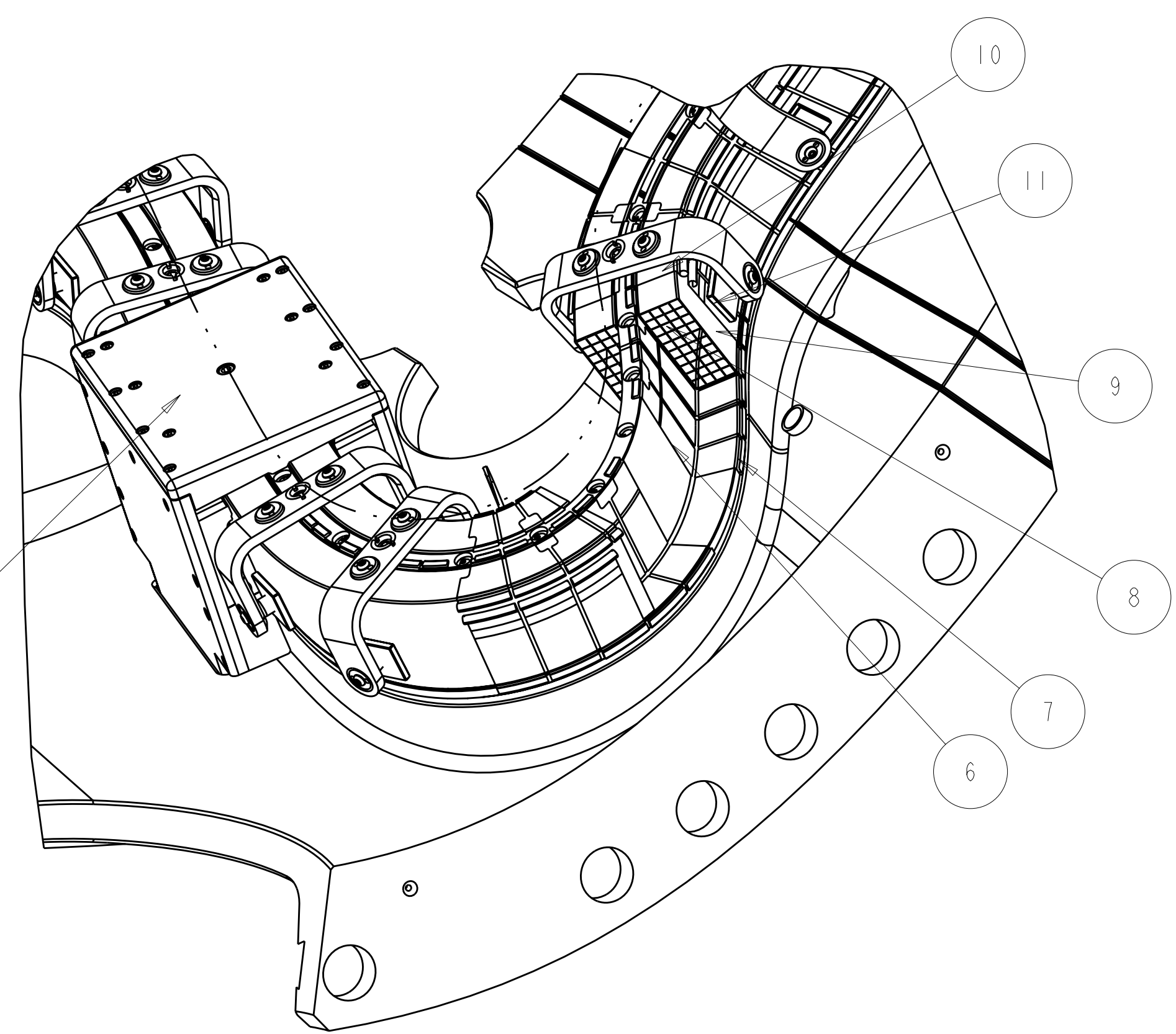
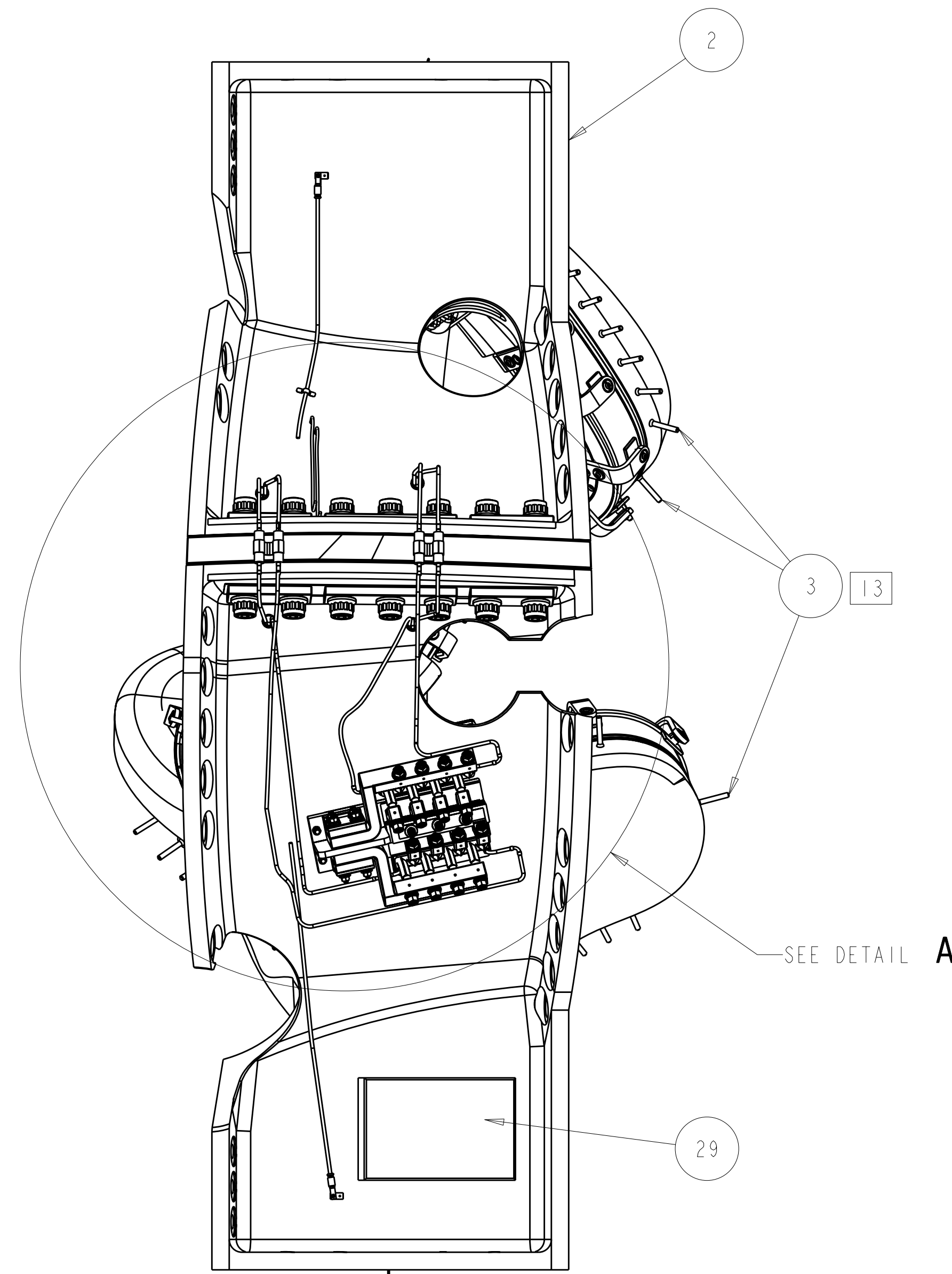
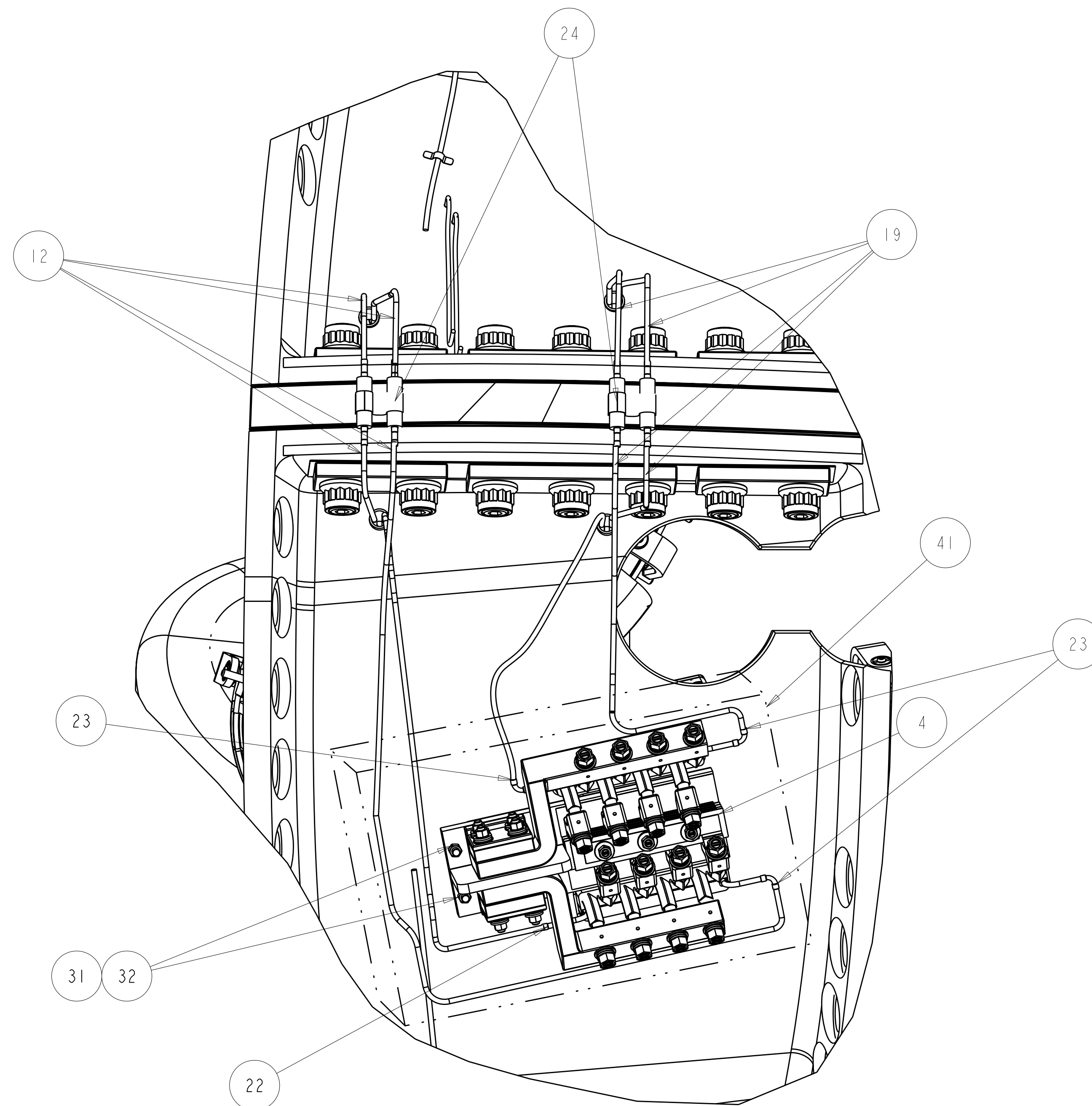


