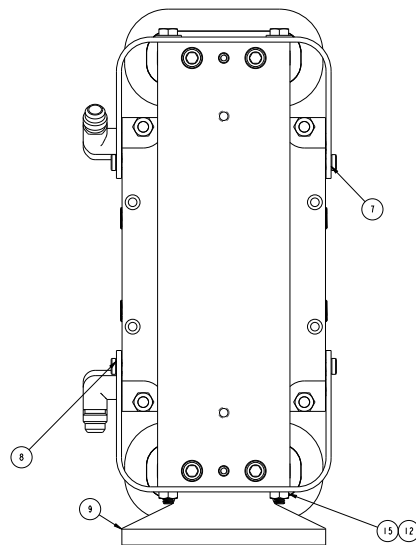
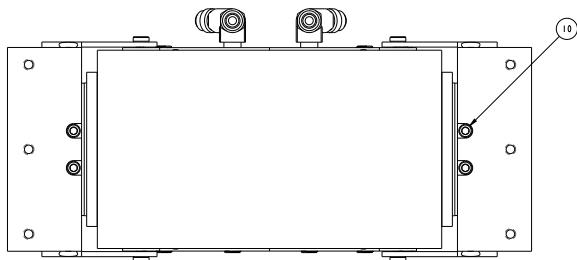
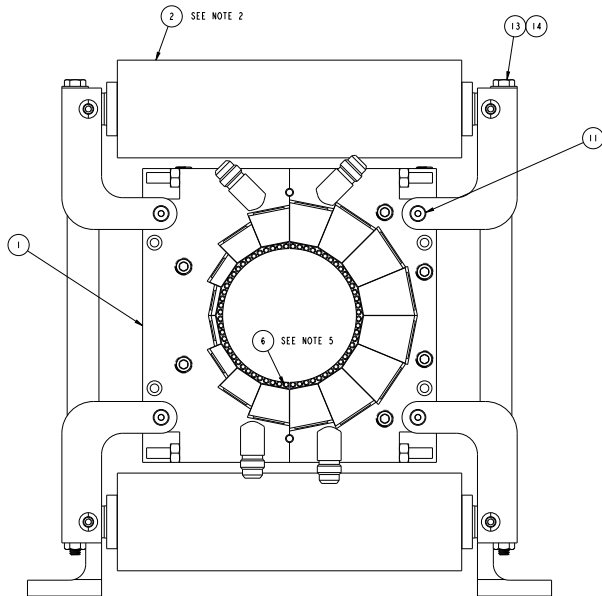


NOTES:

1. BAG OR TAG PART WITH DRAWING NUMBER IN ACCORDANCE WITH MIL-STD-130.
2. CONDUCTOR COILS ARE REPRESENTED AS GEOMETRICALLY EQUIVALENT SOLIDS FOR EASE OF RENDERING.
3. MARKINGS FOR "UPSTREAM" AND "DOWNSTREAM" MUST BE RIGHT-SIDE UP WHEN ITEM 2 IS ASSEMBLED AROUND ITEM 1 IN BEAMLINE.
4. CONDUCTOR LEADS (NOT SHOWN) MAY BE FRONT OR BACK FACING DEPENDING ON HOW ITEMS 1 AND 2 ARE ASSEMBLED TO EACH OTHER. NEITHER ORIENTATION IS PREFERRED OVER THE OTHER, AND IT CAN BE DETERMINED AT TIME OF ASSEMBLY INTO BEAMLINE.
5. ITEM 6 TO BE ASSEMBLED TO INNER BORE OF MAGNET WITH TUNING WIRES AT TIME OF FINAL TUNING. MAGNETIC FORCES CAN HOLD THE HOLDER PERMANENTLY TO INNER BORE, HOWEVER GLUE MAY BE USED IF REQUIRED.



