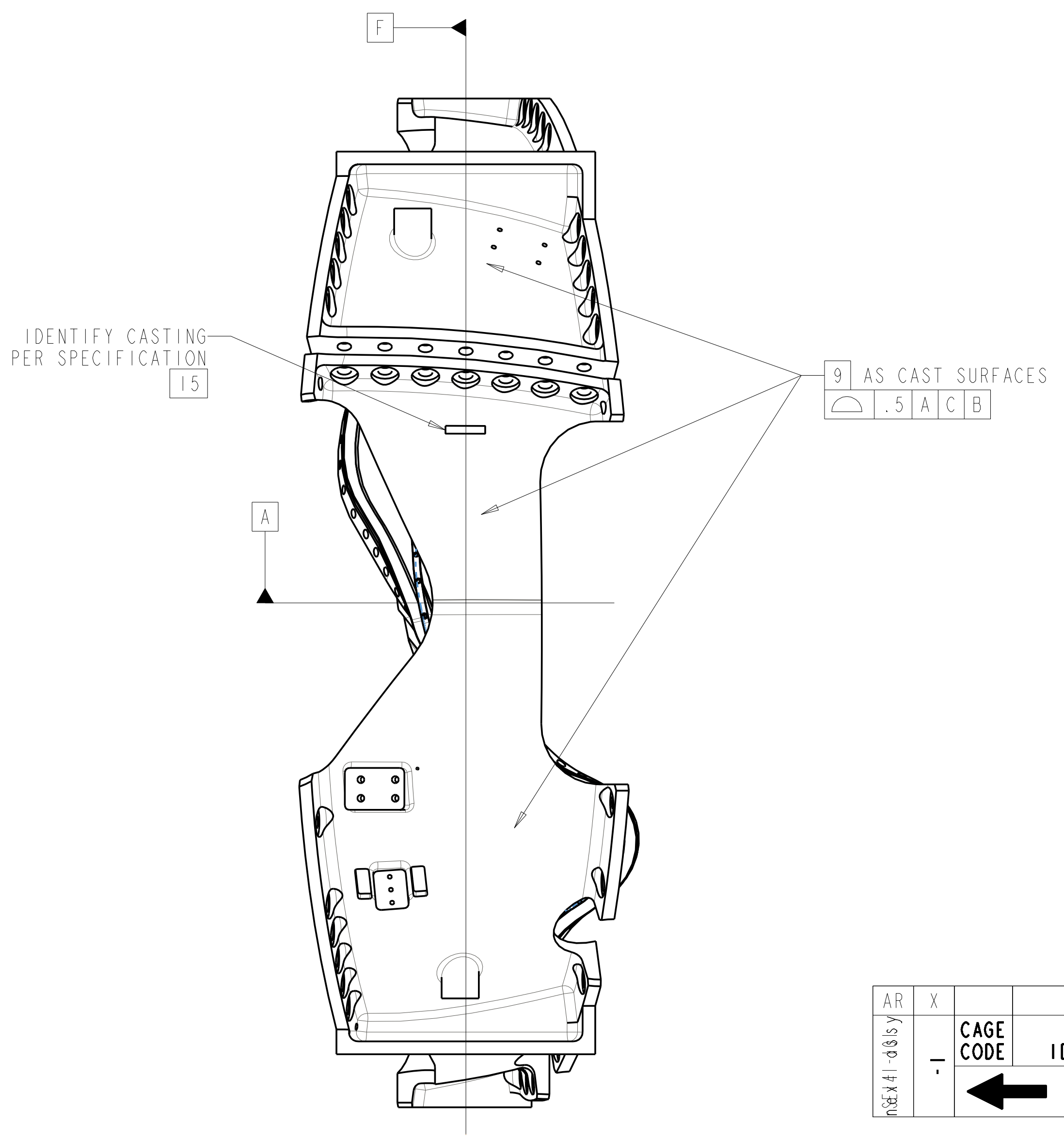
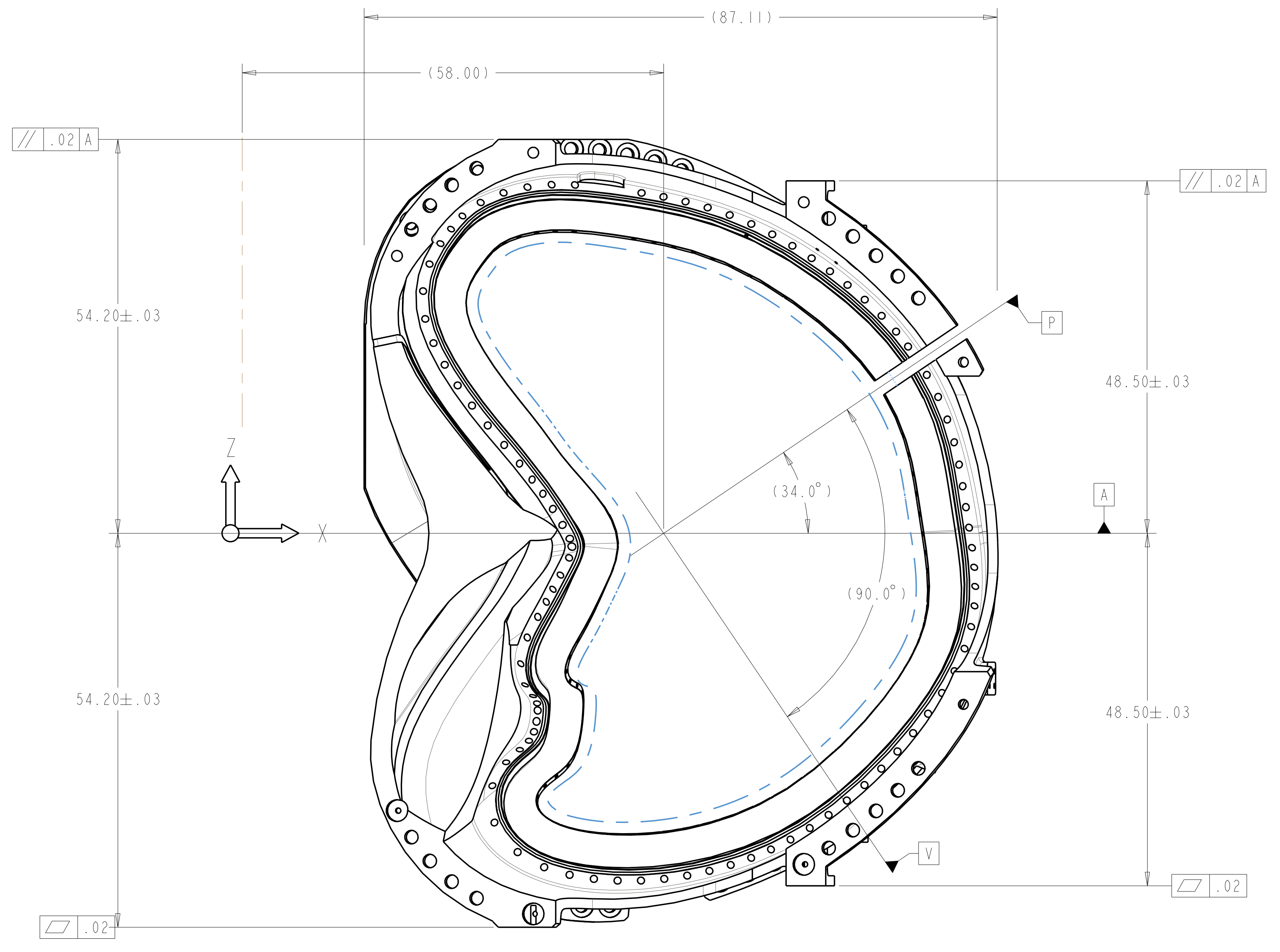


ISOMETRIC VIEW

- 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 SE141-114.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 ROOM TEMPERATURE. OPERATING TEMP 80 K
 - DIMENSIONS AND TOLERANCES EXCLUDE PROCESS MATERIAL ALLOWANCES WHICH MAY ADD MASS.
 - APPROXIMATE WEIGHT = 4819 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 RADI = 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 SPECIFICATION, NCSX-CSPEC-141-03-00, FOR ADDITIONAL REQUIREMENTS.



AR	X	SE141-114	PRODUCTION WINDING FORM TYPE-A	STAINLESS STEEL	SEE NOTE #15	I
CAGE CODE		PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
		NEXT ASSEMBLY	PARTS LIST			

FOR INFORMATION ONLY
NOT FOR FABRICATION

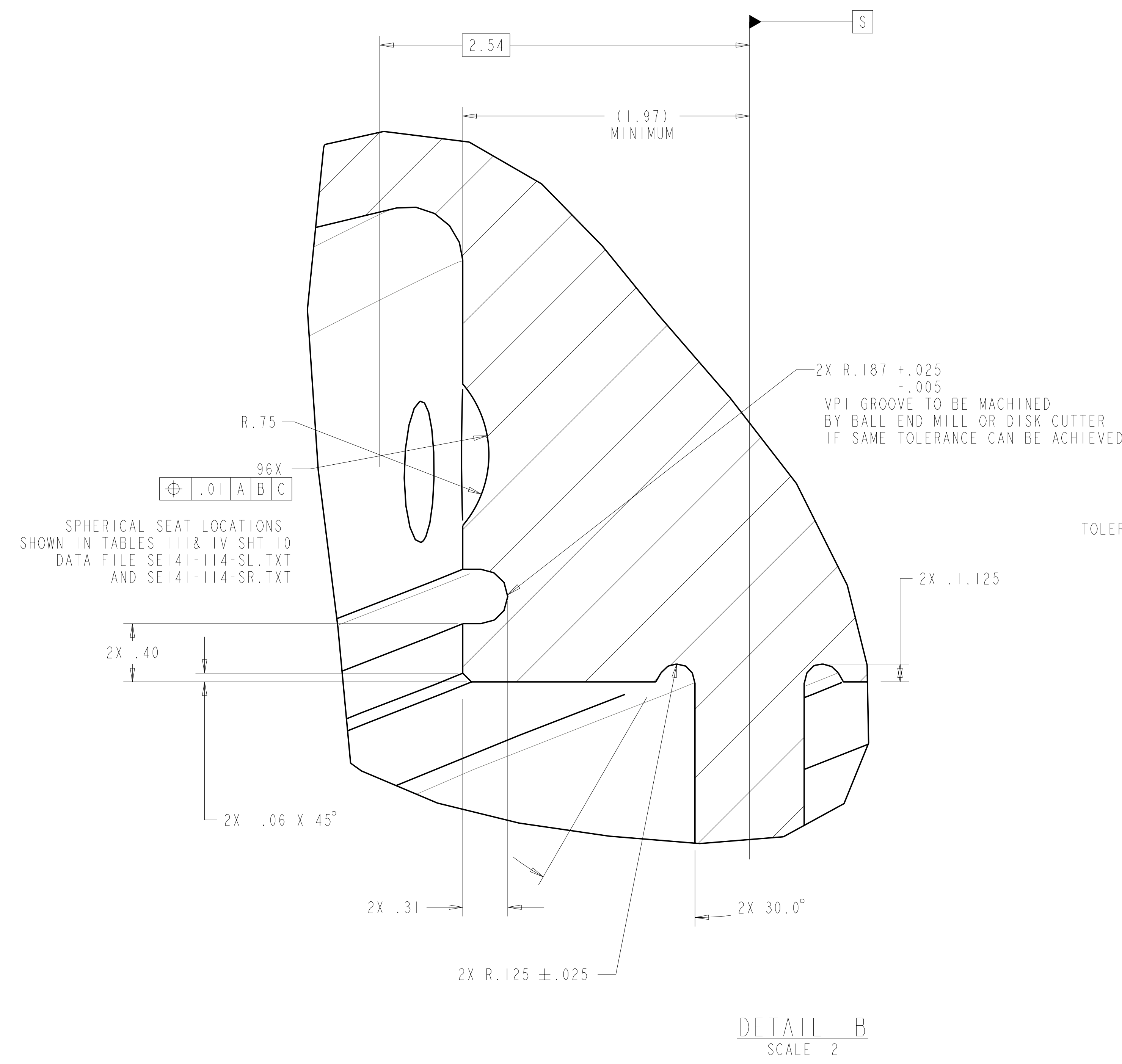
SCALE .10

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.

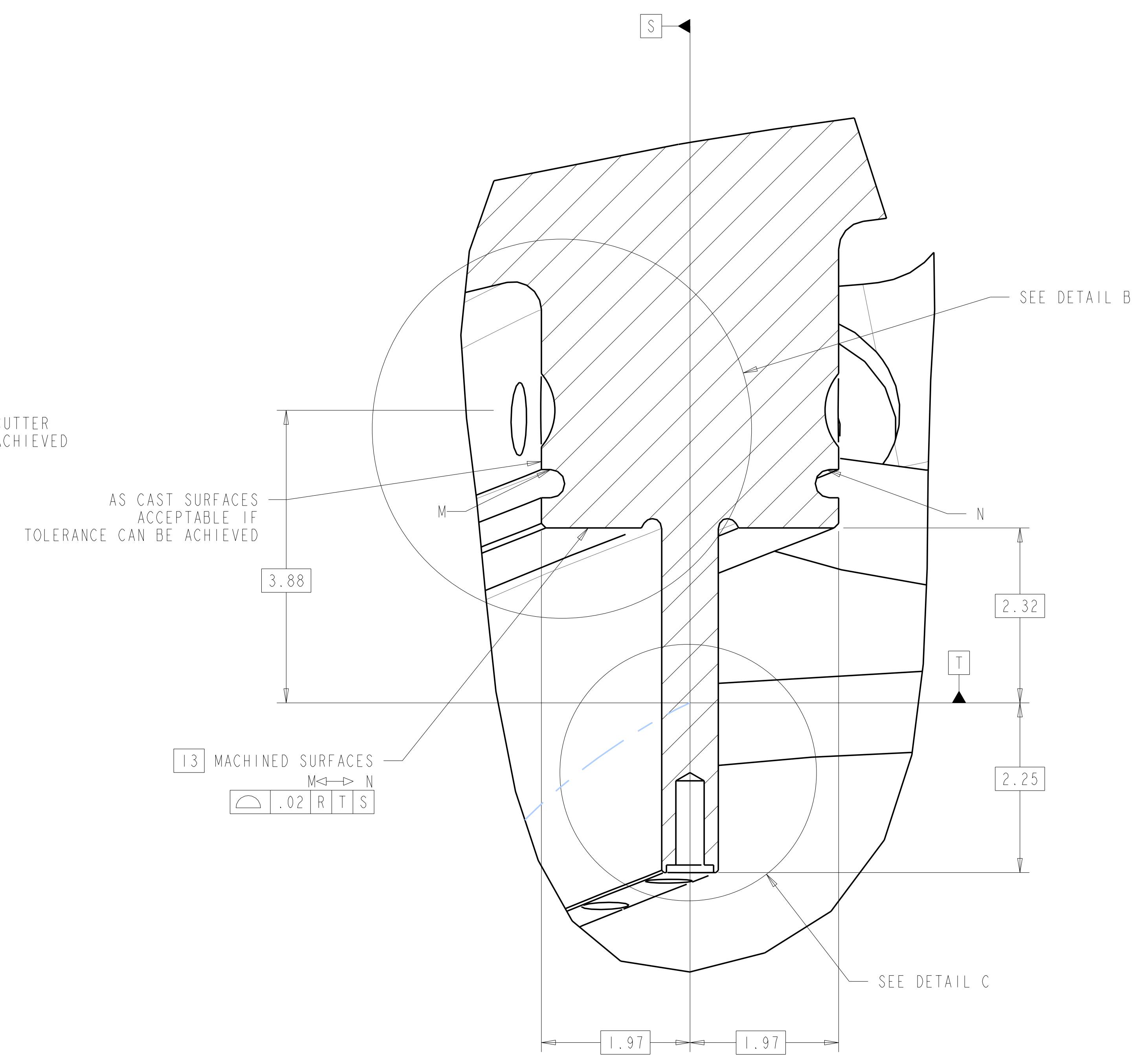
P THIS DRAWING PRODUCED ON PRO-ENGINEER

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE

SCALE	0.1	DES	T BROWN	06-01-04	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 PRODUCT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT PRODUCTION WINDING FORM TYPE-A													
TOLERANCES UNLESS OTHERWISE SPECIFIED		DRW	PAUL MILLER	06-02-04														
FRACTIONS		CHK	M COLE	6/04														
XX DECIMALS	± .01	DEPT																
XXX DECIMALS	± .005	PE	D WILLIAMSON	6/04	VERSION NO.	16+	PLANT	X-10	BLDG	5700	FL	3	SHT OF	11	TYPE	S	CLASS	U
ANGLES	± 0°15'	CR			RELEASE LEVEL	WIP	SE141-114			REV								
BREAK SHARP EDGES	06 MAX	PJ			DRAWING APPROVALS	DATE												
FINISH	.125 UNLESS OTHERWISE SPECIFIED	REO																
		PPPL DRFT	J SIEGEL	6/04														