1 TYPE-C MODULAR COIL ASSEMBLY
SCALE .125



CUT-AWAY VIEW SHOWING WINDING INSTALLATION SEQUENCE (SIDE "A")
SCALE 0.25



DETAIL A
SCALE 0.25

- NOTES:
- DRAWING PREPARED IN ACCORDANCE WITH ASME Y14.100-2000.
 - INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M
 - DIMENSIONS ARE IN INCHES
 - DIMENSIONS APPLY AT ROOM TEMPERATURE. OPERATING TEMP 80 K.
 - LEADS AREA SHALL BE COVERED OR SPRAYED WITH AN INSULATING MATERIAL TO PREVENT DEBRIS FROM CAUSING AN ELECTRICAL SHORT DURING OPERATION.
 - VENDOR INFORMATION: ASPEN AEROGELS, INC
30 FORBES RD
NORTHBOROUGH, MA 01532
508-691-1111 OR WWW.AEROGEL.COM
 - SEE LATEST REVISION OF PROCEDURE D-NCSX-MCF-001 FOR ADDITIONAL REQUIREMENTS.
 - WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF PPPL PROCEDURE NO. ENG-037. VISUAL WELD INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE ACCEPTANCE CRITERIA OF AWS D1.6.
 - VENDOR INFORMATION: TRULY TUBULAR FITTING CORP
PO BOX 1160
MT VERNON, NY 10550
914-664-8686 OR WWW.TRULYTUBULAR.COM
 - VENDOR INFORMATION: FISO FIBER OPTICS
500 ST. JEAN BAPTISTE AVE SUITE 195
QUEBEC QC, G2E 5R CANADA
418-688-8065 OR WWW.FISO.COM
 - VENDOR INFORMATION: OMEGA ENGINEERING CORP
ONE OMEGA DRIVE
STAMFORD, CT 06907
800-848-4286 OR WWW.OMEGA.COM
 - SOME PARTS IN THIS ASSEMBLY ARE GRAPHIC REPRESENTATIONS OF ACTUAL PARTS/ASSEMBLIES. PART IDENTIFICATION NUMBERS REFER TO ACTUAL PARTS. FOR FULL MODELED ASSEMBLY SEE SEI40-103
 - TYPE "C" COIL: REMOVE ALL STUDS AFTER CLAMP AND INSULATION BLANKETS ARE ASSEMBLED (POST VPI).
 - MAGNETIC PERMEABILITY NOT TO EXCEED 1.02 AS MEASURED BY A SEVERN INDICATOR; AVAILABLE FROM: SEVERN ENGINEERING
555 OLD STAGE ROAD SUITE 14
AUBURN, ALABAMA 36830

