



MEBT MEETING AGENDA

December 20, 2001

System Integration / Installation

1. **Electrical Coordination Update**
2. **Installation of MEBT frame**

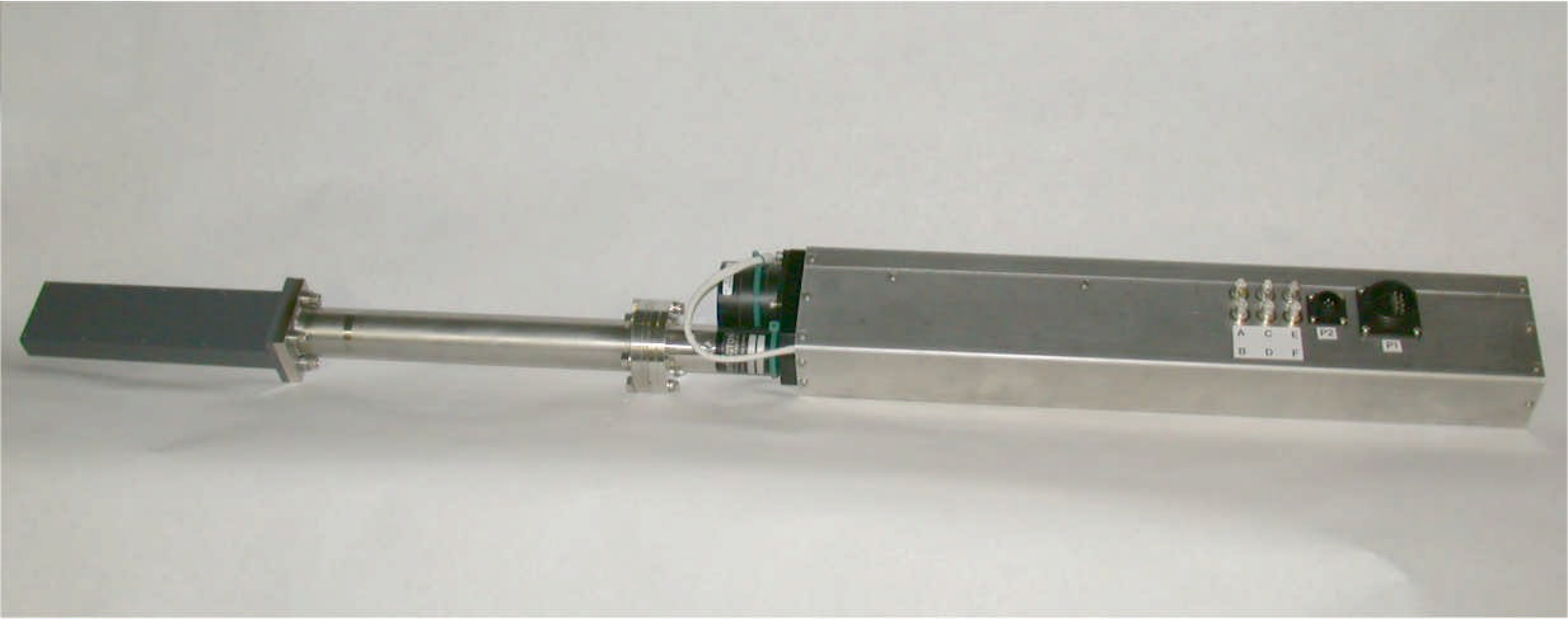
Electrical Systems Update

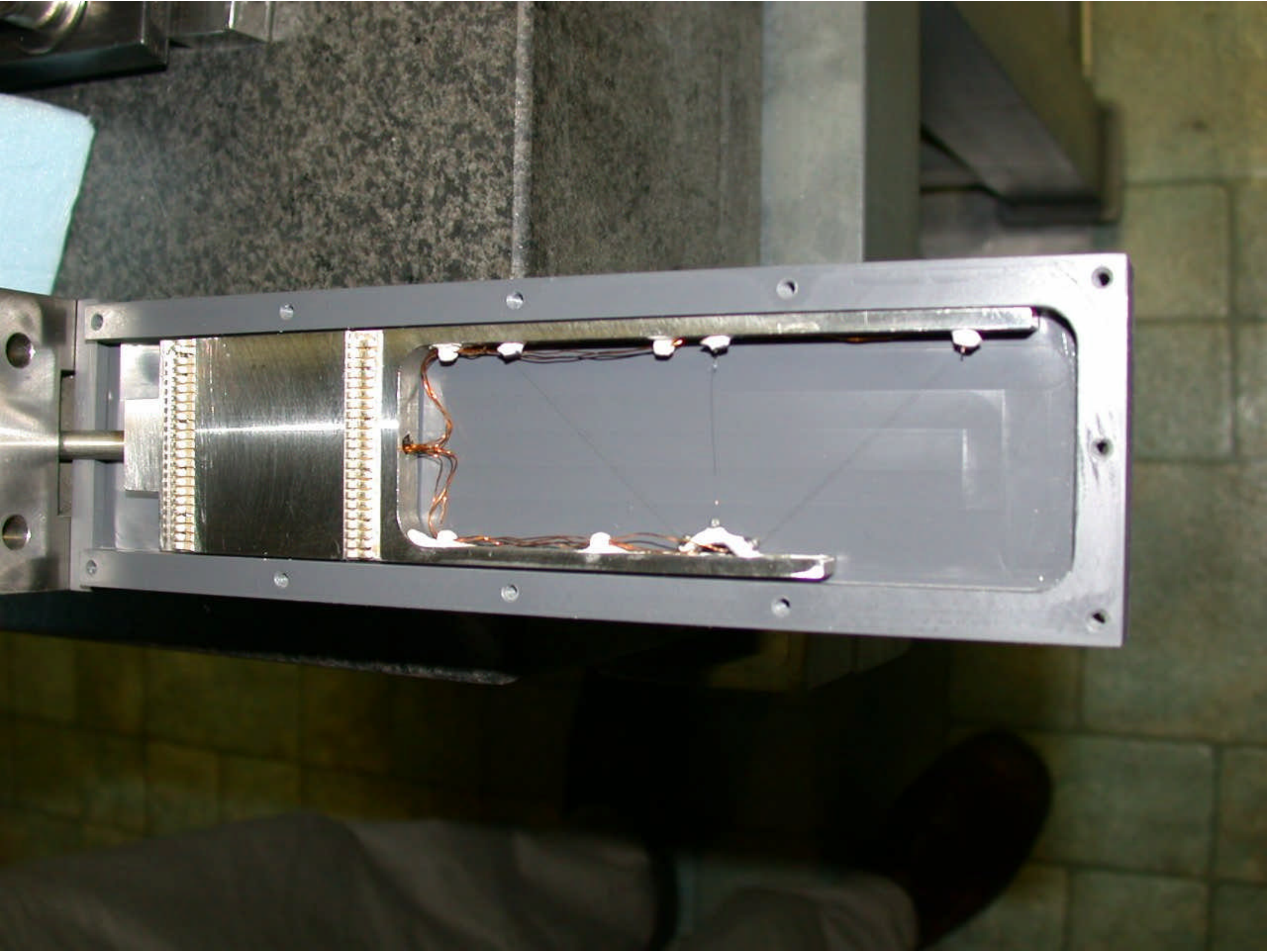
1. **Low Level RF**
2. **Rebuncher System**
3. **Beam Diagnostics**

