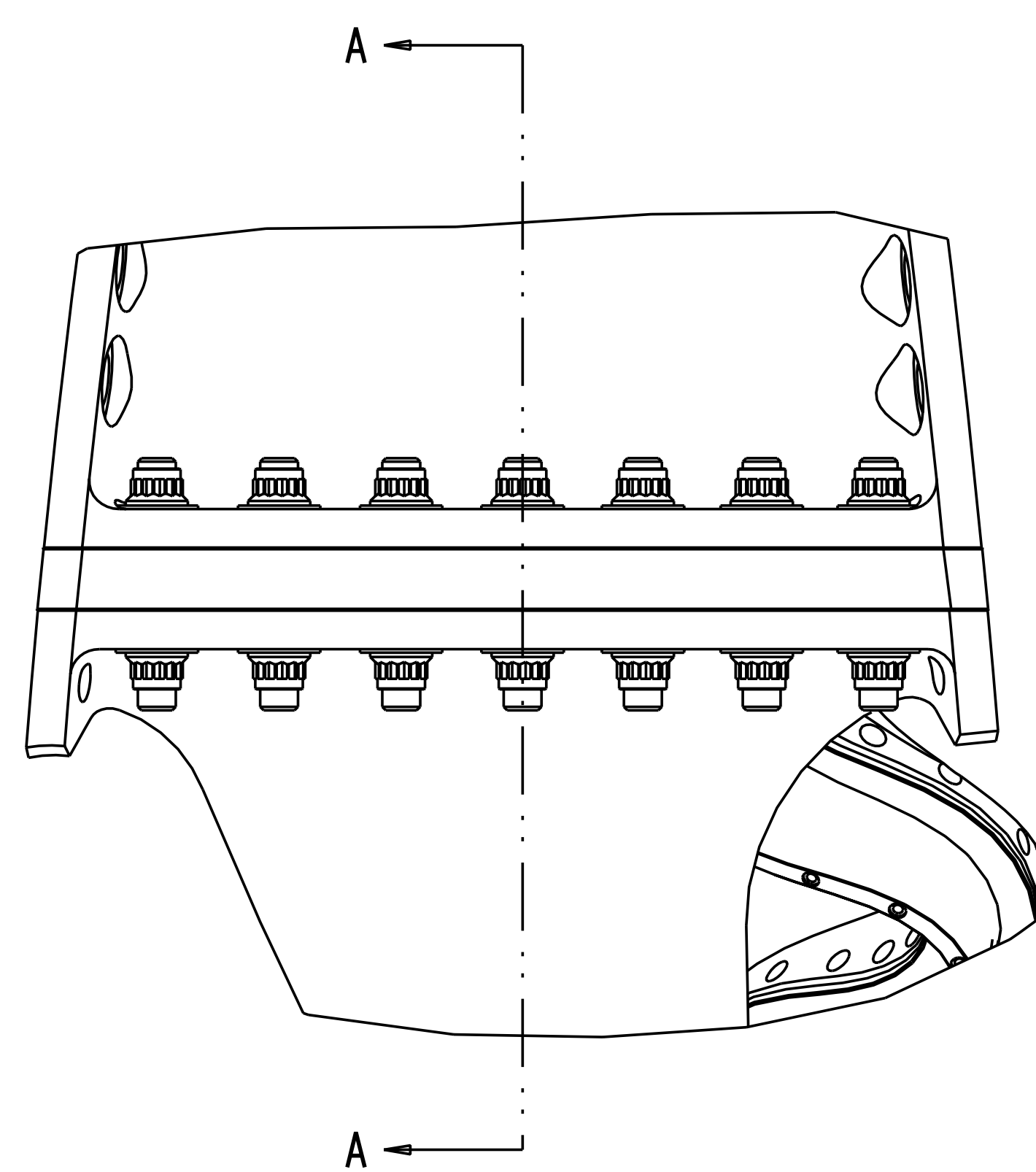
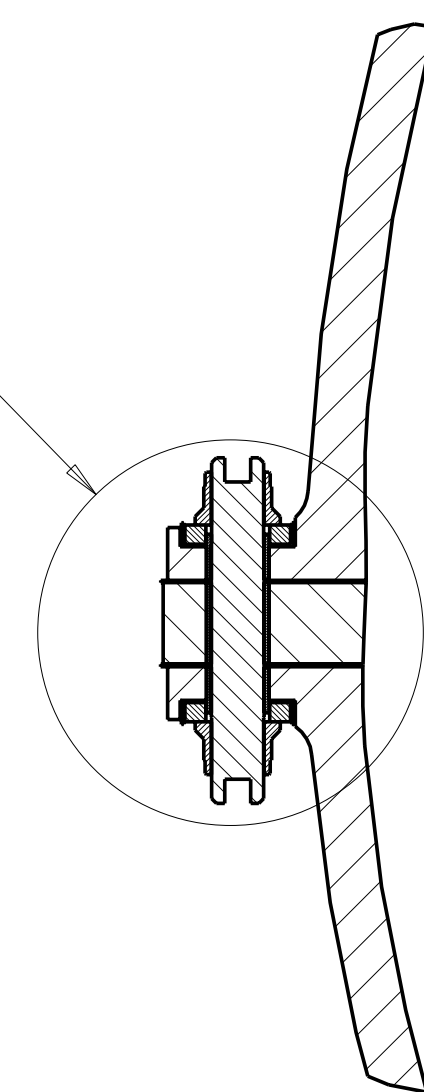
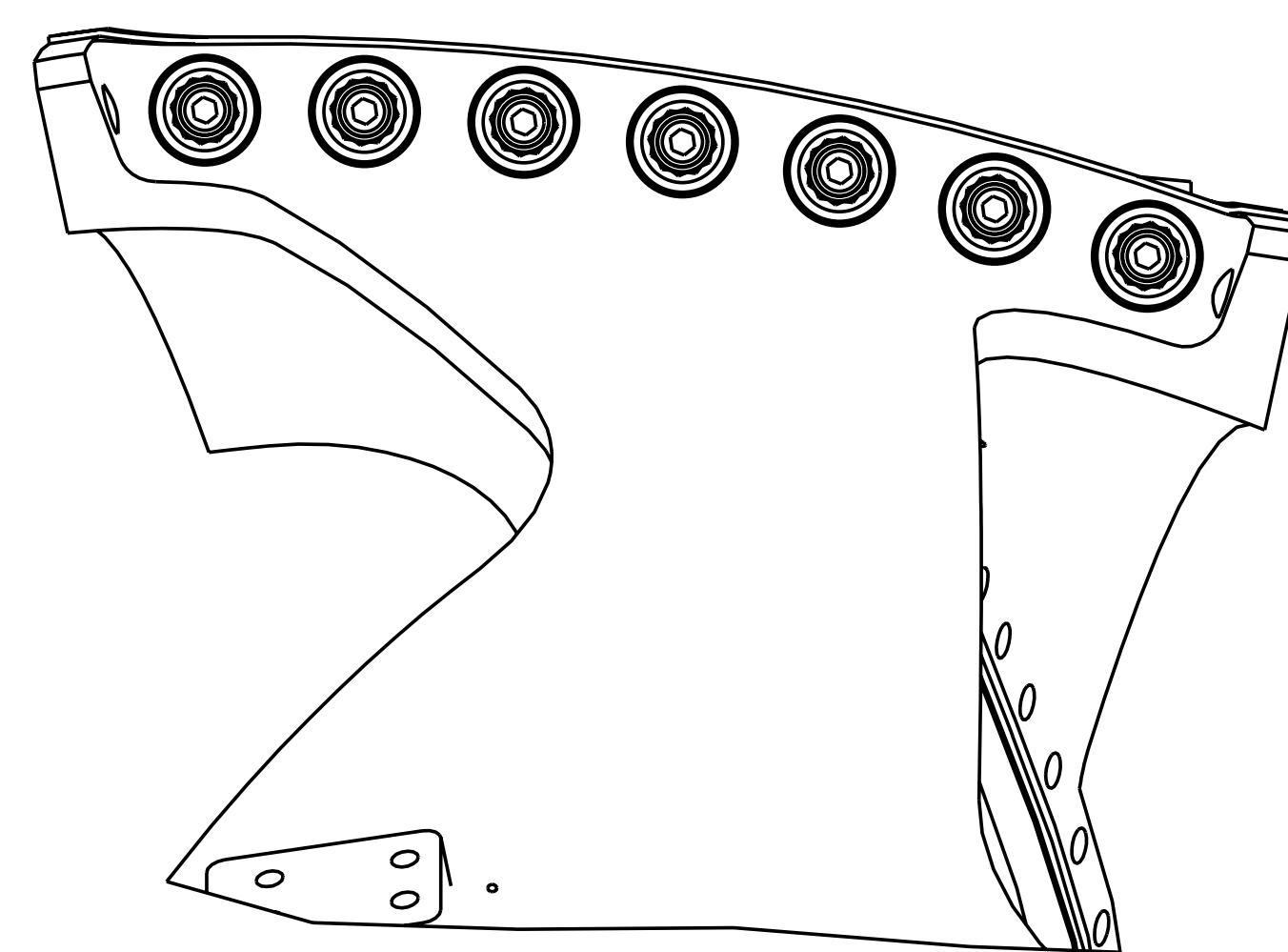


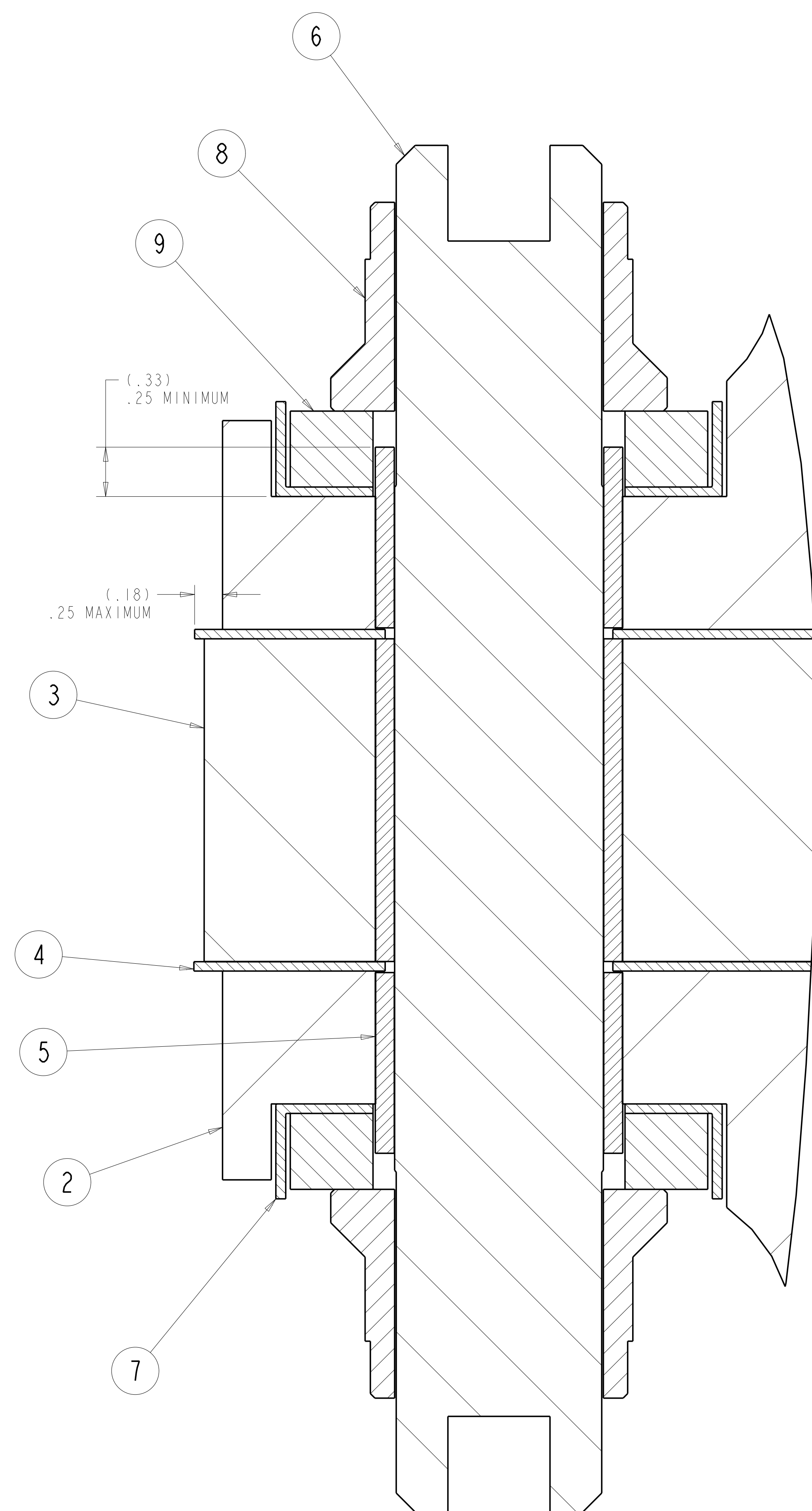
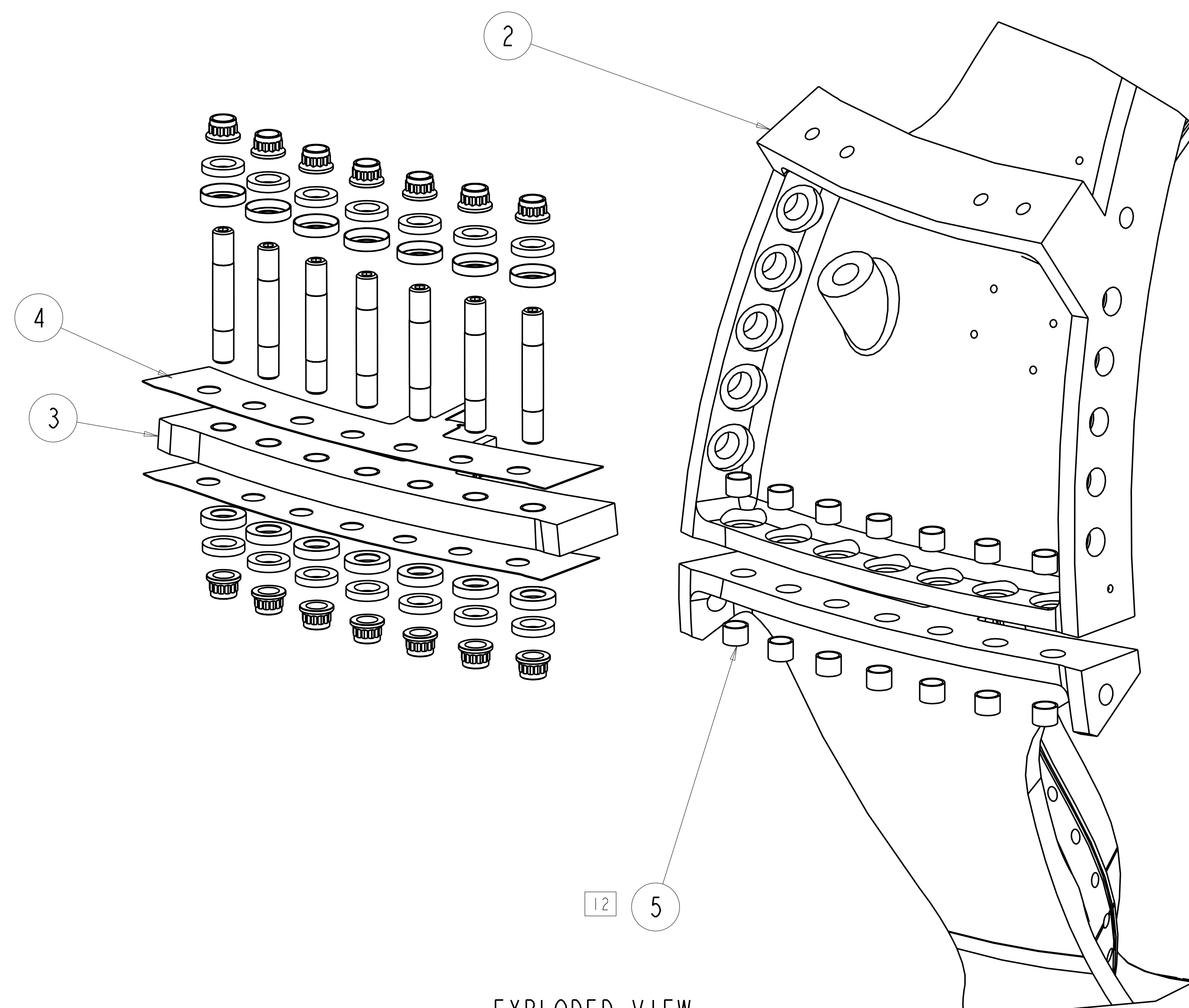
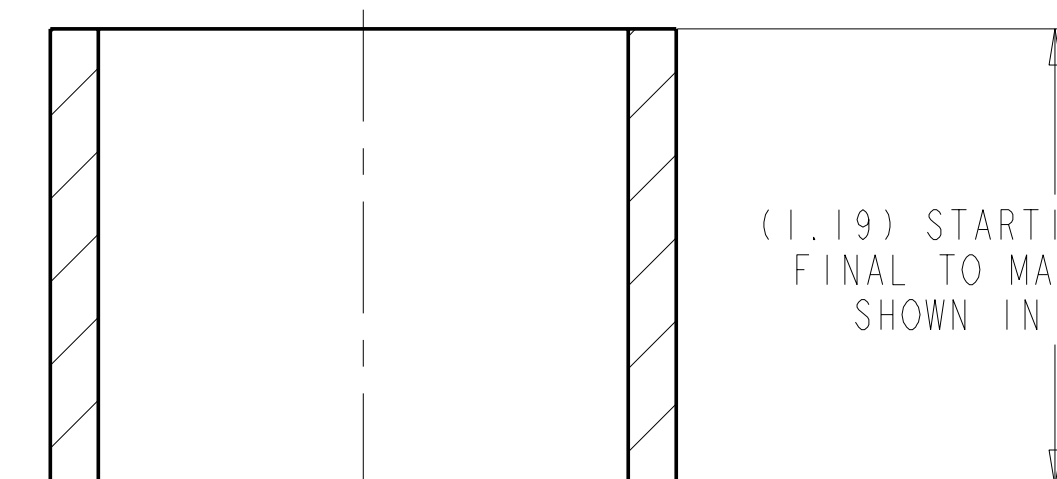
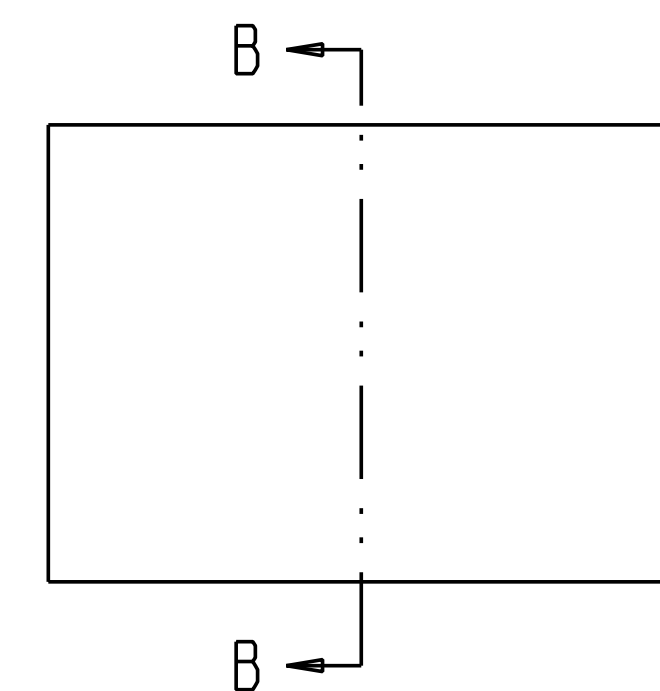
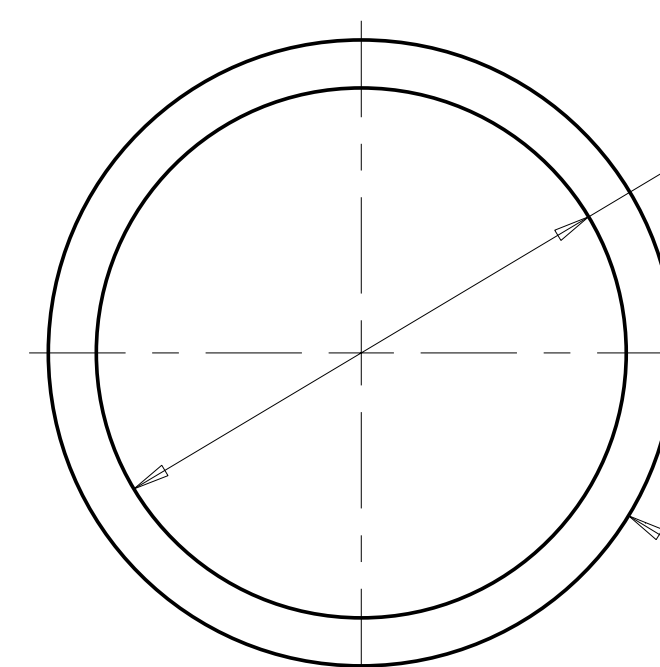
FOR NOTES AND PARTS LIST SEE SHEET 1



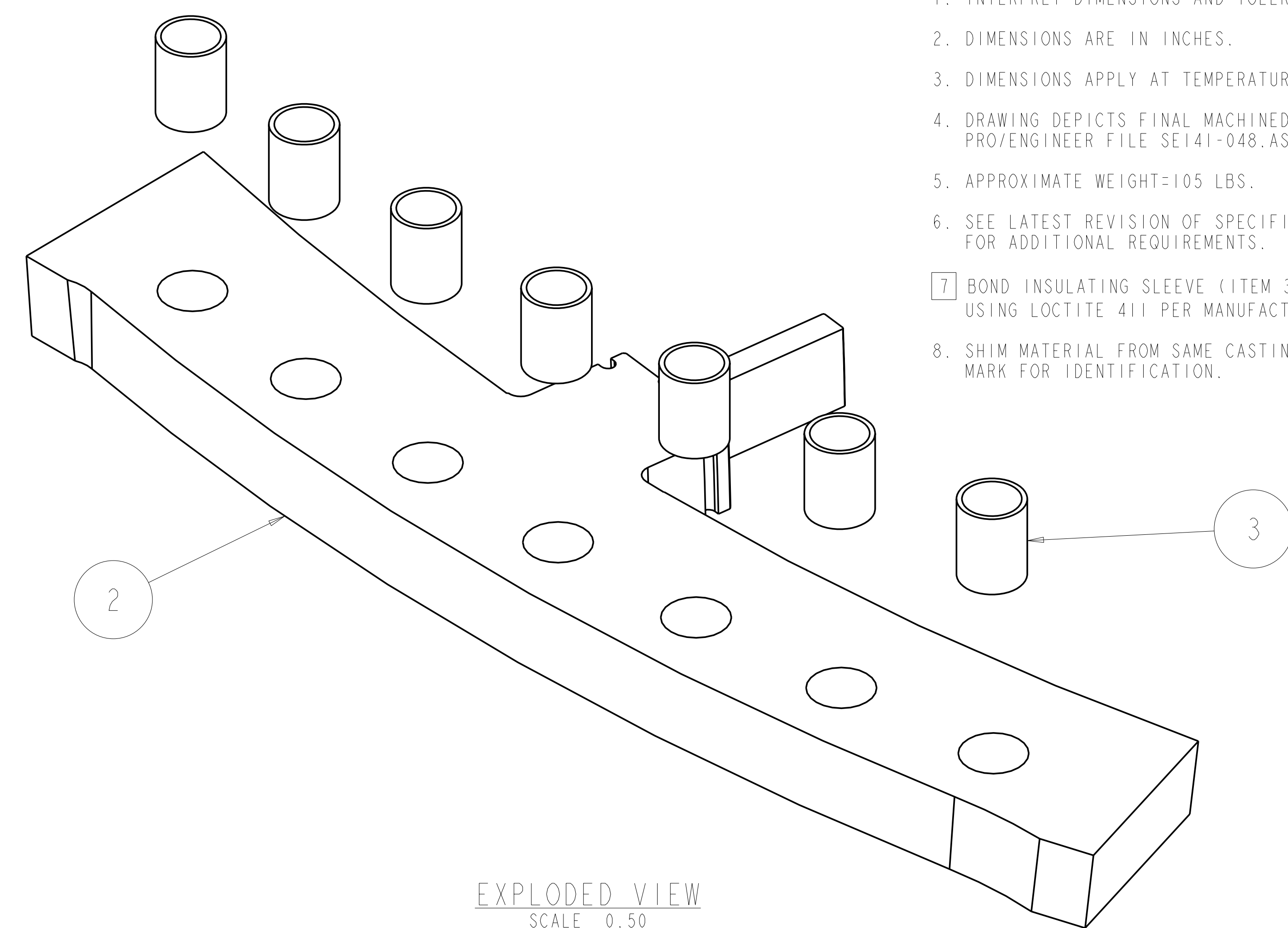
SEE DETAIL X

SECTION A-A
SCALE 0.20

POLOIDAL BREAK DETAIL

DETAIL X
SCALE 2.00EXPLODED VIEW
SCALE 0.20SECTION B-B
SCALE 2.00

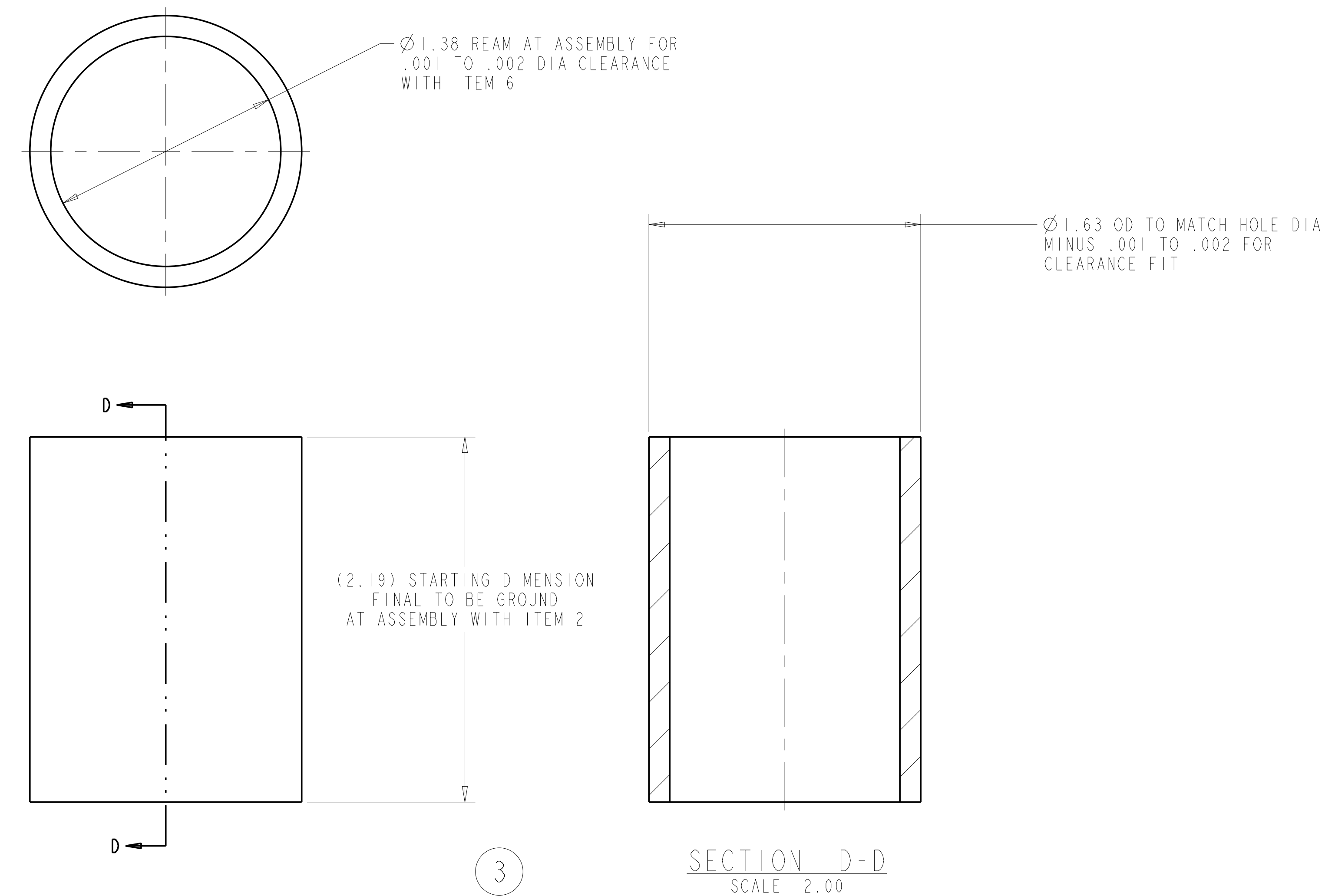
UT-BATTELLE Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
MOD COIL WINDING FORM ASSEMBLY TYPE-A							
VERSION NO. 31	PLANT X-10	BLDG 5700	FL 3	SHT OF 2	TYPE 2	CLASS S	REV U
RELEASE LEVEL WIP		SEI41-101					
		1					



NOTES:

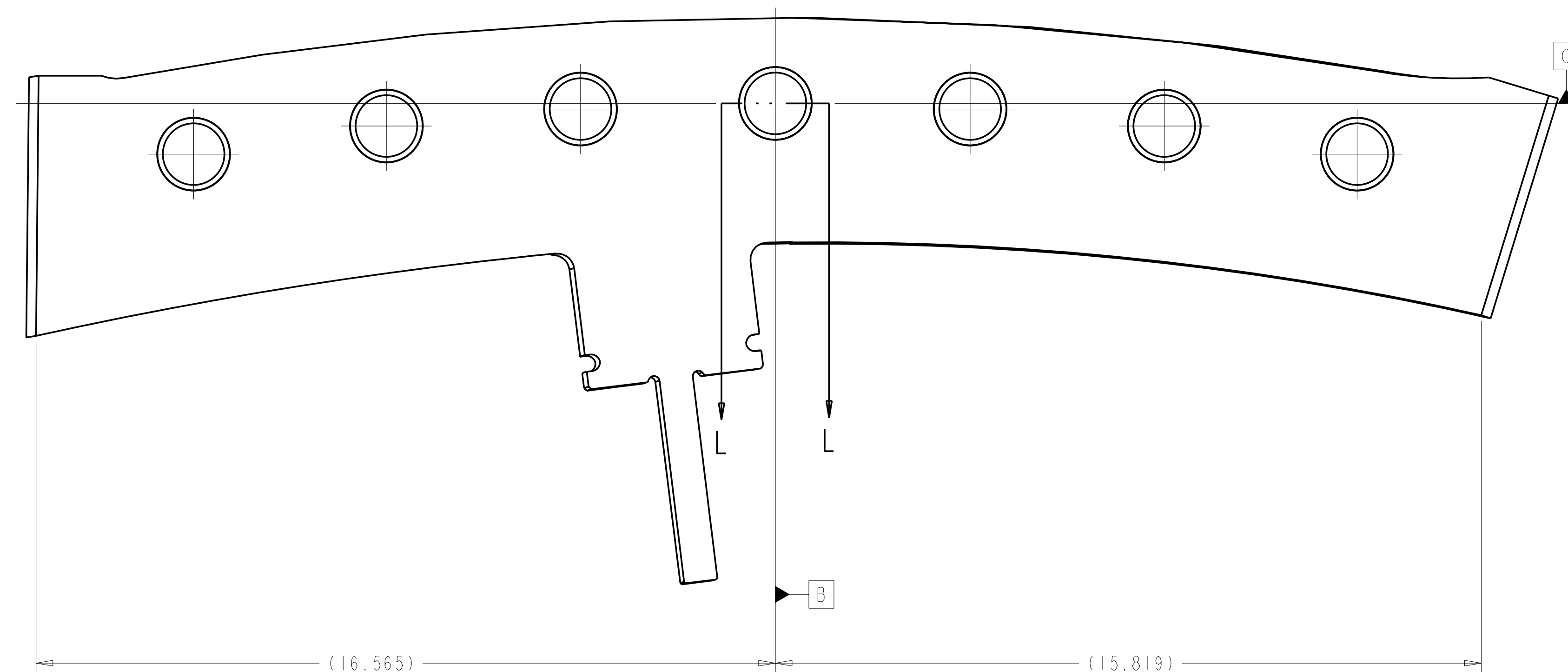
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
2. DIMENSIONS ARE IN INCHES.
3. DIMENSIONS APPLY AT TEMPERATURE OF 20-30°C (68-86°F).
4. DRAWING DEPICTS FINAL MACHINED STATE OF ASSEMBLY DEFINED BY PRO/ENGINEER FILE SE141-048.ASM.
5. APPROXIMATE WEIGHT=105 LBS.
6. SEE LATEST REVISION OF SPECIFICATION NCSX-CSPEC-141-03 FOR ADDITIONAL REQUIREMENTS.
7. BOND INSULATING SLEEVE (ITEM 3) INTO SHIM (ITEM 2) USING LOCTITE 411 PER MANUFACTURER'S INSTRUCTIONS.
8. SHIM MATERIAL FROM SAME CASTING AS PART SE141-114. MARK FOR IDENTIFICATION.

EXPLODED VIEW
SCALE 0.50



SECTION L-L

SECTION D-D
SCALE 2.00

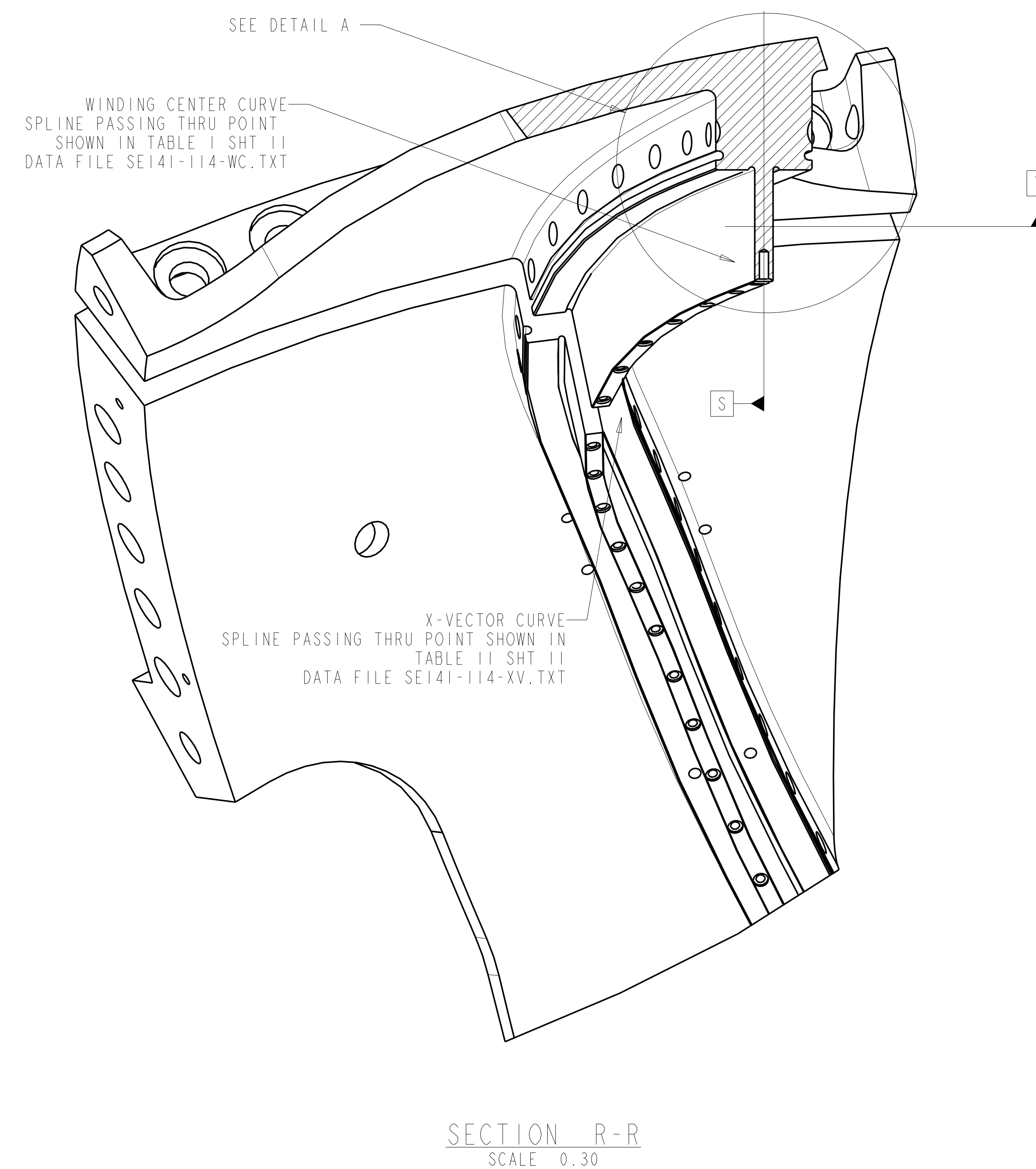
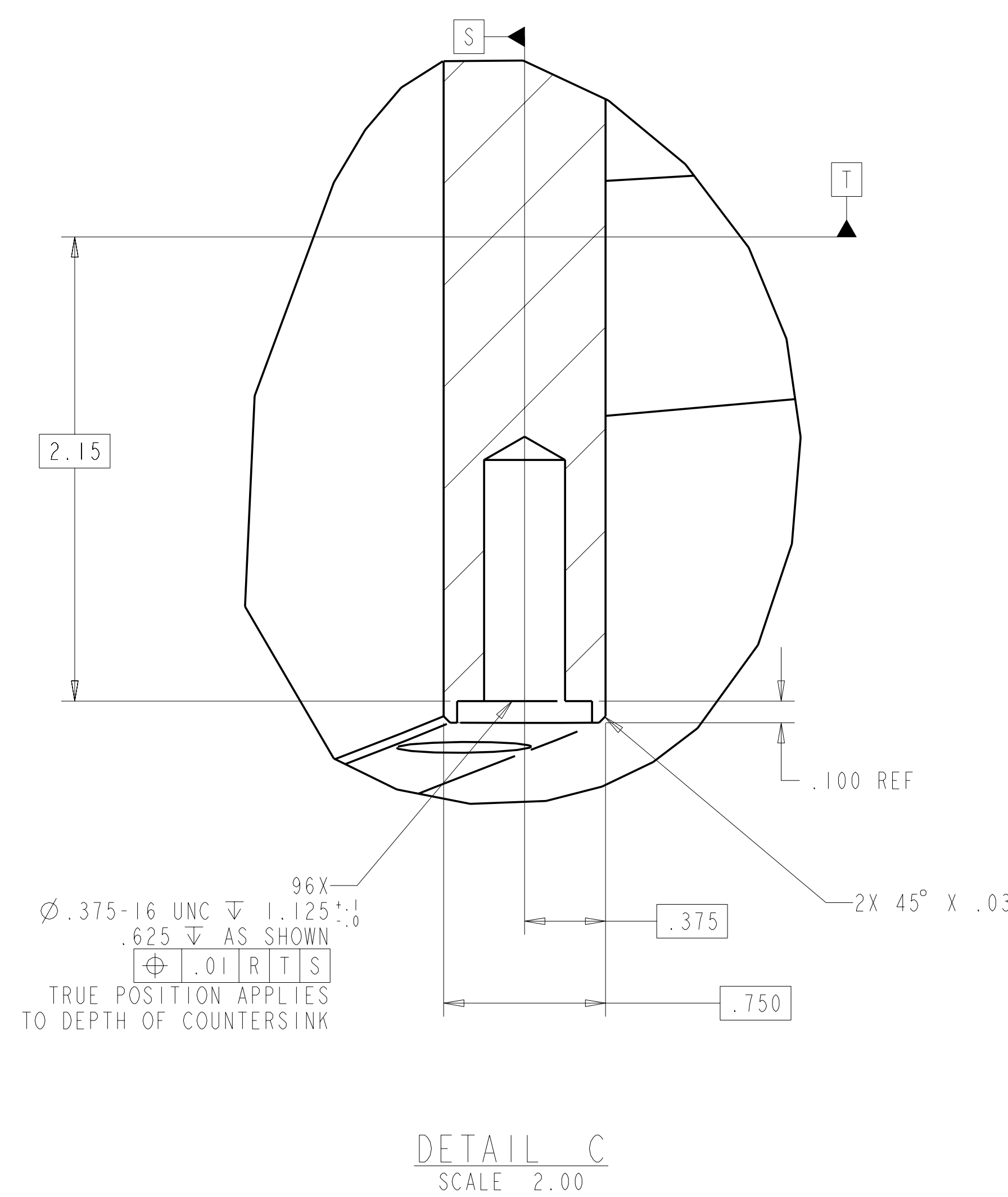
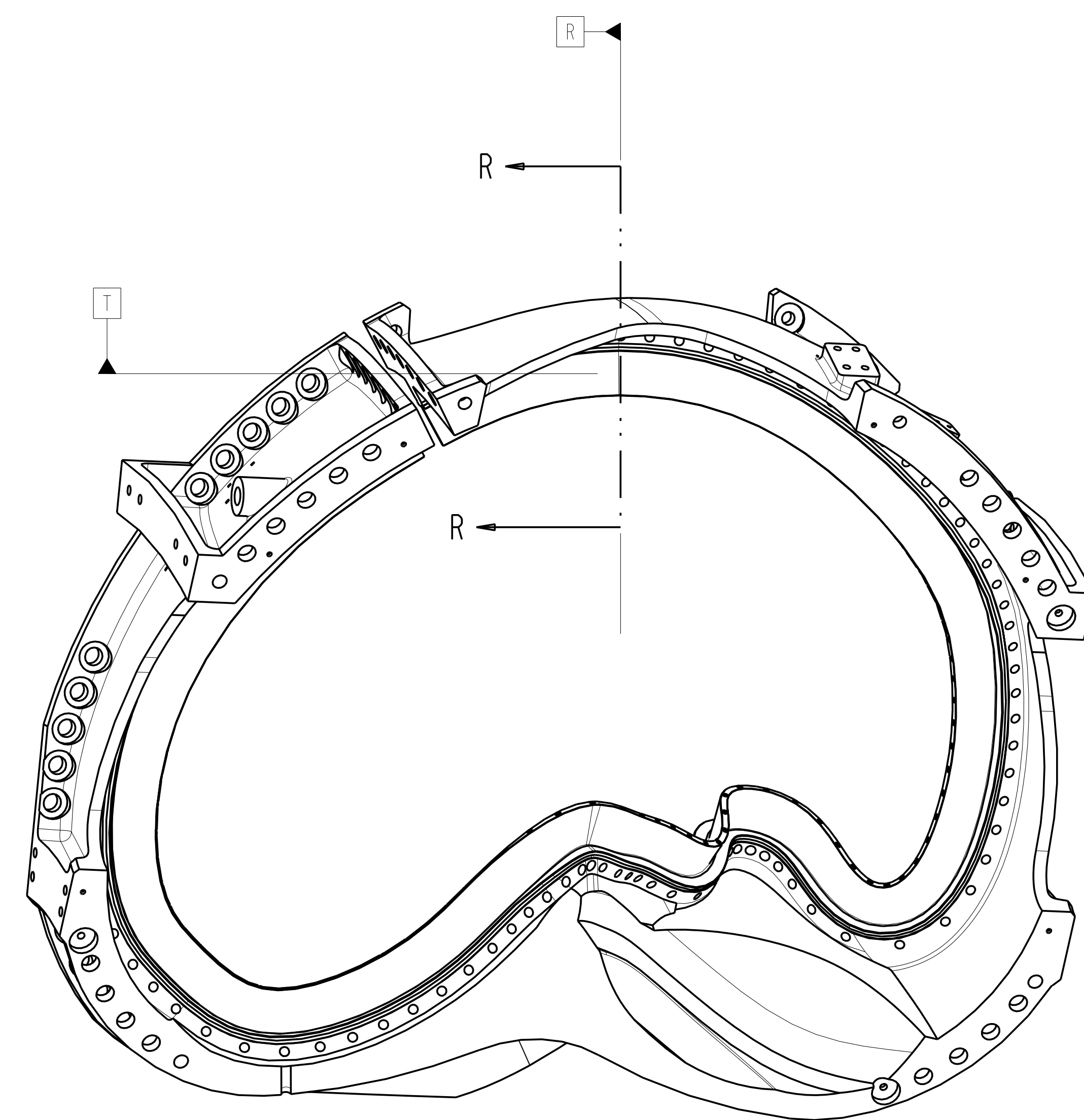
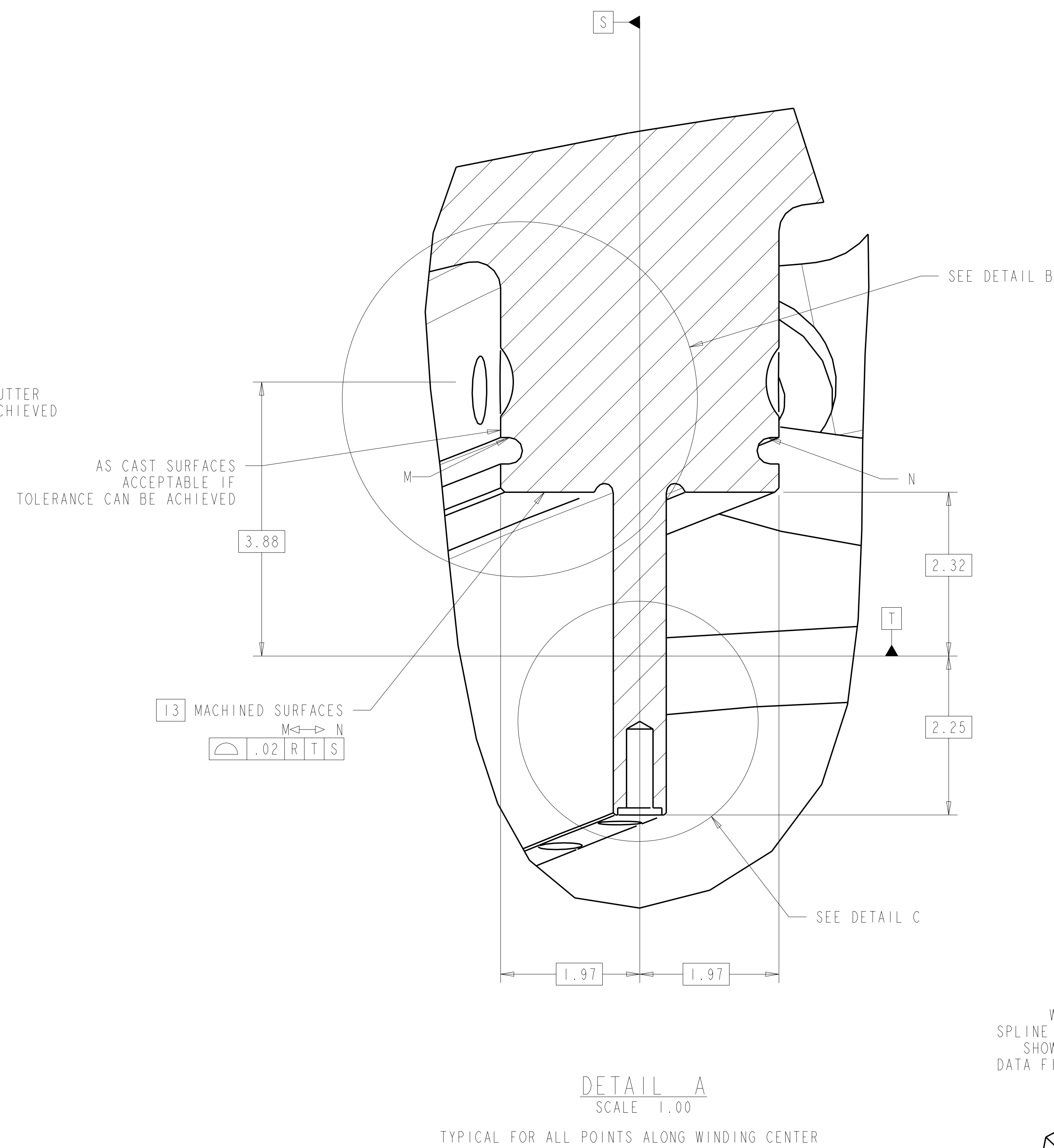
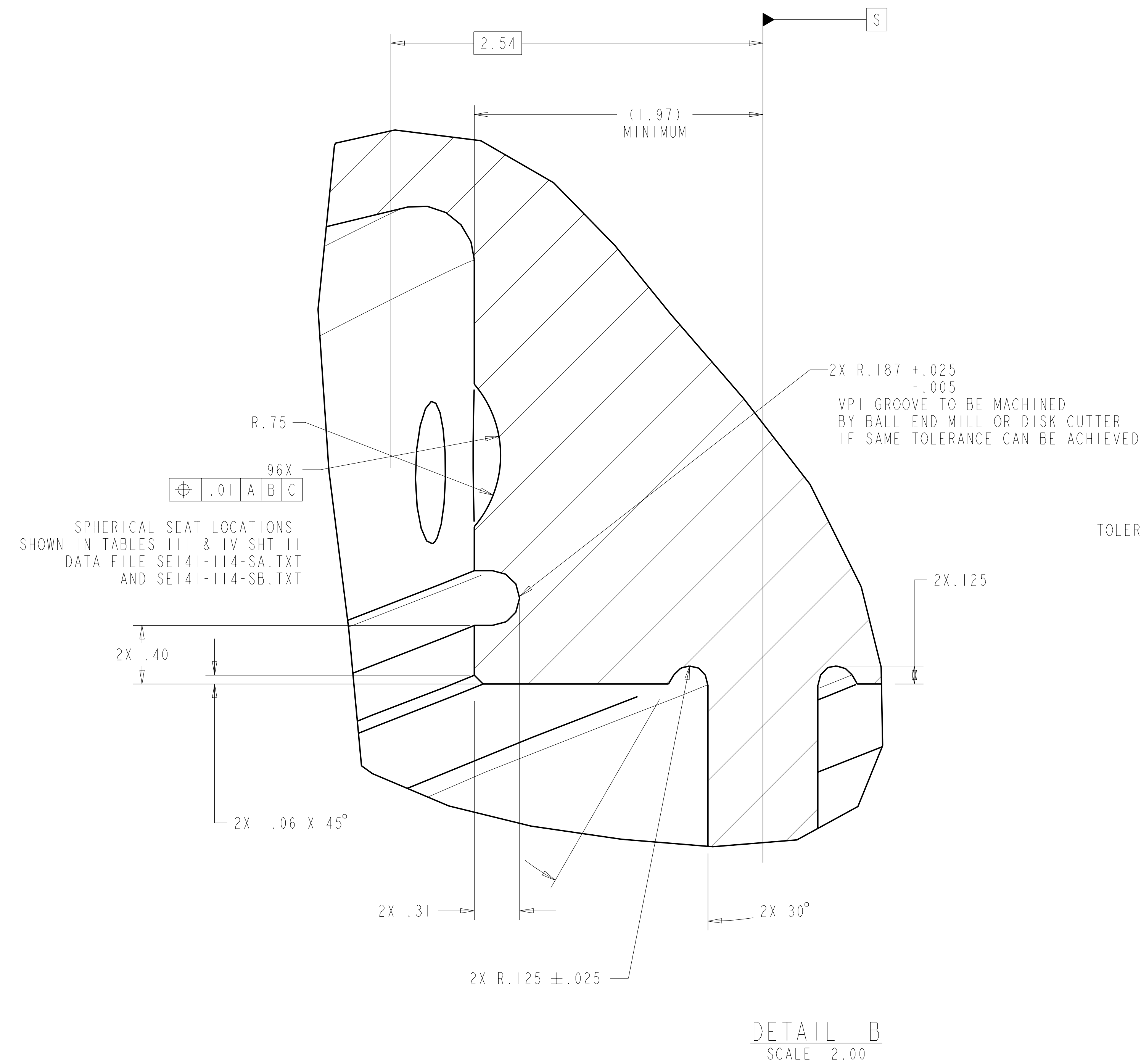


① SCALE 0.50

	7	-3	SHIM INSULATING SLEEVE ALL TYPES	GIICR	NEMA LI I - 1998	3
	1	-2	POLOIDAL BREAK SHIM TYPE-A	NOTE 8	--	2
AR	X	-1	POL BREAK SHIM ASSEMBLY TYPE-A			
SEC 41-10	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
	←	NEXT ASSEMBLY	PARTS LIST			

										SCALE NOTED										DES G LOVETT 6-30-04										<div>UT-BATTELLE</div> <div>Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. Government contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee</div> <div>PROJECT NAME</div> <div>NATIONAL COMPACT STELLARATOR EXPERIMENT</div> <div>POL BREAK SHIM ASSEMBLY TYPE-A</div>									
										TOLERANCES UNLESS OTHERWISE SPECIFIED										DRW P MILLER 6-30-04																			
										CHK M COLE 6-30-04										SECT : :																			
										DEPT : :										PE D WILLIAMSON 6-30-04																			
										FRACTIONS										CR : :																			
										XX DECIMALS ±.01										PJ : :																			
										XXX DECIMALS ±.005										REO : :																			
										ANGLES ±0°15'																													
										BREAK SHARP EDGES .06 MAX																													
										FINISH 125 UNLESS OTHERWISE SPECIFIED										PPPL DRFT J SIEGEL 6-30-04																			

FOR NOTES AND PARTS LIST SEE SHEET 1



DATUM R = PLANE NORMAL TO WINDING CENTER
 DATUM S = PLANE PASSING THRU WINDING CENTER AND X VECTOR AT DATUM R
 DATUM T = PLANE PASSING THRU WINDING CENTER ORTHOGONAL TO DATUM S

UT-BATTELLE Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-A							
VERSION NO. 25	PLANT X-10	BLDG 5700	FL 3	SHT OF 2	TYPE II	CLASS S	
RELEASE LEVEL WIP		SEI41-114		REV 0			

8

7

6

5

4

3

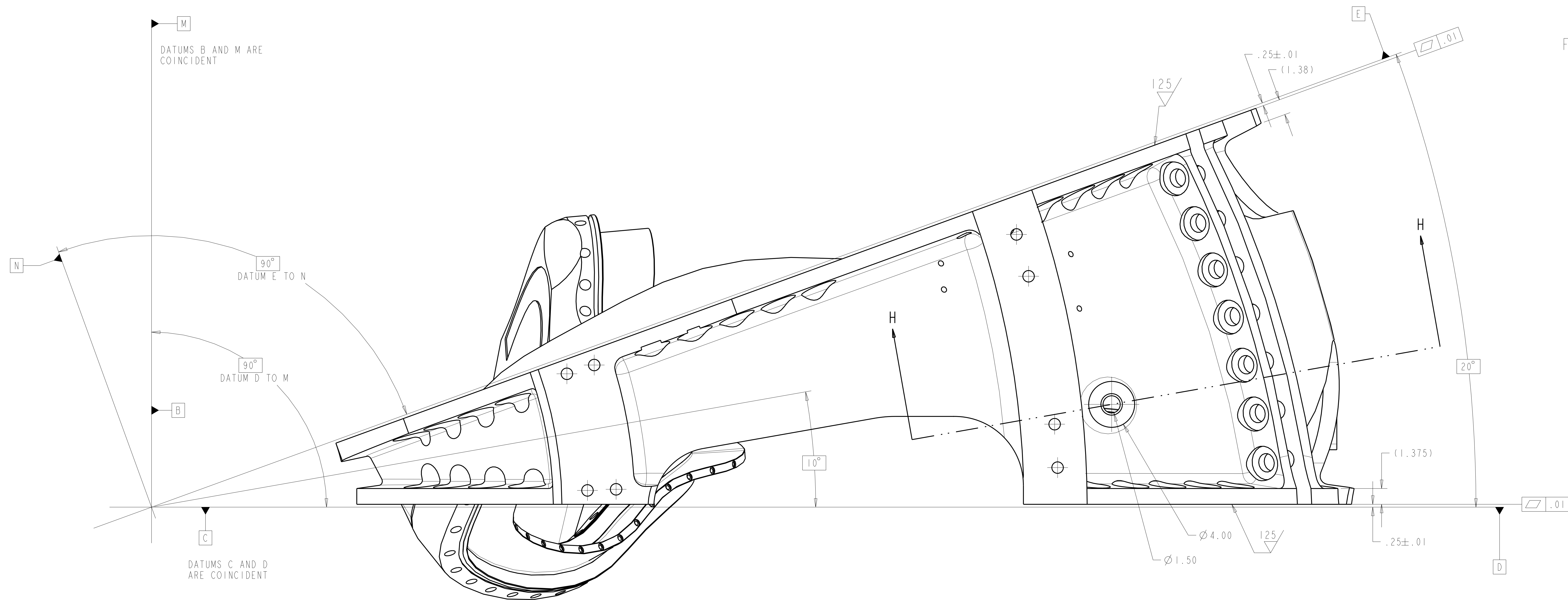
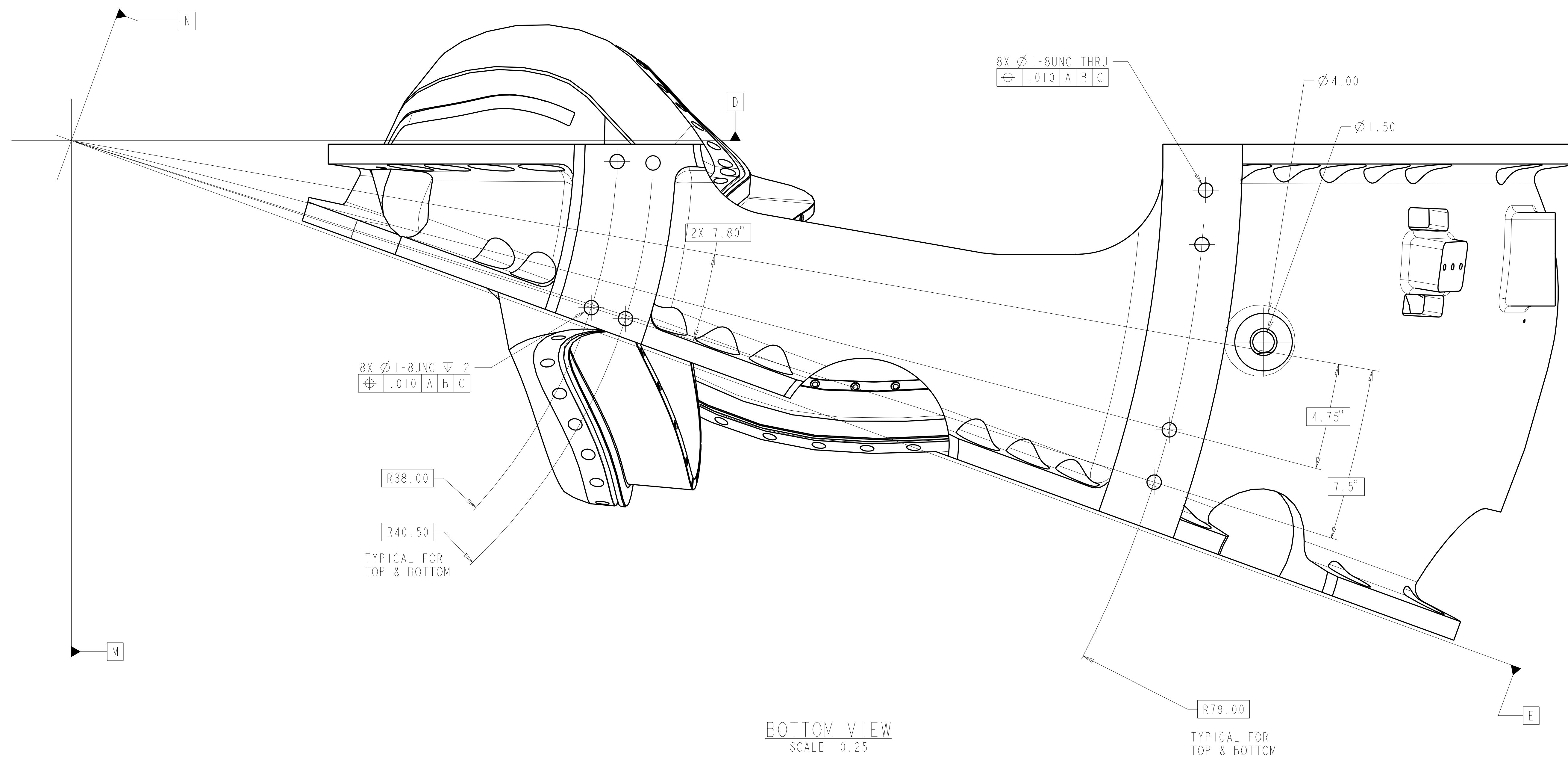
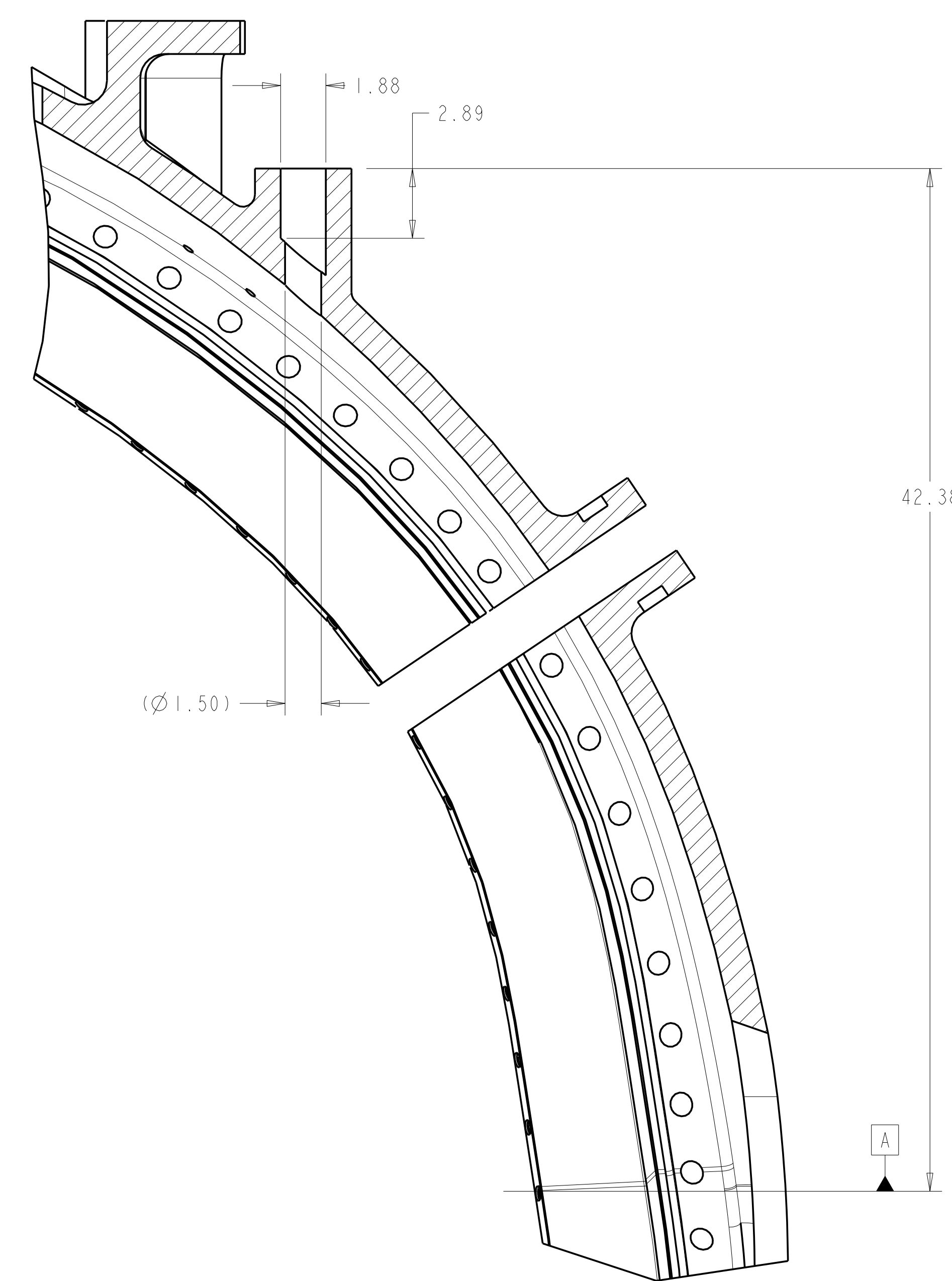
2

1

NEXT ASS'Y:

FINAL ASS'Y:

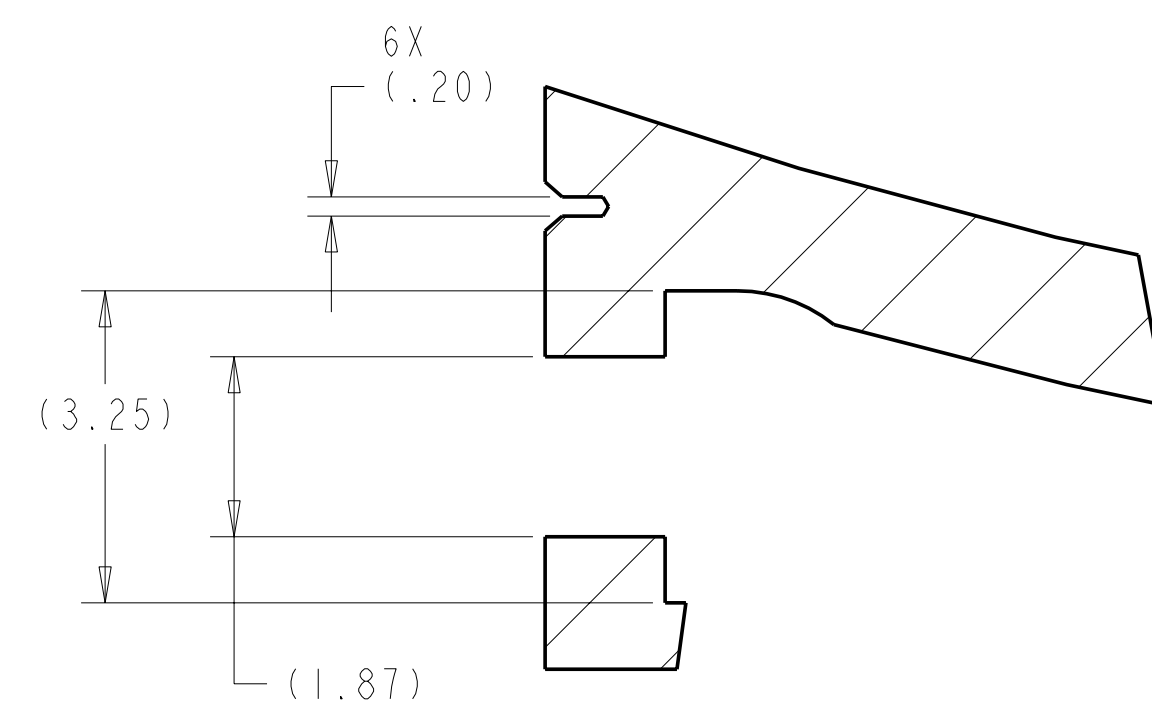
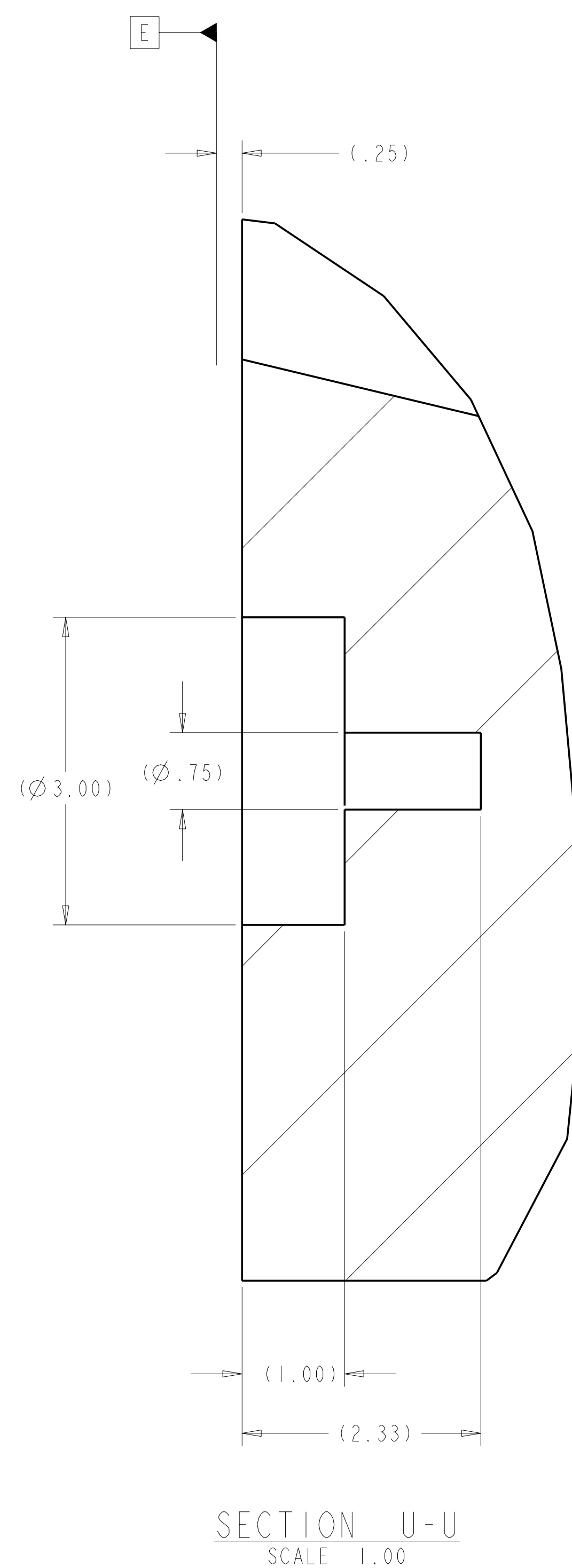
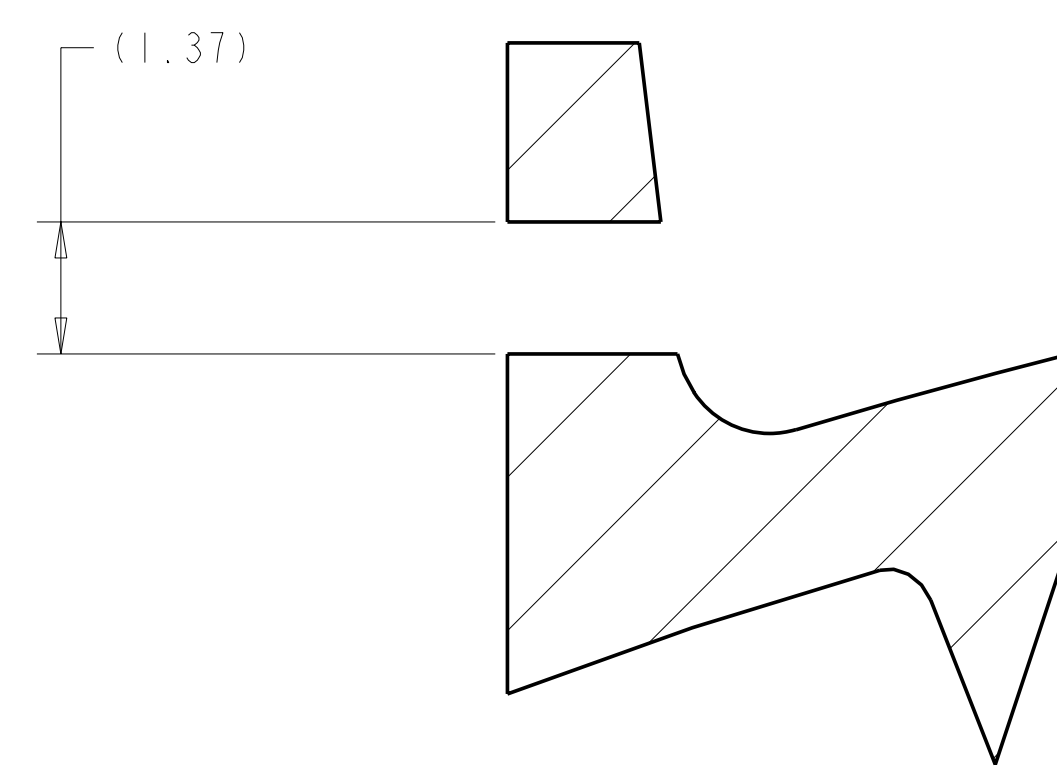
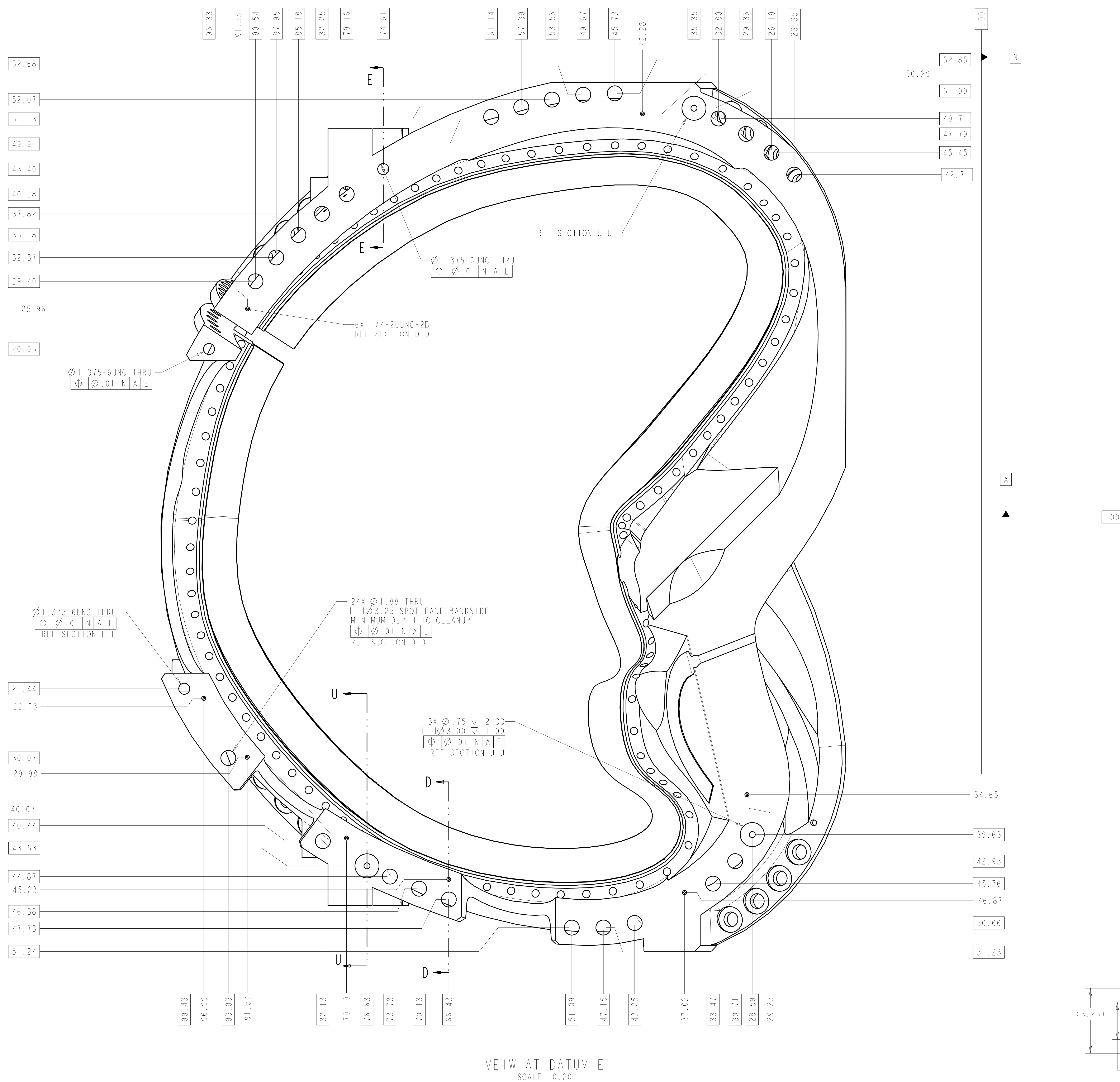
FOR NOTES AND PARTS LIST SEE SHEET 1


TOP VIEW
SCALE 0.25DATUMS A B & C ARE MACHINE SPECIFIC.
ALL OTHER DATUMS LISTED ON THIS DRAWING
ARE SPECIFIC TO THIS PARTBOTTOM VIEW
SCALE 0.25SECTION H-H
SCALE 0.25

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-A							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
25	X-10	5700	3	3	11	S	U
RELEASE LEVEL		REV					
WIP		0					

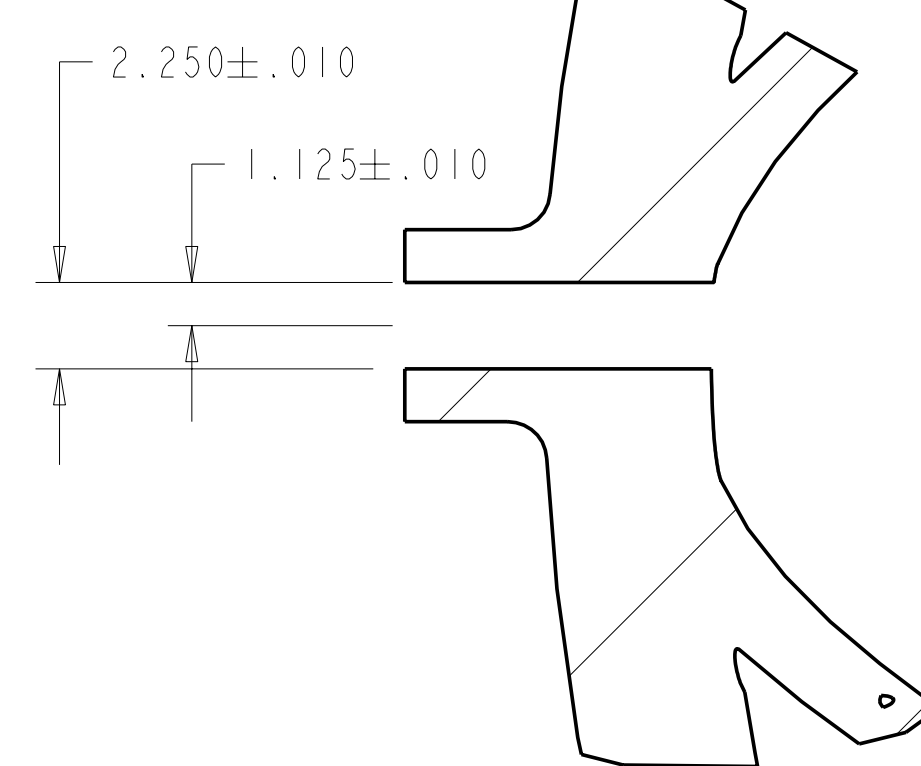
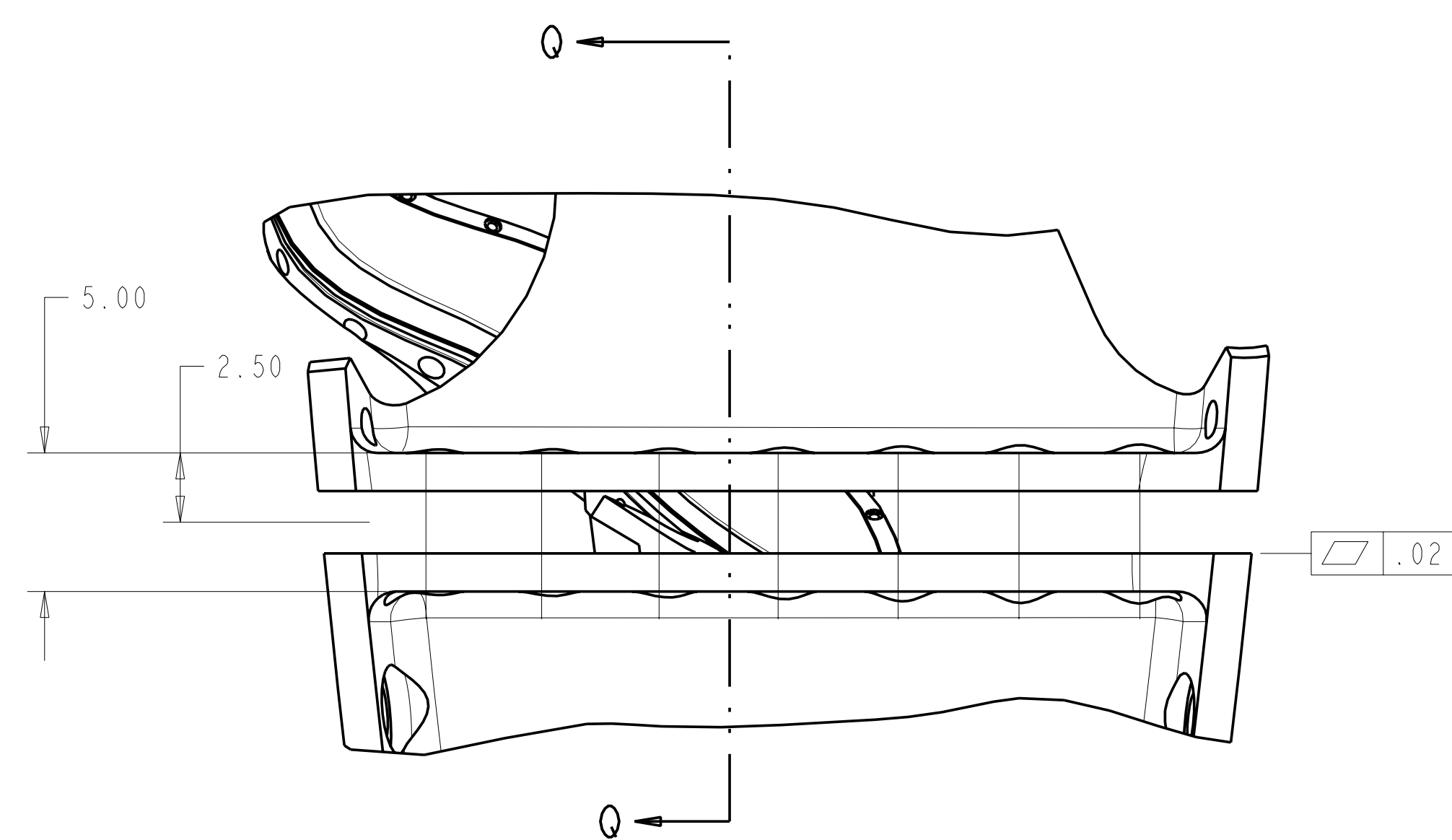
SEI41-114

