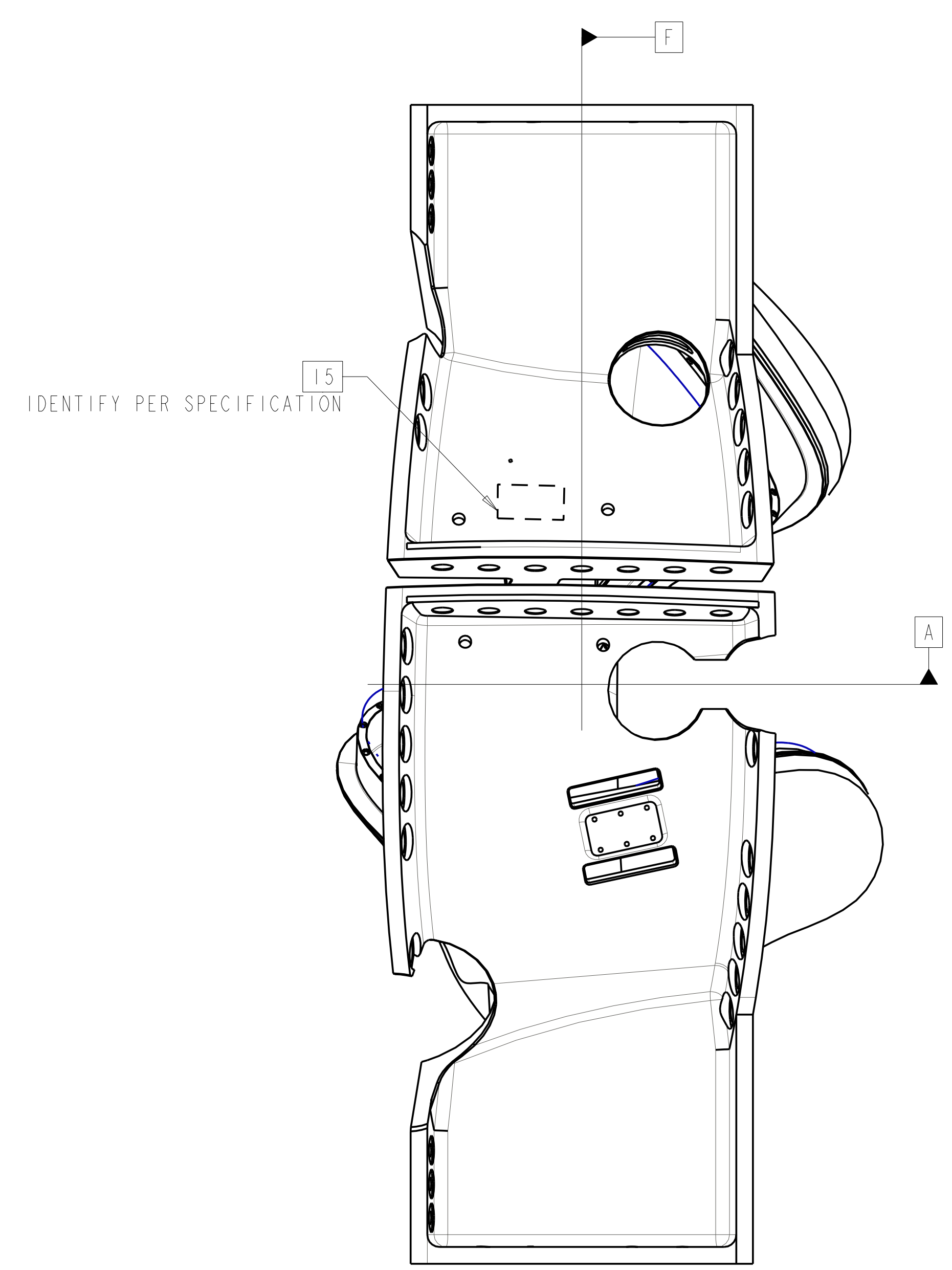
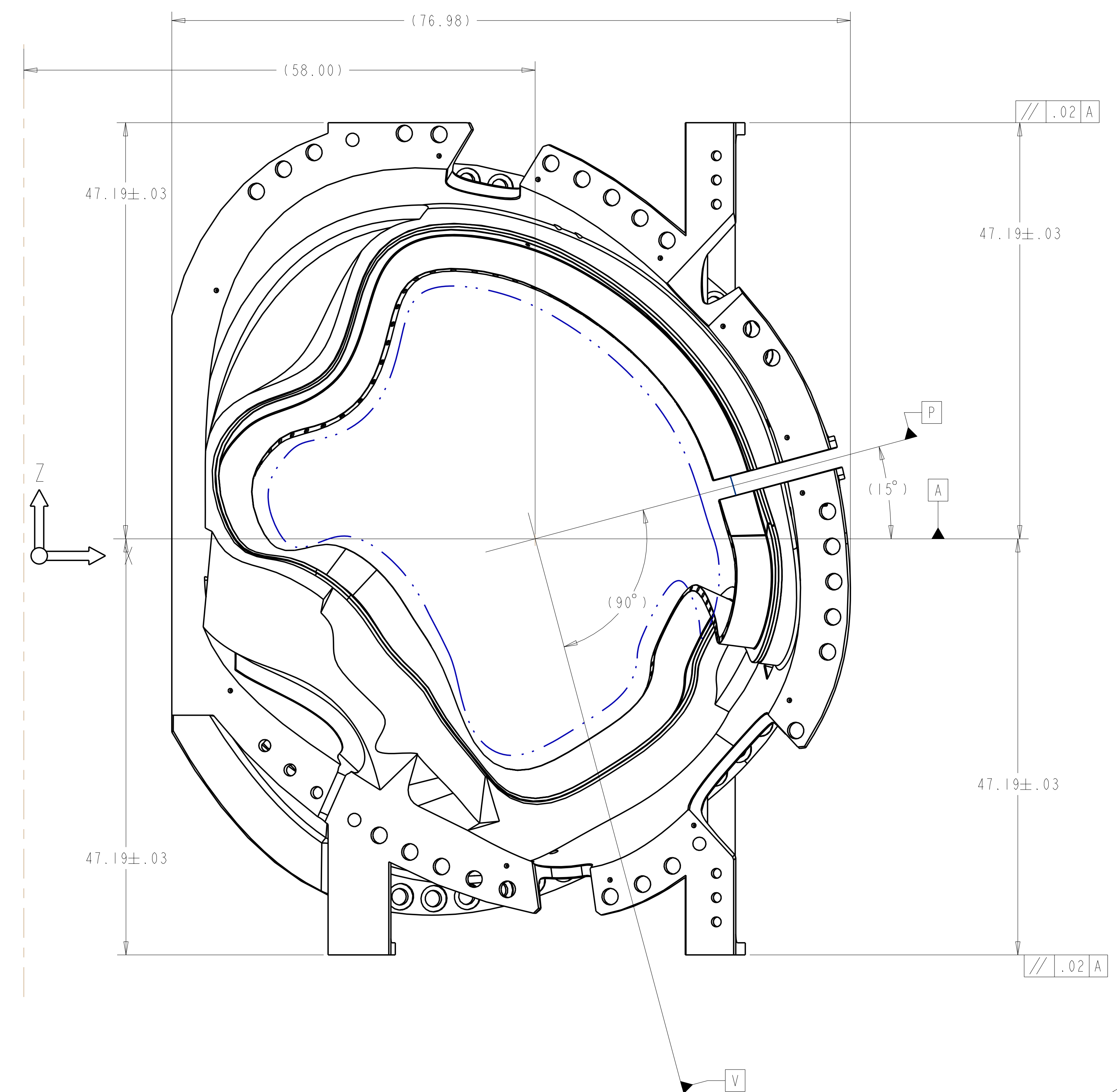


ISOMETRIC VIEW

- NOTES:
- DRAWING PREPARED IN ACCORDANCE WITH ASME Y14.8M-1996.
 - INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
 - DIMENSIONS ARE IN INCHES.
 - DRAWING DEPICTS FINAL MACHINED STATE OF PART DEFINED BY PRO/ENGINEER FILE SE141-116.PRT.
 - 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)
 - DIMENSIONS APPLY AT TEMPERATURE OF 20-30°C (68-86°F)
 - DIMENSIONS AND TOLERANCES EXCLUDE PROCESS MATERIAL ALLOWANCES WHICH MAY ADD MASS.
 - APPROXIMATE WEIGHT = 4898 LBS.
 WEIGHT OF FINISHED PART NOT TO EXCEED 6000 LBS.
 - UNLESS OTHERWISE SPECIFIED, AS-CAST SURFACE PROFILE TOLERANCE = ± 0.25 INCH, WITH EXEMPTION FOR INTERSECTING SURFACES WHERE FILLETS ARE EXPECTED. MIN FILLET AND CORNER RADII = 0.5 ± 0.1 IN.
 - DESIGNATED SURFACE REGIONS HAVE PROFILE TOLERANCE = ± 0.125 IN.
 - MIN THICKNESS PER CAD GEOMETRY, TOLERANCE = $+0.25$ IN / -0.0 IN.
 - PARTING LINE EDGES, FLASH, GATES, RUNNER, AND RISER EXTENSIONS 0.25 IN MAX
 - UNLESS OTHERWISE SPECIFIED, MACHINED SURFACE PROFILE TOLERANCE = ± 0.01 IN.
 - BACK SPOTFACE ALL THRU HOLES MINIMUM TO CLEAN UP.
 - SEE LATEST REVISION OF SPECIFICATION NCSX-CSPEC-141-03 FOR ADDITIONAL REQUIREMENTS.



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 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	REQ	DATE	ORNL	DOE	DATE
7	REVISED PART AND DRAWING PER ECN-5026	GLL	10-03	MJC			DEW					
6	REVISED PART AND DRAWING PER ECN-5009	GLL	7-03	MJC			DEW					
5	REVISED PART AND DRAWING PER ECN-4994	GLL	5-03	MJC			DEW					
4	REVISED DRAWING AND MODEL PER ECN-4965	GLL	3-03	MJC			DEW					
3	REVISED DRAWING AND MODEL PER ECN-4944	GLL	1/03	MJC			DEW					
2	SHEET 11 REMOVED TABLES 111 & 114	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	TGR			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	FRACTIONS	DRW	P MILLER	5-5-04
	XXX DECIMALS	CHK	M. COLE	6-25-04
	DEPT:	PE	D. WILLIAMSON	6-25-04
	CR:	CR:		
	ANGLS	PJ:		
	BREAK SHARP EDGES .06 MAX	REO:		
FINISH .125 UNLESS OTHERWISE SPECIFIED	PPPL DRFT	J. SIEGEL	6-25-04	

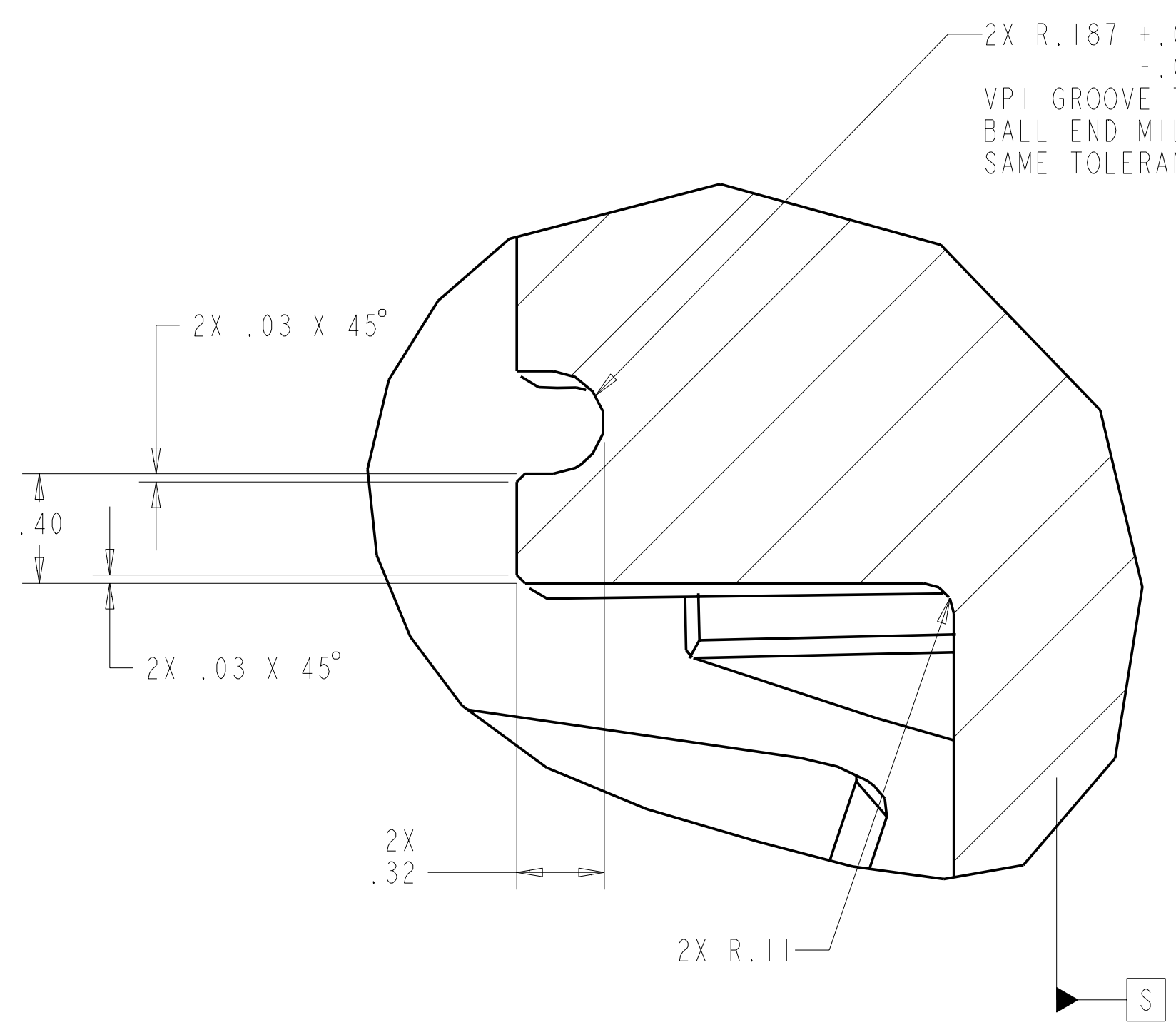
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NATIONAL COMPACT STELLARATOR EXPERIMENT			
PRODUCTION WINDING FORM TYPE-C			
VERSION NO.	PLANT	BLDG	FL
II	X-10	5700	3
RELEASE LEVEL			
Fabrication			
SEI41-116			
REV			
7			

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.

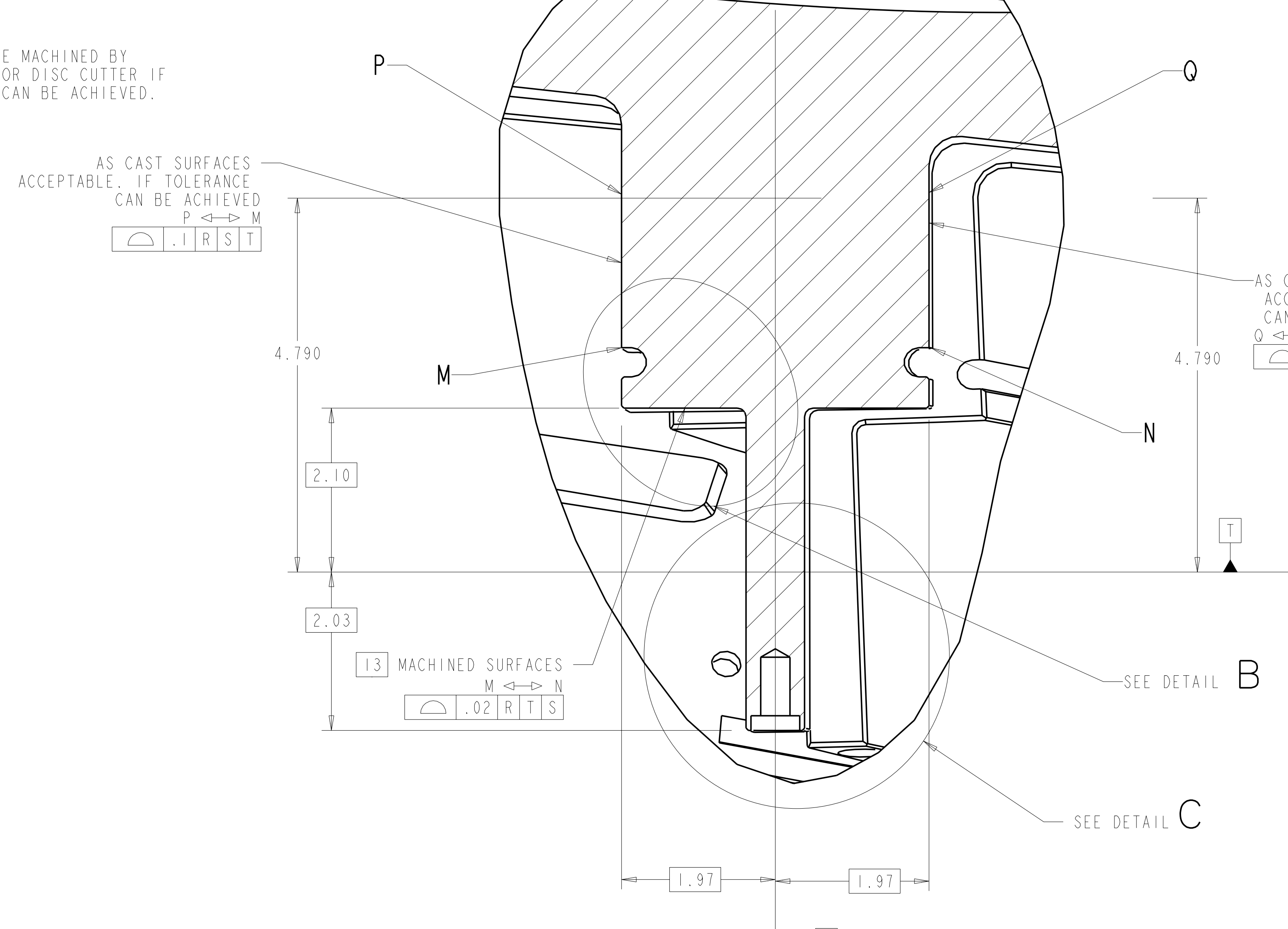
P THIS DRAWING PRODUCED ON PRO-ENGINEER

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FOR NOTES AND PARTS LIST SEE SHEET 1



DETAIL B
SCALE 2.000



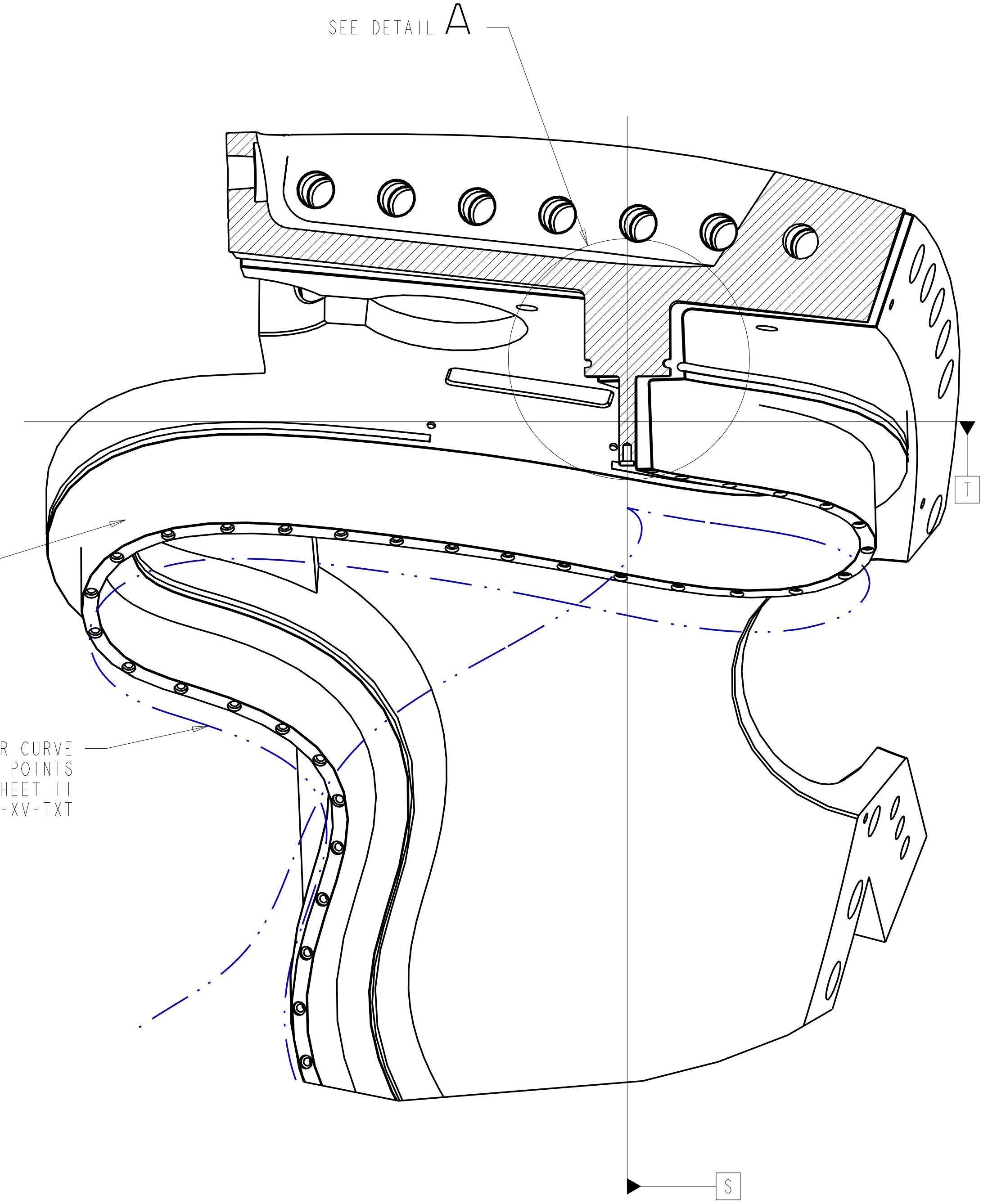
DETAIL A
SCALE 1.00

TYPICAL FOR ALL POINTS ALONG WINDING CENTER

AS CAST SURFACES ACCEPTABLE. IF TOLERANCE CAN BE ACHIEVED
Q ↔ N
[Symbol] .1 | R | S | T

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

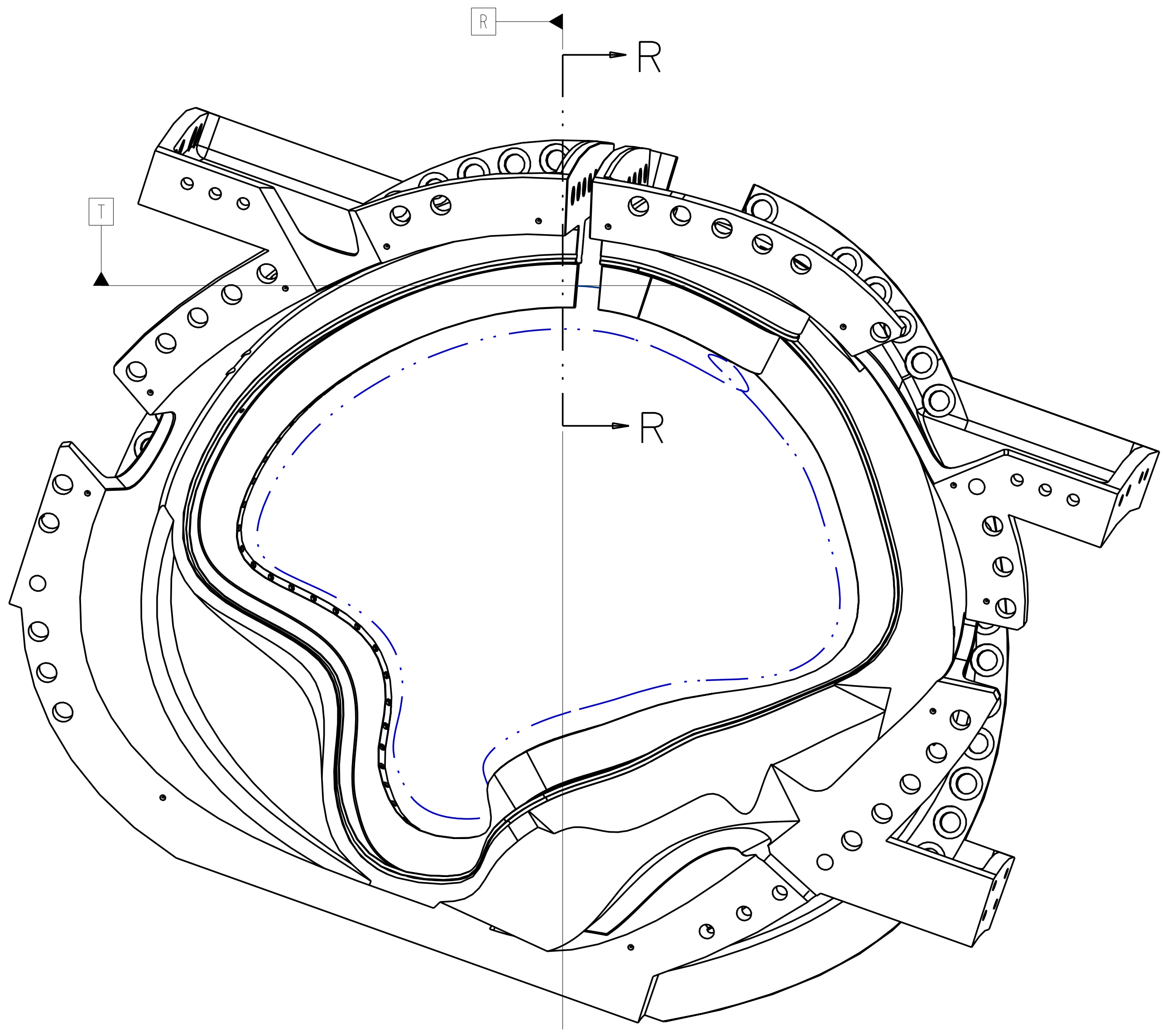
13 MACHINED SURFACES
M ↔ N
[Symbol] .02 | R | T | S