REVISION APPROVALS						
REV	ECN NO.	DESCRIPTION	DATE	BY	CHK	DES
A	-	INITIAL RELEASE	-	-	-	-

QTY	ITEM NUMBER	PART NUMBER	DESCRIPTION	REMARKS
4	15	94805A029	NUT, .250-20 UNC, SST	MCMASTER-CARR
4	14	90107A029	WASHER, FLAT, .250 SCR, 316 SST	MCMASTER CARR
4	13	92865A540	SCREW, HEX HD, .250-20 X .75 LG, STL	MCMASTER CARR
4	12	91375A540	.250-20 X .75" LG, SET SCREW, CUP PT, STL	MCMASTER CARR
8	11	90668A016	.250-20 X .50 LG, LOW PROFILE SOC HD, SST	MCMASTER CARR
4	10	91251A250	.190-24, SOC HD, 1.375 LNG, STL	MCMASTER CARR
2	9	2550M0071	SUPPORT FOOT	ASTM B308
2	8	2550M0073	BRACKET, MAGNET SUPPORT, TYPE 1	ASTM A240
2	7	2550M0074	BRACKET, MAGNET SUPPORT, TYPE 2	ASTM A240
2	6	2550M0059	BD, GD - WIRE SHIM HOLDER	
1	2	2550M0041	VERTICAL CORRECTOR, DETOCUSING HALBACH MAGNETS	
1	1	2550M0016	BD HALBACH MAGNET, MAGNET ASSEMBLY	

COLLIDER-ACCELERATOR DEPARTMENT  
BROOKHAVEN NATIONAL LABORATORY  
UPTON, N.Y. 11973

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.5	
UNLESS OTHERWISE SPECIFIED	BY: S. TRABACCHI
DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED	DATE: 11/11/88
2550M0055 4	SCALE: AS SHOWN
2550M0070 4	APPROVED: [Signature]
2550M0000 4	DATE: 11/11/88

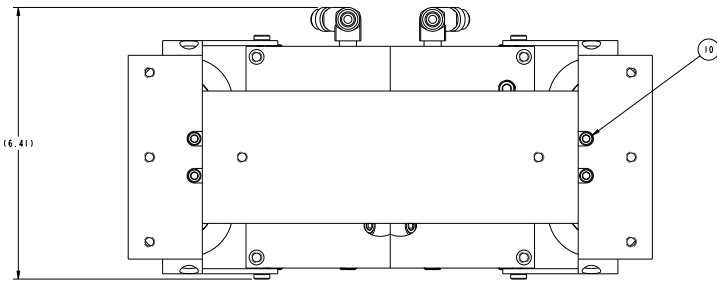
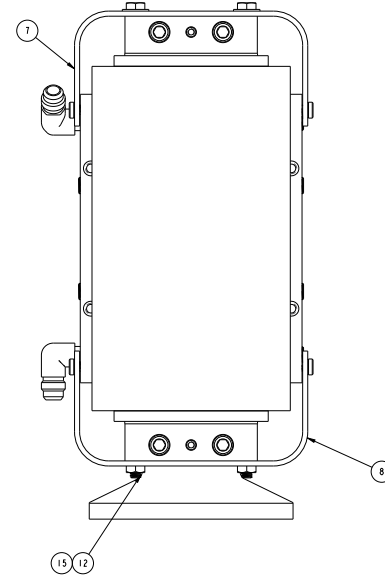
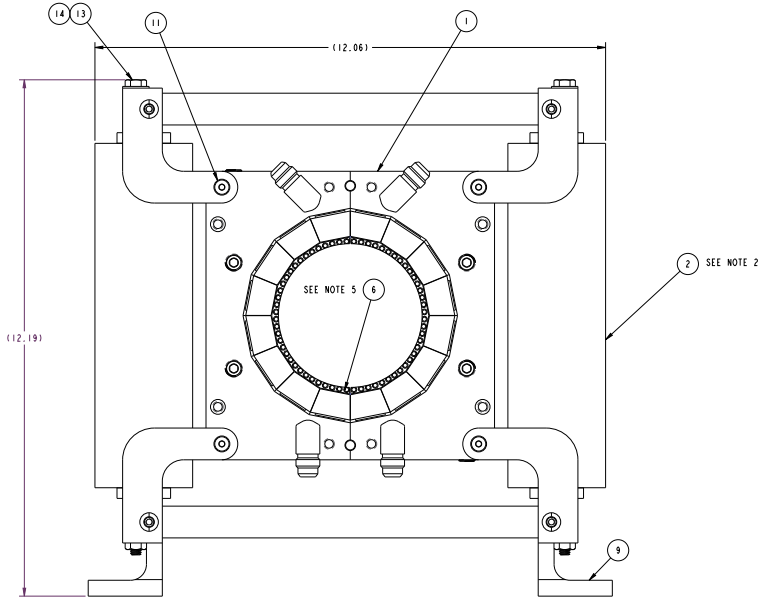
DRYING NUMBER: 2550M0050	REV: A
SCALE: 111	SHEET: 1 OF 1
CATEGORY: A3	

