

- NOTES
- DRAWING PREPARED IN ACCORDANCE WITH ASME Y14.100-2004.
  - INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M-1994.
  - DIMENSIONS ARE IN INCHES
  - INSTALL UPPER AND LOWER SUPPORT ASSEMBLIES, F/N 14 AND 15, AND TEMPORARY SUPPORTS, F/N 18 AS SHOWN. ADD ANY ADDITIONAL SUPPORT STRUCTURES AS REQ'D TO TRANSPORT FIELD PERIOD ASSEMBLY FROM STATION 3 TO STATION 5.
  - MACHINE BUSHING OD AFTER MATCHING ALIGNMENT WITH CORRESPONDING HOLE ON MATING FLANGE. USE STUD KIT SE140-190-2, F/N 17, IN ANY HOLE WHERE FLANGE THICKNESS IS THINNER THAN 1.25. SEE DRAWING SE140-190 FOR ADDITIONAL INFORMATION ON STUD KITS.
  - SHIMS TO BE CUSTOM FIT PRIOR TO INSTALLATION. SEE DRAWING SE140-045 FOR WELDING AND OTHER INFORMATION.
  - ASSEMBLE PER THIS DRAWING AND SPECIFICATION NCSX-CSPEC-185-03-00.
  - THIS DIMENSION TO BE MAINTAINED FOR ALL 3 MOD COIL HALF PERIOD ASSEMBLIES WITHIN ± .06. FINAL ADJUSTMENTS TO BE MADE AT STATION 6.
  - ASSEMBLE AS SHOWN. HAND TIGHTEN - DO NOT TORQUE.
  - ADJUST LENGTH AS REQUIRED TO POSITION AND SUPPORT VACUUM VESSEL.

QTY	REV	DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO	
24	AR	-24	DOW GREAT INSULATING FOAM	POLYMERIC DIISOCYANATE POLYOLS AND HYDROCARBON GAS	24	
24	AR	94805A115	3/8- 16 JAM NUT		23	
6	AR	90104A010	3/8- 16 COUPLING NUT	316 SST	22	
12	AR	-21	3/8- 16 X 4 LG WELD STUD		21	
6	AR	-20	3/8- 16 X 1-1/4 LG WELD STUD	316L SST	20	
AR	AR	-19	Ø .25 ROUND	ASTM A276	19	
2	AR	-18	VACUUM VESSEL TEMP SUPPORT, SUPPLIED BY PPPL			18
AR	AR	SE140-190-2	MCWF FLANGE TAPPED STUD KIT			17
20	AR	SE140-190-4	MCWF FLANGE TAPPED STUD KIT			16
2	AR	SE124-054	VERTICAL LOWER SUPPORT ASSEMBLY			15
2	AR	SE124-051	VERTICAL UPPER SUPPORT ASSEMBLY			14
1	AR	SE140-045	A-A MOD COIL SHIM AND SHEAR PLATE KIT			13
1	AR	SE140-003-6	MCHP - RIGHT SIDE PERIOD 3 -A6/B6/C6			12
1	AR	SE140-003-5	MCHP - LEFT SIDE PERIOD 3 -A5/B5/C5			11
1	AR	SE140-003-4	MCHP - RIGHT SIDE PERIOD 2 -A4/B4/C4			10
1	AR	SE140-003-3	MCHP - LEFT SIDE PERIOD 2 -A3/B3/C3			9
1	AR	SE140-003-2	MCHP - RIGHT SIDE PERIOD 1 -A2/B2/C2			8
1	AR	SE140-003-1	MCHP - LEFT SIDE PERIOD 1 -A1/B1/C1			7
1	AR	SE121-009-3	VACUUM VESSEL ASSY STATION 1 PHASE 3 - VVSA 3			6
1	AR	SE121-009-2	VACUUM VESSEL ASSY STATION 1 PHASE 3 - VVSA 2			5
1	AR	SE121-009-1	VACUUM VESSEL ASSY STATION 1 PHASE 3 - VVSA 1			4
AR	AR	-3	FIELD PERIOD ASSEMBLY, STATION 3, -3			3
AR	AR	-2	FIELD PERIOD ASSEMBLY, STATION 3, -2			2
AR	AR	-1	FIELD PERIOD ASSEMBLY, STATION 3, -1			1

NOTE  
SOME DETAIL ON ALL VIEWS OMITTED FOR CLARITY

1, -2, -3 FIELD PERIOD ASSY - STATION 3  
SCALE 0.160  
ISOMETRIC VIEW  
WEIGHT: 43,250 LBS

RELEASED FOR FABRICATION / INSTALLATION  
PPPL Drafting

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
0	ORIGINAL RELEASE		GM 08/08									
1												

SCALE	NOTED	DES	PL	DRW	CHK	DATE	REV
		PL	GORANSON	G	MCGINNIS	8/08	0/00
				M	COLE	8/08	0/00

TOLERANCES UNLESS OTHERWISE SPECIFIED

FRACTIONS :  
XX DECIMALS ± .01  
XXX DECIMALS ± .005  
ANGLES ± 0'15"  
BREAK SHARP EDGES 04 MAX  
FINISH .125 UNLESS OTHERWISE SPECIFIED

PPPL DRFT J SIEGEL 8/08

VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
19	ORNL	5700	3	1	3	A	U

RELEASE LEVEL SE100-003

REVISION NO. DATE

REVISION OR ISSUE PURPOSE REVISION APPROVAL

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**

**FIELD PERIOD ASSEMBLY STATION 3**

8

7

6

5

4

3

2

1

NEXT ASS'Y:

FINAL ASS'Y:

