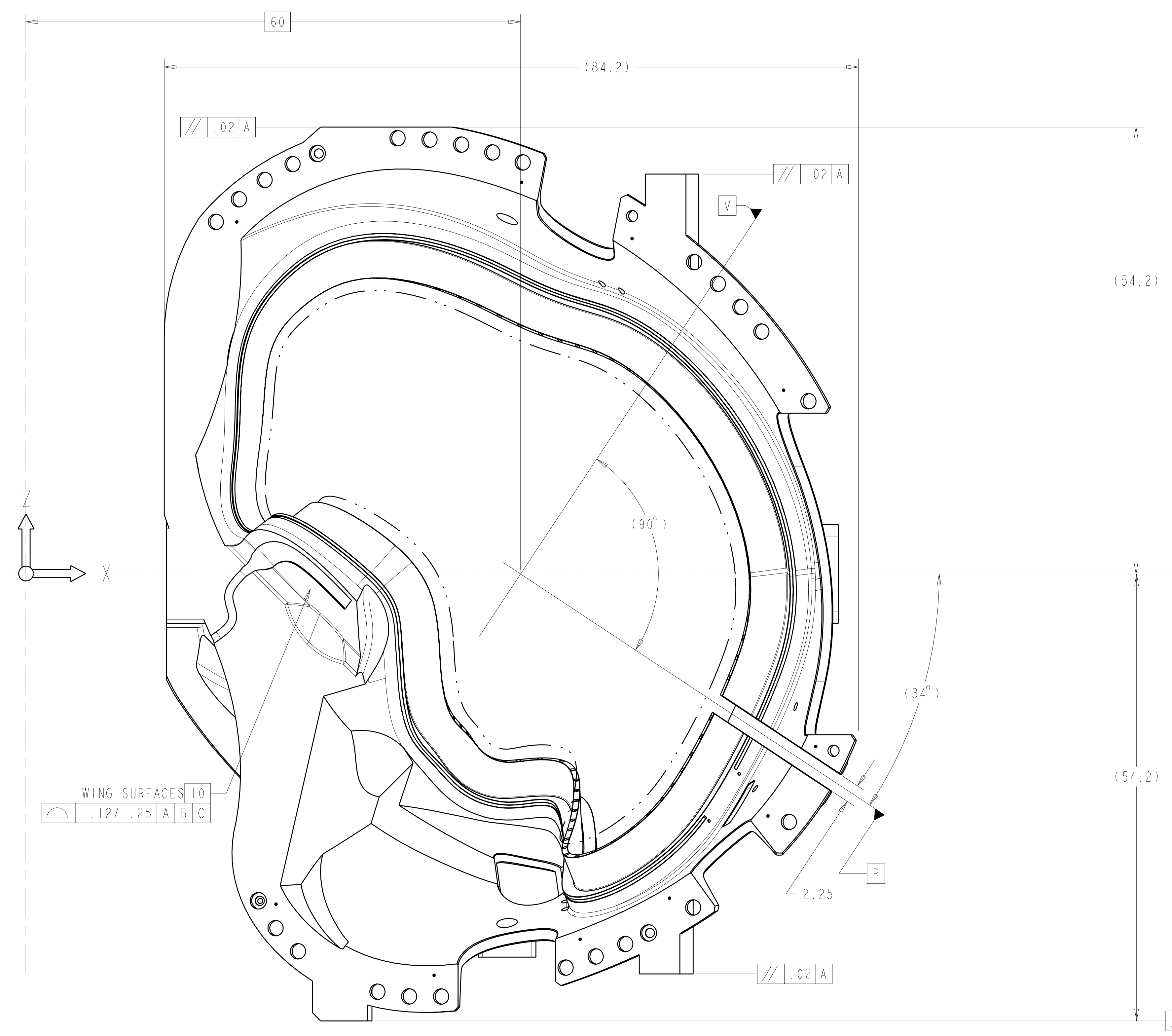
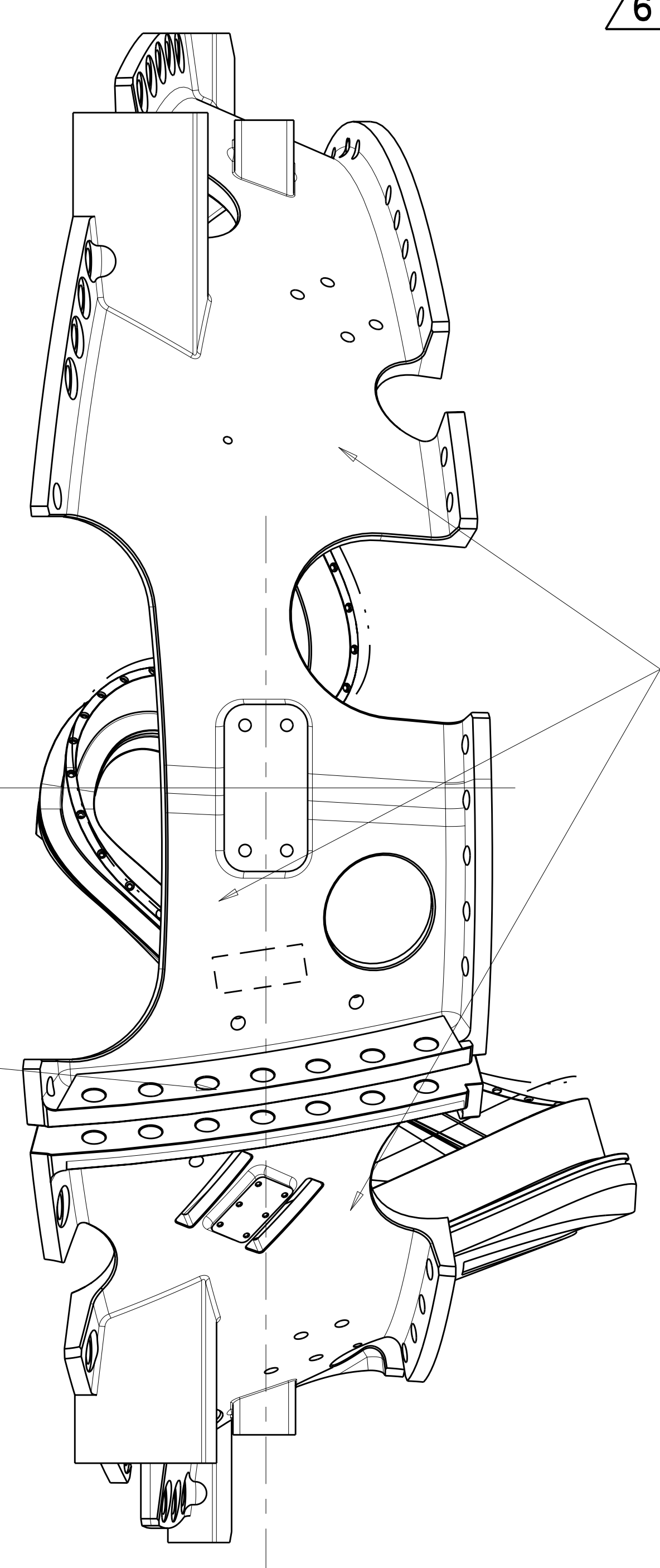


ISOMETRIC VIEW



SCALE 0.13



- 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 SEI41-115.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 = 4368 LBS.
WEIGHT OF FINISHED PART NOT TO EXCEED 6000 LBS.
 - UNLESS OTHERWISE SPECIFIED, AS-CAST SURFACE PROFILE TOLERANCE = +/- .25 - INCH, WITH EXEMPTION FOR INTERSECTING SURFACES WHERE FILLETS ARE EXPECTED. MIN FILLET AND CORNER RADIUS = 0.5 +/- 0.1-IN.
 - DESIGNATED SURFACE REGIONS HAVE PROFILE TOLERANCE OF -0.12 TO -0.25-IN, WHERE POSITIVE INDICATES OUTWARD SURFACE NORMAL DIRECTION (ADDS MATERIAL).
 - 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 = +/- 0.02-IN.
 - BACK SPOTFACE ALL THRU HOLES MINIMUM TO CLEAN UP.
 - SEE LATEST REVISION OF SPECIFICATION NCSX-CSPEC-141-03 FOR ADDITIONAL REQUIREMENTS.
 - GRIND TEE BASE AS REQUIRED TO ACHIEVE CLEARANCE DEFINED BY TEMPLATE SHOWN IN THE SPECIFICATION.

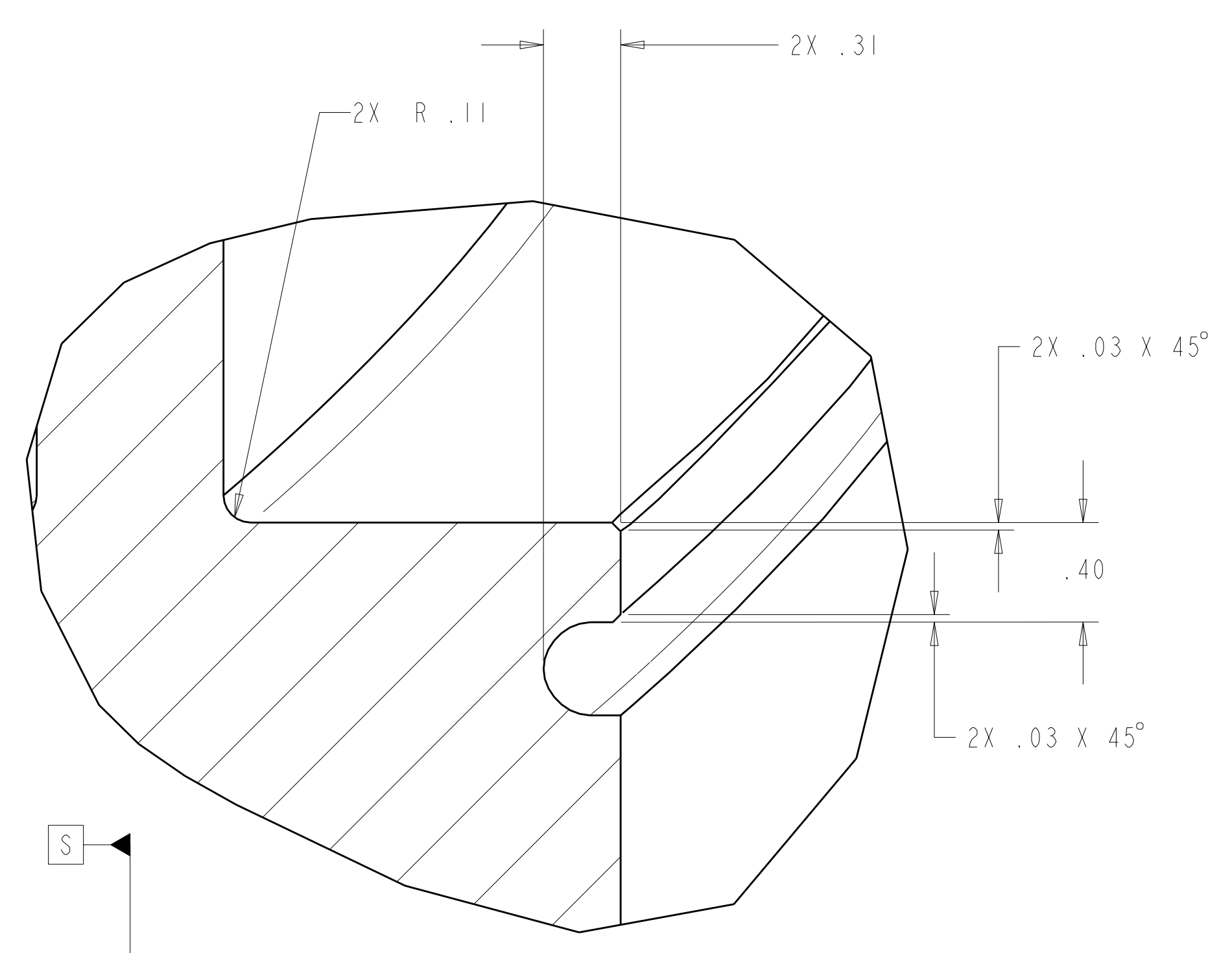
RELEASED FOR FABRICATION / INSTALLATION
PPPL Drafting:

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE
8	REVISED PART AND DRAWING PER ECN 5128	GLL	06/06	MJC			DEW					
7	REVISED WING POCKET PROFILE TOL PER ECN 5189	DEW	3/06	MJC			DEW					
6	REVISE PART AND DRAWING PER ECN 5059 AND 5064	GLL	01/06	MJC			DEW					
5	REVISE PART AND DRAWING PER ECN 5009	GLL	7-05	MJC			DEW					
4	REVISED PART AND DRAWING PER ECN 4994	GLL	6-05	MJC			DEW					
3	REVISED PART AND DRAWING PER ECN 4965	GLL	3-05	MJC			DEW					
2	REVISED PART AND DRAWING PER ECN 4944	GLL	1/05	MJC			DEW					
1	REMOVED SPHERICAL SEATS, REVISED LEAD BLOCK/COOLING PER ECN-4903	GLL	09/04	MJC			DEW					

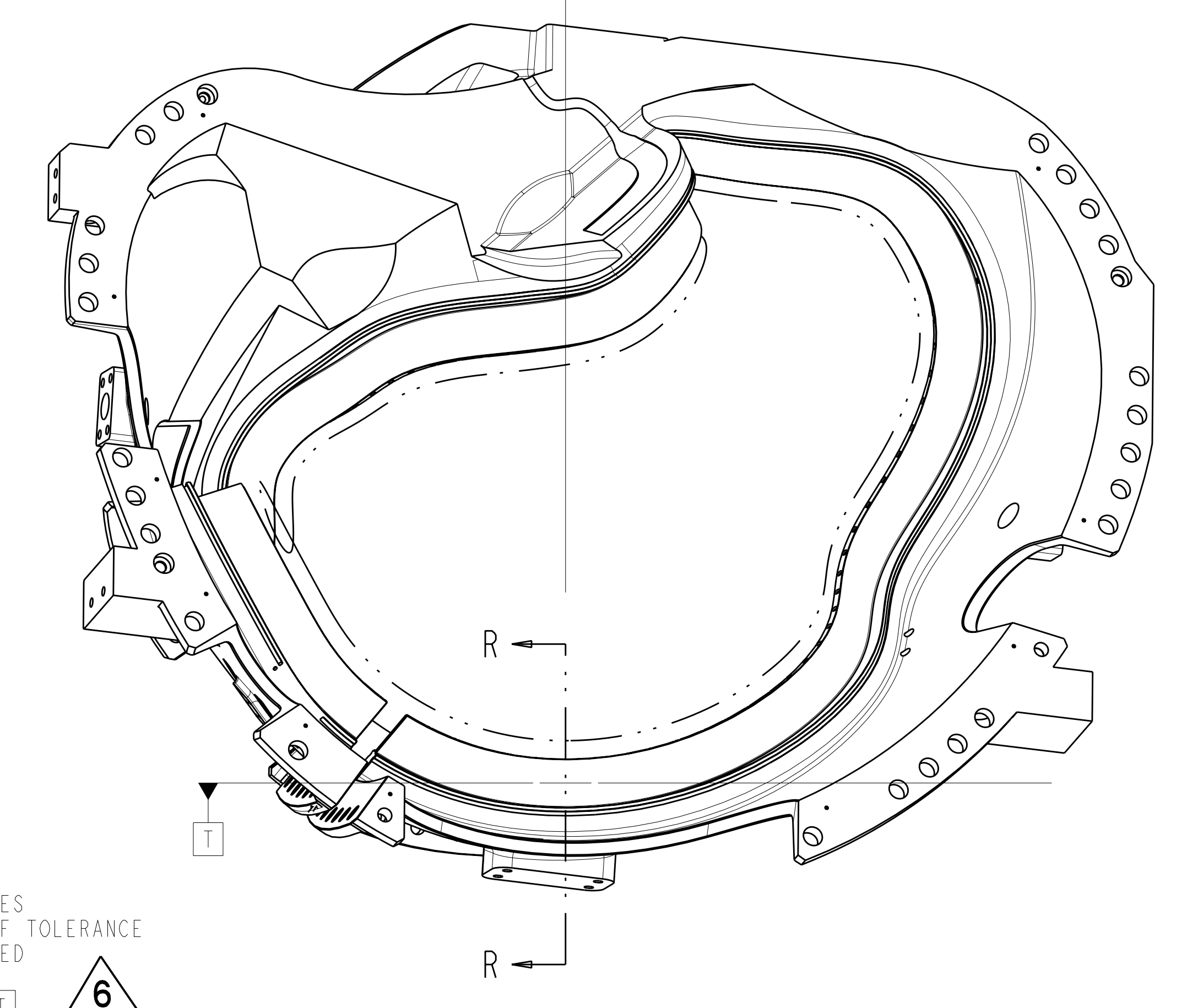
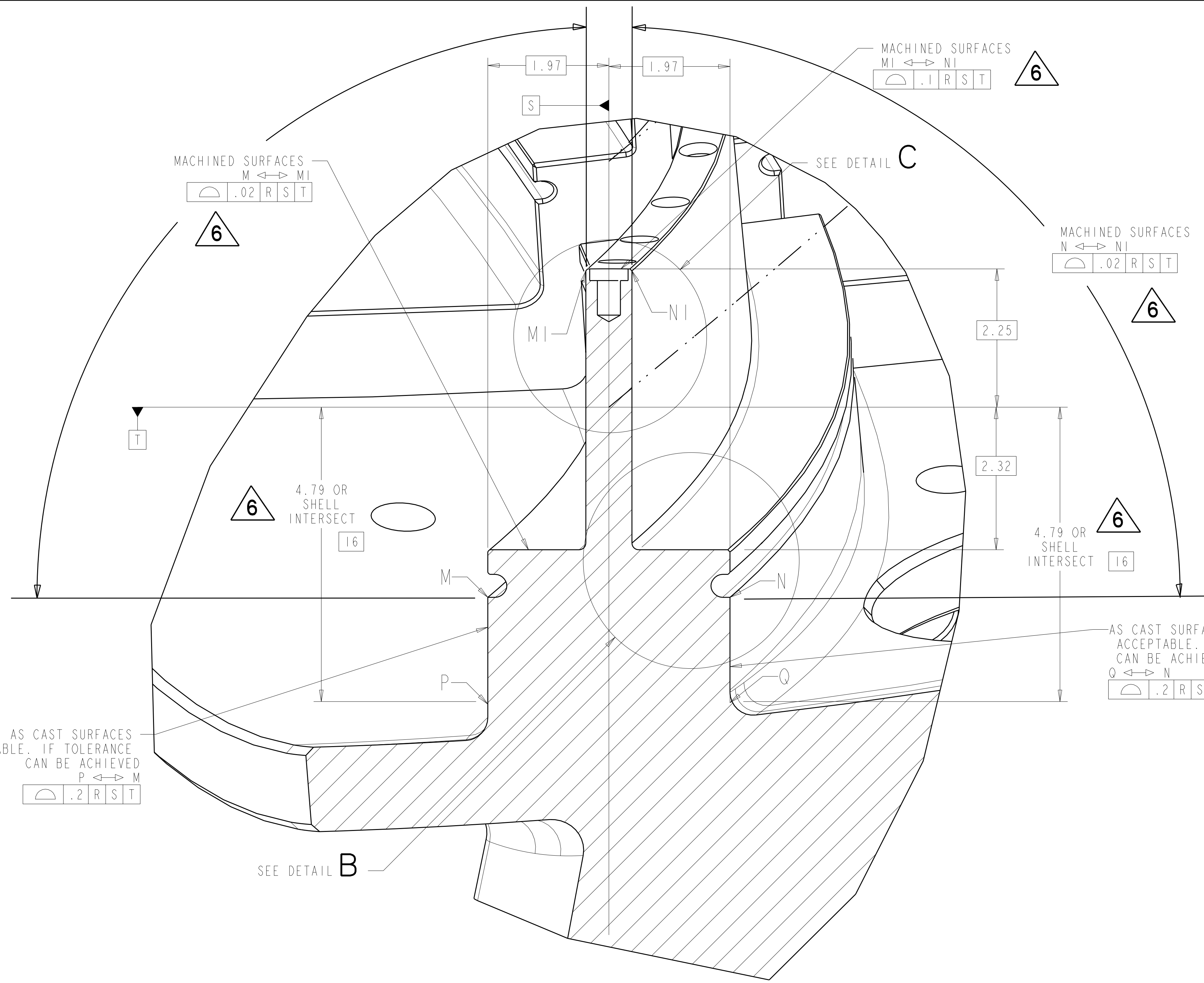
SCALE	NOTED	DES	T BROWN	6-30-04	UT-BATTELLE	Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee
TOLERANCES UNLESS OTHERWISE SPECIFIED		DRW	PAUL MILLER	6-30-04		
FRACTIONS		CHK	M COLE	6-30-04		
XX DECIMALS ±.01		SECT :				
XXX DECIMALS ±.005		DEPT :				
ANGLES ±0°15'		PE	D WILLIAMSON	6/25/04		
BREAK SHARP EDGES OR MAX FINISH .125 UNLESS OTHERWISE SPECIFIED		CR :				
		PJ :				
		REQ :				
		REO :				
		PPPL DRFT	J SIEGEL	6/25/04		
		VERSION NO.	14			
		PLANT	X-10			
		BLDG	5700			
		FL	3			
		SHT	12			
		OF				
		TYPE	S			
		CLASS	U			
		RELEASE LEVEL				
		Fabrication				
		SEI41-115				
		REV	8			

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P THIS DRAWING PRODUCED ON PRO-ENGINEER