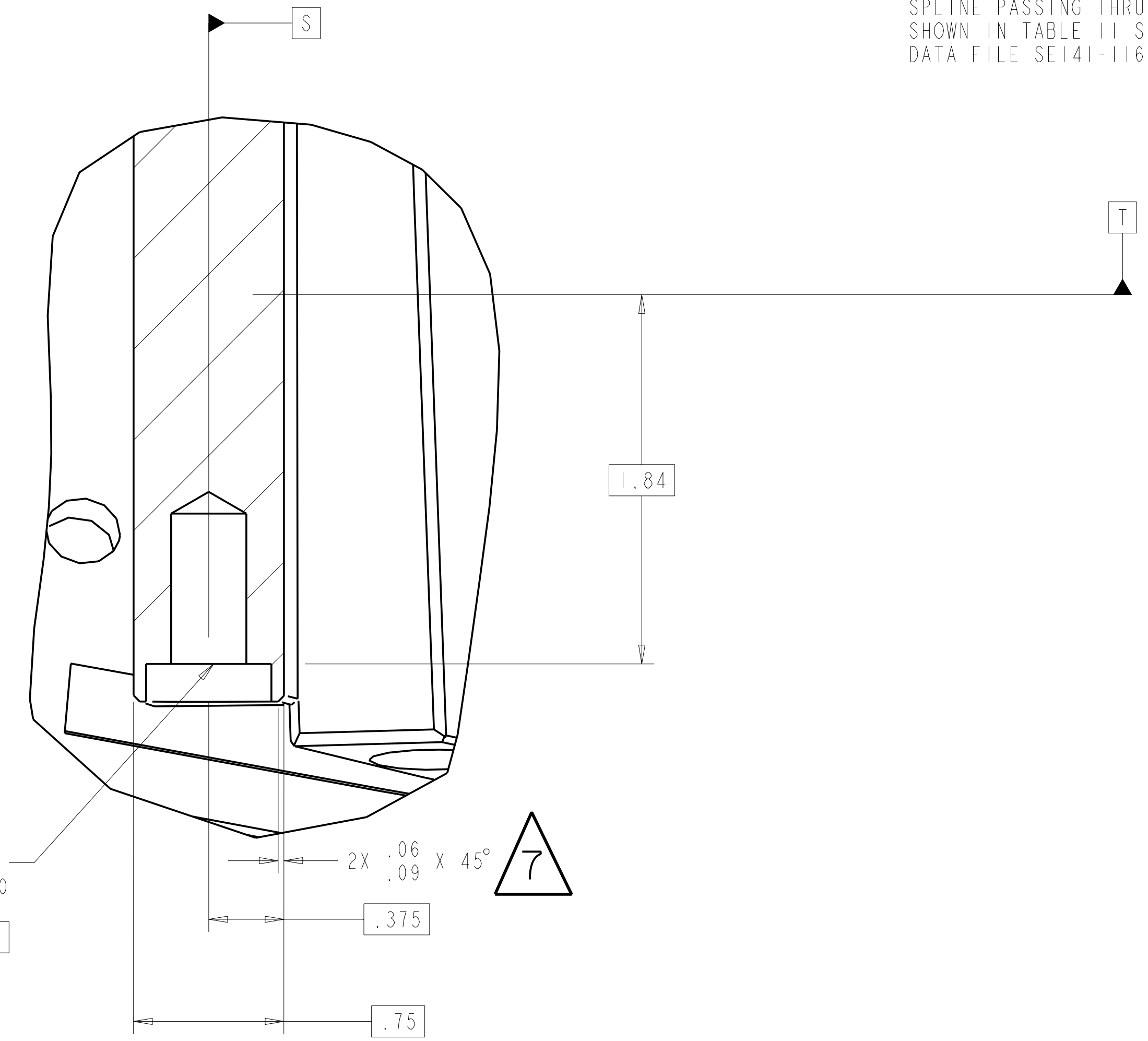
SECTION R-R
SCALE 0.25

WINDING CENTER CURVE
SPLINE PASSING THRU POINTS
SHOWN IN TABLE I SHEET 11
DATA FILE SE141-116-WC.TXT

X VECTOR CURVE
SPLINE PASSING THRU POINTS
SHOWN IN TABLE II SHEET 11
DATA FILE SE141-116-XV.TXT



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

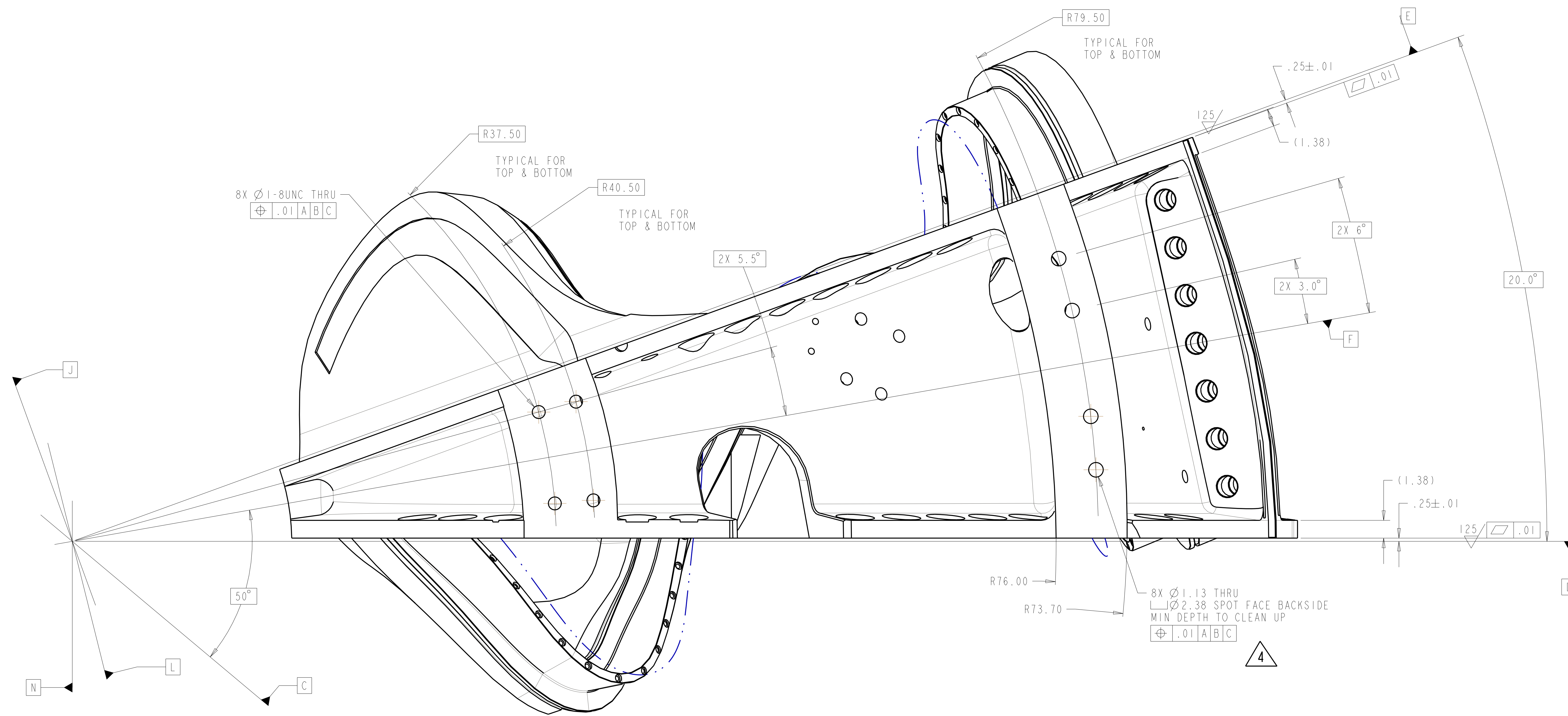
3 4
96X
Ø .375 -16 UNC Ψ .750
L .625 Ψ .188
[Symbol] .01 | R | S | T
TRUE POSITION APPLIES TO DEPTH OF COUNTERSINK
THREADED HOLE DEPTH +.1/-0

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UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
11	X-10	5700	3	2	11	S	U
RELEASE LEVEL	SE141-116						REV
Fabrication							7

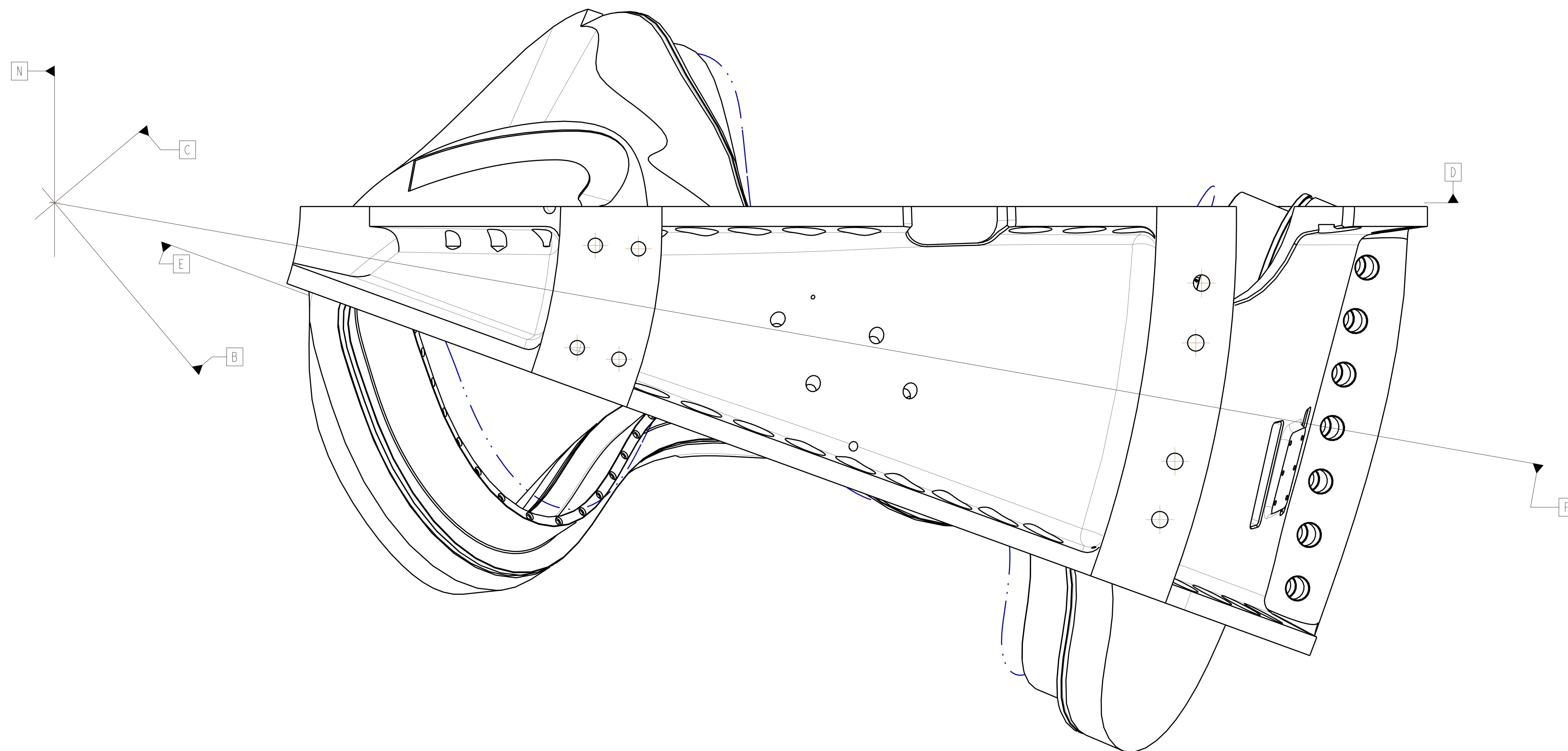
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FOR NOTES AND PARTS LIST SEE SHEET 1



