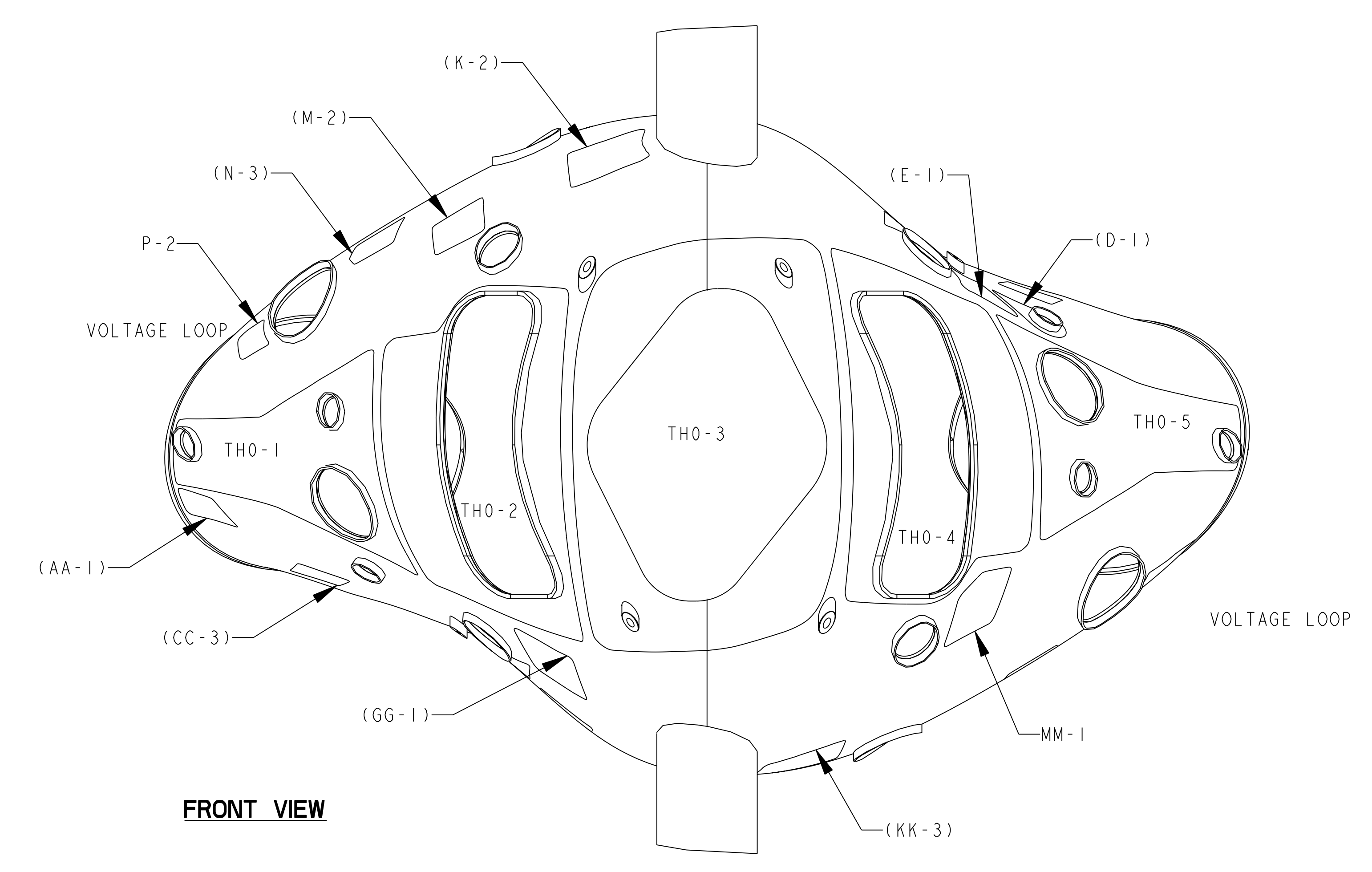