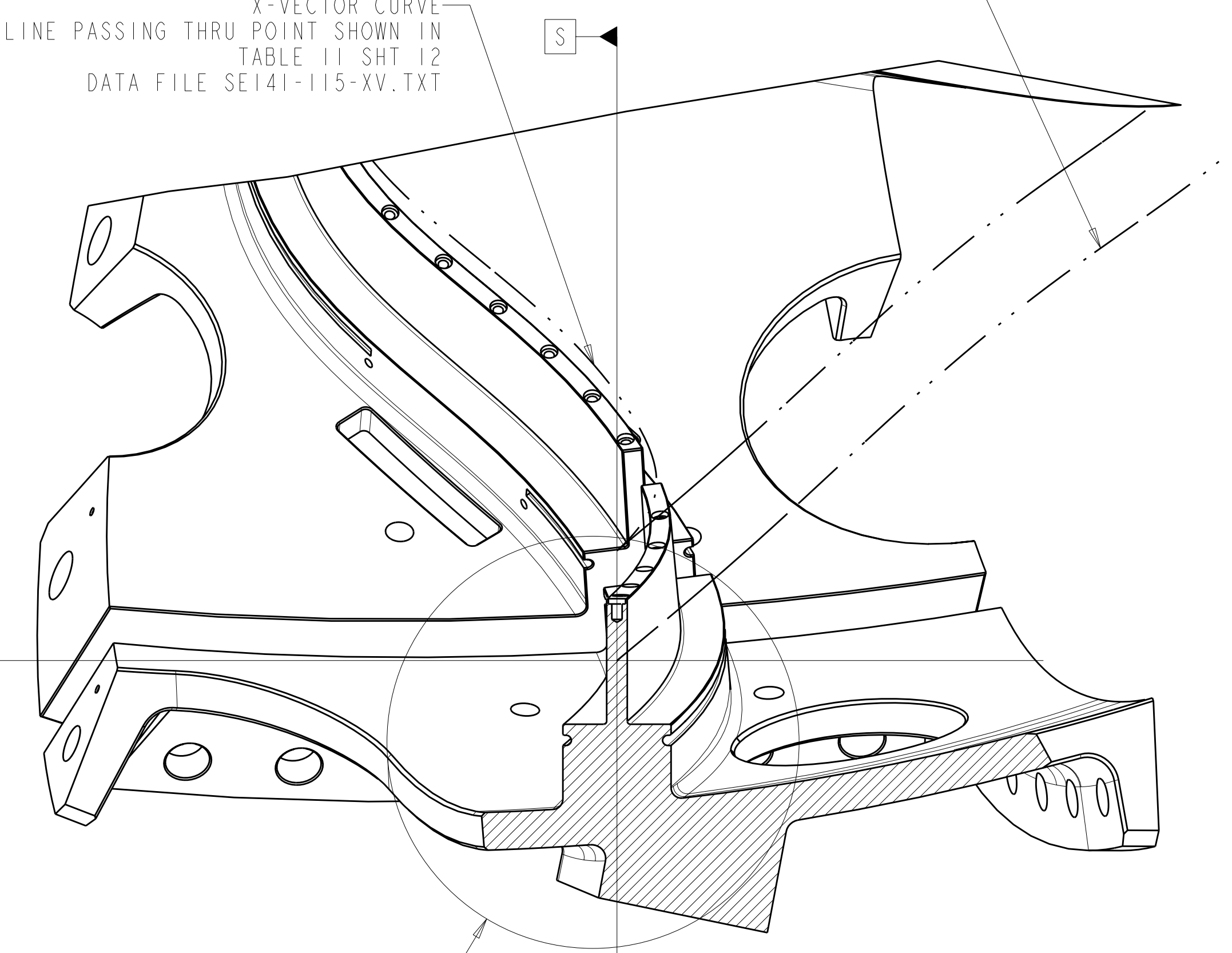


DETAIL B
SCALE 2.00



WINDING CENTER SPLINE
PASSING THRU POINTS SHOWN
IN TABLE 1; SHT 12
DATA FILE SE141-115-WC.TXT

X-VECTOR CURVE
SPLINE PASSING THRU POINT SHOWN IN
TABLE 1; SHT 12
DATA FILE SE141-115-XV.TXT



SEE DETAIL A

SECTION R-R
SCALE 0.250

AS CAST SURFACES
ACCEPTABLE, IF TOLERANCE
CAN BE ACHIEVED
P ↔ M
[.2|R|S|T] 6

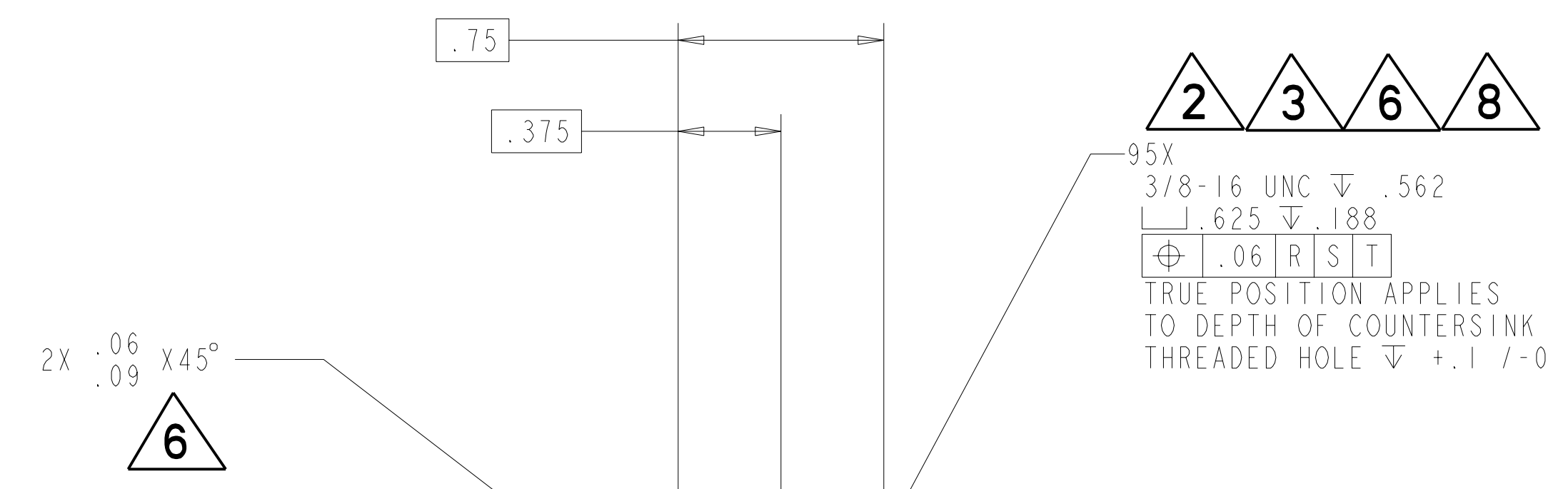
AS CAST SURFACES
ACCEPTABLE, IF TOLERANCE
CAN BE ACHIEVED
Q ↔ N
[.2|R|S|T] 6

DETAIL A [1][6][8]
SCALE 1.00
TYPICAL FOR ALL POINTS ALONG WINDING CENTER

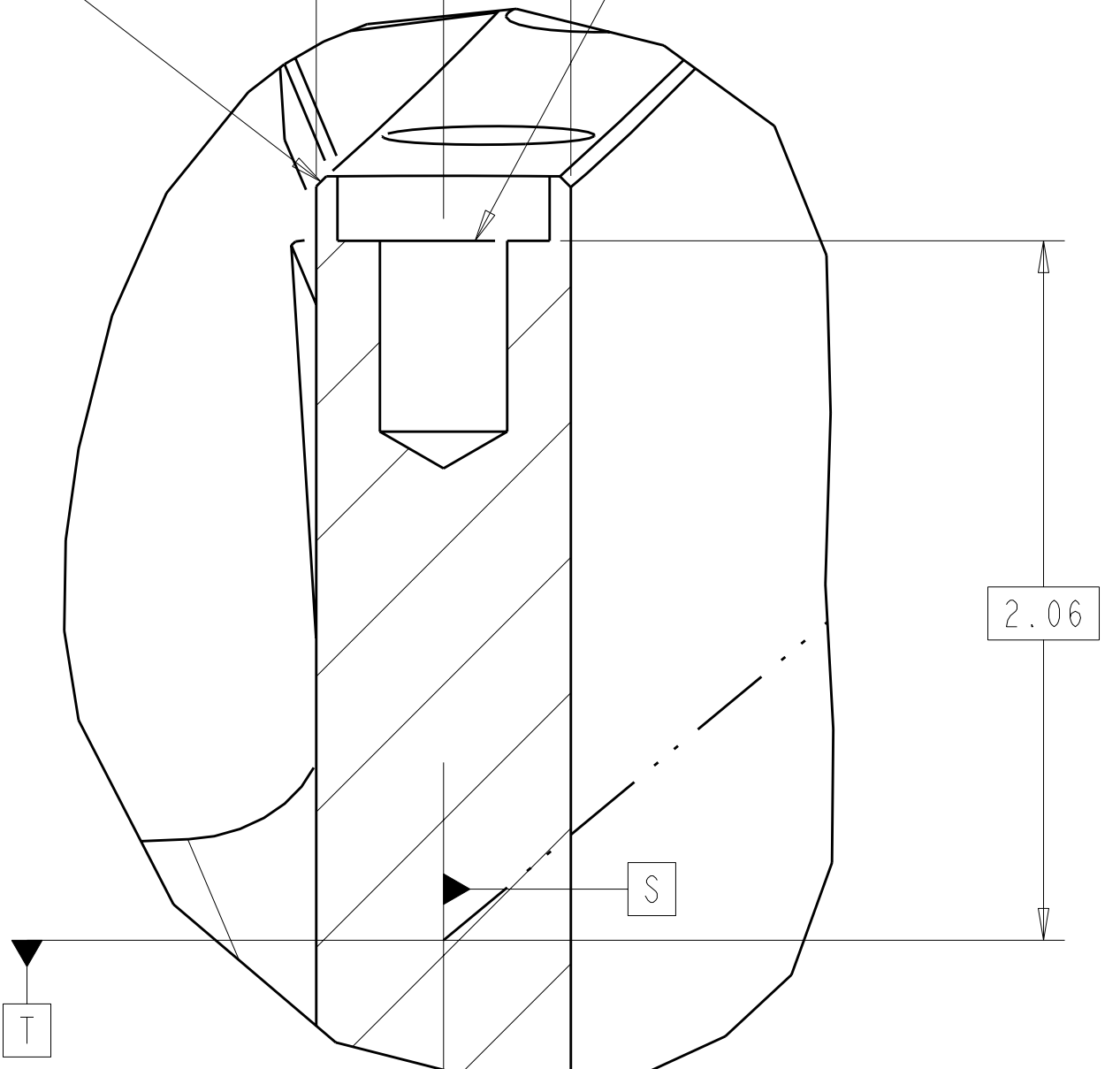
OMIT TAPPED HOLE (DETAIL C)
FOR HOLES NO. 63 THRU 73
KEEP [1.625] [1.188]

TEE HOLE NUMBERS START
AT LEADS AND INCREASE
TOWARD POLOIDAL BREAK

TEE HOLES OMITTED [8]
SCALE 0.20



[2][3][6][8]
95X
3/8-16 UNC Ψ .562
[1.625] [1.188]
[.06|R|S|T]
TRUE POSITION APPLIES
TO DEPTH OF COUNTERSINK
THREADED HOLE Ψ +.1 /-.0



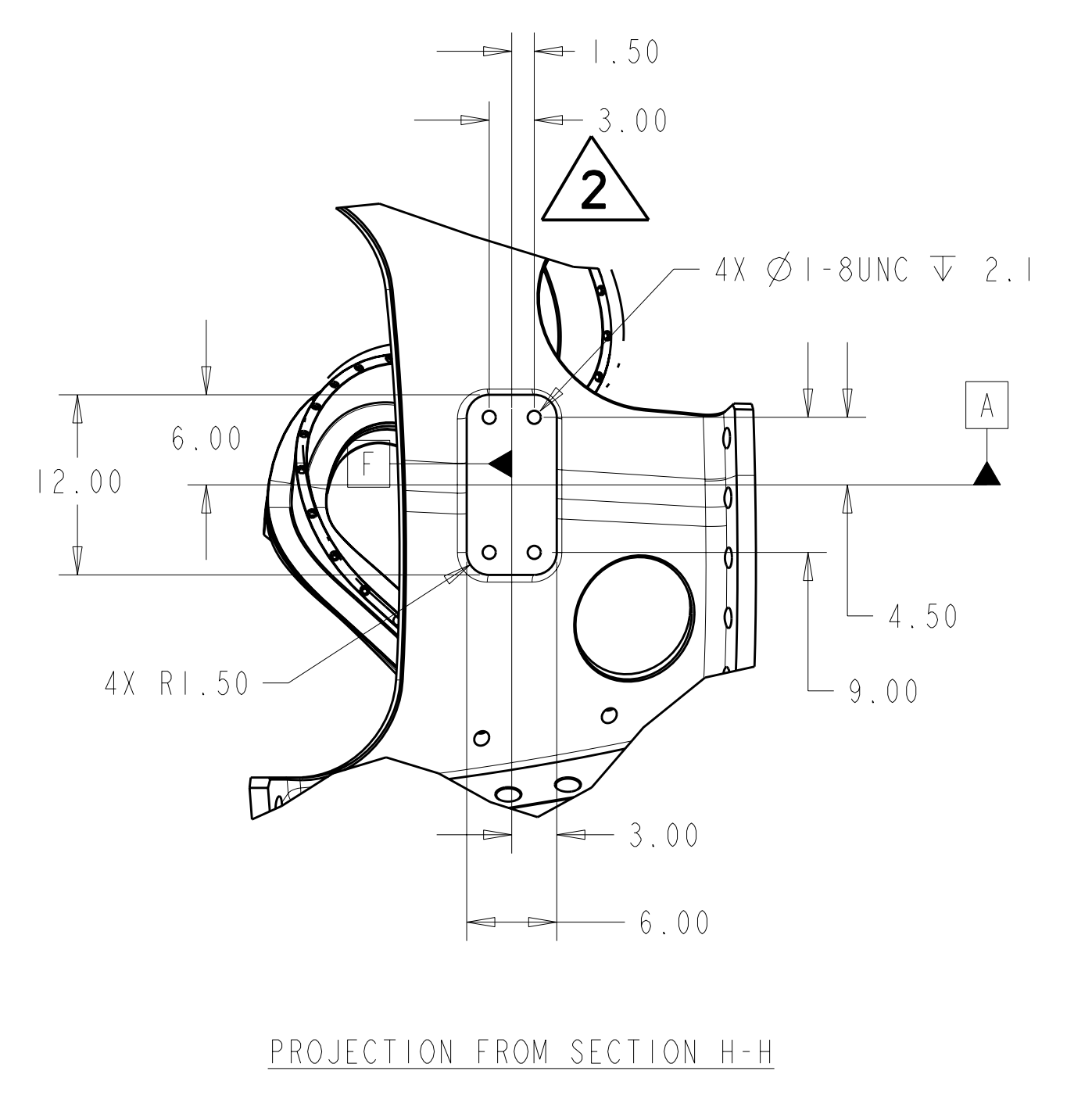
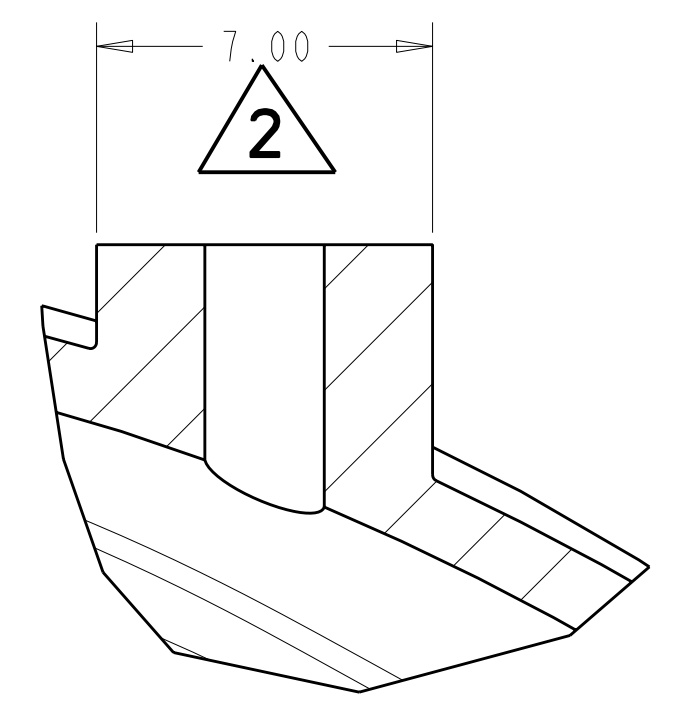
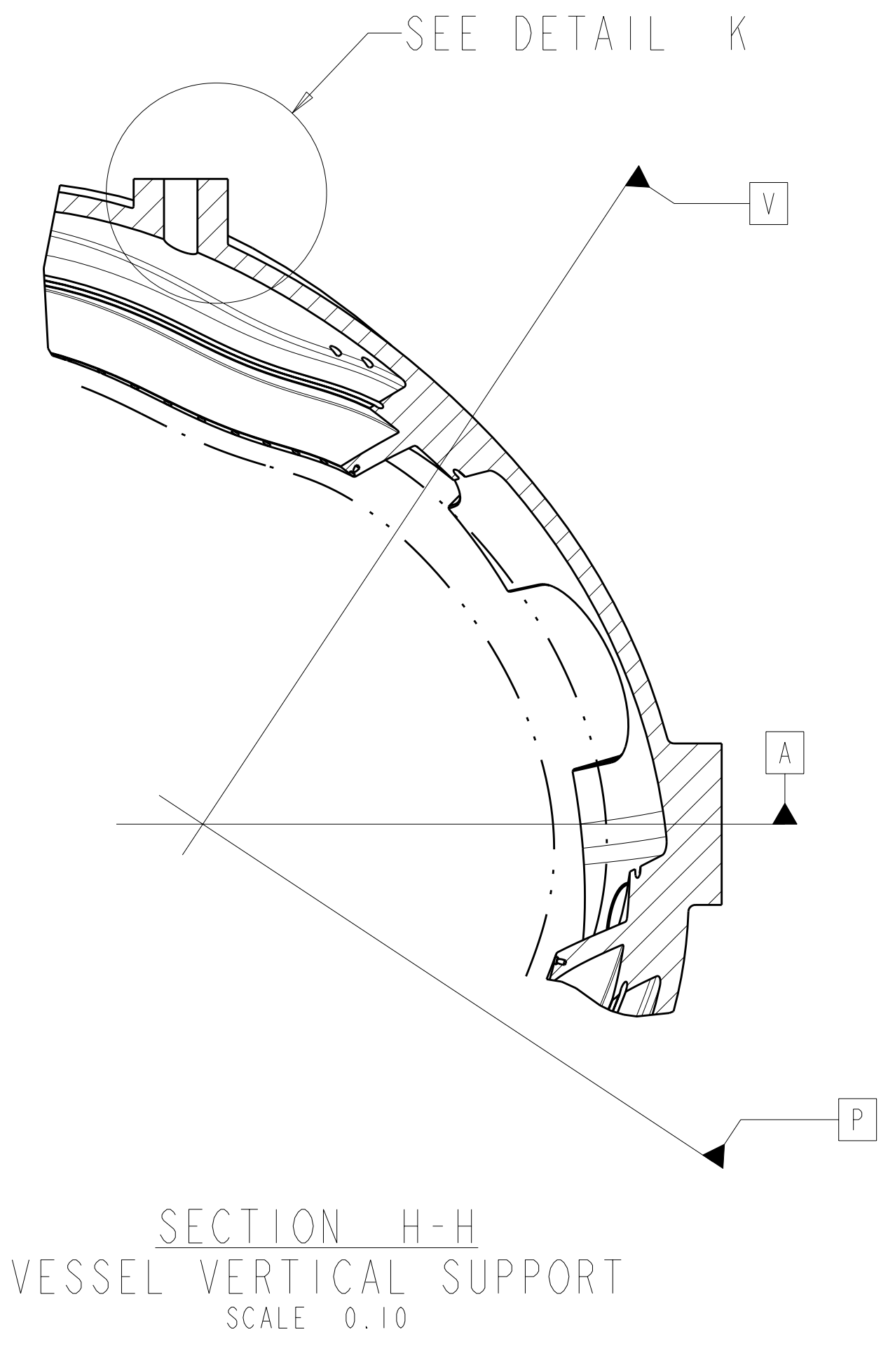
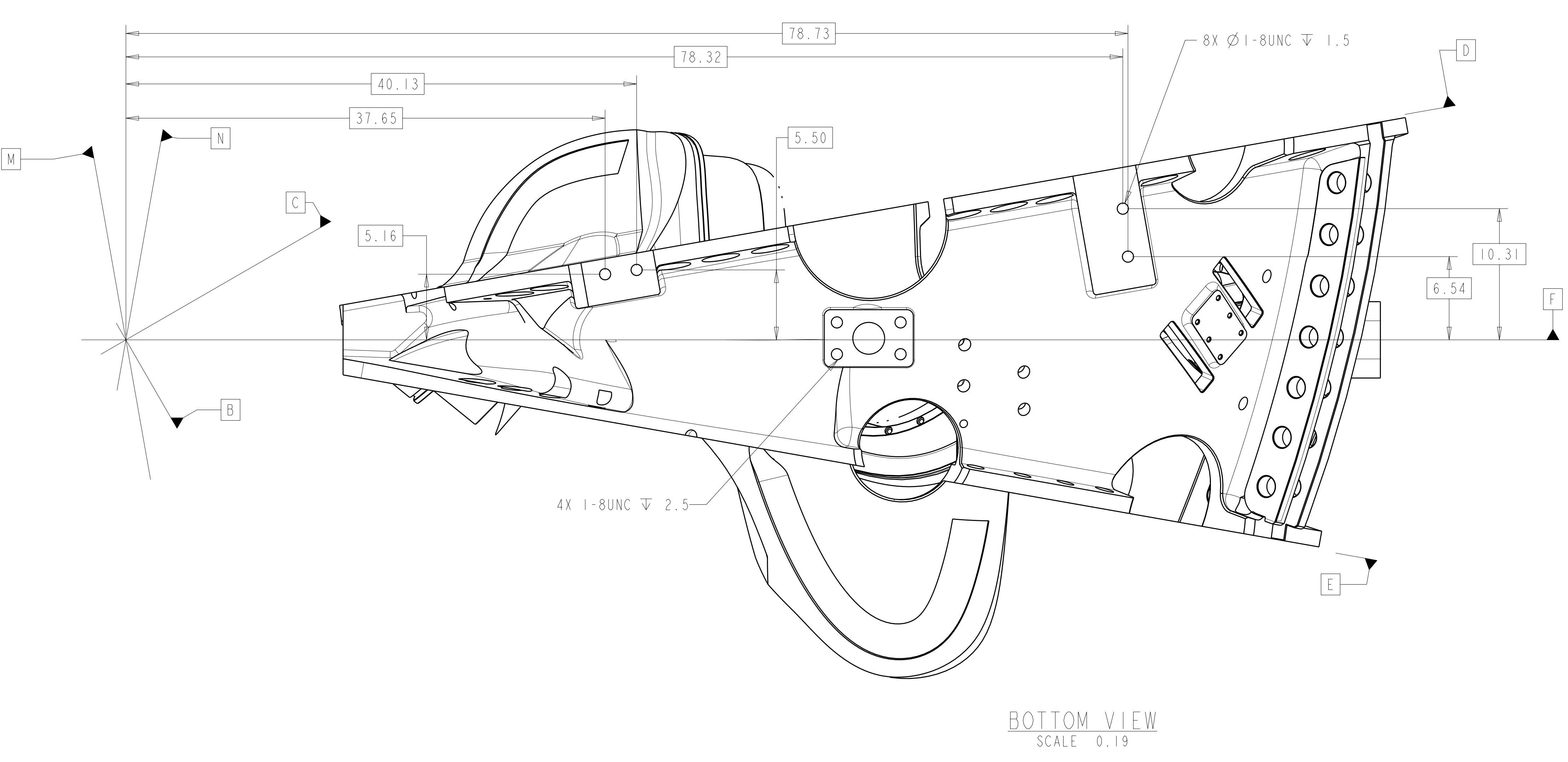
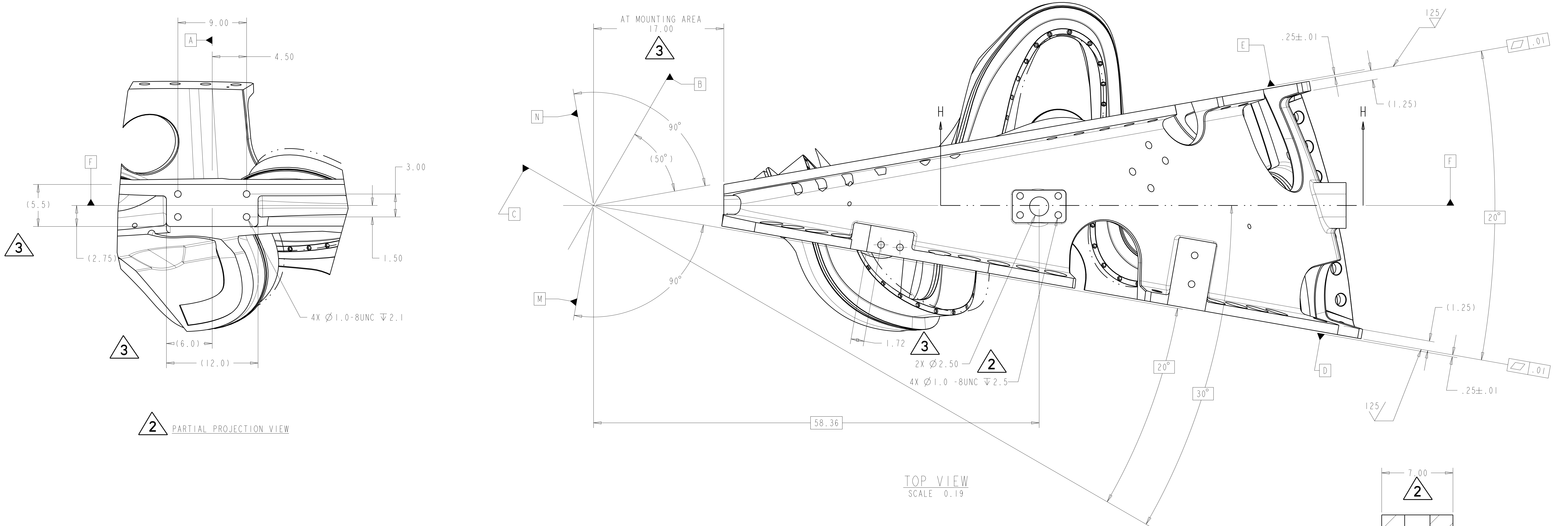
DETAIL C
SCALE 2.00

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

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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-B							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
14	X-10	5700	3	2	12	S	U
RELEASE LEVEL		SE141-115				REV	
Fabrication						8	

FOR NOTES AND PARTS LIST SEE SHEET 1

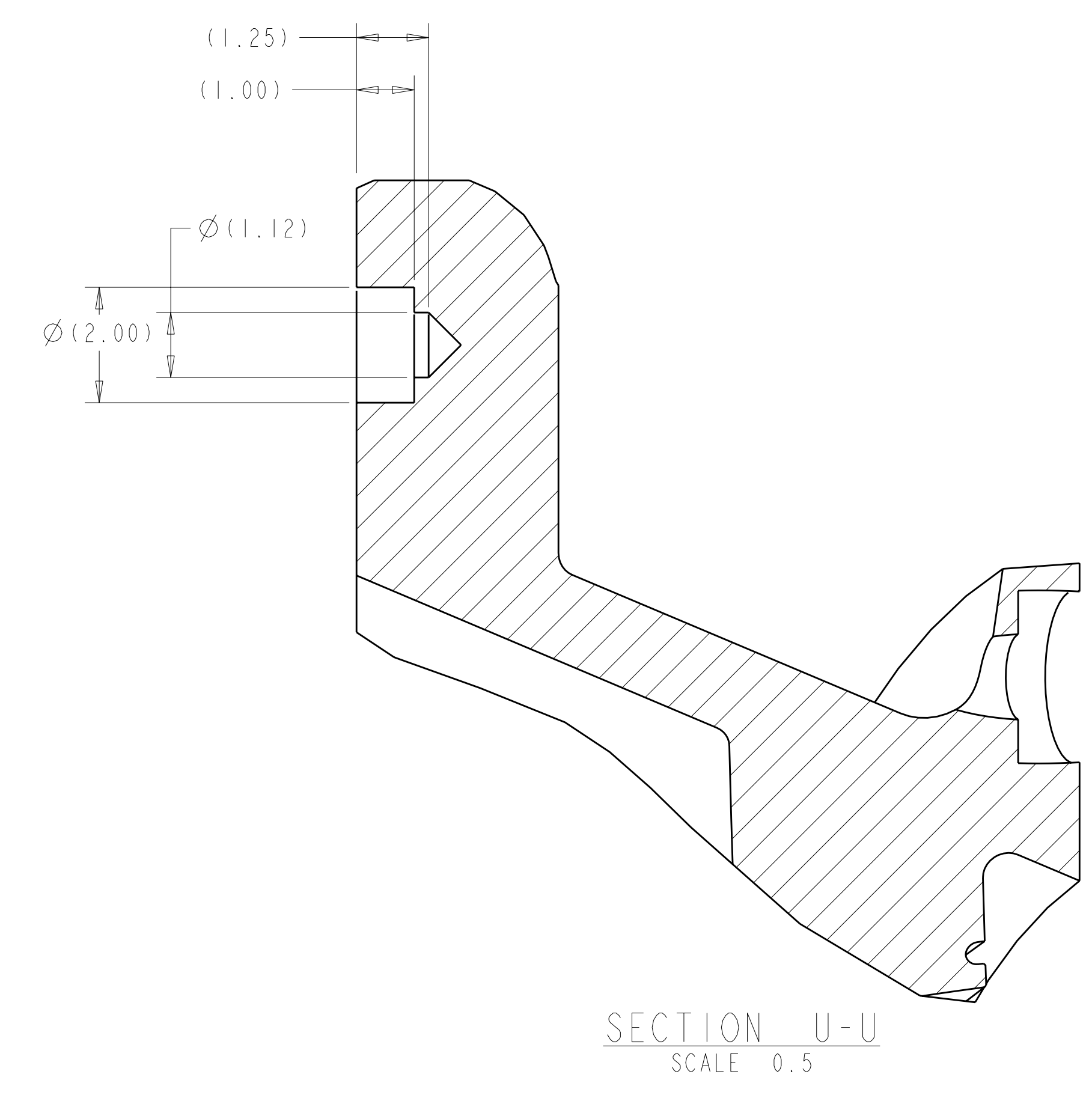
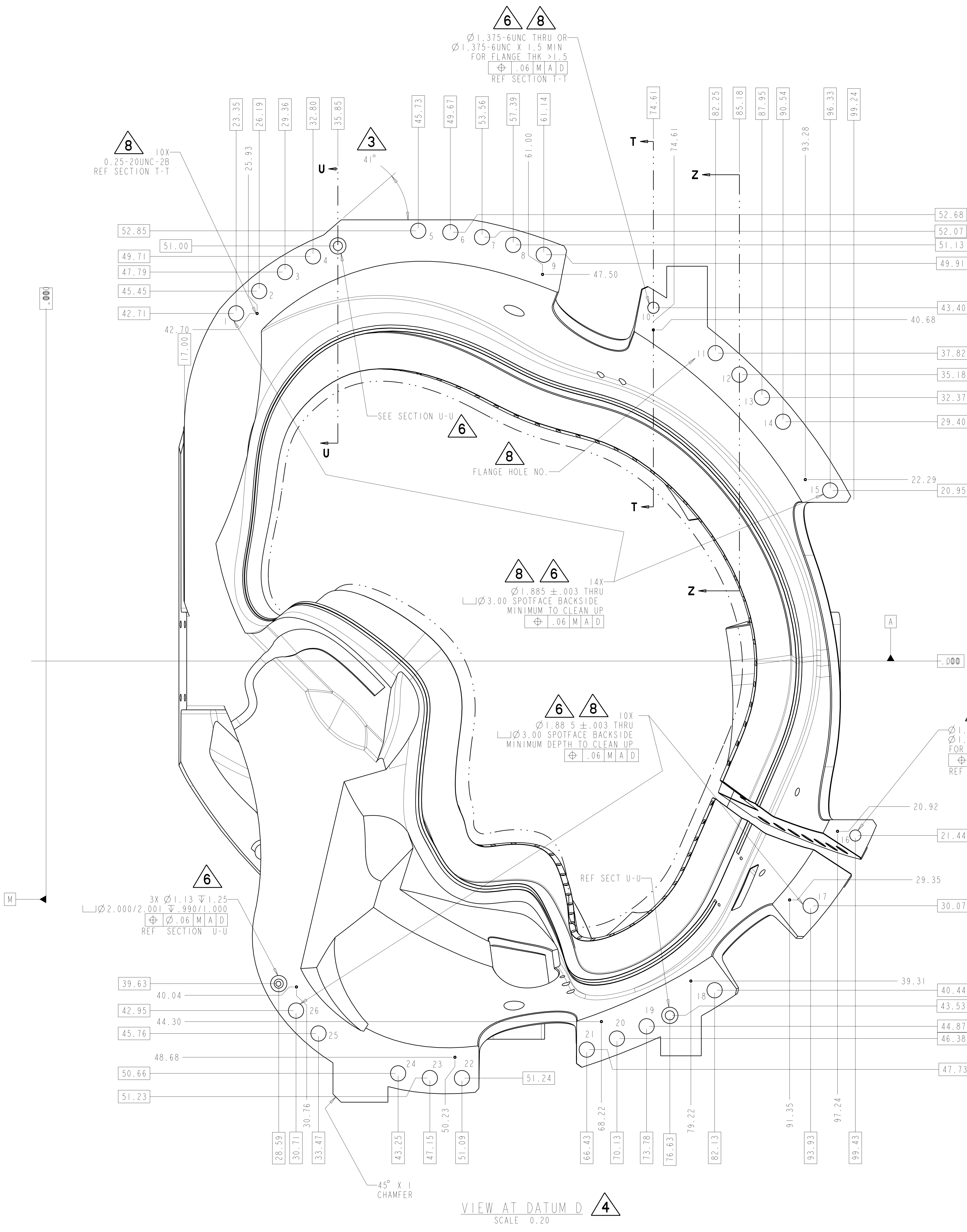