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

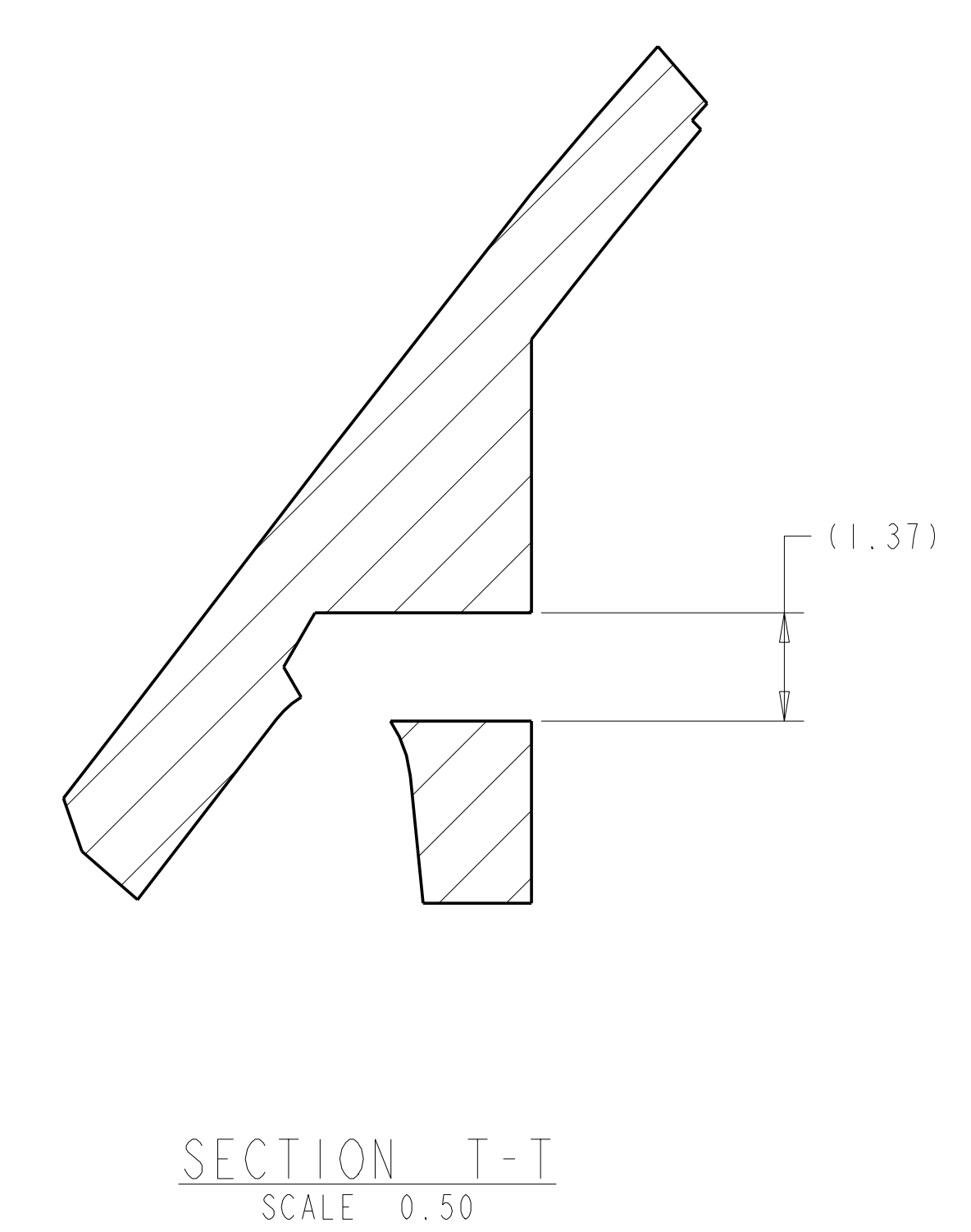
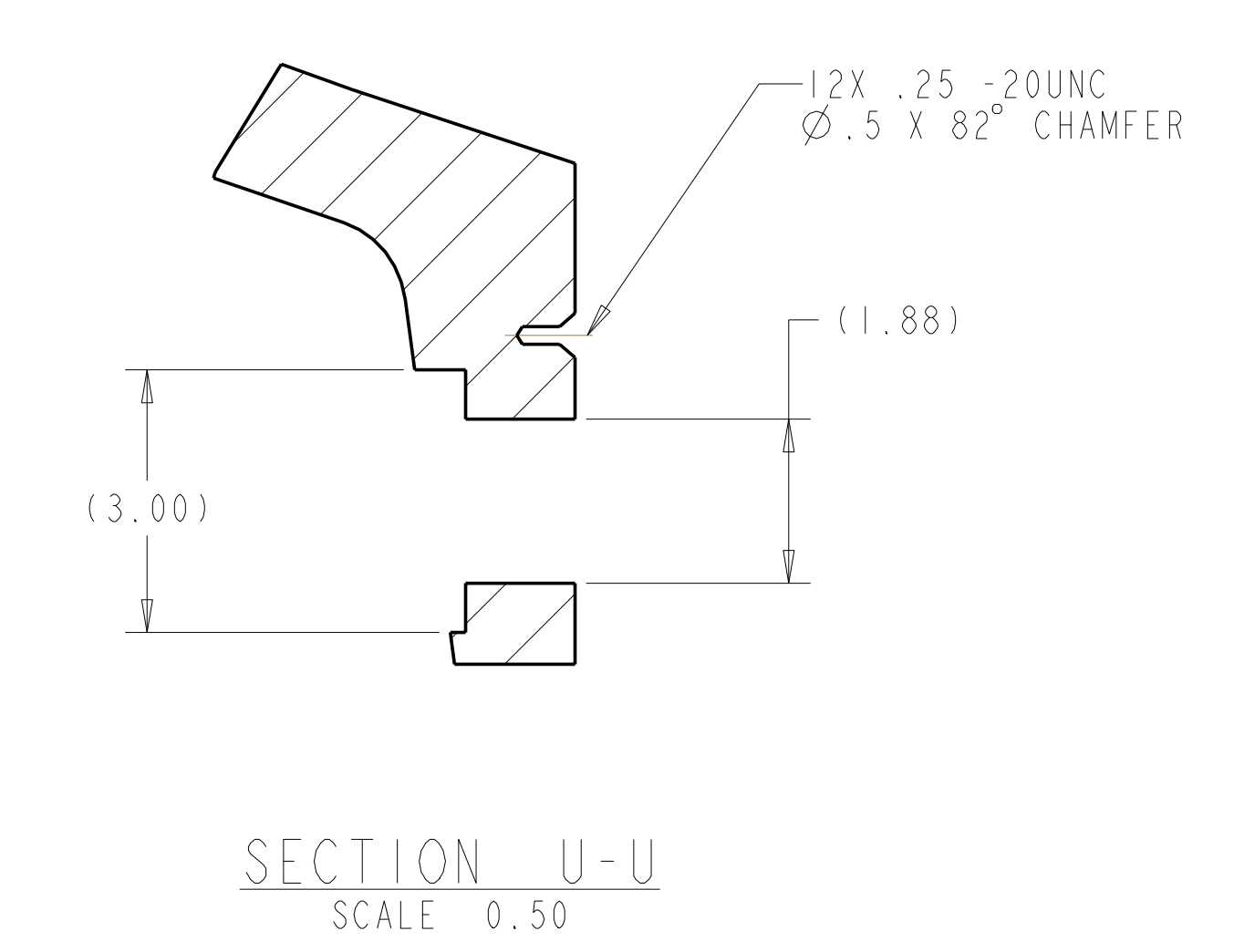
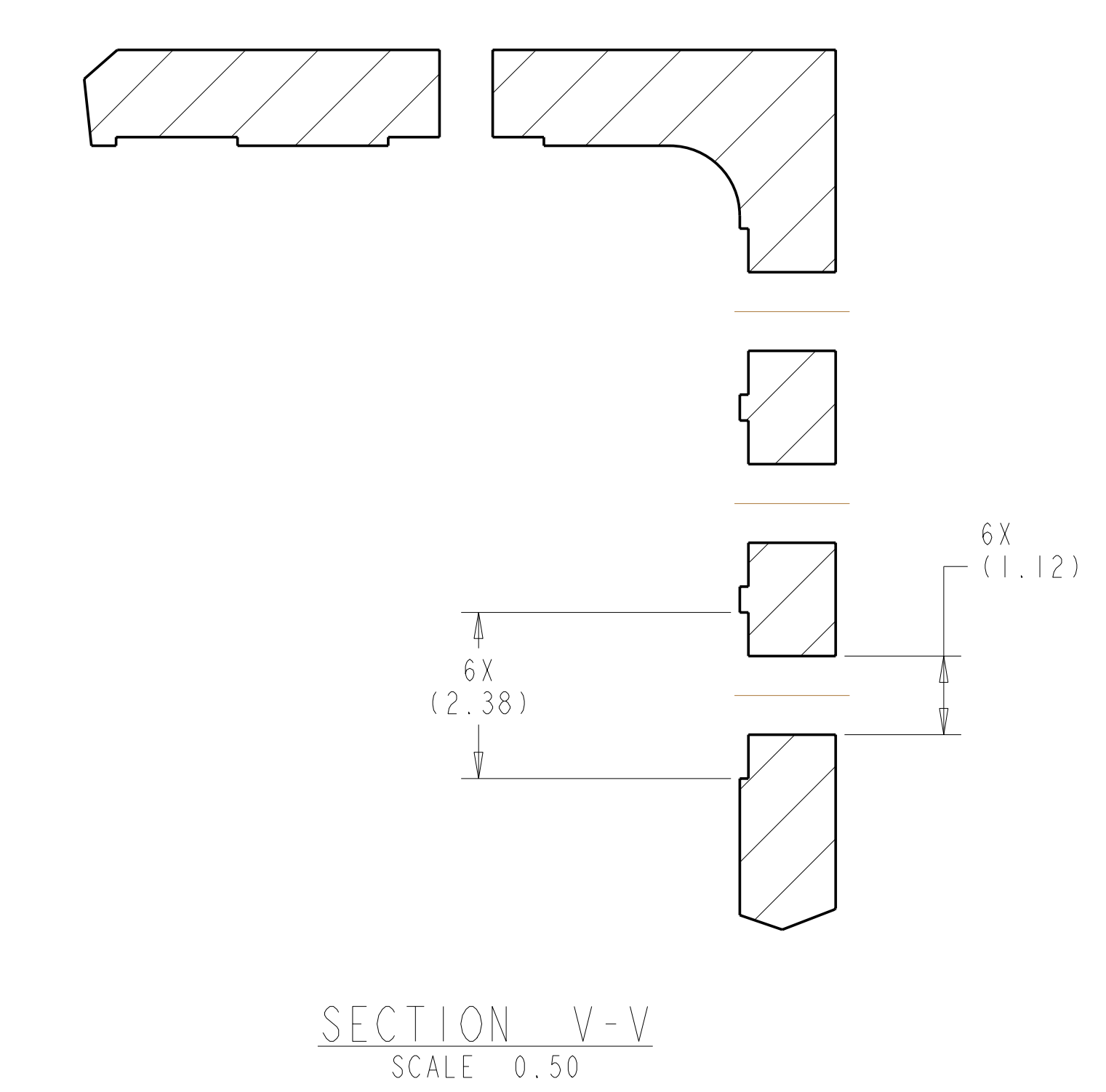
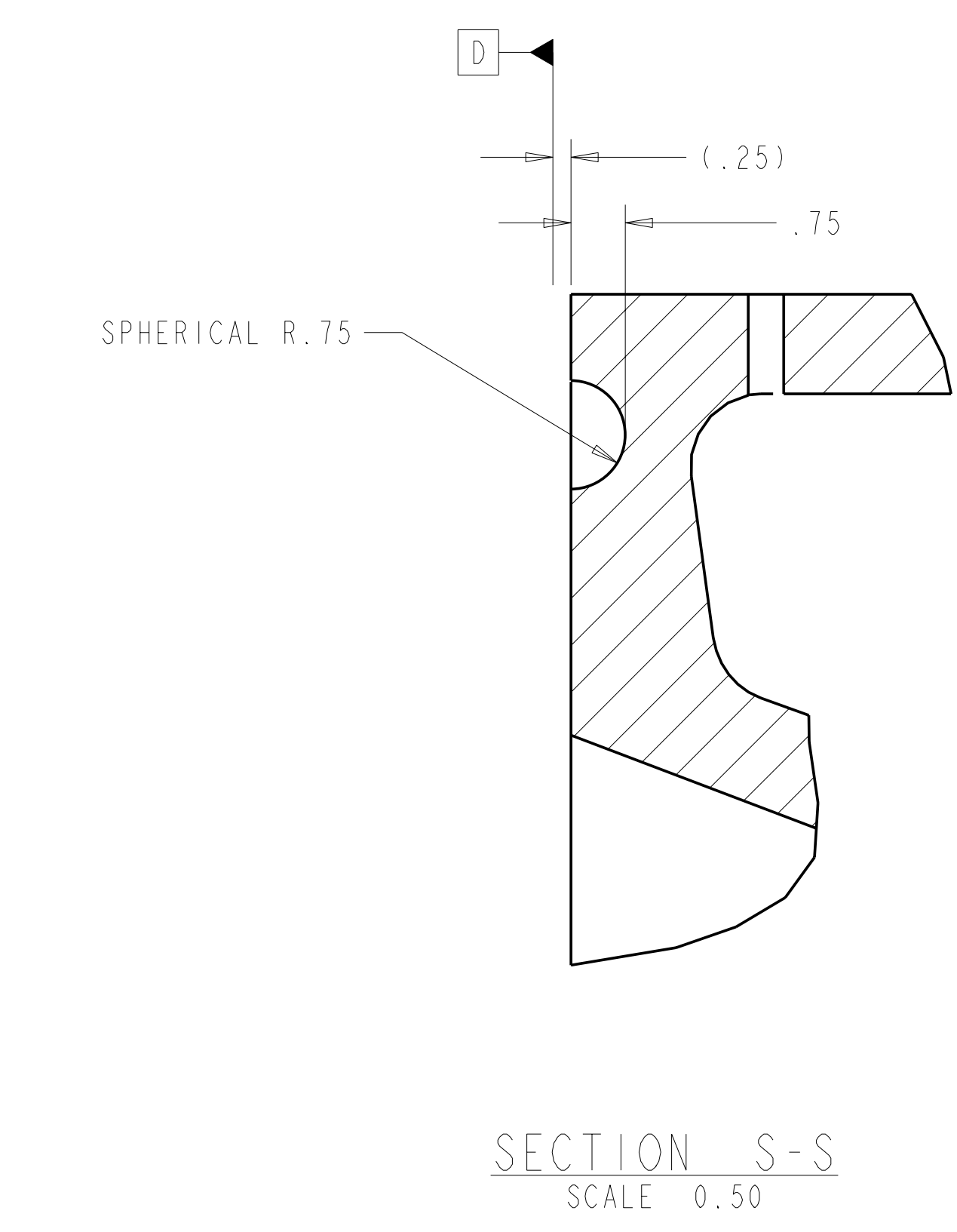
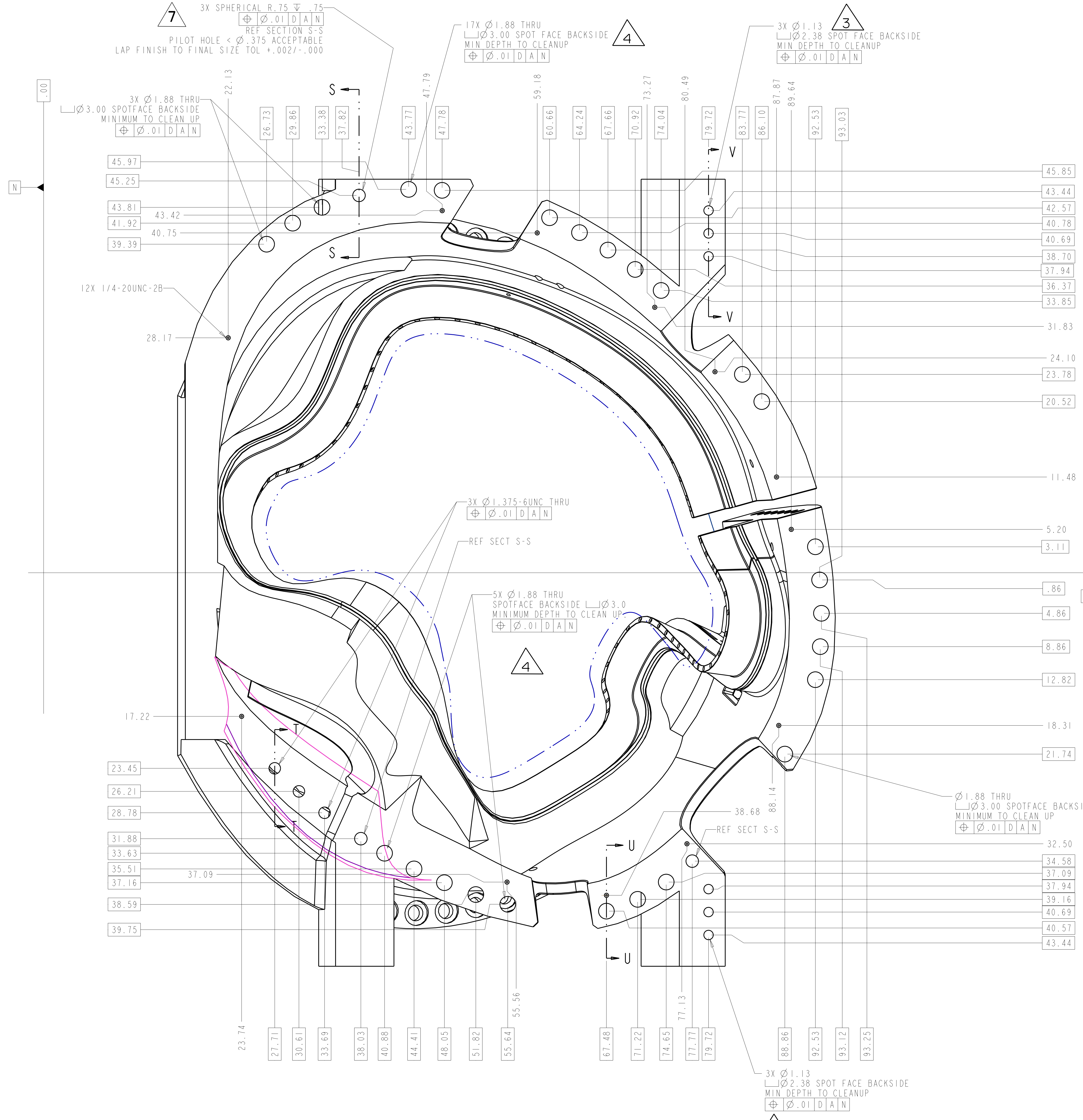
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UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT						
PRODUCTION WINDING FORM TYPE-C						
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS
11	X-10	5700	3	3	11	S U
RELEASE LEVEL	SEI41-116					REV
Fabrication						7

SEI41-116

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FOR NOTES AND PARTS LIST SEE SHEET 1



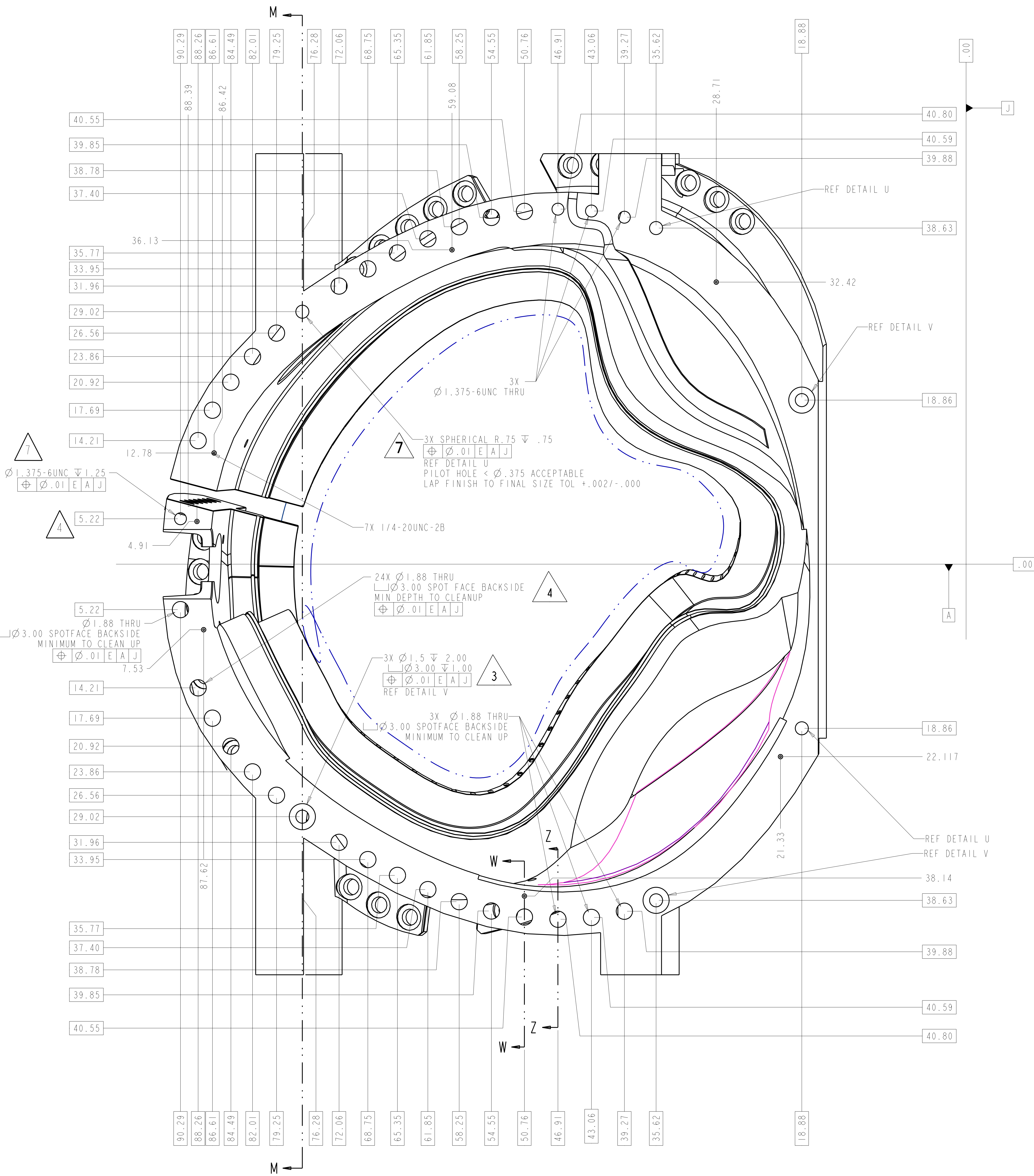
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UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
11	X-10	5700	3	4	11	S	U
RELEASE LEVEL		SEI41-116				REV 7	
Fabrication							

