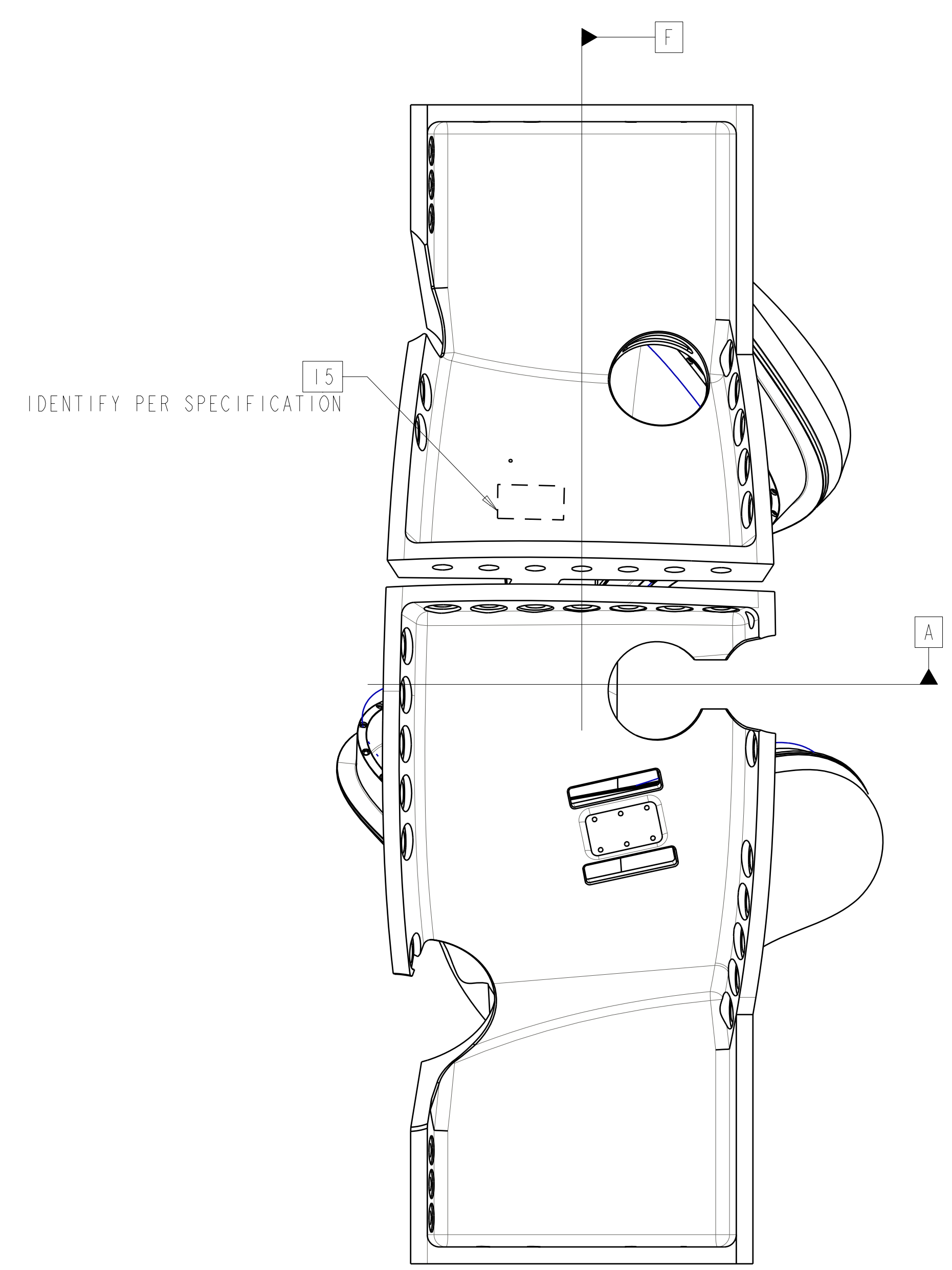
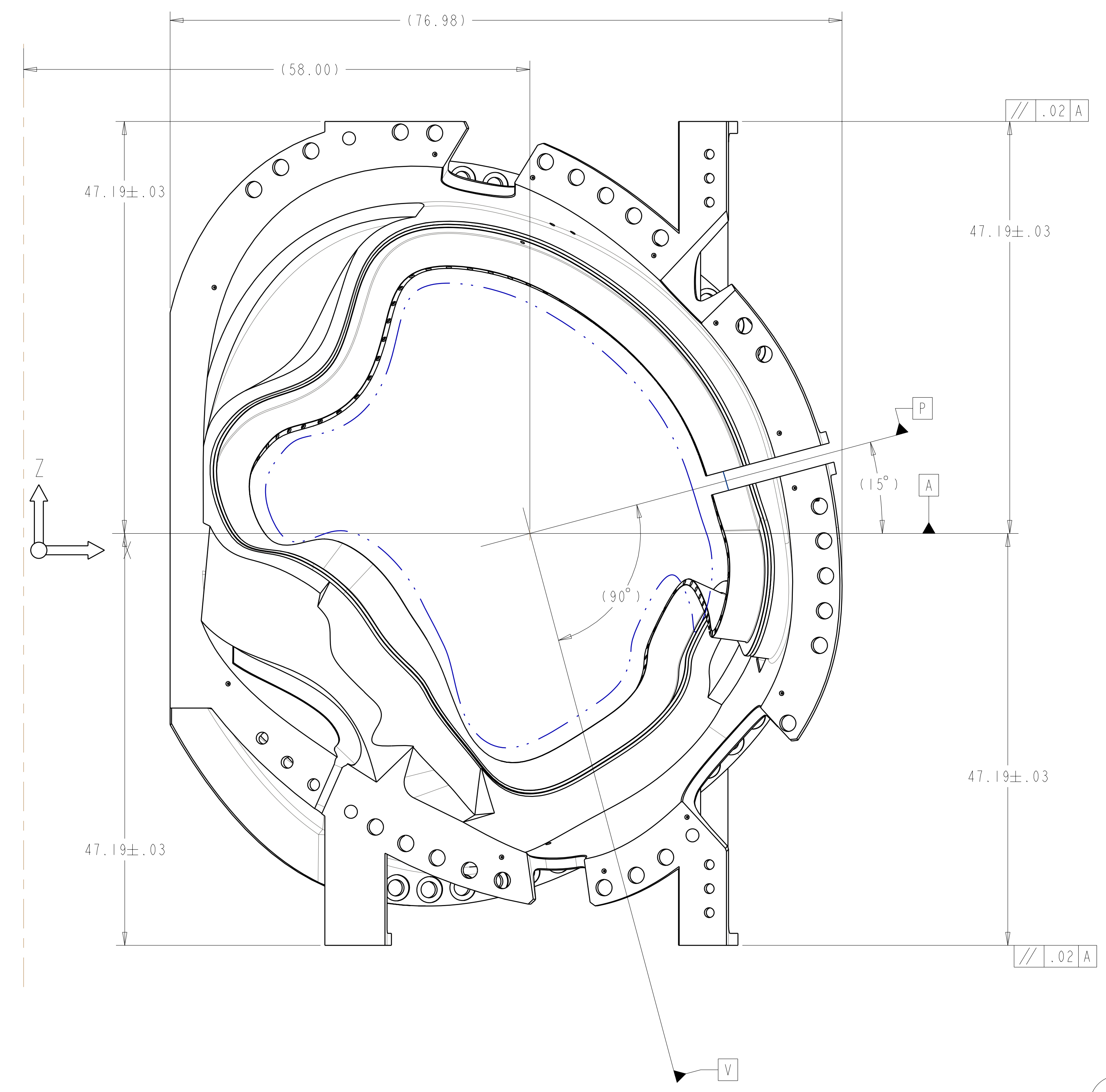


ISOMETRIC VIEW

NOTES:

1. DRAWING PREPARED IN ACCORDANCE WITH ASME Y14.8M-1996.
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 = +/- .25 - INCH, WITH EXEMPTION FOR INTERSECTING SURFACES WHERE FILLETS ARE EXPECTED. MIN FILLET AND CORNER RADII = 0.5 +/- 0.1-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-CSPEC-141-03 FOR ADDITIONAL REQUIREMENTS.



**RELEASED FOR
 FABRICATION / INSTALLATION**
 PPPL Drafting:

AR	X	SE141-116	WINDING FORM TYPE-C	CAST SS	SEE NOTE #15	I
CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO	
		NEXT ASSEMBLY	PARTS LIST			

SCALE .125

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REG	DATE	ORNL	DOE	DATE
5	REVISED PART AND DRAWING PER ECN 4994	GLL	5-05	MJC			DEW					
4	REVISED DRAWING AND MODEL PER ECN 4965	GLL	3-05	MJC			DEW					
3	REVISED DRAWING AND MODEL PER ECN 4944	GLL	1/05	MJC			DEW					
2	SHEET 11 REMOVED TABLES III & IV	GLL	9/04	MJC			DEW					
1	SHEET 2; DETAIL B REMOVED SPHERICAL SEATS MODIFIED TEE RELIEF TO .1 R; .03 CHAMFER WAS .06; PER ECN 4903											
1	REVERSED UPPER INB VERT SUPP POCKET.	DEW	7/04	TGB			DEW					
1	CHANGED LN2 INLET/OUTLET HOLE DIAMETER. MODIFIED LEAD BLOCK DIMS PER ECN-4883.											

SCALE NOTED		DES	T BROWN	5-5-04
TOLERANCES UNLESS OTHERWISE SPECIFIED		DRW	P MILLER	5-5-04
FRACTIONS		CHK	M. COLE	6-25-04
XX DECIMALS ± .01		SECT		
XXX DECIMALS ± .005		DEPT		
ANGLES ± 0'15"		PE	D. WILLIAMSON	6-25-04
BREAK SHARP EDGES .06 MAX		CR		
FINISH .125 UNLESS OTHERWISE SPECIFIED		PJ		
		RED		
		PPPL DRFT	J. SIEGEL	6-25-04

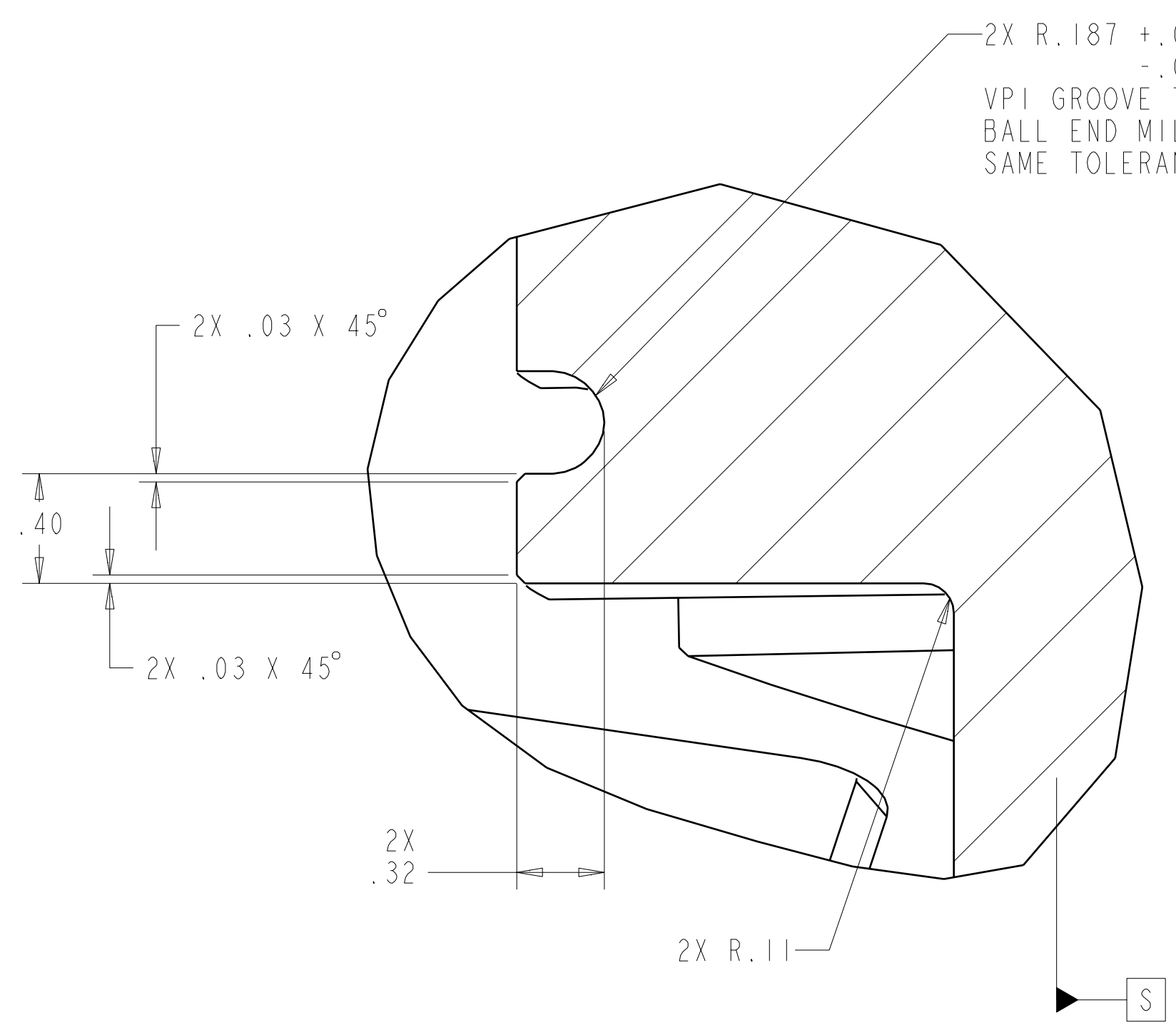
UT-BATTELLE		Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee	
NATIONAL COMPACT STELLARATOR EXPERIMENT			
PRODUCTION WINDING FORM TYPE-C			
VERSION NO.	PLANT	BLDG	FL
6	X-10	5700	3
RELEASE LEVEL			
Fabrication			
SEI41-116			
REV			
5			

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 MAY 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 BIDDER ARE NOT TO BE USED FOR OTHER PURPOSES, AND ARE TO BE RETURNED UPON REQUEST OF THE FORWARDING CONTRACTOR.

P THIS DRAWING PRODUCED ON PRO-ENGINEER

H
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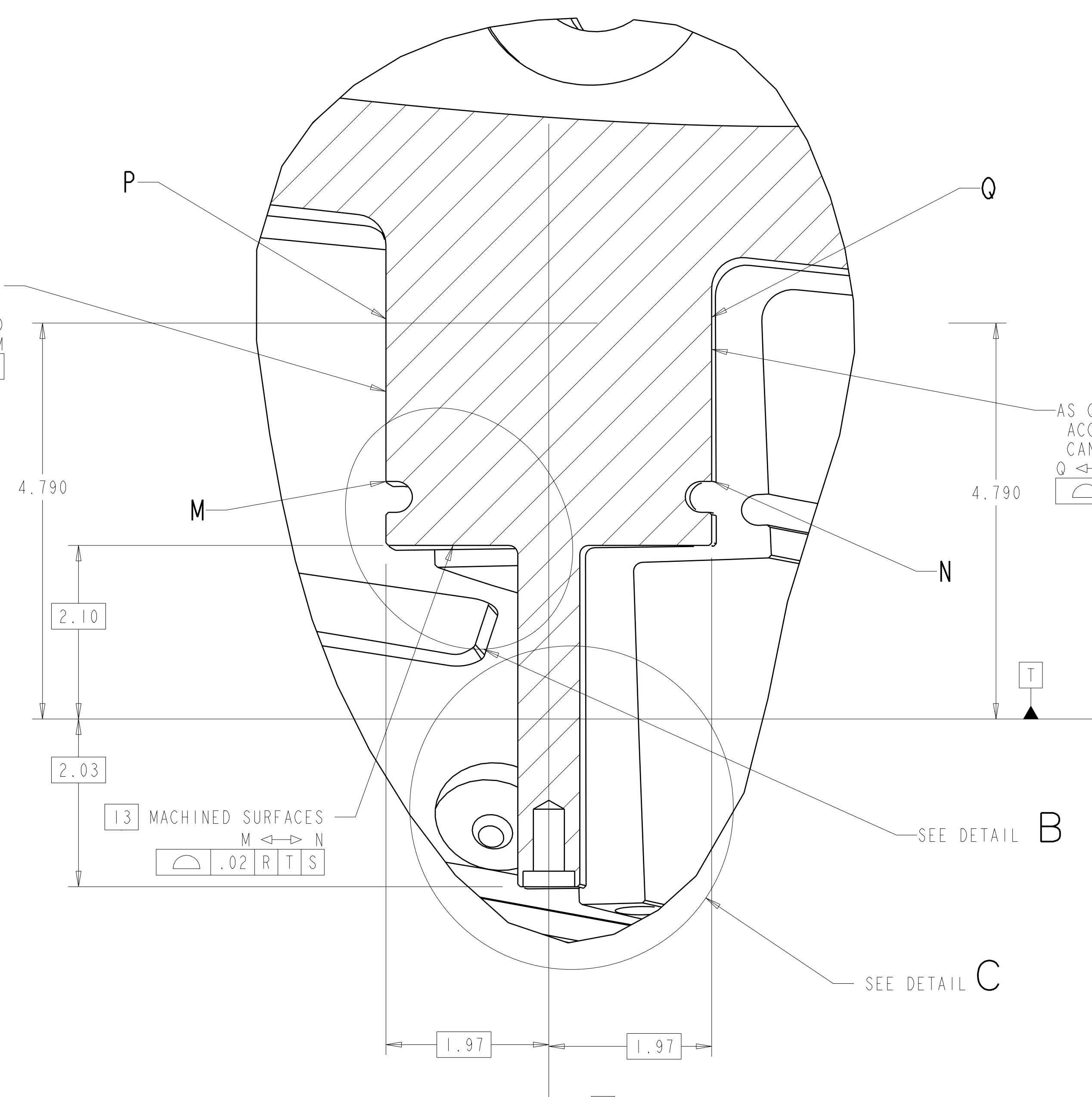
FOR NOTES AND PARTS LIST SEE SHEET 1



DETAIL B
SCALE 2.000

2X R.187 +.025
-.005
VP1 GROOVE TO BE MACHINED BY
BALL END MILL, OR DISC CUTTER IF
SAME TOLERANCE CAN BE ACHIEVED.

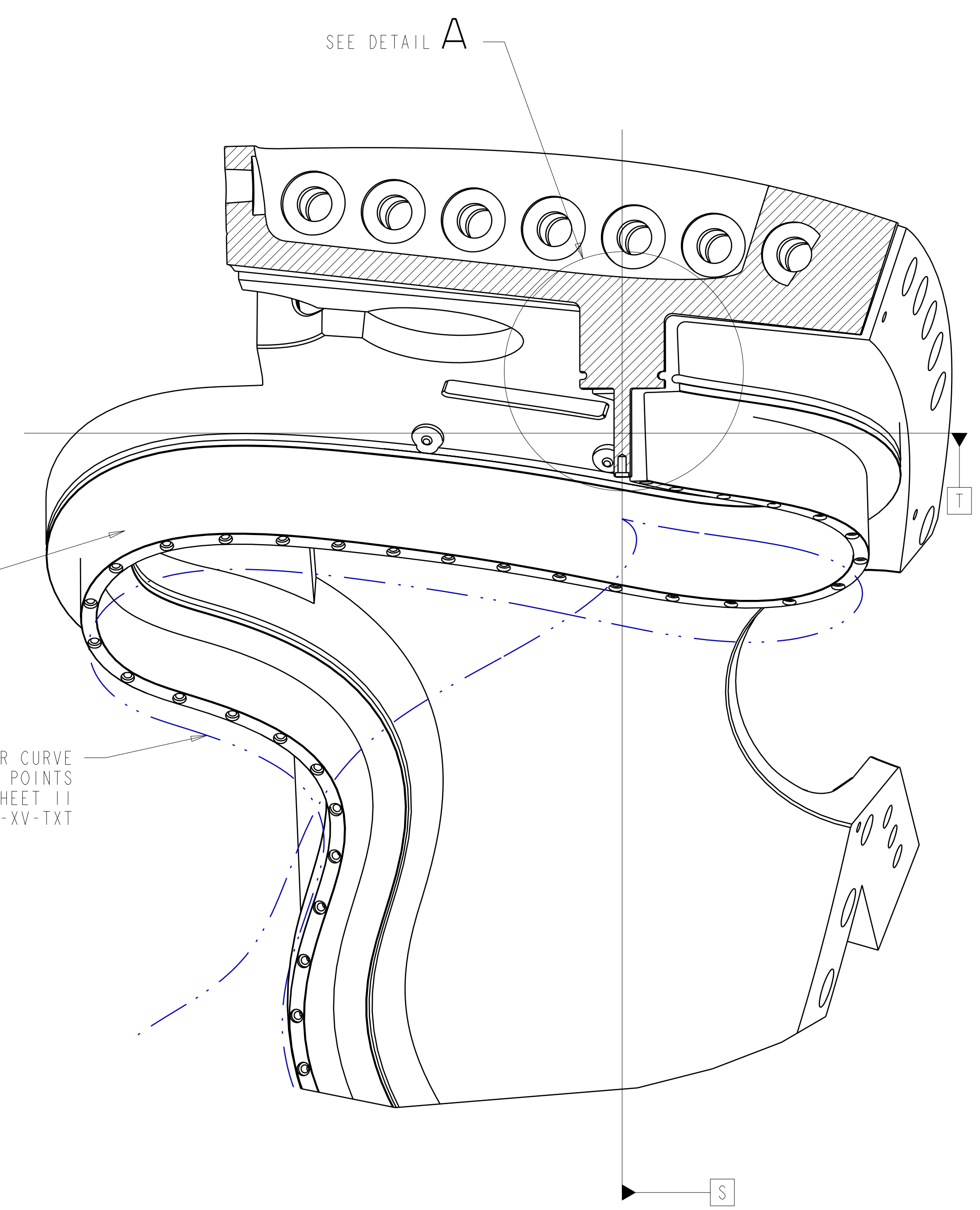
AS CAST SURFACES
ACCEPTABLE. IF TOLERANCE
CAN BE ACHIEVED
P ↔ M
Ⓜ .1 | R | S | T