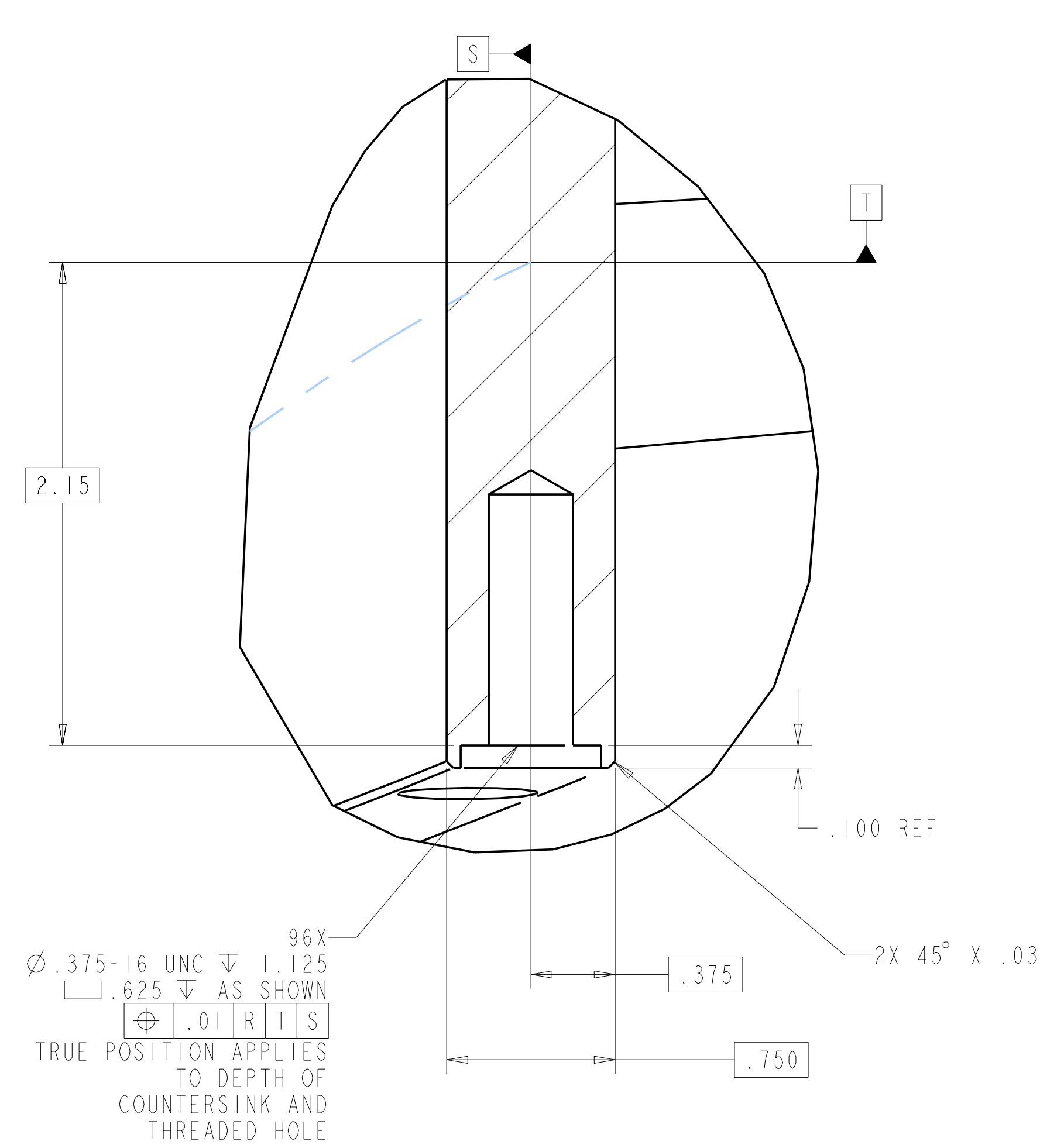
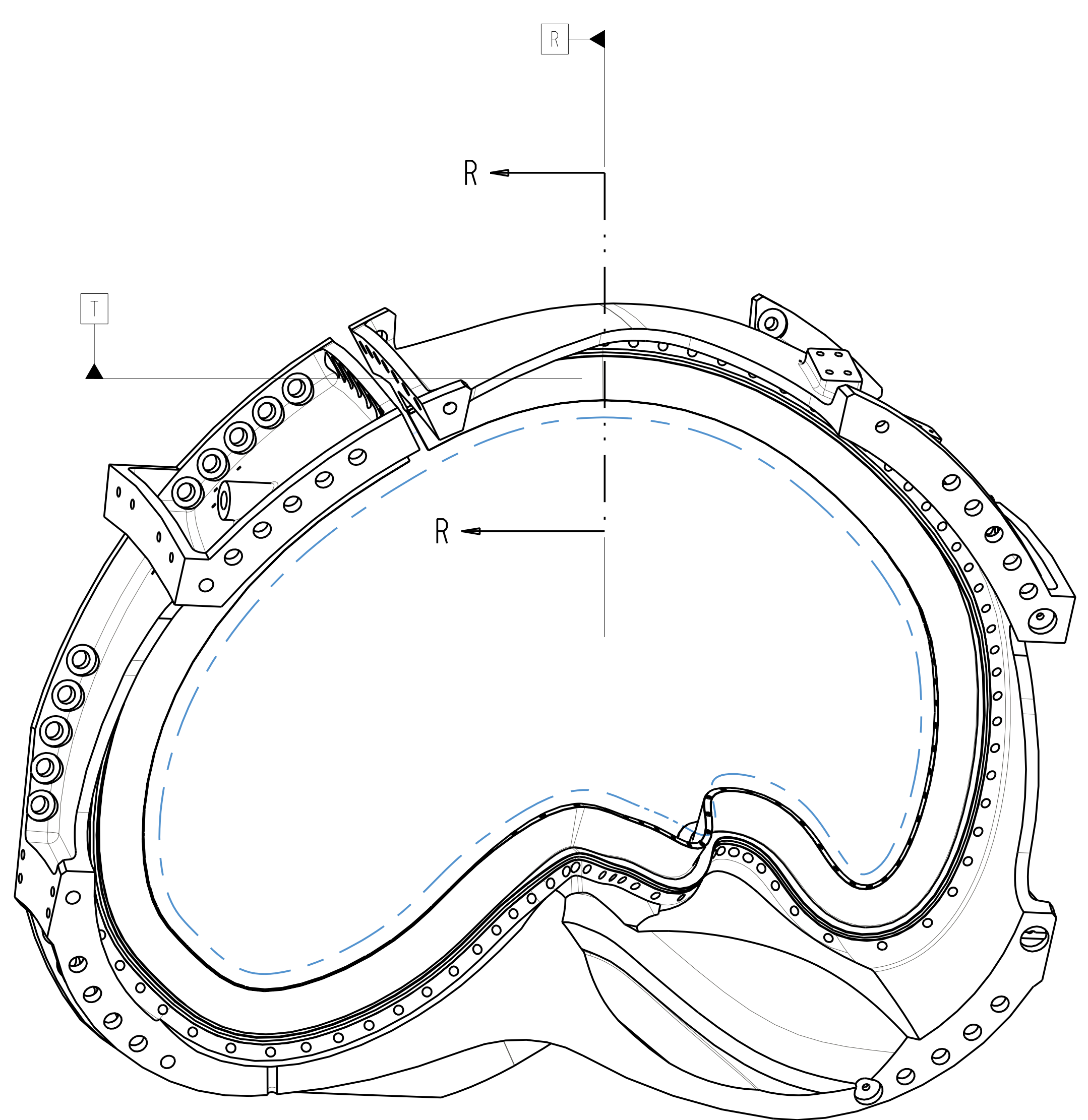
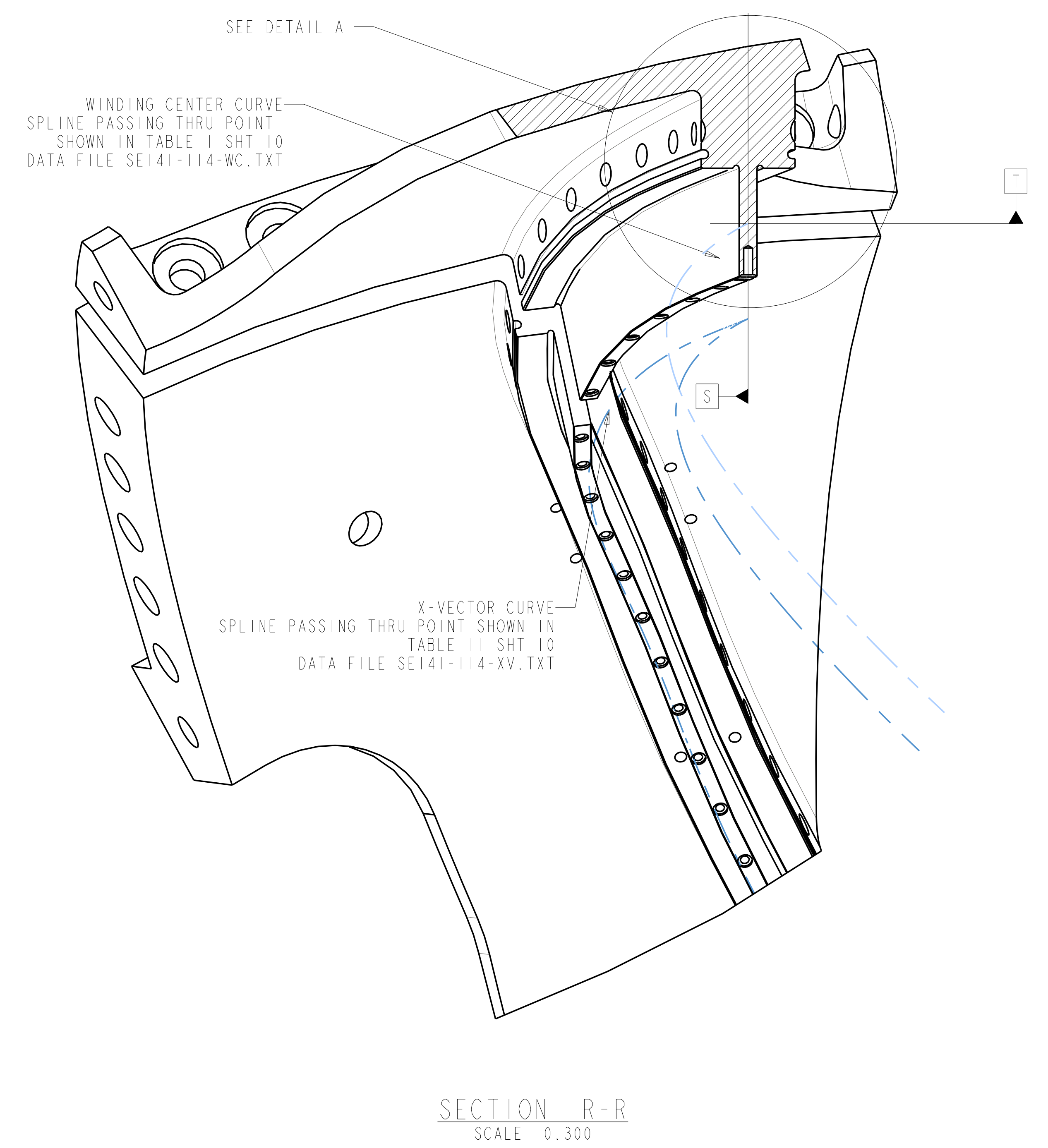


DETAIL B
 SCALE 2



DETAIL A
 SCALE 1

TYPICAL FOR ALL POINTS ALONG WINDING CENTER

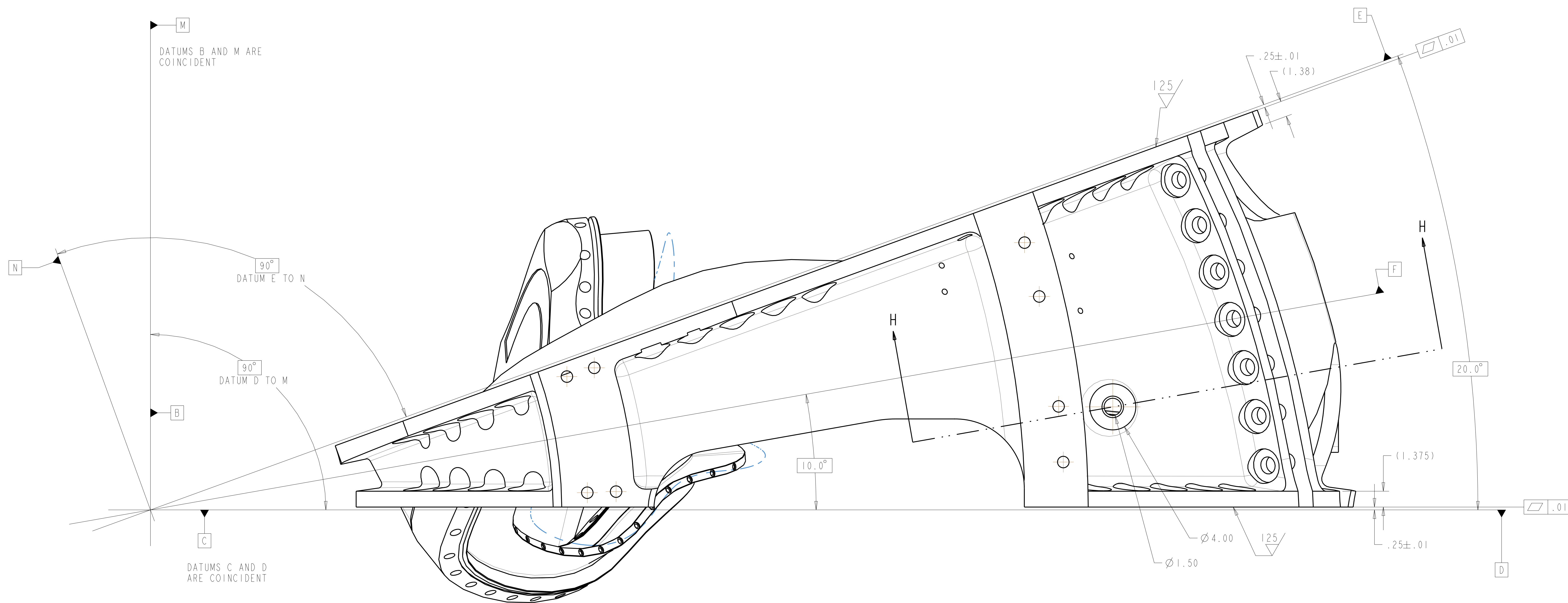


DETAIL C
 SCALE 2

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

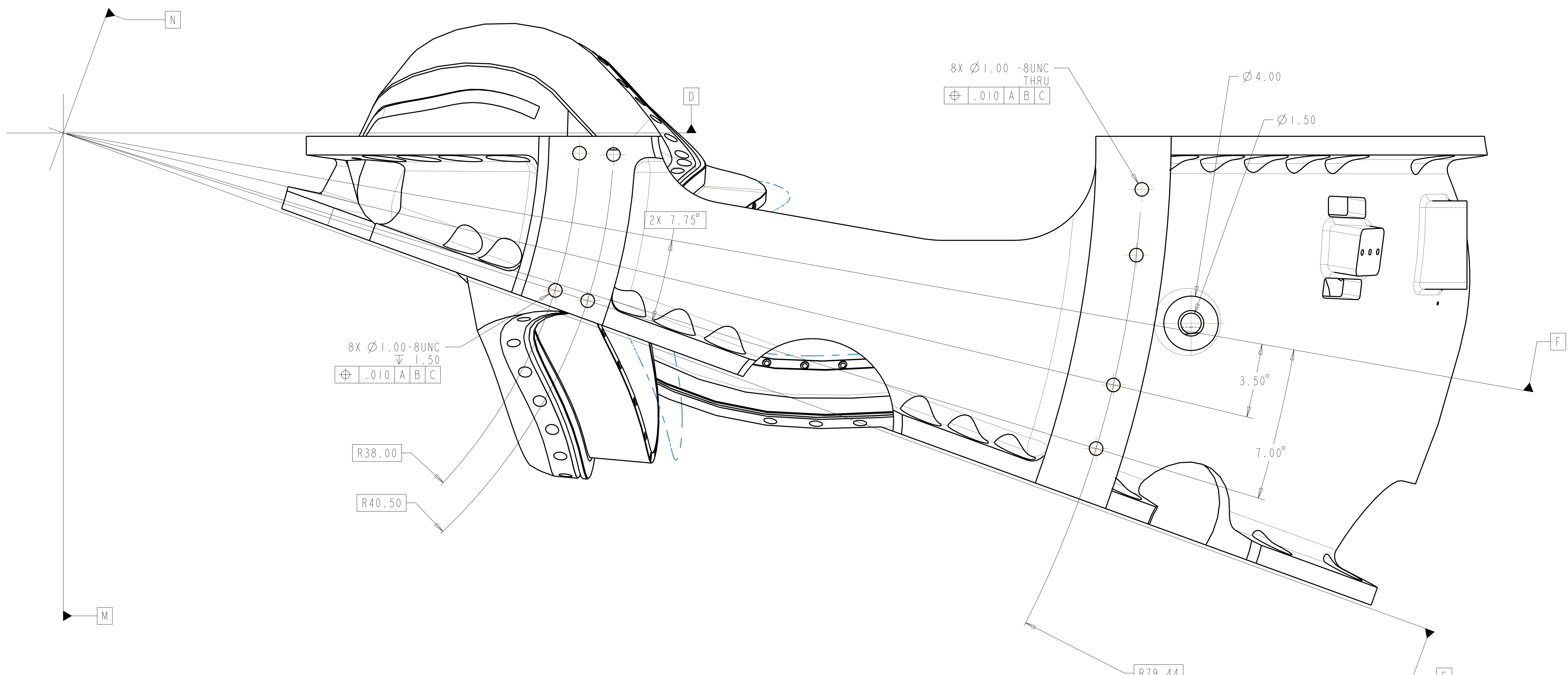
Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725 UT-BATTELLE, LLC, Oak Ridge, Tennessee PROJECT NAME NATIONAL COMPACT STELLARATOR EXPERIMENT PRODUCTION WINDING FORM TYPE-A							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
16+	X-10	5700	3	2	11	S	U
RELEASE LEVEL	SE141-114 WIP						

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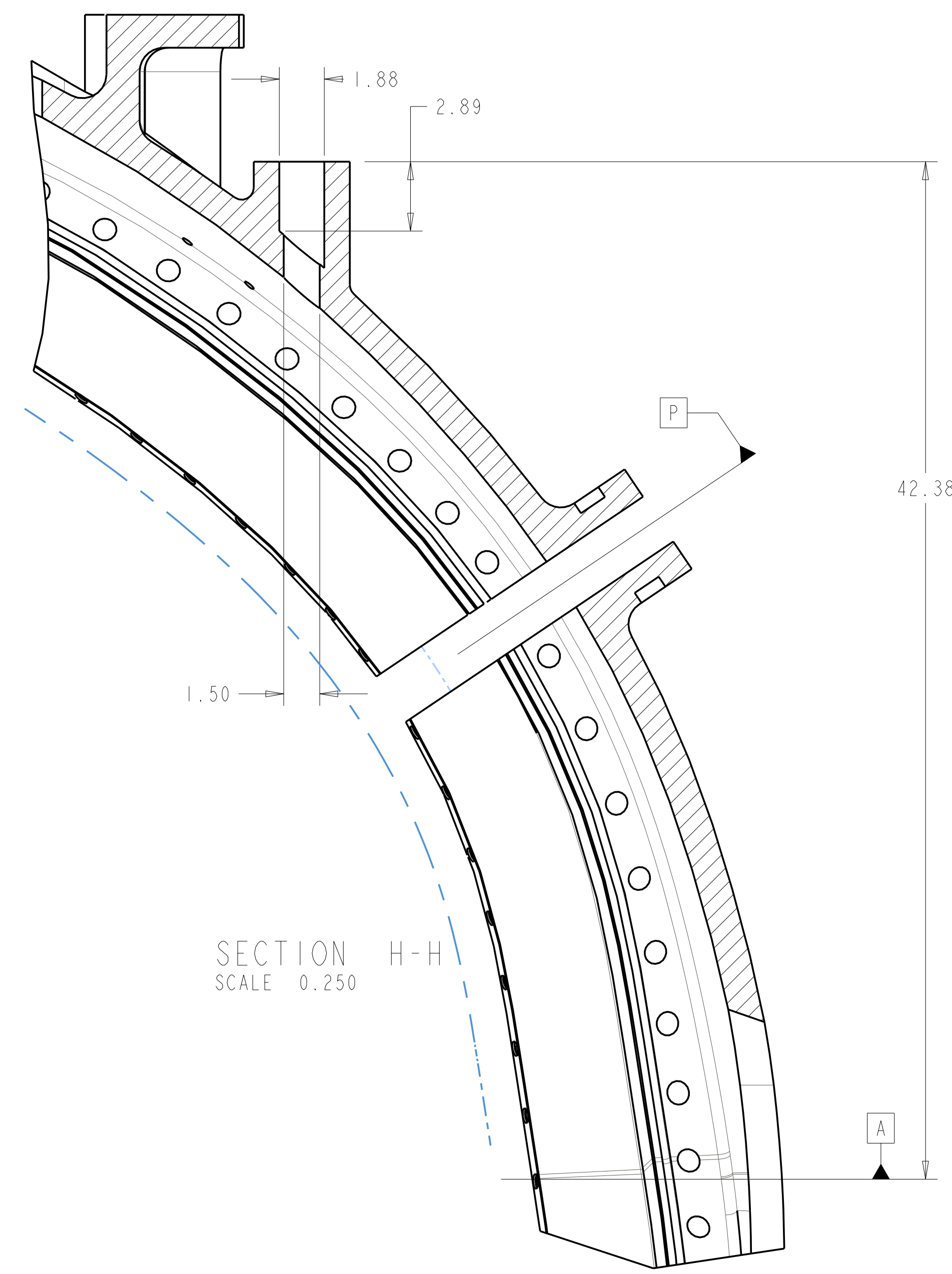