H

H

G

G

F

F

E

E

D

D

C

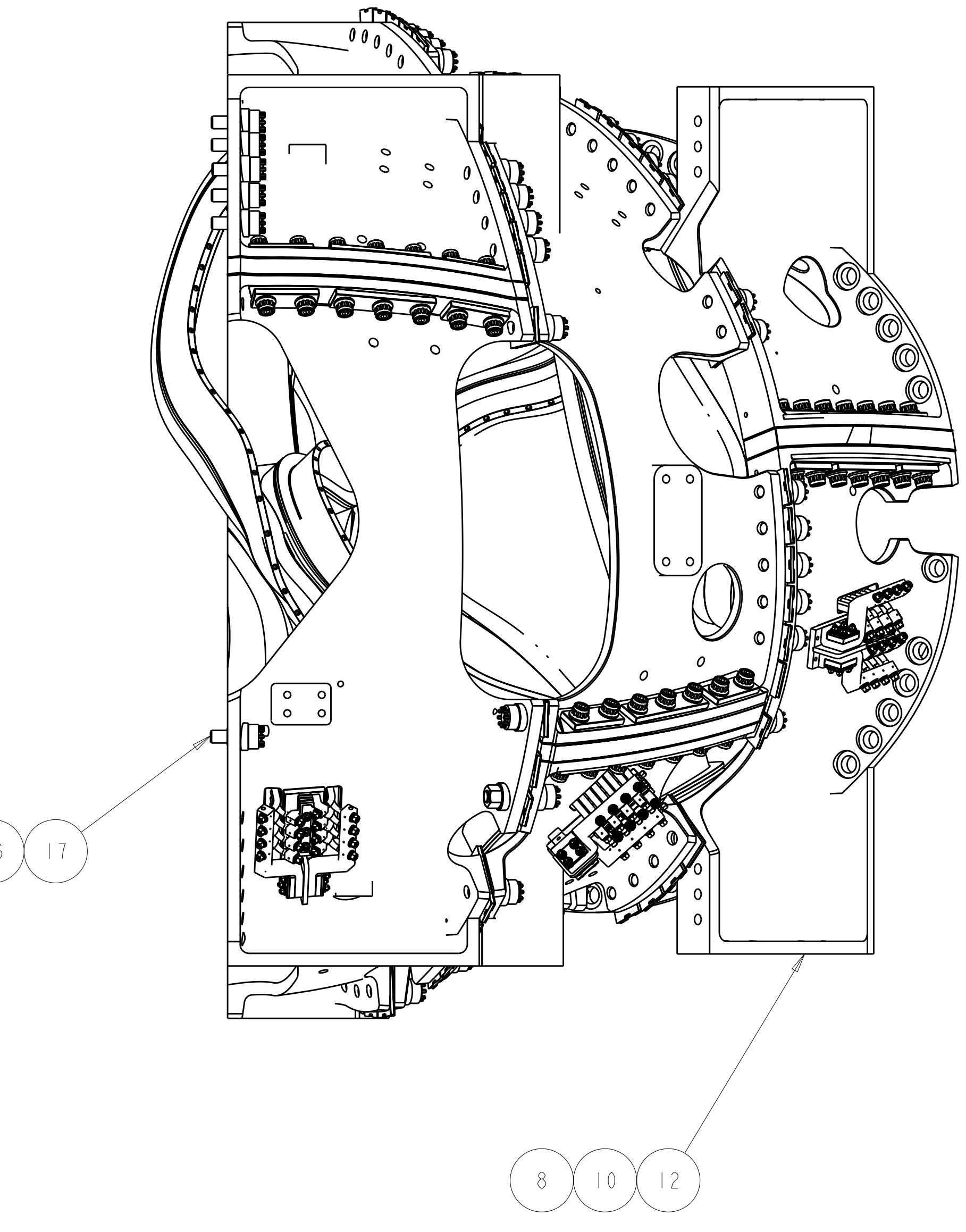