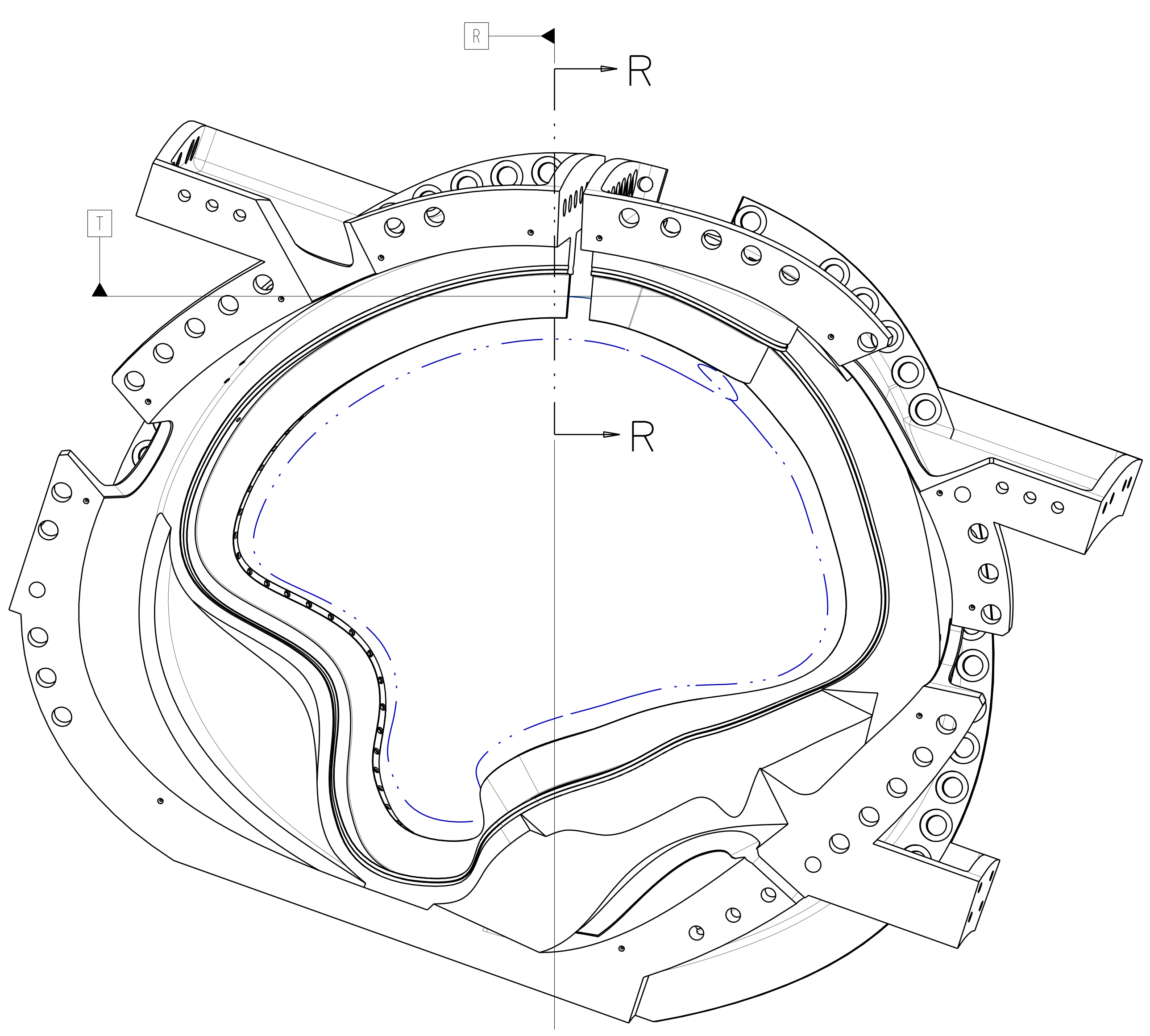
DETAIL A
SCALE 1.00

TYPICAL FOR ALL POINTS ALONG WINDING CENTER

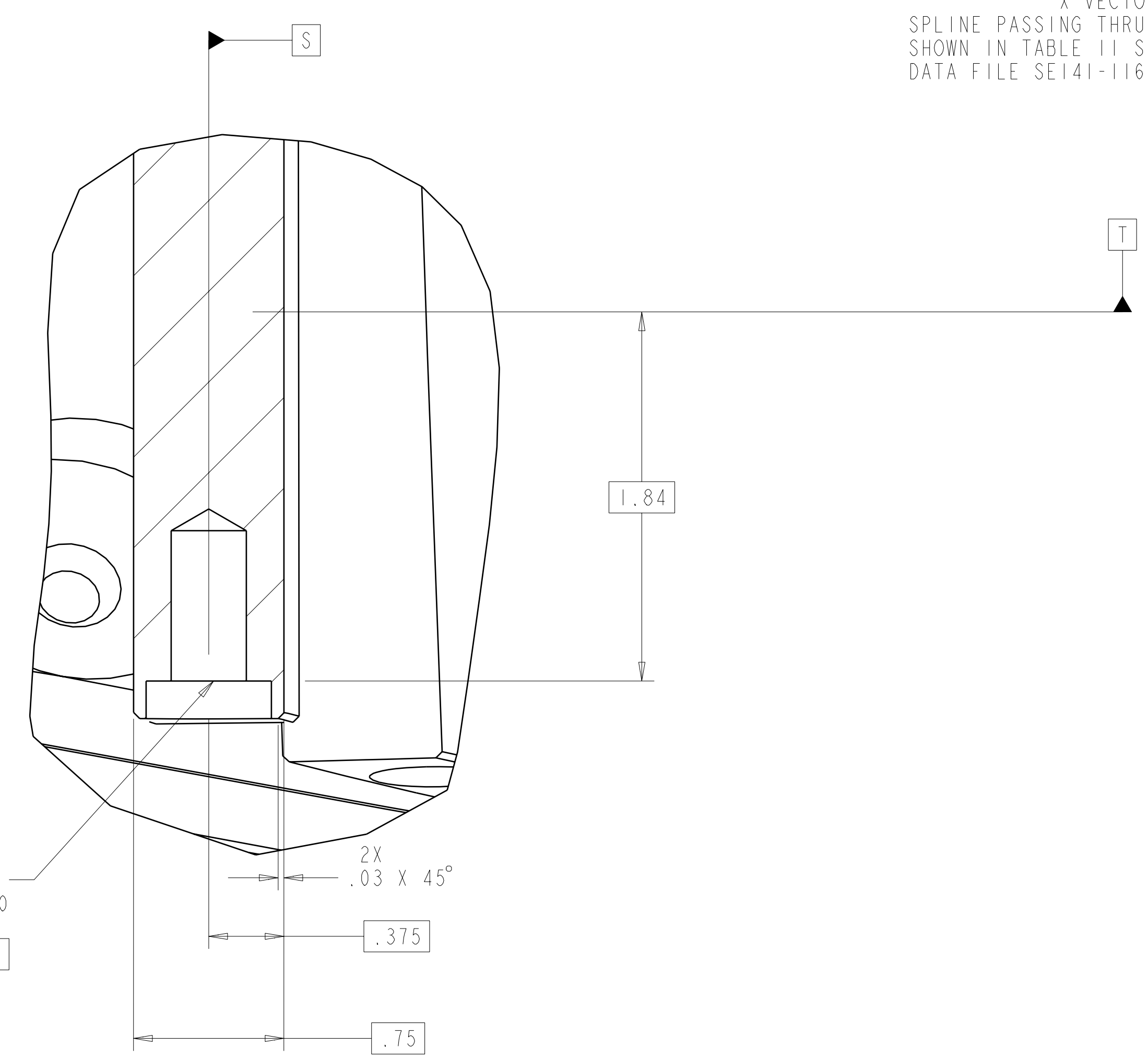
AS CAST SURFACES
ACCEPTABLE. IF TOLERANCE
CAN BE ACHIEVED
O ↔ N
Ⓜ .1 | R | S | T



SECTION R-R
SCALE 0.25



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



DETAIL C
SCALE 2.00

3 4
96X
Ø.375 -16 UNC Ψ.750
L.625 Ψ.188
Ⓜ .1 | R | S | T
TRUE POSITION APPLIES
TO DEPTH OF COUNTERSINK
THREADED HOLE DEPTH +.1/-0

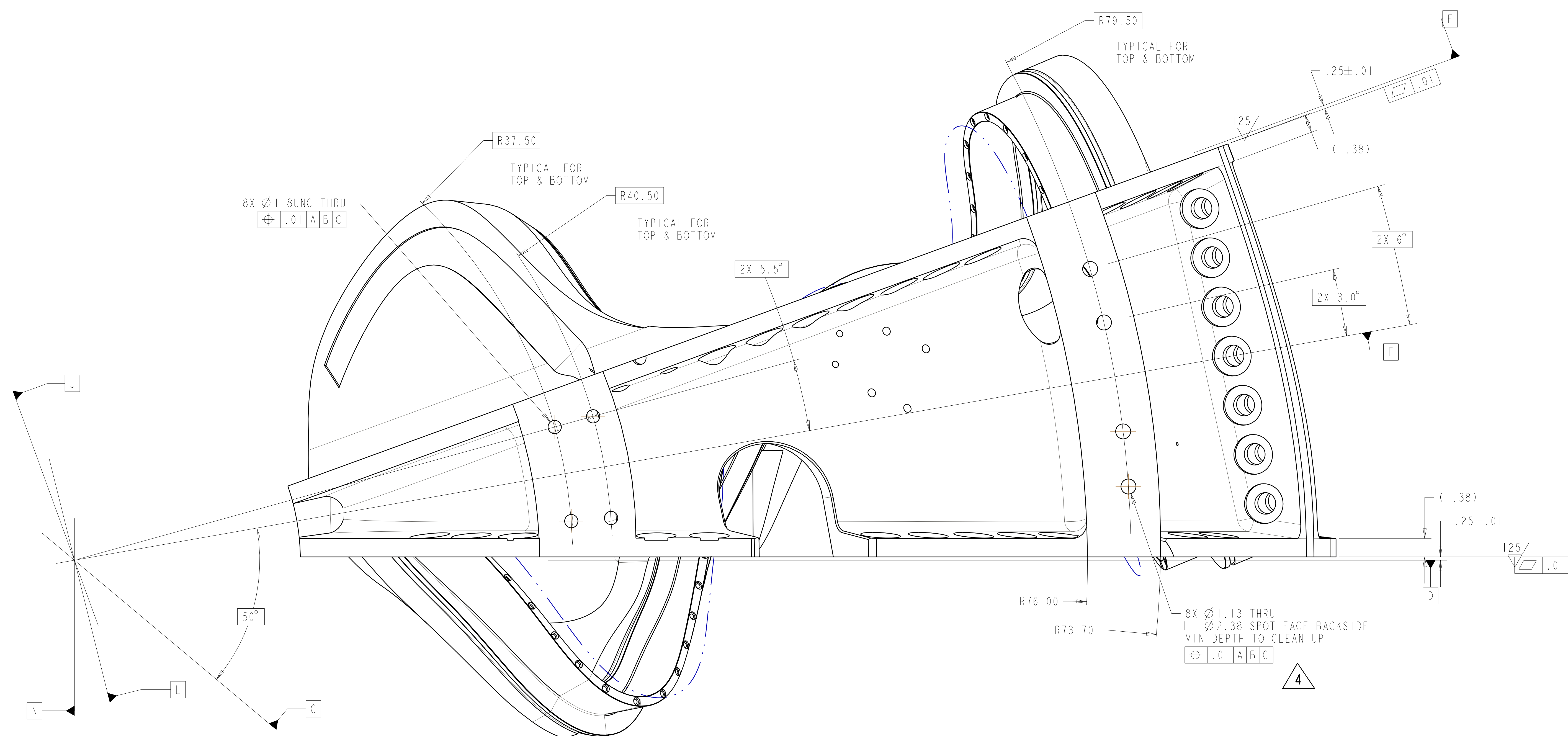
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PPPL Drafting:

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							
UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
6	X-10	5700	3	2	11	S	U
RELEASE LEVEL	SE141-116						REV
Fabrication							5

SE141-116

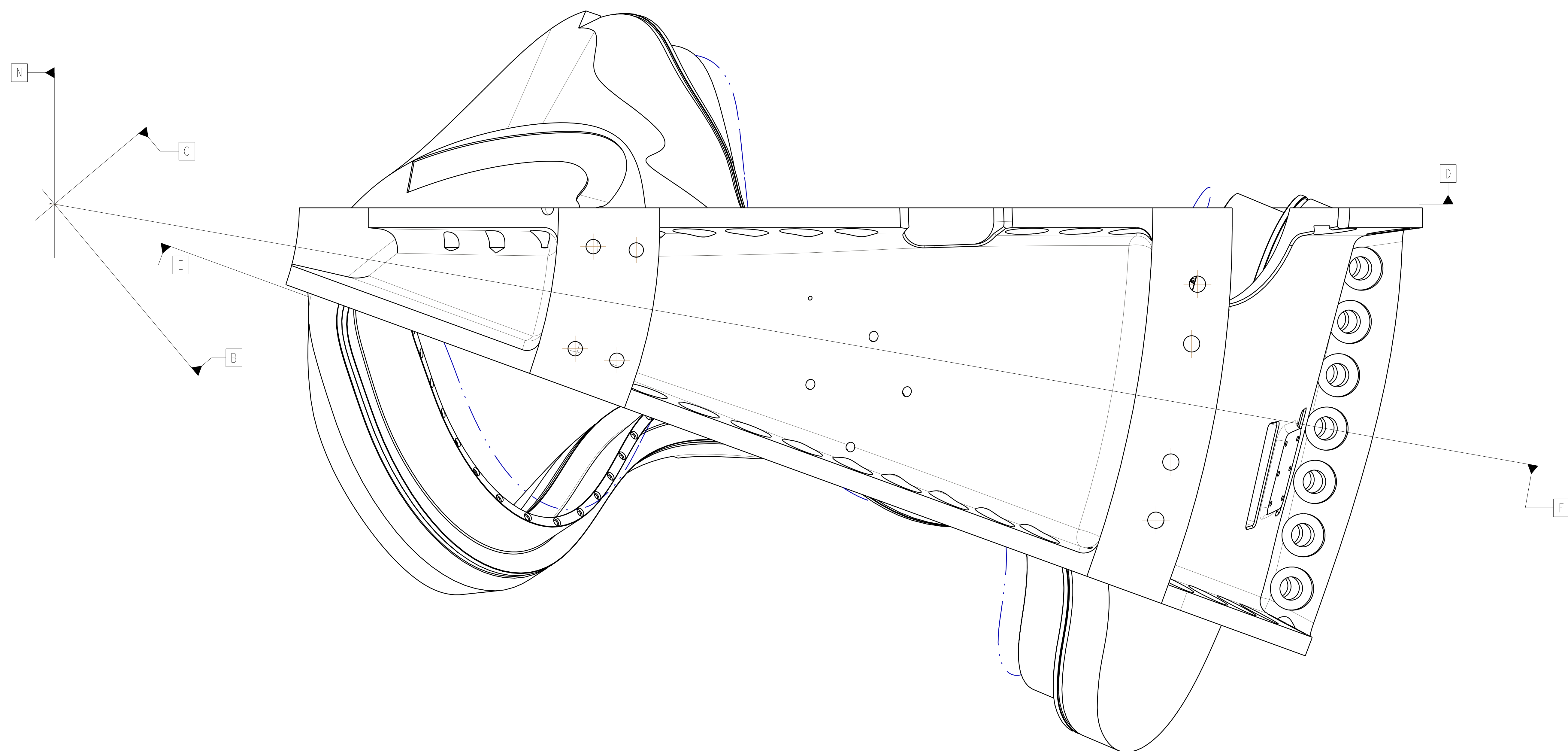
A

FOR NOTES AND PARTS LIST SEE SHEET 1



TOP VIEW
SCALE 0.25

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



BOTTOM VIEW
SCALE 0.25

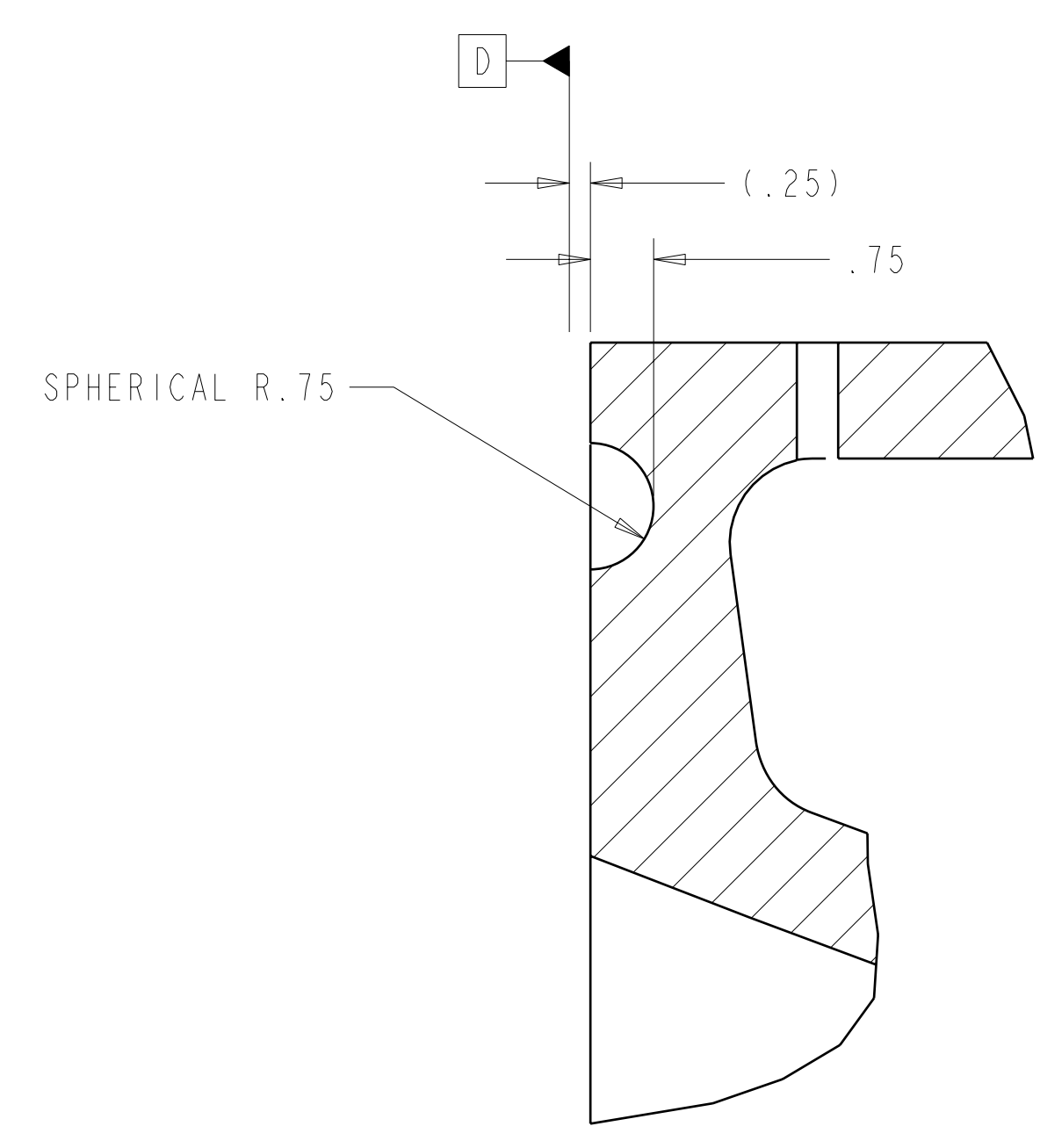
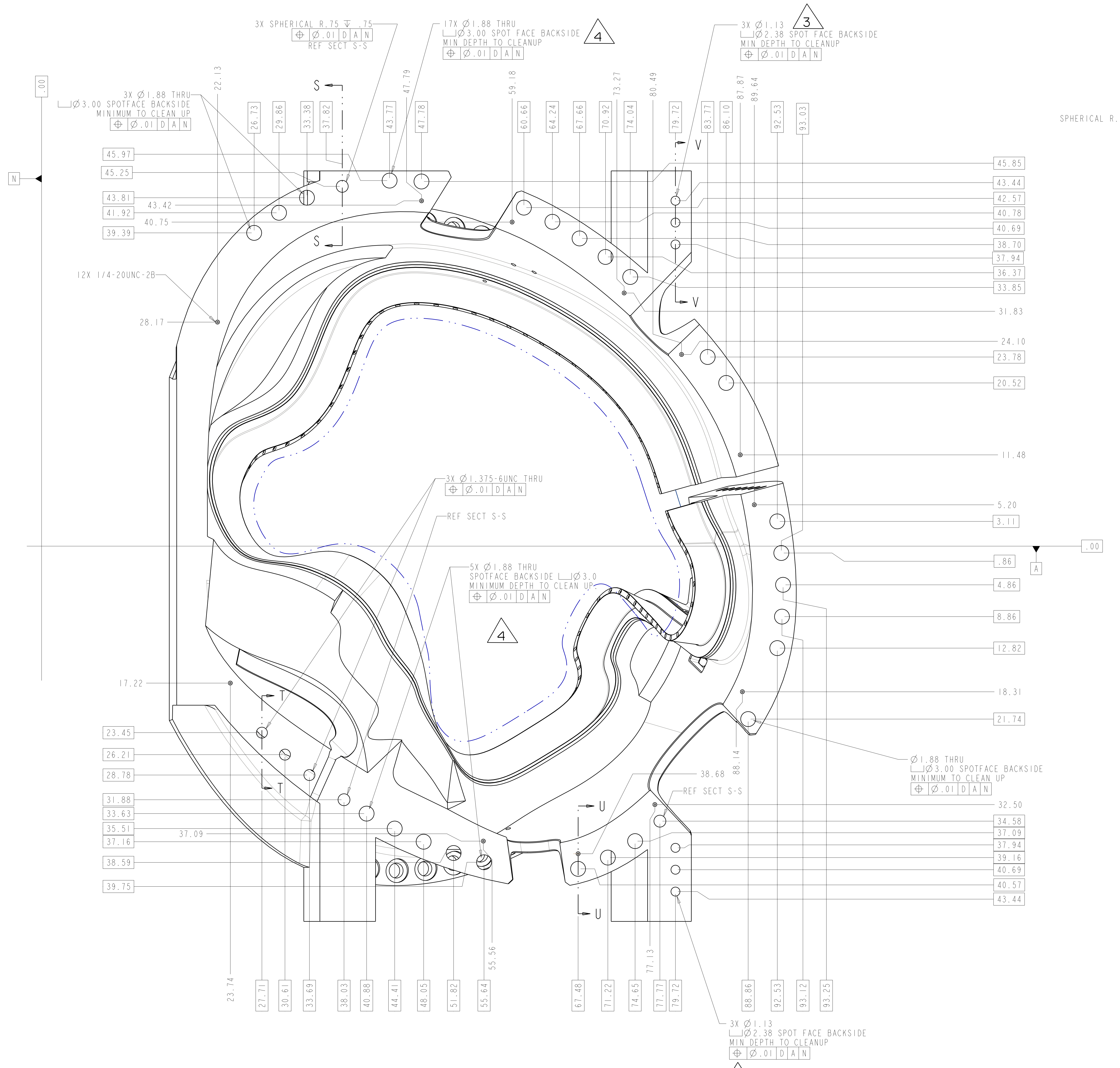
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UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
6	X-10	5700	3	3	11	S	U
RELEASE LEVEL		SEI41-116				REV 5	
Fabrication							