VIEW FROM THE TOP
SCALE 0.25

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

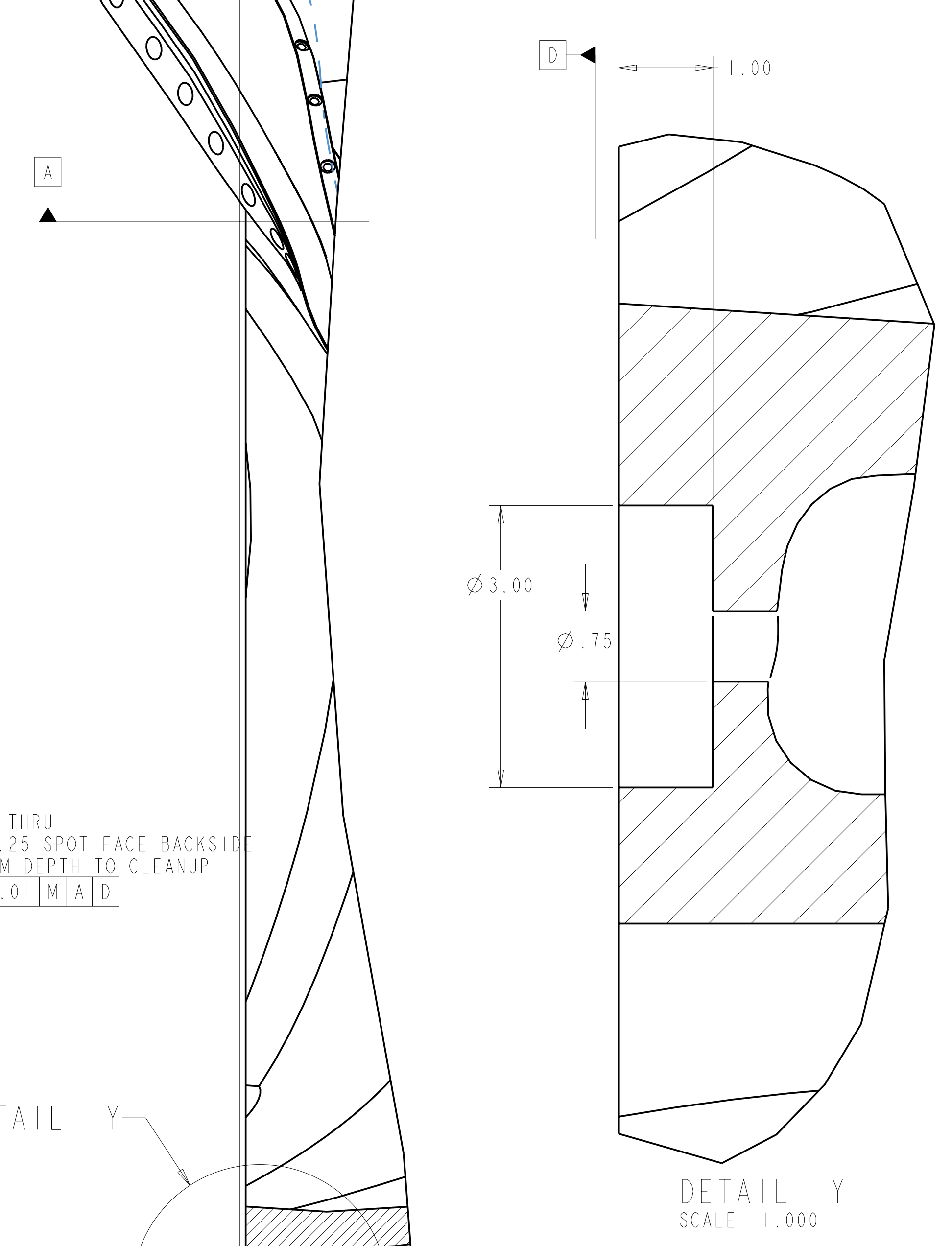
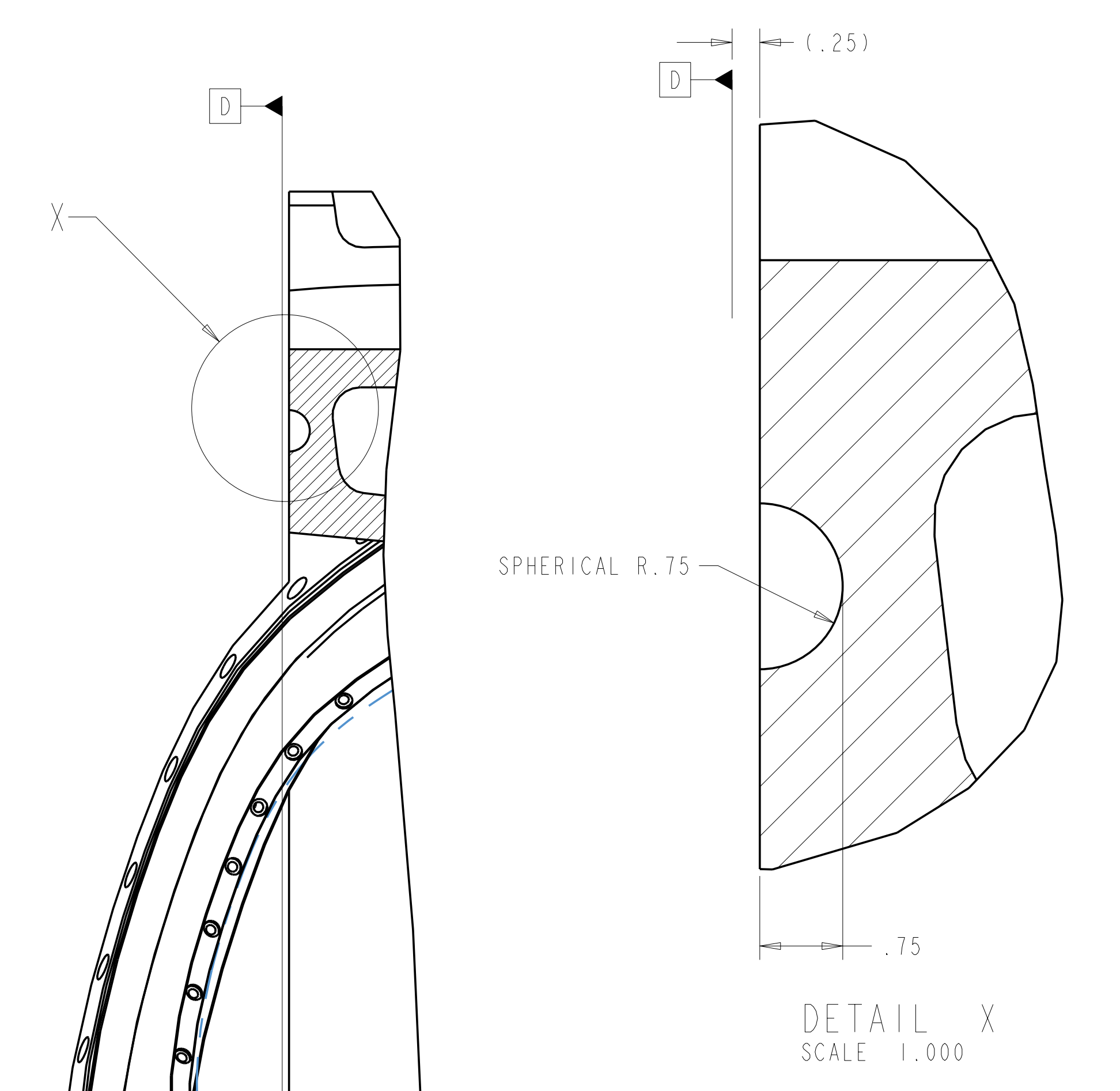
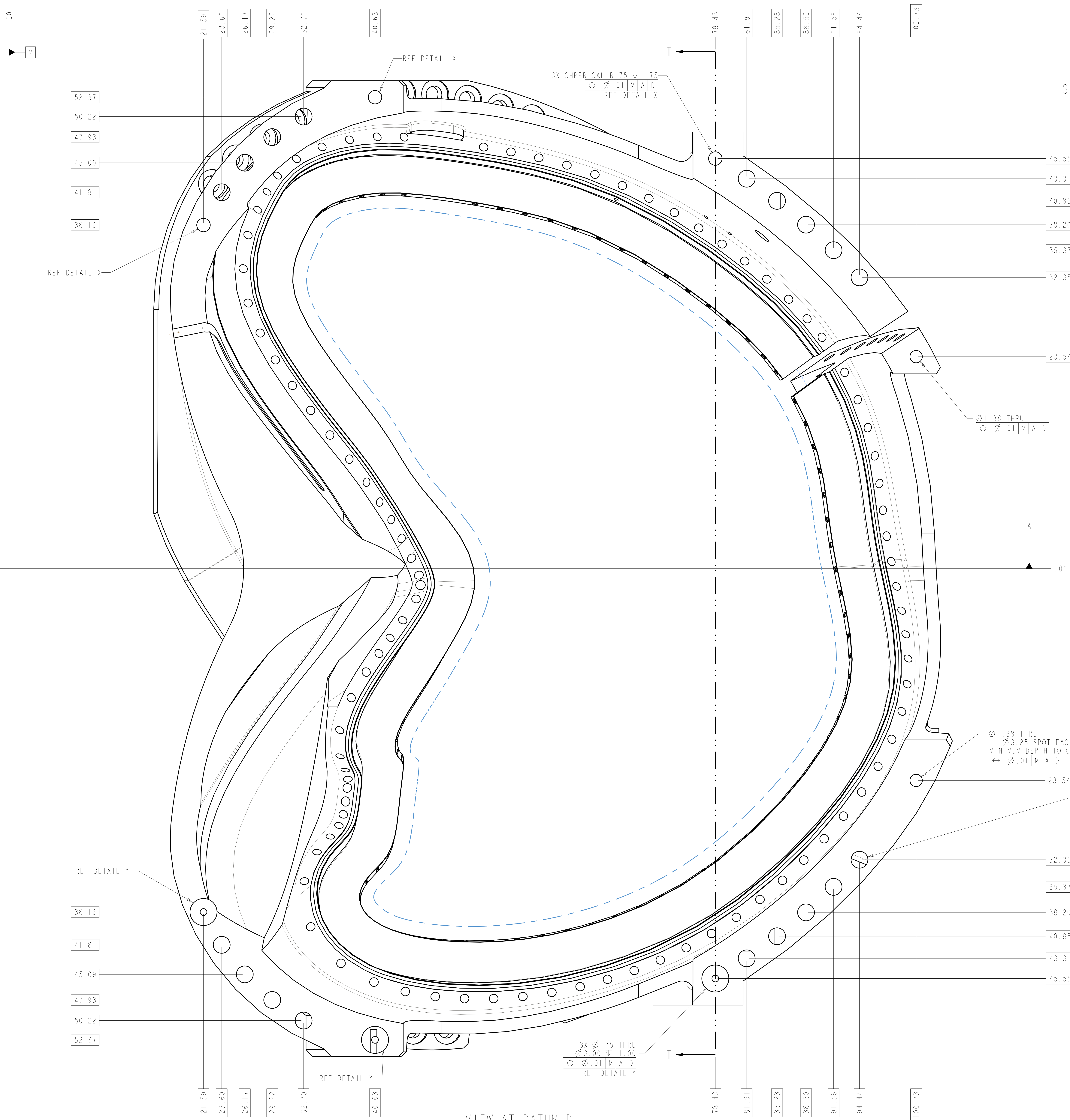


VIEW FROM THE BOTTOM
SCALE 0.250



SECTION H-H
SCALE 0.250

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-A							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
16+	X-10	5700	3	3	11	S	U
RELEASE LEVEL		REV					
WIP		SEI41-114					

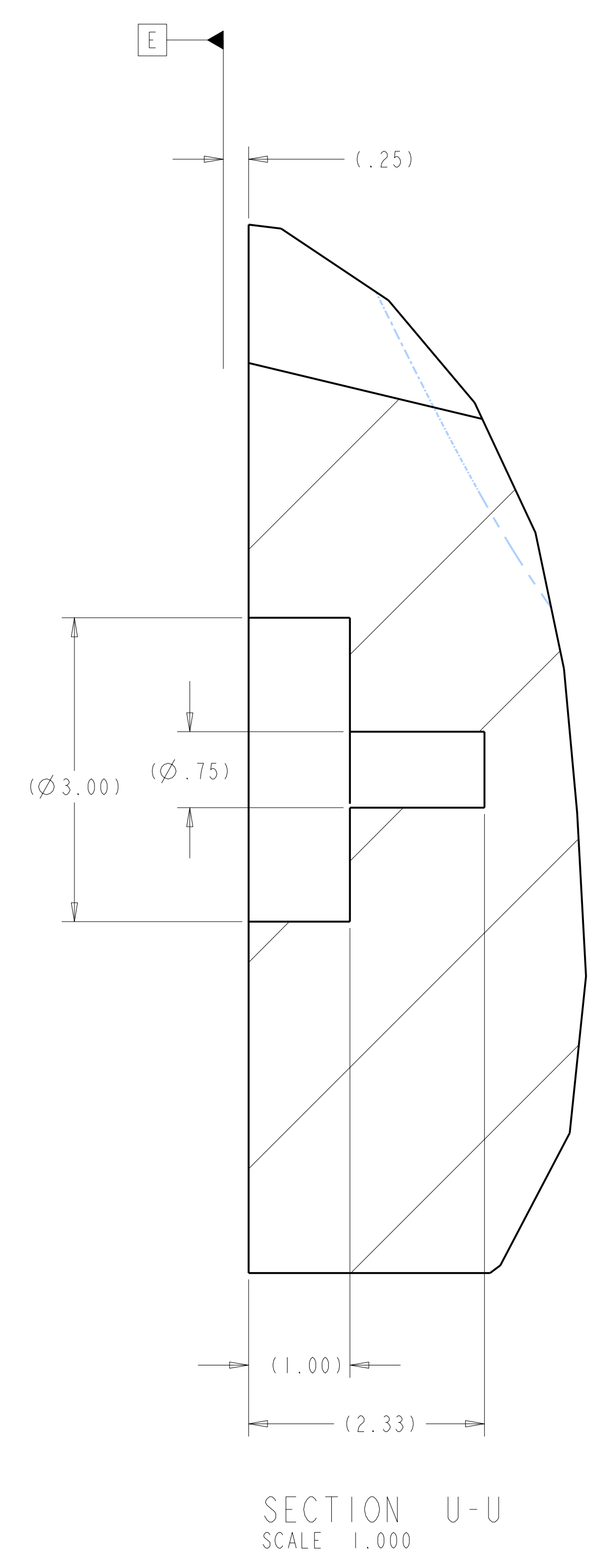
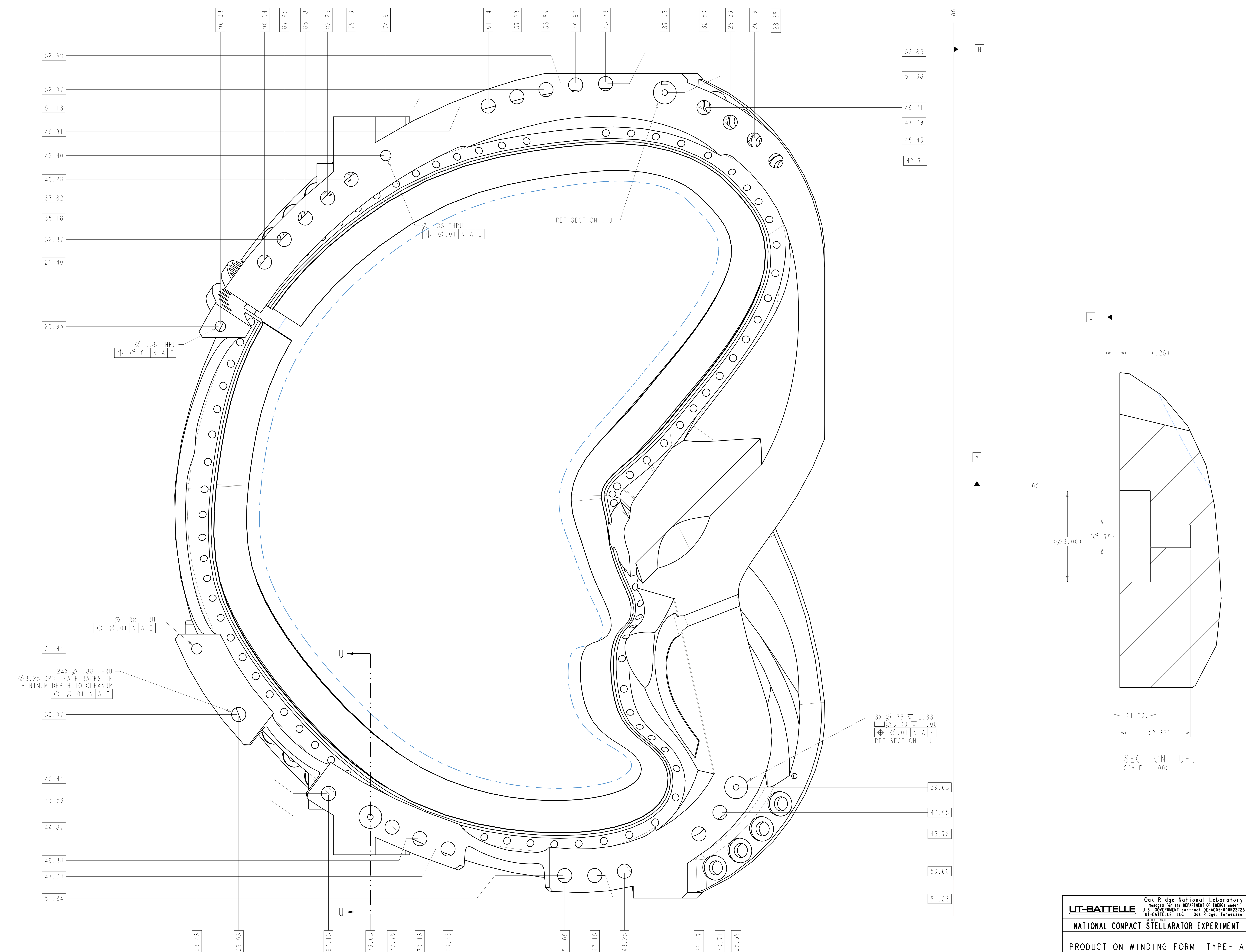


SECTION T-T

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-A							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
16+	X-10	5700	3	4	11	S	U
RELEASE LEVEL		SEI41-114					
WIP							

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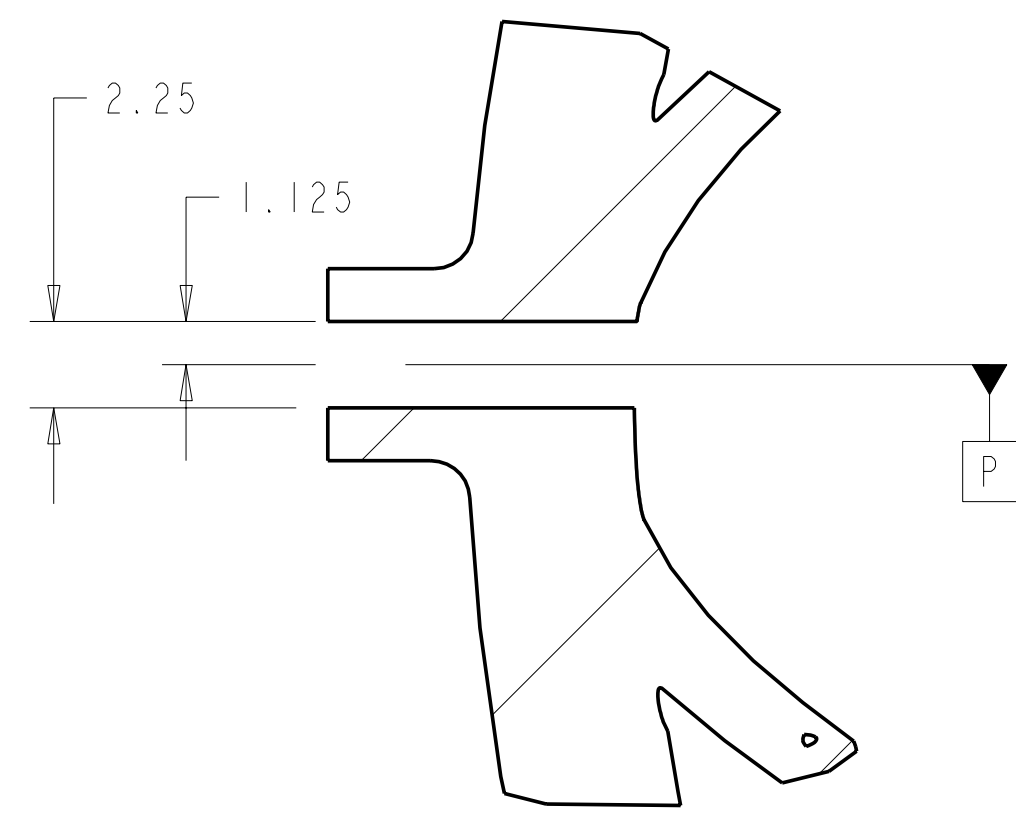
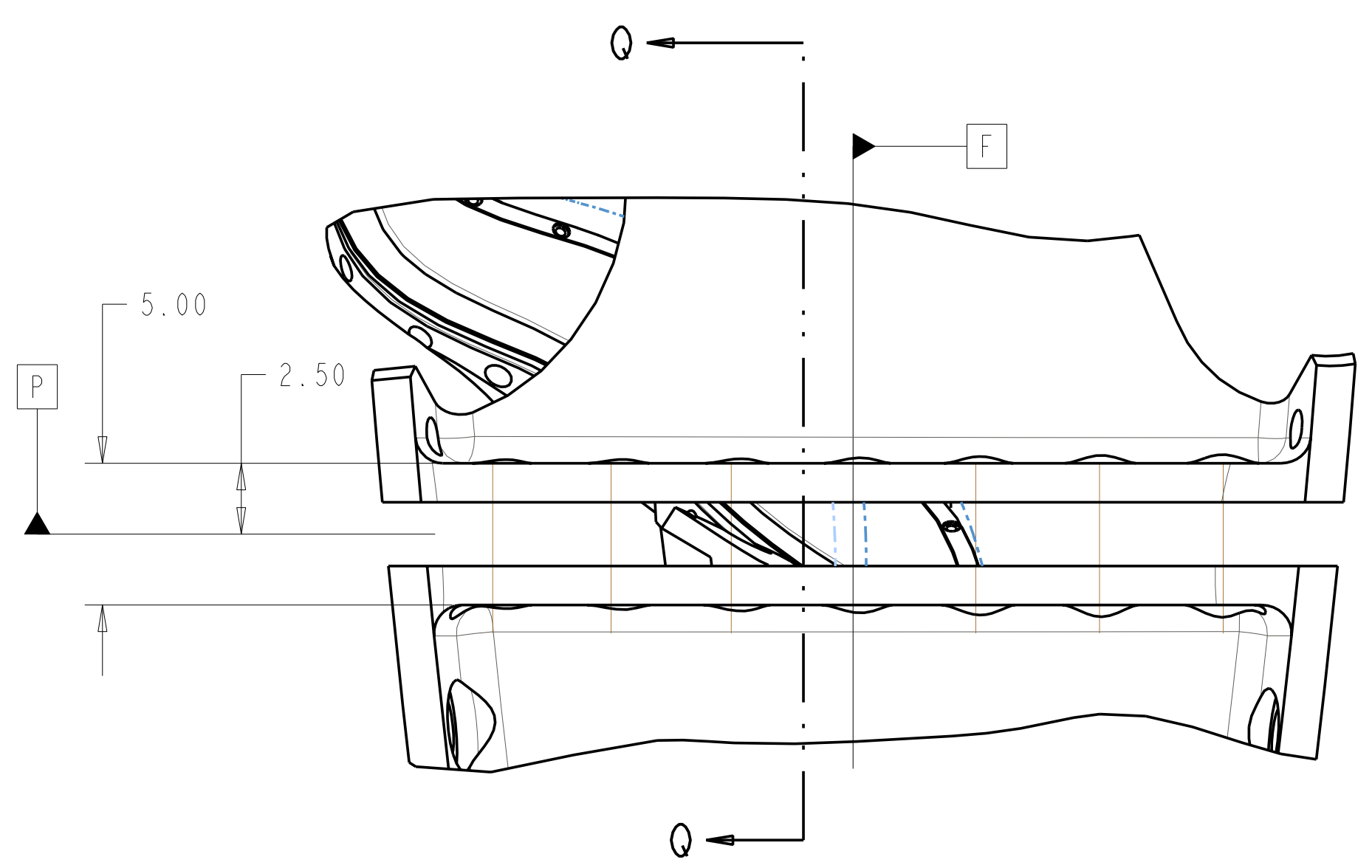
M