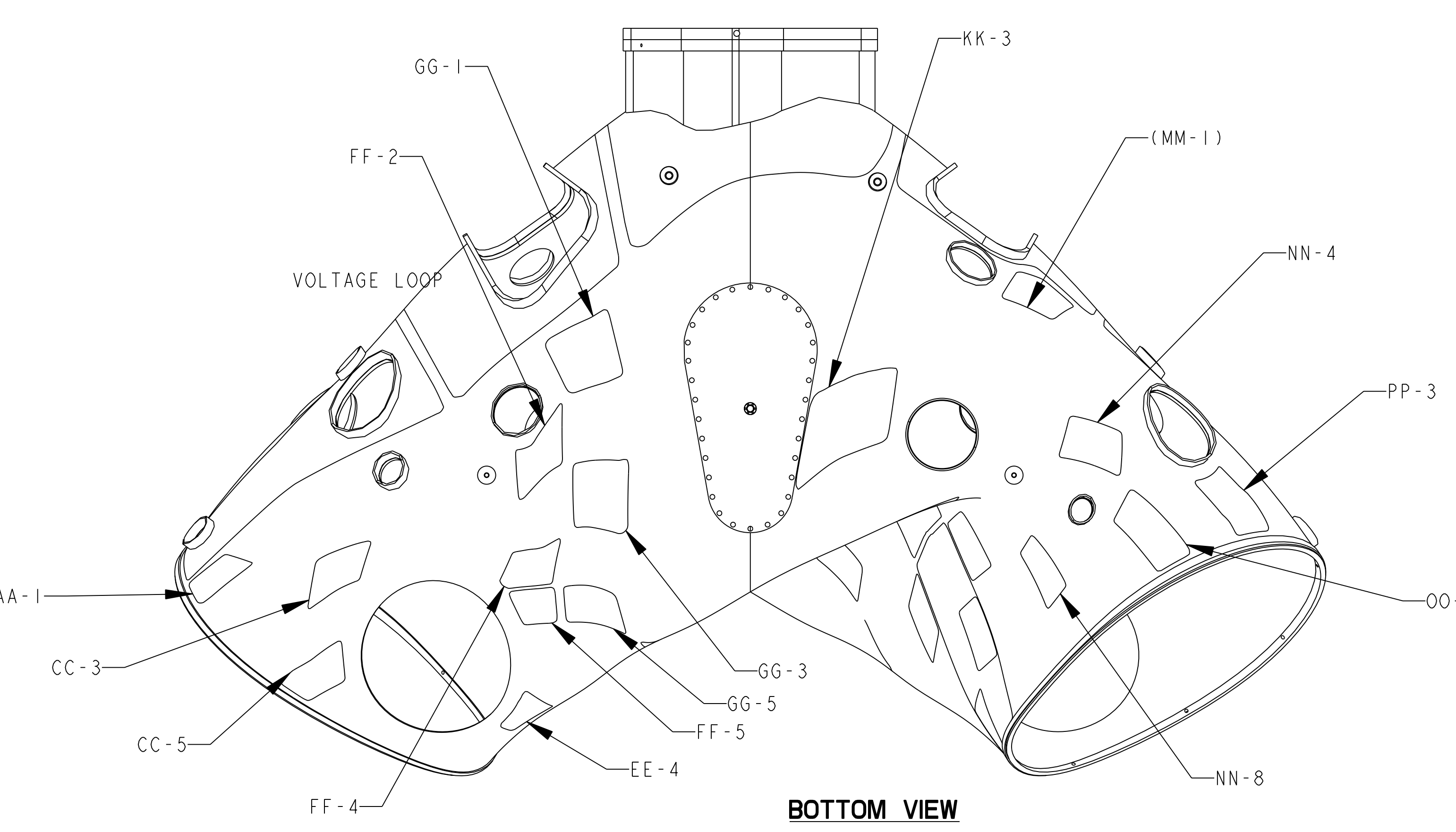