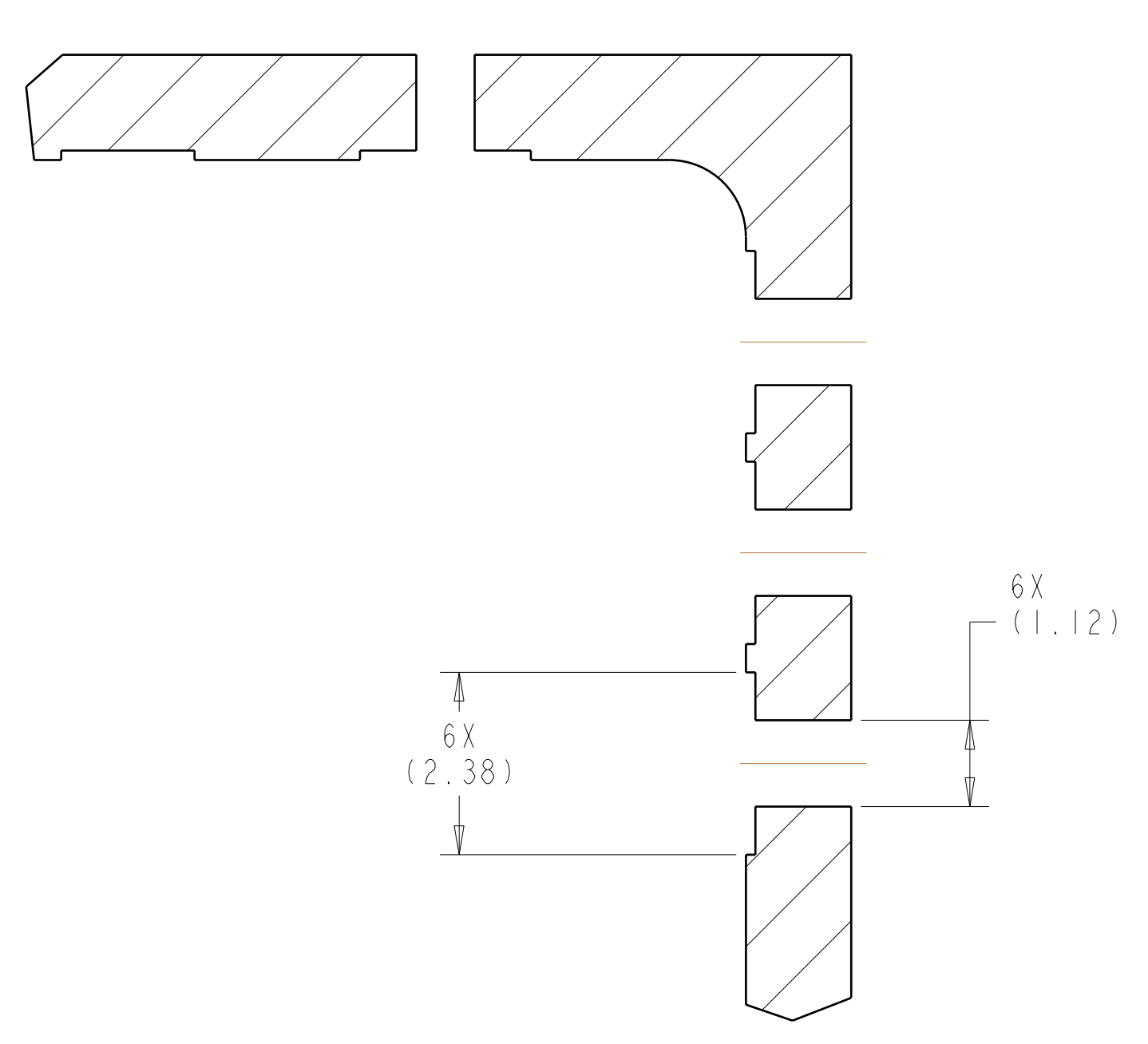
SEI41-116

A

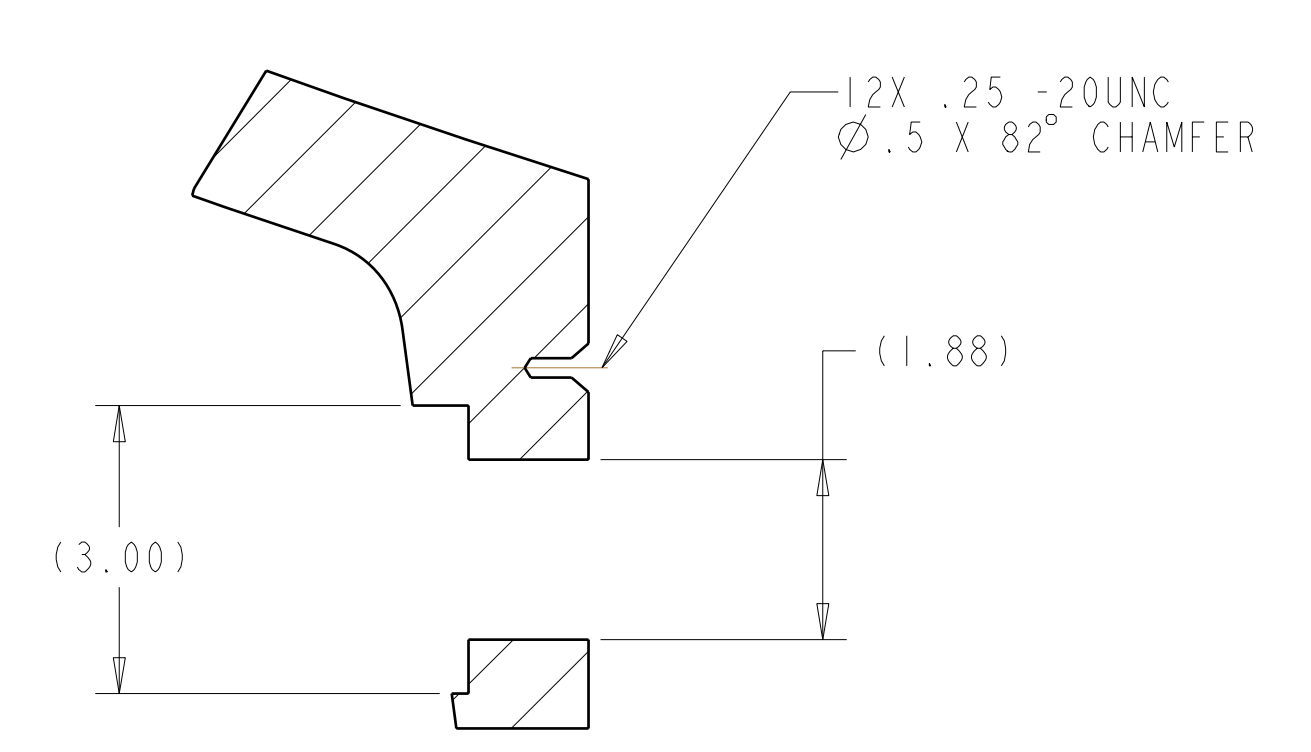
FOR NOTES AND PARTS LIST SEE SHEET I



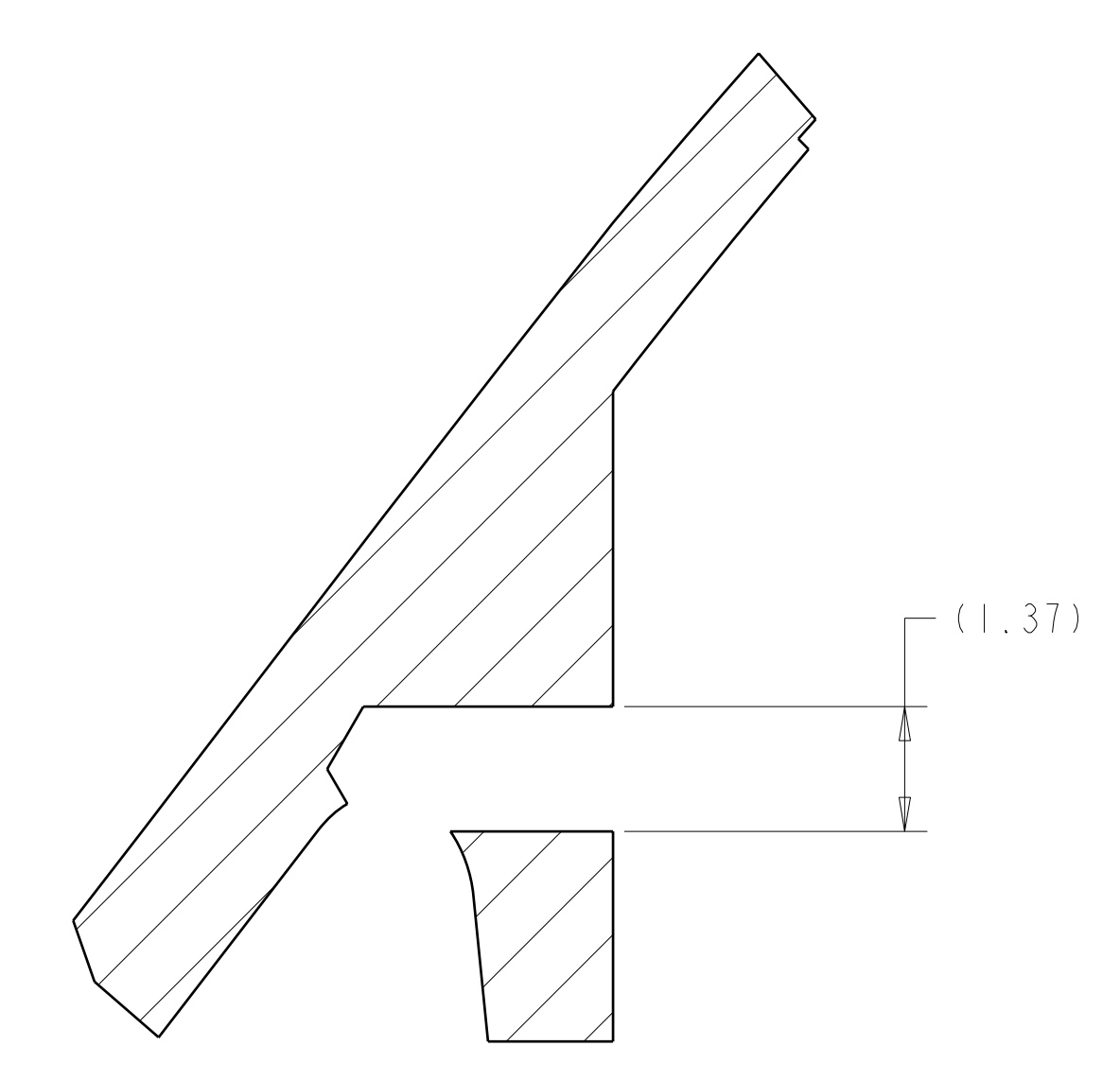
SECTION S-S
SCALE 0.50



SECTION V-V
SCALE 0.50



SECTION U-U
SCALE 0.50



SECTION T-T
SCALE 0.50

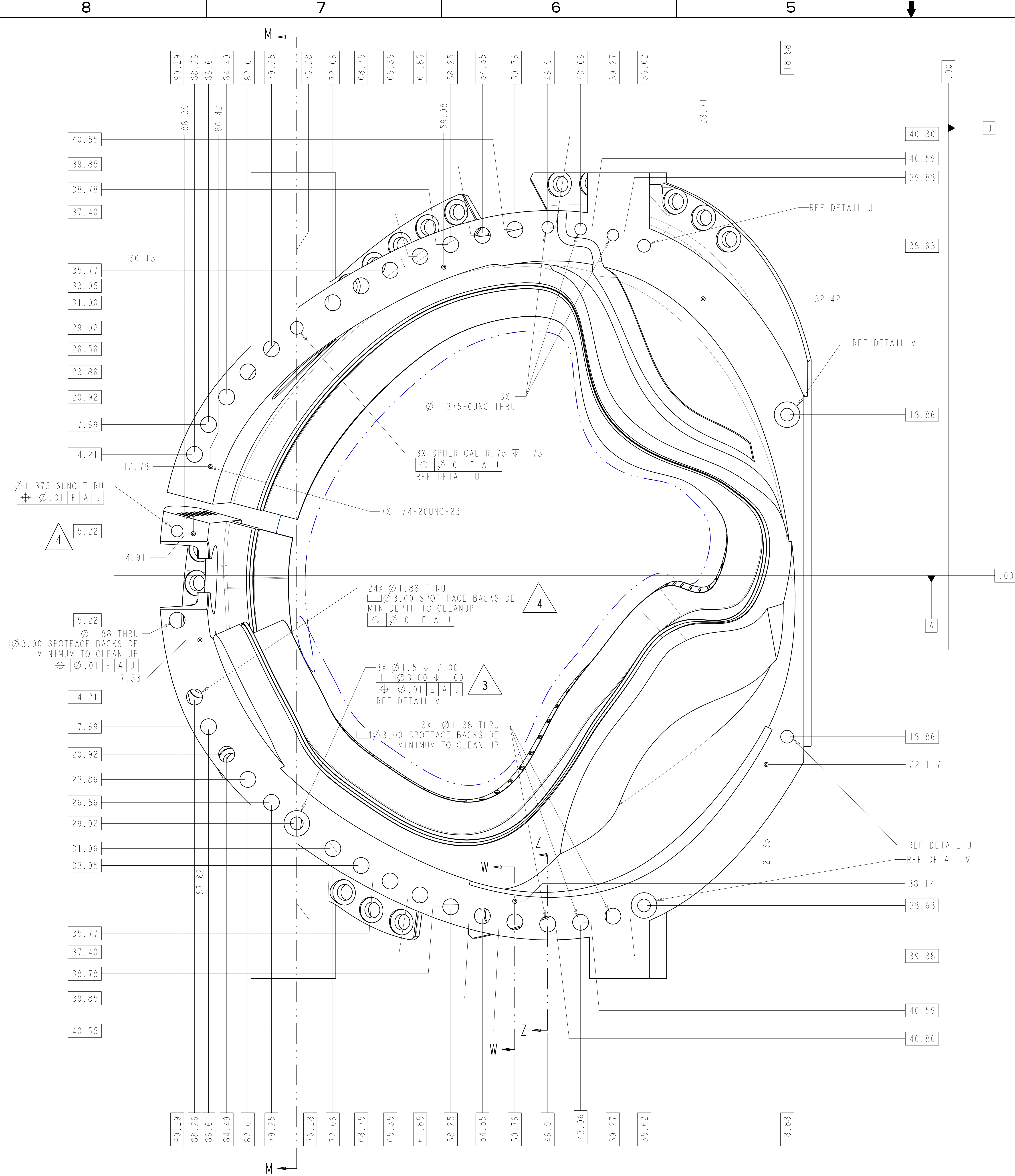
VIEW AT DATUM D
SCALE 0.20

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 PPPL Drafting:

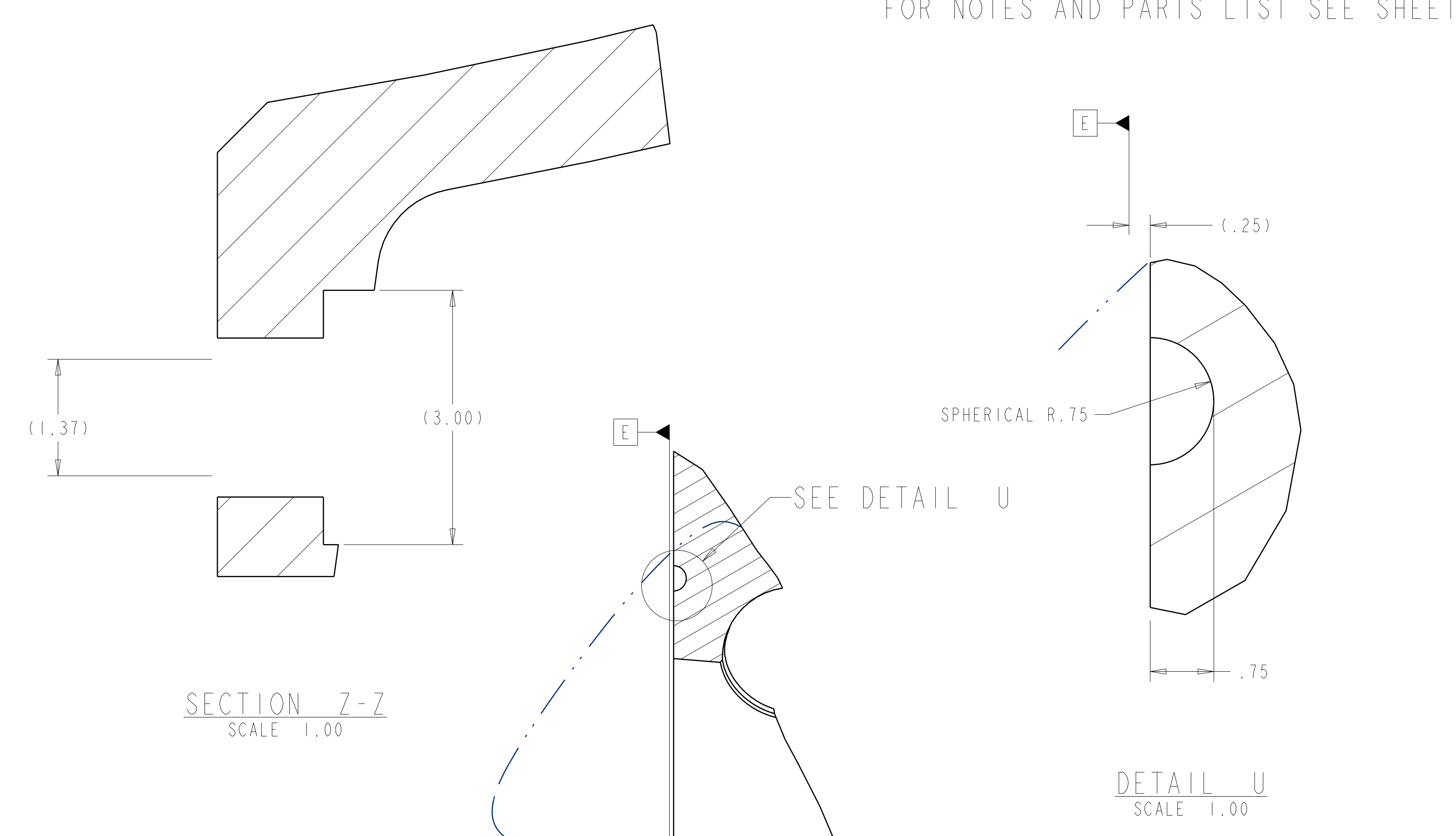
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UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT								
PRODUCTION WINDING FORM TYPE-C								
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS		
6	X-10	5700	3	4	11	S	U	
RELEASE LEVEL	SEI41-116						REV	5
Fabrication								

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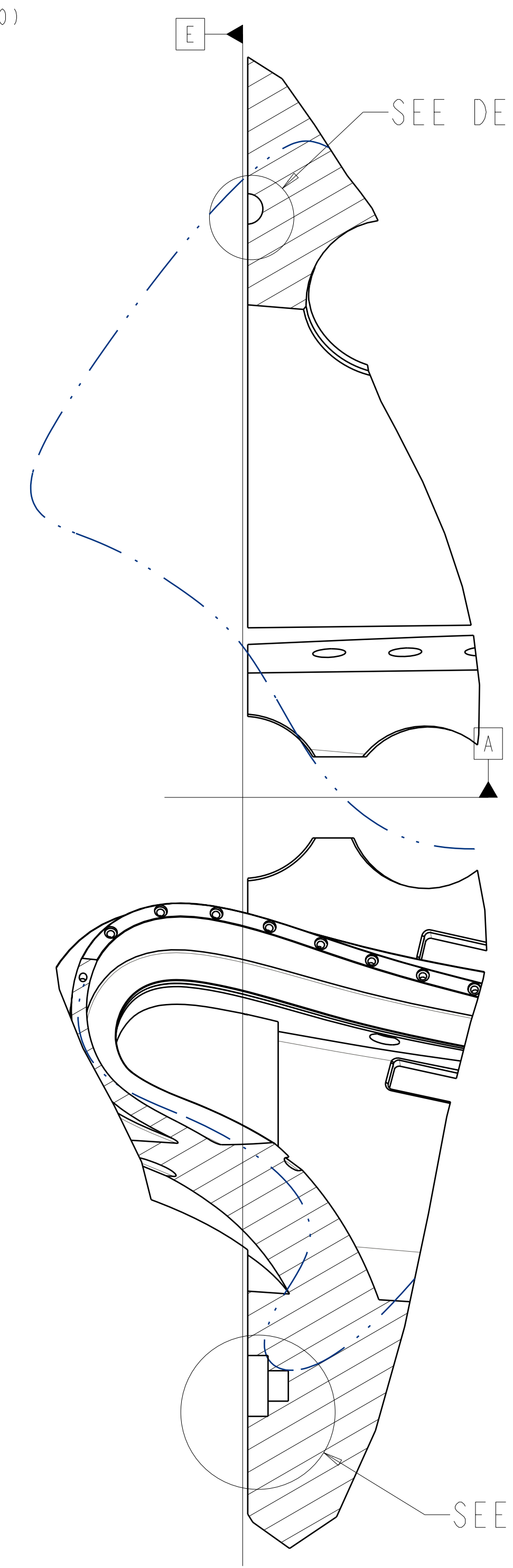
FOR NOTES AND PARTS LIST SEE SHEET 1