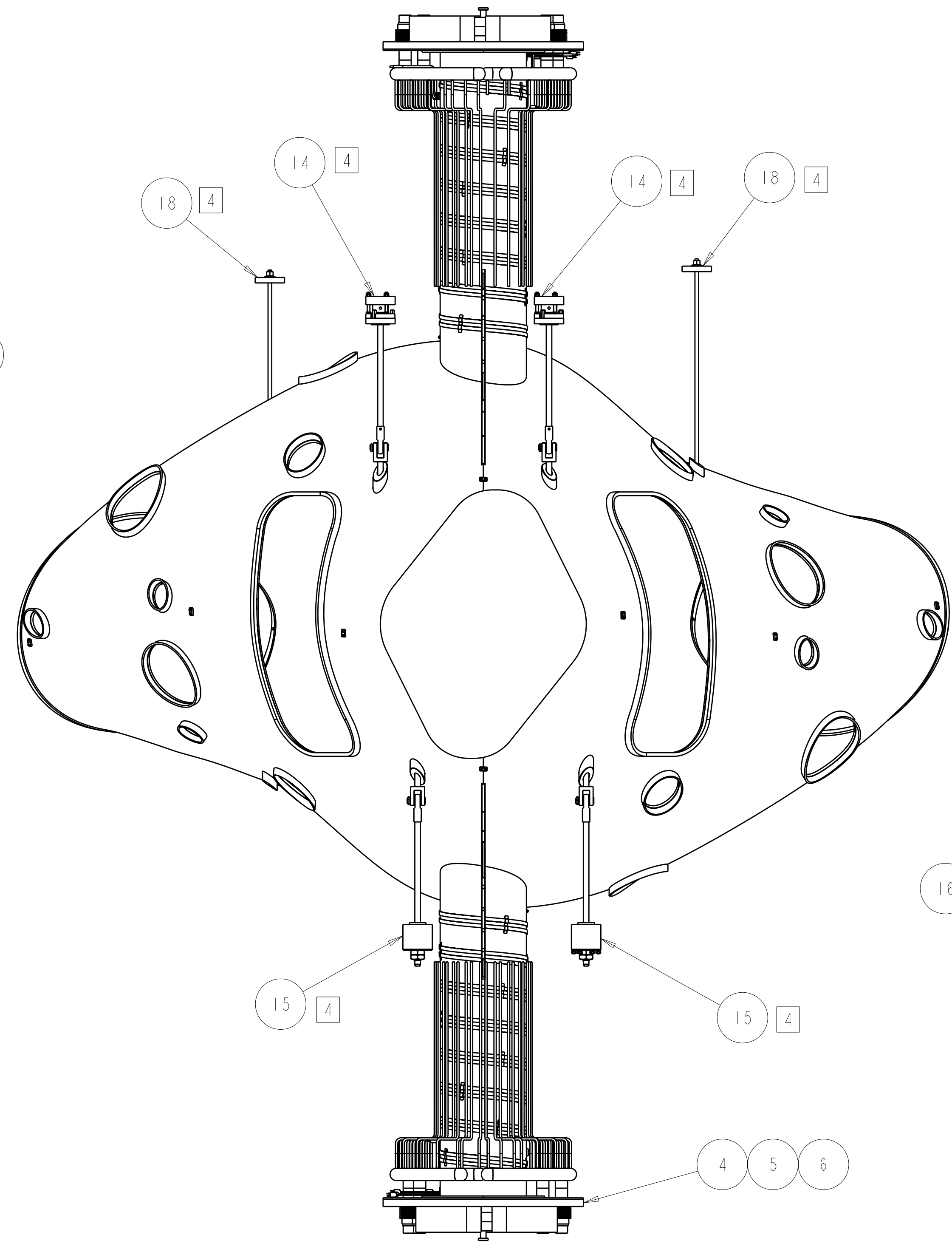
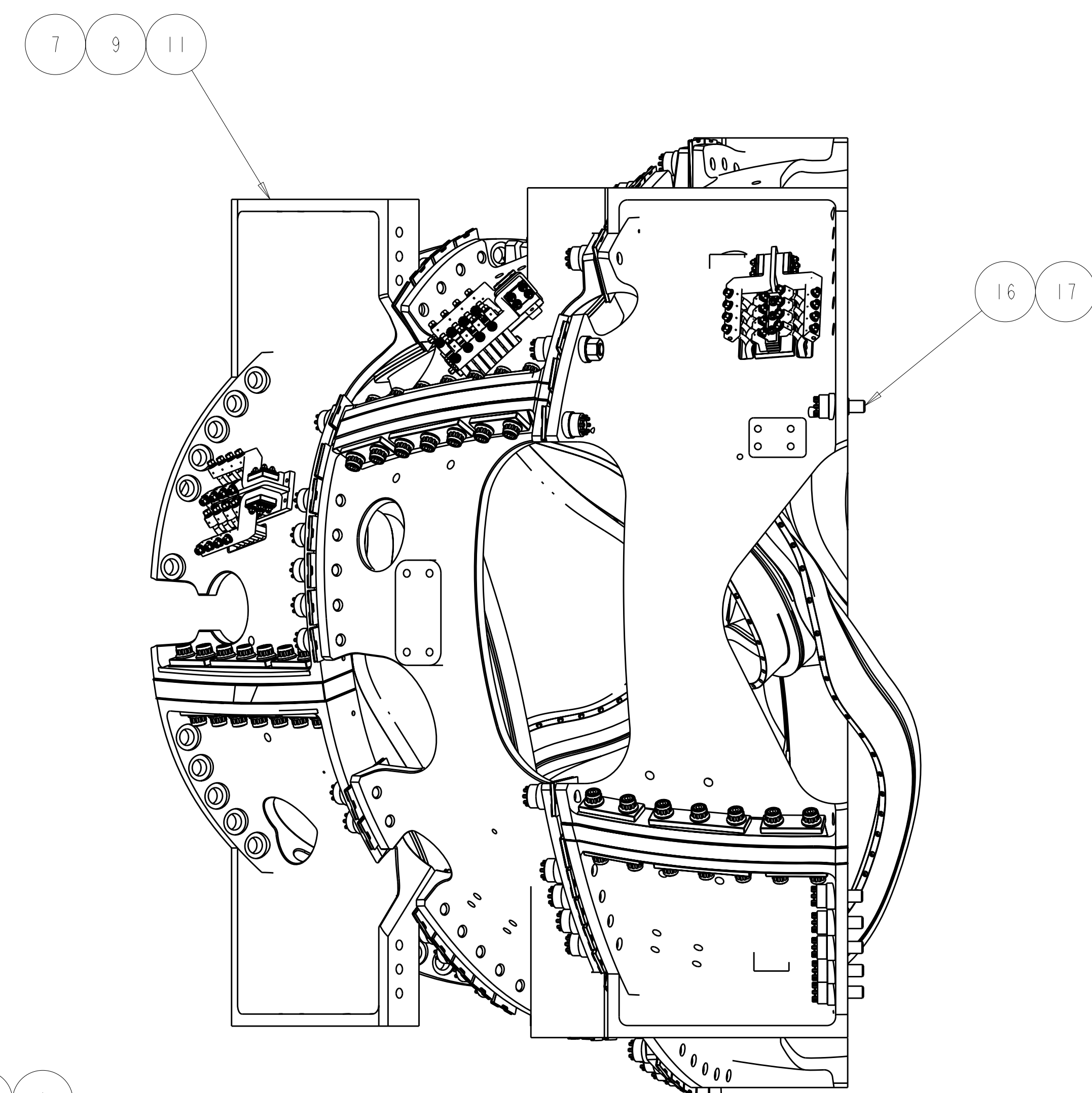
C