FOR NOTES AND PARTS LIST SEE SHEET 1

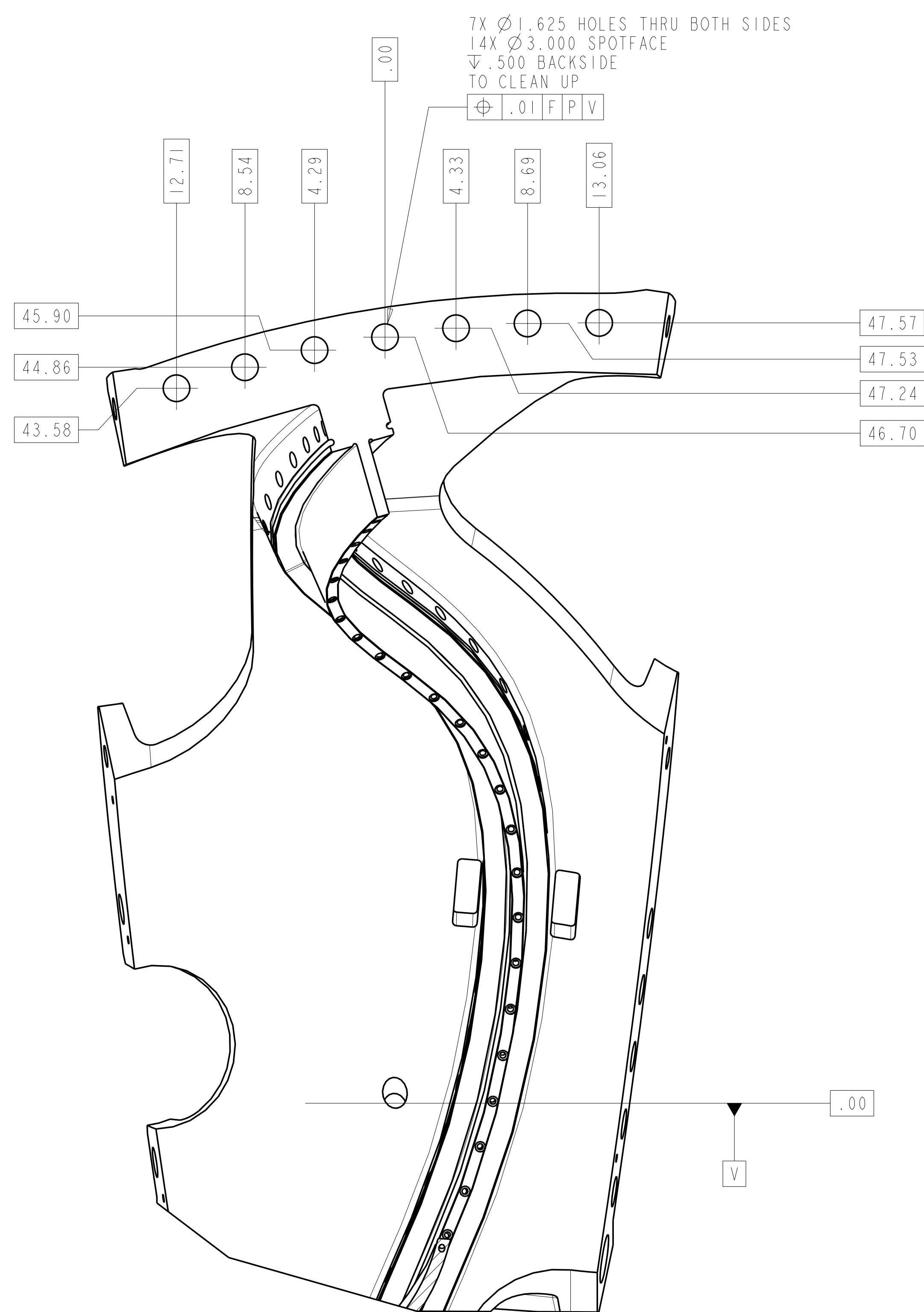
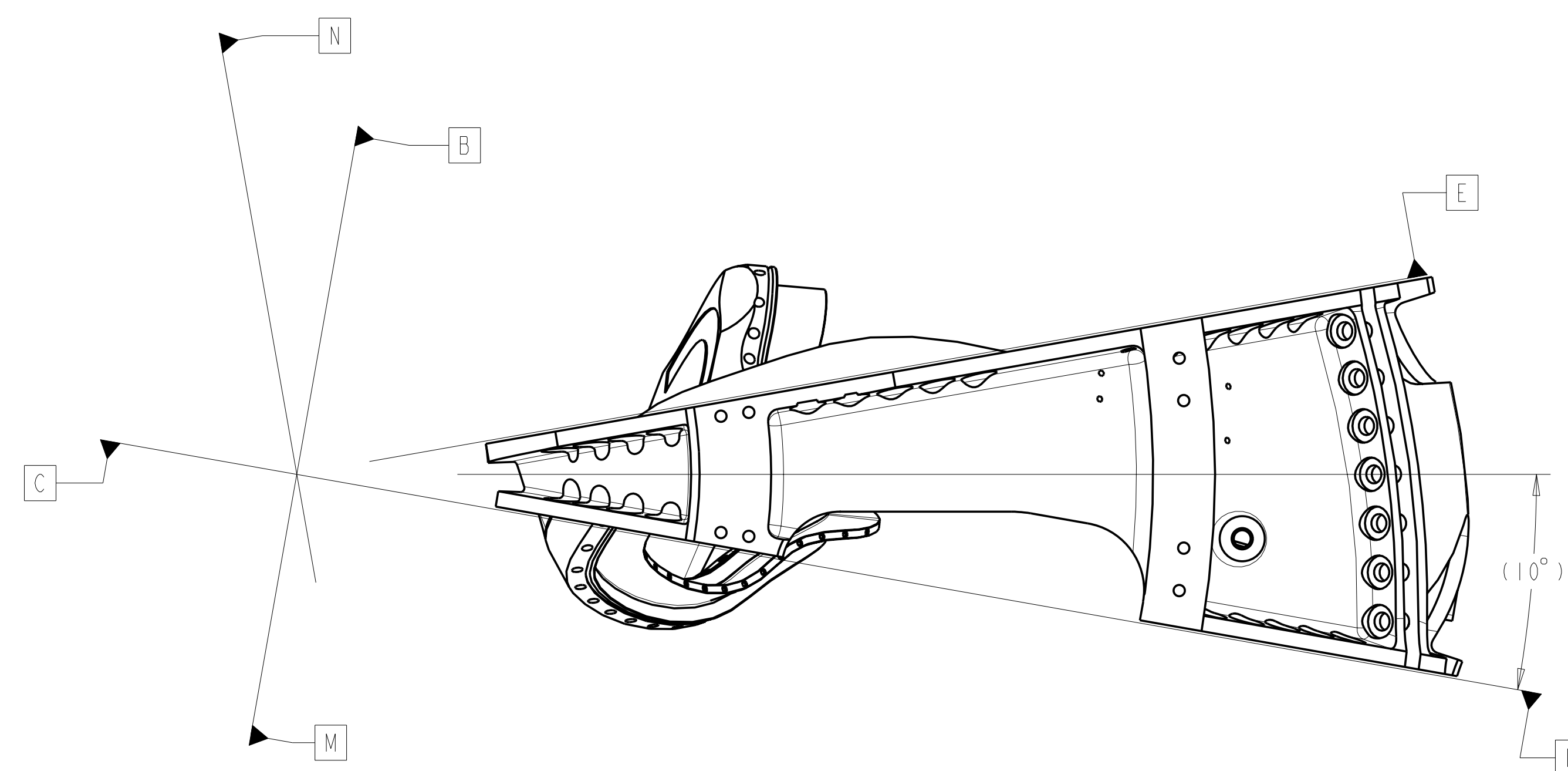
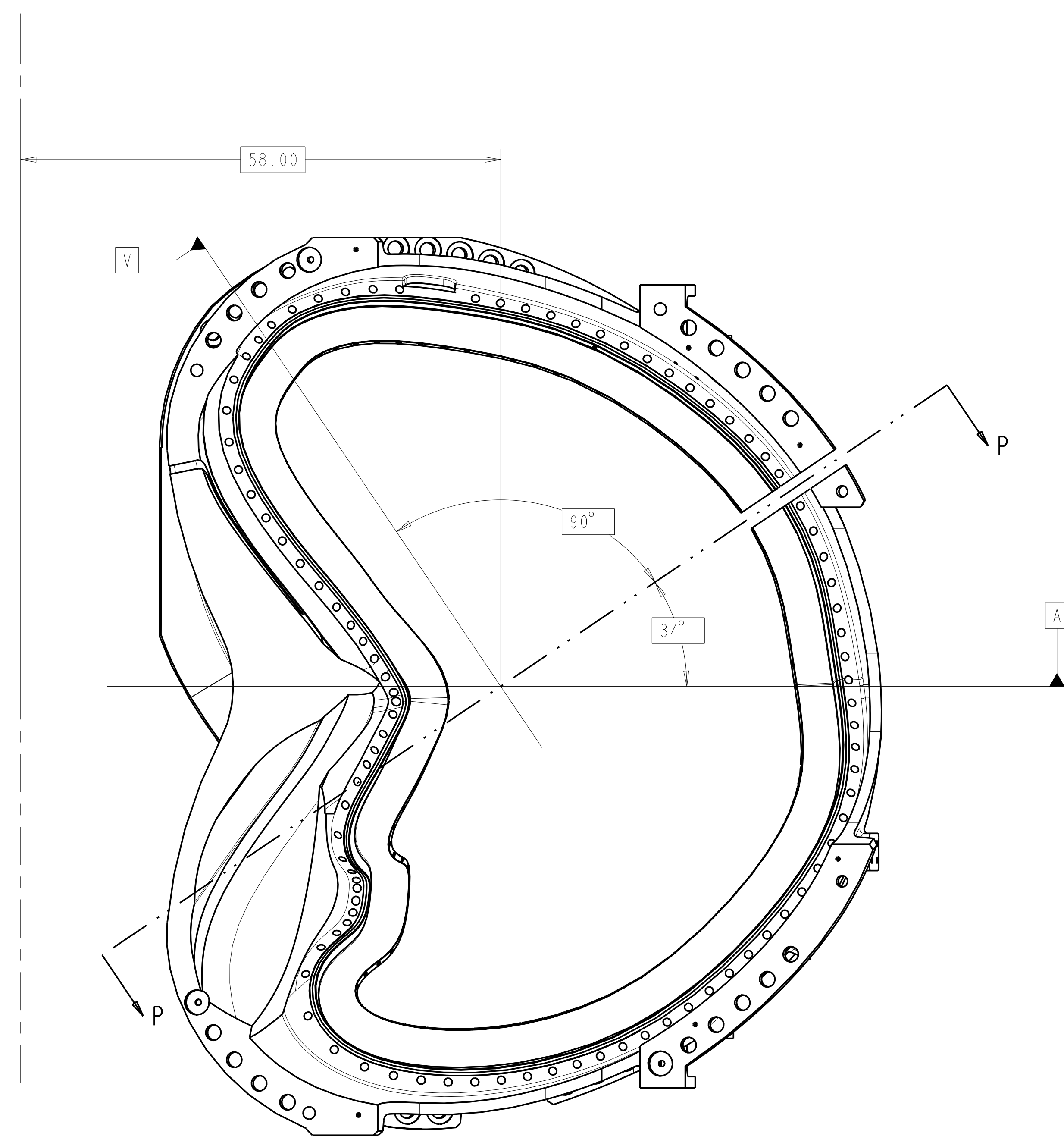


	Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. Government contract DE-AC05-00OR22720 UT-BATTELLE, LLC, Oak Ridge, Tennessee							
	PROJECT NAME							
	NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-A								
VERSION NO. 25	PLANT X-10	BLDG 5700	FL 3	SHT OF 5	I OF 11	TYPE S	CLASS U	
RELEASE LEVEL WIP		SEI41-114					REV 0	

FOR NOTES AND PARTS LIST SEE SHEET 1



SECTION Q-Q

SECTION P-P
SCALE 0.20POLOIDAL BREAK DETAIL
SCALE 0.10

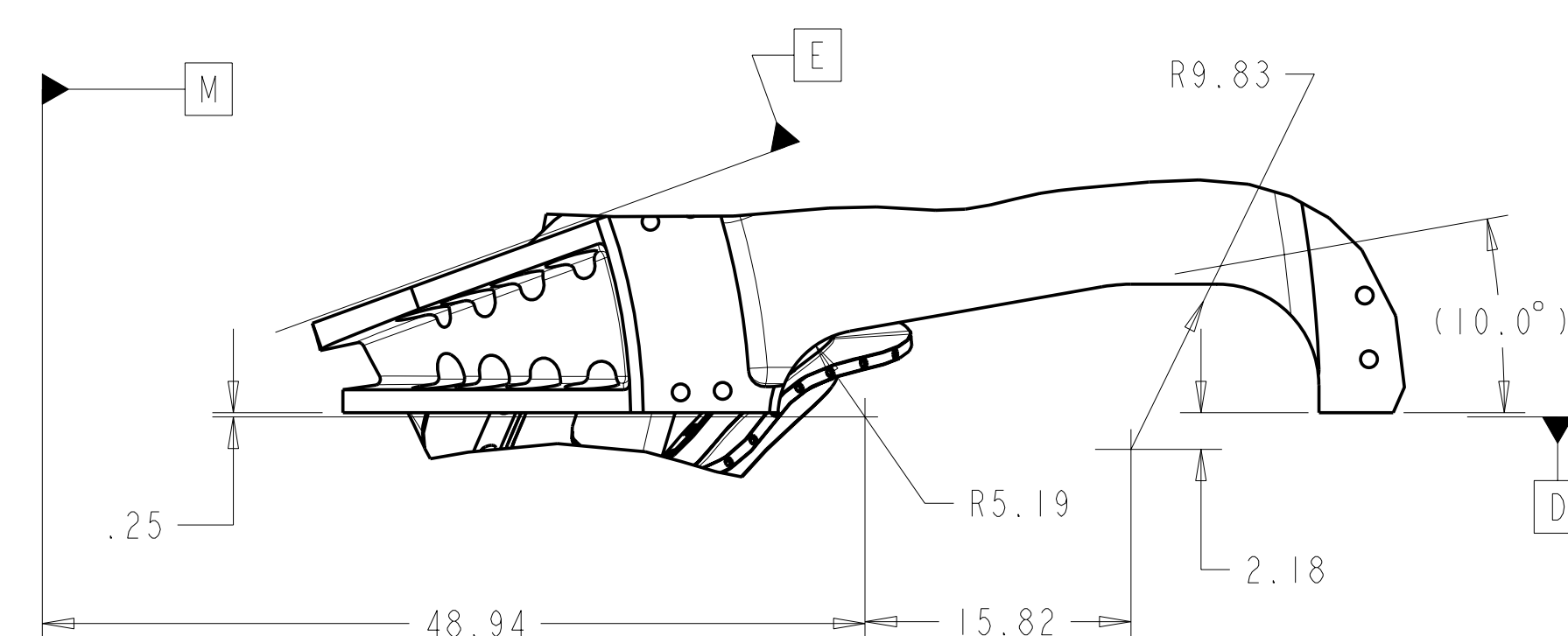
UT-BATTELLE Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-A							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
25	X-10	5700	3	6	11	S	U
RELEASE LEVEL		REV					
WIP		0					

SE141-114

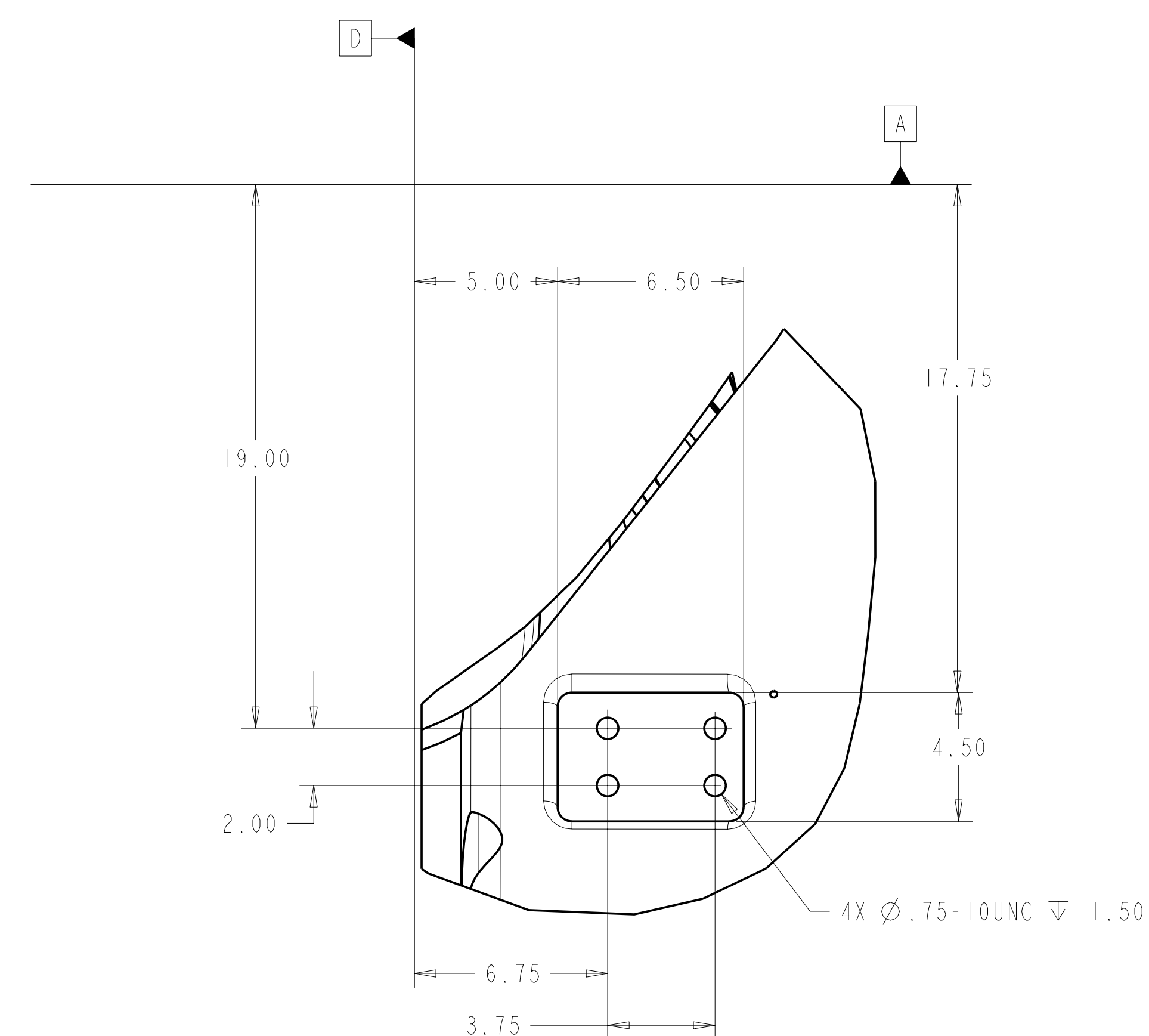
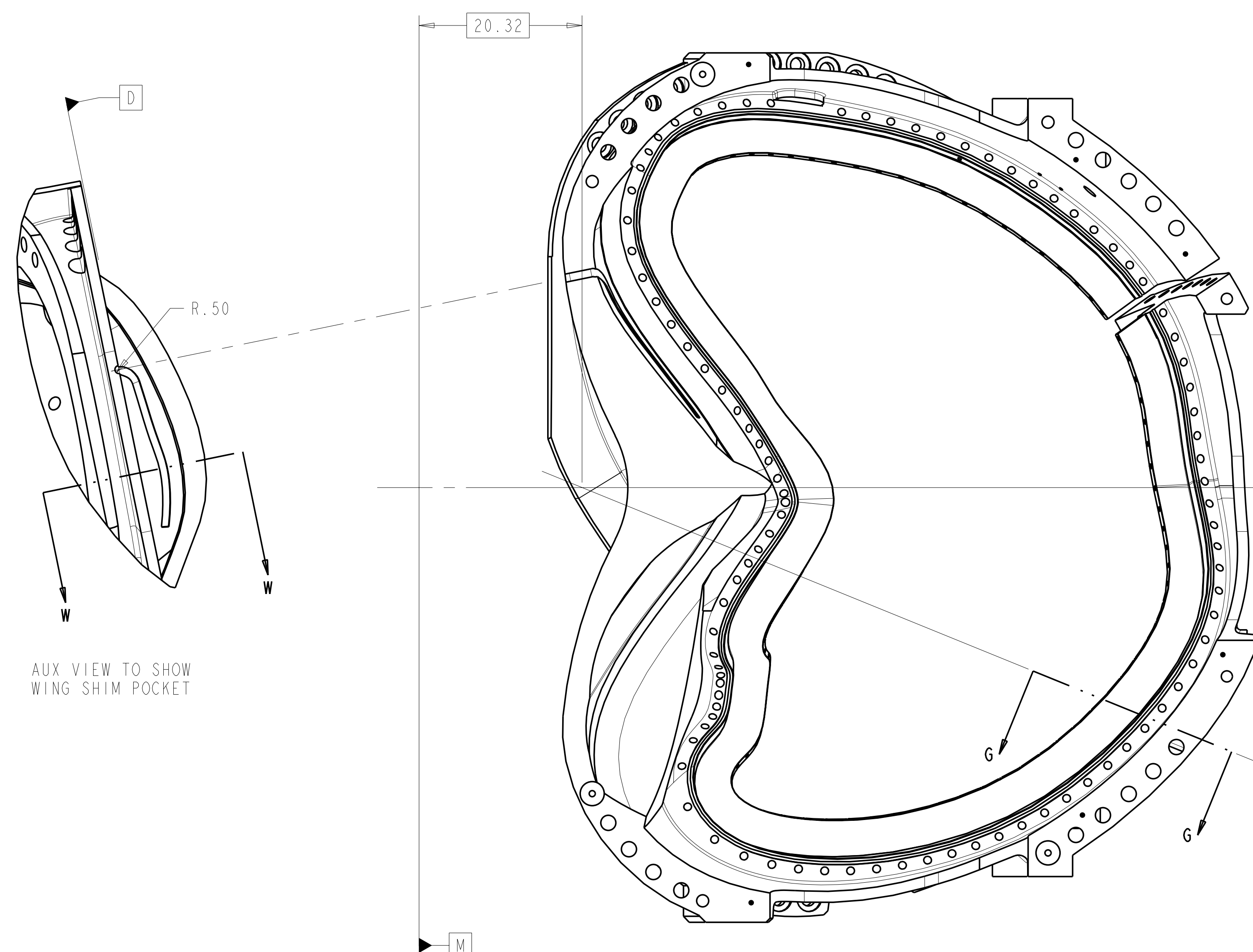
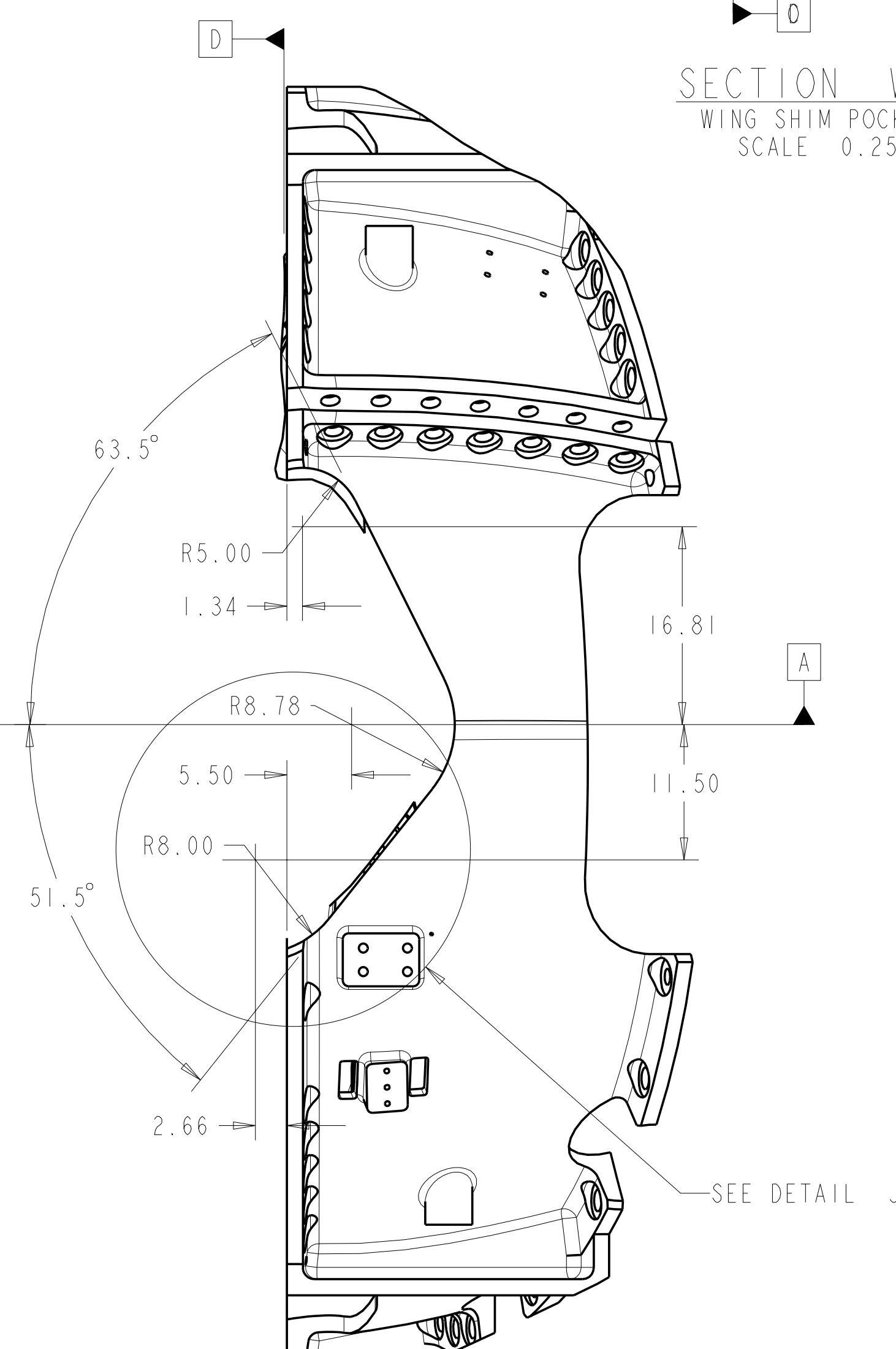
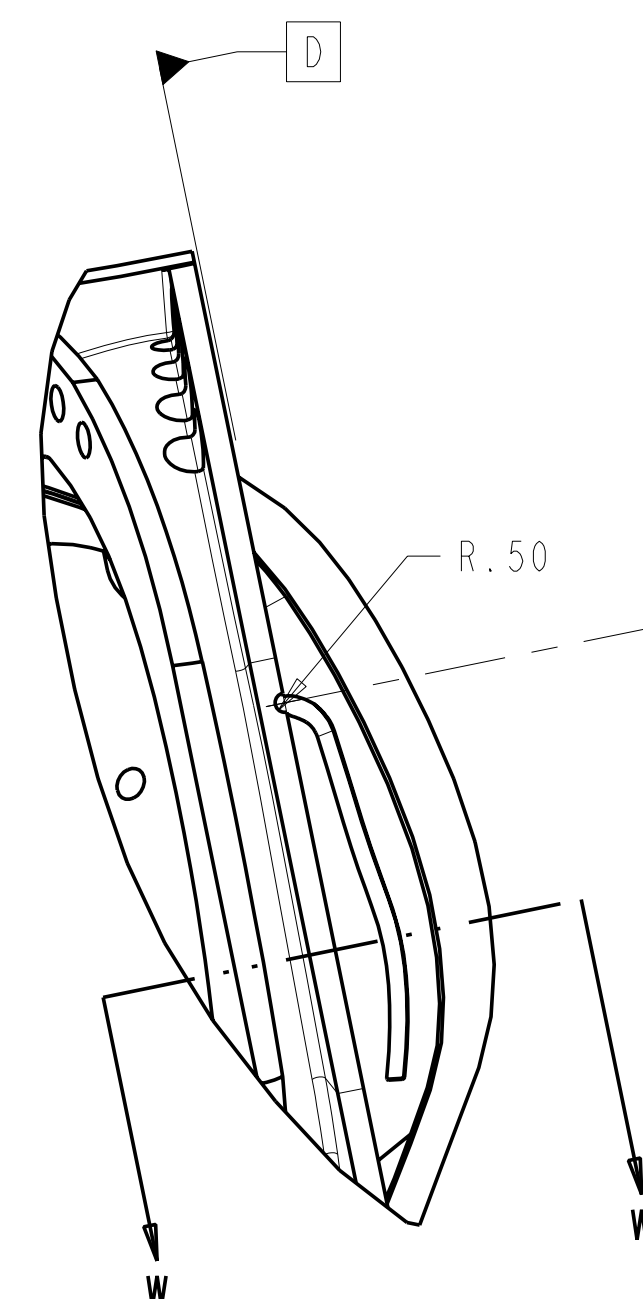
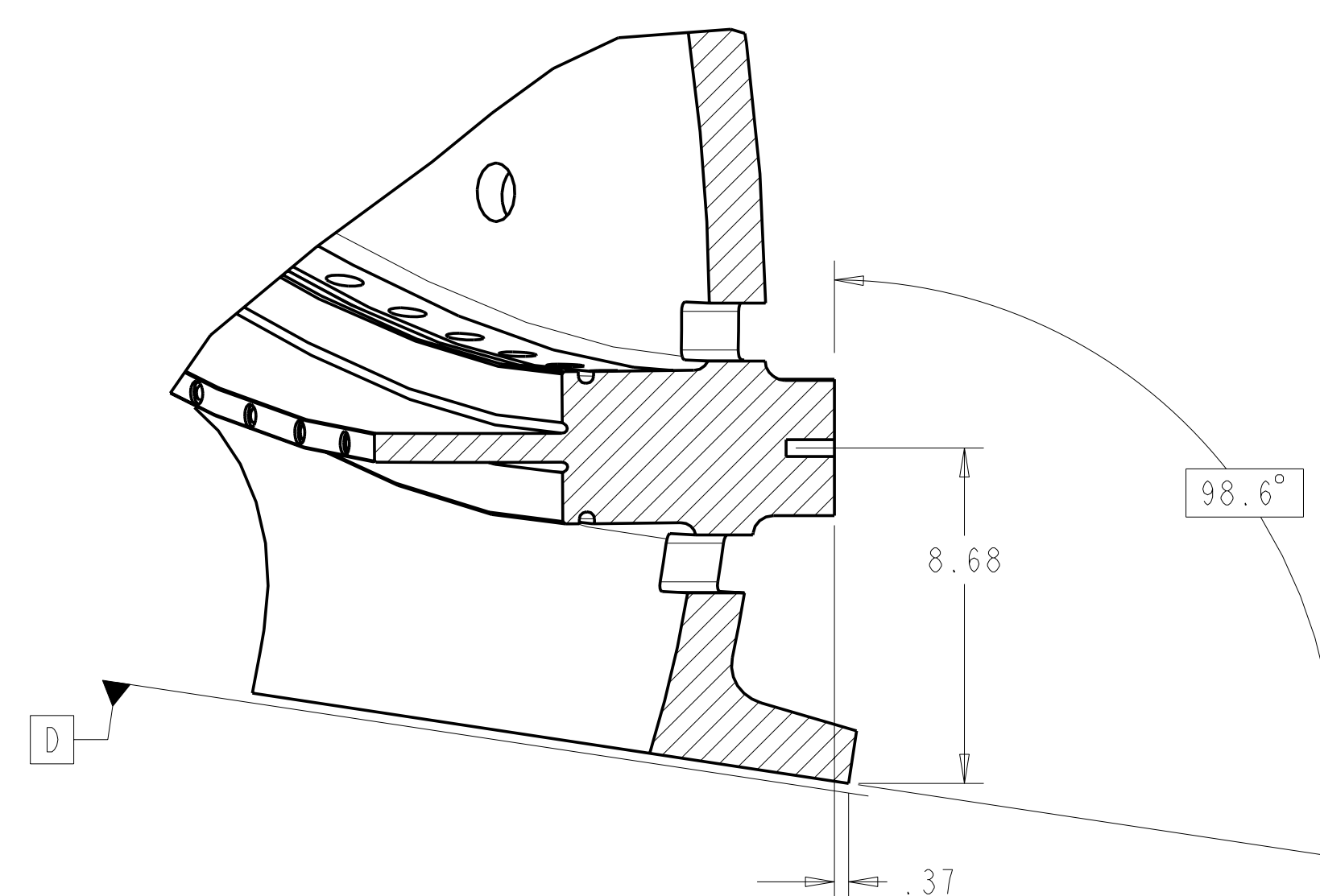
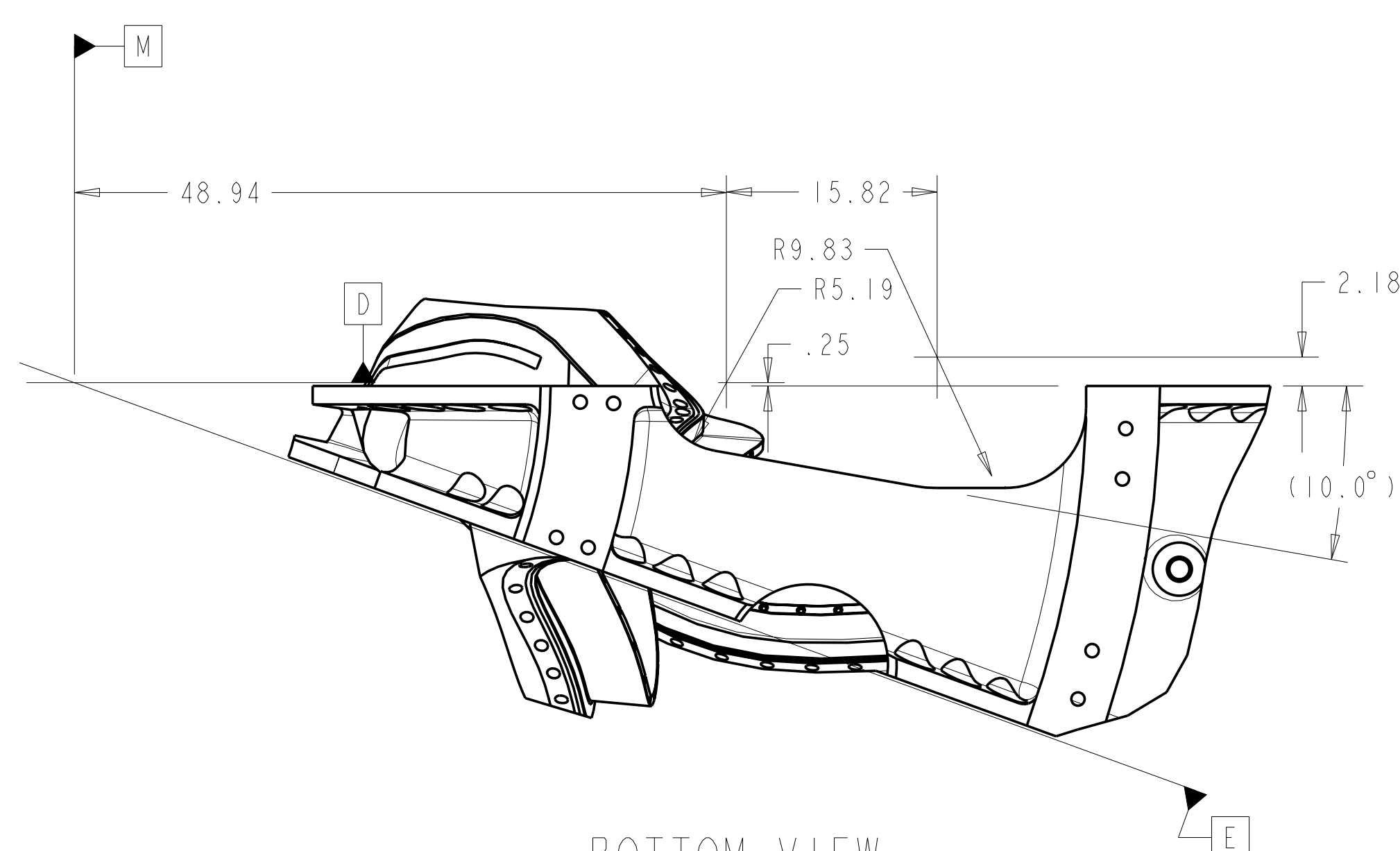
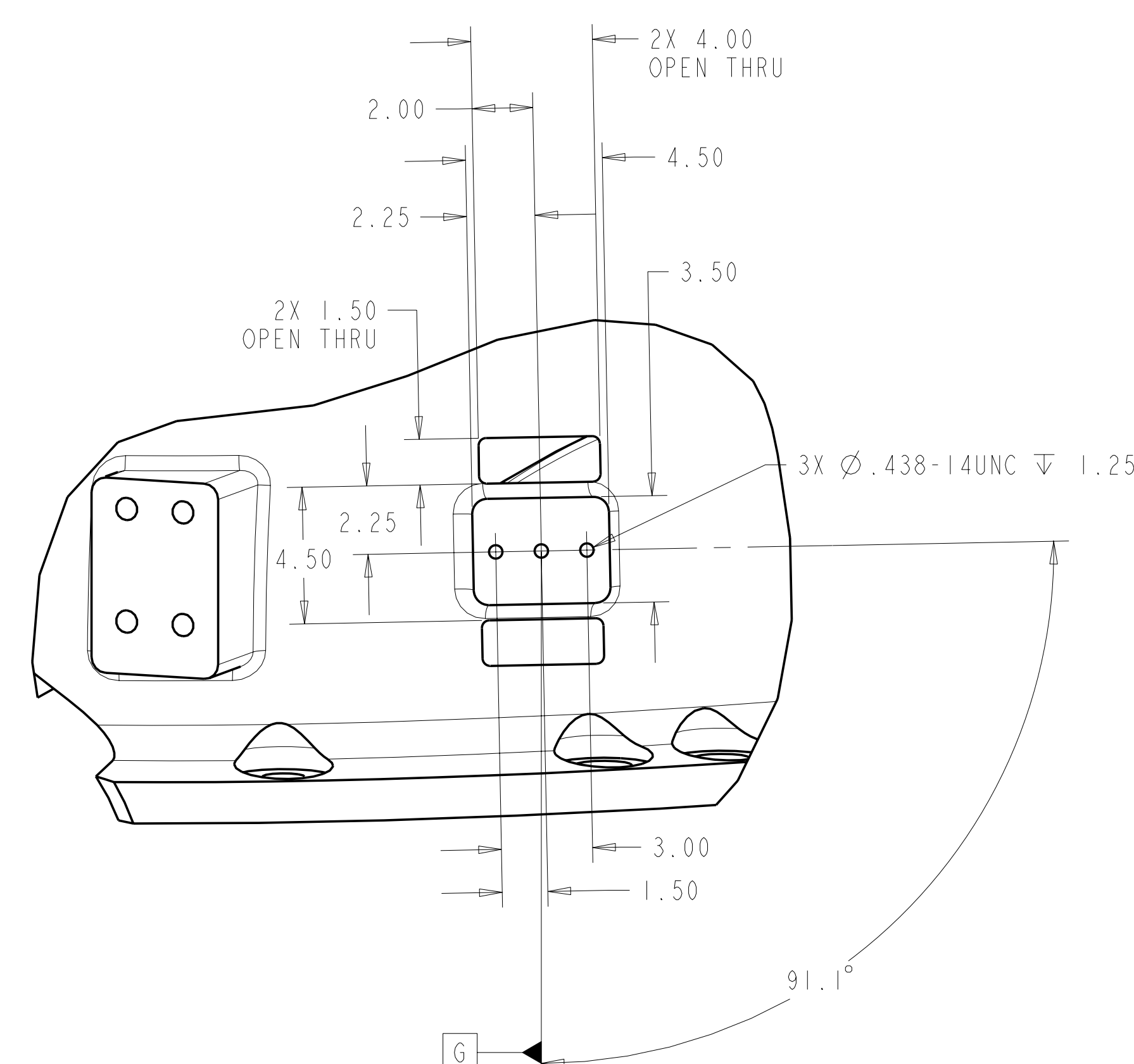
B SE141-114

A

FOR NOTES AND PARTS LIST SEE SHEET I



TOP VIEW

SECTION W-W
WING SHIM POCKET
SCALE 0.25DETAIL J
ASSEMBLY FIXTURE MOUNT
SCALE 0.25VIEW AT DATUM D
SCALE 0.1AUX VIEW TO SHOW
WING SHIM POCKETSOME FEATURES NOT SHOWN
FOR CLARITYSECTION G-G
LEAD BLOCK DETAIL
SCALE 0.25

BOTTOM VIEW

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-A							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
25	X-10	5700	3	7	11	S	U
RELEASE LEVEL		WIP		SEI41-114		REV 0	

8

7

6

5

4

3

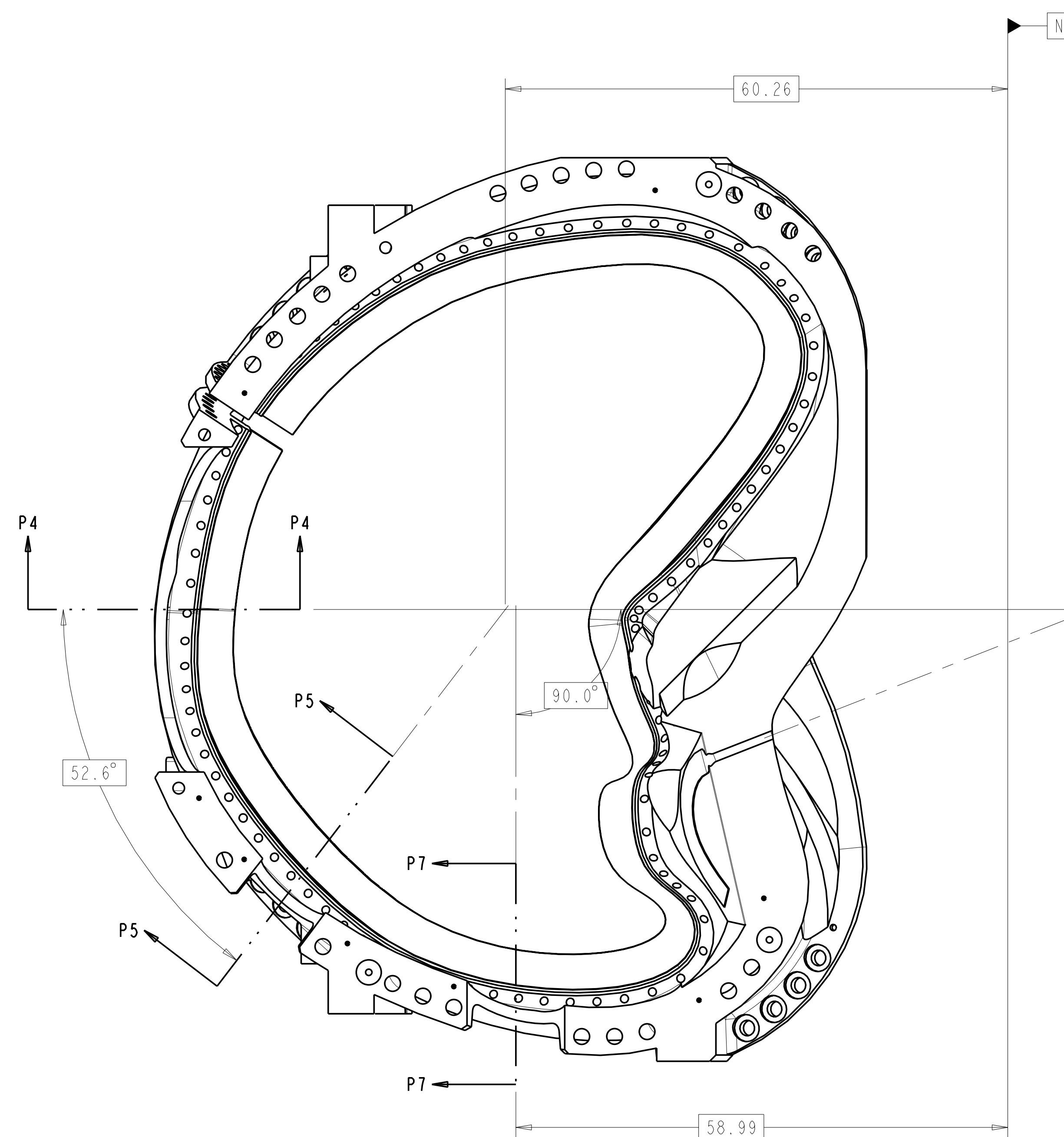
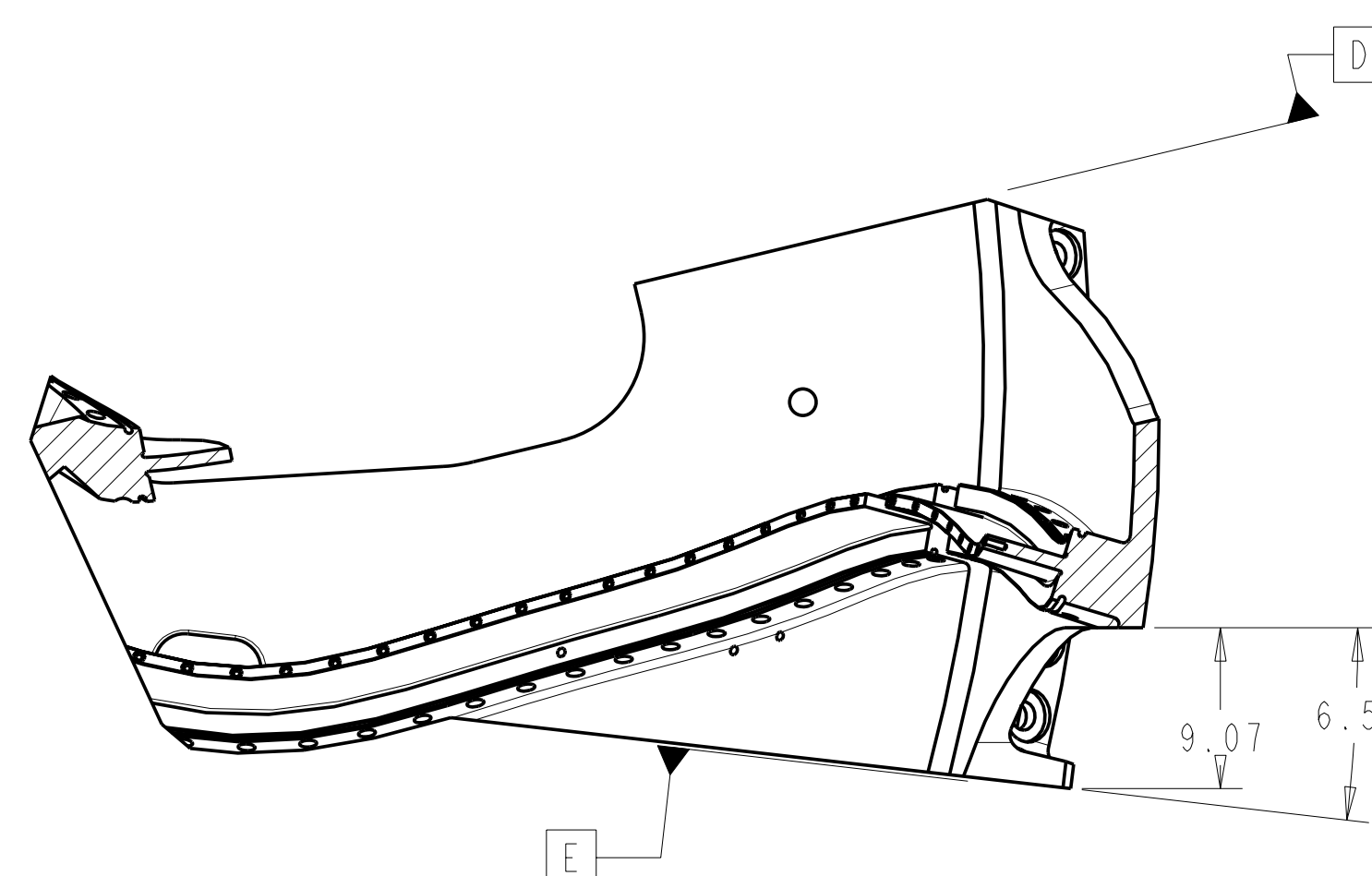
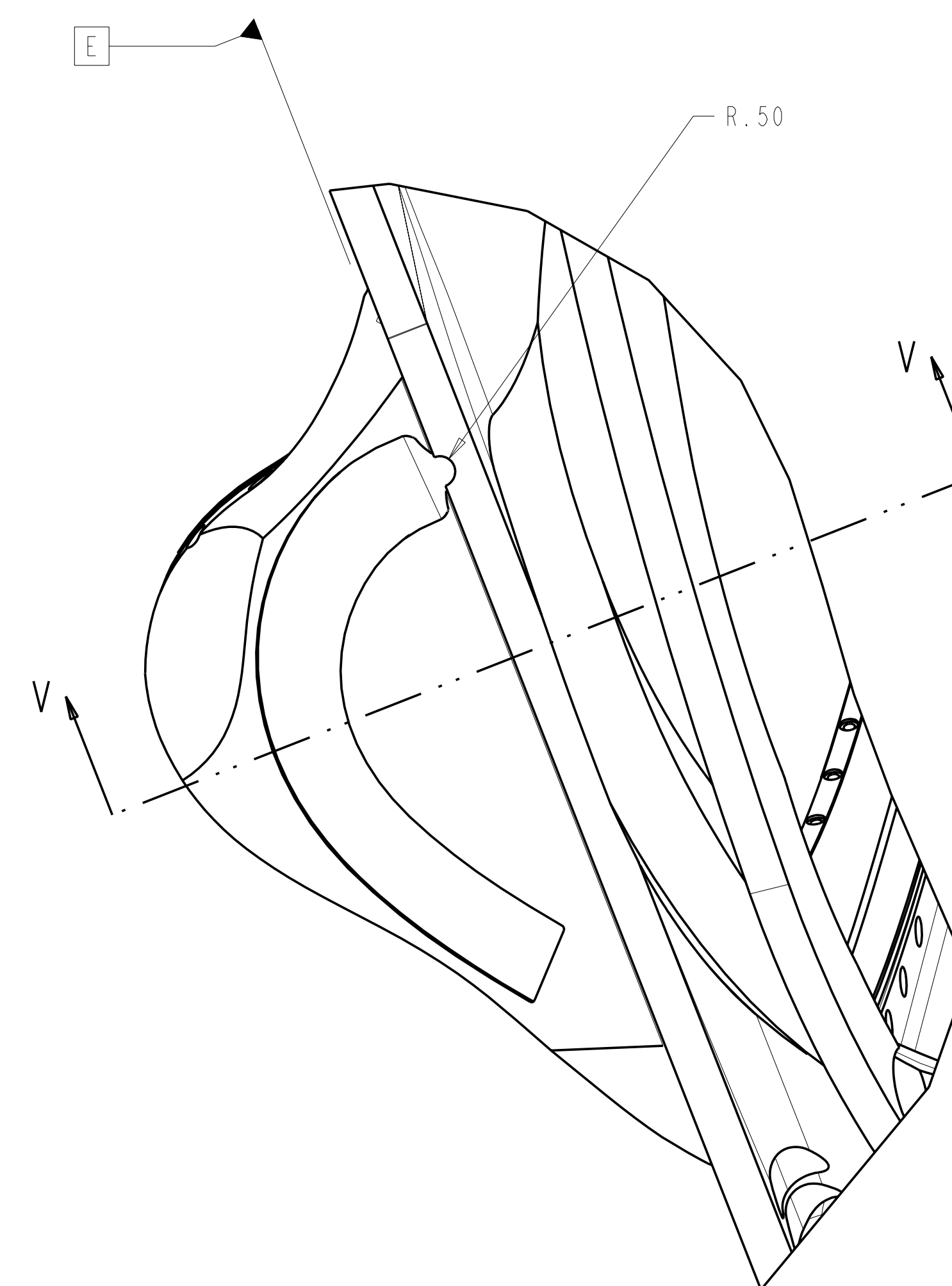
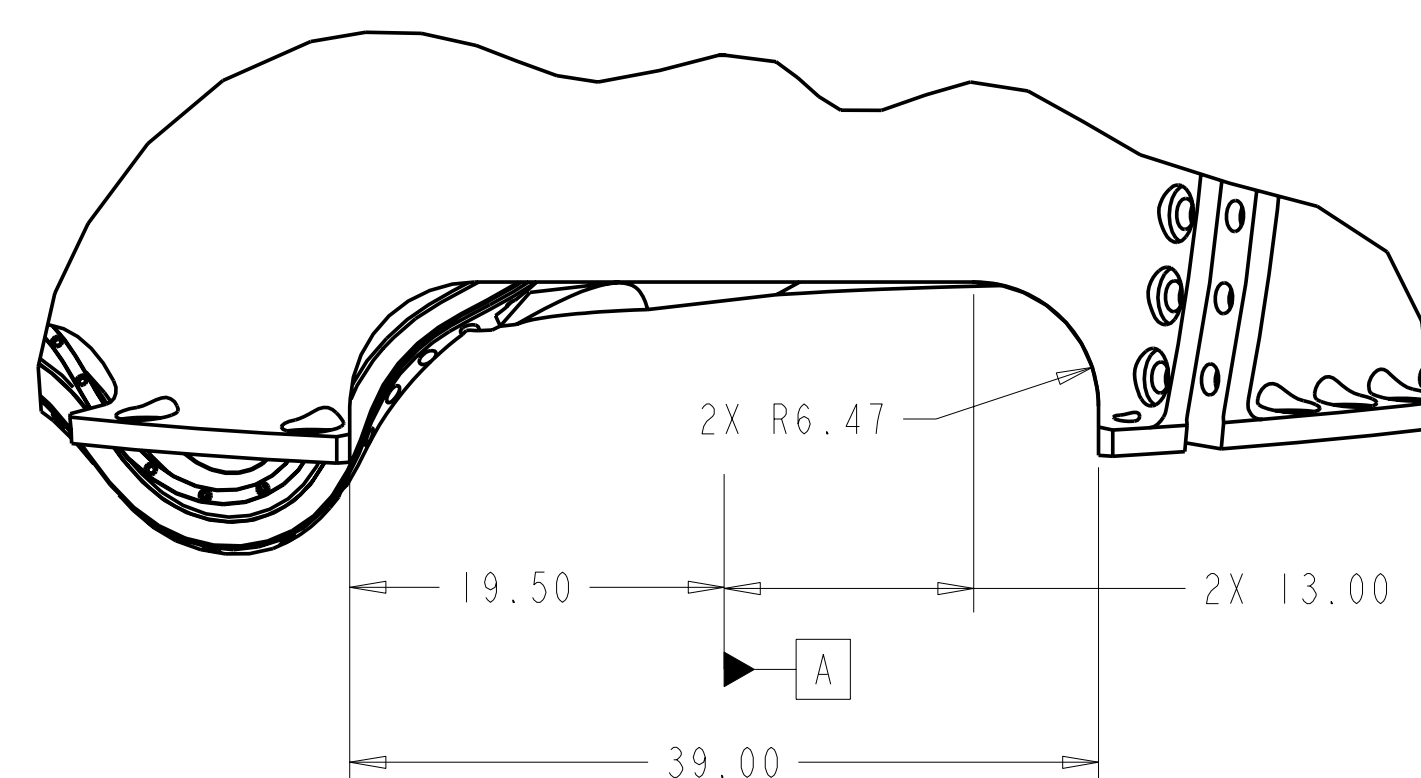
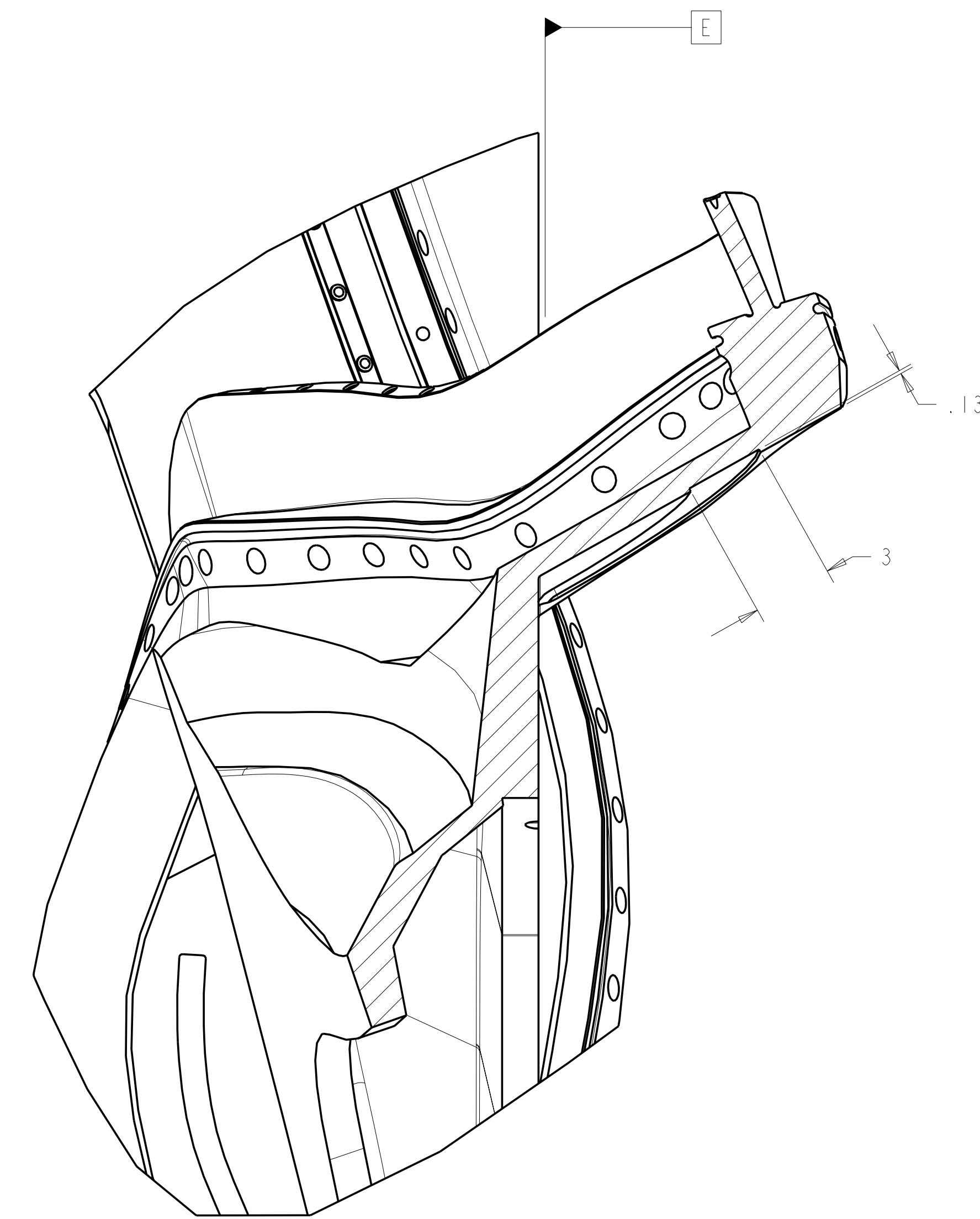
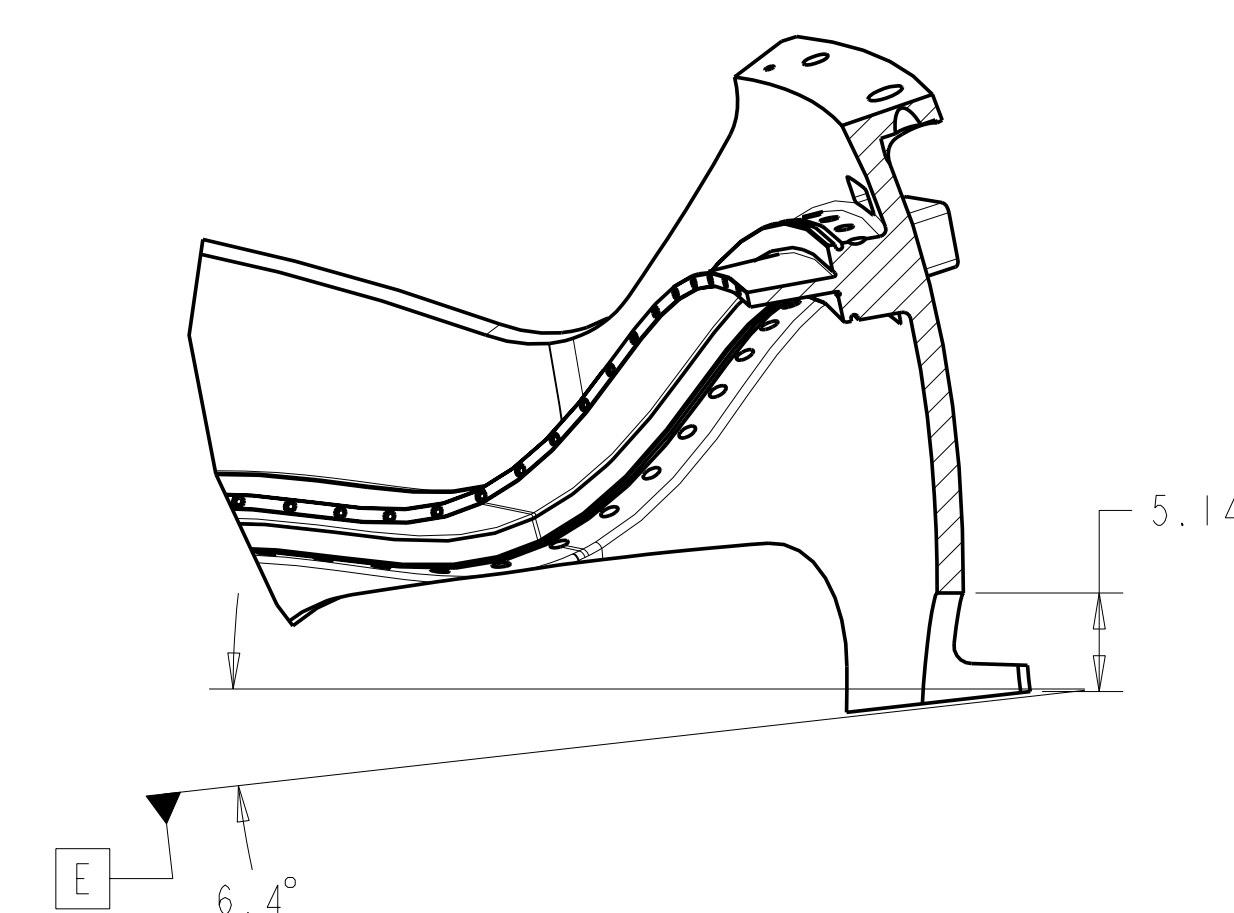
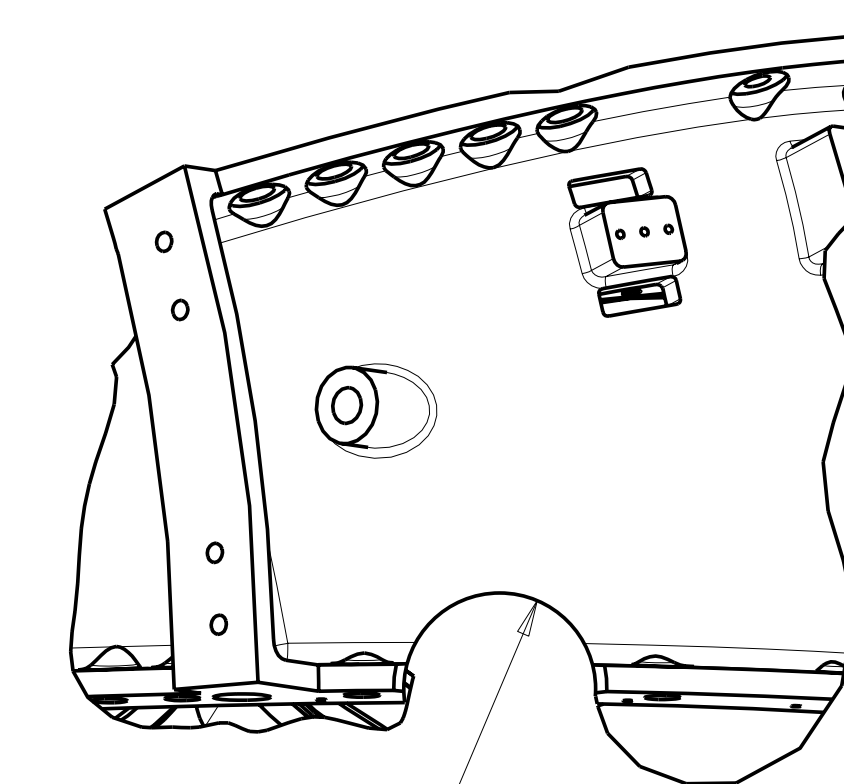
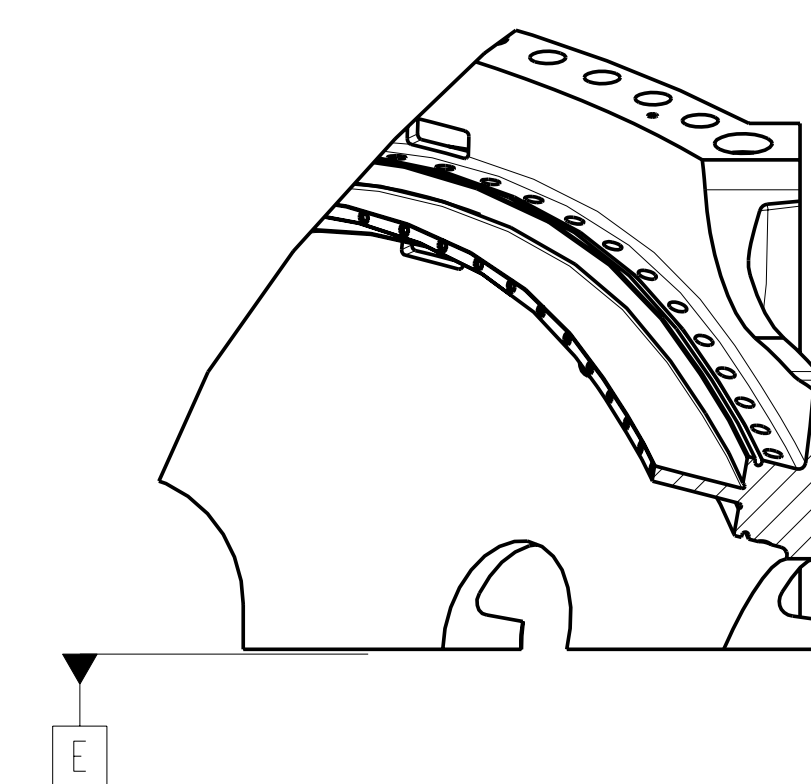
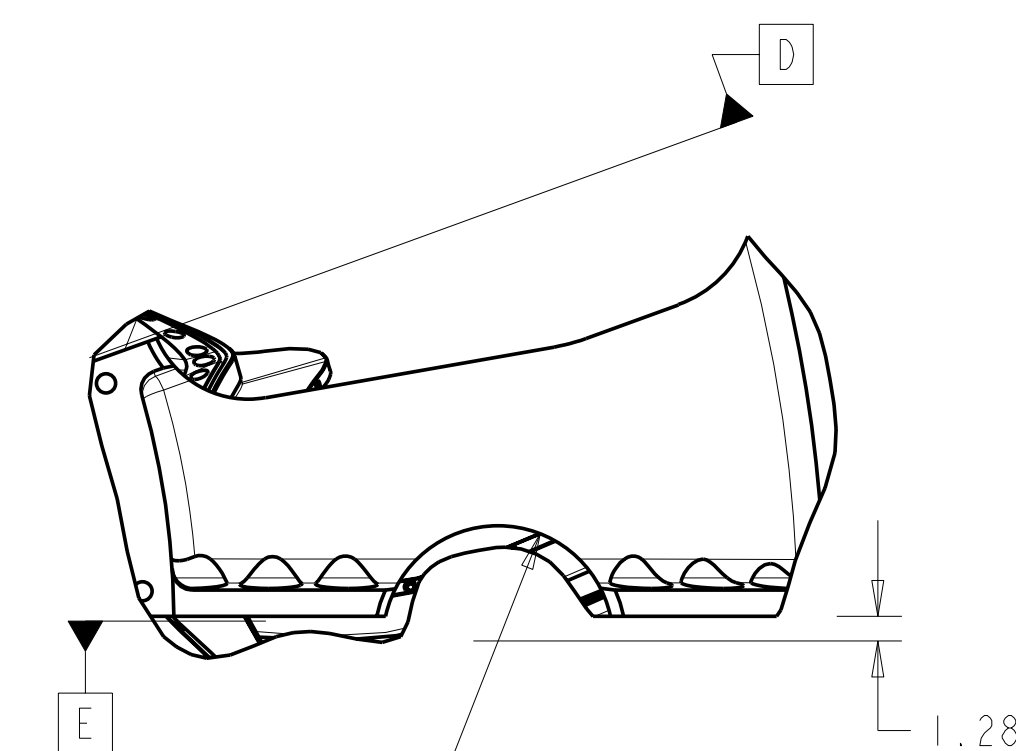
2

1

NEXT ASS'Y:

FINAL ASS'Y:

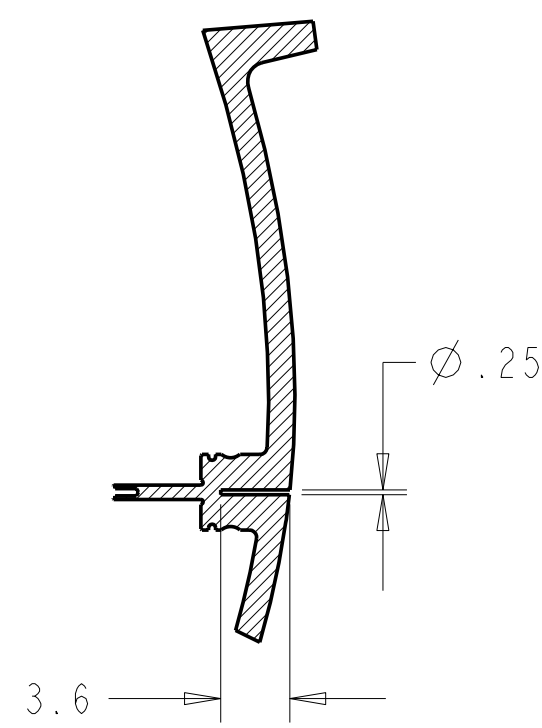
FOR NOTES AND PARTS LIST SEE SHEET 1

VIEW AT DATUM E
SCALE 0.1SECTION P4-P4
SCALE 0.1DETAIL E
WING SHIM POCKET
SCALE 0.25SECTION V-V
SCALE 0.25SECTION P5-P5
SCALE 0.1SOME FEATURES NOT SHOWN
FOR CLARITYSECTION P7-P7
SCALE 0.1SOME FEATURES NOT SHOWN
FOR CLARITY

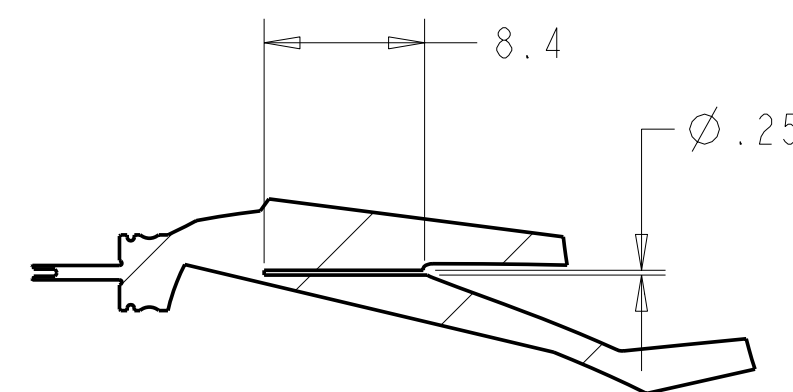
Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-A							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
25	X-10	5700	3	8	11	S	U
RELEASE LEVEL		REV					
WIP		0					

SE141-114

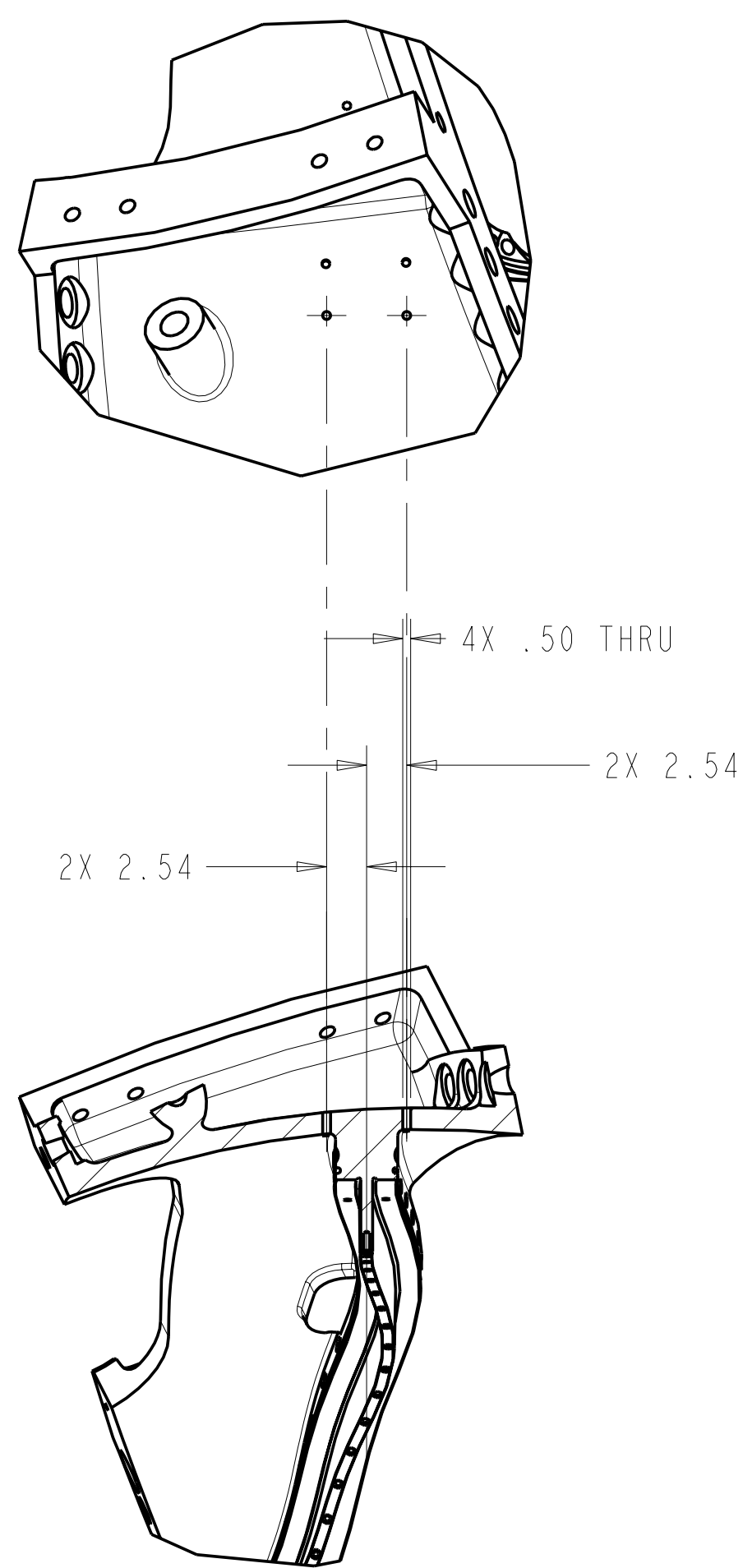
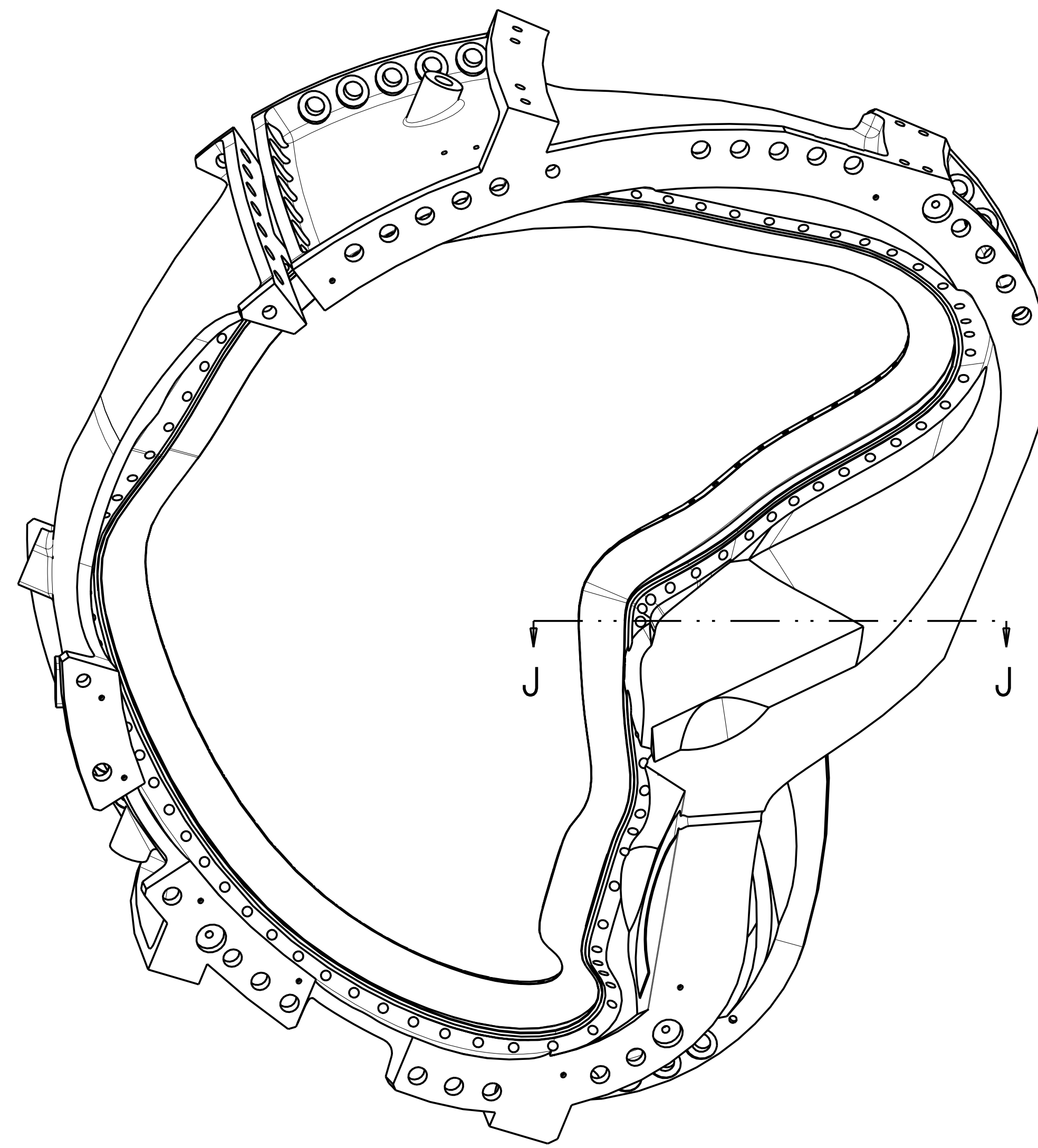
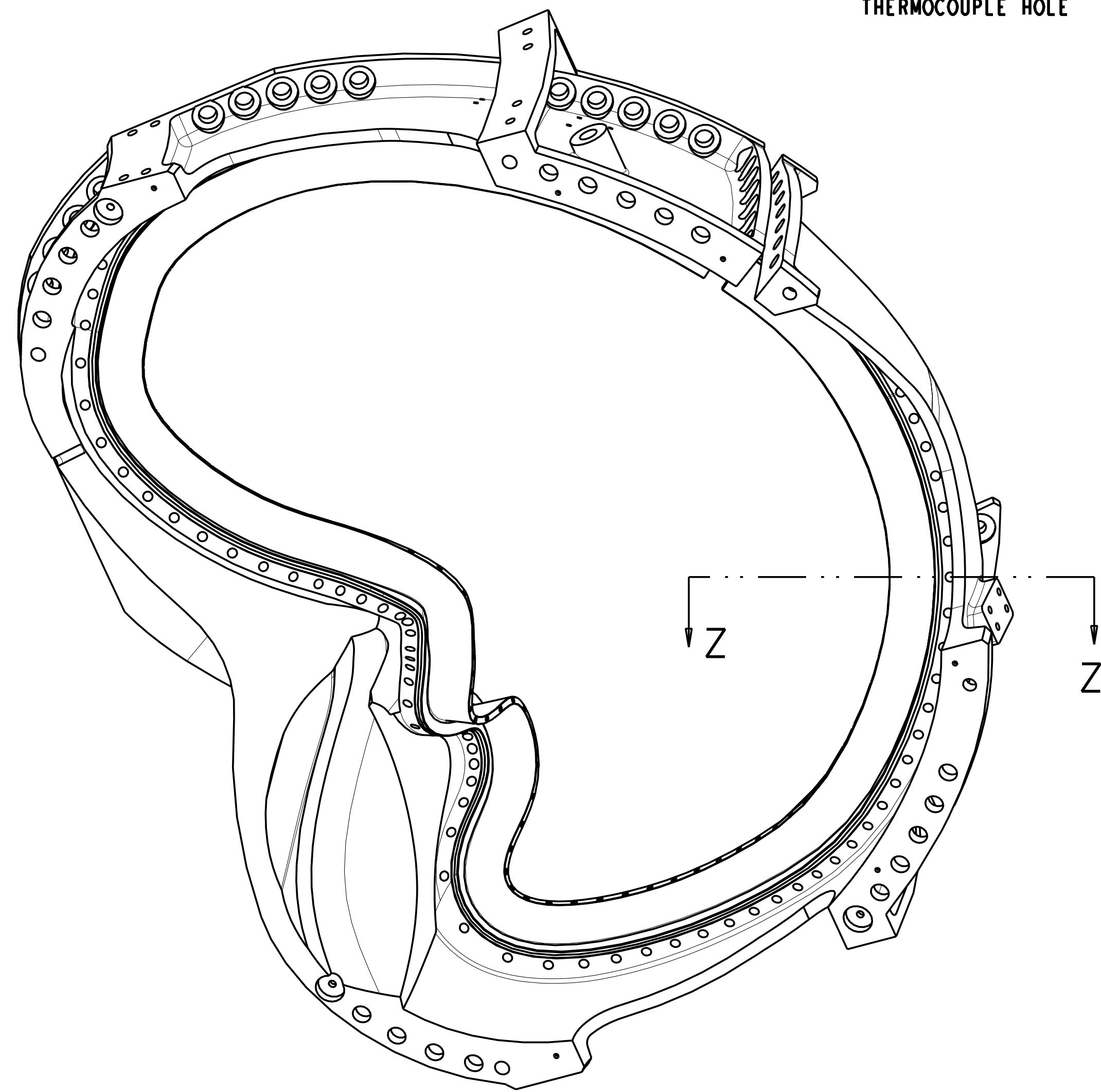
FOR NOTES AND PARTS LIST SEE SHEET 1