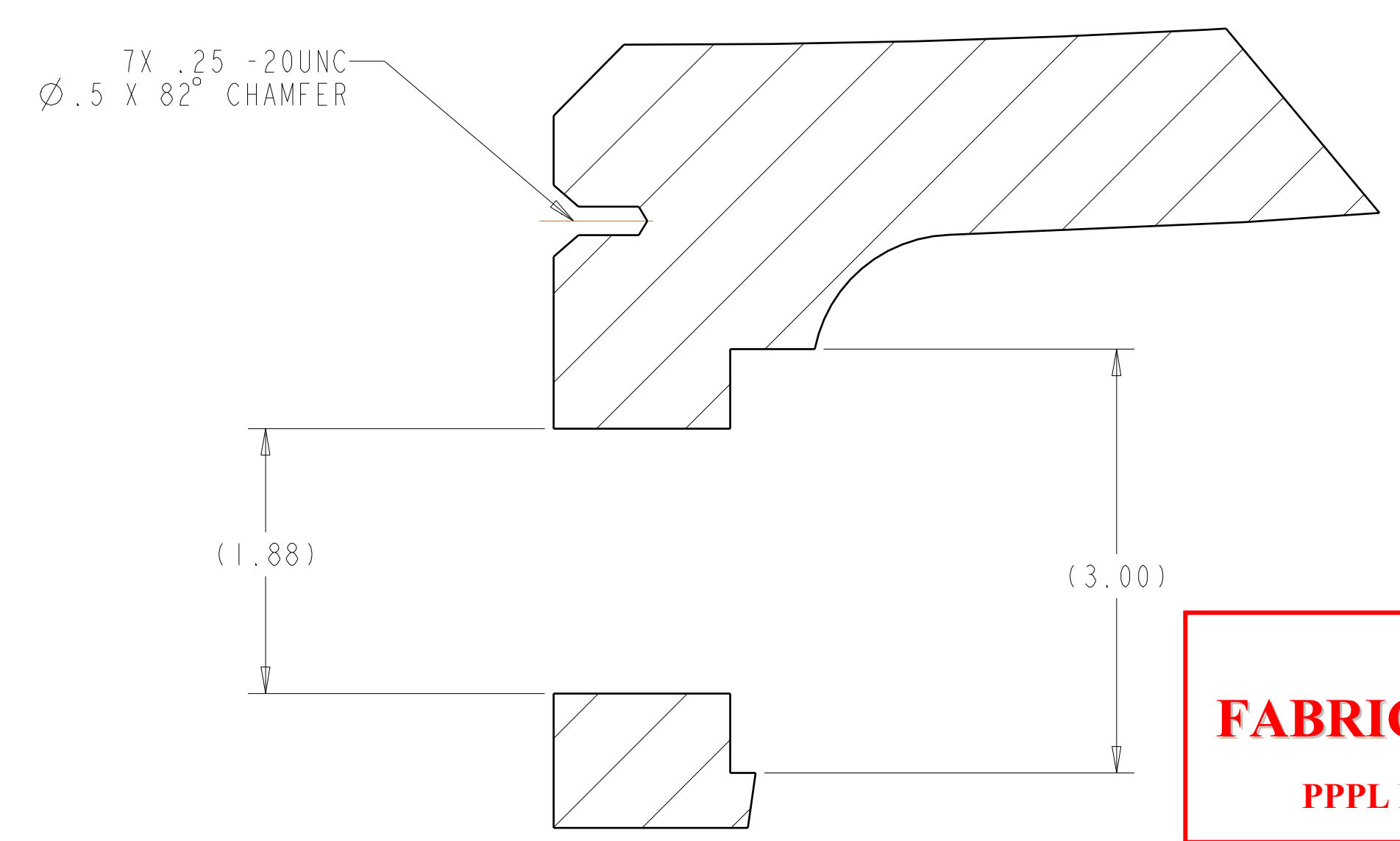
VIEW AT DATUM E
SCALE 0.20



SECTION 7-Z
SCALE 1.00



SECTION M-M
SCALE 1.00



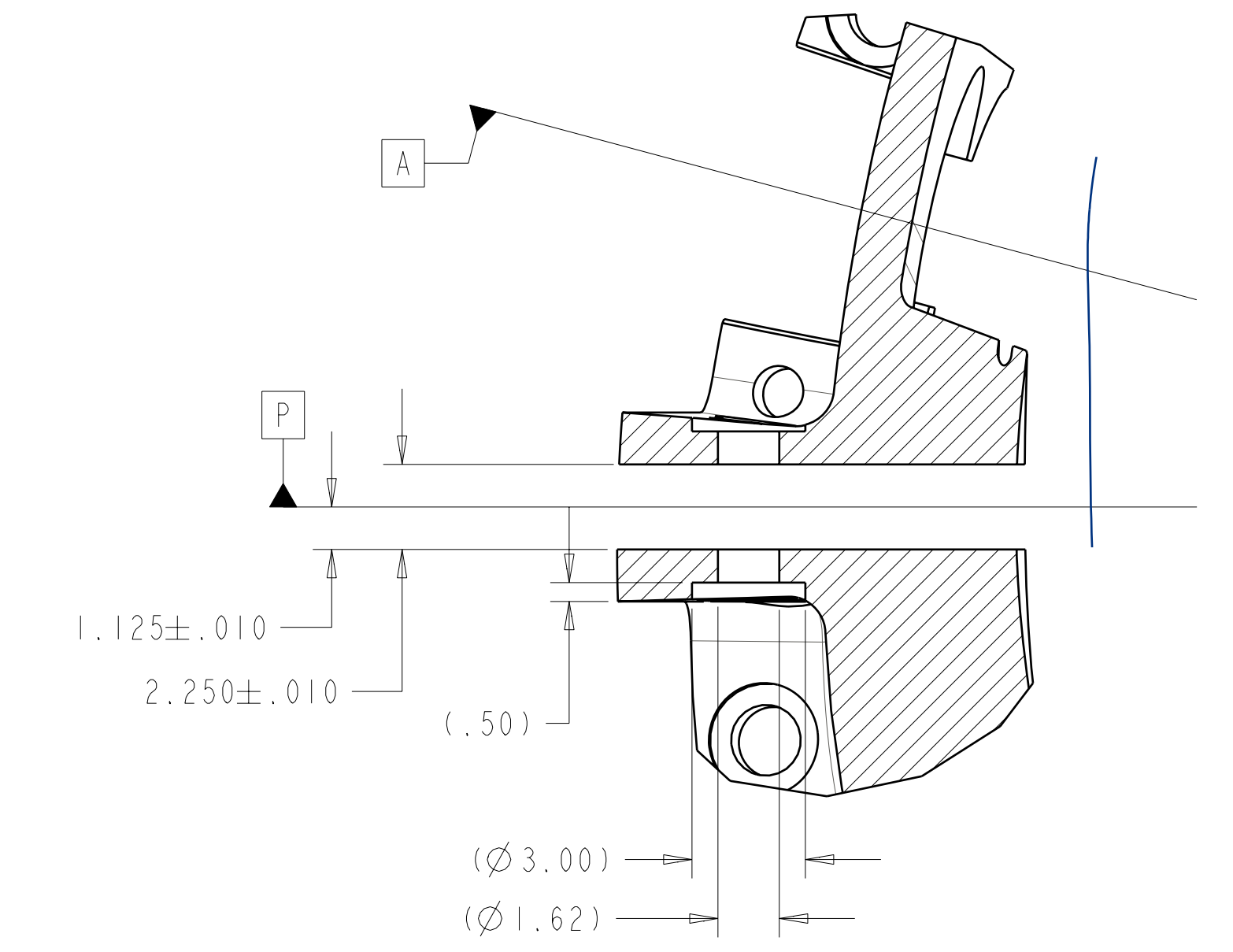
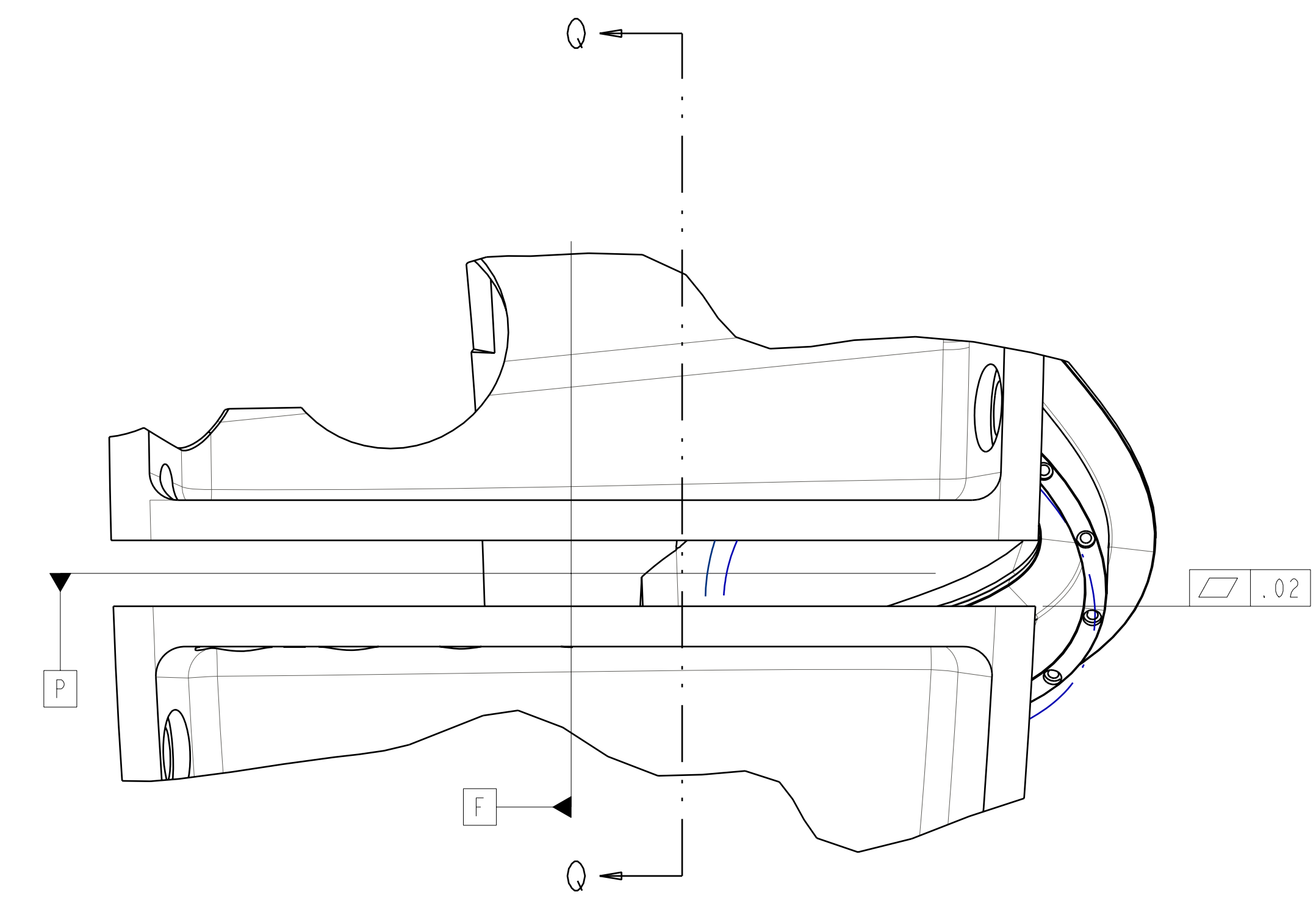
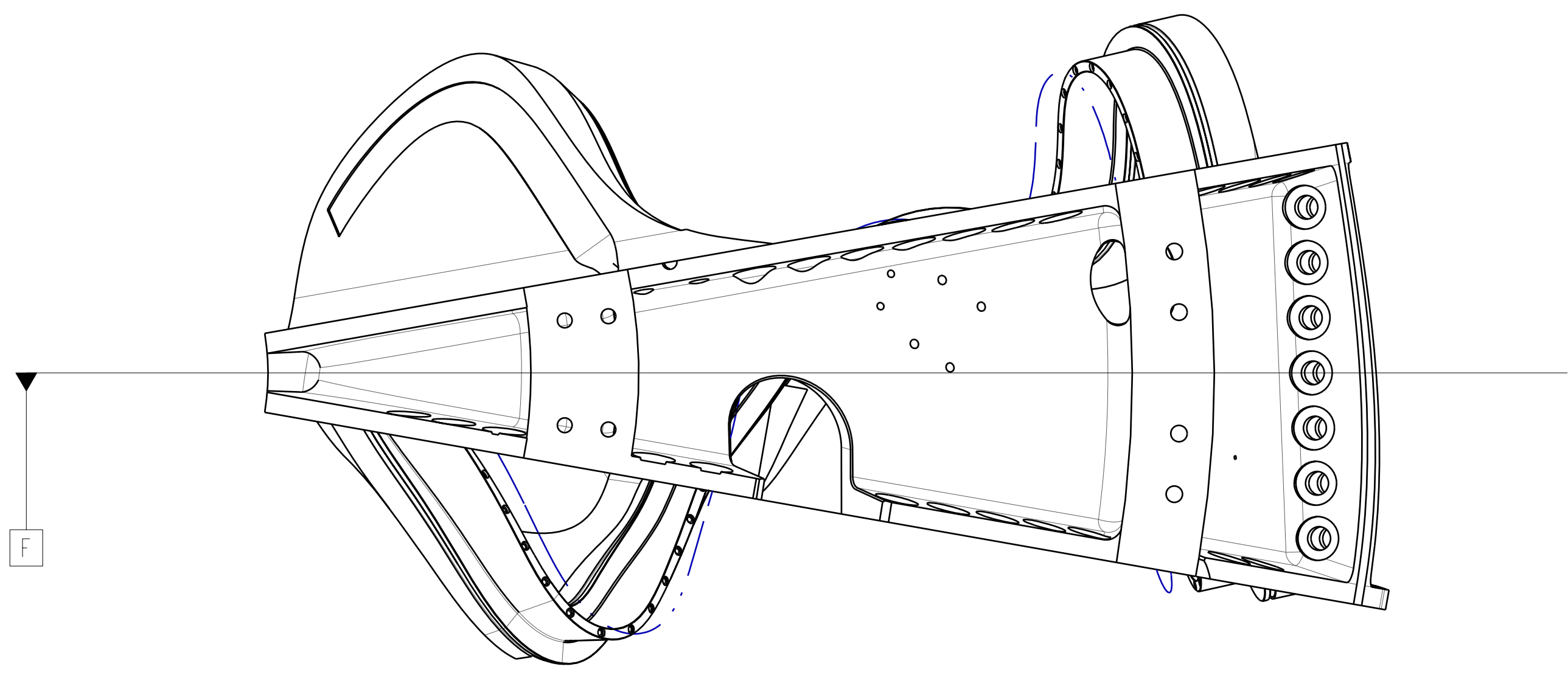
SECTION W-W
SCALE 1.00

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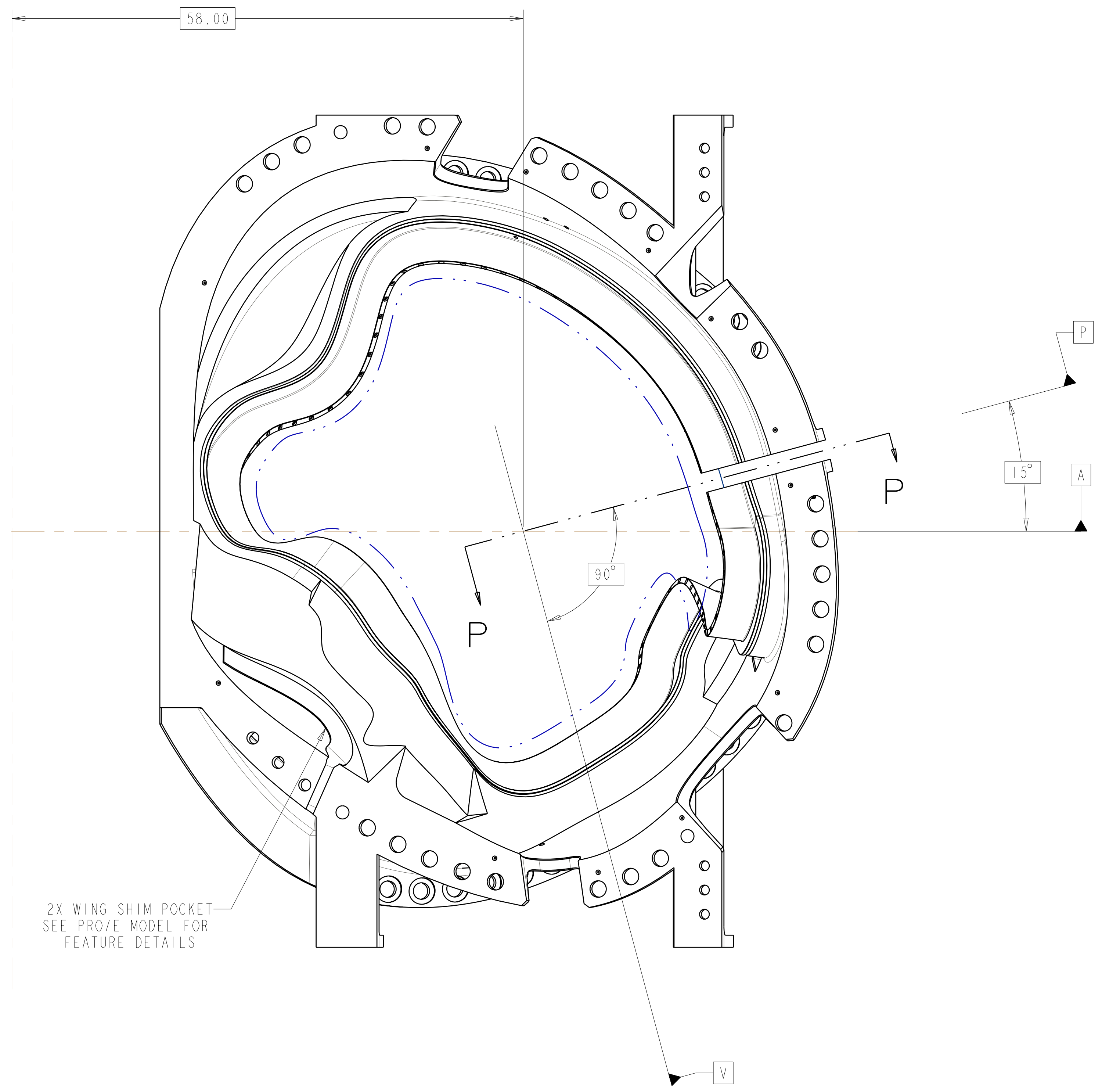
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NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
6	X-10	5700	3	5	11	S	U
RELEASE LEVEL		SEI41-116				REV 5	
Fabrication							

