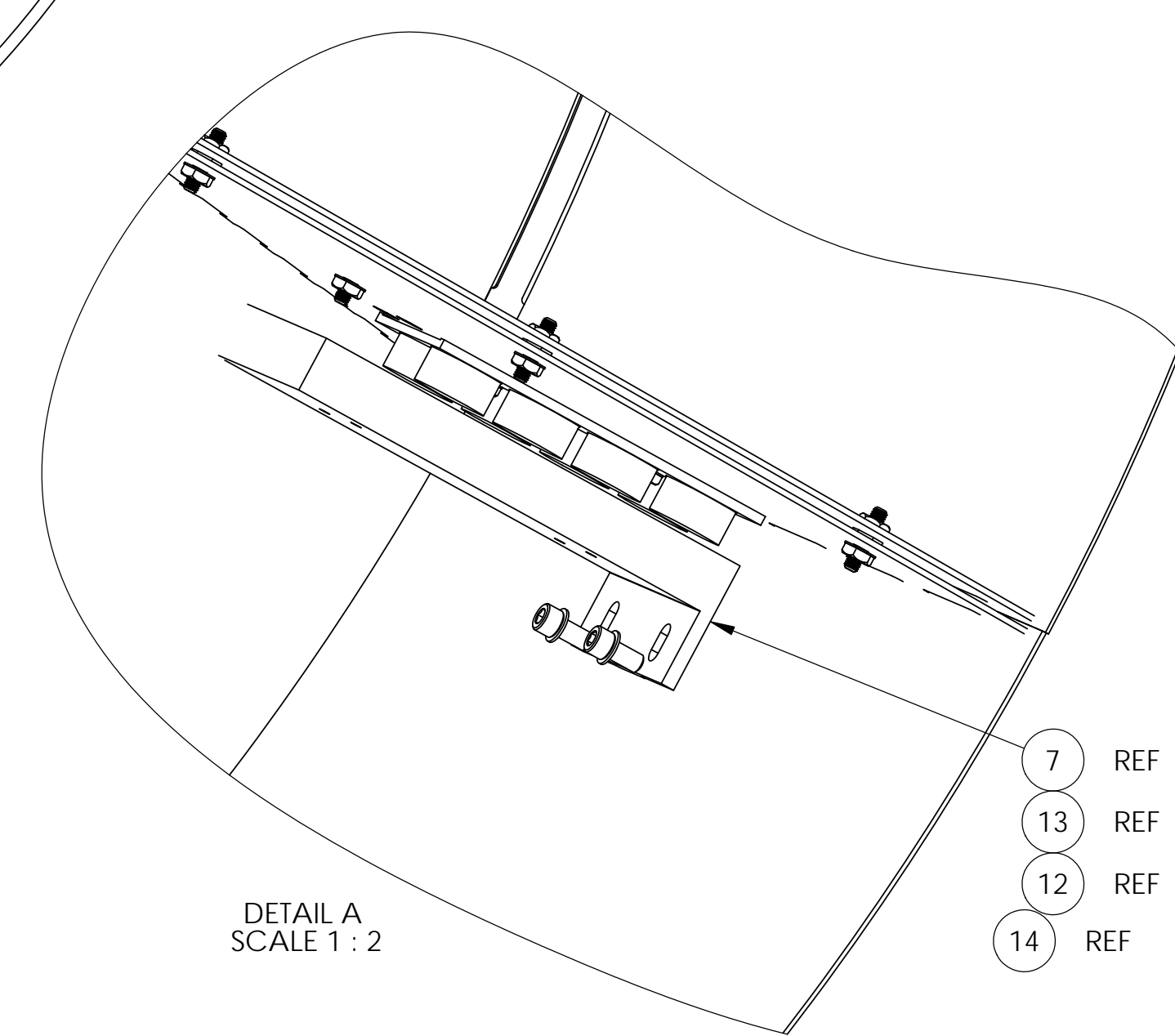
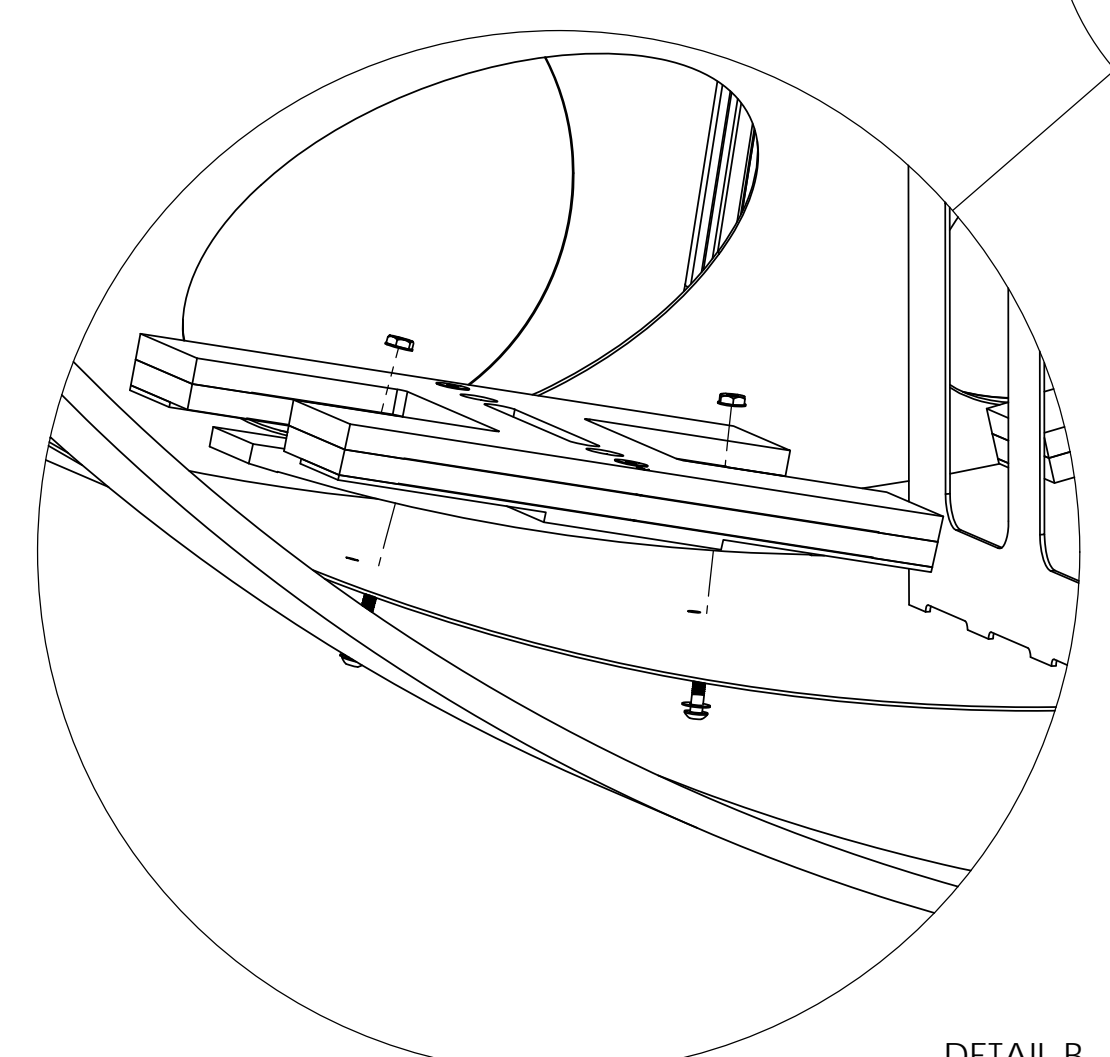
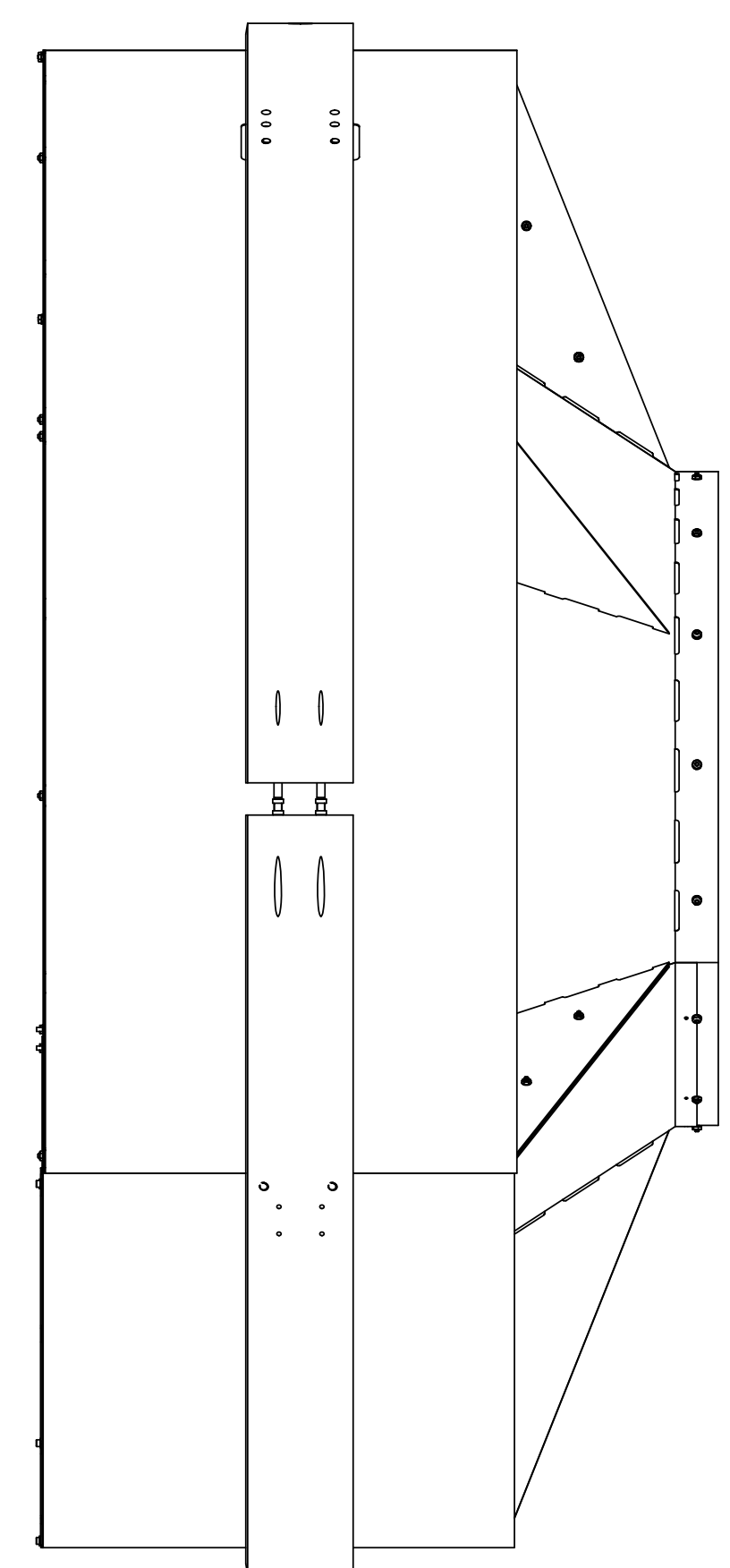
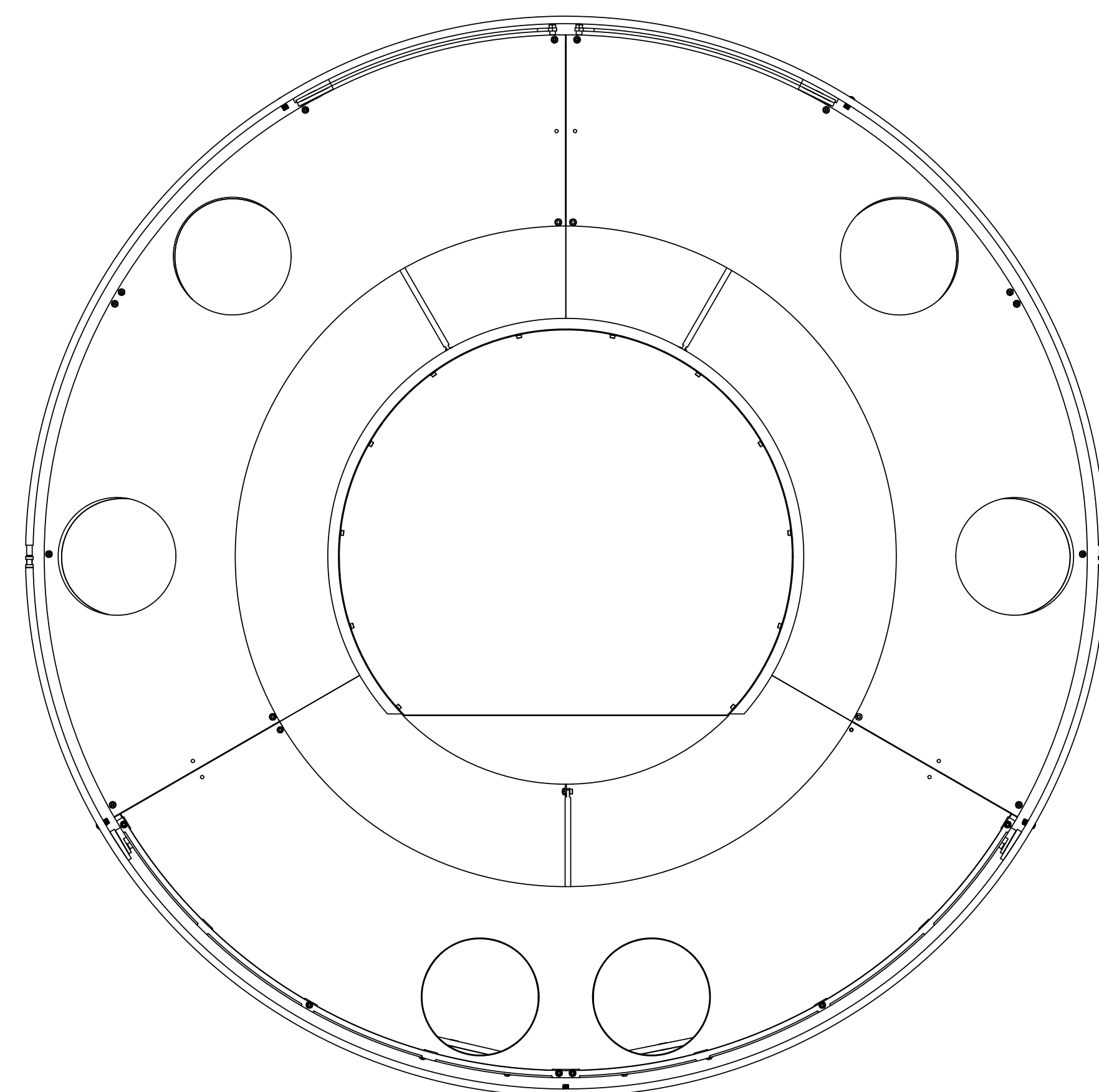
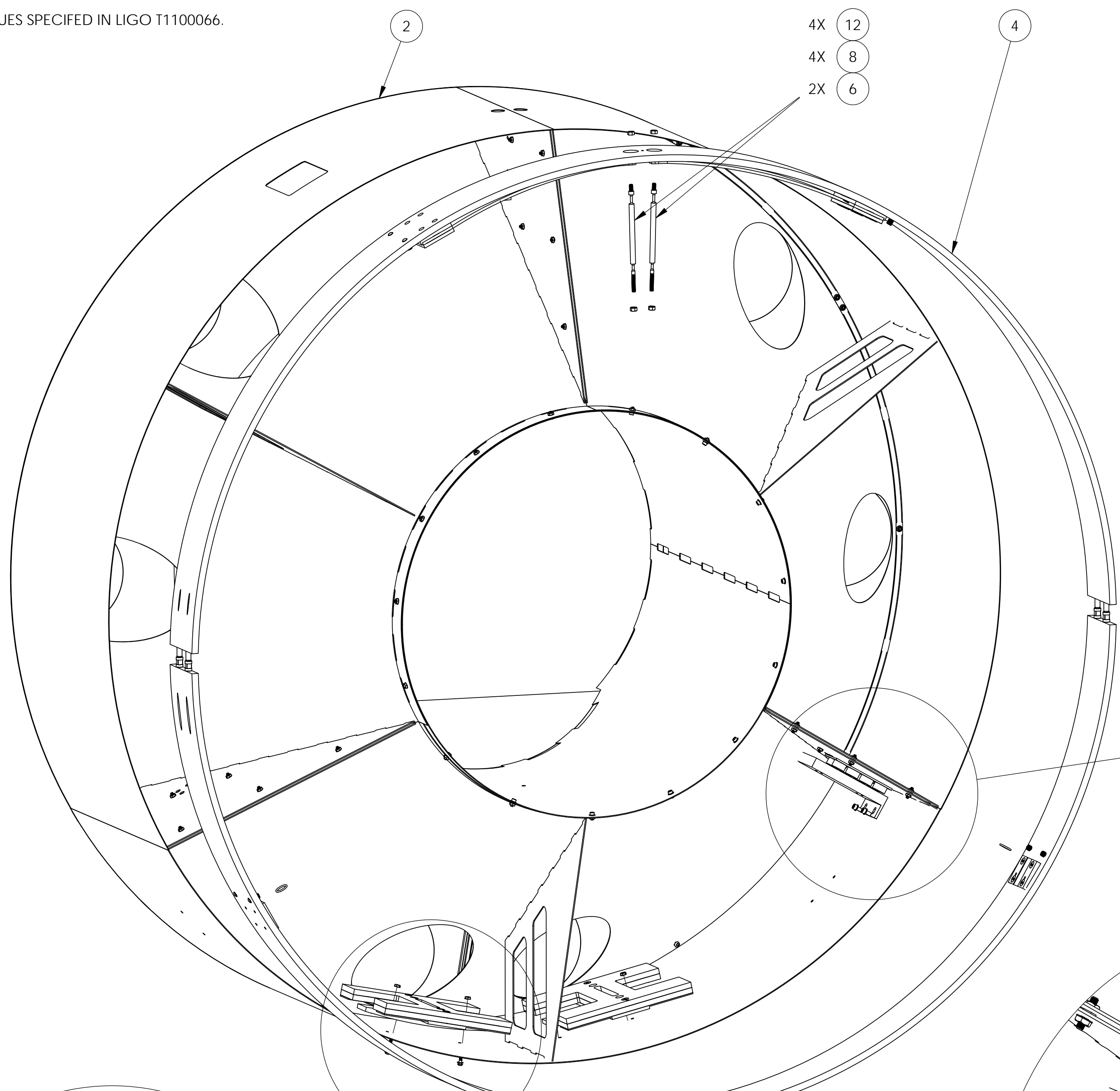