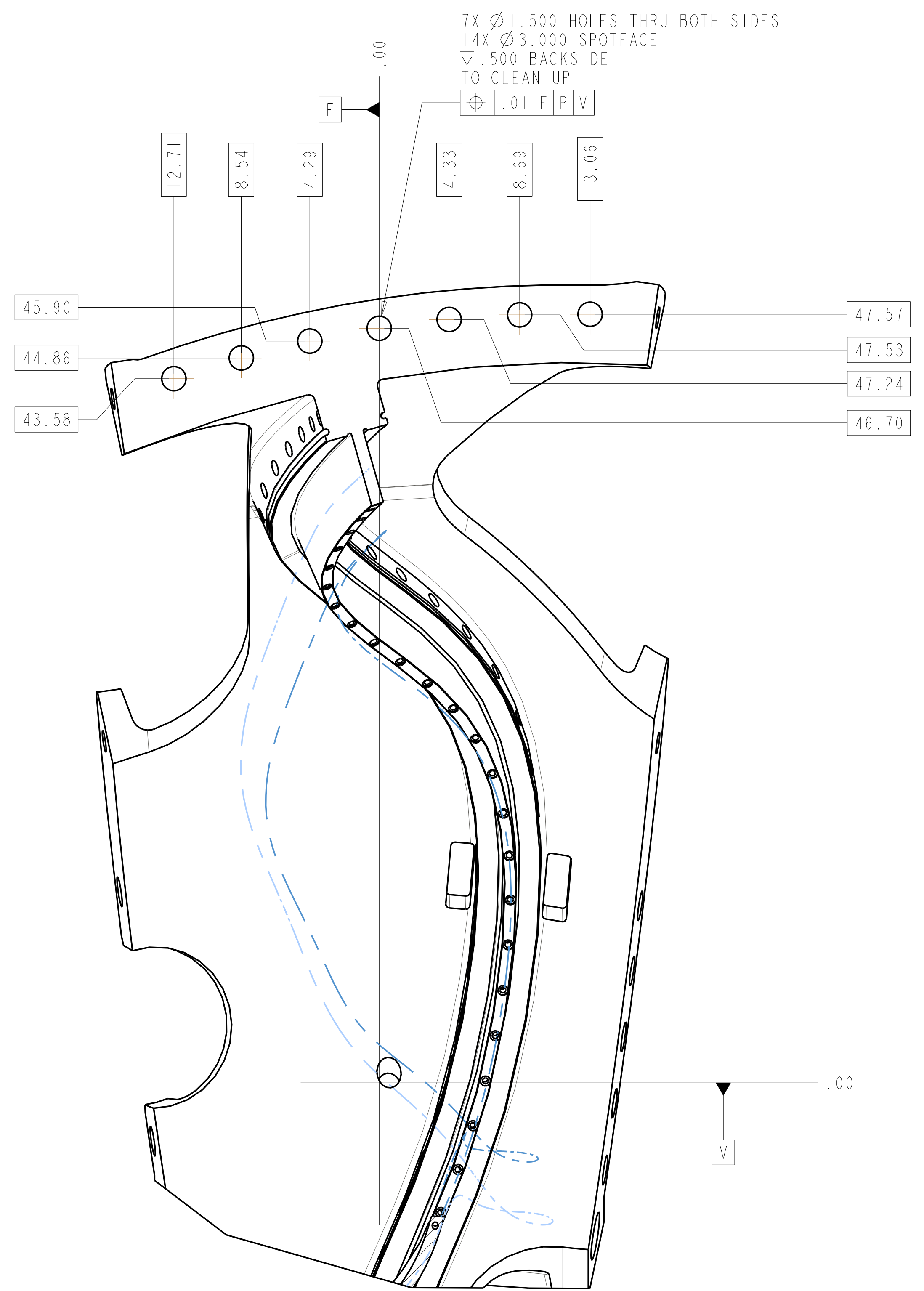
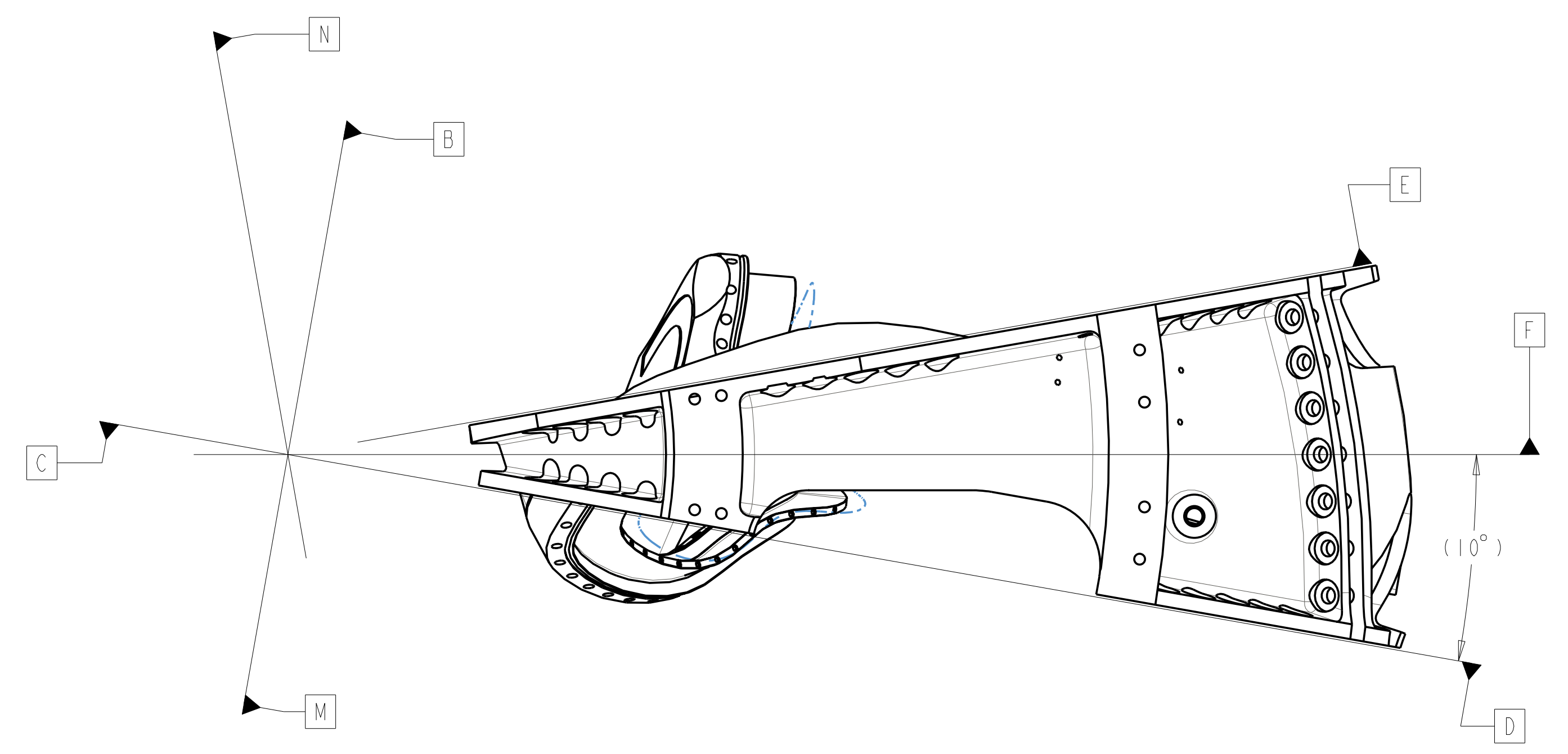
VIEW AT DATUM E
SCALE 0.25

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						
UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT						
PRODUCTION WINDING FORM TYPE - A						
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS
81	X-10	5700	3	5	11	S
RELEASE LEVEL						
WIP		SEI41-114				
						REV
						-

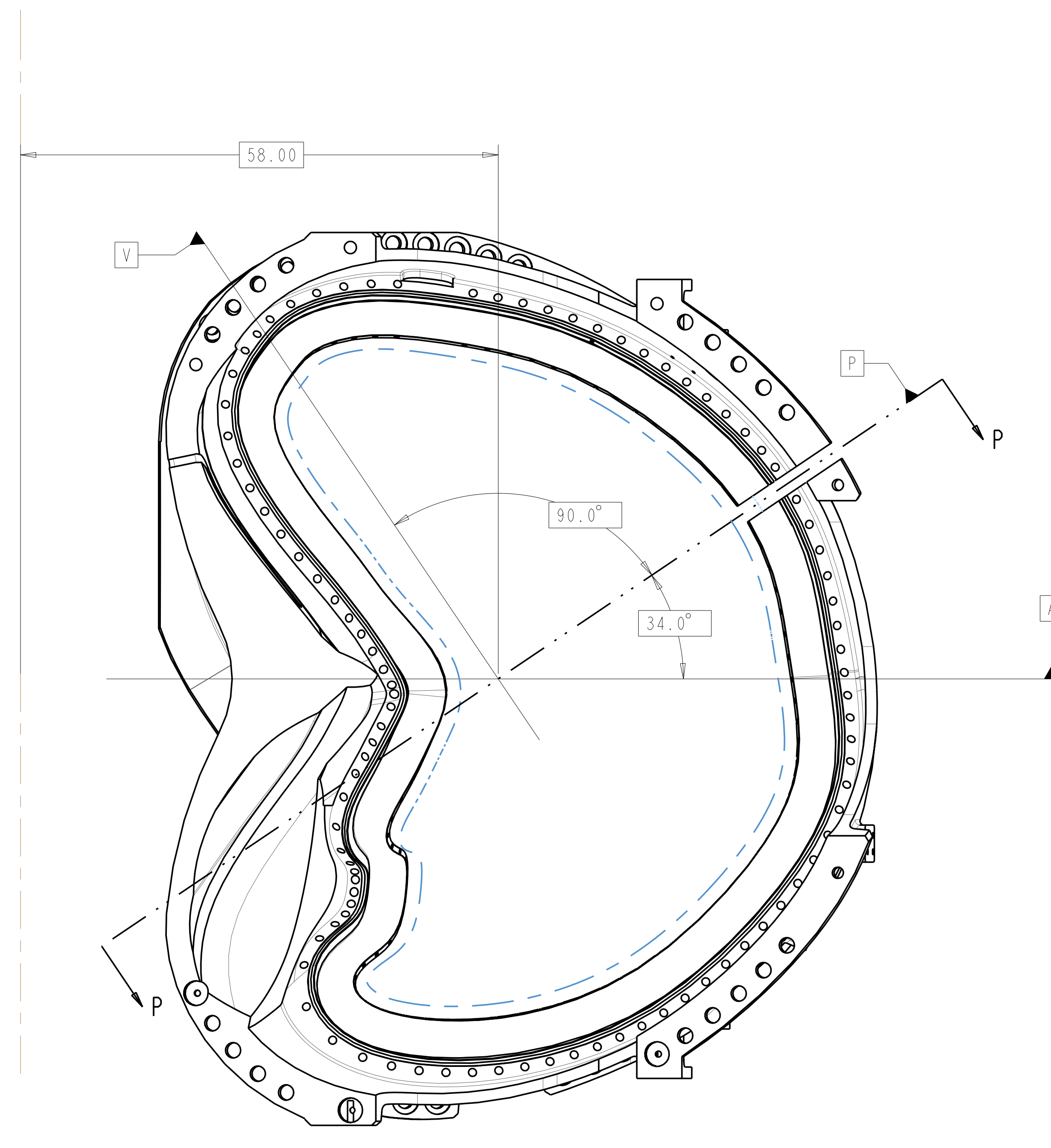
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SECTION O-O



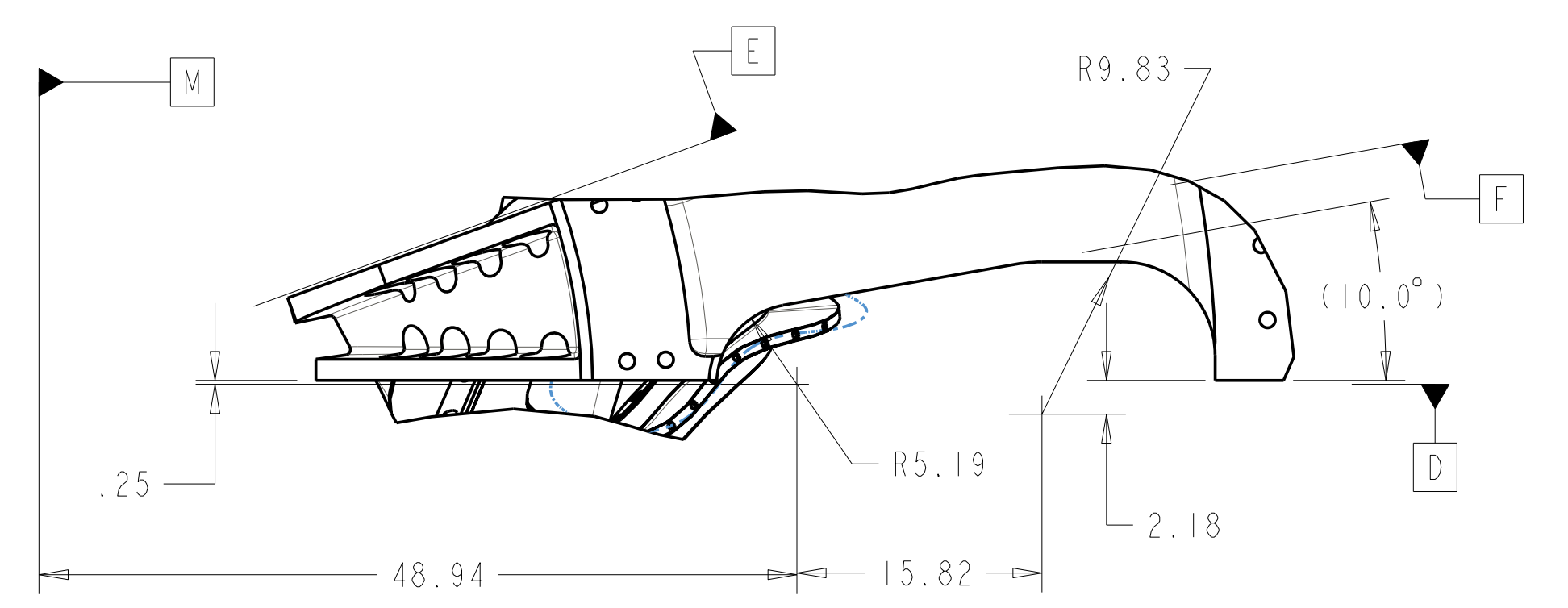
SECTION P-P
 SCALE 0.200



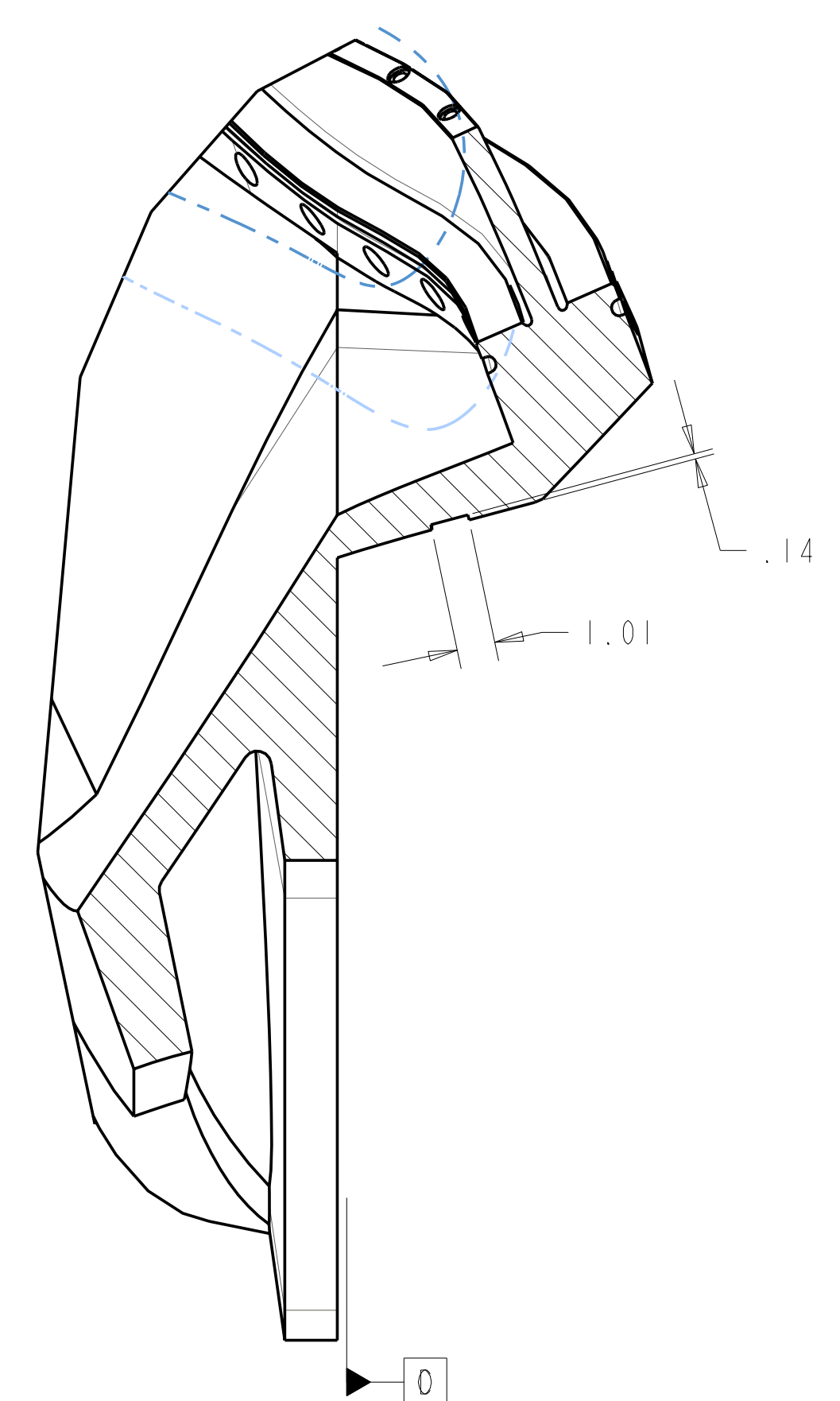
SCALE 0.1

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
16+	X-10	5700	3	6	11	S
RELEASE LEVEL		REV				
WIP		SEI41-114				