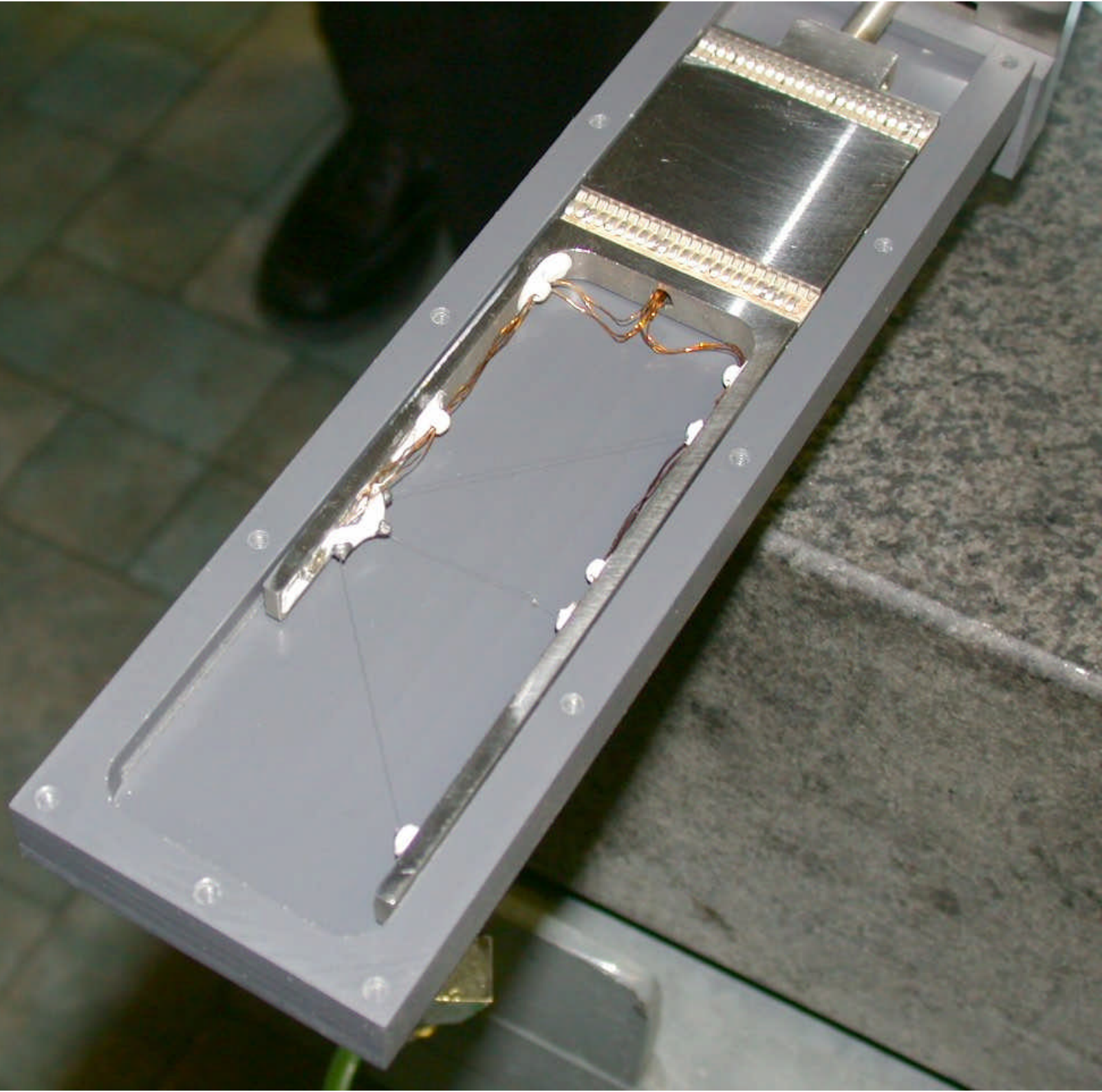
Mechanical Systems Update

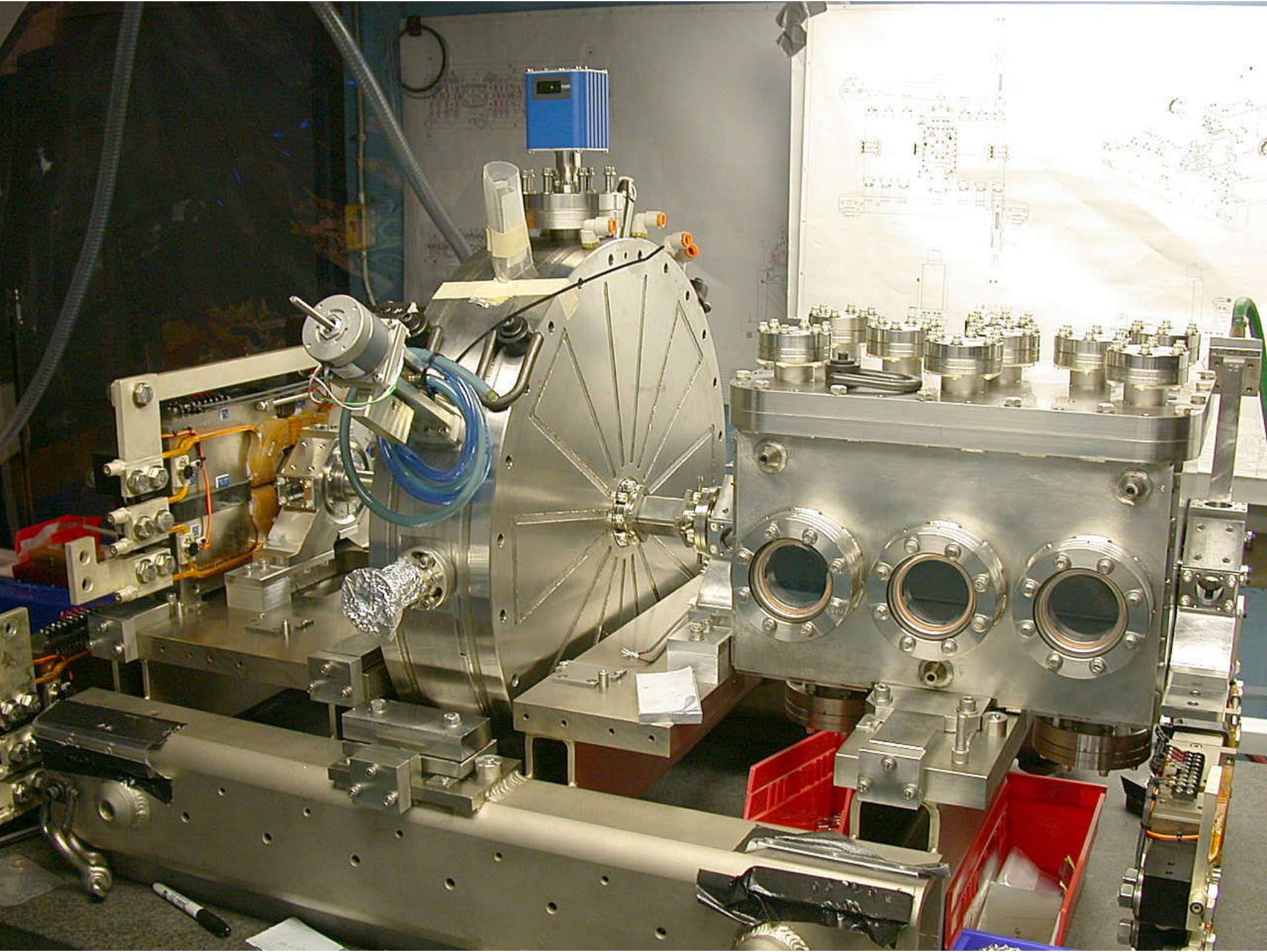
1. **Wire Scanner Status**
 - First WS (with cables) received 12/18/01 ([photo](#))
2. **Raft 1 Rebuncher Installation ([photo](#))**
3. **X-Ray Shielding**
 - Aluminum viewport covers being fabricated
4. **Water system installation ([photo](#))**
5. **Design Status ([MEBT](#))**
 - PM5 vacuum manifold being fabricated
 - Raft assembly drawings ([Raft1 draft](#))
 - Quad Electrical Covers ([photo](#), [MEBT image](#))