SECTION Z-Z
THERMOCOUPLE HOLE

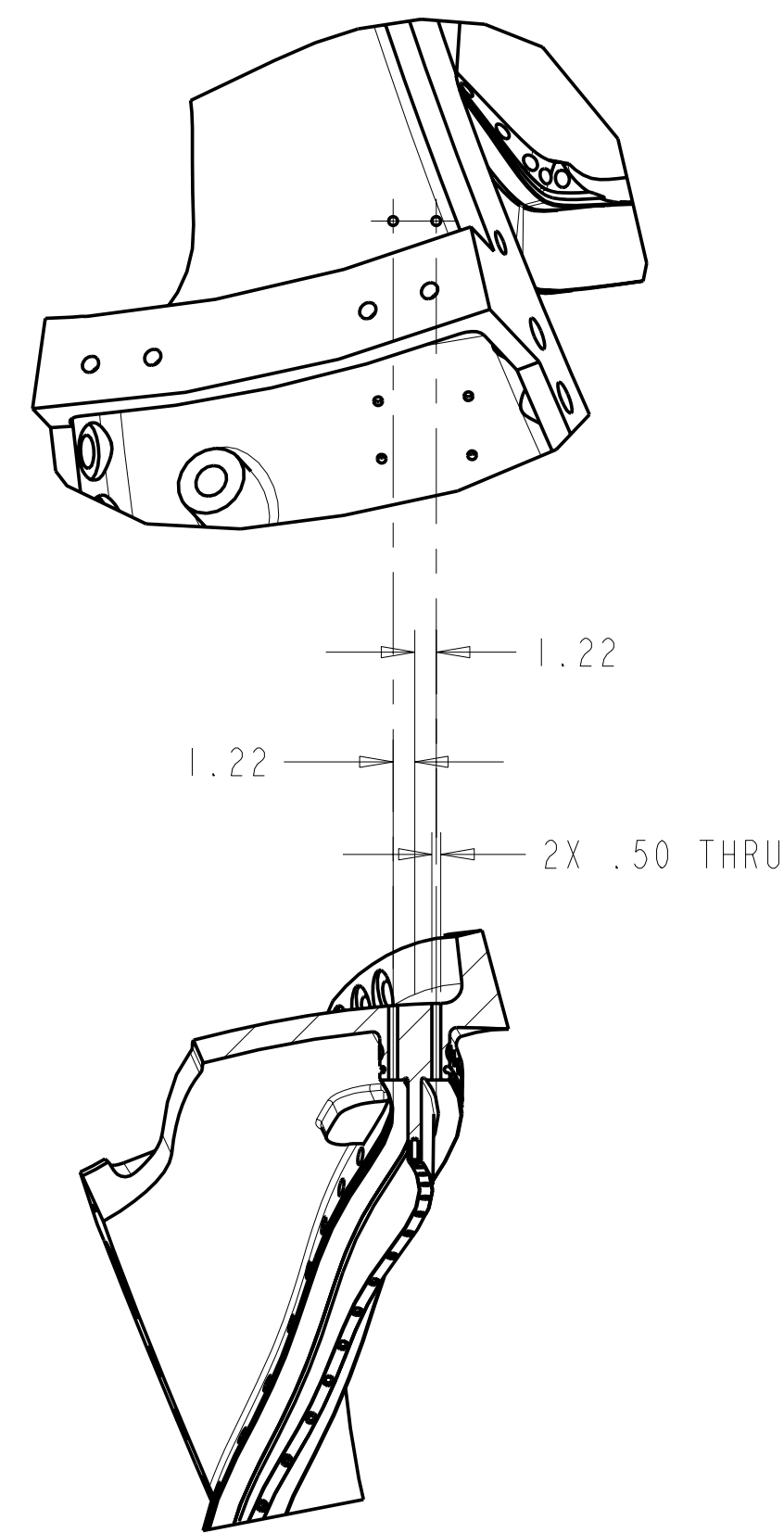
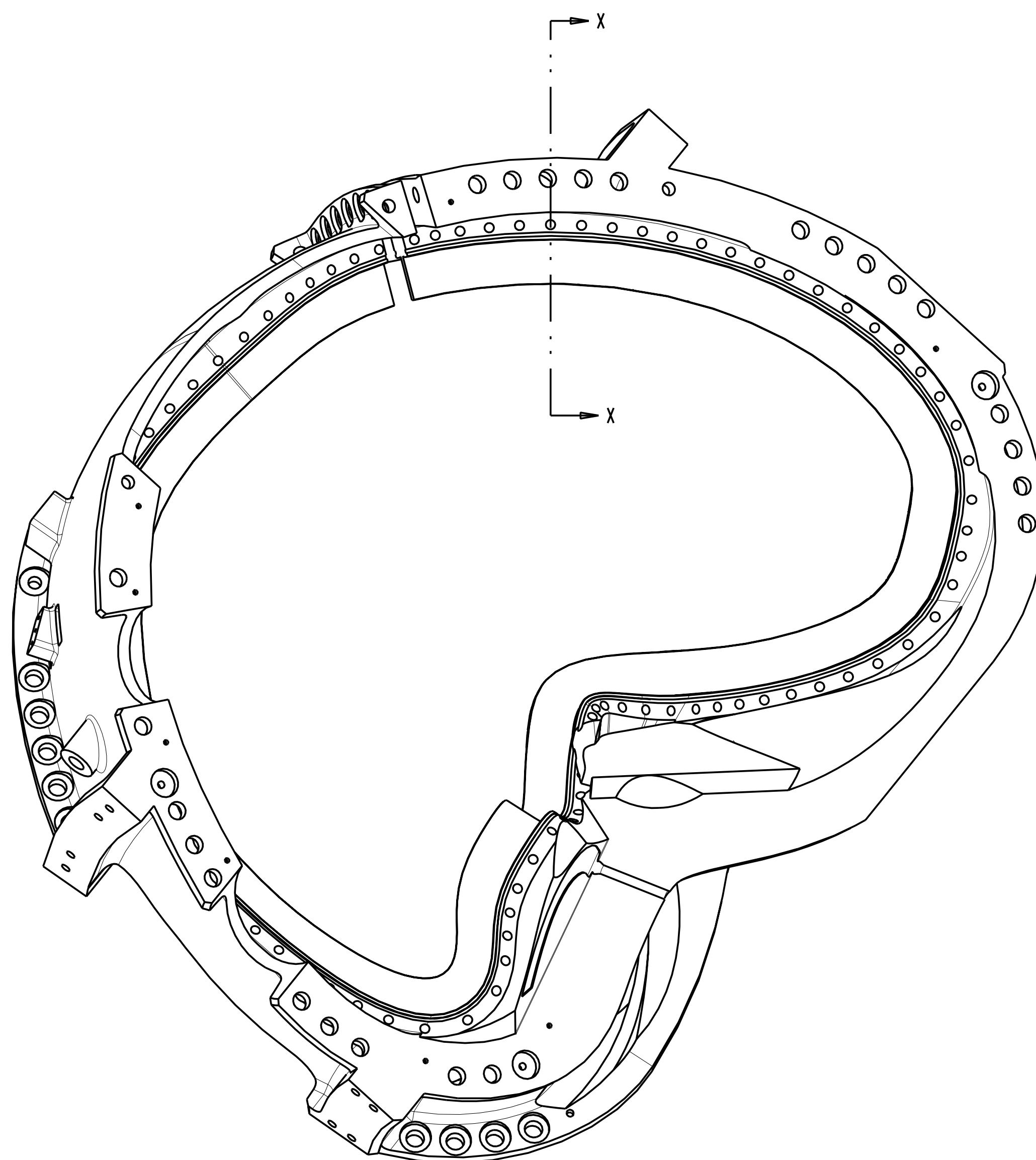


SECTION J-J
THERMOCOUPLE HOLE



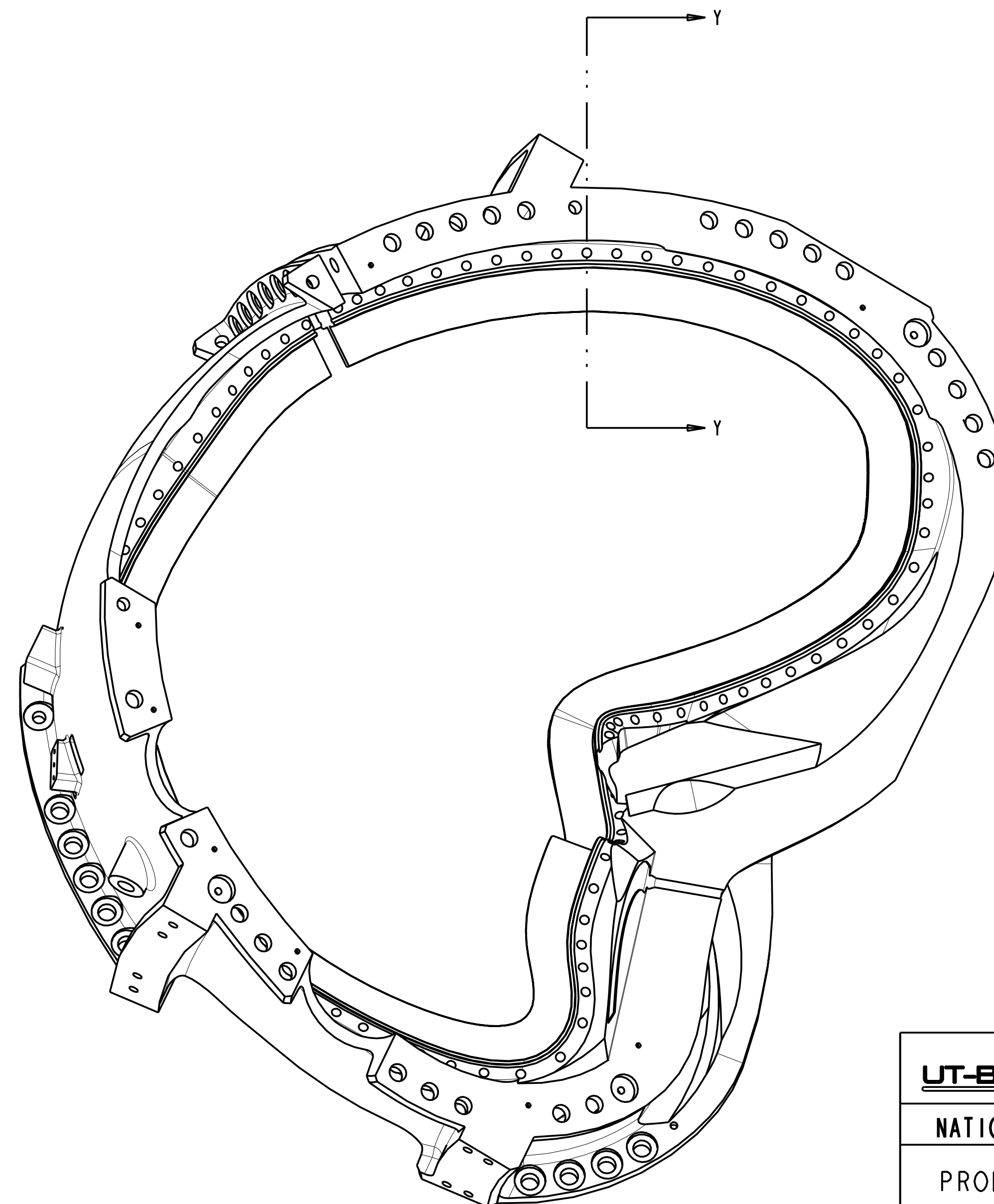
SECTION X-X
COOLING INLET / OUTLET HOLES
TYPICAL 2 PLACES

USE PRO/E MODEL GEOMETRY TO
DETERMINE SECTION ORIENTATION



SECTION Y-Y
VPI BLEED HOLES

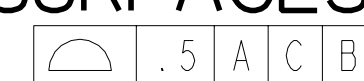
USE PRO/E MODEL GEOMETRY TO
DETERMINE SECTION ORIENTATION



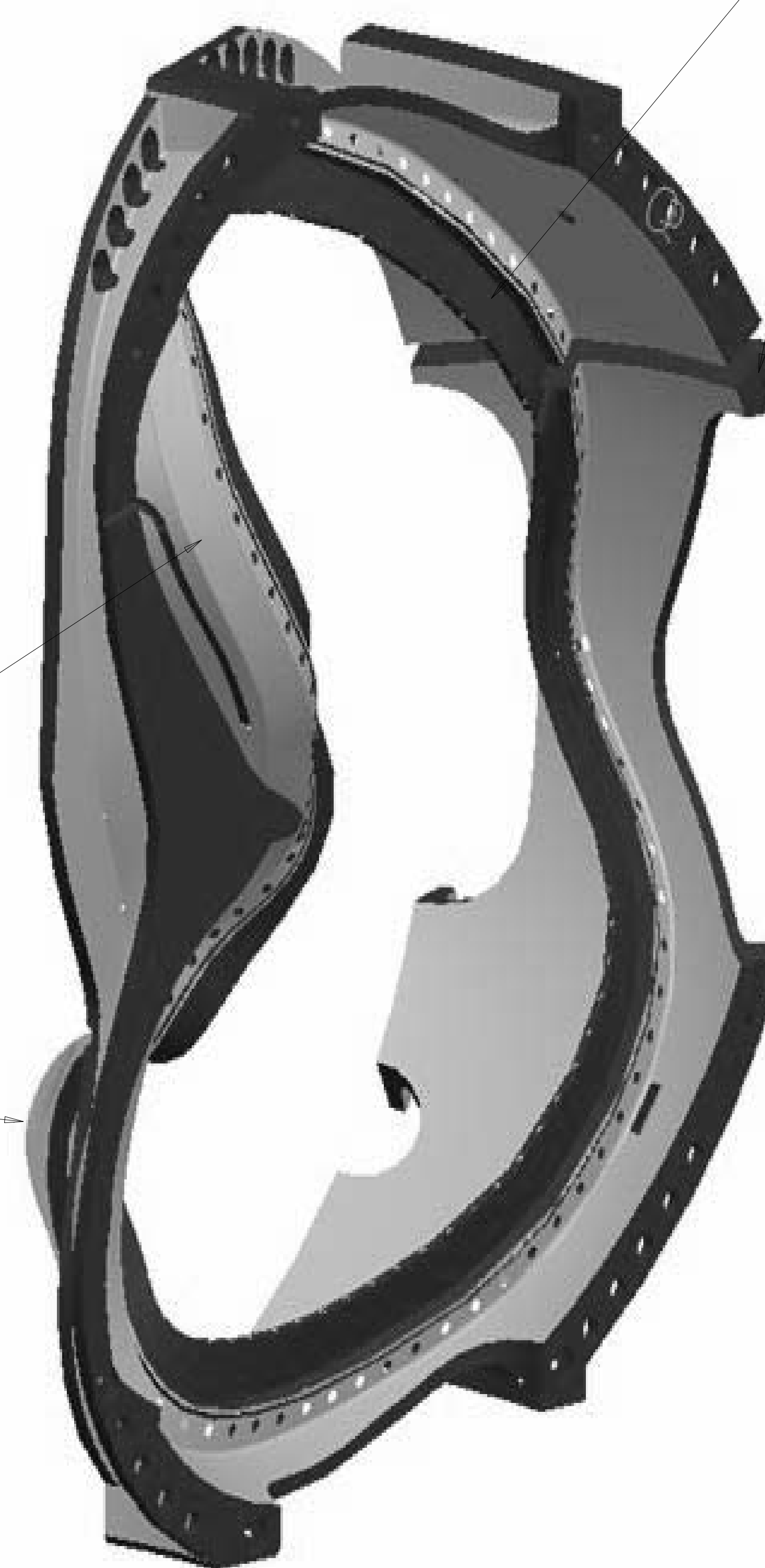
Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-A							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
25	X-10	5700	3	9	11	S	U
RELEASE LEVEL		REV					
WIP		0					

FOR NOTES AND PARTS LIST SEE SHEET 1

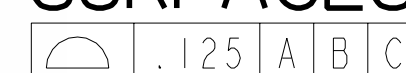
AS CAST SURFACES

ISOMETRIC VIEW
SURFACE COLOR INDICATES PROFILE TOLERANCE

MACHINED SURFACES

ISOMETRIC VIEW
SURFACE COLOR INDICATES PROFILE TOLERANCE

WING SURFACES



Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee							
UT-BATTELLE							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-A							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
25	X-10	5700	3	0	1	S	U
RELEASE LEVEL		REV					
WIP		0					

8

7

6

5

4

3

2

NEXT ASS'Y:

1 FINAL ASS'Y:

TABLE I WINDING CENTER SPLINE
(FILE SE141-114-WC.TXT)

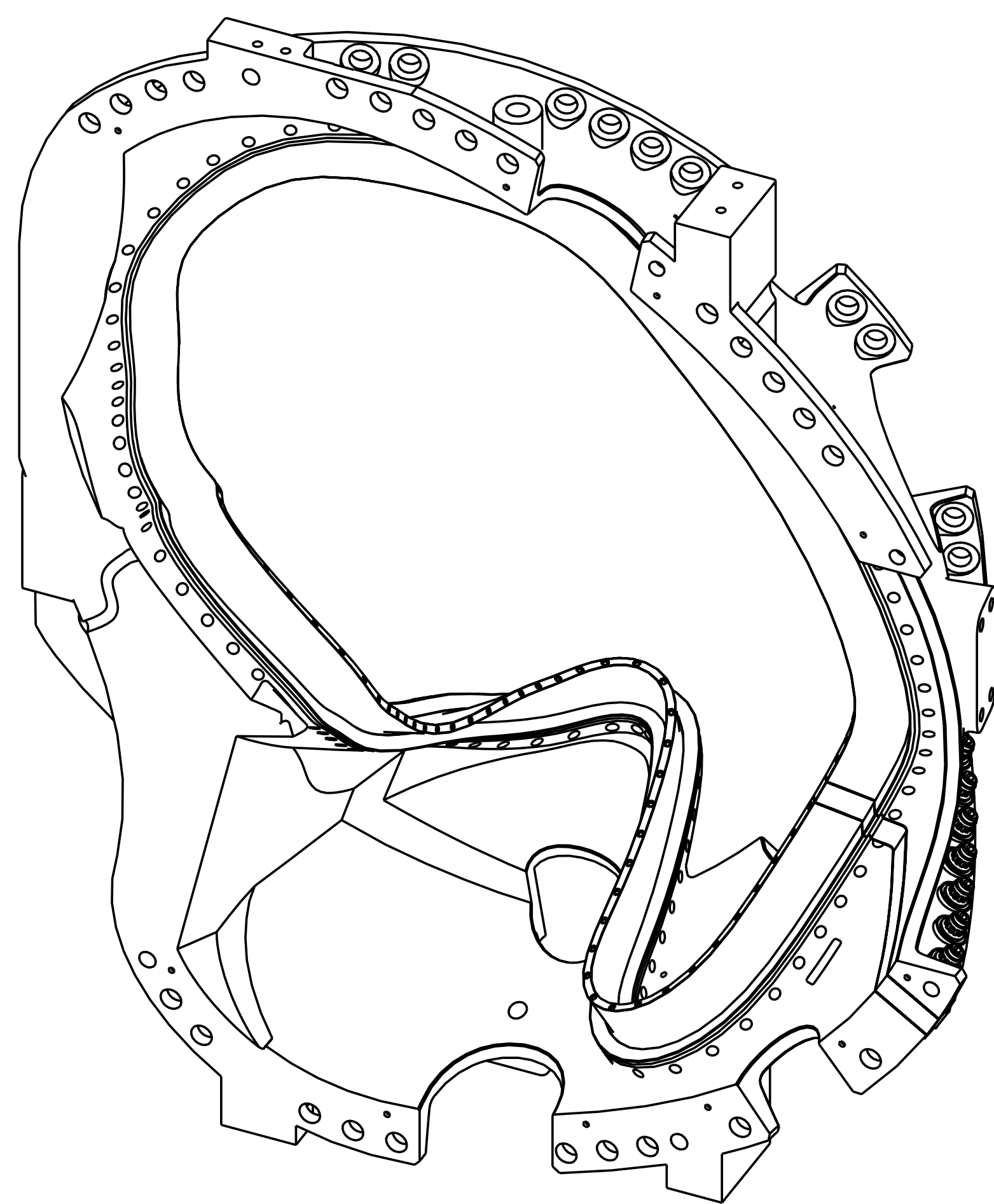
#	X	Y	Z
1	93.704	20.083	0.000
2	93.186	20.519	2.792
3	92.772	20.359	5.631
4	92.411	19.752	8.420
5	91.980	18.928	11.143
6	91.359	18.070	13.819
7	90.485	17.285	16.444
8	89.340	16.628	19.001
9	87.928	16.150	21.461
10	86.261	15.912	23.792
11	84.375	15.934	25.964
12	82.325	16.167	27.969
13	80.158	16.505	29.832
14	77.905	16.828	31.594
15	75.582	17.065	33.276
16	73.192	17.212	34.873
17	70.730	17.308	36.361
18	68.193	17.397	37.715
19	65.580	17.512	38.916
20	62.898	17.668	39.946
21	60.157	17.849	40.806
22	57.371	17.995	41.510
23	54.552	18.014	42.091
24	51.726	17.800	42.582
25	48.934	17.254	43.006
26	46.232	16.334	43.355
27	43.645	15.095	43.586
28	41.140	13.681	43.623
29	38.665	12.234	43.382
30	36.249	10.786	42.800
31	34.052	9.194	41.853
32	32.377	7.280	40.530
33	31.358	5.076	38.993
34	30.569	2.810	37.403
35	29.795	0.777	35.526
36	29.277	-0.833	33.207
37	29.402	-2.032	30.606
38	30.230	-2.953	28.014
39	31.511	-3.679	25.543
40	33.033	-4.202	23.158
41	34.691	-4.481	20.824
42	36.427	-4.464	18.530
43	38.172	-4.076	16.278
44	39.813	-3.218	14.081
45	41.211	-1.864	11.965
46	42.470	-0.303	9.901
47	43.916	1.051	7.816
48	45.581	2.101	5.717
49	47.299	2.943	3.568
50	48.794	3.713	1.238
51	49.453	4.460	-1.436
52	48.785	5.121	-4.136
53	47.556	6.198	-6.496
54	46.340	7.724	-8.611
55	45.082	9.224	-10.719
56	43.678	10.375	-12.949
57	42.246	11.314	-15.262
58	41.177	12.649	-17.558
59	40.918	14.793	-19.421
60	41.242	17.426	-20.513
61	41.544	20.191	-21.244
62	41.445	22.600	-22.749
63	41.139	23.705	-25.337
64	40.840	23.136	-28.105
65	40.376	21.385	-30.321
66	39.551	19.145	-31.916
67	38.434	16.821	-33.195
68	37.307	14.646	-34.696
69	36.731	12.854	-36.839
70	37.542	11.788	-39.331
71	39.637	11.463	-41.240
72	42.252	11.515	-42.423
73	45.038	11.685	-43.118
74	47.886	11.849	-43.490
75	50.758	11.951	-43.630
76	53.636	11.976	-43.582
77	56.505	11.936	-43.359
78	59.353	11.842	-42.963
79	62.170	11.666	-42.399
80	64.938	11.351	-41.679
81	67.639	10.861	-40.818
82	70.259	10.218	-39.816
83	72.798	9.505	-38.664
84	75.263	8.822	-37.345
85	77.655	8.246	-35.853
86	79.966	7.812	-34.195
87	82.189	7.521	-32.391
88	84.320	7.361	-30.464
89	86.356	7.322	-28.430
90	88.287	7.414	-26.299
91	90.094	7.670	-24.074
92	91.741	8.139	-21.762
93	93.169	8.867	-19.375
94	94.305	9.895	-16.941
95	95.074	11.227	-14.512
96	95.448	12.801	-12.135
97	95.465	14.506	-9.819
98	95.213	16.214	-7.517
99	94.793	17.787	-5.144
100	94.269	19.118	-2.648
101	93.704	20.083	0.000

TABLE II X-VECTOR SPLINE
(FILE SE141-114-XV.TXT)

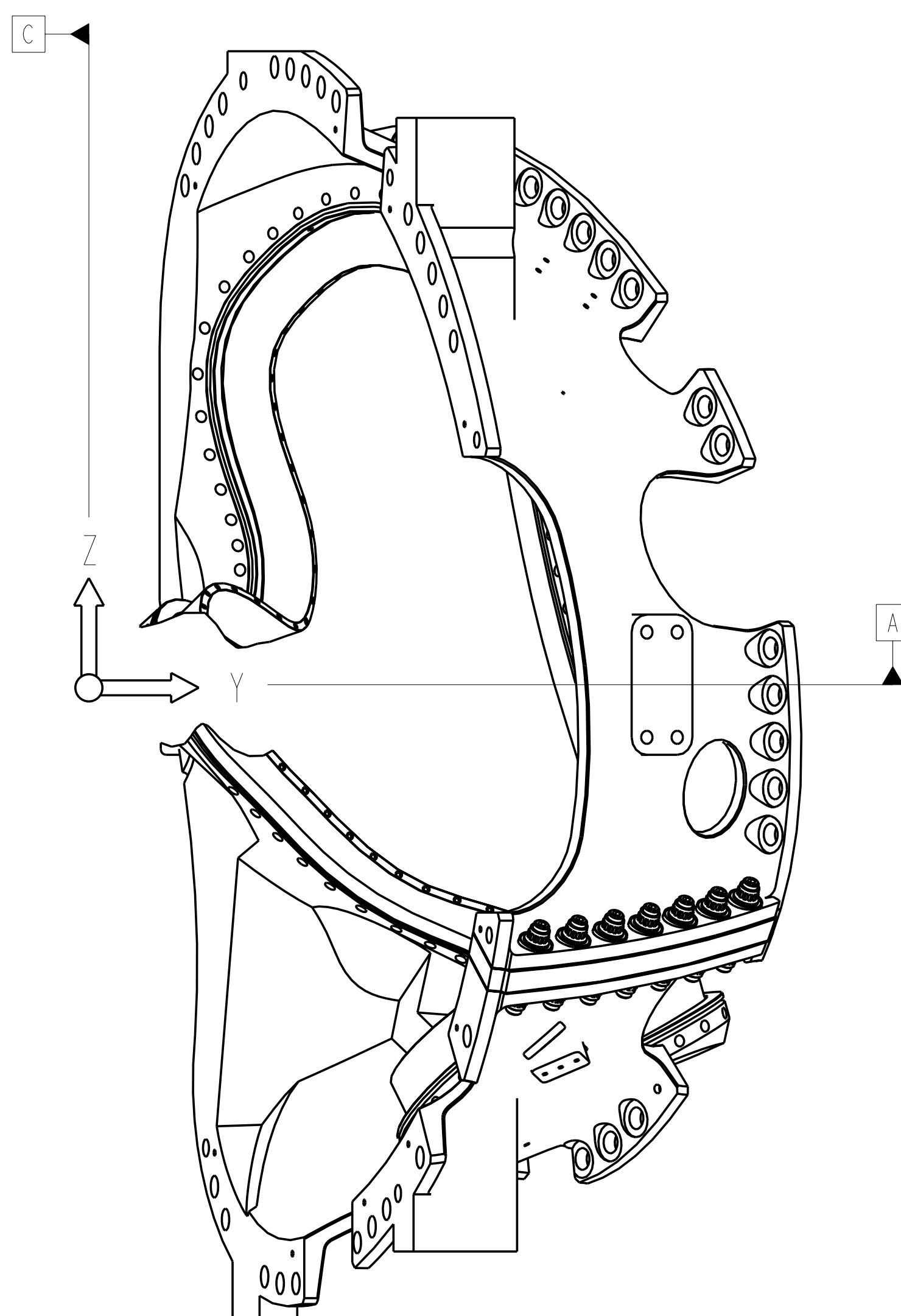
#	X	Y	Z
1	90.227	18.098	0.000
2	89.756	18.455	2.581
3	89.381	18.256	5.197
4	89.044	17.665	7.760
5	88.623	16.899	10.265
6	88.013	16.122	12.726
7	87.159	15.424	15.139
8	86.053	14.856	17.481
9	84.700	14.465	19.728
10	83.118	14.302	21.849
11	81.346	14.375	23.820
12	79.433	14.626	25.641
13	77.420	14.954	27.338
14	75.332	15.257	28.947
15	73.182	15.477	30.486
16	70.970	15.618	31.945
17	68.693	15.715	33.303
18	66.347	15.807	34.538
19	63.933	15.922	35.631
20	61.456	16.075	36.569
21	58.926	16.246	37.351
22	56.355	16.378	37.991
23	53.756	16.382	38.523
24	51.156	16.144	38.987
25	48.601	15.570	39.402
26	46.149	14.626	39.754
27	43.820	13.381	39.993
28	41.566	11.983	40.038
29	39.341	10.560	39.801
30	37.219	9.084	39.215
31	35.546	7.303	38.222
32	34.664	5.179	36.910
33	33.996	3.016	35.526
34	33.343	1.057	33.867
35	33.048	-0.463	31.733
36	33.669	-2.500	29.386
37	34.862	-2.253	27.142
38	36.293	-2.780	24.972
39	37.841	-3.053	22.837
40	39.449	-3.024	20.728
41	41.030	-2.584	18.648
42	42.470	-1.659	16.627
43	43.677	-0.303	14.695
44	44.777	1.205	12.809
45	46.095	2.448	10.879
46	47.728	3.096	8.897
47	49.464	3.368	6.910
48	51.127	3.542	4.851
49	52.492	3.882	2.607
50	53.305	4.392	0.141
51	53.375	4.944	-2.443
52	52.722	5.473	-4.953
53	51.613	6.092	-7.280
54	50.384	7.039	-9.436
55	49.180	8.148	-11.518
56	47.903	9.134	-13.624
57	46.547	9.919	-15.765
58	45.268	10.858	-17.885
59	44.561	12.594	-19.711
60	44.736	15.028	-20.701
61	45.198	17.612	-21.075
62	45.501	20.214	-21.468
63	45.464	22.561	-22.650
64	45.196	23.921	-24.869
65	44.910	23.883	-27.475
66	44.587	22.666	-29.791
67	44.076	20.820	-31.617
68	43.308	18.690	-32.993
69	42.315	16.477	-34.066
70	41.230	14.317	-35.157
71	40.530	12.362	-36.760
72	42.301	11.550	-38.345
73	44.818	11.415	-39.156
74	47.436	11.365	-39.575
75	50.082	11.302	-39.750
76	52.733	11.201	-39.742
77	55.378	11.074	-39.572
78	58.007	10.940	-39.244
79	60.612	10.789	-38.760
80	63.175	10.532	-38.129
81	65.680	10.115	-37.363
82	68.111	9.545	-36.467
83	70.465	8.892	-35.432
84	72.750	8.249	-34.246
85	74.967	7.695	-32.899
86	77.112	7.267	-31.398
87	79.177	6.973	-29.760
88	81.160	6.800	-28.005
89	83.056	6.736	-26.151
90	84.862	6.787	-24.208
91	86.561	6.977	-22.180
92	88.124	7.349	-20.070
93	89.502	7.949	-17.885
94	90.623	8.824	-15.648
95	91.405	9.996	-13.404
96	91.800	11.419	-11.203
97	91.841	12.984	-9.063
98	91.617	14.559	-6.940
99	91.231	16.010	-4.753
100	90.747	17.230	-2.449
101	90.227	18.098	0.000

TABLE III SPH SEAT CENTER SIDE-A
(FILE SE141-114-SA.TXT)

#	X	Y	Z
1	96.446	18.529	12.430
2	95.656	17.509	15.592
3	94.524	16.578	18.745
4	93.042	15.816	21.824
5	90.485	15.192	25.800
6	88.788	15.104	27.901
7	86.708	15.226	30.111
8	84.262	15.549	32.360
9	81.790	15.916	34.380
10	79.285	16.208	36.258
11	76.696	16.394	38.050
12	73.986	16.503	39.756
13	71.144	16.589	41.343
14	68.177	16.697	42.774
15	65.107	16.856	44.014
16	61.980	17.054	45.042
17	58.857	17.229	45.864
18	55.784	17.279	46.516
19	52.787	17.110	47.050
20	44.108	14.459	48.158
21	41.115	12.901	48.201
22	38.005	11.243	47.881
23	34.940	9.551	47.106
24	32.116	7.574	45.800
25	30.046	5.114	43.994
26	28.881	2.692	42.220
27	27.818	0.132	40.209
28	26.691	-2.426	37.324
29	26.136	-4.521	33.548
30	26.682	-5.984	29.707
31	28.005	-6.997	26.372
32	29.692	-7.714	23.368
33	31.595	-8.155	20.501
34	33.649	-8.266	17.686
35	35.830	-7.982	14.905
36	38.059	-7.168	12.158
37	40.034	-5.712	9.535
38	41.524	-4.079	7.315
39	42.786	-2.757	5.319
40	43.897	-1.455	3.238
41	44.934	-0.093	0.970
42	45.650	1.123	-0.981
43	45.750	1.736	-2.047
44	45.172	2.262	-3.602
45	37.805	9.970	-14.457
46	36.497	12.156	-18.267
47	36.591	15.457	-21.329
48	37.271	18.489	-22.904
49	37.610	20.010	-23.818
50	37.582	20.660	-24.601
51	37.424	20.810	-25.797
52	37.181	20.298	-27.006
53	36.700	19.171	-28.129
54	35.735	17.406	-29.317
55	34.211	14.873	-31.070
56	32.727	11.895	-34.407
57	33.444	9.418	-39.650
58	36.884	8.688	-43.842
59	40.570	8.985	-45.968
60	44.053	9.391	-47.045
61	47.371	9.805	-47.628
62	50.613	10.106	-47.884
63	53.838	10.281	-47.894
64	57.070	10.336	-47.677
65	60.275	10.272	-47.236
66	63.396	10.068	-46.592
67	66.413	9.697	-45.783
68	69.347	9.128	-44.814
69	72.237	8.388	-43.664
70	75.111	7.575	-42.299
71	77.957	6.813	-40



ISOMETRIC VIEW
SCALE 0.10

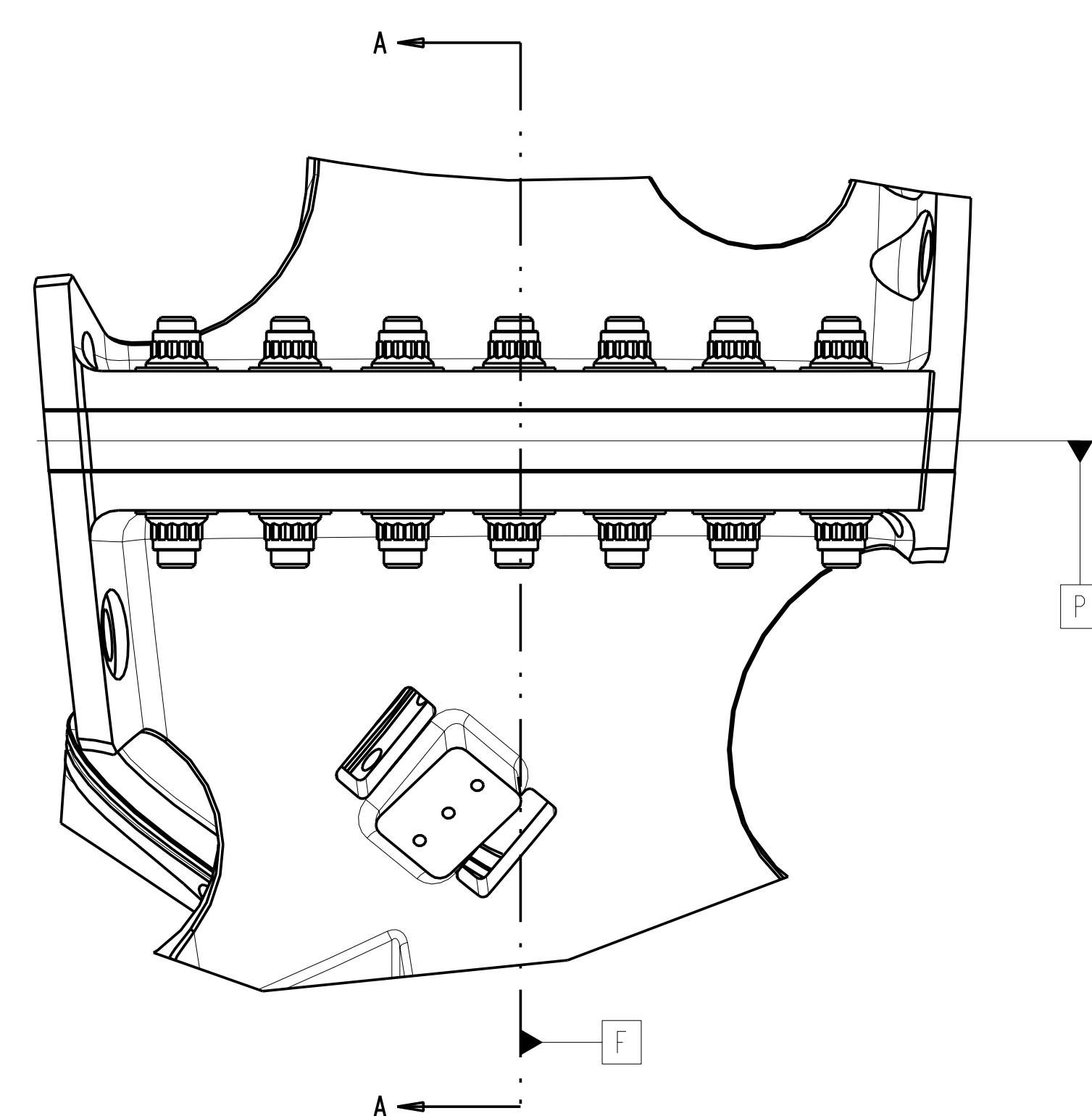


① SCALE 0.10

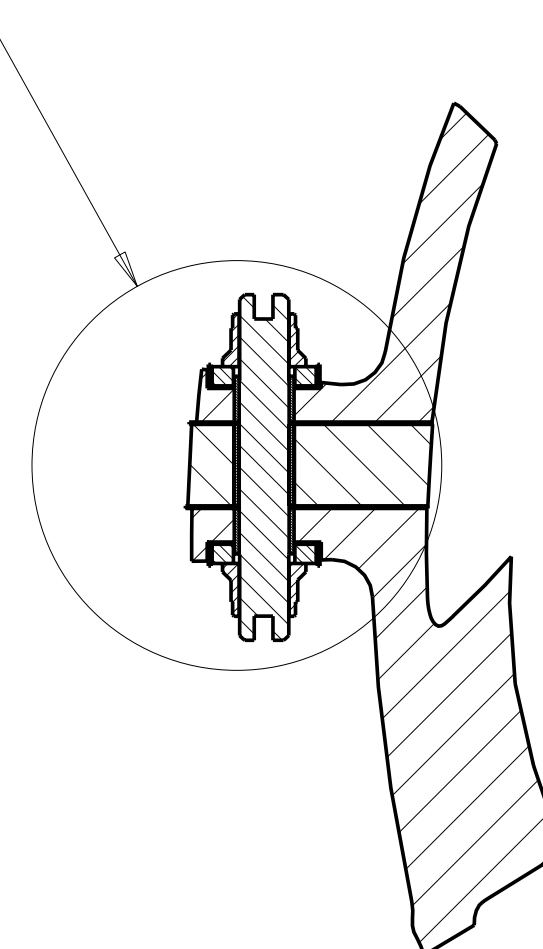
	I		SEI41-079	FLAT WASHER			9
	I		SEI41-060	NUT, 12PT HEX 1.375-6UNC-2B			8
	I		SEI41-038	INSULATING WASHER			7
	7		SEI41-036	STUD, 1.375-6UNC-2A X 9 LG			6
	I		-5	MCWF INSULATING SLEEVE TYPE-B	GICR	NEMA LI I - 1998	5
	2		-4	INSULATING SHEET TYPE-B	GICR	--	4
	I		SEI41-058	POL BREAK SHIM ASSEMBLY TYPE-B			3
	I		SEI41-115	PRODUCTION WINDING FORM TYPE-B			2
AR	X		-I	MOD COIL WINDING FORM ASSEMBLY TYPE-B			1
SEE 14D-102	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION		MATERIAL	SPECIFICATION	FIND NO
			NEXT ASSEMBLY		PARTS LIST		

[illegible]

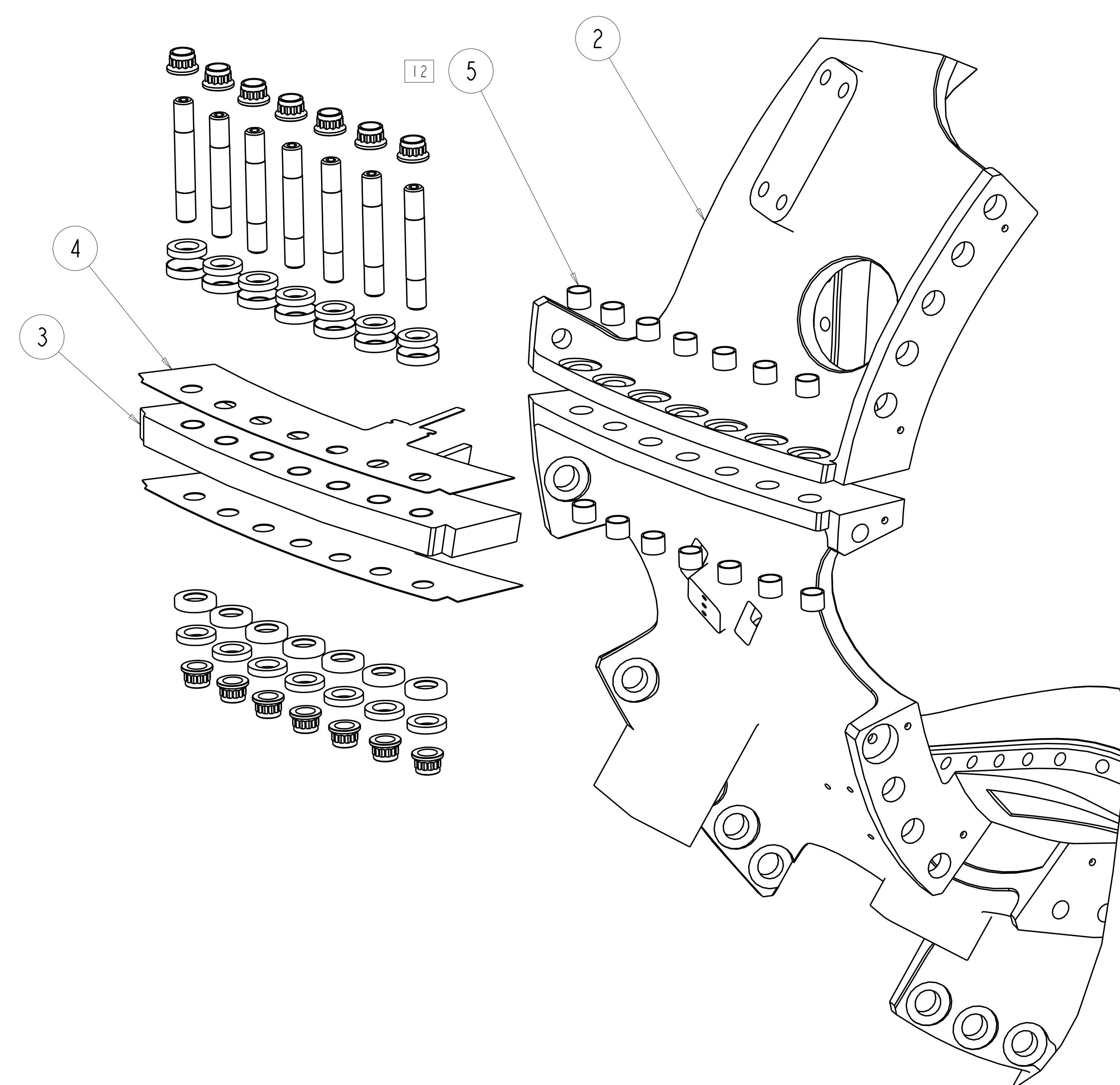
FOR NOTES AND PARTS LIST SEE SHEET 1



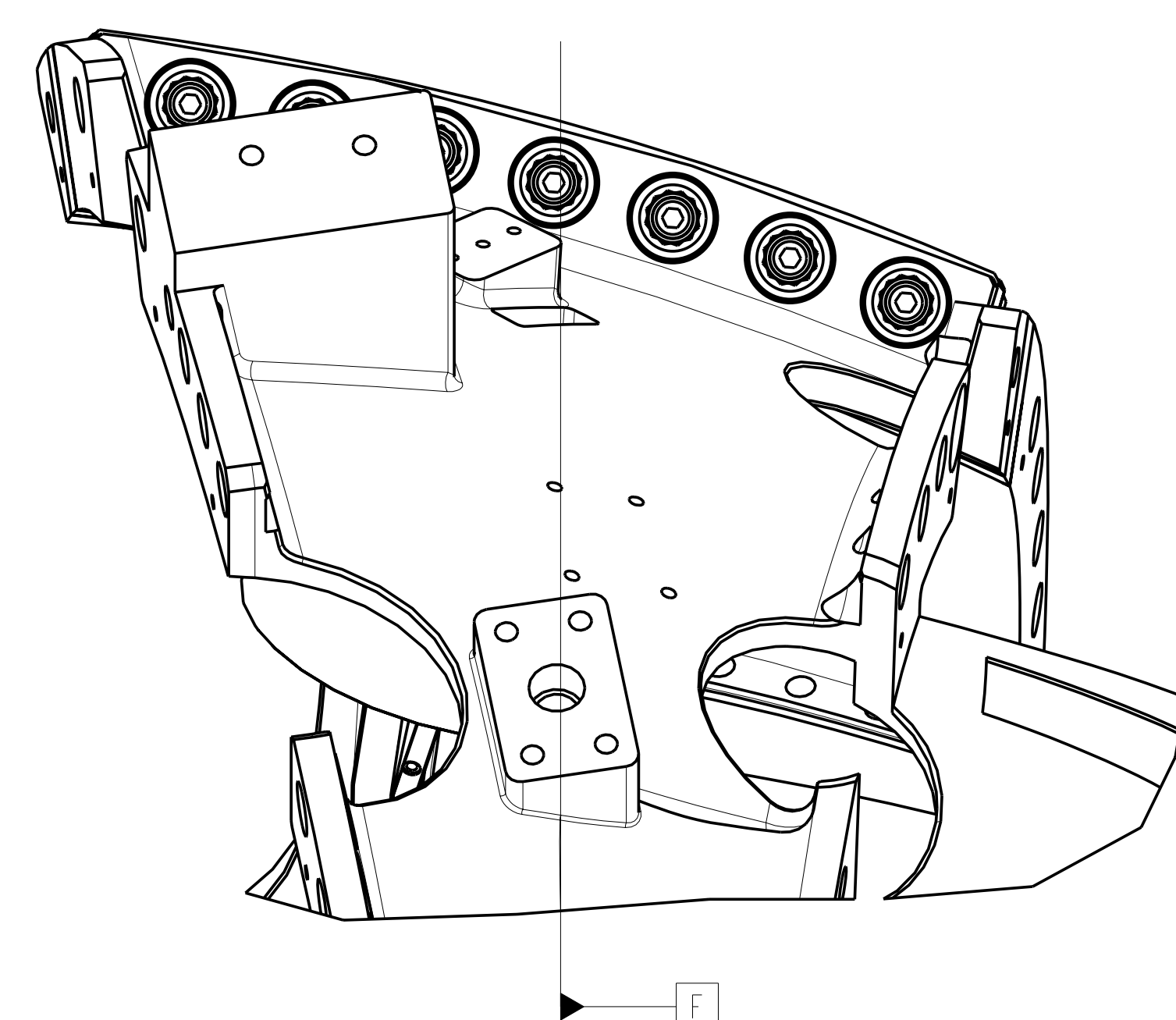
SEE DETAIL X



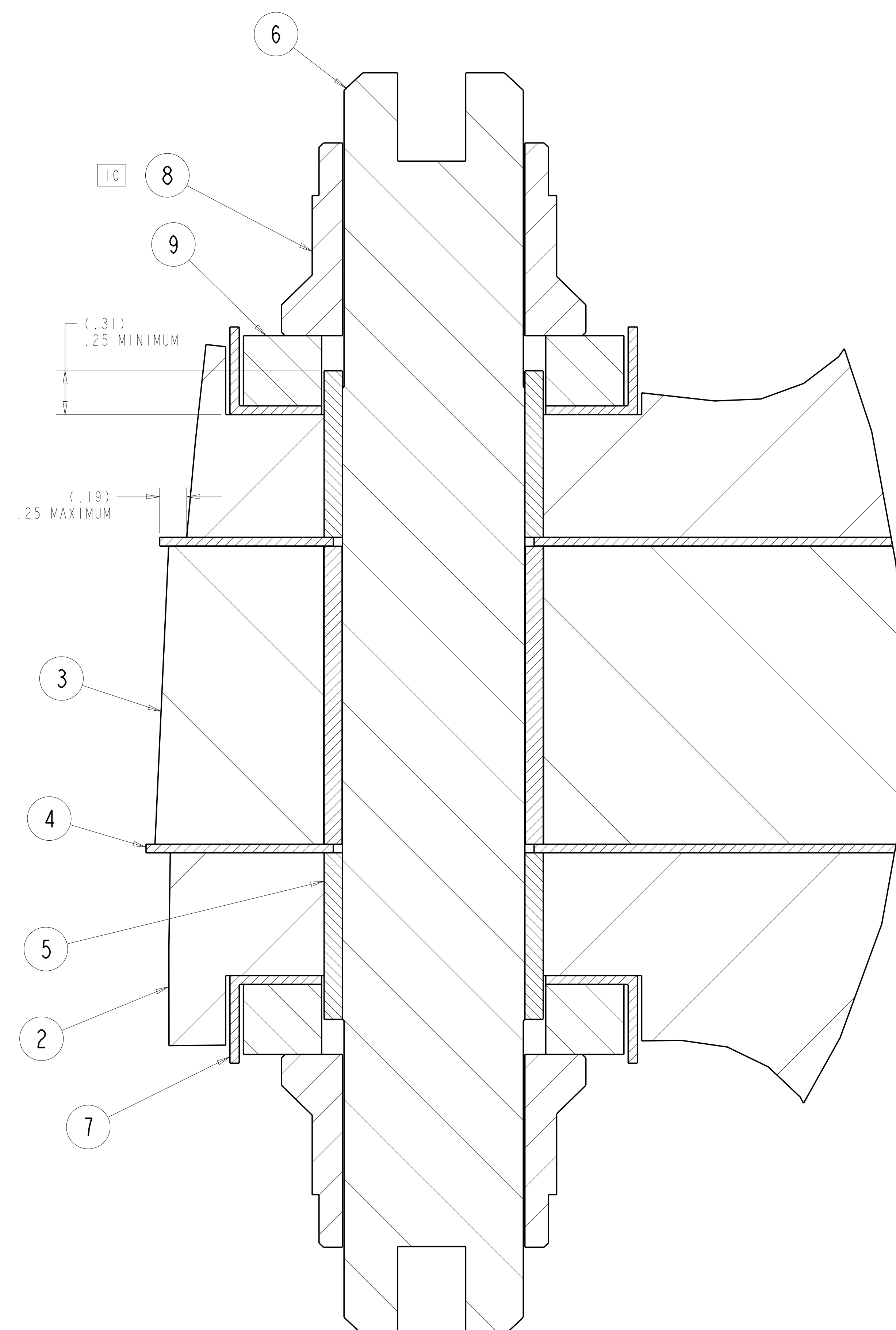
SECTION A-A
SCALE 0.20



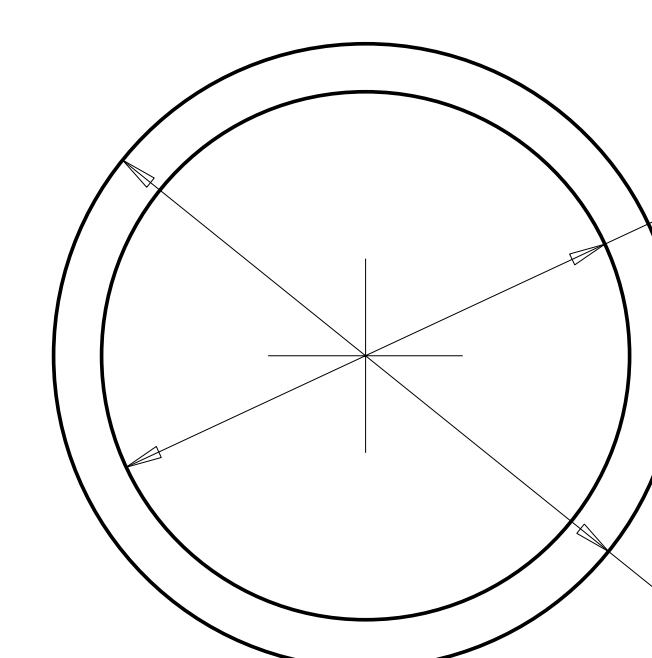
① EXPLODED VIEW
SCALE 0.20



POLOIDAL BREAK DETAIL

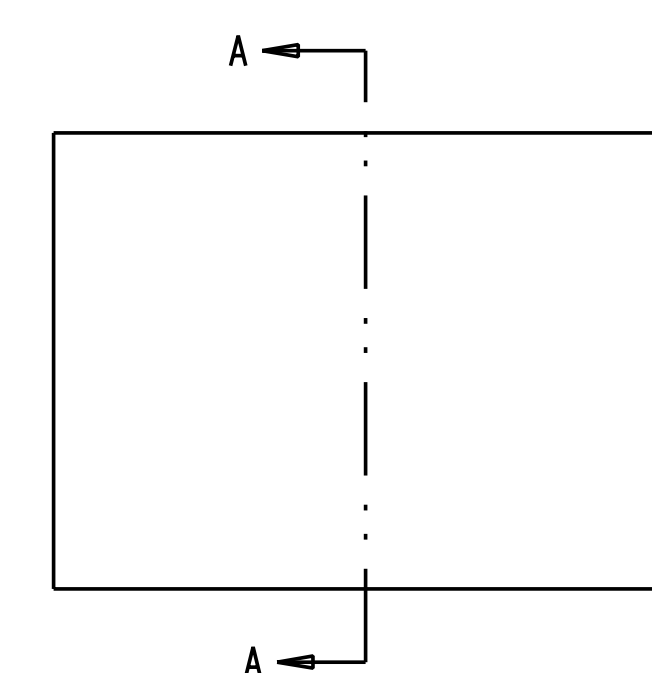


DETAIL X
SCALE 2' 00"



Ø 1.38 REAM AT ASSEMBLY FOR
.001 TO .002 DIA CLEARANCE
WITH ITEM 7

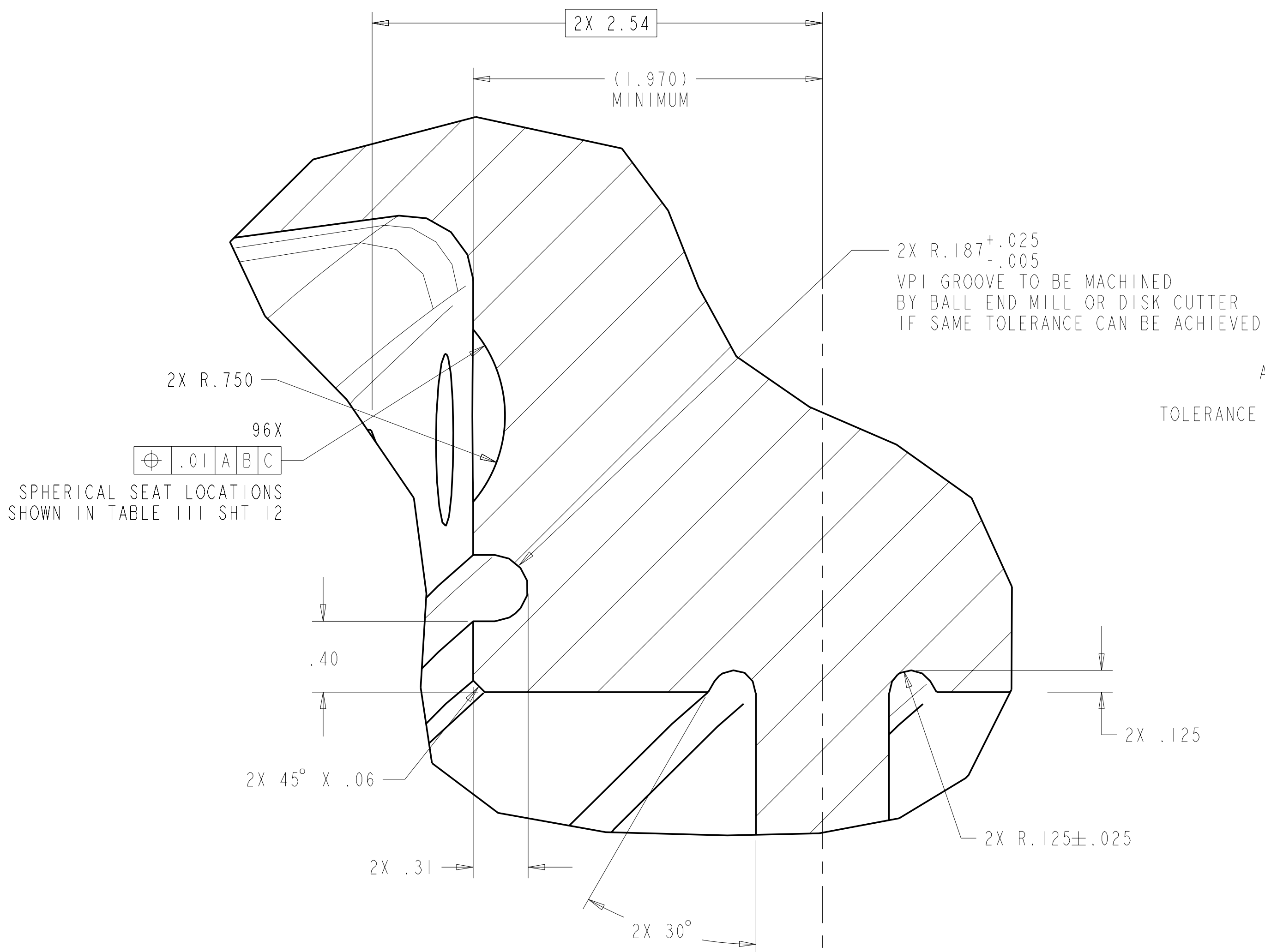
— $\varnothing 1.63$ OD TO MATCH HOLE
DIA MINUS .001 TO .002 FOR
CLEARANCE FIT



(1.19) STARTING DIMENSION
FINAL TO MATCH OVERLAP
SHOWN IN DETAIL-B

5 SECTION A-A
SCALE 2.00

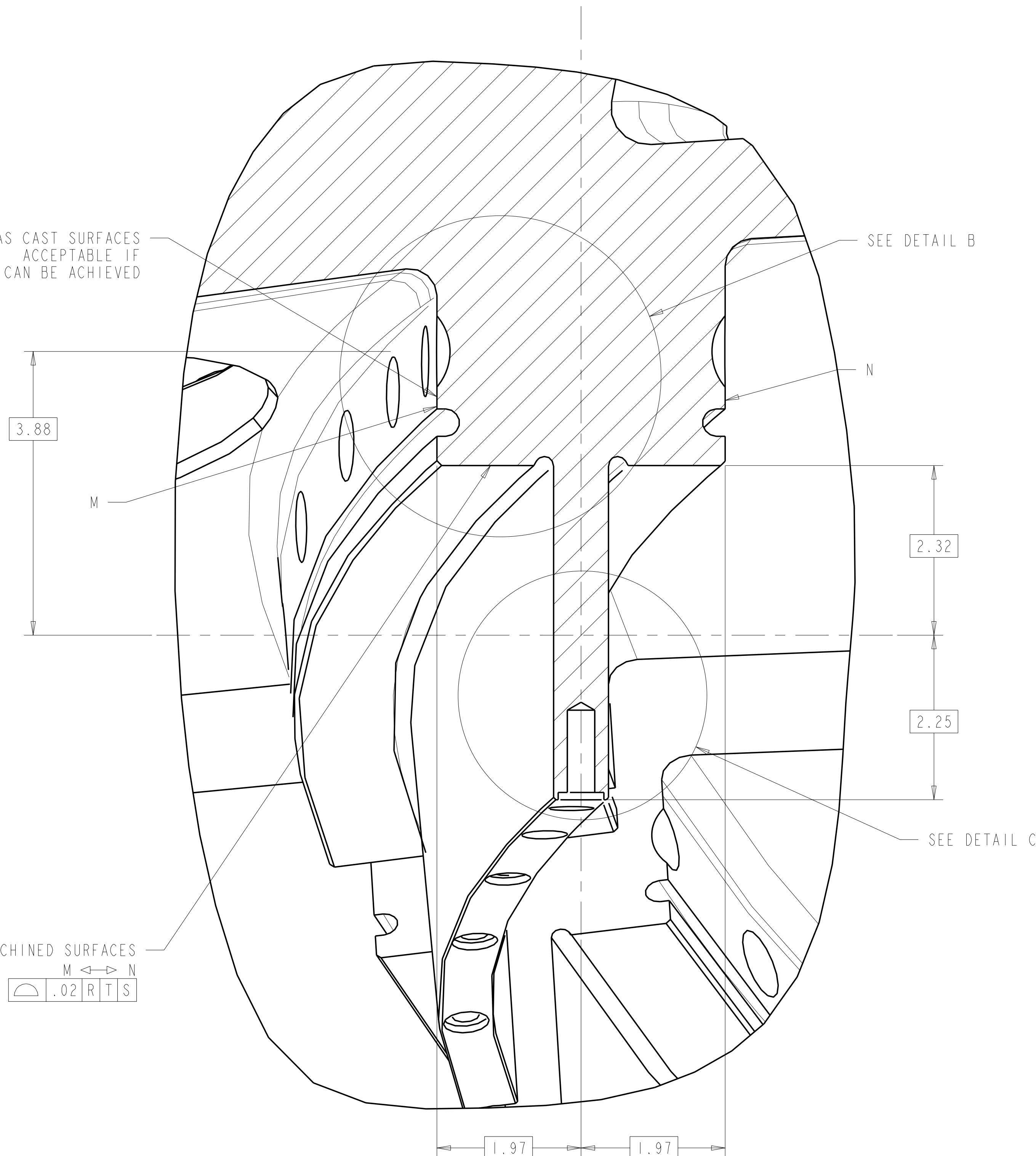
FOR NOTES AND PARTS LIST SEE SHEET 1



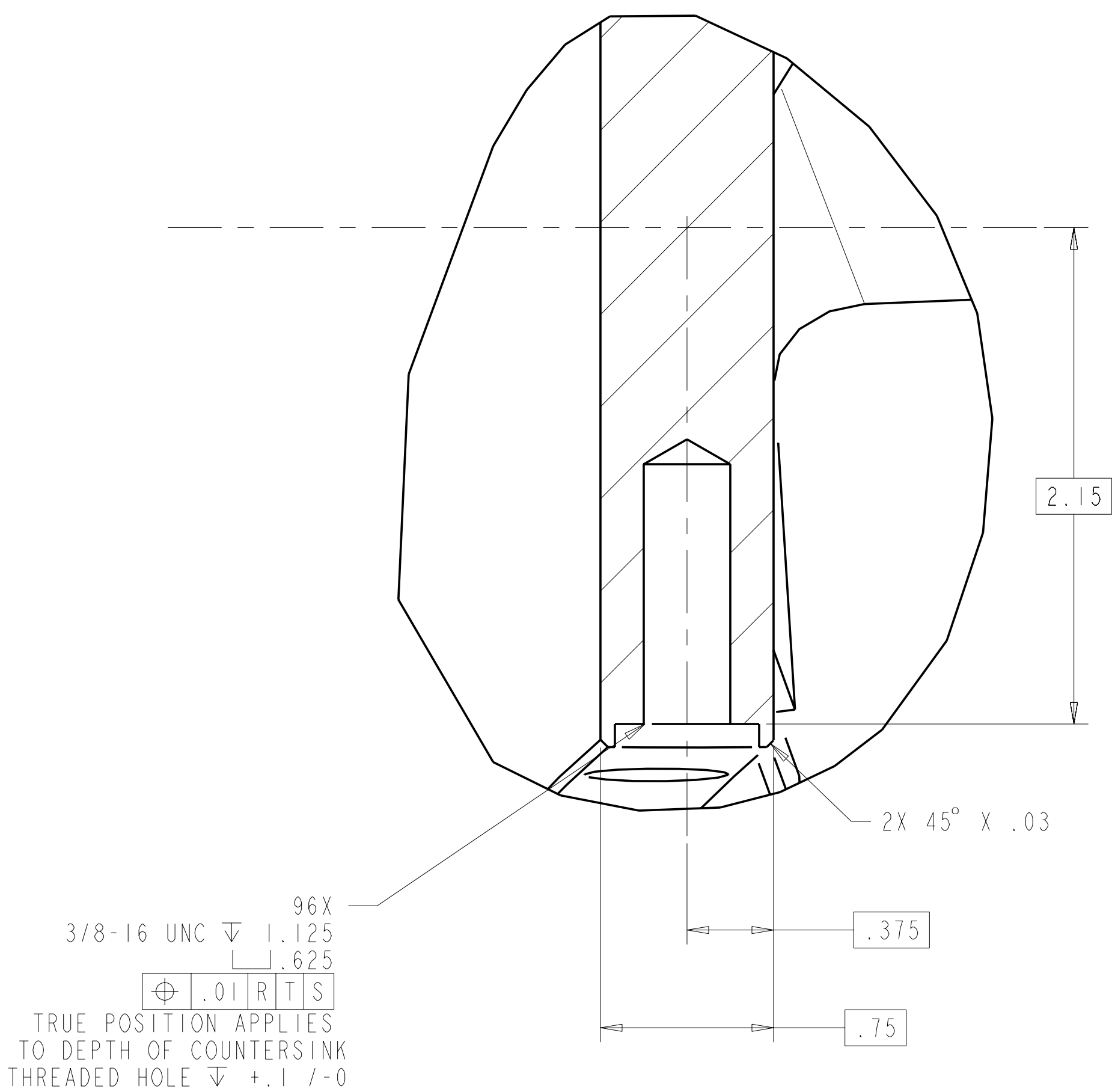
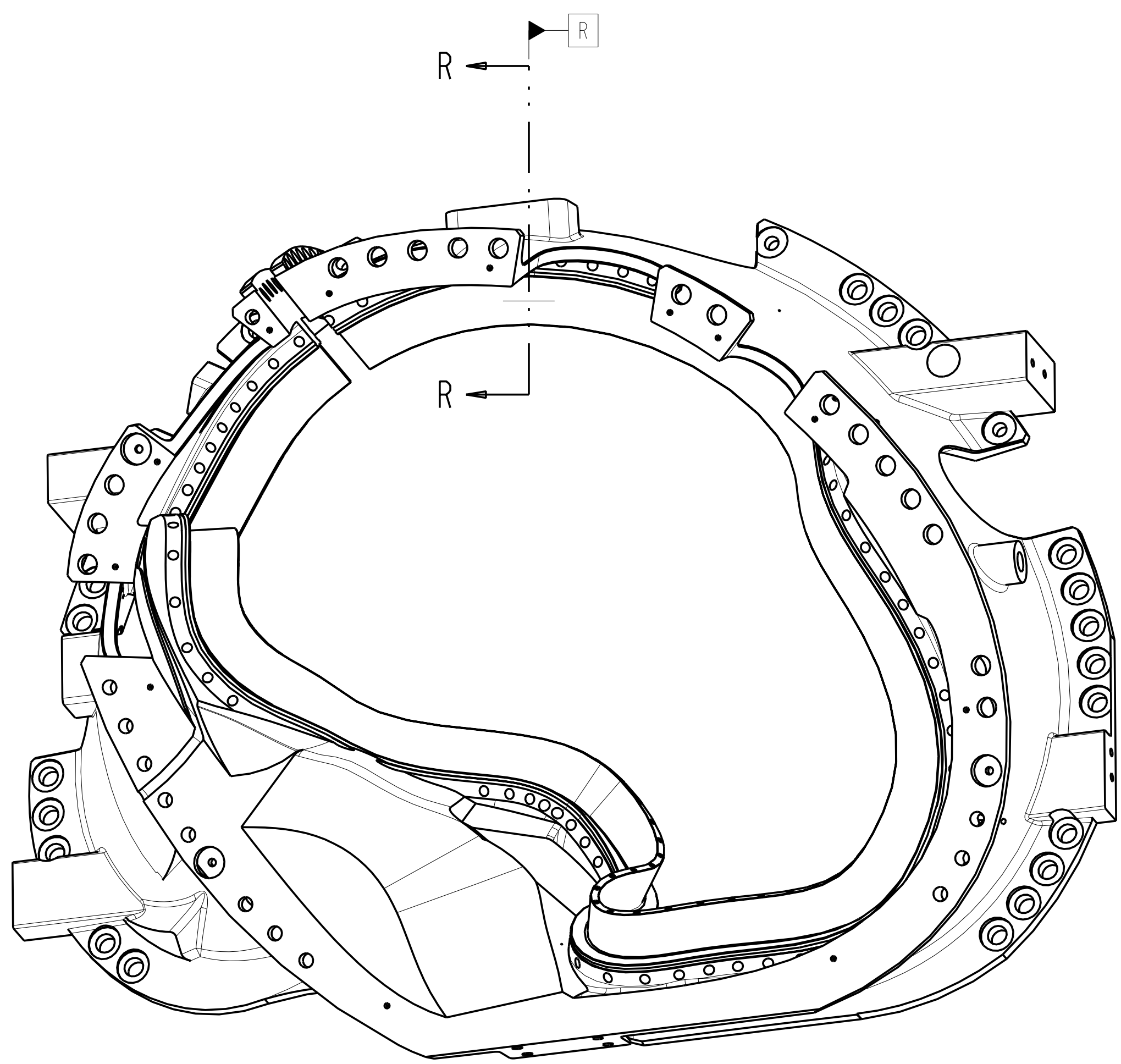
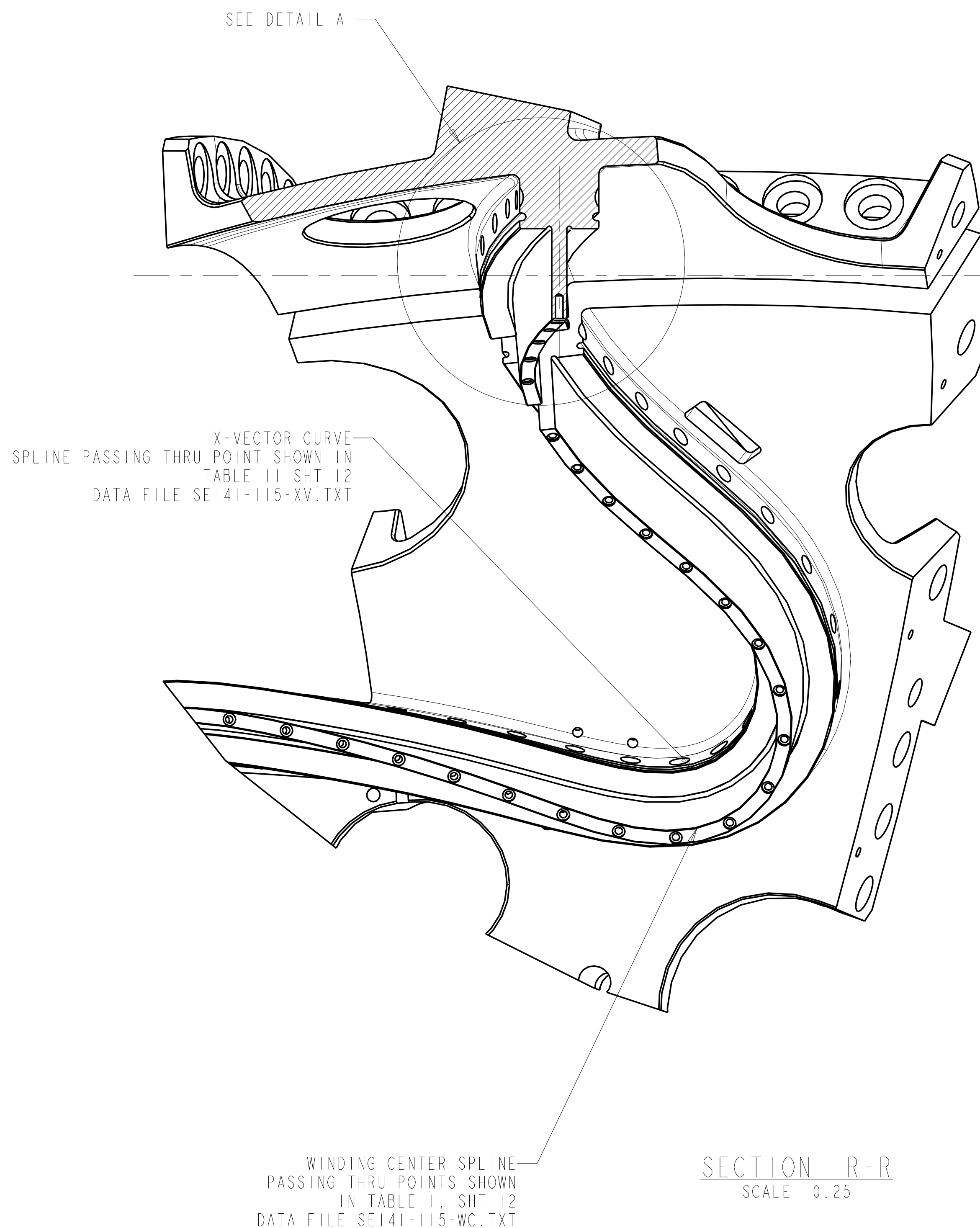
DETAIL B
SCALE 2.00