**RELEASED FOR
FABRICATION / INSTALLATION**

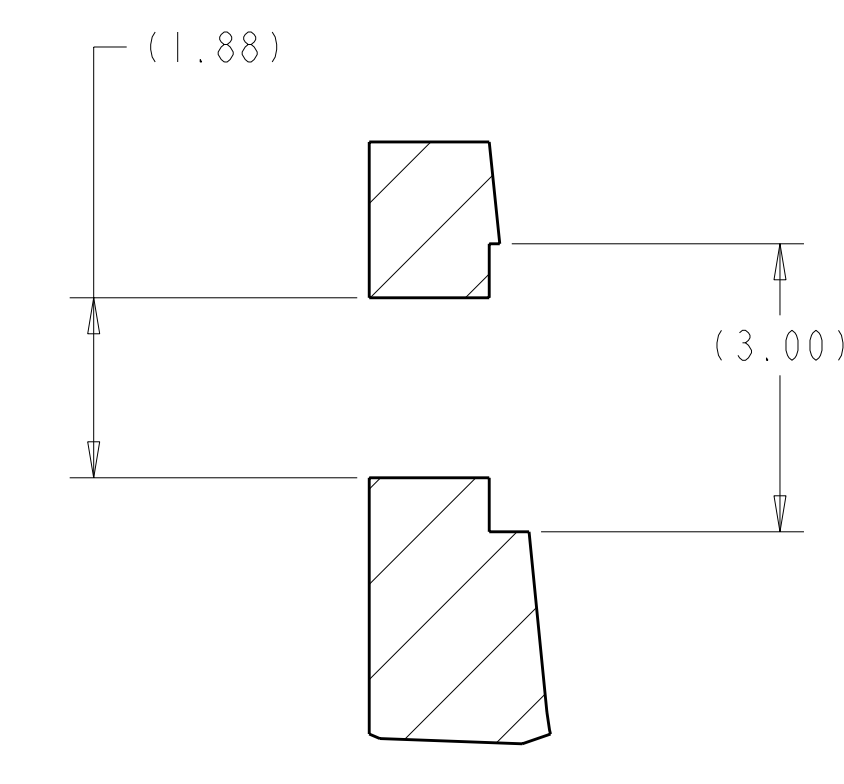
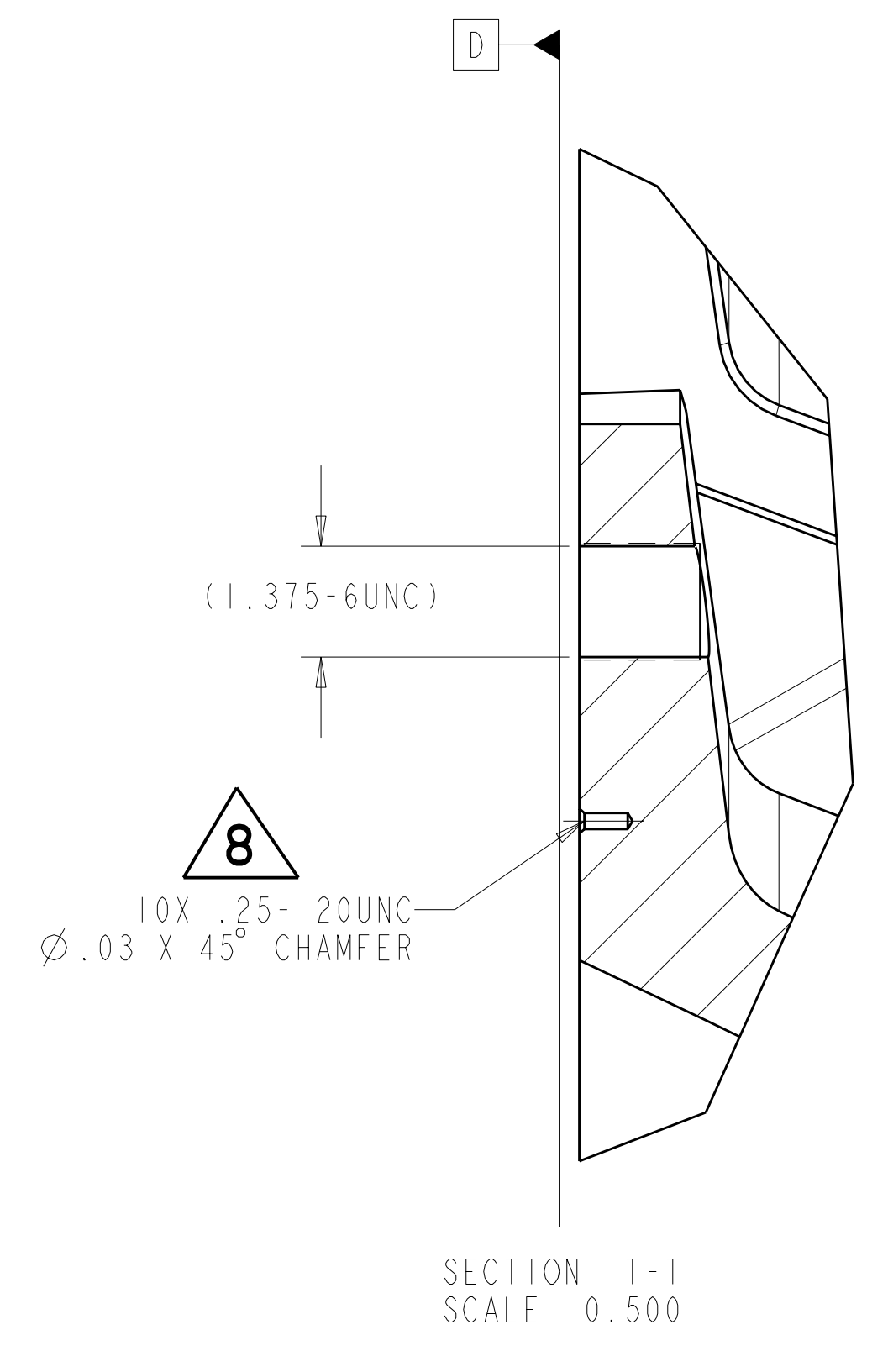
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UT-BATTELLE										
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT										
PRODUCTION WINDING FORM TYPE-B										
VERSION NO. 14	PLANT X-10	BLDG 5700	FL 3	SHT OF 12	TYPE S	CLASS U				
RELEASE LEVEL Fabrication		SE141-115					REV 8			

SE141-115



SECTION U-U SCALE 0.5

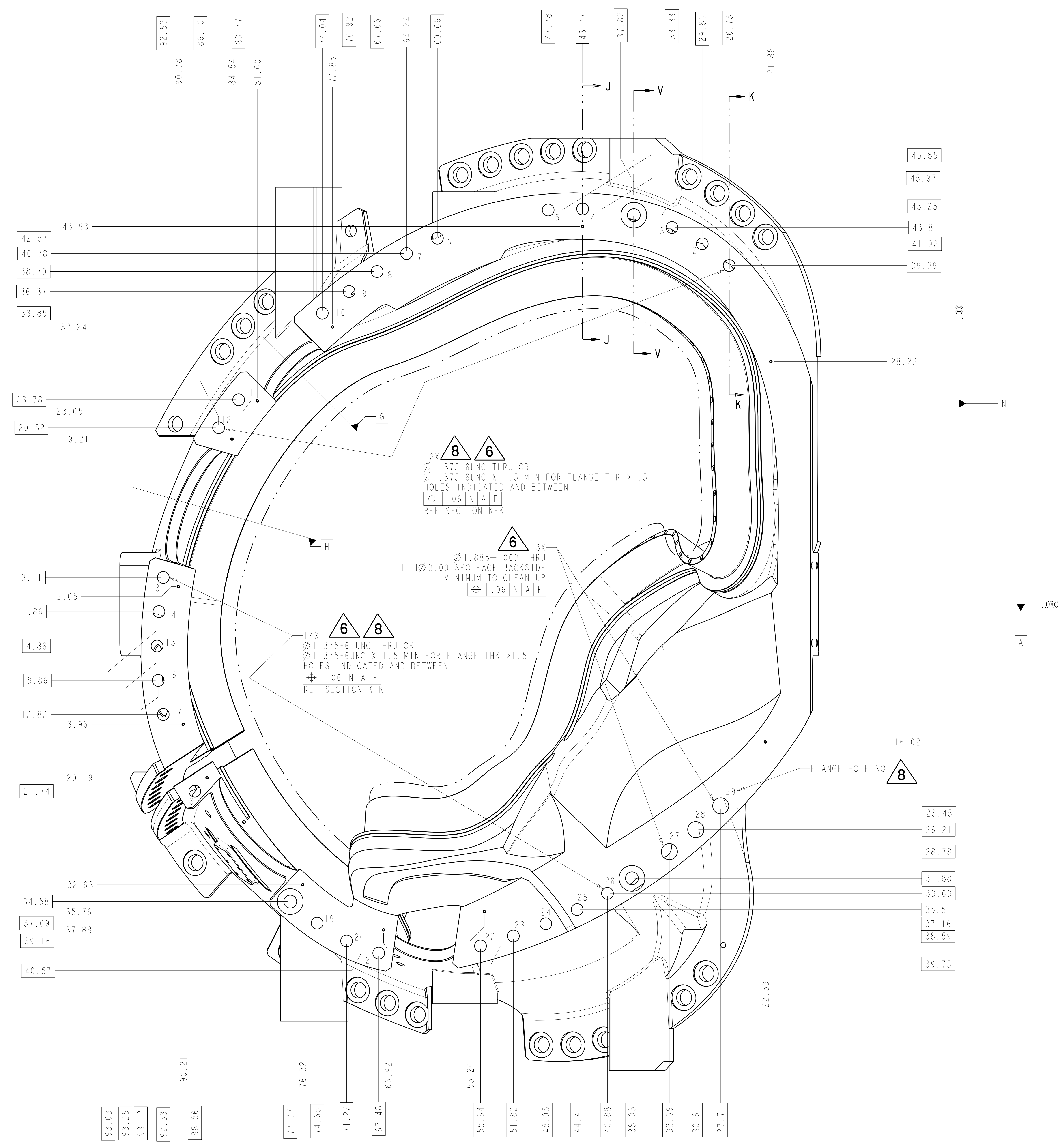
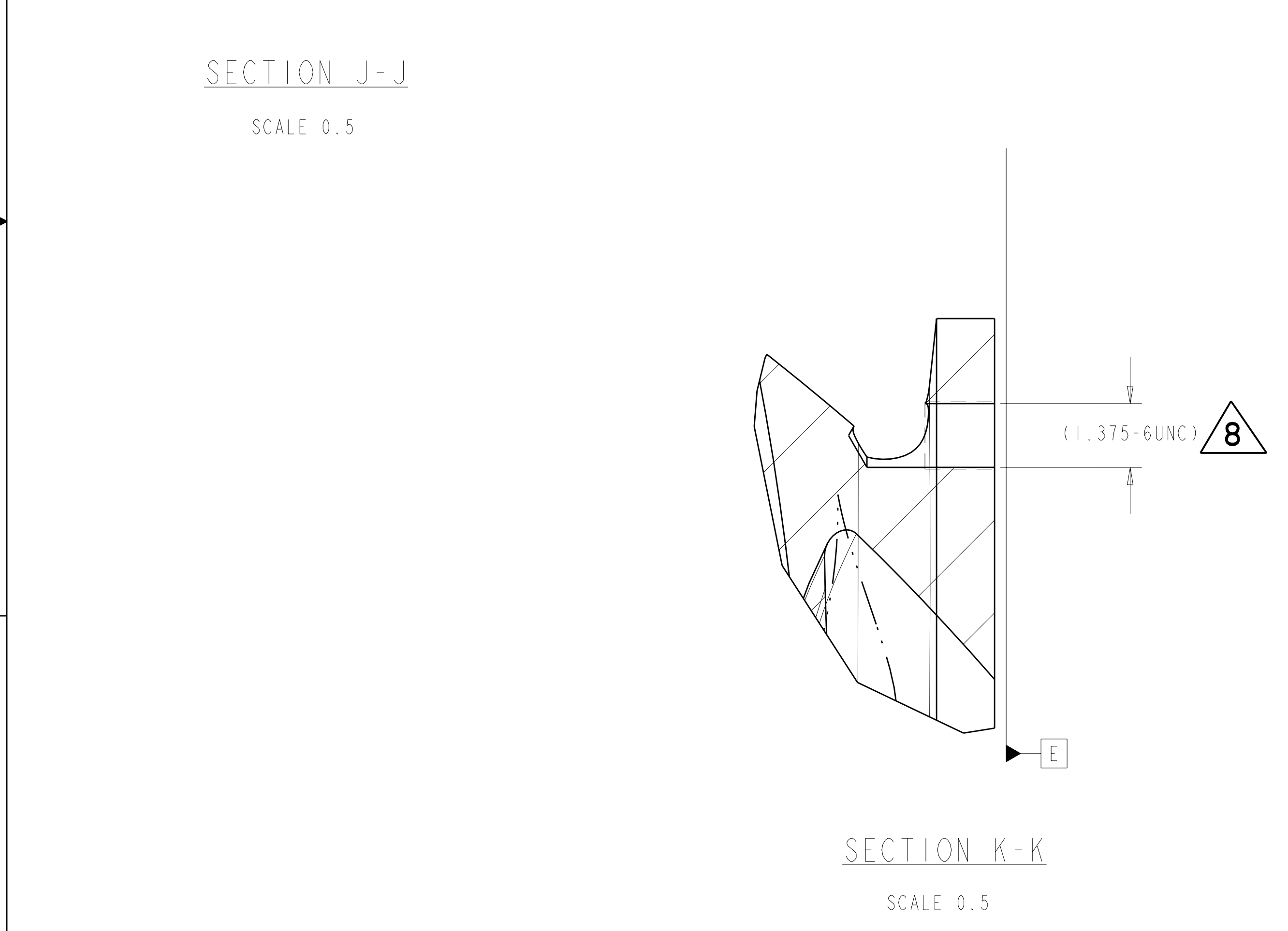
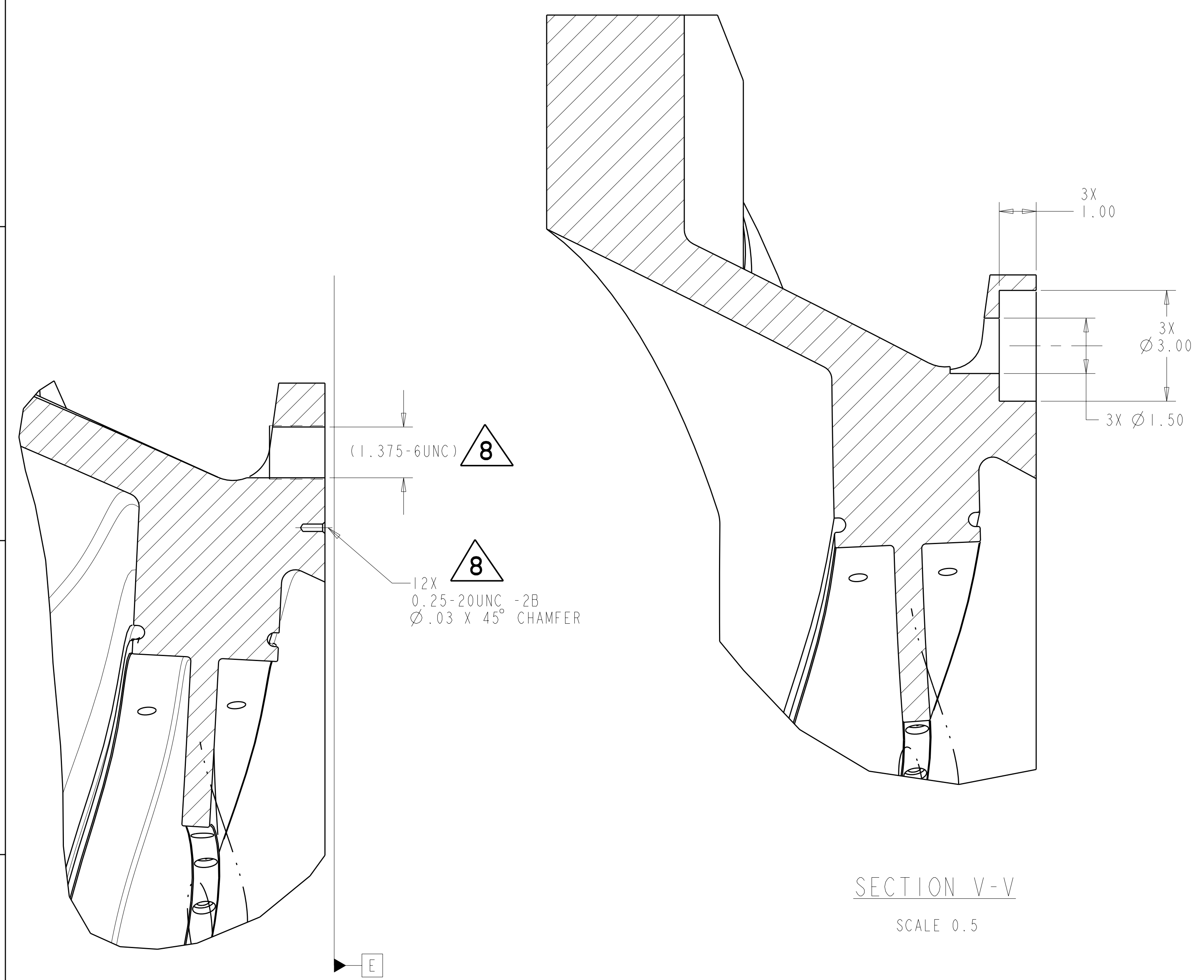


SECTION Z-Z SCALE 0.50

VIEW AT DATUM D SCALE 0.20

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UT-BATTELLE									
PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT									
PRODUCTION WINDING FORM TYPE-B									
VERSION NO. 14	PLANT X-10	BLDG 5700	FL 3	SHT OF 4	TYPE 12	CLASS S	REV U		
RELEASE LEVEL Fabrication		SE141-115					REV 8		