QTY	DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
1	-41	PROTECTIVE COVER	PLASTIC	41
AR	SEI42C-306	LOCKING TAB		40
3		THERMOCOUPLE -SURFACE -LEADS 164"		39
8	NCSX-PRL-003	THERMOCOUPLE -SURFACE -LEADS 174"	INCONEL 718	38
2		THERMOCOUPLE PLUG -LEADS 144"		37
1		THERMOCOUPLE -SURFACE -LEADS 182"		36
AR	SEI42B-030	WIRE CLAMP		35
2	91735A146	PAN HEAD SCREW		34
2	SEI23-155	THERMOCOUPLE MTG BLOCK		33
4	91950A031	3/8 FLAT WASHER	316 SST	ANSI B18.22.1 32
4	94819A049	3/8-16 UNC HEX NUT		ANSI B18.2.2 31
12	SEI42C-014	INSULATING SLEEVE		30
1	SEI42C-015	3"x8"x12" FLUX LOOP BOX		29
AR	FOS-N-BA-CI-FI-M2-R3-ST	FIBER OPTIC STRAIN GAGE		28
2	SS-810-1-8	BLEED VALVE		27
16	5FF-5-4	TRULY TUBULAR BRAZETYTE	BRAZETYTE	26
AR	SEI42C-011	TUBE CLAMP		25
2	SEI40-025	POL BR CONNECTOR ASSEMBLY		24
3	90FF-4	TRULY TUBULAR 1/4 ELBOW	BRAZETYTE	23
9	2	TRULY TUBULAR 1/4 UNION		22
6	AR	-21	WINDING FORM INSULATION ASSY	1/8" NOMEX 21
AR	SEI42C-010	CLAMP ASSEMBLY		20
AR	SEI42C-248	SIDE B COOLING TUBES	COPPER TUBING	19
1	SEI42C-488	SIDE "B" CHILL PLATES (SIDE)		18
1	SEI42C-486	SIDE "B" UPPER CHILL PLATES (TOP)		17
AR	SEI42C-243	SIDE "B" GROUNDWRAP		16
1	SEI42C-241	SIDE "B" WINDING ASSEMBLY		15
1	SEI42C-484	SIDE "B" LOWER CLADDING (BASE)		14
1	SEI42C-482	SIDE "B" UPPER CLADDING (SEPTUM)		13
AR	SEI42C-258	SIDE A COOLING TUBES	COPPER TUBING	12
1	SEI42C-388	SIDE A LOWER CHILL PLATES (SIDE)		11
1	SEI42C-386	SIDE A UPPER CHILL PLATES (TOP)		10
AR	SEI42C-253	SIDE-A WP GROUNDWRAP		9
1	SEI42C-251	SIDE "A" WINDINGS ASSEMBLY		8
1	SEI42C-384	SIDE "A" LOWER CLADDING (BASE)		7
1	SEI42C-382	SIDE "A" UPPER CLADDING (SEPTUM)		6
1	SEI42C-080_2	TYPE "C" LEADS ASSEMBLY		5
1	SEI42C-050	TYPE "C" TERMINAL ASSEMBLY		4
1	TEMP_060831A	STUDS (SEE NOTE 13)		3
1	SEI41-103	MOD COIL WINDING FORM ASSEMBLY TYPE-A		2
AR	-1	MCWF-TYPE C ASM		1

