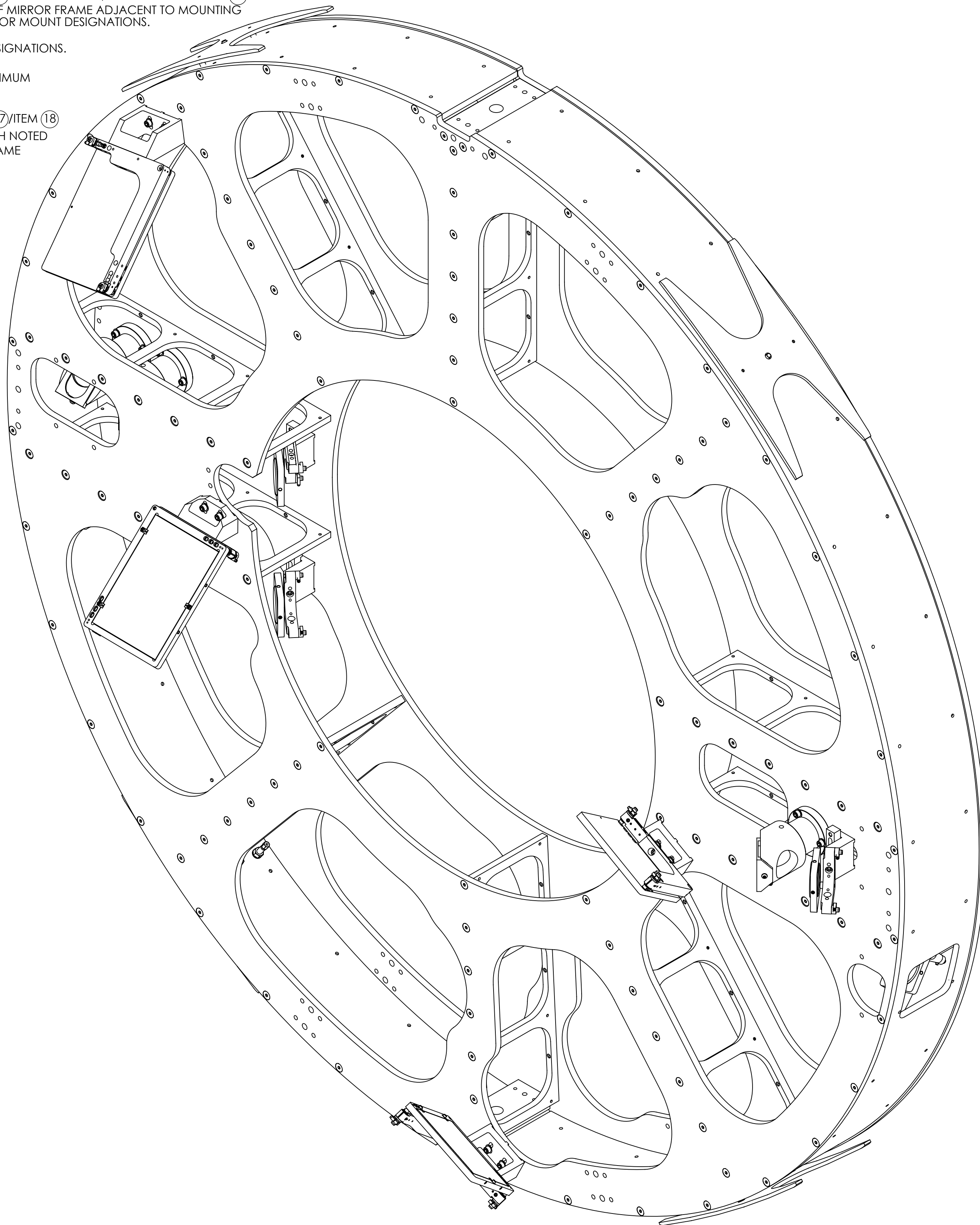


NOTES CONTINUED:

- 2. WEIGHT: 221.88 LB [100.64 KG]
- 3. THIS ASSEMBLY IS TO BE BUILT AND PRE-ALIGNED ACCORDING TO PROCEDURE E1300564
- ④ INSTALL ALL MIRROR MOUNTS/BASES WITH SLOTS CENTERED ON MOUNTING HOLES, EXCEPT WHERE OTHERWISE NOTED.
- H ⑤ USE ITEM ⑩ AS STRONGBACK OVER ITEMS ⑥, ⑦, ⑧, & ⑨, TO PREVENT CONTORTION FROM MOUNTING LOADS.
- ⑥ AFTER PRE-ALIGNMENT AND REMOVAL OF EACH ITEM ⑫ MIRROR MOUNT, ENGRAVE EACH ITEM ⑫ WITH NOTED UNIQUE DESIGNATION. APPLY TO FRONT OF MIRROR FRAME ADJACENT TO MOUNTING HOLE USED. SEE E1300751 FOR COMPLETE MAP OF MIRROR MOUNT DESIGNATIONS.
- ⑦ SEE DRAWING D1200176 FOR ITEM ⑫ ORIENTATION DESIGNATIONS.
- ⑧ SPECIFIED ORIENTATION OF NOTED ITEM ⑫ IS FOR MAXIMUM CLEARANCE OF MANIFOLD CRYO BAFFLE APERTURE.
- G ⑨ AFTER PRE-ALIGNMENT AND REMOVAL OF EACH ITEM ⑬/ITEM ⑭ MIRROR MOUNT, ENGRAVE EACH ITEM ⑬/ITEM ⑭ WITH NOTED UNIQUE DESIGNATION. APPLY TO FRONT OF MIRROR FRAME ADJACENT TO MOUNTING HOLE. SEE E1300751 FOR COMPLETE MAP OF MIRROR MOUNT DESIGNATIONS.
- F ⑩ INSTALL ITEMS ⑮ AT ROUGH FINAL INSTALLATION POSITIONING OF THIS ASSEMBLY IN A7 ADAPTER PER E1300477, SECTION 2.5. ADJUST ITEMS ⑮ AT IAS FINAL ALIGNMENT OF THIS ASSEMBLY PER E1300477, SECTION 2.5.



REV.	DATE	DCN #	DRAWING TREE #
v1	31 JAN 2012	-	-
v2	26 JUN 2012	-	-
v3	23 OCT 2013	E1300602-x0	-
v4	15 JAN 2014	E1400017-x0	-

25	D1201203	alIGO AOS PCAL PERISCOPE FLEXURE	v7	MARAGING STEEL C250	4	-	4	4	-	4
24	98017A690 (McM-Carr) or equiv PER NAS 1149-C0563R	WASHER, FLAT, 5/16		300 SSSL	8	4	12	8	4	12
23	91845A030 (McM-Carr) or equiv	HEX NUT, 5/16-18		18-8 SSSL	8	2	10	8	2	10
22	92240A550 (McM-Carr) or equiv	SCREW, HEX HEAD, 1/4-20 UNC X 2 LONG		18-8 SSSL	4	2	6	4	2	6
21	98017A660 (McM-Carr) or equiv PER NAS 1149-C0463R	WASHER, FLAT, 1/4		300 SSSL	4	2	6	4	2	6
20	91845A029 (McM-Carr) or equiv	HEX NUT, 1/4-20		18-8 SSSL	4	2	6	4	2	6
19	D1201408	alIGO PCAL PERISCOPE FLEXURE ADJUSTMENT SCREW	v4	NITRONIC 60	8	1	9	8	1	9
18	D1200175-02	alIGO PCAL MIRROR MOUNT ASSEMBLY, ETM CAMERA VIEW, LH	v3	N/A	-	-	0	4	-	4
17	D1200175-01	alIGO PCAL MIRROR MOUNT ASSEMBLY, ETM CAMERA VIEW, RH	v3	N/A	4	-	4	-	-	0
16	D1200173-3	alIGO PCAL MIRROR MOUNT BASE, CAMERA, 1.317" H	v3	N/A	1	-	1	1	-	1
15	D1200173-2	alIGO PCAL MIRROR MOUNT BASE, CAMERA, 1.285" H	v3	N/A	1	-	1	1	-	1
14	D1200173-1	alIGO PCAL MIRROR MOUNT BASE, CAMERA, 2.541" H	v3	N/A	2	-	2	2	-	2
13	92196A539 (McM-Carr) or equiv	SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 0.625 LONG		18-8 SSSL	9	2	11	9	2	11
12	D1200176	alIGO PCAL MIRROR MOUNT ASSEMBLY, ETM BEAM	v3	N/A	5	-	5	5	-	5
11	92196A544 (McM-Carr) or equiv	SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 1.25 LONG		18-8 SSSL	5	2	7	5	2	7
10	CL2 (ThorLabs)	TABLE CLAMP, UNANODIZED		6061-T6 Al	5	-	5	5	-	5
9	D1200172-4	alIGO PCAL MIRROR MOUNT BASE, ZERO ANGLE	v3	N/A	1	-	1	1	-	1
8	D1200172-3	alIGO PCAL MIRROR MOUNT BASE, 49.38 DEG.	v3	N/A	2	-	2	2	-	2
7	D1200172-2	alIGO PCAL MIRROR MOUNT BASE, 43.72 DEG.	v3	N/A	1	-	1	1	-	1
6	D1200172-1	alIGO PCAL MIRROR MOUNT BASE, 40.63 DEG.	v3	N/A	1	-	1	1	-	1
5	92196A541 (McM-Carr) or equiv	SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 0.875 LONG		18-8 SSSL	20	4	24	20	4	24
4	98017A655 (McM-Carr) or equiv PER NAS 1149-C0432R	WASHER, FLAT, 1/4		300 SSSL	25	6	31	25	6	31
3	D1102439	alIGO ASSY PCAL 2 INCH MIRROR MOUNT	v2	N/A	4	-	4	4	-	4
2	D1200993-02	alIGO PCAL PERISCOPE FRAME, X-ARM	v8	N/A	-	-	0	1	-	1
1	D1200993-01	alIGO PCAL PERISCOPE FRAME, Y-ARM	v8	N/A	1	-	1	-	-	0