SEI41-116

FOR NOTES AND PARTS LIST SEE SHEET 1

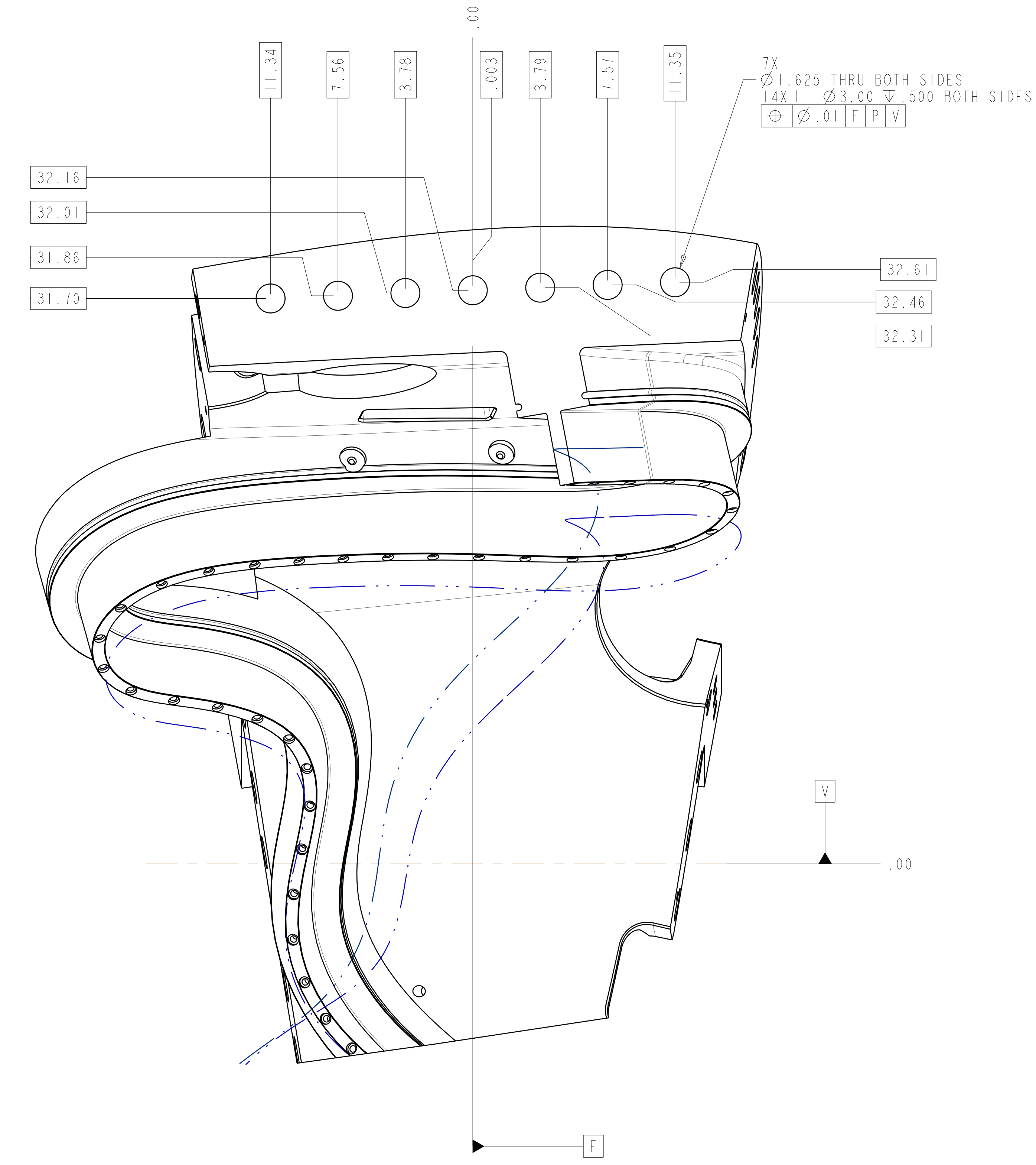


SECTION Q-Q



POLOIDAL BREAK DETAIL

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



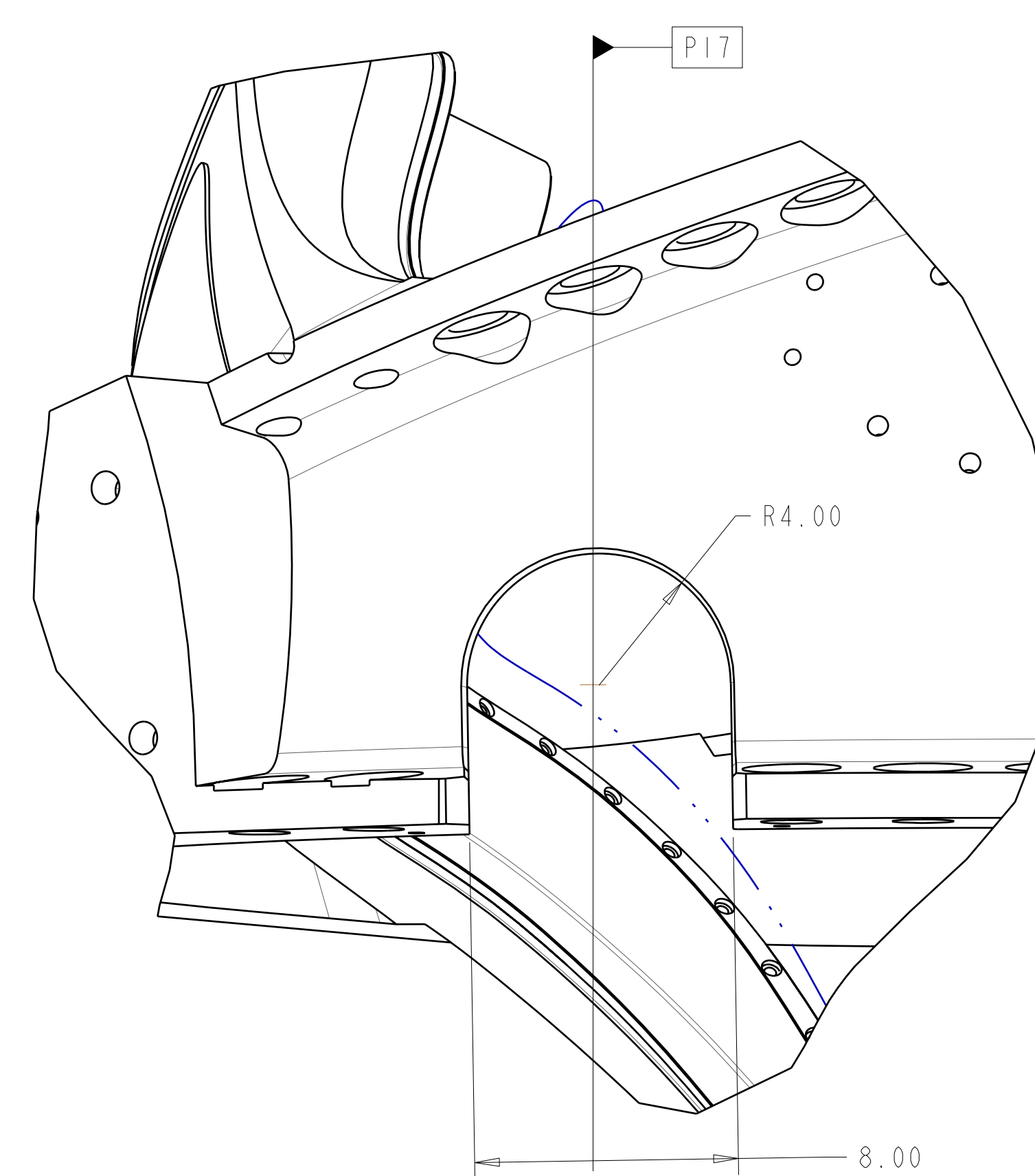
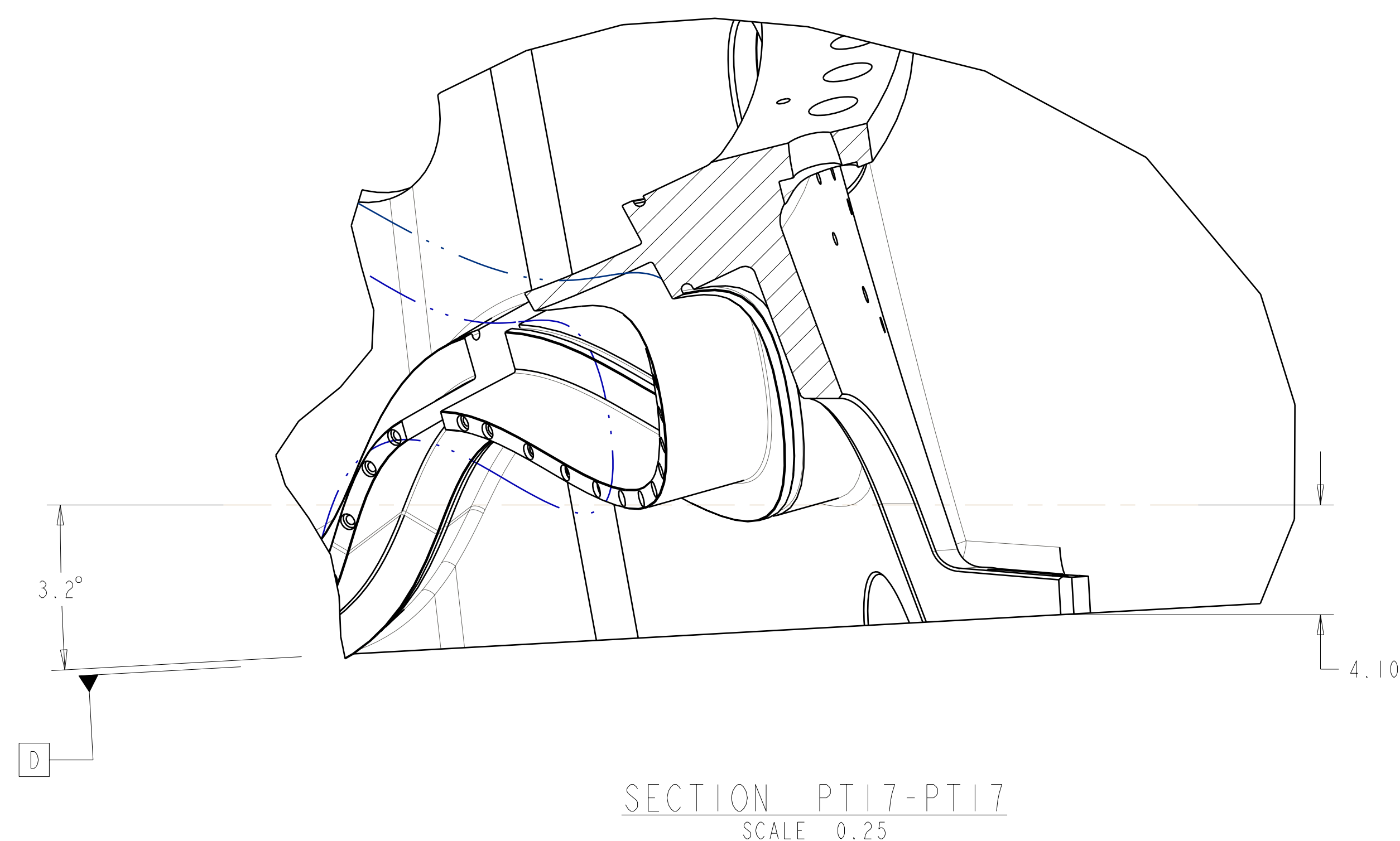
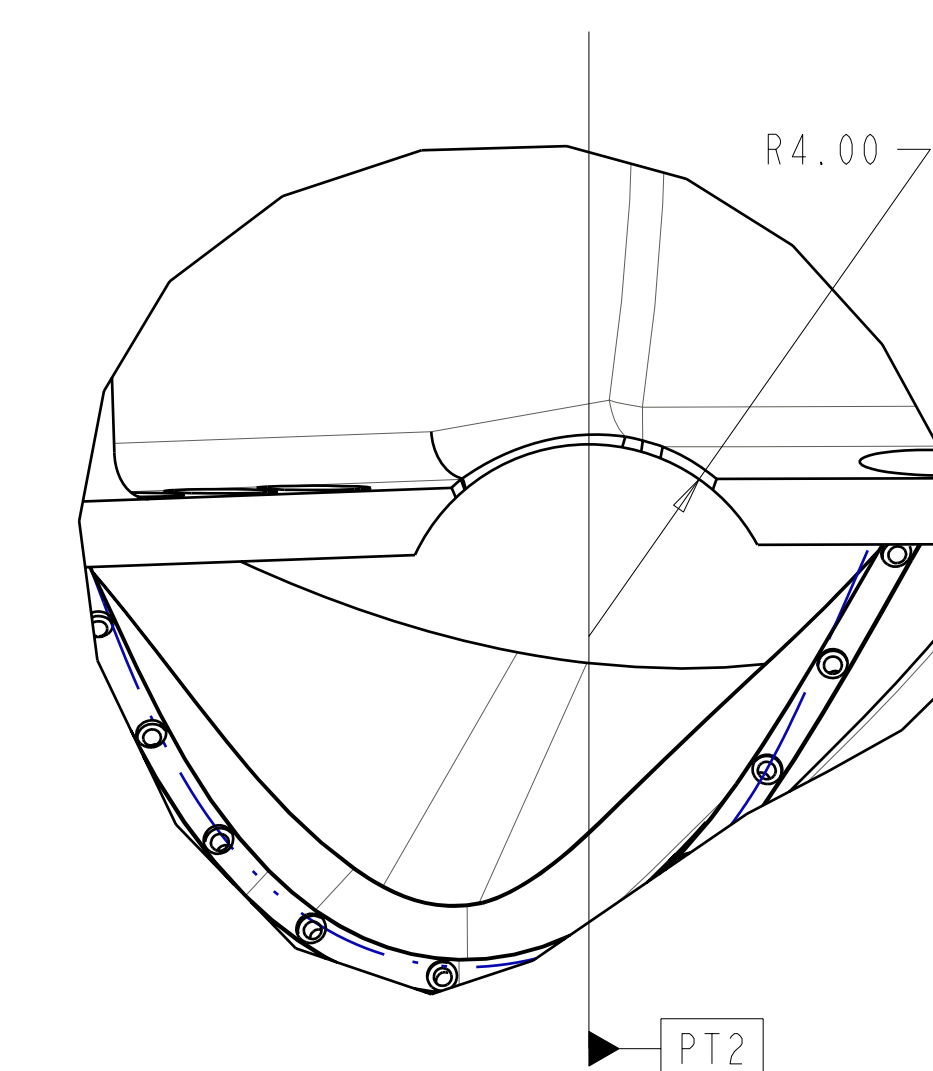
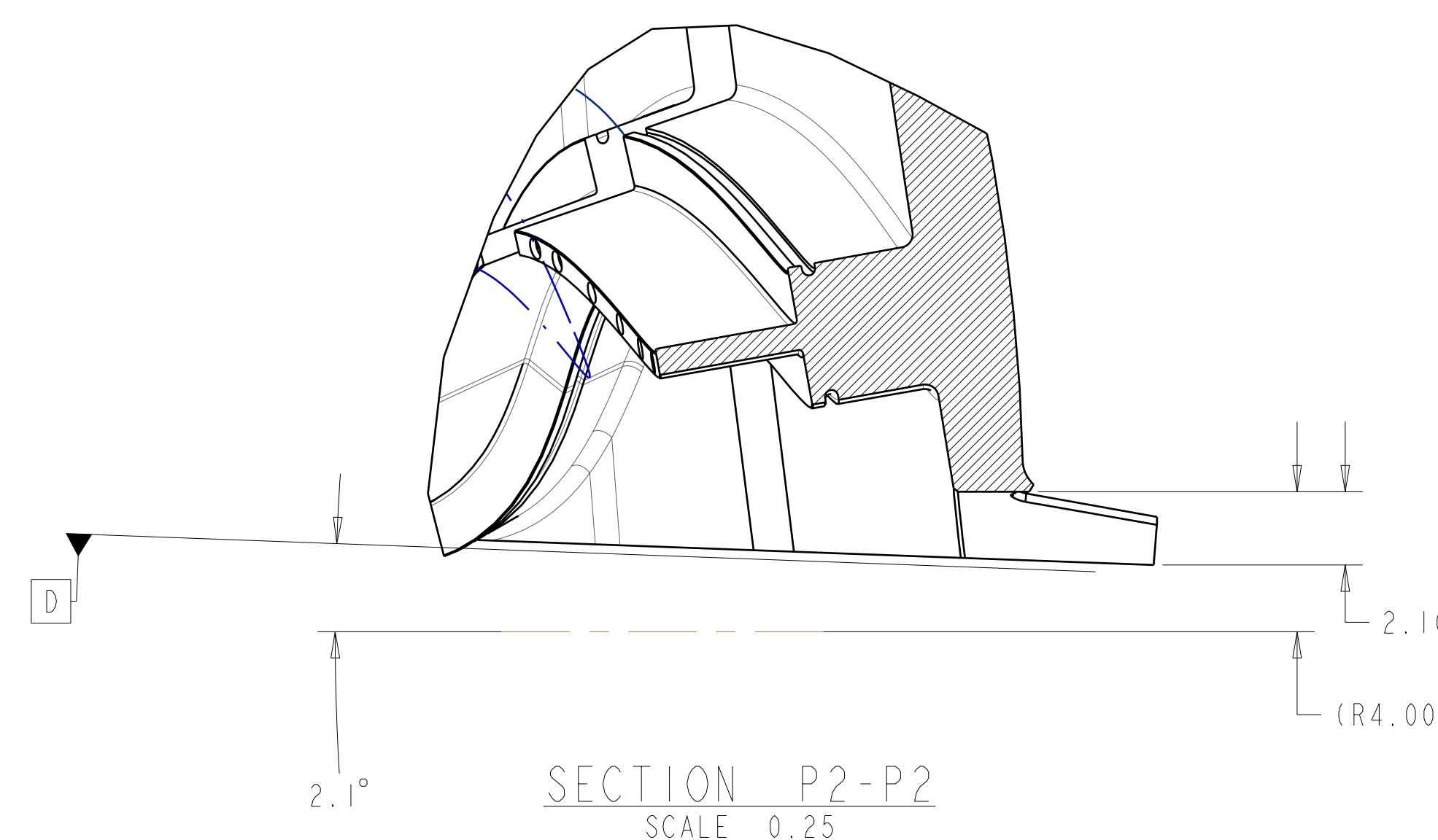
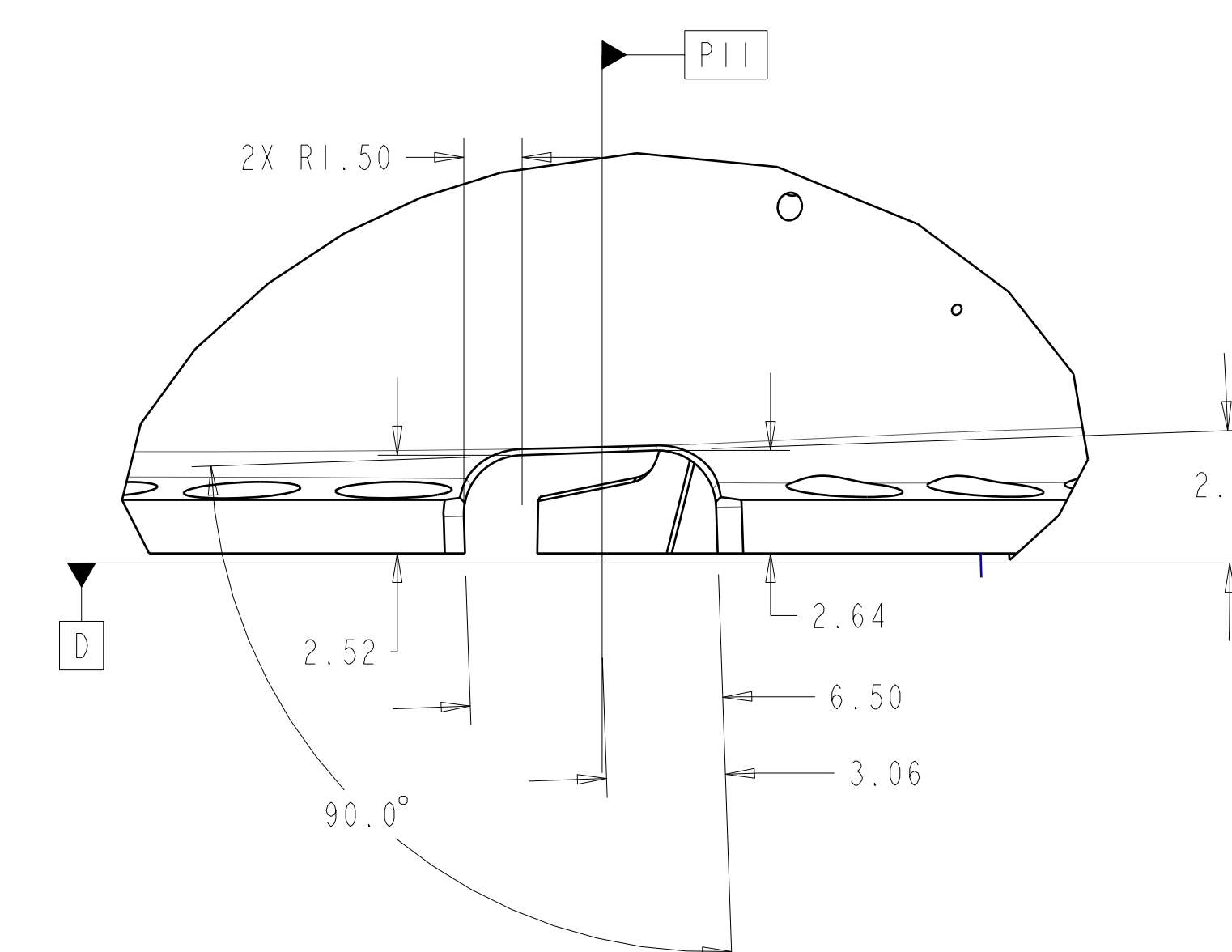
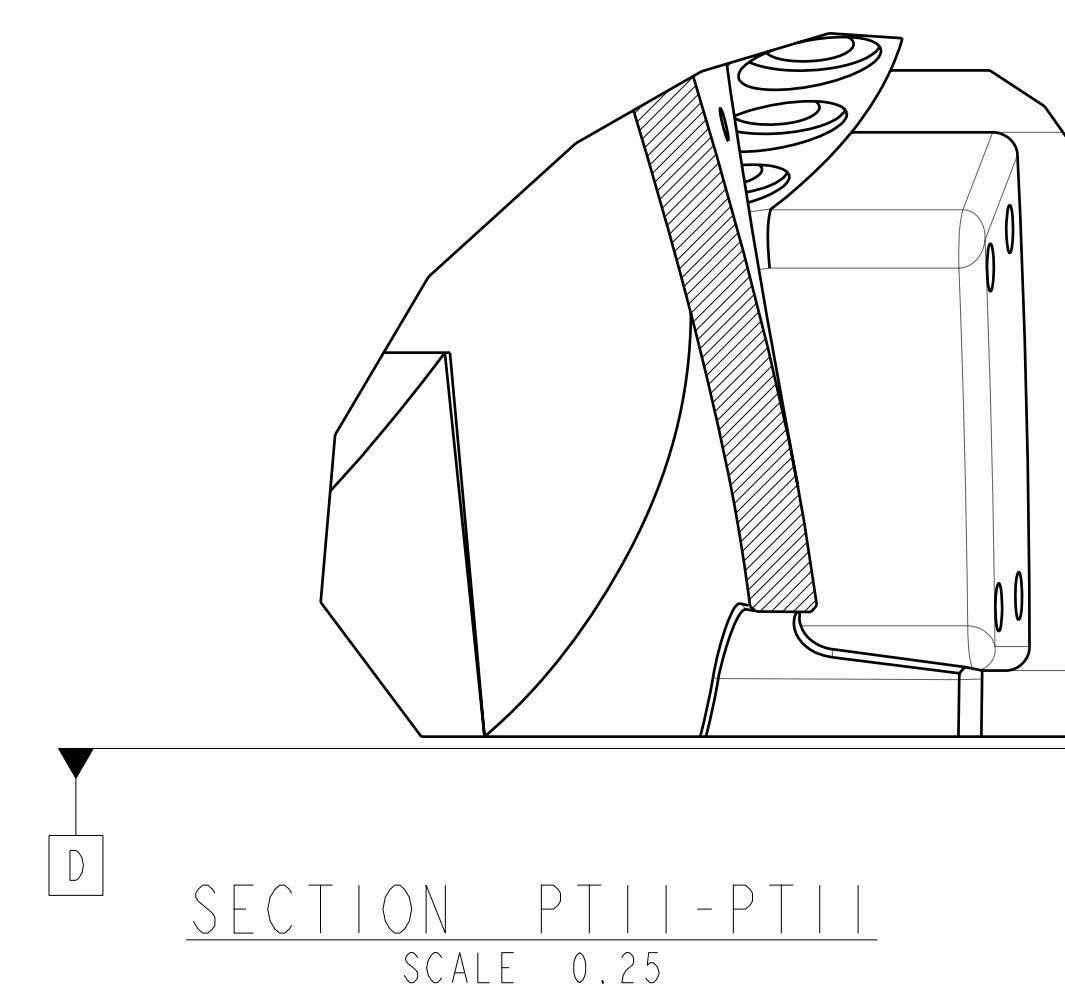
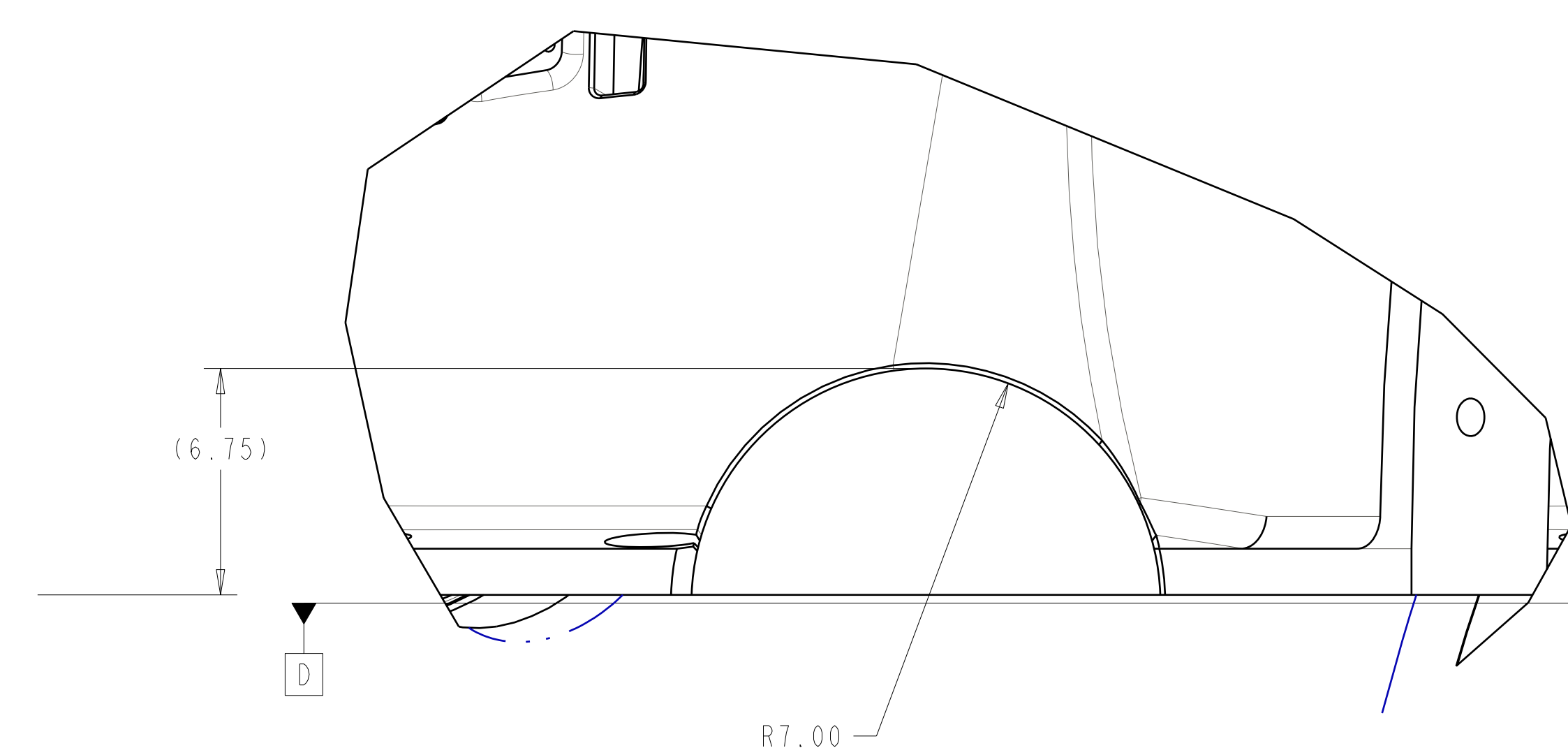
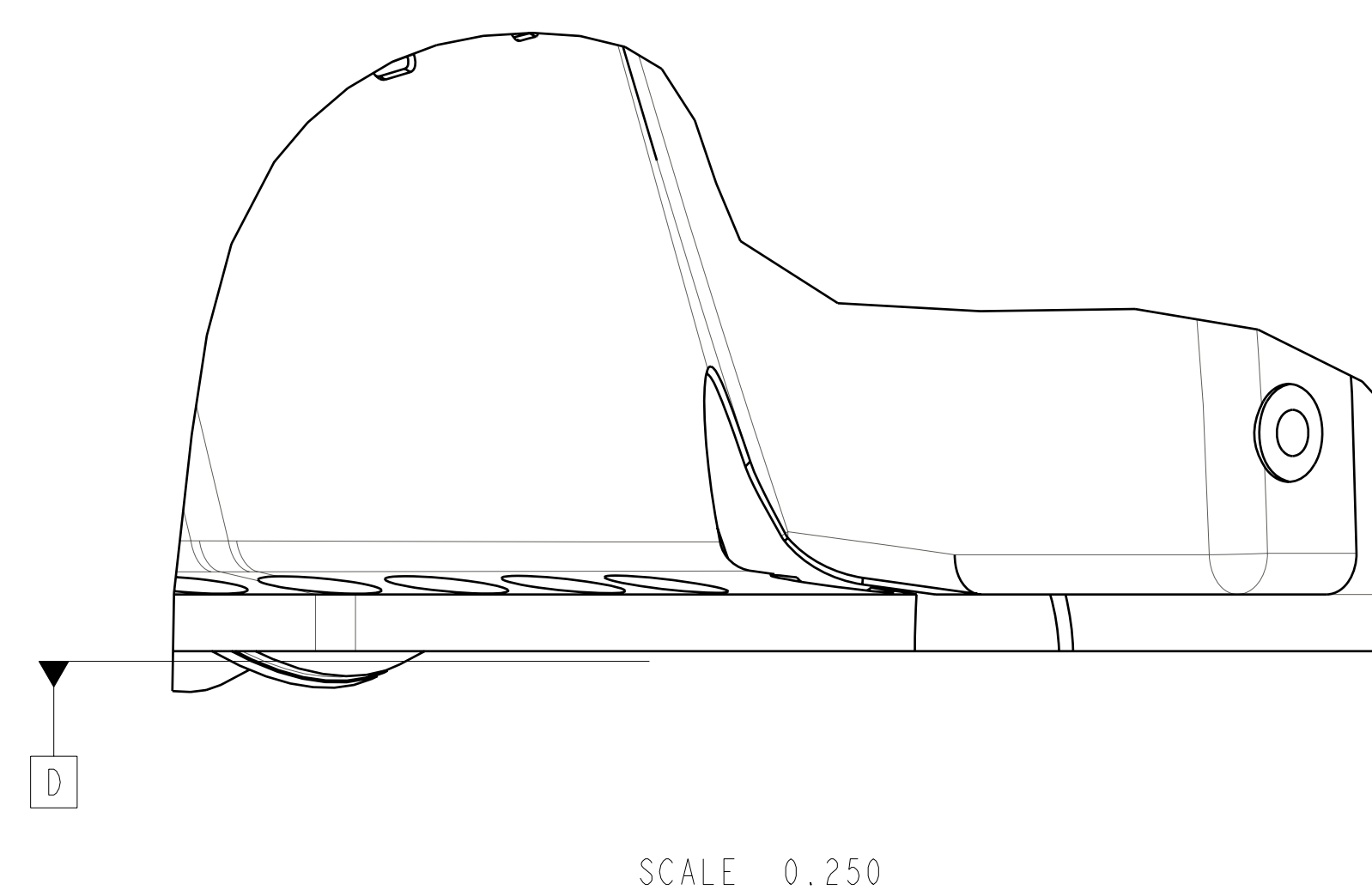
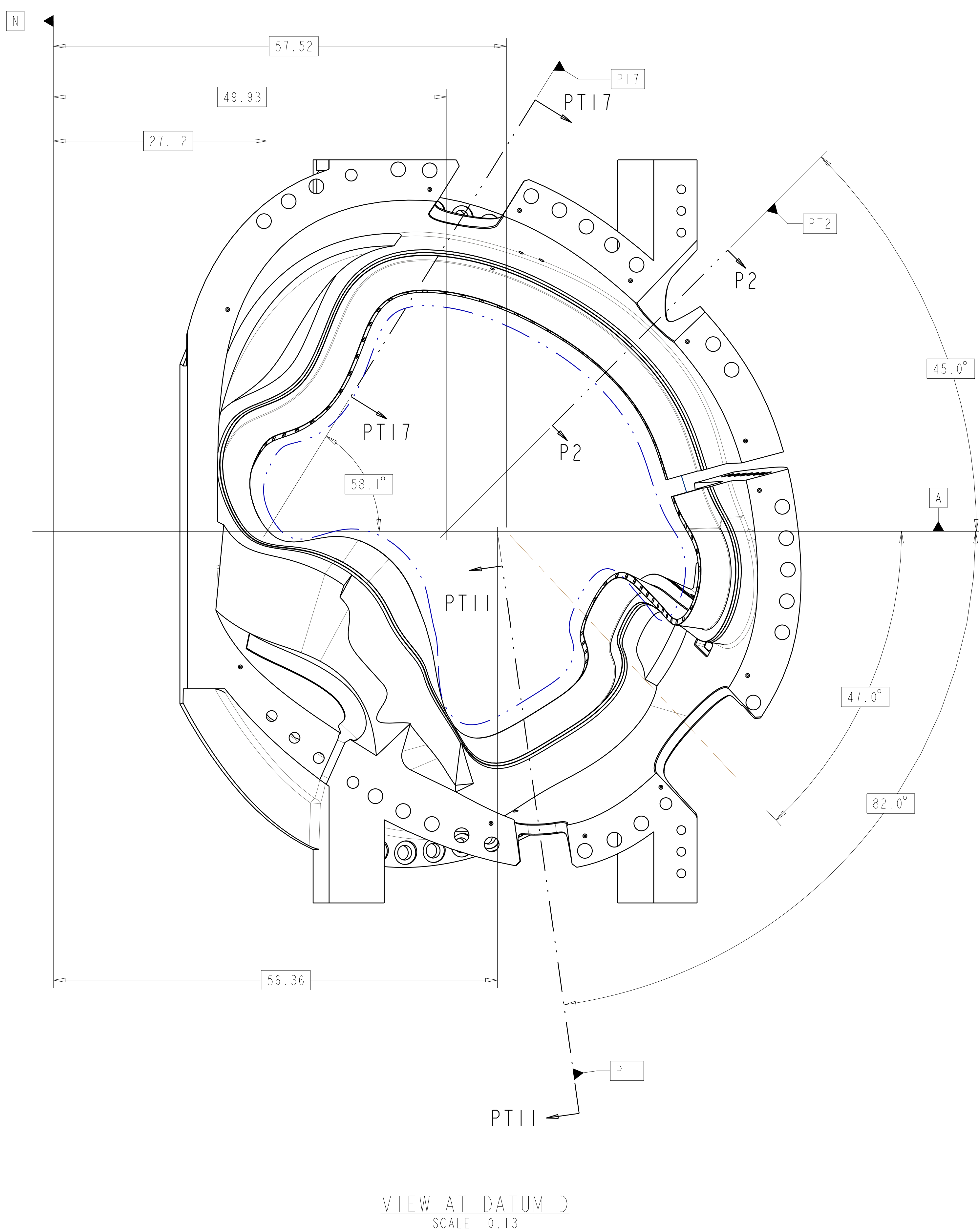
SECTION P-P
SCALE 0.25