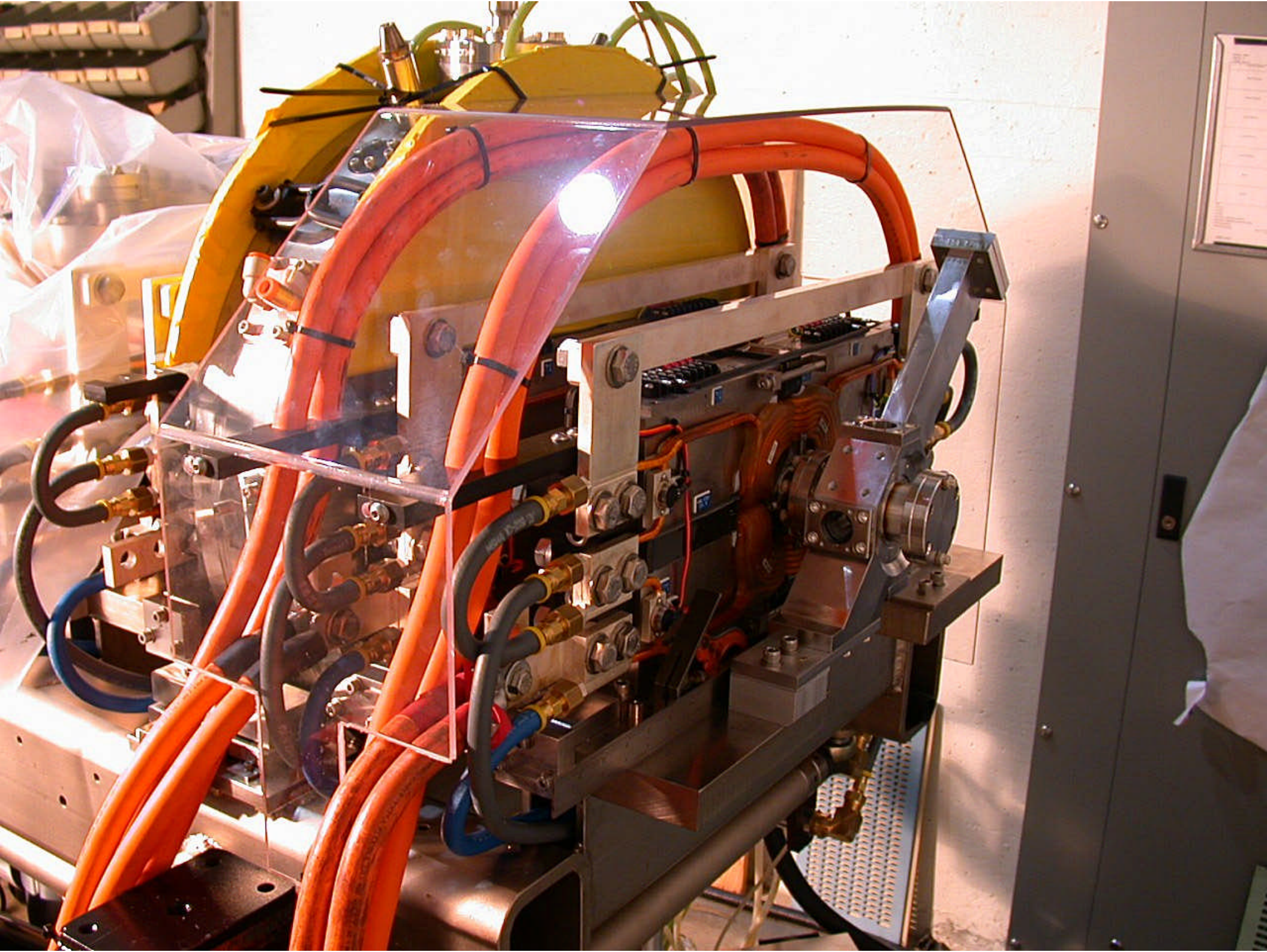
Next Meeting: Thursday, 1/3/02, 10 AM

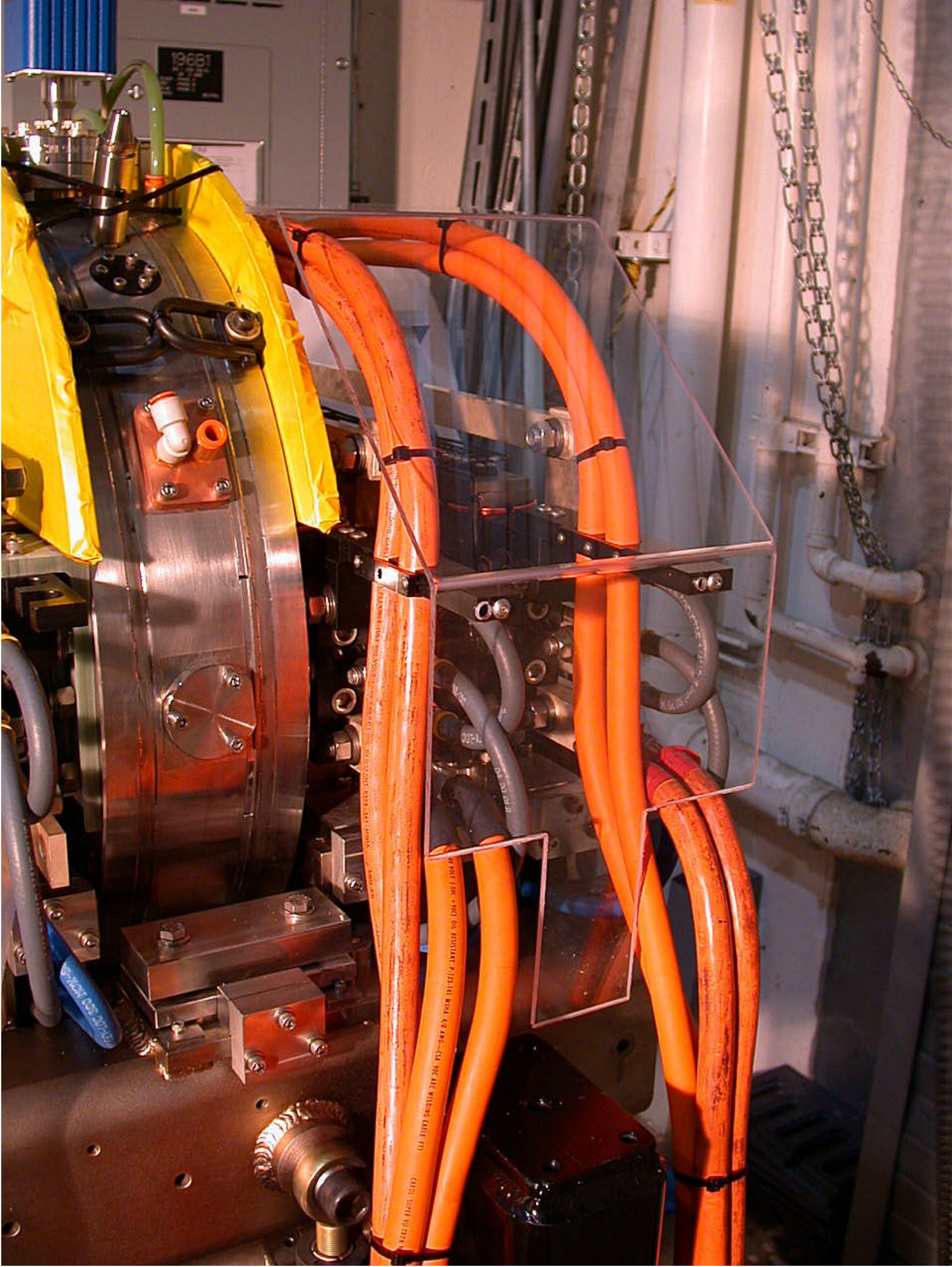


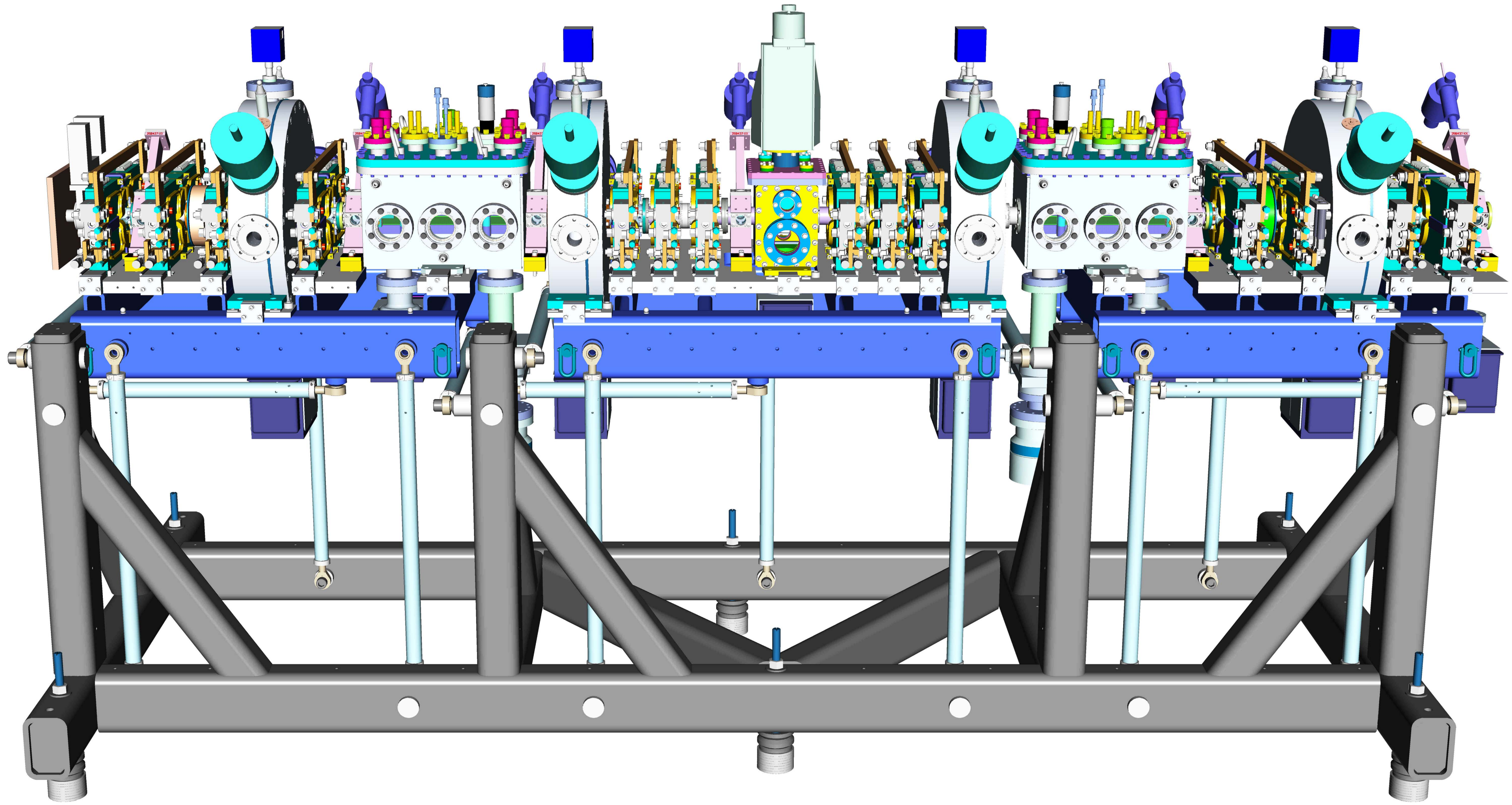










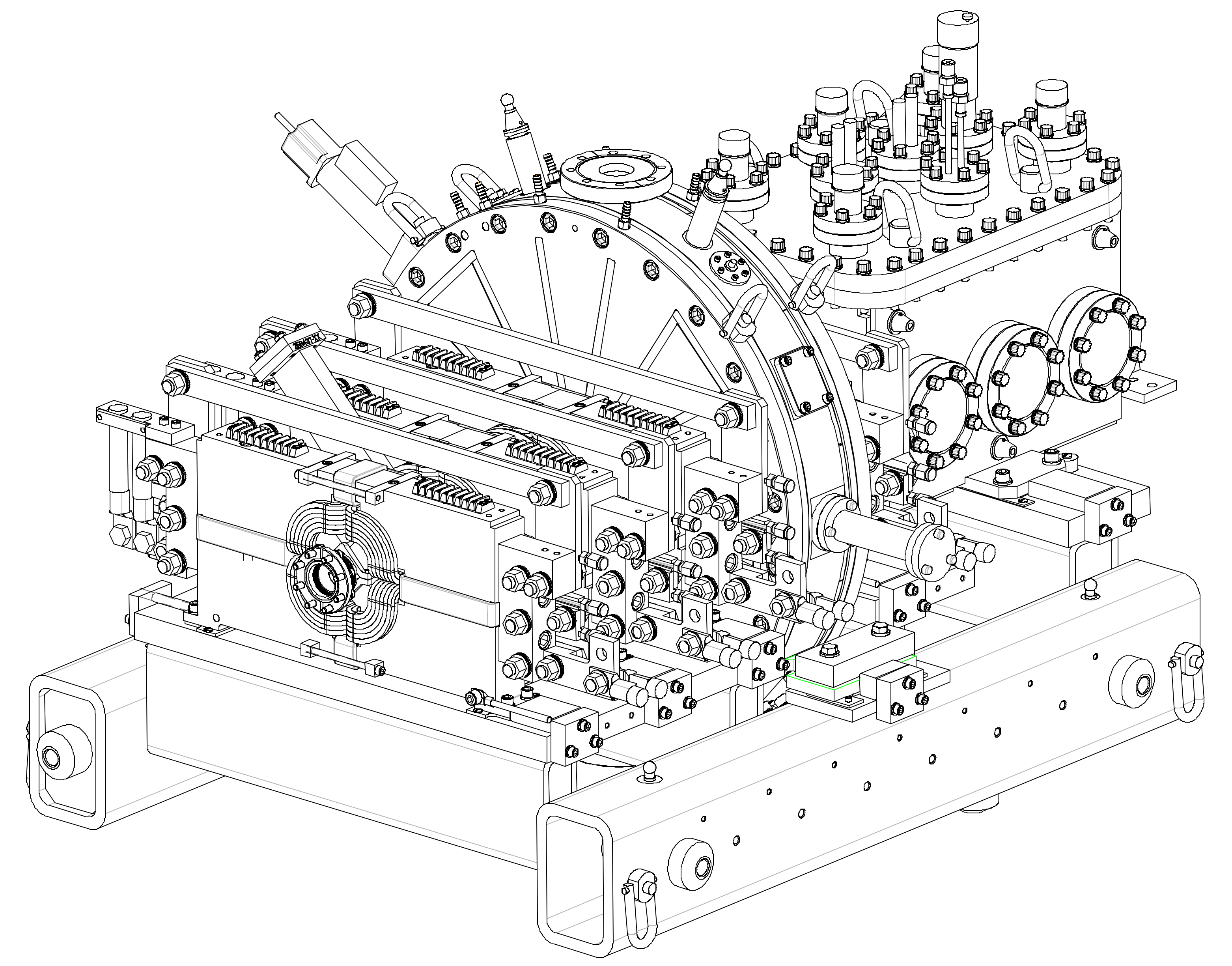
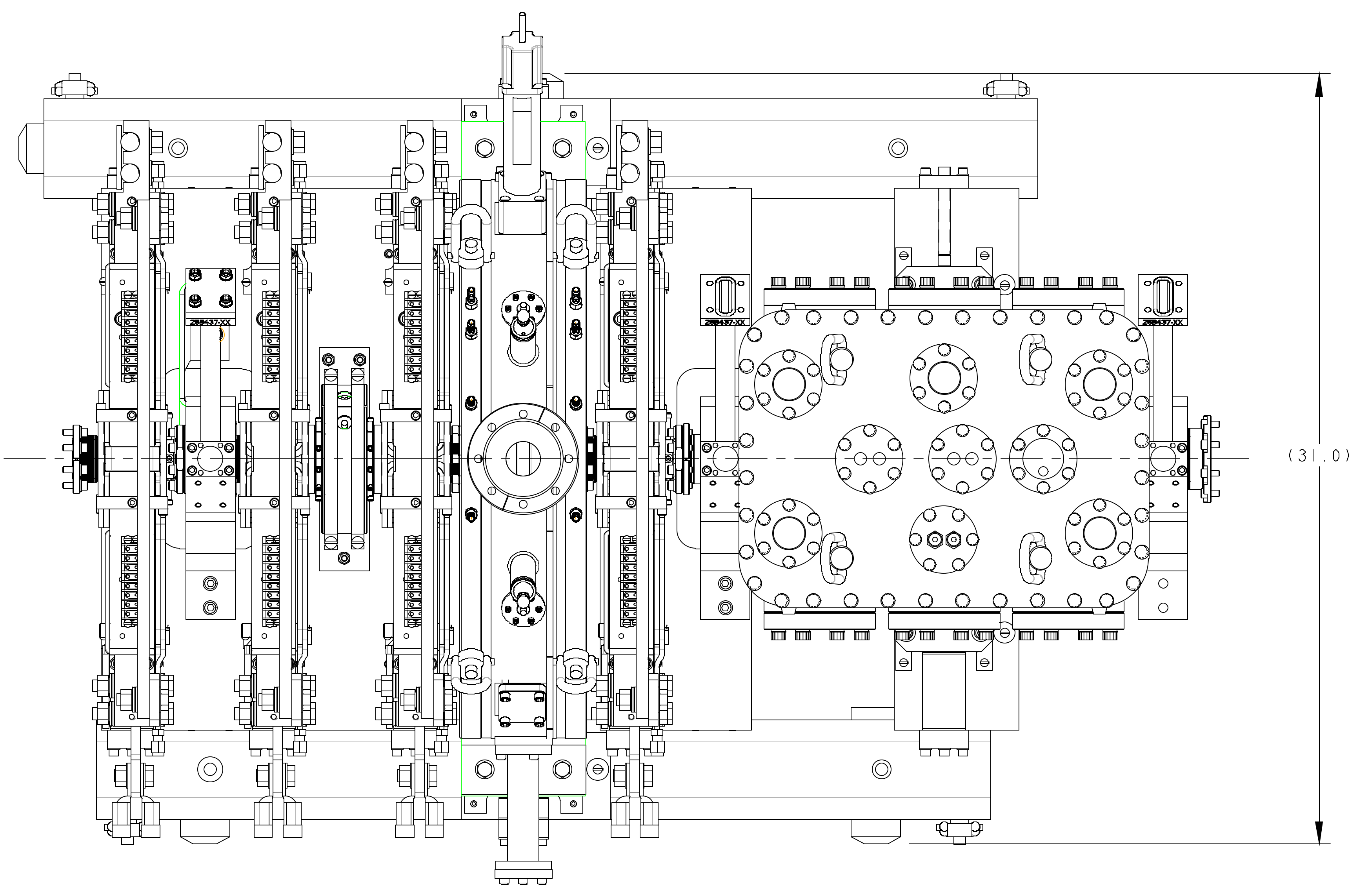