- NOTES CONTINUED:
- TWO BALANCED WEIGHT ASSEMBLIES (D1002402) TO BE INSTALLED BEFORE ATTACH BAFFLE TO SUSPENSION RING.
 - TORQUE SHCS TO VALUES SPECIFIED IN LIGO T1100066.

REV.	DATE	DCN #	DRAWING TREE #
v2	09 MAY 2011	E1000360-v2	-
v3	19 AUG 2011	E1000360-v3	-
v4	28 MAY 2013	E1000360-v6	-
v5	29 JUL 2013	-	-



QTY	QTY	QTY	QTY	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL
8	2	8	14	V1156 2-116	VITON O-RING	VITON	
4	4	4	13	C-2008-N	SOCKET HEAD CAP SCREW, SHC, 1/4-20 x 1/2" L	18-8 SSTL	
4	4	4	12	WF-25	FLAT WASHER 1/4 SCREW SIZE	18-8 SSTL	
4	4	4	11	BU-1016-N	BUTTON HEAD SOCKET CAP SCREW, #10-32 x 1" L	18-8 SSTL	
4	4	4	10	N-1032-NA	HEX NUT, 10-32 THRD SIZE	Ag-PLATED 300 SSTL	
8	8	8	9	WF-10	FLAT WASHER, #10 SCREW SIZE	18-8 SSTL	
4	4	4	8	N-2520-A	HEX NUT, 1/4-20 THRD SIZE	Ag-PLATED 300 SSTL	
2	2	2	7	D1100821	LOWER COPPER PLATE	COPPER 99.9%	
2	2	2	6	D1001970	SUSPENSION ROD	304, 316 OR 302 SSTL	
2	2	2	5	D1002402	BALANCE WEIGHT ASSEMBLY	N/A	
1	1	1	4	D1002084	OUTER RING ASSY	N/A	
1	0	0	3	D1101398	WELDMENT ASSY_3 FP	N/A	
0	1	0	2	D1101397	RADIAL SEGMENT ASSY	N/A	
0	0	1	1	D1002061	WELDMENT ASSY_2 FP	N/A	

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

DIMENSIONS ARE IN INCHES

TOLERANCES:
 .XX ± .03
 .XXX ± .010

ANGULAR ± 1.0°

MATERIAL	N/A	FINISH	N/A μinch
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 MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SYSTEM: ADVANCED LIGO SUB-SYSTEM: AOS