AS CAST SURFACES ACCEPTABLE IF TOLERANCE CAN BE ACHIEVED

6 MACHINED SURFACES
M ↔ N
|.02|RT|S



DETAIL A
SCALE 1.00
TYPICAL FOR ALL POINTS ALONG WINDING CENTER

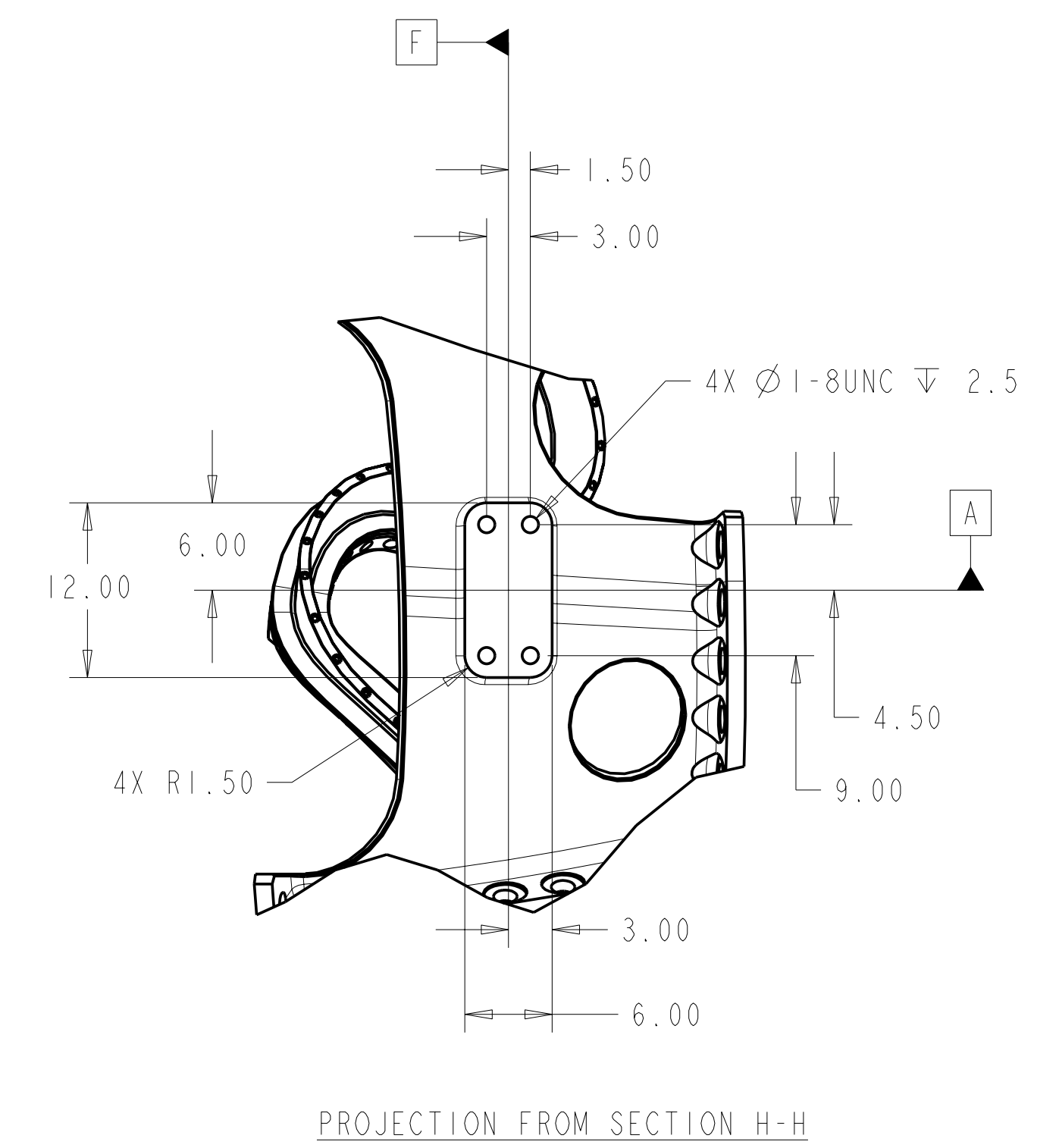
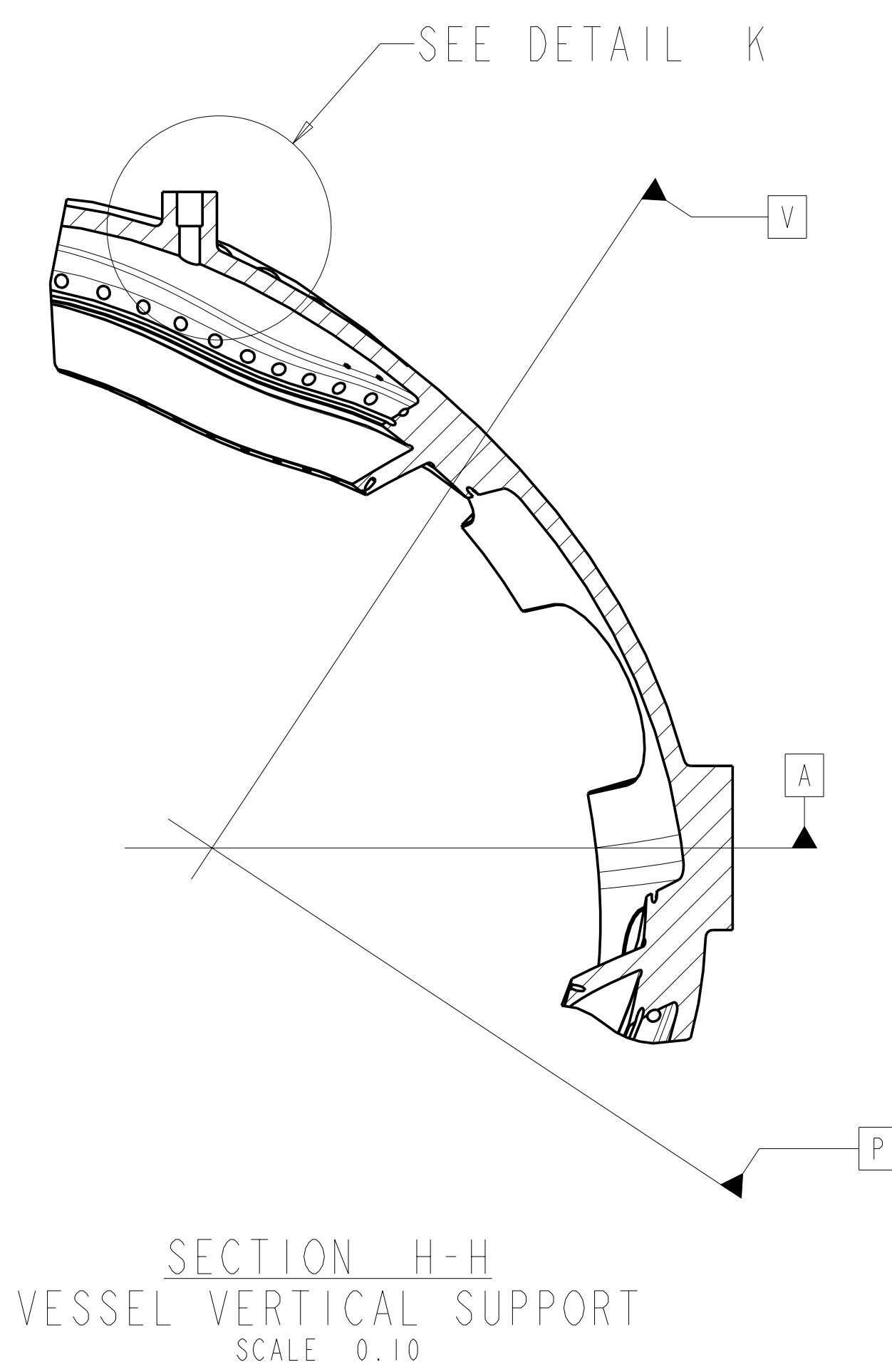
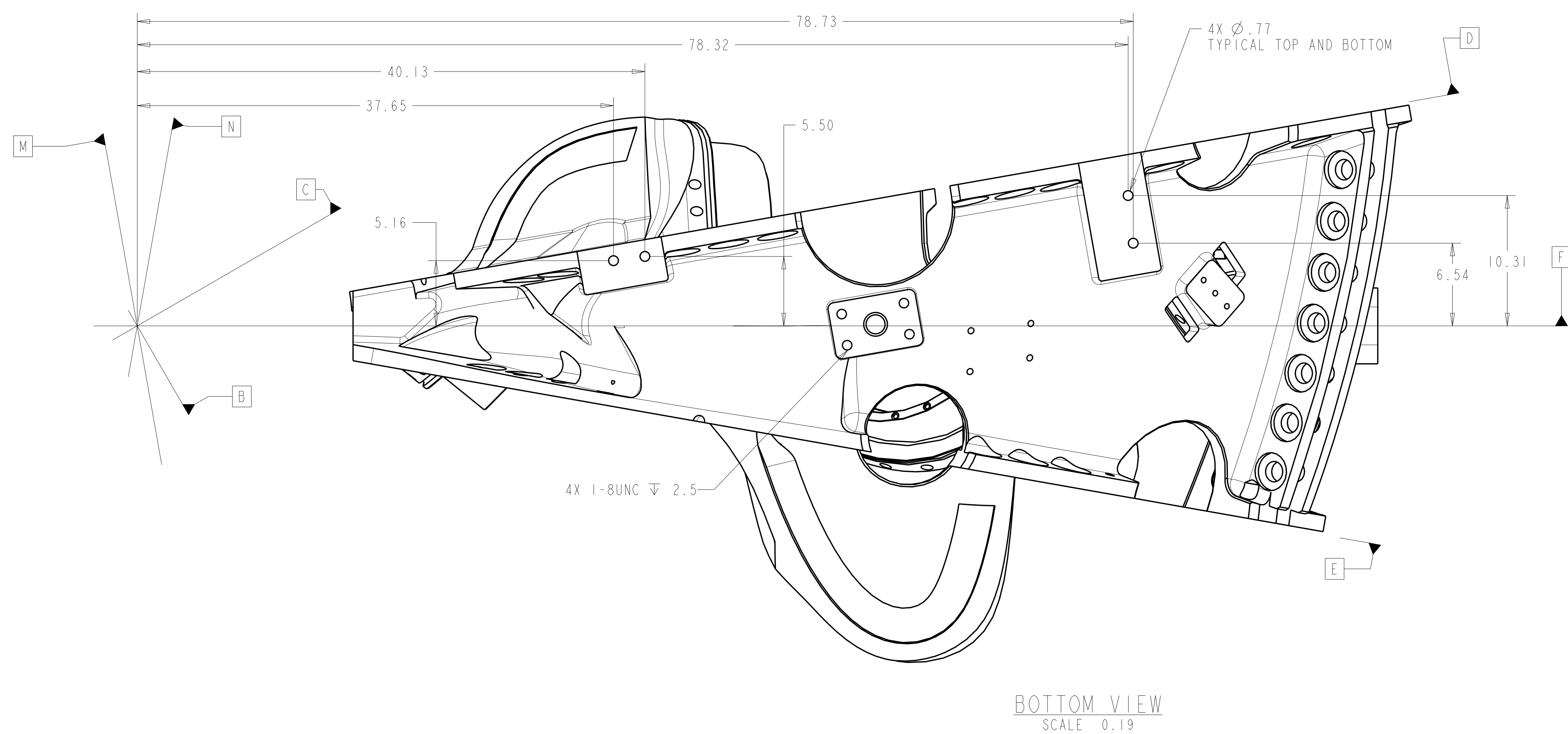
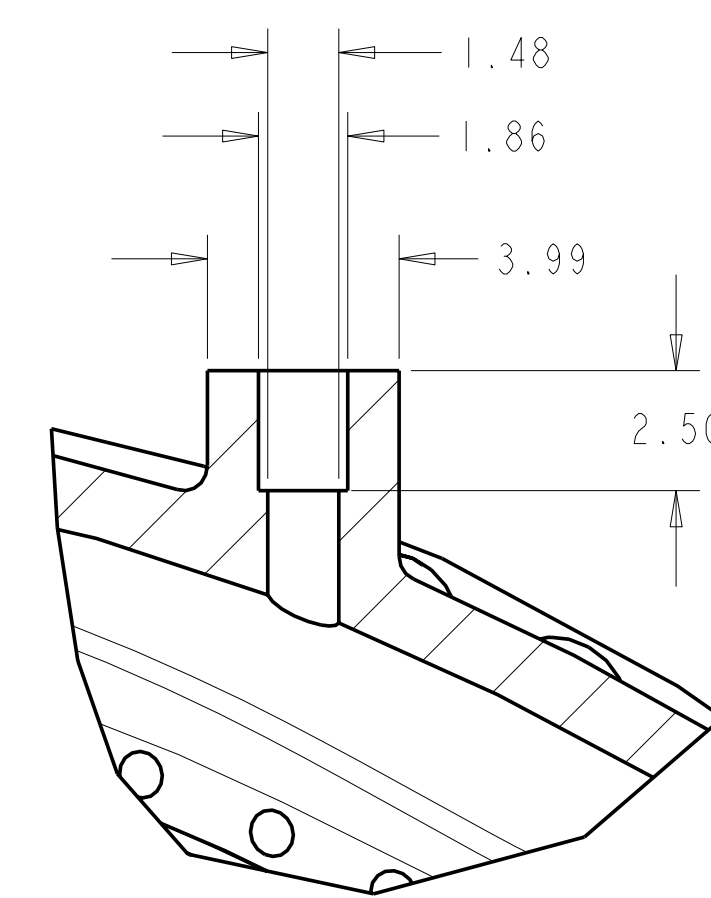
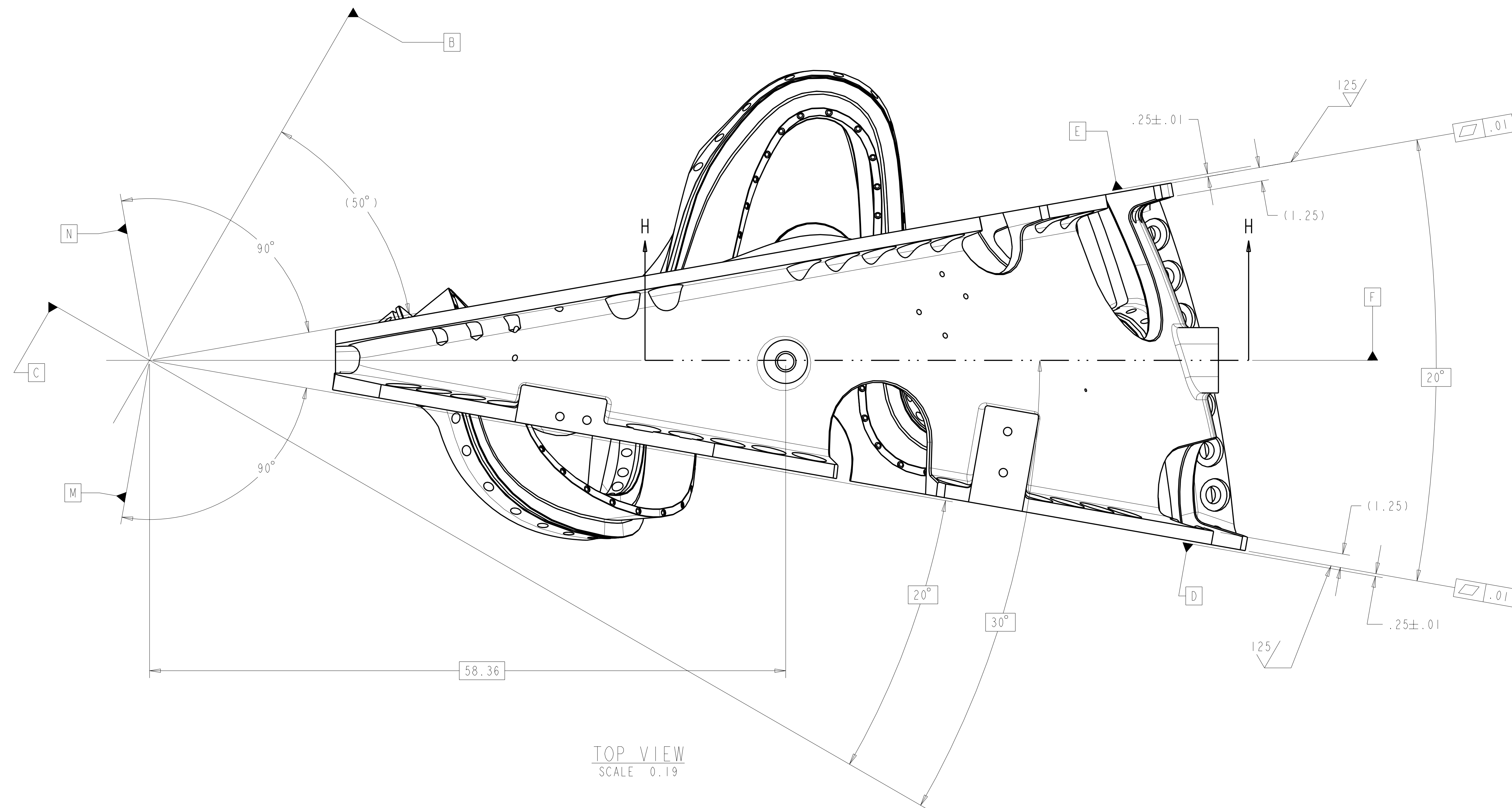


DETAIL C
SCALE 2.00

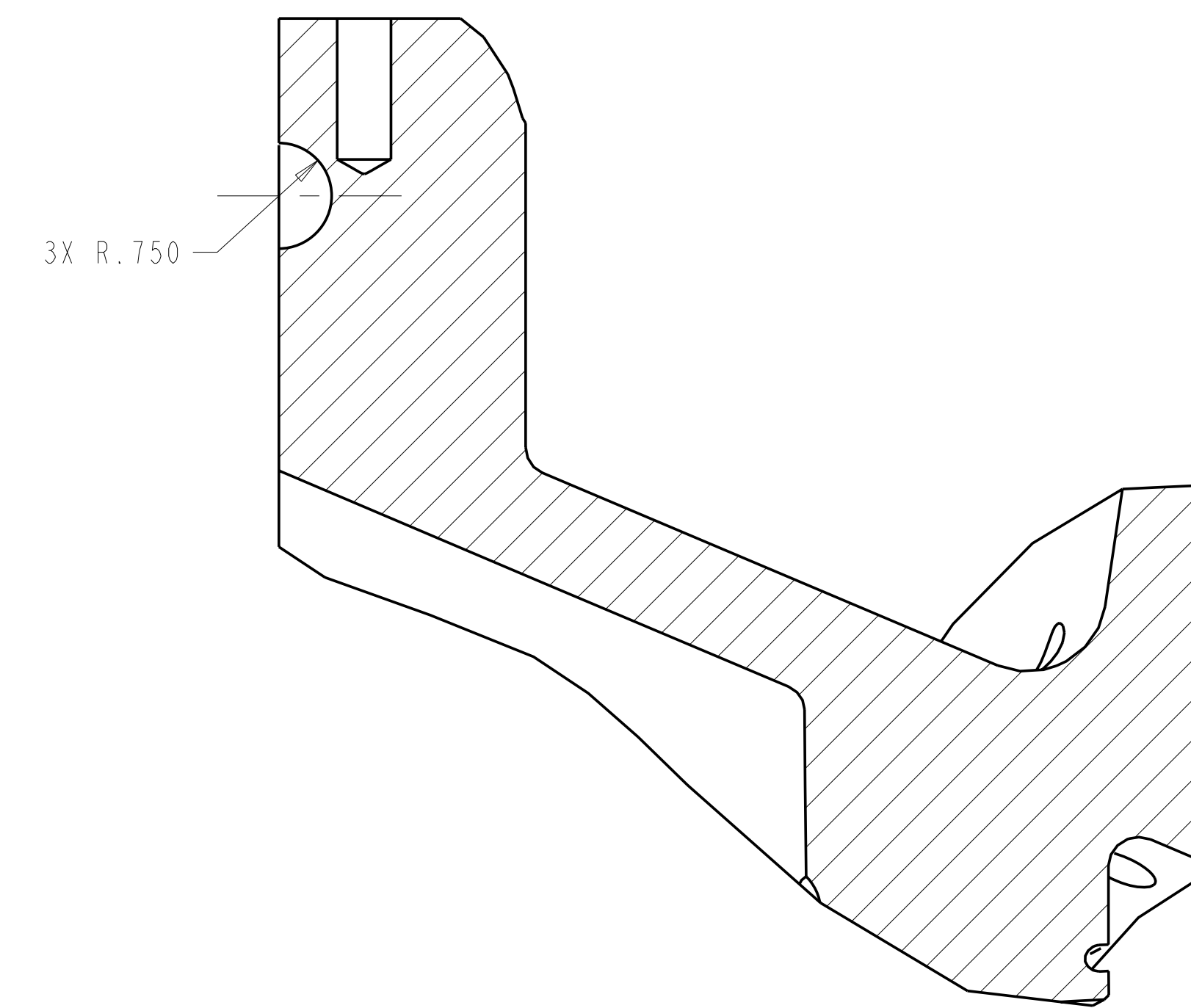
DATUM R = PLANE NORMAL TO WINDING CENTER
DATUM S = PLANE PASSING THRU WINDING CENTER AND X VECTOR AT DATUM R
DATUM T = PLANE PASSING THRU WINDING CENTER ORTHOGONAL TO DATUM S

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
UT-BATTELLE							
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-B							
VERSION NO. 25	PLANT X-10	BLDG 5700	FL 3	SHT OF 2 12	TYPE S	CLASS U	REV 0
RELEASE LEVEL WIP		SE141-115					

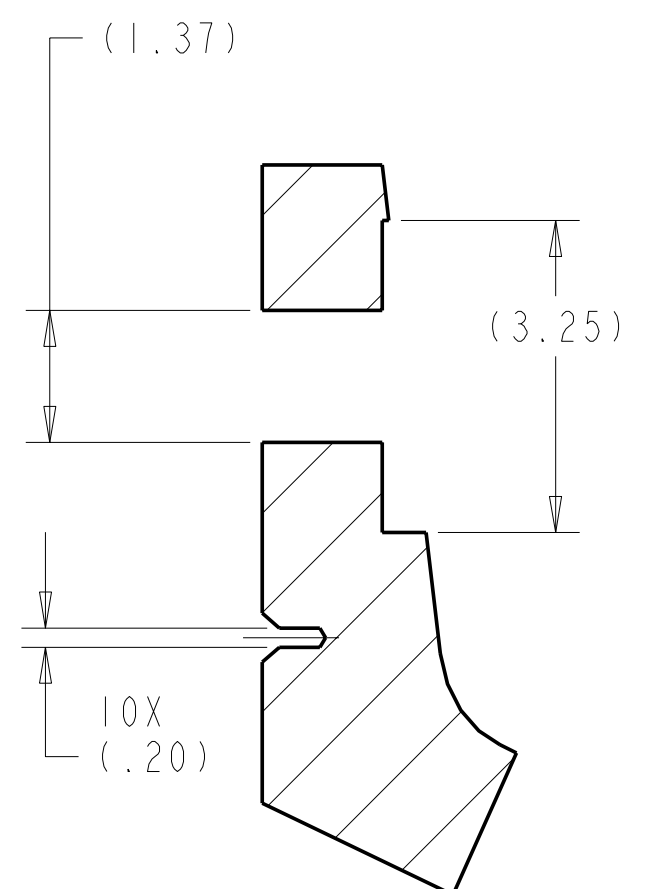
FOR NOTES AND PARTS LIST SEE SHEET 1



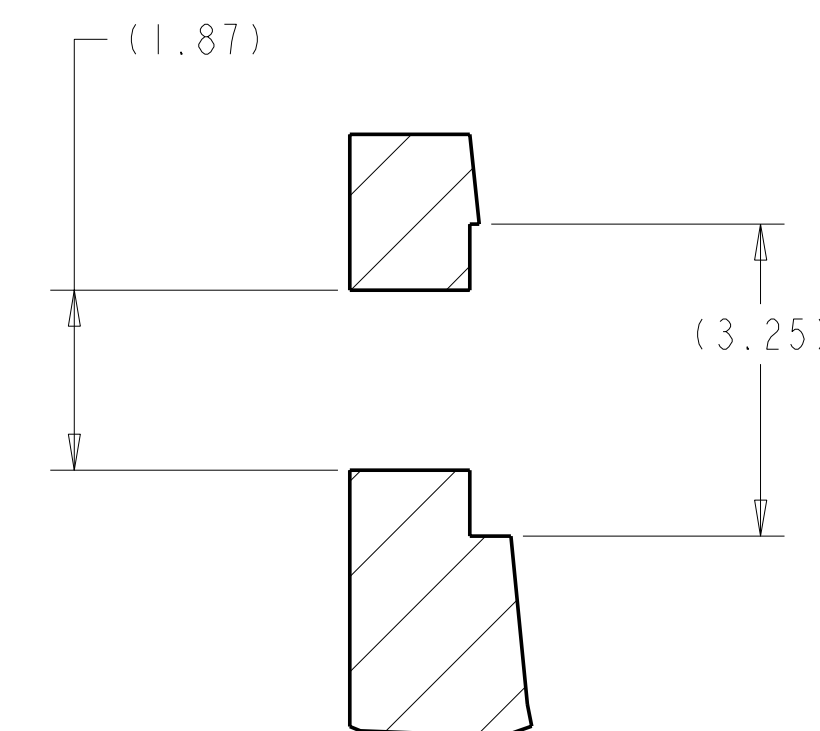
FOR NOTES AND PARTS LIST SEE SHEET 1



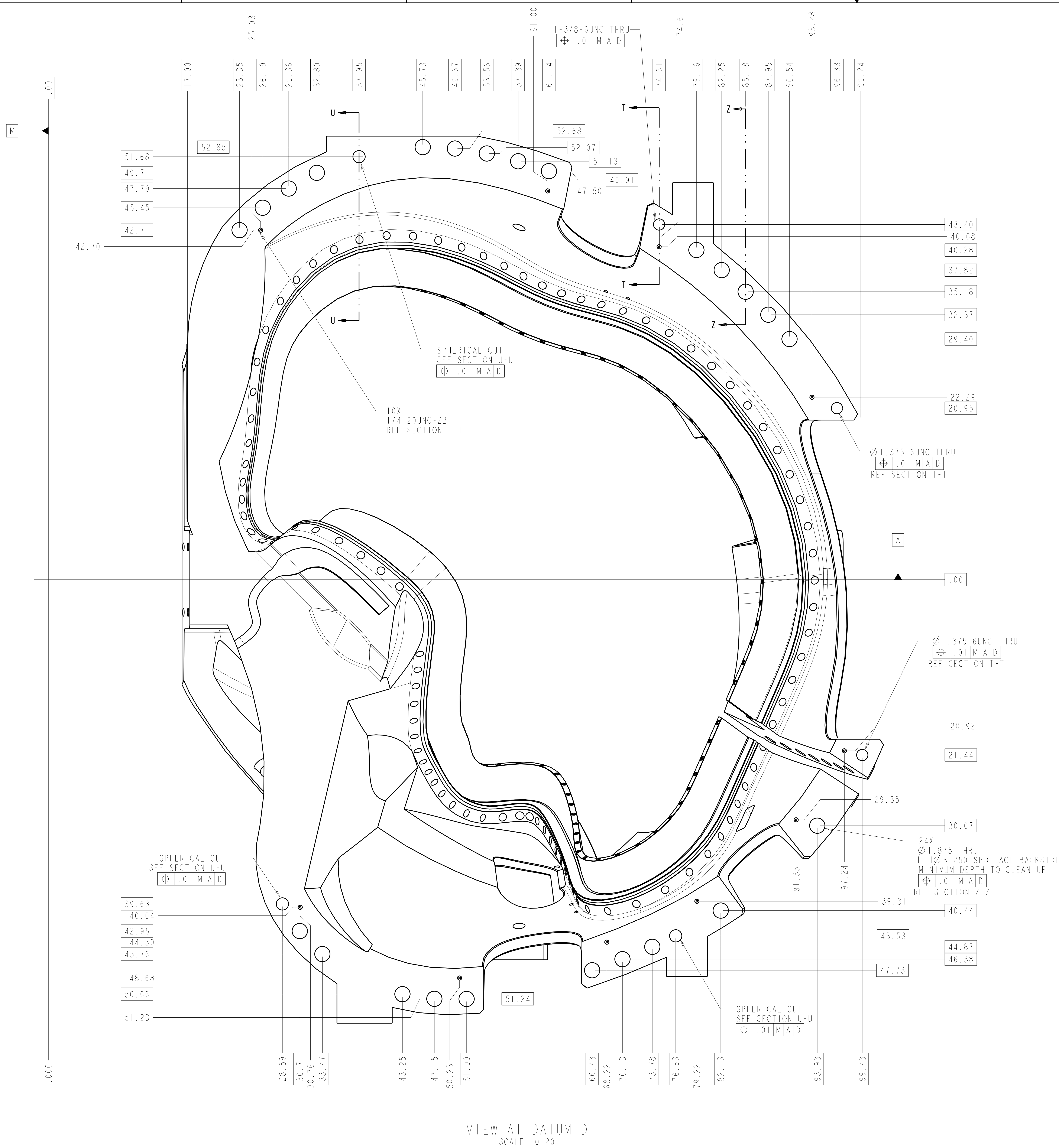
SECTION U-U
SCALE 0.5




SECTION T-T
SCALE 0.50

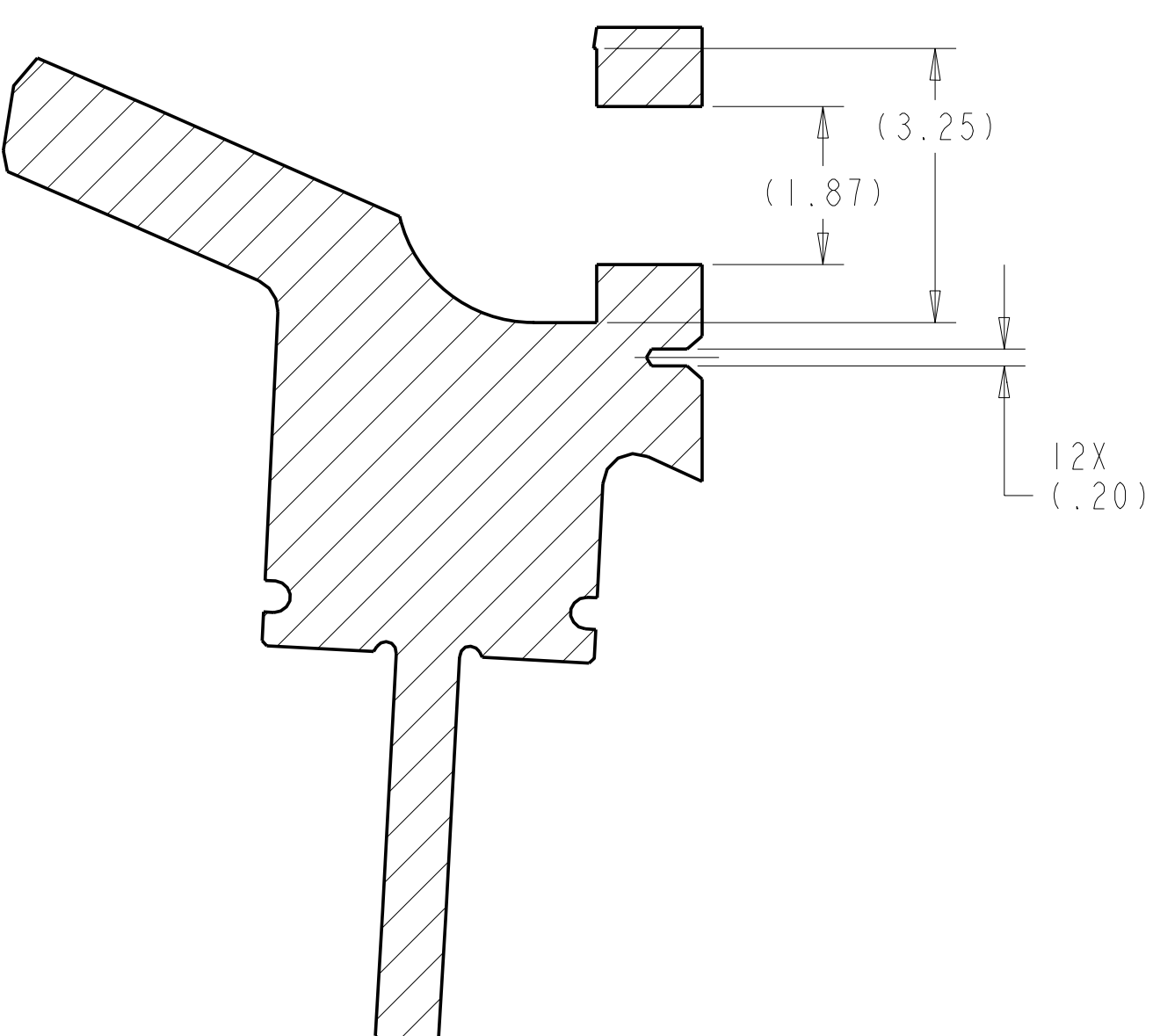


SECTION Z-Z
SCALE 0.50



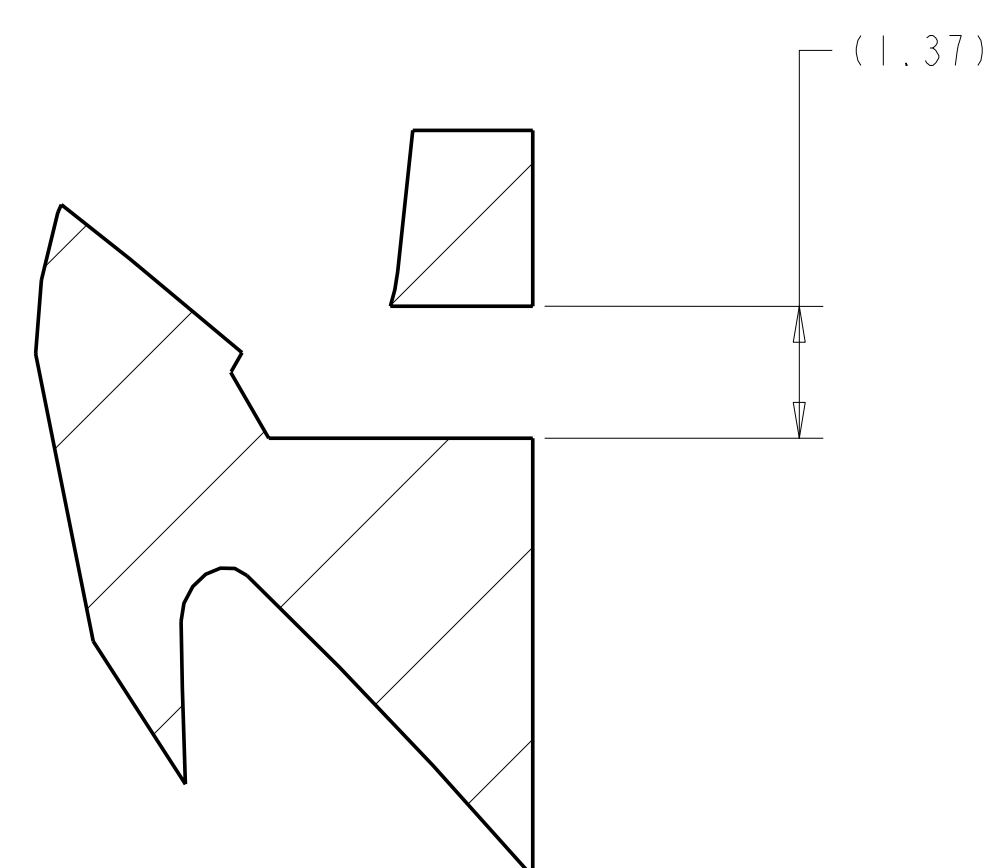
										Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-80OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee									
PROJECT NAME																			
NATIONAL COMPACT STELLARATOR EXPERIMENT																			
PRODUCTION WINDING FORM TYPE-B																			
VERSION NO.		PLANT		BLOG		FL		SHT		TYPE		CLASS		U					
25		X-10		5700		3		4		12		S		U					
RELEASE LEVEL				SE141-115												REV			
WIP																0			

FOR NOTES AND PARTS LIST SEE SHEET 1

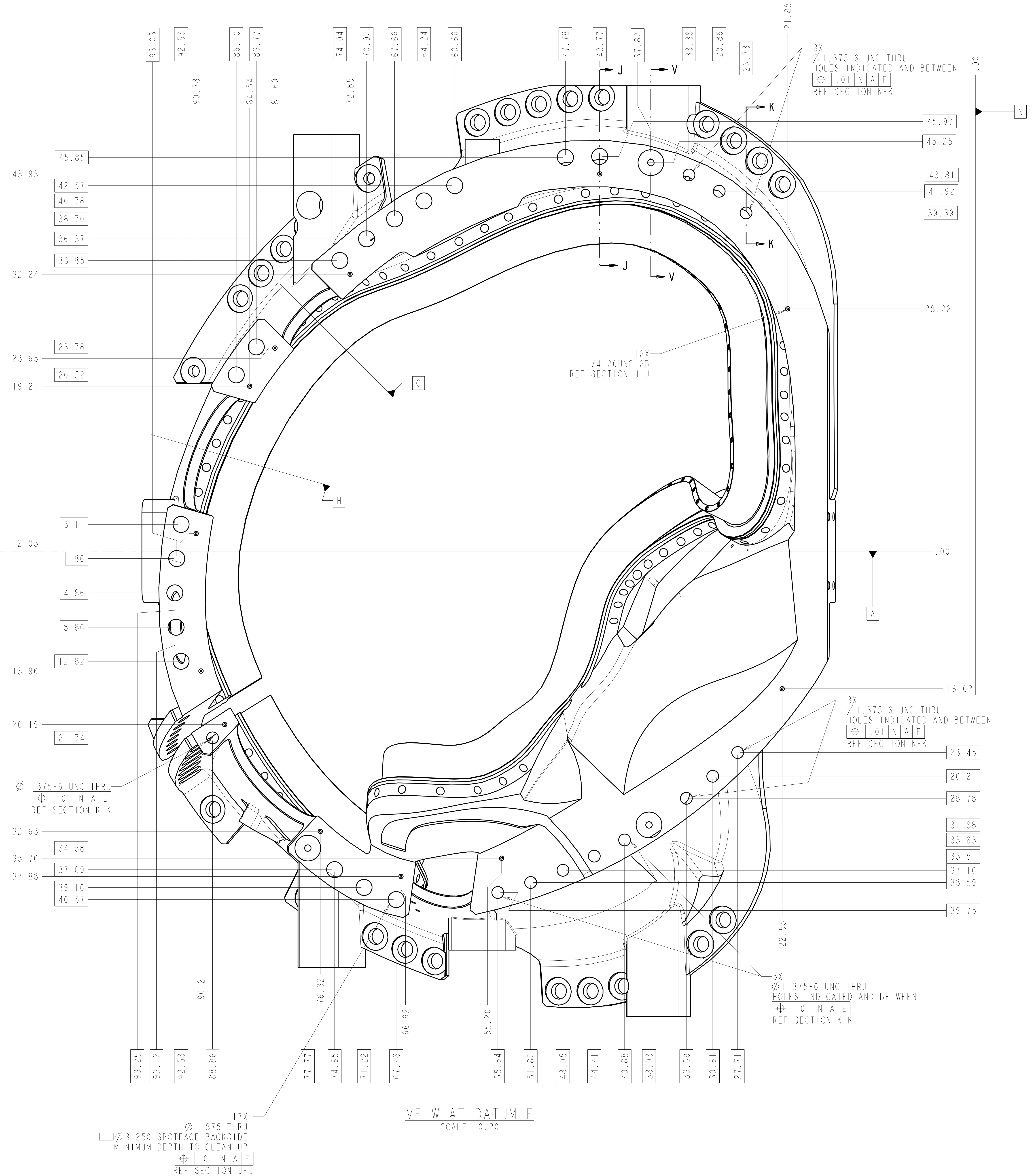


SECTION J-J
SCALE 0.500

SECTION V-V
SCALE 0.5




SECTION K-K
SCALE 0.500

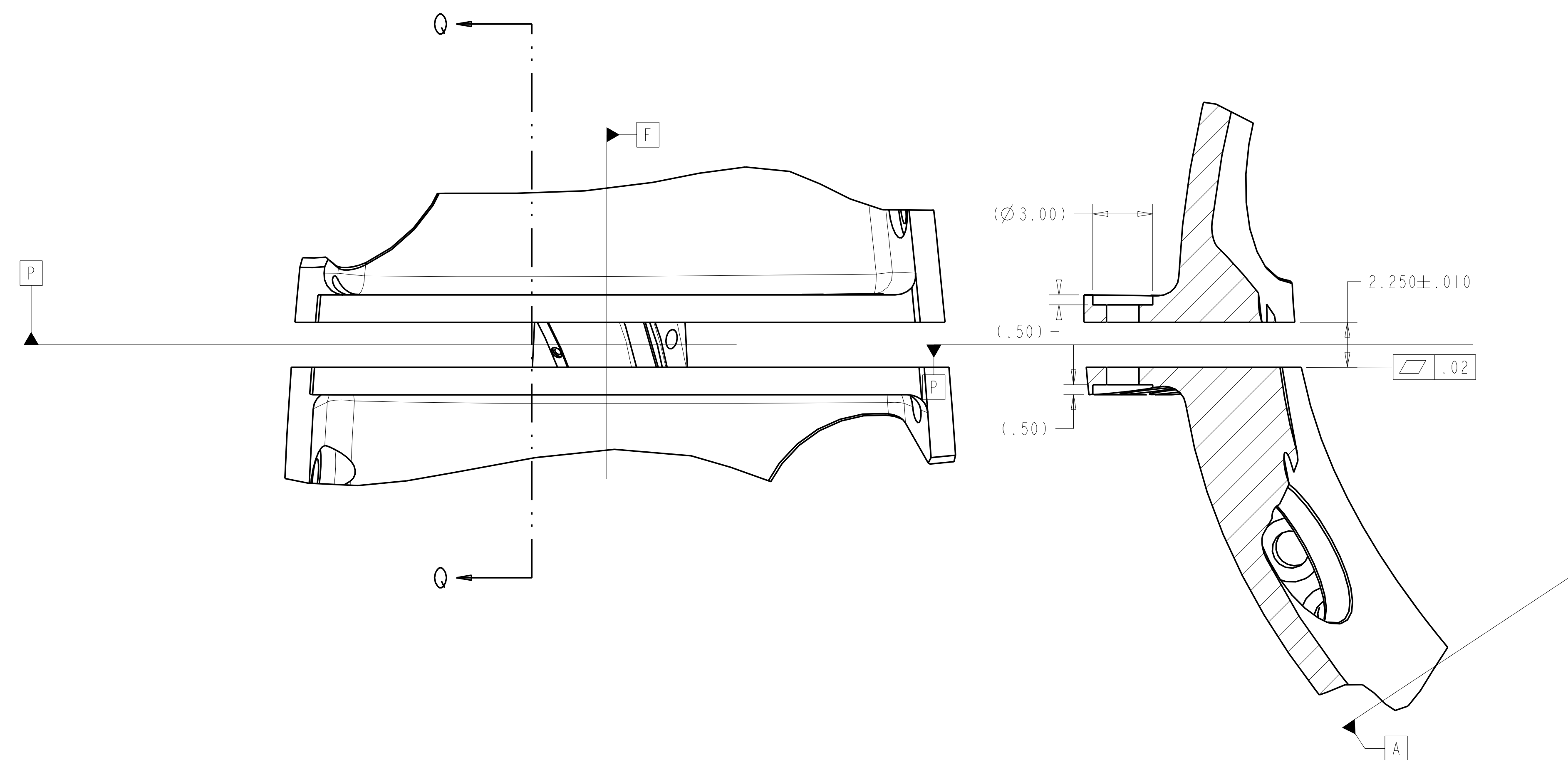


17X
 Ø1.875 THRU
 L-Ø3.250 SPOTFACE BACKSIDE
 MINIMUM DEPTH TO CLEAN UP
 .01 N A E
 REF SECTION J-

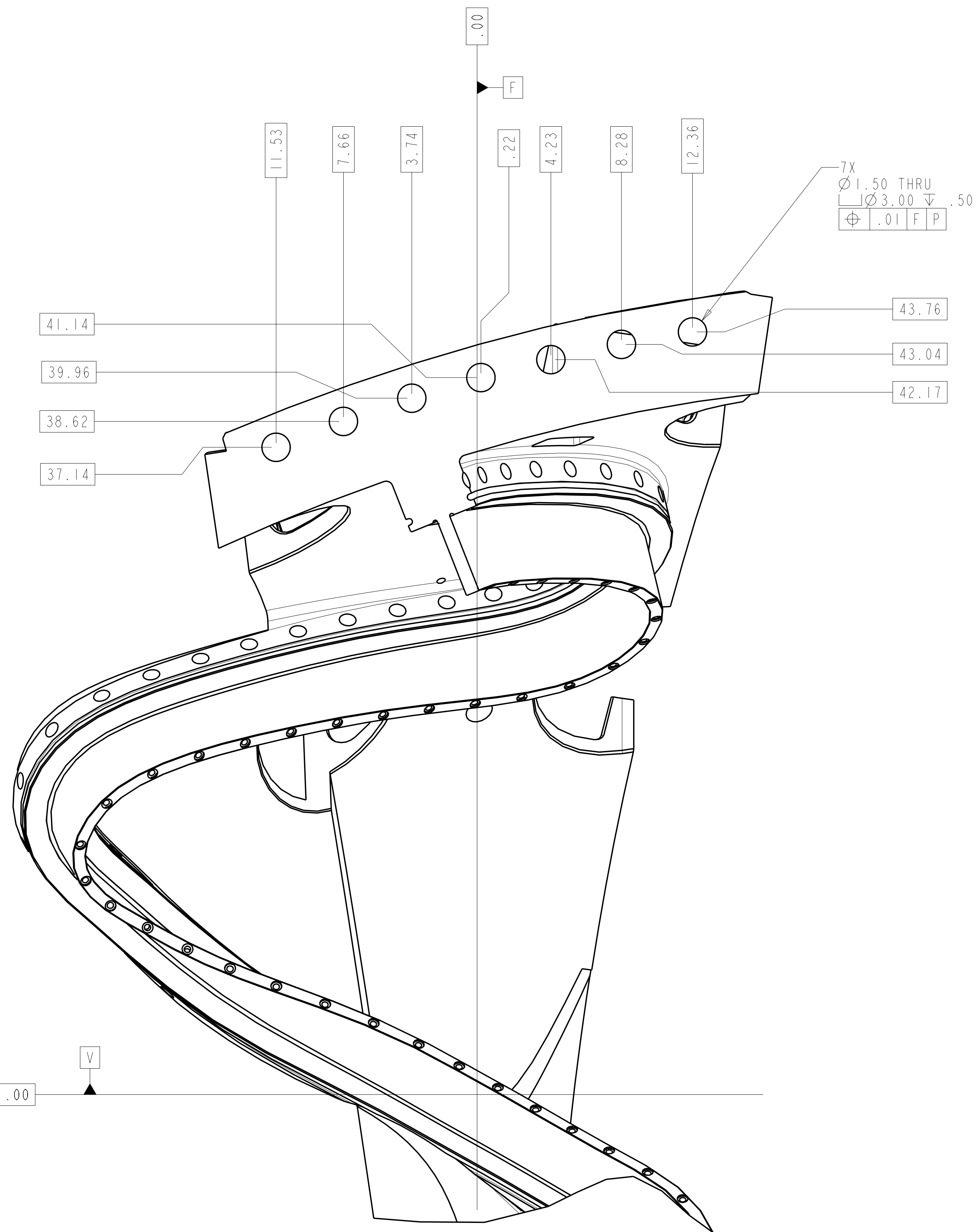
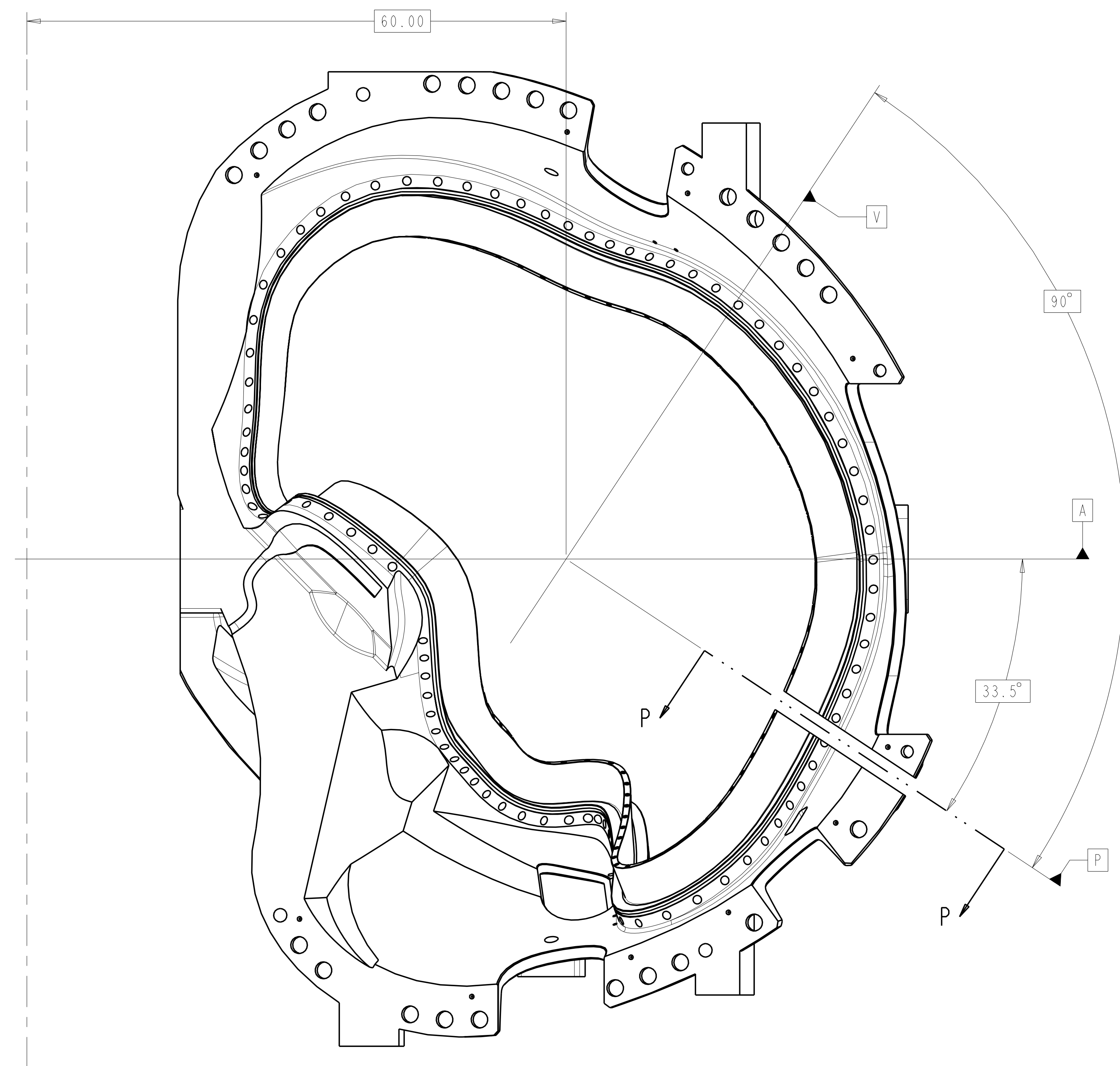
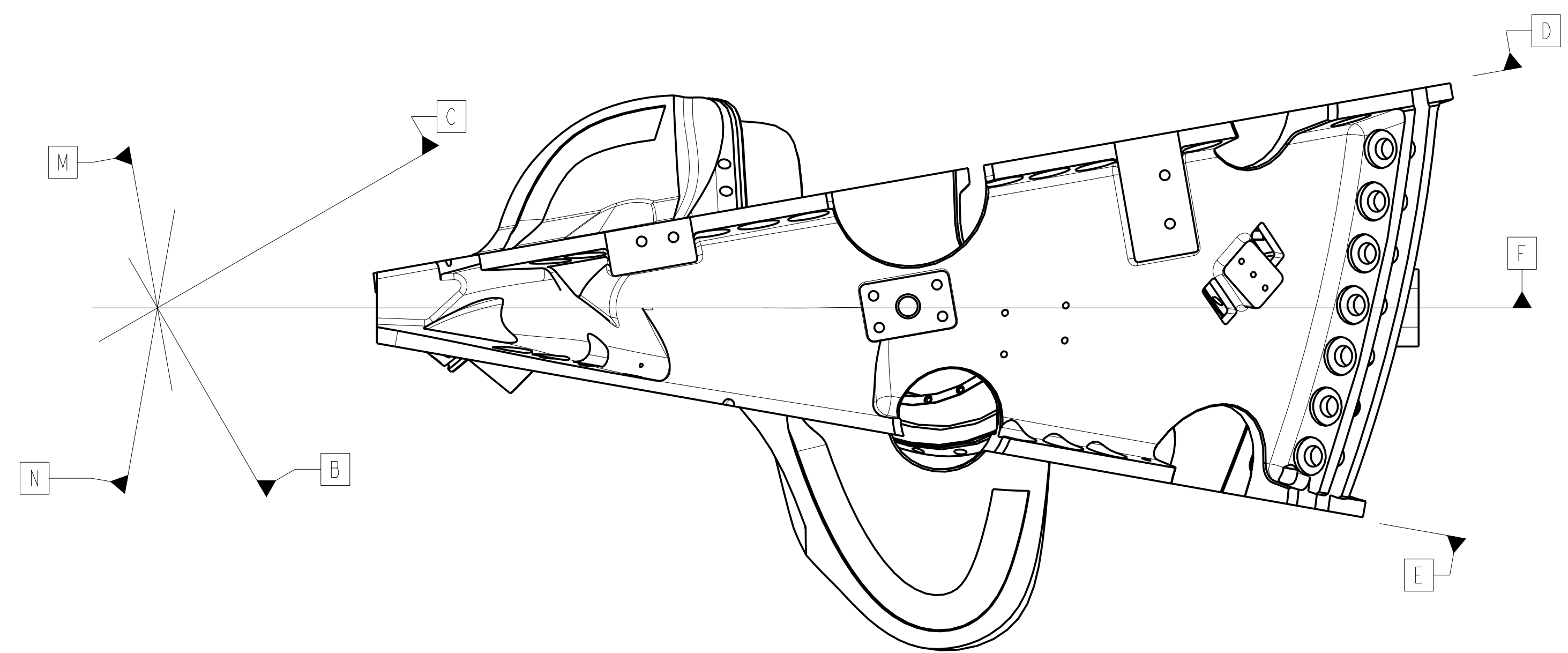
VEIW AT DATUM E
SCALE 0.20

										Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT CONTRACT OF AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee									
PROJECT NAME										NATIONAL COMPACT STELLARATOR EXPERIMENT									
PRODUCTION WINDING FORM TYPE-B																			
VERSION NO.		PLANT		BLDG		FL		SHT		OF		TYPE		CLASS					
25		X-10		5700		3		5		12		S							
RELEASE LEVEL				REV 0															
WIP				SE141-115															

FOR NOTES AND PARTS LIST SEE SHEET 1



SECTION Q-Q

SECTION P-P
SCALE 0.25POLOIDAL BREAK DETAIL
SCALE 0.13

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-B							
VERSION NO. 25	PLANT X-10	BLDG 5700	FL 3	SHT OF 6	TYPE 12 S	CLASS U	REV 0
RELEASE LEVEL WIP		SEI41-115					

8

7

6

5

4

3

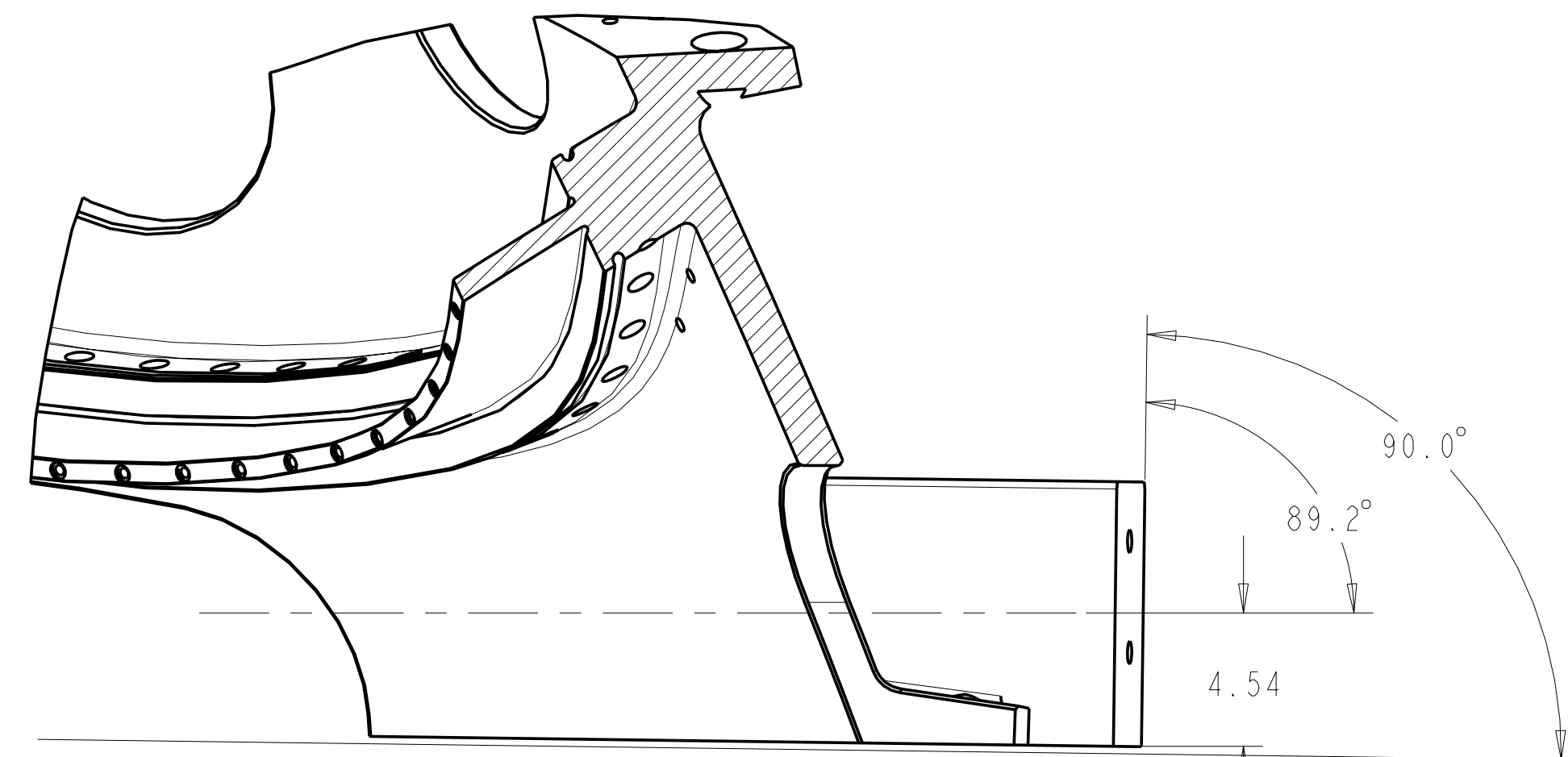
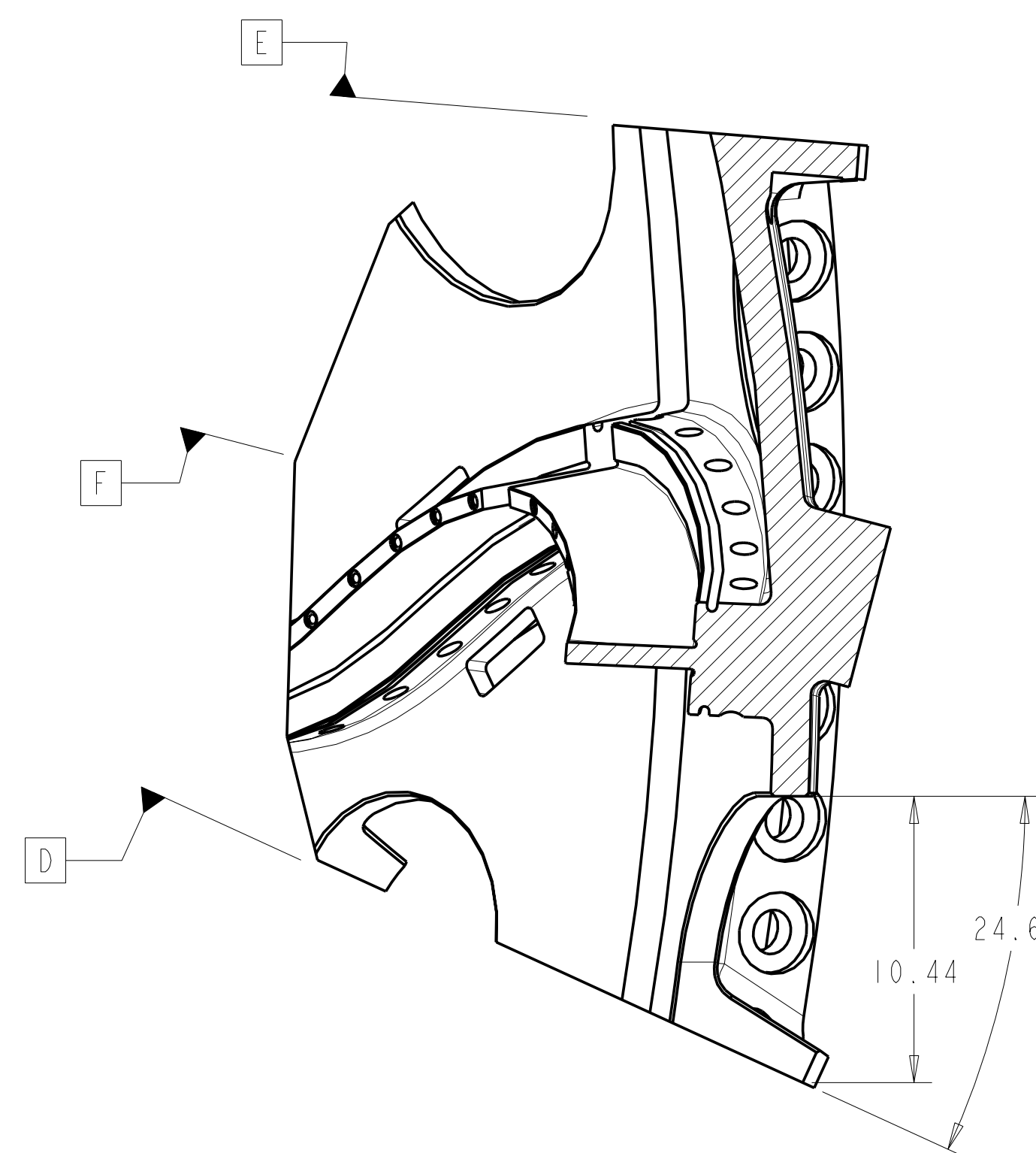
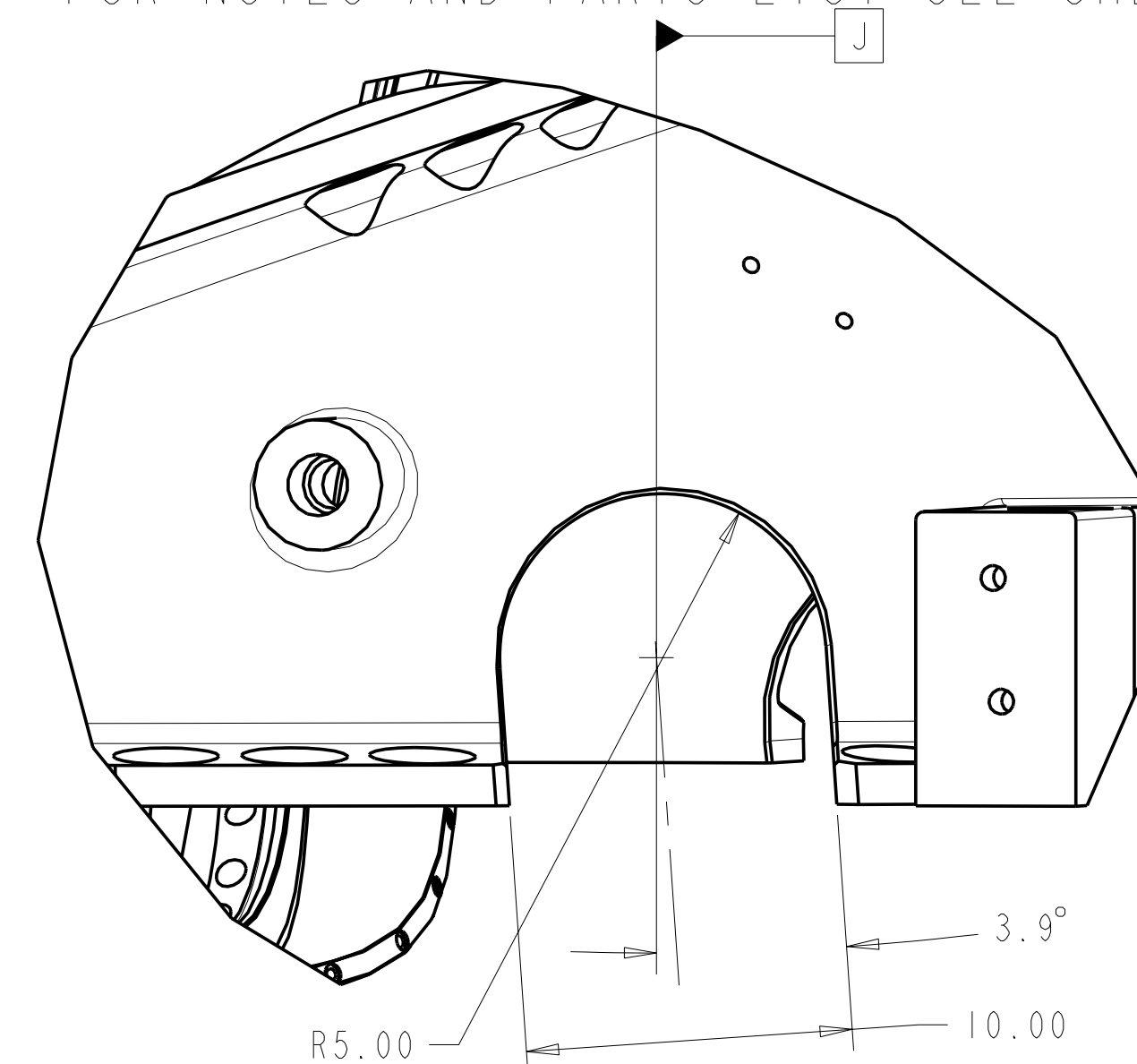
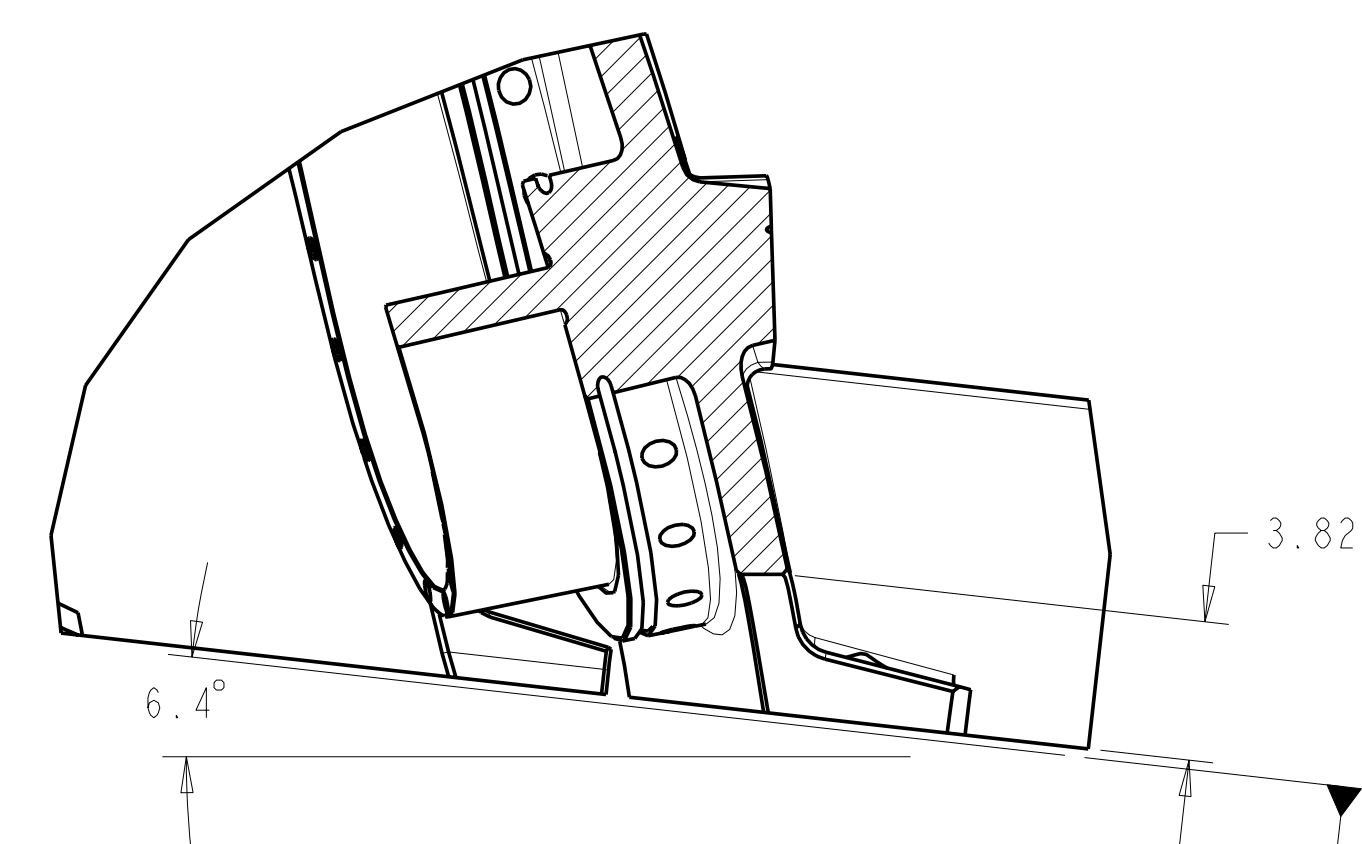
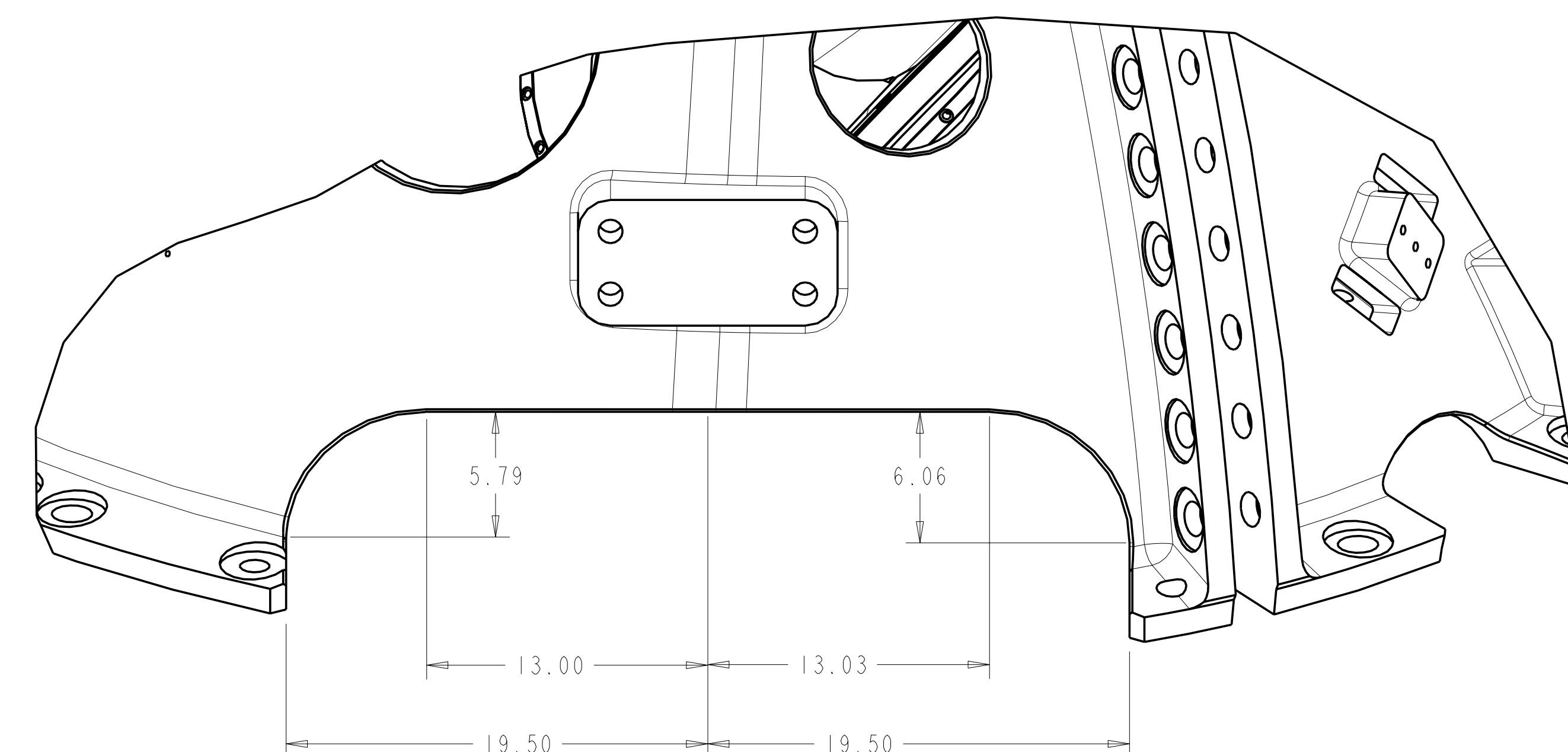
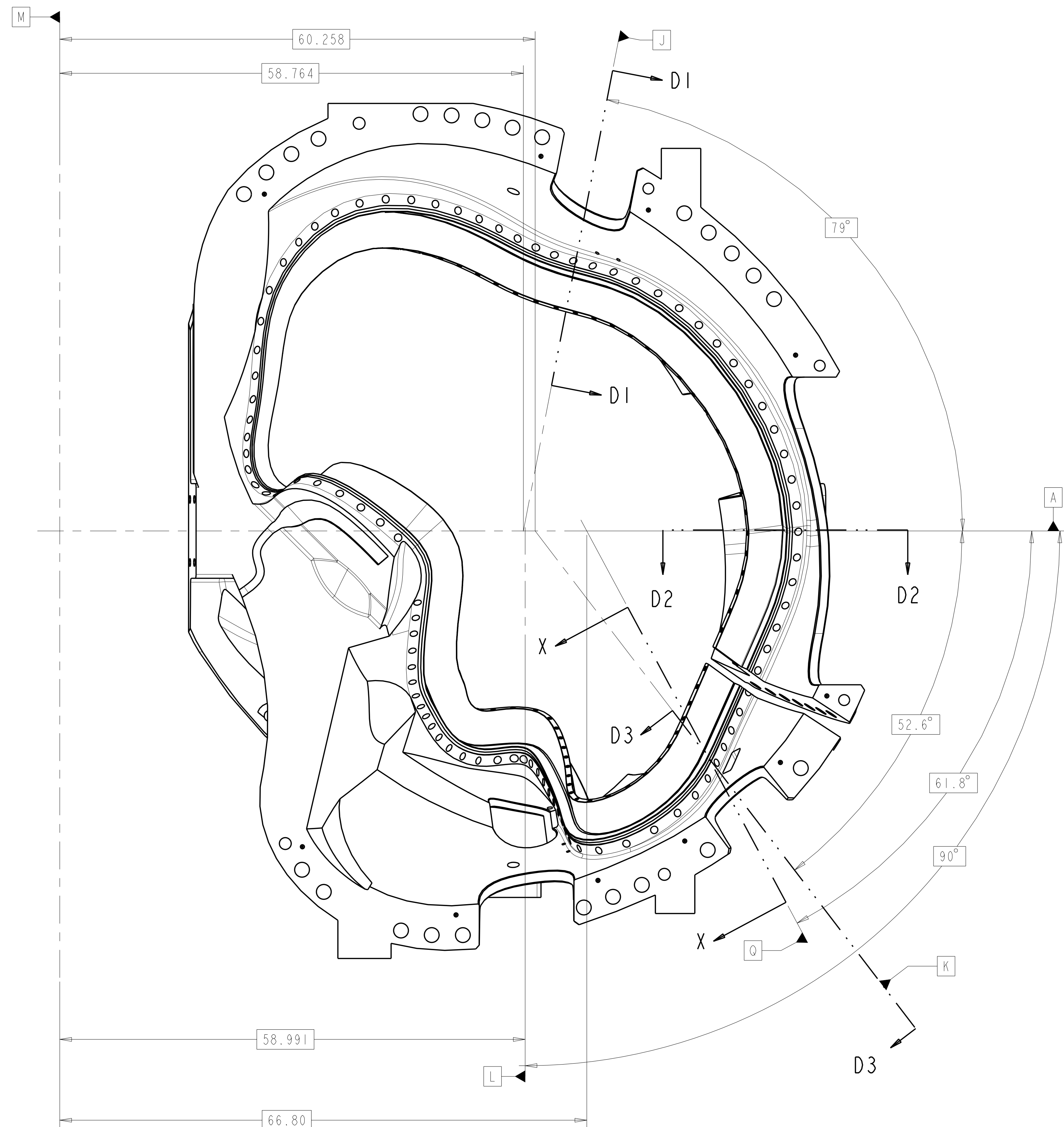
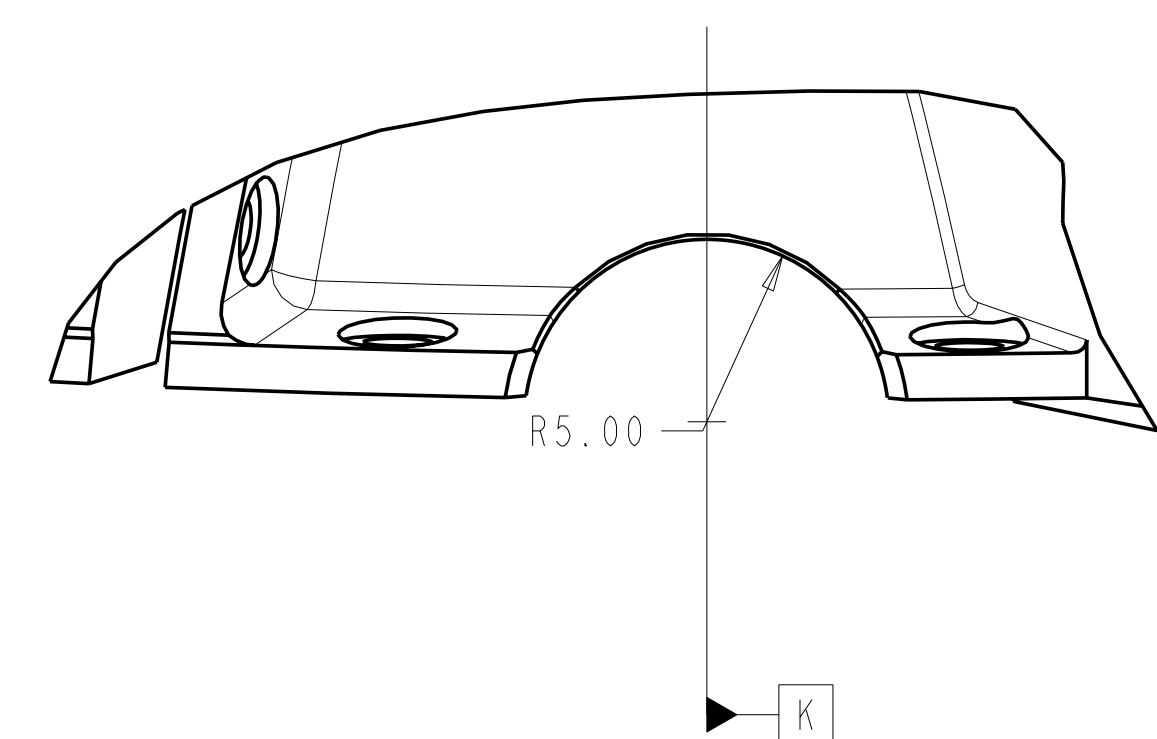
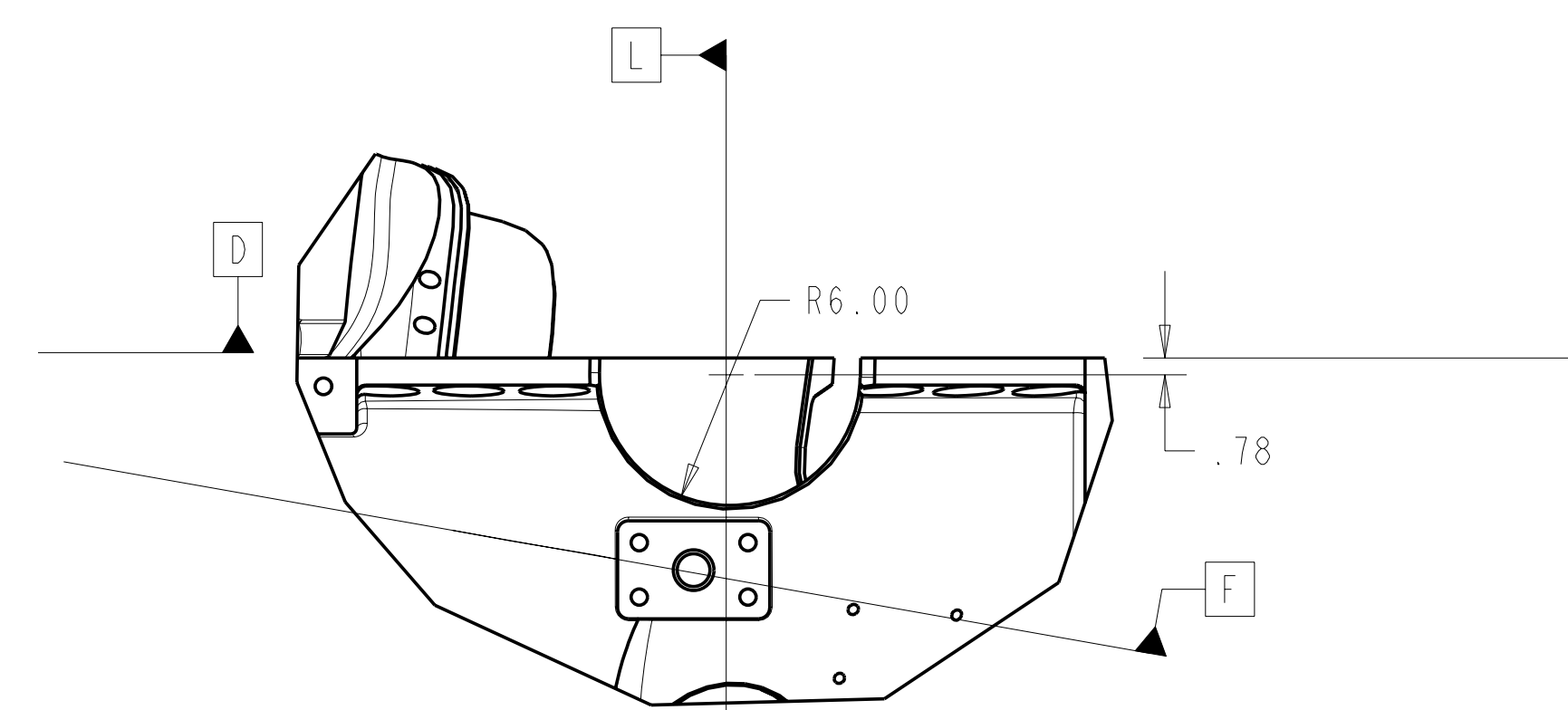
2