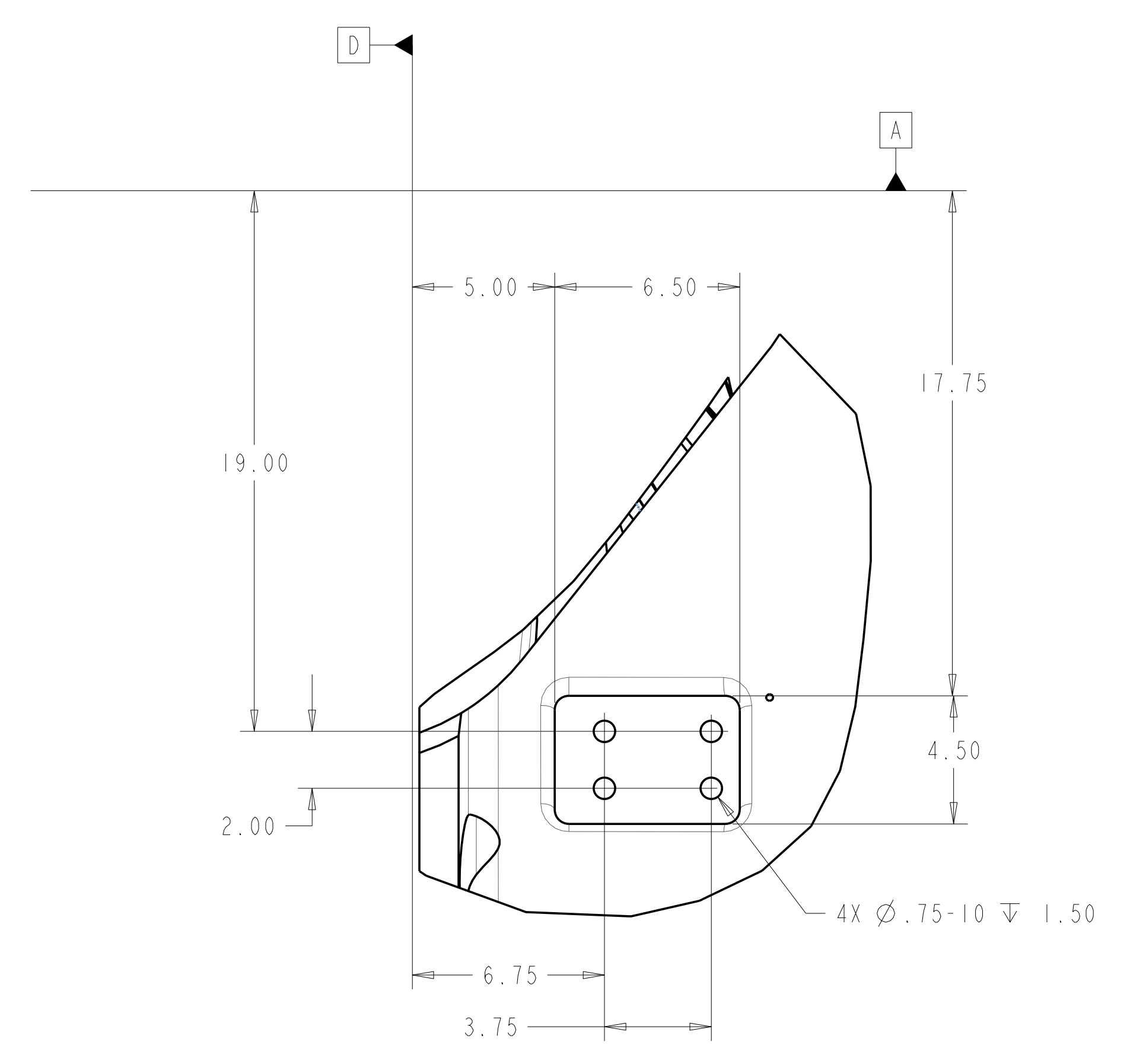
SEI41-114



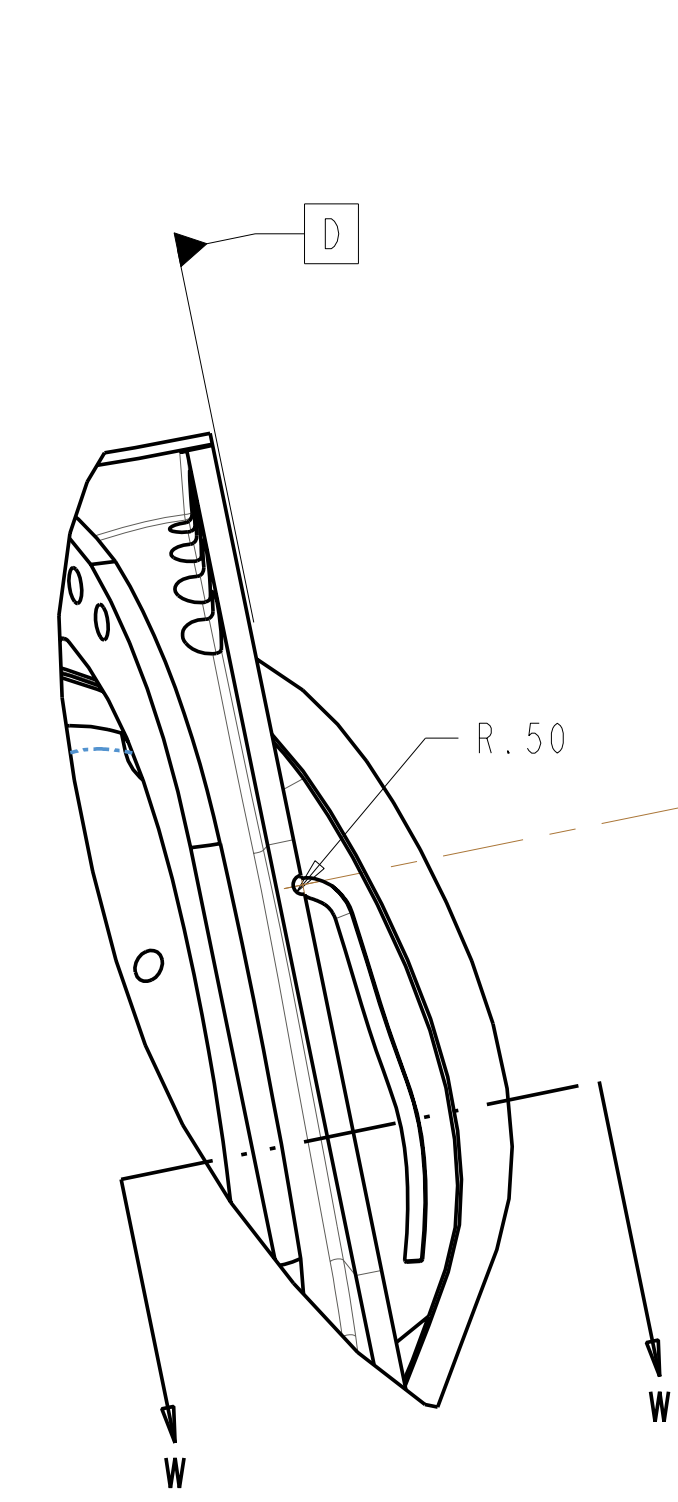
VIEW PROJECTED FROM DATUM D



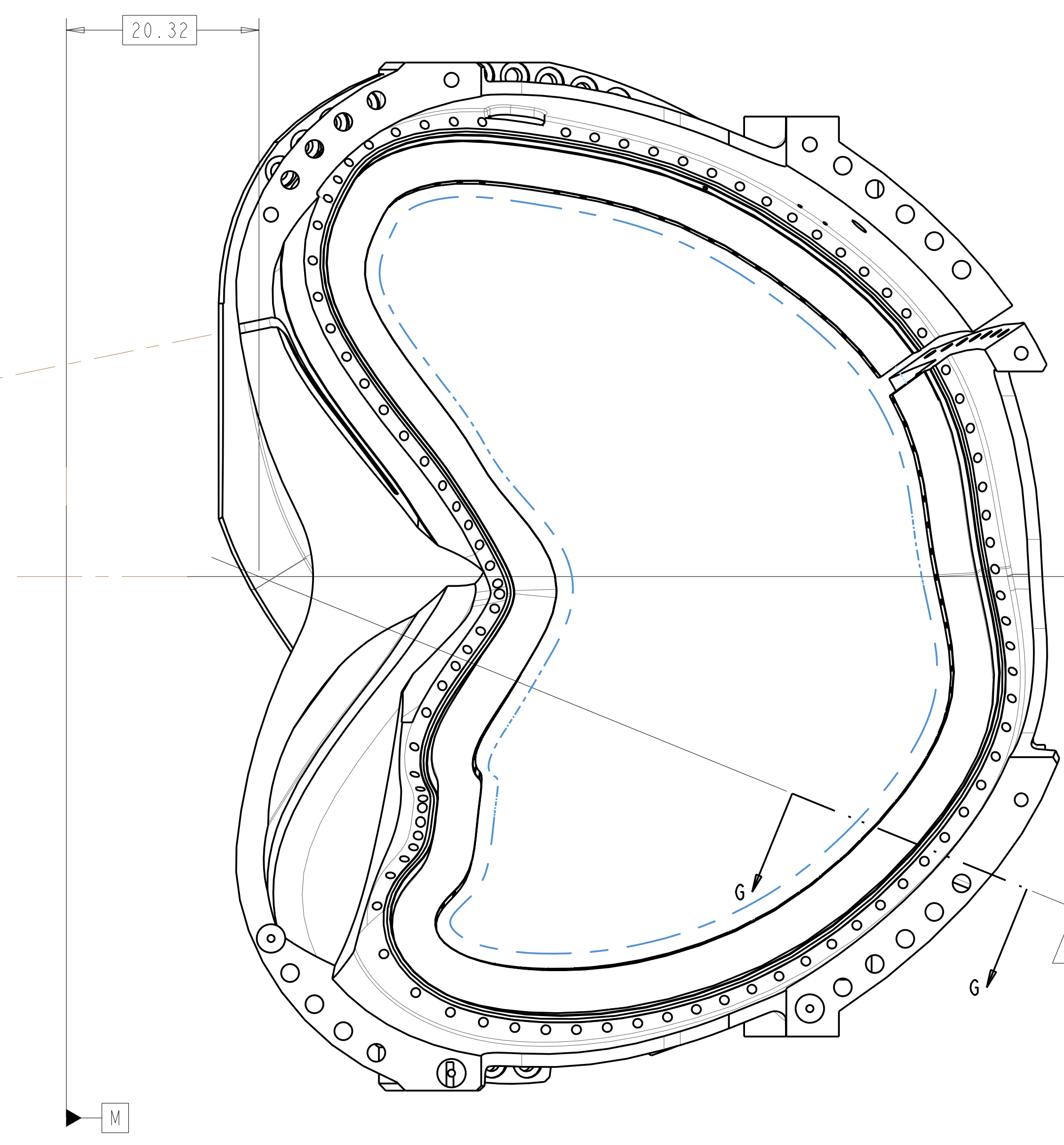
SECTION W-W
SCALE 0.250



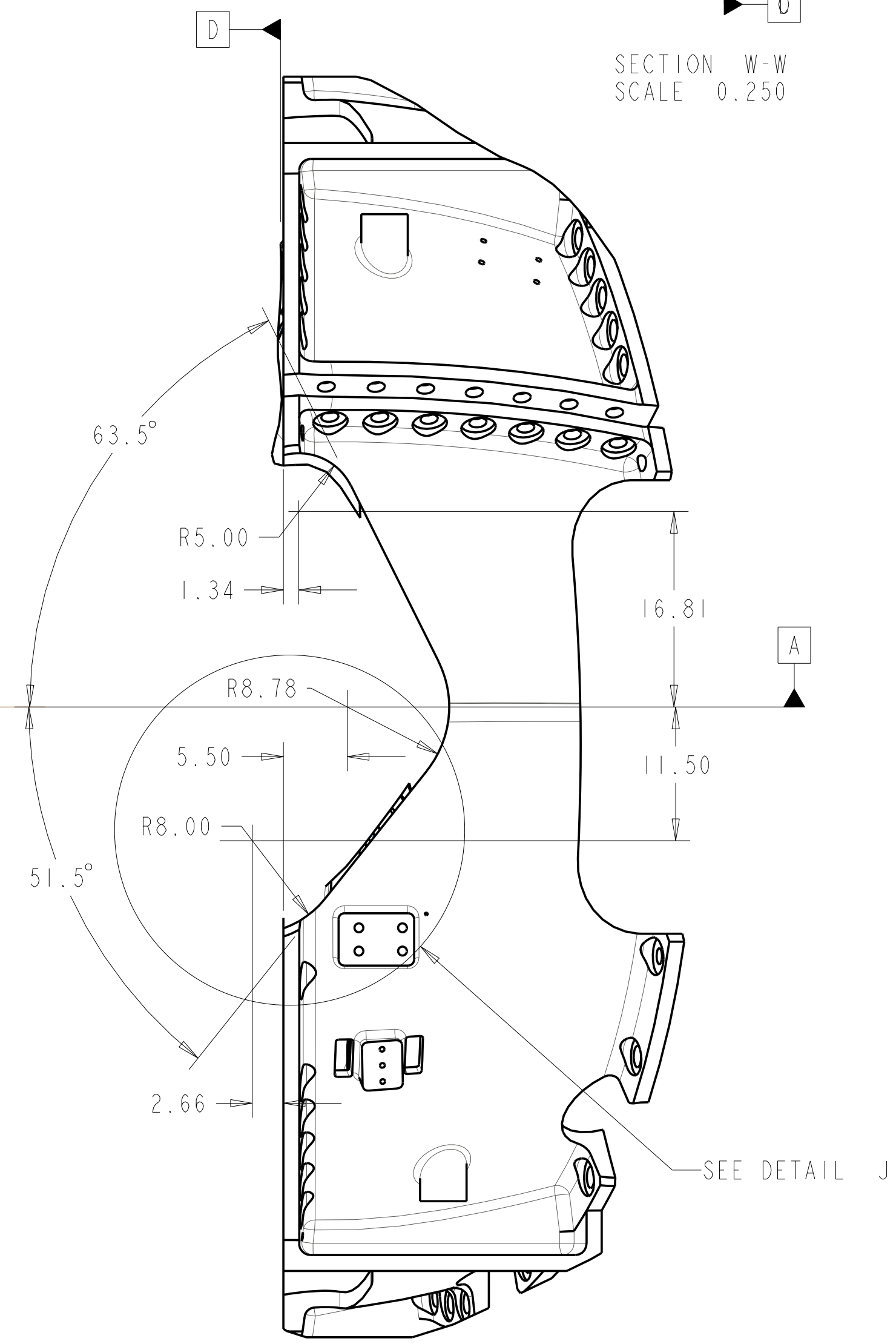
DETAIL J
SCALE 0.250



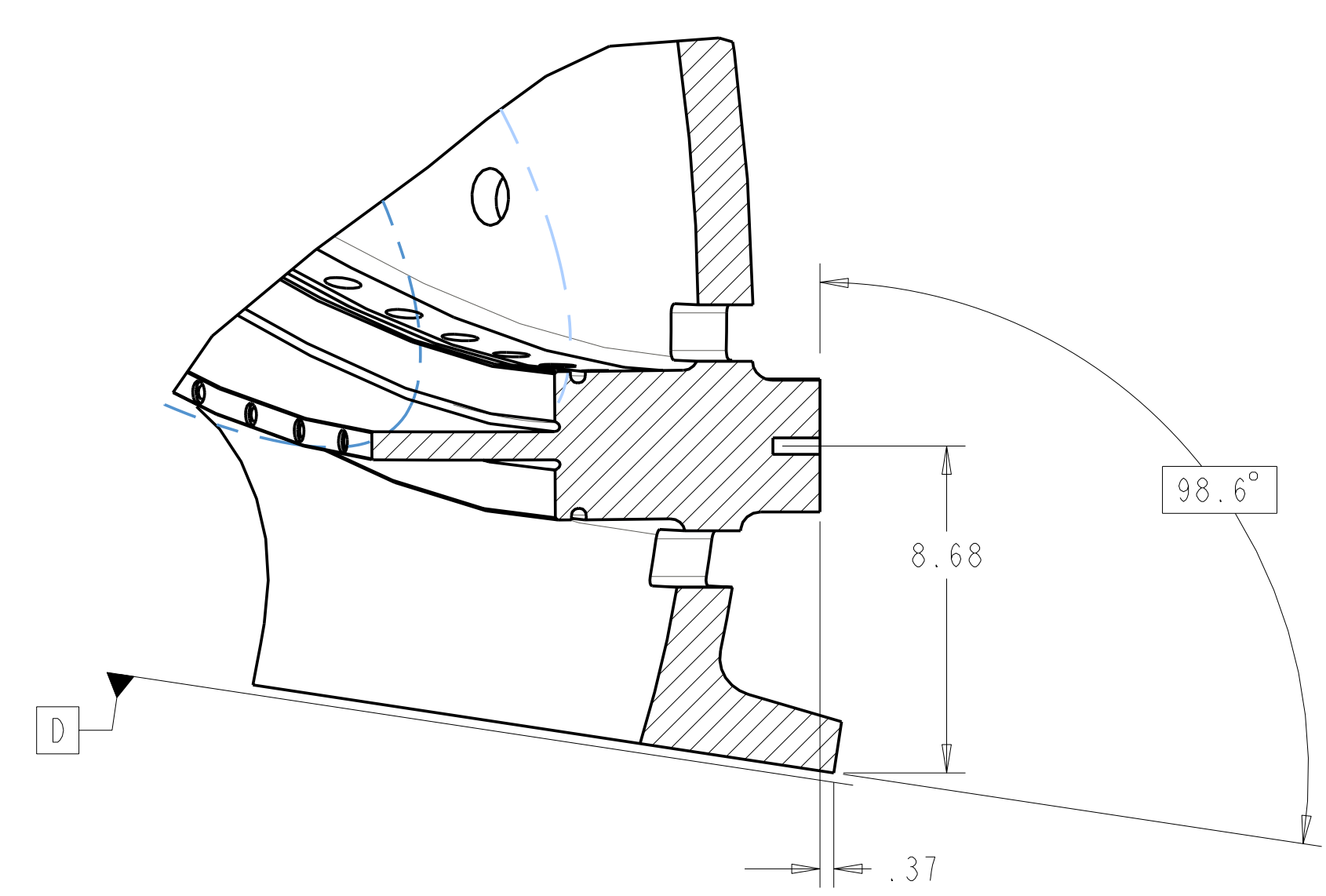
AUX VIEW TO SHOW BLADDER POCKET



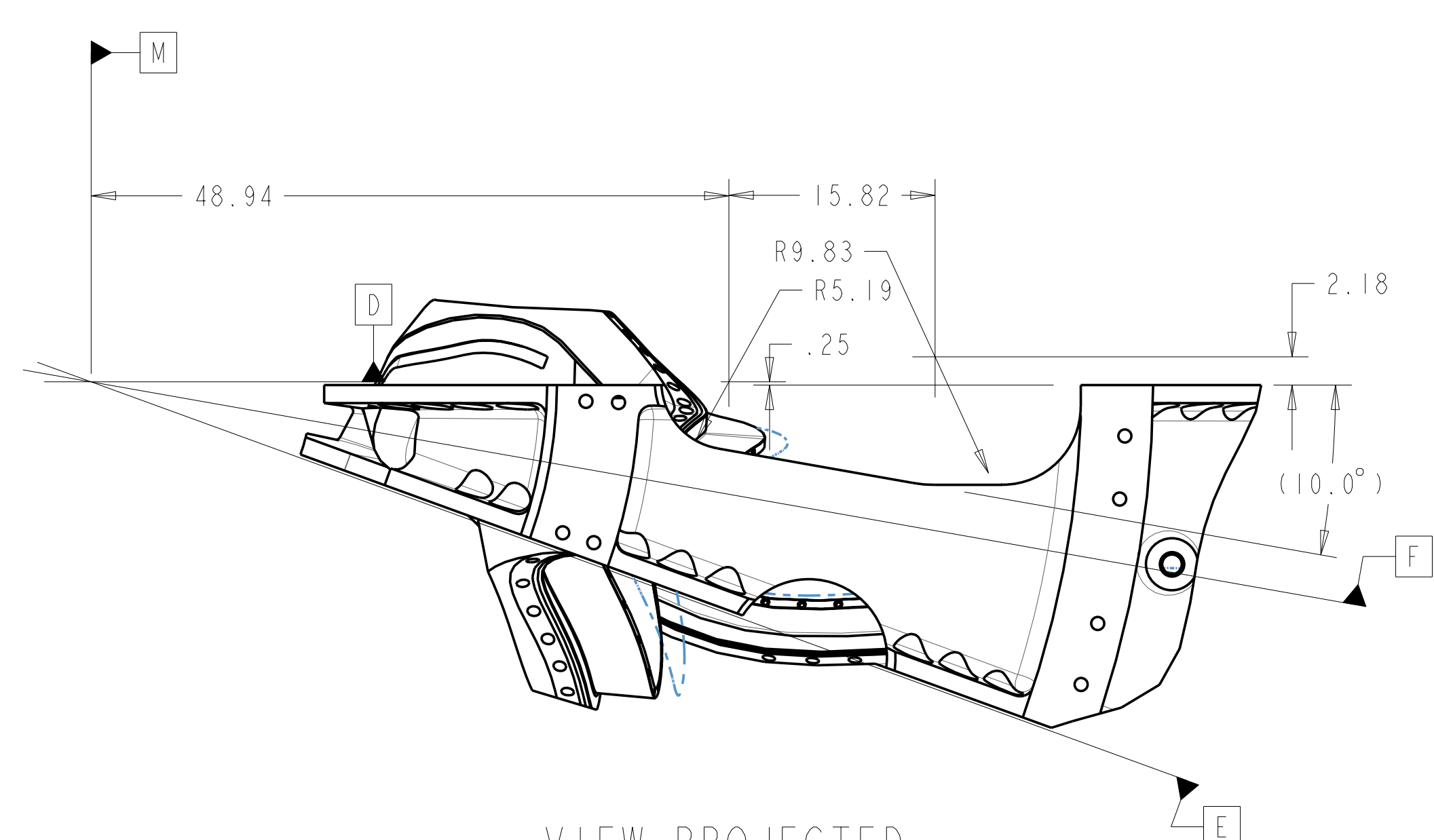
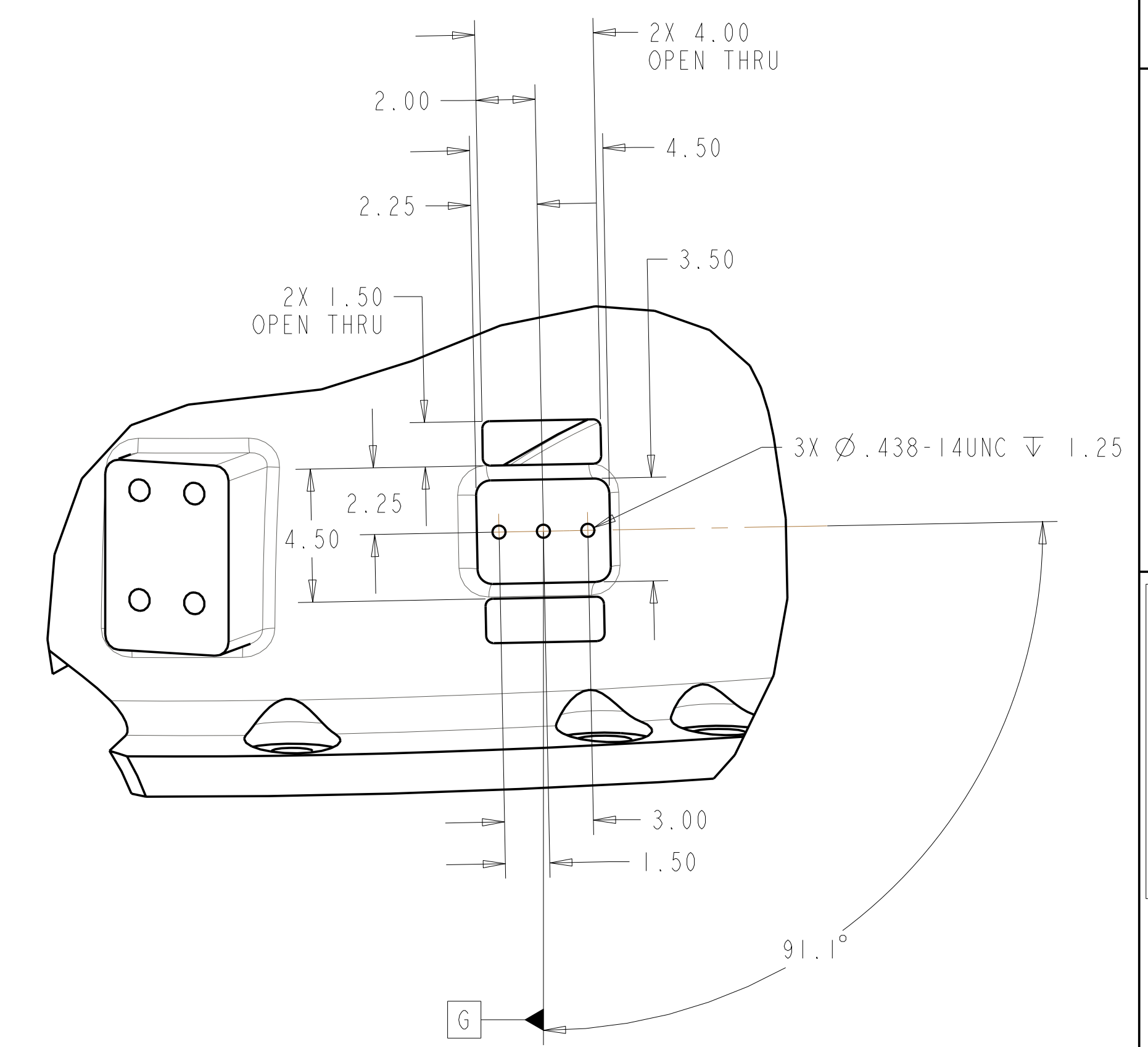
VIEW AT DATUM D
SCALE 0.1