PART NAME: MANIFOLD CRYO BAFFLE TOP ASSY, ITM

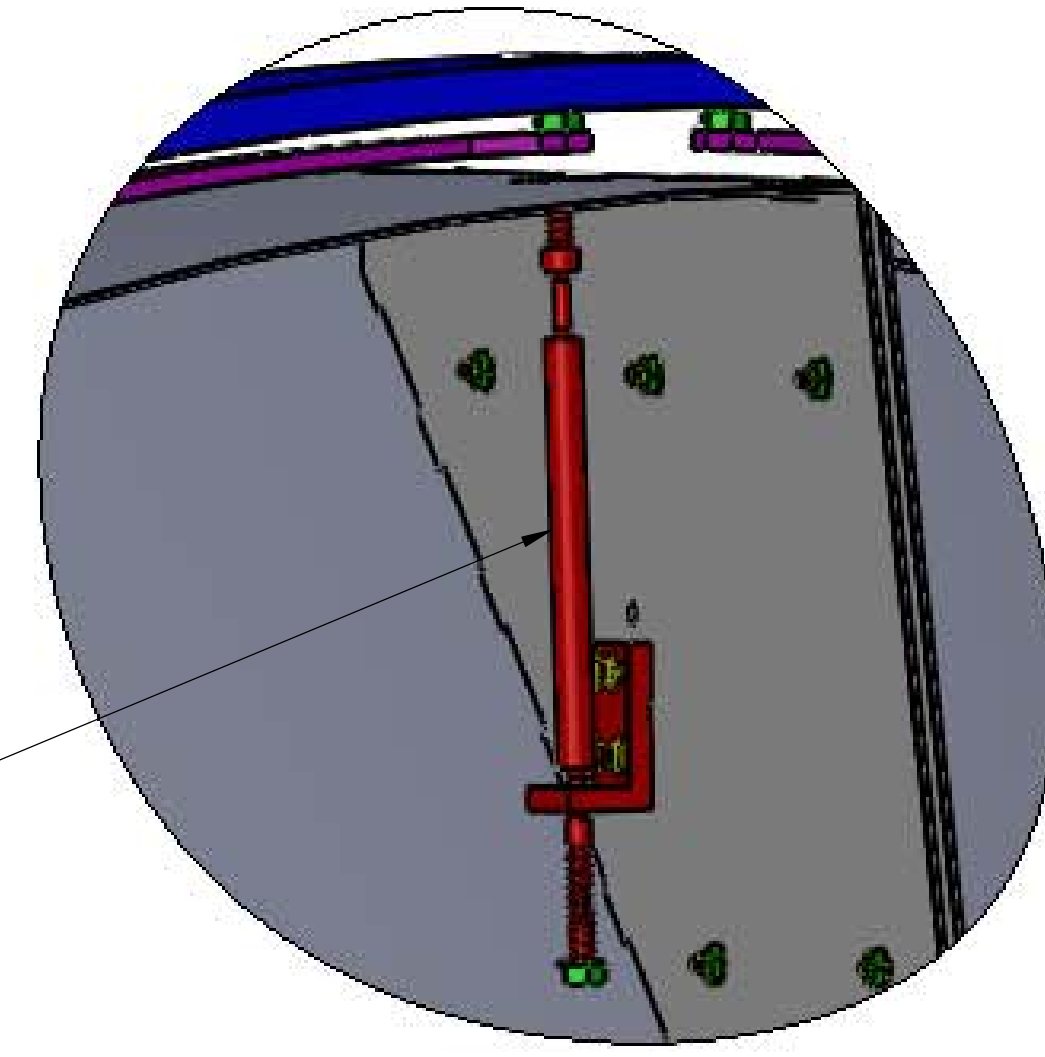
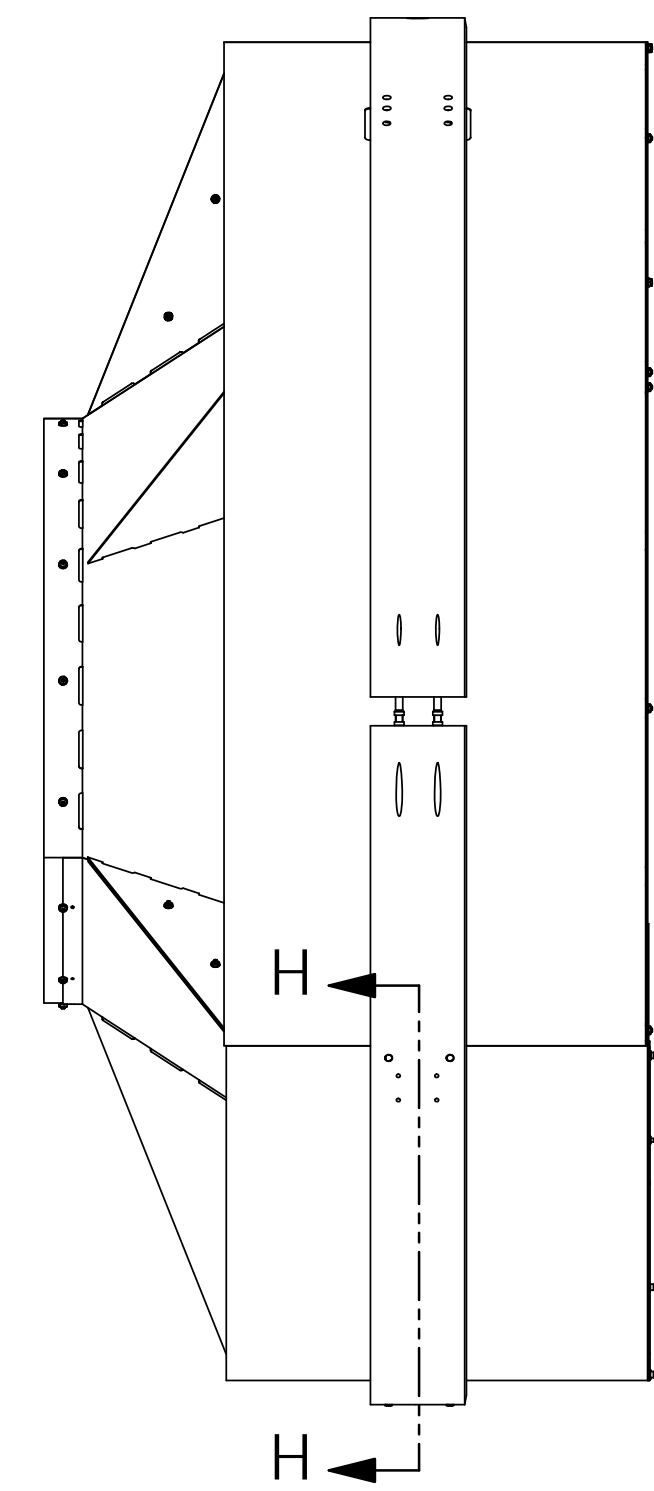
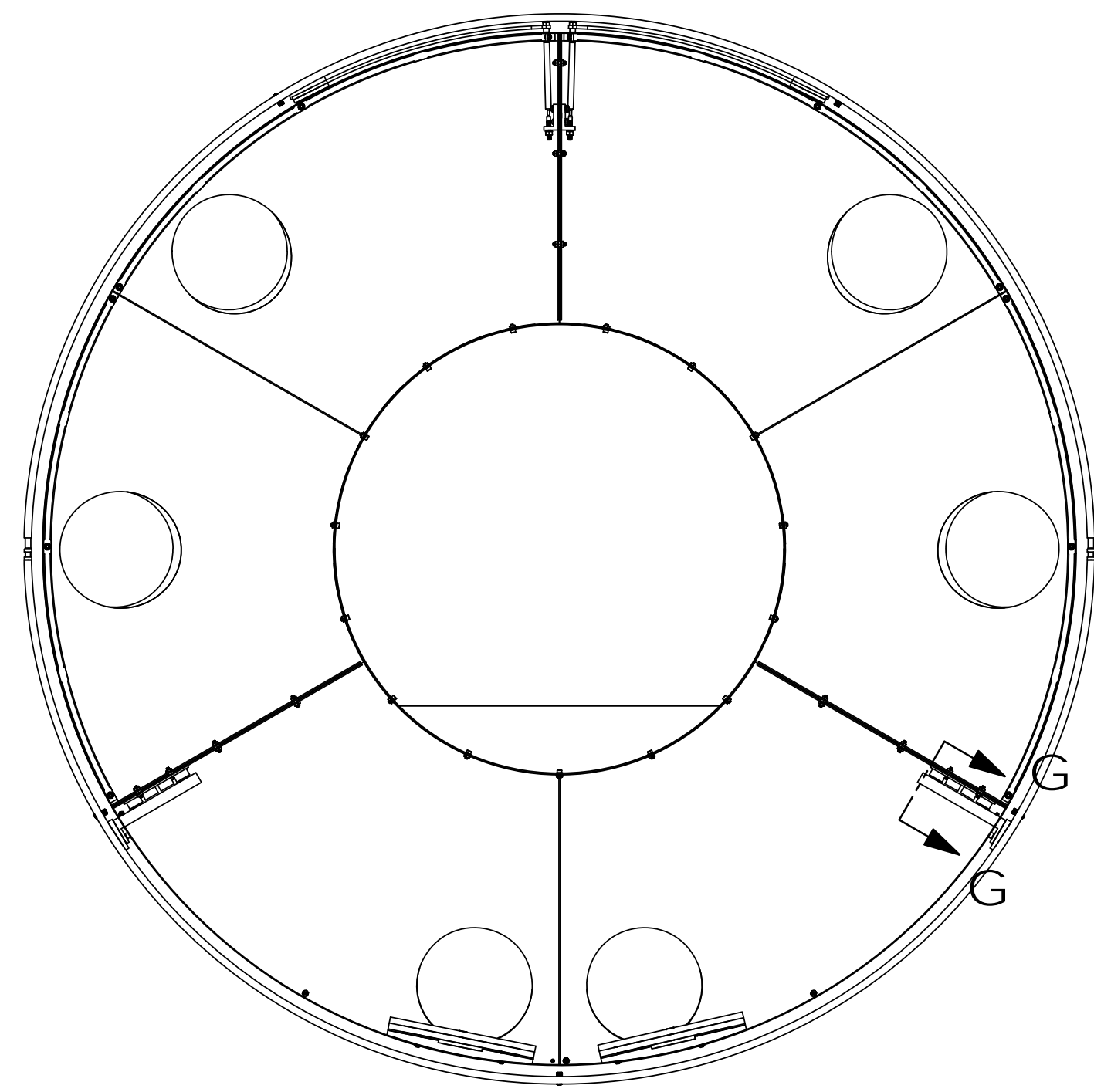
DESIGNER	H. KELMAN	3 FEB 2010	SIZE	DWG. NO.	REV.
DRAFTER	TQ. NGUYEN	12 OCT 2010	D	D0902617	v5
CHECKER	M. SMITH		SCALE: 1:6	PROJECTION:	SHEET 1 OF 5
APPROVAL	D. COYNE				

D0902617 aLIGO_Manifold_Cryo_Baffle_Assembly_ITM.dwg (1/1) PART PDM REV: X:122 DRAWING PDM REV: X:027