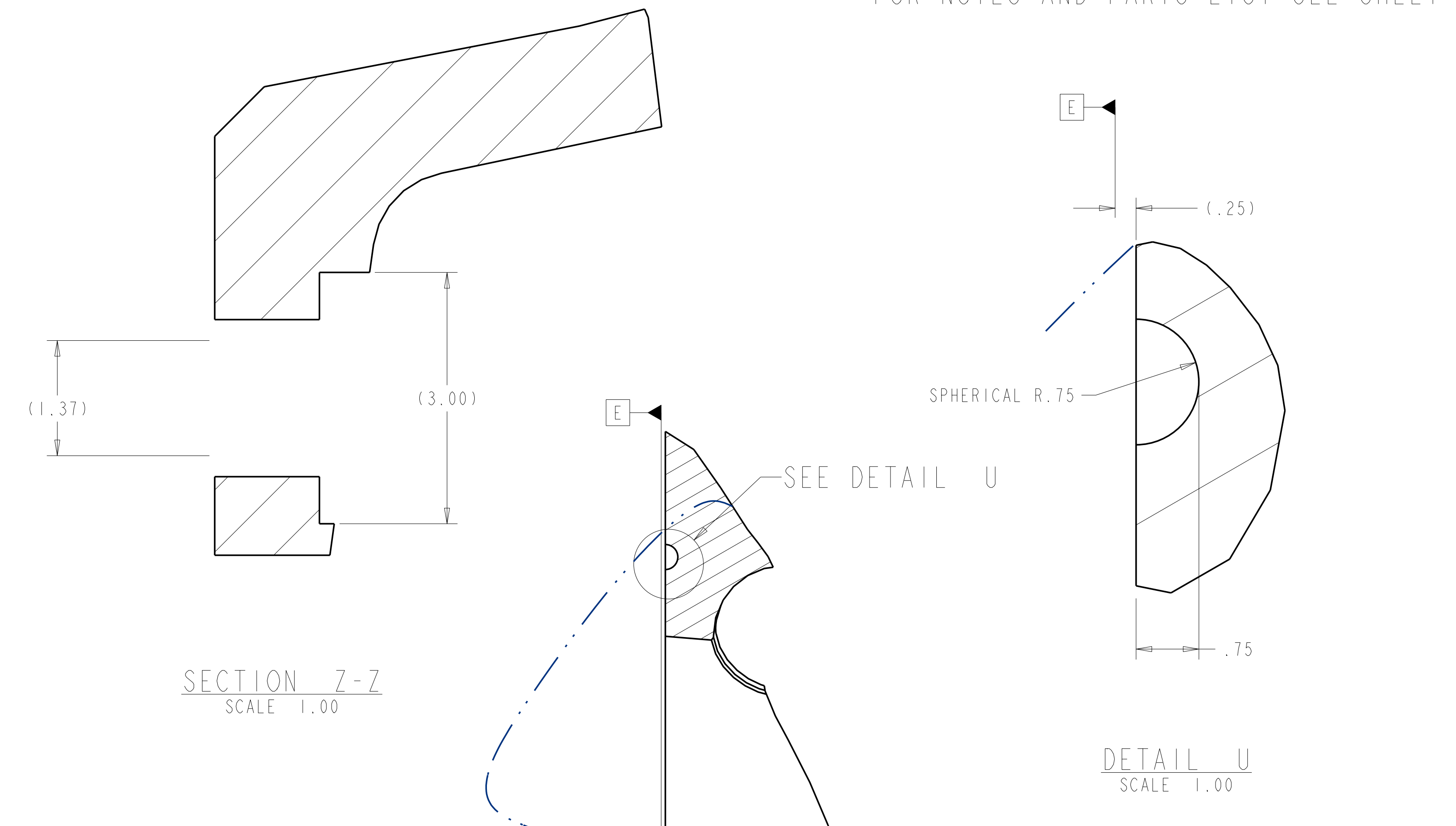
H G F E D C B A

H G F E D C B A

FOR NOTES AND PARTS LIST SEE SHEET 1

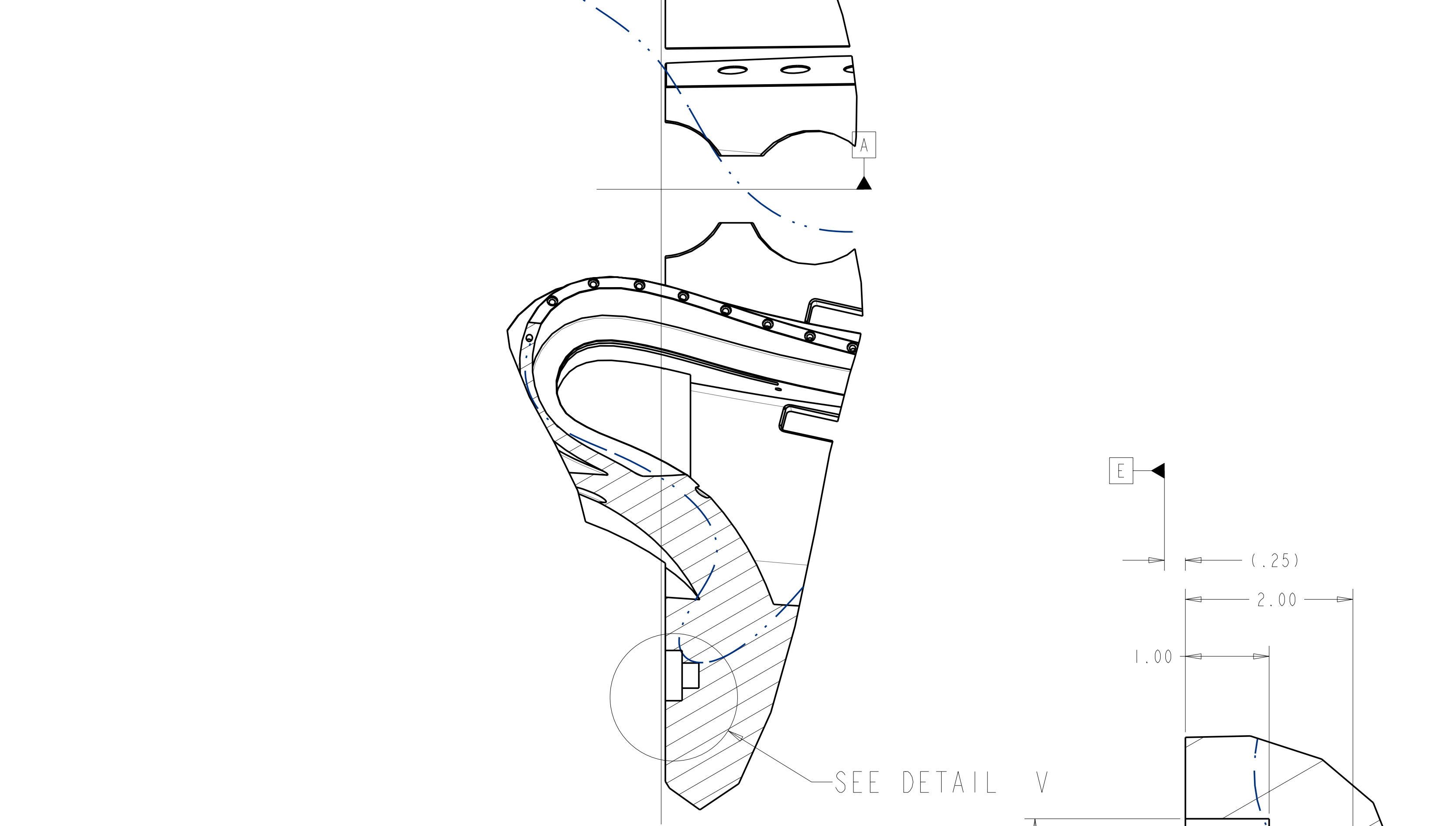


VIEW AT DATUM E
SCALE 0.20



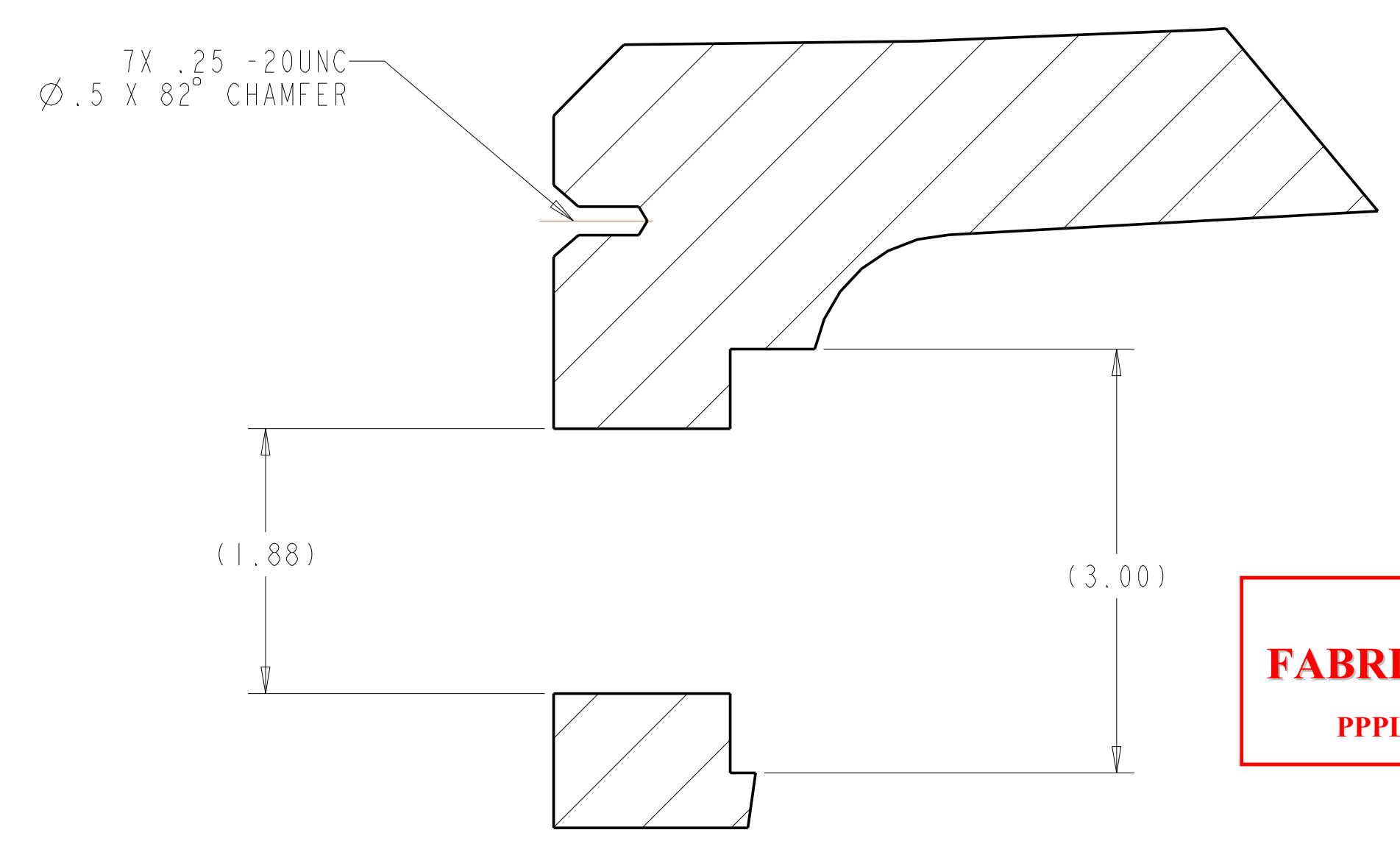
SECTION 7-7
SCALE 1.00

DETAIL U
SCALE 1.00



SECTION M-M

DETAIL V
SCALE 1.00



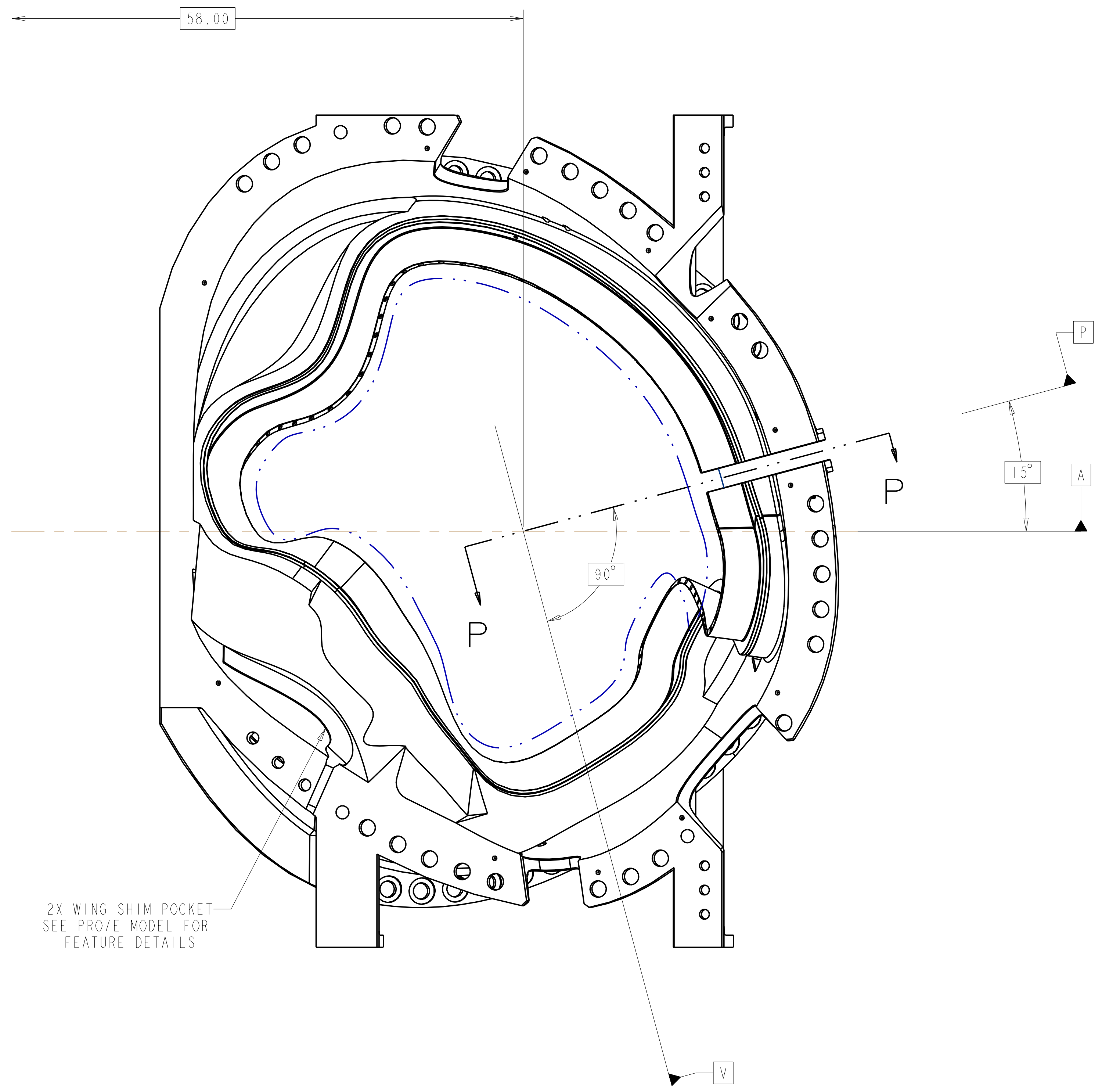
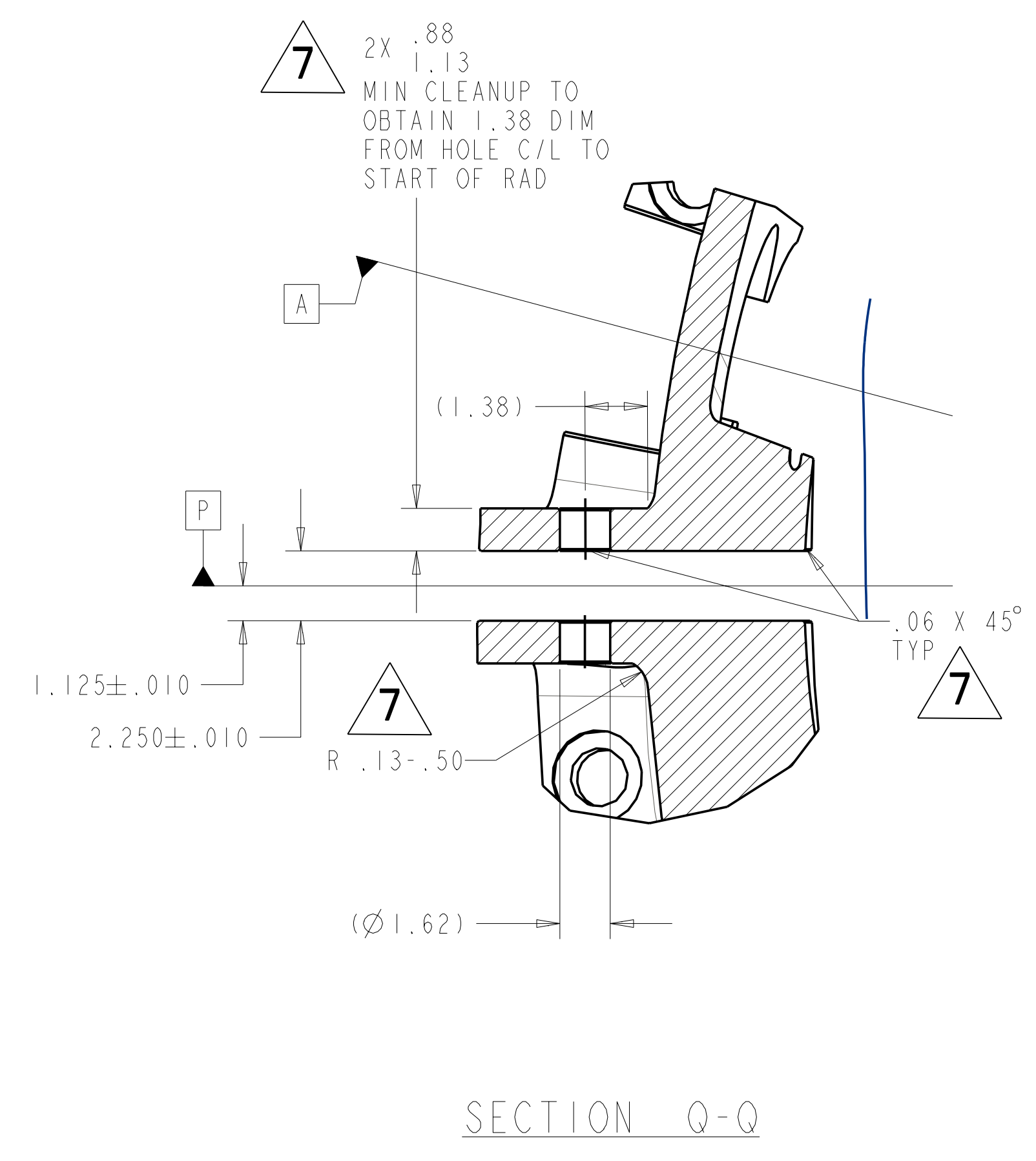
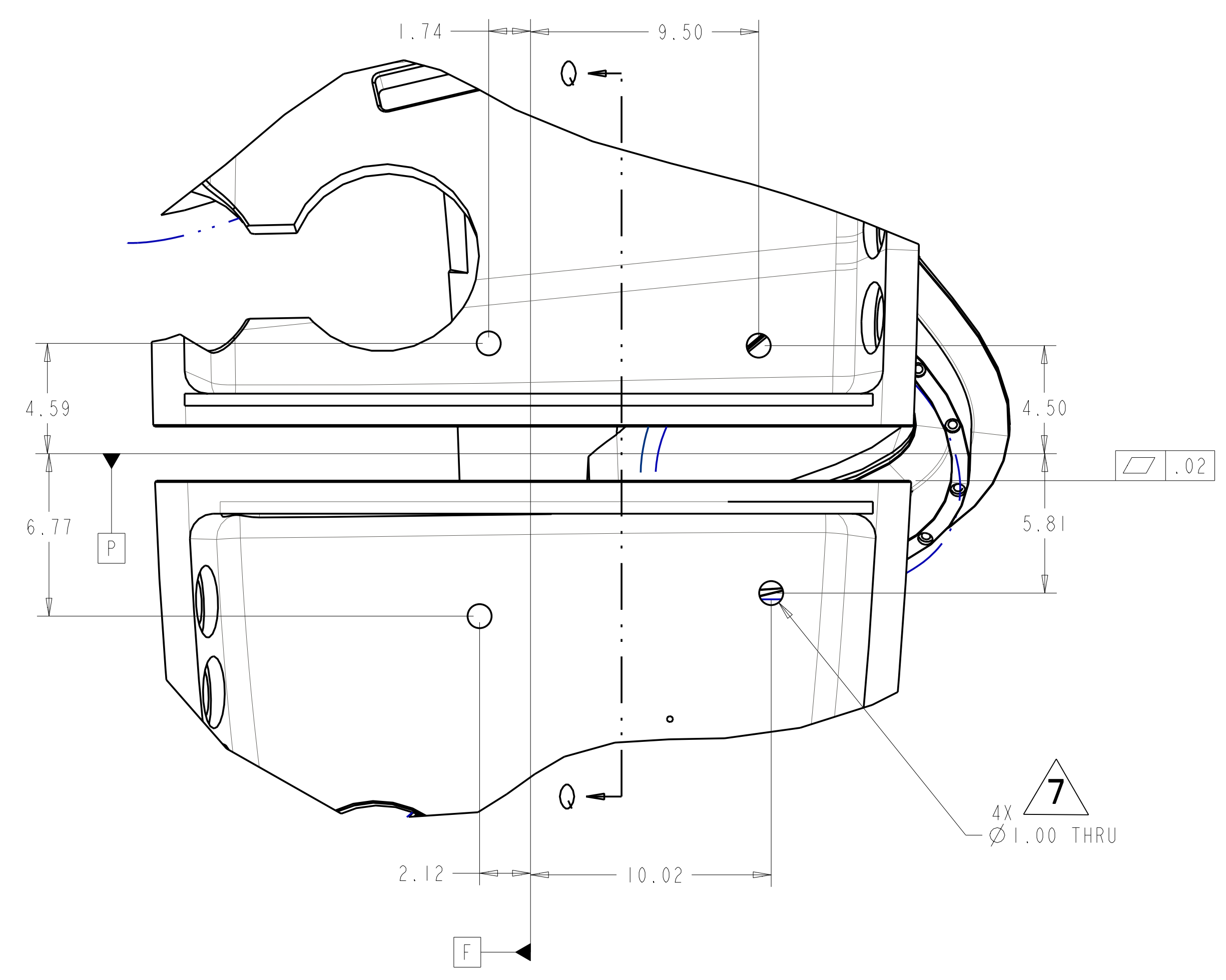
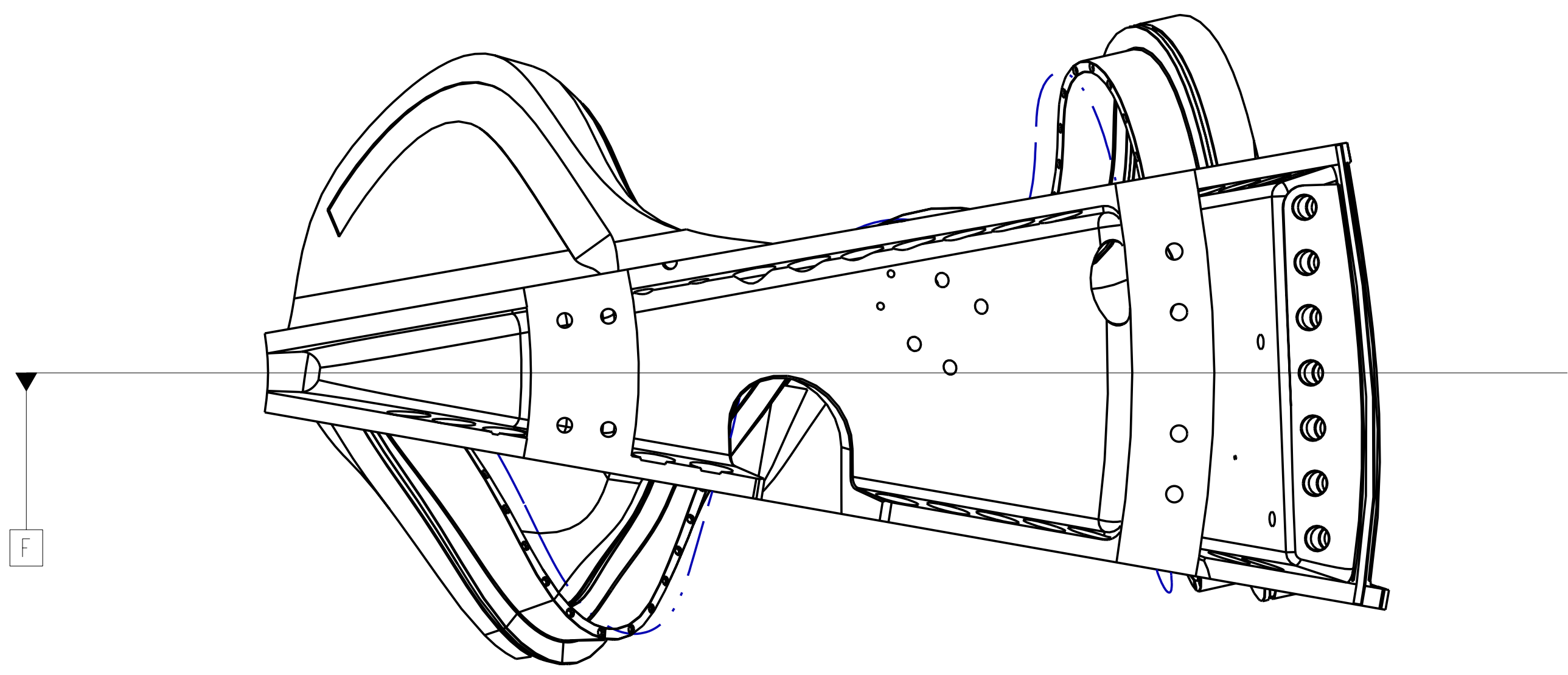
SECTION W-W
SCALE 1.00

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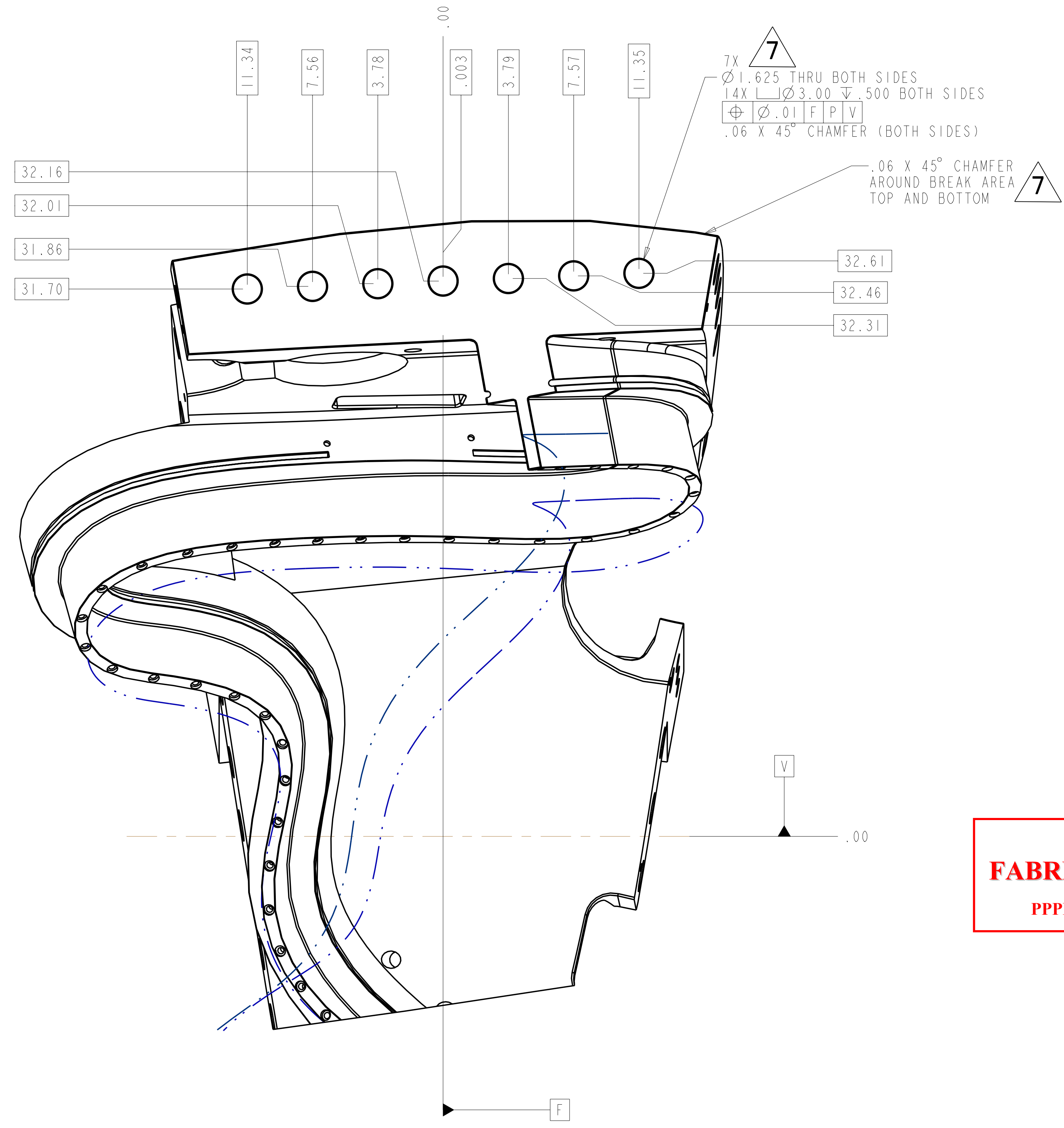
Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee PROJECT NAME:						
NATIONAL COMPACT STELLARATOR EXPERIMENT						
PRODUCTION WINDING FORM TYPE-C						
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS
11	X-10	5700	3	5	111	S
RELEASE LEVEL		SEI41-116			REV	
Fabrication					U 7	