B

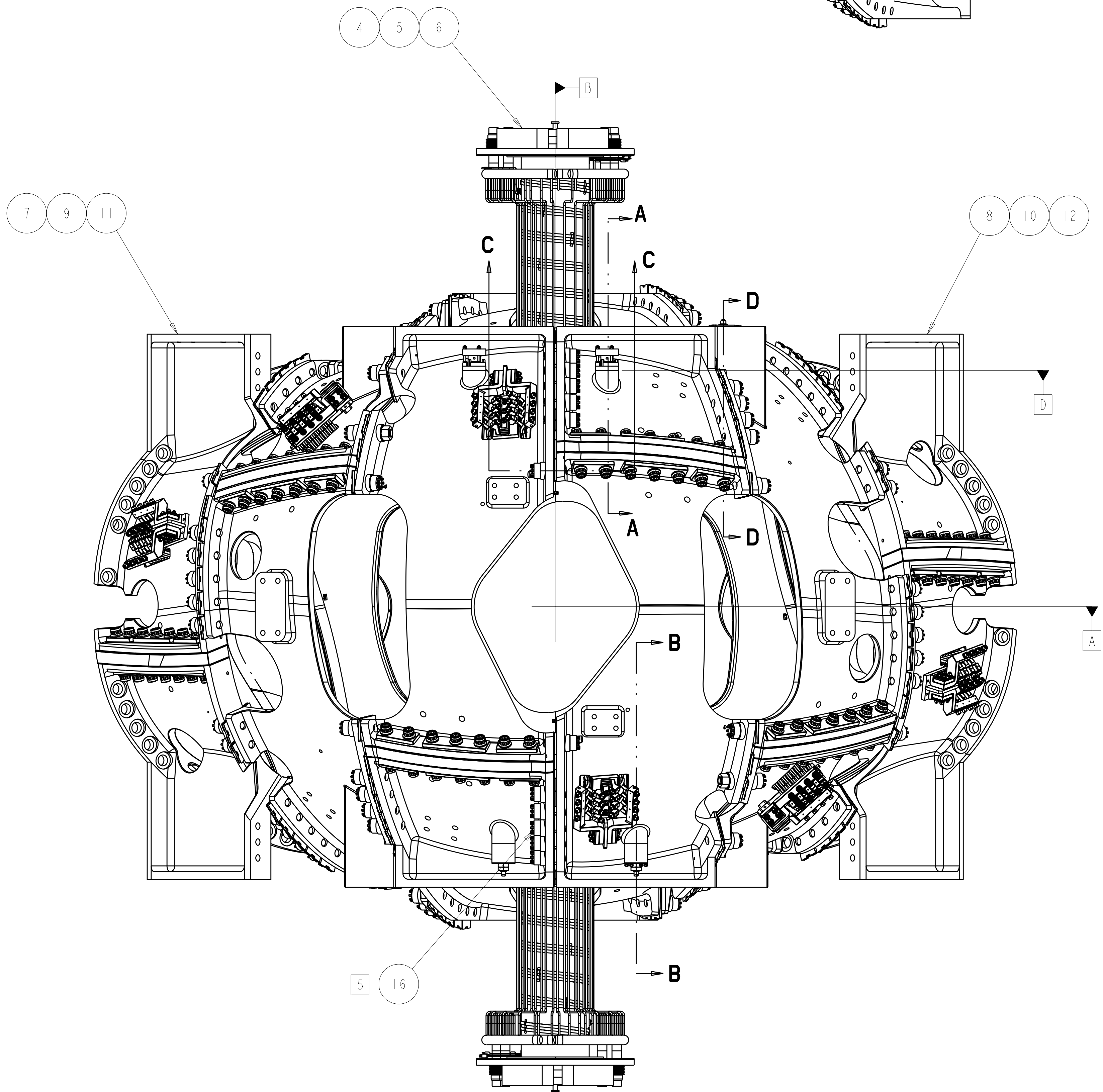
B

A

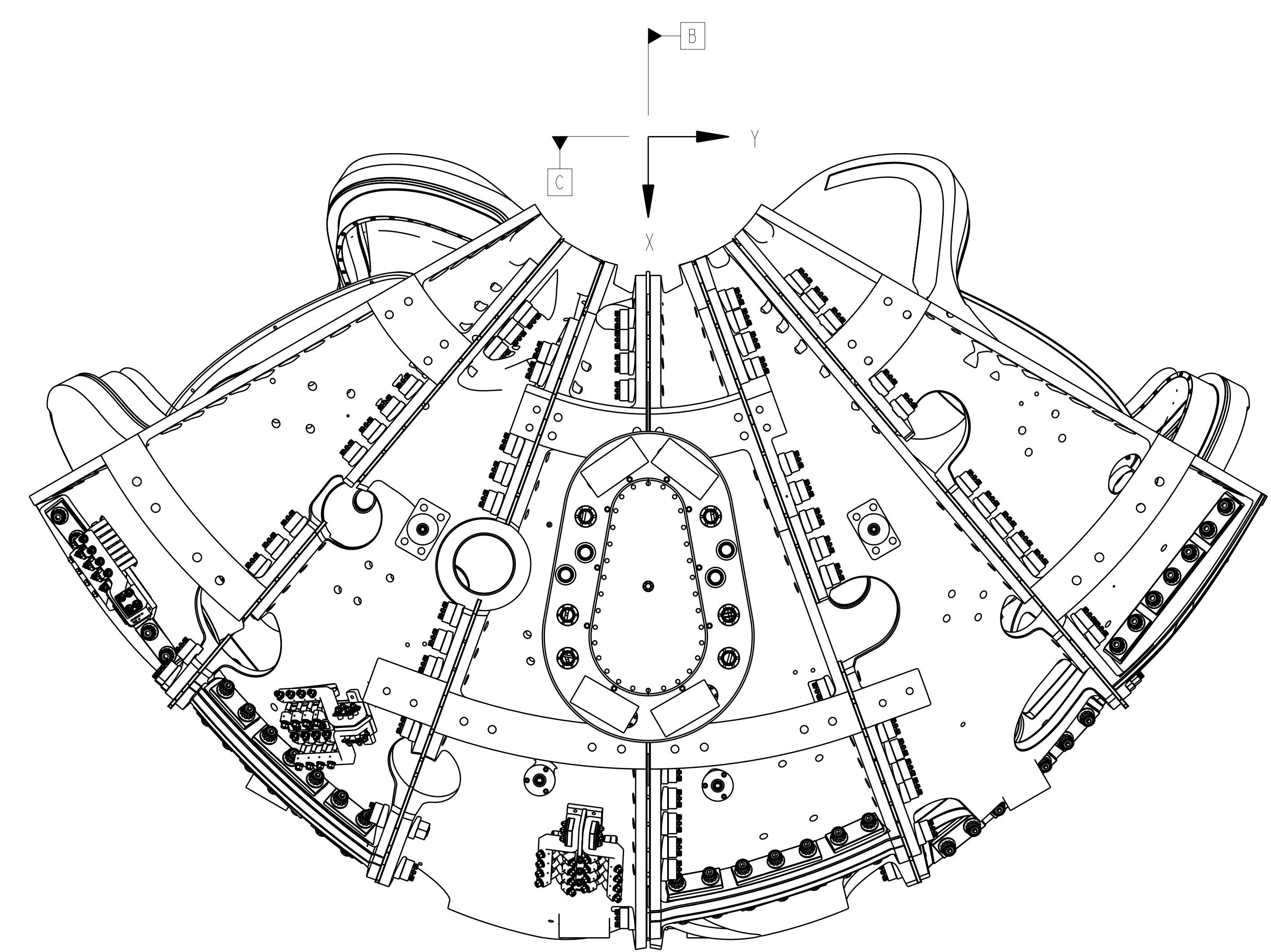
A



EXPLODED VIEW  
SCALE: 0.10



-1, -2, -3 FIELD PERIOD ASSY - STATION 3  
SCALE: 0.090



TOP VIEW  
SCALE: 0.090

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:									
<b>UT-BATTELLE</b> <b>NATIONAL COMPACT STELLARATOR EXPERIMENT</b>									
<b>FIELD PERIOD ASSEMBLY STATION 3</b>									
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS		
19	ORNL	5700	3	2	3	A	U		
RELEASE LEVEL		SE100-003						REV	
Fabrication								0	