PRELIMINARY

NOTES:

1. BAG OR TAG PART WITH DRAWING NUMBER IN ACCORDANCE WITH MIL-STD-130.
2. CONDUCTOR COILS ARE REPRESENTED AS GEOMETRICALLY EQUIVALENT SOLIDS FOR EASE OF RENDERING.
3. MARKINGS FOR "UPSTREAM" AND "DOWNSTREAM" MUST BE RIGHT-SIDE UP WHEN ITEM 2 IS ASSEMBLED AROUND ITEM 1 IN BEAMLINE.
4. CONDUCTOR LEADS (NOT SHOWN) MAY BE FRONT OR BACK FACING DEPENDING ON HOW ITEMS 1 AND 2 ARE ASSEMBLED TO EACH OTHER. NEITHER ORIENTATION IS PREFERRED OVER THE OTHER, AND IT CAN BE DETERMINED AT TIME OF ASSEMBLY INTO BEAMLINE.
5. ITEM 6 TO BE ASSEMBLED TO INNER BORE OF MAGNET WITH TUNING WIRES AT TIME OF FINAL TUNING. MAGNETIC FORCES CAN HOLD THE HOLDER PERMANENTLY TO INNER BORE, HOWEVER GLUE MAY BE USED IF REQUIRED.

REVISION APPROVALS						
REV	ECN NO.	DESCRIPTION	DATE	BY	CHK	DES
A	-	INITIAL RELEASE	-	-	-	-



PRELIMINARY

QTY	ITEM NUMBER	PART NUMBER	DESCRIPTION	REMARKS
4	15	94805A029	NUT, .250-20 UNC, SST	MCMASTER-CARR
4	14	90107A029	WASHER, FLAT, .250 SCR, 316 SST	MCMASTER CARR
4	13	92865A540	SCREW, HEX HD, .250-20 X .75 LG, STL	MCMASTER CARR
4	12	91375A540	.250-20 X .75" LG, SET SCREW, CUP PT, STL	MCMASTER CARR
8	11	90668A016	.250-20 X .50 LG, LOW PROFILE SOC HD, SST	MCMASTER CARR
4	10	91251A250	.190-24, SOC HD, 1.375 LNG, STL	MCMASTER CARR
2	9	2550M0071	SUPPORT FOOT	ASTM B308
2	8	2550M0076	BRACKET, MAGNET SUPPORT, TYPE 4	ASTM A240
2	7	2550M0075	BRACKET, MAGNET SUPPORT, TYPE 3	ASTM A240
2	6	2550M0060	OF - WIRE SHIM HOLDER	
1	2	2550M0042	HORIZONTAL CORRECTOR, FOCUSING HALBACH MAGNETS	
1	1	2550M0015	OF HALBACH MAGNET, MAGNET ASSEMBLY	