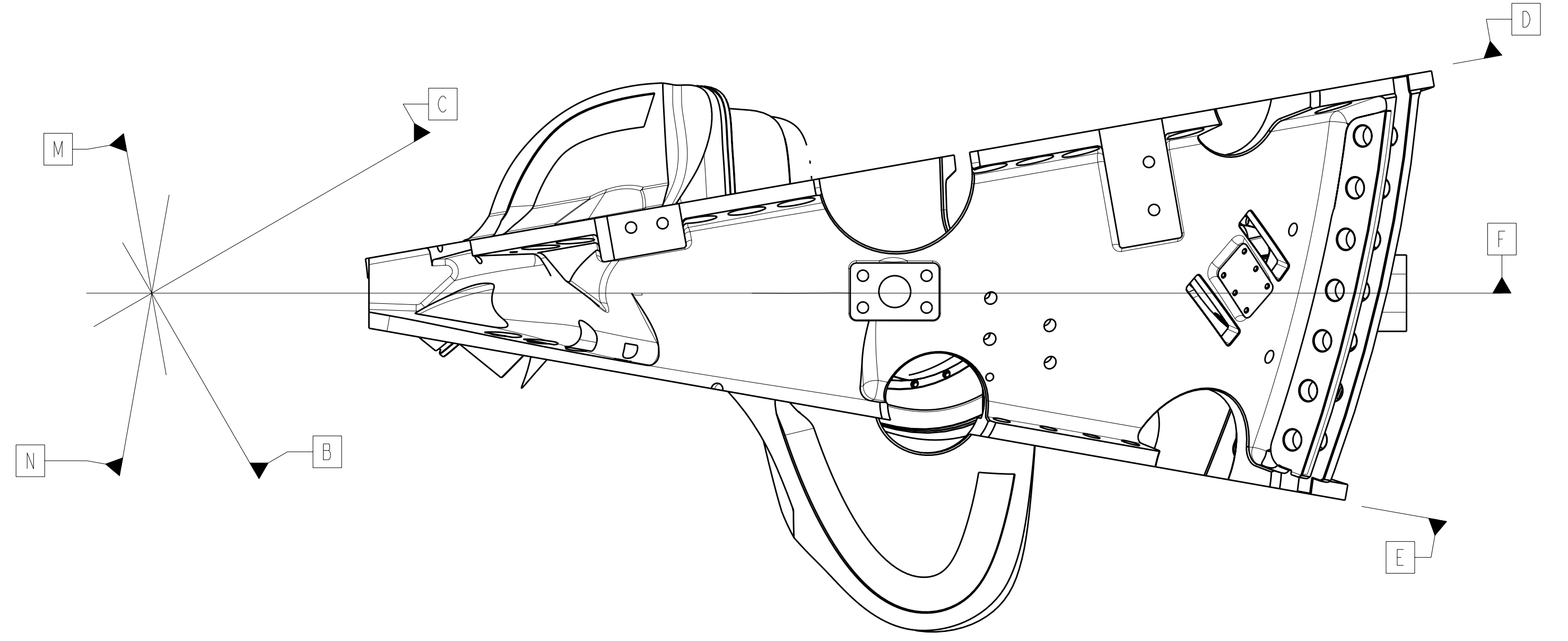
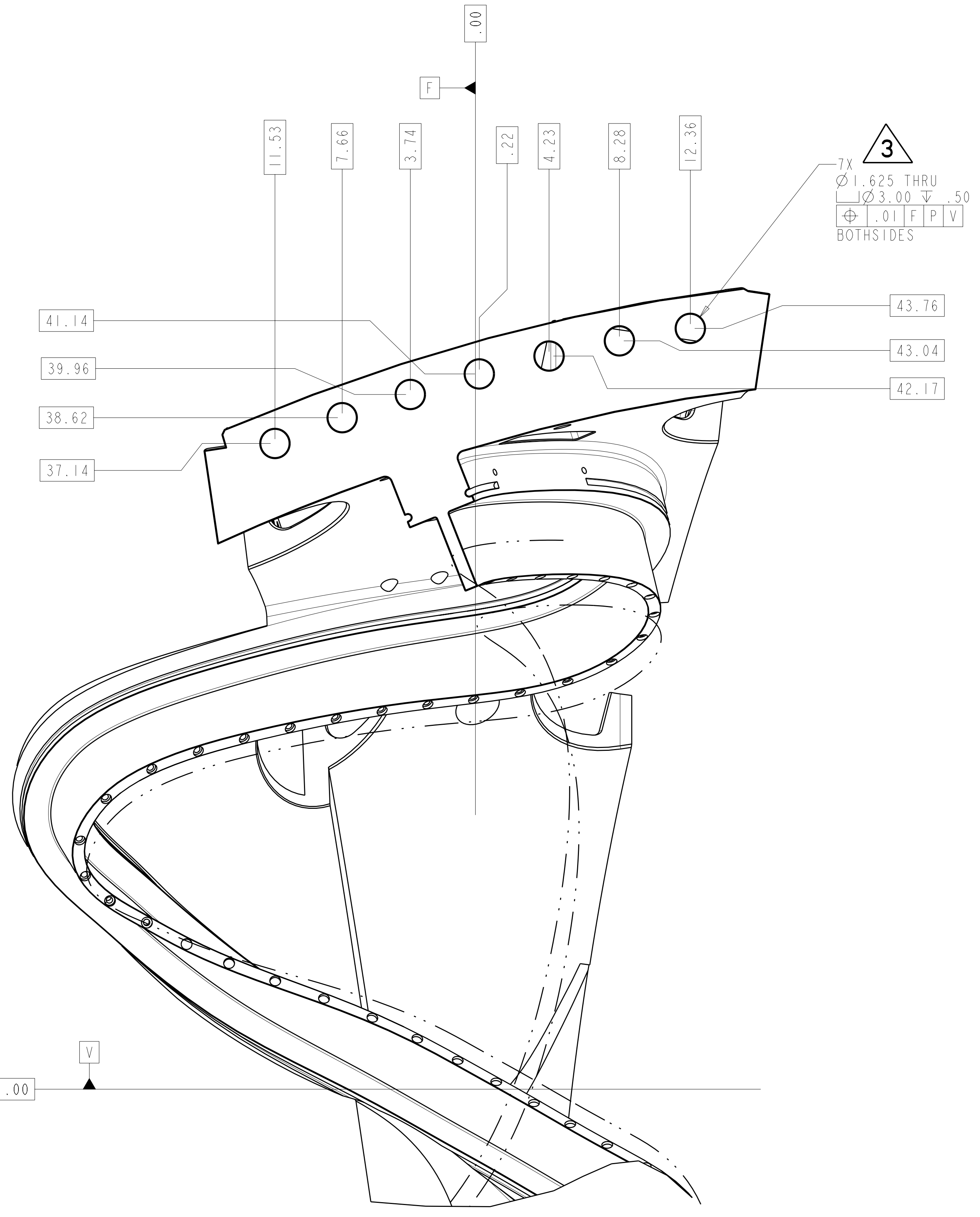
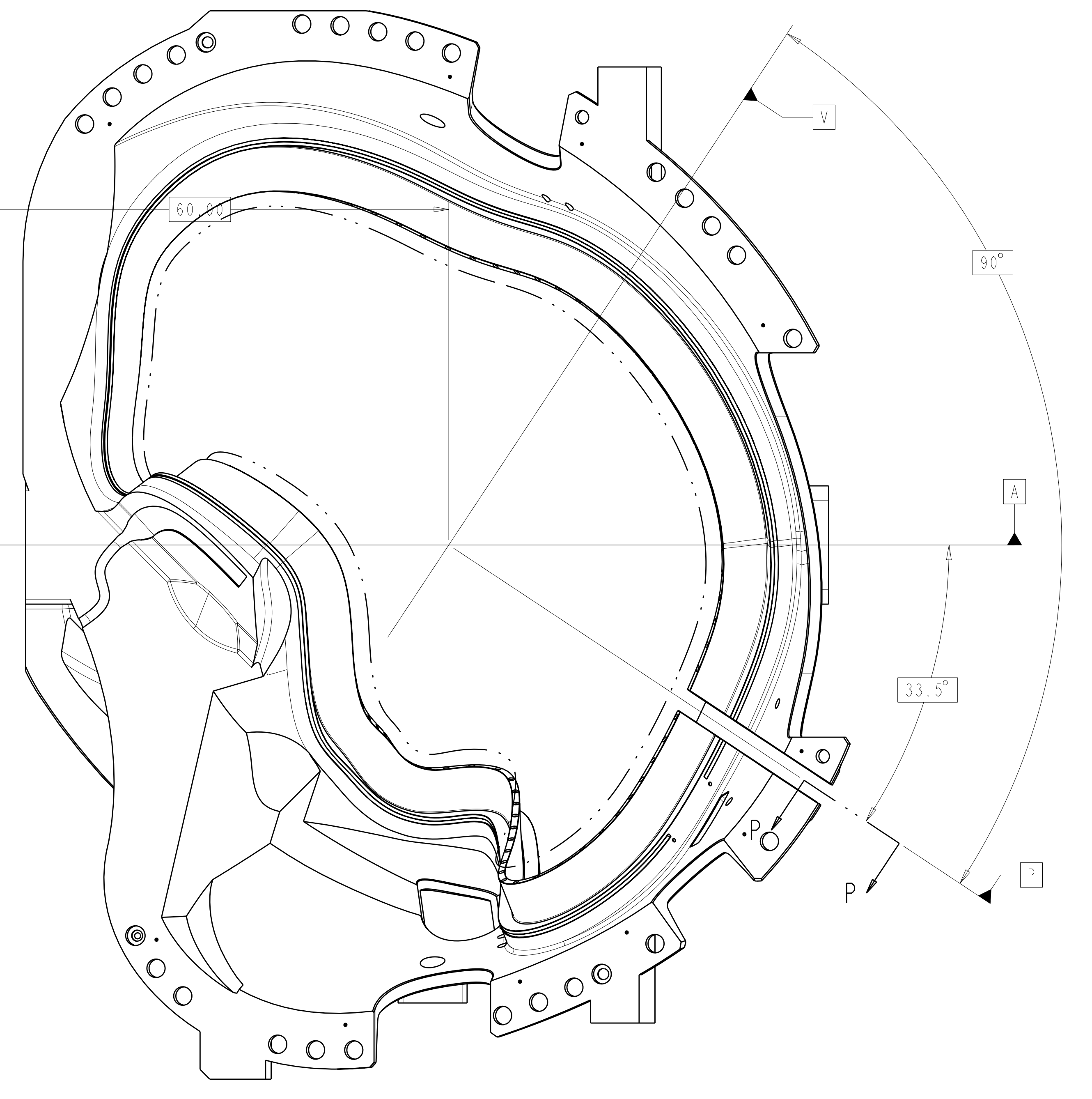
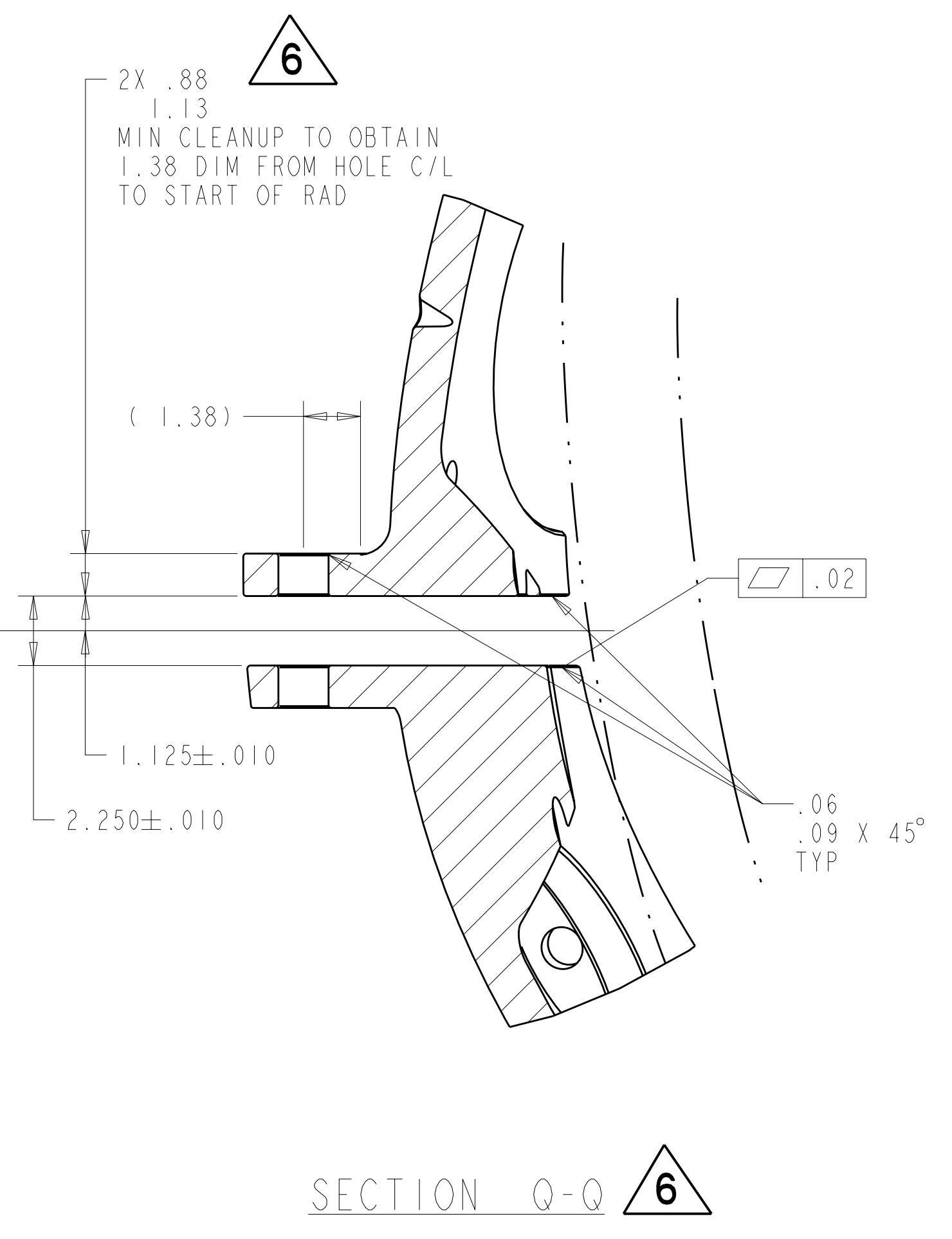
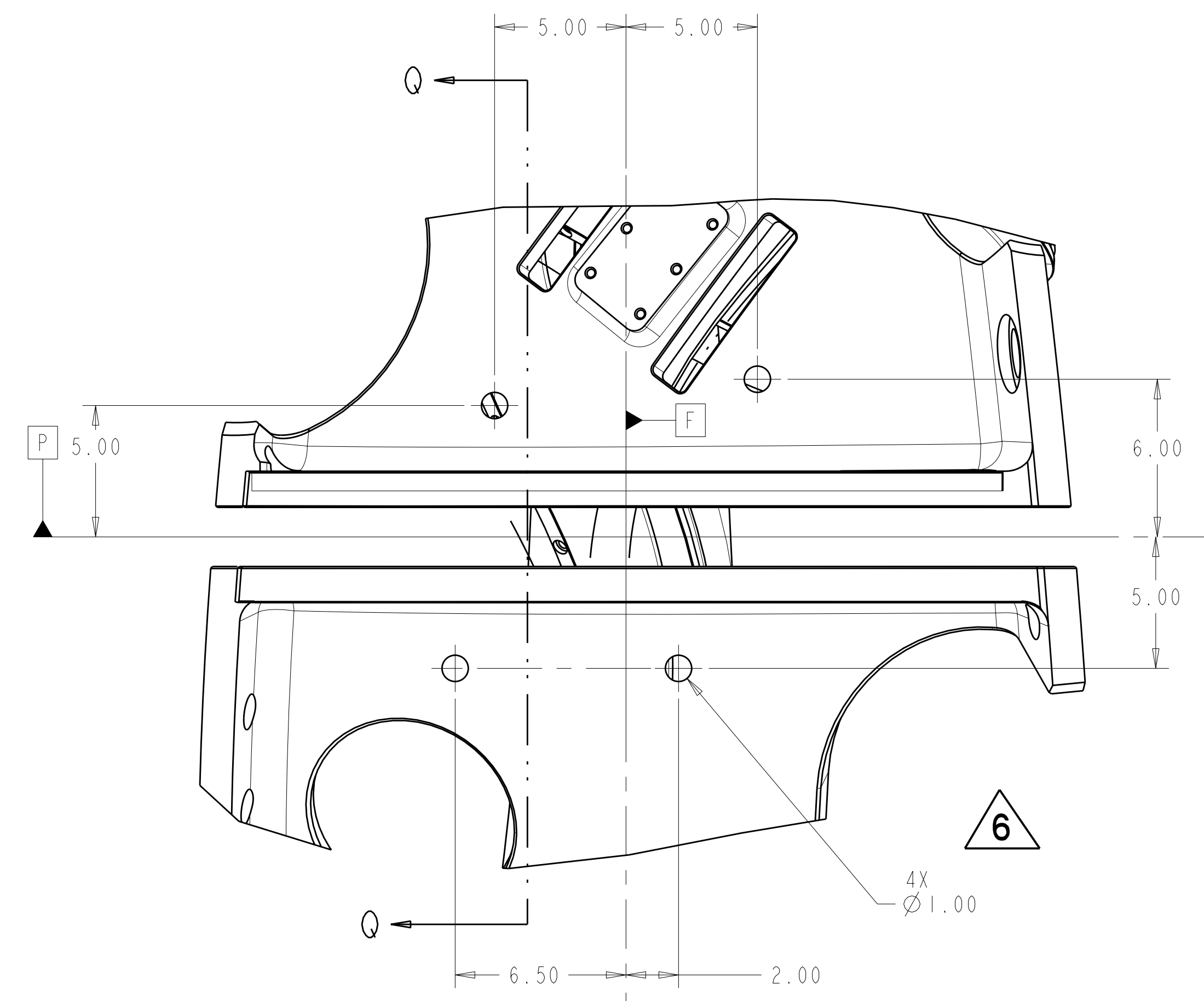
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UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT									
PRODUCTION WINDING FORM TYPE-B									
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS		
14	X-10	5700	3	5	12	S	U		
RELEASE LEVEL		SE141-115						REV	
Fabrication								8	

SE141-115

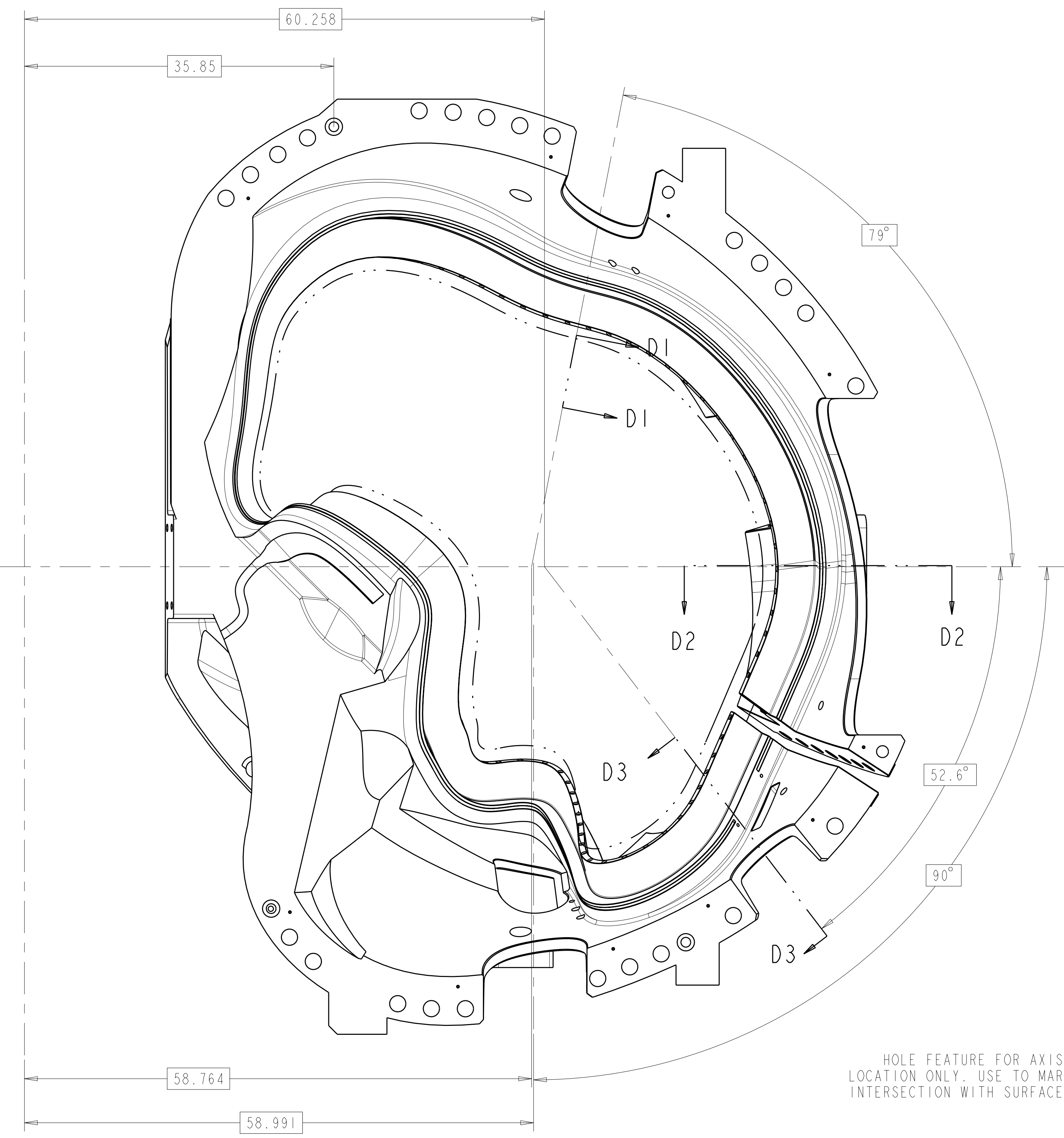
FOR NOTES AND PARTS LIST SEE SHEET 1



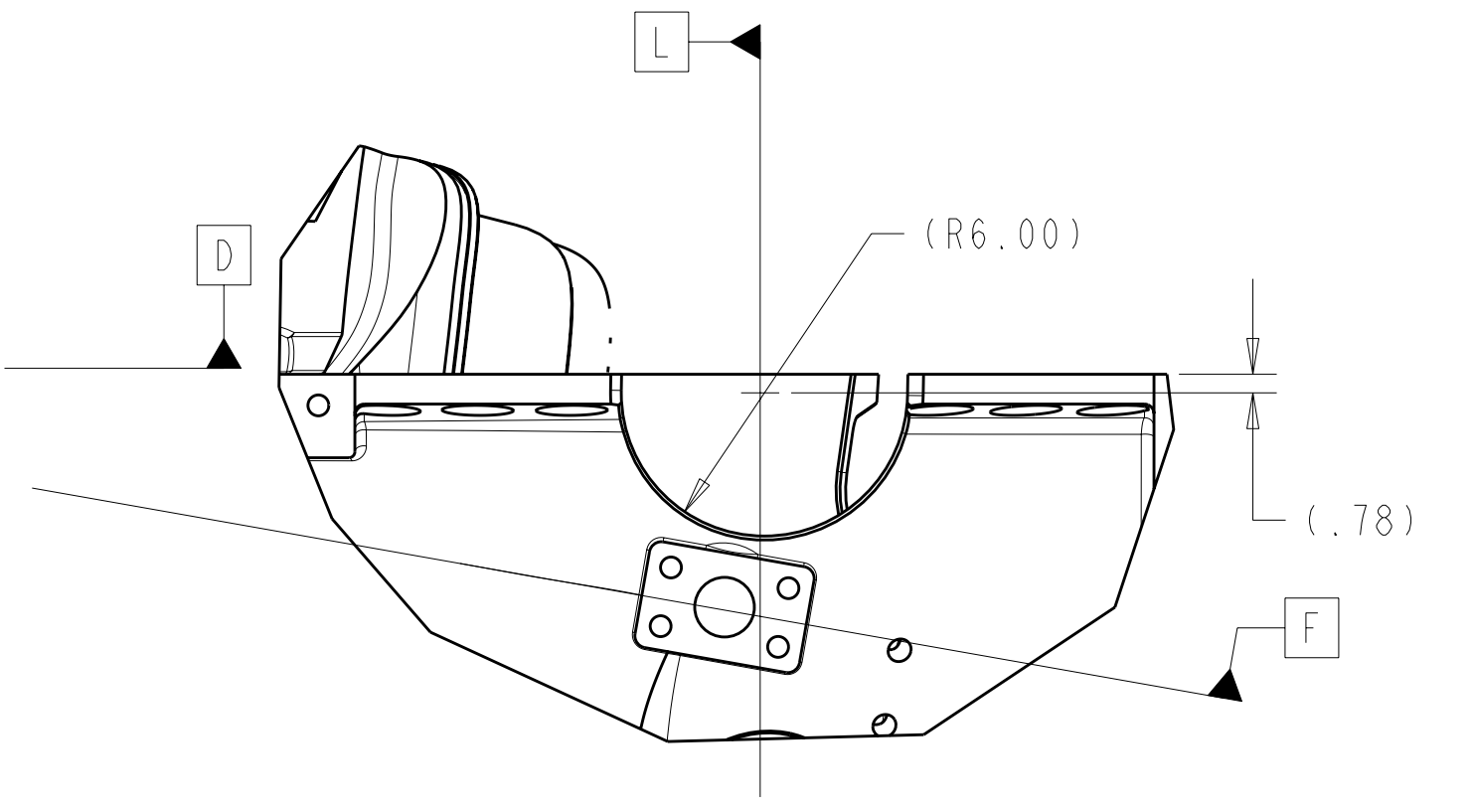
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UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-B							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
14	X-10	5700	3	6	12	S	U
RELEASE LEVEL		SE141-115				REV	
Fabrication						8	

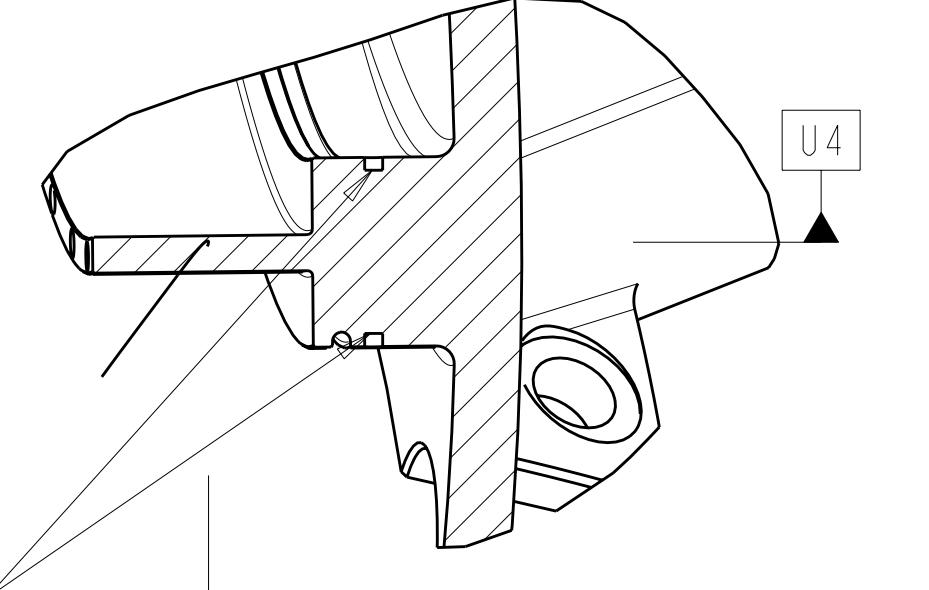
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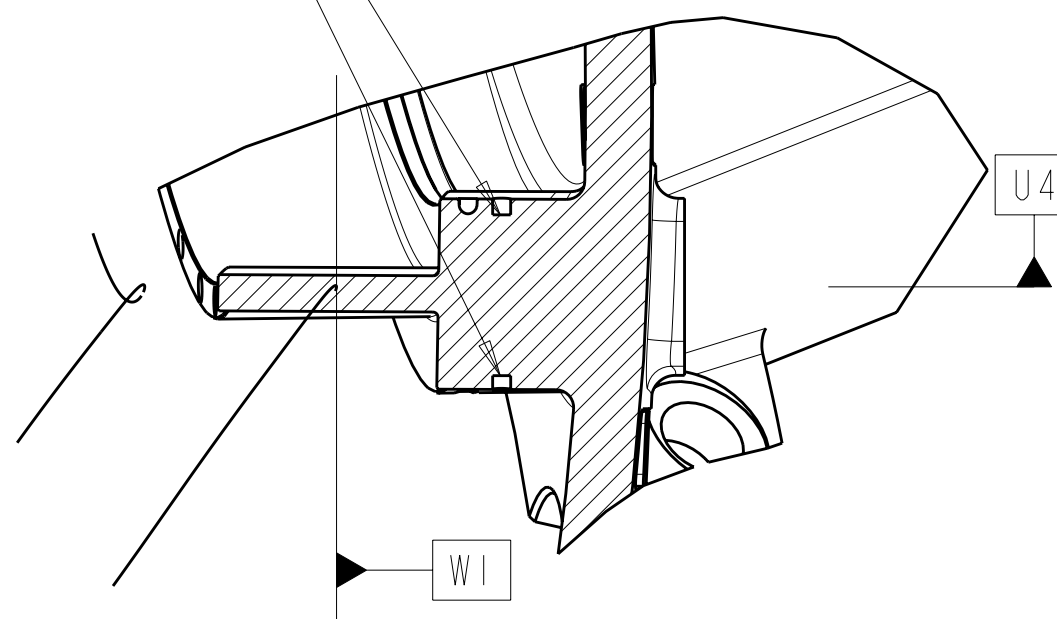
VIEW AT DATUM D
SCALE 0.13