D

C

B

A



32MM APERTURE QUADRUPOLE MAGNET (#3)
(W/O STEERING)
ITEM 6, SN: 25B1346B-7

30MM REBUNCHER CAVITY ASSEMBLY (#1)
ITEM 15, JPAW-BC-001-1

BEAM CURRENT MONITOR I
ITEM 14, 25B139

32MM APERTURE QUADRUPOLE MAGNET (#4)
(WITH STEERING)
ITEM 7, SN: 25B1346B-6

32MM APERTURE QUADRUPOLE MAGNET (#2)
(W/O STEERING)
ITEM 6, SN: 25B1346B-4

PROFILE MONITOR I (PM1) BEAM BOX ASSEMBLY
ITEM 10, 25B440

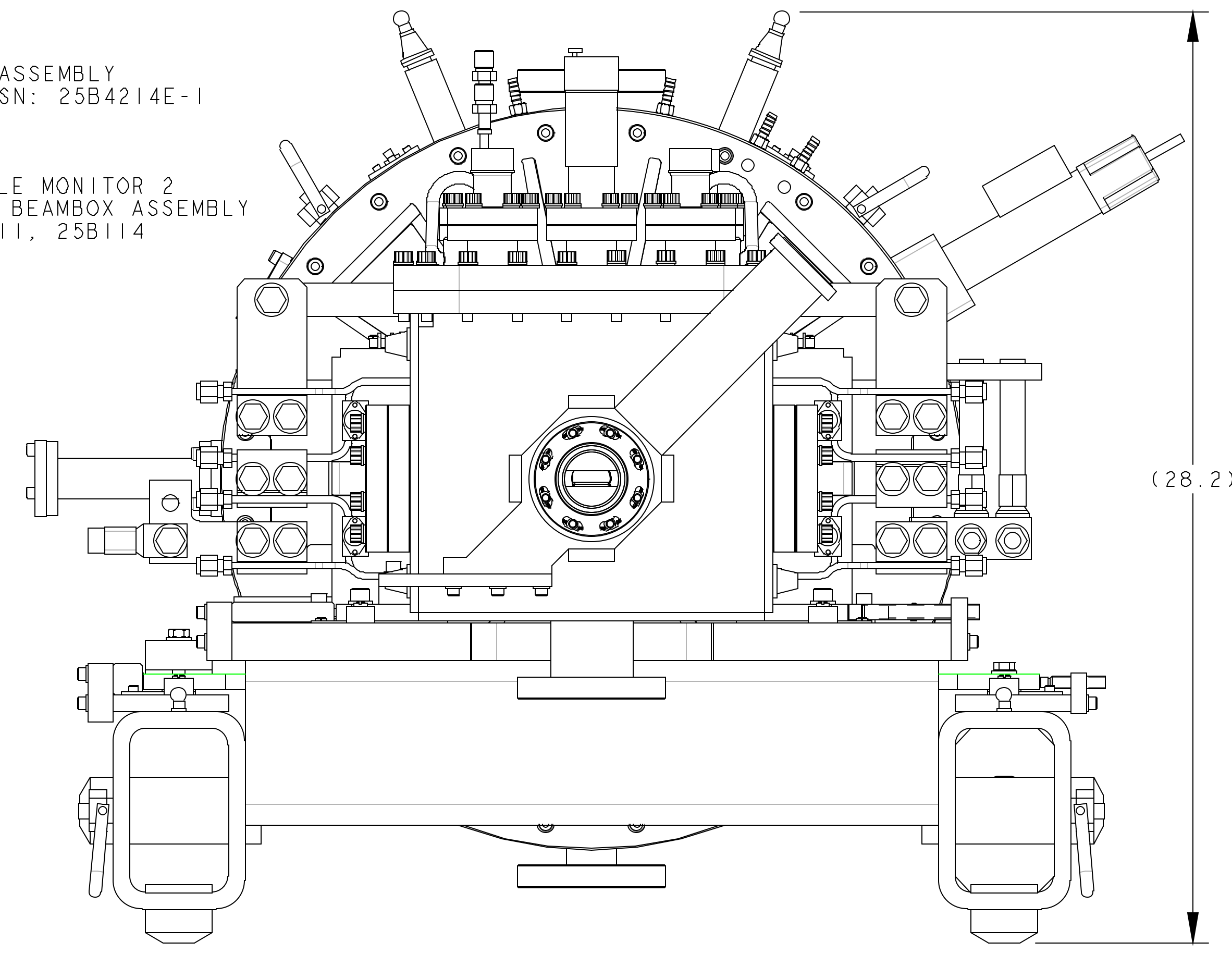
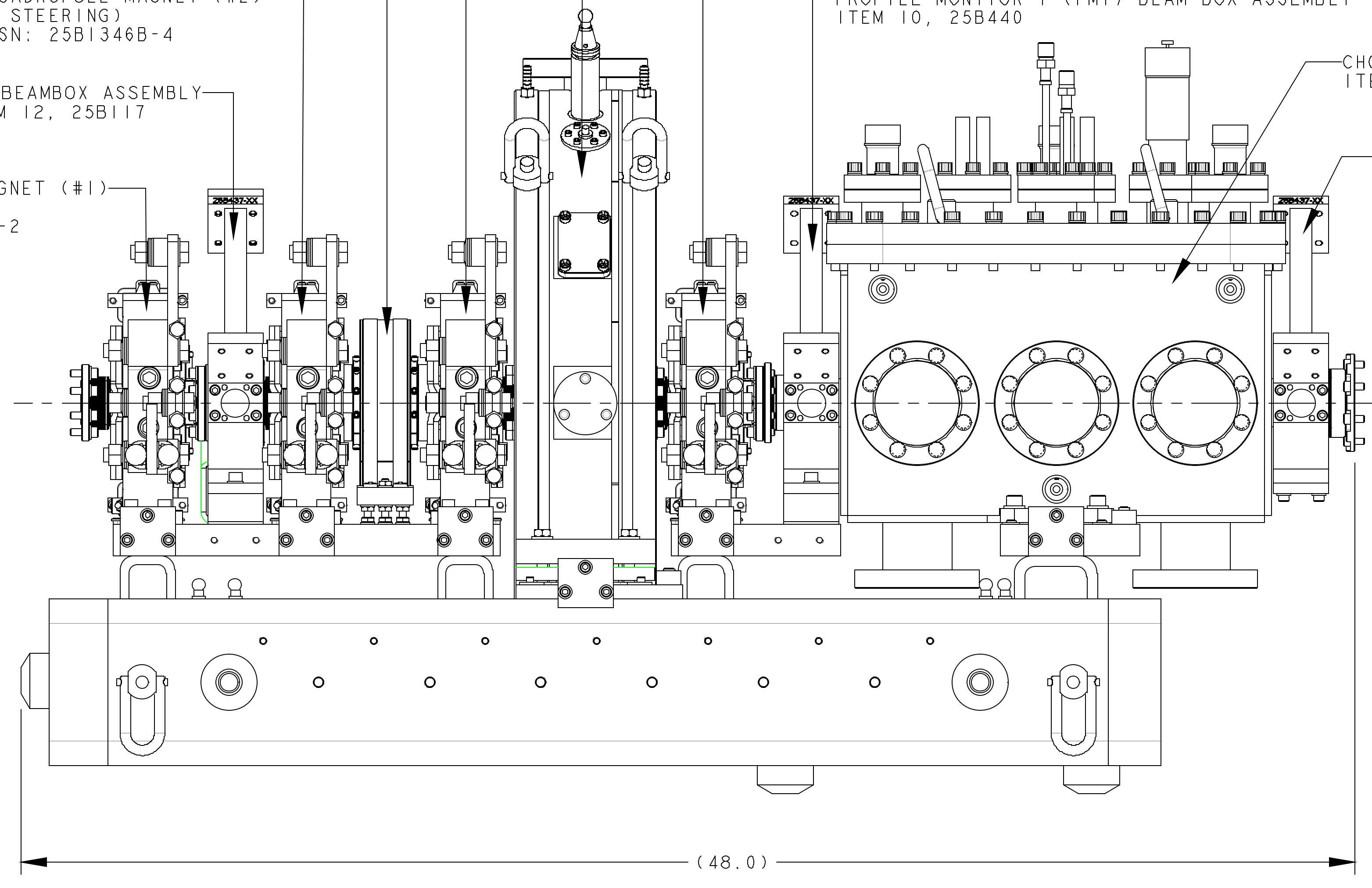
SCRAPER BEAMBOX ASSEMBLY
ITEM 12, 25B117