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UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
6	X-10	5700	3	6	11	S	U
RELEASE LEVEL		SEI41-116				REV 5	
Fabrication							

SEI41-116

FOR NOTES AND PARTS LIST SEE SHEET 1

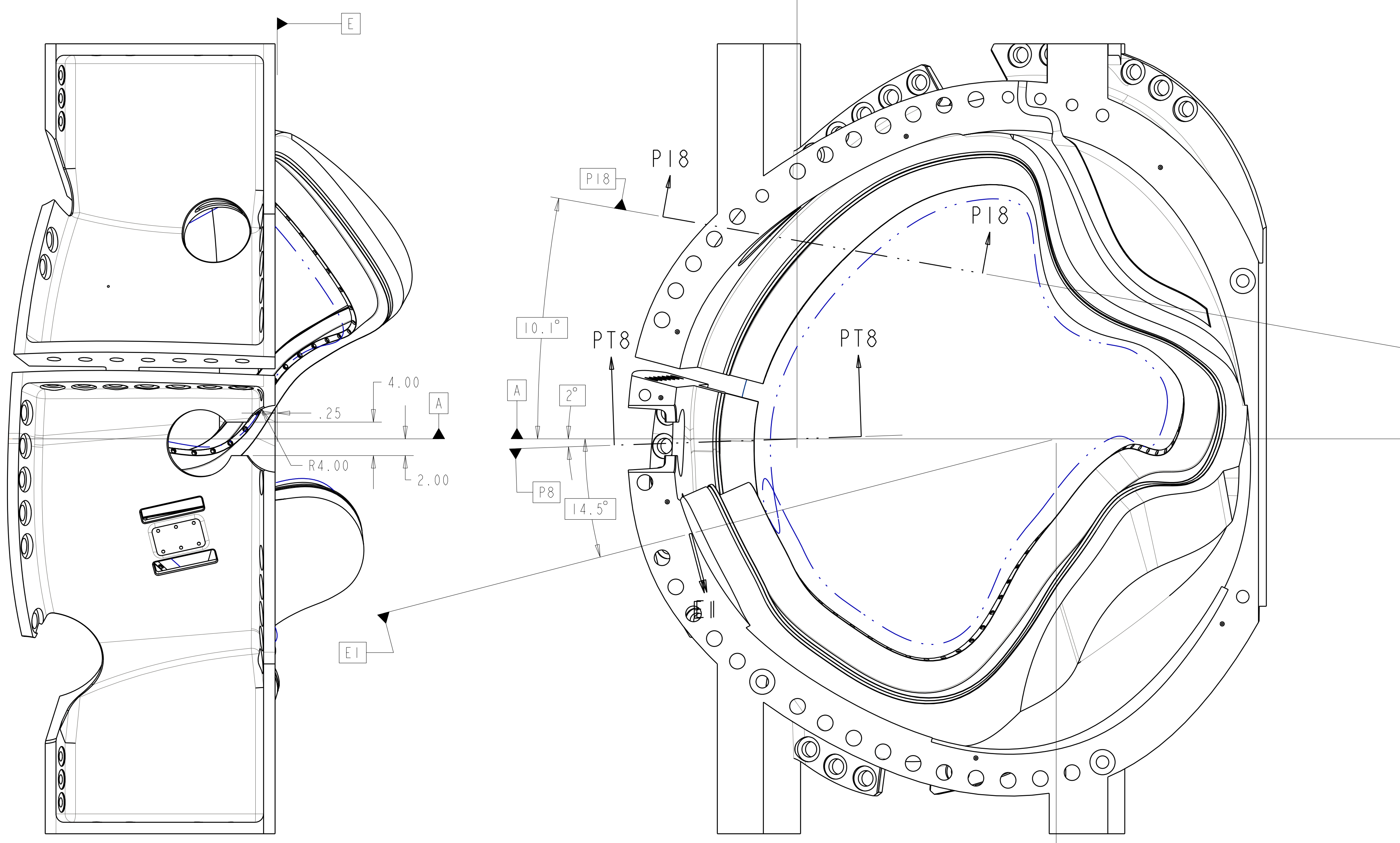


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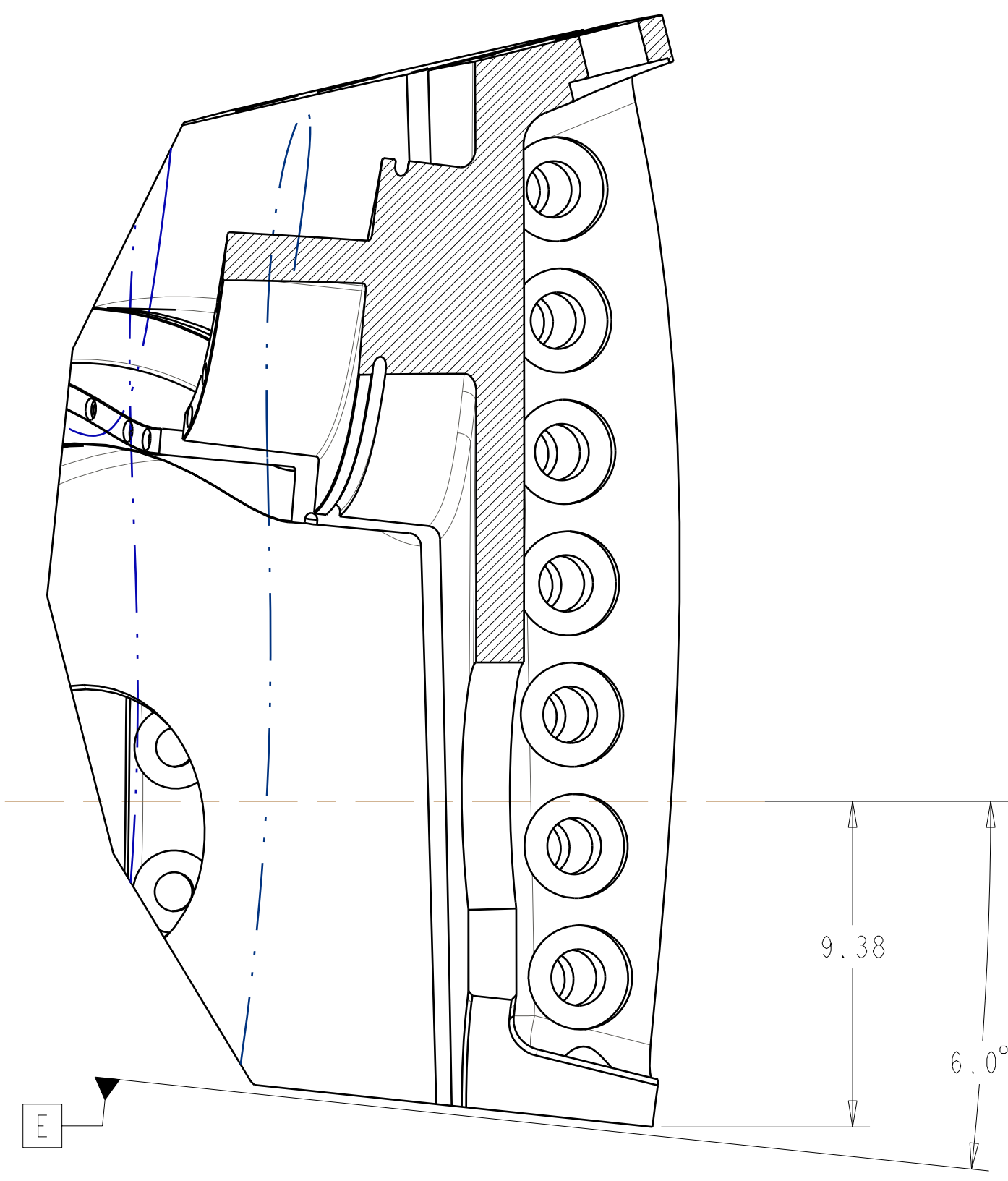
PPPL Drafting:

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UT-BATTELLE							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
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RELEASE LEVEL	SEI41-116						REV
Fabrication							5

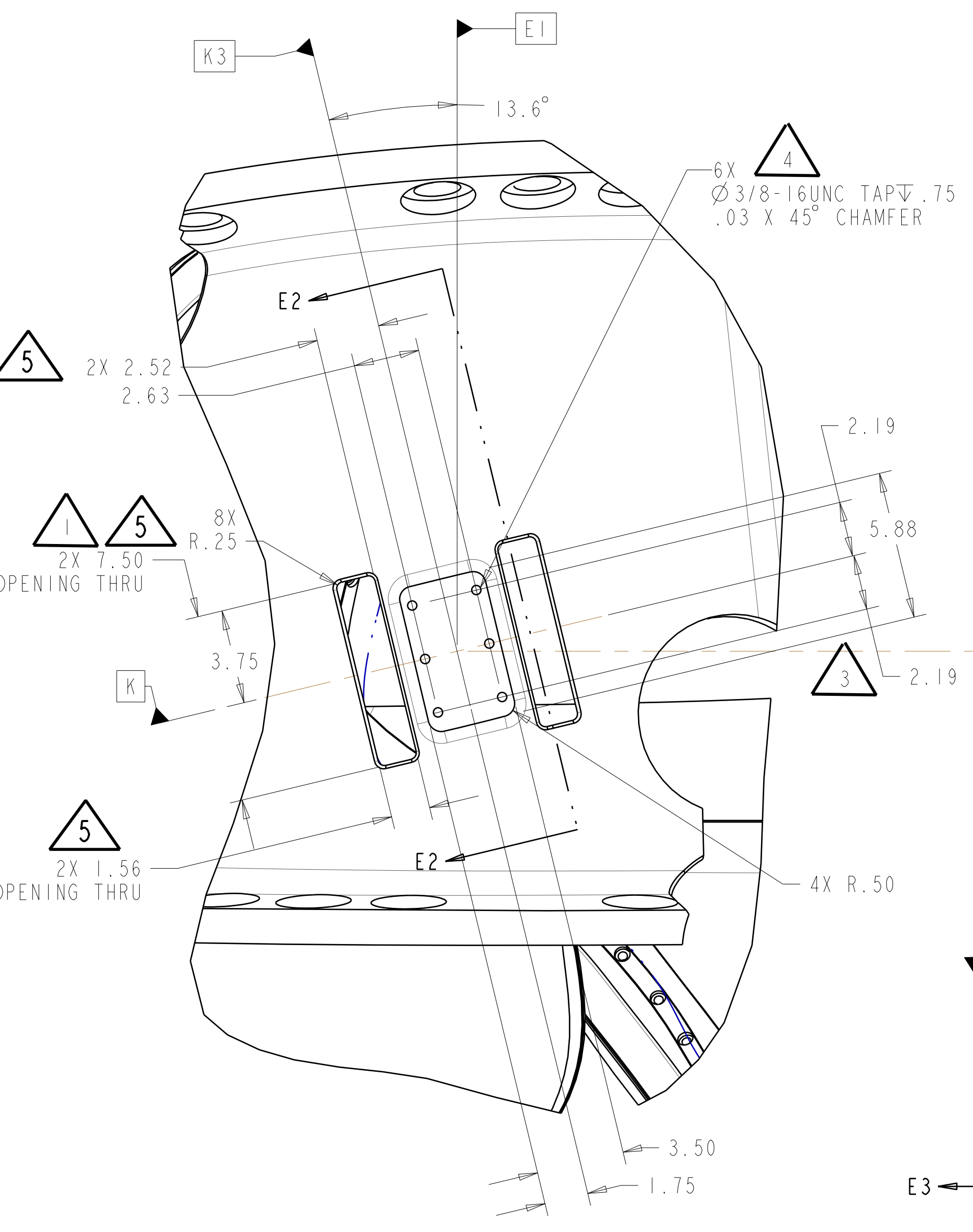
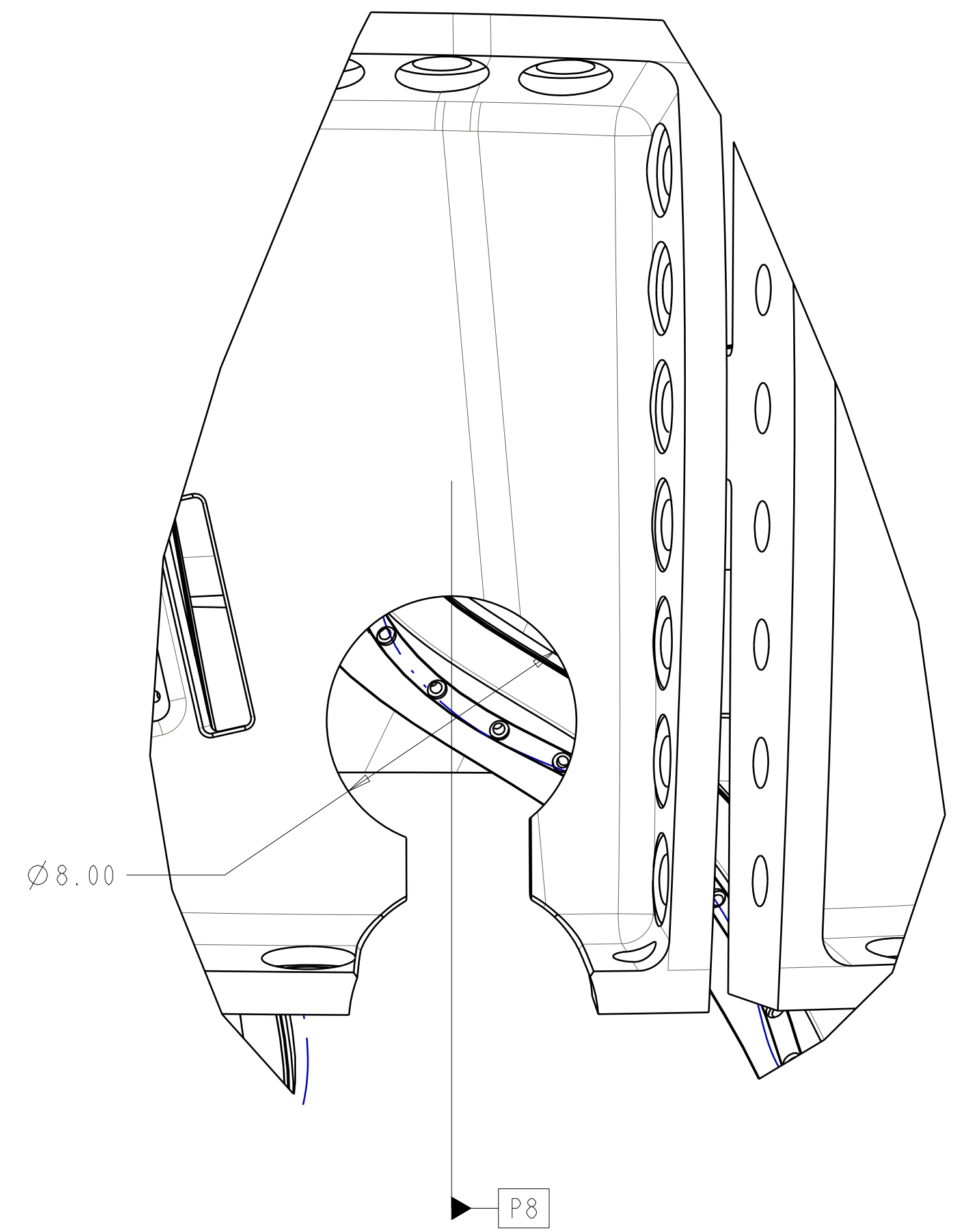
FOR NOTES AND PARTS LIST SEE SHEET 1