8

7

6

5

4

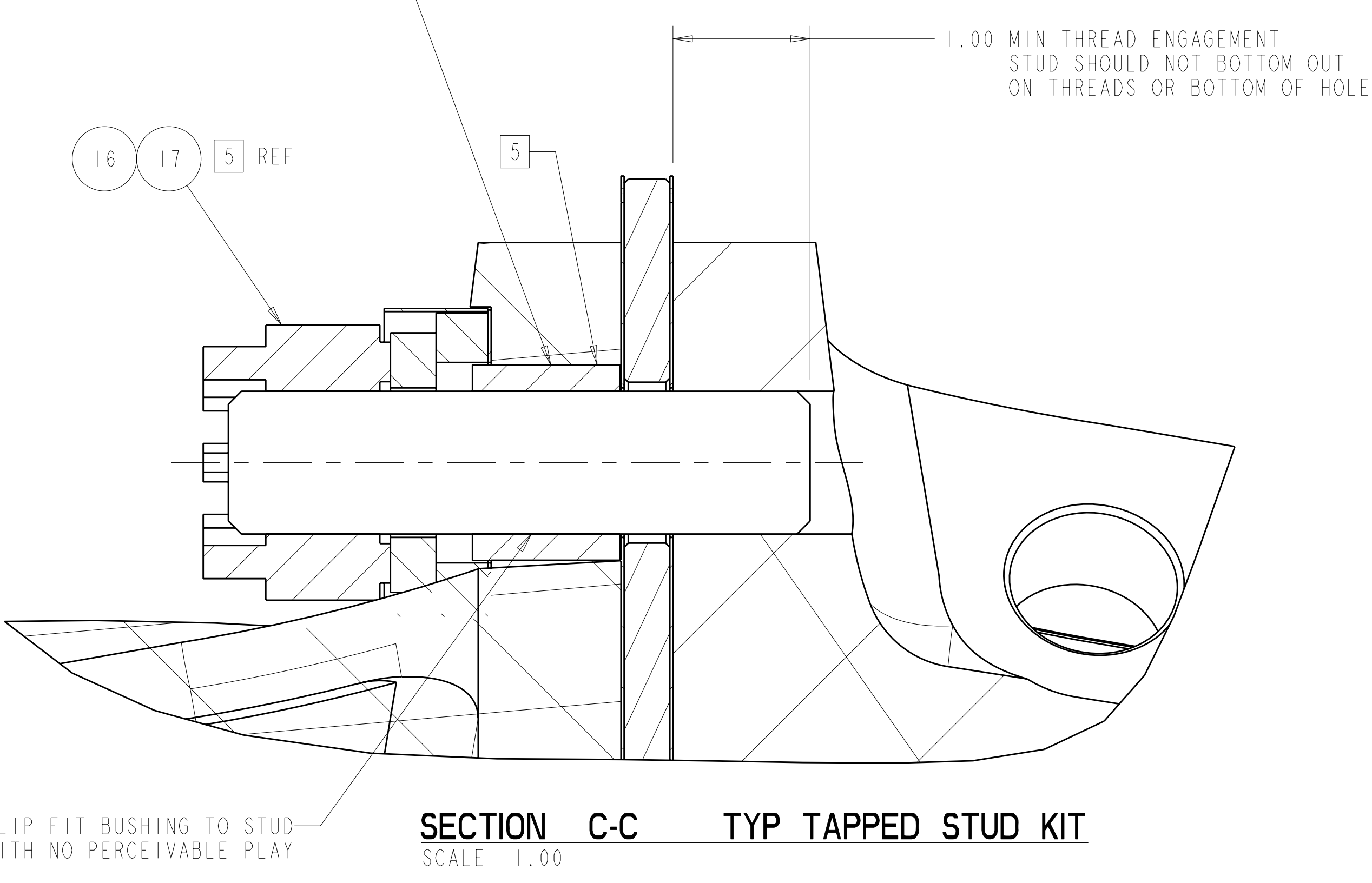
3

2

1

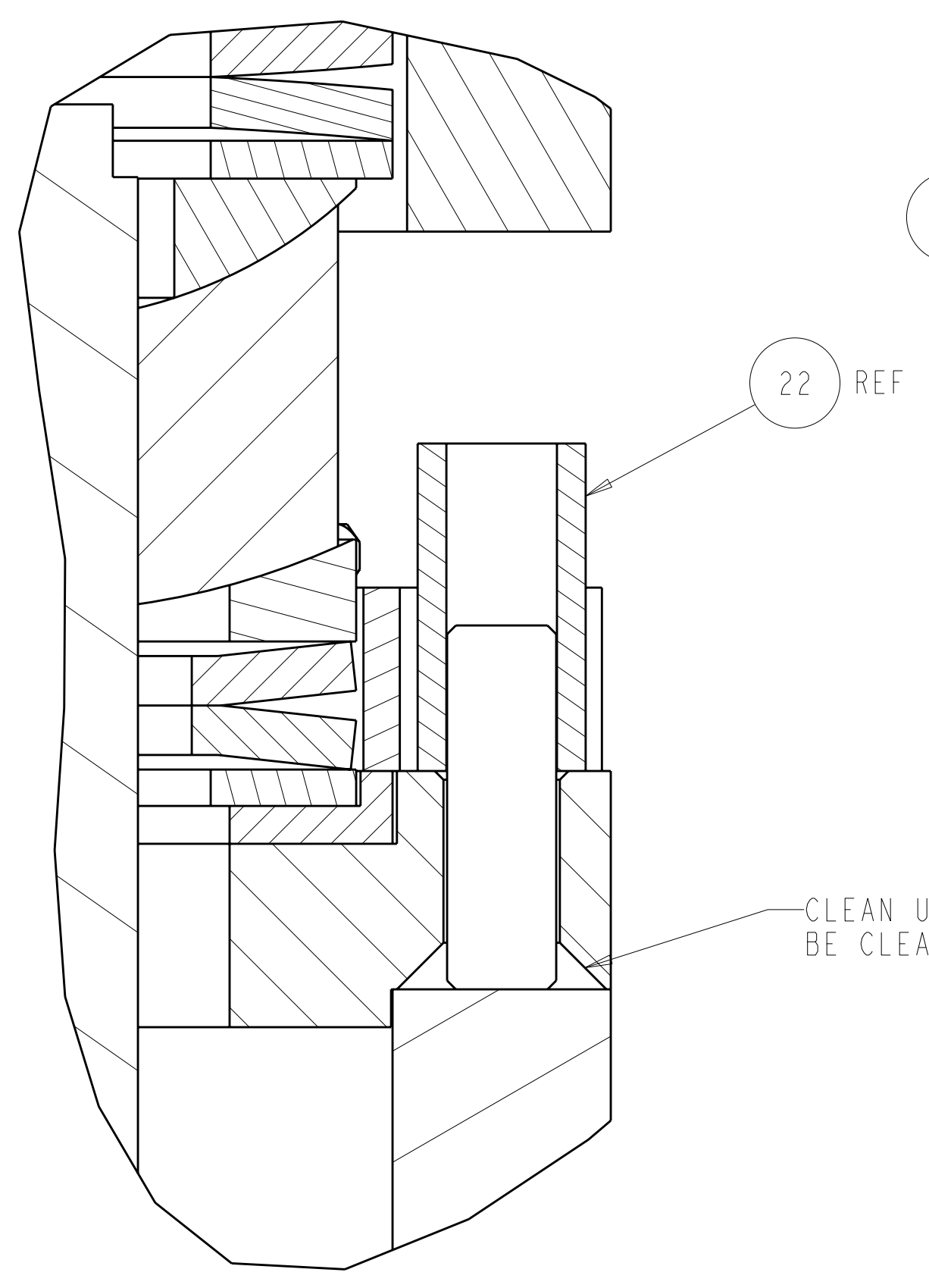
00-003

FIT BUSHING TO FLANGE HOLE WITH NO PERCEIVABLE PLAY CONFIRMED BY WIGGLING SHAFT



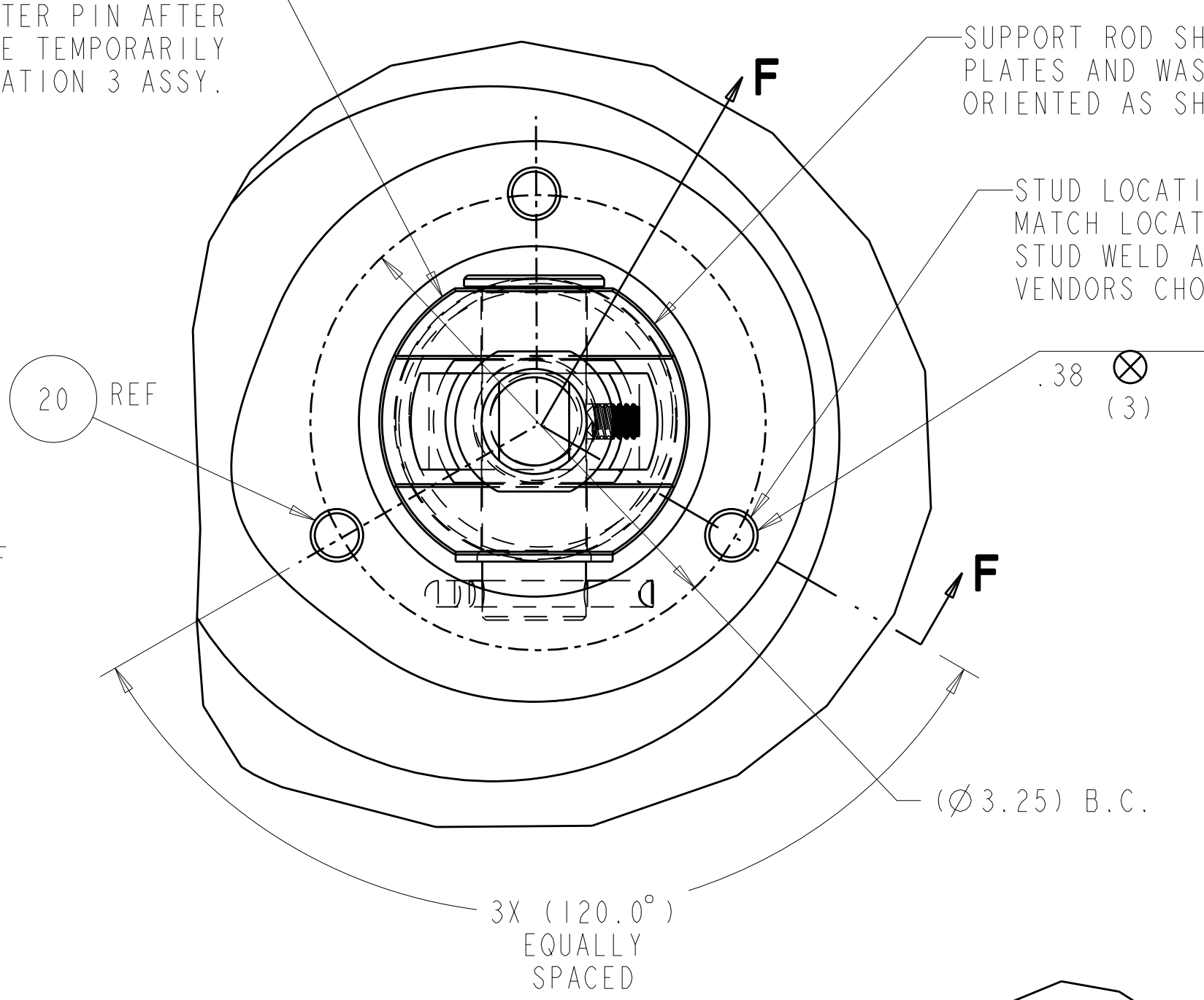
**SECTION C-C TYP TAPPED STUD KIT**  
SCALE 1.00