CHOPPER ASSEMBLY
ITEM 1, SN: 25B4214E-1

32MM APERTURE QUADRUPOLE MAGNET (#1)
(WITH STEERING)
ITEM 7, SN: 25B1346B-2

PROFILE MONITOR 2 (PM2) BEAMBOX ASSEMBLY
ITEM 11, 25B114

BEAM DIRECTION →



APPROXIMATE WEIGHT = 1,360 lb.

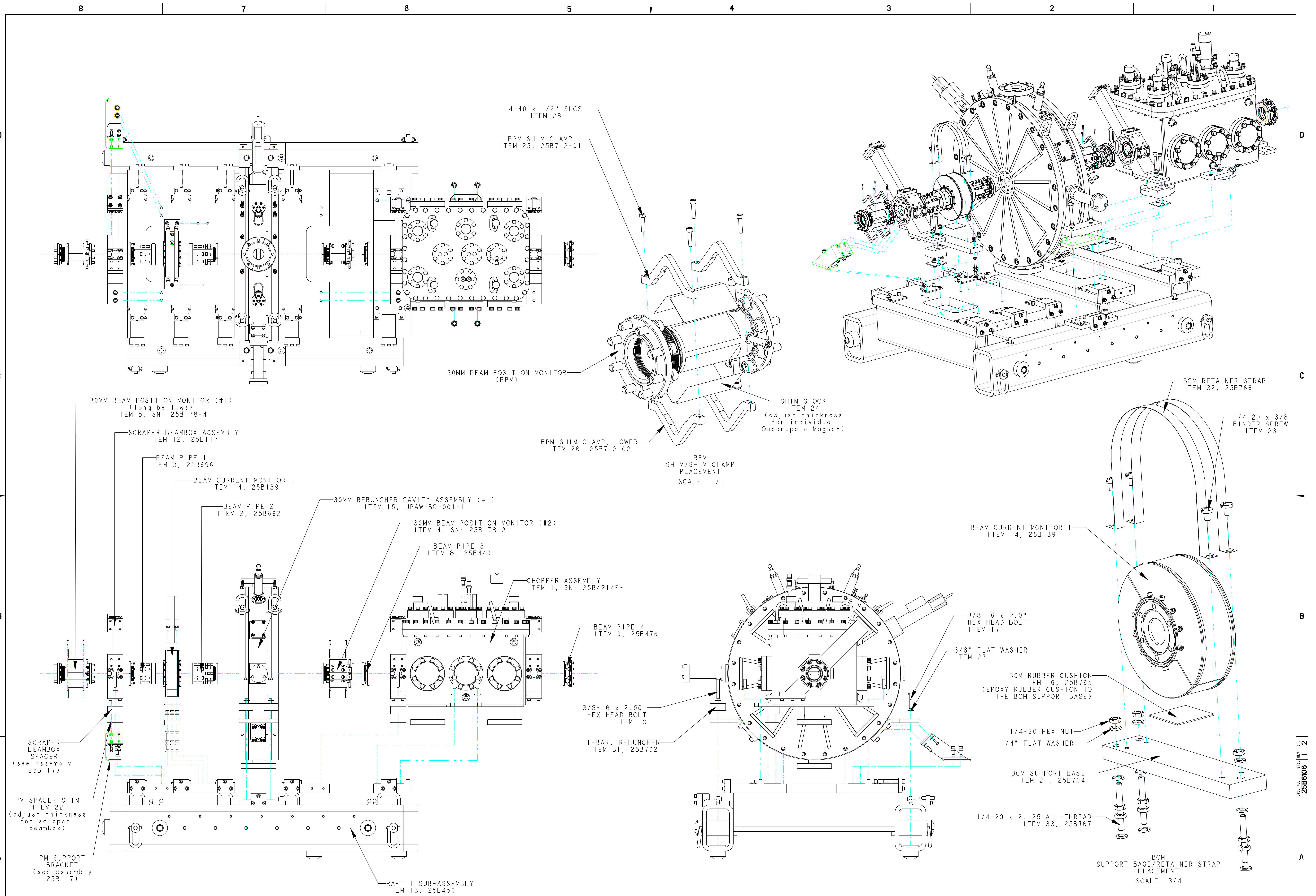
ITEM	PART NO	RECD	DESCRIPTION	MATERIAL
34		9	1/4" NARROW FLAT WASHER	STAINLESS STEEL
33	25B761	3	1/4-20 x 2.125 ALL-THREAD	STAINLESS STEEL
32	25B766	2	BCM RETAINER STRAP	STAINLESS
31	25B702	1	1-BCM, REBUNCHER	SST, 304 PRODEC
30	-	4	3/8-16 x 1-1/4 SHC SCREW	SS 18-8
29	-	16	FLAT WASHER, 5/16", MCMASTER-CARR #98017690 OR EQUIV.	SS 18-8
28	-	8	4-40 x 1/2" SHCS	SS 18-8
27	-	8	FLAT WASHER, 3/8", MCMASTER-CARR #983704019 OR EQUIV.	SS 18-8
26	25B712-02	4	BPM SHIM CLAMP, LOWER	SS 304
25	25B712-01	4	BPM SHIM CLAMP, UPPER	SS 304
24	-	8	SHIM STOCK	SS
23	-	4	SCR, BOSH, 1/4-20 X 3/8 L	SS
22	25B768	2	PROFILE MONITOR SPACER SHIM	ALUMINUM
21	25B764	1	BCM SUPPORT GAST	ALUMINUM
20	-	16	SOCKET HEAD CAP SCREW, 5/16-18 x 1"	18-8 SS
19	-	9	1/4"-20 HEX. NUT	18-8 SS
18	-	2	3/8"-16 UNC HEX. HD. BOLT, 2.5 LG	18-8 SS
17	-	2	3/8"-16 UNC HEX. HD. BOLT, 2.00 LG	18-8 SS
16	25B765	1	BCM RUBBER CUSHION	1/16" RUBBER SHEET
15	JPAW-BC-001	1	REBUNCHER CAVITY ASSEMBLY	-
14	25B139	1	BEAM CURRENT MONITOR I	-
13	25B450	1	RAFT I SUB-ASSEMBLY	-
12	25B440	1	PM1 BEAMBOX ASSEMBLY	-
11	25B117	1	SCRAPER BEAMBOX ASSEMBLY	-
10	25B114	1	PM2 BEAMBOX ASSEMBLY	-
9	25B476	1	DETAIL ASSEMBLY, BPM SPOOL	-
8	25B449	1	DETAIL ASSEMBLY, BPM SPOOL	-
7	25B157	2	32MM APERTURE QUADRUPOLE WITH STEERING	-
6	25B158	2	32MM APERTURE QUADRUPOLE W/O STEERING	-
5	25B187	1	30 MM QM1 BEAM POSITION MONITOR	-
4	25B178	1	30 MM QM2 BEAM POSITION MONITOR	-
3	25B696	1	DETAIL ASSEMBLY, BEAM PIPE 1	-
2	25B692	1	DETAIL ASSEMBLY, BEAM PIPE 2	-
1	25B420	1	CHOPPER ASSEMBLY	-

UNLESS OTHERWISE SPECIFIED:
 PROJECTION:
 DIMENSIONS: 1.X ± 0.1 FRACTION ± 1/64 IN. ANGLES ± 1.0° SURFACE FINISH: 1.XXX ± 0.010 FINISH: 125/32
 TOLERANCES ARE CLASS 2
 CHAMFER ENDS OF ALL SCREW THREADS 30°
 CUT ROOM: 1/8" THREAD RELIEF ON MACHINED THREADS
 REMOVE BURRS, WELD SPATTER & LOOSE SCALE
 IN ACCORDANCE WITH ASME Y14.5M & B46.1