8 7 6 5 4 3 2 1

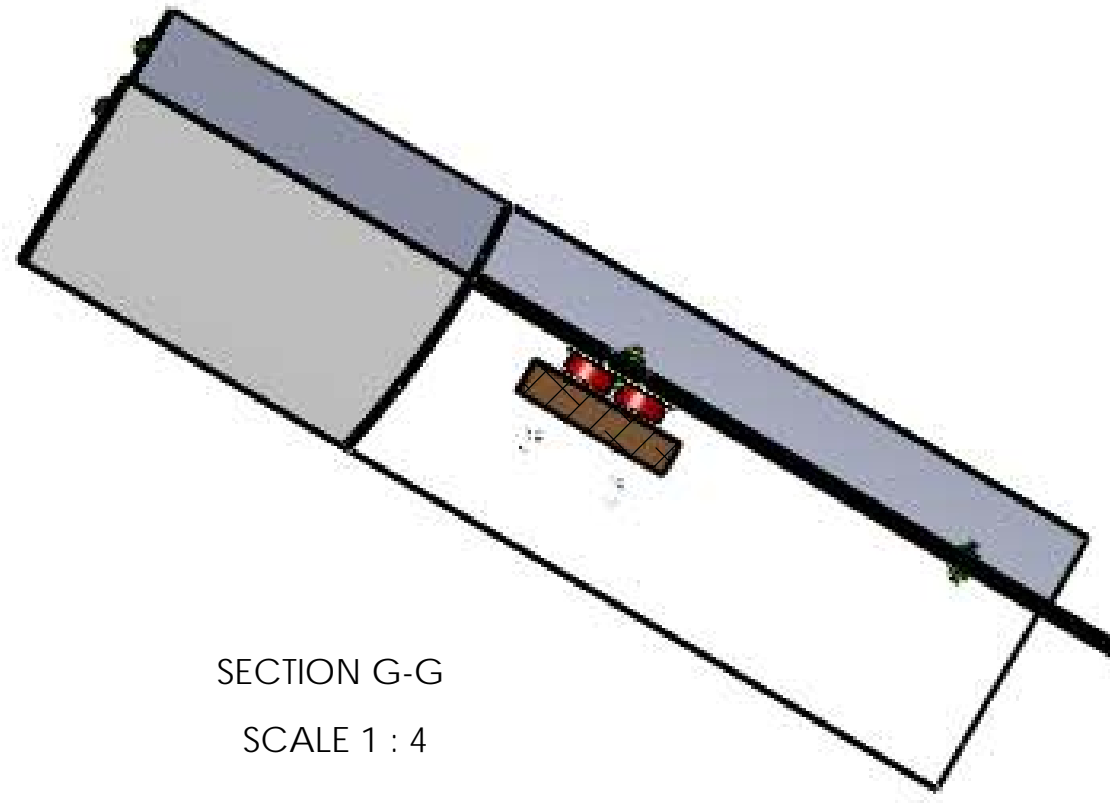
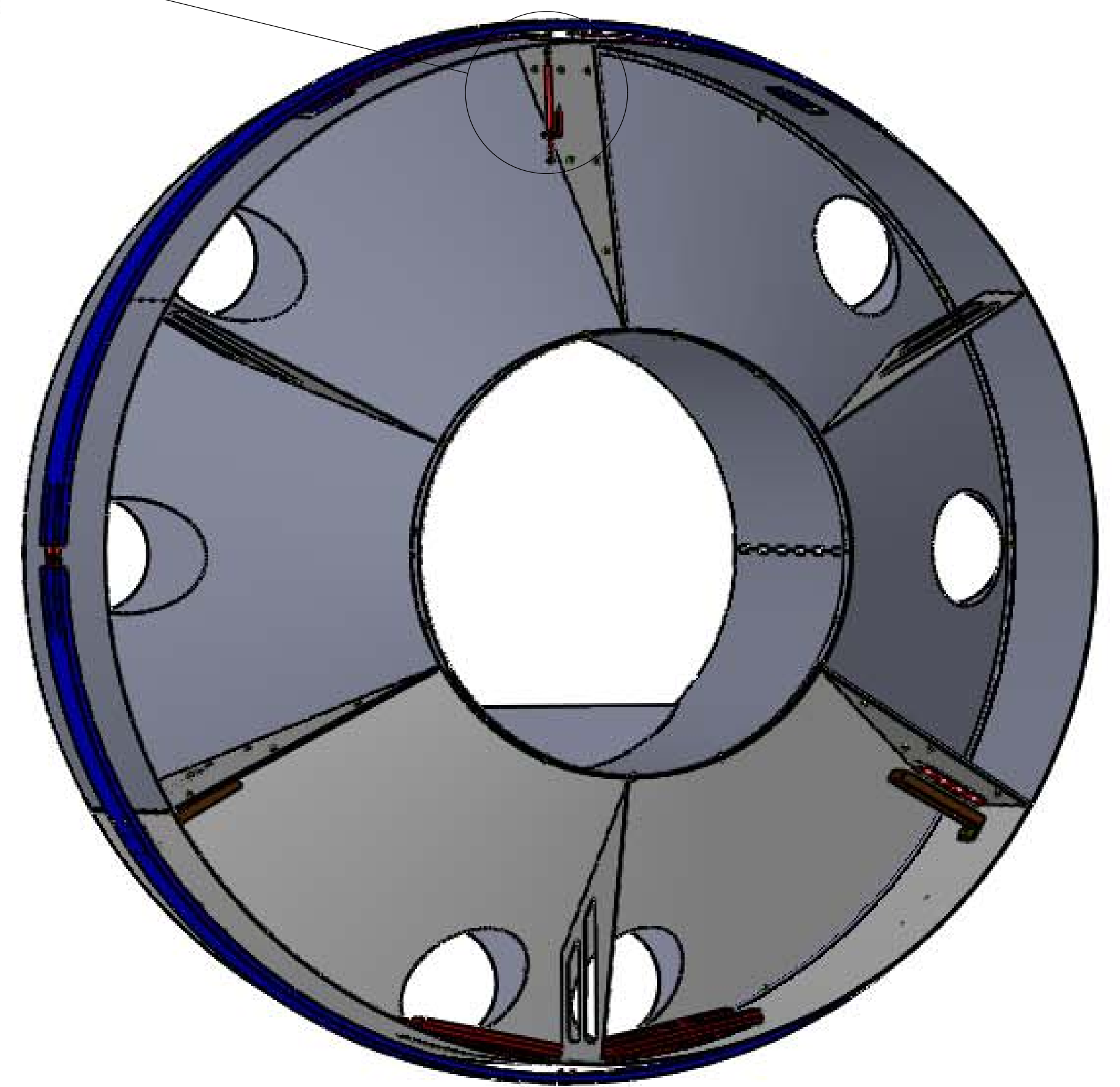
H
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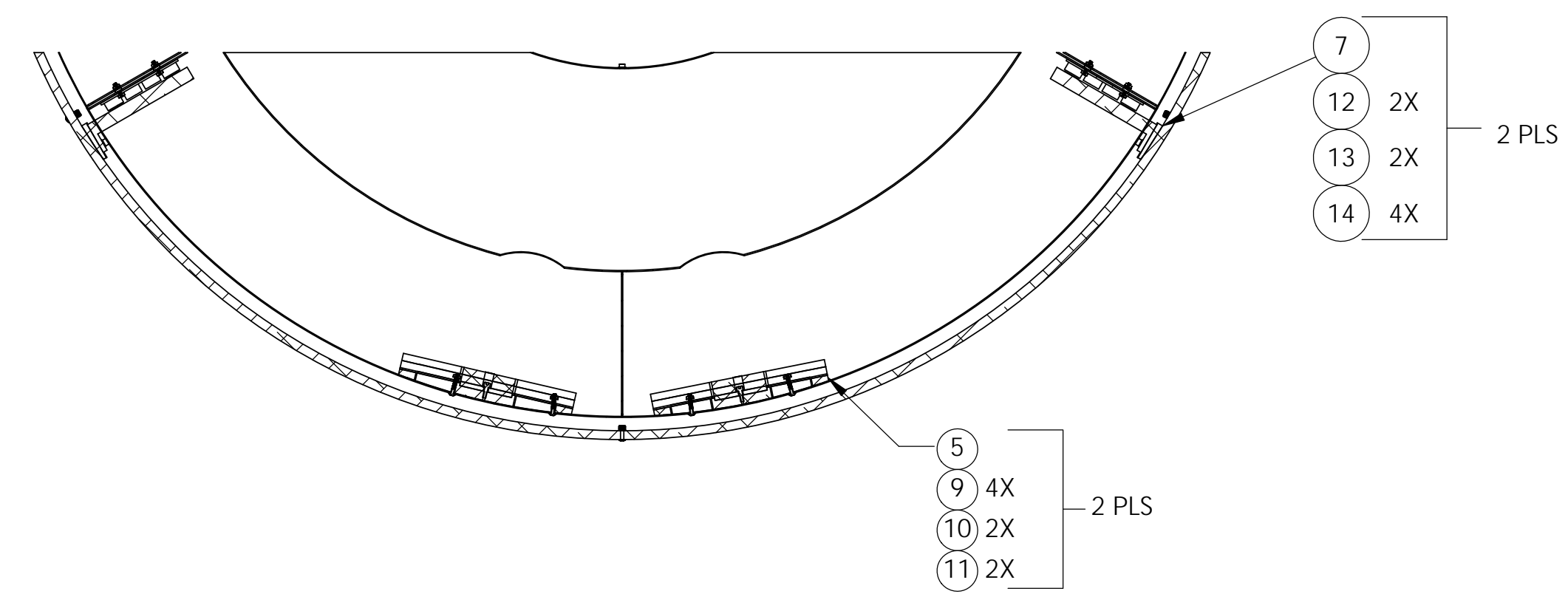


INSERT SUSPENSION ROD AND
SECURE IT WITH WASHER & NUT
BEFORE BRING THE BAFFLE IN TO
MOUNT ON SUSPEN SPRING PLATES.

DETAIL C
SCALE 1 : 2



SECTION G-G
SCALE 1 : 4



SECTION H-H
SCALE 1 : 8

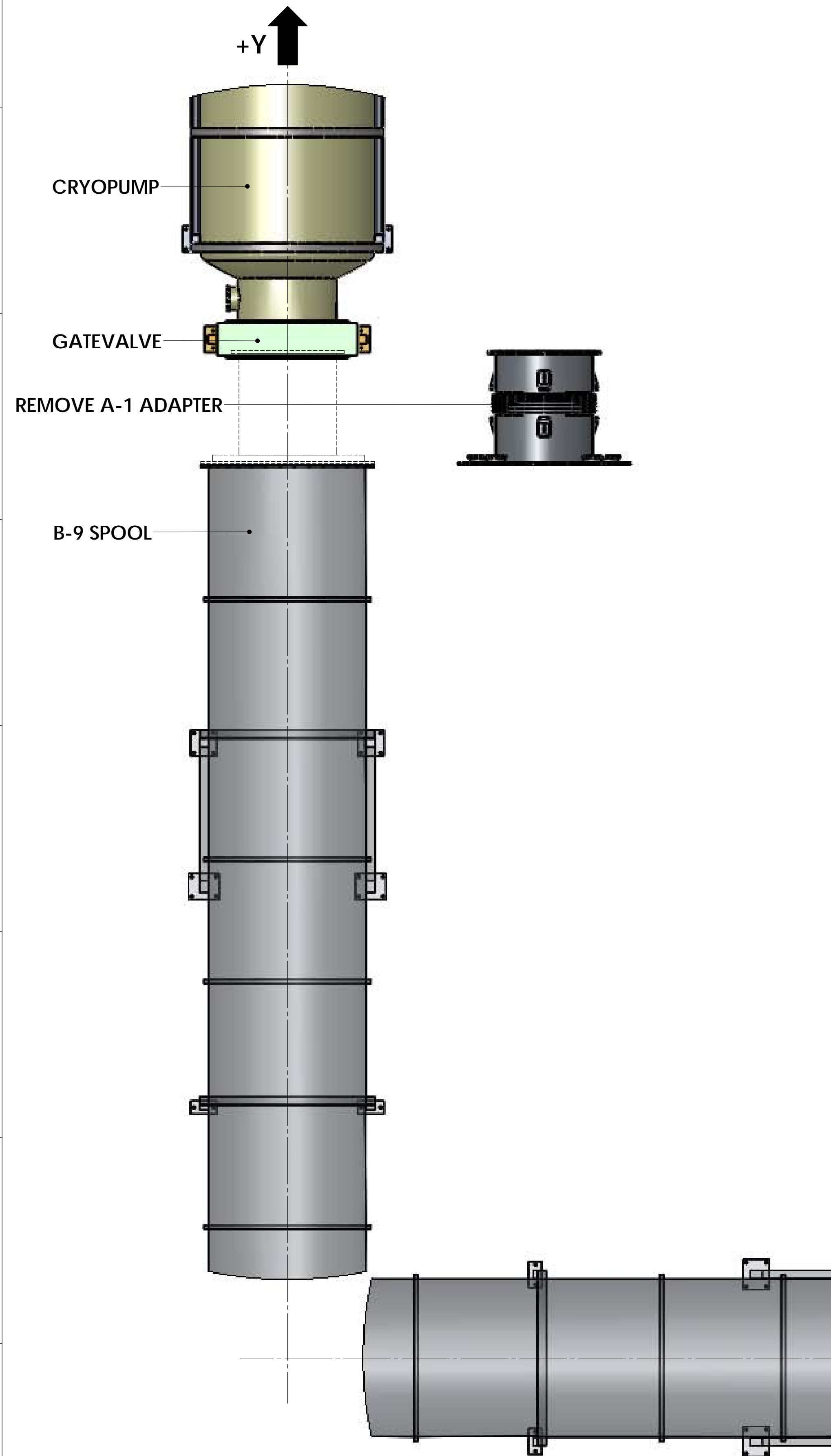
LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE DWG. NO.	REV.
D D0902617	v5
SCALE: 1:10	PROJECTION:
SHEET 2 OF 5	