ASSEMBLY MAY BE INSTALLED FROM BOTTOM SIDE (PRE-ASSEMBLED) OR FROM TOP SIDE INSTALLING CLEVIS AND COTTER PIN AFTER INSERTION. ASSEMBLY TO BE TEMPORARILY RETAINED PRIOR TO STATION 3 ASSY.



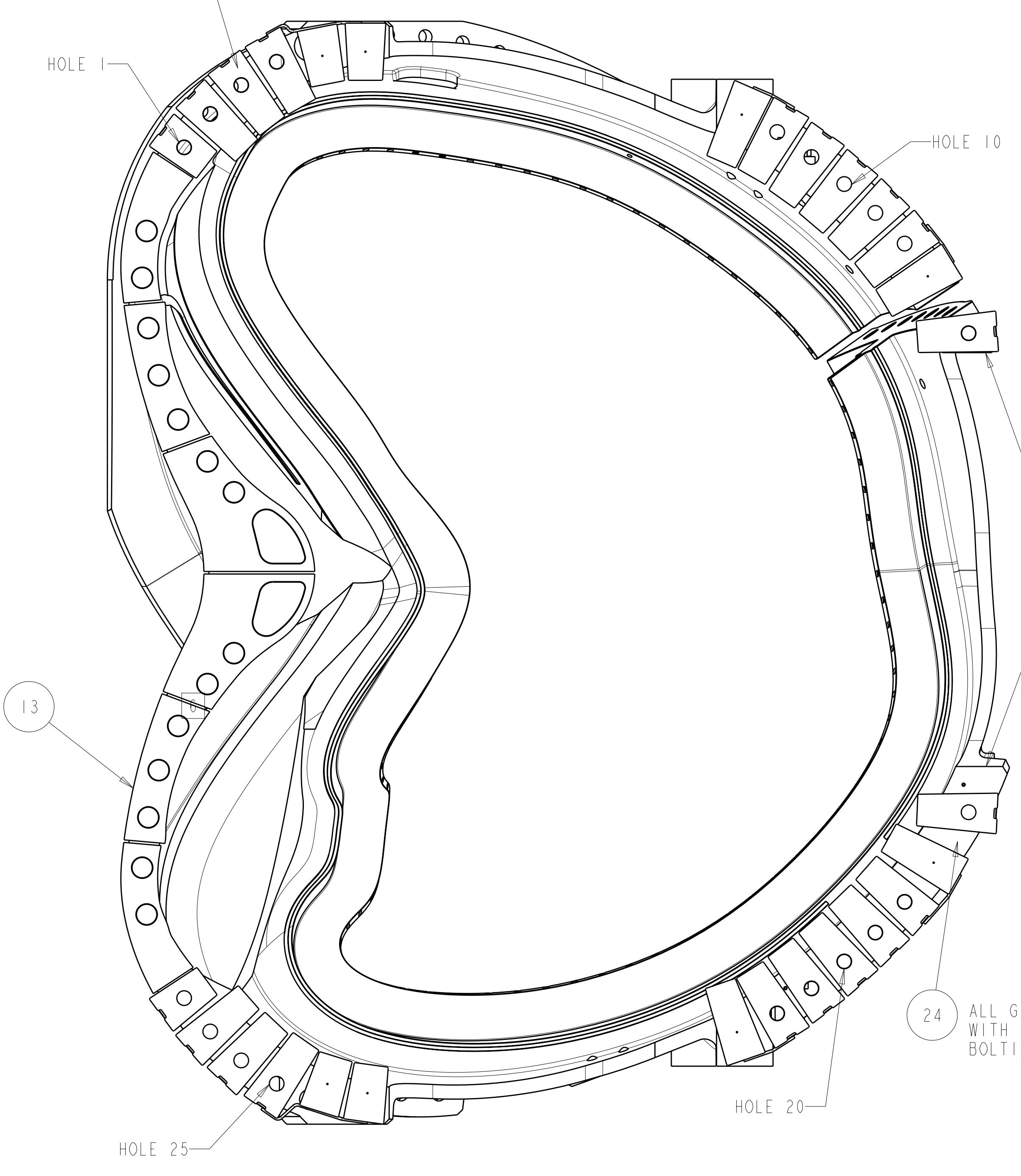
**SECTION F-F**  
SCALE 2.00

NOTE: AFTER FINAL ADJUSTMENTS SHAFT TO BE WIRE LOCKED TO A WELD STUD TO PREVENT ROTATION. METHOD FOR THIS STEP VENDOR OPTION.