SEI41-116

FOR NOTES AND PARTS LIST SEE SHEET 1



POLOIDAL BREAK DETAIL



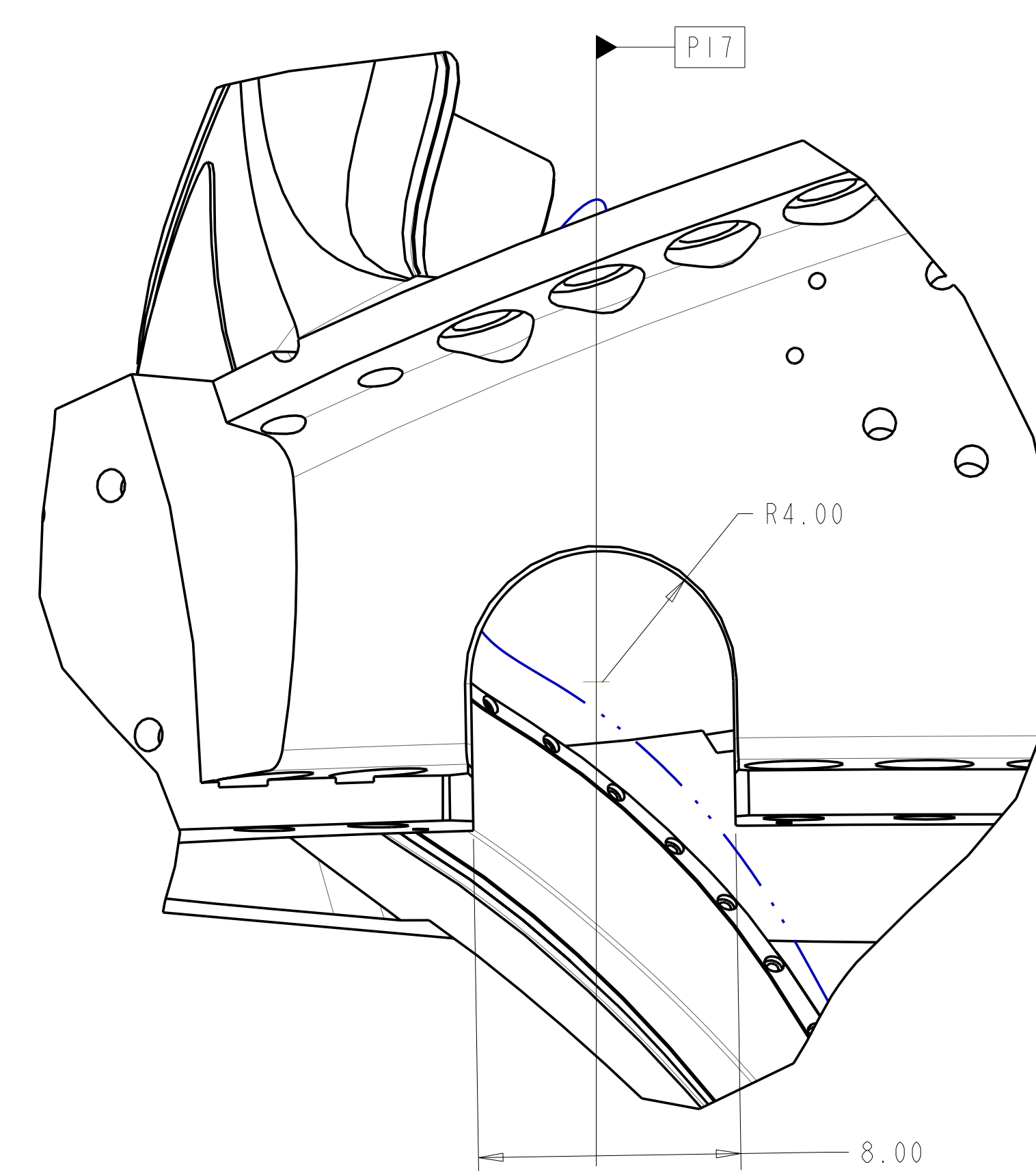
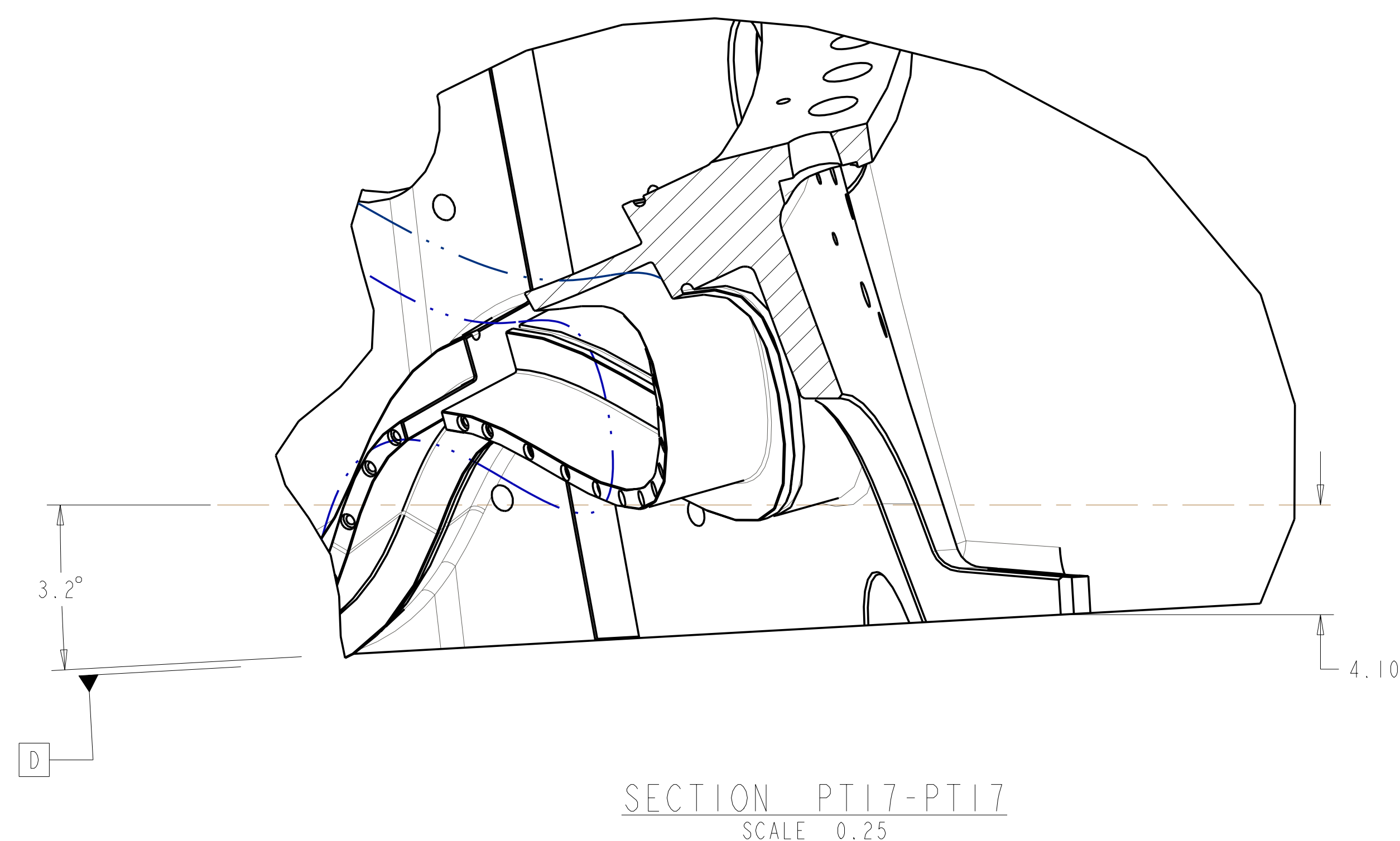
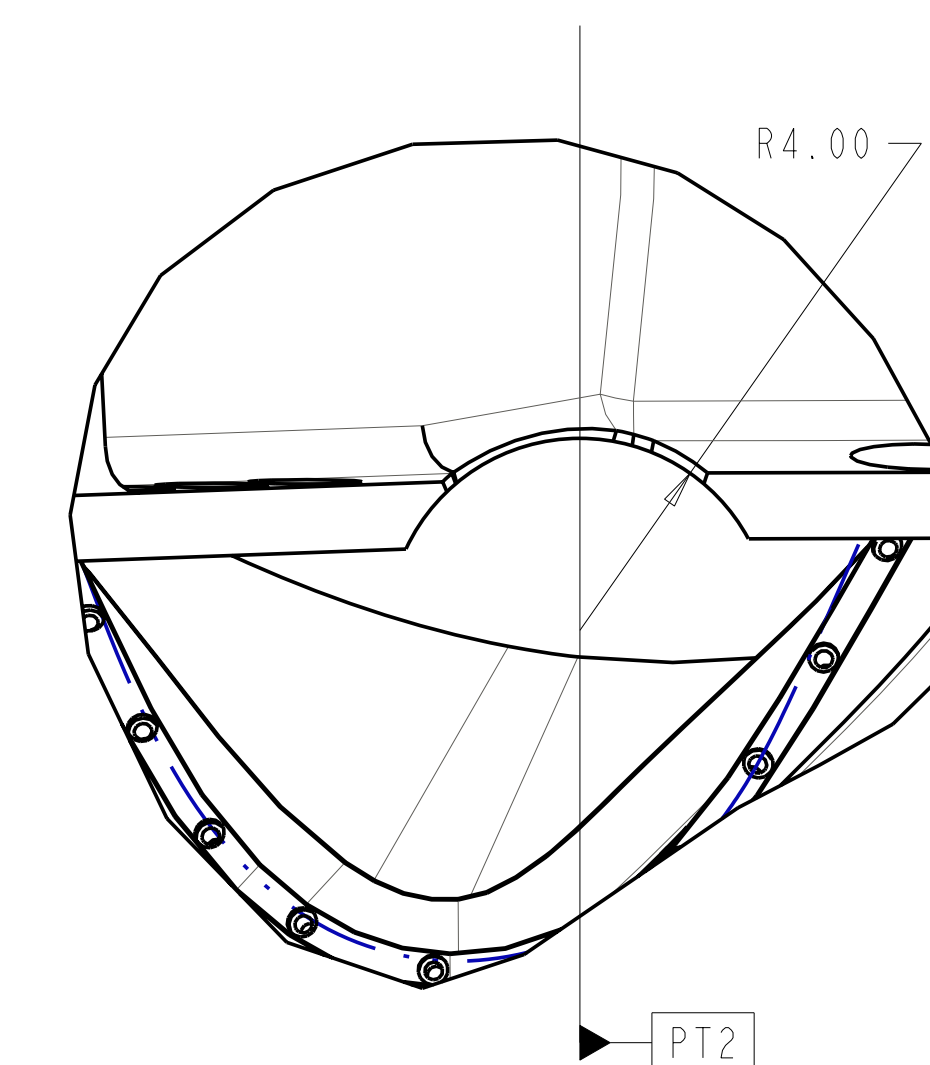
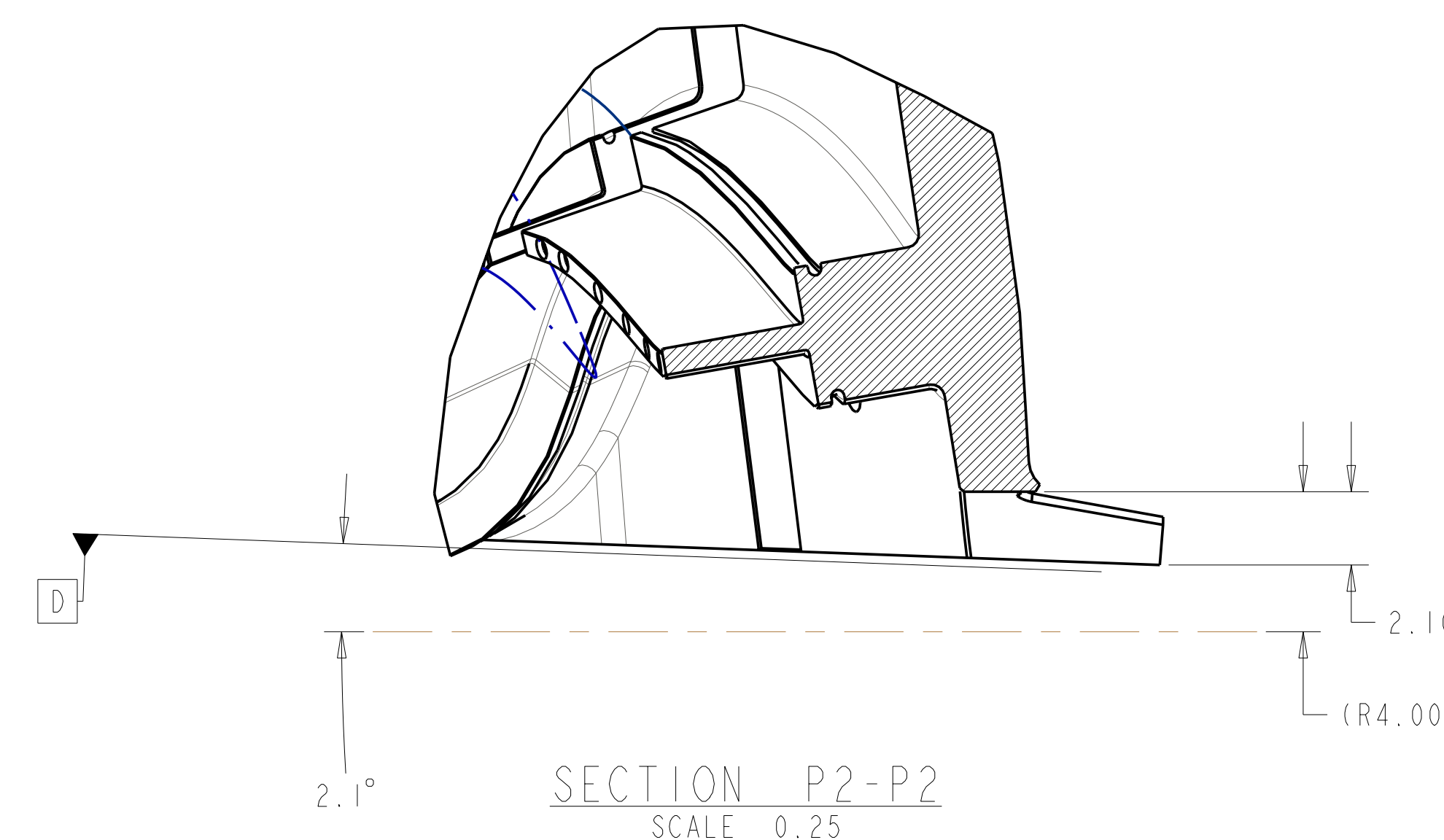
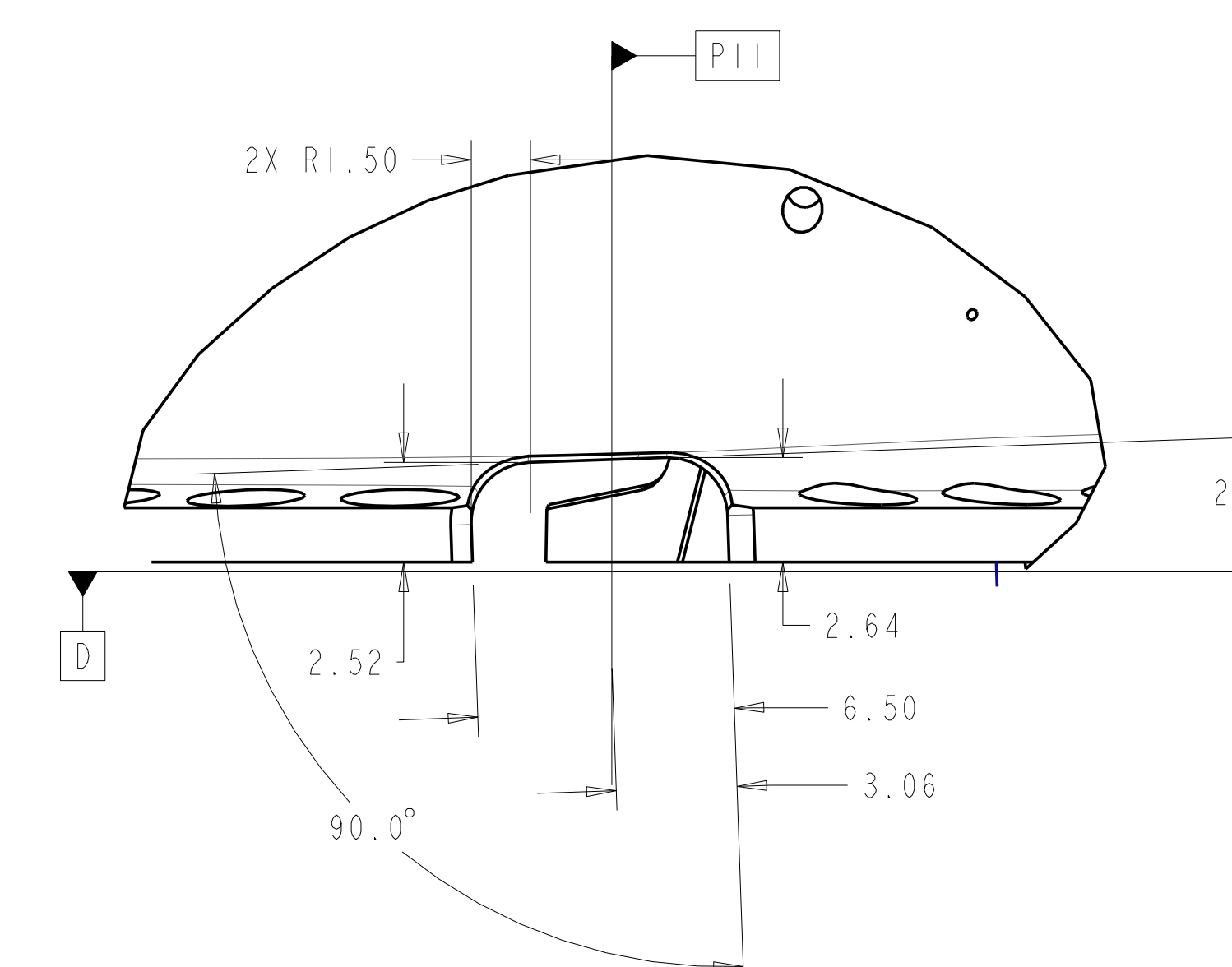
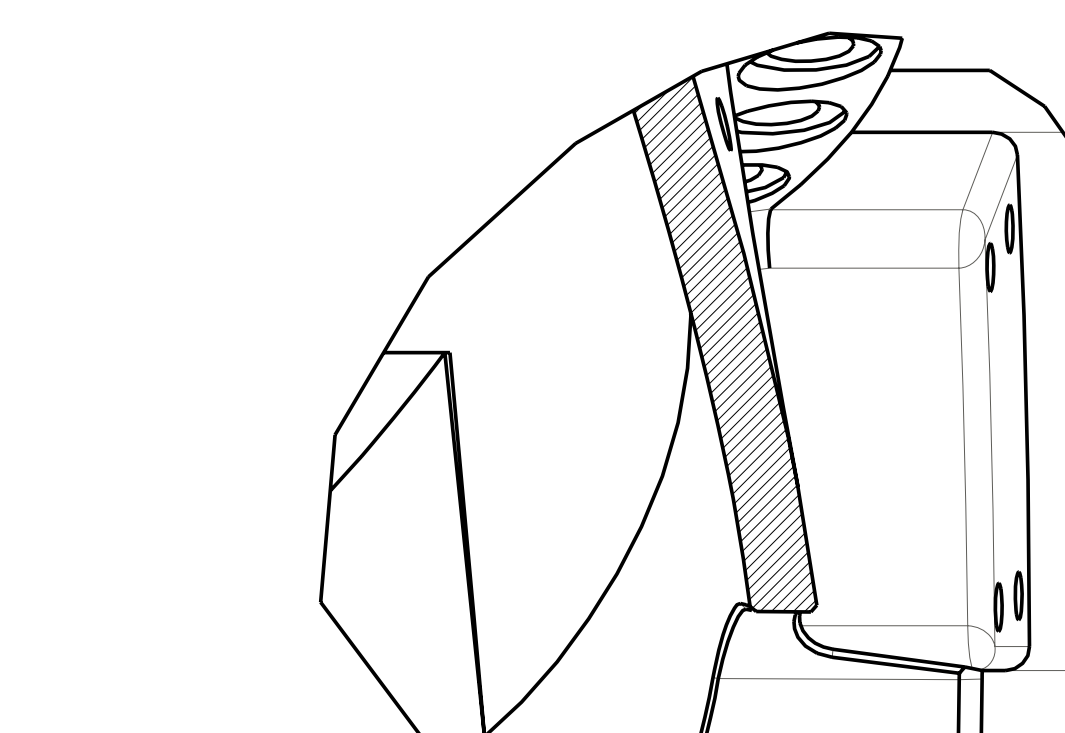
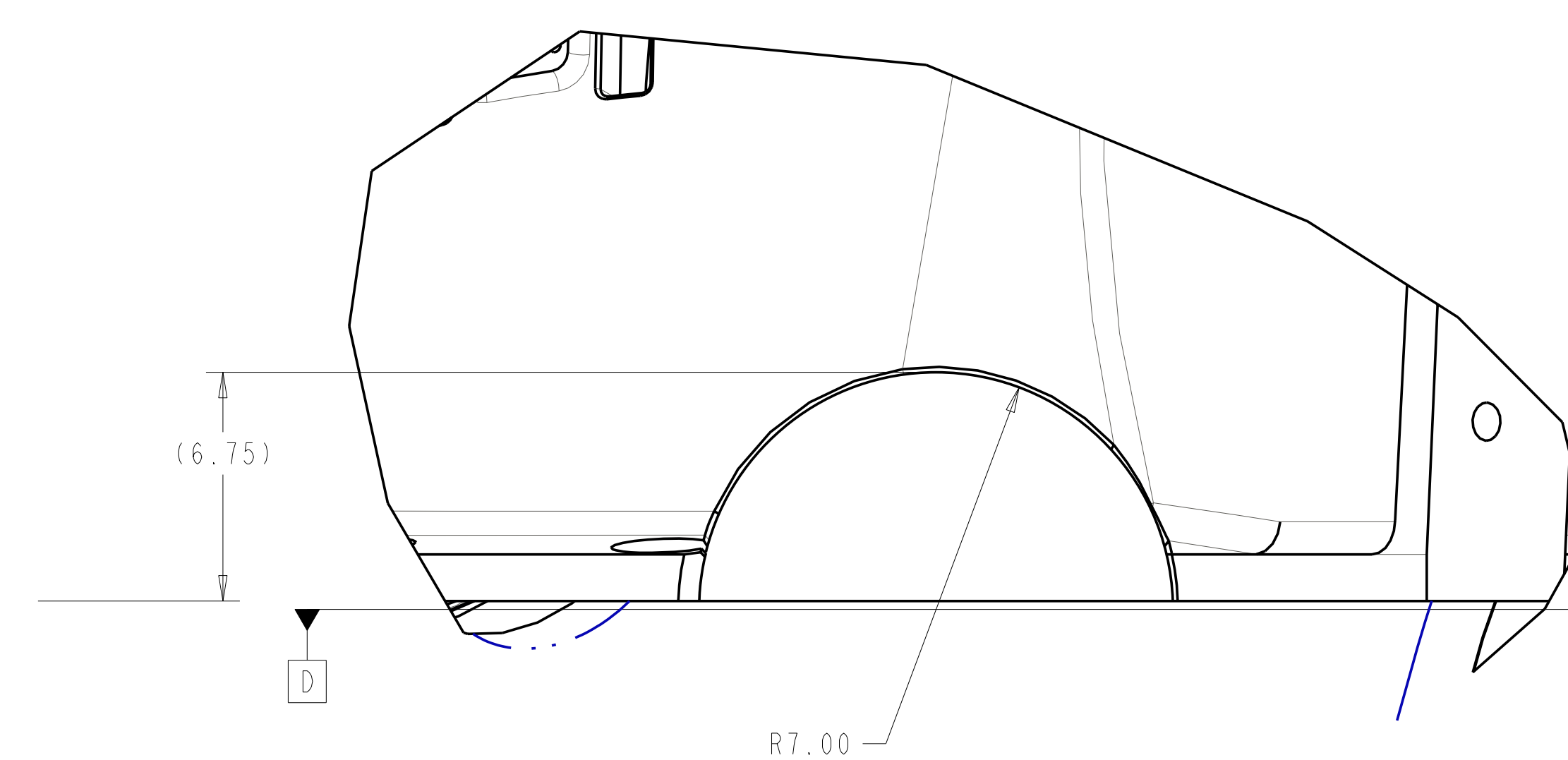
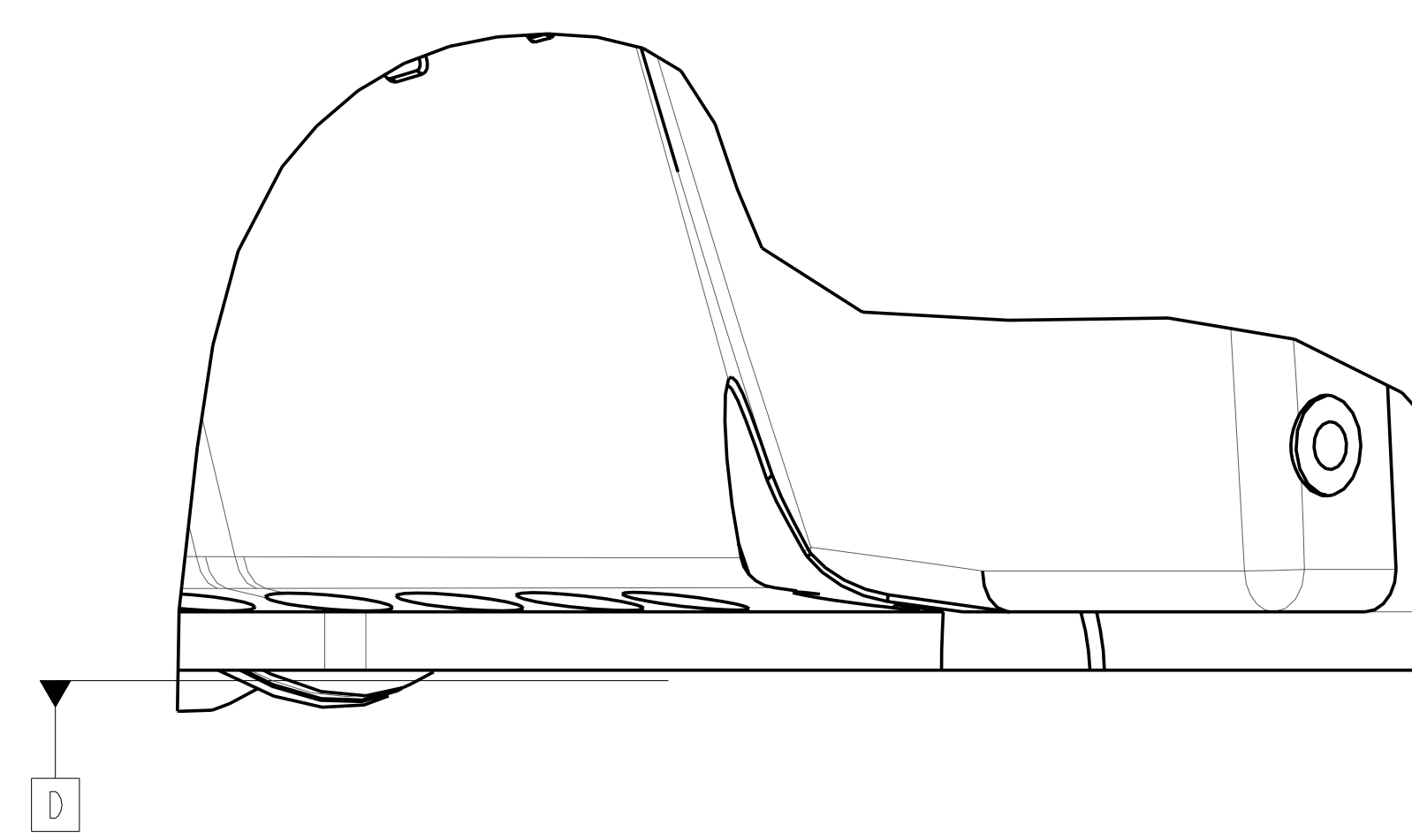
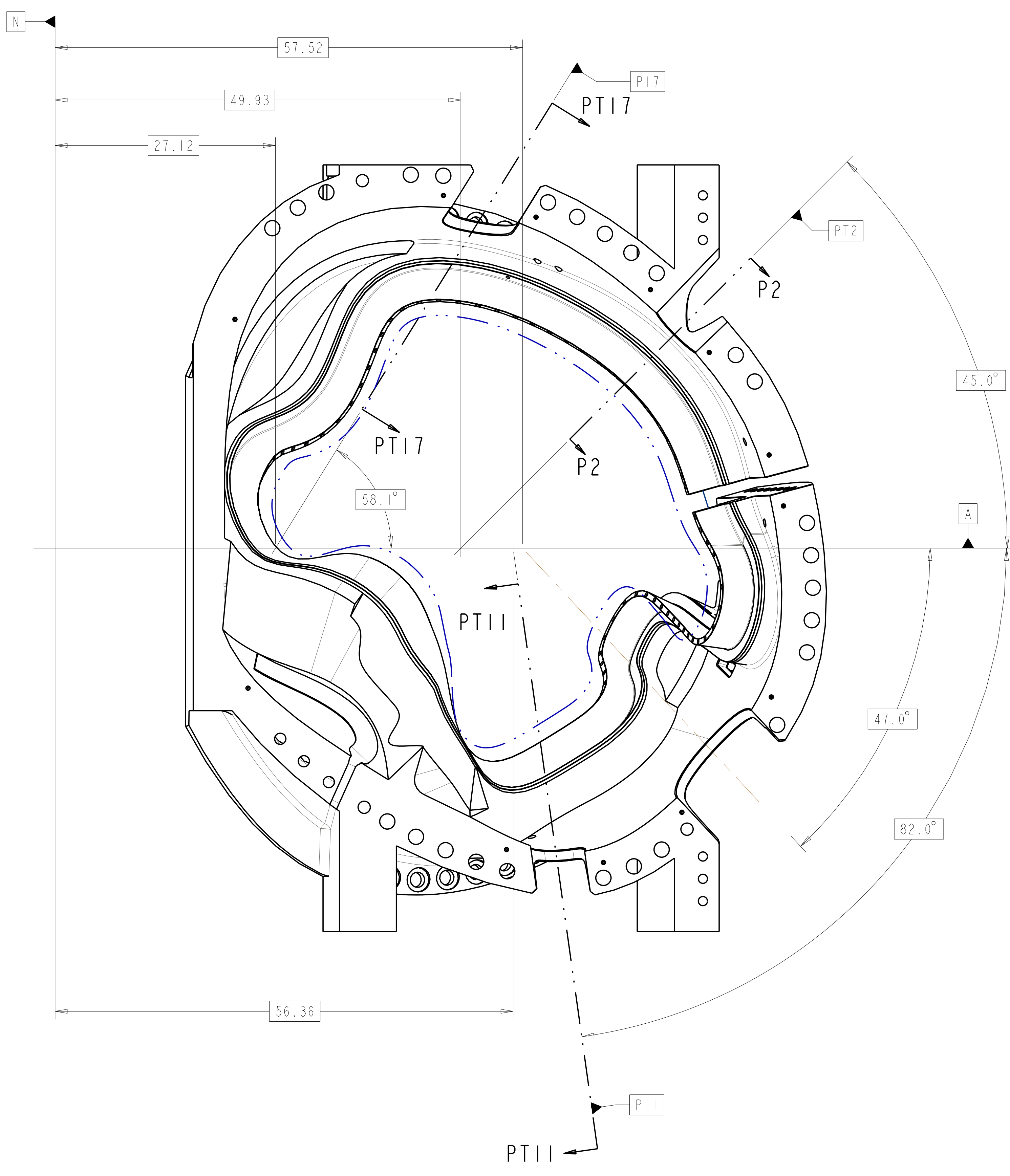
SECTION P-P
 SCALE 0.25