8 7 6 5 4 3 2 1

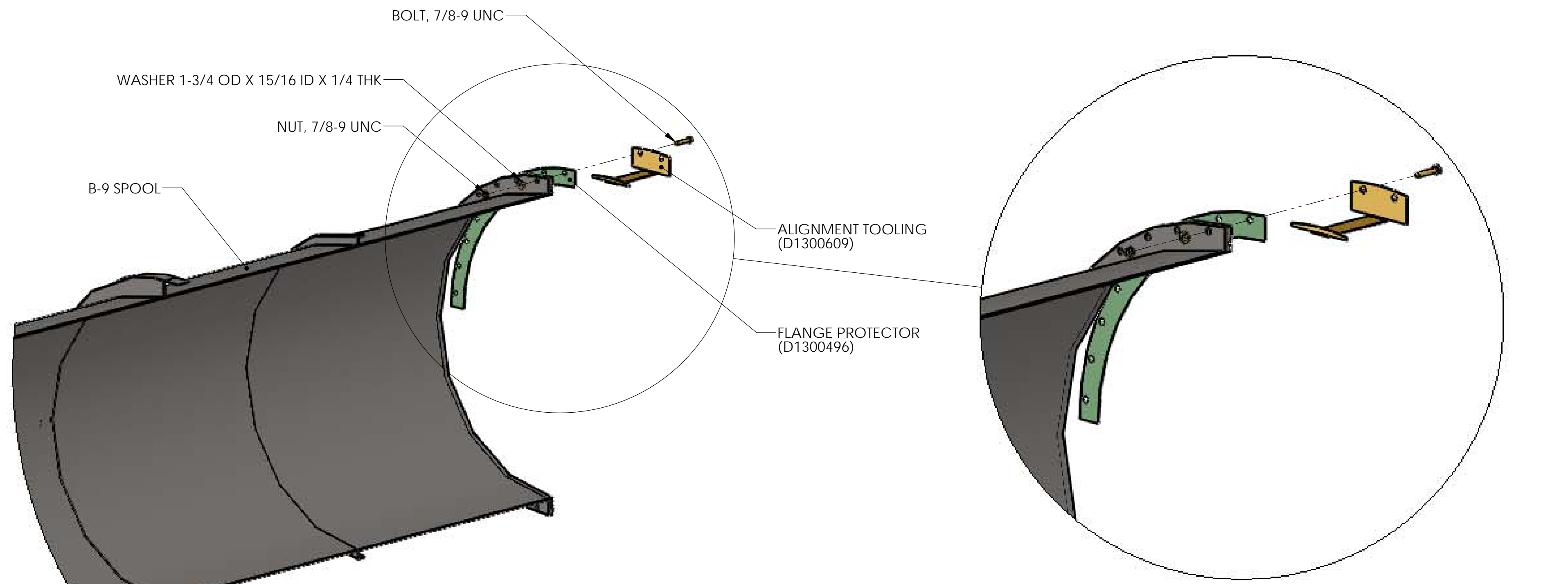
D0902617 alUGO_Manifold_Cryo_Baffle_Assembly: IMX:1H12: PART P014 REV: X:122: DRAWING PDM REV: X:027

INSTALLATION OF MANIFOLD CRYOPUMP BAFFLE INTO B-9 SPOOL (LHO & LLO CORNER STATION)

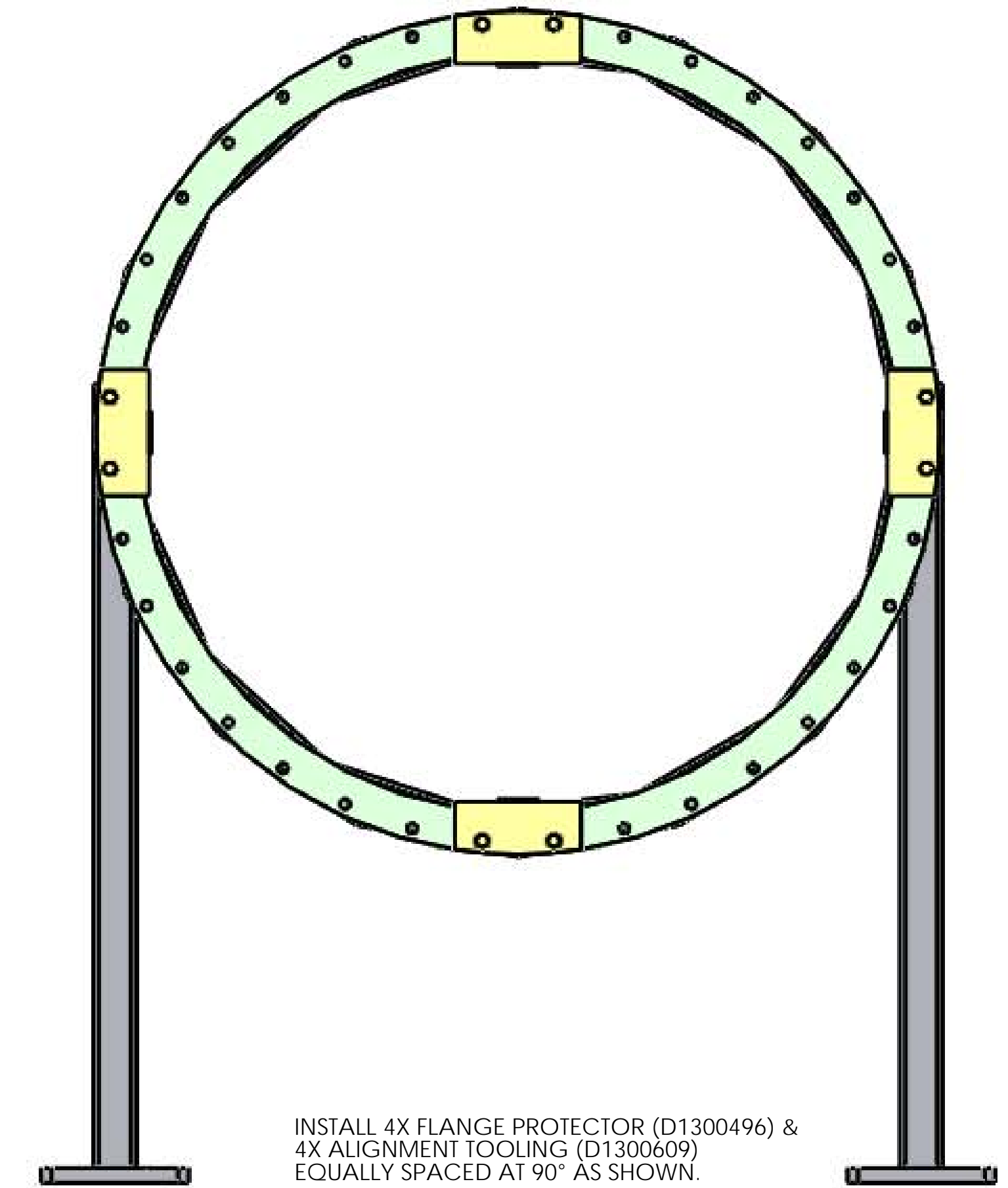
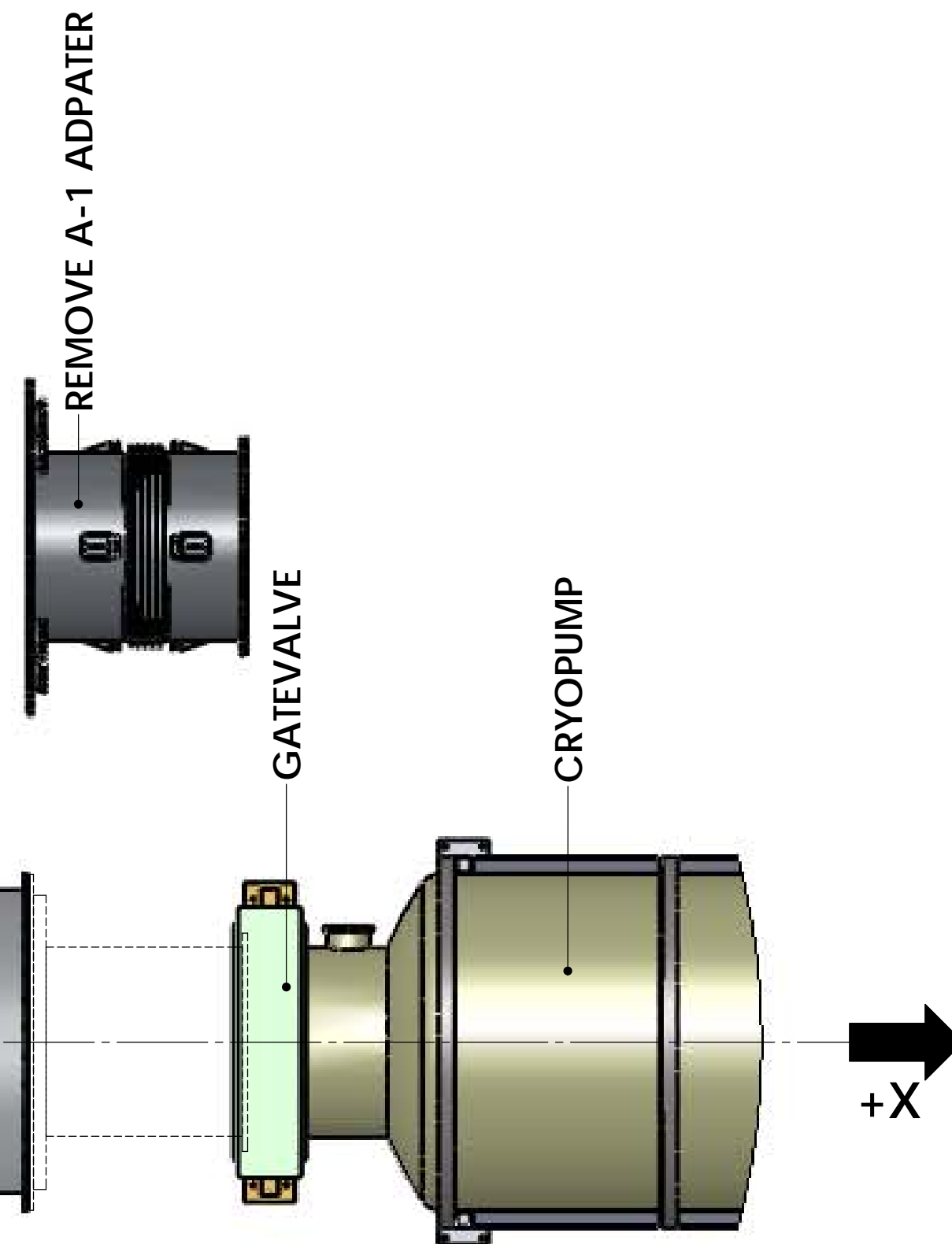
1) PARTIAL VE LAYOUT +X & +Y ARM (LHO & LLO CORNER STATION)