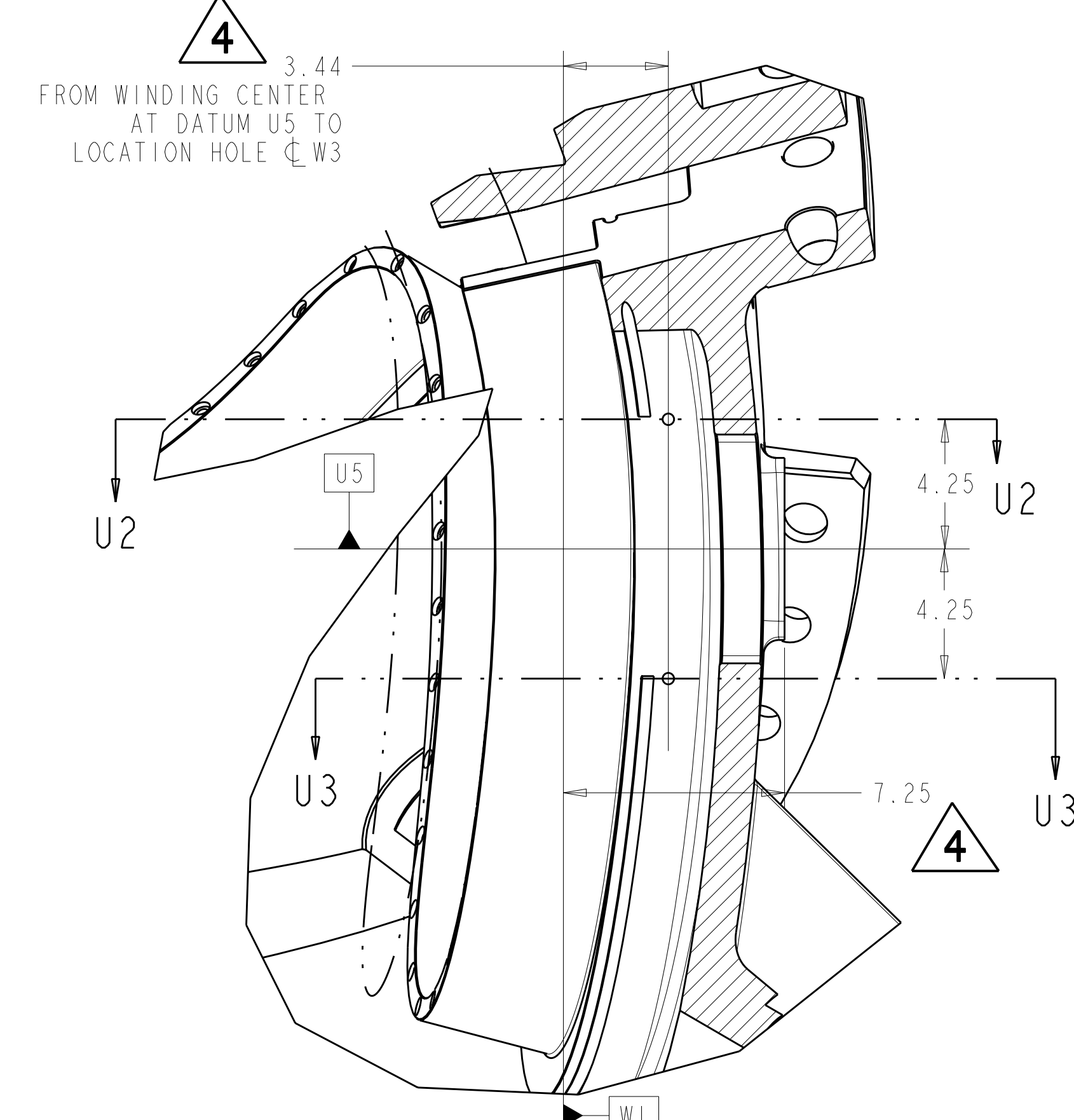
BOTTOM VIEW 6



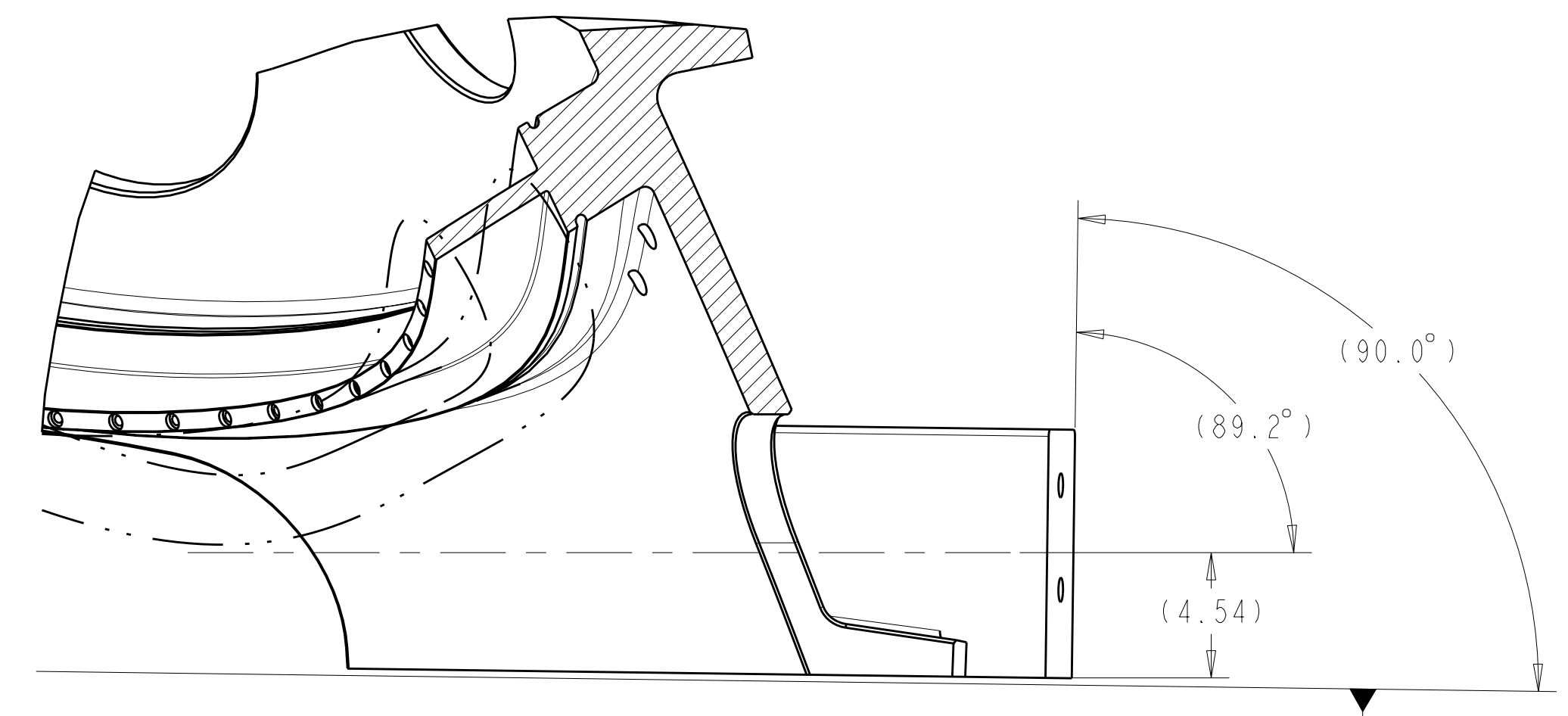
SECTION U3-U3
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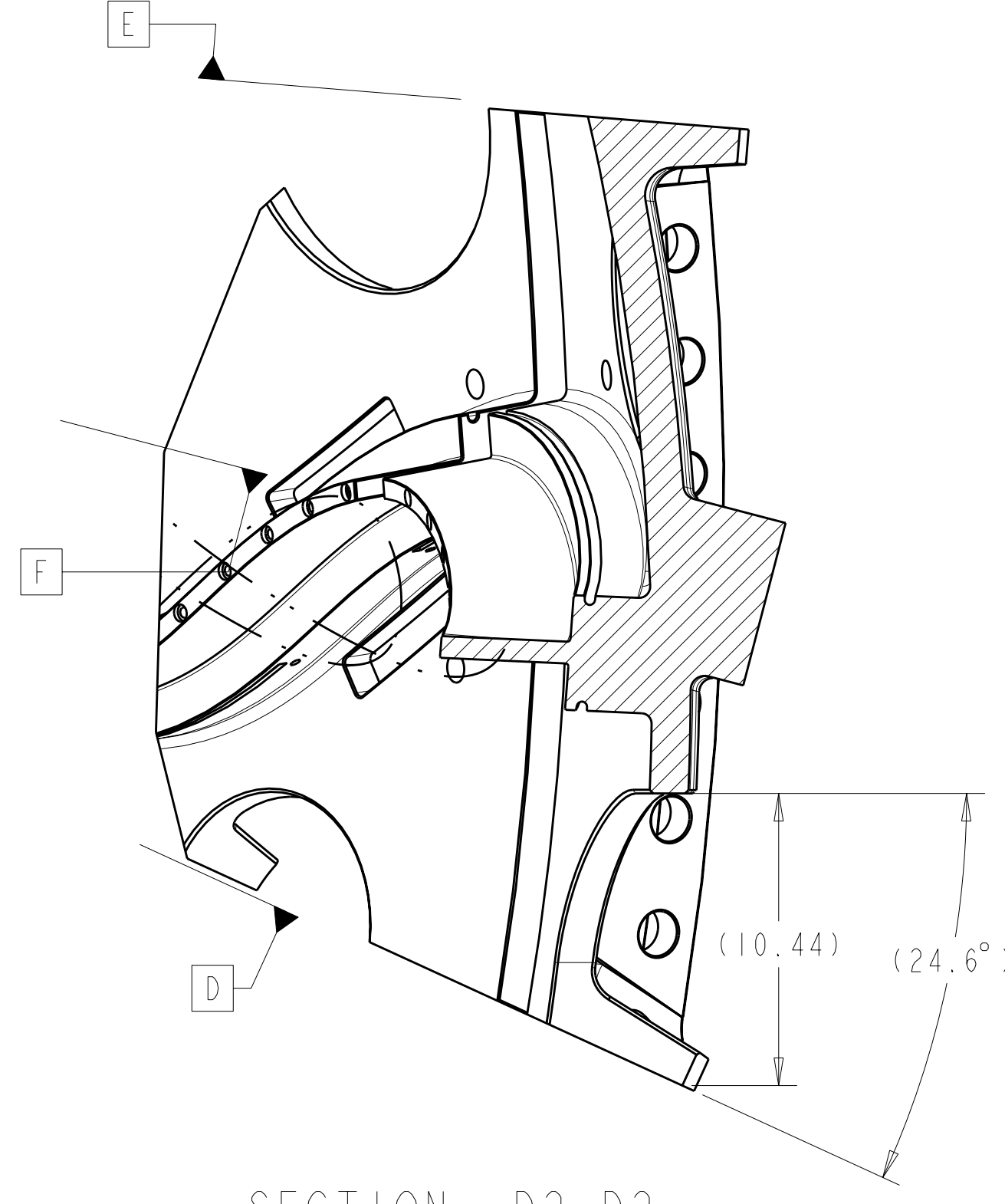
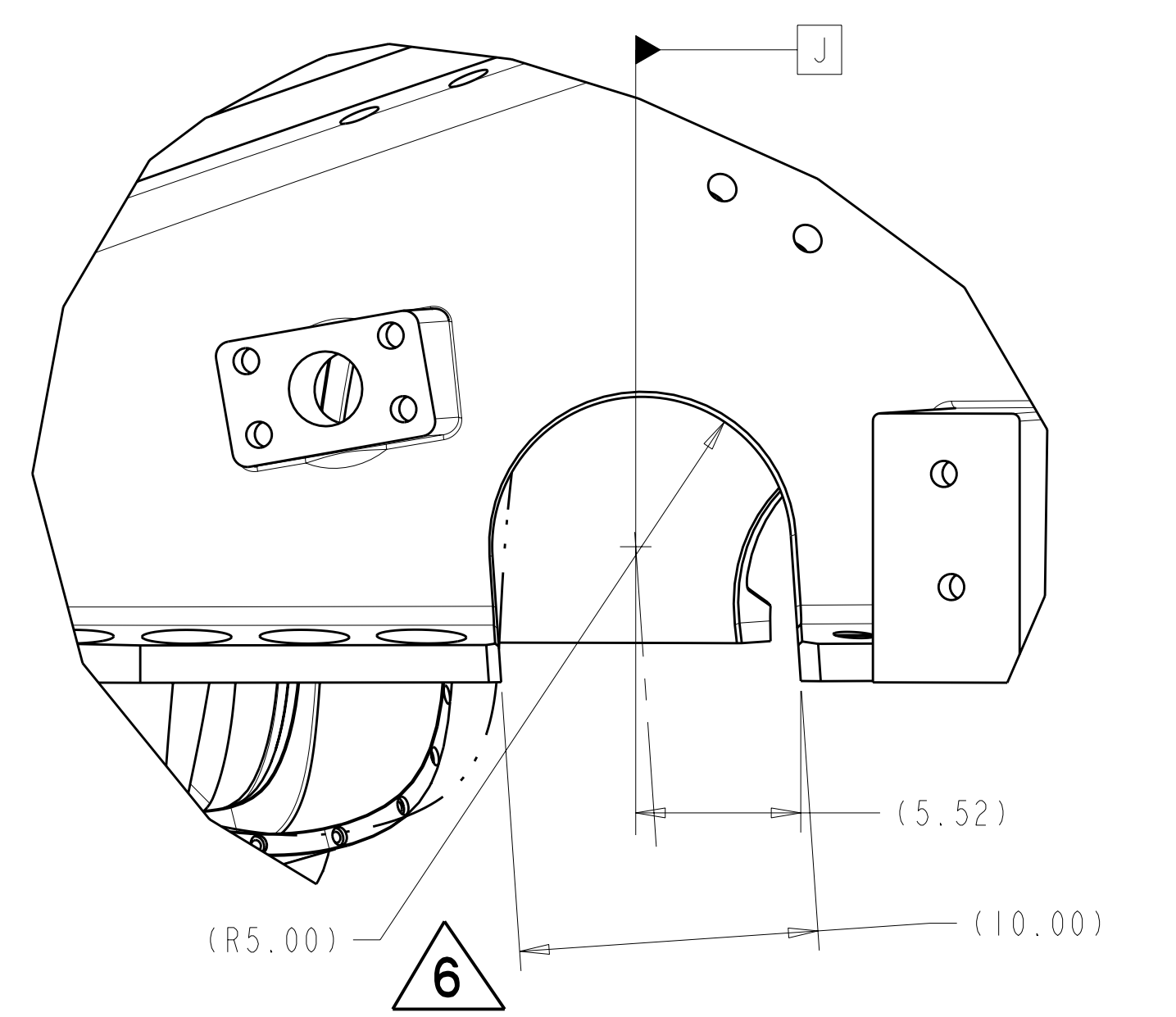
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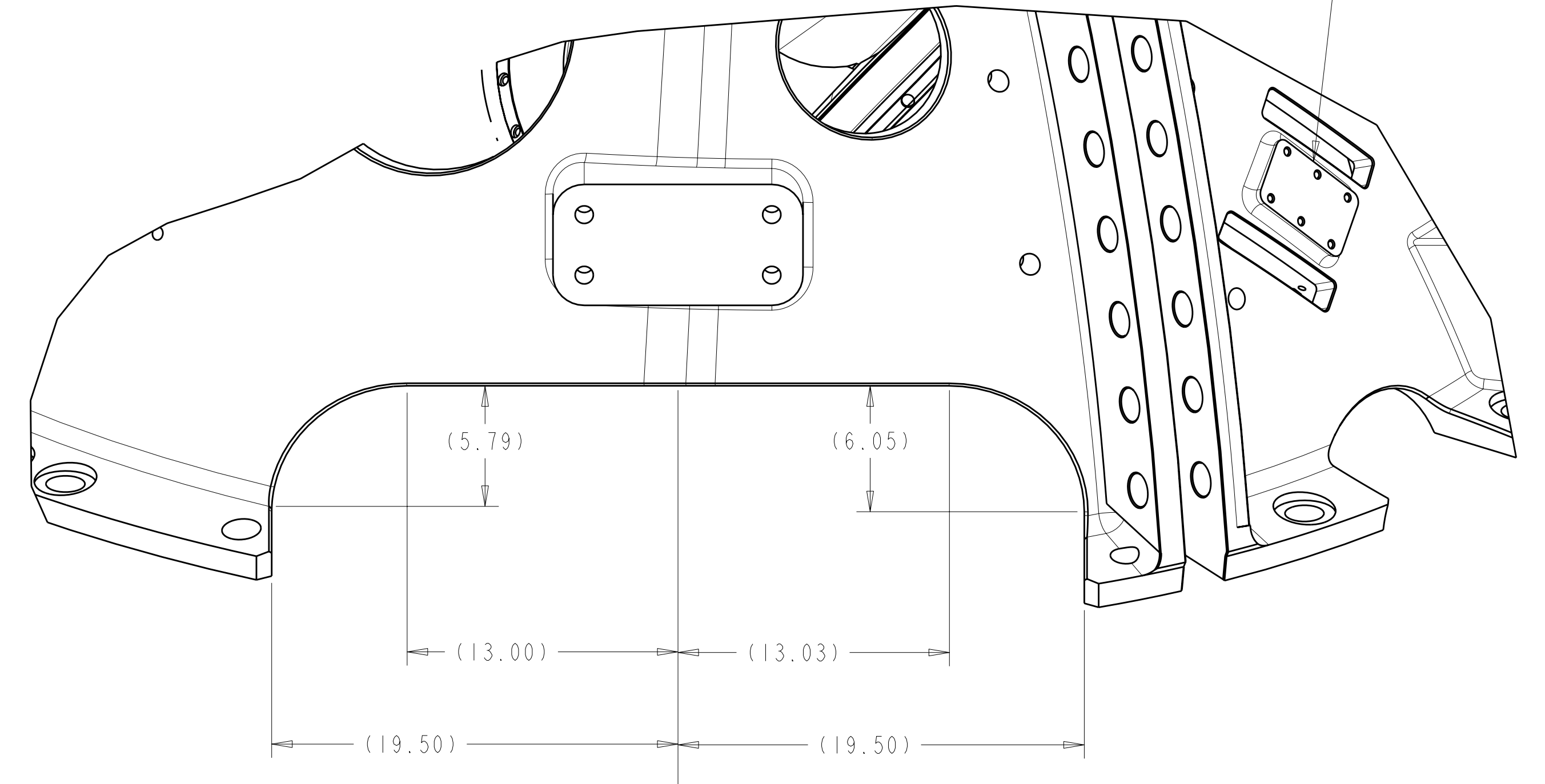
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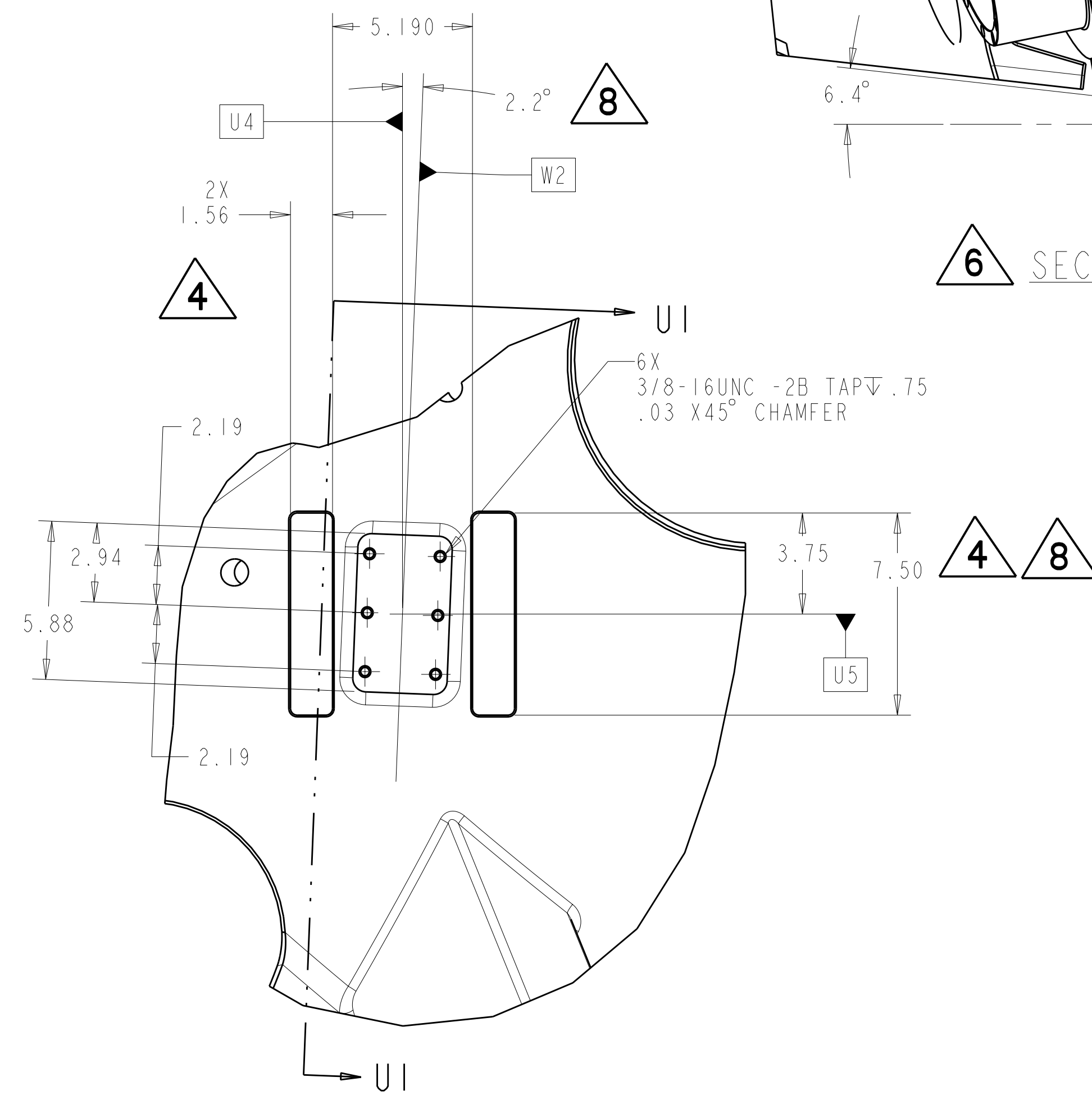
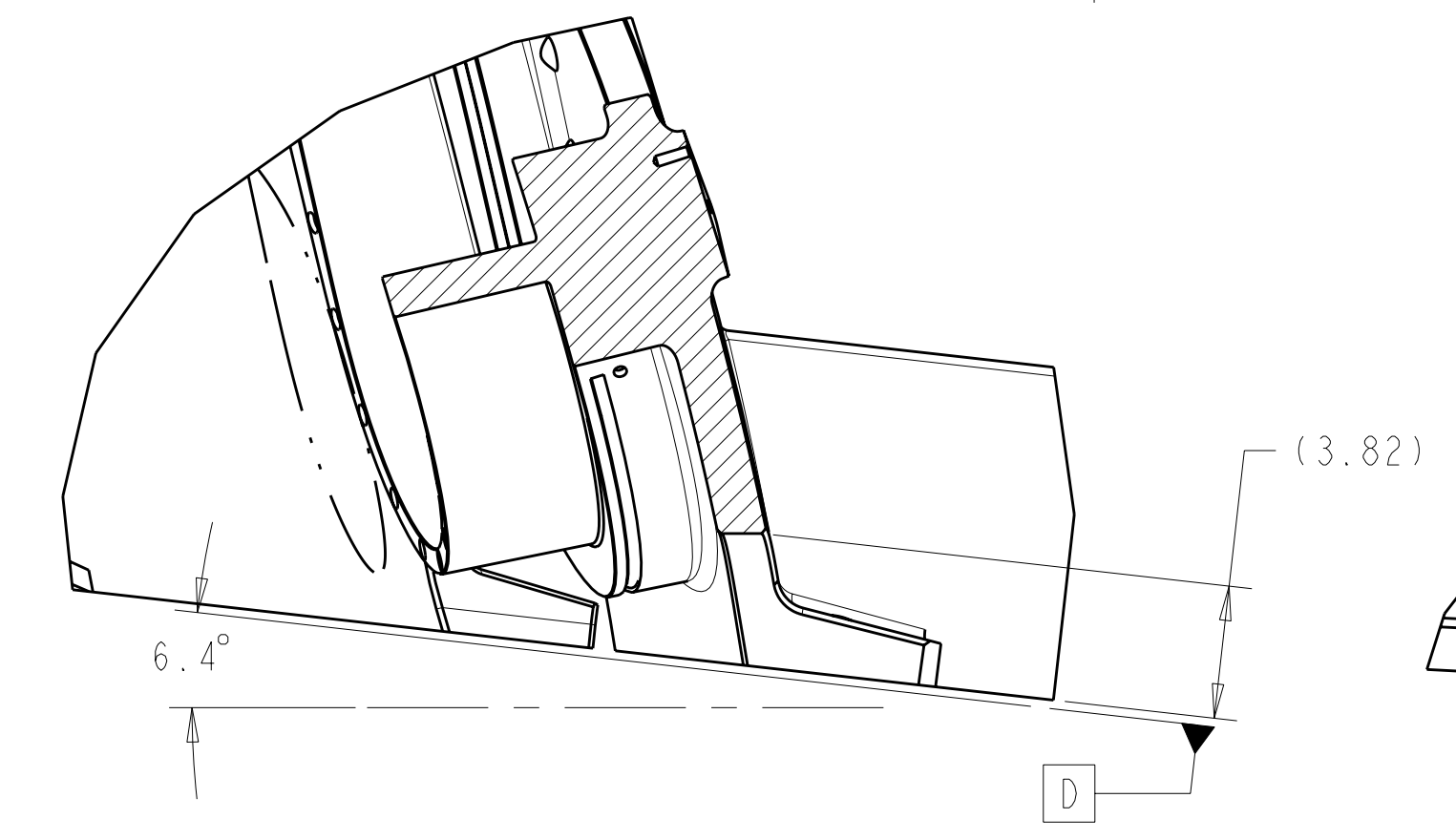
SECTION D1-D1 6
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SECTION D2-D2
SCALE 0.19