SOME FEATURES NOT SHOWN FOR CLARITY



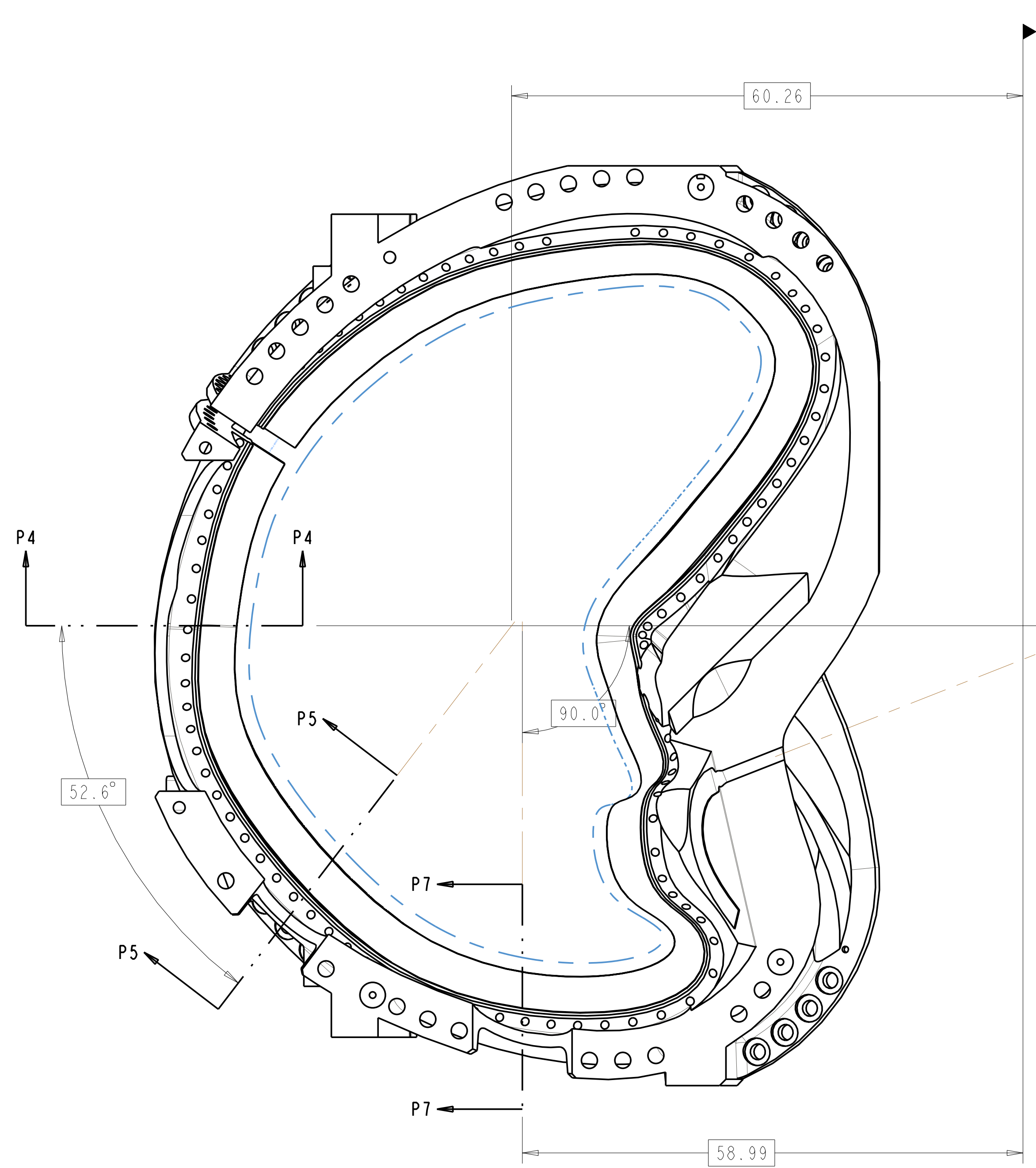
SECTION G-G
SCALE 0.250



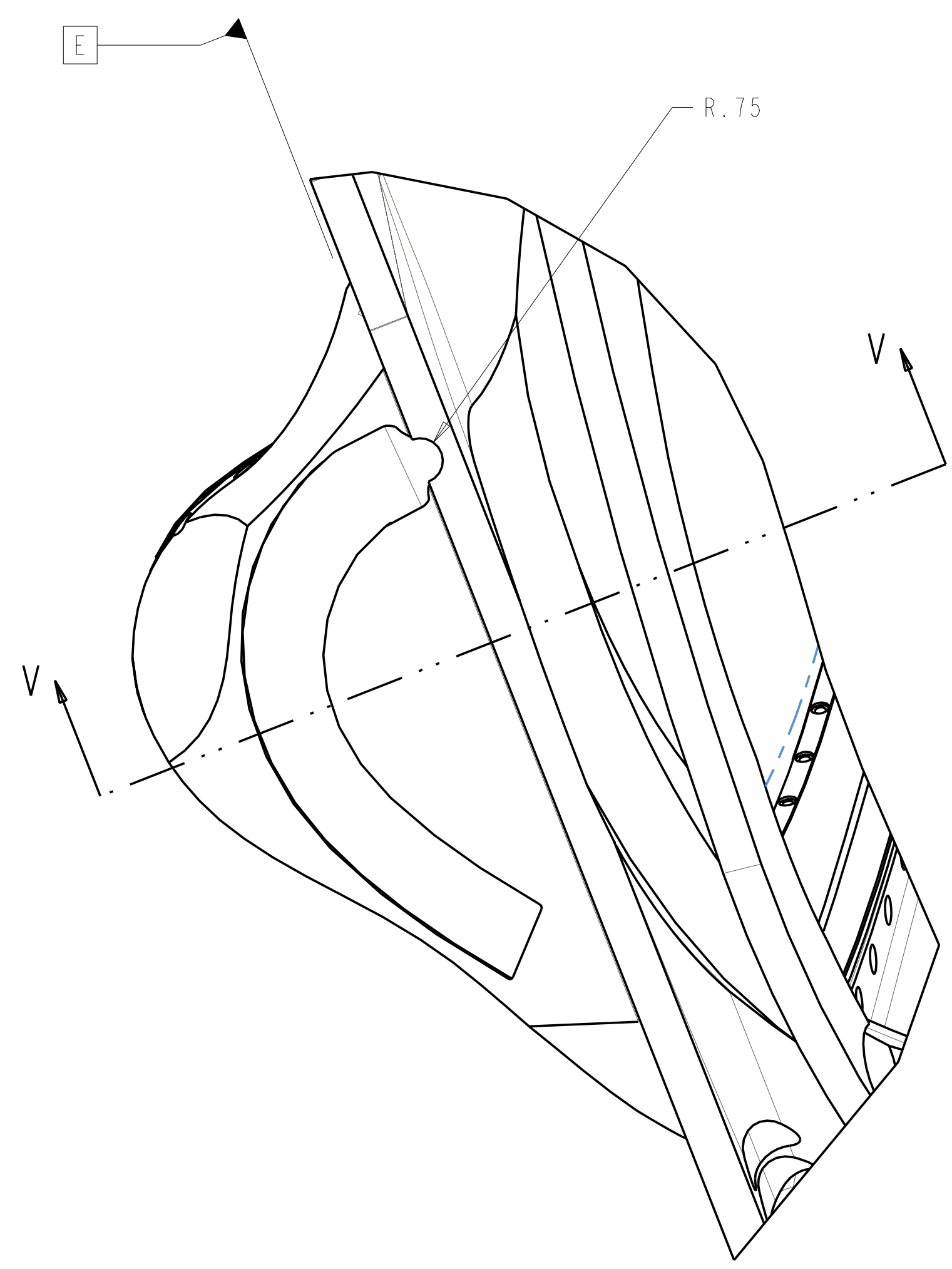
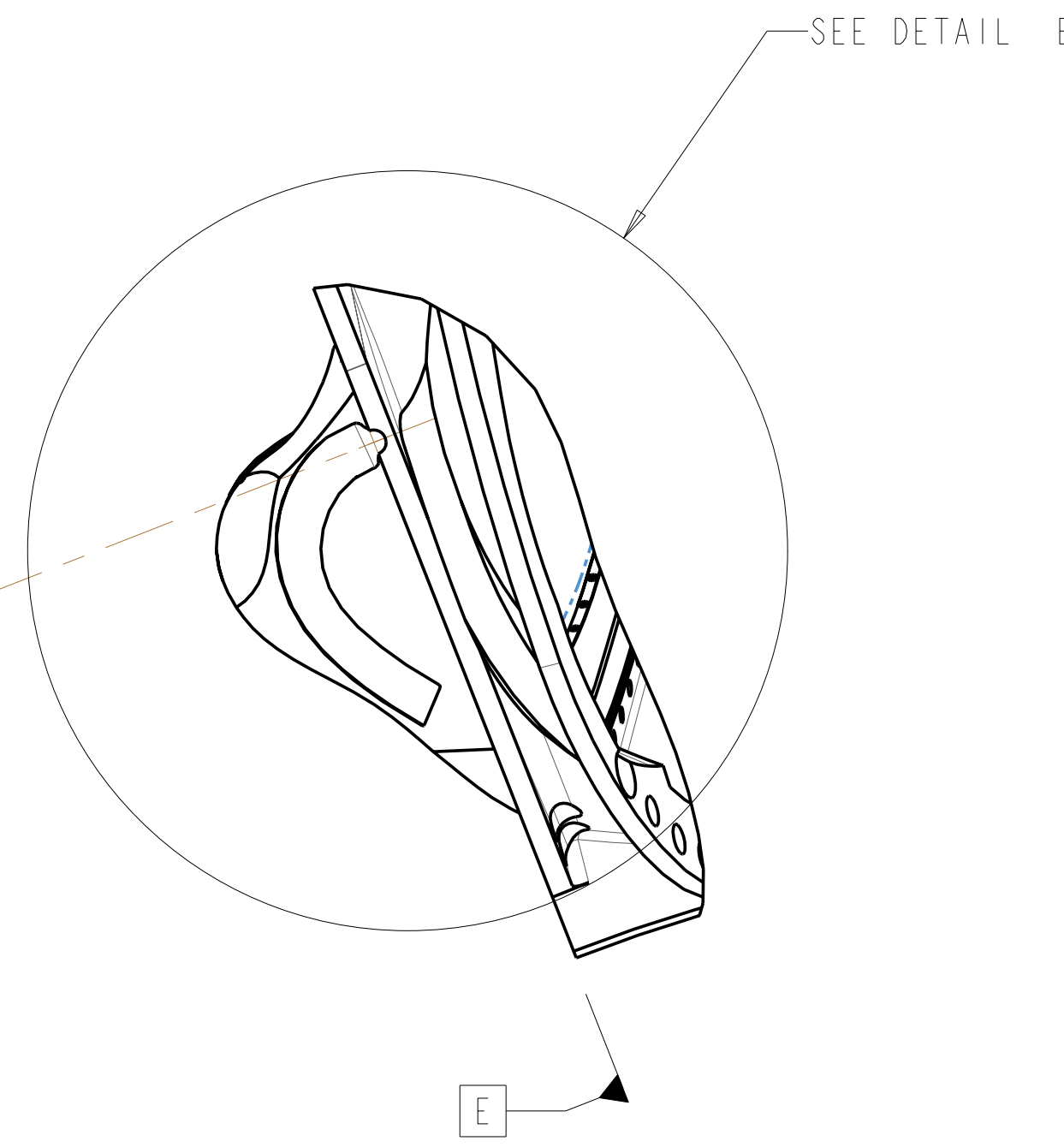
VIEW PROJECTED FROM DATUM D

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		
16+	X-10	5700	3	7	11	S	U	
RELEASE LEVEL	SEI41-114						REV	-
WIP								

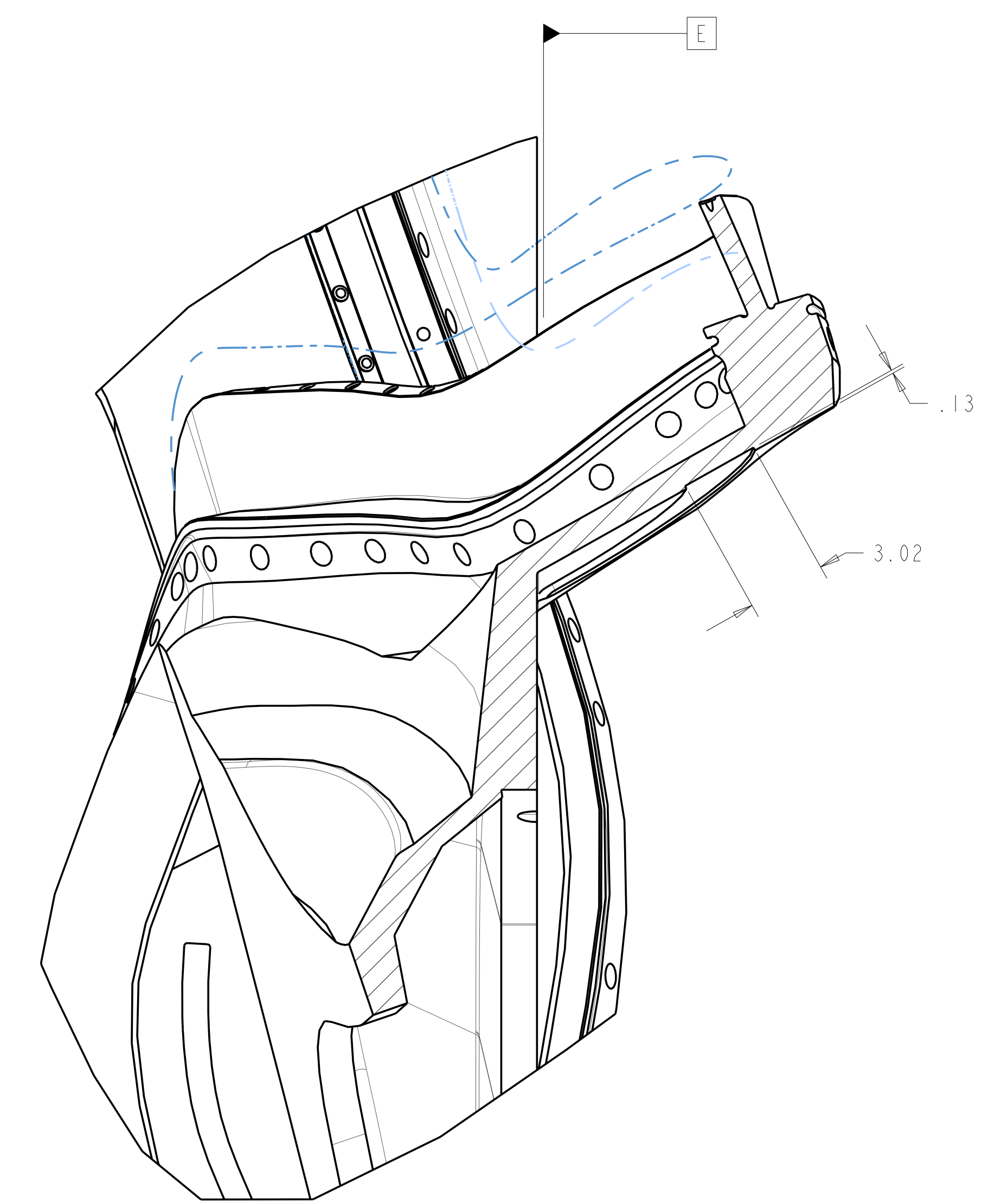
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 SEI41-114