2) INSTALL FLANGE PROTECTOR AND ALIGNMENT TOOLING AT B-9 SPOOL

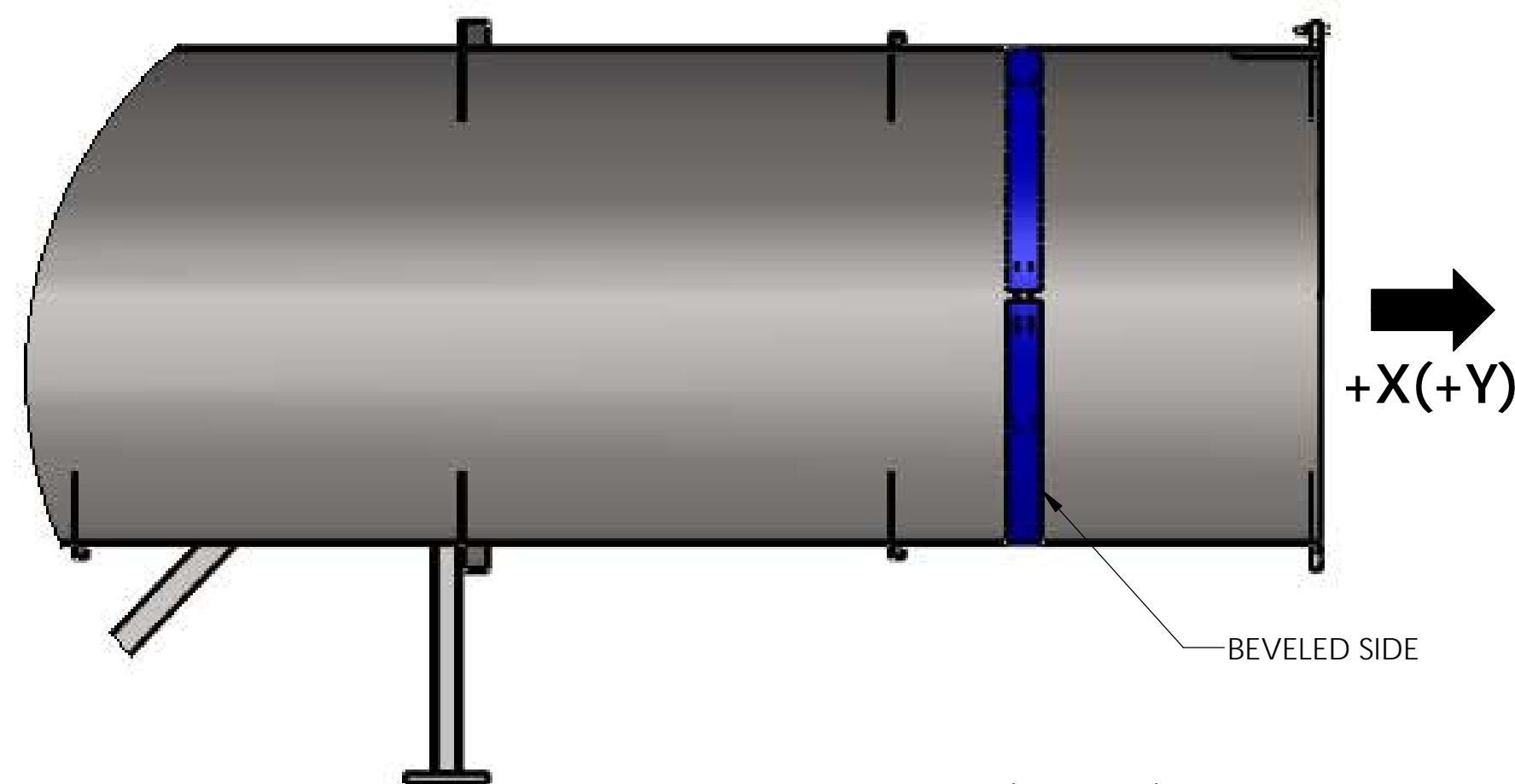


USING TEMPORARLY THE SAME HARDWARE (BOLT, NUT & WASHER) USED WHEN A-1 ADAPTER IS ATTACHED TO B-9 SPOOL, INSTALL FLANGE PROTECTOR AND ALIGNMENT TOOLING AS SHOWN IN DETAIL VIEW



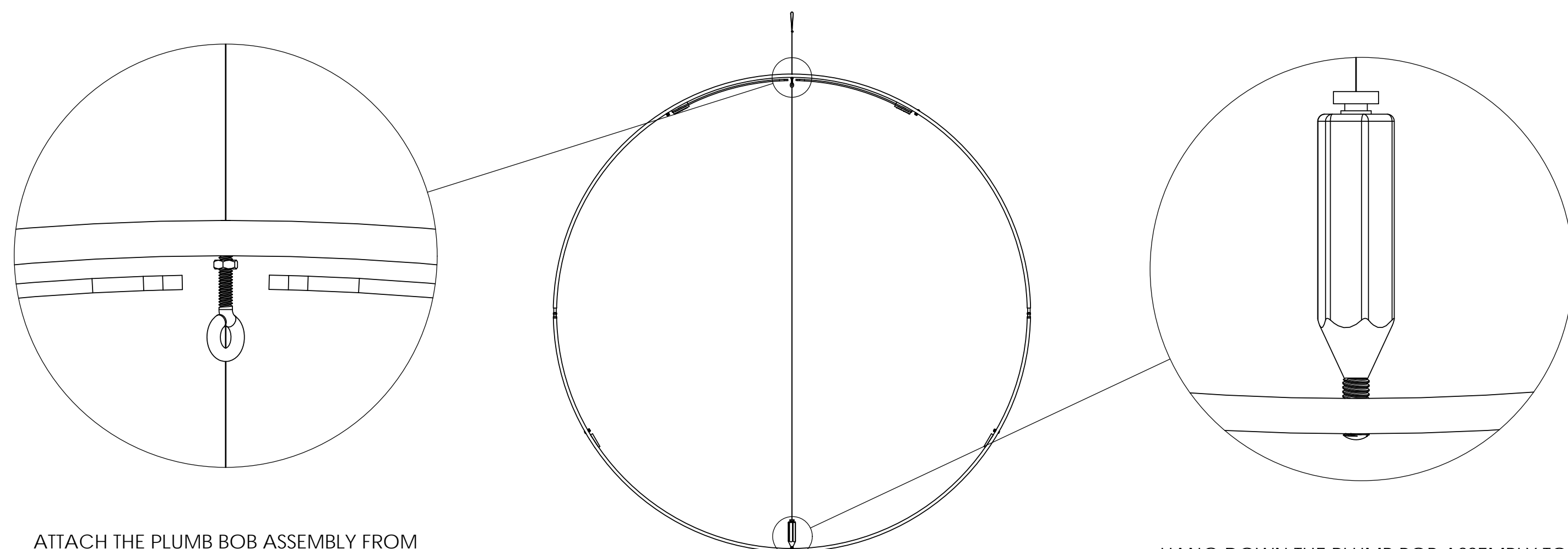
D0902617 alUCO_Manifold_Cryo_Baffle_Assembly_01Mx1H12_P1PART.PDM REV: X.006 DRAWING PDM REV: X.027

3) INSERT SUPPORT RING ASSEMBLY (D1002084) INSIDE B-9 SPOOL



INSERT SUPPORT RING ASSEMBLY (D1002084) INTO B-9 SPOOL. SET IT UP FAR ENOUGH INSIDE THE SPOOL SO THERE IS ROOM TO ALIGN IT TO THE ALIGNMENT TOOLING.
NOTE: MAKE SURE THE BEVELED SIDE OF THE SUPPORT RING FACE AWAY FROM THE ITMX.

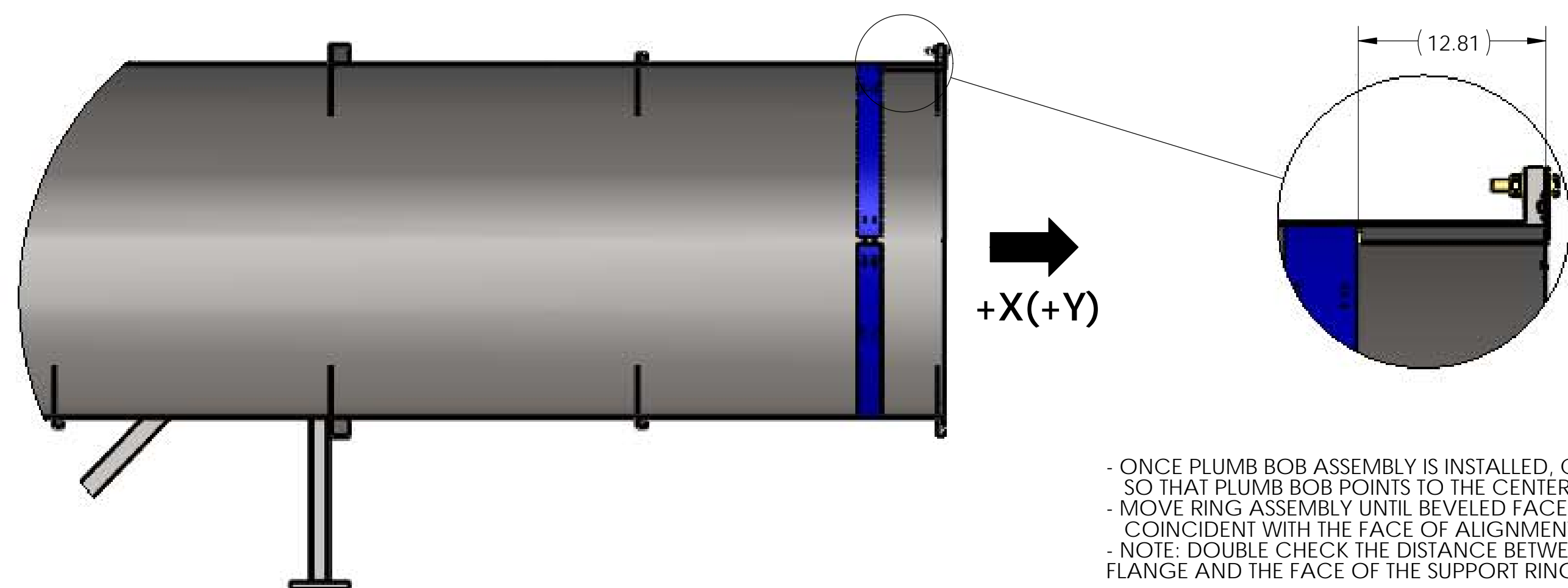
4) INSTALL PLUMB BOB ALIGNMENT ASSEMBLY (D1102170)



ATTACH THE PLUMB BOB ASSEMBLY FROM THE 10-32 TAPPED HOLE AT THE CENTER OF THE TOP RIN.