SHOP ORDERS:
 REV: DWG CHK ZONE DATE CHANGES

ERNEST ORLANDO LAWRENCE
 BERKELEY NATIONAL LABORATORY
 UNIVERSITY OF CALIFORNIA - BERKELEY

SNS
 GENERAL
 MEFT RAFT I ASSEMBLY
 SCALE: 33/100
 SHEET 1 OF 4
 DWG. NO. 25B6106
 CATEGORY CODE FE3300
 SHEET 1 OF 4
 1

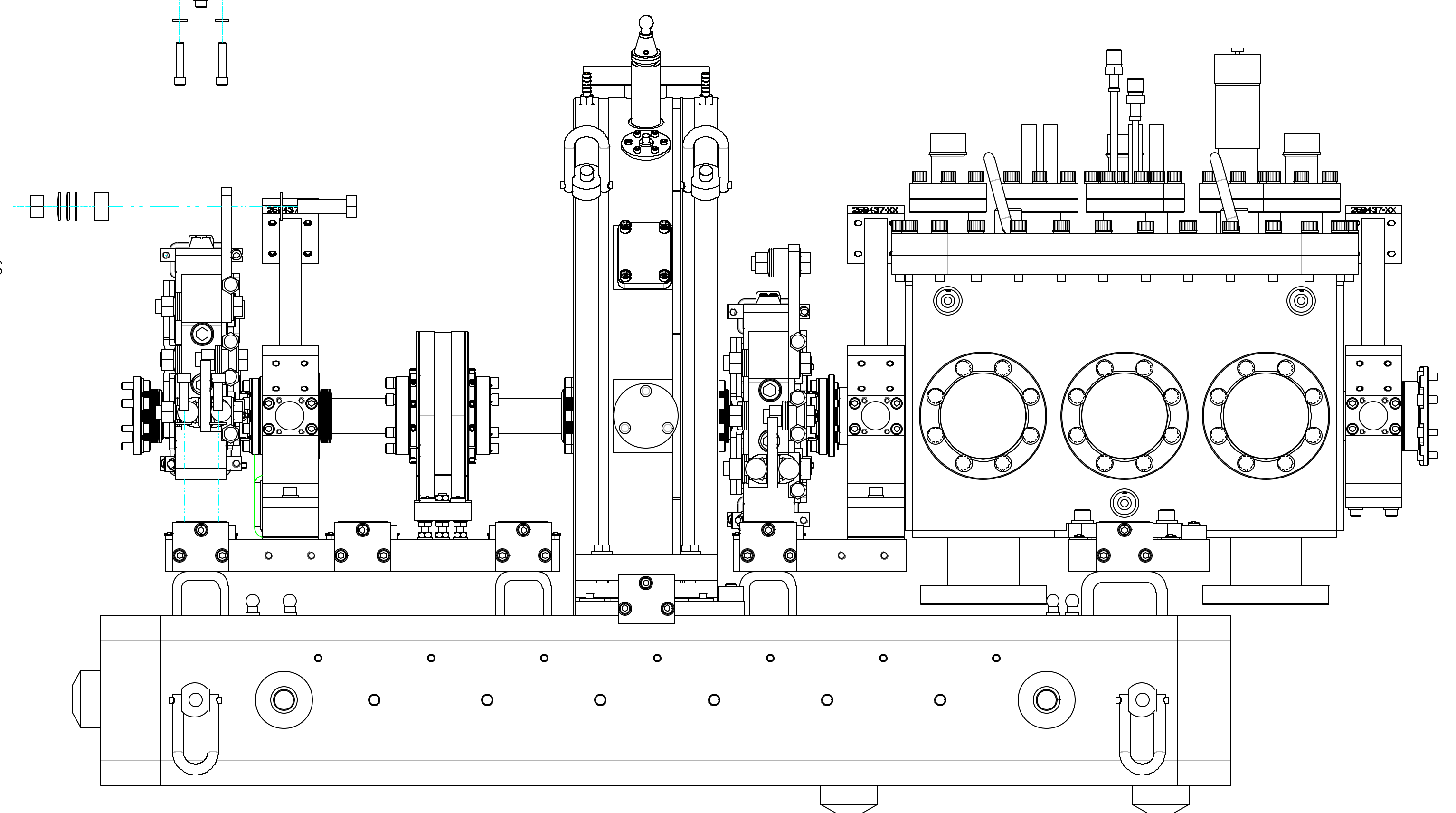
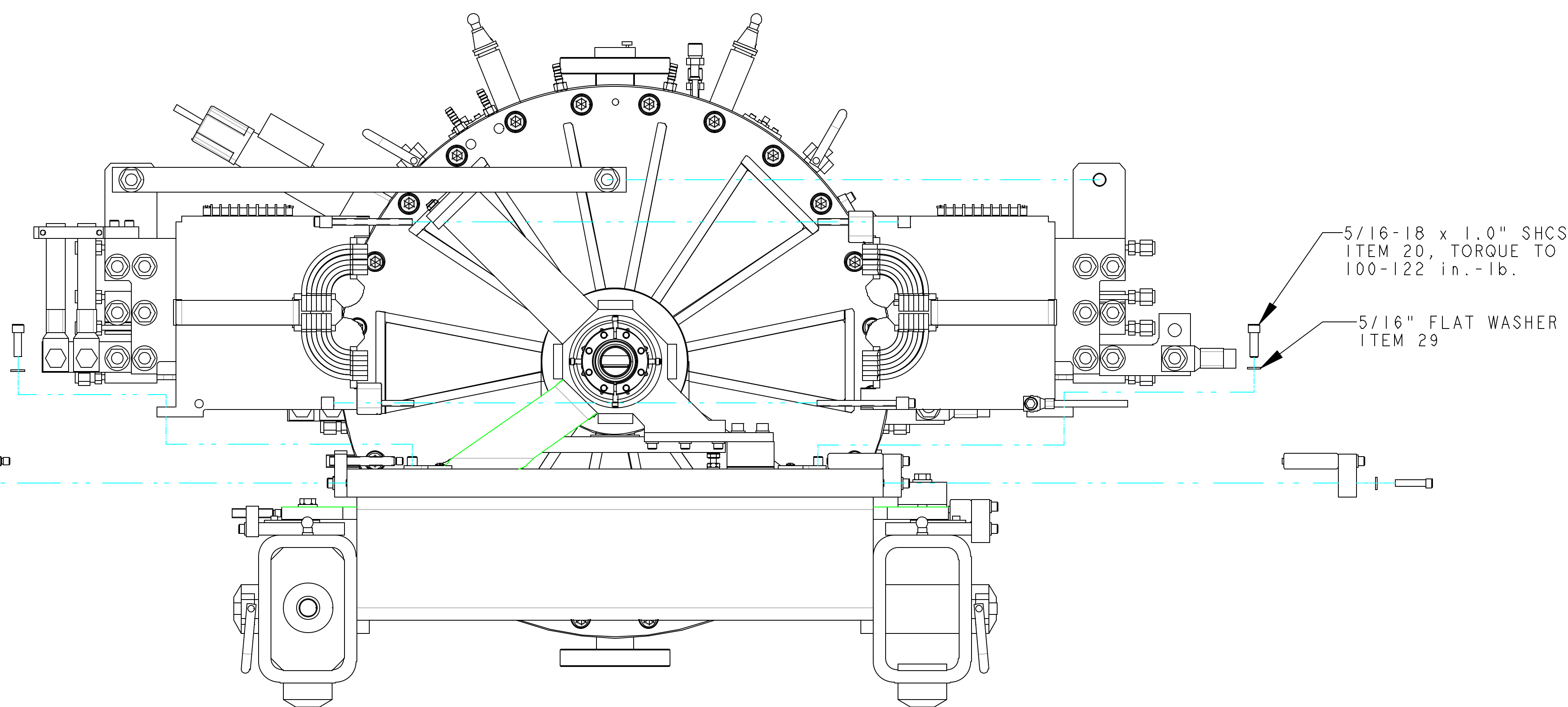
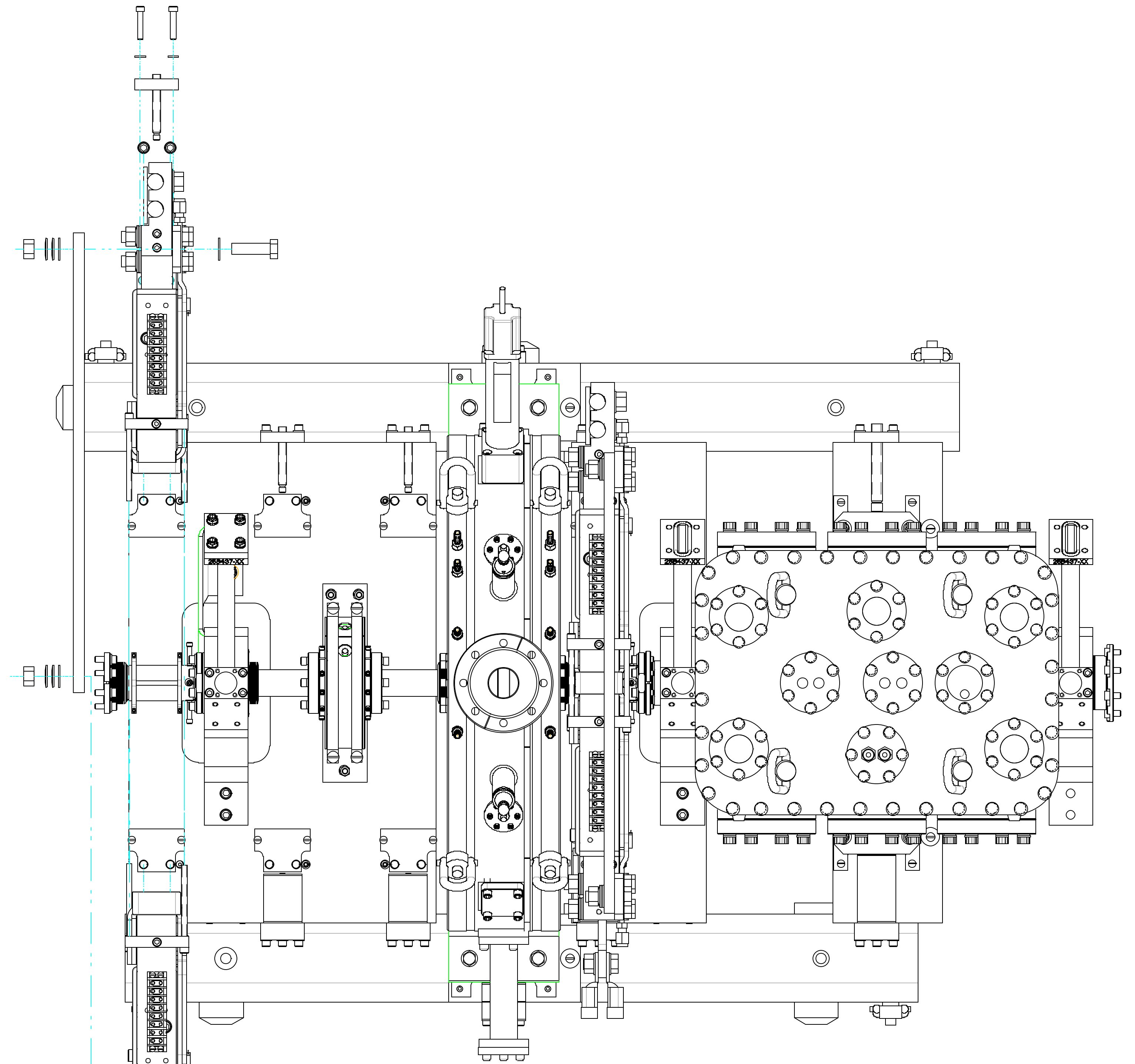
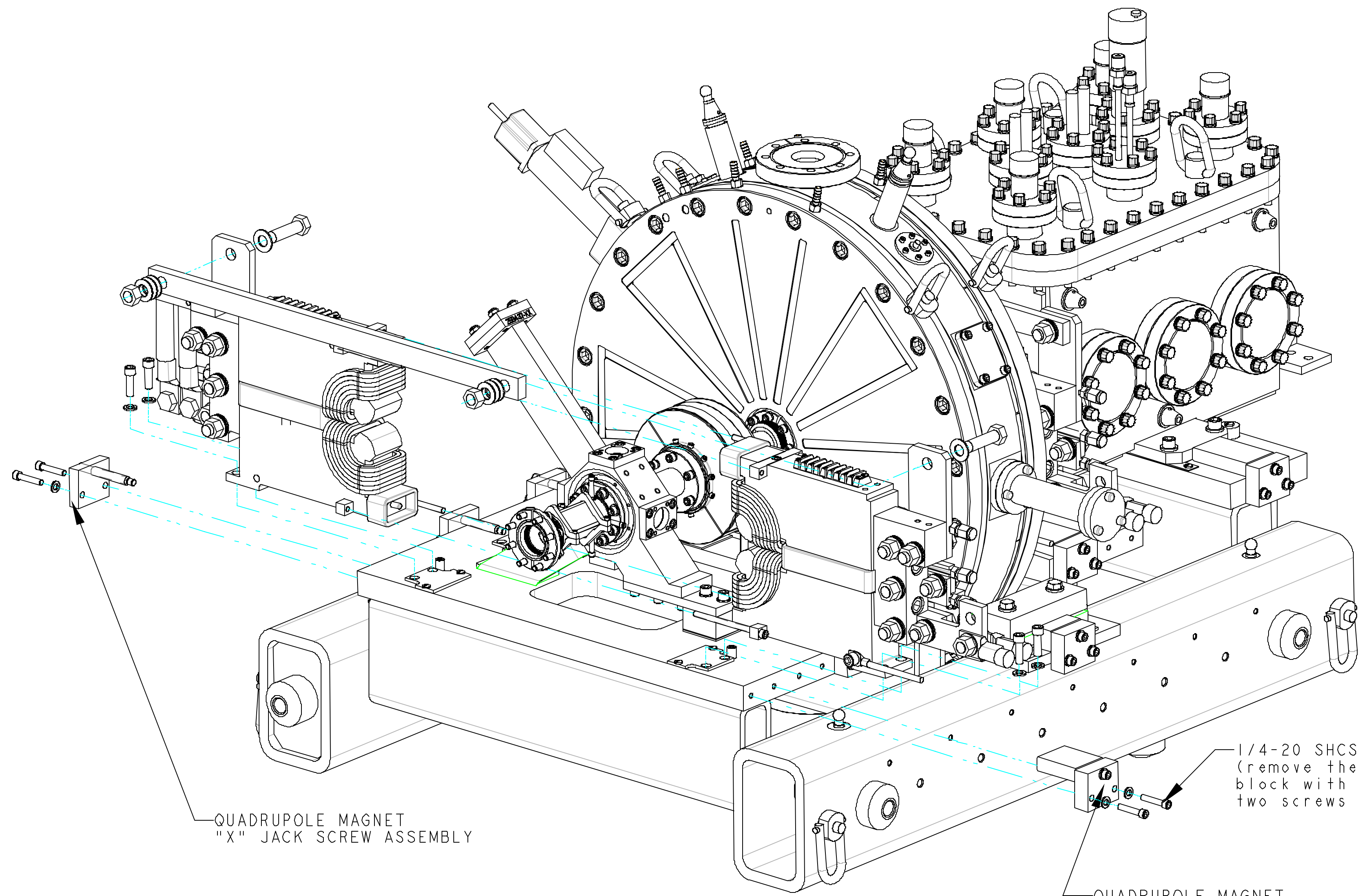