SCALE NOTED
TOLERANCES UNLESS OTHERWISE SPECIFIED

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

DES: D WILLIAMSON 07/07
DRW: G LOVETT 07/07
CHK: MIKE COLE 07/07

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

TYPE C MCWF
FINAL COIL ASSEMBLY

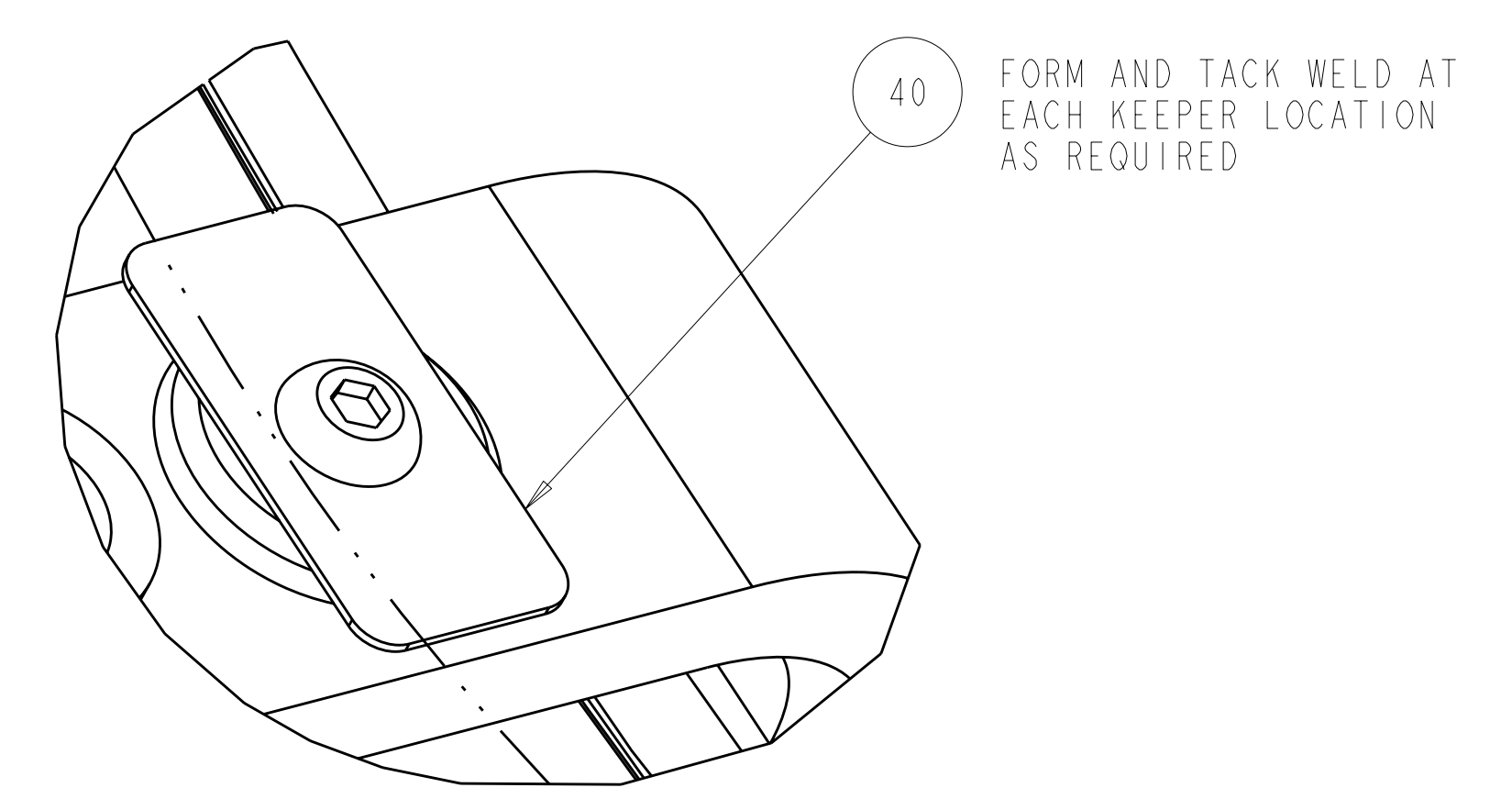
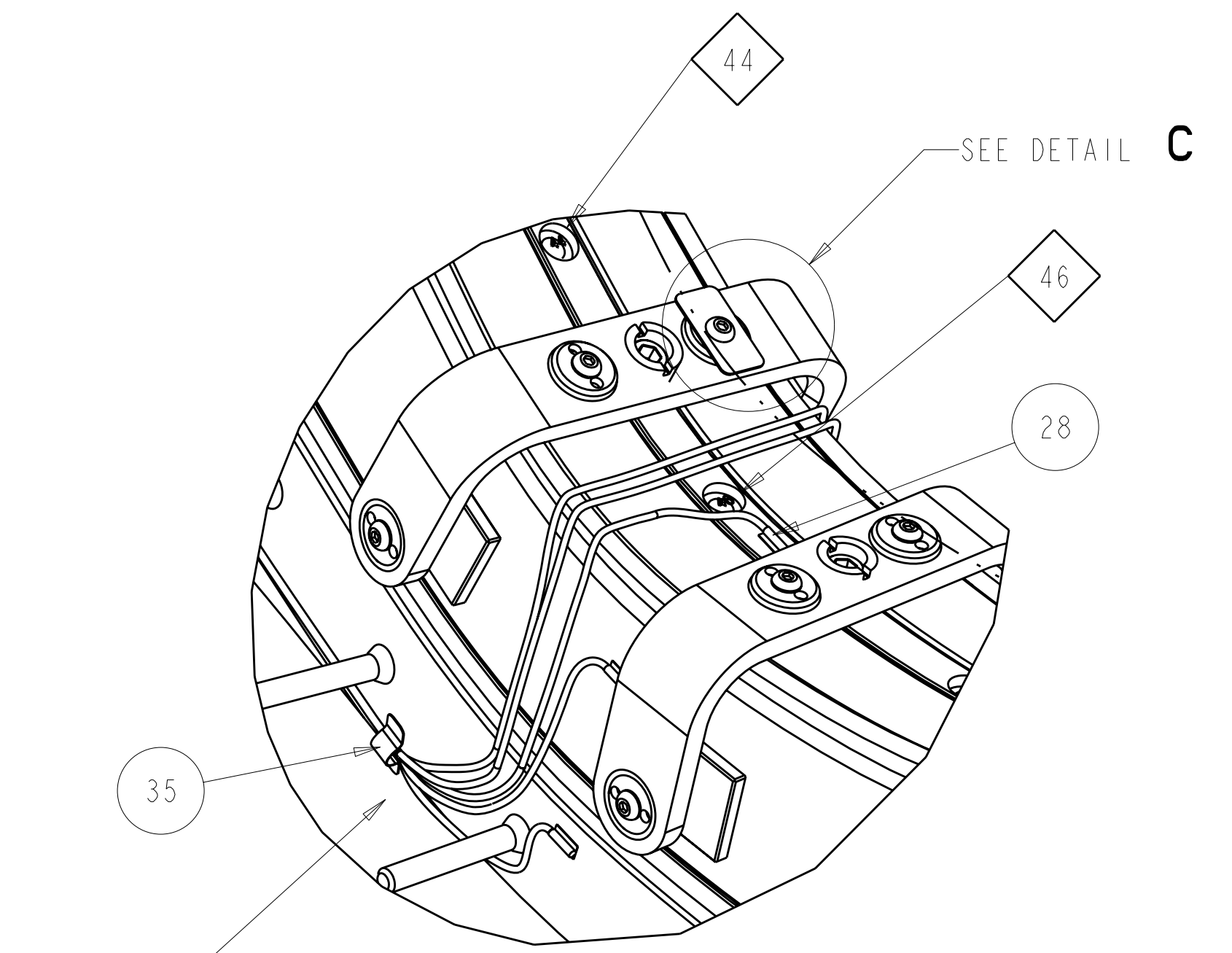
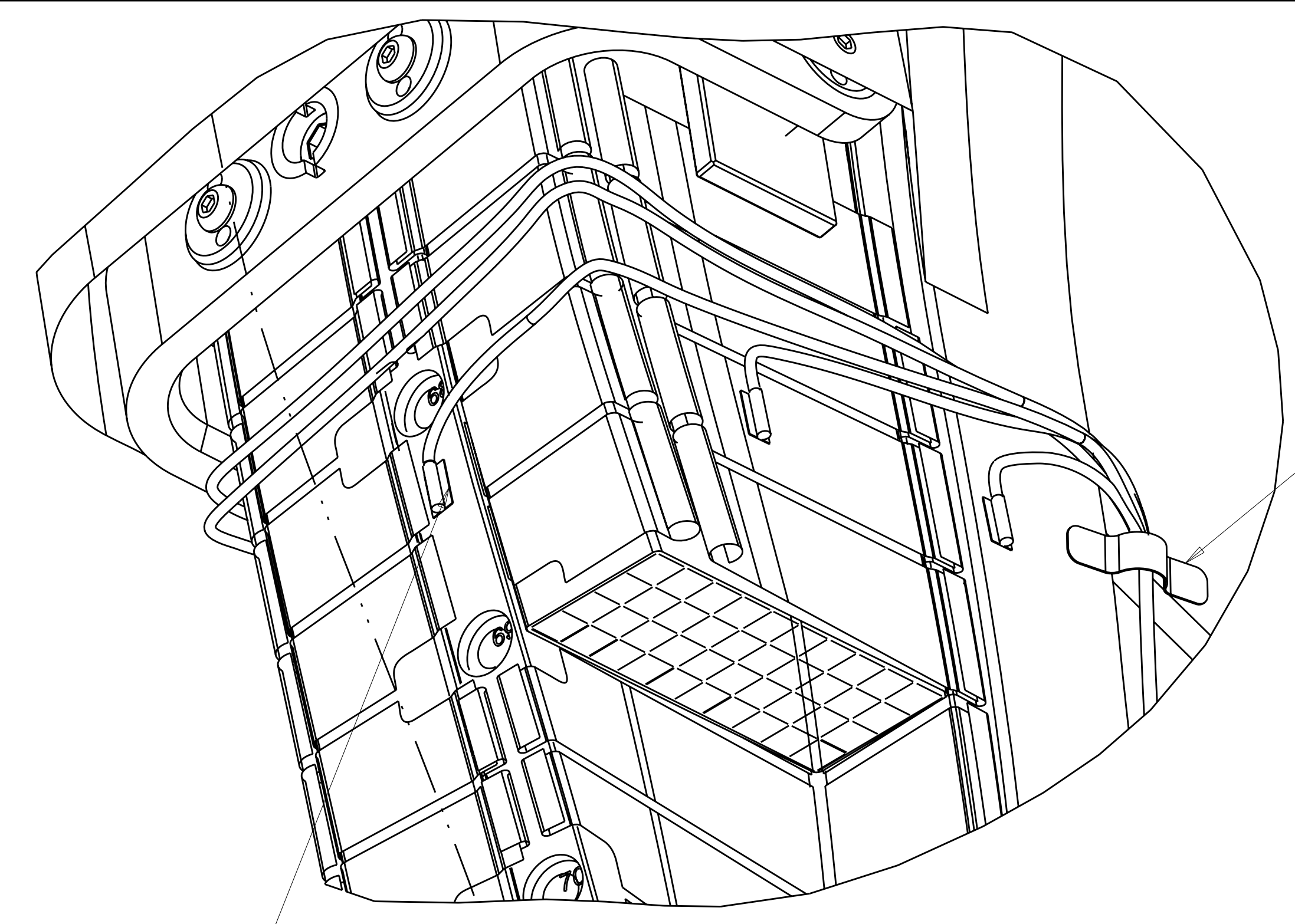
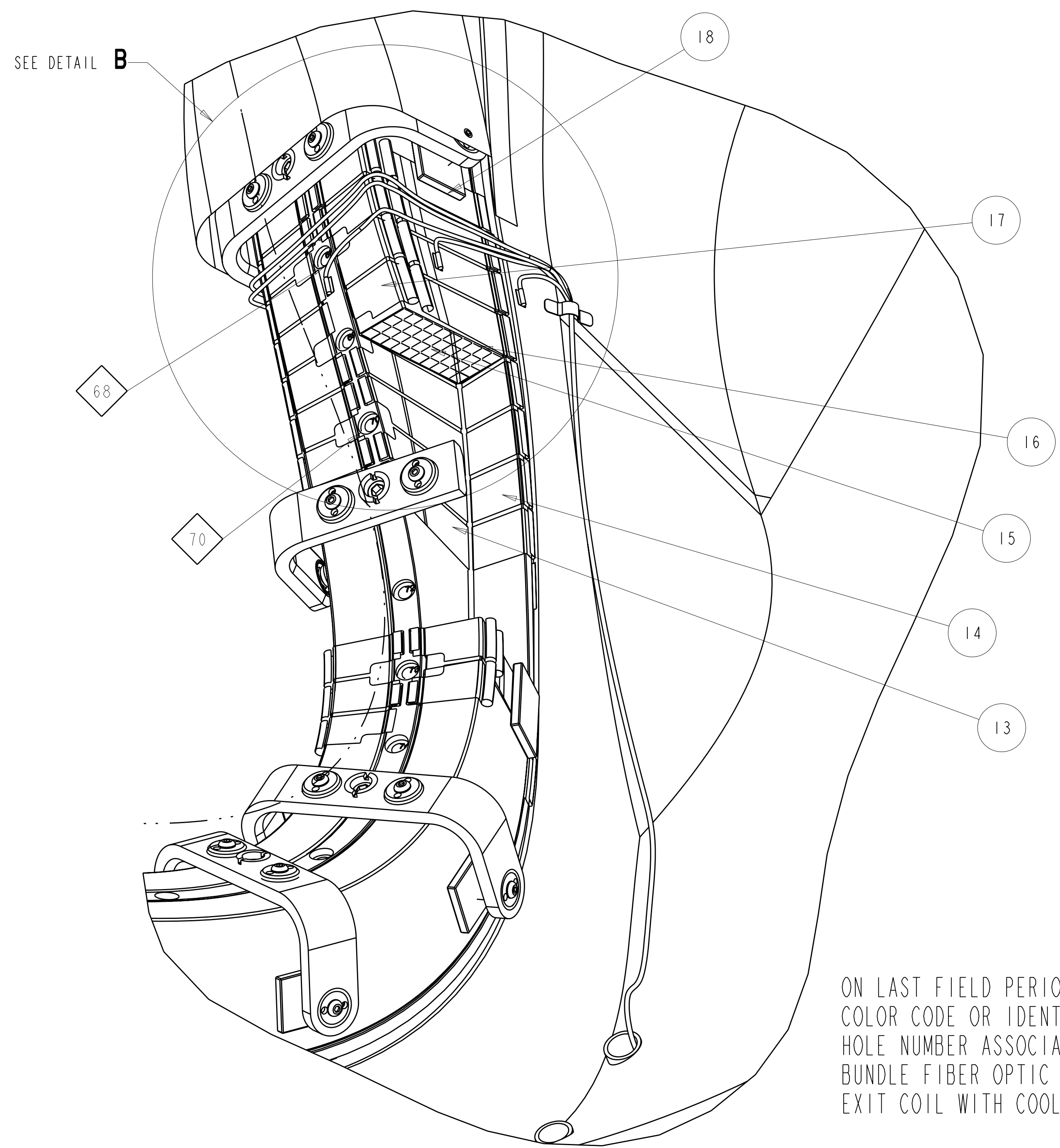
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0	ORIGINAL ISSUE	GL	07/07									