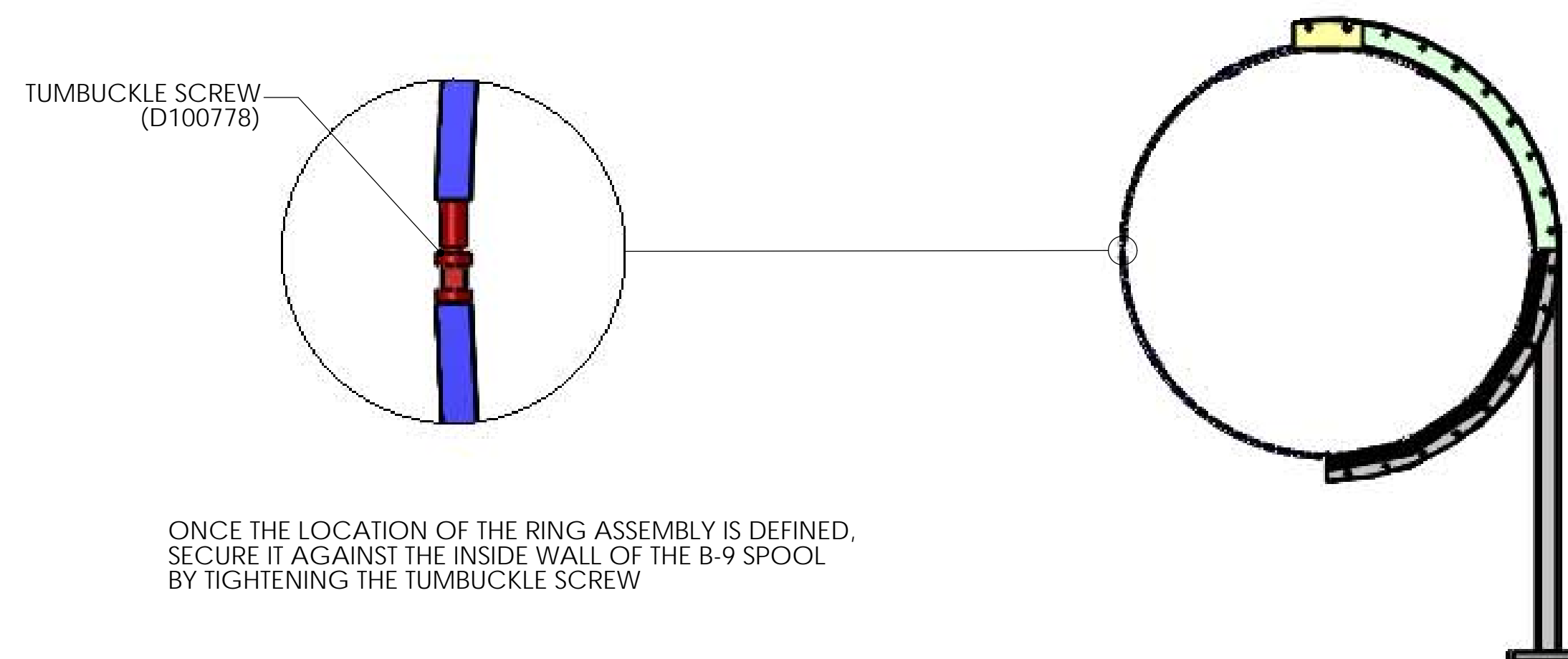
HANG DOWN THE PLUMB BOB ASSEMBLY TO JUST ABOVE THE .25" CLEARANCE HOLE AT THE CENTER OF THE BOTTOM RING

5) DEFINE LOCATION OF SUPPORT ASSEMBLY (D1002084)



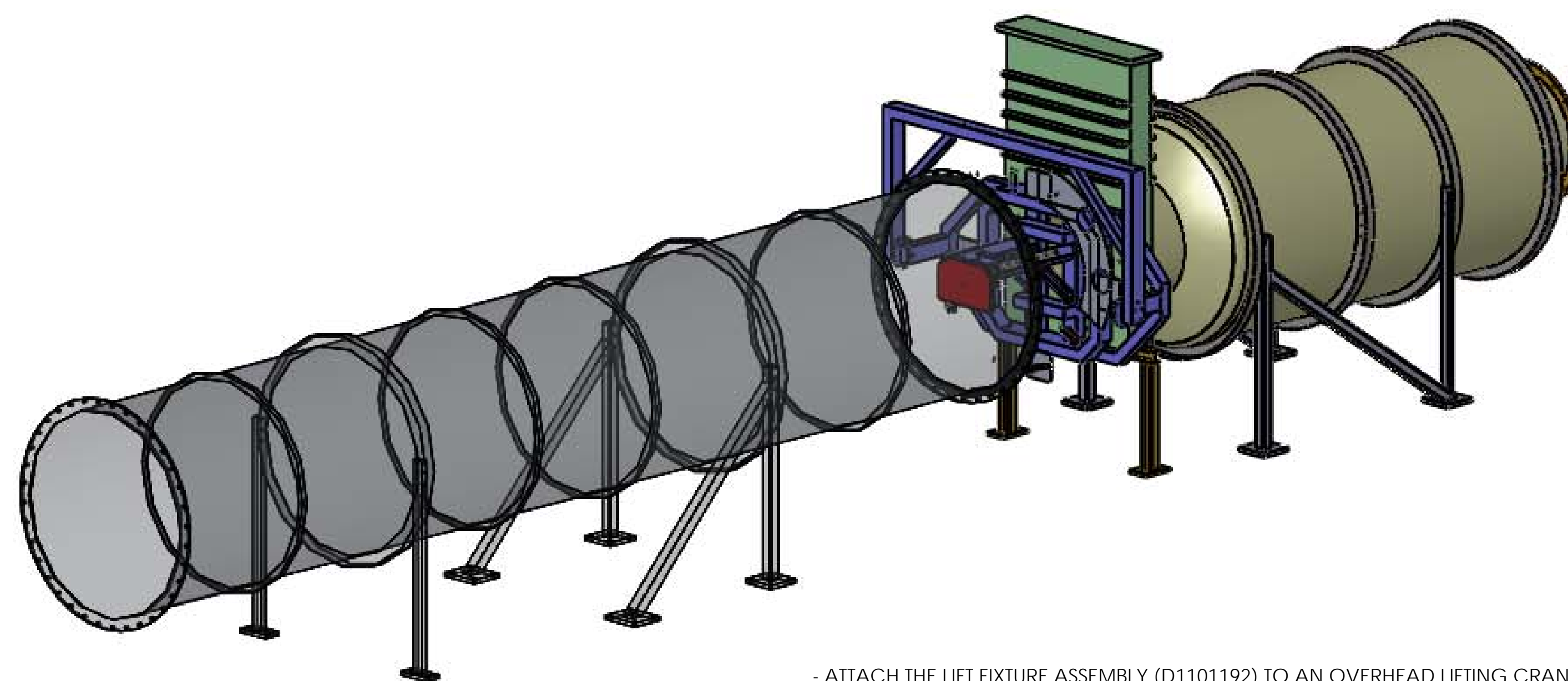
- ONCE PLUMB BOB ASSEMBLY IS INSTALLED, CLOCK RING ASSEMBLY SO THAT PLUMB BOB POINTS TO THE CENTER OF HOLE
- MOVE RING ASSEMBLY UNTIL BEVELED FACE OF RING ASSEMBLY IS COINCIDENT WITH THE FACE OF ALIGNMENT TOOLING.
- NOTE: DOUBLE CHECK THE DISTANCE BETWEEN THE FACE OF THE FLANGE AND THE FACE OF THE SUPPORT RING ASSEMBLY IS 12.81"

6) SECURE THE SUPPORT RING ASSEMBLY

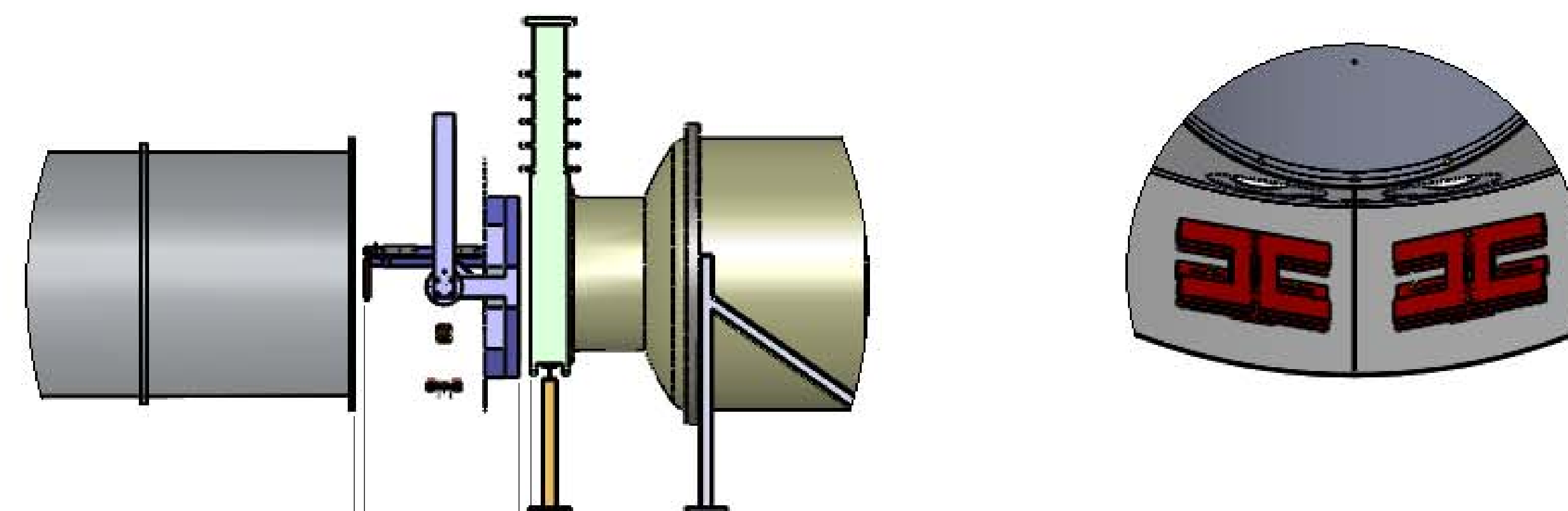


ONCE THE LOCATION OF THE RING ASSEMBLY IS DEFINED, SECURE IT AGAINST THE INSIDE WALL OF THE B-9 SPOOL BY TIGHTENING THE TUMBUCKLE SCREW

7) COMPLETE INSTALLATION OF MANIFOLD CRYOPUMP BAFFLE ASSEMBLY



- ATTACH THE LIFT FIXTURE ASSEMBLY (D1101192) TO AN OVERHEAD LIFTING CRANE BY MEANS OF LIFTING STRAPS.
- NOTE: FOR A DETAILED INSTALLATION PROCEDURE OF THE MANIFOLD CRYOPUMP BAFFLE REFER TO INSTALLATION DOCUMENT E1300607