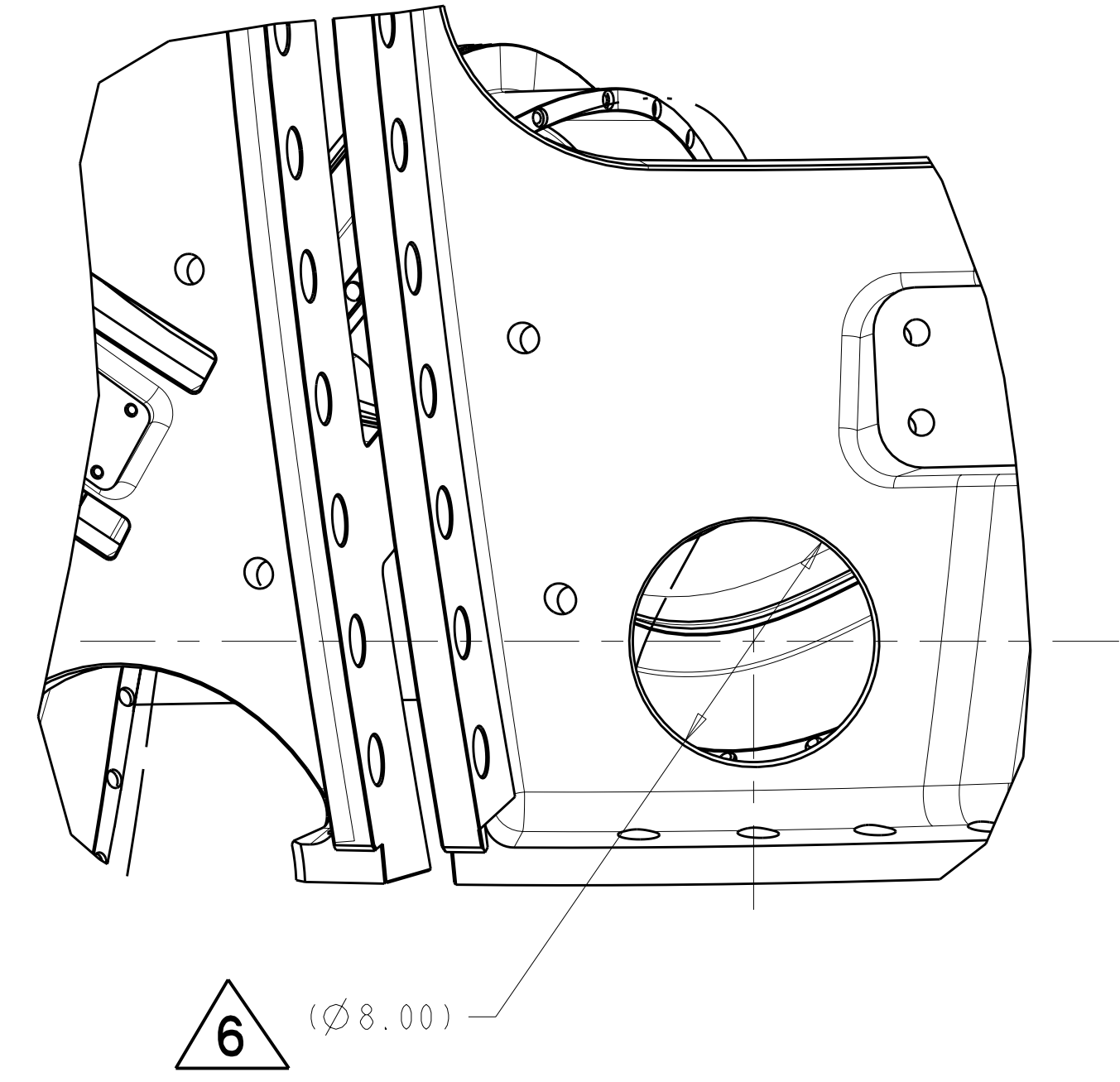
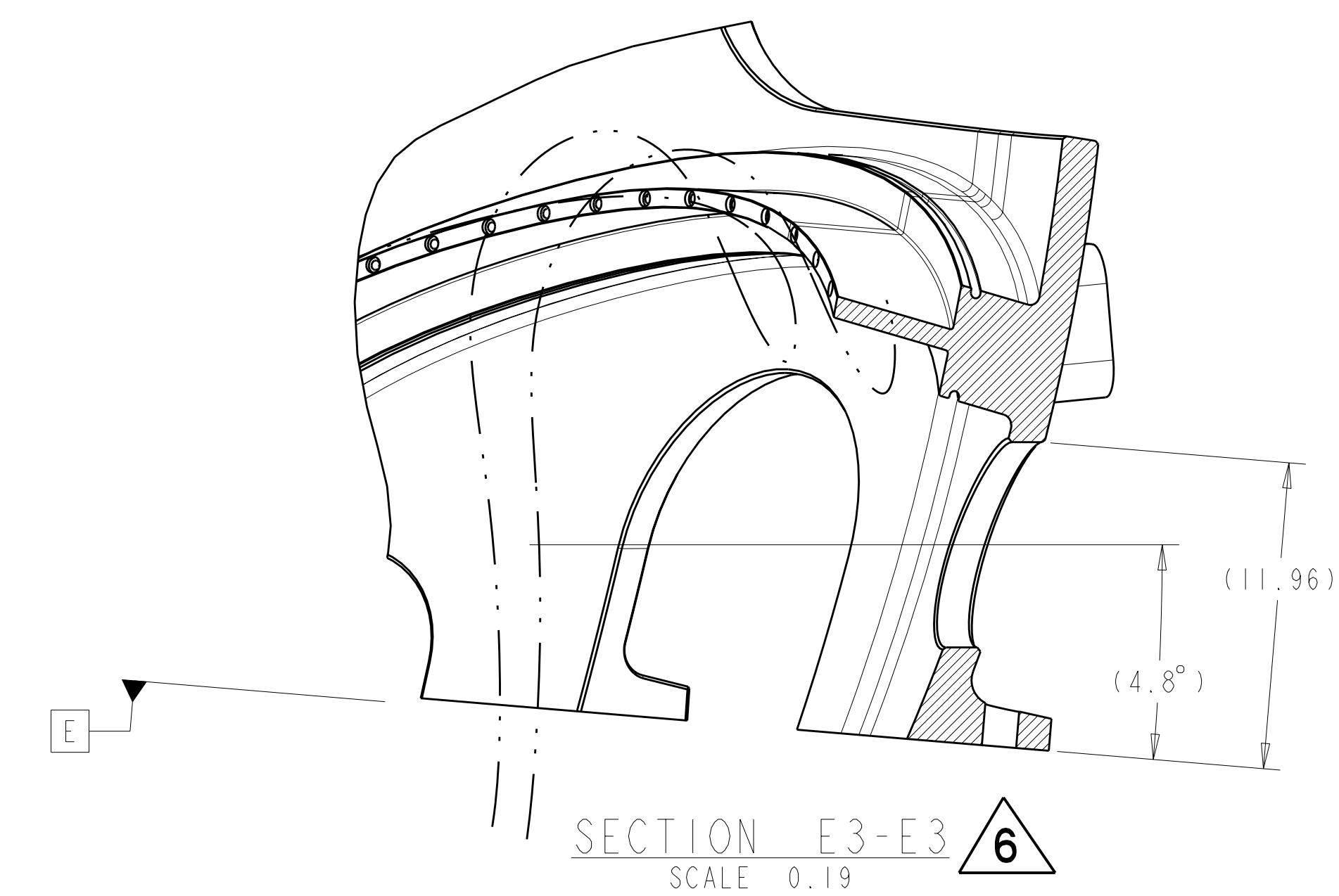
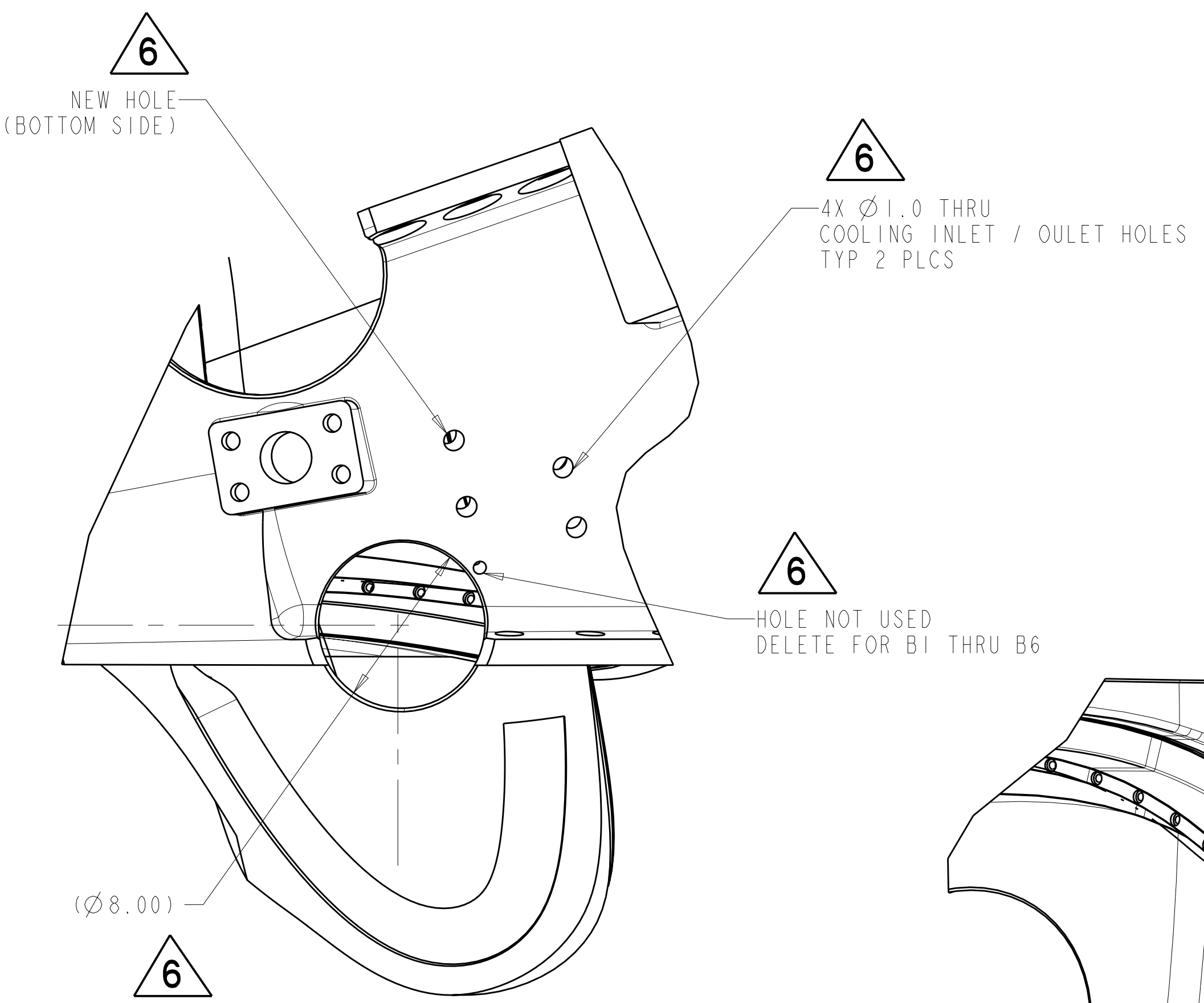
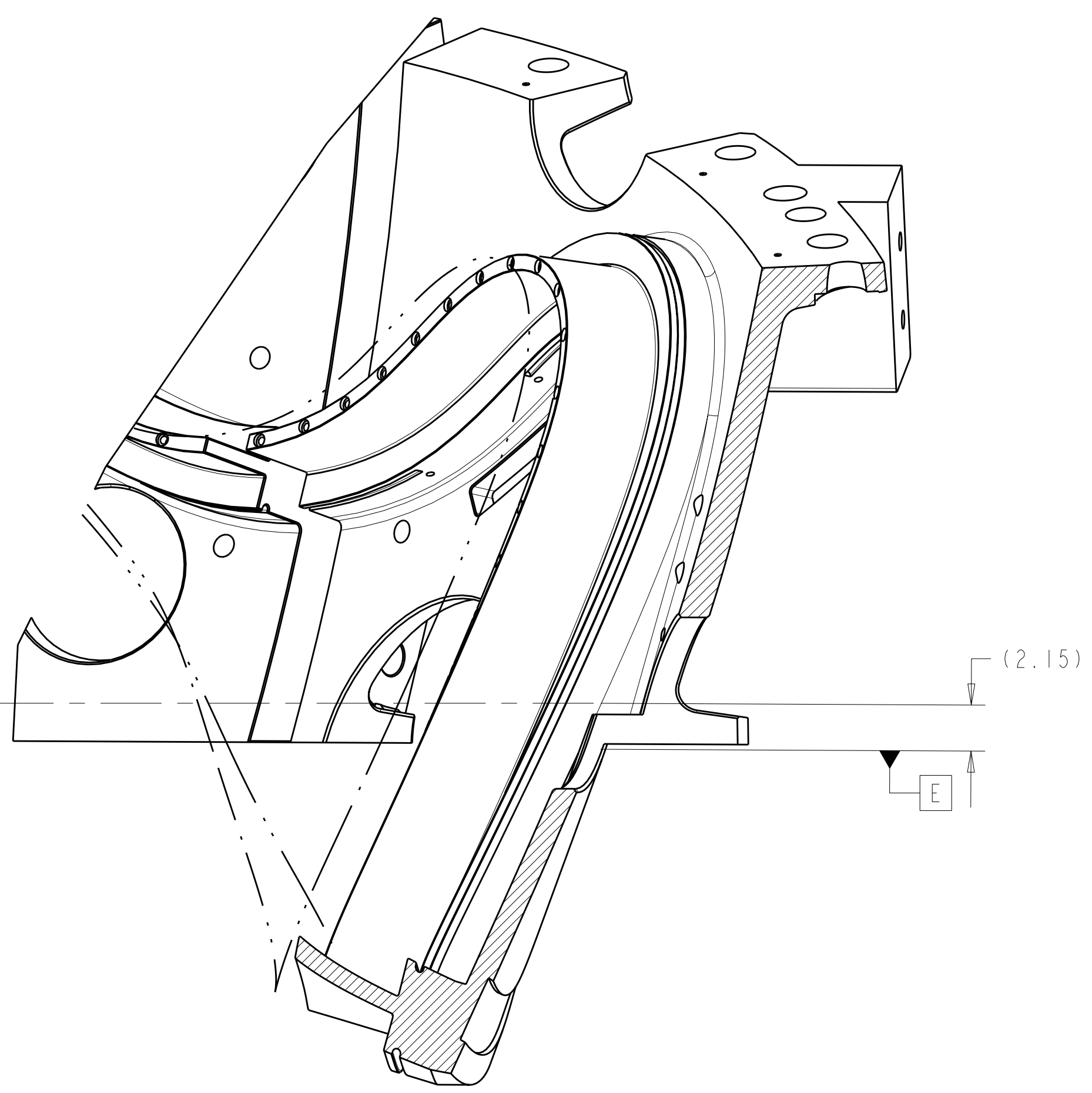
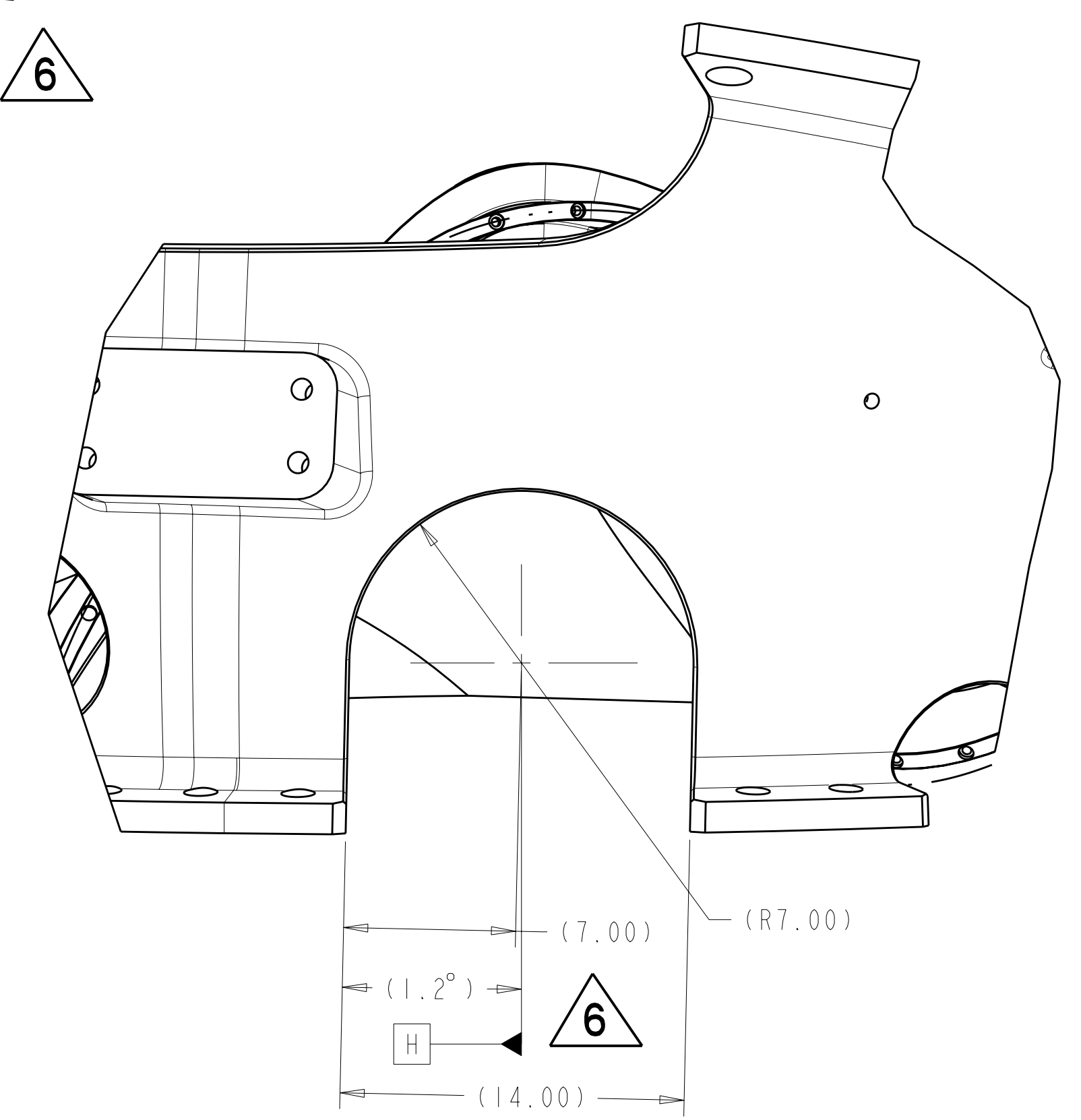
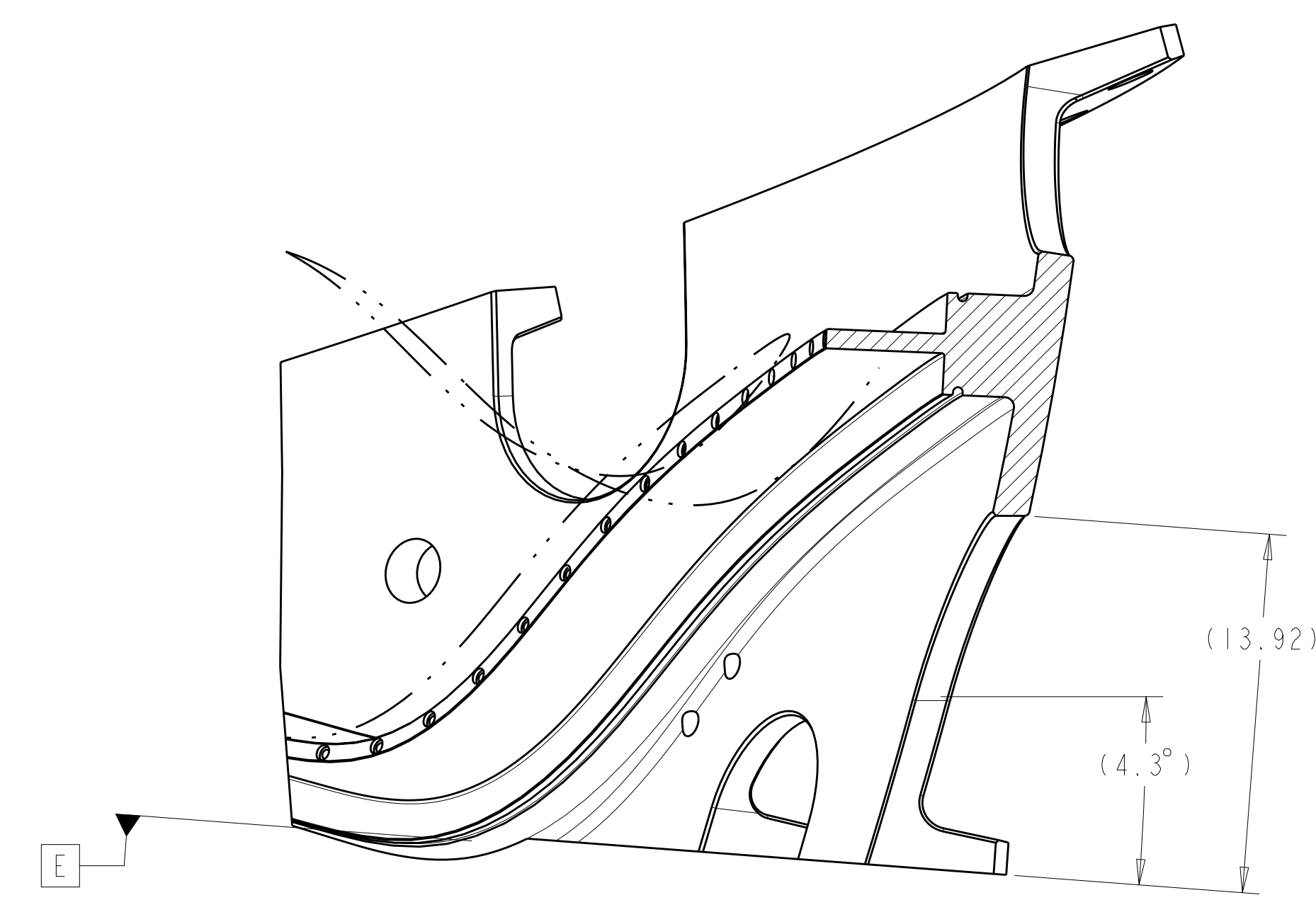
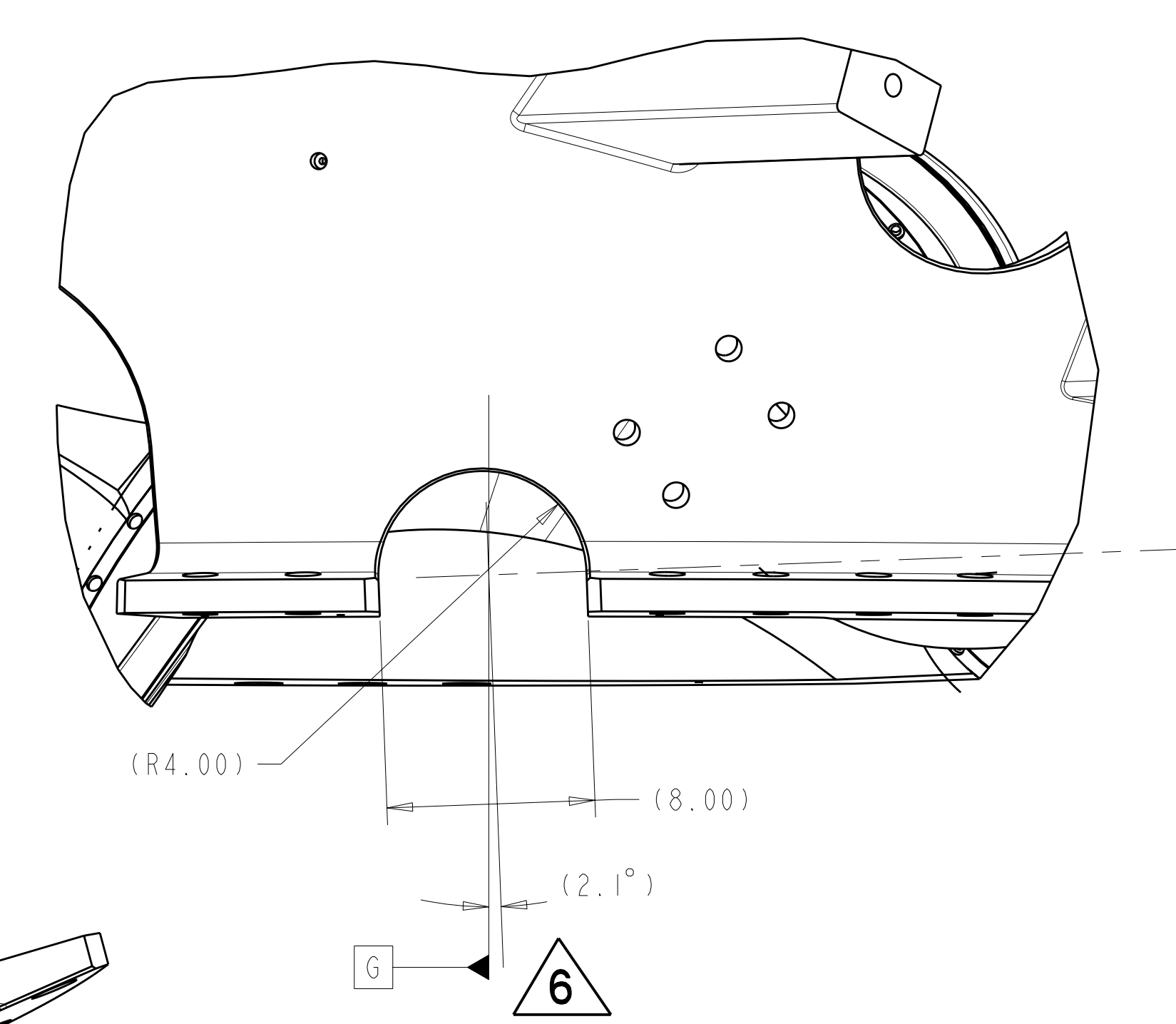
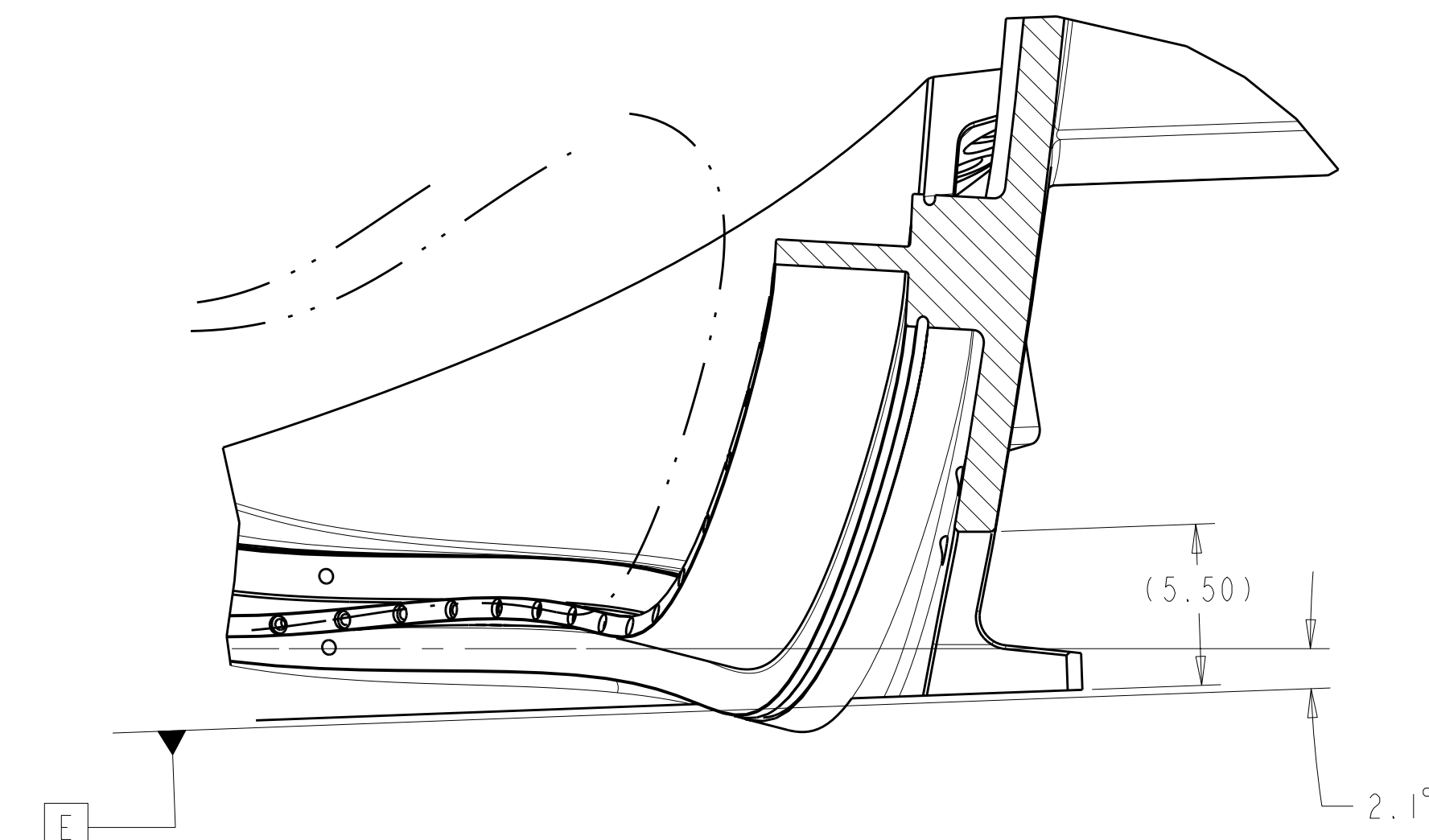
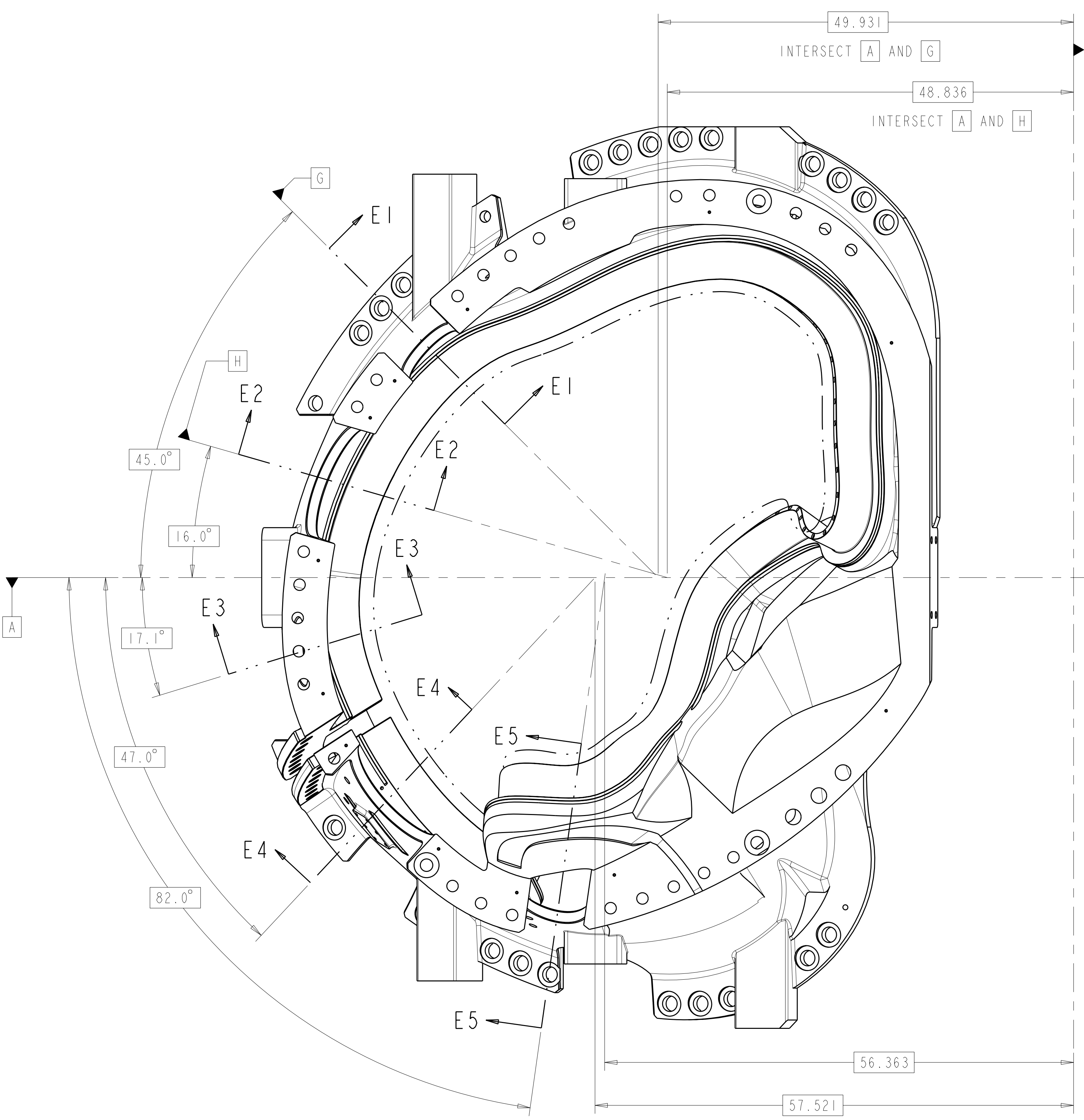
SECTION D3-D3
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VIEW D4 - D4
SCALE 0.250