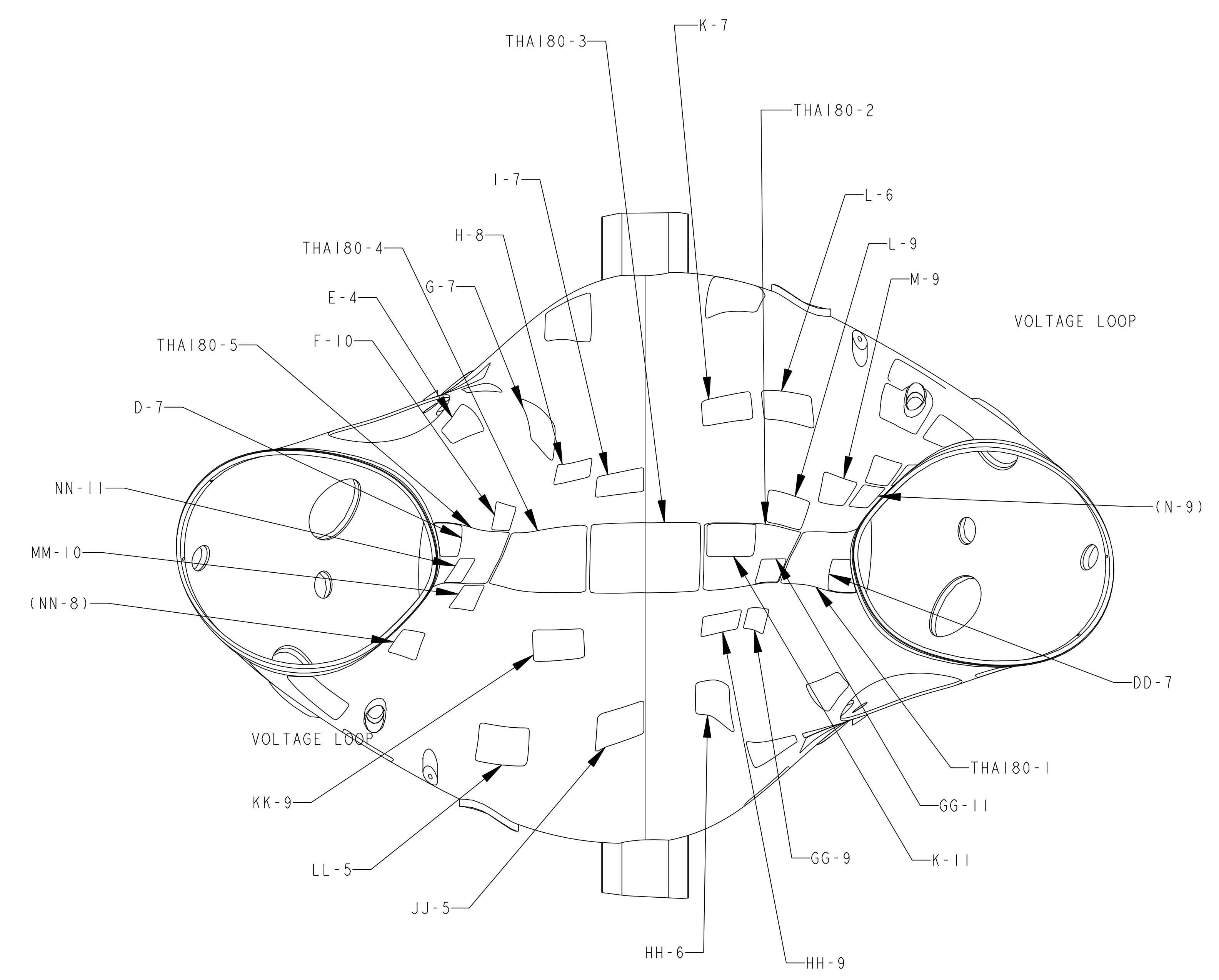
**TOP VIEW**



**FRONT VIEW**



**BOTTOM VIEW**



**BACK VIEW**

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	REOD
8	SE310-030-1	VV PERIOD 1 LOOP DETAILS		SEE NOTES	1
7	SE310-030-TH180-3B	MAGNETIC LOOP TH180-3B		--	1
6	SE310-030-TH180-3A	MAGNETIC LOOP TH180-3A		--	1
5	SE310-030-TH180-2B	MAGNETIC LOOP TH180-2B AND 4B		--	2
4	SE310-030-TH180-2A	MAGNETIC LOOP TH180-2A AND 4A		--	2
3	SE310-030-TH180-1B	MAGNETIC LOOP TH180-1B AND 5B		--	2
2	SE310-030-TH180-1A	MAGNETIC LOOP TH180-1A AND 5A		--	2
1	SE310-029	BASIC GEOMETRY FOR ALL LOOPS ON VV		--	1