VERSION NO. 40+
PLANT ORNL
BLDG 5700
FL 3
SHT 1
OF 3
TYPE S
CLASS U

RELEASE LEVEL WIP
SEI40-103
REV 0

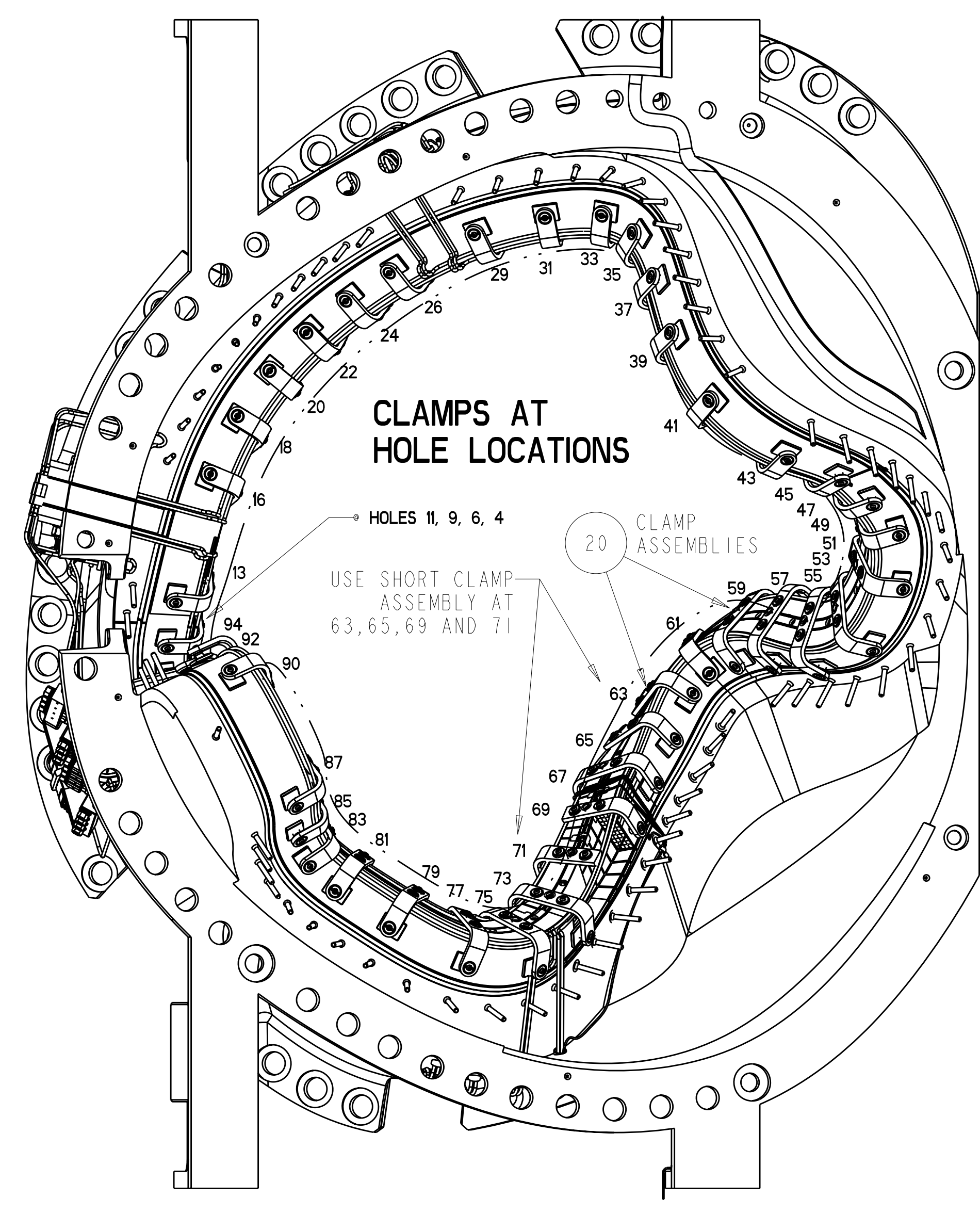
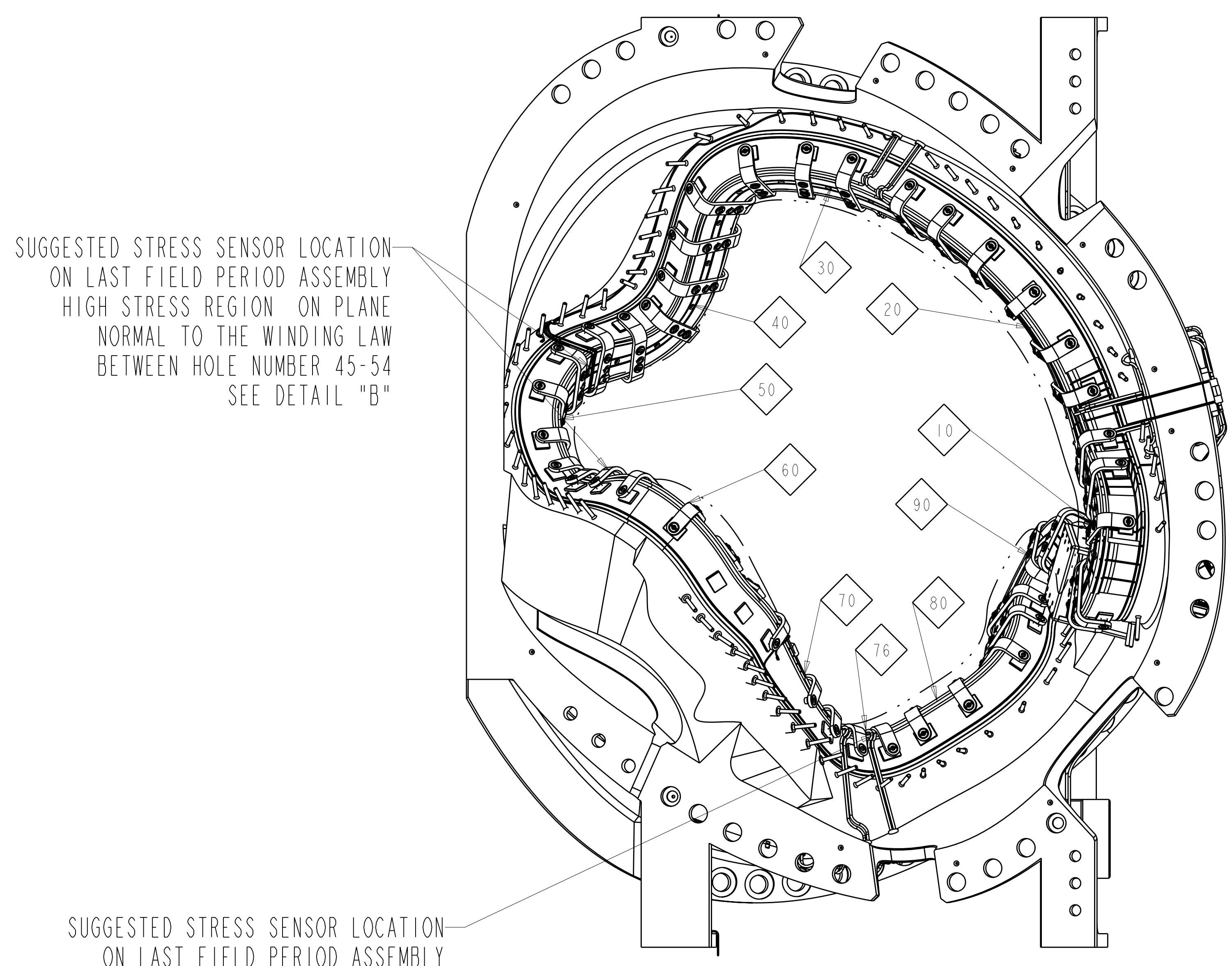
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P THIS DRAWING PRODUCED ON PRO-ENGINEER



CLAMP CHART		
NO.	HOLE NO.	CLAMP ASSEMBLY
1	04	SE142C-270
2	06	SE142C-270
3	09	SE142C-270
4	11	SE142C-270
5	13	SE142C-270
6	16	SE142C-270
7	18	SE142C-270
8	20	SE142C-270
9	22	SE142C-270
10	24	SE142C-270
11	26	SE142C-270
12	29	SE142C-270
13	31	SE142C-270
14	33	SE142C-270
15	35	SE142C-270
16	37	SE142C-270
17	39	SE142C-270
18	41	SE142C-270
19	43	SE142C-270
20	45	SE142C-270
21	47	SE142C-270
22	49	SE142C-270
23	51	SE142C-270
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27	59	SE142C-270
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29	63	SE142C-303
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37	79	SE142C-270
38	81	SE142C-270
39	83	SE142C-270
40	85	SE142C-270
41	87	SE142C-270
42	90	SE142C-270
43	92	SE142C-270
44	94	SE142C-270

CUT-AWAY VIEW SHOWING WINDING ASSEMBLY SEQUENCE (SIDE "B")