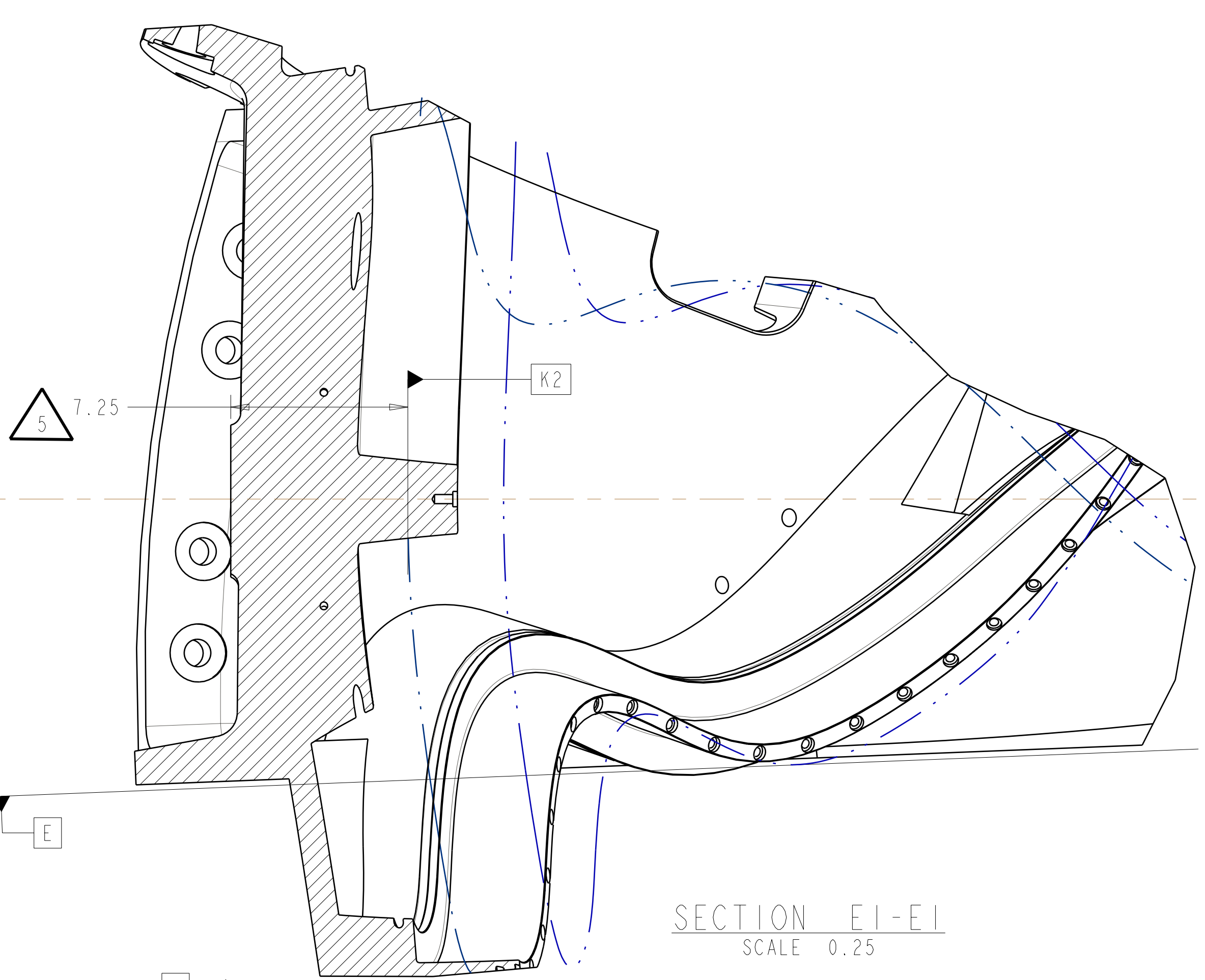
VIEW AT DATUM E
SCALE 0.13



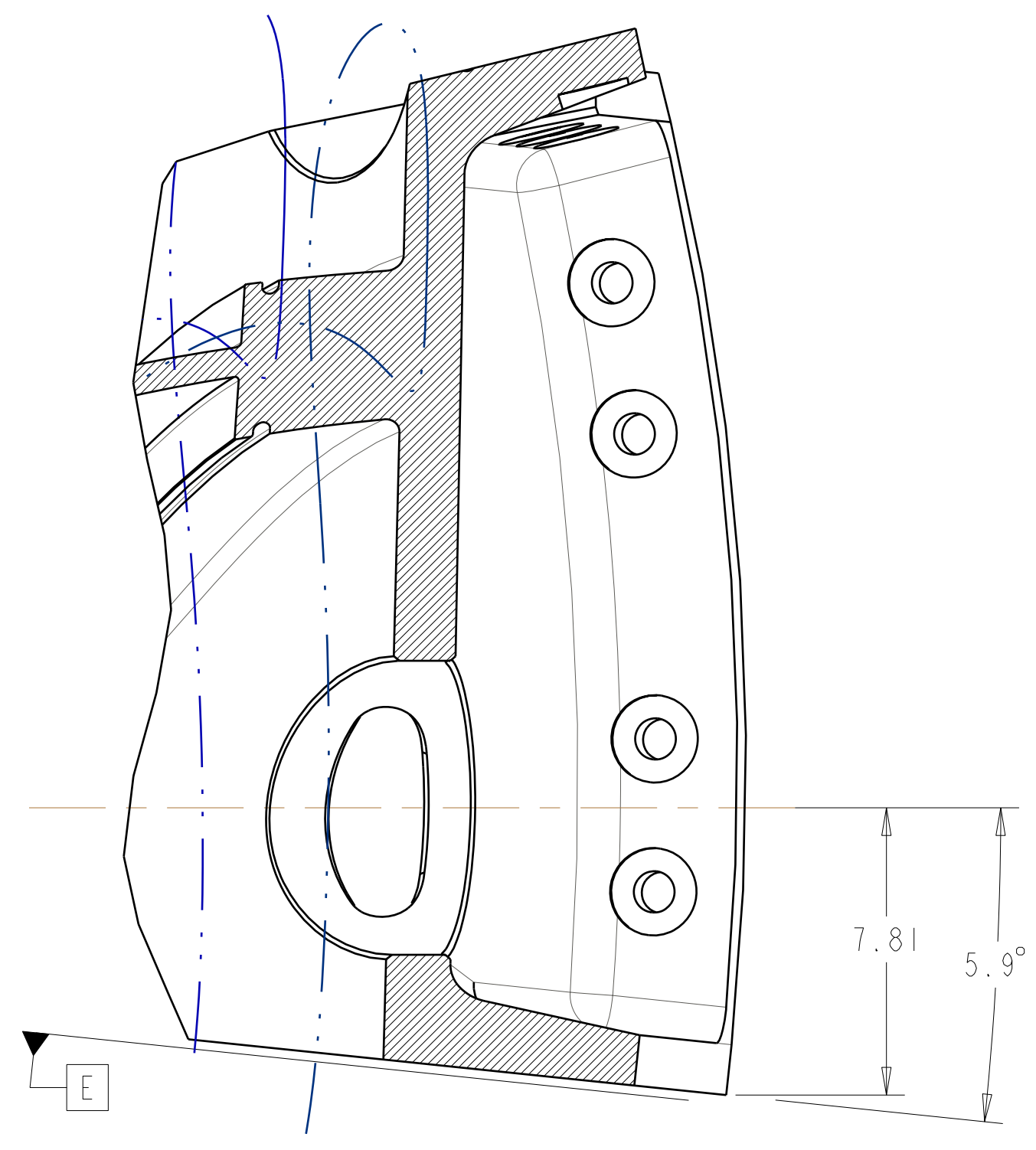
SECTION PT8-PT8
SCALE 0.25



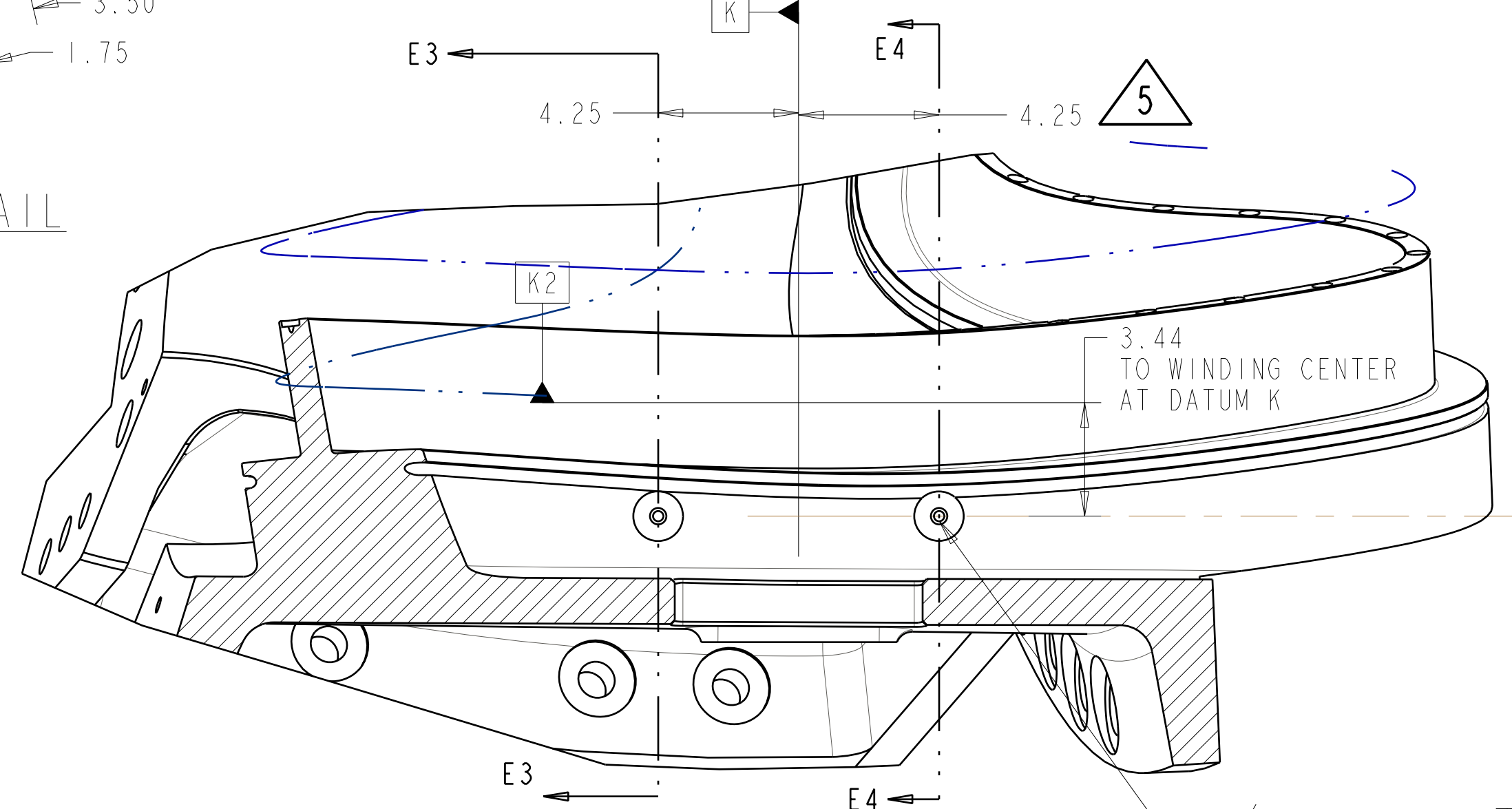
LEAD BLOCK DETAIL



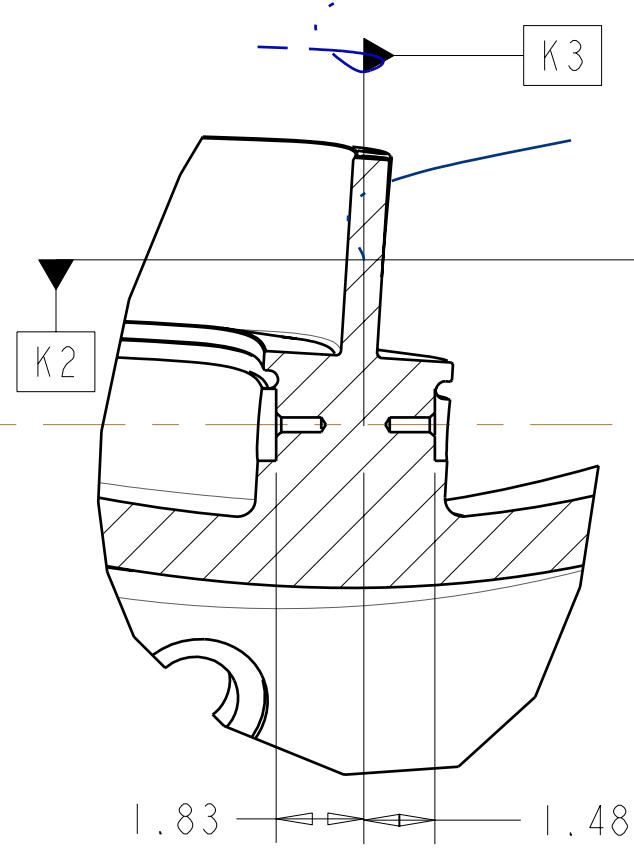
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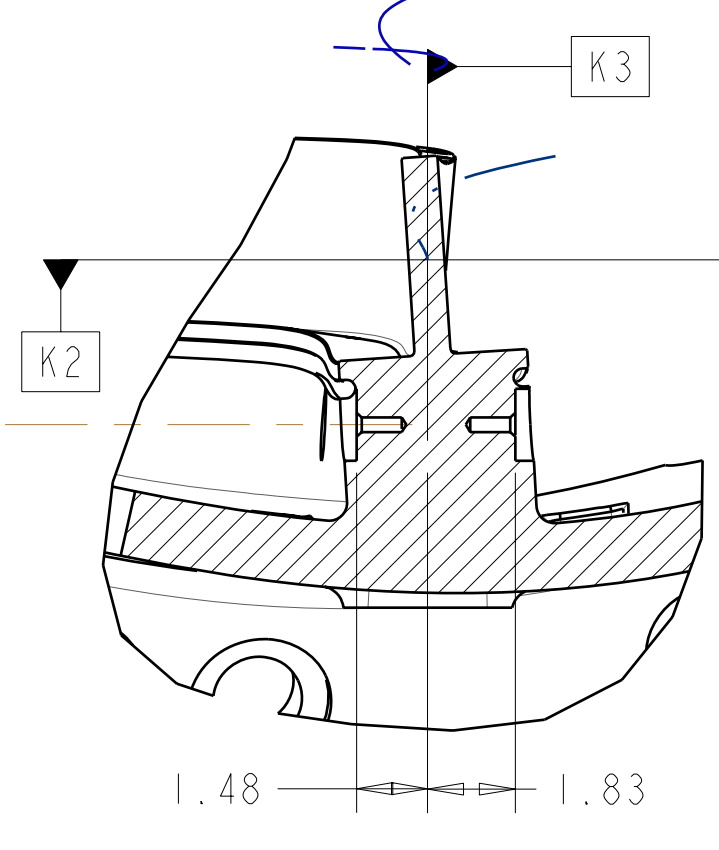
SECTION P18-P18
SCALE 0.25



SECTION E2-E2
SCALE 0.250



SECTION E3-E3



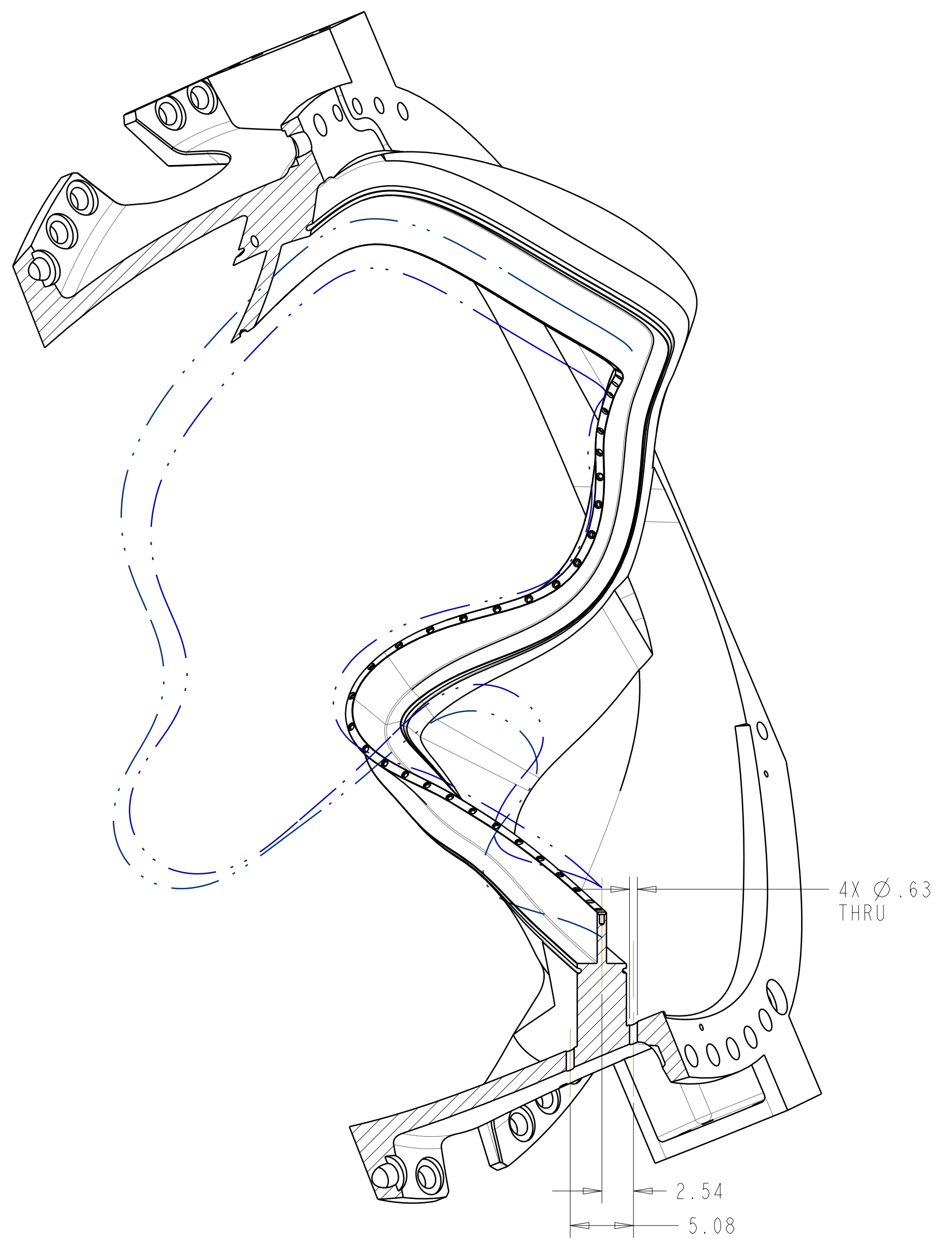
SECTION E4-E4

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PPPL Drafting:

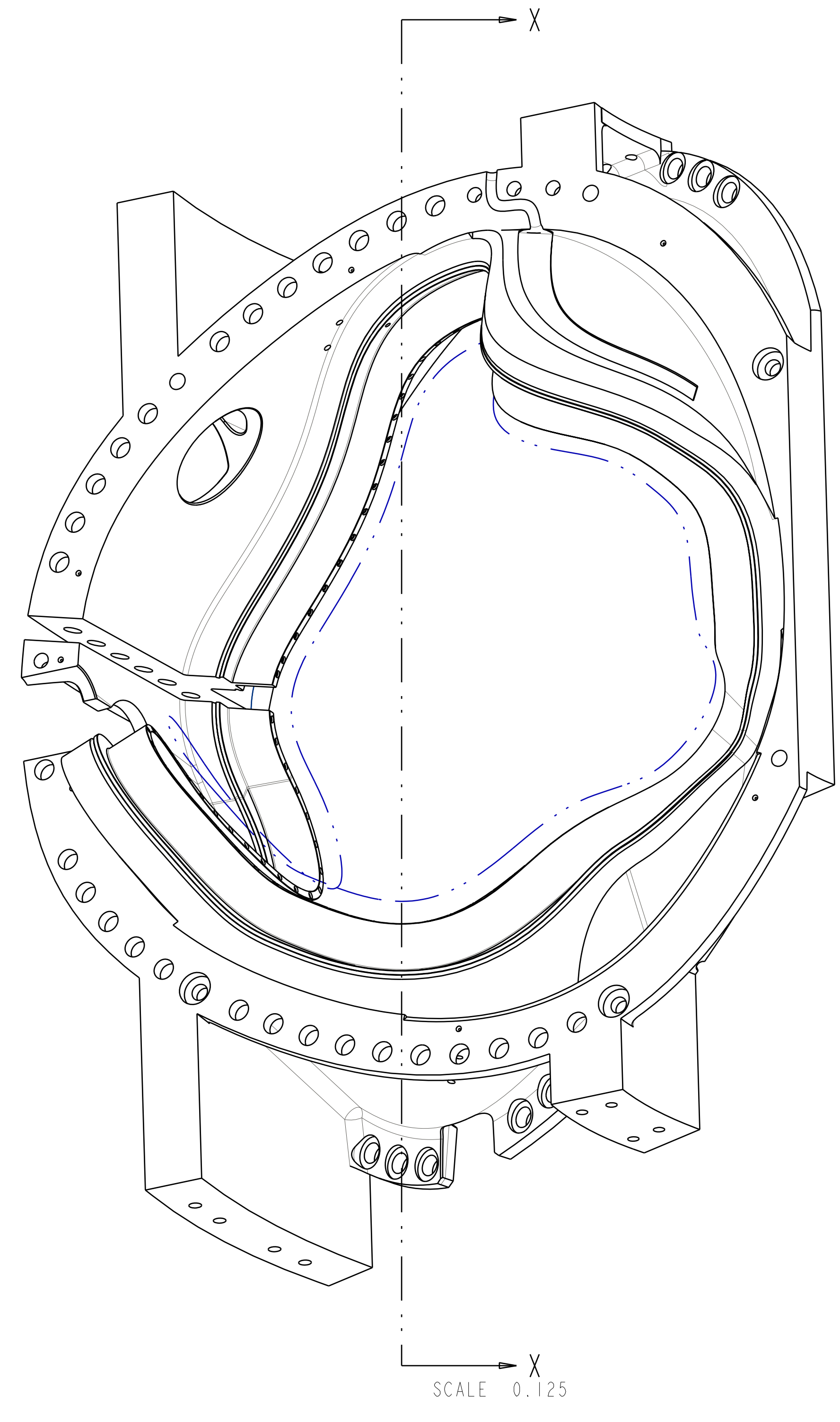
Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee PROJECT NAME:							
UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
6	X-10	5700	3	8	11	S	U
RELEASE LEVEL		SEI41-116		REV		5	
Fabrication							