PARTS LIST					
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED		CENTRAL FILES: UNLESS OTHERWISE SPECIFIED		PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY <b>NATIONAL COMPACT STELLARATOR EXPERIMENT</b>	
DO NOT VERIFY INFORMATION BY SCALING DRAWING		DIMENSIONS ARE IN INCHES MACHINE SURFACES		MAGNETIC LOOP INSTALLATION DRAWING	
WEIGHT		TOLERANCES NON-CUMULATIVE		DSN: T. BROWN	
MODEL NAME SE310-030-1		DECIMAL-INCH FRACTIONS		CHK: ENGR: G. LABIK	
WELDING ENGINEER		NEXT ASSEMBLY		DRAWING NO: <b>SE310-030-1A</b>	
RELEASE LEVEL: WIP DWG VERSION NO: 1		.XX +/- .030 .XXX +/- .005 ANGULAR +/- 0°15'		ENGR: G. LABIK SUPV: SHEET 1 OF 3	

NCSX-SE310-030-1A

NO.	REVISION	BY	CH	SUP	APPROVED	DATE

**SMALL LOOPS - LEFT SIDE**

ID	Pt#	X	Y	Z
CC5	1	26.769	-46.822	-15.203
	2	26.601	-50.293	-14.572
	3	30.163	-48.533	-15.116
	4	30.324	-44.896	-16.143
CC3	1	37.588	-46.119	-15.523
	2	39.303	-48.255	-14.214
	3	42.552	-44.860	-14.876
	4	41.519	-42.352	-16.234
AA1	1	38.719	-57.636	-8.808
	2	37.637	-61.559	6.335
	3	40.310	-59.955	-5.585
	4	41.394	-56.234	8.224
GG1	1	60.454	-17.184	-28.015
	2	62.724	-21.569	-23.531
	3	67.376	-18.933	-23.325
	4	65.596	-14.900	-27.519
GG3	1	44.599	-16.202	-31.097
	2	47.861	-19.547	-28.517
	3	52.266	-16.701	-30.702
	4	48.807	-13.489	-33.572
GG5	1	34.091	-16.444	-24.871
	2	36.120	-20.445	-24.397
	3	38.385	-17.589	-26.958
	4	35.292	-14.269	-27.093
L6	1	48.859	-19.805	18.310
	2	48.258	-22.675	19.973
	3	47.342	-18.907	22.520
	4	47.717	-15.950	20.470
L9	1	49.319	-19.251	4.199
	2	47.393	-21.828	5.896
	3	50.100	-19.524	8.584
	4	51.474	-16.537	6.772
N9	1	36.042	-29.046	6.810
	2	34.430	-31.529	8.309
	3	38.678	-31.224	9.620
	4	40.509	-28.432	8.247
N5	1	51.407	-37.511	25.012
	2	48.517	-40.124	22.215
	3	49.373	-36.322	23.785
	4	50.396	-33.291	25.713
N6	1	44.188	-34.930	17.456
	2	45.264	-38.429	19.608
	3	48.952	-36.580	23.302
	4	47.675	-31.971	21.502
P2	1	50.660	-53.010	13.940
	2	50.414	-54.872	11.257
	3	53.586	-52.690	10.948
	4	52.981	-51.886	13.651
HH9	1	47.400	-10.396	-7.526
	2	43.208	-12.869	-8.030
	3	43.579	-10.081	-10.139
	4	47.494	-7.704	-9.267
HH6	1	35.174	-9.330	-16.543
	2	31.722	-11.499	-19.952
	3	32.676	-9.552	-21.808
	4	35.996	-6.830	-18.734
GG11	1	47.532	-17.825	-0.158
	2	43.036	-18.529	-1.818
	3	45.069	-16.461	-3.289
	4	49.441	-15.340	-1.812
GG9	1	40.866	-15.361	-6.771
	2	35.898	-16.547	-7.984
	3	36.594	-14.615	-9.746
	4	41.671	-13.647	-8.119
F4	1	38.350	-24.252	-23.308
	2	40.336	-26.987	-22.312
	3	42.577	-23.135	-24.517
	4	40.946	-21.454	-25.240
F5	1	34.206	-23.381	-23.261
	2	35.612	-25.767	-22.637
	3	38.037	-23.988	-23.385
	4	36.193	-21.406	-24.083
F2	1	50.318	-22.875	-25.601
	2	50.668	-25.768	-23.167
	3	55.512	-23.067	-24.760
	4	55.100	-20.765	-26.794
D7	1	23.518	-26.636	-0.202
	2	20.009	-28.036	-2.419
	3	22.040	-26.381	-4.653
	4	25.576	-24.875	-2.364
K2	1	62.910	-12.212	35.501
	2	68.106	-16.195	31.978
	3	70.952	-11.310	31.818
	4	65.548	-7.593	35.353
KK4	1	44.398	-11.747	33.350
	2	49.584	-16.135	35.786
	3	51.510	-11.549	37.723
	4	44.758	-8.568	36.329
KK7	1	48.019	-10.776	18.292
	2	47.541	-14.484	20.306
	3	45.690	-11.739	22.120
	4	46.251	-7.726	19.273