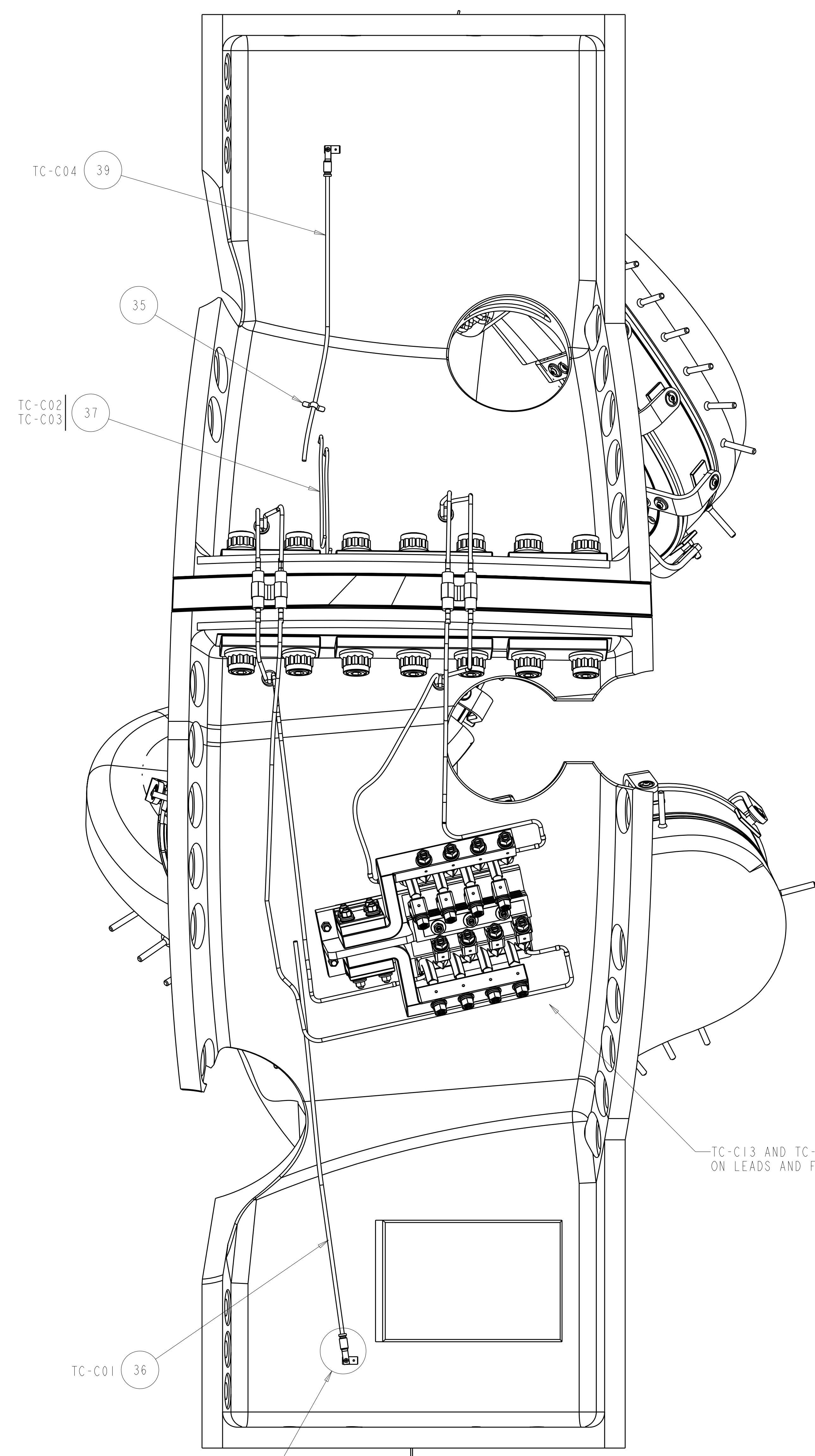
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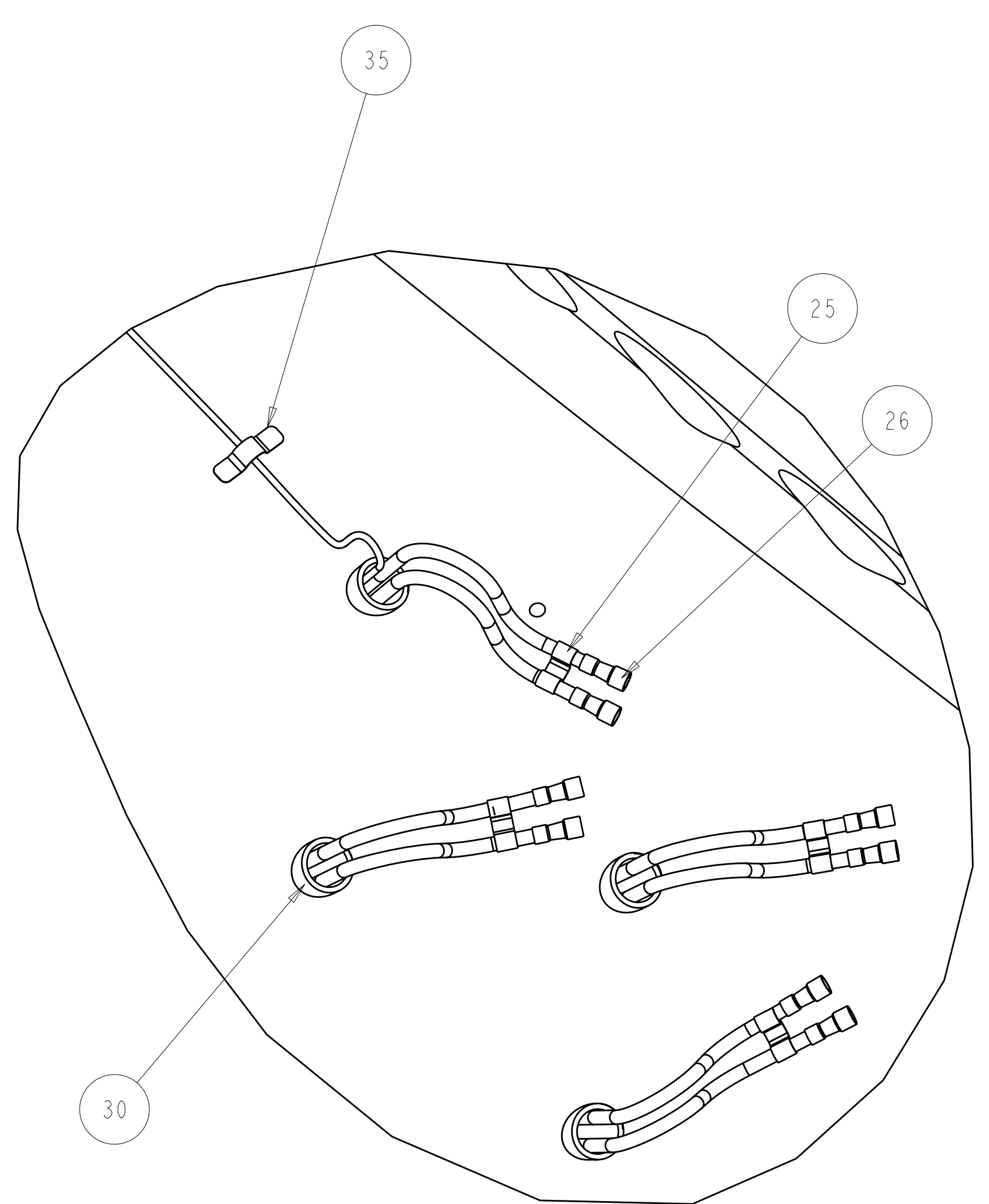
NATIONAL COMPACT STELLARATOR EXPERIMENT