1

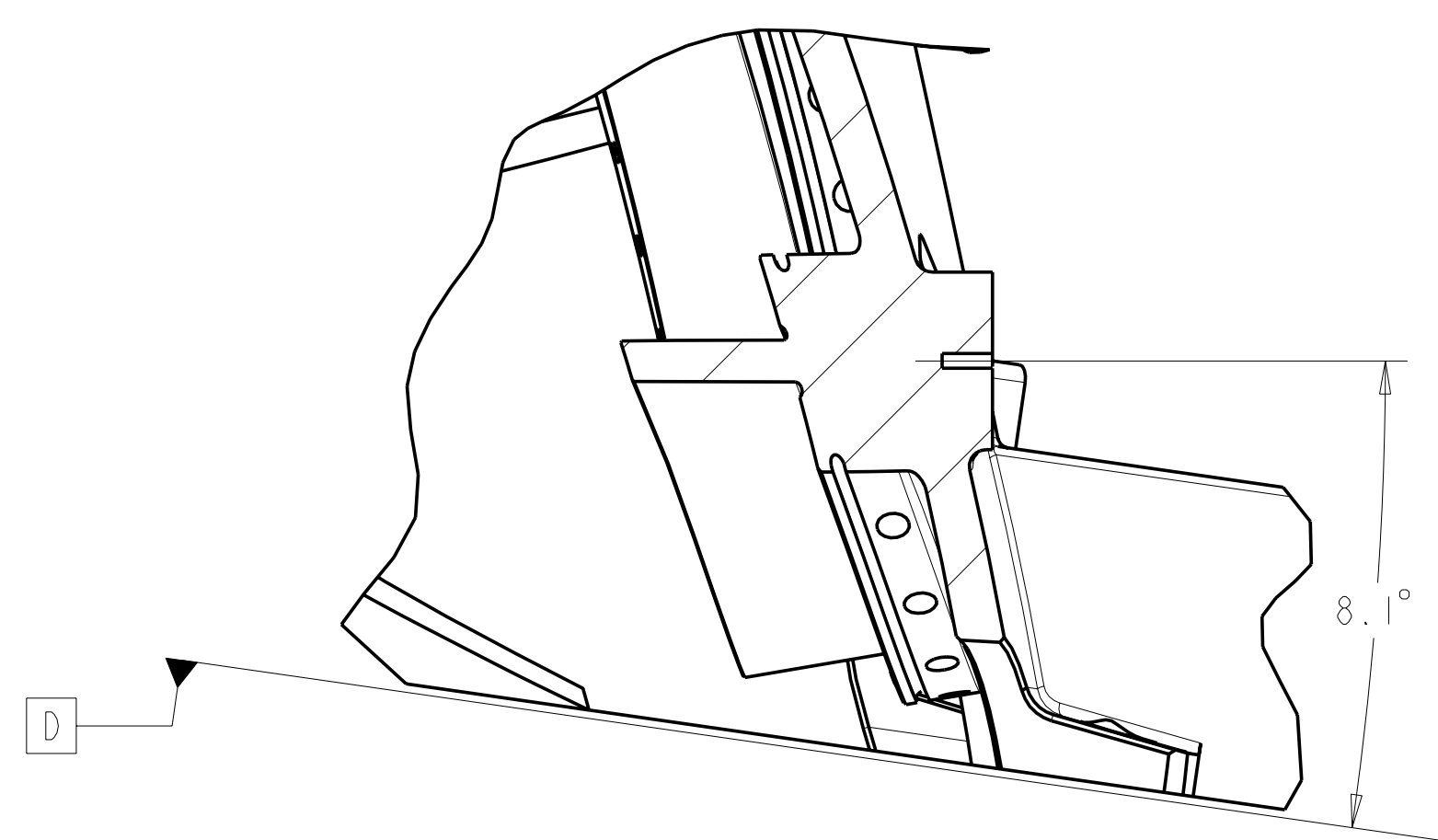
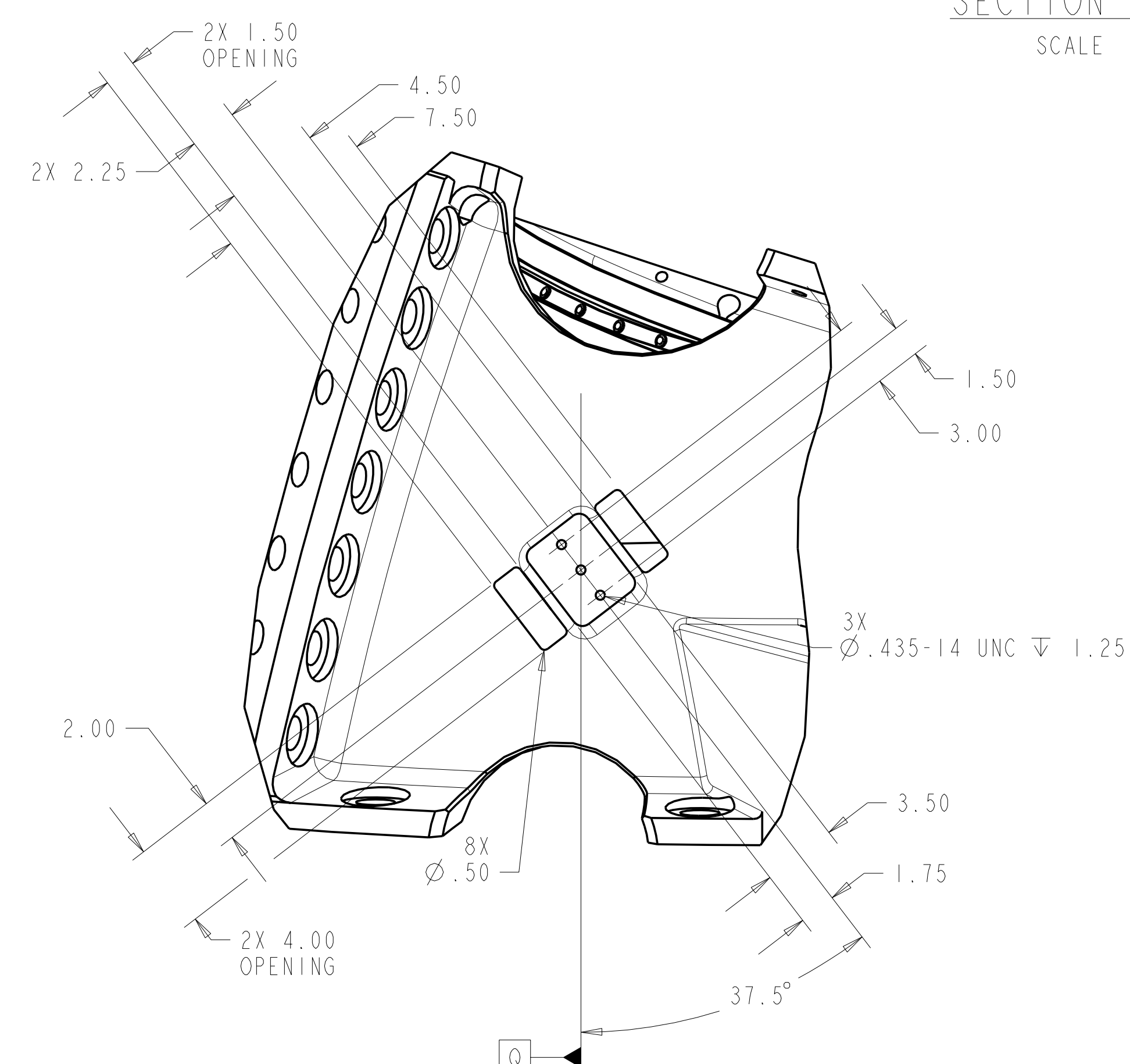
NEXT ASS'Y:

FINAL ASS'Y:

FOR NOTES AND PARTS LIST SEE SHEET 1

SECTION D1-D1
SCALE 0.19SECTION D2-D2
SCALE 0.19SECTION D3-D3
SCALE 0.19VIEW AT DATUM D
SCALE 0.13

BOTTOM VIEW

SECTION X-X
SCALE 0.19

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT TITLE							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-B							
VERSION NO. 25	PLANT X-10	BLDG 5700	FL 3	SHT OF 7	TYPE 12 S	CLASS U	REV 0
RELEASE LEVEL WIP		SEI41-115					

8

7

6

5

4

3

2

1

NEXT ASS'Y: FINAL ASS'Y:

FOR NOTES AND PARTS LIST SEE SHEET I

H

G

F

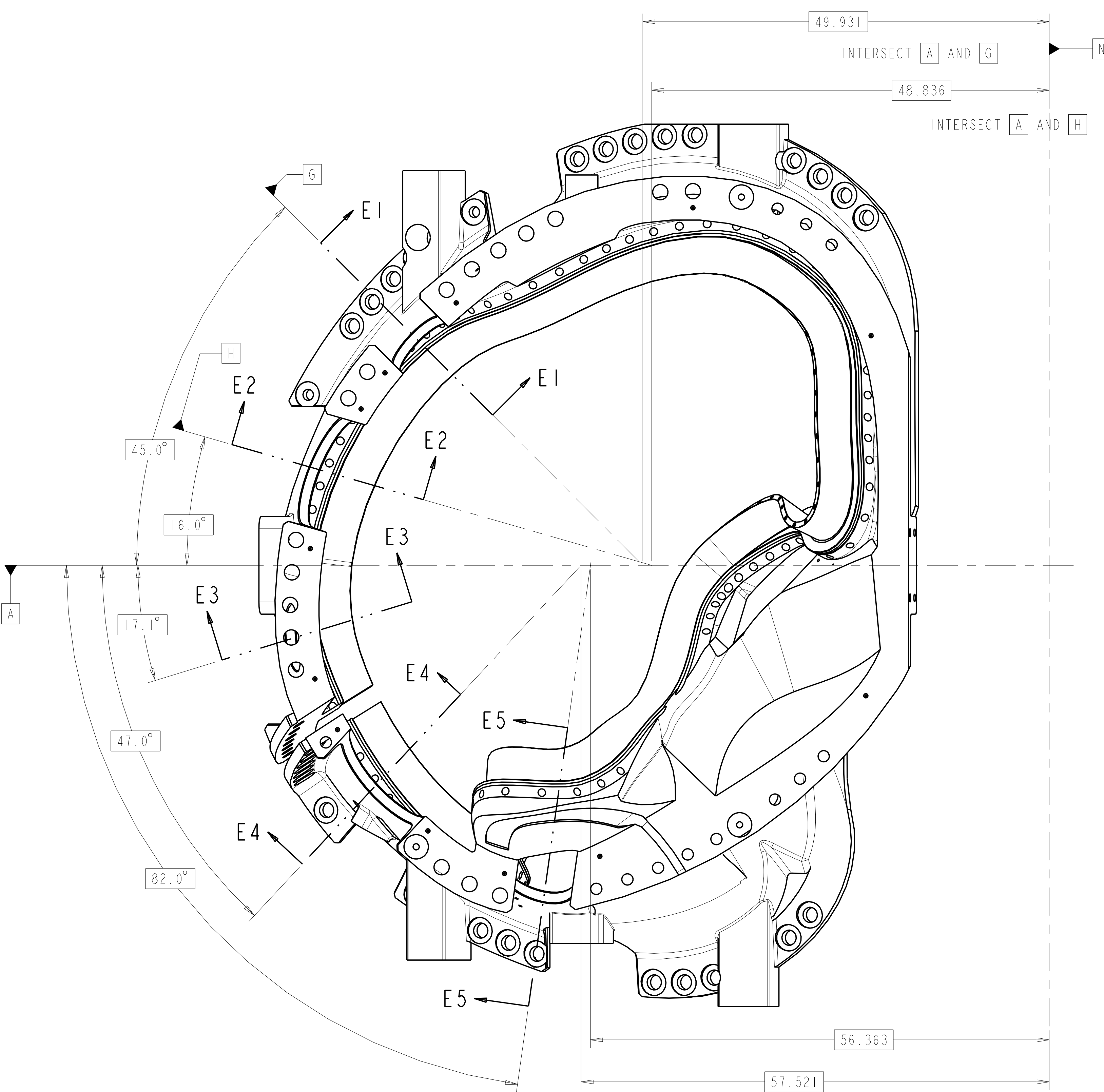
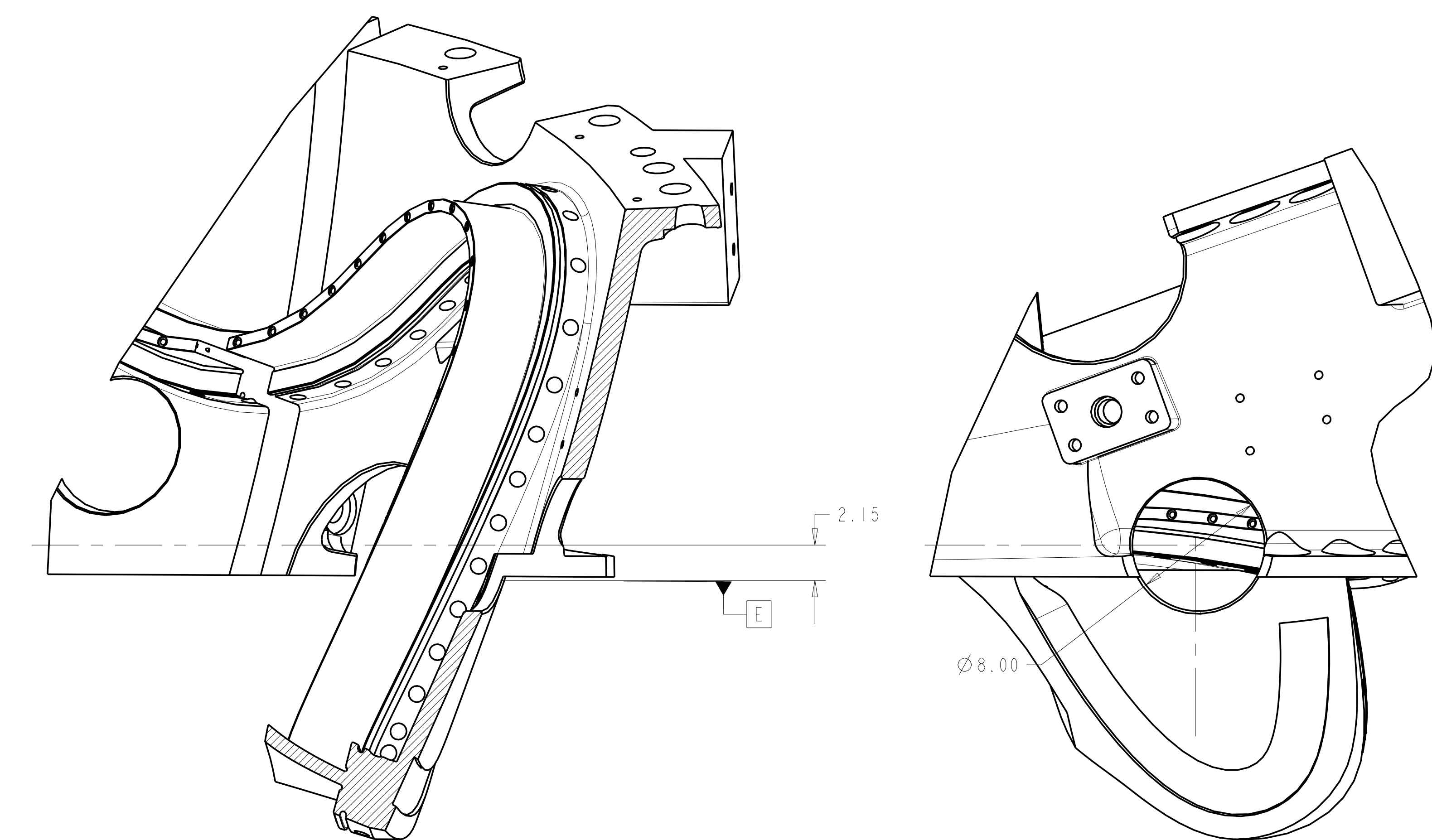
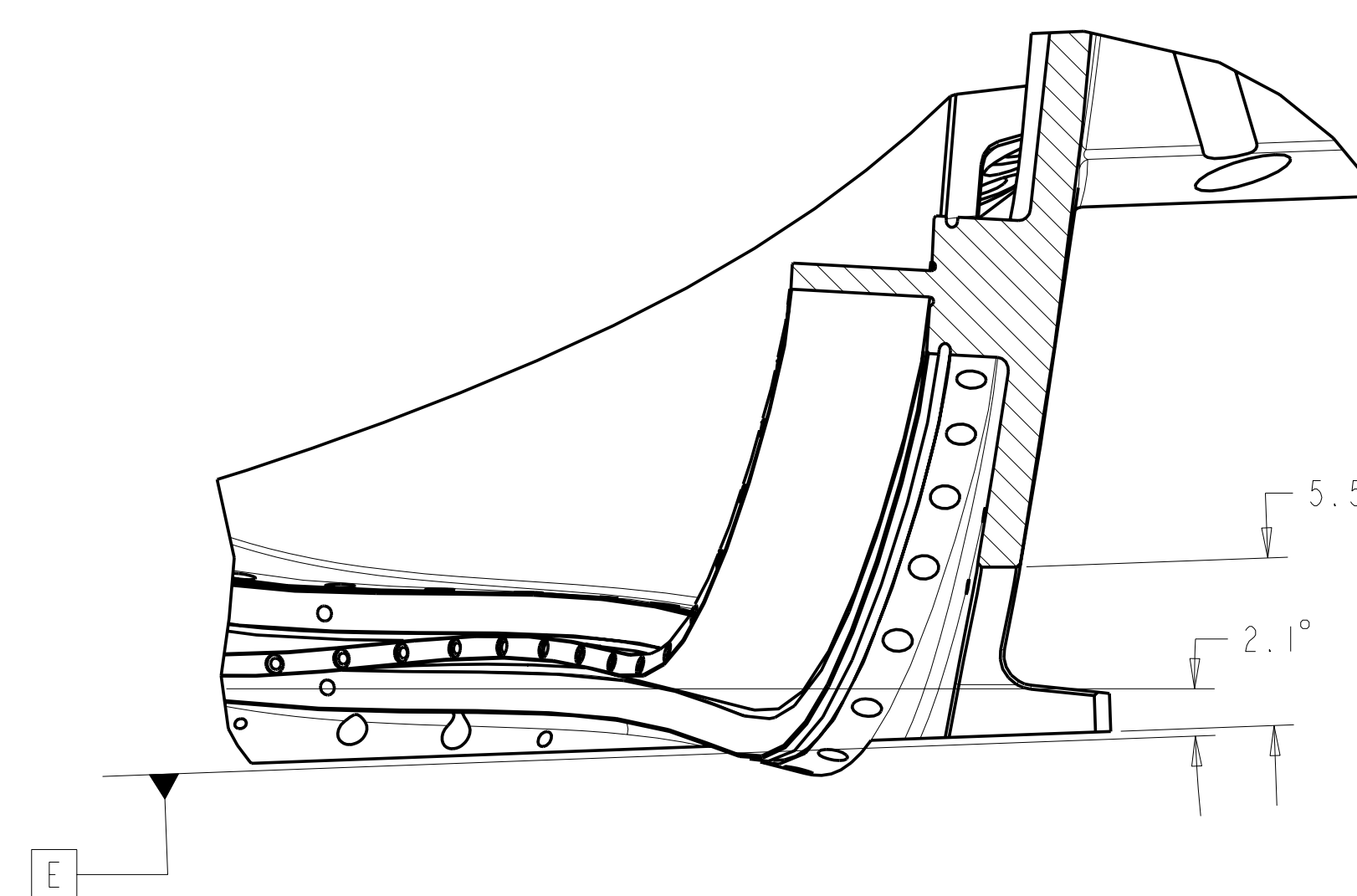
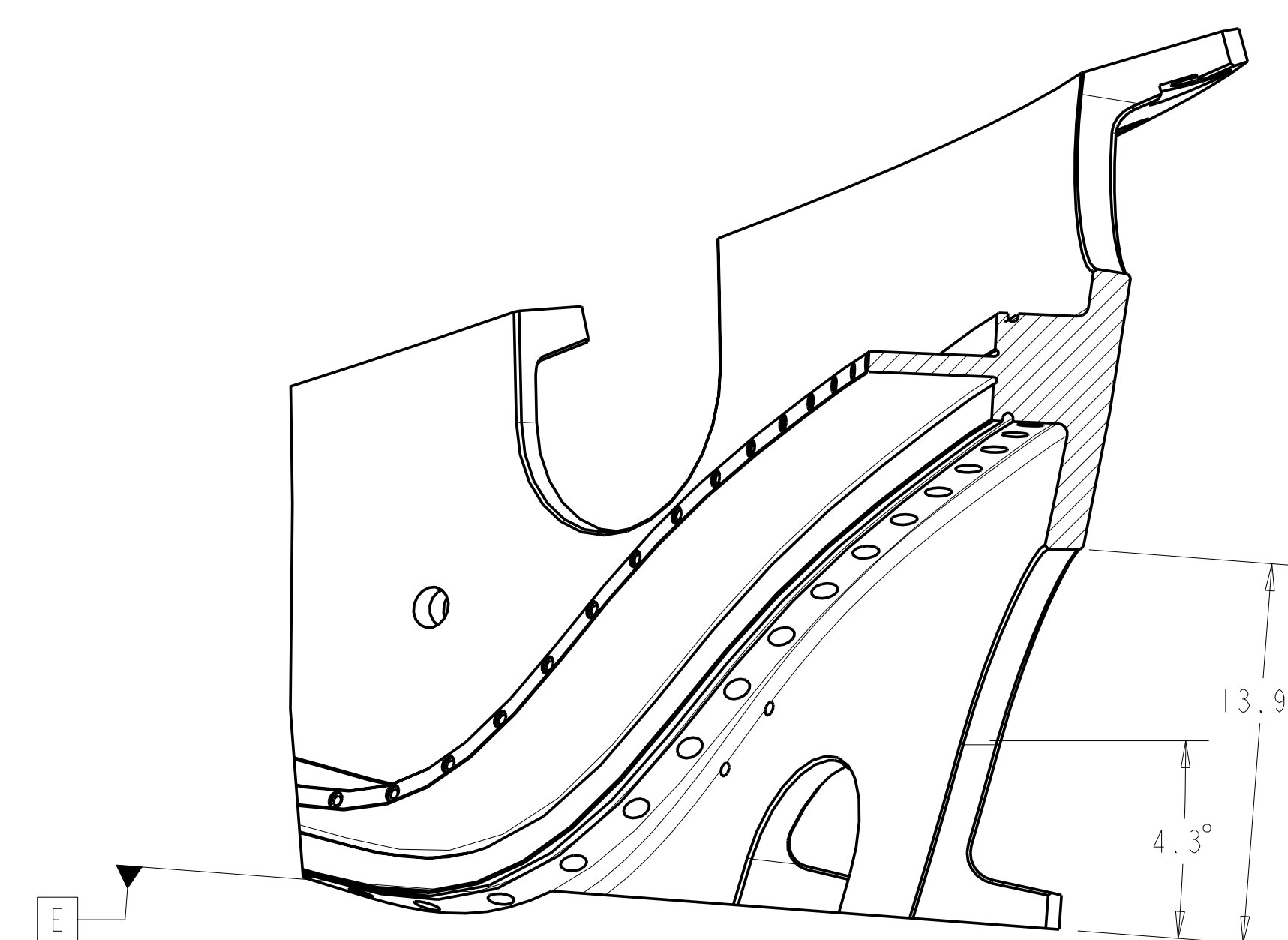
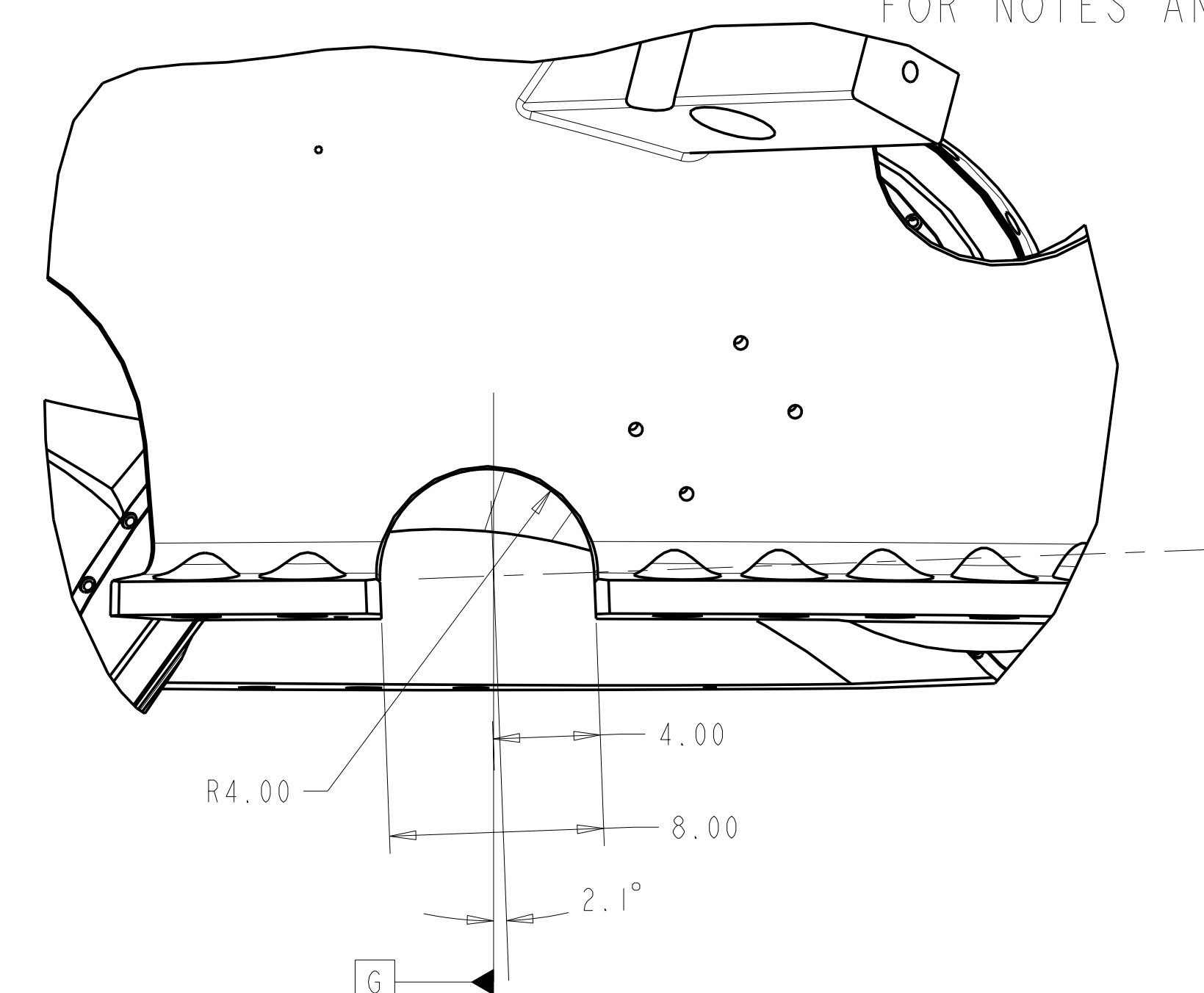
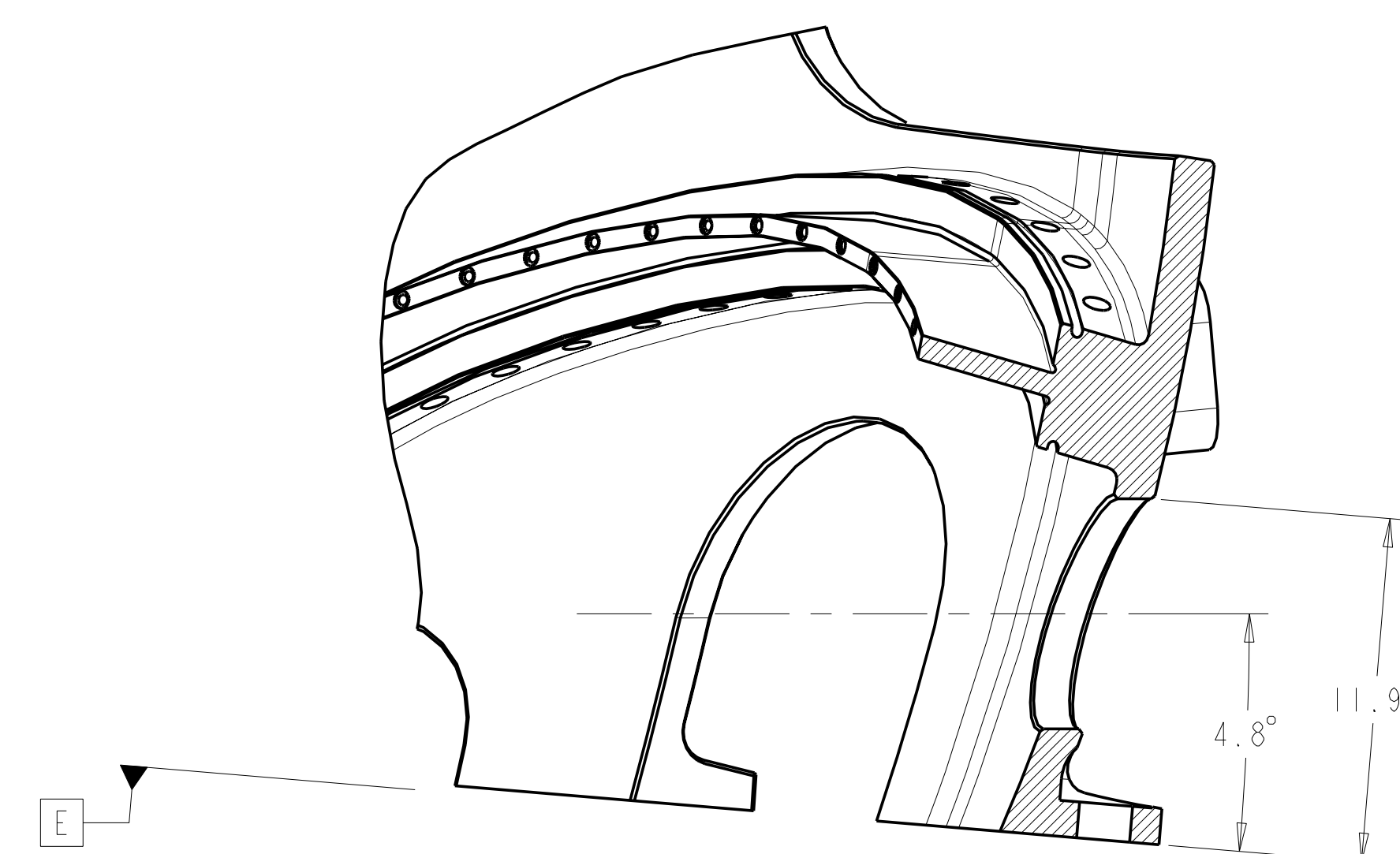
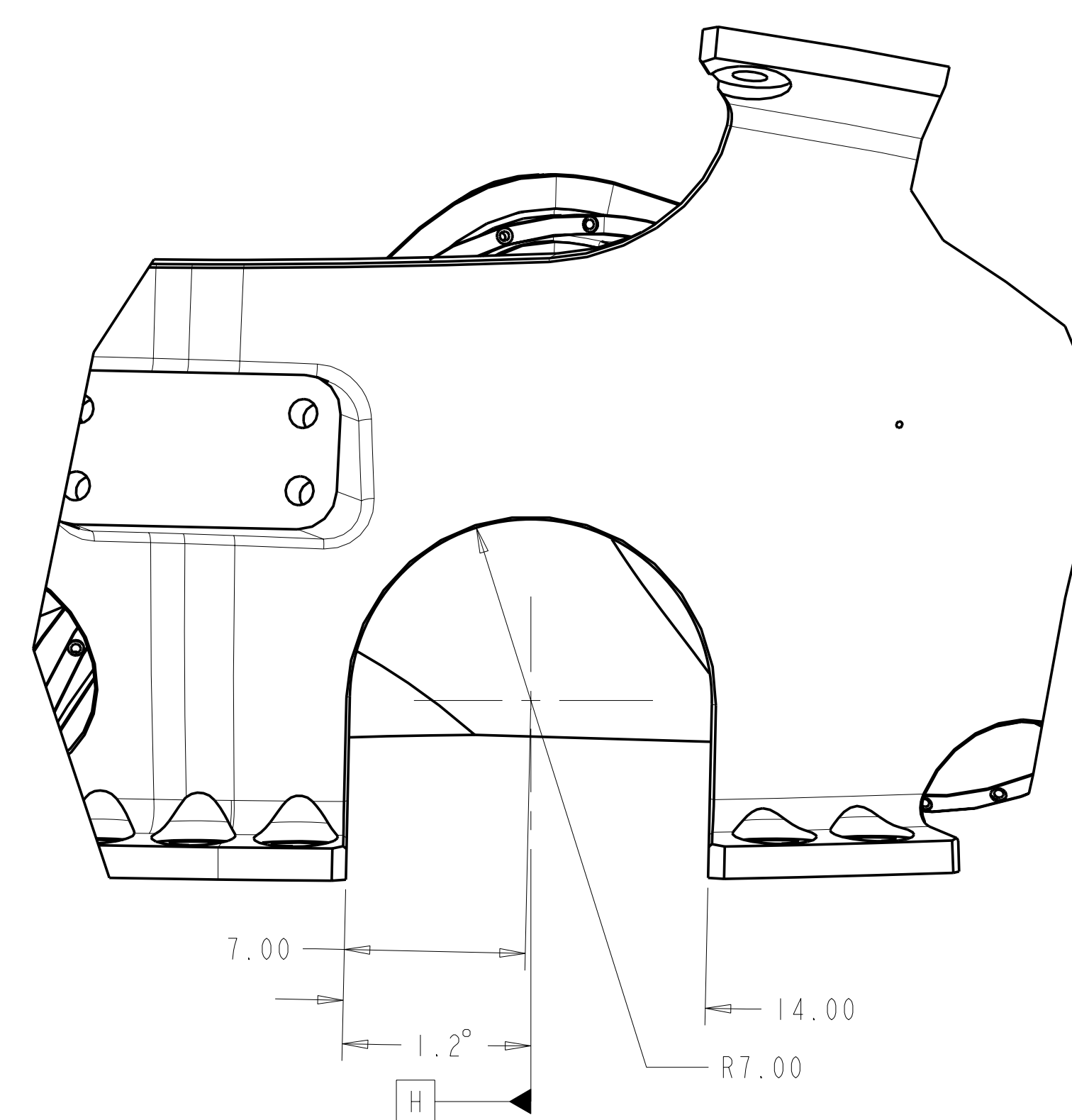
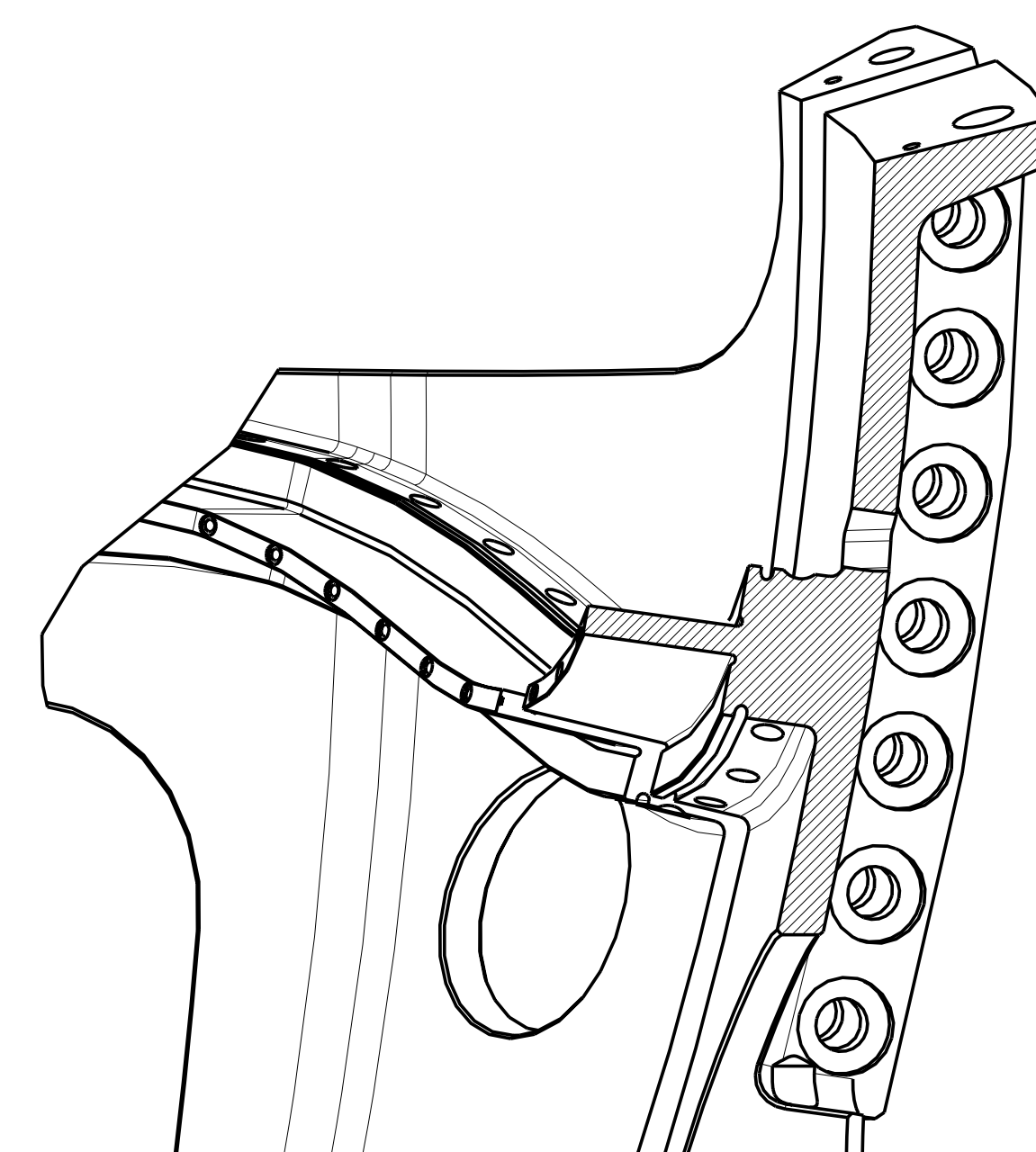
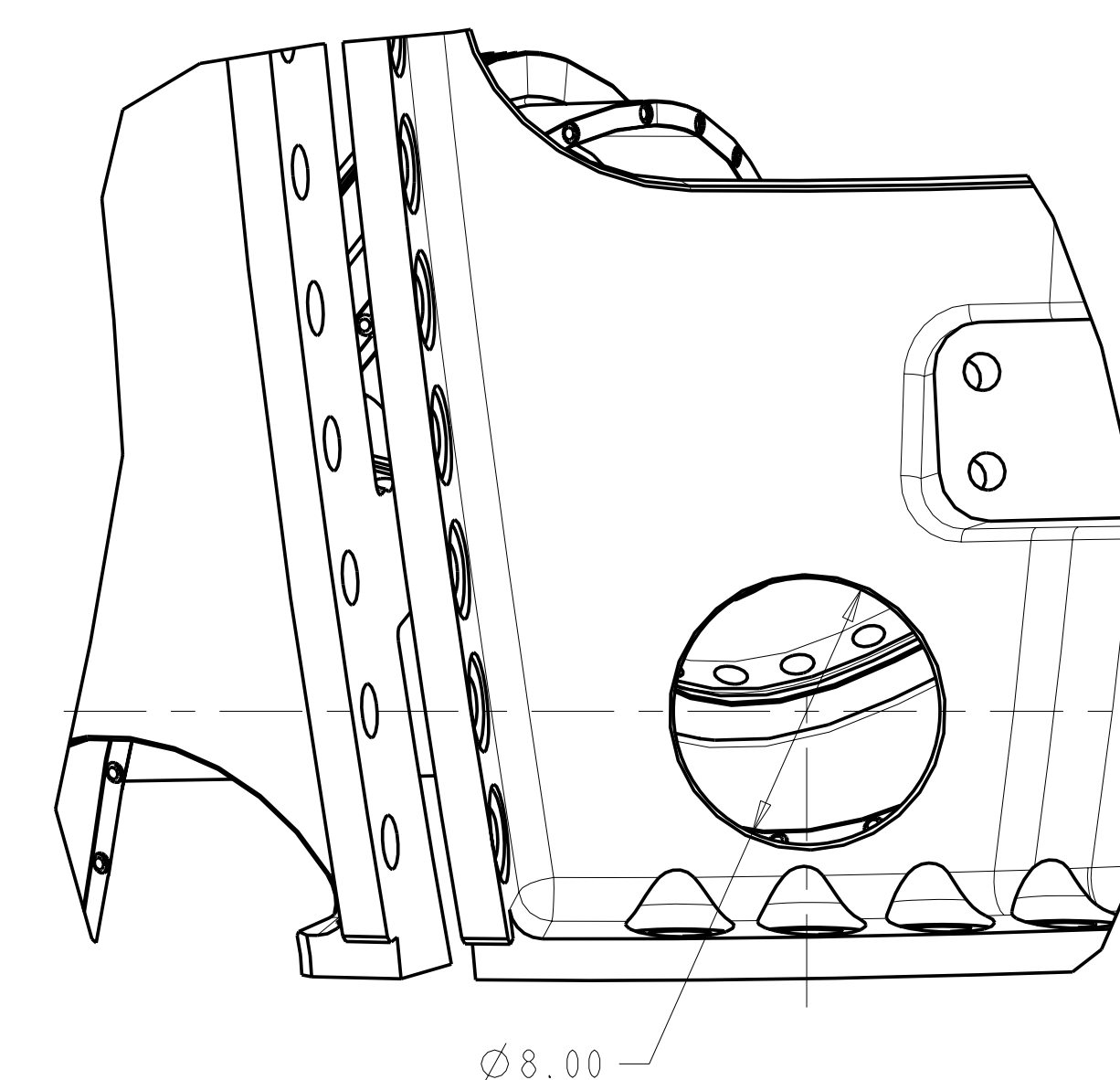
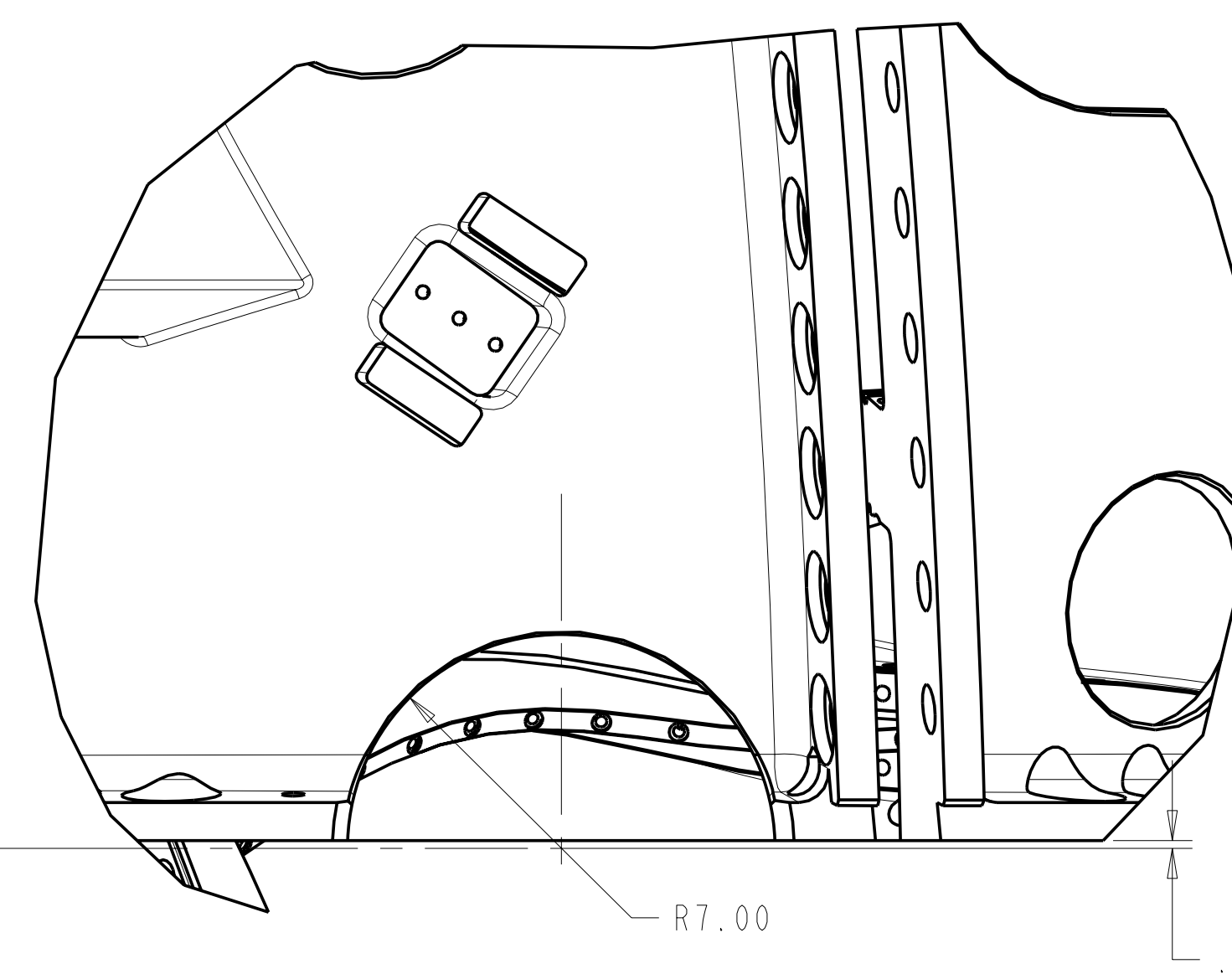
E

D

C

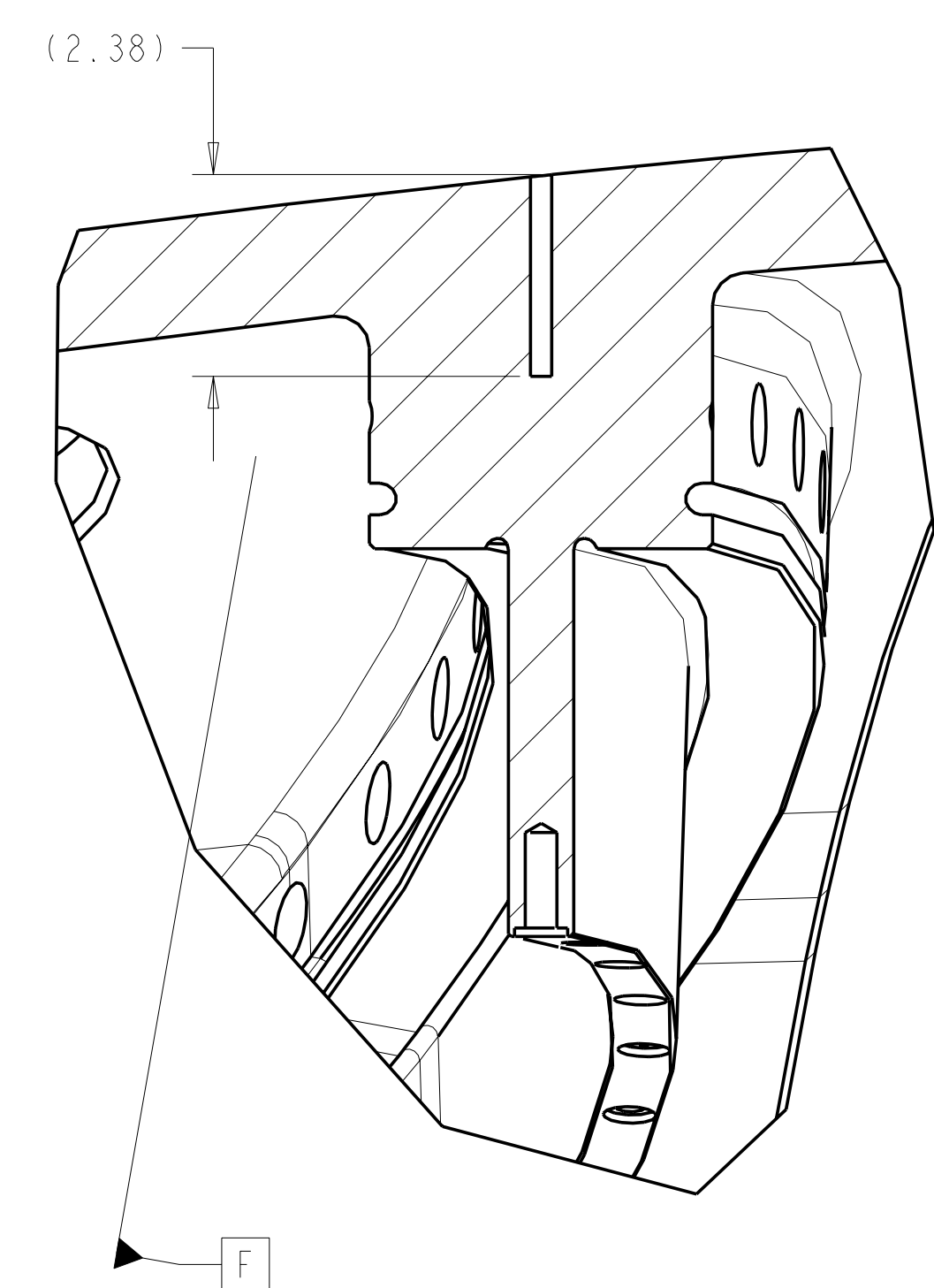
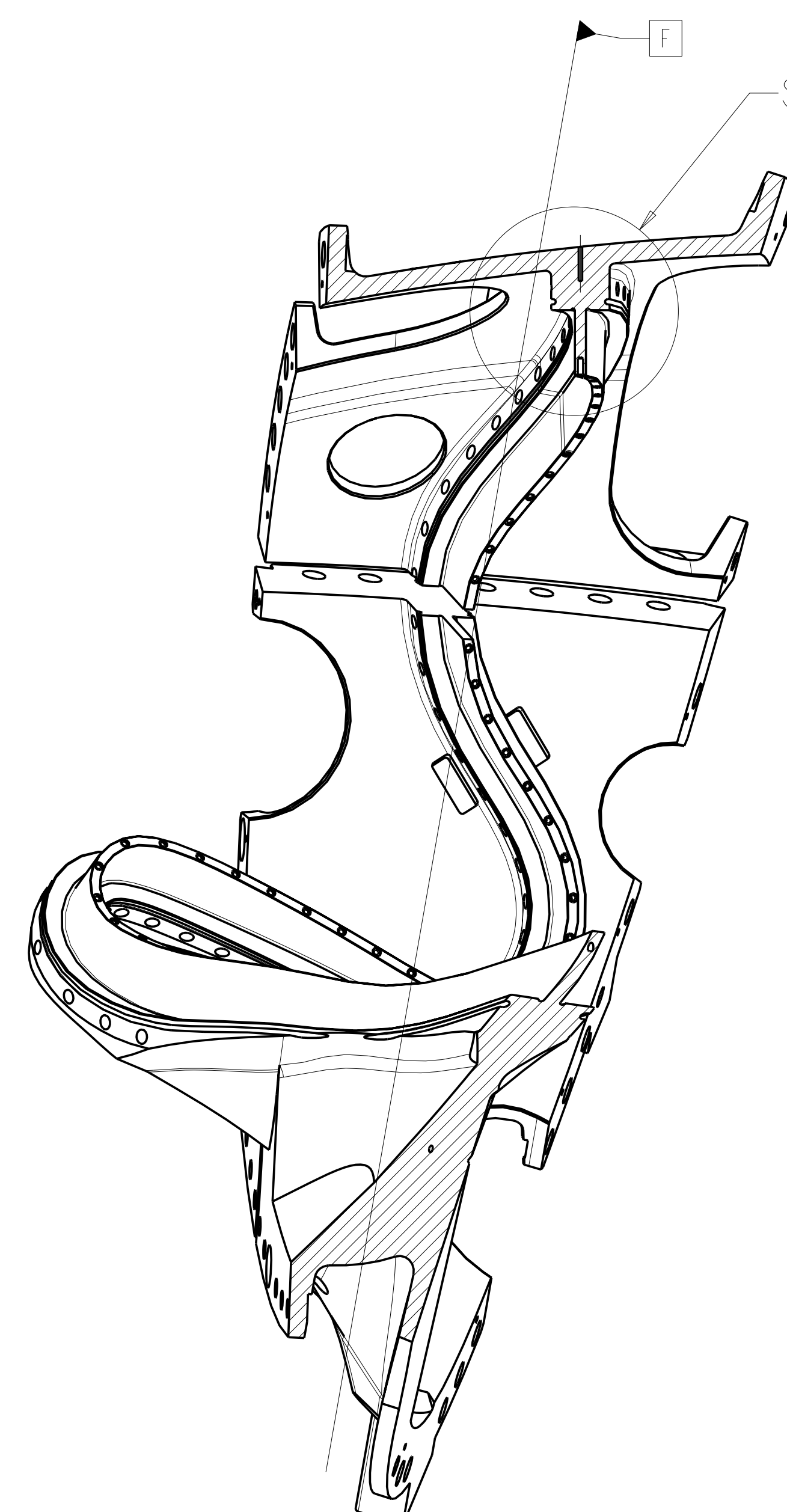
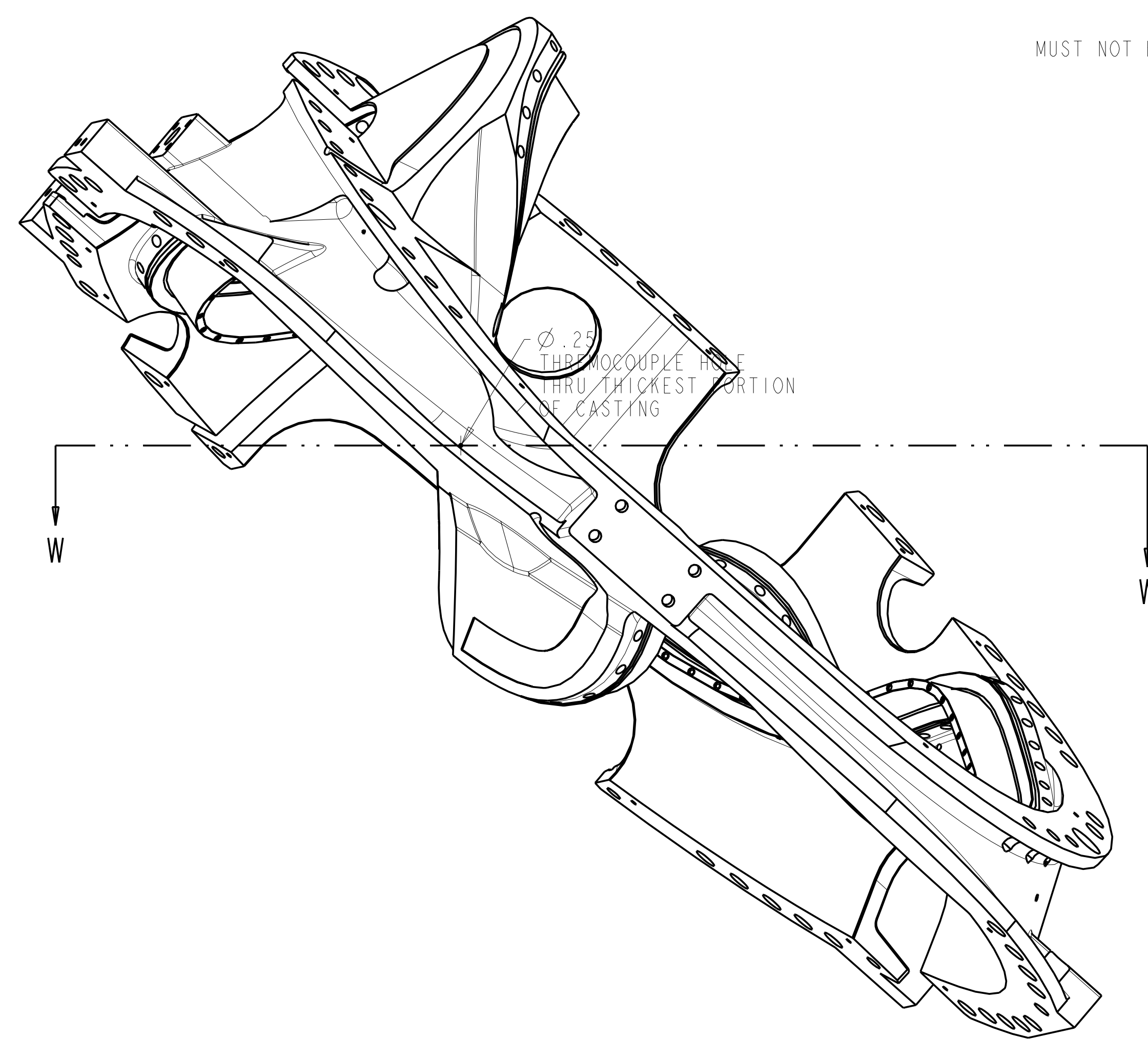
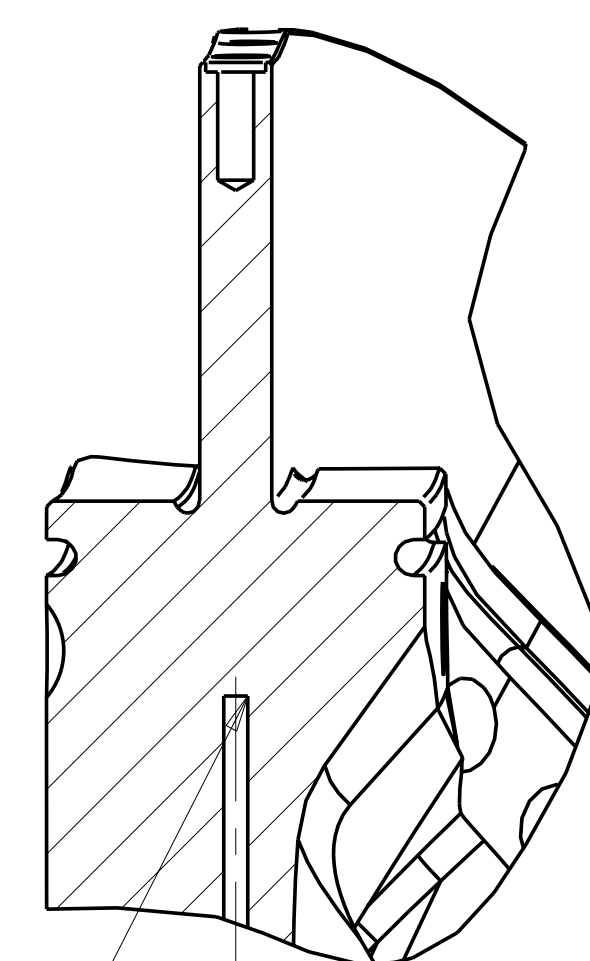
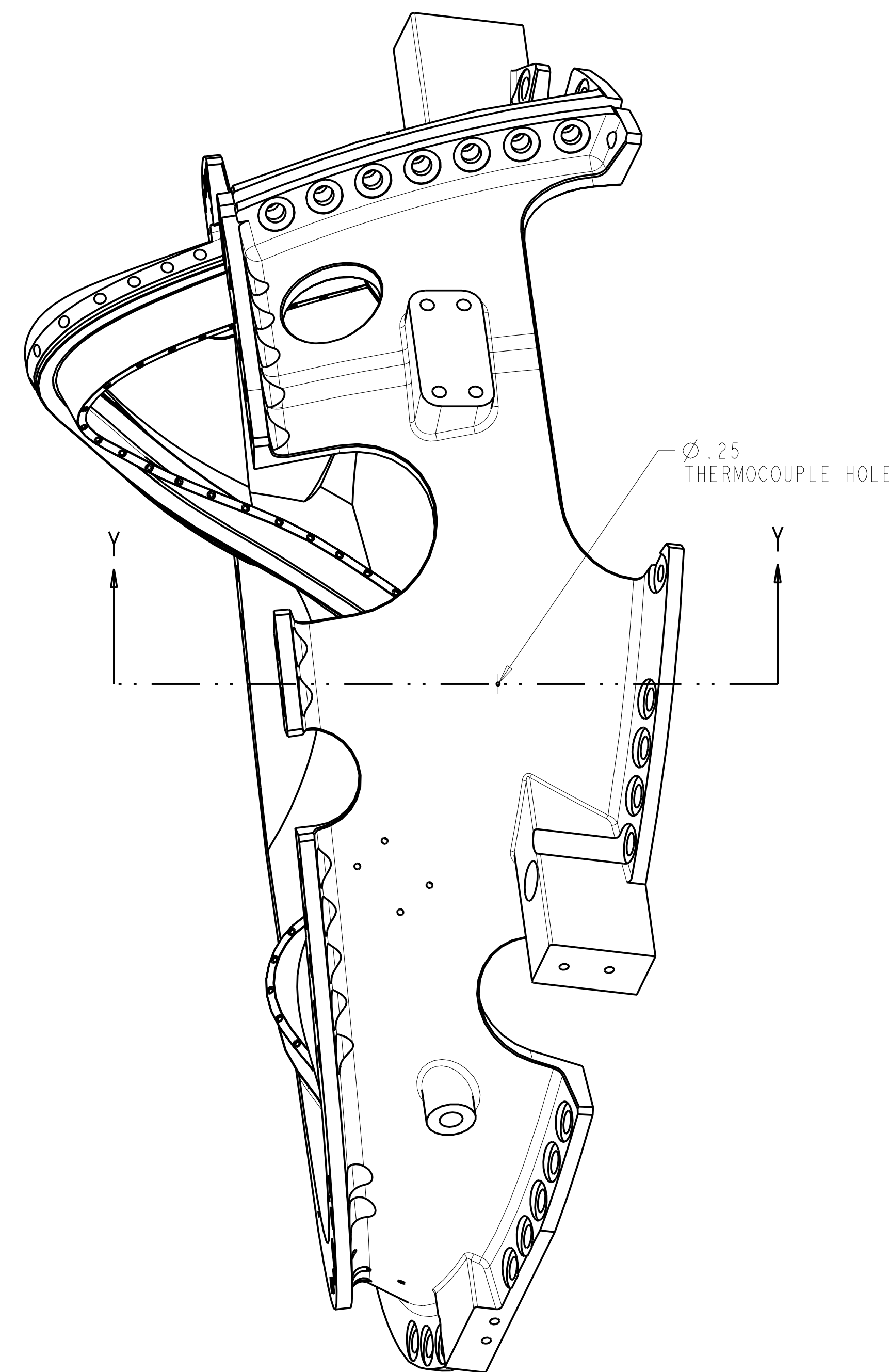
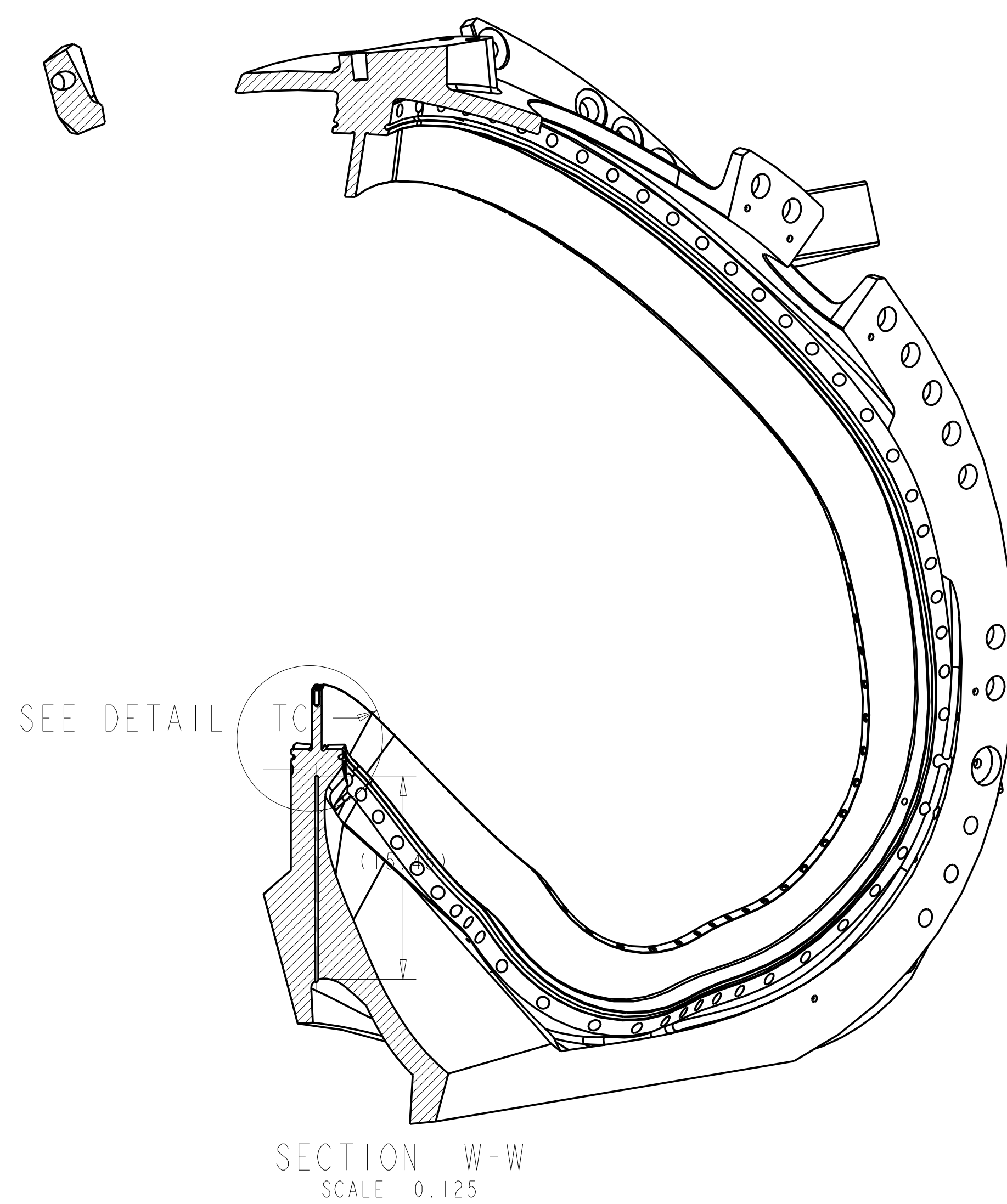
B

A

VIEW AT DATUM E
SCALE 0.125SECTION E5-E5
SCALE 0.19SECTION E1-E1
SCALE 0.19SECTION E2-E2
SCALE 0.19SECTION E3-E3
SCALE 0.19SECTION E4-E4
SCALE 0.19

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee					
PROJECT TITLE							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-B							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
25	X-10	5700	3	8	12	S	U
RELEASE LEVEL		SEI41-115					
WIP		REV 0					

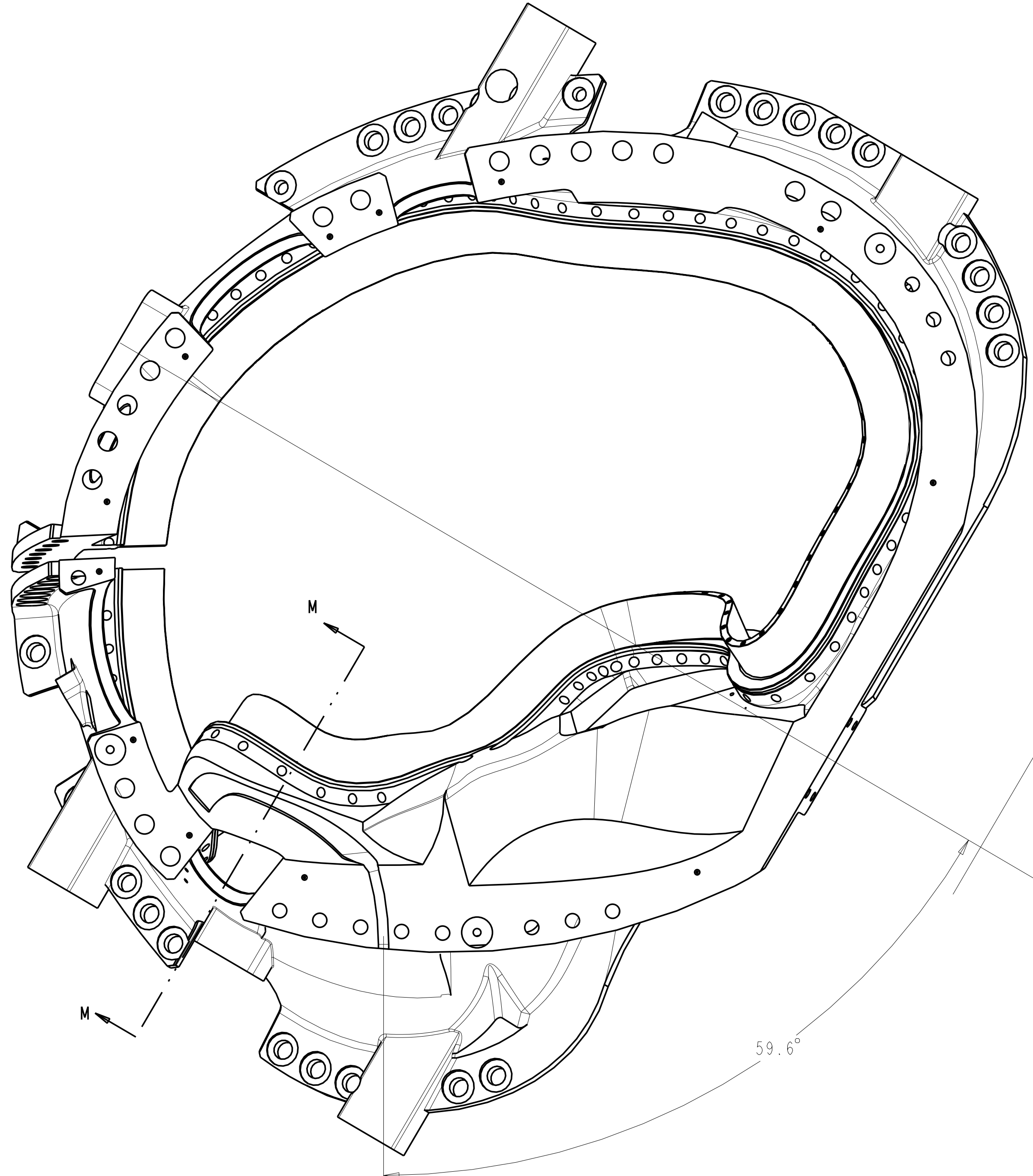
FOR NOTES AND PARTS LIST SEE SHEET 1



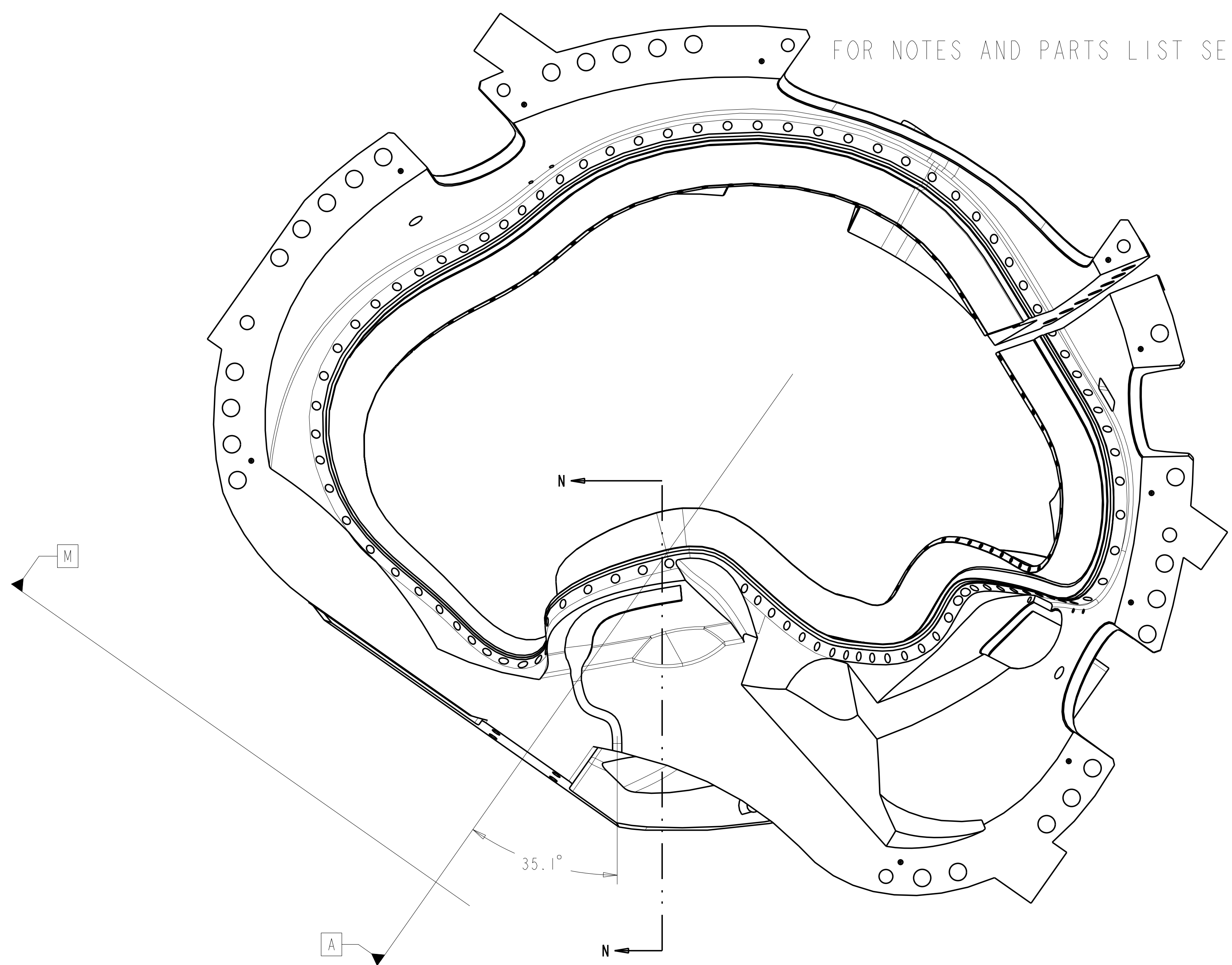
SECTION Y-Y
SCALE 0.125

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
UT-BATTELLE							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-B							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
25	X-10	5700	3	9	12	S	U
RELEASE LEVEL		SEI41-115					
WIP		REV 0					