NOTE:
1. THIS DRAWING ILLUSTRATES THE ASSEMBLY OF THE BEAMLIN.
2. ALL QUADRUPOLES MAGNETS REMOVED FOR CLARITY.

UNLESS OTHERWISE SPECIFIED:		SHOP ORDERS		ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA - BERKELEY	
PROJECTION:	1st Angle	ASST.:		SNS GENERAL	
TOLERANCES:	1.X ± 0.1	FRAC.:	± 1/64	MEBT RAFT 1 ASSEMBLY	
	2.XX ± 0.03	ANGLE:	± 1.0°	SCALE: 1/4	
	3.XXX ± 0.010	FINISH:	125/	DO NOT SCALE PRINTS	
DO NOT SCALE PRINT		PROJECT:	25B6106	SHEET 2 OF 4	
THREADS ARE CLASS 2		DATE:	19-Oct-01	REV. 1	
CHAMFER ENDS OF ALL SCREW THREADS 30°		DATE:		REV. 2	
CUT ROOMS: 1/16" THREAD RELIEF OR MECHANICAL THREADS		DATE:		REV. 3	
BREAK EDGES .015 MAX. ON MACHINED WORK		DATE:		REV. 4	
REMOVE BURRS, WELD SPATTER & LOOSE SCALE		DATE:		REV. 5	
IN ACCORDANCE WITH ASME Y14.5M & B46.1		DATE:		REV. 6	

REV	DATE	CHK	ZONE	DATE	CHANGES

DWG. TYPE:	ASSEM	DWG. NO.:	25B603	DATE:	19-Oct-01
PATENT CLEAR:		DESIGN ACCT. NO.:	FE3300	DATE:	
MATERIAL:		CATEGORY CODE:	25B6106	DATE:	
PROJECT:		SIZE:	11	REV.:	1



NOTE:
1. THIS DRAWING ILLUSTRATES THE QUADRUPOLE MAGNET SPLIT FOR ASSEMBLY AROUND THE BEAMLINE.
2. TWO QUADRUPOLES MAGNETS ARE REMOVED FOR CLARITY.

UNLESS OTHERWISE SPECIFIED:		SHOP ORDERS	REV	DATE
PROJECTION:	ASME	NO. 1	REV	DATE
TOLERANCES:	1.X ± 0.1	FRAC. ± 1/64	NO.	DATE
	2.XX ± 0.03	ANGLES ± 1.0°	NO.	DATE
	3.XXX ± 0.010	FINISH 125/	NO.	DATE
DO NOT SCALE PRINT		MATERIAL TAG		
THREADS ARE CLASS 2		MATERIAL TAG		
CHAMFER ENDS OF ALL SCREW THREADS		MATERIAL TAG		
CUT ROOMS, 1.5 THREAD RELIEF OR MACHINER THREADS		MATERIAL TAG		
BREAK EDGES .015 MAX. ON MACHINED WORK		MATERIAL TAG		
REMOVE BURRS, WELD SPATTER & LOOSE SCALE		MATERIAL TAG		
IN ACCORDANCE WITH ASME Y14.5M 4.1		MATERIAL TAG		

REV	CHK	ZONE	DATE	CHANGES

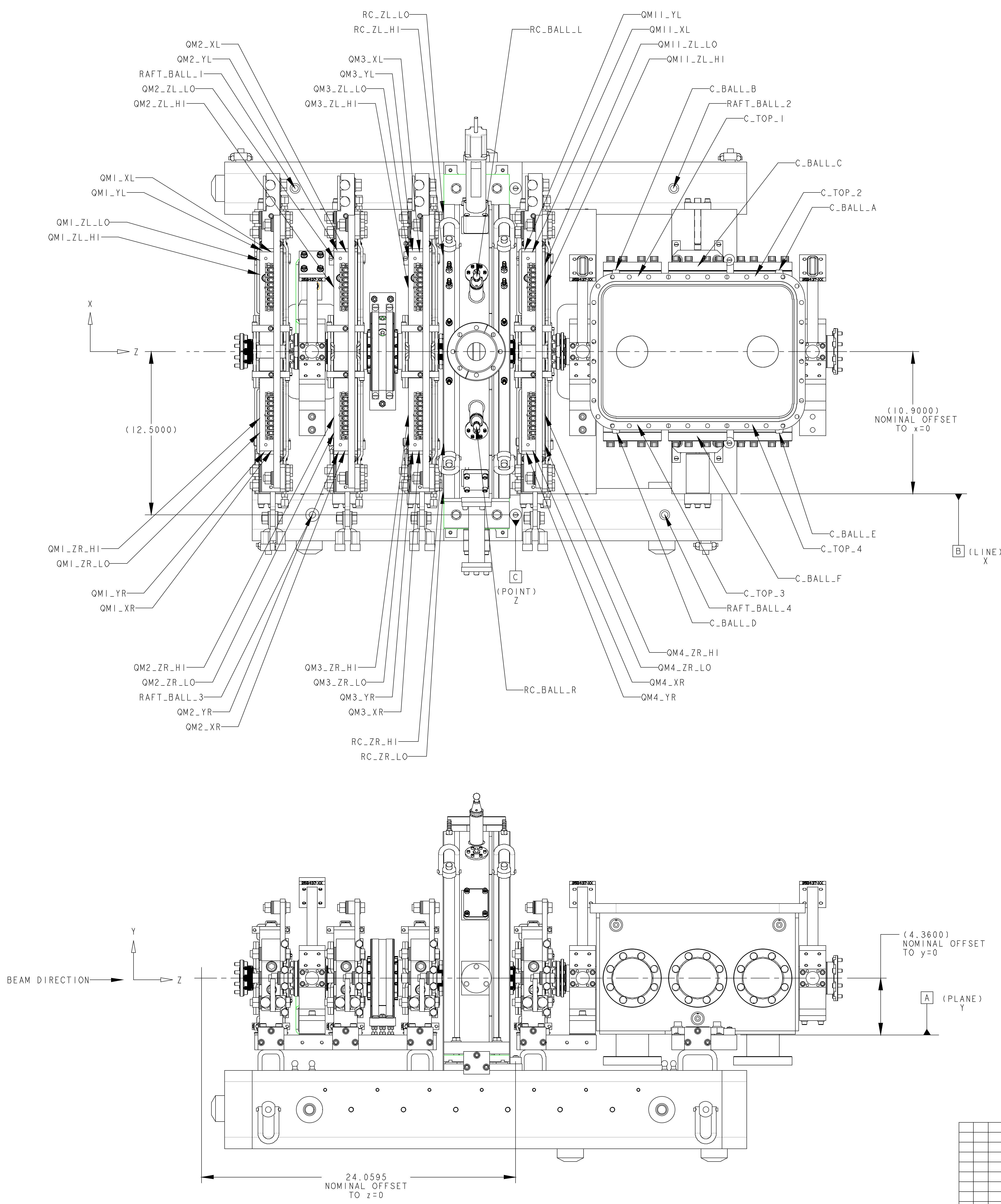
ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA - BERKELEY		SNS FES MEBT		MEBT RAFT 1 ASSEMBLY	
DWG. NO.	25B6106	SCALE	3/1/100	DATE	09-Nov-01
CATEGORY CODE	FE3300	REV	1	DATE	09-Nov-01
SHEET 3 OF 4			DRAWN BY: ASSEM		