**SMALL LOOPS - LEFT SIDE (CON)**

ID	Pt#	X	Y	Z
KK11	1	53.590	-11.256	0.185
	2	52.130	-14.887	2.023
	3	53.124	-12.539	4.607
	4	54.528	-8.378	2.104
M2	1	64.429	-29.175	27.333
	2	66.189	-32.050	23.717
	3	69.289	-28.887	23.604
	4	67.767	-26.118	27.108
M9	1	44.257	-25.009	7.240
	2	41.779	-27.675	8.279
	3	45.894	-26.540	10.850
	4	47.409	-23.787	9.329
N3	1	56.906	-37.824	25.206
	2	57.406	-41.774	21.947
	3	60.501	-38.812	22.468
	4	59.126	-35.896	25.692
N8	1	38.643	-31.540	9.866
	2	37.327	-34.030	11.413
	3	41.453	-33.142	13.220
	4	42.949	-30.349	11.766
O08	1	32.404	-33.900	9.900
	2	32.256	-35.872	11.582
	3	35.339	-36.273	12.570
	4	35.592	-34.323	11.013
O6	1	39.080	-39.018	15.550
	2	37.906	-42.108	15.485
	3	41.710	-43.052	17.376
	4	43.420	-38.931	18.150
EE4	1	23.604	-24.370	-16.247
	2	22.528	-26.756	-16.188
	3	24.706	-26.123	-19.042

**SMALL LOOPS - RIGHT SIDE**

ID	Pt#	X	Y	Z
MM10	1	42.441	22.892	-3.722
	2	39.540	25.318	-4.976
	3	43.874	24.962	-6.930
	4	45.945	22.411	-5.239
M5	1	42.467	42.920	-17.805
	2	40.924	46.752	-16.112
	3	45.419	46.078	-18.713
	4	47.330	40.961	-21.175
117	1	51.088	3.166	8.624
	2	48.306	6.647	9.300
	3	48.035	2.528	11.791
	4	50.548	0.190	10.443
J5	1	43.026	3.146	-20.295
	2	42.691	6.567	-23.710
	3	39.940	2.283	-24.578
	4	40.367	0.166	-21.060
G7	1	32.148	13.782	14.242
	2	28.915	15.793	18.317
	3	30.256	14.864	20.664
	4	32.554	12.210	16.016
F2	1	50.318	22.875	25.601
	2	50.668	25.768	23.167
	3	55.512	23.067	24.760
	4	55.100	20.765	26.794
E1	1	51.589	30.624	19.507
	2	51.698	33.784	17.438
	3	55.613	32.762	16.945
	4	55.444	29.474	19.493
D1	1	53.275	40.191	12.806
	2	49.643	41.954	13.462
	3	48.716	37.282	16.311
	4	52.204	36.089	15.836
LL5	1	47.393	19.590	-22.784
	2	47.883	22.749	-25.695
	3	46.700	18.946	-28.094
	4	45.737	15.733	-25.108
N8	1	38.643	31.540	-9.866
	2	37.327	34.030	-11.413
	3	41.453	33.142	-13.220
	4	42.949	30.349	-11.766
NN4	1	51.991	36.900	-25.585
	2	52.671	40.968	-23.603
	3	56.416	38.310	-25.007
	4	54.613	34.565	-27.526
NN11	1	31.962	24.217	-0.134
	2	30.115	26.509	-2.339
	3	34.070	26.211	-3.327
	4	36.318	23.807	-1.599
PP3	1	46.822	51.580	-16.115
	2	44.222	55.231	-12.863
	3	48.457	54.934	-12.663
	4	50.682	50.909	-16.315
EE4	1	23.604	24.370	16.247
	2	22.528	26.756	16.188
	3	24.706	26.123	19.042
	4	25.534	22.708	19.128