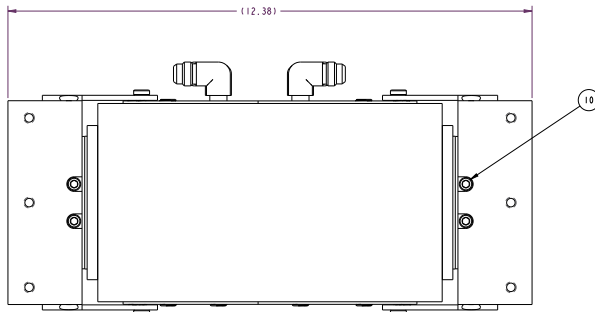
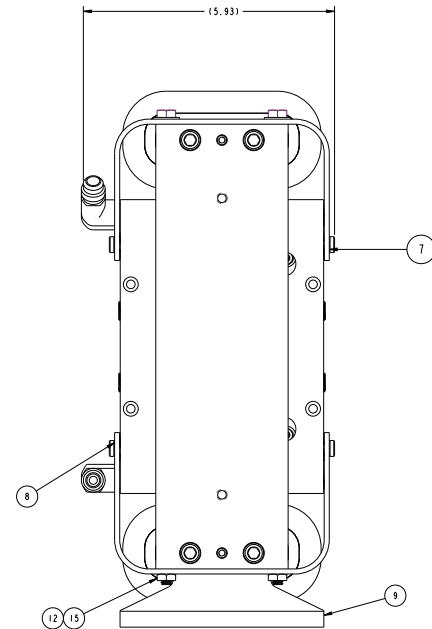
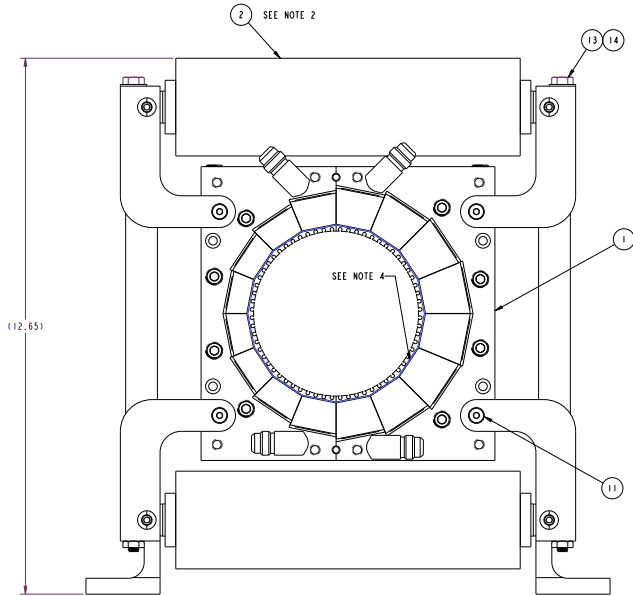
BILL OF MATERIALS			
25T0M0029	4	25T0M0056	4
25T0M0026	4	25T0M0053	4
25T0M0023	4	25T0M0050	4
25T0M0020	4	25T0M0047	4
25T0M0017	4	25T0M0044	4
25T0M0014	4	25T0M0041	4
25T0M0011	4	25T0M0038	4
25T0M0010	4	25T0M0035	3
25T0M0007	4	25T0M0032	4

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.5		COLLIDER-ACCELERATOR DEPARTMENT BROOKHAVEN NATIONAL LABORATORY UPTON, N.Y. 11973
UNLESS OTHERWISE SPECIFIED		CBETA HALBACH MAGNETS OF MAGNET, BEAMLINE ASSEMBLY
DIMENSIONS ARE IN INCHES UNLESS INDICATED OTHERWISE	DRAWN BY: S. TRABACCHI CHECKED BY: S. TRABACCHI DATE: 11/11/03	DRAWING NUMBER: <b>2550M0049</b>
ANGULAR TOLERANCE IS 1/2°	SCALE: 1:1 SHEET: 1 OF 1	REV: A
USED ON DRAWING NO. 1071, PER ASS'Y APPLICATION	USED ON DRAWING NO. 1071, PER ASS'Y APPLICATION	DATE: 11/11/03 BY: S. TRABACCHI

NOTES:

- BAG OR TAG PART WITH DRAWING NUMBER IN ACCORDANCE WITH MIL-STD-130.
- CONDUCTOR COILS ARE REPRESENTED AS GEOMETRICALLY EQUIVALENT SOLIDS FOR EASE OF RENDERING.
- CONDUCTOR LEADS (NOT SHOWN) MAY BE FRONT OR BACK FACING DEPENDING ON HOW ITEMS 1 AND 2 ARE ASSEMBLED TO EACH OTHER. NEITHER ORIENTATION IS PREFERRED OVER THE OTHER, AND IT CAN BE DETERMINED AT TIME OF ASSEMBLY INTO BEAMLINE.
- WIRE SHIM HOLDER (NOT SHOWN) TO BE ASSEMBLED TO INNER BORE OF MAGNET AT TIME OF ASSEMBLY INTO BEAMLINE.