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UT-BATTELLE							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
11	X-10	5700	3	6	11	S	U
RELEASE LEVEL	SEI41-116						REV
Fabrication							7

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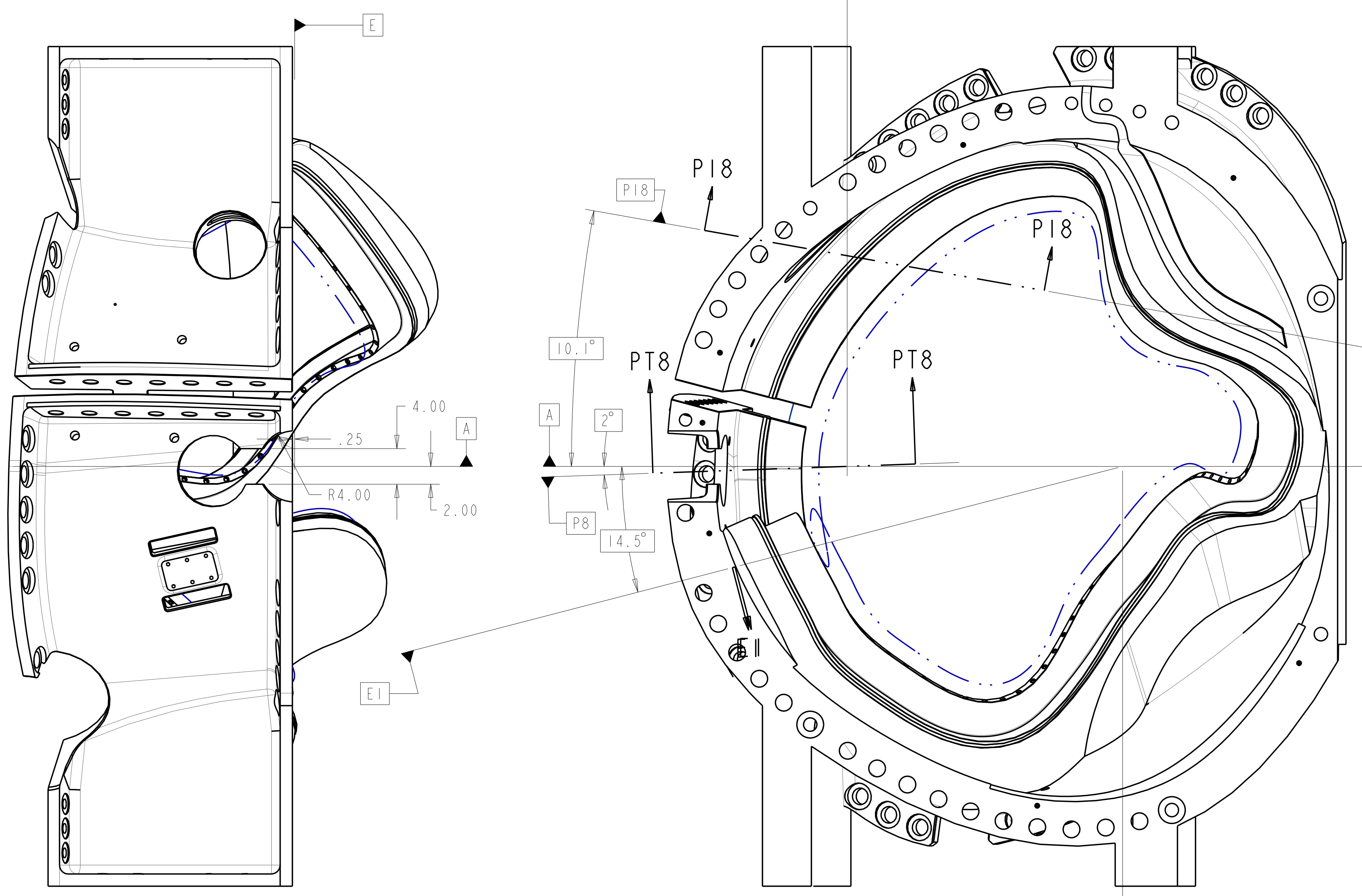
FOR NOTES AND PARTS LIST SEE SHEET 1



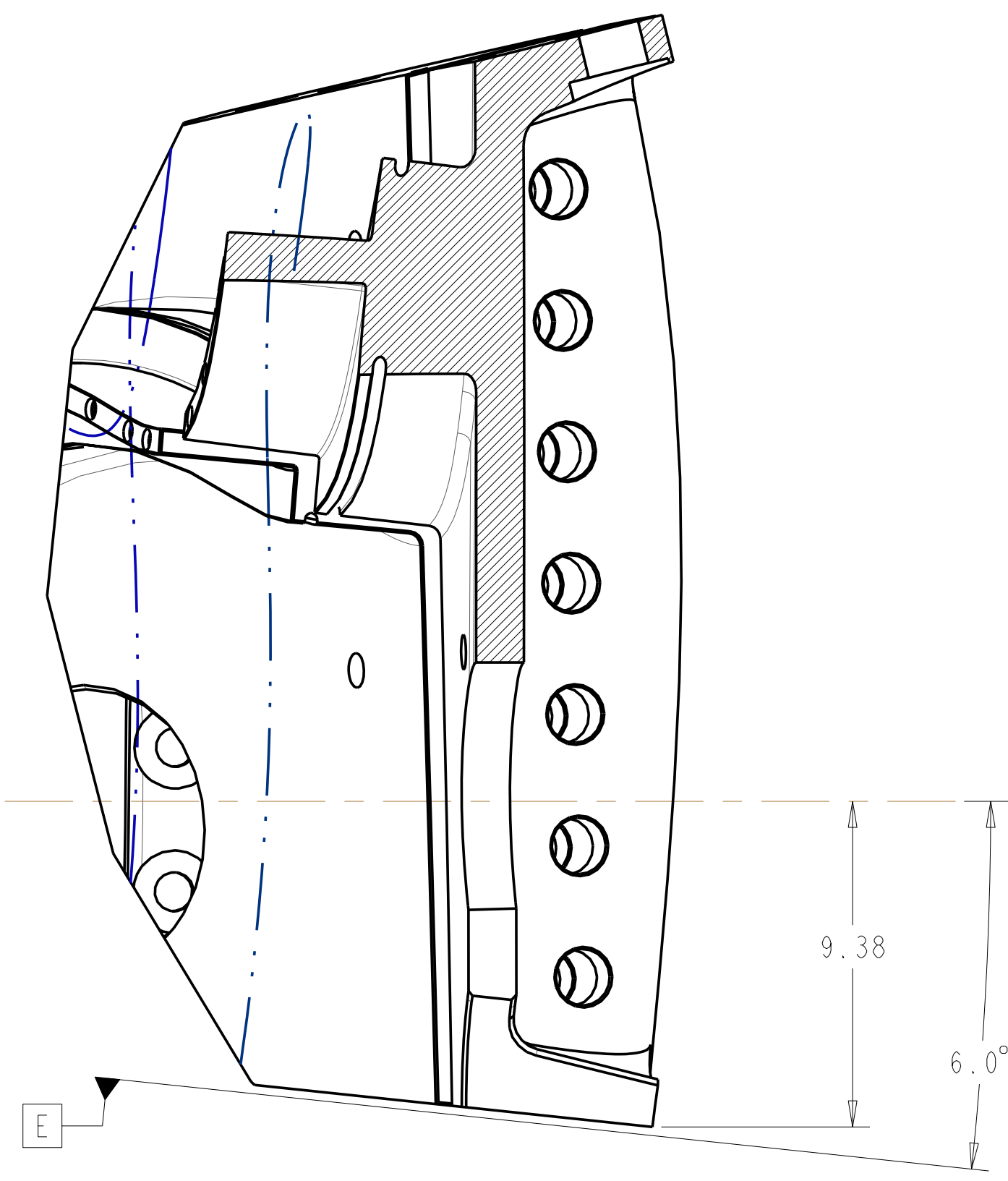
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UT-BATTELLE						
NATIONAL COMPACT STELLARATOR EXPERIMENT						
PRODUCTION WINDING FORM TYPE-C						
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS
11	X-10	5700	3	7	111	S
RELEASE LEVEL						REV
Fabrication	SEI41-116					7

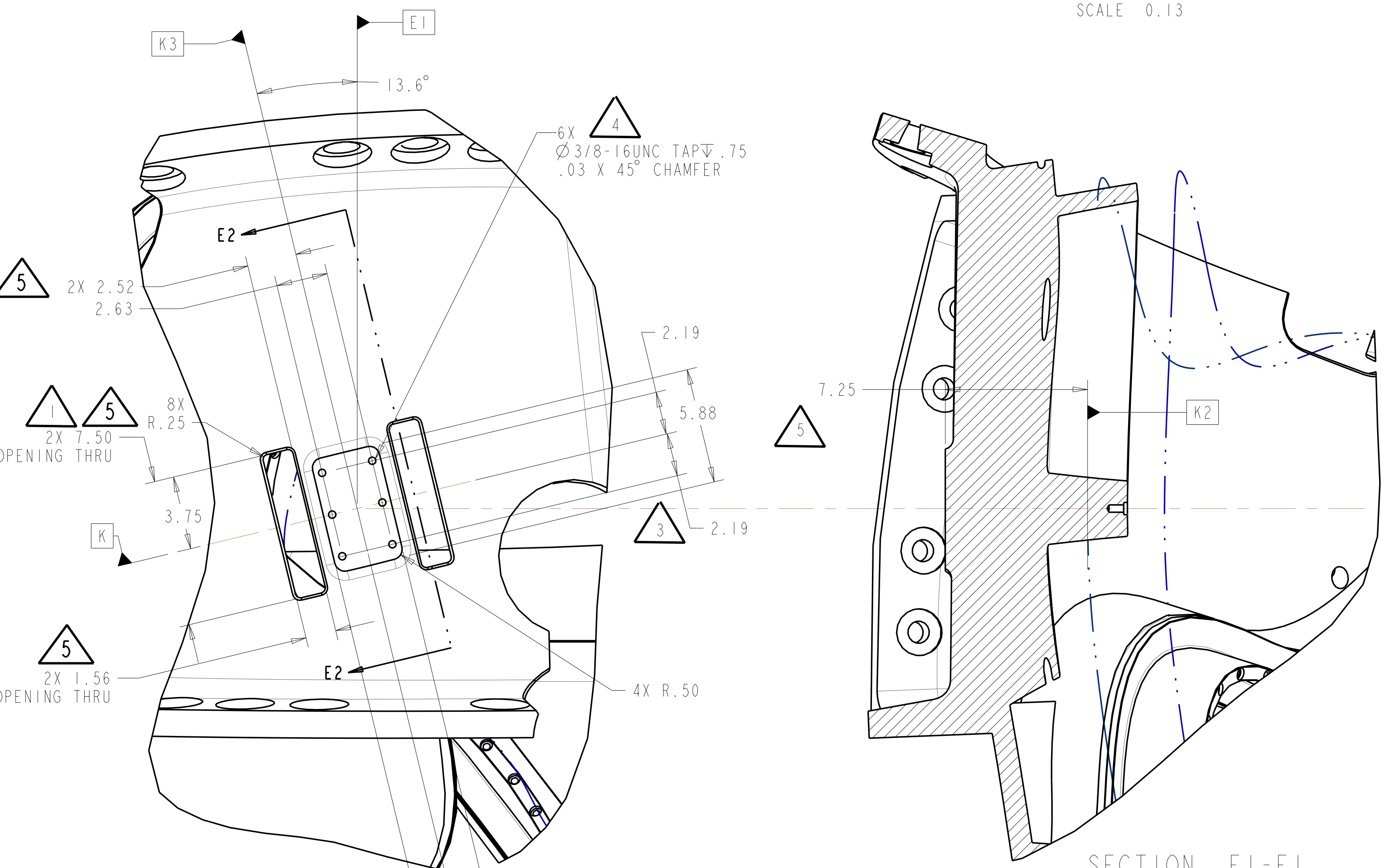
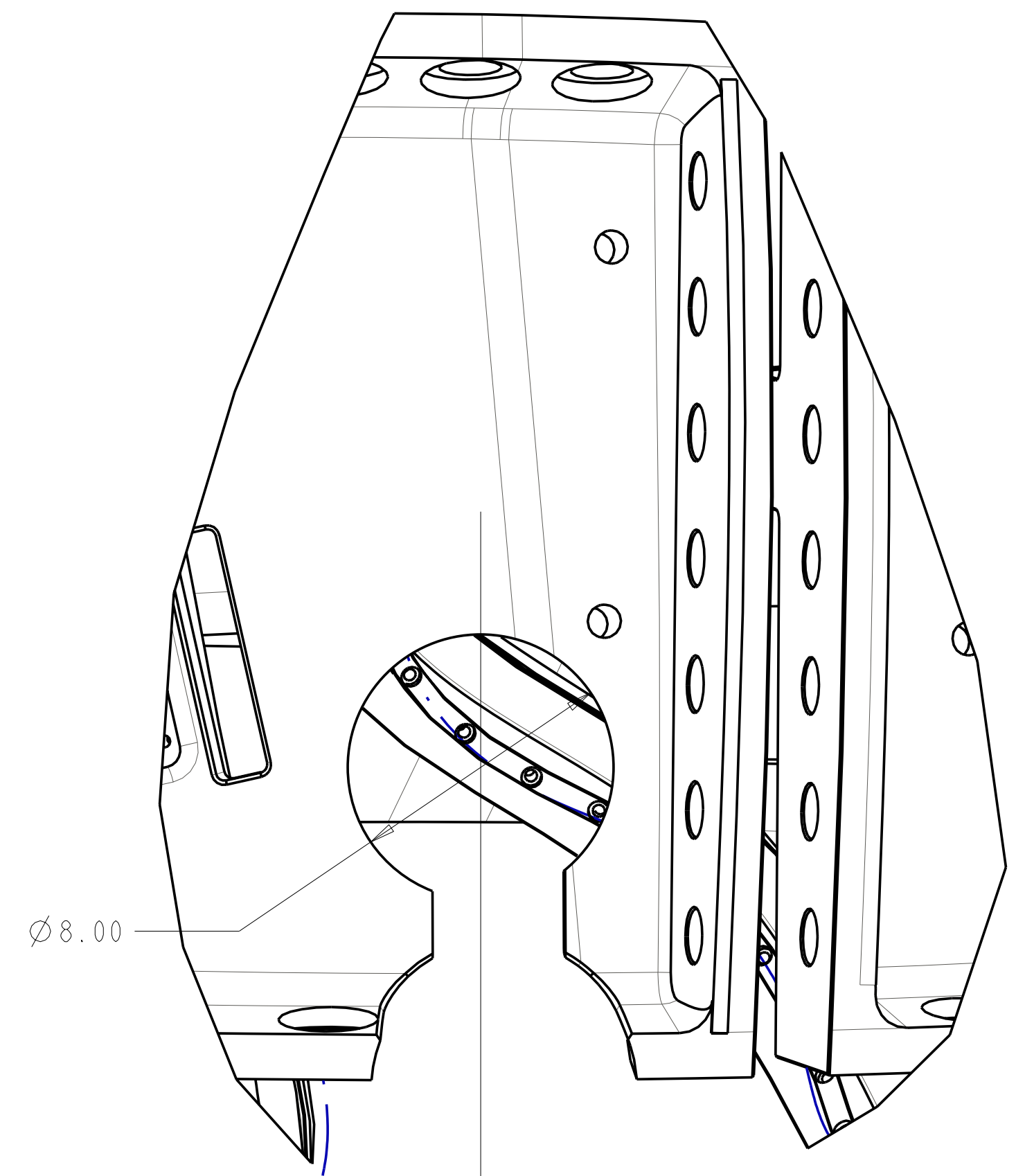
FOR NOTES AND PARTS LIST SEE SHEET 1