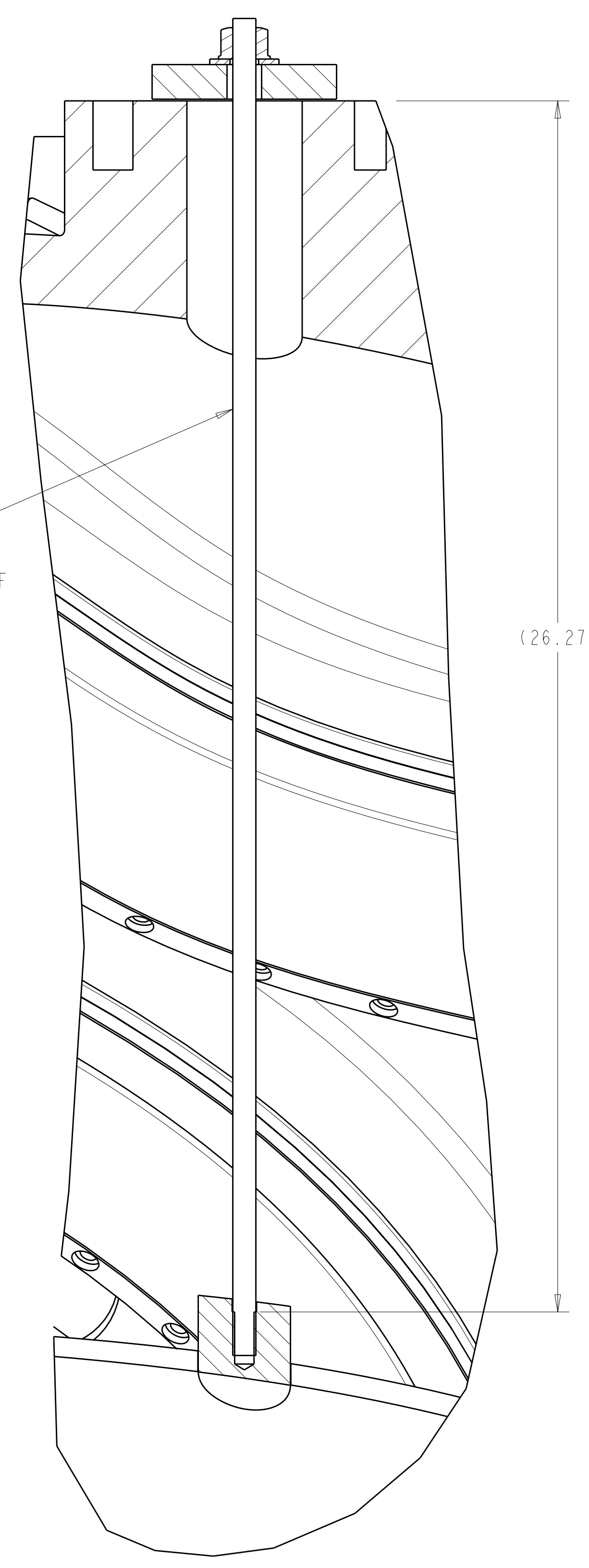


**VIEW E-E**  
SCALE 1.00

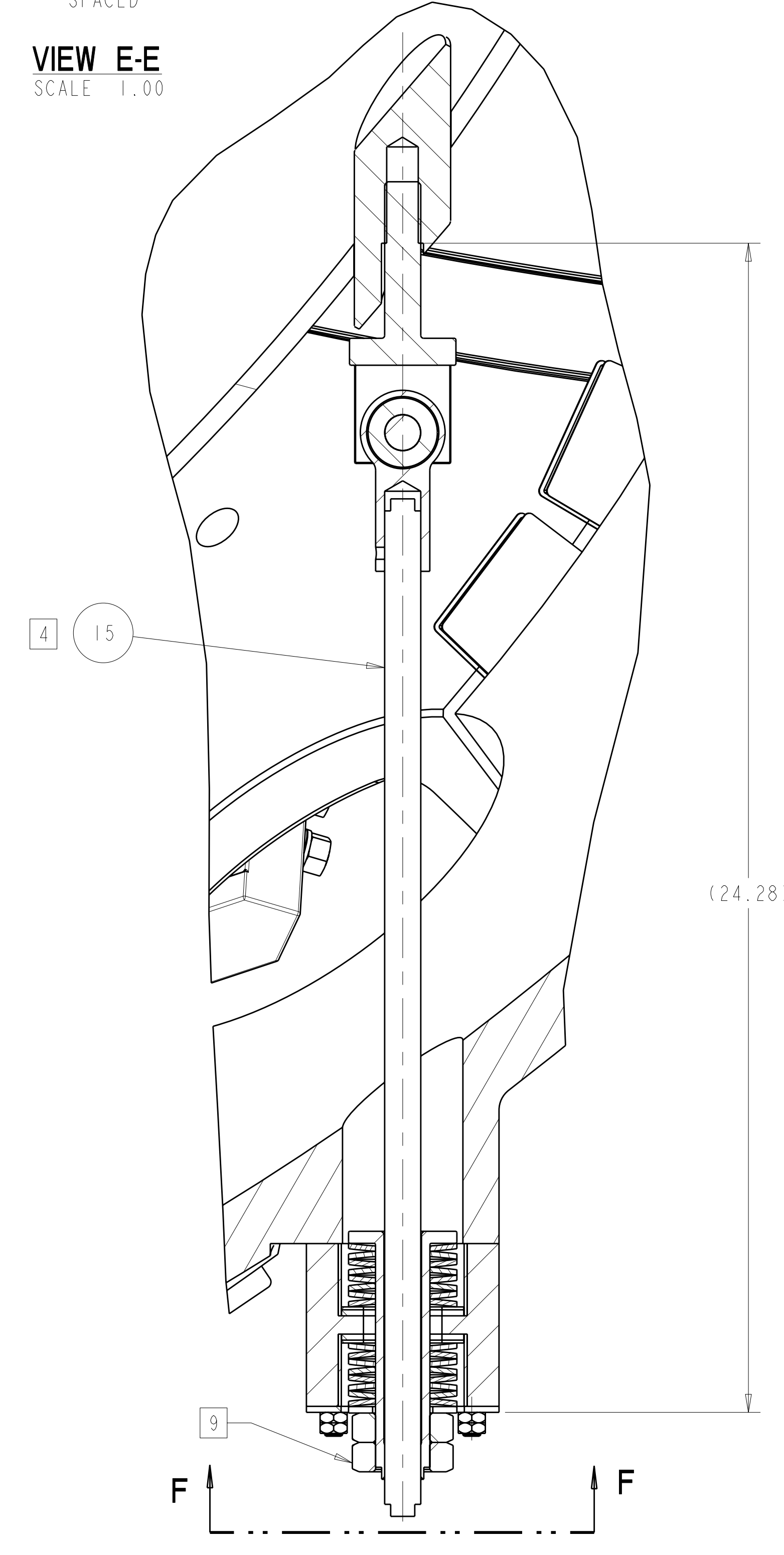
SEE DRAWING SE140-045 FOR SHIM INSTALLATION AND WELDING DETAILS.