FOR NOTES AND PARTS LIST SEE SHEET 1



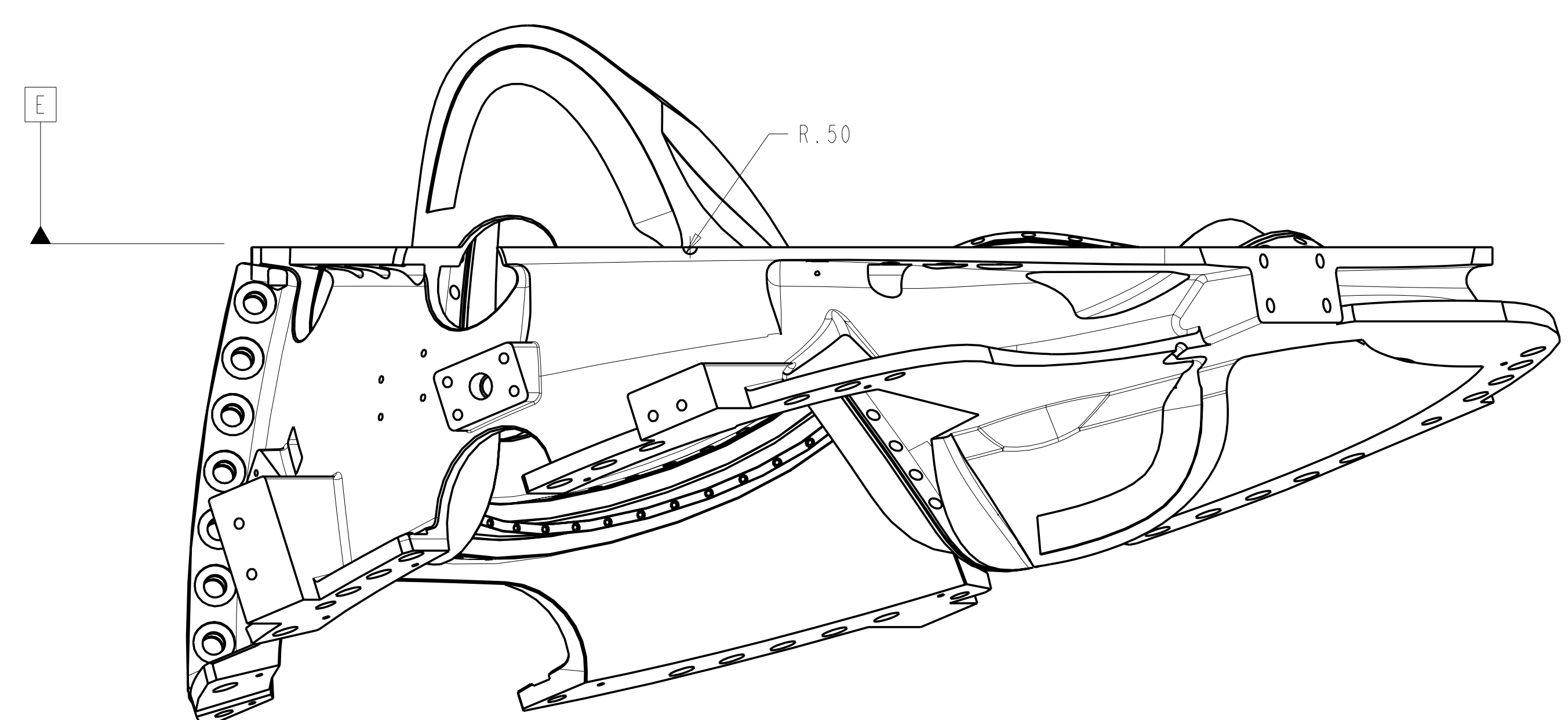
59.6°



N

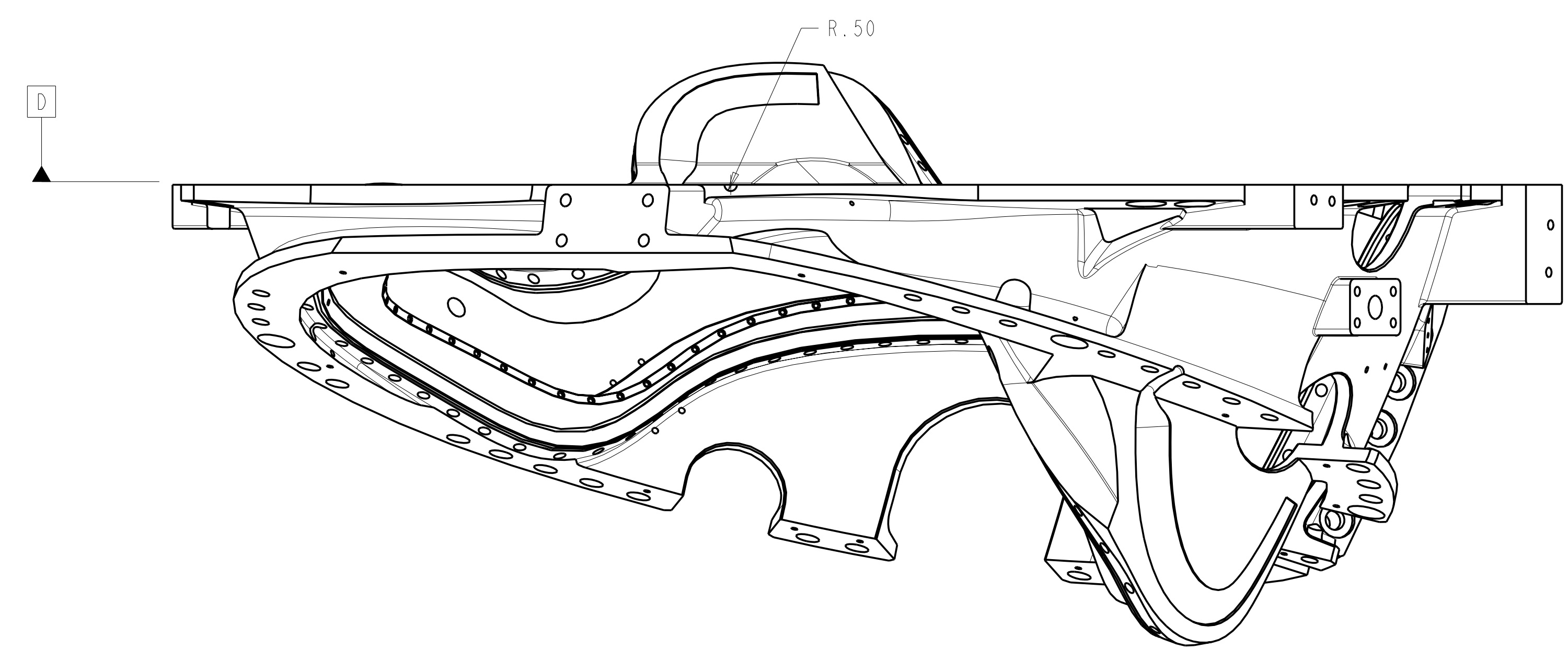
35.1°

N



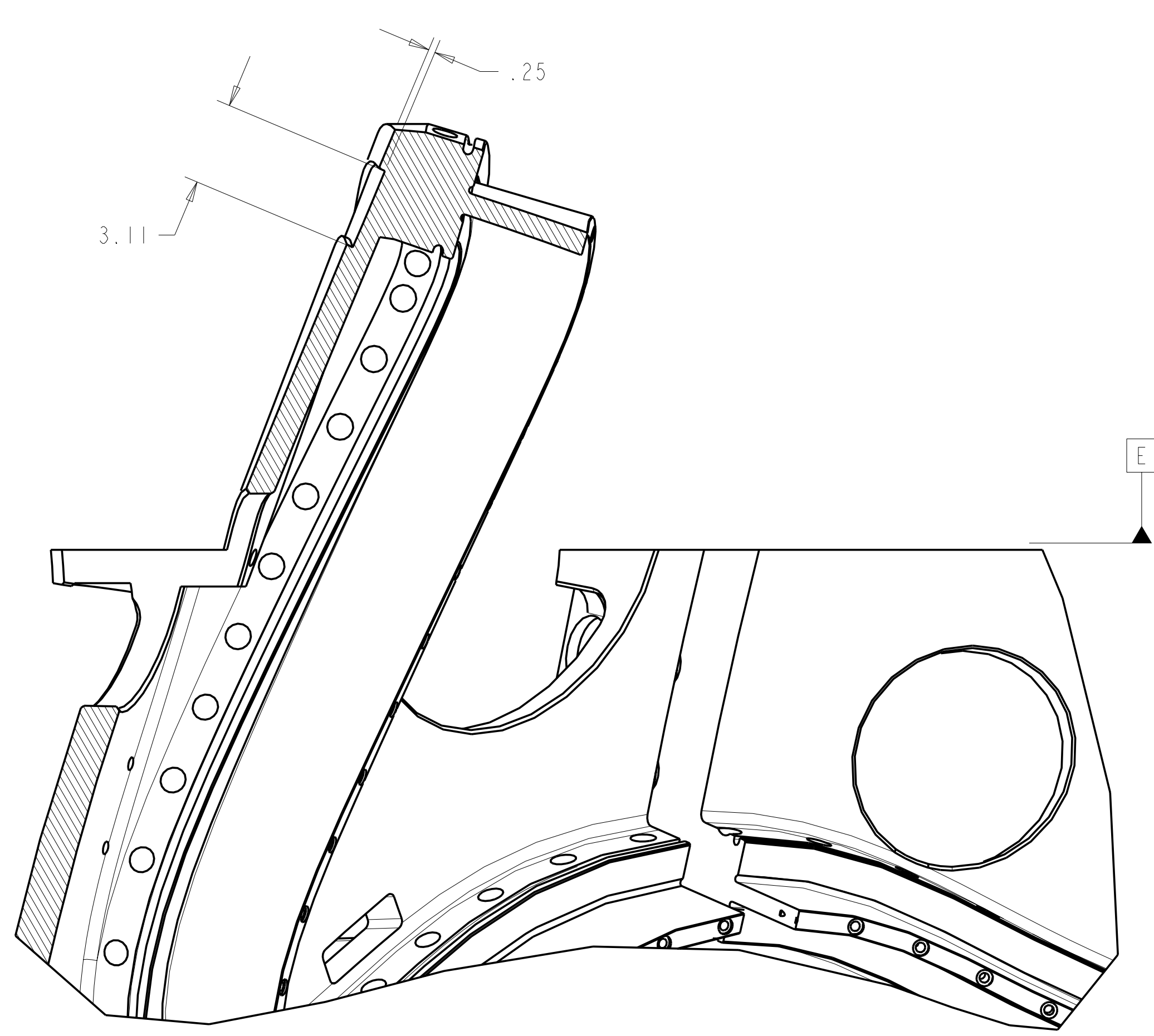
R.50

SCALE 0.125

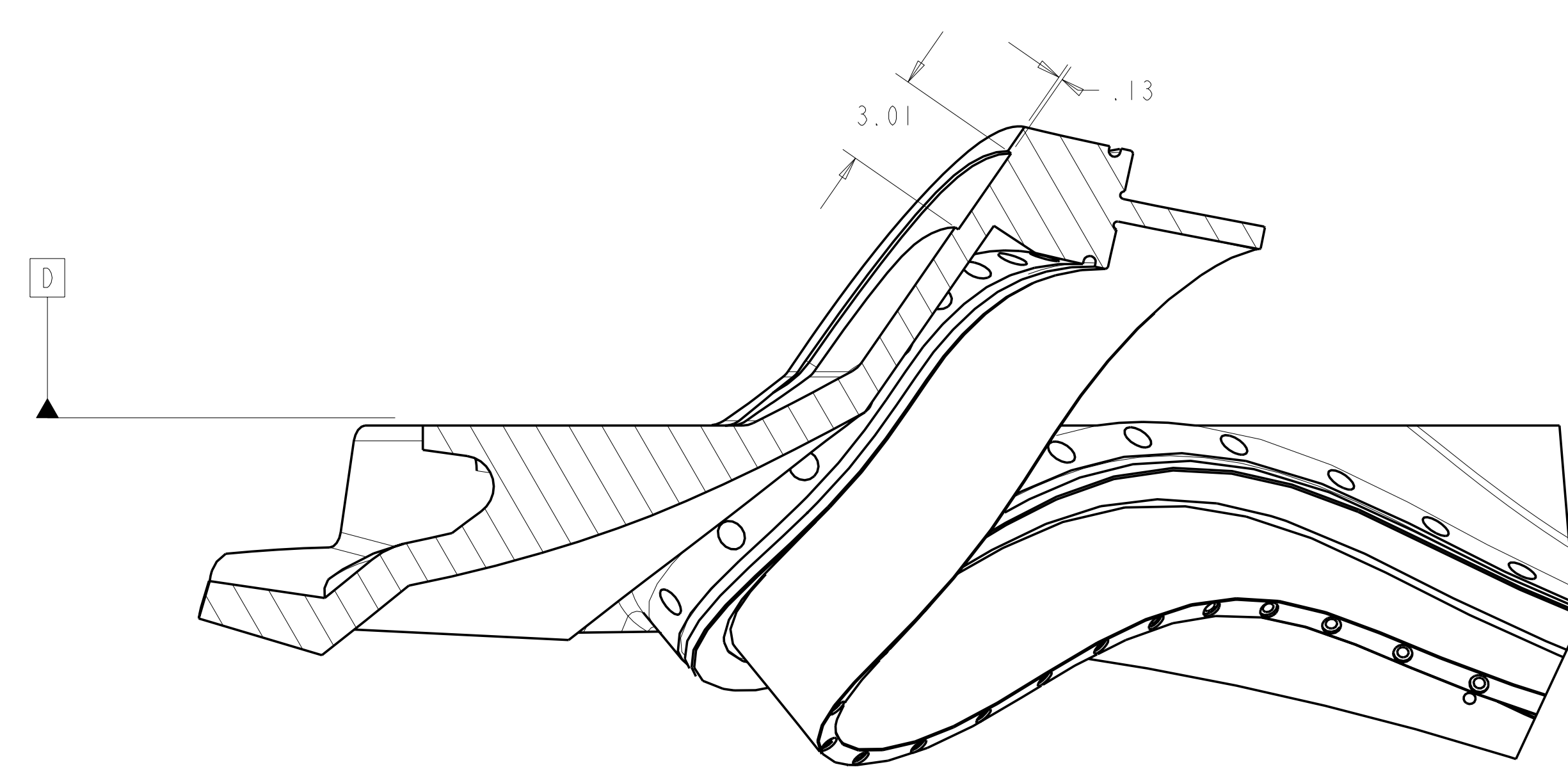


R.50

SCALE 0.125

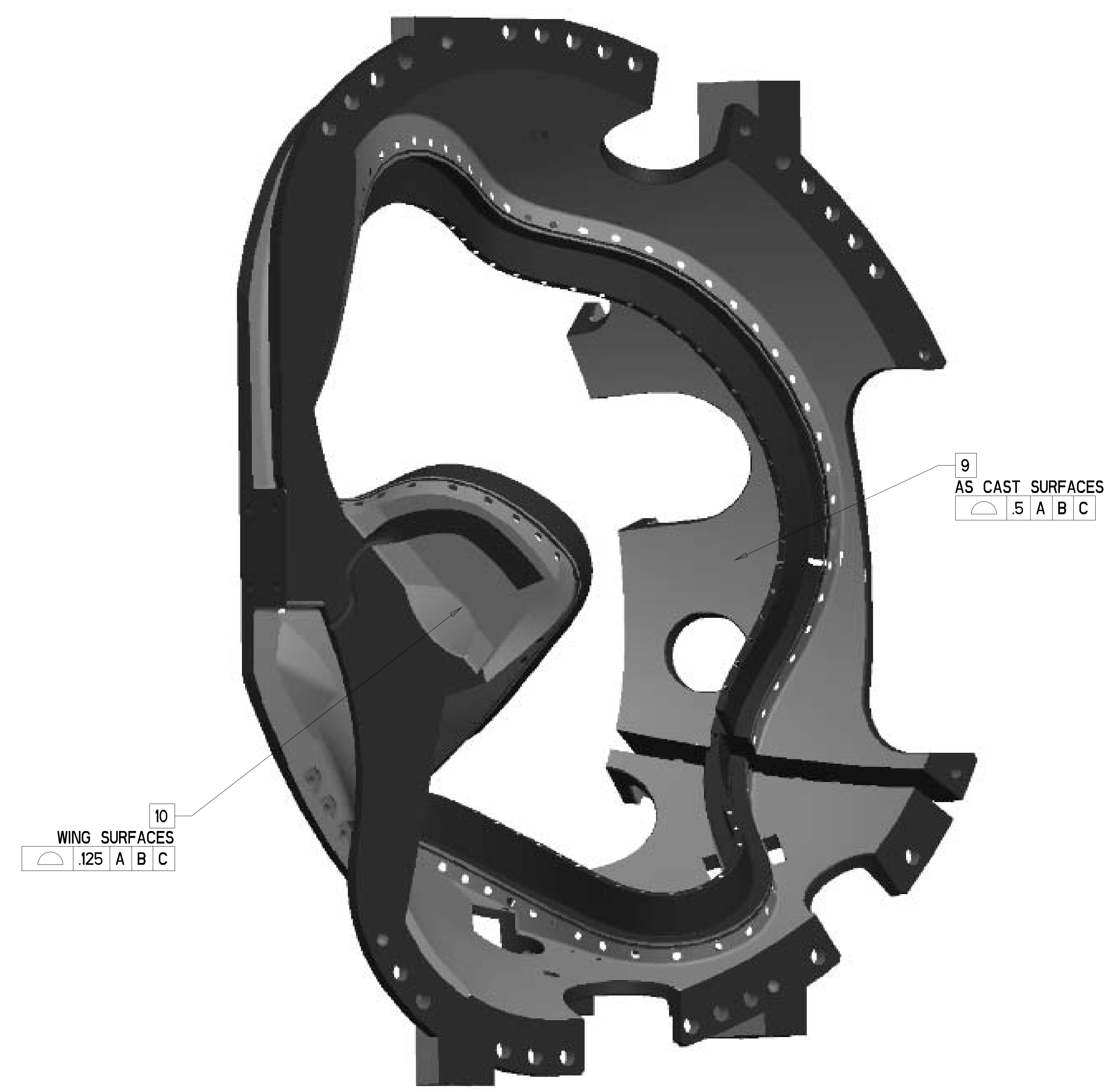


SECTION M-M
SCALE 0.25

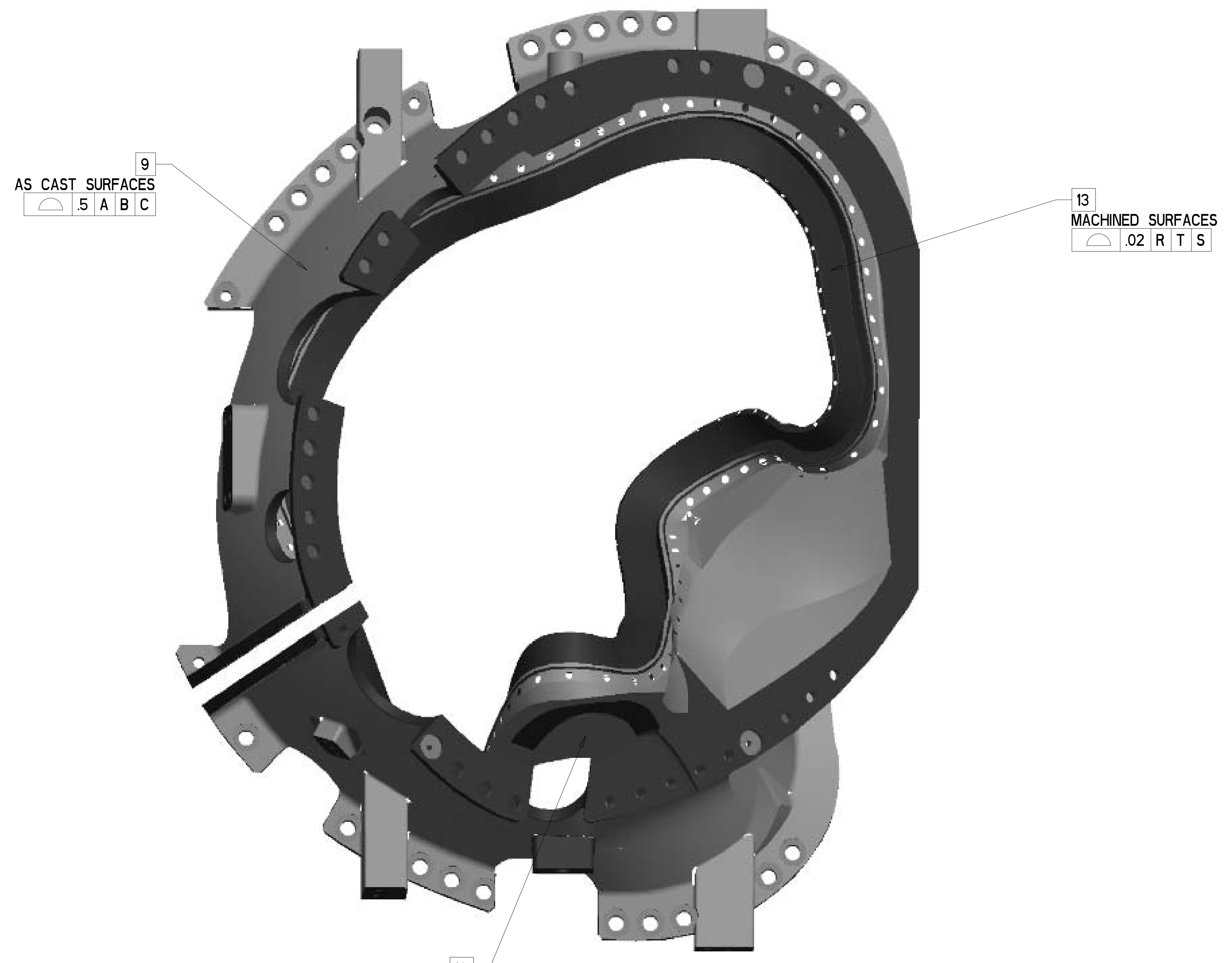


SECTION N-N
SCALE 0.250

UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee						
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT								
PRODUCTION WINDING FORM TYPE-B								
VERSION NO. 25	PLANT X-10	BLDG 5700	FL 3	SHT 10	OF 12	TYPE S	CLASS U	
RELEASE LEVEL WIP		SEI41-115					REV 0	



ISOMETRIC VIEW
NOT TO SCALE



ISOMETRIC VIEW
NOT TO SCALE

<div><div>UT-BATTELLE</div><div><div>Oak Ridge National Laboratory</div><div>managed for the DEPARTMENT OF ENERGY under</div><div>U.S. GOVERNMENT contract DE-AC05-00OR22725</div><div>UT-BATTELLE, LLC. Oak Ridge, Tennessee</div></div></div>									
PROJECT NAME									
NATIONAL COMPACT STELLARATOR EXPERIMENT									
PRODUCTION WINDING FORM TYPE-B									
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS		
25	X-10	5700	3	11	12	S	U		
RELEASE LEVEL								REV	
WIP		SEI41-115						0	

TABLE I: WINDING CENTER SPLINE

#	X	Y	Z
1	79.865	41.620	0.000
2	79.954	40.848	2.703
3	79.699	40.139	5.412
4	79.119	39.497	8.088
5	78.246	38.924	10.700
6	77.117	38.408	13.224
7	75.763	37.938	15.645
8	74.211	37.508	17.951
9	72.480	37.112	20.134
10	70.577	36.765	22.177
11	68.497	36.500	24.052
12	66.238	36.363	25.721
13	63.807	36.404	27.133
14	61.235	36.672	28.237
15	58.581	37.144	29.040
16	55.889	37.663	29.673
17	53.175	37.978	30.340
18	50.507	37.834	31.201
19	48.064	37.012	32.306
20	46.021	35.540	33.546
21	44.254	33.716	34.757
22	42.521	31.789	35.851
23	40.699	29.859	36.784
24	38.758	27.959	37.516
25	36.704	26.097	37.991
26	34.572	24.269	38.127
27	32.429	22.476	37.826
28	30.386	20.727	37.012
29	28.588	19.001	35.716
30	27.114	17.255	34.077
31	25.883	15.587	32.178
32	24.821	14.306	29.918
33	23.992	13.709	27.307
34	23.371	13.765	24.568
35	22.818	14.265	21.857
36	22.202	15.020	19.217
37	21.441	15.899	16.655
38	20.621	16.692	14.084
39	20.049	17.171	11.376
40	20.161	17.234	8.581
41	21.328	16.913	6.069
42	23.531	16.306	4.490
43	26.144	15.366	4.287
44	28.434	13.980	5.112
45	30.309	12.246	6.288
46	32.355	10.489	7.039
47	34.864	9.267	6.901
48	37.491	8.707	6.095
49	40.022	8.663	4.876
50	42.401	8.965	3.406
51	44.570	9.536	1.713
52	46.320	10.429	-0.289
53	47.233	11.698	-2.606
54	47.125	13.289	-4.909
55	46.430	15.093	-6.949
56	45.523	16.965	-8.843
57	44.587	18.803	-10.758
58	43.702	20.655	-12.683
59	42.869	22.632	-14.502
60	42.101	24.779	-16.150
61	41.471	27.112	-17.589
62	40.952	29.625	-18.739
63	40.413	32.216	-19.696
64	39.799	34.789	-20.655
65	39.178	37.324	-21.706
66	38.712	39.872	-22.803
67	38.541	42.498	-23.793
68	38.682	45.210	-24.518
69	39.152	47.958	-24.854
70	40.574	50.339	-24.715
71	43.042	51.598	-24.560
72	45.773	51.353	-24.953
73	47.888	49.823	-25.946
74	49.488	47.833	-27.123
75	50.873	45.694	-28.316
76	52.175	43.493	-29.491
77	53.422	41.253	-30.650
78	54.602	38.966	-31.789
79	55.708	36.632	-32.905
80	56.771	34.262	-33.987
81	57.920	31.901	-34.998
82	59.424	29.677	-35.819
83	61.577	27.936	-36.187
84	64.224	27.142	-35.833
85	66.799	27.411	-34.786
86	68.891	28.519	-33.291
87	70.359	30.197	-31.589
88	71.208	32.226	-29.843
89	71.577	34.417	-28.120
90	71.705	36.624	-26.379
91	71.818	38.739	-24.527
92	72.074	40.660	-22.490
93	72.549	42.286	-20.247
94	73.227	43.552	-17.830
95	74.085	44.406	-15.294
96	75.150	44.757	-12.718
97	76.379	44.578	-10.198
98	77.604	44.014	-7.729
99	78.654	43.258	-5.232
100	79.425	42.436	-2.655
101	79.865	41.620	0.000

TABLE II: X-VECTOR SPLINE

#	X	Y	Z
1	76.869	38.919	0.000
2	76.879	38.207	2.540
3	76.554	37.557	5.076
4	75.918	36.974	7.570
5	75.009	36.455	9.992
6	73.864	35.985	12.323
7	72.514	35.557	14.550
8	70.983	35.164	16.663
9	69.285	34.807	18.652
10	67.421	34.509	20.496
11	65.384	34.313	22.162
12	63.176	34.265	23.605
13	60.816	34.419	24.772
14	58.351	34.791	25.634
15	55.837	35.283	26.272
16	53.297	35.688	26.862
17	50.760	35.772	27.577
18	48.340	35.330	28.511
19	46.224	34.244	29.638
20	44.431	32.703	30.807
21	42.733	30.999	31.896
22	40.967	29.285	32.847
23	39.081	27.609	33.622
24	37.068	25.992	34.164
25	34.953	24.432	34.383
26	32.801	22.930	34.140
27	30.767	21.481	33.304
28	29.043	20.013	31.956
29	27.630	18.525	30.298
30	26.399	17.345	28.296
31	25.477	17.058	25.859
32	24.819	17.452	23.336
33	24.189	18.162	20.874
34	23.470	19.015	18.482
35	22.654	19.874	16.123
36	21.896	20.556	13.690
37	21.443	20.938	11.122
38	21.683	20.928	8.512
39	23.068	20.450	6.363
40	25.381	19.653	5.489
41	27.755	18.609	5.886
42	29.770	17.269	6.925
43	31.505	15.672	8.110
44	33.234	13.933	9.079
45	35.335	12.402	9.436
46	37.740	11.379	9.131
47	40.202	10.829	8.372
48	42.607	10.658	7.303
49	44.893	10.789	5.995
50	46.968	11.229	4.430
51	48.653	12.022	2.569
52	49.833	13.010	0.431
53	50.424	14.109	-1.888
54	50.418	15.384	-4.194
55	49.943	16.903	-6.293
56	49.126	18.642	-8.101
57	48.239	20.382	-9.877
58	47.384	22.114	-11.677
59	46.581	23.935	-13.410
60	45.832	25.909	-14.994
61	45.189	28.058	-16.381
62	44.564	30.415	-17.385
63	43.870	32.858	-18.106
64	43.065	35.290	-18.742
65	42.181	37.688	-19.401
66	41.319	40.087	-20.090
67	40.643	42.558	-20.718
68	40.291	45.137	-21.140
69	40.312	47.768	-21.197
70	41.714	49.873	-20.816
71	44.203	50.628	-20.763
72	46.710	50.101	-21.266
73	48.649	48.613	-22.223
74	50.105	46.722	-23.344
75	51.310	44.671	-24.489
76	52.399	42.551	-25.624
77	53.420	40.389	-26.744
78	54.373	38.189	-27.848
79	55.254	35.948	-28.931
80	56.078	33.673	-29.987
81	56.920	31.386	-30.999
82	57.968	29.143	-31.910
83	59.522	27.125	-32.559
84	61.742	25.748	-32.658
85	64.255	25.402	-32.029
86	66.488	26.052	-30.819
87	68.167	27.386	-29.298
88	69.242	29.152	-27.668
89	69.782	31.158	-26.045
90	69.969	33.244	-24.440
91	70.030	35.297	-22.781
92	70.152	37.220	-20.979
93	70.459	38.907	-18.975
94	70.983	40.263	-16.775
95	71.696	41.227	-14.427
96	72.615	41.705	-12.005
97	73.726	41.632	-9.617
98	74.861	41.139	-7.287
99	75.826	40.441	-4.932
100	76.511	39.678	-2.501
101	76.869	38.919	0.000

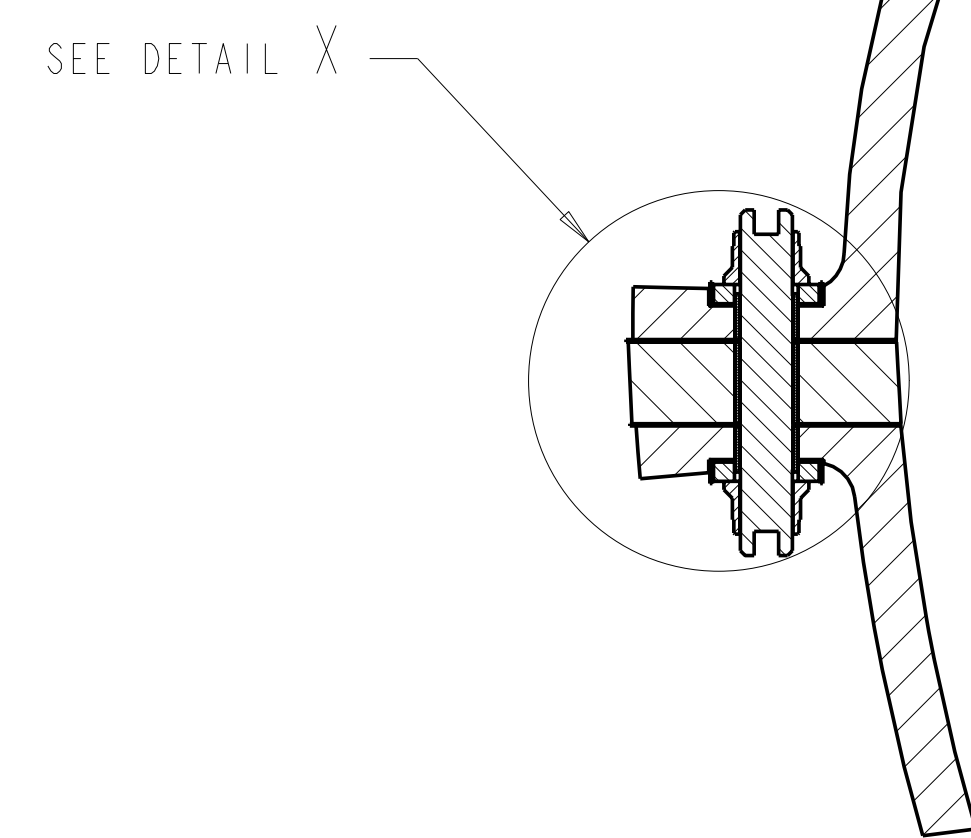
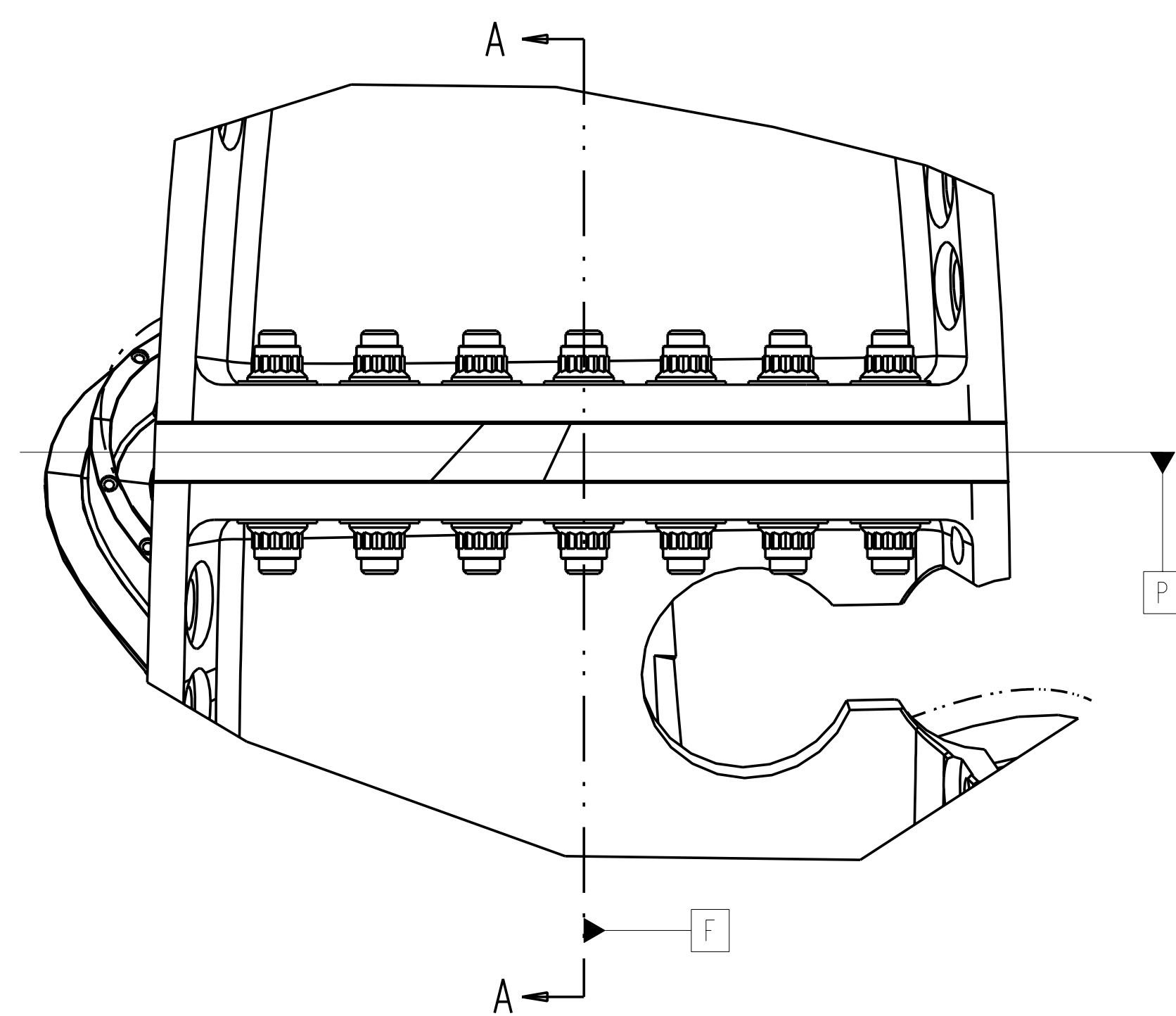
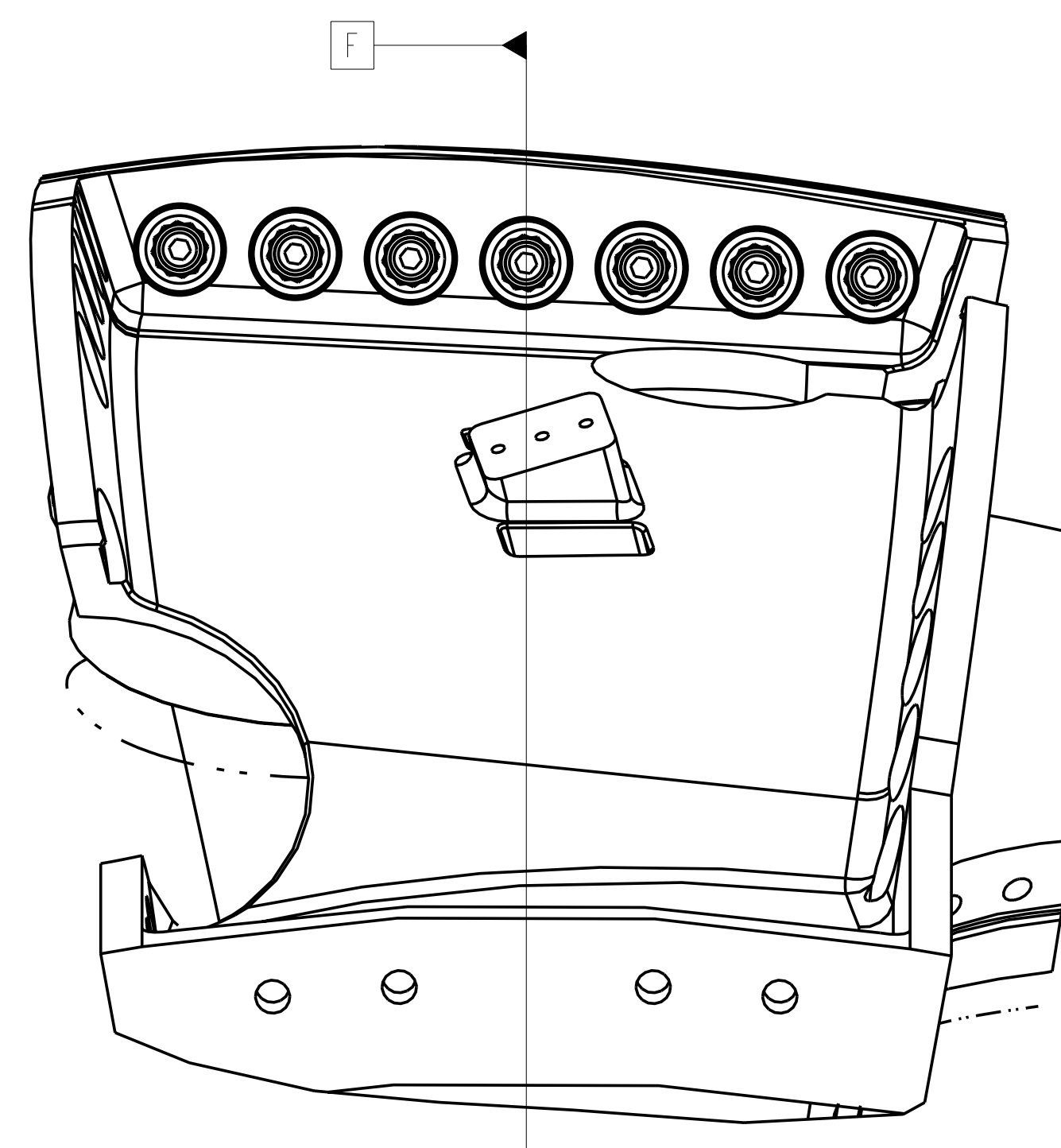
TABLE III SPHERICAL SEAT CENTERS SA

GROUP 1 SPHERICAL SEAT CENTERS...SIDE A			
No.	x	y	z
1	77.673	48.971	-9.087
2	74.475	49.040	-15.799
3	72.295	46.440	-22.319
4	71.232	41.988	-27.784
5	70.876	37.134	-31.816
6	69.639	33.289	-34.989
7	67.290	31.415	-37.115
8	64.955	31.116	-38.126
9	61.749	32.956	-38.173
10	59.353	36.846	-38.847
11	57.172	40.928	-35.205
12	54.229	45.720	-33.061
13	51.363	49.890	-30.977
14	46.603	54.527	-28.256
15	37.965	52.751	-27.723
16	34.555	43.991	-26.555
17	34.490	37.276	-22.762
18	35.852	31.635	-19.064
19	36.763	27.759	-16.993
20	37.850	23.77	-14.469
21	39.591	19.505	-10.674
22	41.547	15.631	-6.592
23	42.657	12.180	-3.762
24	41.895	10.479	-2.088
25	38.499	9.027	0.412
26	34.242	8.241	2.370
27	30.594	9.603	2.459
28	25.970	12.621	0.535
29	18.147	14.314	3.914
30	16.319	14.428	11.691
31	17.743	13.151	17.296
32	18.976	11.738	22.728
33	20.345	11.726	29.593
34	22.917	15.228	35.92
35	26.474	20.088	39.969
36	31.679	25.172	41.907
37	36.541	29.865	41.274
38	40.53	34.232	39.351
39	44.277	38.591	36.634
40	50.109	41.961	33.313
41	56.87	41.889	31.315
42	62.545	40.84	29.799
43	67.557	40.565	27.216
44	72.028	41.025	23.45
45	75.834	41.841	18.857
46	78.813	42.831	13.709
47	80.72	44.043	8.159
48	81.259	45.552	2.403

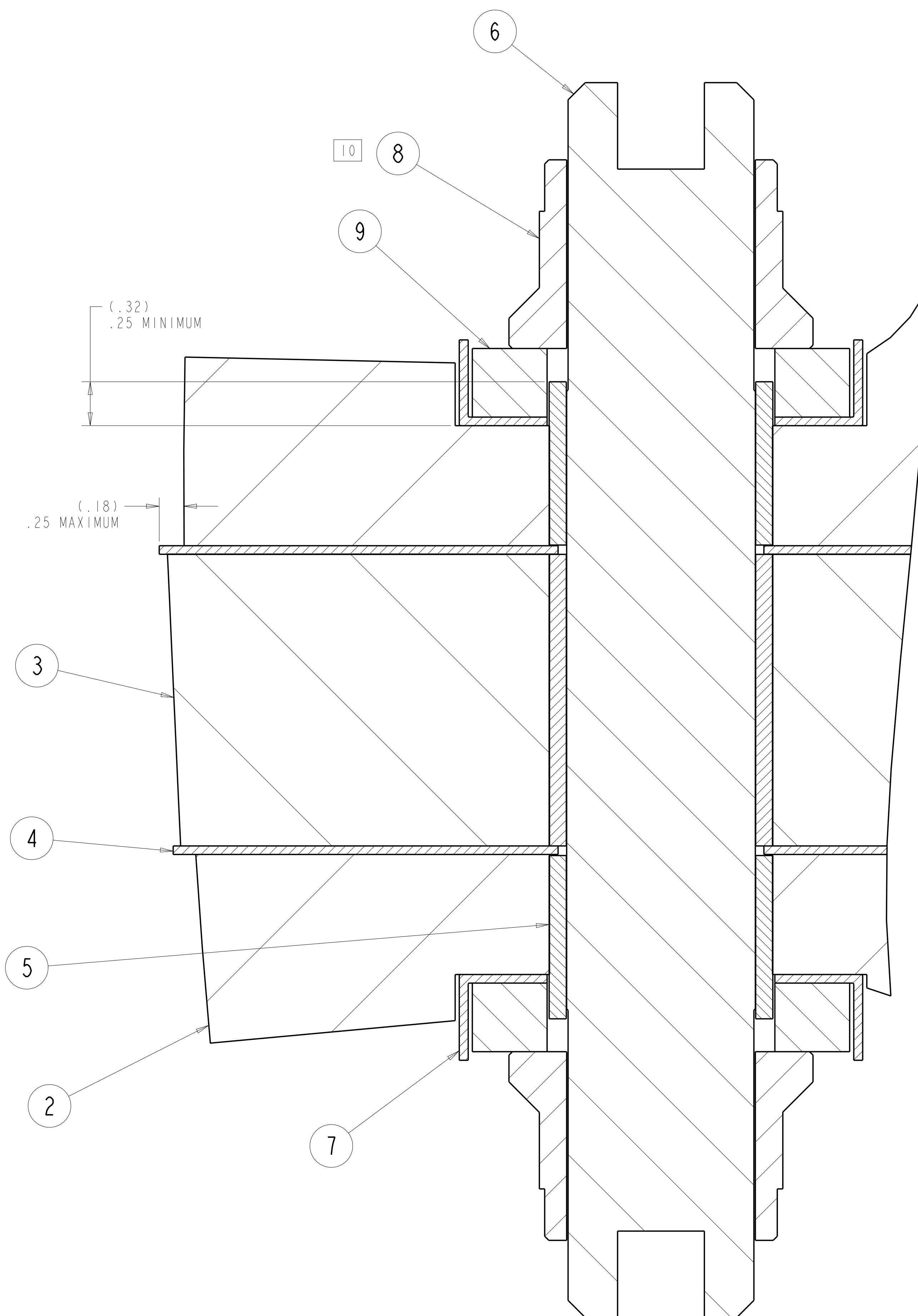
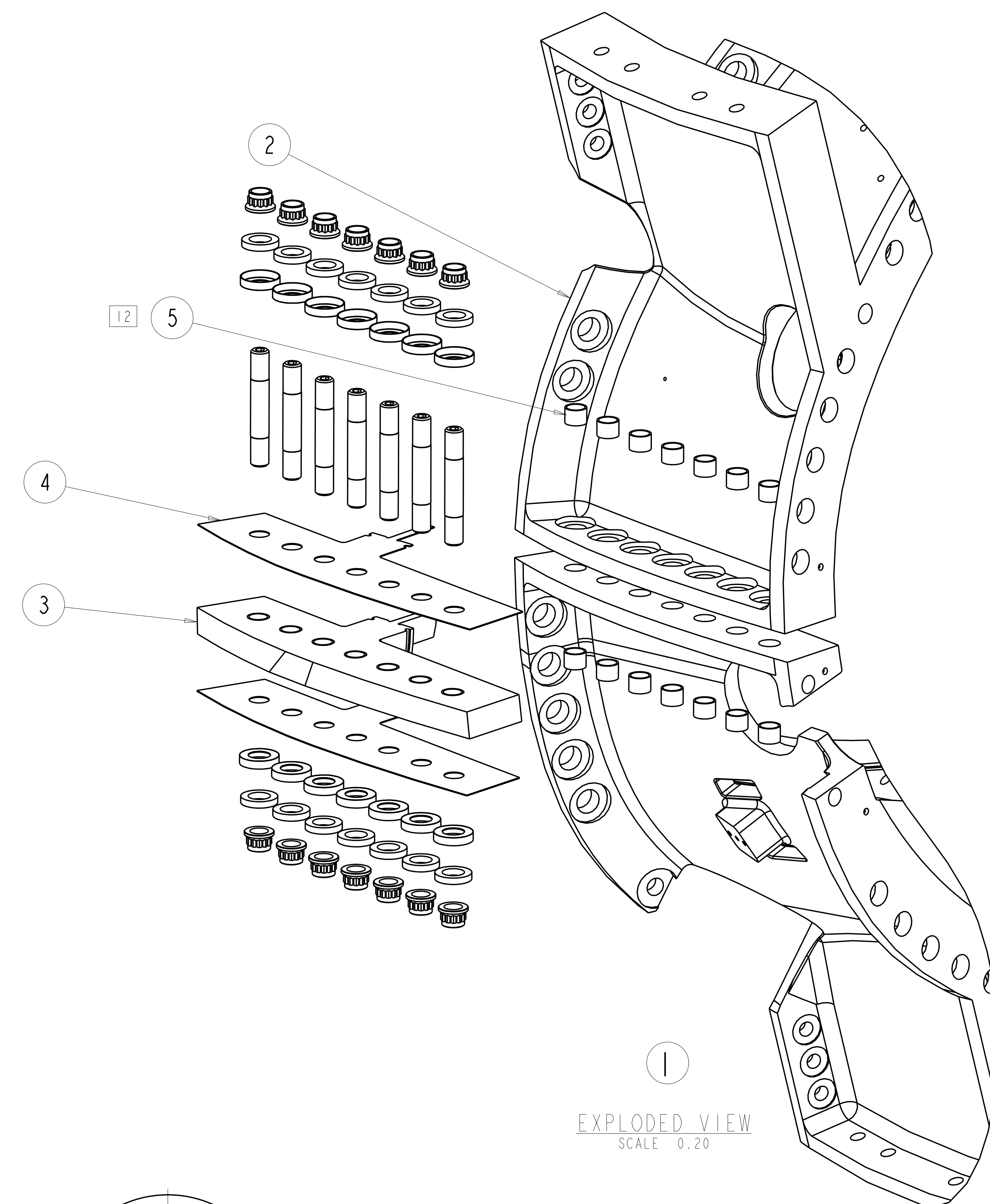
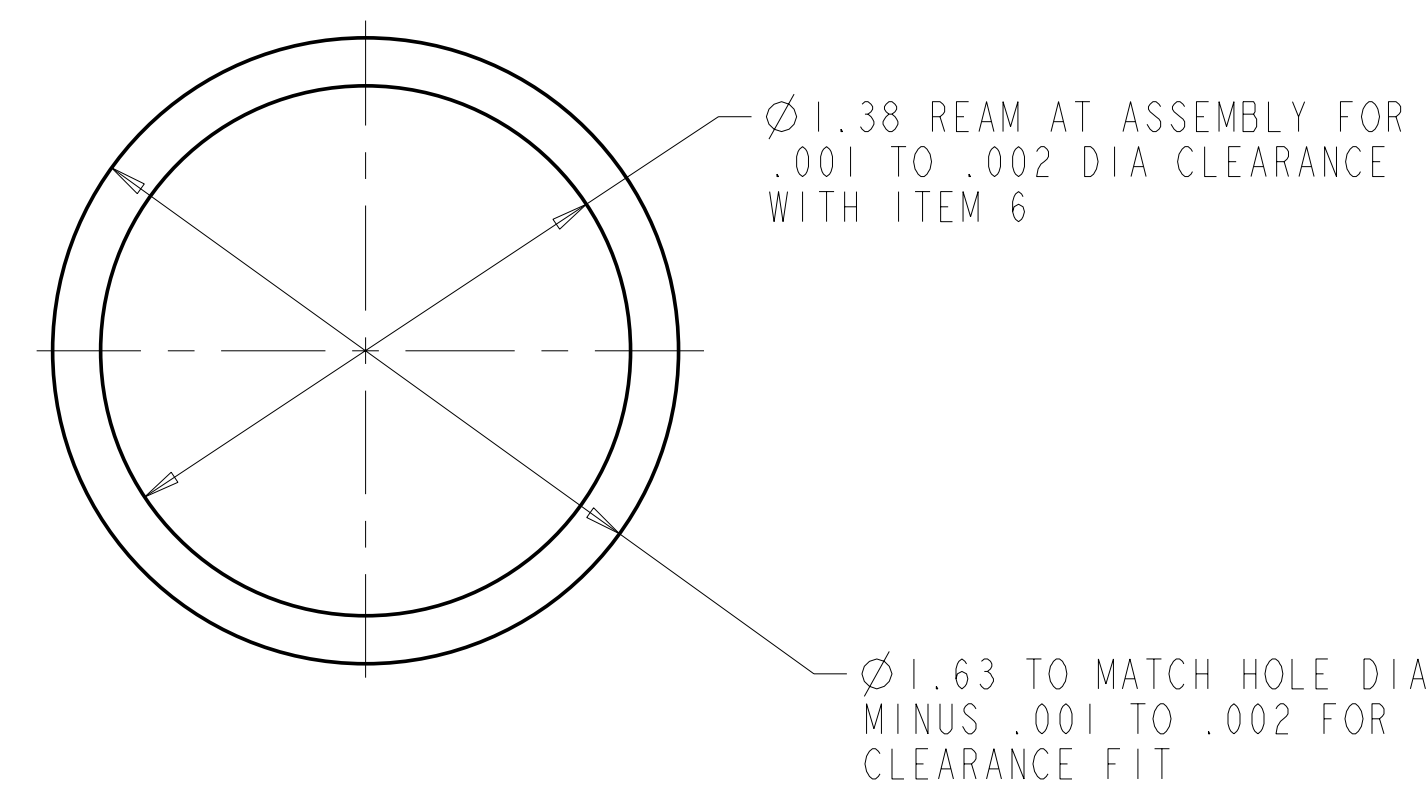
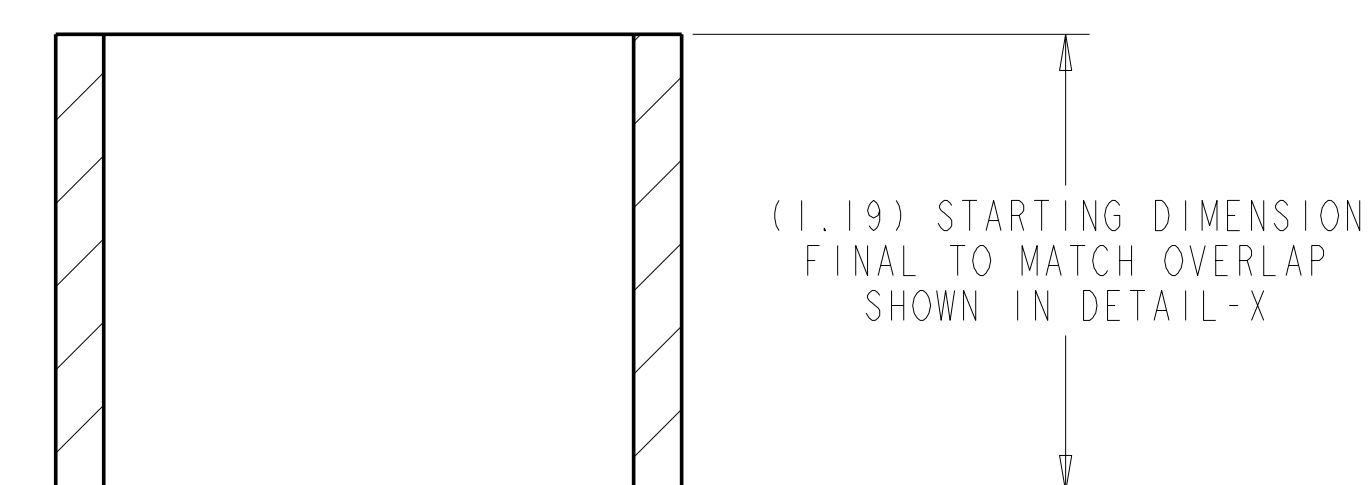
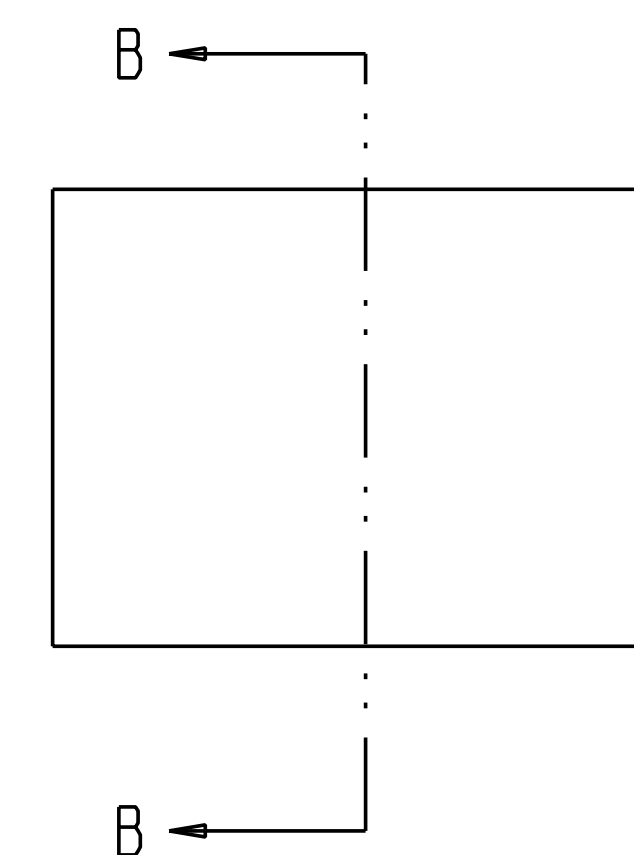
GROUP 2 SPHERICAL SEAT CENTERS...SIDE A

	x	y	z
1	76.015	49.355	-12.326
2	73.251	48.015	-19.173
3	71.610	44.380	-25.227
4	71.056	39.503	-29.956
5	70.464	35.036	-33.466
6	68.611	32.178	-36.128
7	66.129	31.120	-37.714
8	63.252	31.679	-38.379
9	60.513	34.728	-37.621
10	58.292	38.881	-36.048
11	55.730	43.365	-34.145
12	52.824	47.812	-32.046
13	49.382	52.341	-29.615
14	42.354	55.035	-27.596
15	35.392	47.893	-27.685
16	34.253	40.467	-24.827
17	35.131	34.352	-20.739
18	36.319	29.721	-18.037
19	37.254	25.750	-15.803
20	38.699	21.520	-12.644
21	40.567	17.547	-8.579
22	42.314	13.810	-4.919
23	42.574	11.126	-3.064
24	40.442	9.775	-0.842
25	36.390	8.434	1.527
26	32.189	8.619	2.764
27	28.849	11.133	1.448
28	21.905	13.683	1.019
29	16.429	14.555	7.949
30	16.963	13.901	14.721
31	18.417	12.377	19.878
32	19.550	11.400	25.964
33	21.542	13.095	33.166
34	24.444	17.586	38.079
35	29.005	22.650	41.322
36	34.226	27.582	41.821
37	38.628	32.067	40.420
38	42.340	36.396	38.098
39	46.811	40.661	34.930
40	53.612	42.242	32.127
41	59.835	41.320	30.622
42	65.106	40.586	28.678
43	69.873	40.728	25.457
44	74.021	41.408	21.235
45	77.440	42.313	16.343
46	79.920	43.404	10.973
47	81.175	44.761	5.289
48	80.947	46.409	-0.464
49	80.236	47.307	-3.292

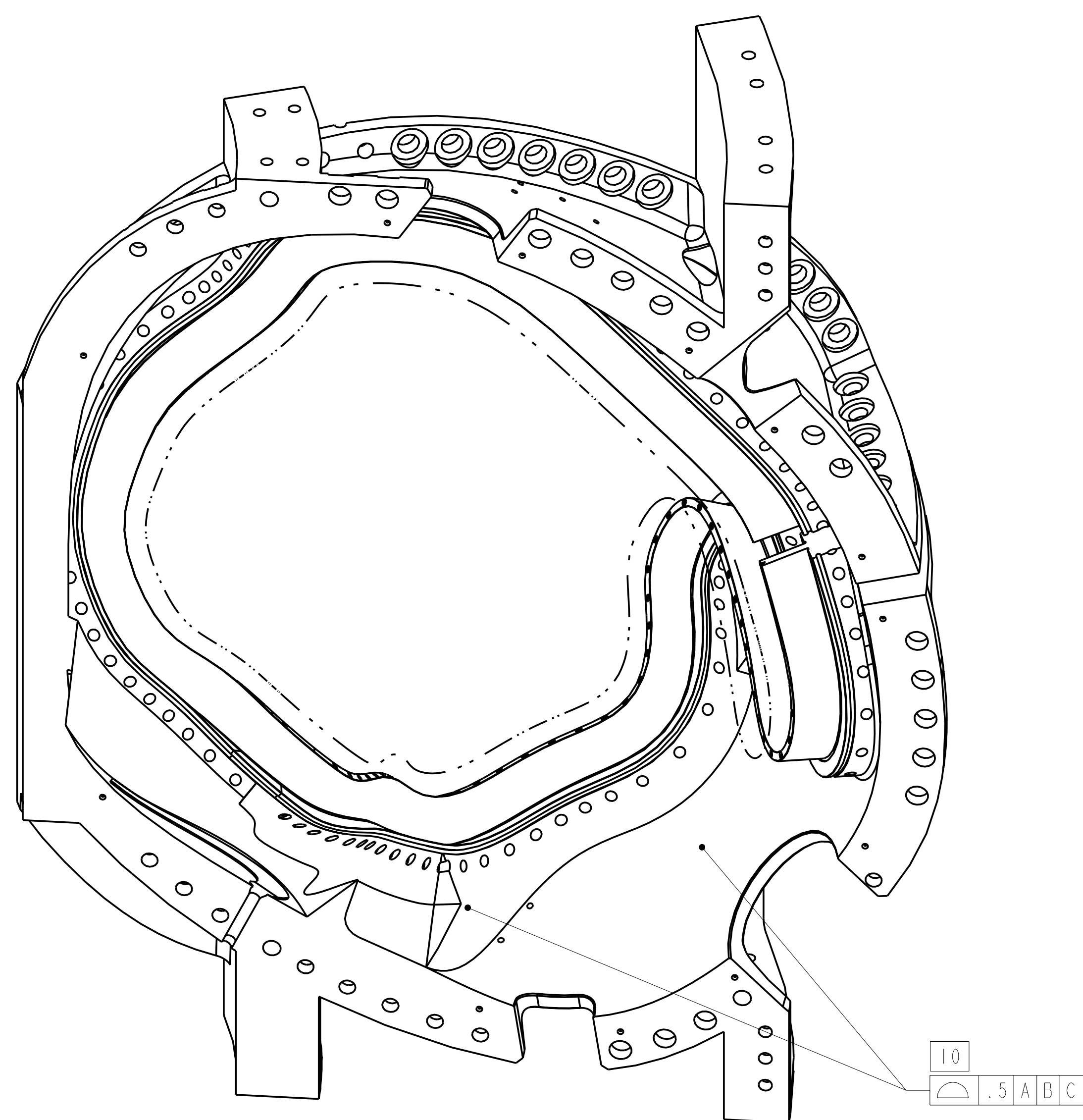
FOR NOTES AND PARTS LIST SEE SHEET 1

SECTION A-A
SCALE 0.20

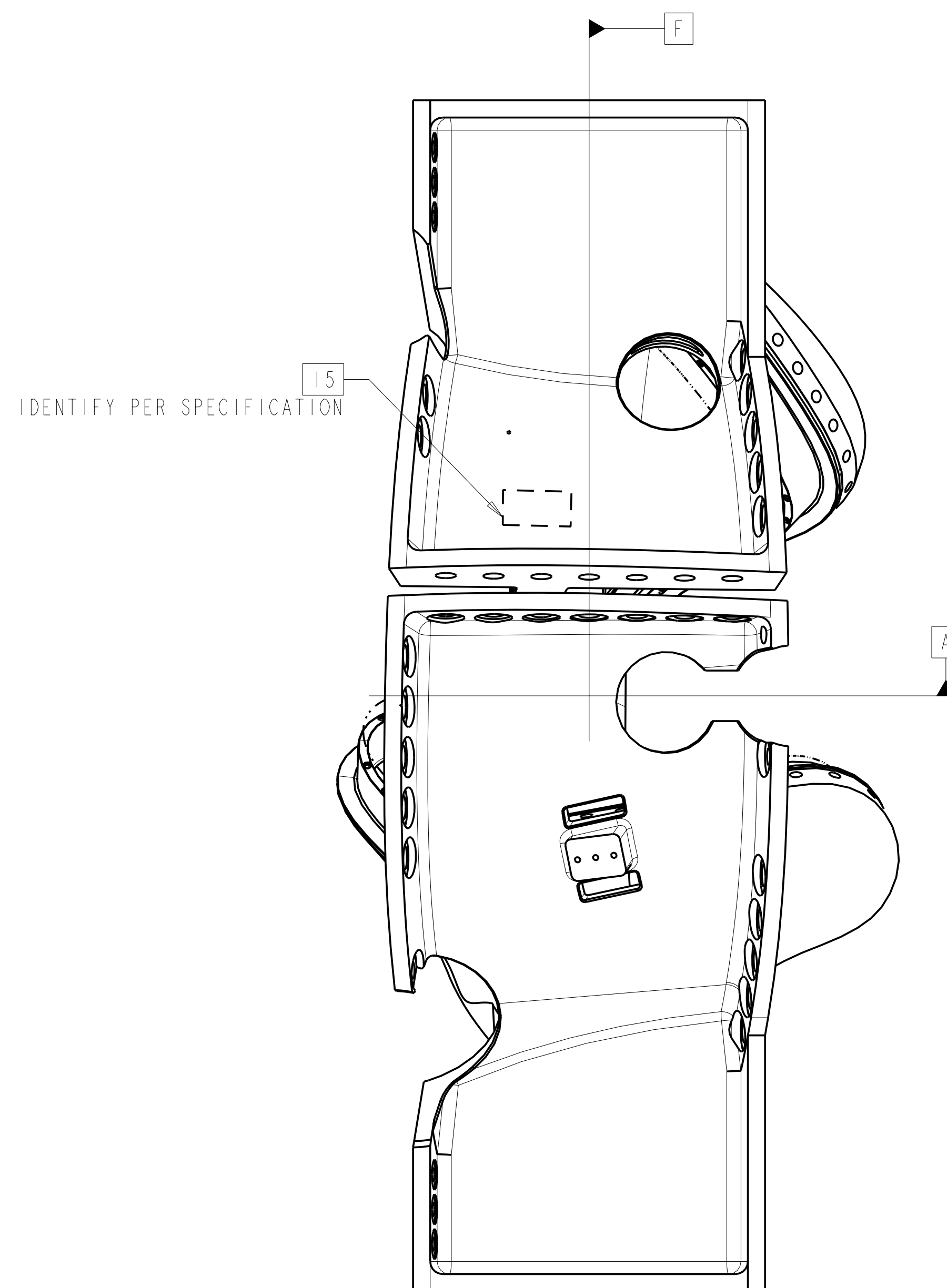
POLOIDAL BREAK DETAIL

(.32)
.25 MINIMUM(.18)
.25 MAXIMUMDETAIL X
SCALE 2.00EXPLODED VIEW
SCALE 0.20 $\varnothing 1.38$ REAM AT ASSEMBLY FOR
.001 TO .002 DIA CLEARANCE
WITH ITEM 6 $\varnothing 1.63$ TO MATCH HOLE DIA
MINUS .001 TO .002 FOR
CLEARANCE FIT(1.19) STARTING DIMENSION
FINAL TO MATCH OVERLAP
SHOWN IN DETAIL-XSECTION B-B
SCALE 2.00

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
UT-BATTELLE							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
MOD COIL WINDING FORM ASSEMBLY TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
30	X-10	5700	3	2	2	S	U
RELEASE LEVEL		WIP		SEI41-103		REV	
						0	



ISOMETRIC VIEW



IDENTIFY PER SPECIFICATION

NOTES:

1. DRAWING PREPARED IN ACCORDANCE WITH ASME Y14.8M-1994.
2. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
3. DIMENSIONS ARE IN INCHES.
4. DRAWING DEPICTS FINAL MACHINED STATE OF PART
DEFINED BY PRO/ENGINEER FILE SE141-116.PRT.
5. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE RELATED TO
DATUM A- (PRIMARY X-Y PLANE, TOP)
DATUM B- (SECONDARY Y-Z PLANE, SIDE)
DATUM C- (TERTIARY X-Z PLANE, FRONT)
6. DIMENSIONS APPLY AT TEMPERATURE OF 20-30°C (68-86°F)
7. DIMENSIONS AND TOLERANCES EXCLUDE PROCESS MATERIAL
ALLOWANCES WHICH MAY ADD MASS.
8. APPROXIMATE WEIGHT = 4898 LBS.
WEIGHT OF FINISHED PART NOT TO EXCEED 6000 LBS.
9. UNLESS OTHERWISE SPECIFIED, AS-CAST SURFACE PROFILE
TOLERANCE = $\pm .025$ INCH, WITH EXEMPTION FOR INTERSECTING SURFACES
WHERE FILLETS ARE EXPECTED. MIN FILLET AND CORNER RADII = $0.5 \pm .01$ -IN.
10. DESIGNATED SURFACE REGIONS HAVE PROFILE TOLERANCE = ± 0.125 -IN.
11. MIN THICKNESS PER CAD GEOMETRY, TOLERANCE = ± 0.25 -IN / ± 0.0 -IN.
12. PARTING LINE EDGES, FLASH, GATES, RUNNER, AND RISER EXTENSIONS 0.25 -IN MAX
13. UNLESS OTHERWISE SPECIFIED, MACHINED SURFACE PROFILE TOLERANCE = ± 0.01 -IN.
14. BACK SPOTFACE ALL THRU HOLES MINIMUM TO CLEAN UP.
15. SEE LATEST REVISION OF SPECIFICATION NCSX-CSPC-141-03
FOR ADDITIONAL REQUIREMENTS.

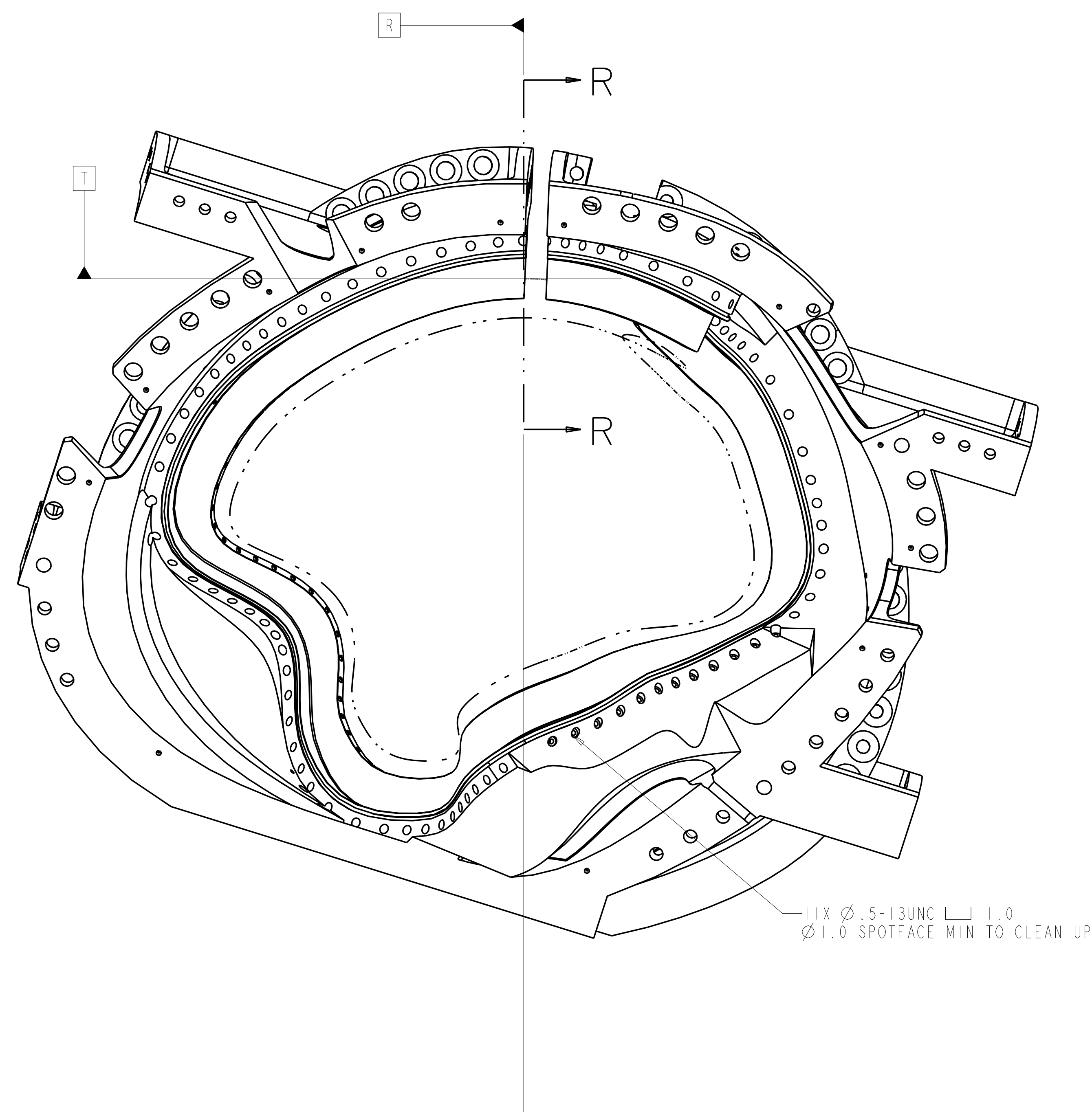
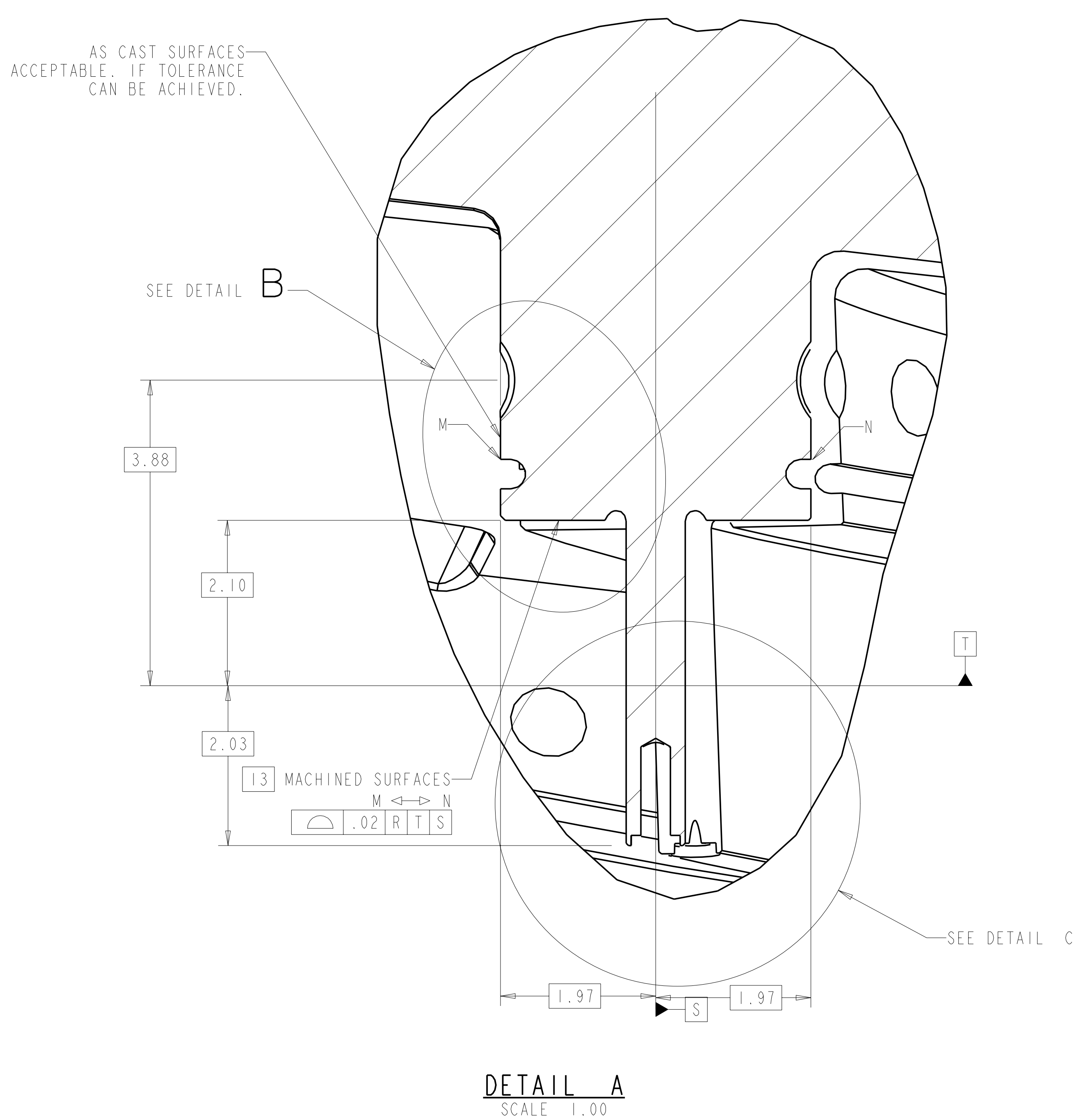
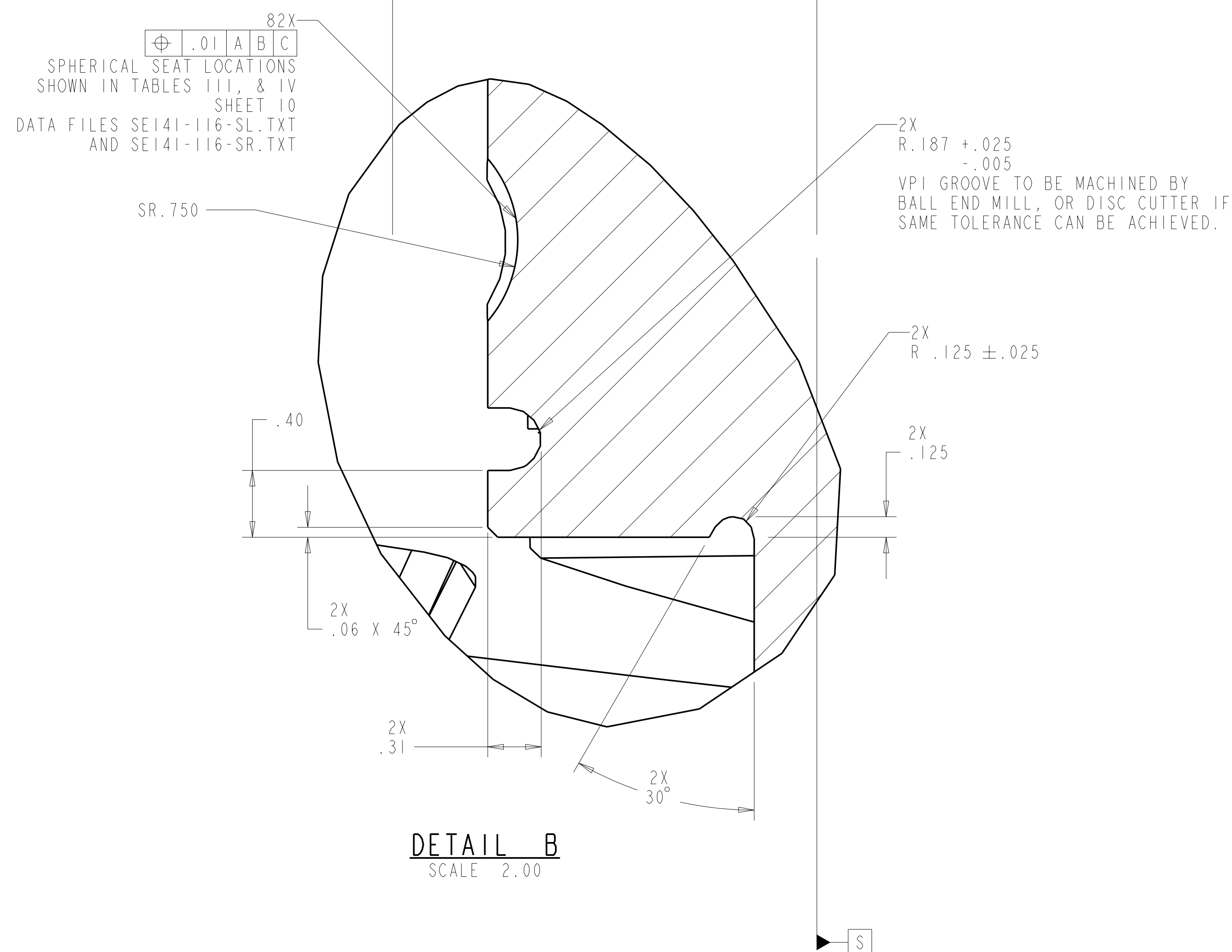
AR	X		SEI41-116	WINDING FORM TYPE-C	CAST SS	SEE NOTE #15	I
CAGE CODE		PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO	
1.		NEXT ASSEMBLY	PARTS LIST				

																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

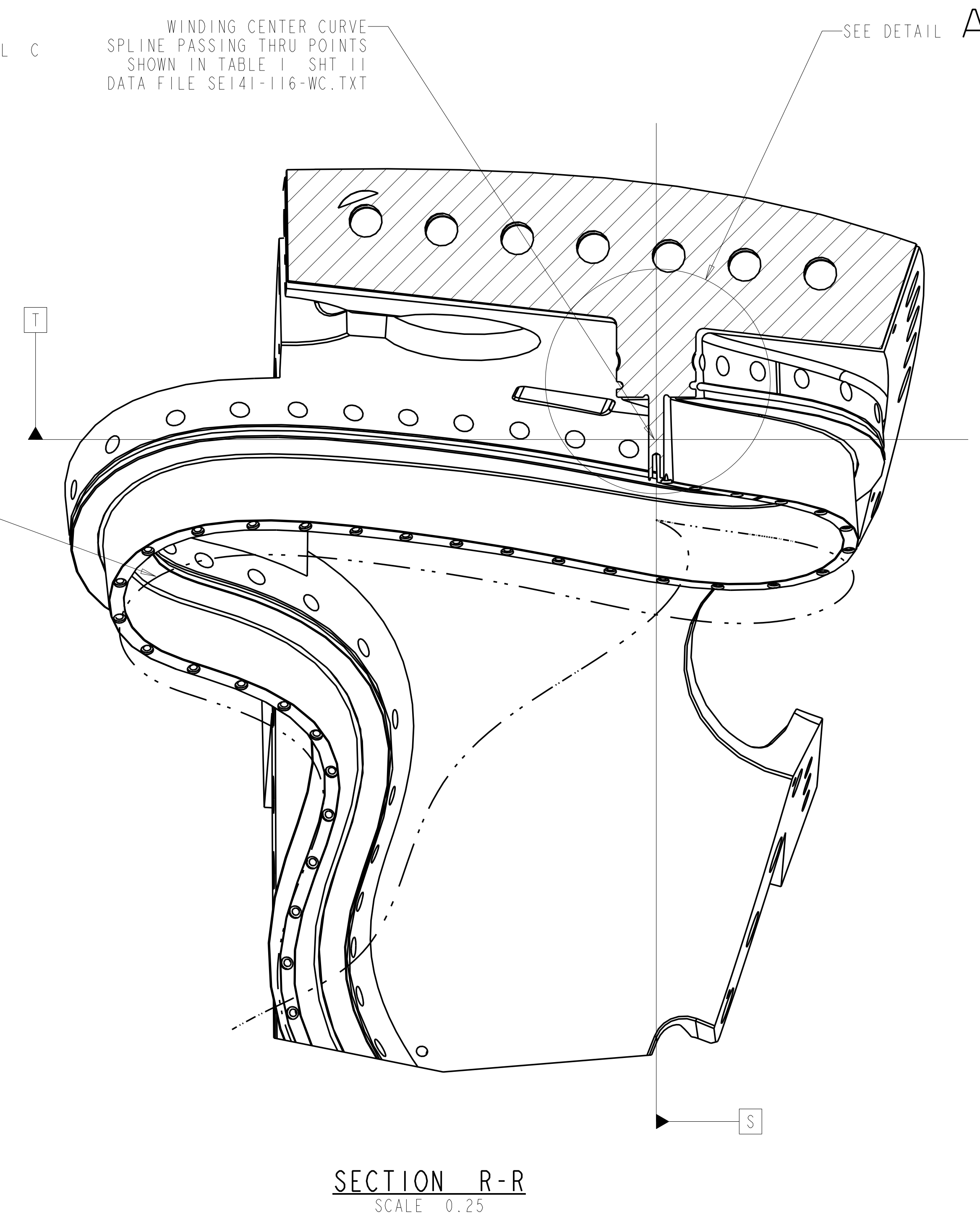
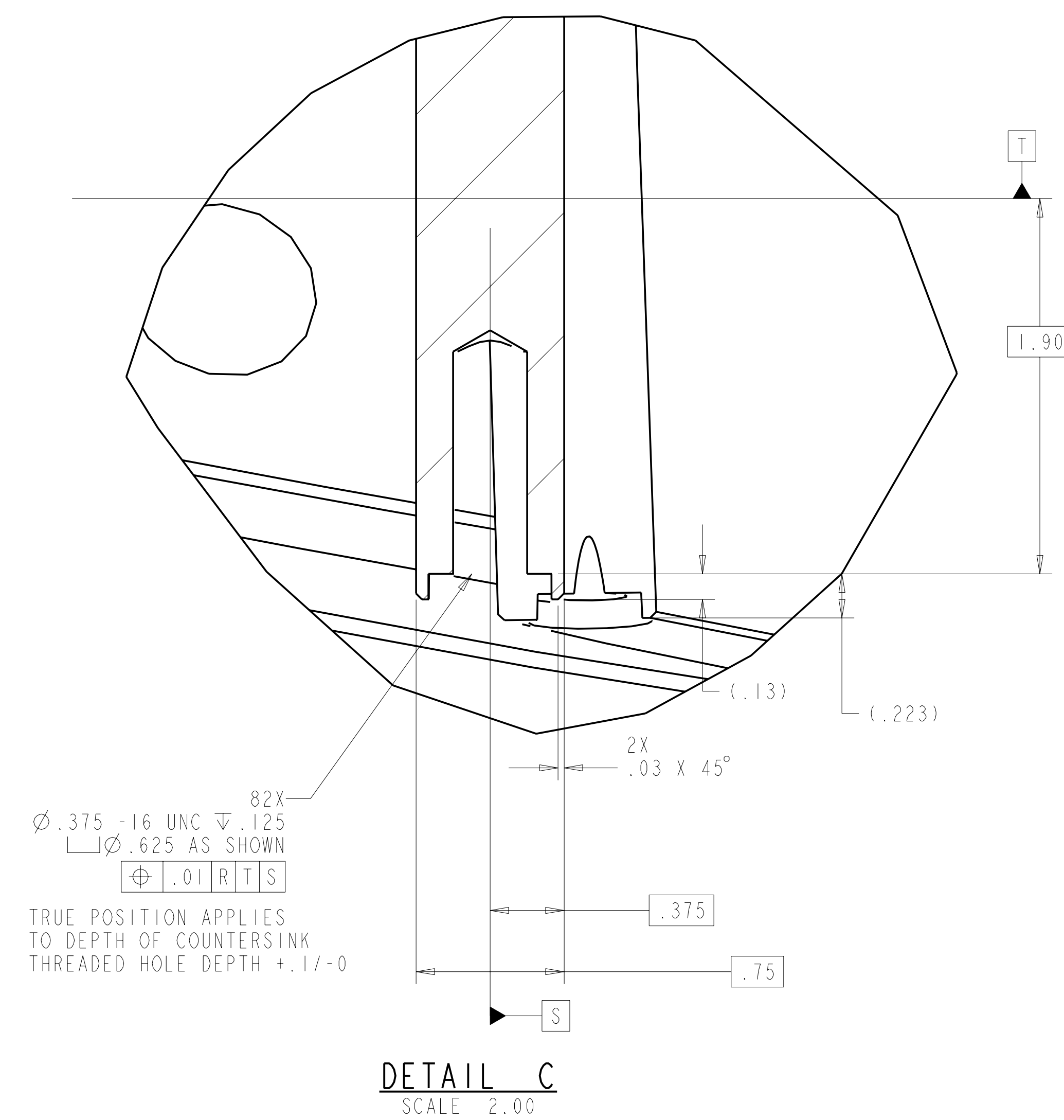
NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE ACCURACY, COMPLETENESS OR USEFULNESS OF THE INFORMATION OR STATEMENTS CONTAINED IN THESE DRAWINGS, OR THAT THE USE OR DISCLOSURE OF ANY INFORMATION, APPARATUS, METHOD OR PROCESS DISCLOSED IN THESE DRAWINGS WILL NOT INFRINGE PRIVATE RIGHTS OF OTHERS. NO LIABILITY IS ASSUMED WITH RESPECT TO THE USE OF, OR FOR DAMAGES RESULTING FROM THE USE OF, ANY INFORMATION, APPARATUS, METHOD OR PROCESS DISCLOSED IN THESE DRAWINGS. DRAWINGS MADE AVAILABLE FOR INFORMATION TO YOU ARE NOT TO BE USED FOR OTHER THAN THE PURPOSES, AND ARE TO BE RETURNED UPON REQUEST OF THE FORWARDING CONTRACTOR.