**THETA-180 MAGNETIC LOOP POINTS**

ID	Pt#	X	Y	Z
1	1	34.922	-25.962	3.412
	2	26.527	-28.358	3.763
	3	43.661	-22.220	3.508
	4	43.122	-19.357	-0.676
	5	21.126	-27.833	0.065
	6	28.648	-22.819	-3.892
	7	36.746	-19.736	-3.509
	8	21.567	-26.704	-4.753
	9	51.926	-15.557	4.619
	10	53.632	-10.732	4.724
	11	48.025	-20.099	3.693
	12	44.307	-19.440	0.079
	13	54.593	-7.959	-0.039
	14	48.372	-14.247	-3.728
	15	51.771	-10.148	-4.304
	16	43.214	-17.216	-3.379
	17	54.593	0.000	4.742
	18	53.711	5.318	4.608
	19	54.524	-5.476	4.796
	20	54.733	-7.454	0.213
	21	54.739	7.456	-0.302
	22	54.593	0.000	-4.742
	23	53.630	-5.620	-4.591
	24	54.458	6.147	-4.787
	25	34.922	25.962	-3.412
	26	26.527	28.358	-3.763
	27	43.661	22.220	-3.508
	28	43.122	19.357	0.676
	29	21.126	27.833	-0.065
	30	28.648	22.819	3.892
	31	36.746	19.736	3.509
	32	21.567	26.704	4.753
	33	51.926	15.557	-4.619
	34	53.632	10.732	-4.724
	35	48.025	20.099	-3.693
	36	44.307	19.440	-0.079
	37	54.593	7.959	0.039
	38	48.372	14.247	3.728
	39	51.771	10.148	4.304
	40	43.214	17.216	3.379

**THETA-0 MAGNETIC LOOP POINTS**

ID	Pt#	X	Y	Z
1	1	67.423	-38.927	-0.172
	2	41.564	-62.435	-0.031
	3	53.389	-42.989	-10.772
	4	45.627	-54.977	-6.037
	5	64.264	-37.103	-8.485
	6	40.246	-62.431	-2.454
	7	67.454	-38.945	0.000
	8	41.579	-62.433	0.000
	9	48.158	-57.801	3.056
	10	60.725	-45.796	7.343
	11	67.684	-39.078	7.395
	12	88.124	-17.130	0.000
	13	66.161	-23.827</	

NO.	REVISION	BY	CH	SUP	APPROVED	DATE

THETA-180 LOOP FLAT PATTERNS

FINAL THETA-PHI PLOT

THETA-0 LOOP FLAP PATTERNS

RELEASE LEVEL: WIP  
 DWG VERSION NO: 1

WEIGHT  
 MODEL NAME  
 SE310-030-1  
 WELDING  
 ENGINEER

COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED Pro E	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY MAGNETIC LOOP INSTALLATION DRAWING	
DO NOT VERIFY INFORMATION BY SCALING DRAWING	DIMENSIONS ARE IN INCHES MACHINE SURFACES BREAK SHARP EDGES .005/.020	TOLERANCES NON-CUMULATIVE	DSN: T BROWN
NEXT ASSEMBLY	DECIMAL-INCH FRACTIONS .X +/- .000 0°-12° +/- .010 .XX +/- .030 12°-72° +/- .100 .XXX +/- .005 72°-120° +/- .150 ANGULAR +/- .0°-15° OVER 120° +/- .172	CHK: ENGR: G. LABIK	DRAWING NO: SE310-030-1A
		SUPV:	SHEET 3 OF 3 REV

NCSX-SE310-030-1A