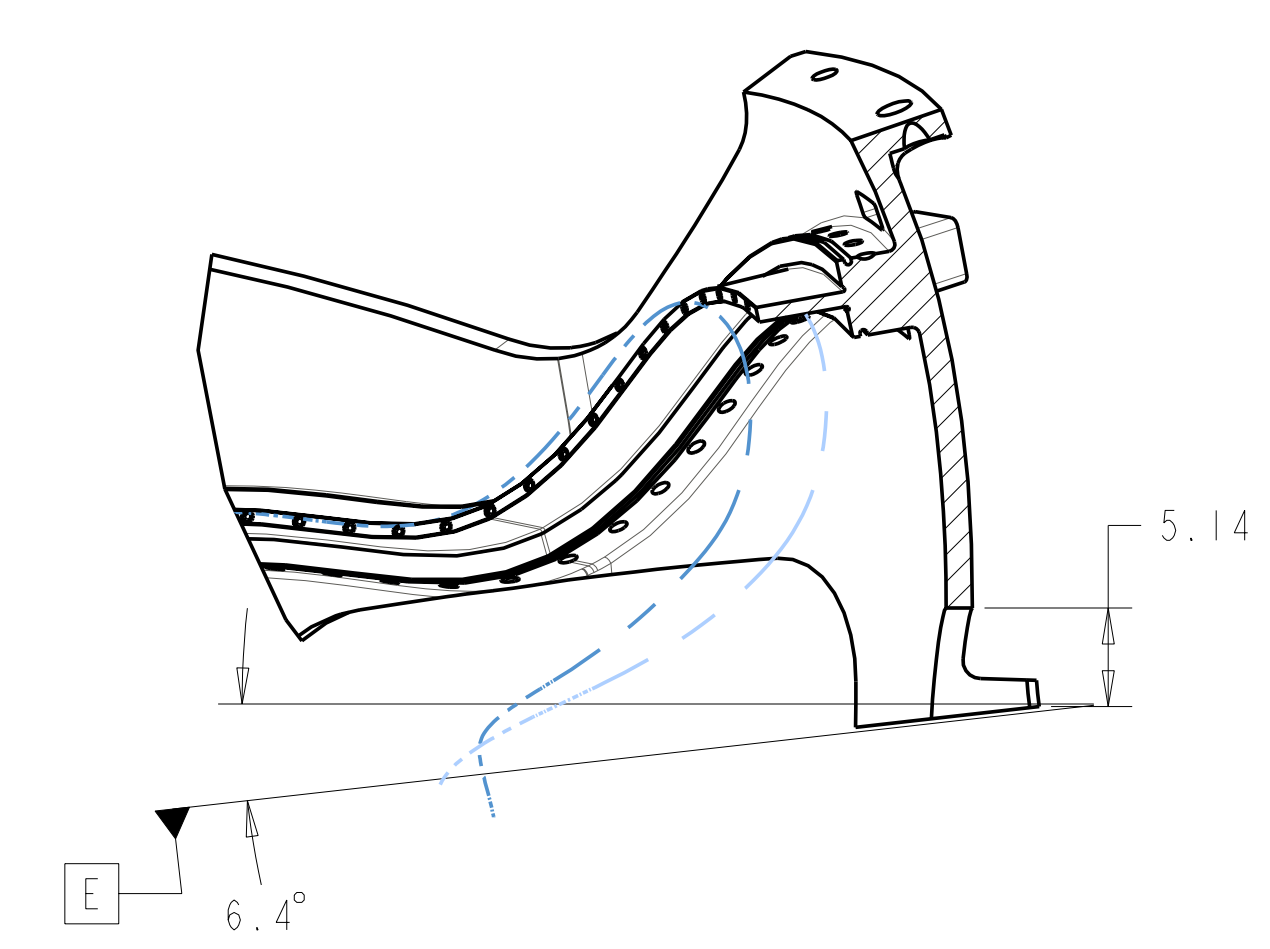
VIEW AT DATUM E
 SCALE 0.1



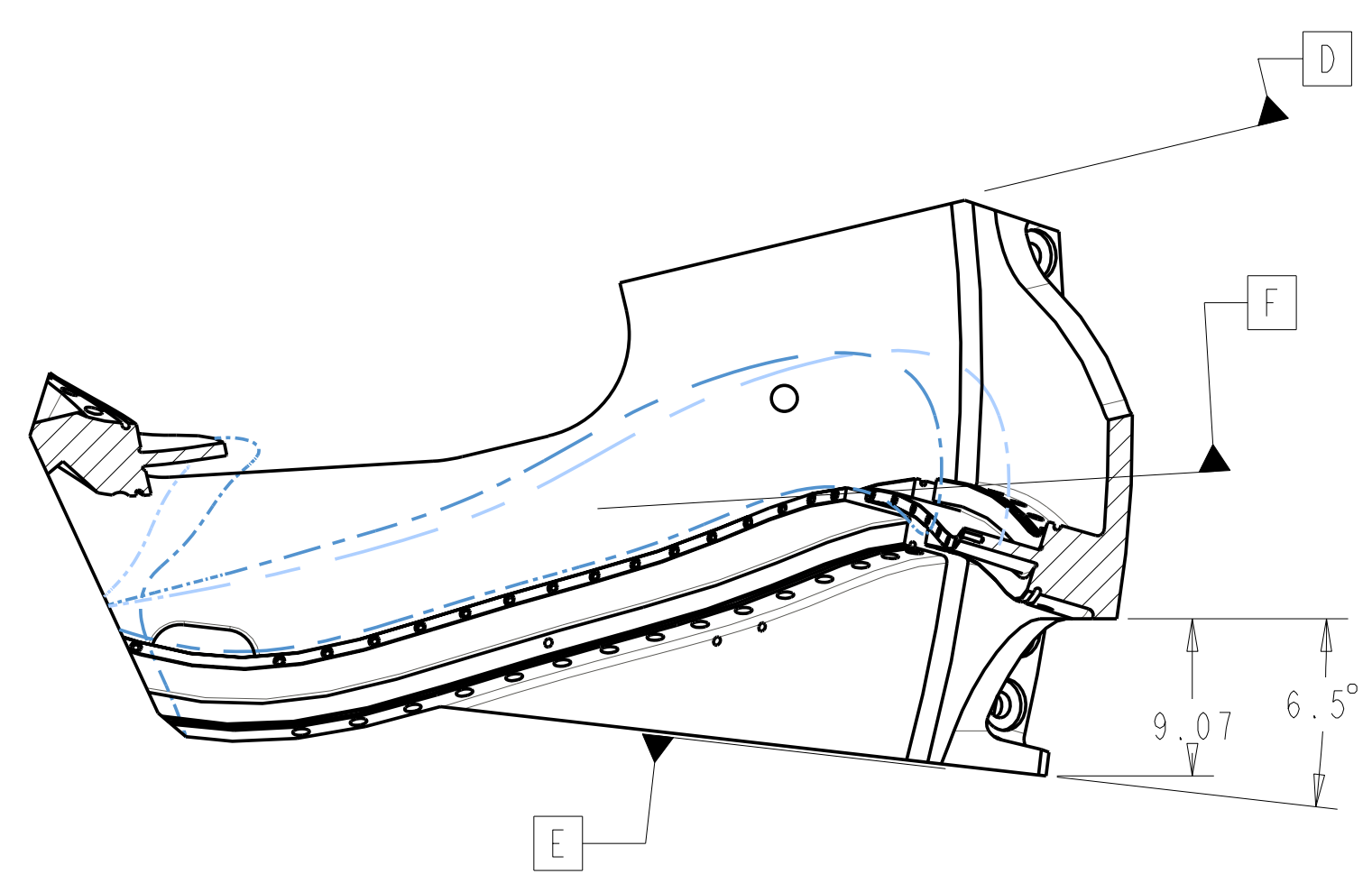
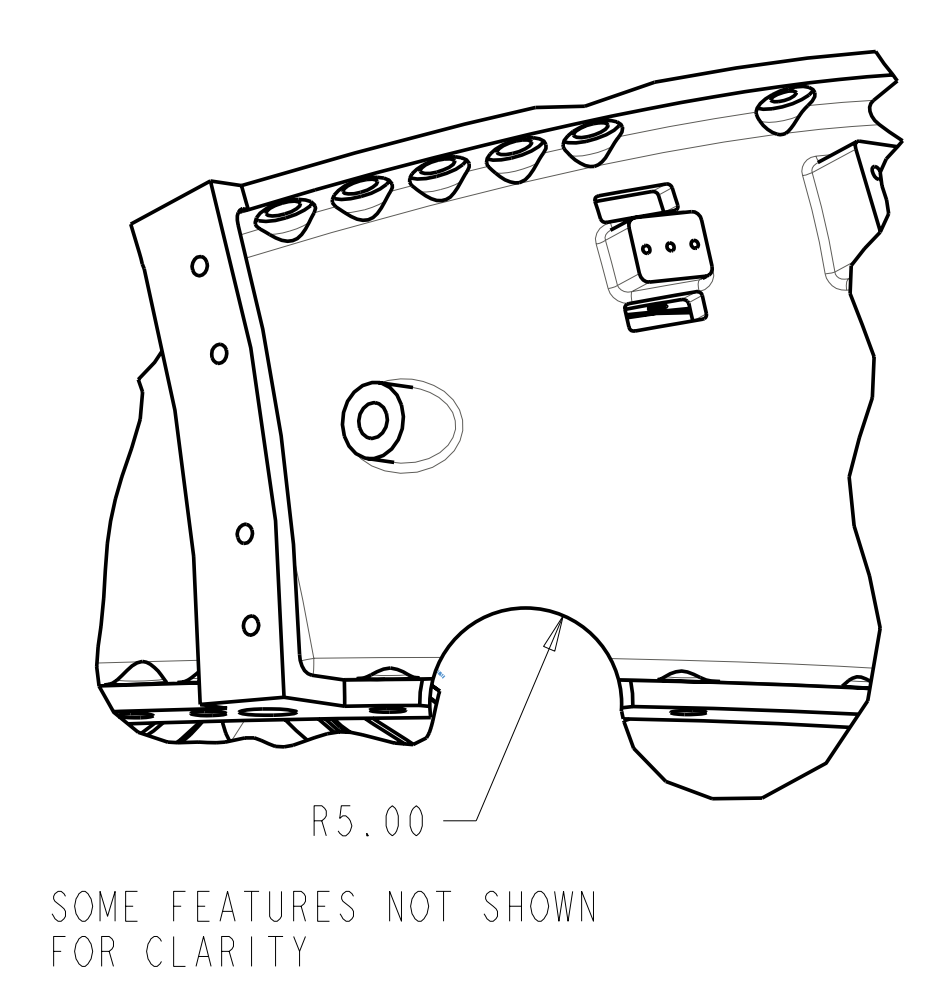
DETAIL E
 SCALE 0.250



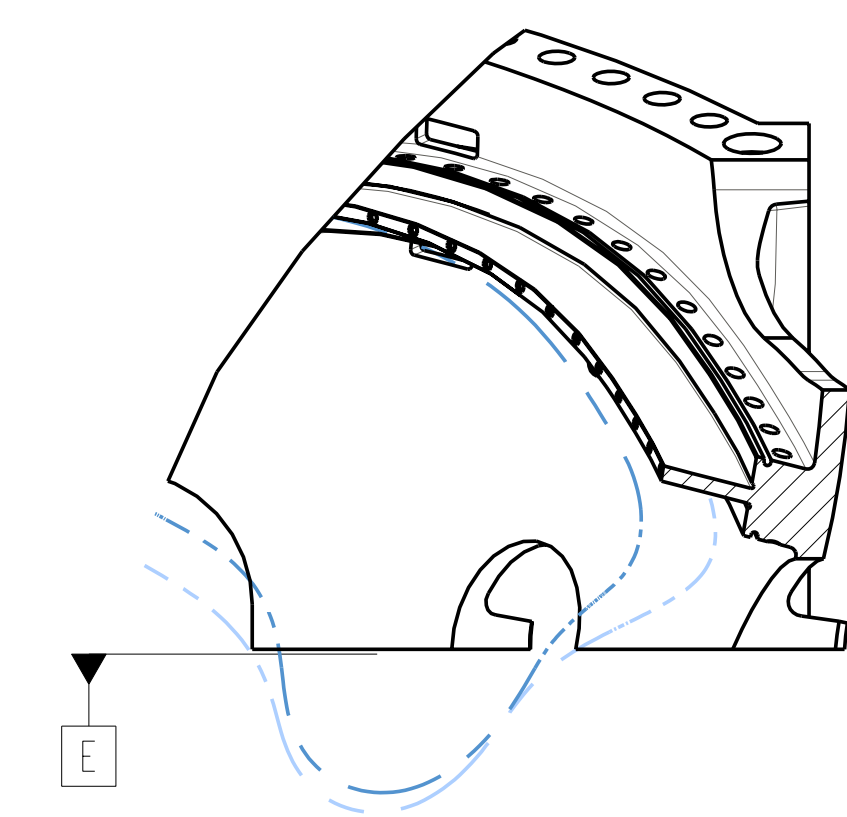
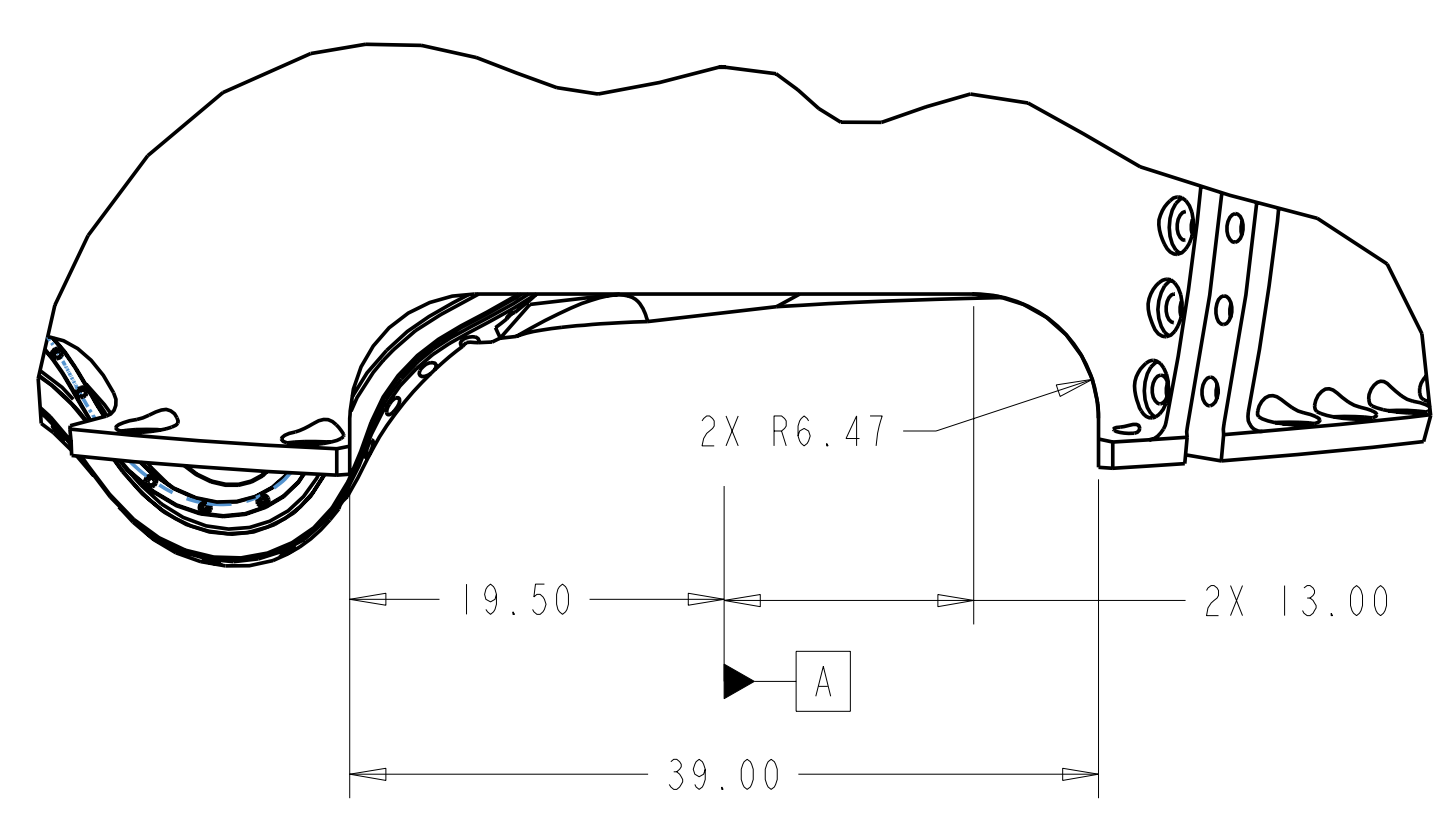
SECTION V-V
 SCALE 0.250



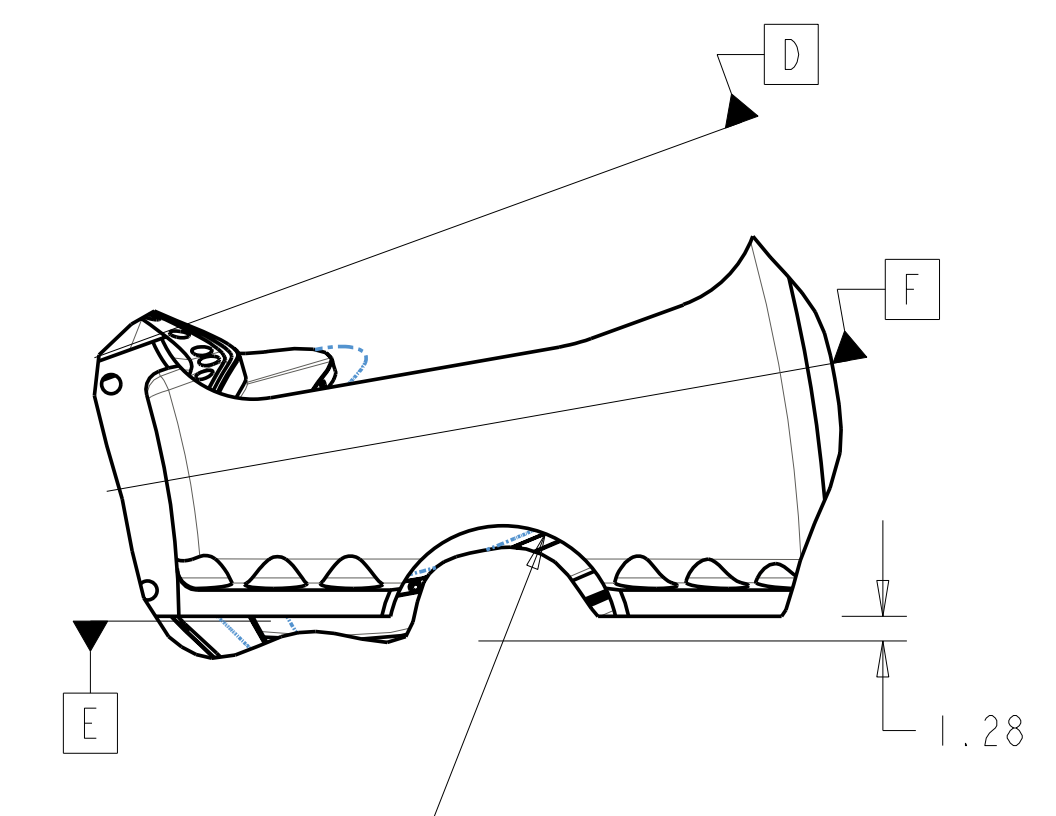
SECTION P5-P5
 SCALE 0.1



SECTION P4-P4
 SCALE 0.1



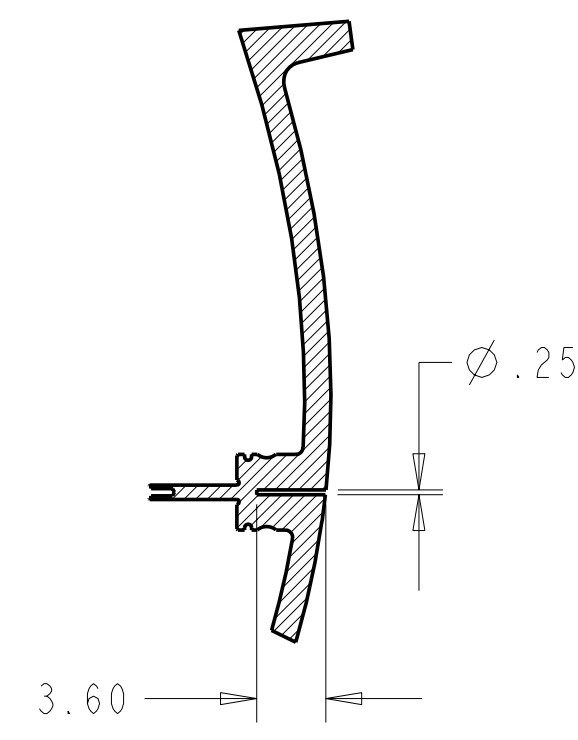
SECTION P7-P7
 SCALE 0.1



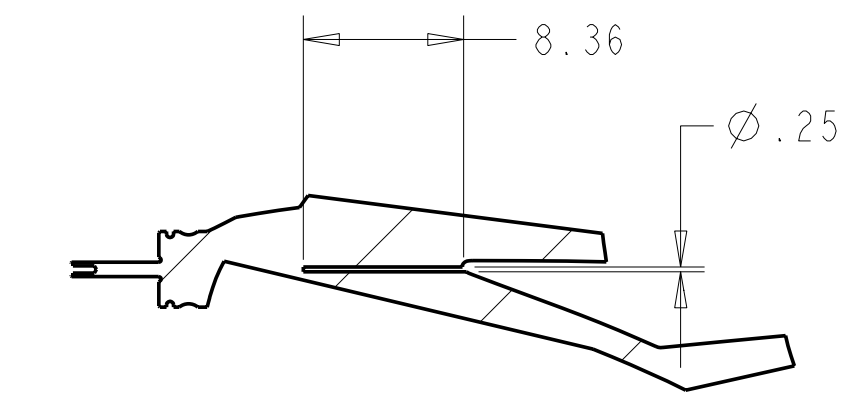
SOME FEATURES NOT SHOWN FOR CLARITY

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	
16+	X-10	5700	3	8	11	S	U
RELEASE LEVEL		SEI41-114					
WIP							