THIS DRAWING PRODUCED
ON PRO-ENGINEER

FOR NOTES AND PARTS LIST SEE SHEET 1

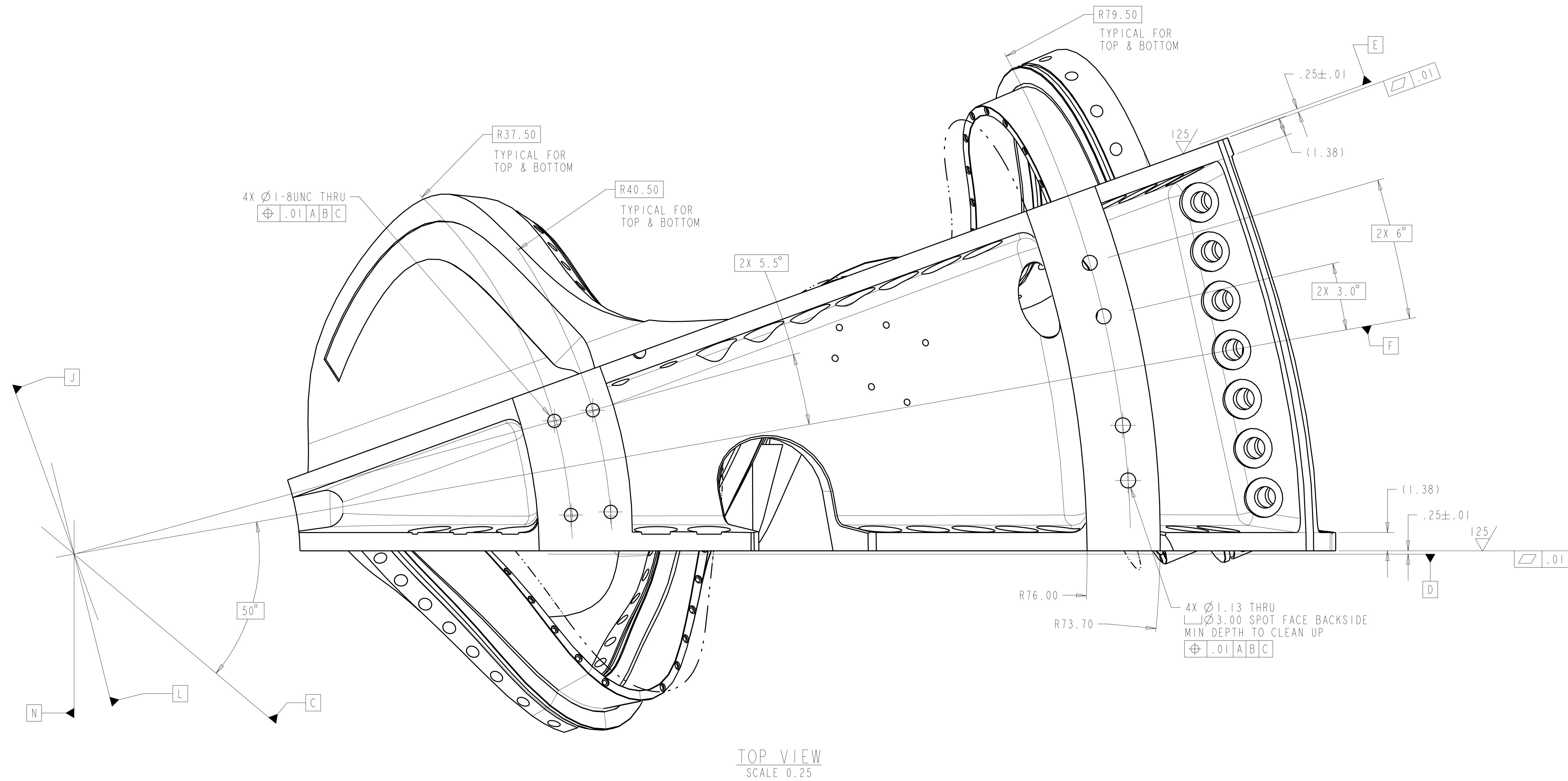


DATUM R = PLANE NORMAL TO WINDING CENTER
DATUM S = PLANE PASSING THRU WINDING CENTER AND X VECTOR AT DATUM R
DATUM T = PLANE PASSING THRU WINDING CENTER ORTHOGONAL TO DATUM S

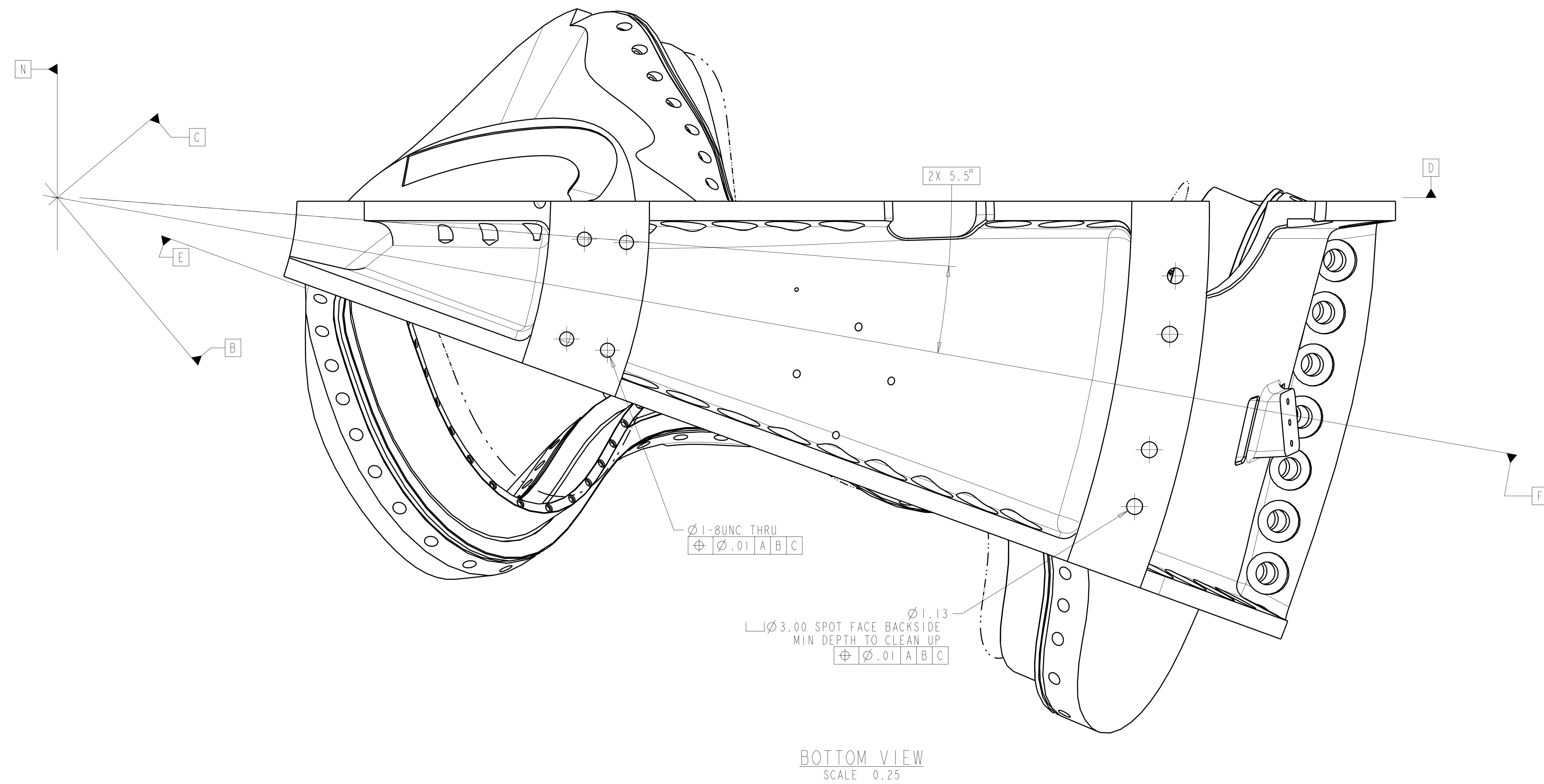


Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO. 39	PLANT X-10	BLDG 5700	FL 3	SHT OF 2	TYPE 111	CLASS S	REV U
RELEASE LEVEL WIP		SE141-116				REV 0	

FOR NOTES AND PARTS LIST SEE SHEET 1



DATUMS A B & C ARE MACHINE SPECIFIC.
ALL OTHER DATUMS LISTED ON THIS DRAWING
ARE SPECIFIC TO THIS PART



UT-BATTELLE		Oak Ridge National Laboratory Managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee						
		PROJECT TITLE NATIONAL COMPACT SPINORATOR EXPERIMENT						
PRODUCTION WINDING FORM TYPE-C								
VERSION NO. 39	PLANT X-10	BLDG 5700	FL 3	SHT 3	11 1	TYPE S	CLASS U	
RELEASE LEVEL WIP		SE141-116					REV 0	

8

7

6

5

4

3

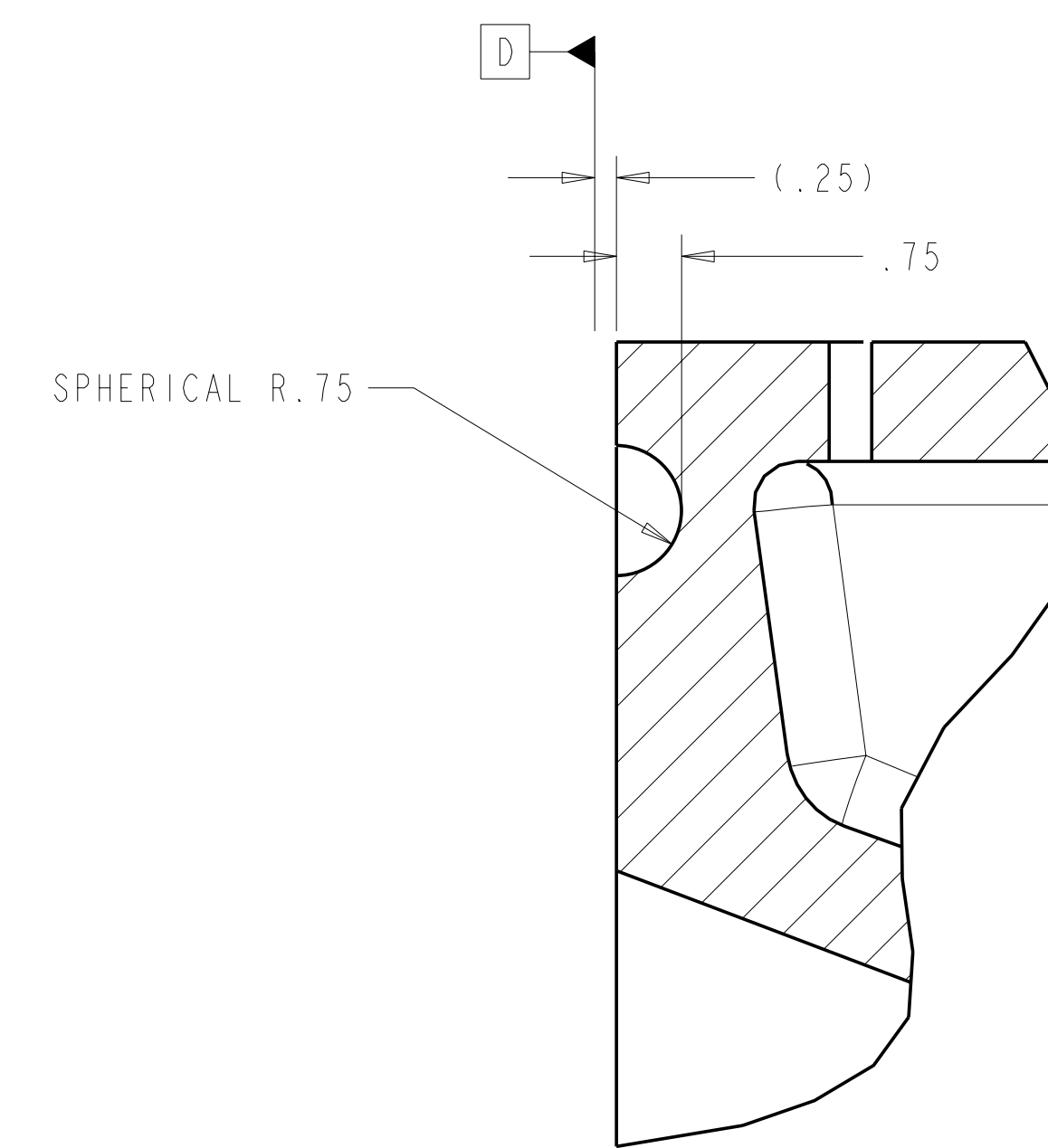
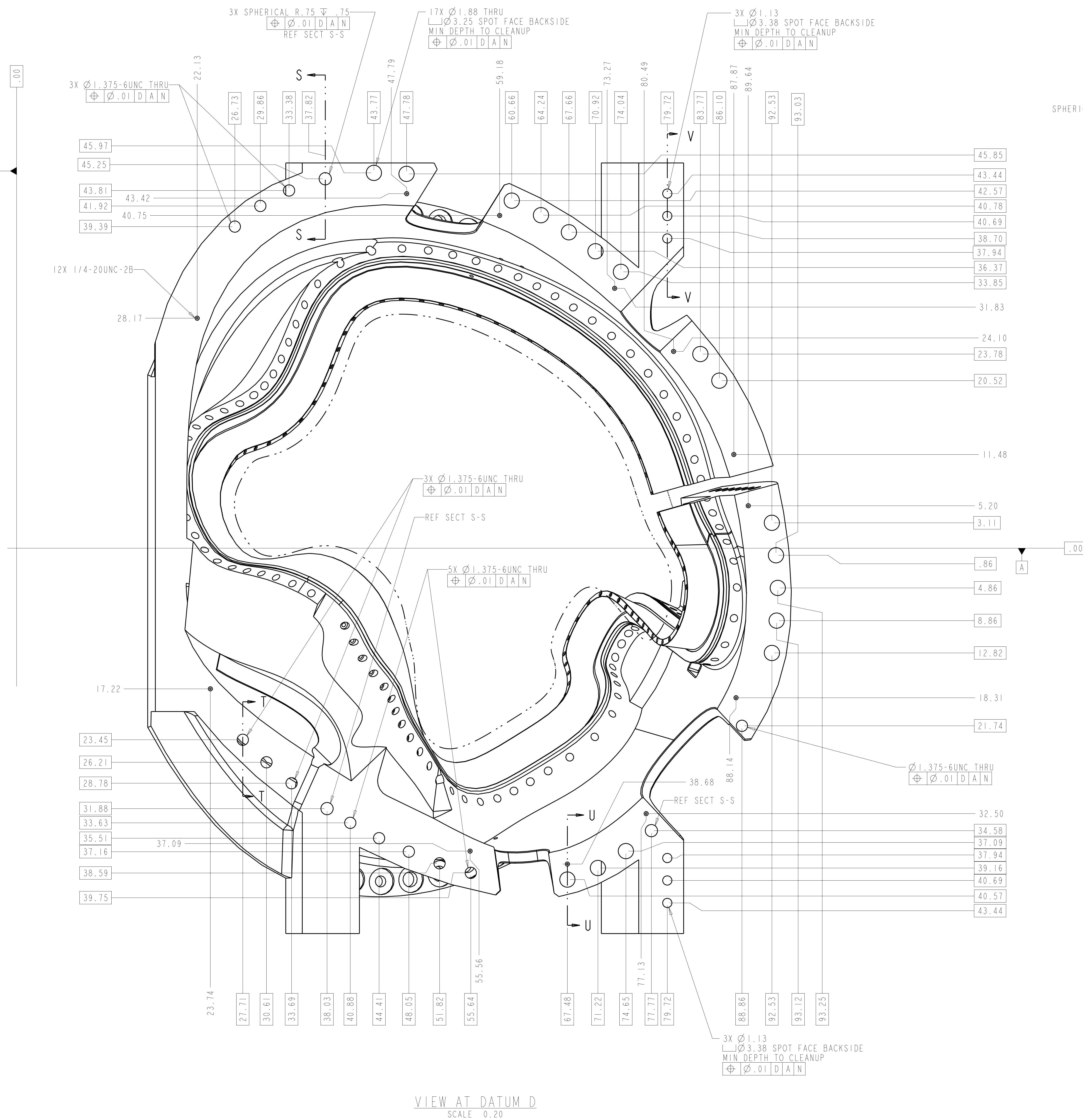
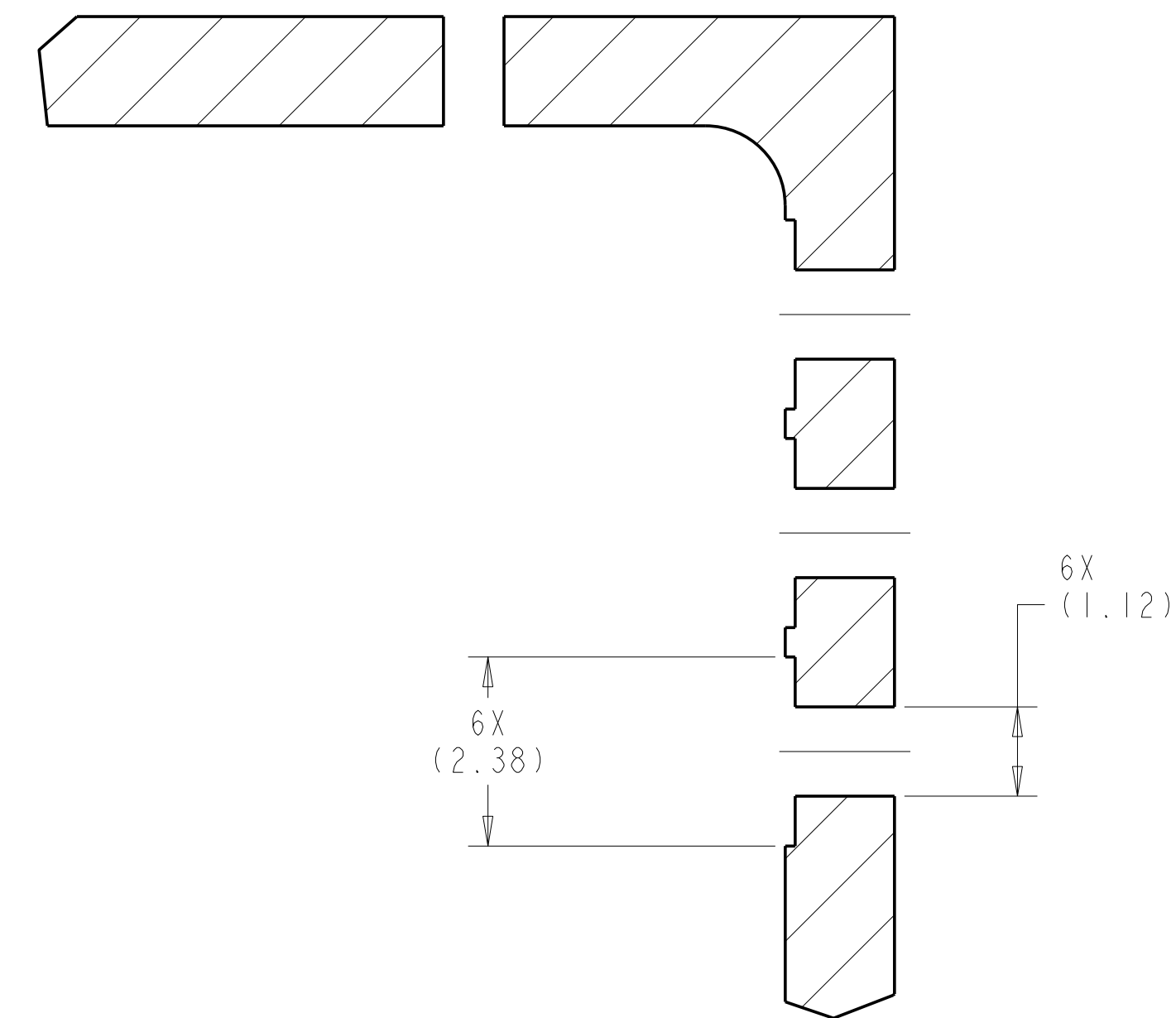
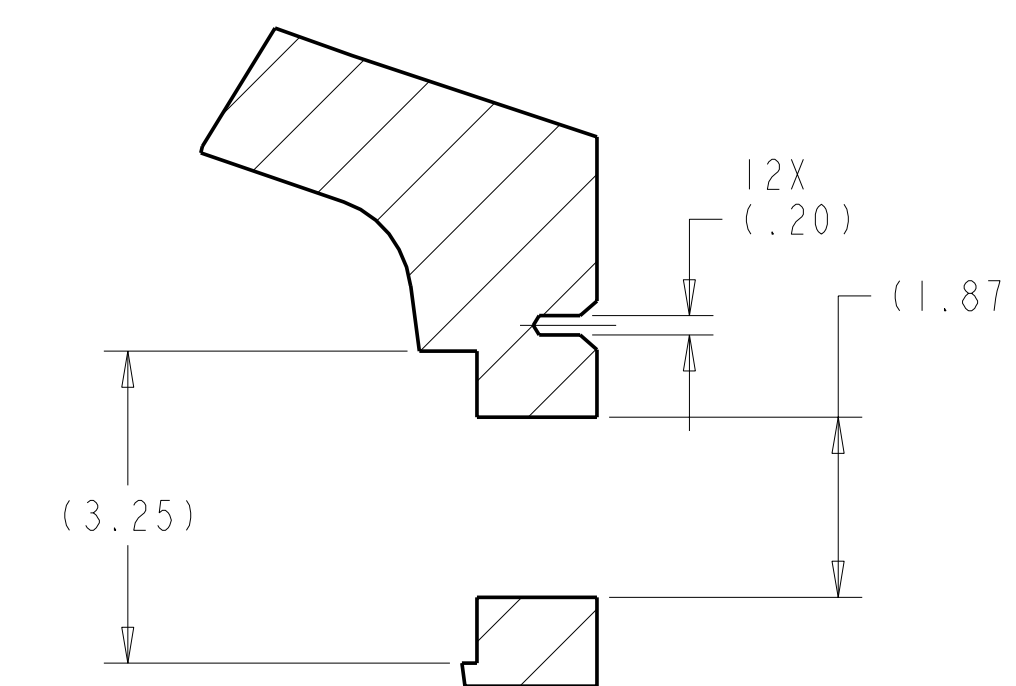
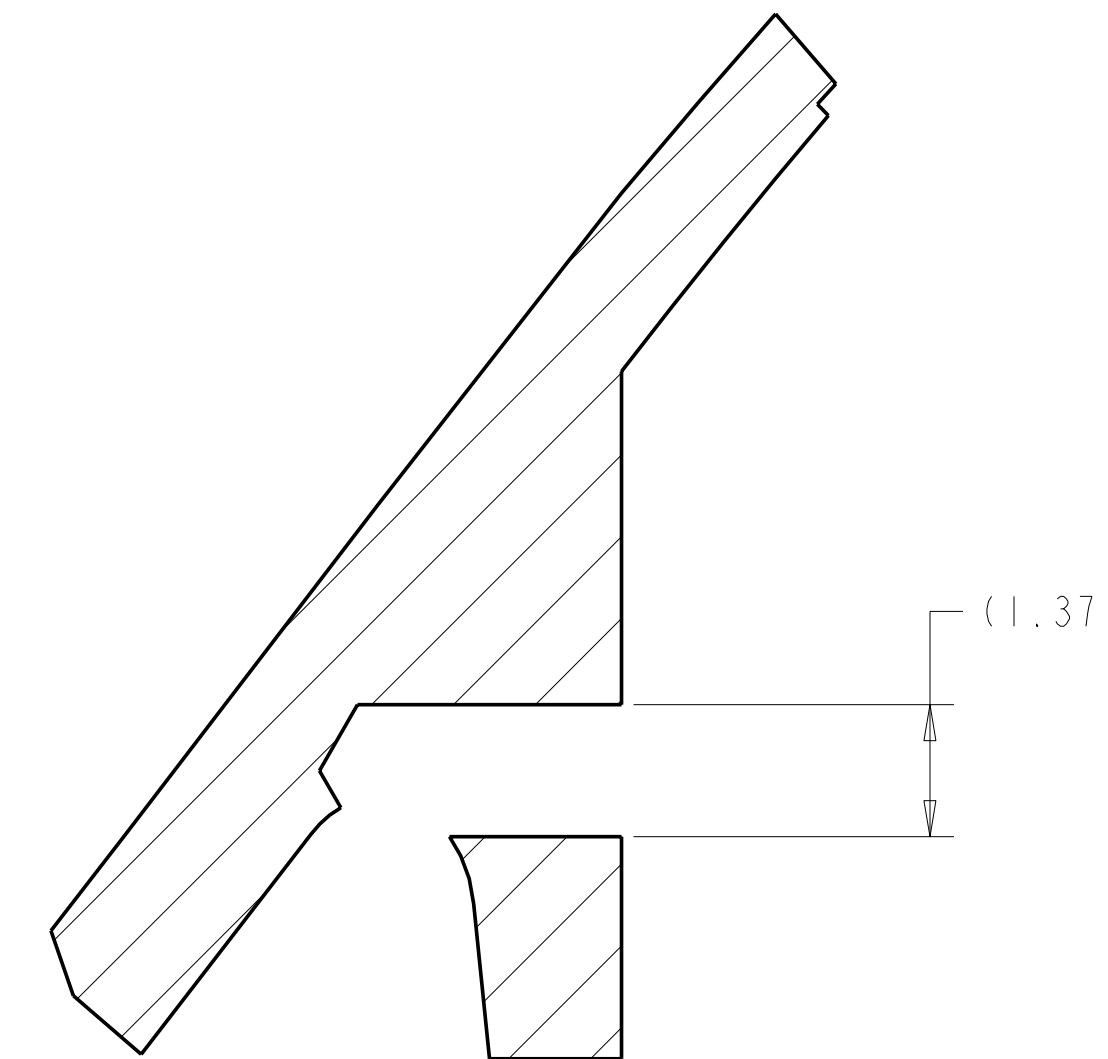
2

1

NEXT ASS'Y:

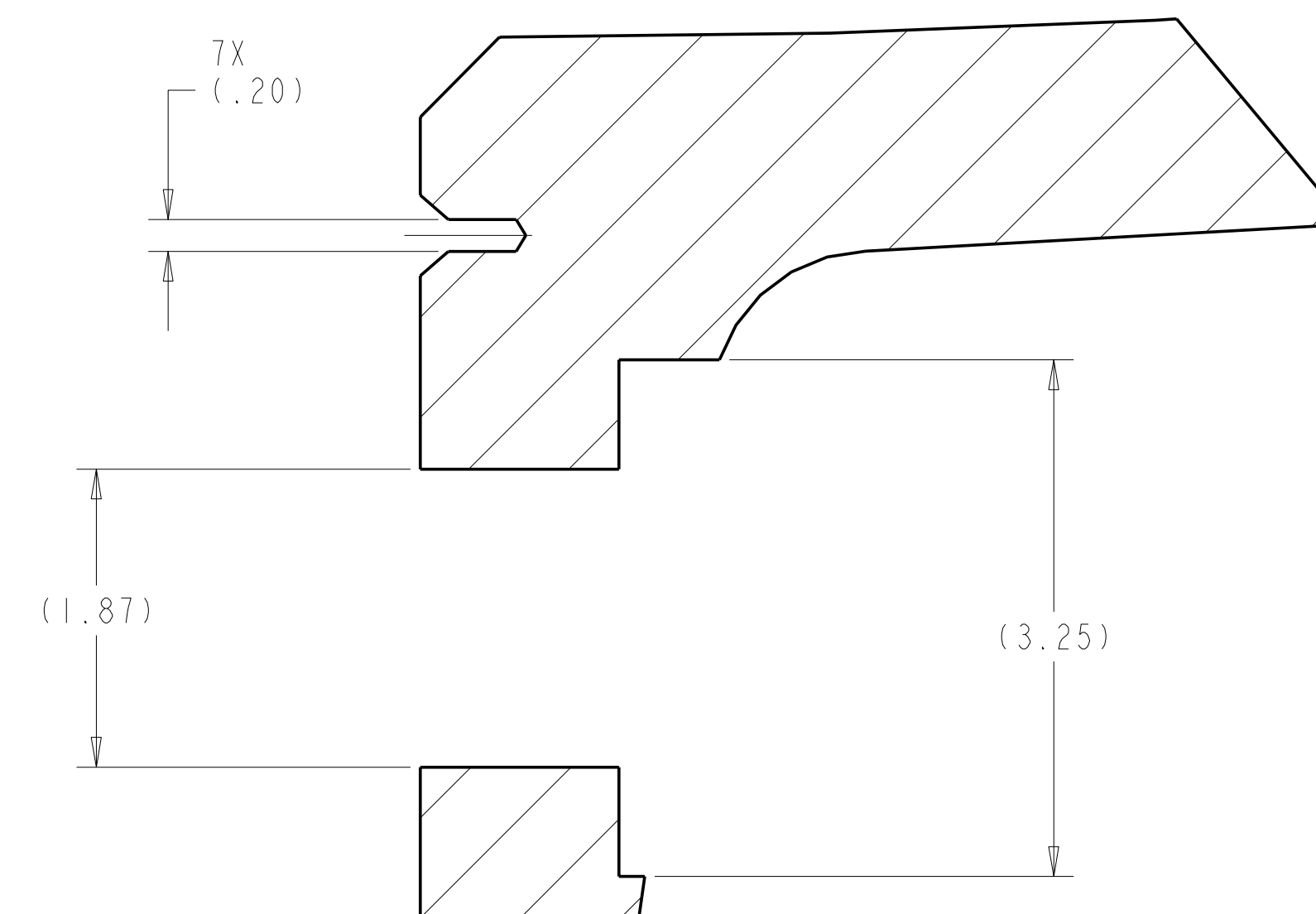
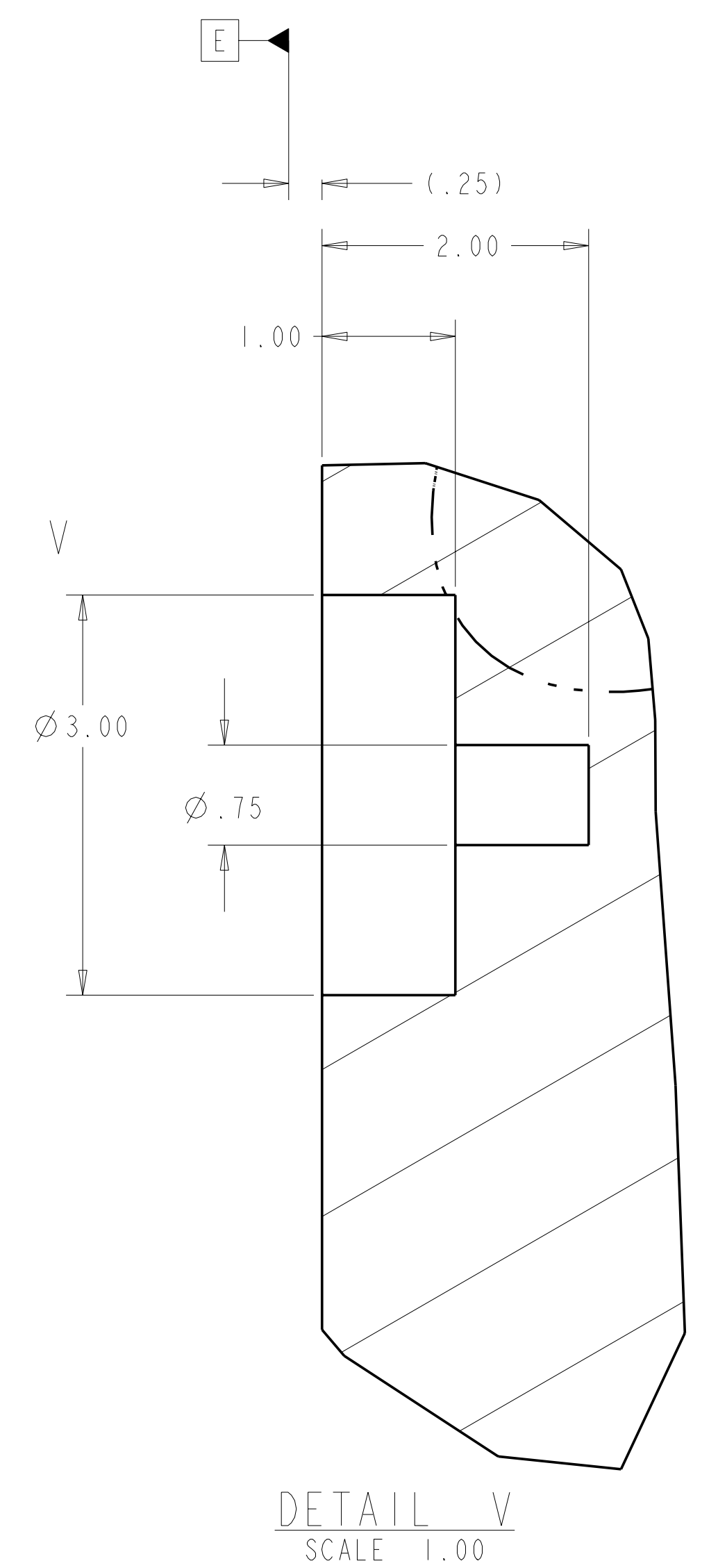
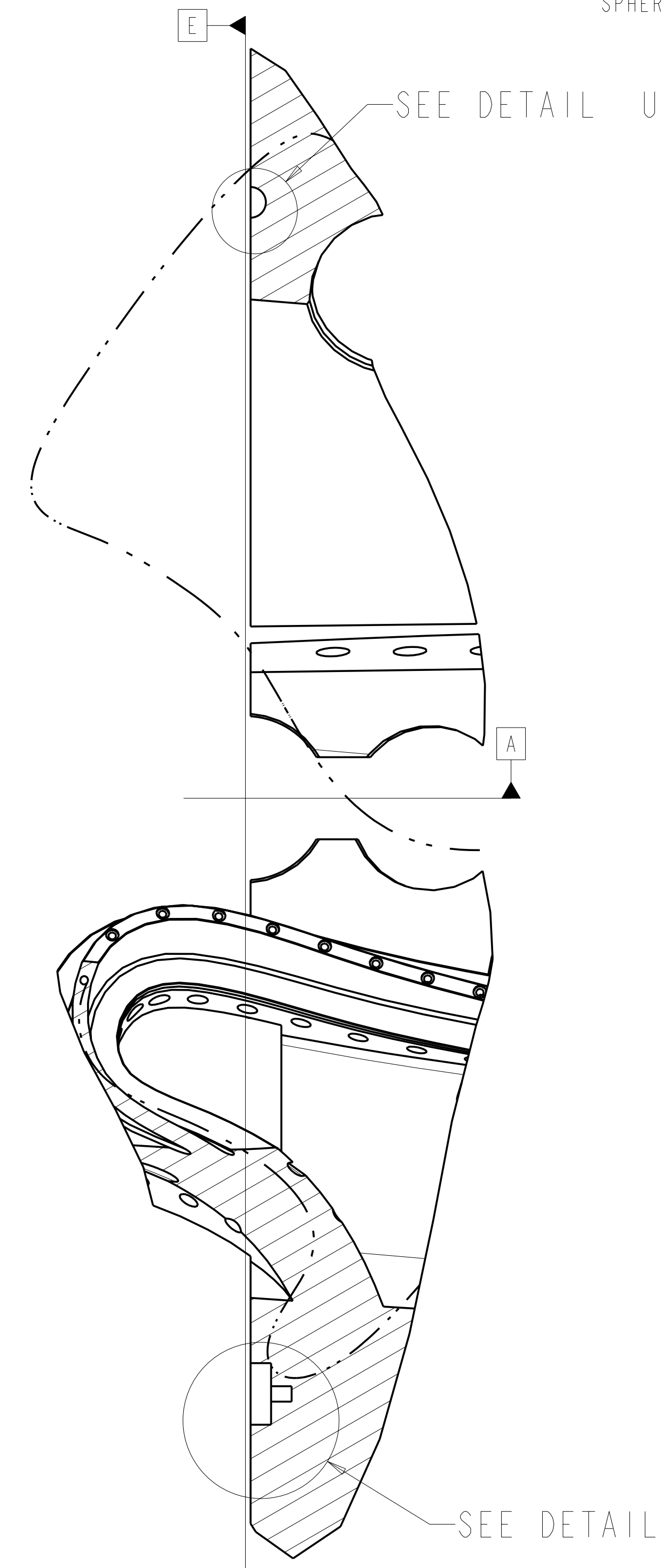
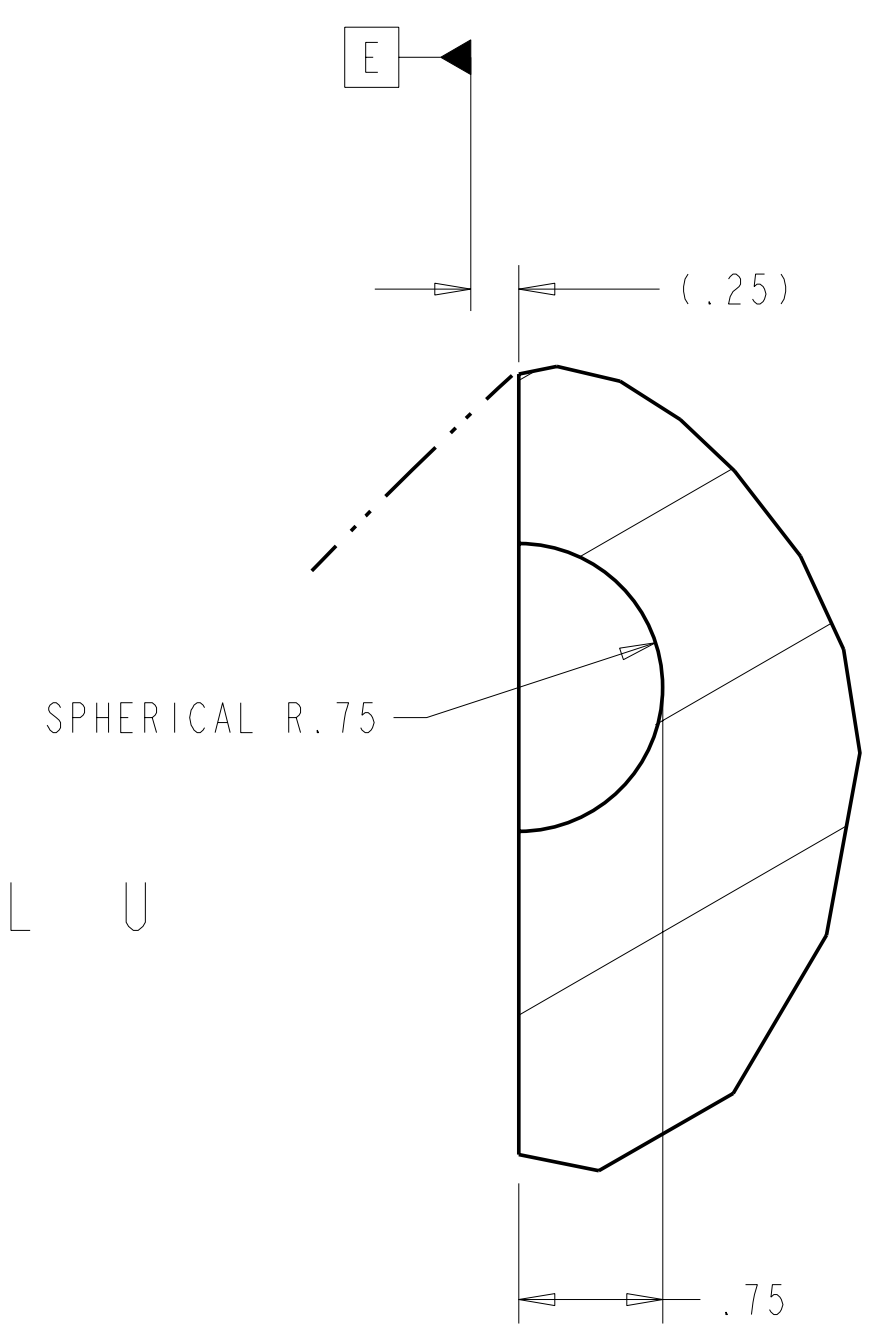
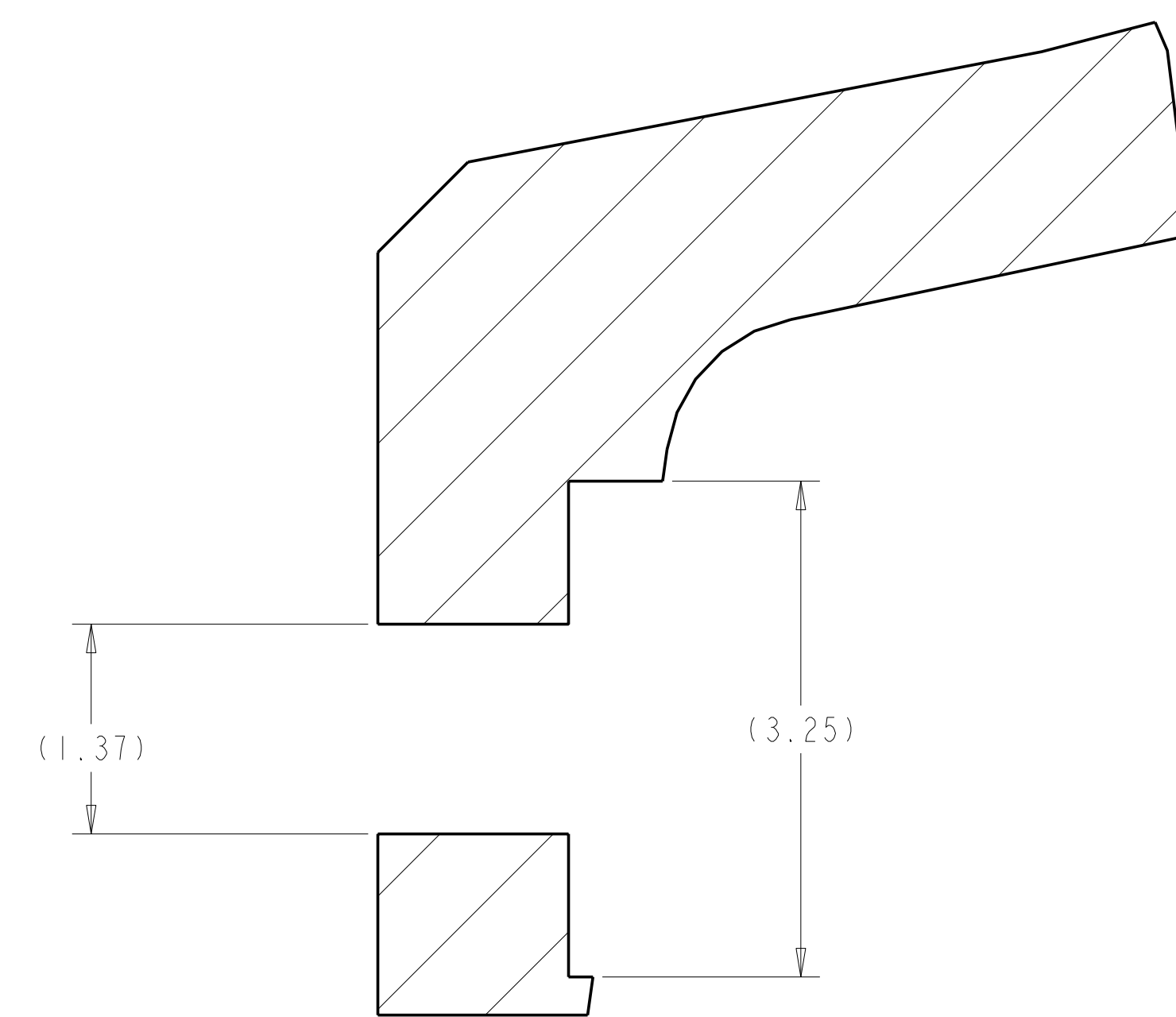
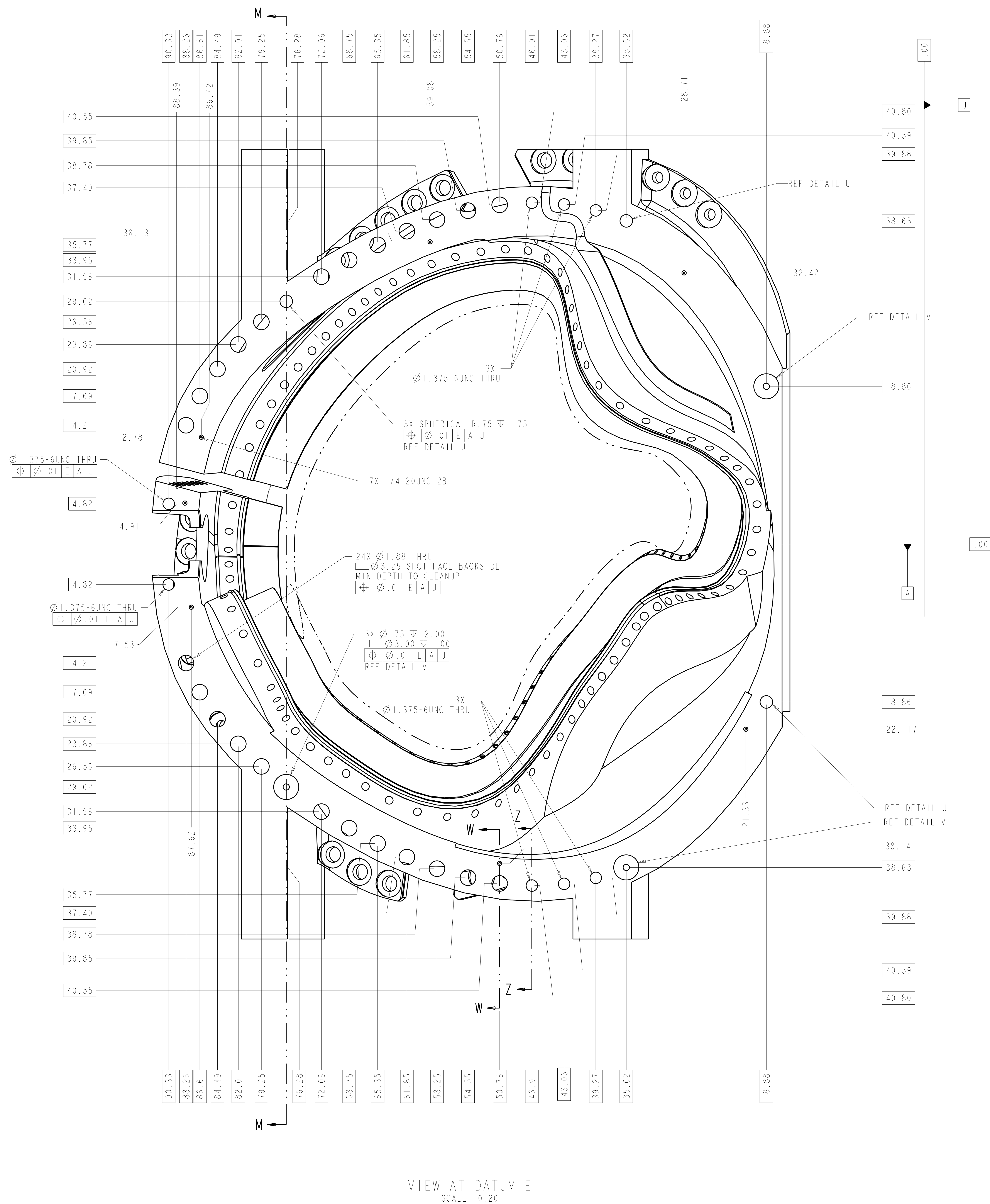
FINAL ASS'Y:

FOR NOTES AND PARTS LIST SEE SHEET 1

SECTION S-S
SCALE 0.50SECTION V-V
SCALE 0.50SECTION U-U
SCALE 0.50SECTION T-T
SCALE 0.50

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
39	X-10	5700	3	4	11	S	U
RELEASE LEVEL	SEI41-116						REV
WIP							0

FOR NOTES AND PARTS LIST SEE SHEET 1



8

7

6

5

4

3

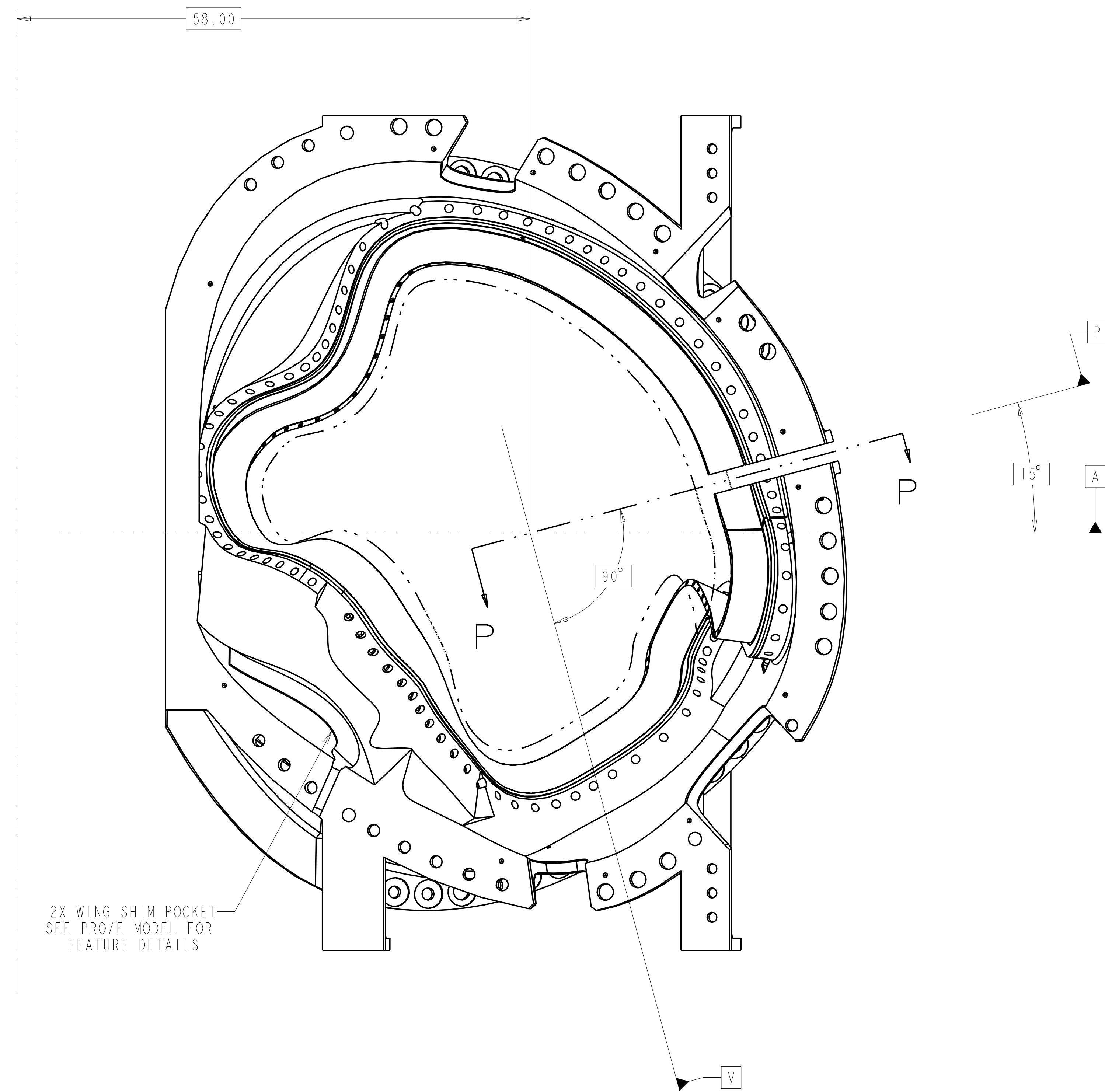
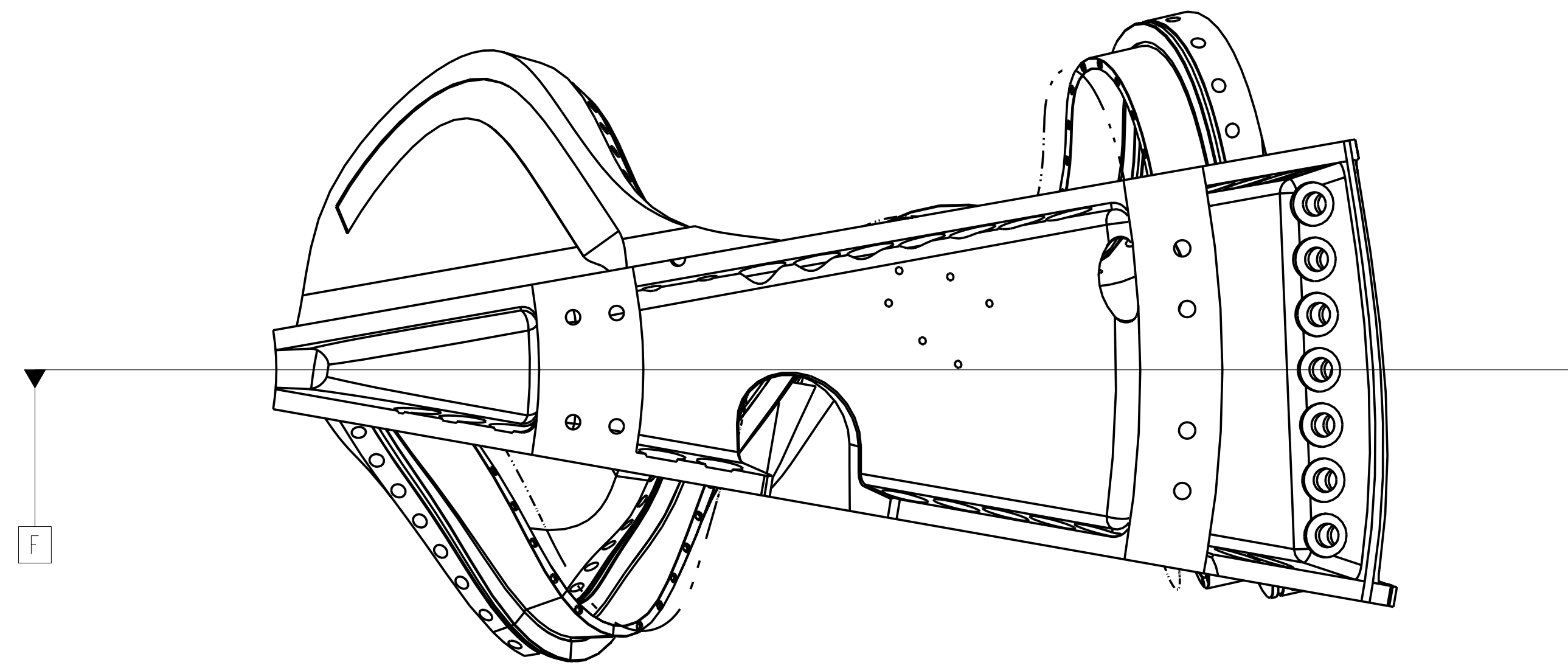
2

1

NEXT ASS'Y:

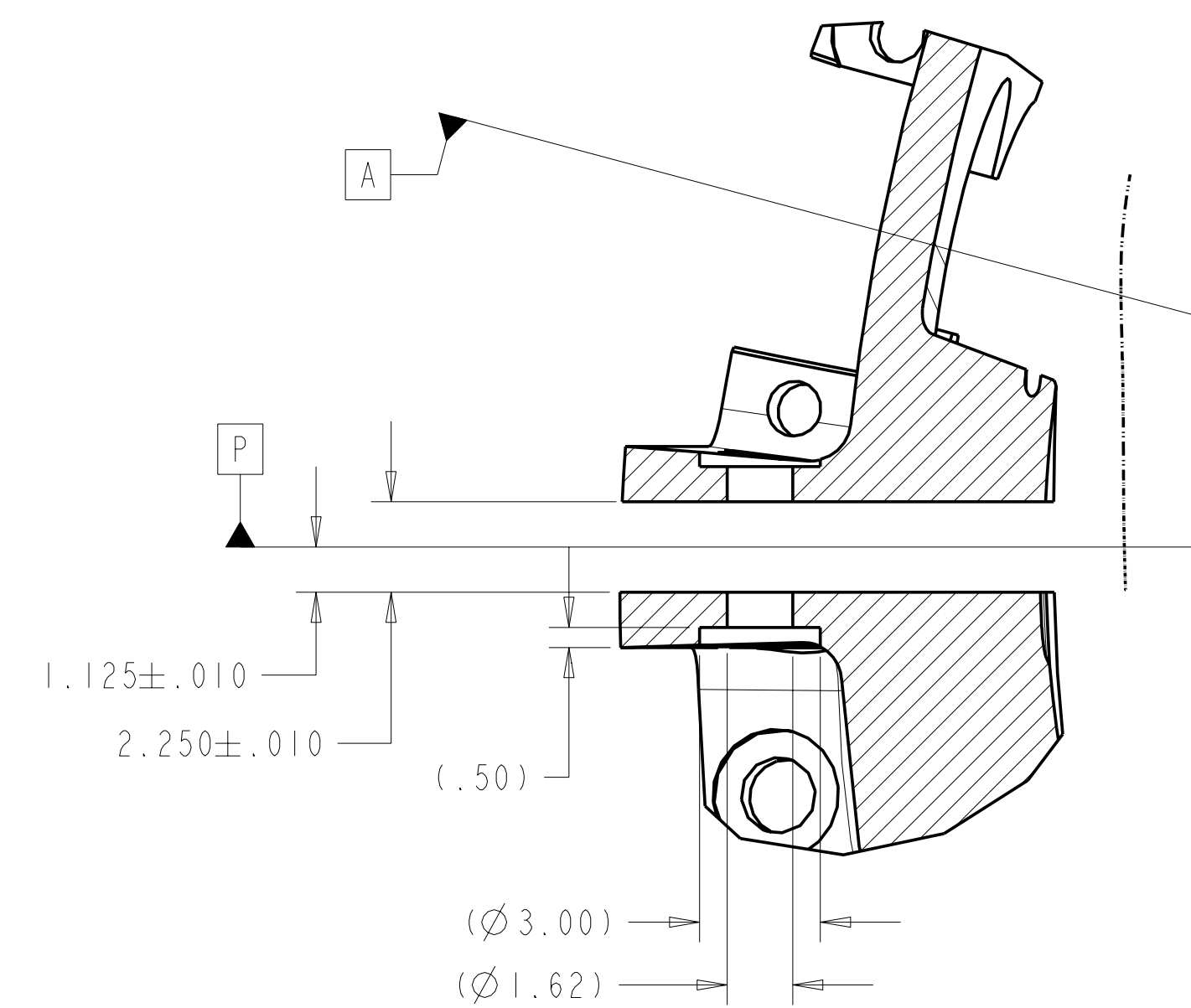
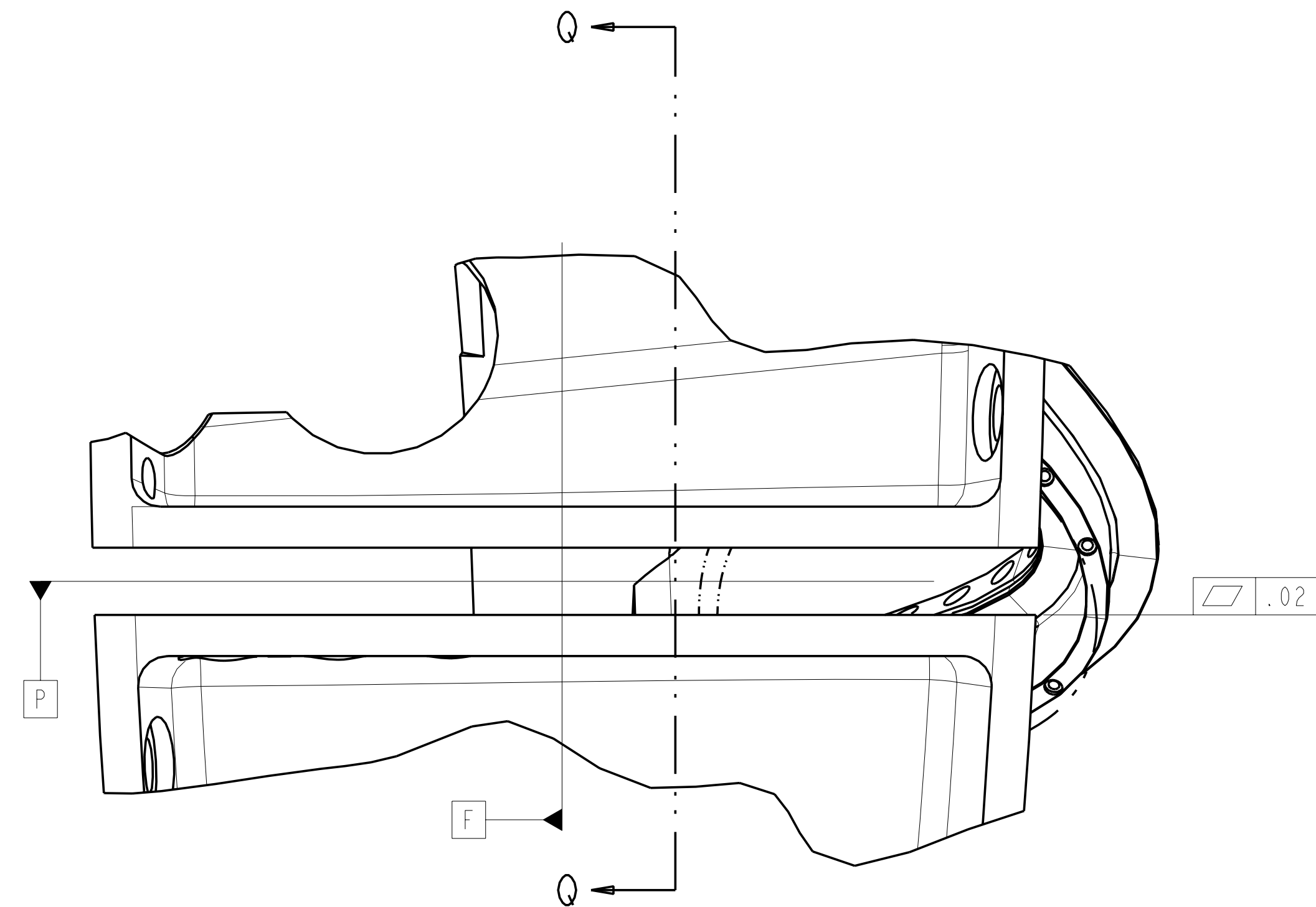
FINAL ASS'Y:

FOR NOTES AND PARTS LIST SEE SHEET 1

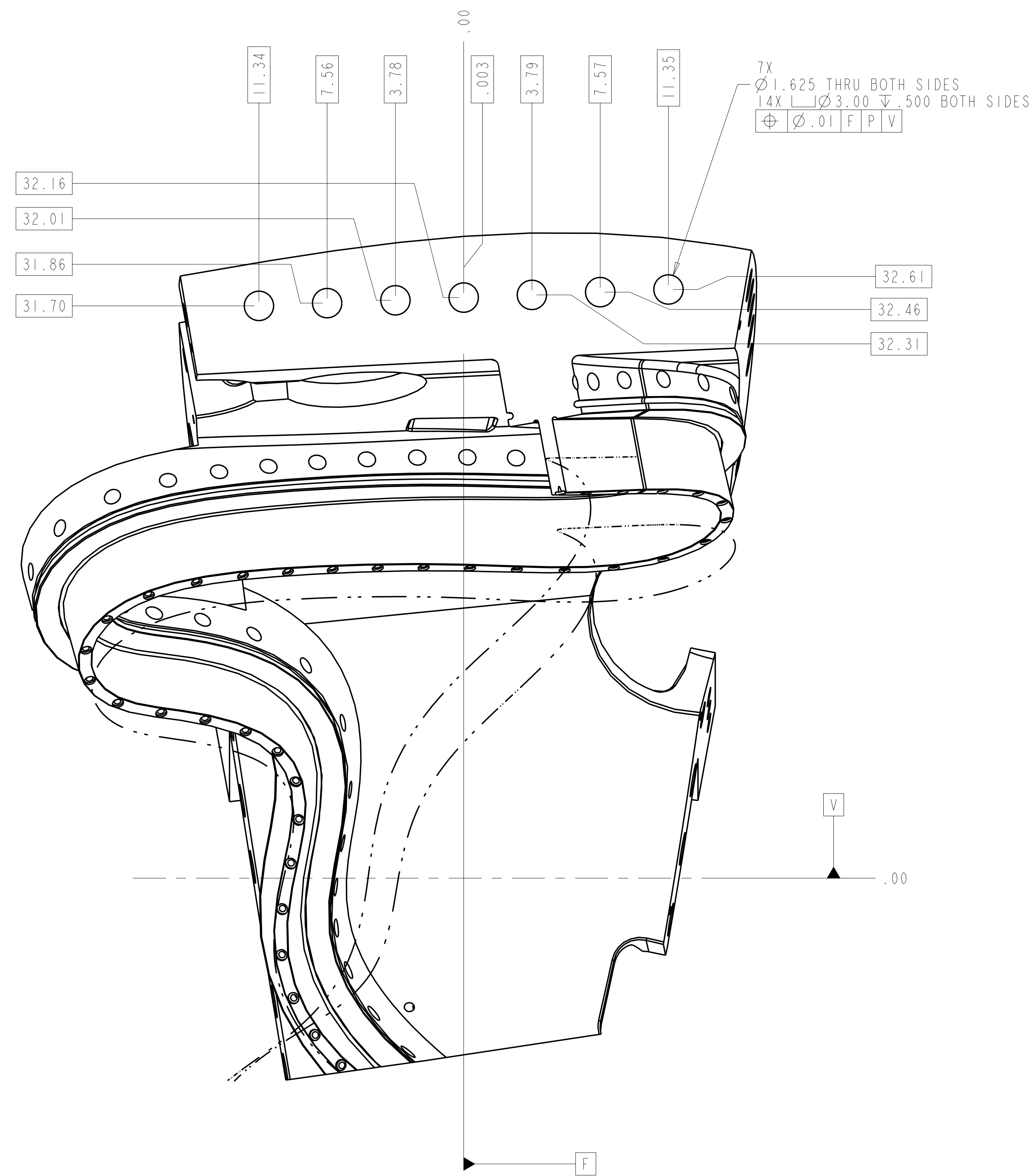


2X WING SHIM POCKET
SEE PRO/E MODEL FOR
FEATURE DETAILS

POLOIDAL BREAK DETAIL



SECTION Q-Q

SECTION P-P
SCALE 0.25

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
UT-BATTELLE							
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO. 39	PLANT X-10	BLDG 5700	FL 3	SHT OF 6	TYPE II	CLASS S	REV U
RELEASE LEVEL WIP		SE141-116					

8

7

6

5

4

3

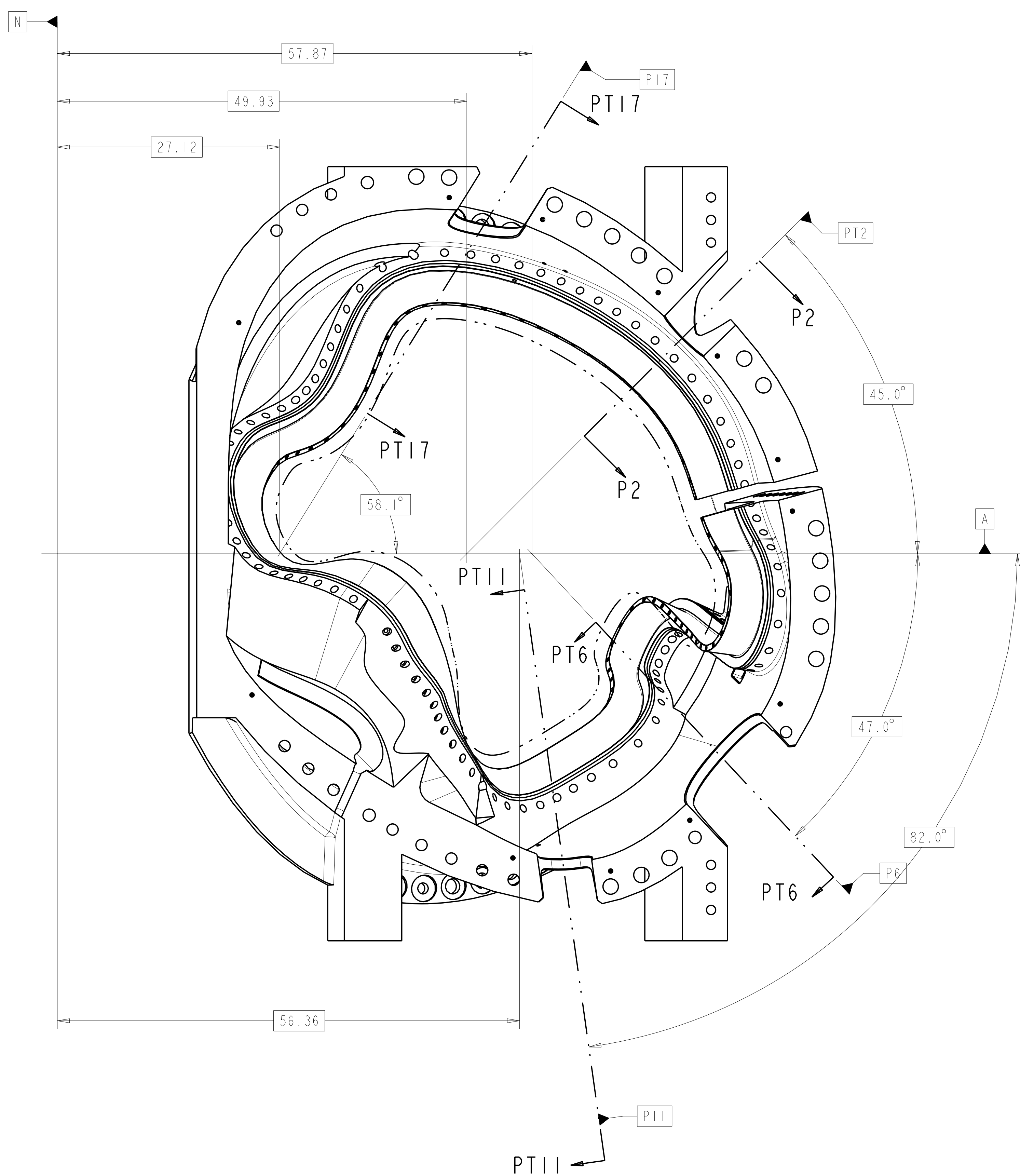
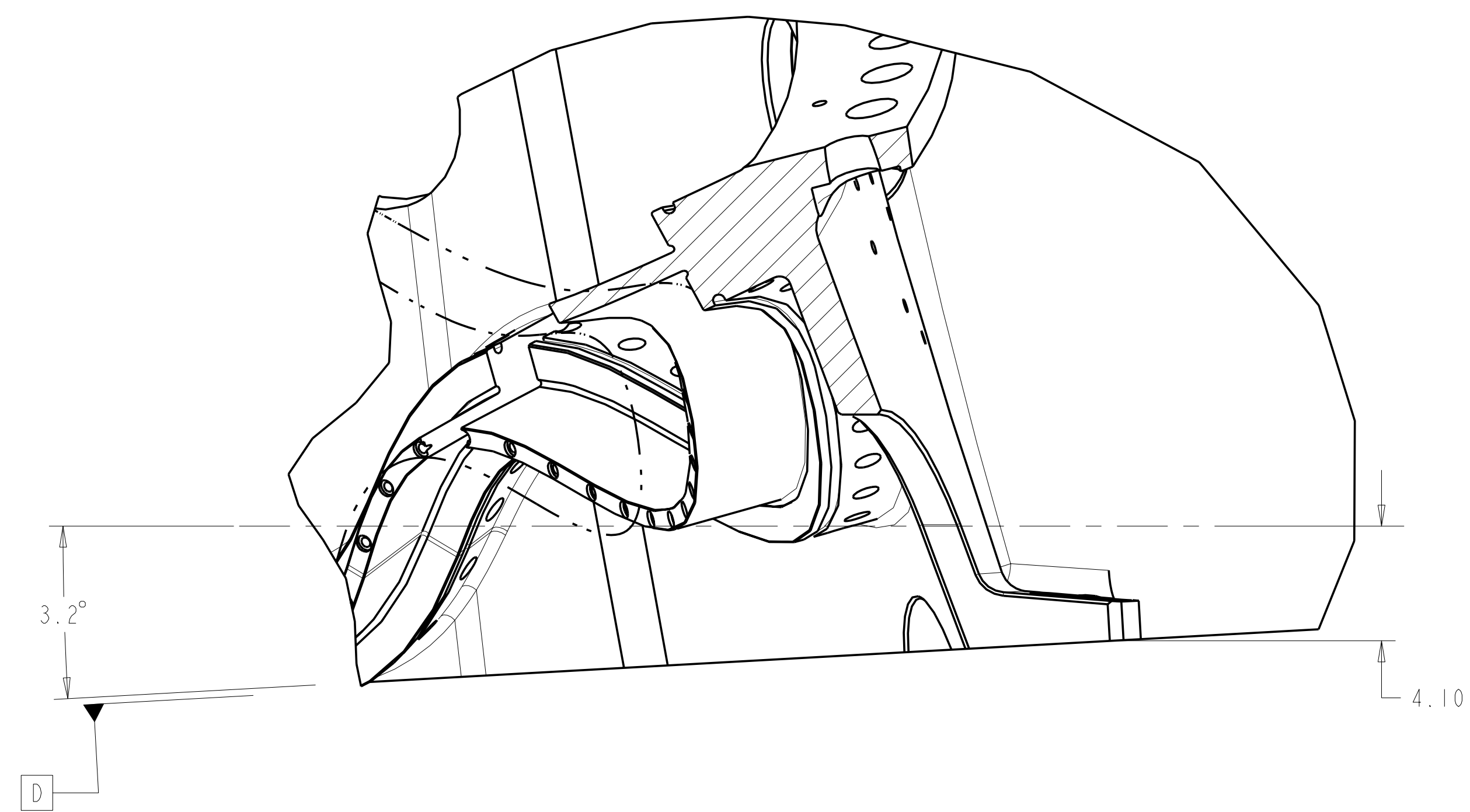
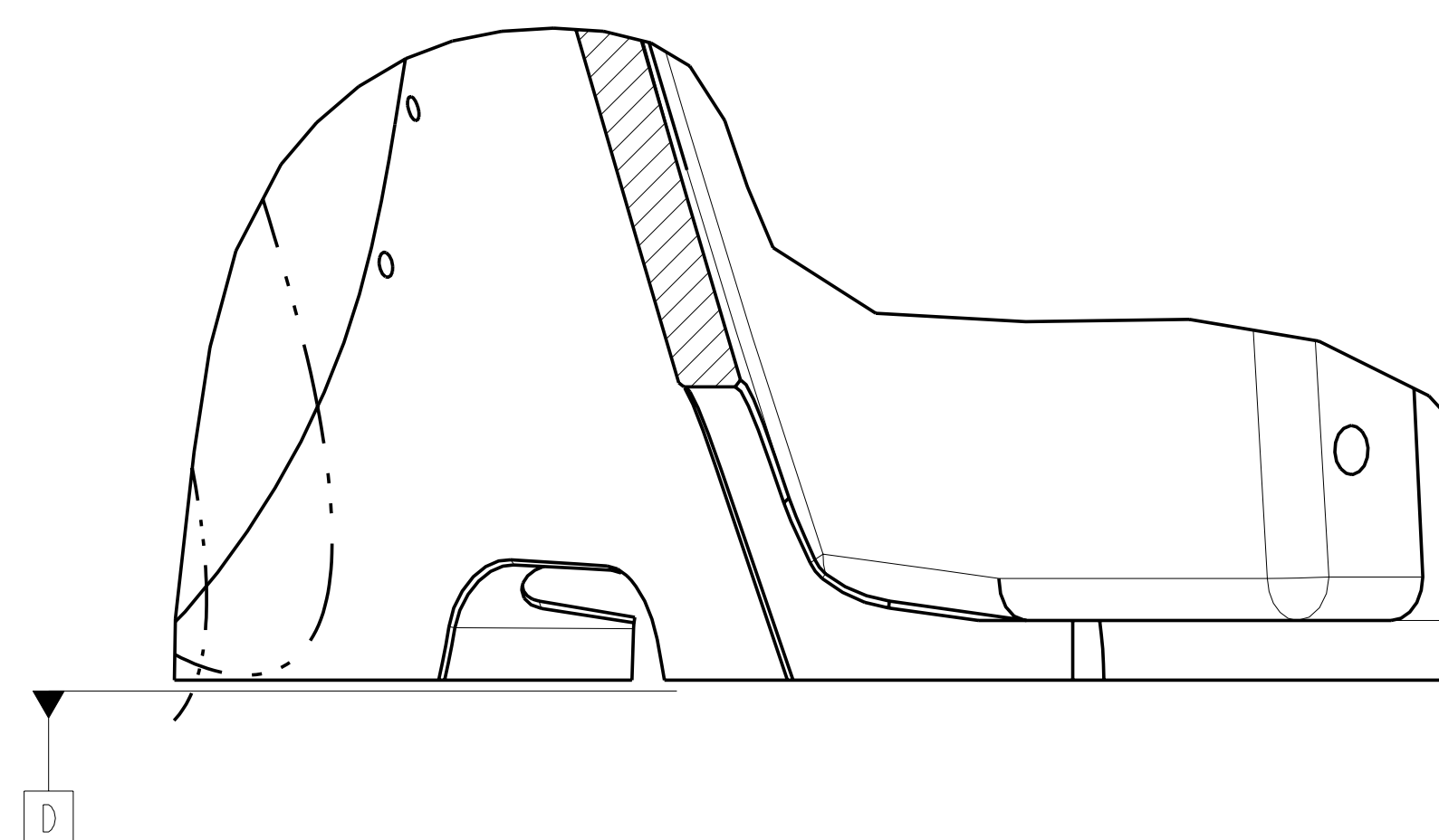
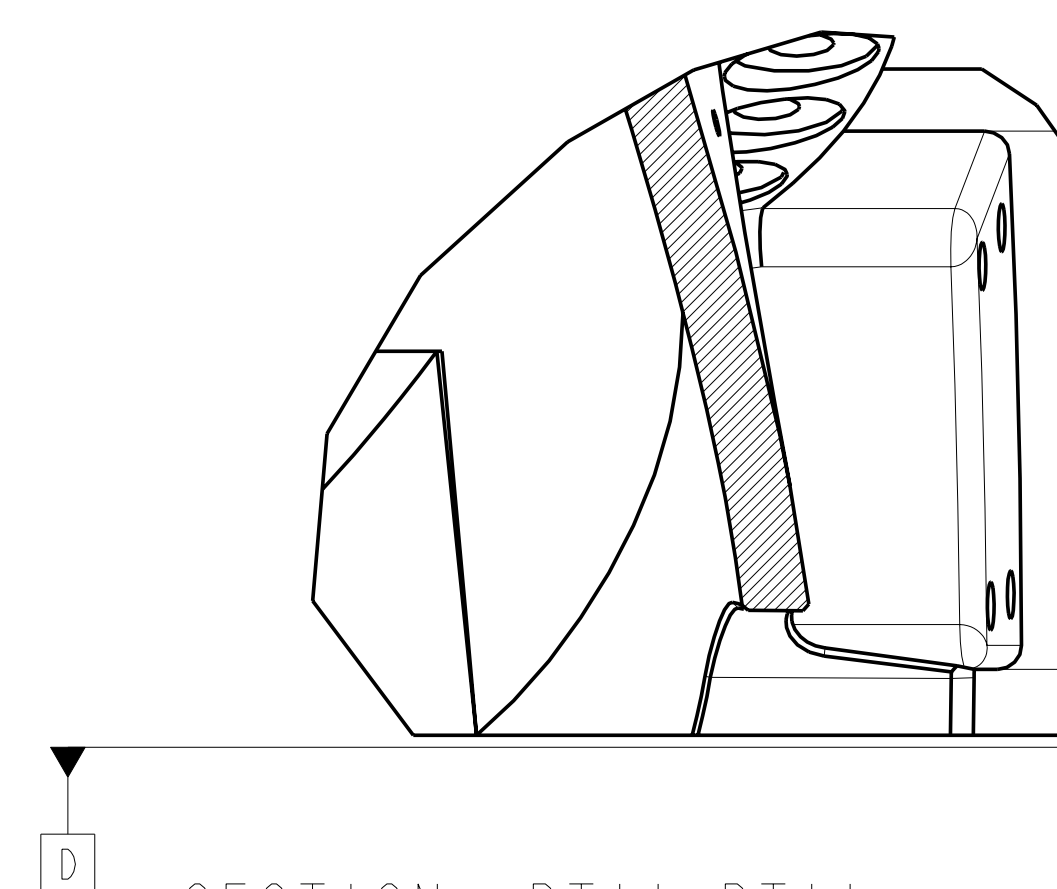
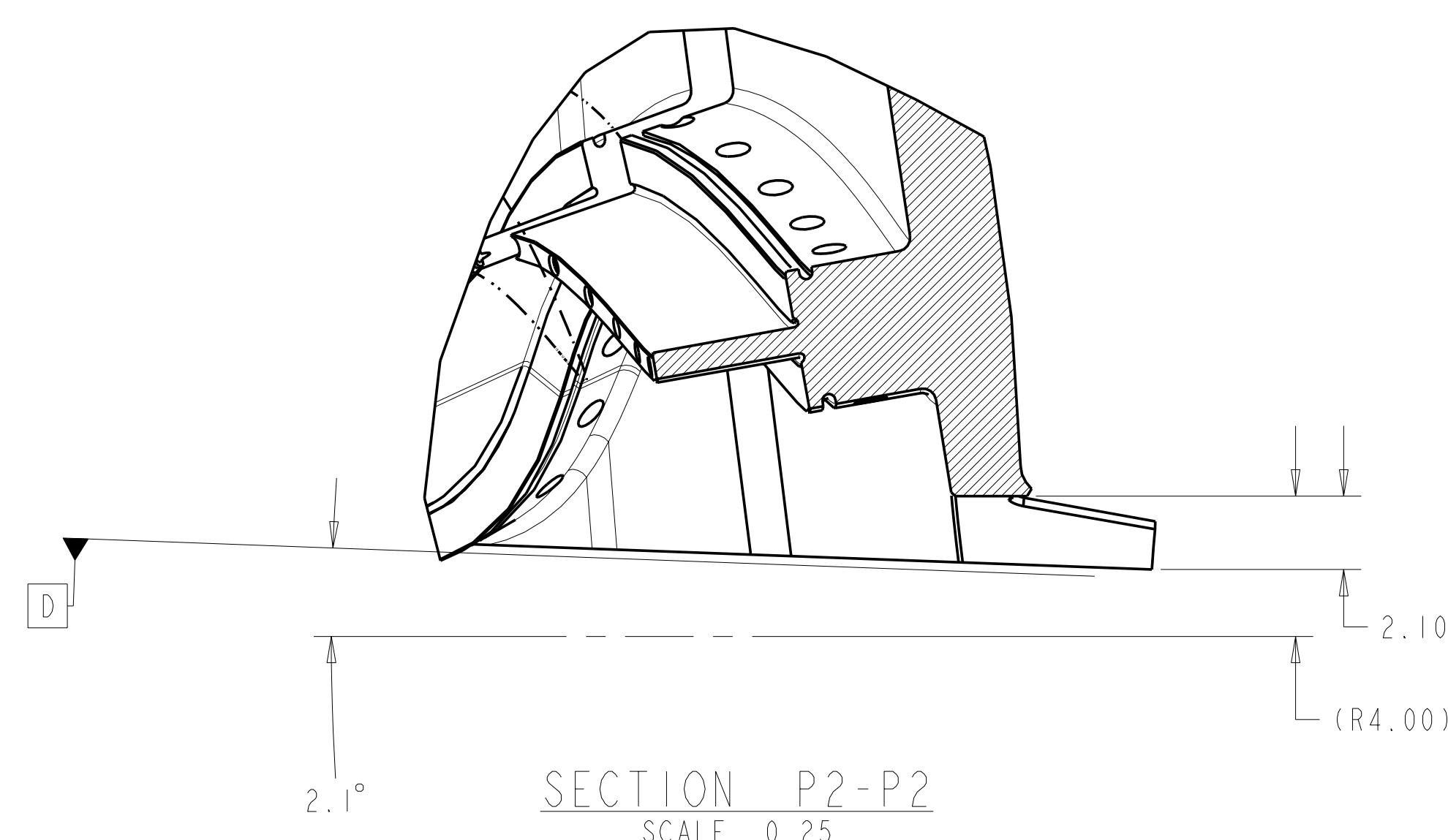
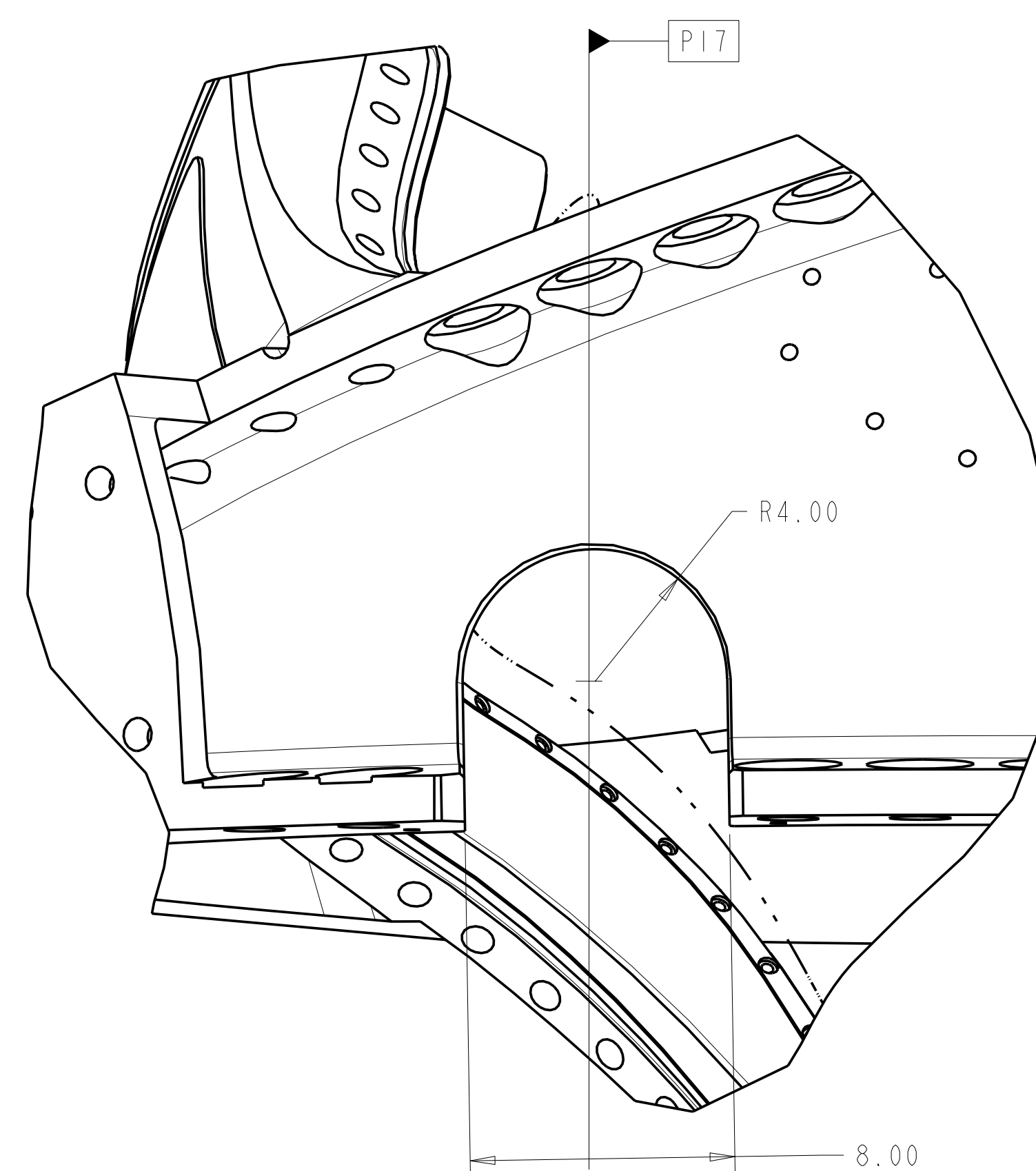
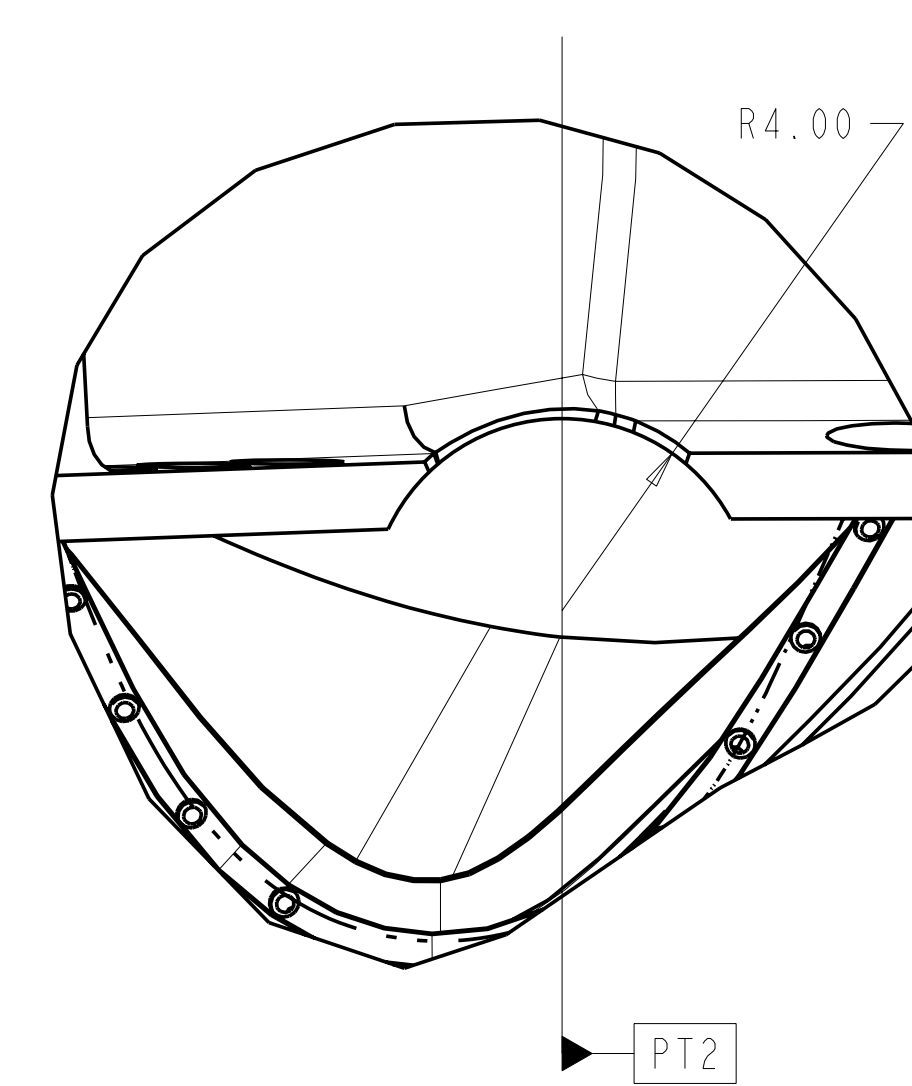
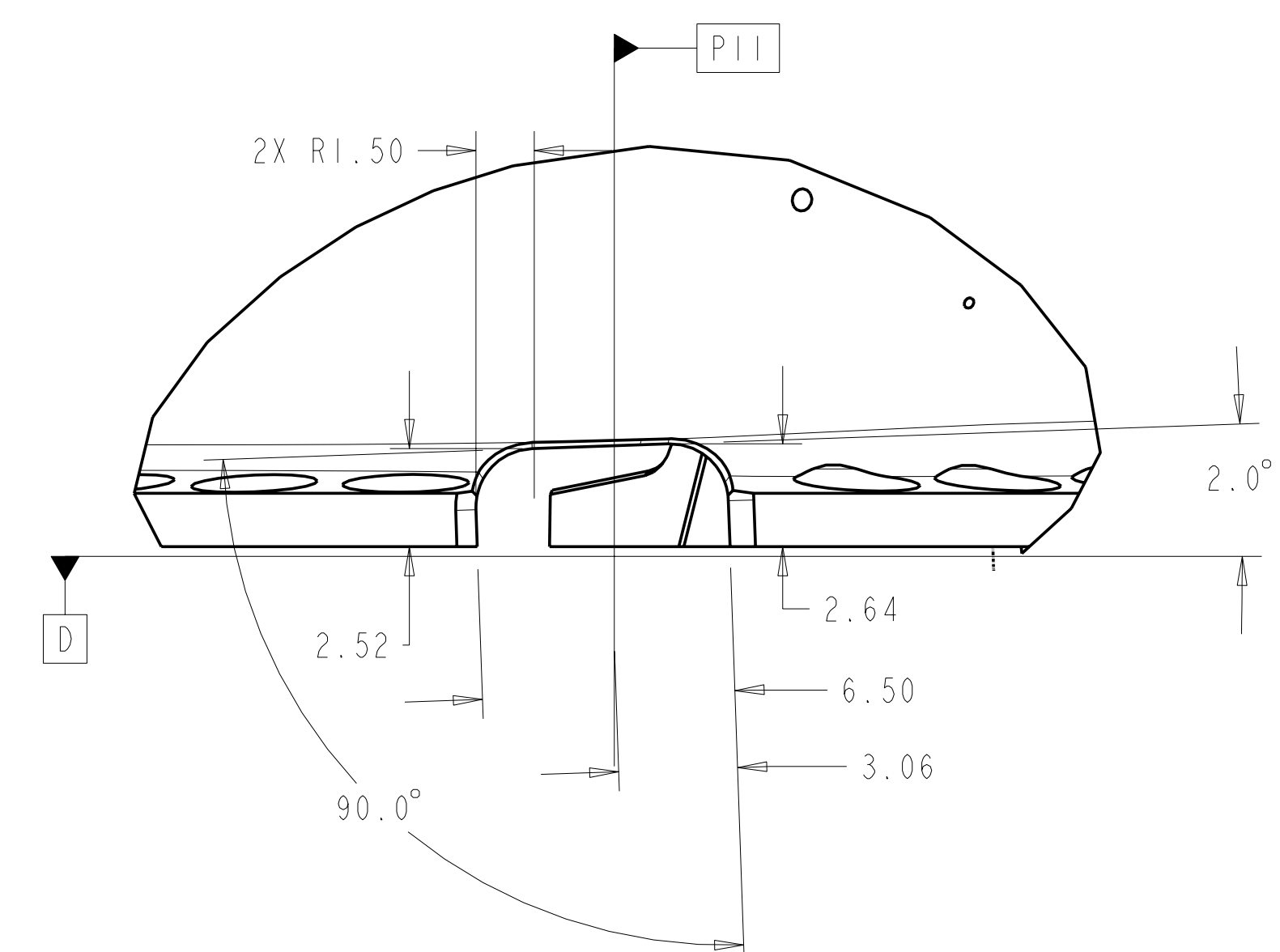
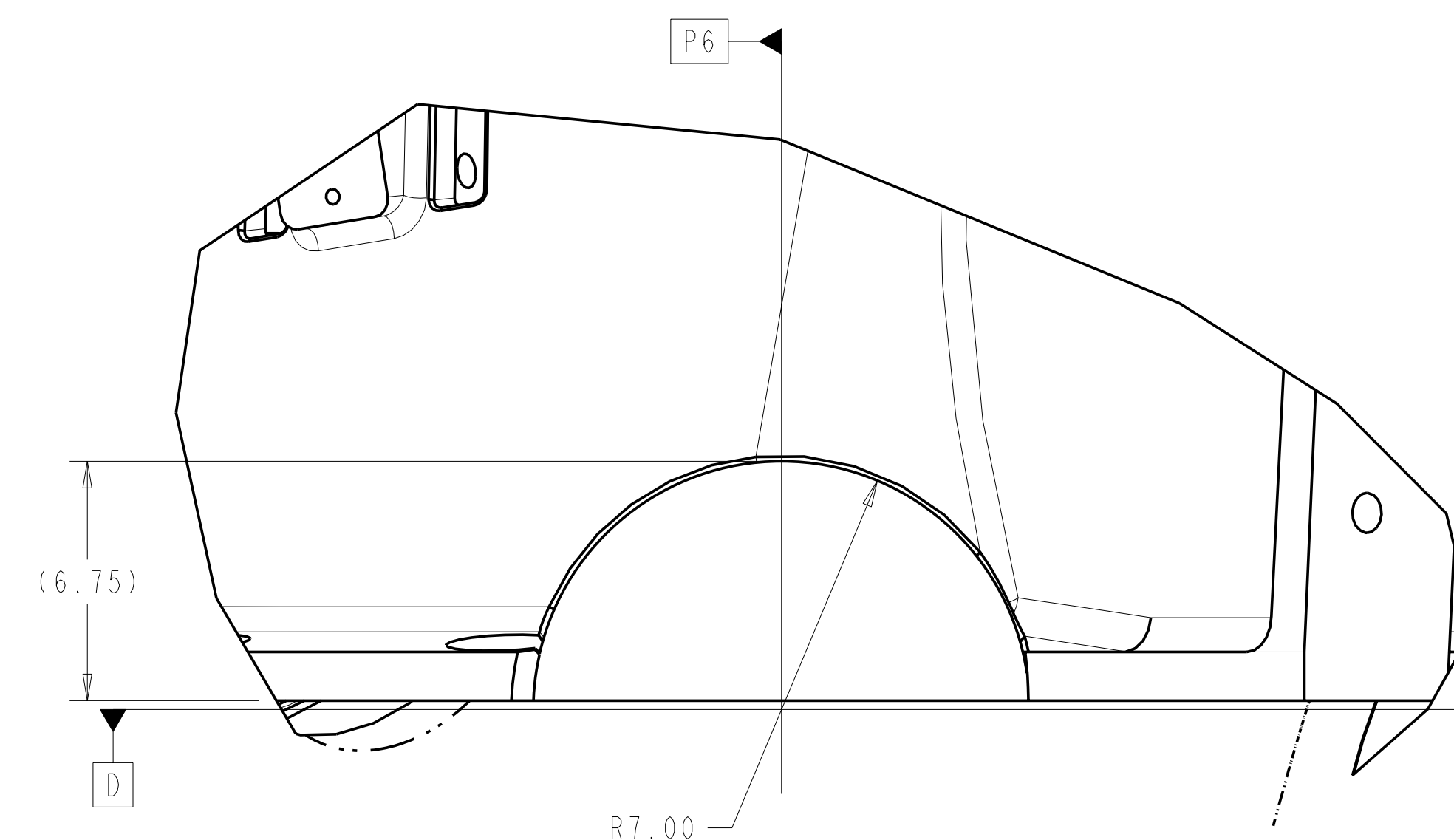
2