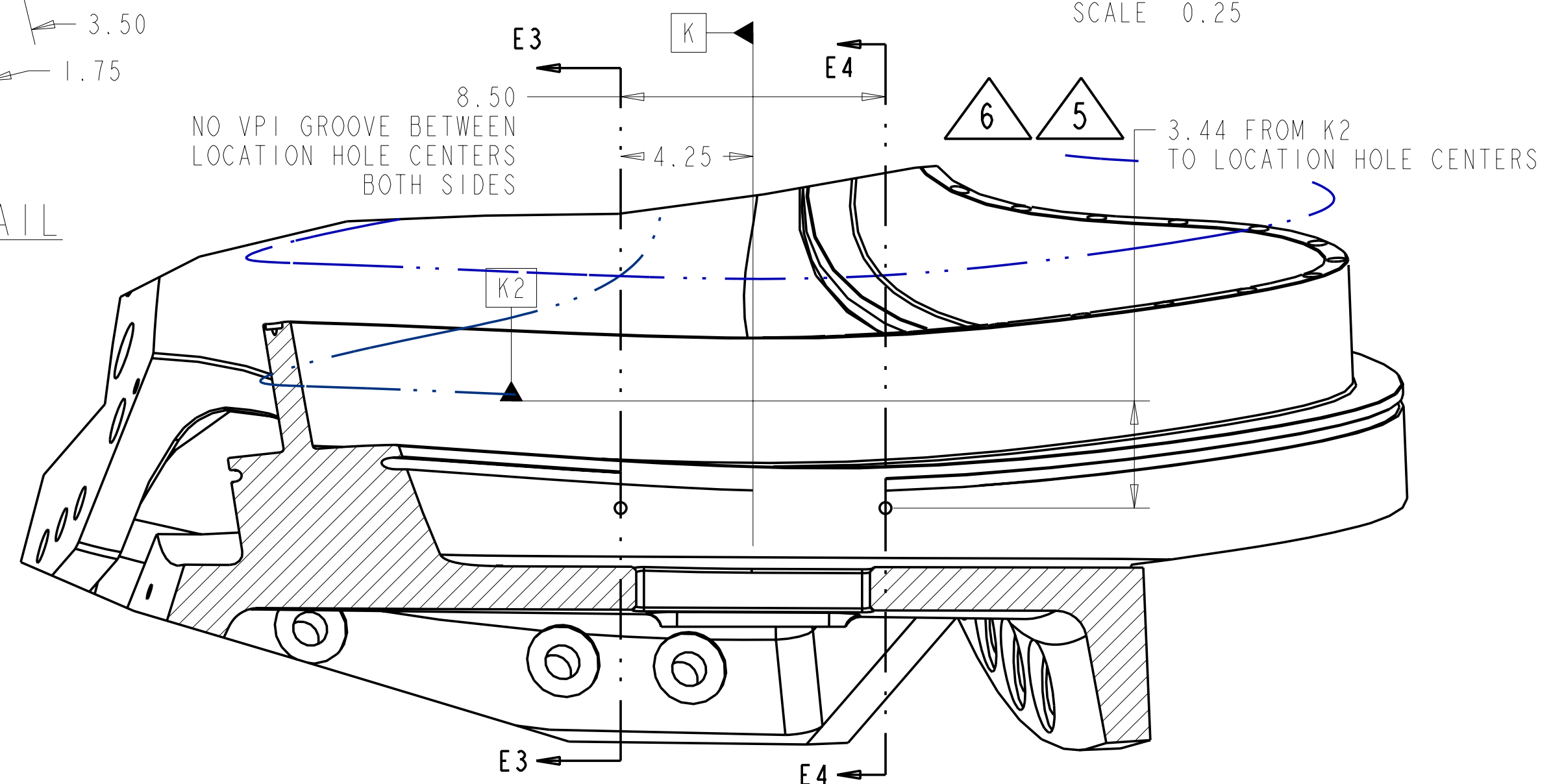
VIEW AT DATUM E
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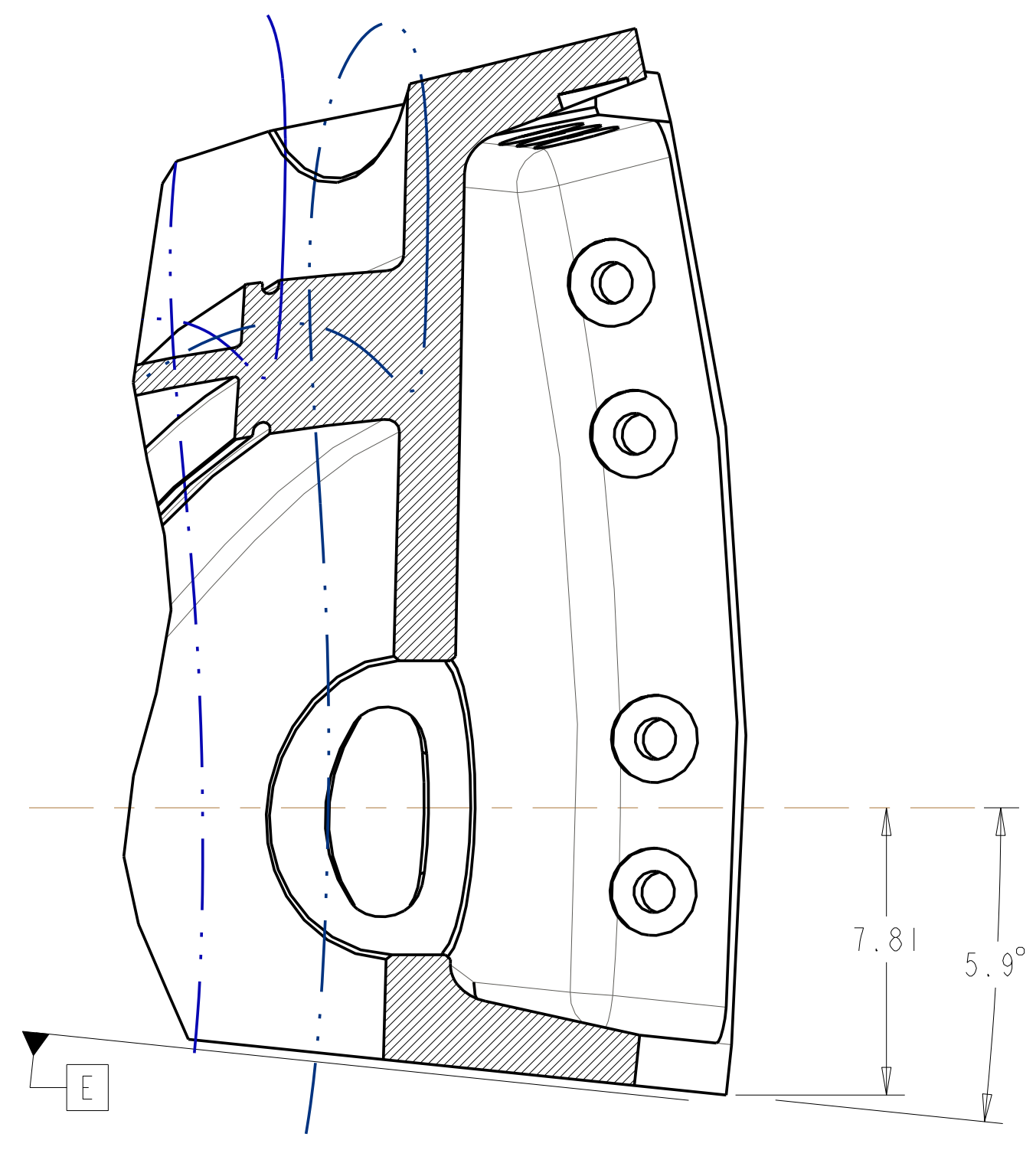
SECTION PT8-PT8
 SCALE 0.25



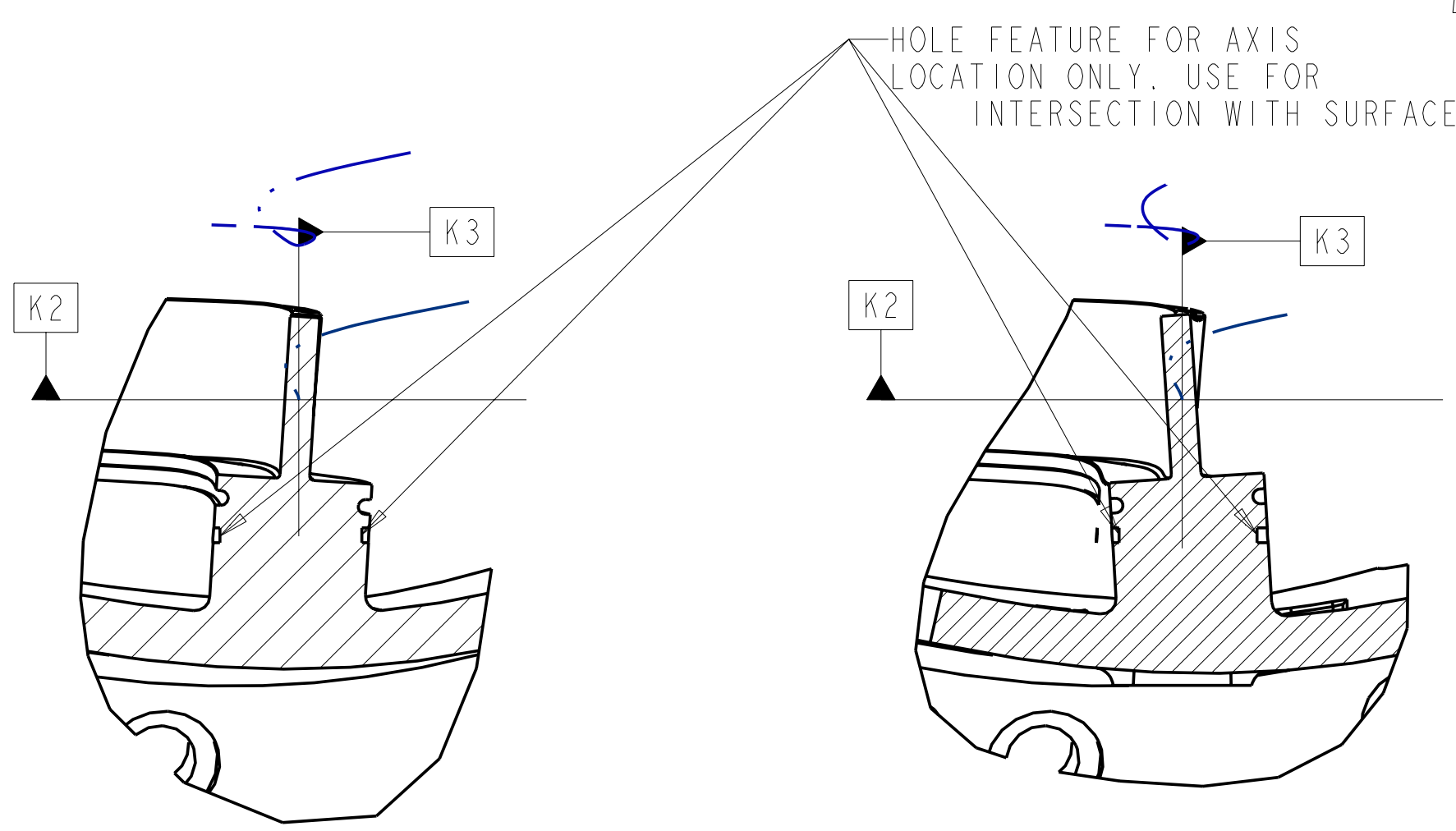
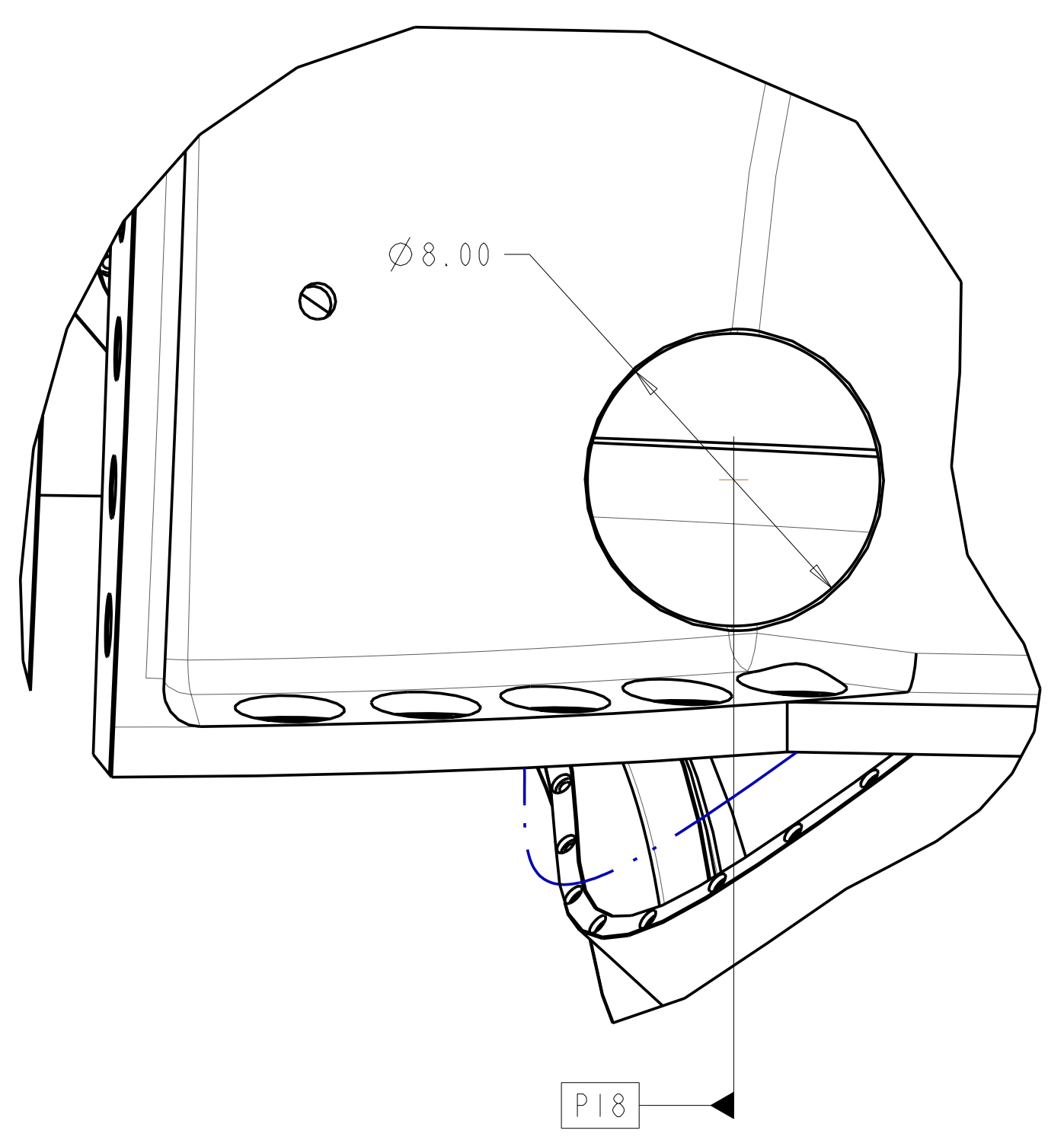
SECTION E1-E1
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SECTION E2-E2
 SCALE 0.250



SECTION P18-P18
 SCALE 0.25



SECTION E3-E3

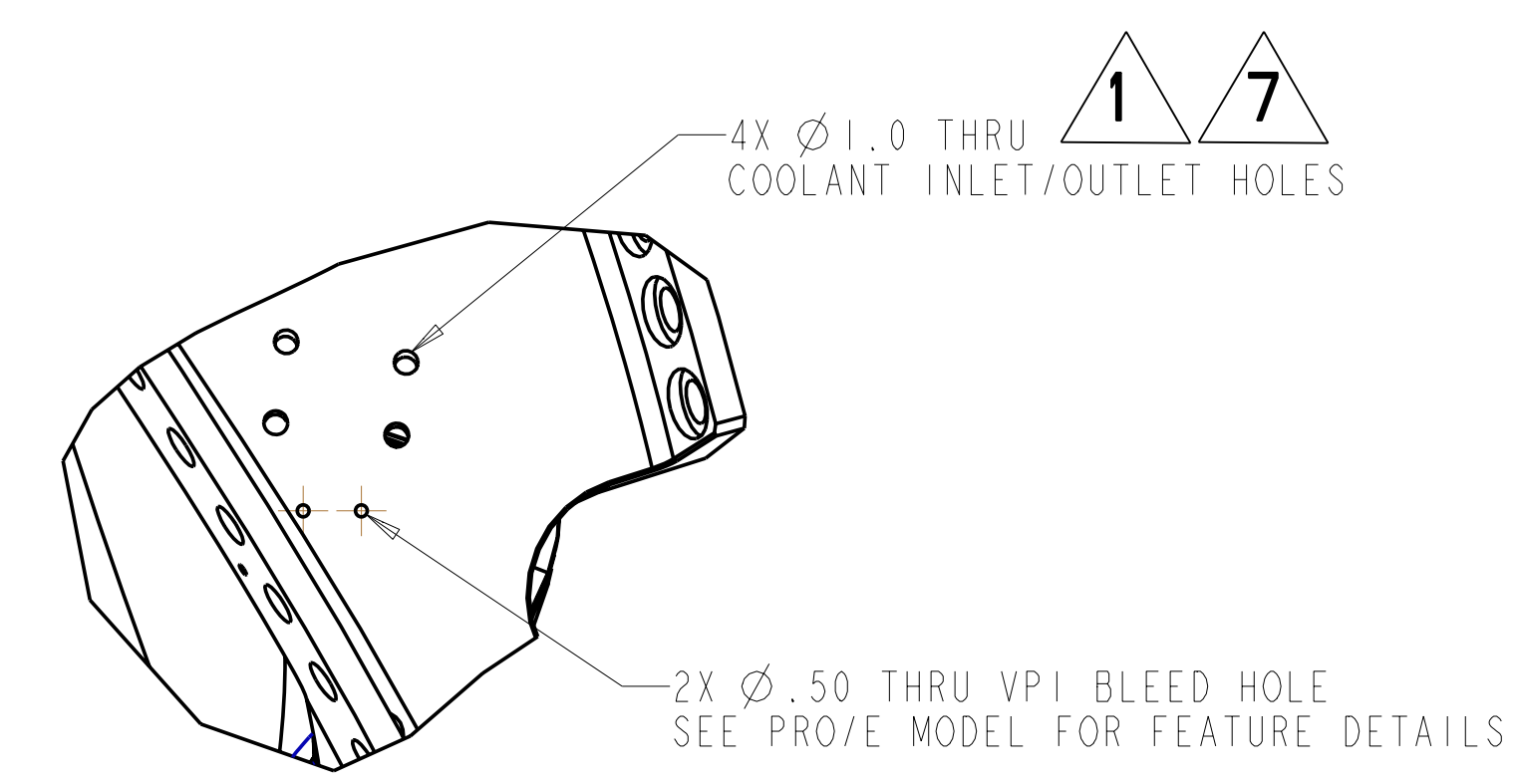
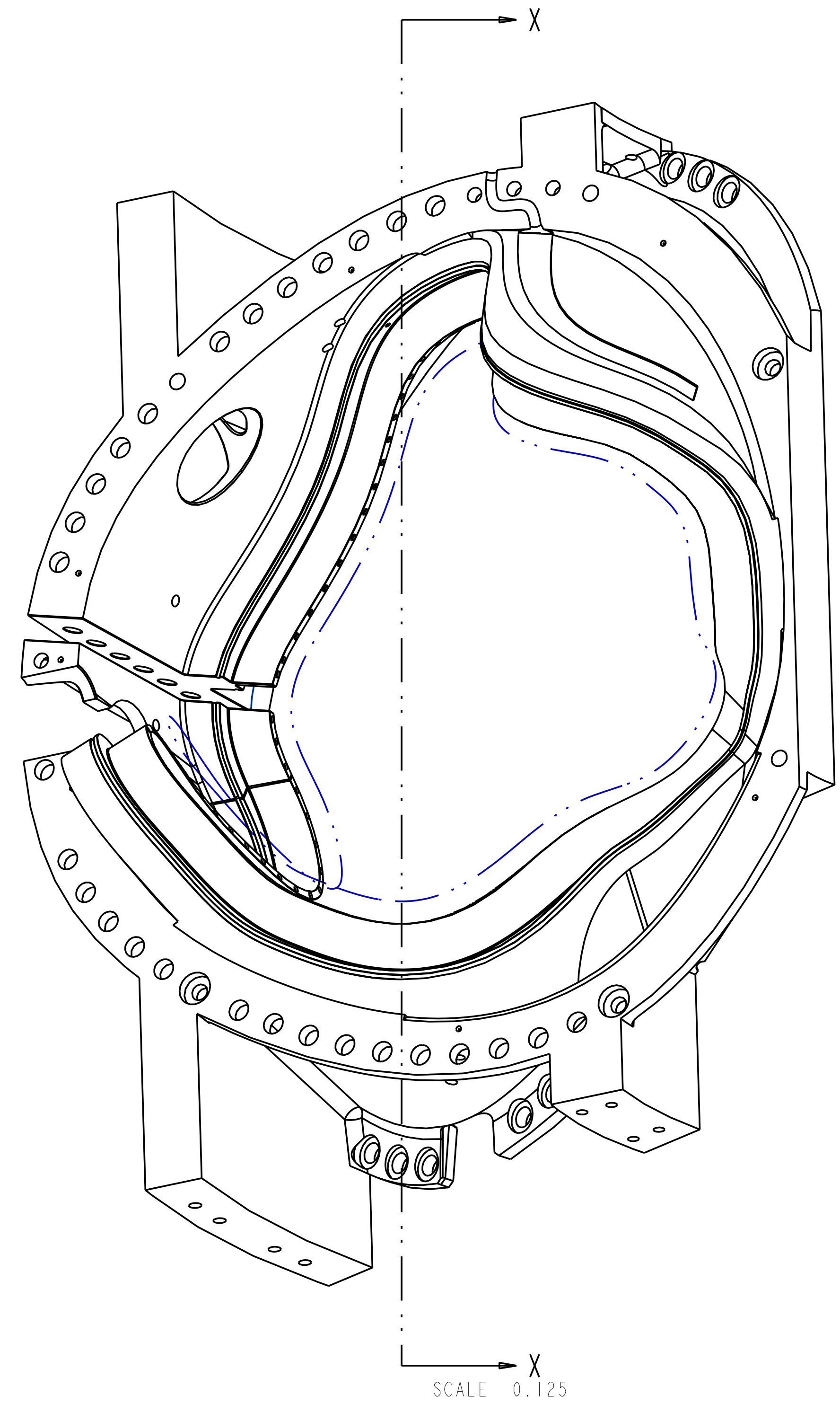
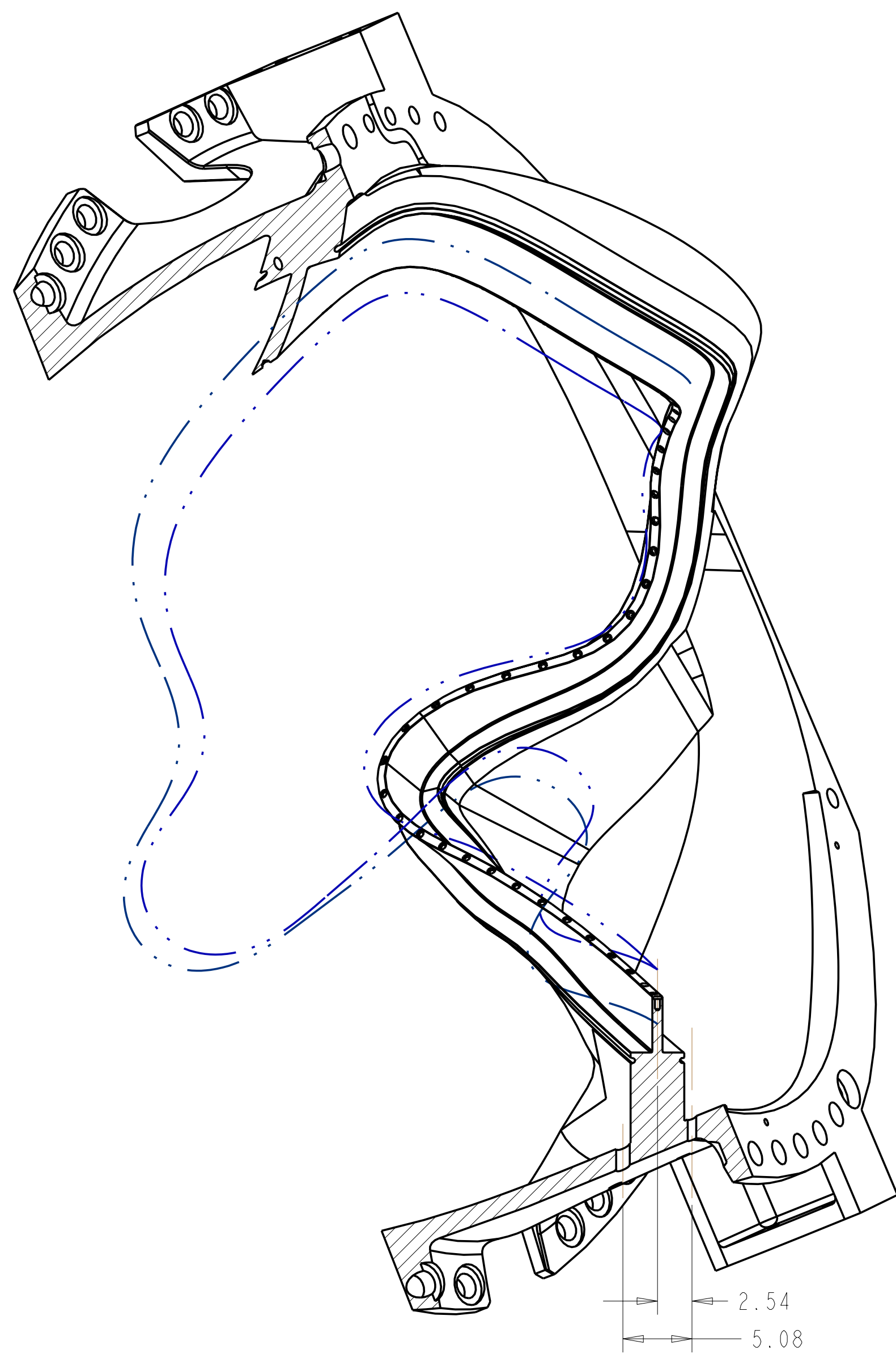
SECTION E4-E4

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NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
11	X-10	5700	3	8	111	S	U
RELEASE LEVEL							REV
Fabrication	SE141-116						7