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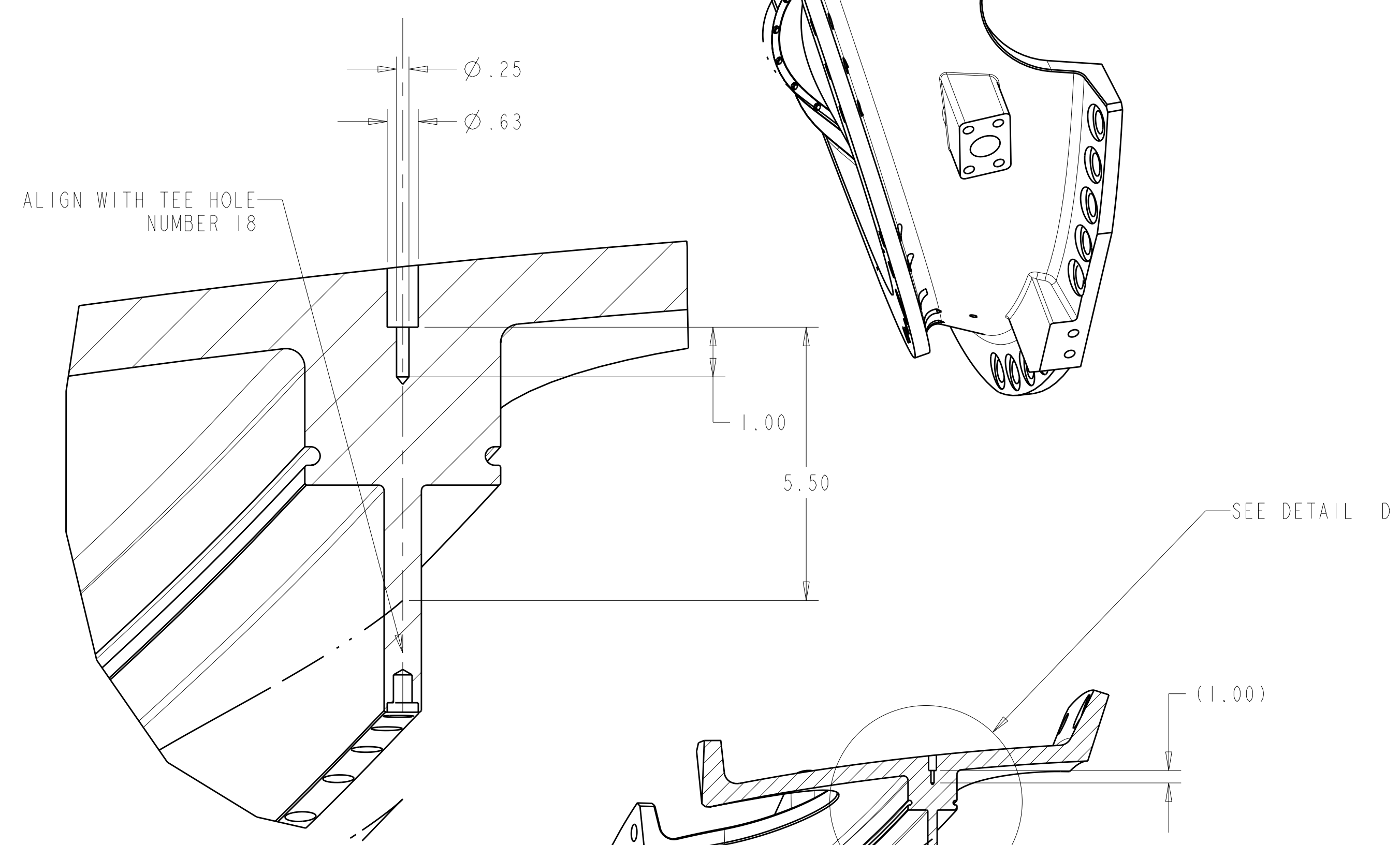
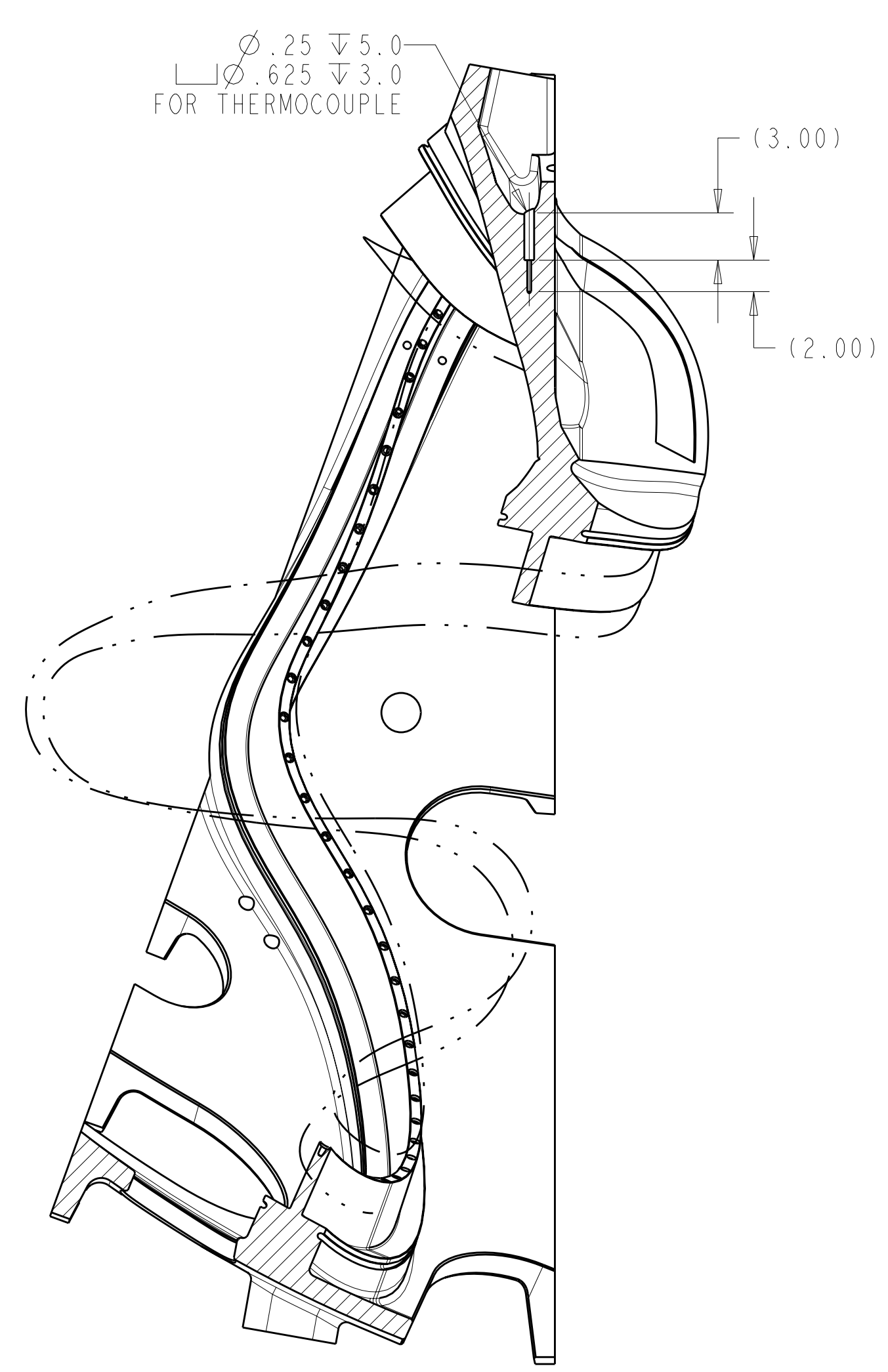
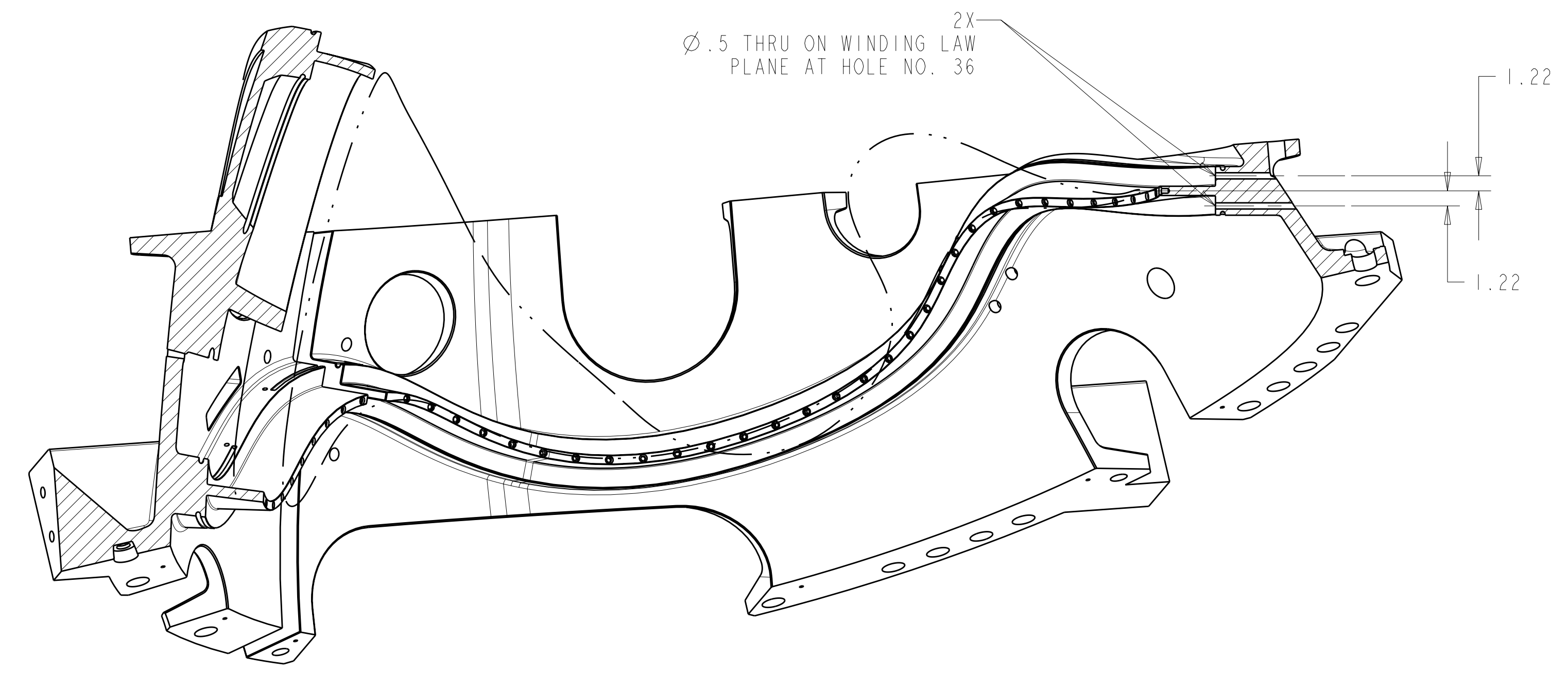
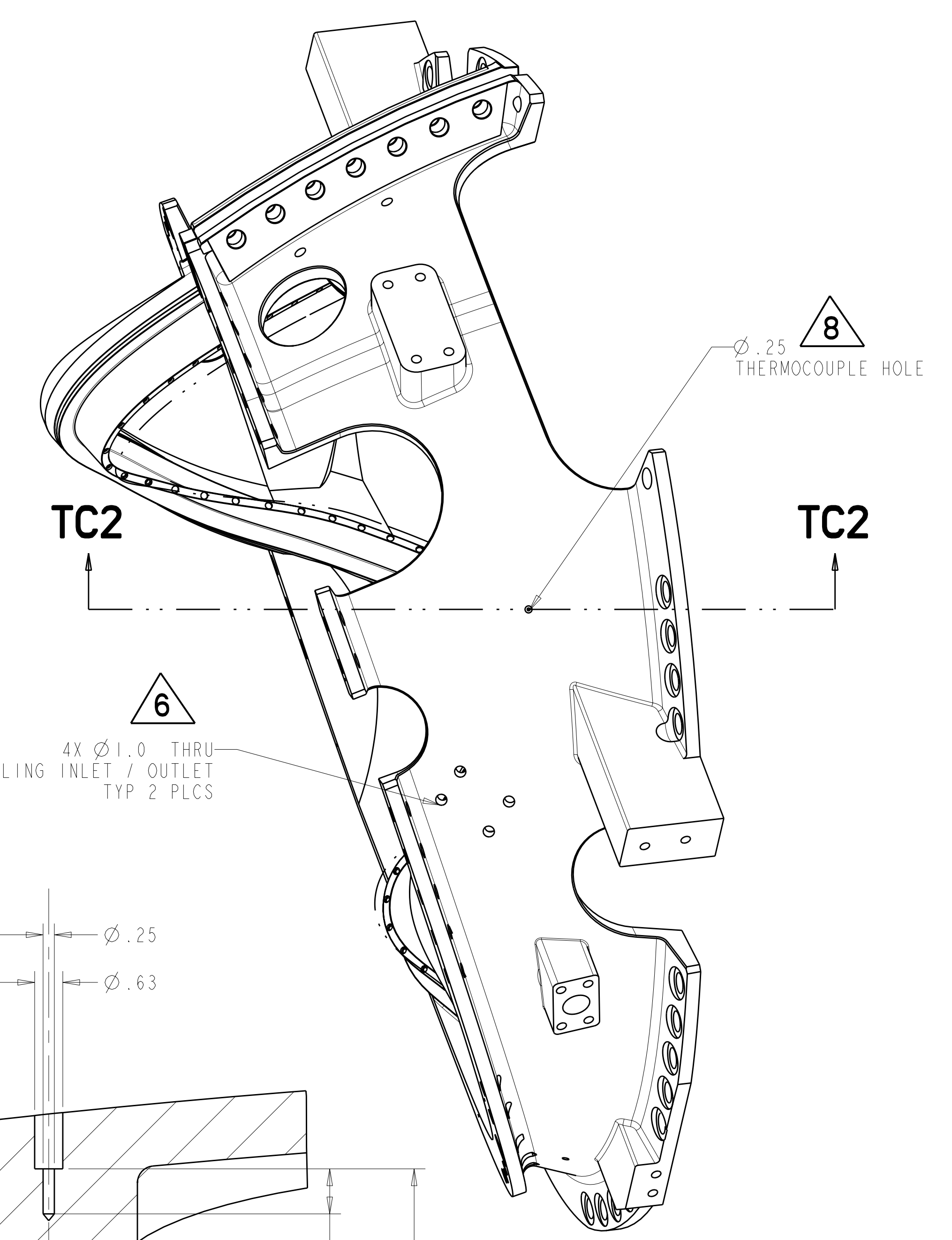
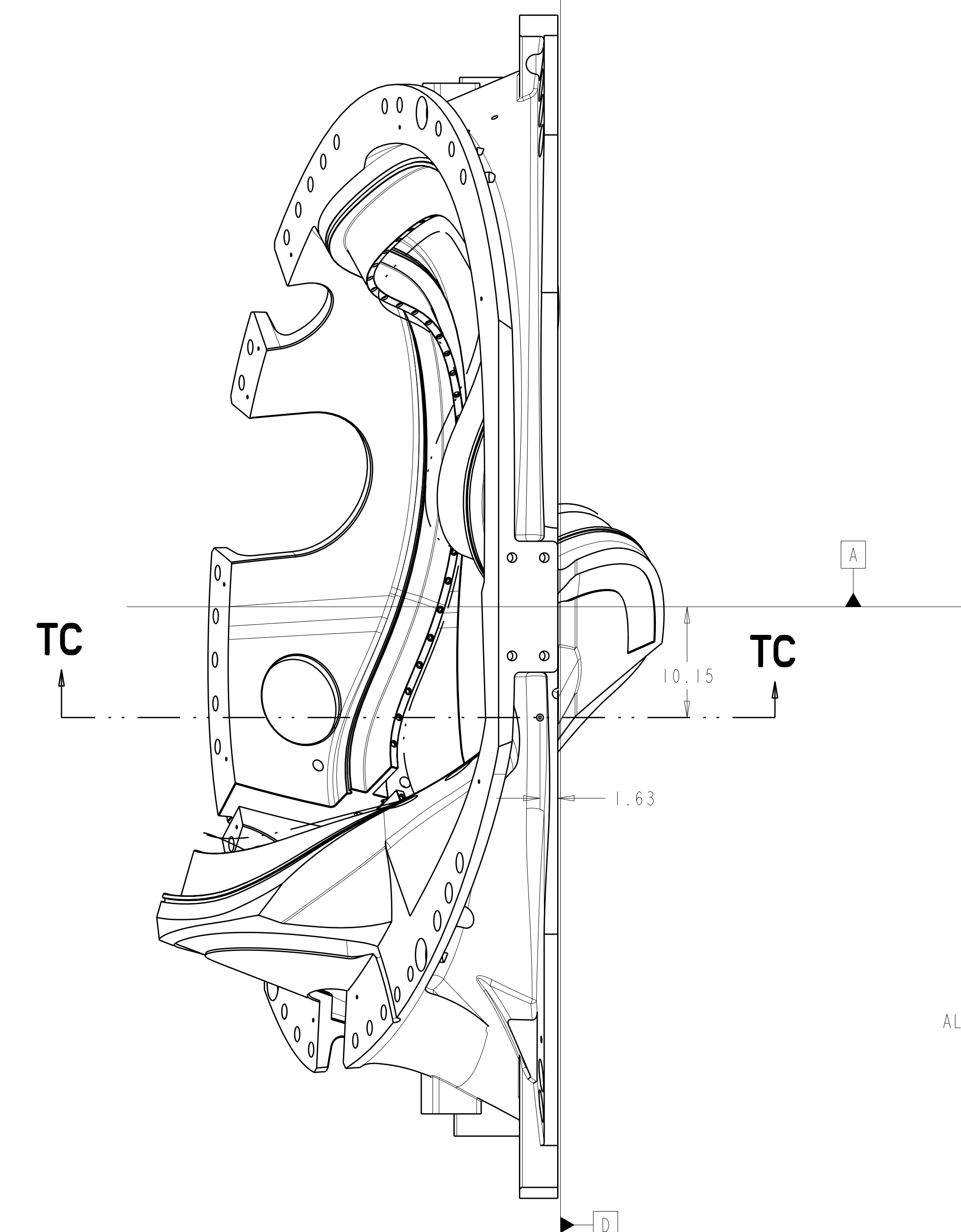
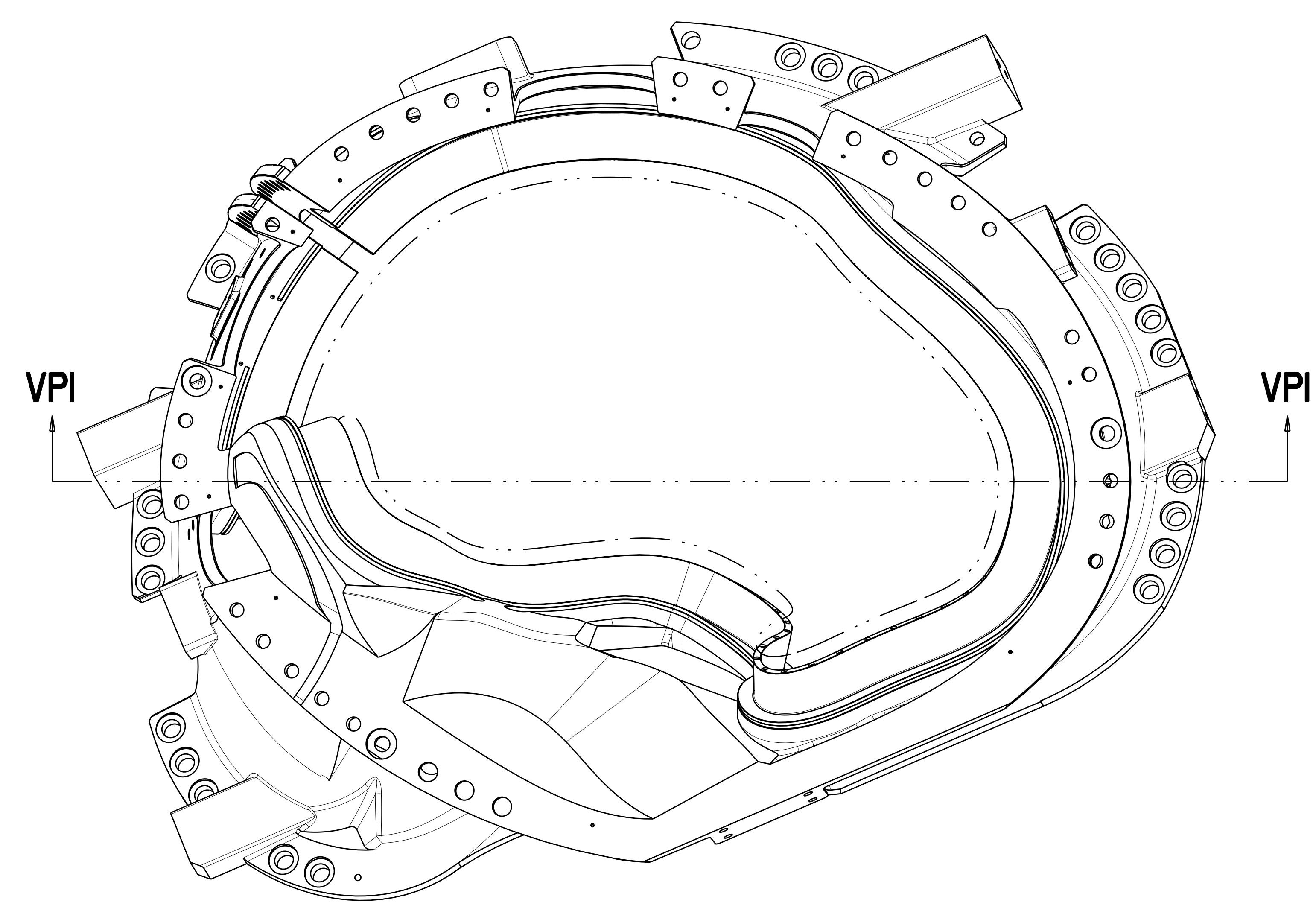
Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT CONTRACT DE-AC05-00OR22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee									
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PRODUCTION WINDING FORM TYPE-B									
VERSION NO. 1.4	PLANT X-10	BLDG 5700	FL 3	SHT OF 7	TYPE 12	CLASS S	REV U		
RELEASE LEVEL Fabrication		SE141-115						REV 8	



8 OPENING ORIENTATION REVISED
NO CHANGE TO DRAWING VIEW

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PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT									
PRODUCTION WINDING FORM TYPE-B									
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS		
14	X-10	5700	3	8	12	S	U		
RELEASE LEVEL		SE141-115						REV	
Fabrication								8	