1

NEXT ASS'Y:

FINAL ASS'Y:

FOR NOTES AND PARTS LIST SEE SHEET 1

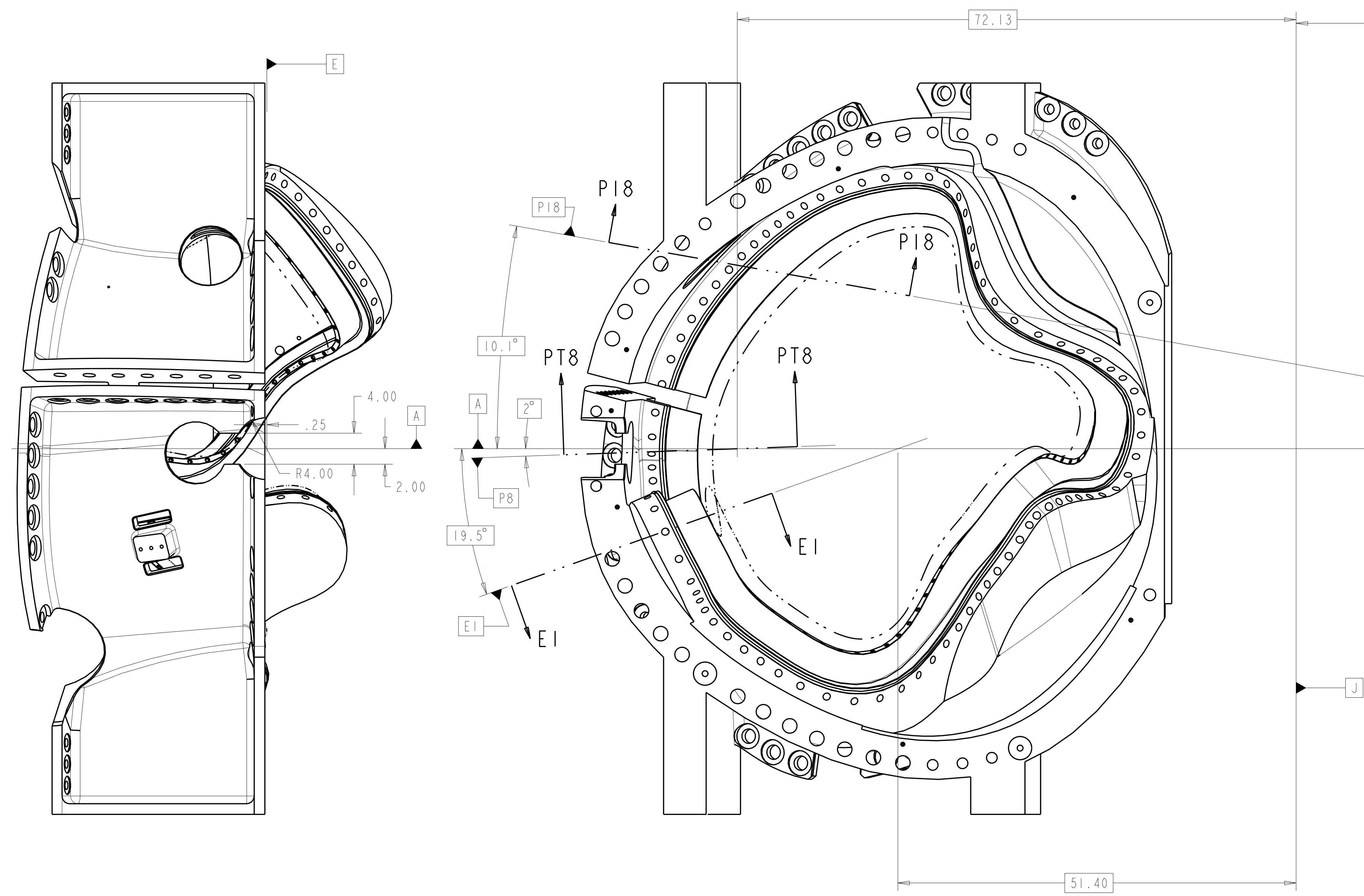
VIEW AT DATUM D
SCALE 0.13SECTION PT17-PT17
SCALE 0.25SECTION PT6-PT6
SCALE 0.25SECTION PT11-PT11
SCALE 0.25SECTION P2-P2
SCALE 0.25

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO. 39	PLANT X-10	BLDG 5700	FL 3	SHT OF 7	TYPE III	CLASS S	REV U
RELEASE LEVEL WIP		SEI41-116					

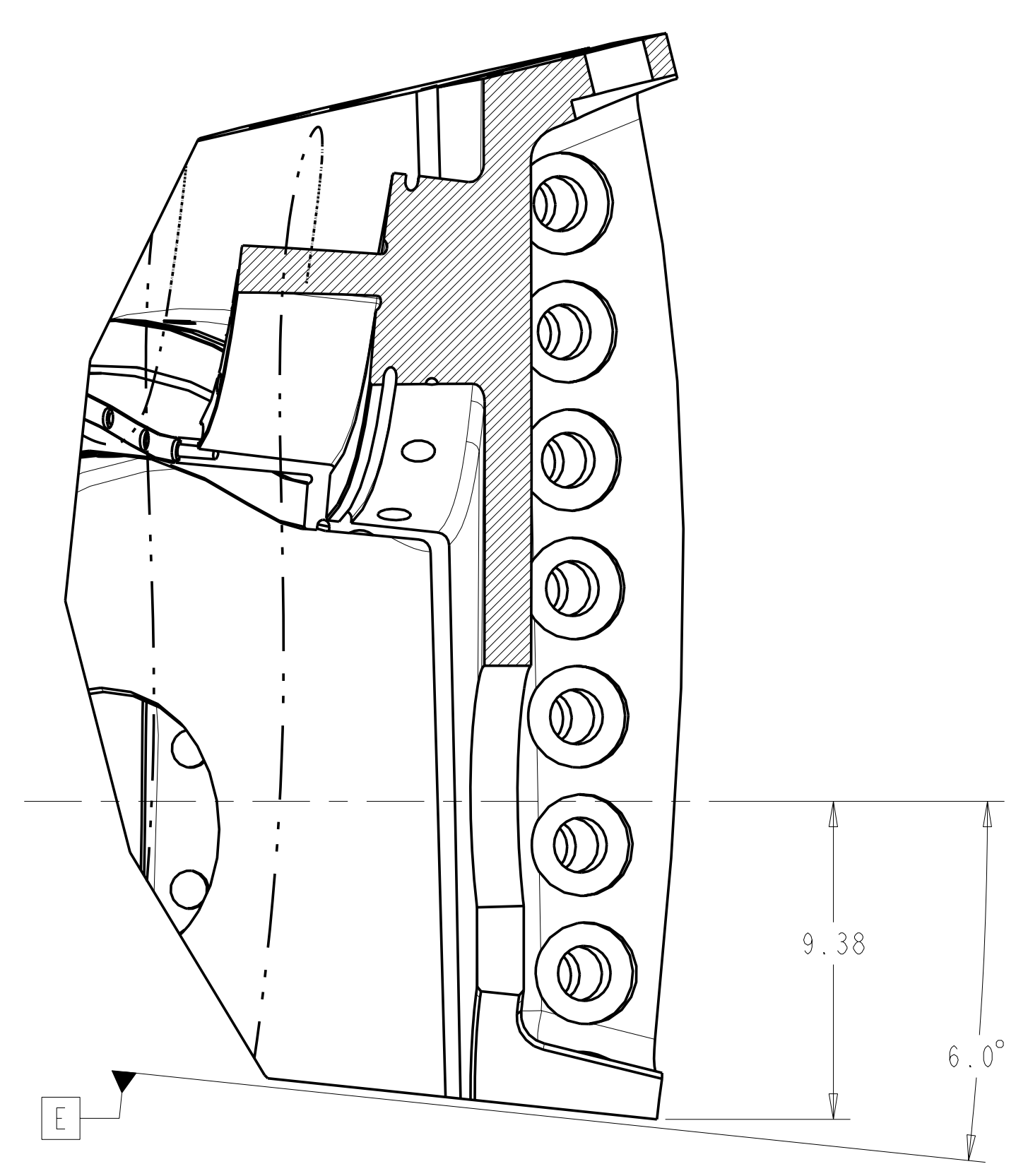
B SEI41-116

A

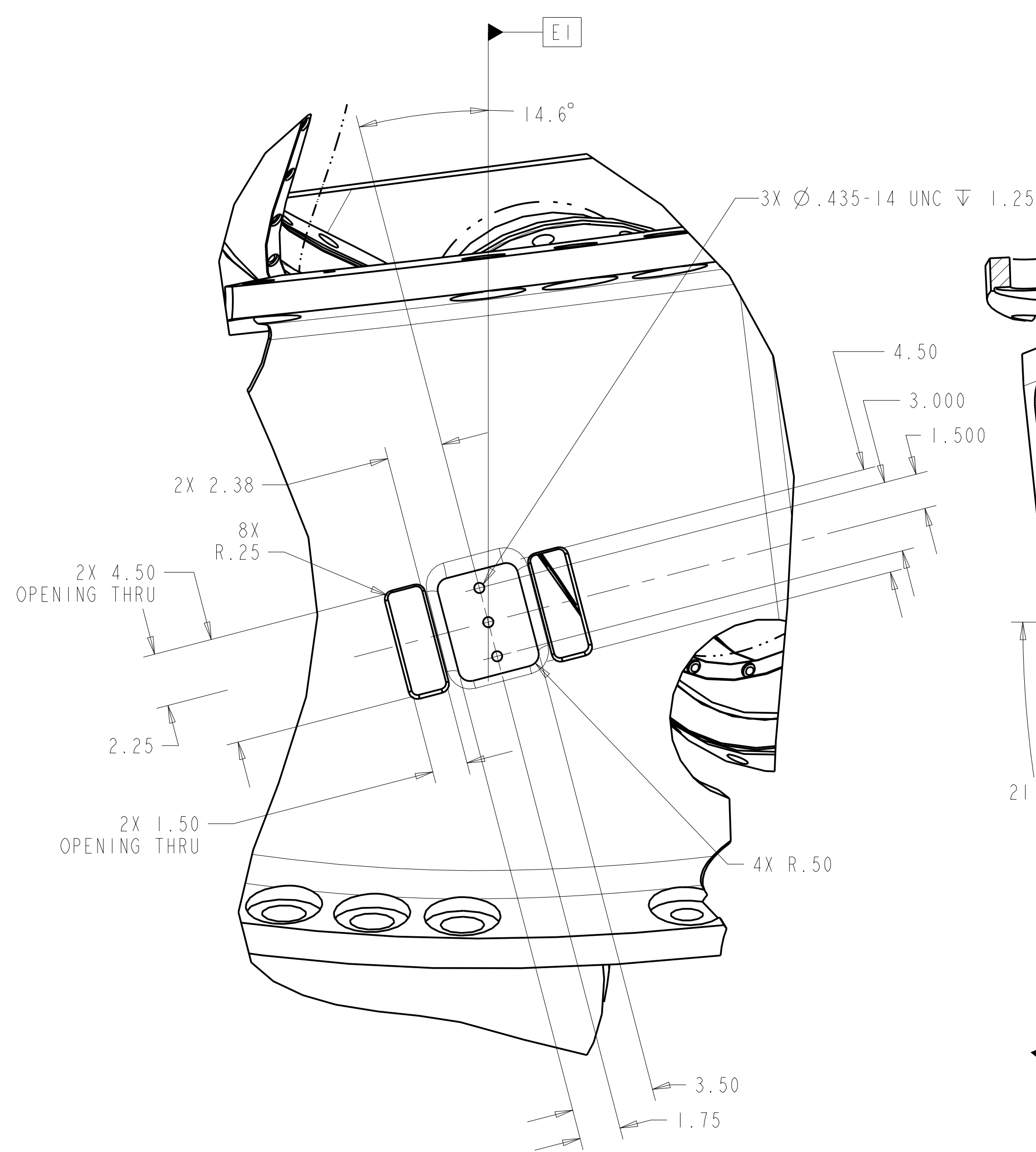
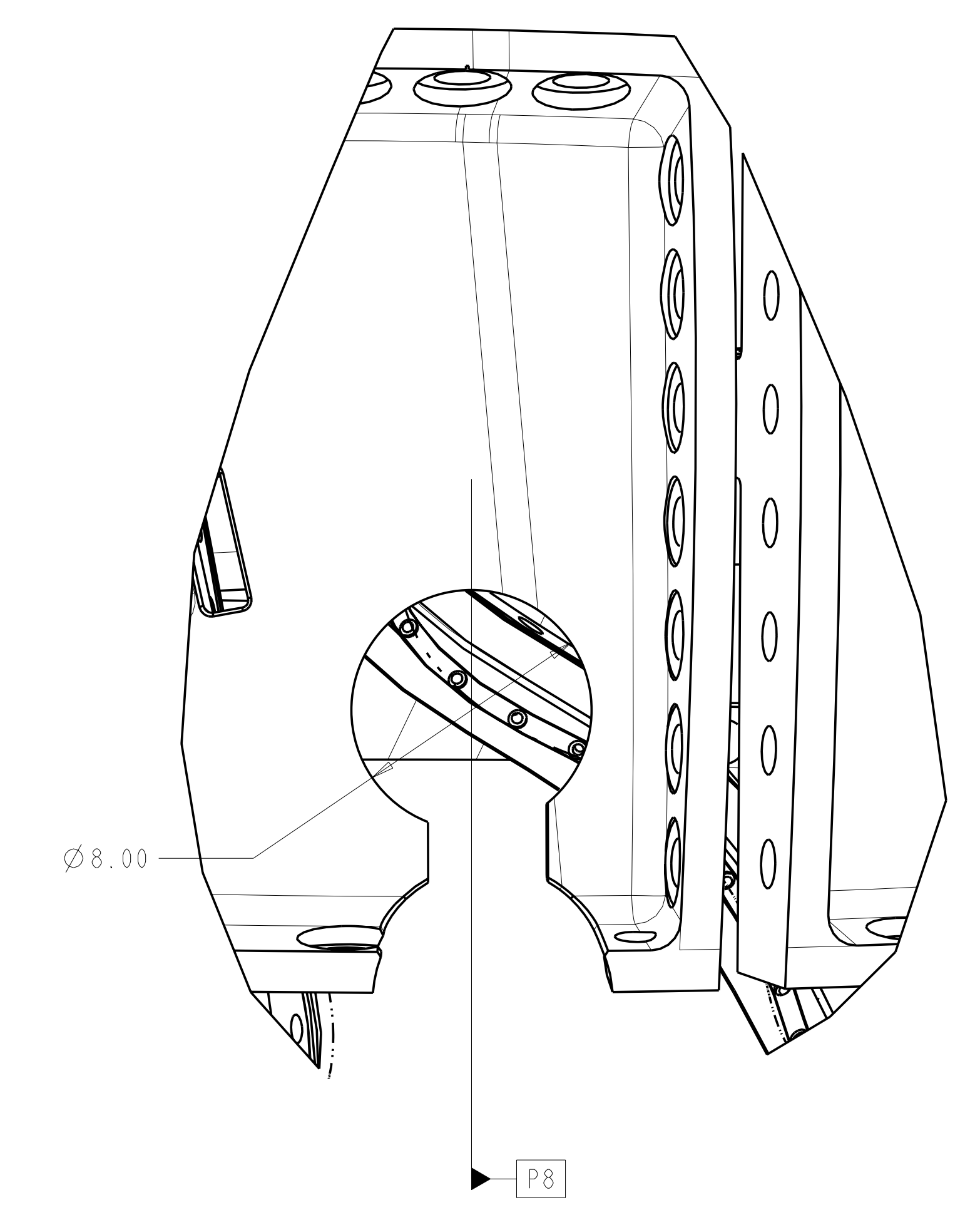
FOR NOTES AND PARTS LIST SEE SHEET 1



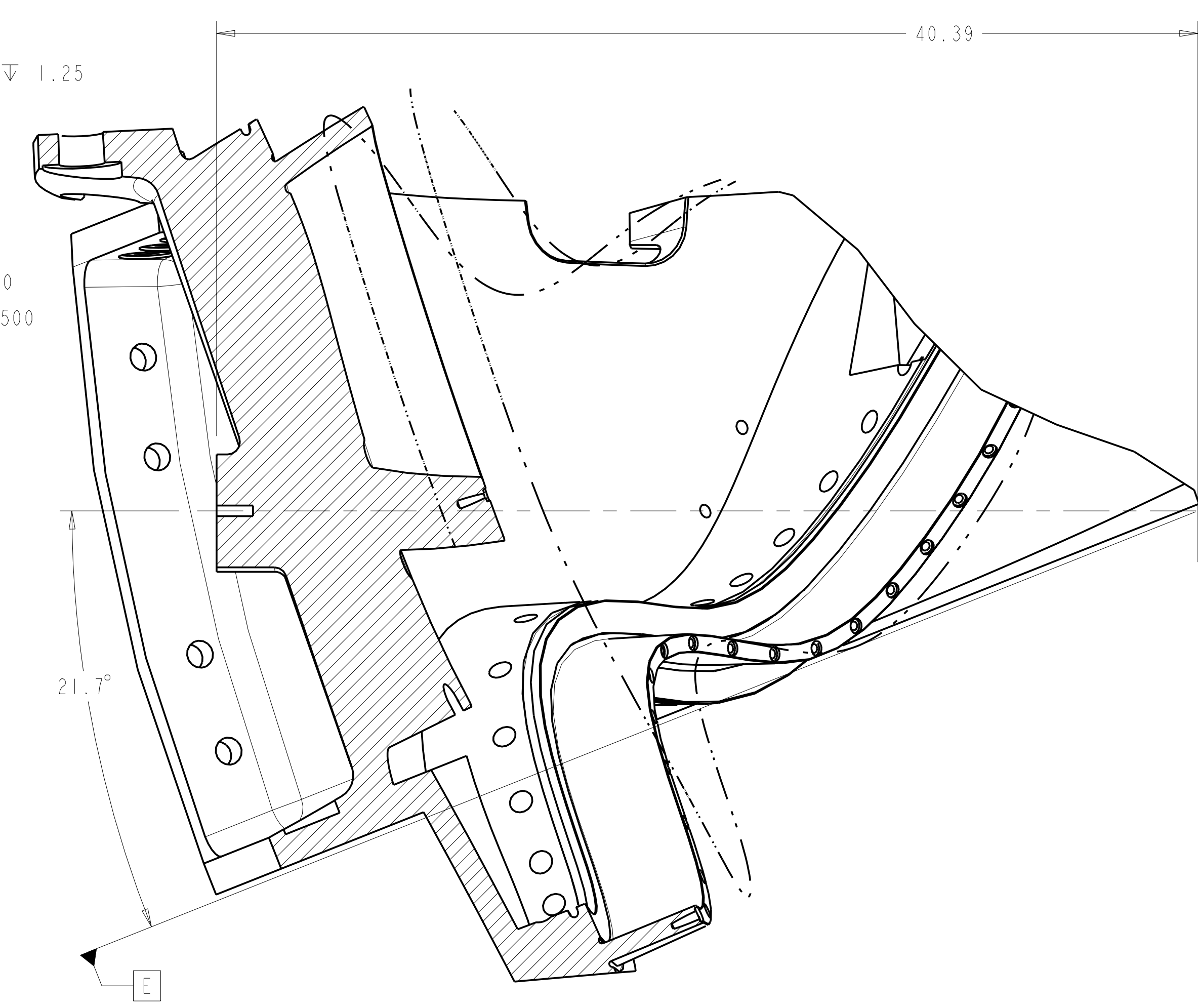
VIEW AT DATUM E
SCALE 0.13



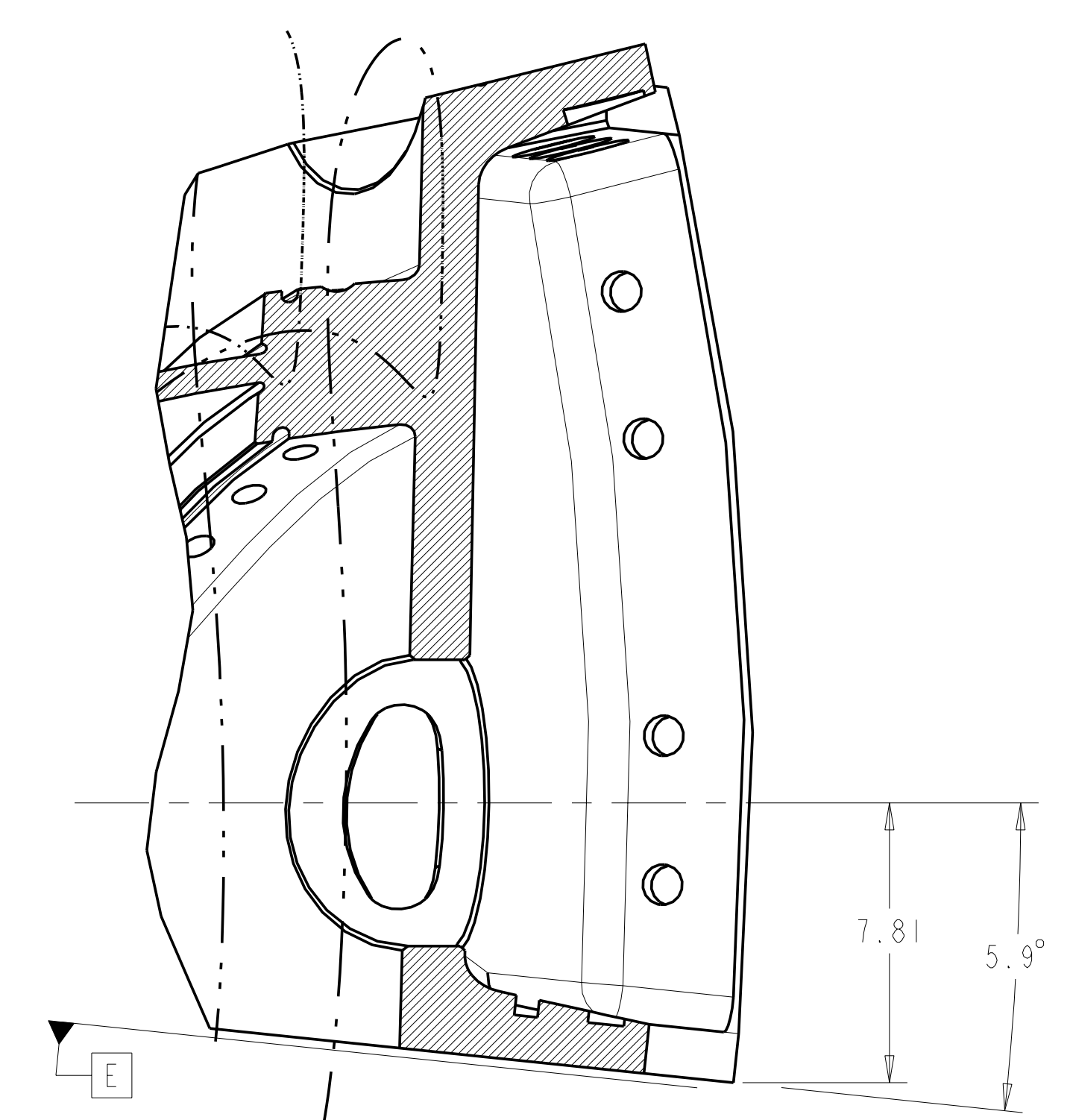
SECTION PT8-PT8
SCALE 0.25



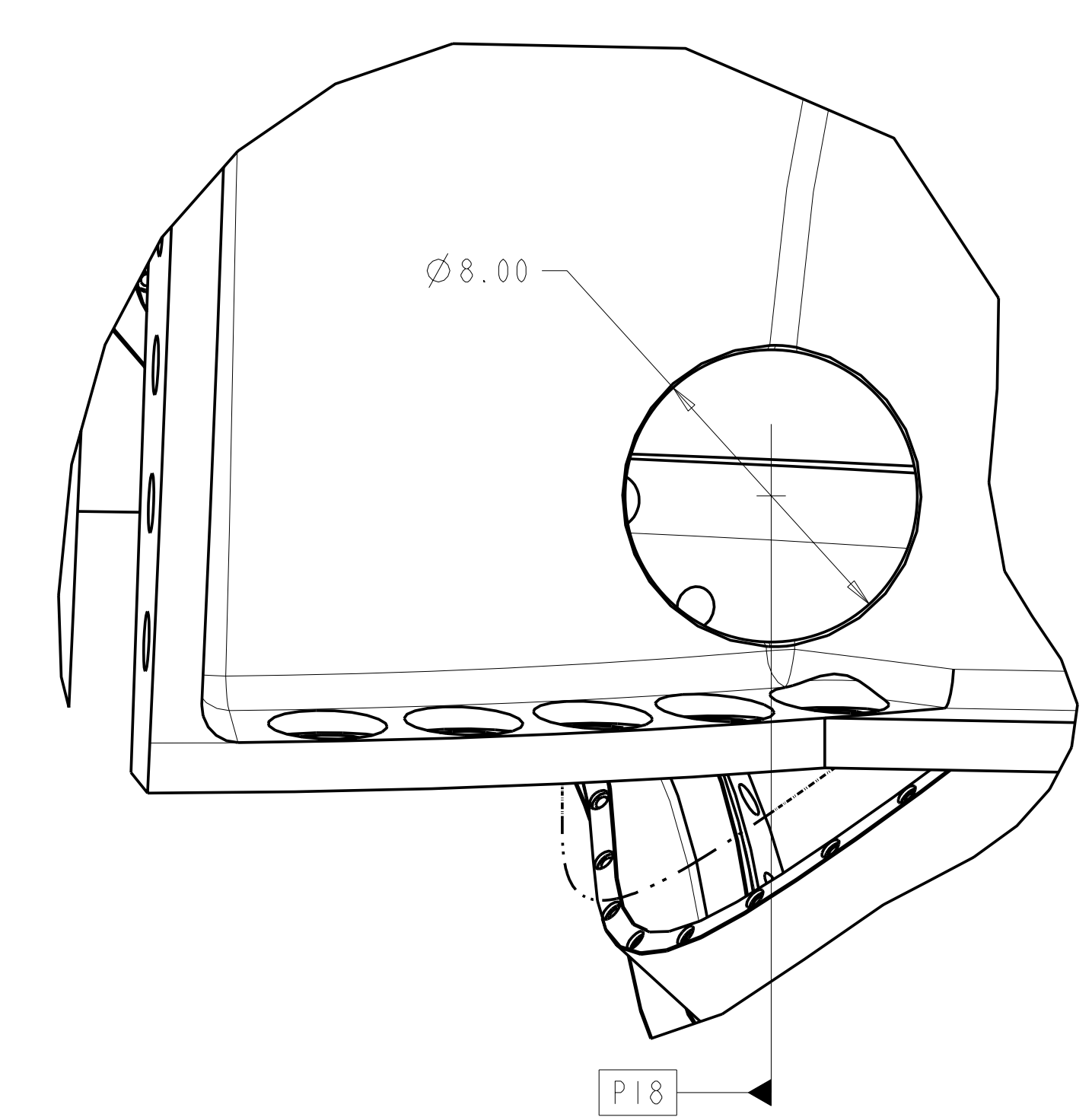
LEAD BLOCK DETAIL



SECTION EI-EI
SCALE 0.25

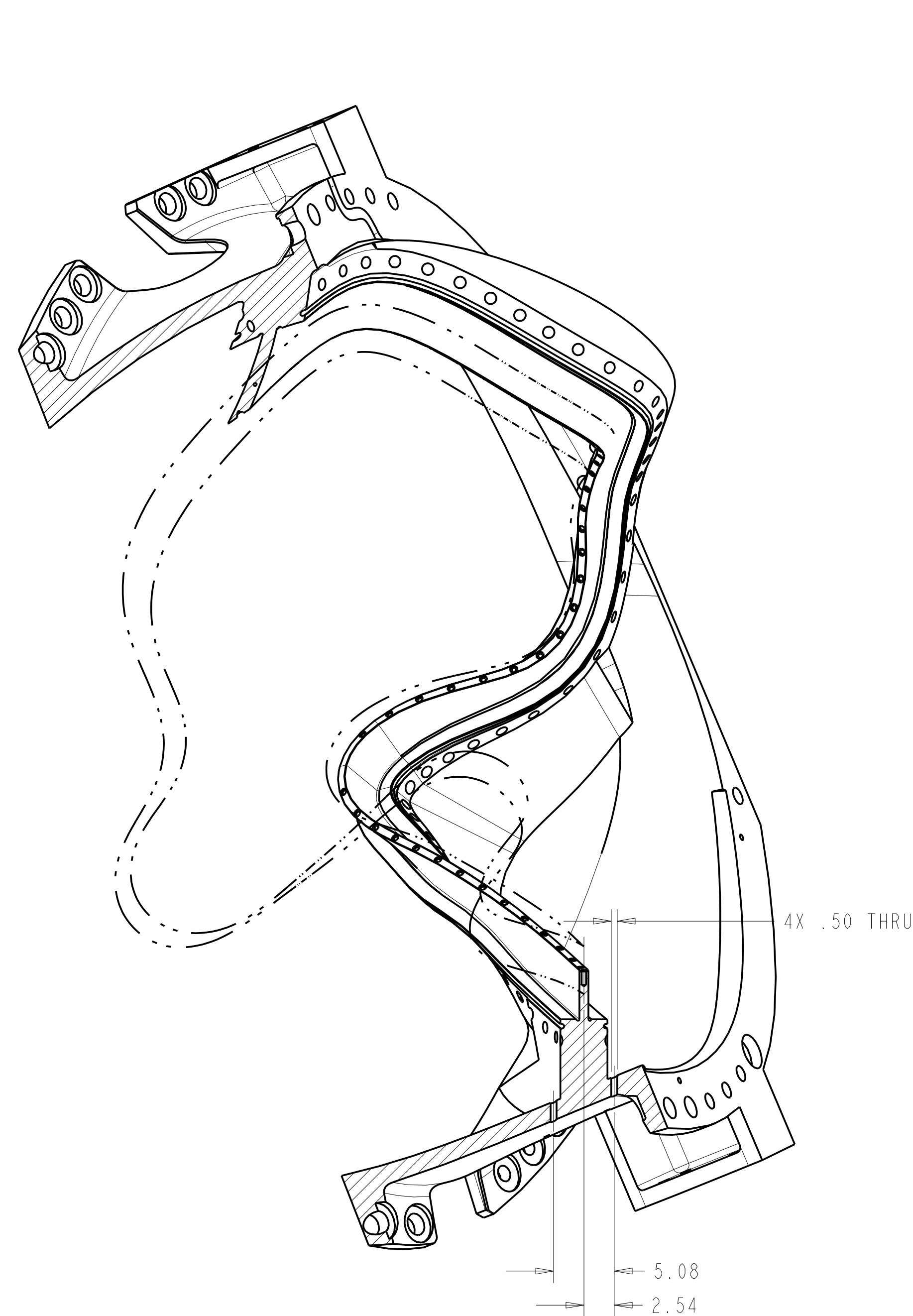
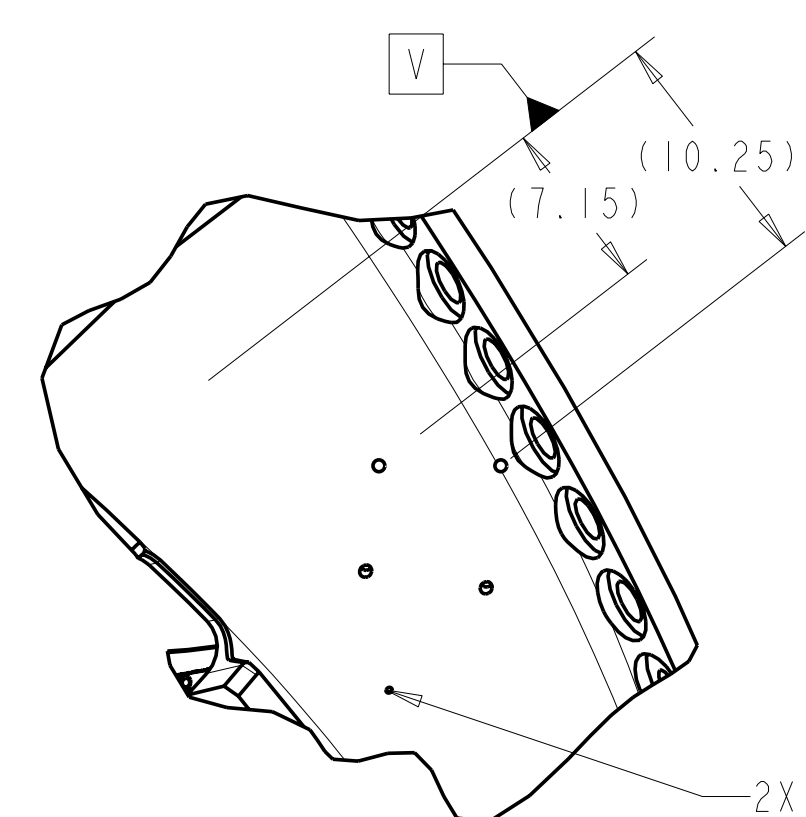
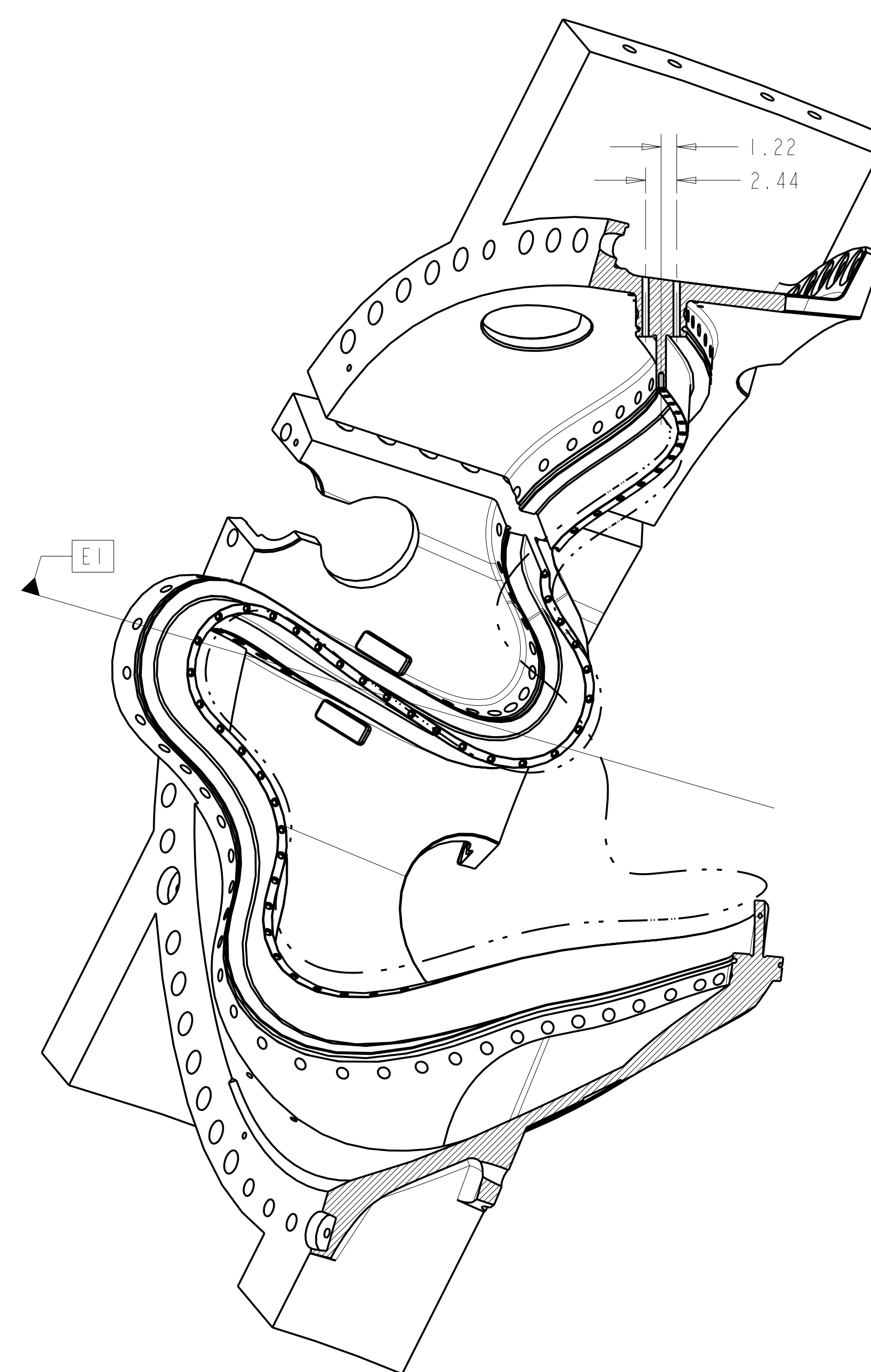
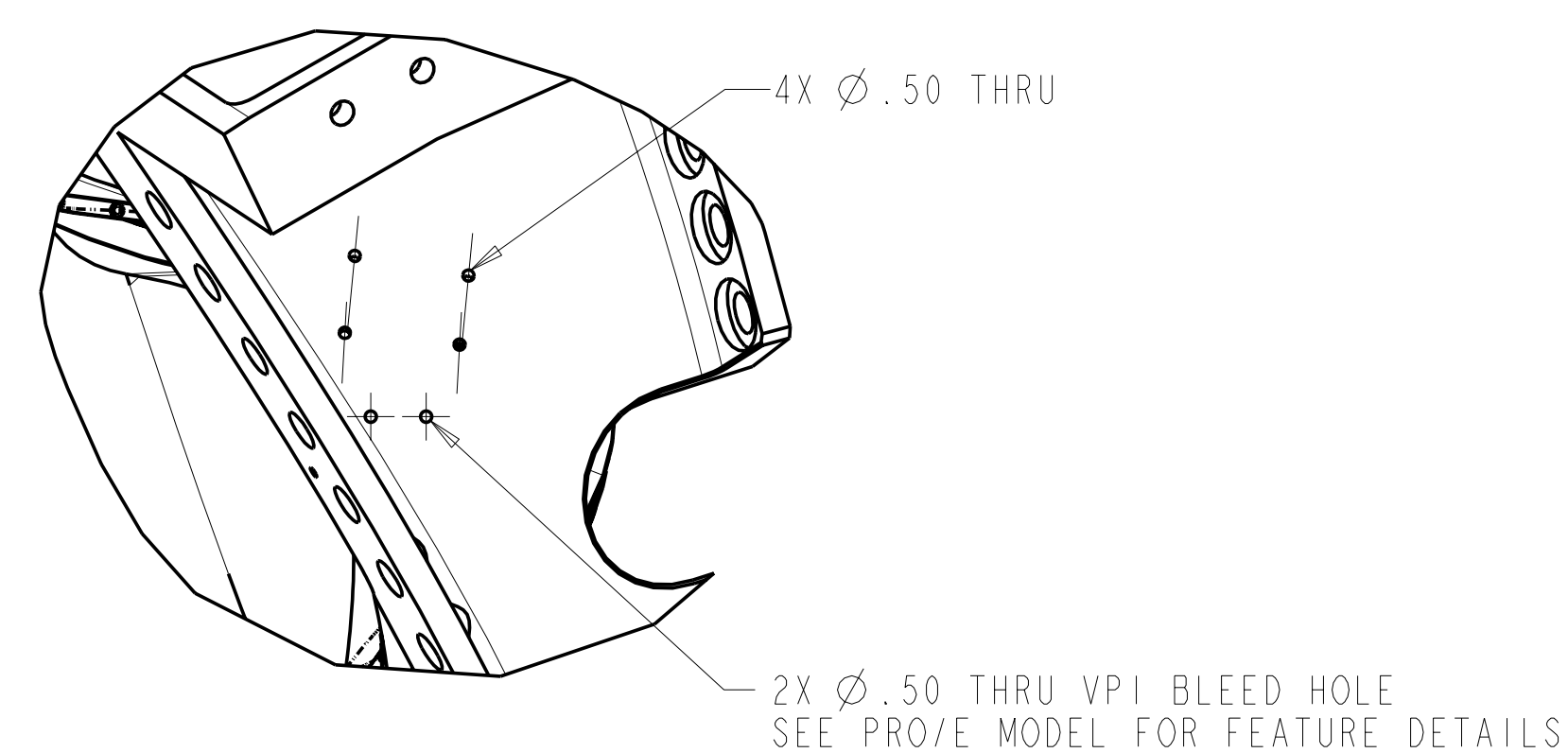
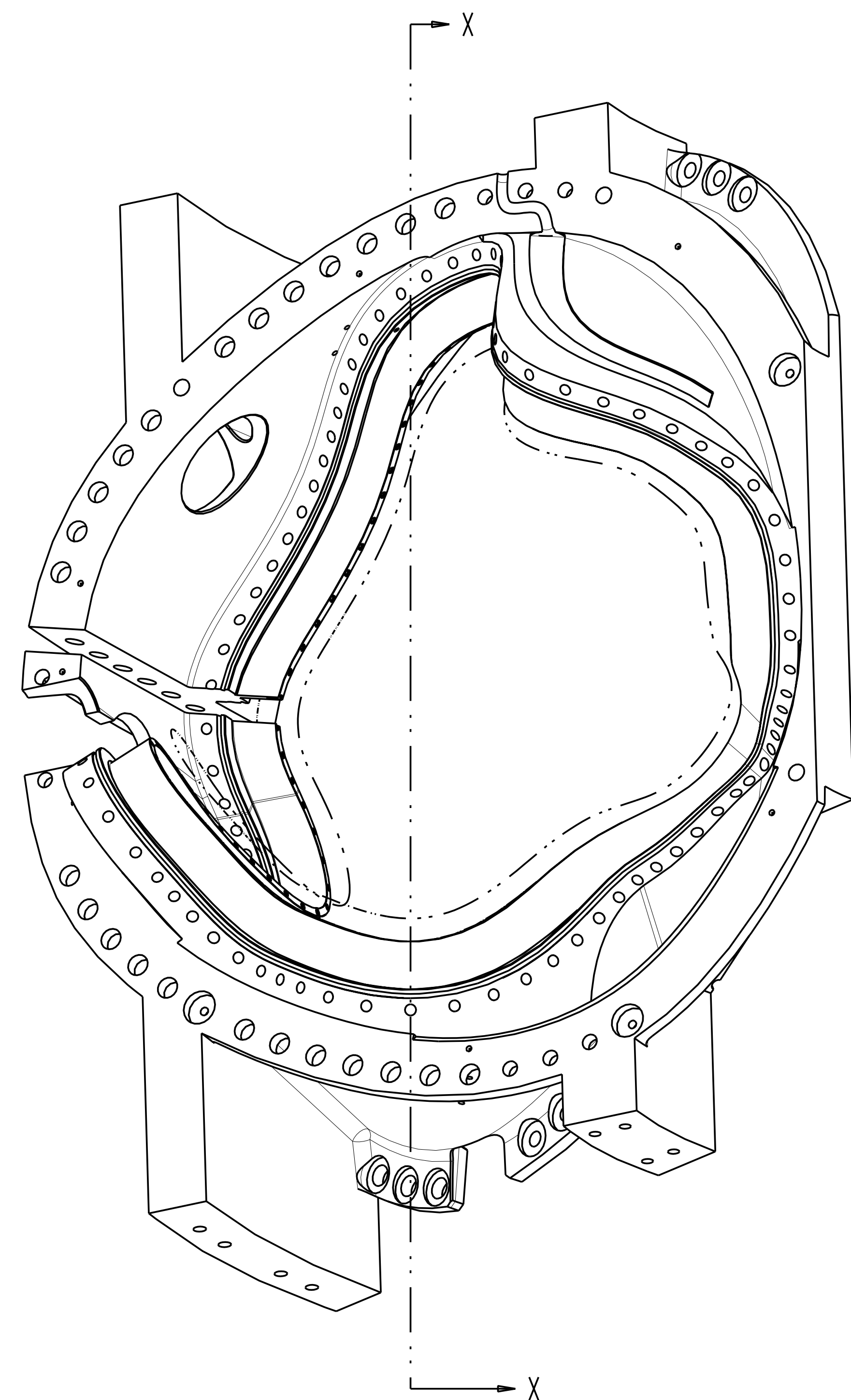
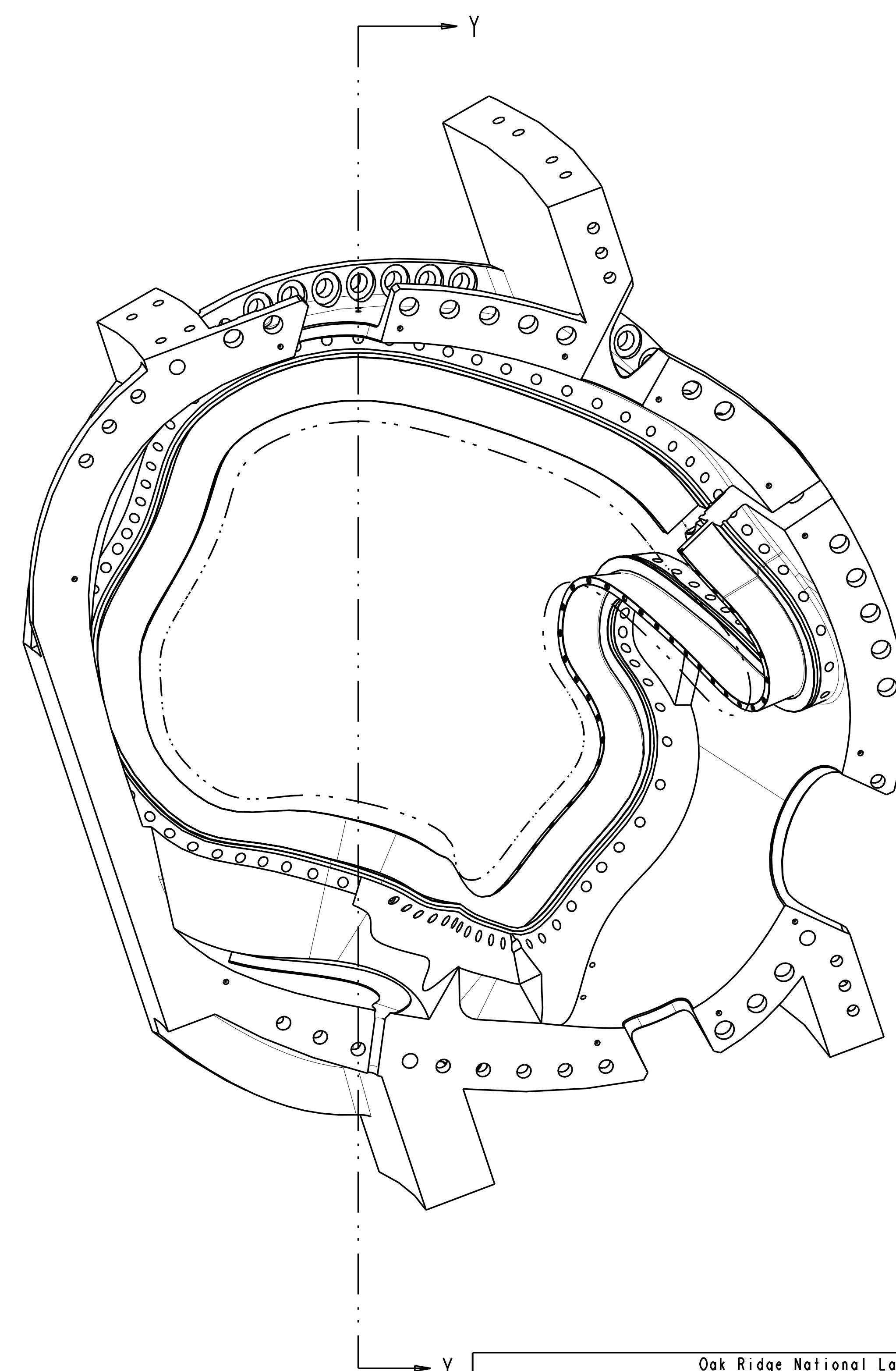


SECTION P18-P18
SCALE 0.25



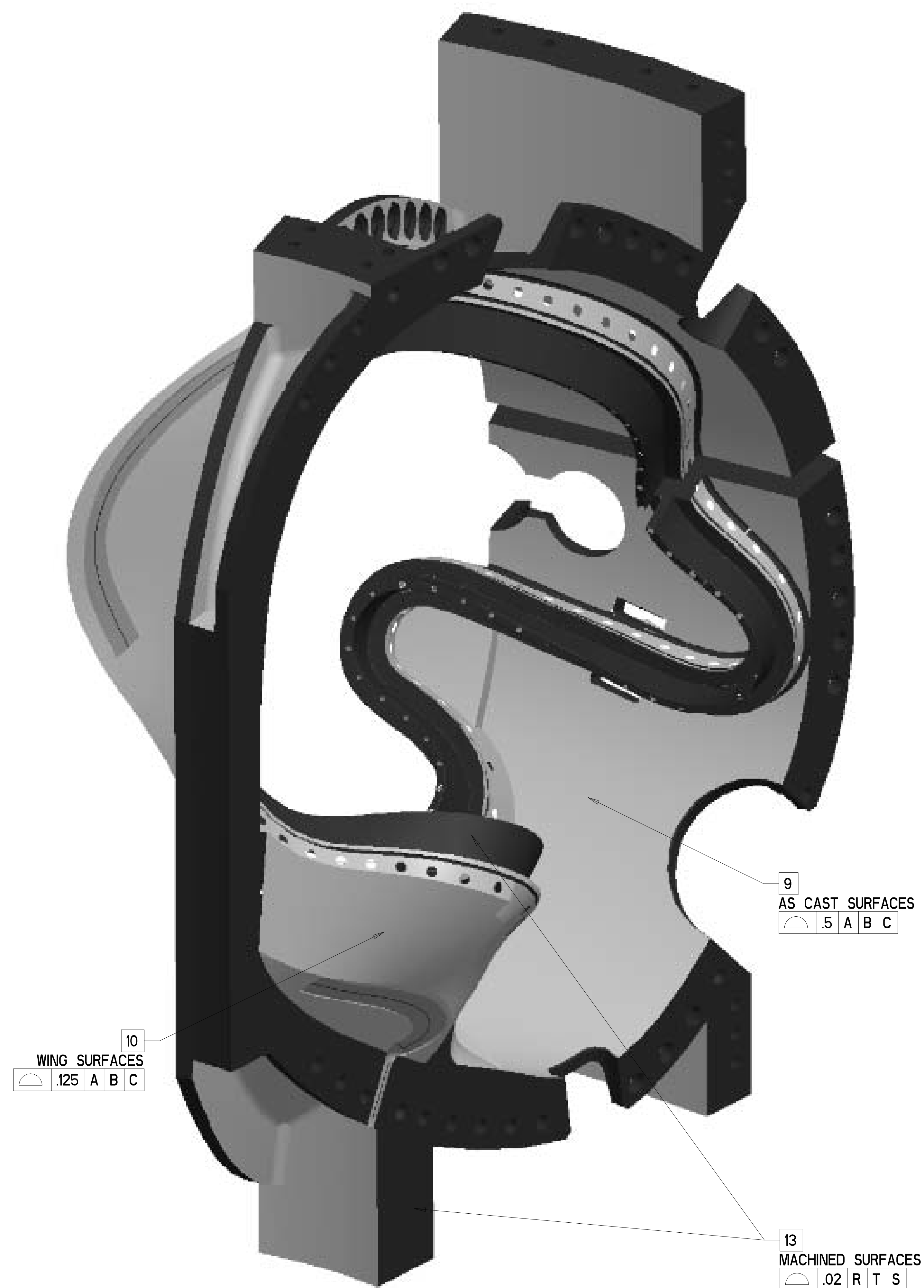
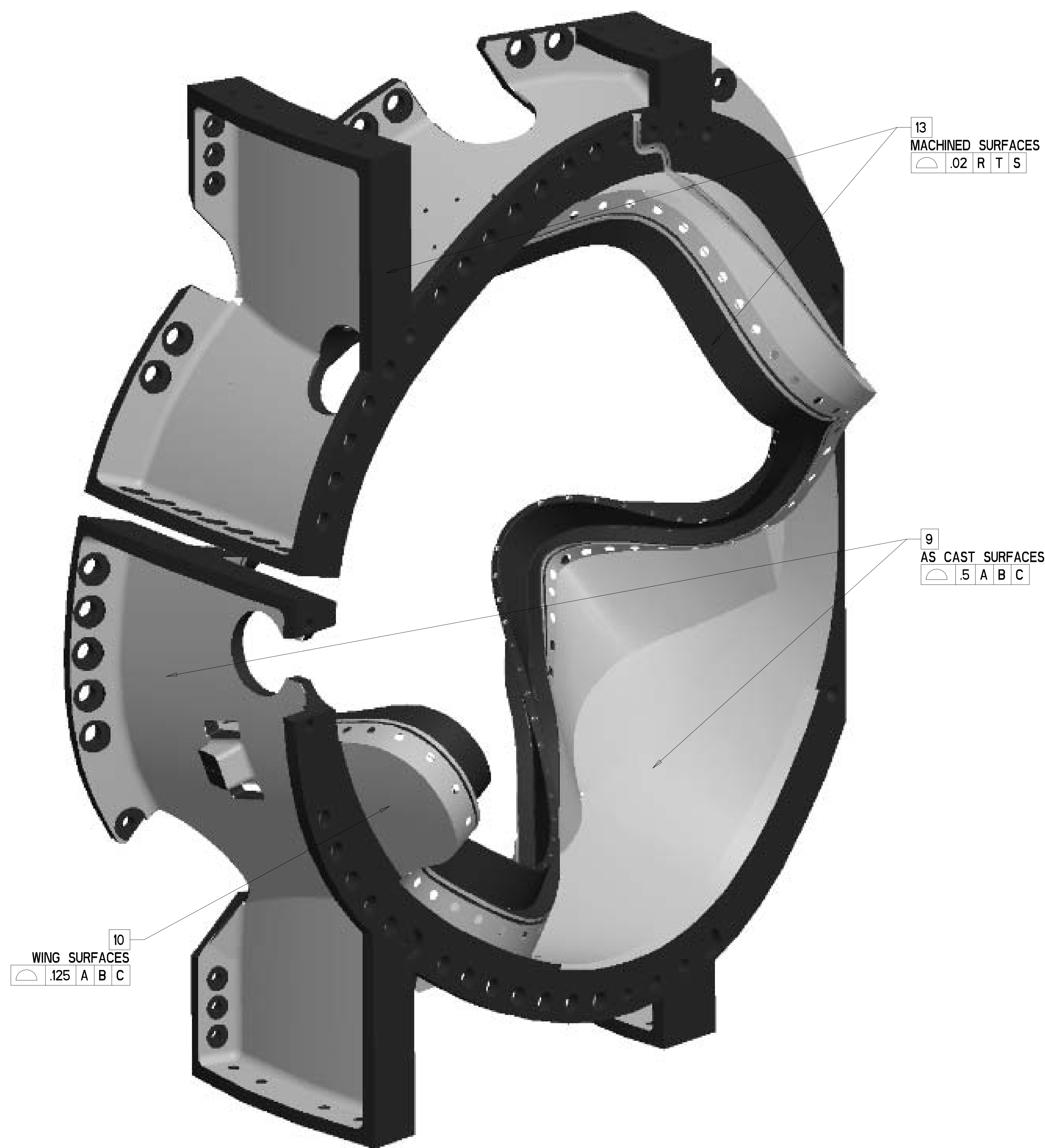
UT-BATTELLE Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO. 39	PLANT X-10	BLDG 5700	FL 3	SHT OF 8	TYPE III	CLASS S	REV U
RELEASE LEVEL WIP		SEI41-116				REV 0	

FOR NOTES AND PARTS LIST SEE SHEET I

SECTION X-X
SCALE 0.13USE PRO/E MODEL GEOMETRY TO
DETERMINE SECTION ORIENTATIONCOOLING INLET / OUTLET HOLES
TYPICAL 2 PLACESSECTION Y-Y
SCALE 0.13USE PRO/E MODEL GEOMETRY TO
DETERMINE SECTION ORIENTATION

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee							
PROJECT NAME							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
39	X-10	5700	3	9	11	S	U
RELEASE LEVEL		WIP		SEI41-116		REV	
						0	

FOR NOTES AND PARTS LIST SEE SHEET 1

ISOMETRIC VIEW
NOT TO SCALEISOMETRIC VIEW
NOT TO SCALE

Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
UT-BATTELLE							
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO. 39	PLANT X-10	BLDG 5700	FL 3	SHT 10	OF 11	TYPE S	CLASS U
RELEASE LEVEL WIP		SE141-116				REV 0	

TABLE I WINDING CENTER SPLINE
(FILE SEI4I-II6-WC.TXT)

#	X	Y	Z
1	60.145	56.794	0.000
2	58.276	57.786	1.503
3	56.596	58.526	3.327
4	55.416	58.692	5.615
5	54.871	58.162	8.086
6	54.722	57.153	10.470
7	54.637	55.902	12.743
8	54.360	54.558	14.945
9	53.748	53.221	17.082
10	52.767	51.957	19.133
11	51.421	50.828	21.031
12	49.744	49.886	22.771
13	47.797	49.153	24.321
14	45.661	48.609	25.690
15	43.406	48.198	26.909
16	41.088	47.830	28.018
17	38.744	47.399	29.046
18	36.404	46.795	29.991
19	34.109	45.921	30.830
20	31.918	44.720	31.524
21	29.878	43.203	32.041
22	27.960	41.481	32.335
23	26.012	39.770	32.290
24	23.895	38.421	31.681
25	21.752	37.807	30.385
26	19.849	37.887	28.631
27	18.194	38.324	26.681
28	16.673	38.852	24.645
29	15.192	39.316	22.564
30	13.689	39.615	20.469
31	12.134	39.566	18.396
32	10.613	38.827	16.444
33	9.437	37.164	14.867
34	8.851	34.871	13.829
35	8.791	32.366	13.165
36	9.101	29.862	12.562
37	9.681	27.475	11.732
38	10.467	25.270	10.612
39	11.320	23.189	9.316
40	12.144	21.365	7.674
41	13.054	20.132	5.590
42	14.179	19.494	3.345
43	15.620	19.190	1.211
44	17.452	18.936	-0.604
45	19.685	18.670	-1.883
46	22.201	18.487	-2.462
47	24.788	18.307	-2.511
48	27.365	18.030	-2.361
49	29.931	17.652	-2.270
50	32.494	17.273	-2.415
51	35.028	17.114	-2.930
52	37.378	17.455	-3.943
53	38.999	18.562	-5.590
54	39.391	20.227	-7.511
55	38.948	22.059	-9.290
56	38.254	23.967	-10.907
57	37.524	25.943	-12.425
58	36.701	27.920	-13.892
59	35.763	29.820	-15.391
60	34.793	31.625	-16.985
61	33.903	33.362	-18.696
62	33.146	35.089	-20.480
63	32.490	36.854	-22.267
64	31.865	38.690	-23.993
65	31.269	40.647	-25.590
66	30.783	42.808	-26.939
67	30.499	45.207	-27.875
68	30.477	47.768	-28.246
69	30.808	50.319	-27.976
70	31.626	52.619	-27.122
71	32.955	54.471	-25.896
72	34.623	55.924	-24.542
73	36.363	57.257	-23.152
74	37.796	58.796	-21.641
75	38.357	60.653	-19.947
76	37.834	62.568	-18.298
77	36.556	64.343	-16.912
78	34.902	65.986	-15.774
79	33.118	67.574	-14.756
80	31.730	69.226	-13.352
81	31.467	70.665	-11.246
82	32.350	71.447	-8.964
83	34.161	71.434	-7.148
84	36.508	70.729	-6.383
85	38.865	69.675	-6.573
86	41.103	68.510	-7.182
87	43.261	67.281	-7.937
88	45.389	65.991	-8.677
89	47.500	64.629	-9.329
90	49.582	63.190	-9.909
91	51.624	61.690	-10.474
92	53.637	60.150	-11.040
93	55.657	58.597	-11.534
94	57.737	57.067	-11.783
95	59.894	55.659	-11.529
96	61.987	54.568	-10.493
97	63.512	54.094	-8.487
98	63.981	54.255	-5.966
99	63.347	54.877	-3.547
100	61.939	55.773	-1.571
101	60.145	56.794	0.000

TABLE II X-VECTOR SPLINE
(FILE SEI4I-II6-XV.TXT)

#	X	Y	Z
1	58.052	53.430	0.000
2	56.230	54.406	1.241
3	54.571	55.150	2.814
4	53.390	55.329	4.888
5	52.867	54.797	7.168
6	52.749	53.802	9.360
7	52.644	52.605	11.450
8	52.303	51.347	13.477
9	51.620	50.117	15.434
10	50.582	48.979	17.286
11	49.208	47.988	19.000
12	47.546	47.183	20.548
13	45.665	46.566	21.923
14	43.638	46.104	23.144
15	41.522	45.737	24.243
16	39.362	45.377	25.253
17	37.186	44.926	26.189
18	35.025	44.274	27.037
19	32.934	43.319	27.758
20	30.975	42.026	28.303
21	29.136	40.501	28.619
22	27.278	38.970	28.596
23	25.247	37.904	27.936
24	23.332	37.806	26.507
25	21.742	38.267	24.757
26	20.322	38.864	22.902
27	18.955	39.416	20.993
28	17.580	39.835	19.056
29	16.161	40.022	17.117
30	14.706	39.785	15.214
31	13.357	38.819	13.486
32	12.429	37.021	12.211
33	12.113	34.747	11.511
34	12.293	32.373	11.144
35	12.782	30.060	10.681
36	13.440	27.941	9.749
37	14.118	26.018	8.463
38	14.685	24.325	6.894
39	15.233	23.393	4.718
40	16.858	23.052	2.571
41	17.825	22.789	0.764
42	19.822	22.415	-0.514
43	22.144	22.026	-0.973
44	24.518	21.651	-0.806
45	26.854	21.205	-0.407
46	29.172	20.671	-0.005
47	31.497	20.091	0.261
48	33.850	19.570	0.289
49	36.219	19.295	-0.034
50	38.478	19.477	-0.825
51	40.280	20.286	-2.176
52	41.259	21.626	-3.899
53	41.357	23.244	-5.670
54	40.743	24.958	-7.238
55	39.677	26.698	-8.519
56	38.487	28.468	-9.648
57	37.290	30.238	-10.766
58	36.171	31.978	-12.005
59	35.202	33.659	-13.436
60	34.128	35.192	-14.956
61	33.015	36.626	-16.545
62	31.934	38.039	-18.173
63	30.919	39.505	-19.797
64	30.020	41.095	-21.370
65	29.386	42.917	-22.812
66	29.008	45.005	-23.947
67	28.900	47.333	-24.530
68	29.158	49.714	-24.381
69	29.937	51.836	-23.580
70	31.222	53.508	-22.423
71	32.804	54.817	-21.162
72	34.456	56.011	-19.872
73	35.820	57.395	-18.459
74	36.077	59.117	-16.846
75	35.181	60.815	-15.406
76	33.770	62.378	-14.236
77	32.154	63.865	-13.239
78	30.624	65.372	-12.150
79	29.829	66.871	-10.476
80	30.132	67.939	-8.366
81	31.415	68.301	-6.387
82	33.393	67.975	-5.091
83	35.622	67.171	-4.744
84	37.773	66.151	-5.106
85	39.804	65.051	-5.797
86	41.755	63.898	-6.622
87	43.613	62.689	-7.444
88	45.576	61.412	-8.196
89	47.455	60.064	-8.880
90	49.301	58.659	-9.544
91	51.121	57.220	-10.201
92	52.949	55.764	-10.798
93	54.831	54.315	-11.210
94	56.801	52.930	-11.253
95	58.812	51.718	-10.740
96	60.658	50.858	-9.482
97	61.888	50.555	-7.459
98	62.103	50.818	-5.098
99	61.294	51.503	-2.951
100	59.824	52.420	-1.285
101	58.052	53.430	0.000

TABLE III SPH SEAT CENTER SIDE A
(FILE SEI4I-II6-SA.TXT)

#	X	Y	Z
1	59.066	60.291	8.430
2	58.860	59.381	10.769
3	58.778	58.039	13.338
4	58.514	56.413	16.058
5	57.824	54.704	18.811
6	56.636	53.069	21.464
7	54.960	51.607	23.942
8	52.856	50.405	26.174
9	50.455	49.502	28.106
10	47.901	48.868	29.743
11	45.308	48.417	31.136
12	42.723	48.022	32.363
13	40.142	47.543	33.482
14	37.556	46.840	34.511
15	35.002	45.793	35.420
16	32.564	44.339	36.159
17	30.277	42.462	36.682
18	27.936	40.214	36.914
19	25.058	37.740	36.538
20	21.419	35.811	34.952
21	18.113	35.234	32.375
22	15.740	35.516	29.750
23	13.963	35.994	27.352
24	12.463	36.421	25.149
25	11.083	36.705	23.111
26	9.826	36.749	21.346
27	8.783	36.433	20.007
28	7.908	35.665	19.008
29	7.158	34.116	18.104
30	6.768	31.715	17.305
31	6.877	28.725	16.482
32	7.533	25.505	15.344
33	8.576	22.701	13.979
34	9.847	20.191	12.534
35	11.407	17.530	10.184
36	13.171	15.705	7.004
37	14.911	14.960	4.103
38	16.505	14.668	1.912
39	18.159	14.397	0.240
40	20.292	14.093	-1.073
41	22.741	13.858	-1.835
42	25.224	13.614	-2.264
43	27.726	13.311	-2.649
44	30.317	12.980	-3.171
45	33.135	12.766	-3.995
46	36.087	12.979	-5.274
47	34.634	42.477	-29.516
48	34.333	45.168	-30.512
49	34.352	48.023	-30.829
50	34.769	50.588	-30.440
51	35.596	52.541	-29.600
52	36.816	54.034	-28.535
53	38.470	55.408	-27.242
54	40.514	57.178	-25.530
55	42.324	59.997	-22.937
56	42.392	63.440	-19.981
57	40.910	66.337	-17.691
58	38.935	68.560	-16.135
59	36.920	70.382	-15.044
60	35.660	71.631	-14.179
61	35.309	72.438	-13.239
62	35.646	73.058	-11.849
63	36.472	73.198	-10.779
64	37.476	73.000	-10.323
65	39.077	72.410	-10.328
66	41.231	71.437	-10.786
67	43.552	70.279	-11.466
68	46.015	68.962	-12.183
69	48.506	67.534	-12.801
70	50.906	66.051	-13.3