REVISION APPROVALS								
REV	ECN NO.	DESCRIPTION	DATE	BY	CHK	DES	ENG	SUPV
A	-	INITIAL RELEASE	-	-	-	-	-	-



QTY	ITEM NUMBER	PART NUMBER	DESCRIPTION	REMARKS	
4	15	94805A029	NUT, .250-20 UNC, SST	MCMASTER-CARR	
4	14	90107A029	WASHER, FLAT, .250 SCR, 316 SST	MCMASTER CARR	
4	13	92865A540	SCR, HEX, HD, .250-20 X.75 LG, STL	MCMASTER CARR	
4	12	91375A540	.250-20 X .75" LG, SET SCREW, CUP PT, STL	MCMASTER CARR	
8	11	90666A016	.250-20 X .50 LG, LOW PROFILE SOC HD, SST	MCMASTER CARR	
4	10	91251A250	.190-24, SOC HD, 1.375 LMG, STL	MCMASTER CARR	
2	9	2550M0071	SUPPORT FOOT	ASTM B308	
2	8	2550M0073	BRACKET, MAGNET SUPPORT, TYPE 1	ASTM A240	
2	7	2550M0074	BRACKET, MAGNET SUPPORT, TYPE 2	ASTM A240	
2	6	2550M0061	BD11 - WIRE SHIM HOLDER		
1	2	2550M0041	VERTICAL CONNECTOR, DEFOCUSING HALBACH MAGNETS		
1	1	2550M0017	BD11 HALBACH MAGNET, MAGNET ASSEMBLY		
QTY		PART NUMBER		DESCRIPTION	REMARKS

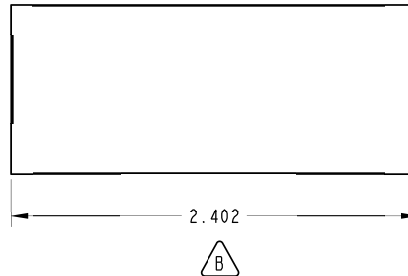
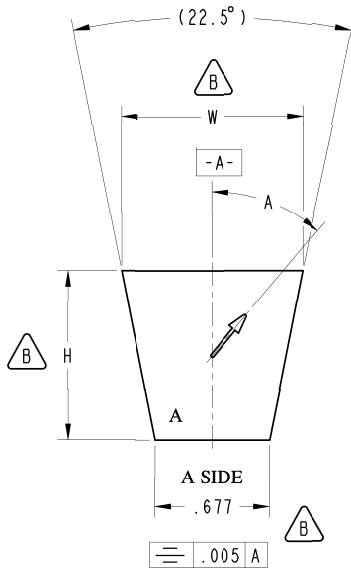
INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.5		S. TRABOCCHI BOSTON		COLLIDER-ACCELERATOR DEPARTMENT BROOKHAVEN NATIONAL LABORATORY UPTON, N.Y. 11973	
UNLESS OTHERWISE SPECIFIED:		DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		DRAWING NUMBER: <b>2550M0051</b>	
ANGULAR TOLERANCE IS 1/2°		FINISH: UNLESS OTHERWISE SPECIFIED		SCALE: 1:1 (NOMINAL)	
USED ON DRAWING NO. 2550M0051		DATE: 1/25/93		SHEET: 1 OF 1	
APPLICATION:		MATERIAL: 316 SS		CATEGORY: A3	

PRELIMINARY

2550M0051  
 1/25/93  
 1 OF 1  
 CREO

NOTES:

1. MANUFACTURE PER BNL 2550M0001 SOW-01.
2. MATERIAL:  $H_c j \geq 30 \text{ kOe}$  (KILO-OERSTEDS)  $B_r = 1.17$  TO  $1.22$  TESLA
3. MARK PART, WITH MIN. .12" HIGH CHARACTERS, IN ACCORDANCE WITH BNL 2550M0001 SOW-01. LOCATE APPROXIMATELY AS SHOWN. SEE TABLE FOR APPROPRIATE PART DASH NUMBER.