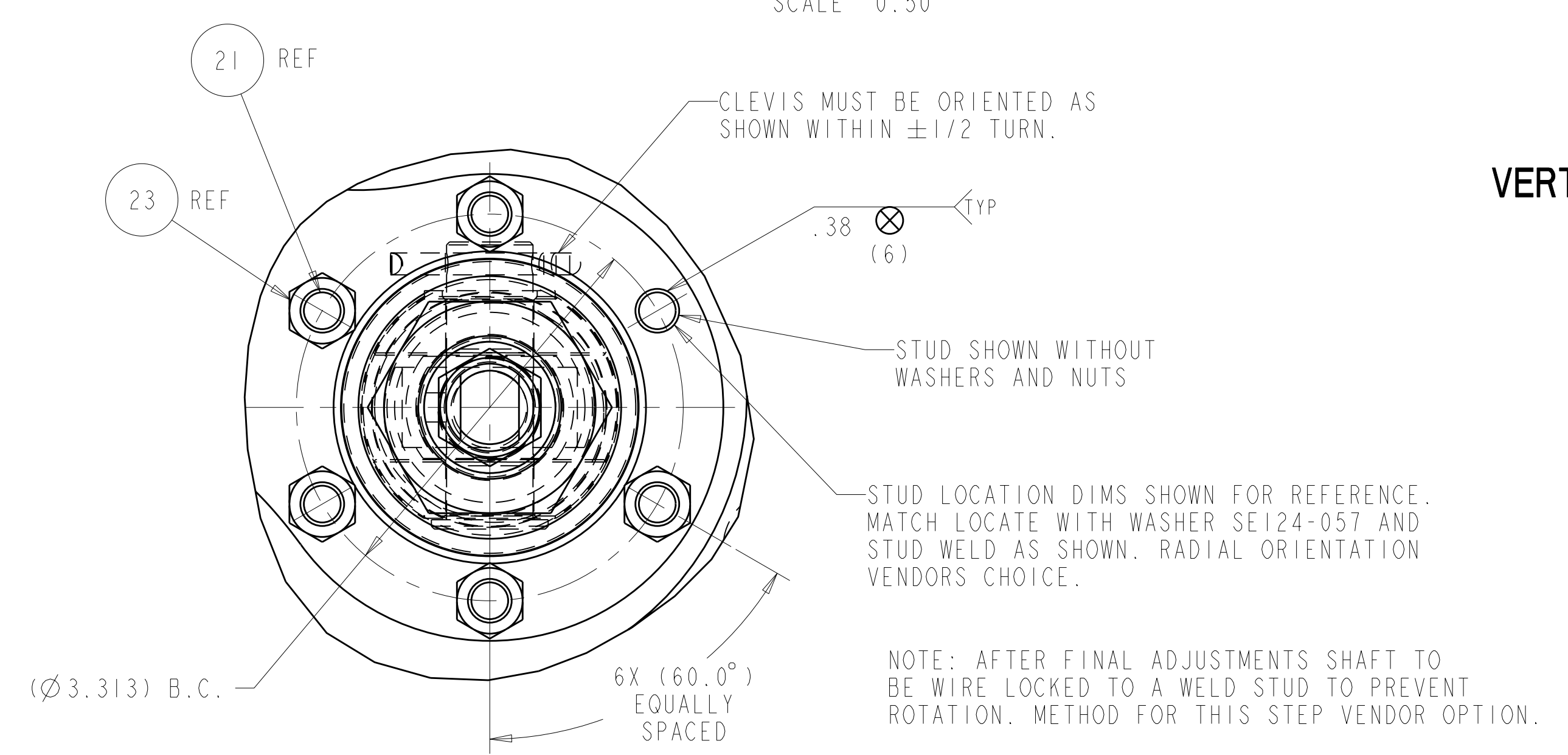
**A-A FLANGE SHIMS**  
SCALE 0.125



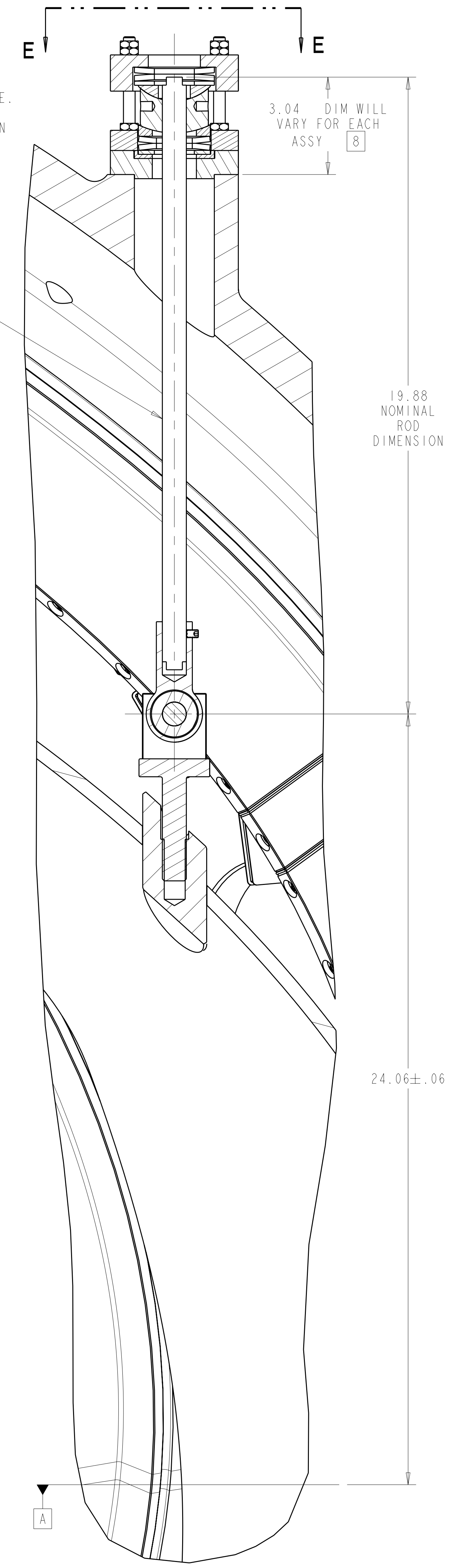
**VACUUM VESSEL TEMP SUPPORT SECTION D-D**  
SCALE 0.50



**VERTICAL LOWER SUPPORT ASSY SECTION B-B**  
SCALE 0.50



**VIEW F-F**  
SCALE 1.00



**VERTICAL UPPER SUPPORT ASSY SECTION A-A**  
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									
<b>UT-BATTELLE</b>									
<b>NATIONAL COMPACT STELLARATOR EXPERIMENT</b>									
<b>FIELD PERIOD ASSEMBLY STATION 3</b>									
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS		
19	ORNL	5700	3	3	3	A	U		
RELEASE LEVEL		SE100-003						REV	
Fabrication								0	