SECTION VPI-VPI
USE PRO/E MODEL GEOMETRY TO DETERMINE SECTION ORIENTATION
HOLE ORIENTATION NOT CRITICAL

SECTION TC-TC

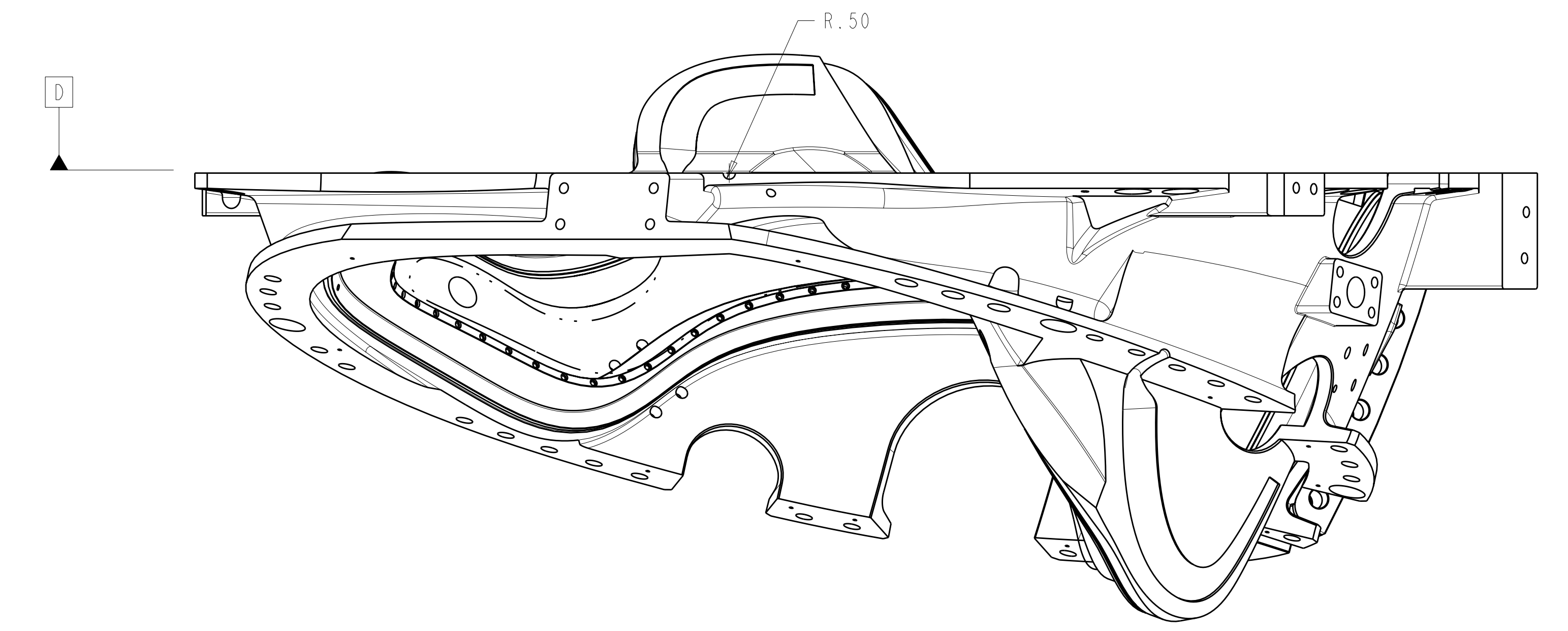
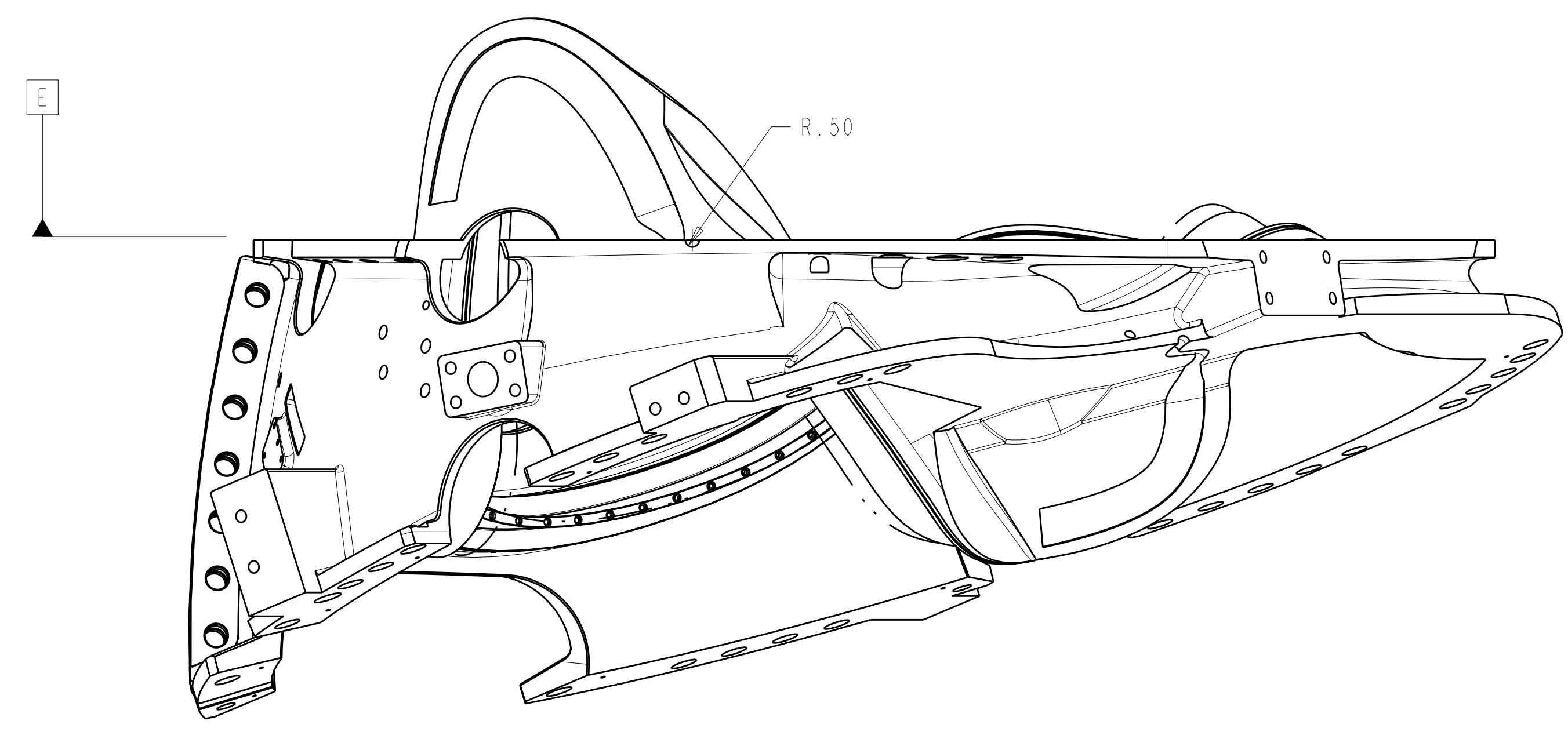
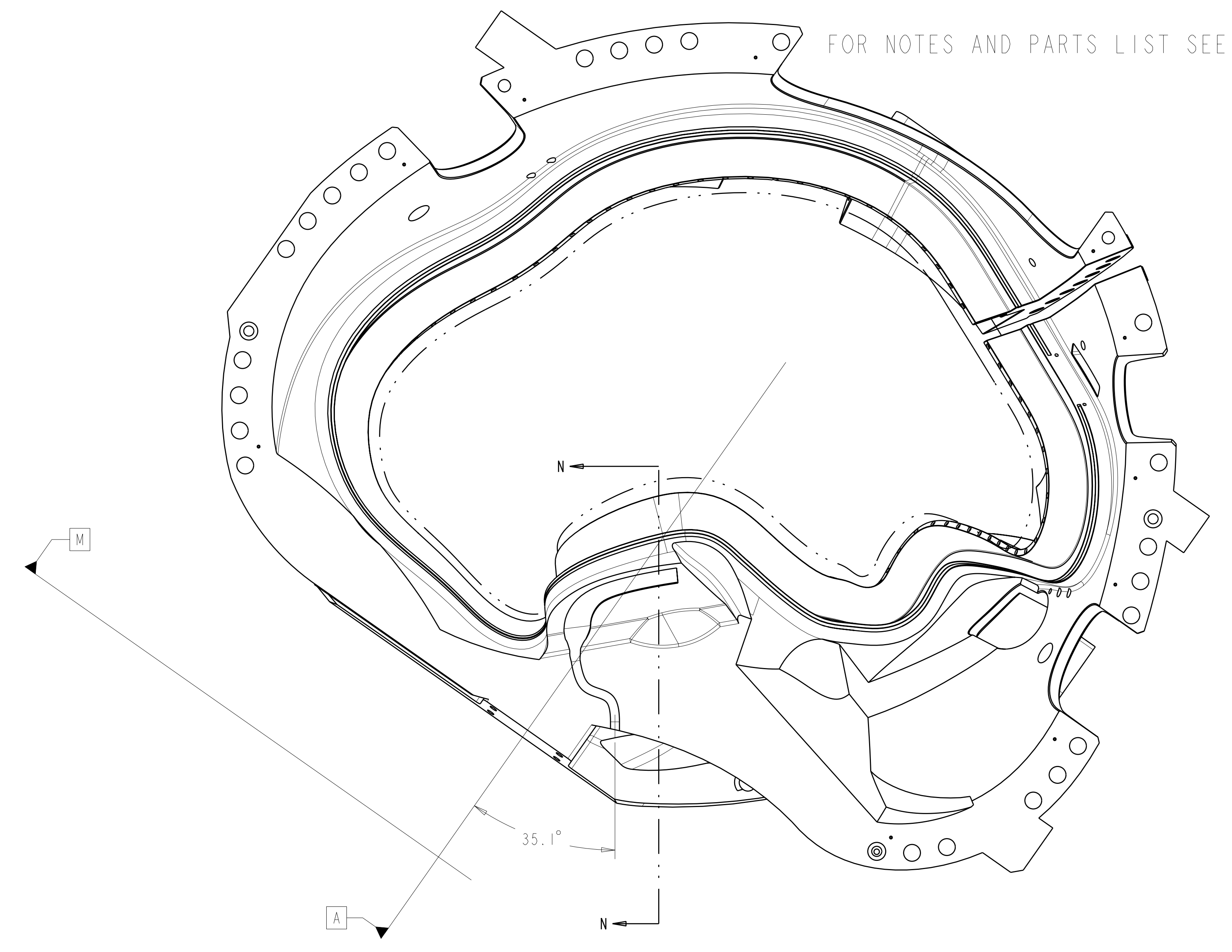
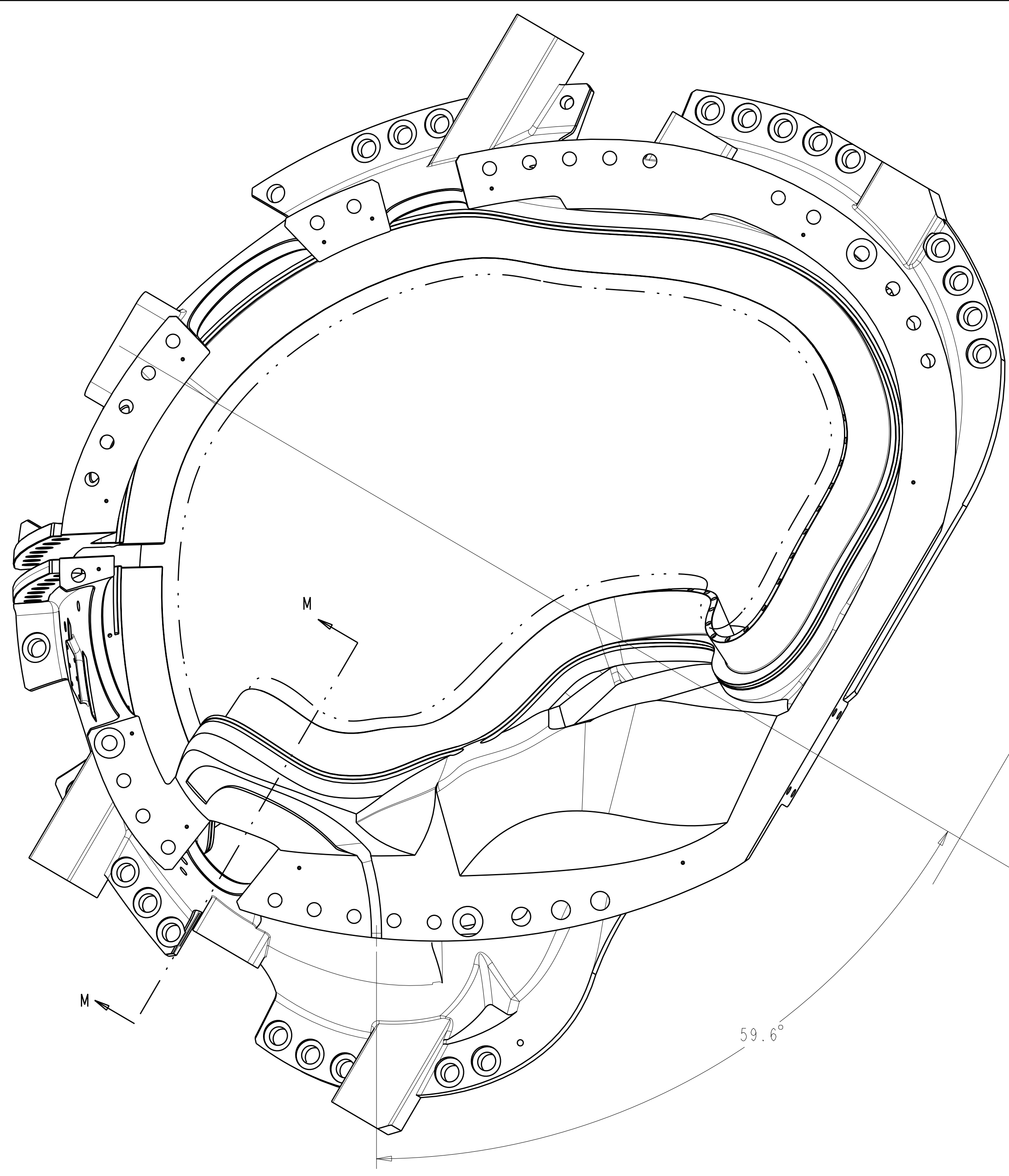
SECTION TC2-TC2

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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 NATIONAL COMPACT STELLARATOR EXPERIMENT									
PRODUCTION WINDING FORM TYPE-B									
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS		
14	X-10	5700	3	9	12	S	U		
RELEASE LEVEL		SE141-115						REV	
Fabrication								8	

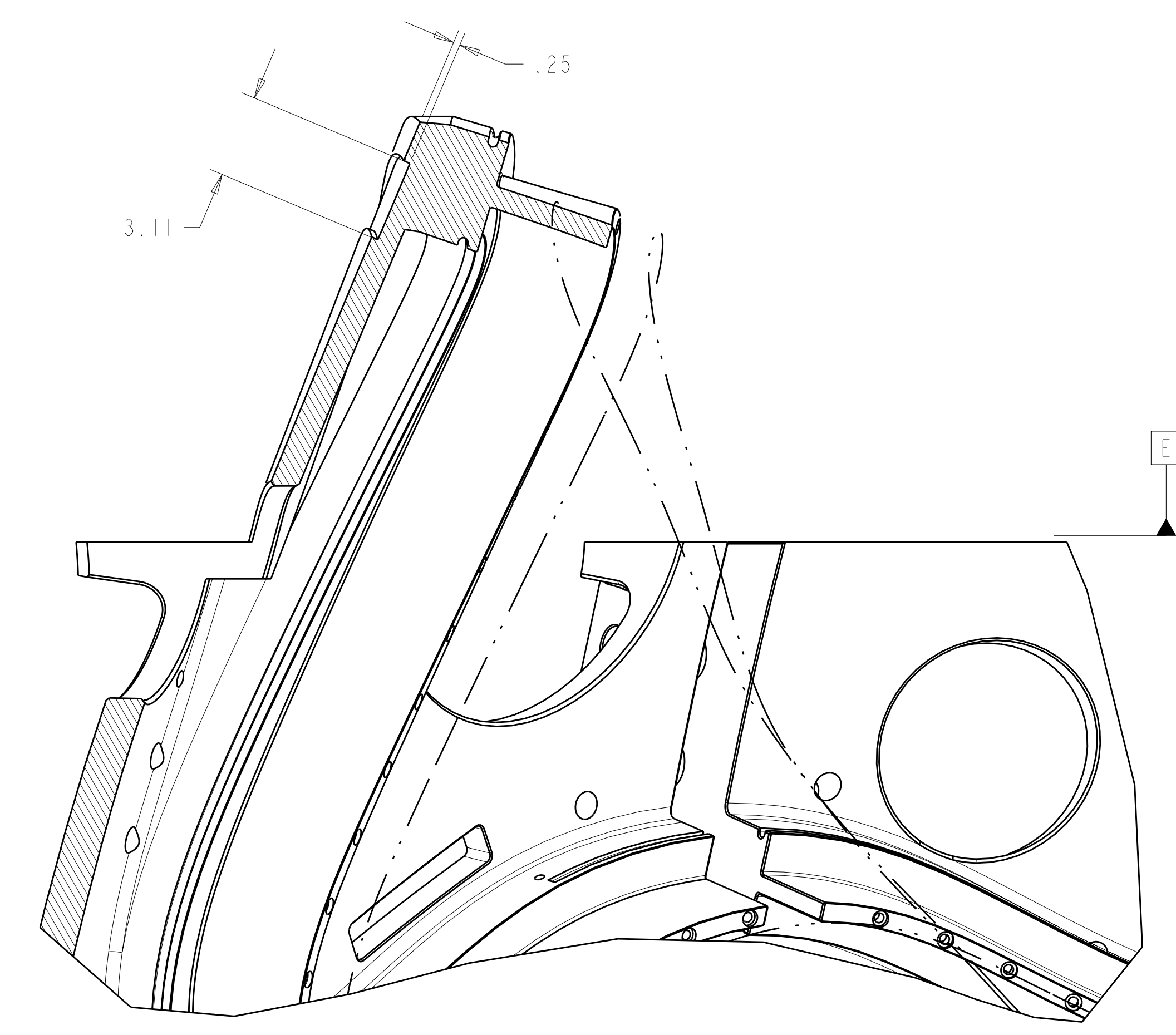
511-133

FOR NOTES AND PARTS LIST SEE SHEET 1

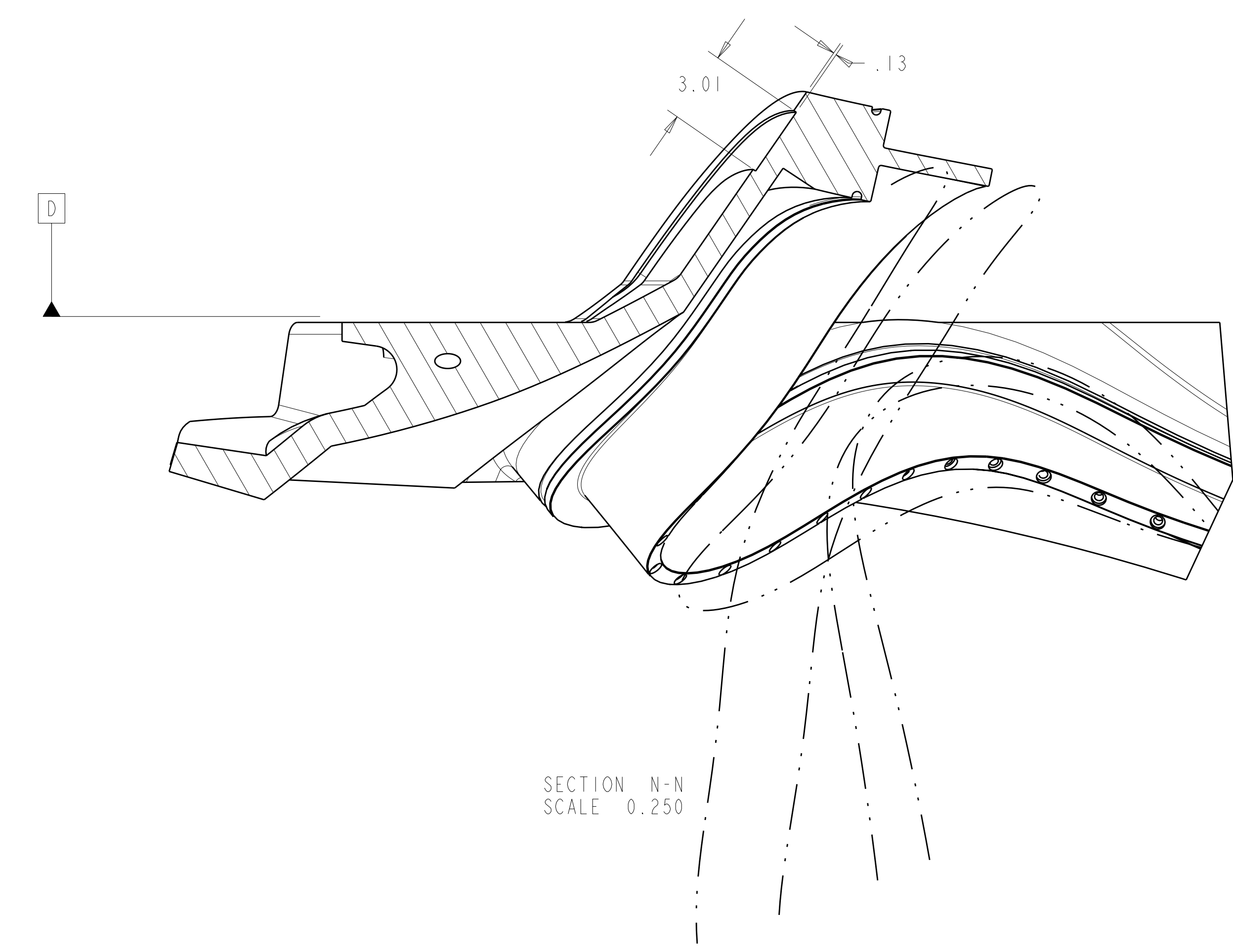


SCALE 0.125

SCALE 0.125



SECTION M-M
SCALE 0.25



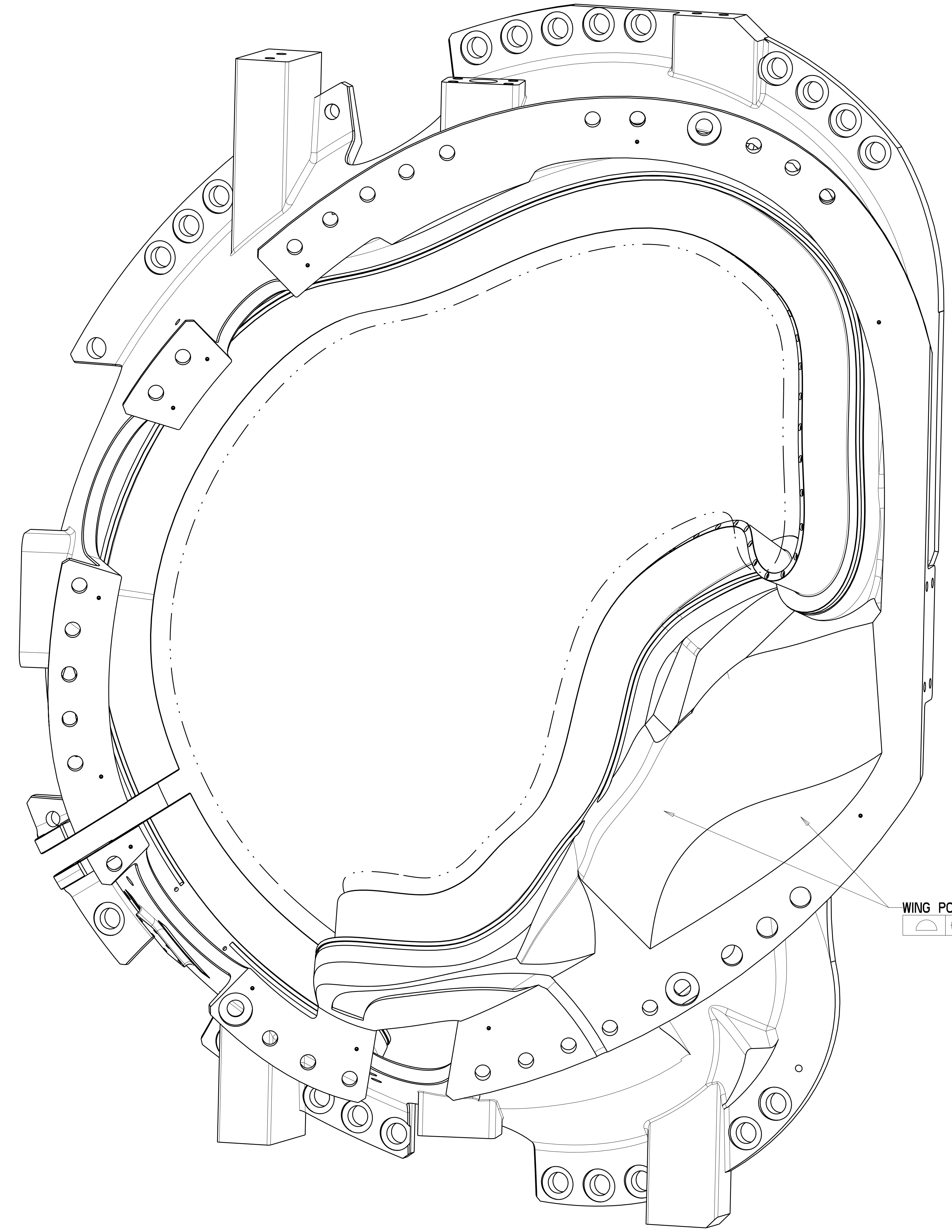
SECTION N-N
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NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-B							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
14	X-10	5700	3	10	12	S	U
RELEASE LEVEL		SE141-115				REV	
Fabrication						8	

SE141-115

A



ISOMETRIC VIEW

SCALE 0.20

MACHINED SURFACES
 .02 R T S

AS CAST SURFACES
 .5 A B C

WING POCKET
 .10/.12 A B C

WING SURFACES
 .12/.25 A B C

ISOMETRIC VIEW

SCALE 0.20

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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							
UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT							
PRODUCTION WINDING FORM TYPE-B							
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
14	X-10	5700	3	11	12	S	U
RELEASE LEVEL		SE141-115				REV	
Fabrication						8	