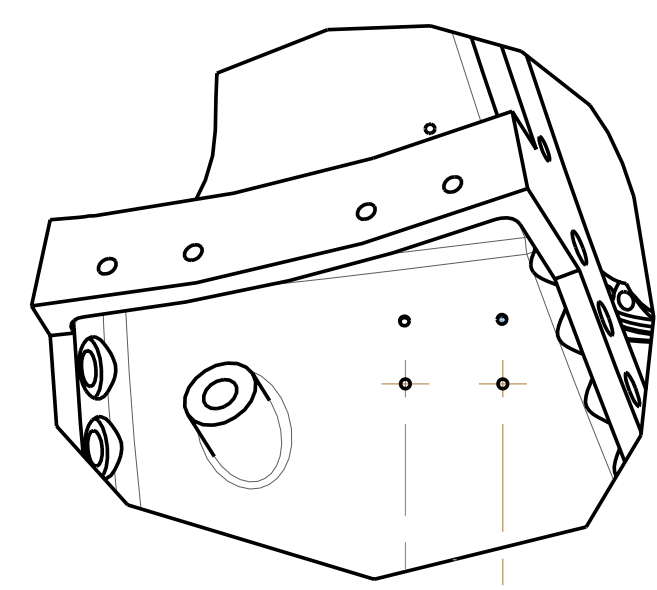
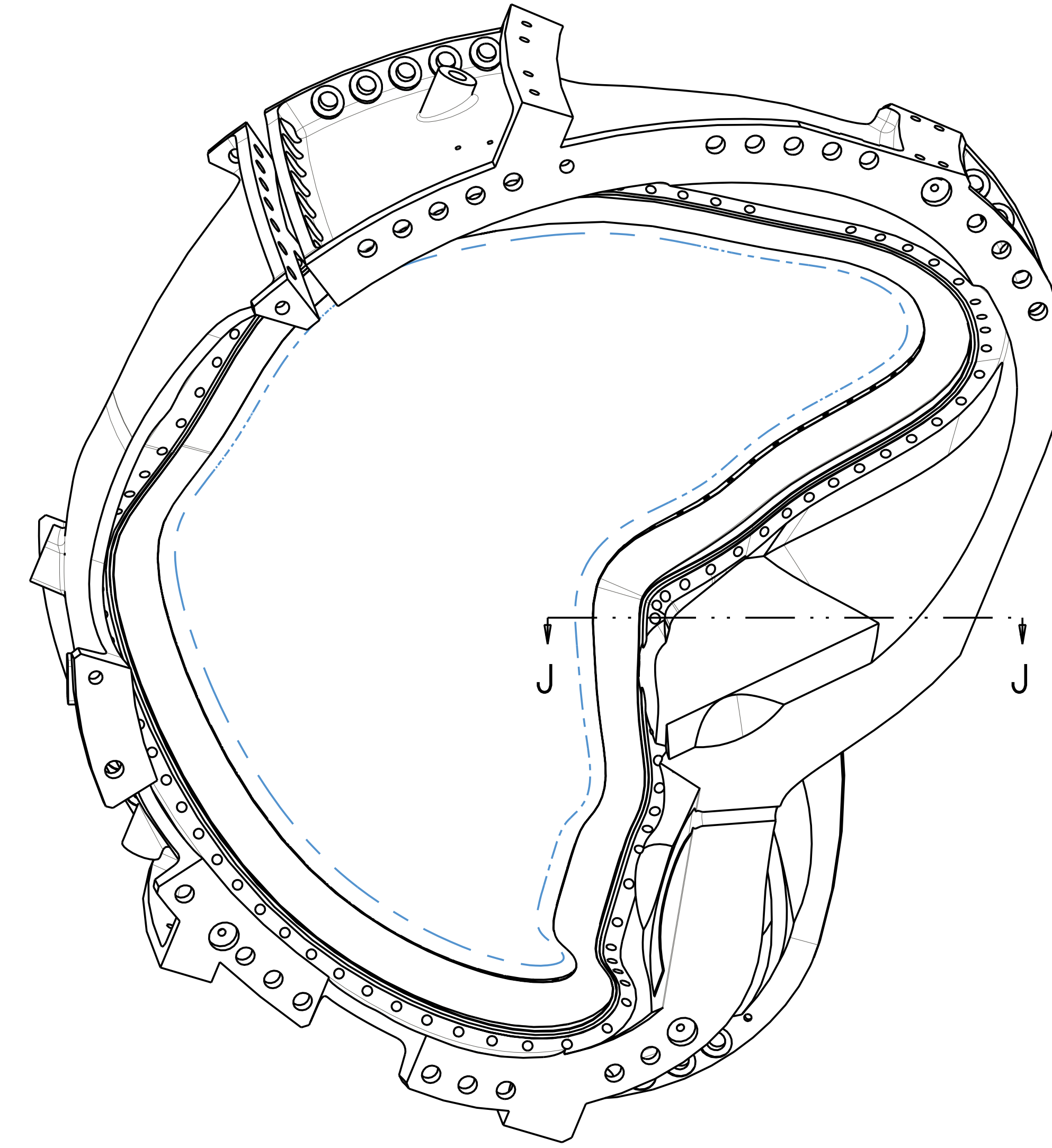
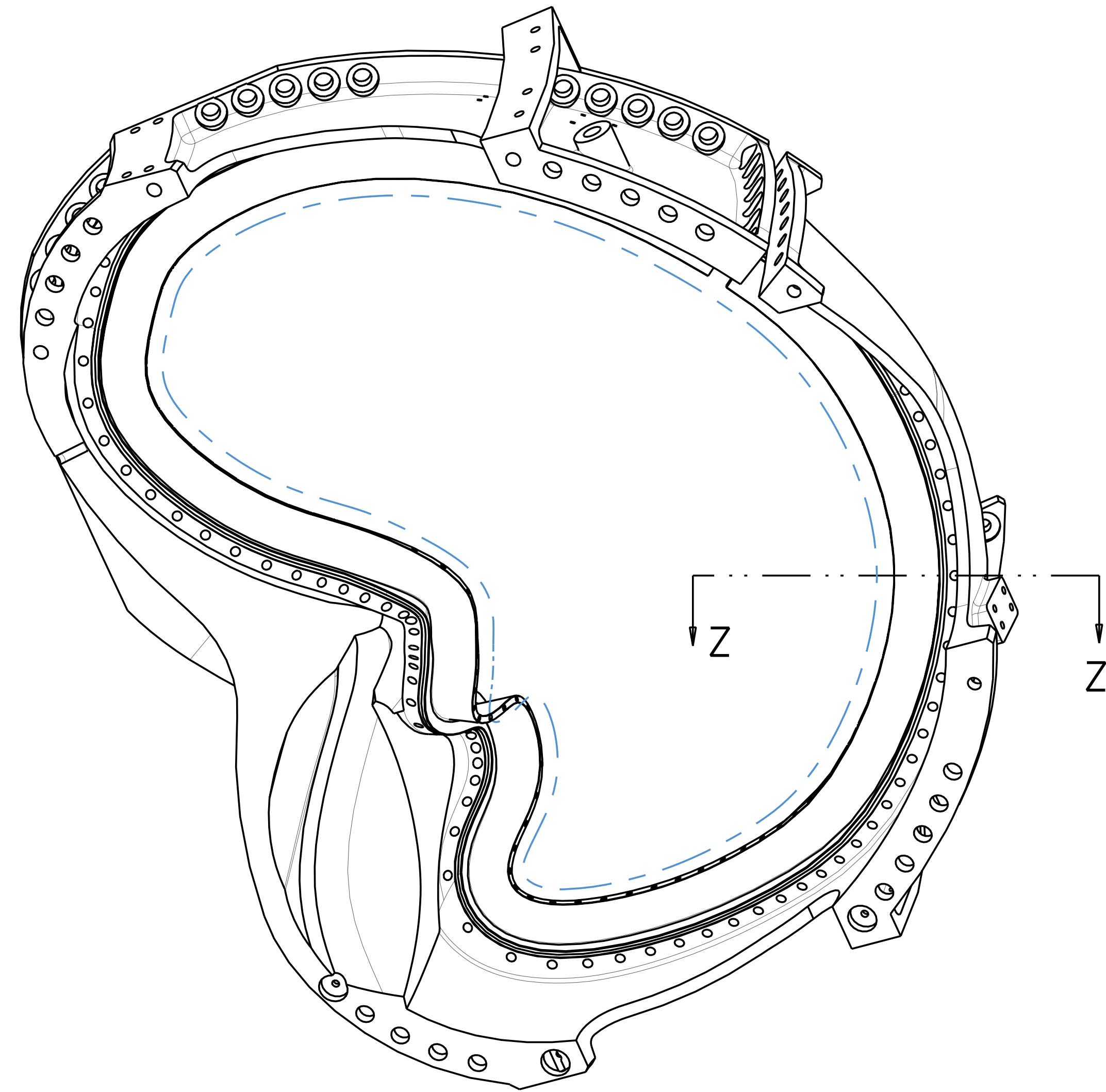
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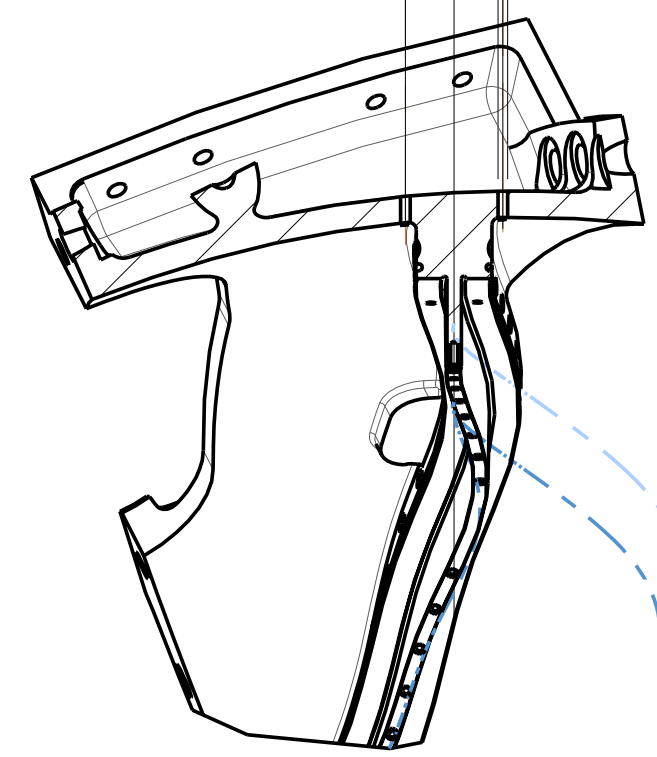
SECTION Z-Z



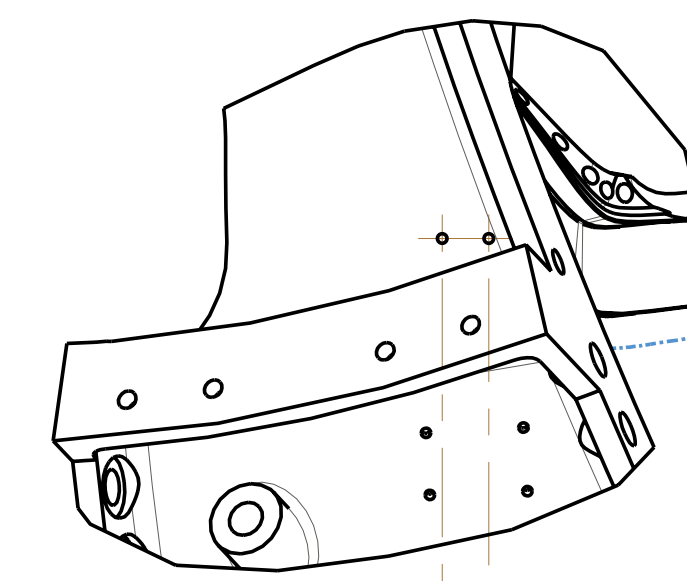
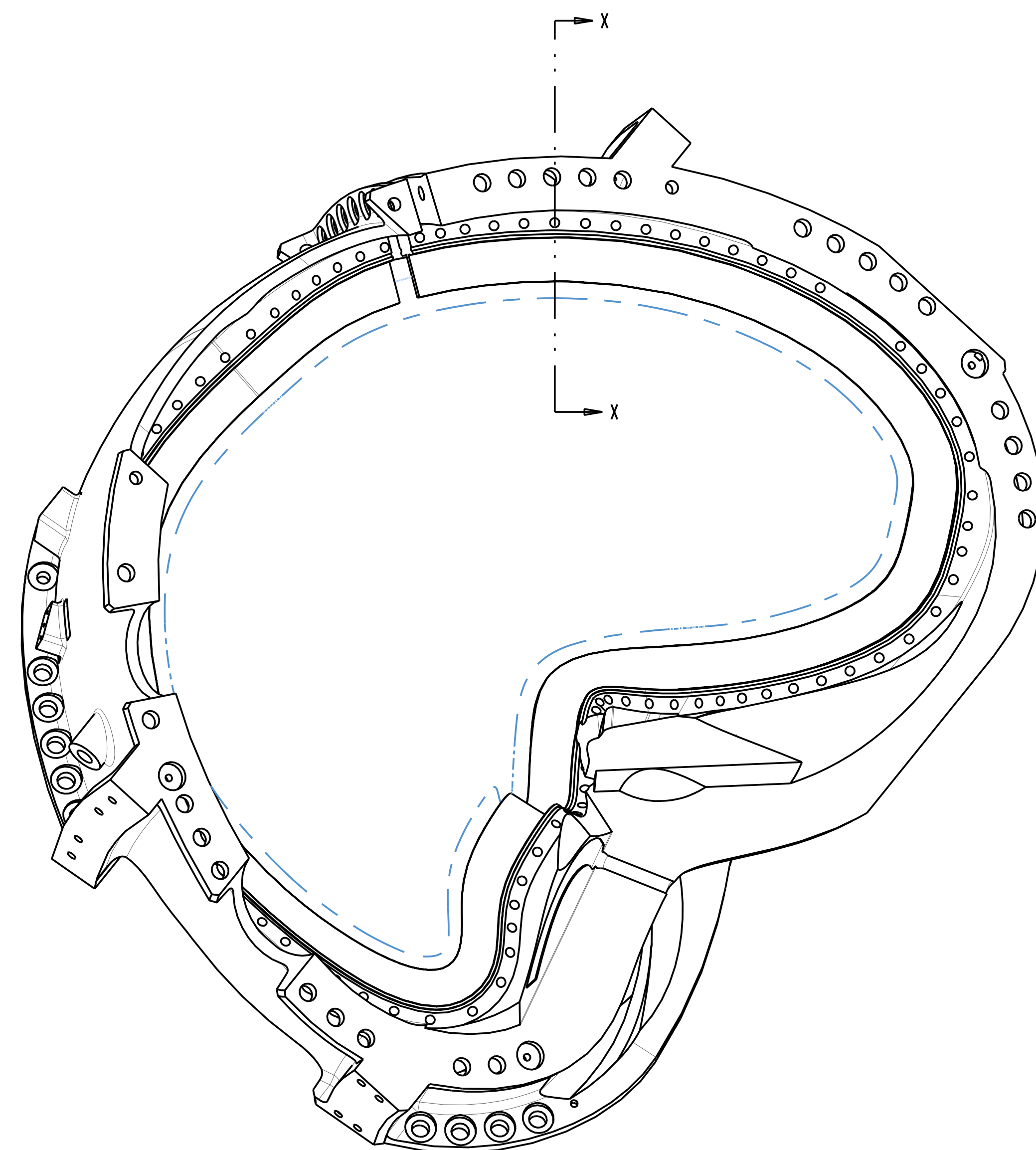
SECTION J-J



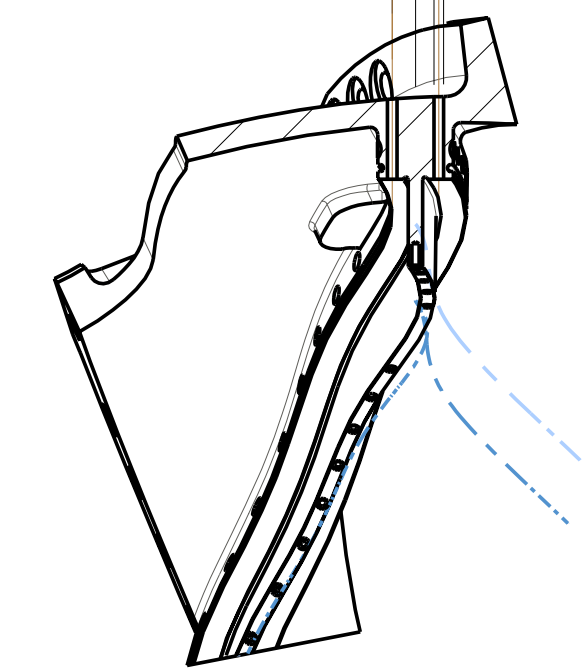
4X .50 THRU
 2X 2.54



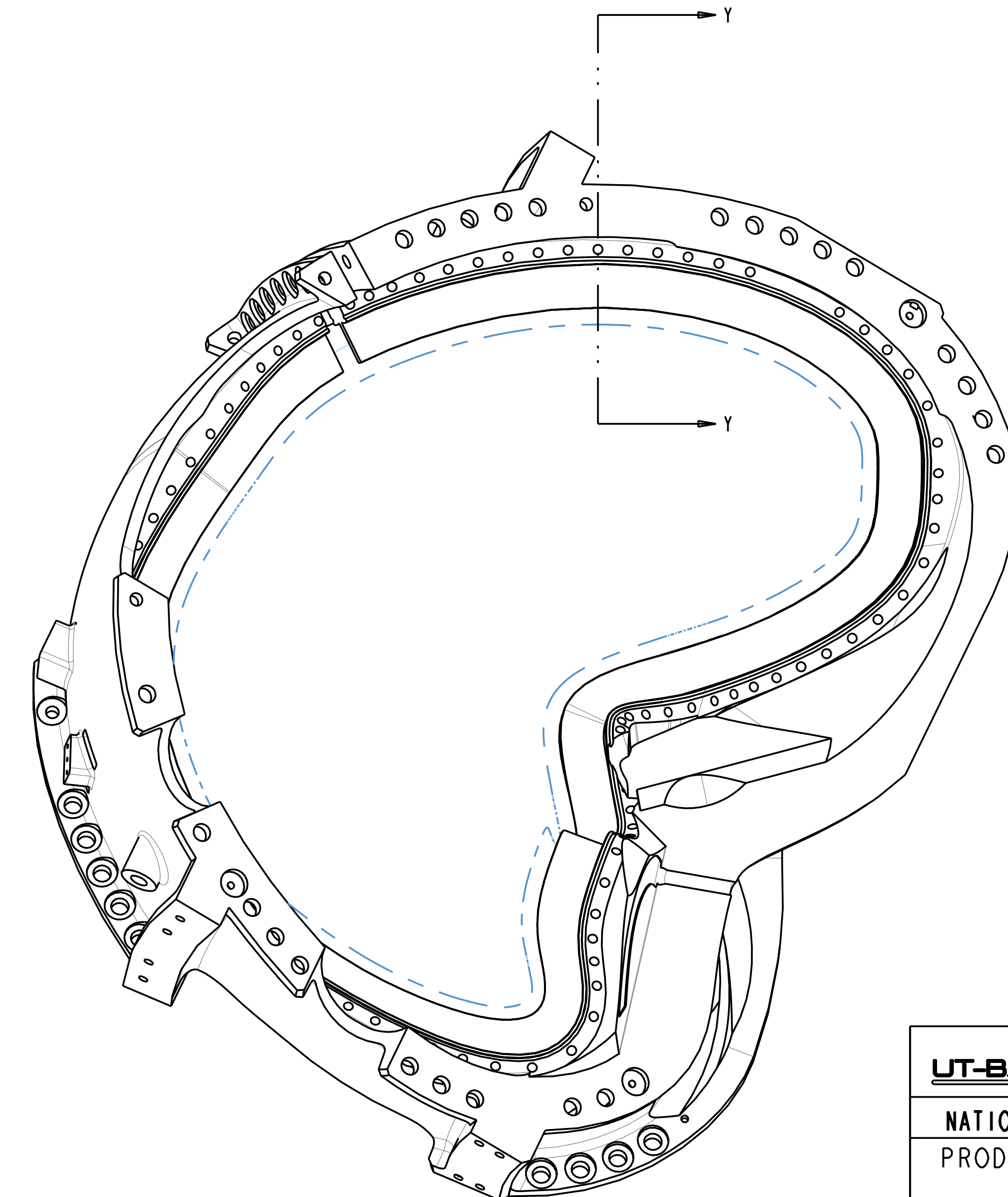
SECTION X-X



1.218
 2X .50 THRU



SECTION Y-Y



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-A							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
16+	X-10	5700	3	9	11	S	U
RELEASE LEVEL	SEI41-114						REV
WIP							-

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SEI41-114

TABLE I WINDING CENTER SPLINE
(FILE SEI41-114-WC.TXT)

Table with 4 columns: #, X, Y, Z. Contains 101 rows of coordinate data for the Winding Center Spline.

TABLE II X-VECTOR SPLINE
(FILE SEI41-114-XV.TXT)

Table with 4 columns: #, X, Y, Z. Contains 101 rows of coordinate data for the X-Vector Spline.

TABLE III SPHERICAL SEAT CENTERS
SIDE R
(FILE SEI41-114-SR.TXT)

Table with 4 columns: no, x, y, z. Contains 101 rows of coordinate data for Spherical Seat Centers Side R.

TABLE IV SPHERICAL SEAT CENTERS
SIDE L
(FILE SEI41-114-SL.TXT)

Table with 4 columns: no, x, y, z. Contains 101 rows of coordinate data for Spherical Seat Centers Side L.

ALL POINT LOCATIONS ARE BASIC

Administrative header box containing project information: Oak Ridge National Laboratory, UT-BATTELLE, NATIONAL COMPACT STELLARATOR EXPERIMENT, PRODUCTION WINDING FORM TYPE-A, and version/release details.

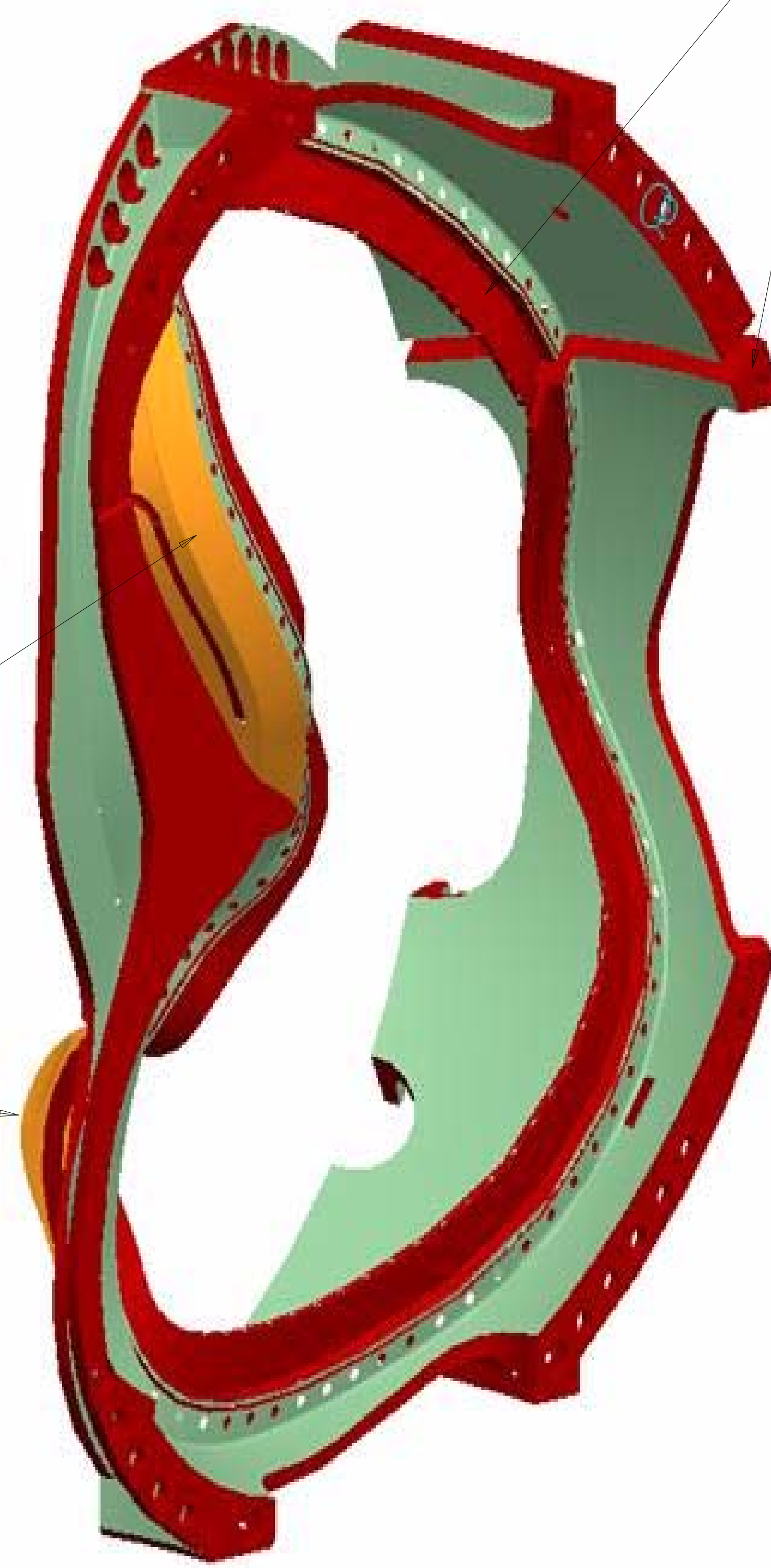
AS CAST SURFACES

0.5 A | C | B



MACHINED SURFACES

0.020 R | S | T



WING SURFACES

0.125 A | B | C



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-A							
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS	
16+	X-10	5700	3	1	S	U	
RELEASE LEVEL		SEI41-114				REV	
WIP						-	

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