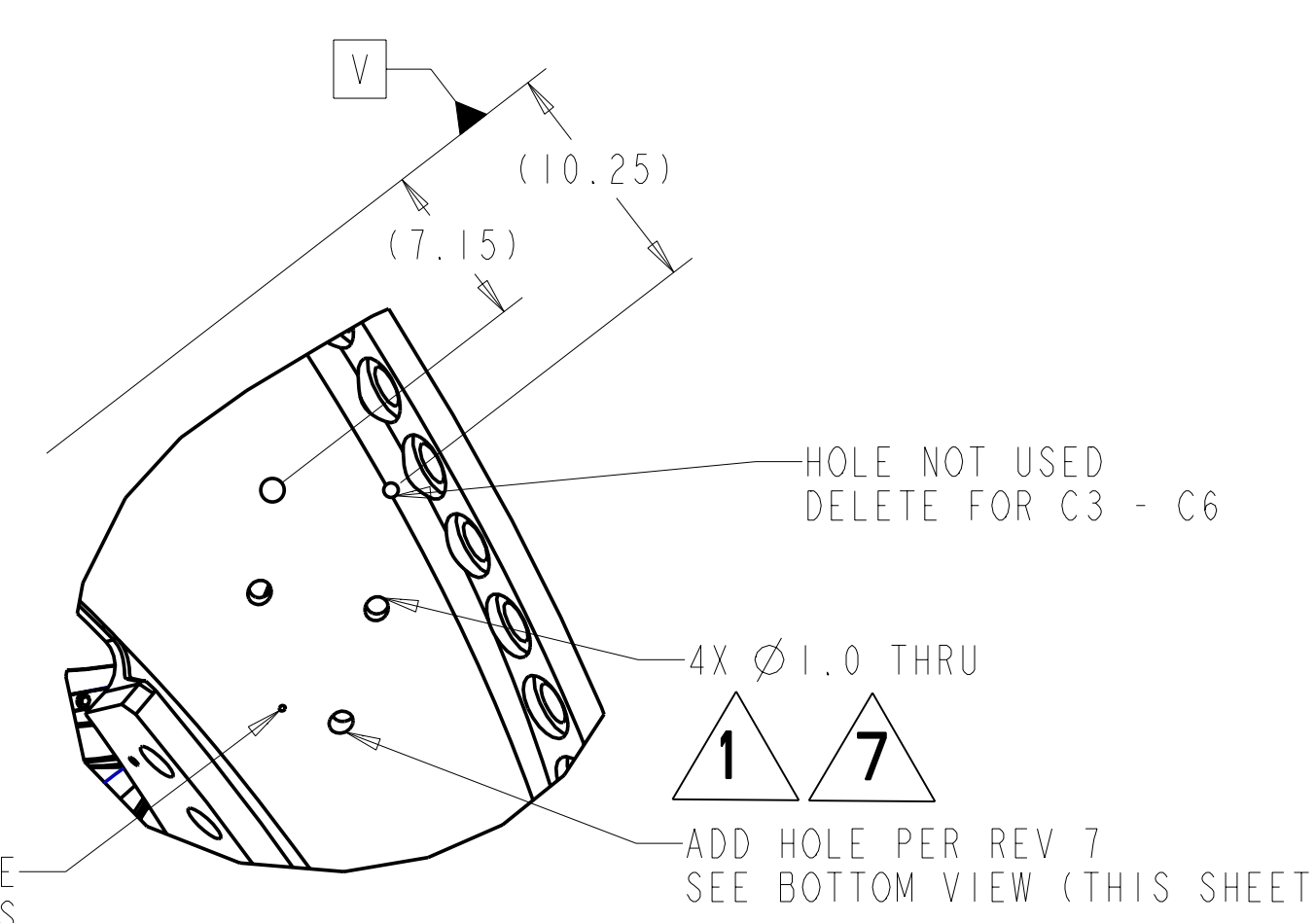
SE141-116

FOR NOTES AND PARTS LIST SEE SHEET 1

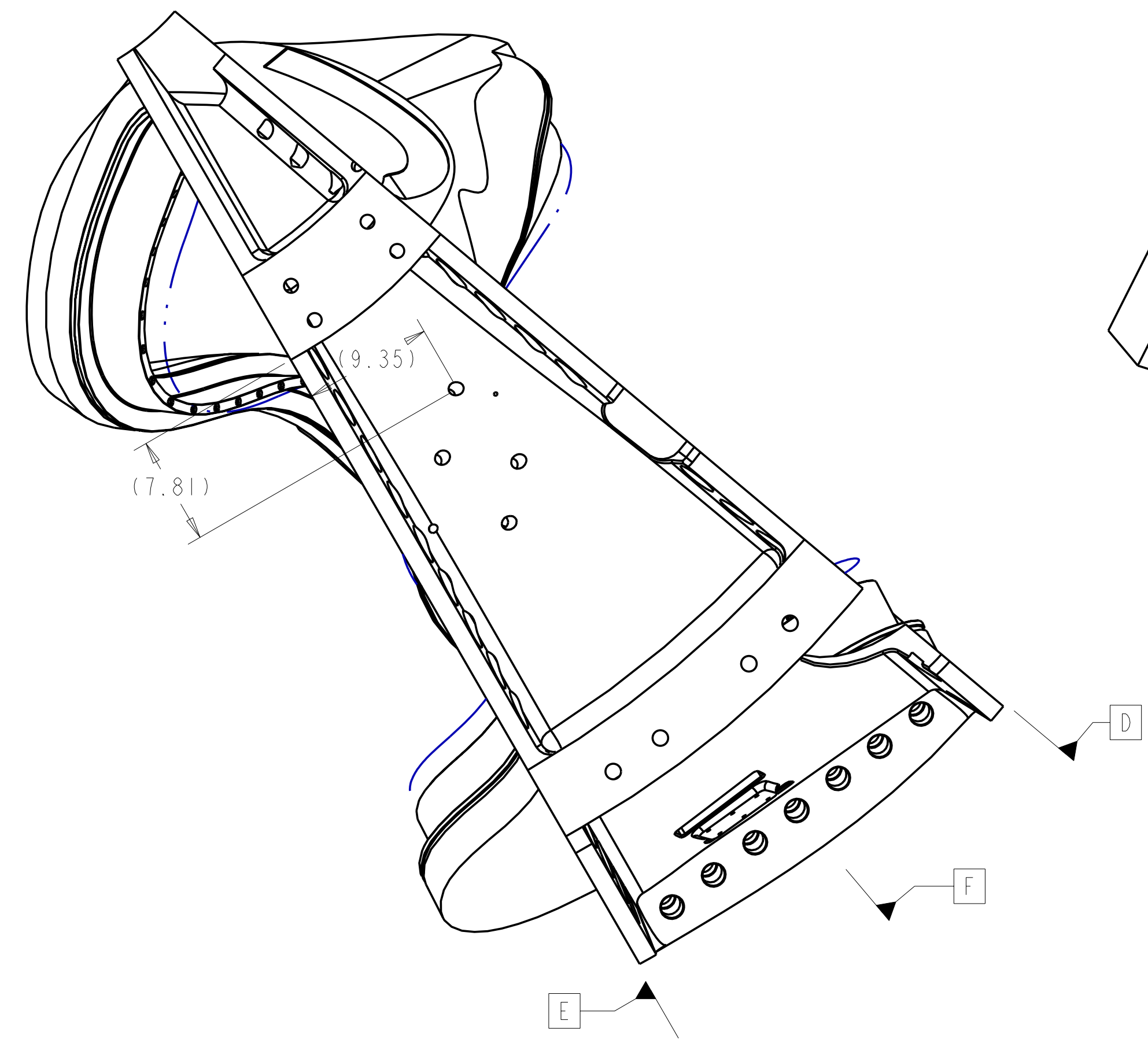


SECTION X-X

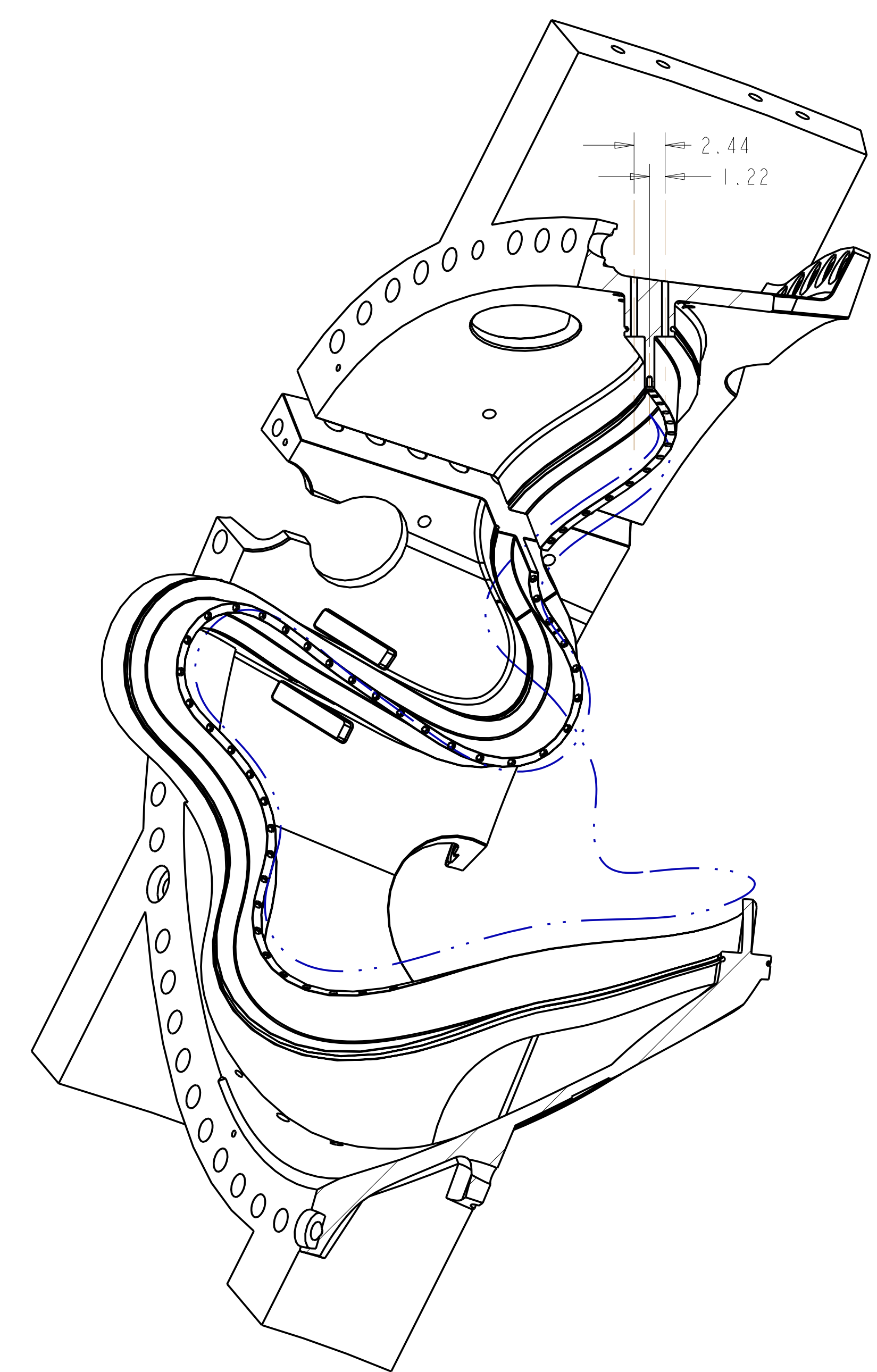
USE PRO/E MODEL GEOMETRY TO DETERMINE SECTION ORIENTATION



COOLING INLET / OUTLET HOLES
 TYPICAL 2 PLACES

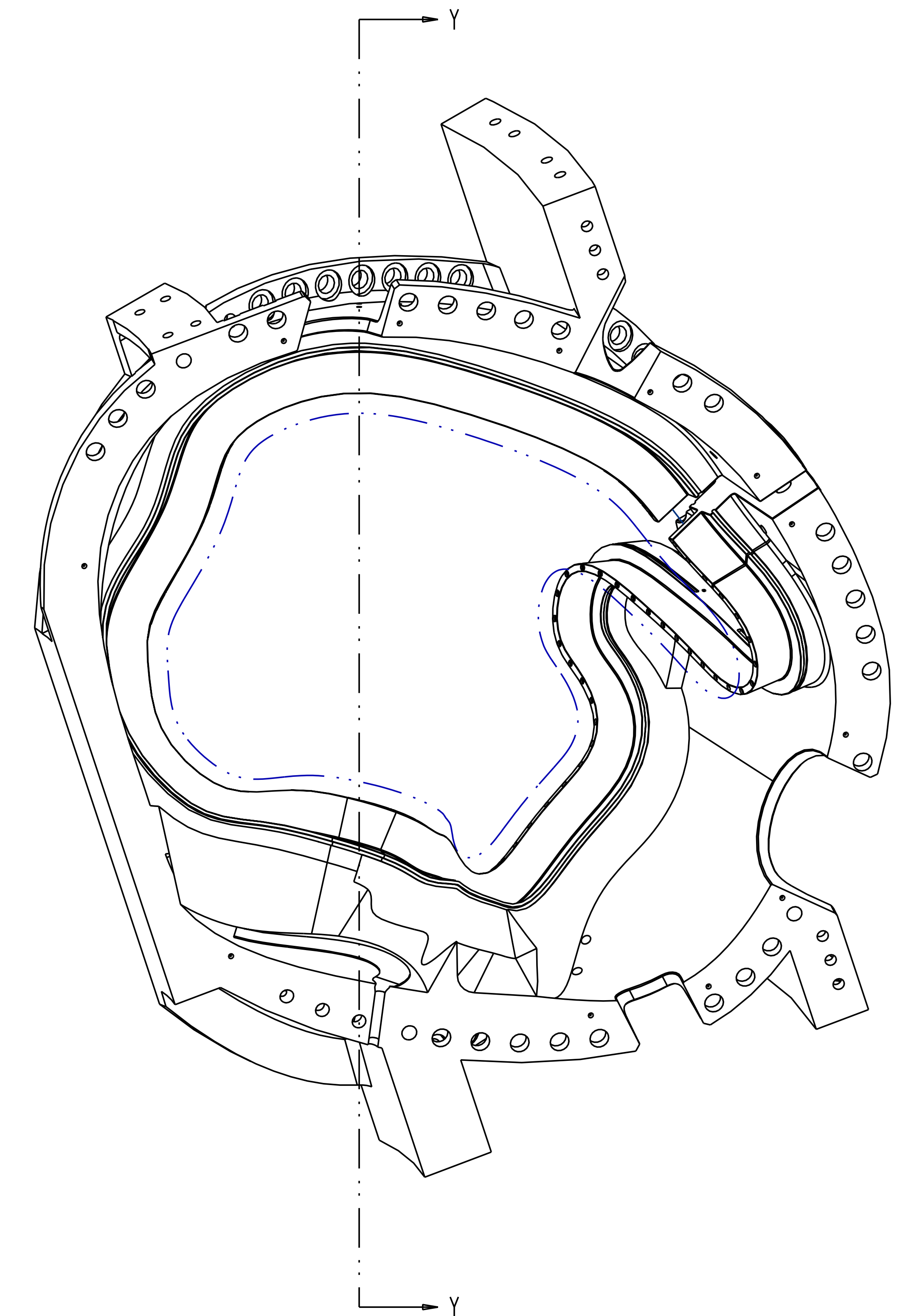


BOTTOM VIEW
 SCALE 0.125



SECTION Y-Y

SCALE 0.125
 USE PRO/E MODEL GEOMETRY TO DETERMINE SECTION ORIENTATION

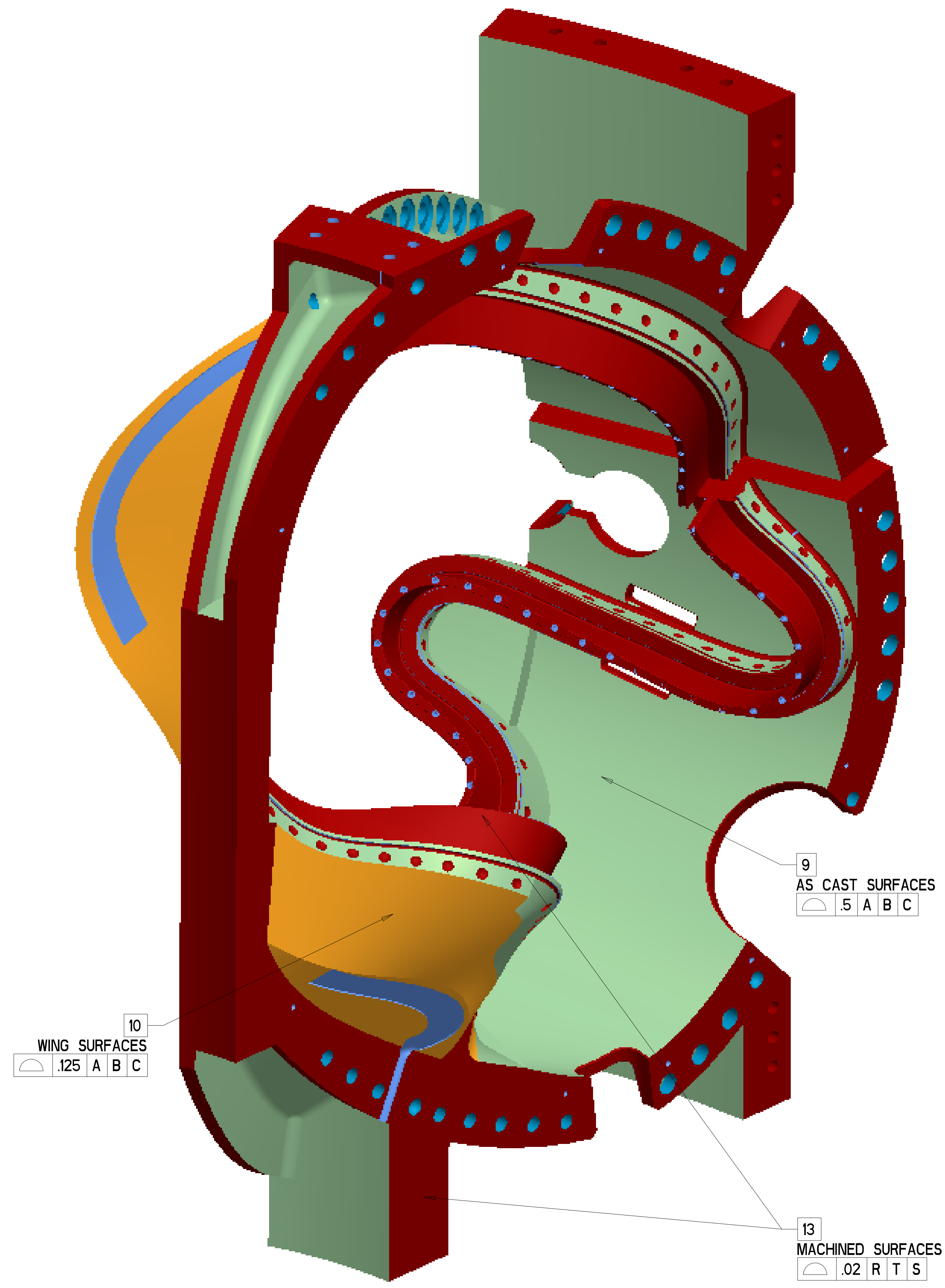


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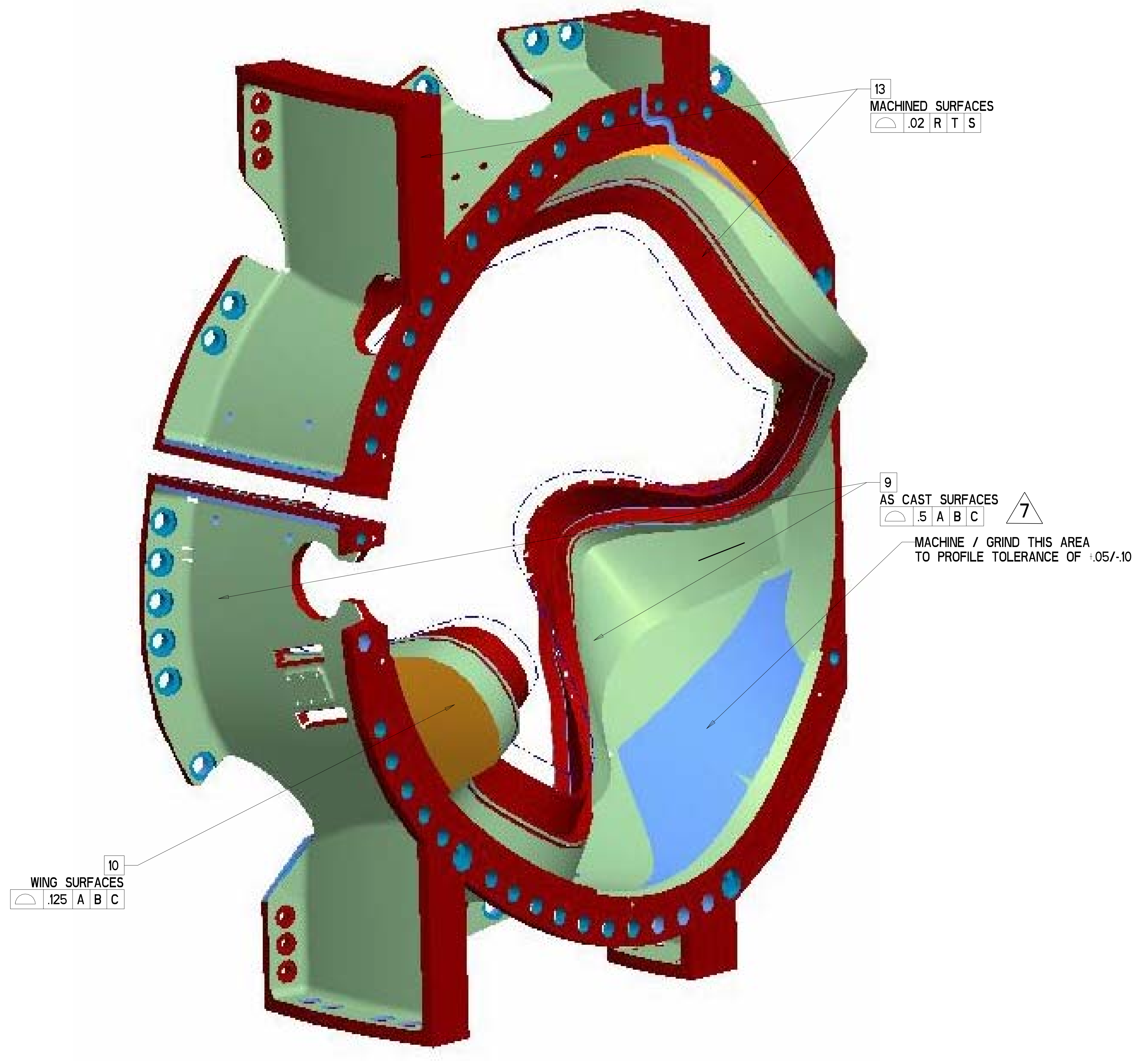
Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee							
UT-BATTELLE							
NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-C							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
1	X-10	5700	3	9	11	S	U
RELEASE LEVEL							REV
Fabrication	SEI41-116						7

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FOR NOTES AND PARTS LIST SEE SHEET 1



ISOMETRIC VIEW
 NOT TO SCALE



ISOMETRIC VIEW
 NOT TO SCALE

**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.	PLANT	BLDG	FL
11	X-10	5700	3
RELEASE LEVEL			
Fabrication			
SHT OF	TYPE	CLASS	
10	III	S	
SEI41-116			REV
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