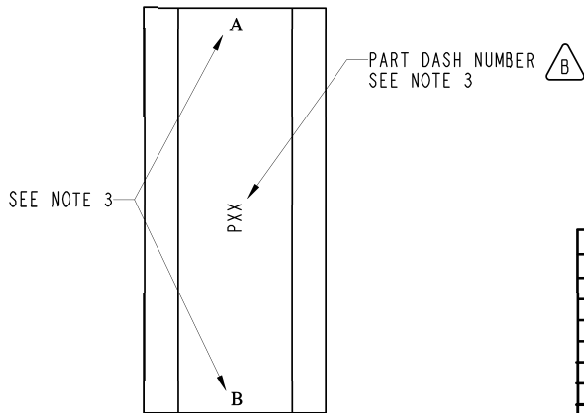
△ B PART DASH NUMBER  
SEE NOTE 3

REVISED DIM A  
ALL BLOCKS



QTY	H	A	W	PART NUMBER
2	.100	61.572	.716	2550M0002-P16
2	.100	118.428	.716	2550M0002-P15
2	.287	64.594	.791	2550M0002-P14
2	.287	115.406	.791	2550M0002-P13
2	.569	84.775	.903	2550M0002-P12
2	.569	95.225	.903	2550M0002-P11
2	.775	111.881	.985	2550M0002-P10
2	.775	68.119	.985	2550M0002-P9
2	.898	144.963	1.034	2550M0002-P8
2	.898	35.037	1.034	2550M0002-P7
2	1.059	179.932	1.098	2550M0002-P6
2	1.059	0.068	1.098	2550M0002-P5
2	1.135	-144.443	1.128	2550M0002-P4
2	1.135	-35.557	1.128	2550M0002-P3
2	1.182	-108.184	1.147	2550M0002-P2
2	1.182	-71.816	1.147	2550M0002-P1

TABLE



2550M0023	QTY. PER ASS'Y.	125	FINISH	125	BREAK SHARP EDGES	MAX. .03 MIN. .015
2550M0022	APPLICATION					

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.5				COLLIDER-ACCELERATOR DEPARTMENT BROOKHAVEN NATIONAL LABORATORY UPTON, N.Y. 11973			
UNLESS OTHERWISE SPECIFIED		DRAWN BY J. HALINSKI 06/26/11 CHECKED S. RESTMEYER 06/27/11 DESIGN APPROVAL A. ARNO 06/27/11 ENG / PART APPROVAL S. BROOKS 06/27/11 SUPERVISOR APPROVAL G. MAHLER 06/27/11 CEE / CME J. TUOZZOLO 06/27/11 DIVISION HEAD O.A. SAFETY / RSC DEPARTMENT CHIEF		CBETA BD HALBACH MAGNET BD, PERMANENT MAGNET BLOCK			
DIMENSIONS ARE IN INCHES		DECIMAL TOLERANCES .XX ± .03 .XXX ± .015 .XXX ± .005		SIZE C DRAWING NUMBER: 2550M0002 REV. C		Q.A. CATEGORY A3 SCALE: 2/1 WEIGHT: 0.6 SHEET 1 OF 1	
ANGULAR TOLERANCE ±1°		USED ON DRAWING NO.		APPLICATION		CREO	

REVISION APPROVALS								
REV	ECN NO.	DESCRIPTION	DATE	BY	CHK	DES	ENG	SUPV
A	-	INITIAL RELEASE	-	-	-	-	-	-
B	CAD3191	REVISED PER ECN	08/11/17	ST	GM	AA	JT	JT
C	CAD3251	REVISED PER ECN	12/27/17	ST	AA	AA	JT	JT

DNG NO 2550M0002 SHT 1 of 1

A

CREO