TYPE C MCWF
 FINAL COIL ASSEMBLY

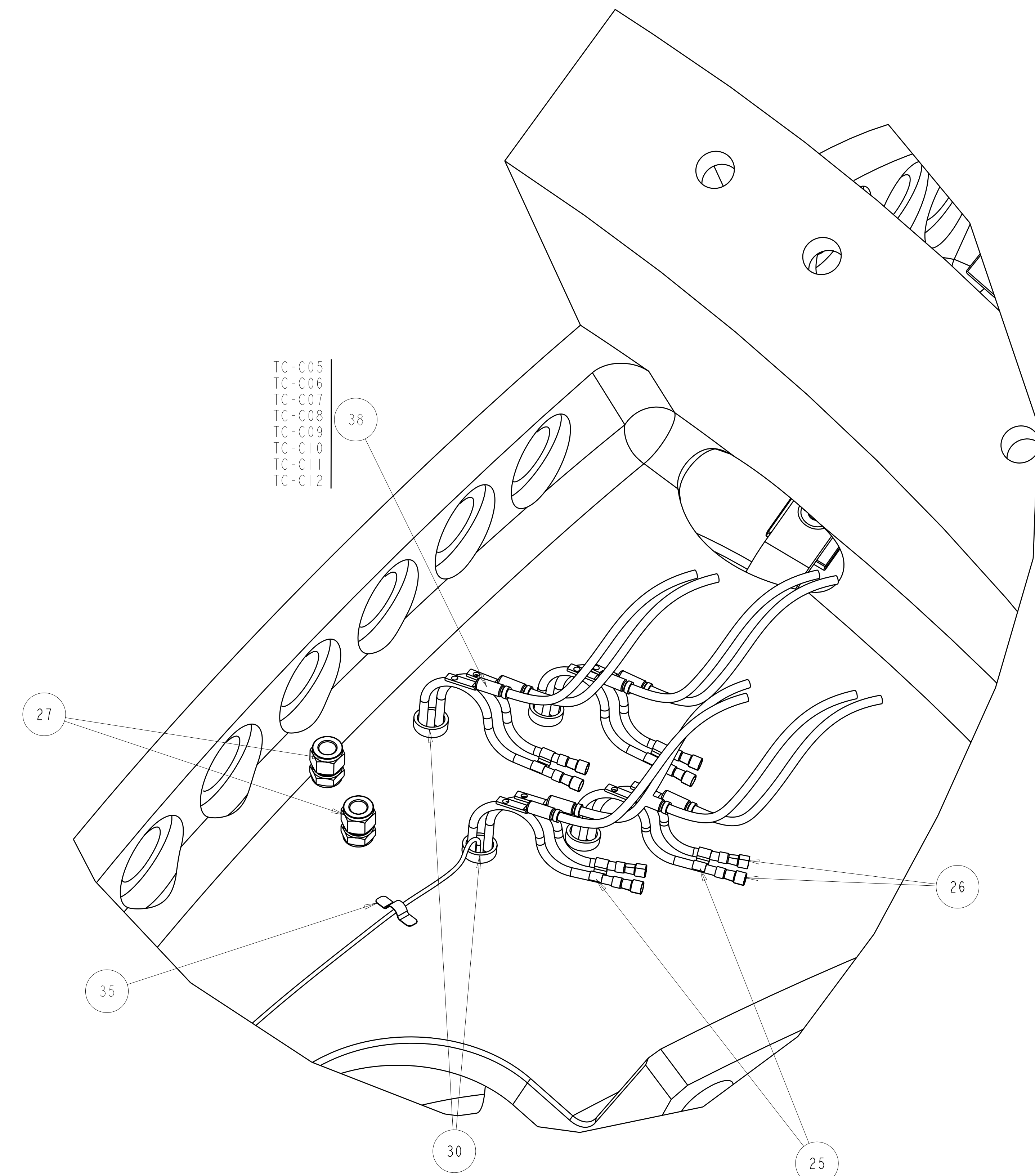
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RELEASE LEVEL WIP			SE140-103			REV 0



SCALE 0.25

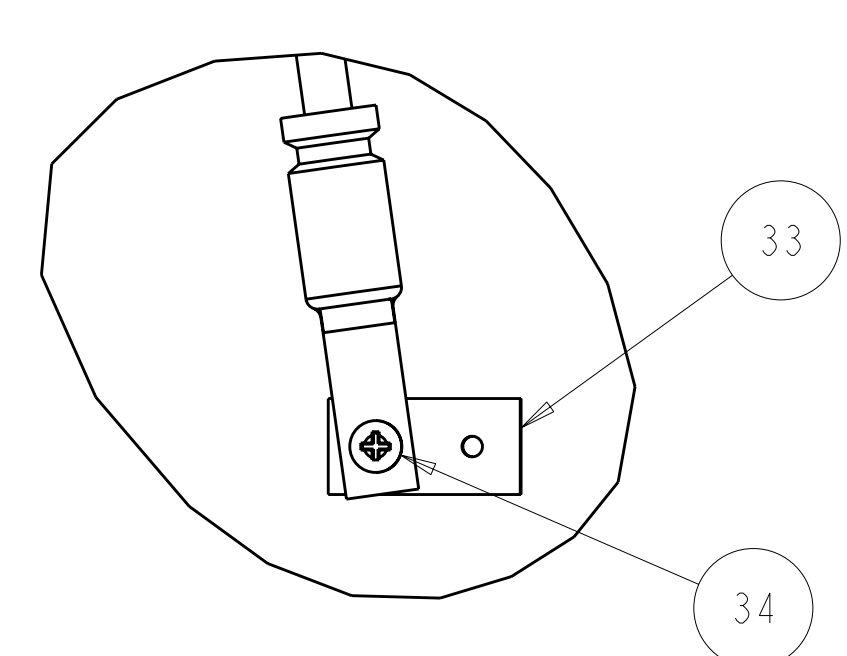


PARTIAL BOTTOM VIEW
SCALE 0.50



PARTIAL TOP VIEW
SCALE 0.50

TC-C13 AND TC-C14 NOT SHOWN TO BE LOCATED ON LEADS AND FIELD ROUTED AT ASSEMBLY



DETAIL D TYP 2 PLACES
SCALE 1.00

THERMOCOUPLE CHART			
NO.	LABEL	LOCATION	LEAD LENGTH TO BUNDLE AT "A" COIL (IN)
1	TC-C01	OUTBOARD LOWER SUPPORT	182
2	TC-C02	OUTBOARD T/C HOLE	144
3	TC-C03	OUTBOARD T/C HOLE (DUPLICATE)	144
4	TC-C04	OUTBOARD UPPER SUPPORT	164
5	TC-C05	COOLING LINE OUTLET 1	174
6	TC-C06	COOLING LINE OUTLET 2	174
7	TC-C07	COOLING LINE OUTLET 3	174
8	TC-C08	COOLING LINE OUTLET 4	174
9	TC-C09	COOLING LINE OUTLET 5	174
10	TC-C10	COOLING LINE OUTLET 6	174
11	TC-C11	COOLING LINE OUTLET 7	174
12	TC-C12	COOLING LINE OUTLET 8	174
13	TC-C13	LEADS	164
14	TC-C14	LEADS	164

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NATIONAL COMPACT STELLARATOR EXPERIMENT

**TYPE C MCWF
FINAL COIL ASSEMBLY**

VERSION NO. 45	PLANT ORNL	BLDG 5700	FL 3	SHT OF 3	TYPE 3	CLASS S
RELEASE LEVEL WIP			SE140-103		REV 0	