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SEI41-116

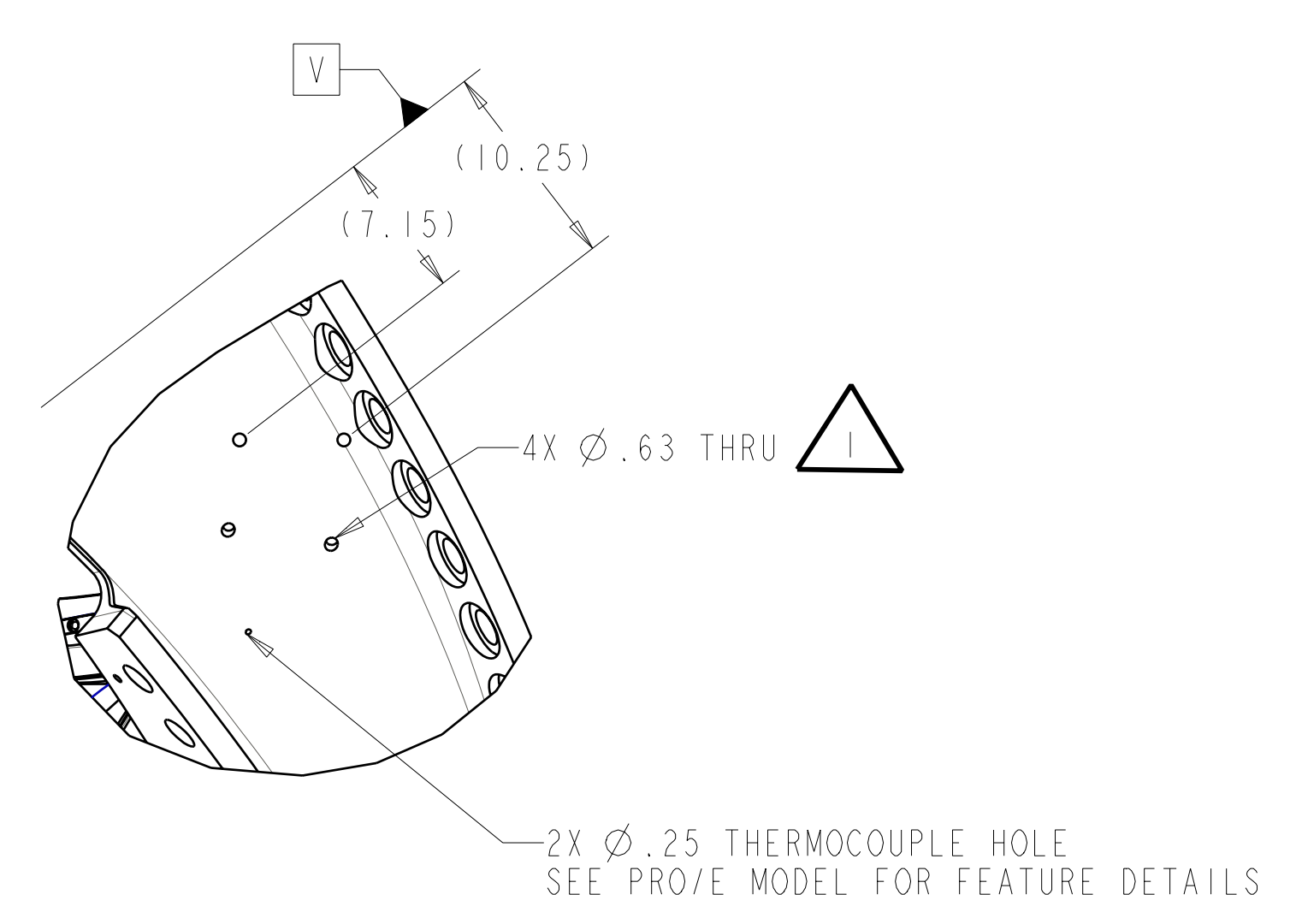
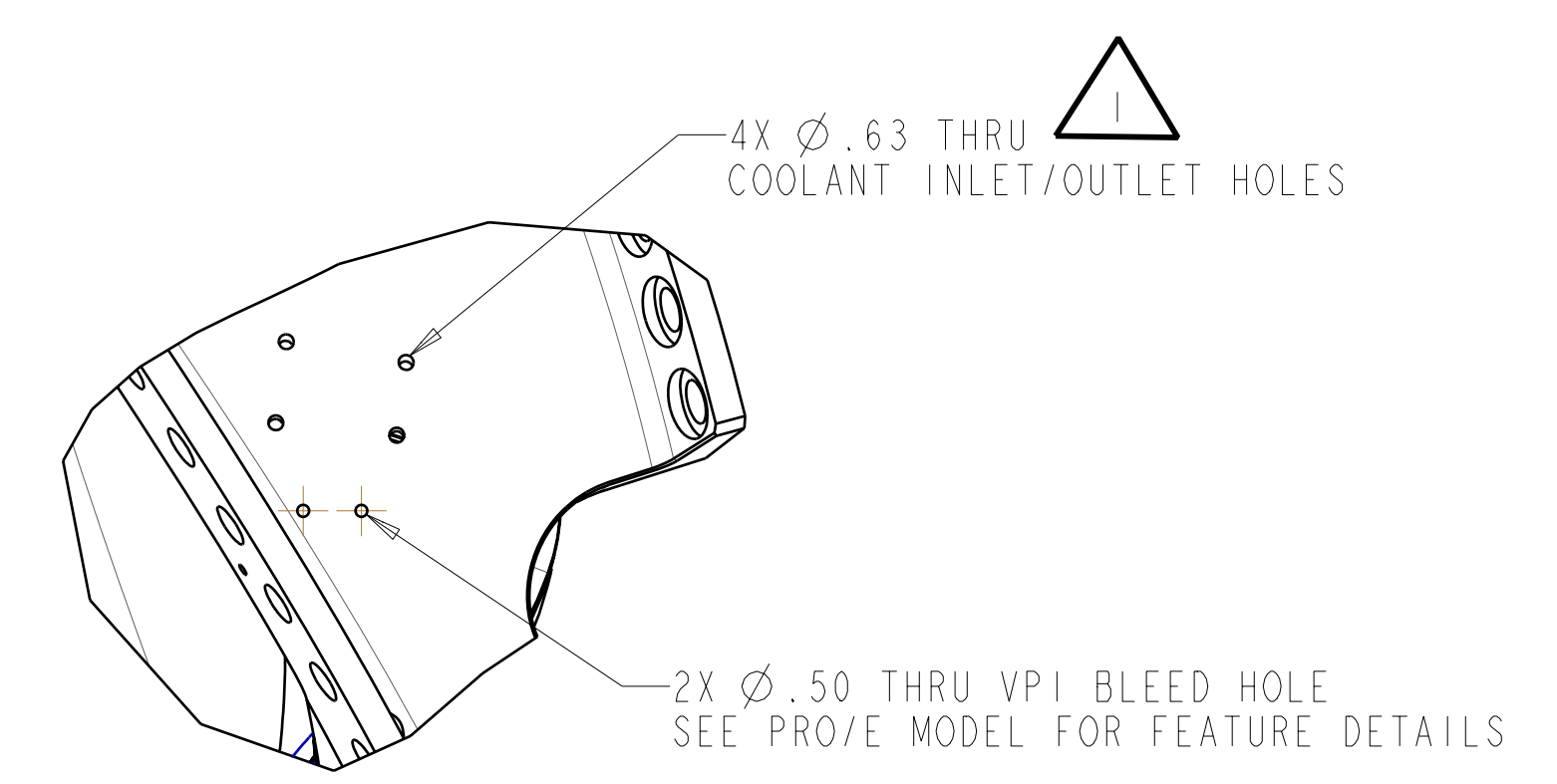
FOR NOTES AND PARTS LIST SEE SHEET 1



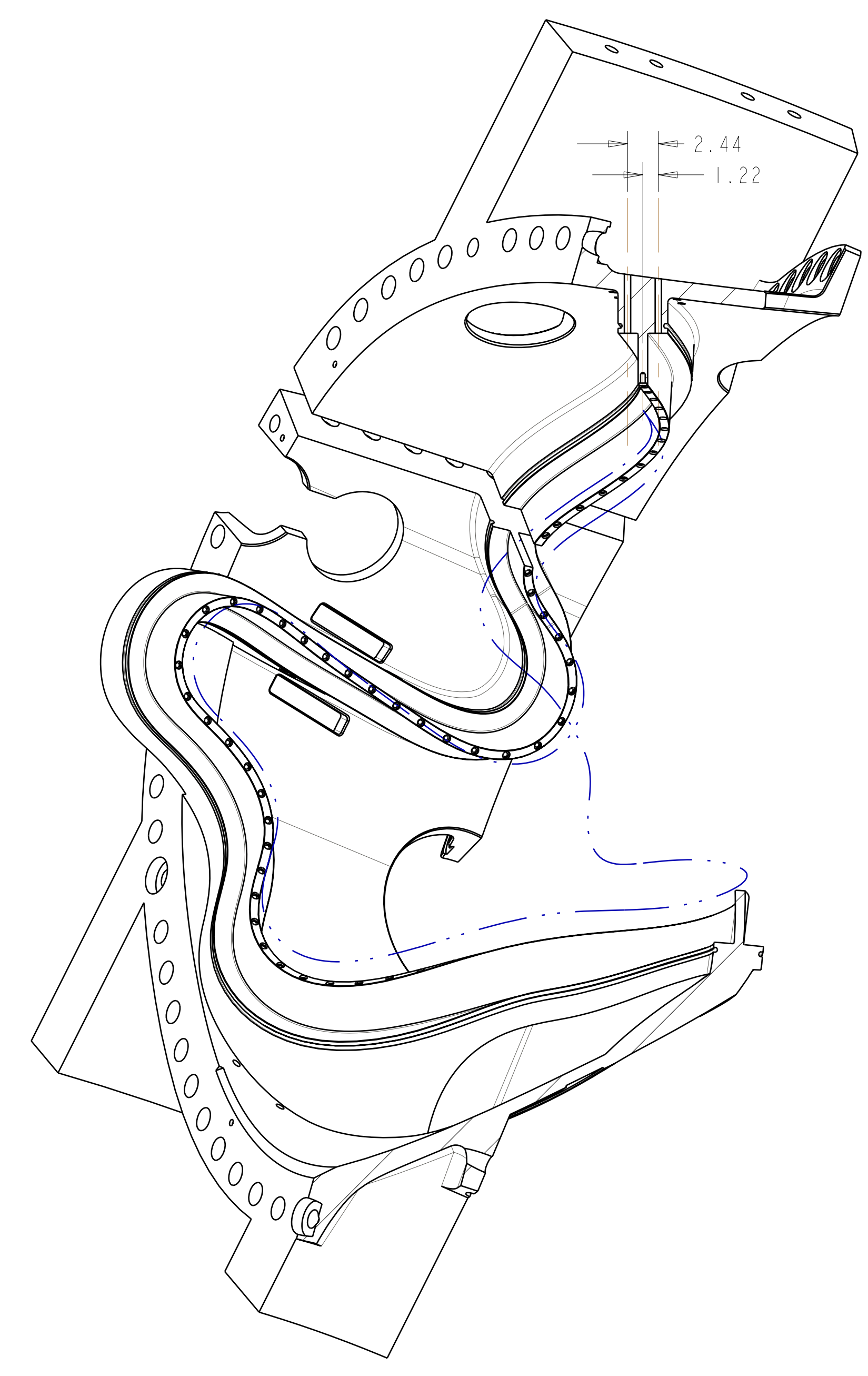
SECTION X-X
 USE PRO/E MODEL GEOMETRY TO DETERMINE SECTION ORIENTATION



SCALE 0.125

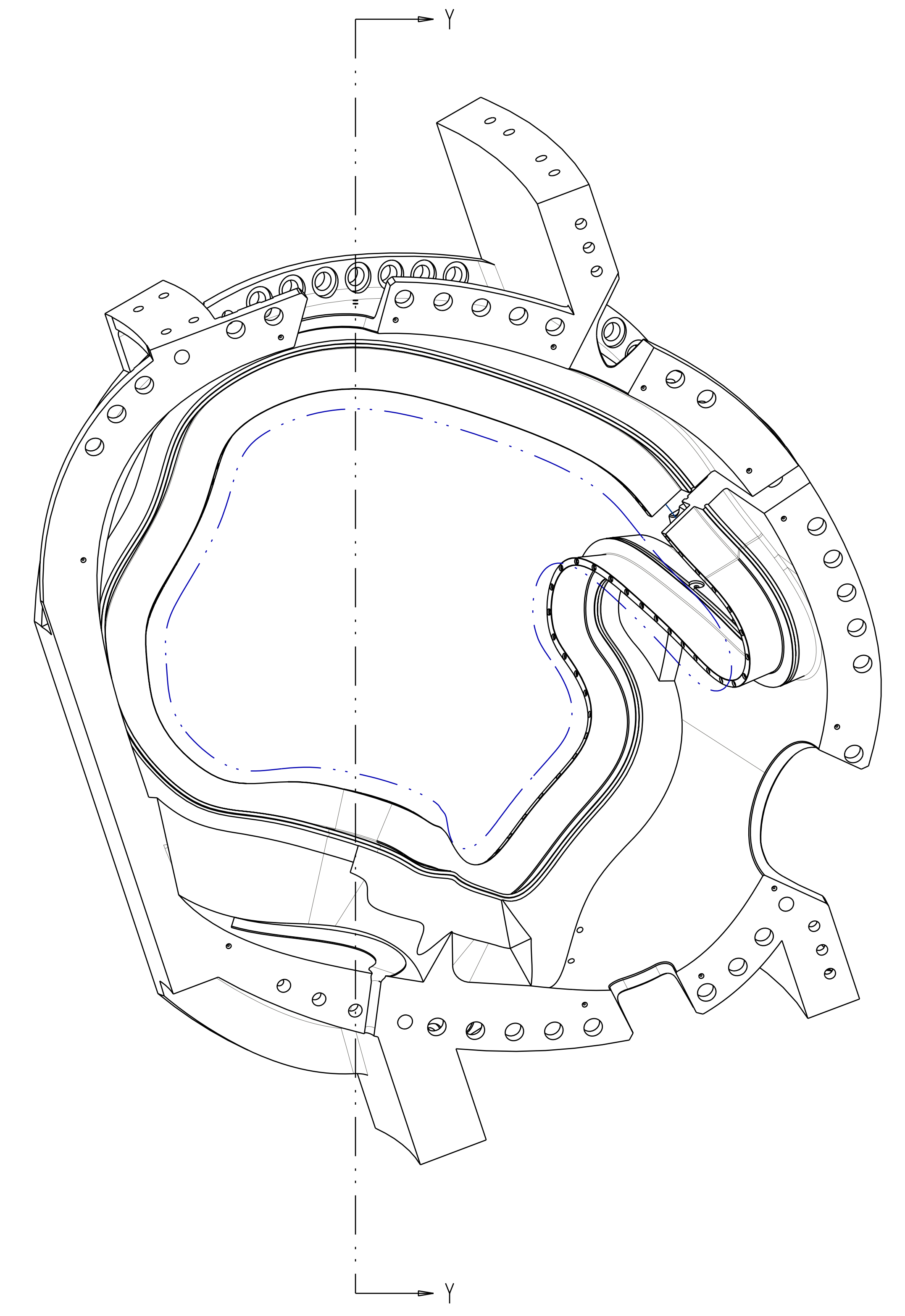


COOLING INLET / OUTLET HOLES
 TYPICAL 2 PLACES



SECTION Y-Y
 SCALE 0.125

USE PRO/E MODEL GEOMETRY TO DETERMINE SECTION ORIENTATION



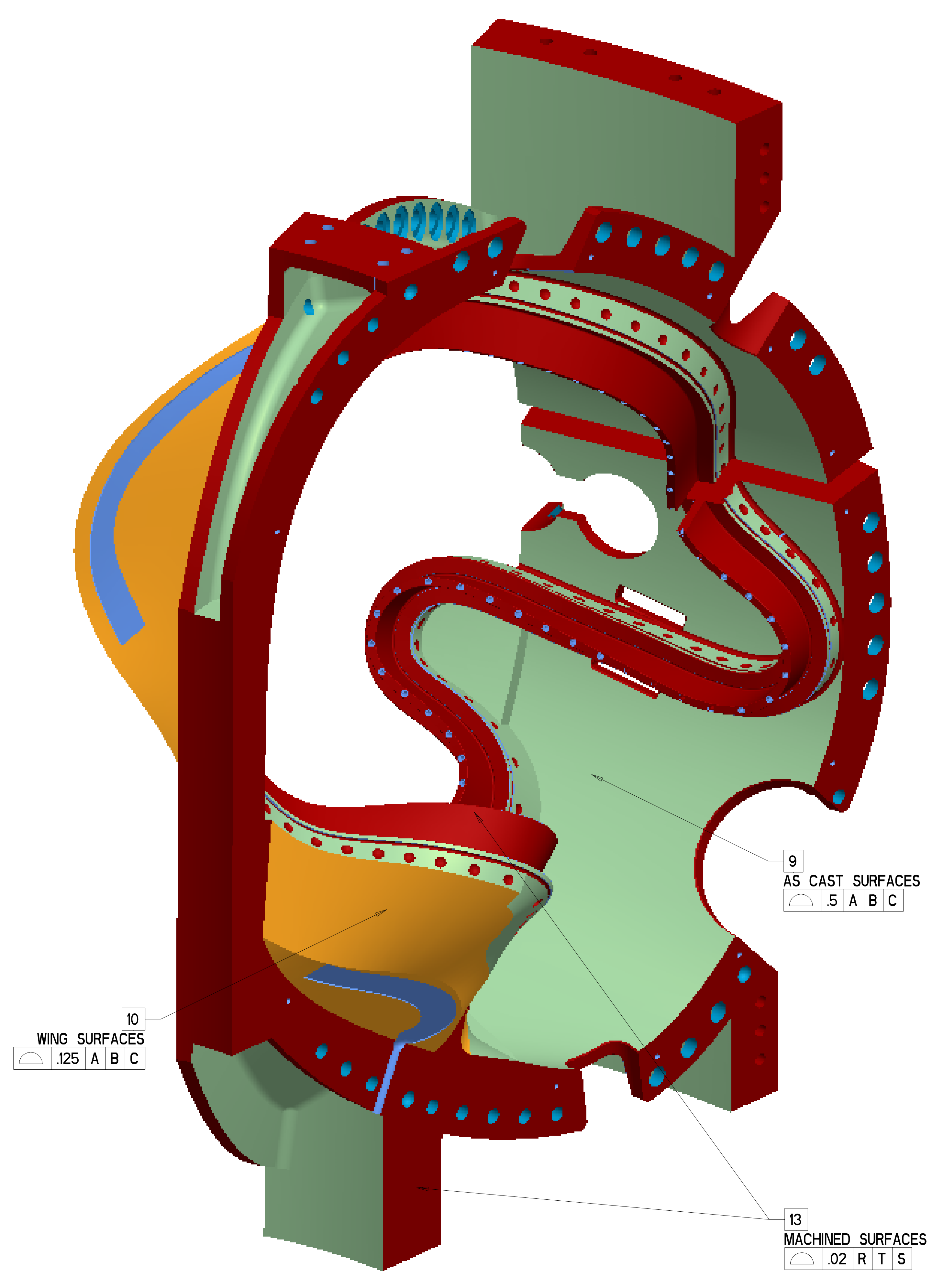
RELEASED FOR FABRICATION / INSTALLATION
 PPPL Drafting:

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. 6	PLANT X-10	BLDG 5700	FL SHT OF TYPE CLASS 3 9 11 S U
RELEASE LEVEL Fabrication	SEI41-116		REV 5

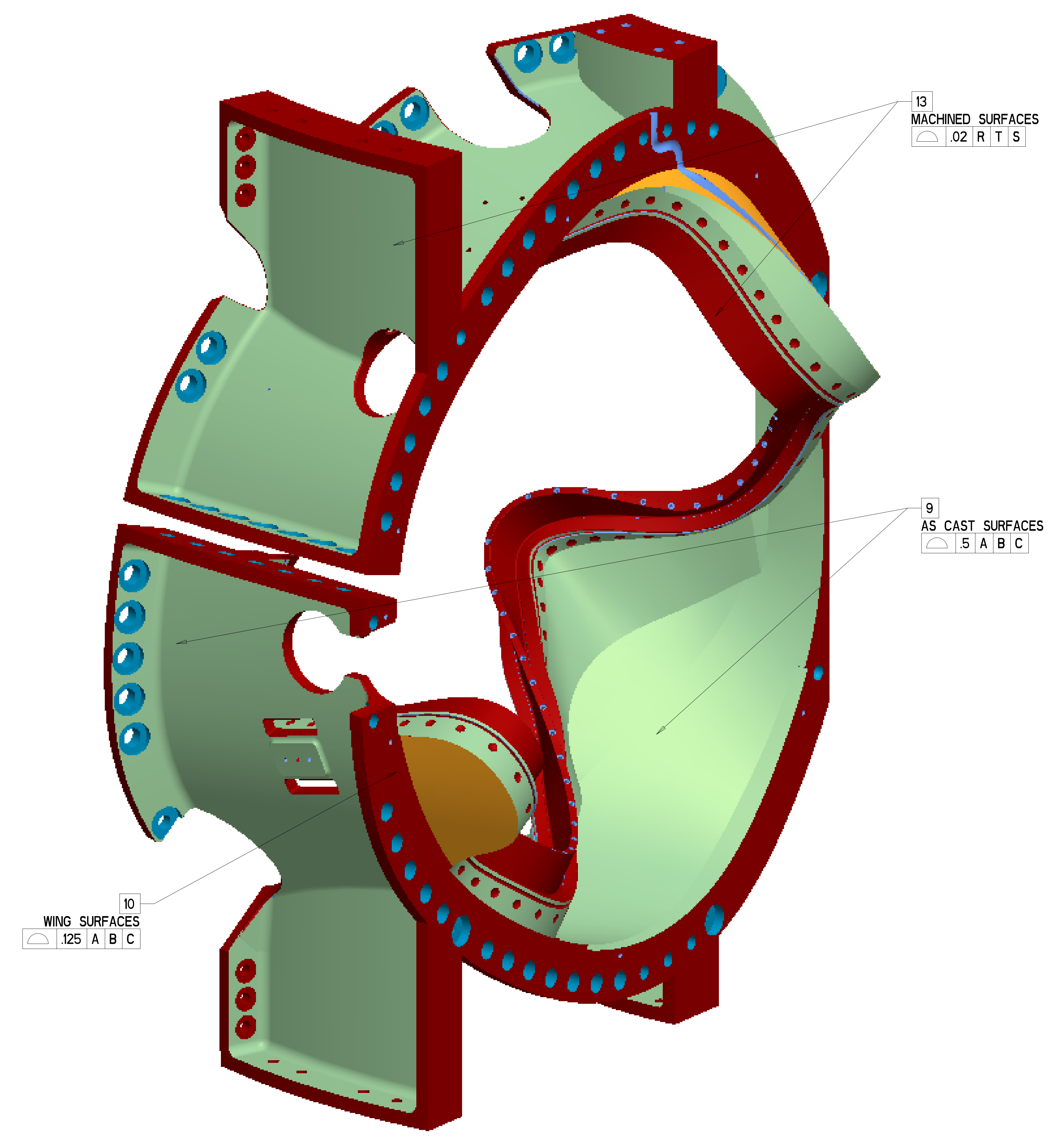
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SEI41-116

FOR NOTES AND PARTS LIST SEE SHEET 1



ISOMETRIC VIEW
 NOT TO SCALE



ISOMETRIC VIEW
 NOT TO SCALE

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 FABRICATION / INSTALLATION**
 PPPL Drafting:

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. 6	PLANT X-10	BLDG 5700	FL 3	SHT OF 10	TYPE III	CLASS U	
RELEASE LEVEL Fabrication		SEI41-116			REV 5		

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