25B6106 1 1 3

MEBT RAFT 1 CMM MEASUREMENT RESULTS

(ALL MEASUREMENTS ARE IN INCHES)

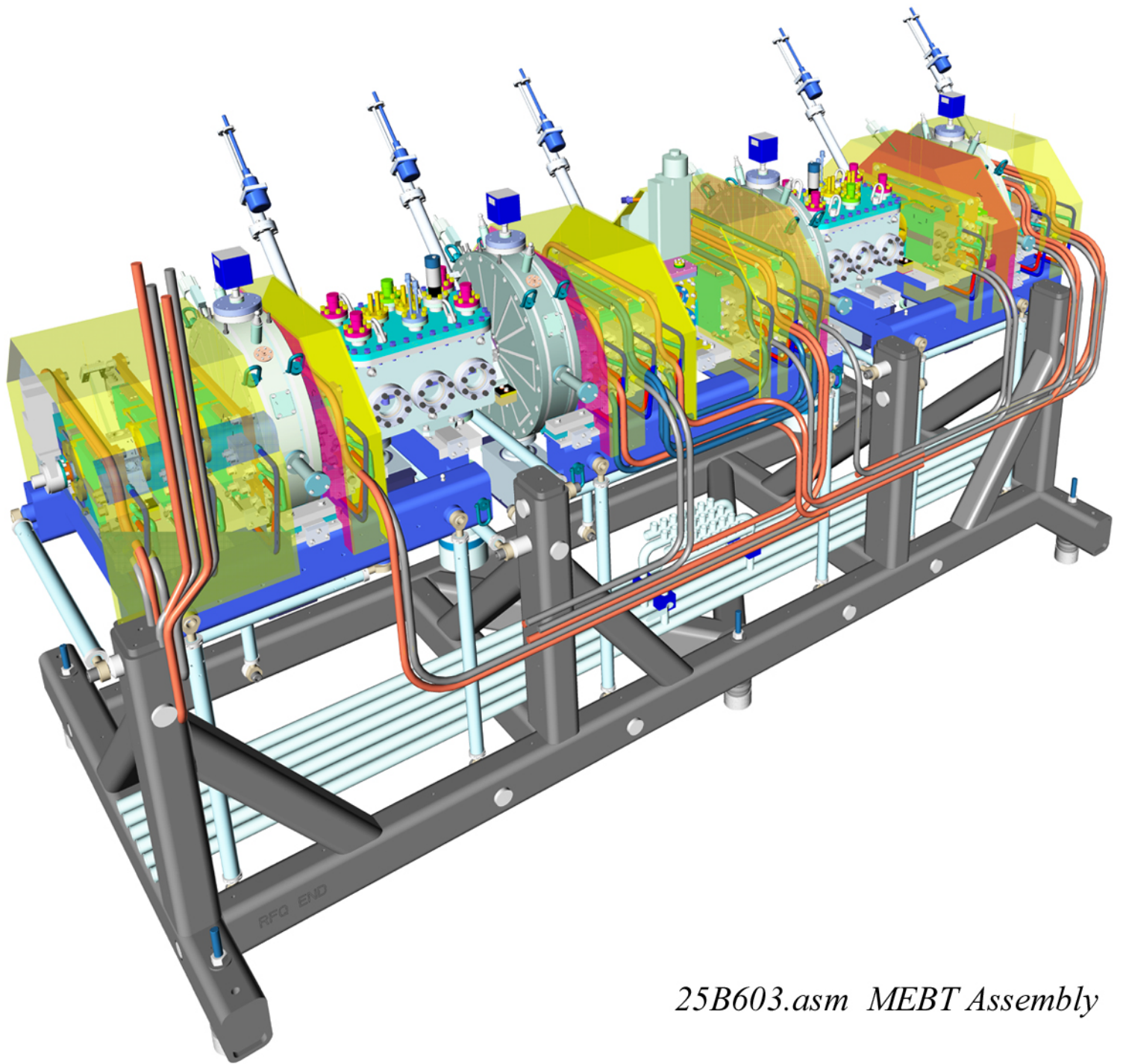
LOCATION	MEASURED x	MEASURED y	MEASURED z	NOMINAL	DEVIATION	DESCRIPTION
QM1_XL	7.6268	—	—	7.6270	-0.0002	PLANE
QM1_YL	—	3.6827	—	3.6830	-0.0003	PLANE
QM1_YR	—	3.6827	—	3.6830	-0.0003	PLANE
QM1_XR	-7.6263	—	—	7.6270	0.0007	PLANE
QM1_ZR_HI	—	—	4.4372	4.4290	0.0082	POINT
QM1_ZR_LO	—	—	4.4352	4.4290	0.0062	POINT
QM1_ZL_HI	—	—	4.4351	4.4290	0.0061	POINT
QM1_ZL_LO	—	—	4.4360	4.4290	0.0070	POINT
QM2_XL	7.6268	—	—	7.6270	-0.0002	PLANE
QM2_YL	—	3.6832	—	3.6830	0.0002	PLANE
QM2_YR	—	3.6829	—	3.6830	-0.0001	PLANE
QM2_XR	-7.6265	—	—	7.6270	0.0005	PLANE
QM2_ZR_HI	—	—	10.1456	10.1380	0.0076	POINT
QM2_ZR_LO	—	—	10.1450	10.1380	0.0070	POINT
QM2_ZL_HI	—	—	10.1419	10.1380	0.0039	POINT
QM2_ZL_LO	—	—	10.1451	10.1380	0.0071	POINT
QM3_XL	7.6268	—	—	7.6270	-0.0002	PLANE
QM3_YL	—	3.6830	—	3.6830	0.0000	PLANE
QM3_YR	—	3.6830	—	3.6830	0.0000	PLANE
QM3_XR	-7.6265	—	—	7.6270	0.0005	PLANE
QM3_ZR_HI	—	—	15.8527	15.8460	0.0067	POINT
QM3_ZR_LO	—	—	15.8524	15.8460	0.0064	POINT
QM3_ZL_HI	—	—	15.8544	15.8460	0.0084	POINT
QM3_ZL_LO	—	—	15.8538	15.8460	0.0078	POINT
QM4_XL	7.6267	—	—	7.6270	-0.0003	PLANE
QM4_YL	—	3.6833	—	3.6830	0.0003	PLANE
QM4_YR	—	3.6827	—	3.6830	-0.0003	PLANE
QM4_XR	-7.6267	—	—	7.6270	0.0003	PLANE
QM4_ZR_HI	—	—	26.2764	26.2800	-0.0036	POINT
QM4_ZR_LO	—	—	26.2760	26.2800	-0.0040	POINT
QM4_ZL_HI	—	—	26.2770	26.2800	-0.0030	POINT
QM4_ZL_LO	—	—	26.2765	26.2800	-0.0035	POINT
C_BALL_A	6.7224	4.0890	44.2317	—	—	SPHERICITY
C_BALL_B	6.7181	4.0849	31.7456	—	—	SPHERICITY
C_BALL_C	6.7131	-3.0591	37.9889	—	—	SPHERICITY
C_BALL_D	-6.7293	4.0859	31.7534	—	—	SPHERICITY
C_BALL_E	-6.7248	4.0898	44.2438	—	—	SPHERICITY
C_BALL_F	-6.7182	-3.0627	37.9979	—	—	SPHERICITY
RAFT_BALL_1	12.5169	-6.5388	7.1857	—	—	SPHERICITY
RAFT_BALL_2	12.4969	-6.5652	36.1800	—	—	SPHERICITY
RAFT_BALL_3	-12.4878	-6.5434	8.4836	—	—	SPHERICITY
RAFT_BALL_4	-12.5080	-6.5593	35.4767	—	—	SPHERICITY
RC_BALL_R (as measured)	—	—	—	—	—	SPHERICITY
RC_BALL_R (from RC fiducialization)	—	—	—	—	—	SPHERICITY
RC_BALL_R (deviation)	—	—	—	—	—	—
RC_BALL_L (as measured)	—	—	—	—	—	SPHERICITY
RC_BALL_L (from RC fiducialization)	—	—	—	—	—	SPHERICITY
RC_BALL_L (deviation)	—	—	—	—	—	—
RC_ZL_HI	—	—	—	18.5035	—	POINT
RC_ZL_LO	—	—	—	18.5035	—	POINT
RC_ZR_HI	—	—	—	18.5035	—	POINT
RC_ZR_LO	—	—	—	18.5035	—	POINT
C.TOP_1	—	—	5.7131	5.7000	0.0131	POINT
C.TOP_2	—	—	5.7141	5.7000	0.0141	POINT
C.TOP_3	—	—	5.7112	5.7000	0.0112	POINT
C.TOP_4	—	—	5.7115	5.7000	0.0115	POINT



NOTE:
1. THIS DRAWING ILLUSTRATES THE LOCATIONS FROM WHICH FIDUCIAL DATA WAS TAKEN.
2. THE CHOPPER COVER IS REMOVED FOR CLARITY.

UNLESS OTHERWISE SPECIFIED:		SHOP ORDERS		ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA - BERKELEY	
PROJECTION:	ASME Y14.1	DATE:	10/10/01	SCALE:	33/100
1.X ± 0.1	FRACTION ± 1/64	DATE:	10/10/01	SCALE:	SHEET 4 OF 4
2.XX ± 0.03	ANGLES ± 1.0°	DATE:	10/10/01	SCALE:	SIZE 1
3.XXX ± 0.010	FINISH Rz/	DATE:	10/10/01	SCALE:	REV 1
DO NOT SCALE PRINT		DATE:	10/10/01	GENERAL	
CHAMFER ENDS OF ALL SHOWN THREADS OFF		DATE:	10/10/01	MEBT RAFT 1 ASSEMBLY	
CUT ROOMS, 1.5 THREAD BELLETS ON MACHINED THREADS		DATE:	10/10/01	ASSEM 258603	
BREAK ENDS, 0.15 MAX. ON MACHINED WORK		DATE:	10/10/01	CATEGORY CODE	
REMOVE BURRS, WELD SPATTER & LOOSE SCALE		DATE:	10/10/01	FE3300	
IN ACCORDANCE WITH ASME Y14.5M & B4.1		DATE:	10/10/01	2586106	

2586106
 SHEET 4 OF 4
 REV 1



25B603.asm MEBT Assembly