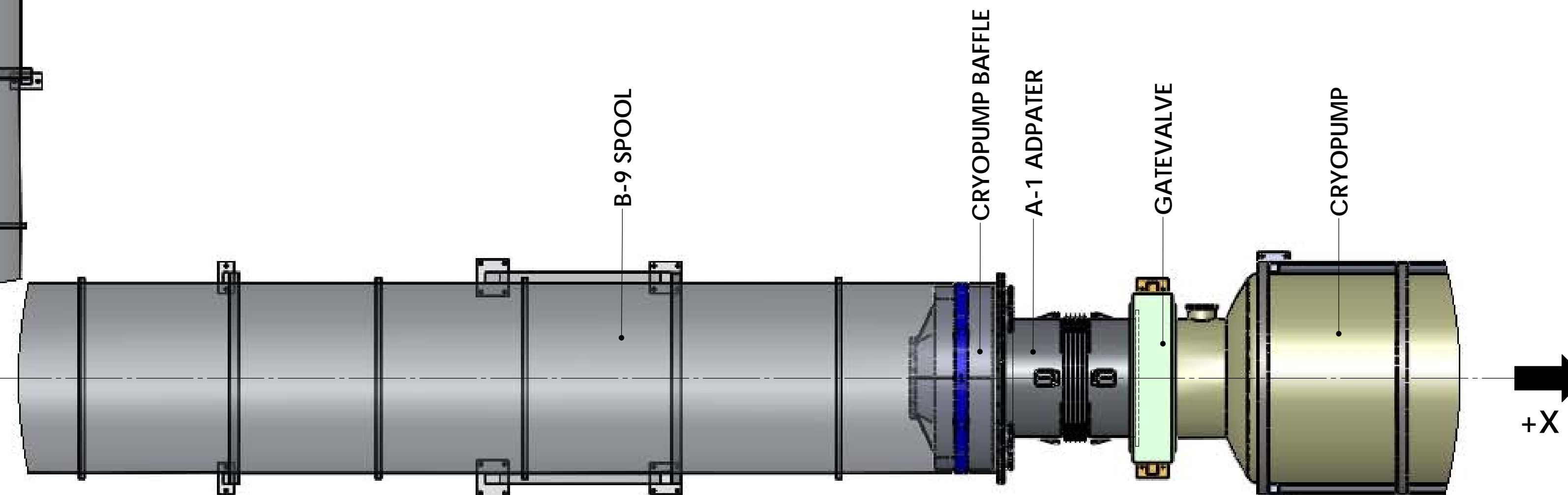
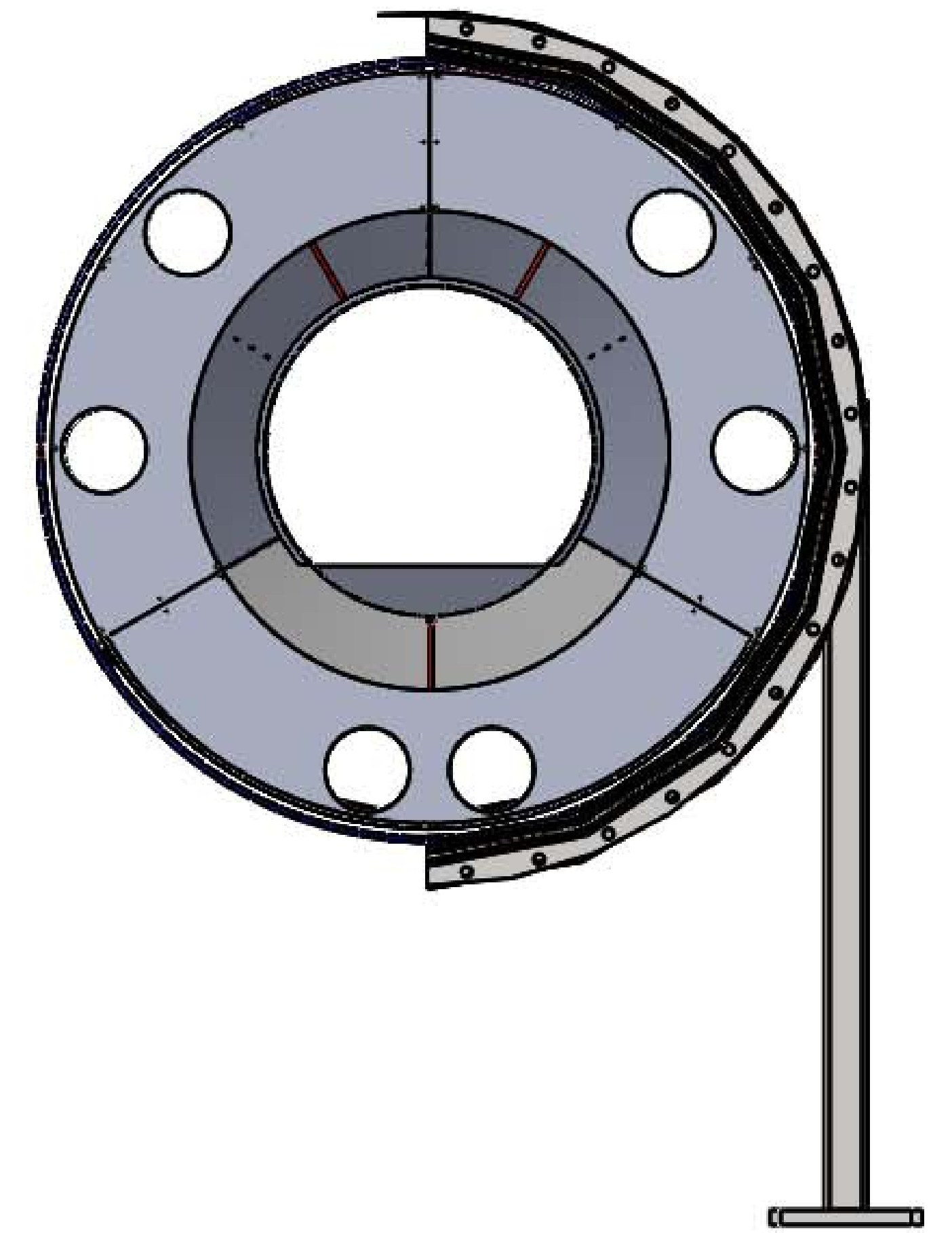
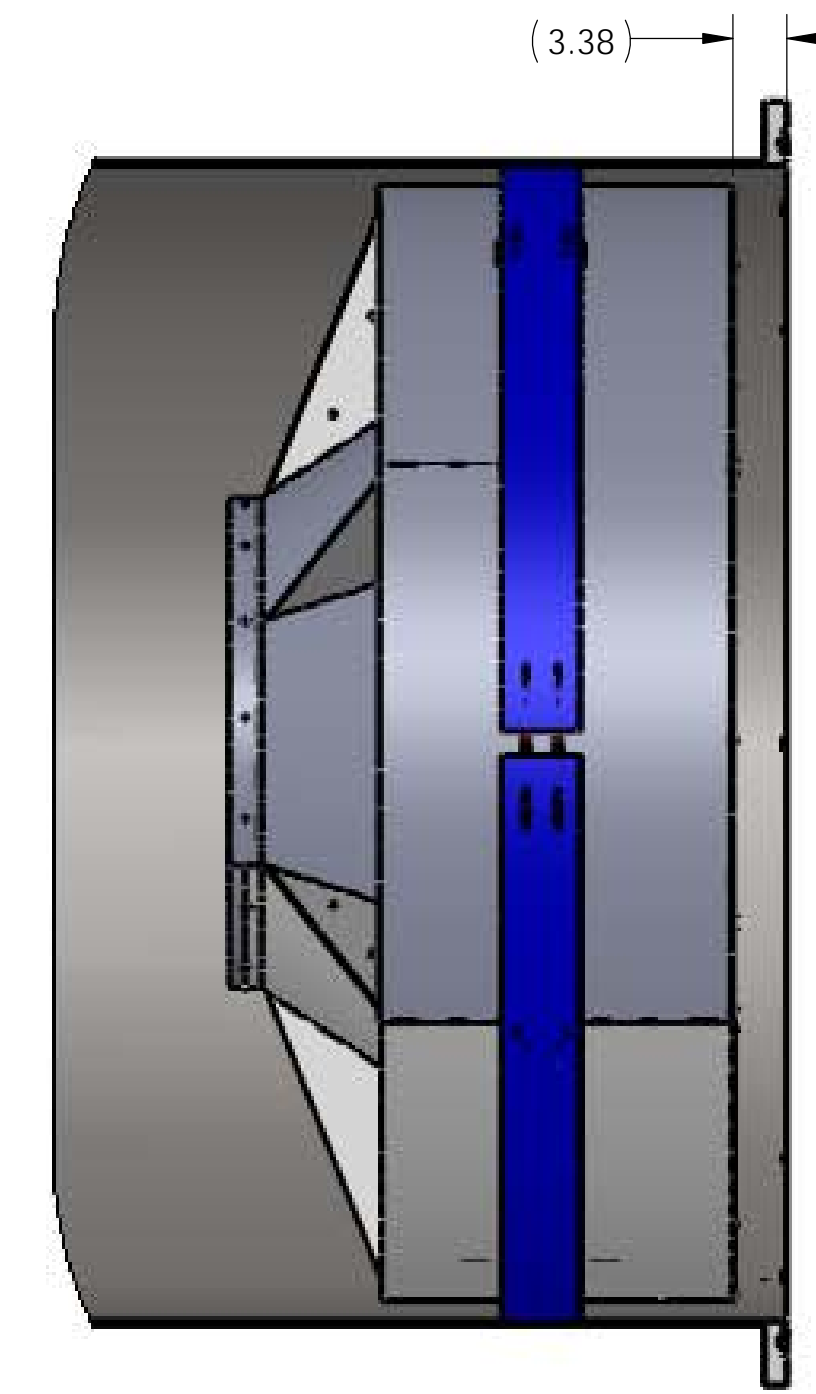
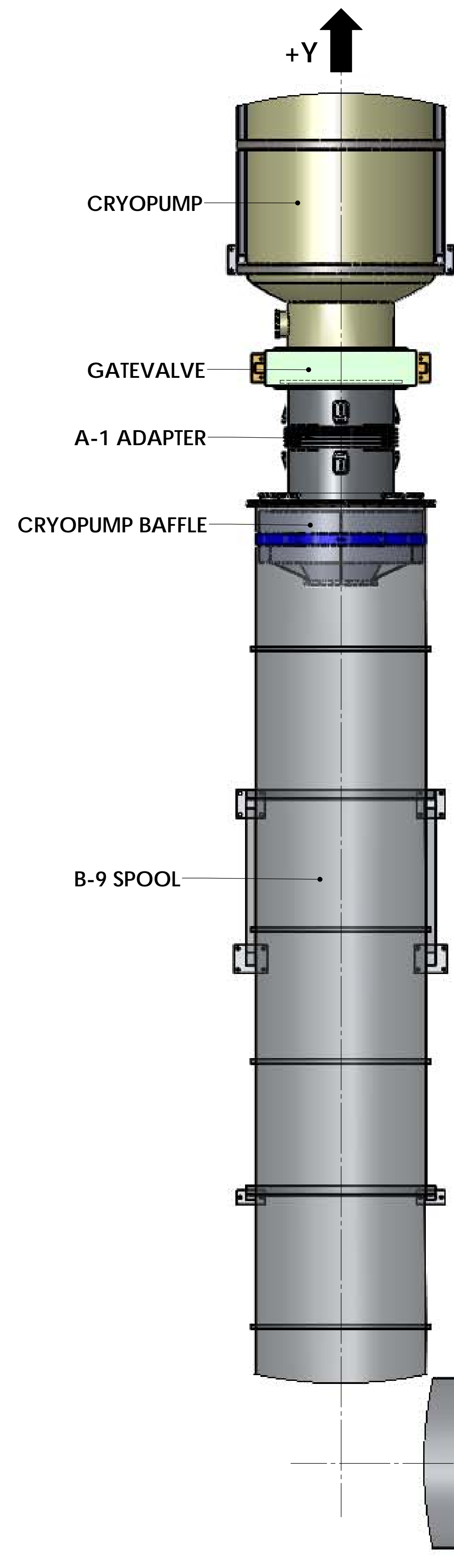
THERE IS A CLEARANCE OF ABOUT 6.5 BETWEEN THE GATE VALVE AND THE B-9 SPOOL TO MANIPULATE THE LIFT FIXTURE WITH THE CRYOPUMP BAFFLE ASSEMBLY

MAKE SURE THE BALANCE WEIGHT ASSEMBLY (D1002402) IS THE CORRECT ORIENTATION OF THE ARROWS.

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE	DWG. NO.	v5
D		
SCALE: 1:48	PROJECTION:	SHEET 4 OF 5

8) TOP VIEW WITH CRYOPUMP BAFFLE FINAL LOCATION AT +X & +Y ARM (LHO & LLO CORNER STATION)

9) CRYOPUMP BAFFLE FINAL LOCATION INSIDE B-9 SPOOL AT LHO & LLO CORNER STATION



D0902617 aluCO_Manifold_Cryo_Baffle_Assembly_001X_1112_1 PART PDM REV: X.006 DRAWING PDM REV: X.027