ITEM NO.	PART NUMBER	DESCRIPTION	REV	MATERIAL	-01 (Y-Arm) QTY.	-01 SPARE	-01 TOTAL	-02 (X-Arm) QTY.	-02 SPARE	-02 TOTAL
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**-01 SHOWN
(Y-ARM)**

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)	
1. INTERPRET DRAWING PER ASME Y14.5-1994.	
DIMENSIONS ARE IN INCHES	
TOLERANCES: .XX ± NONE .XXX ± NONE	
ANGULAR ± NONE*	
MATERIAL	N/A
FINISH	N/A μinch

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SYSTEM: ADVANCED LIGO SUB-SYSTEM: AOS

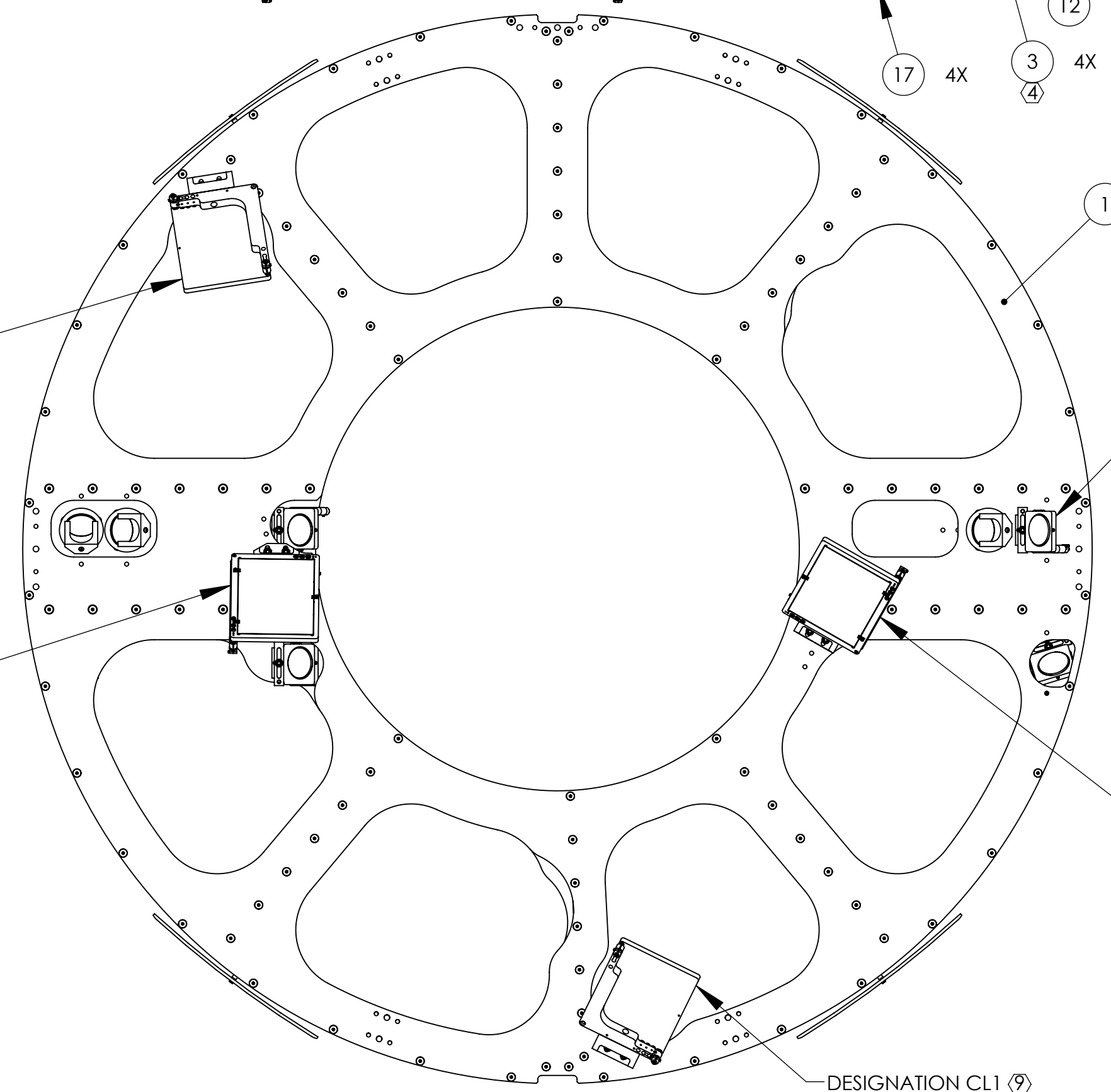
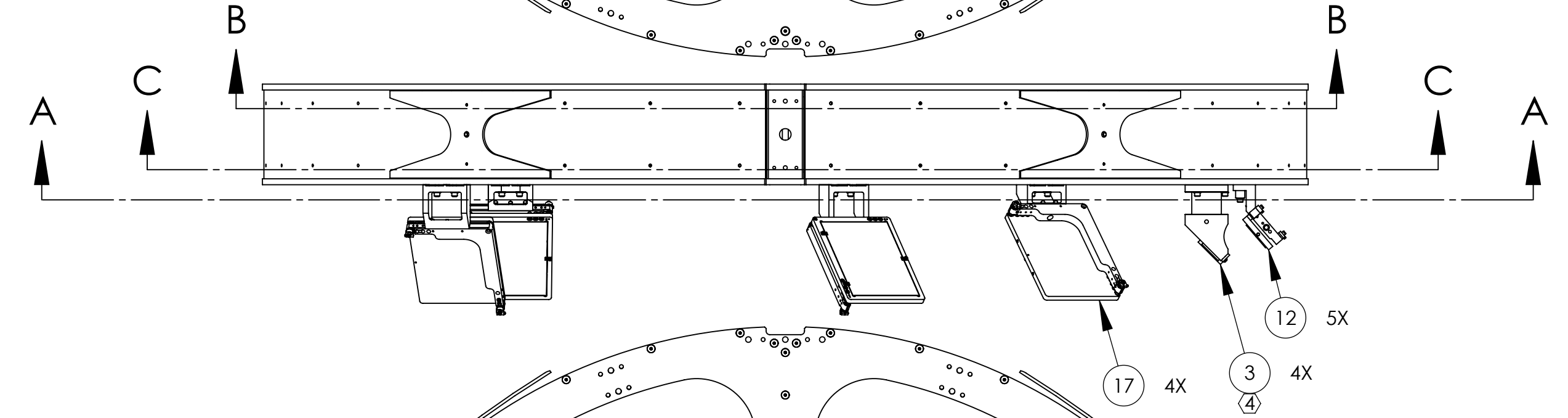
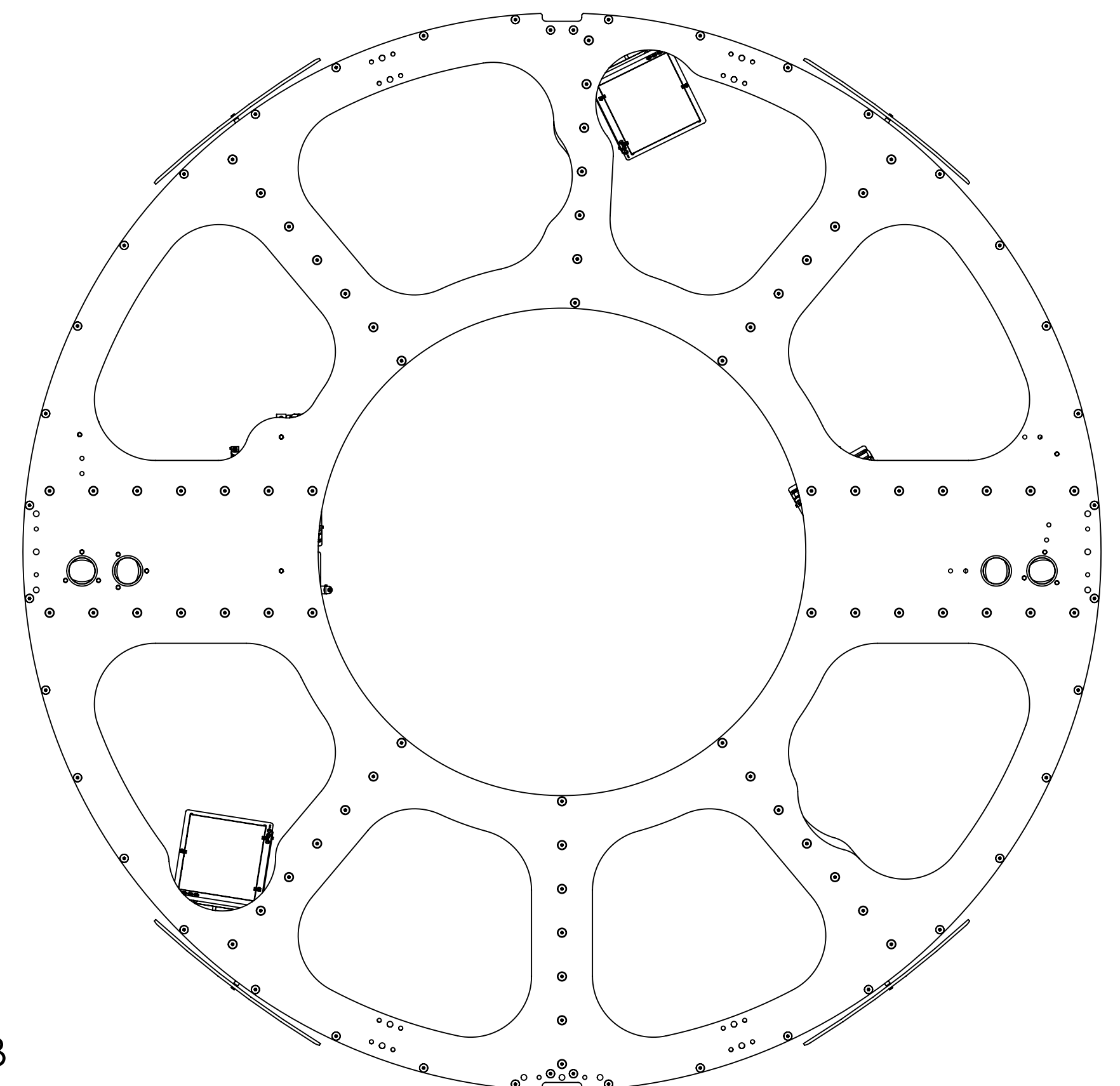
NEXT ASSY: D0901464 D0901465
D0901467 D0901468

PARTS LIST		PART NAME	
alIGO, PCAL-VIDEO CAM, PERISCOPE			
DESIGNER	SAVAGE, SHANKLE, CONLEY	DATE	06 JUN 2013
DRAFTER	C. CONLEY	DATE	20 SEP 2013
CHECKER	SEE DCN	SCALE	D
APPROVAL	SEE DCN	PROJECTION	1
DWG. NO. D1200174		REV.	v4
SCALE: NONE		SHEET 1 OF 7	

D1200174-01.IGD, PCAL-VIDEO CAM, PERISCOPE PART PDM REV: X-161, DRAWING PDM REV: X-024

8 7 6 5 4 3 2 1

H G F E D C B A



DESIGNATION CU1 (7)

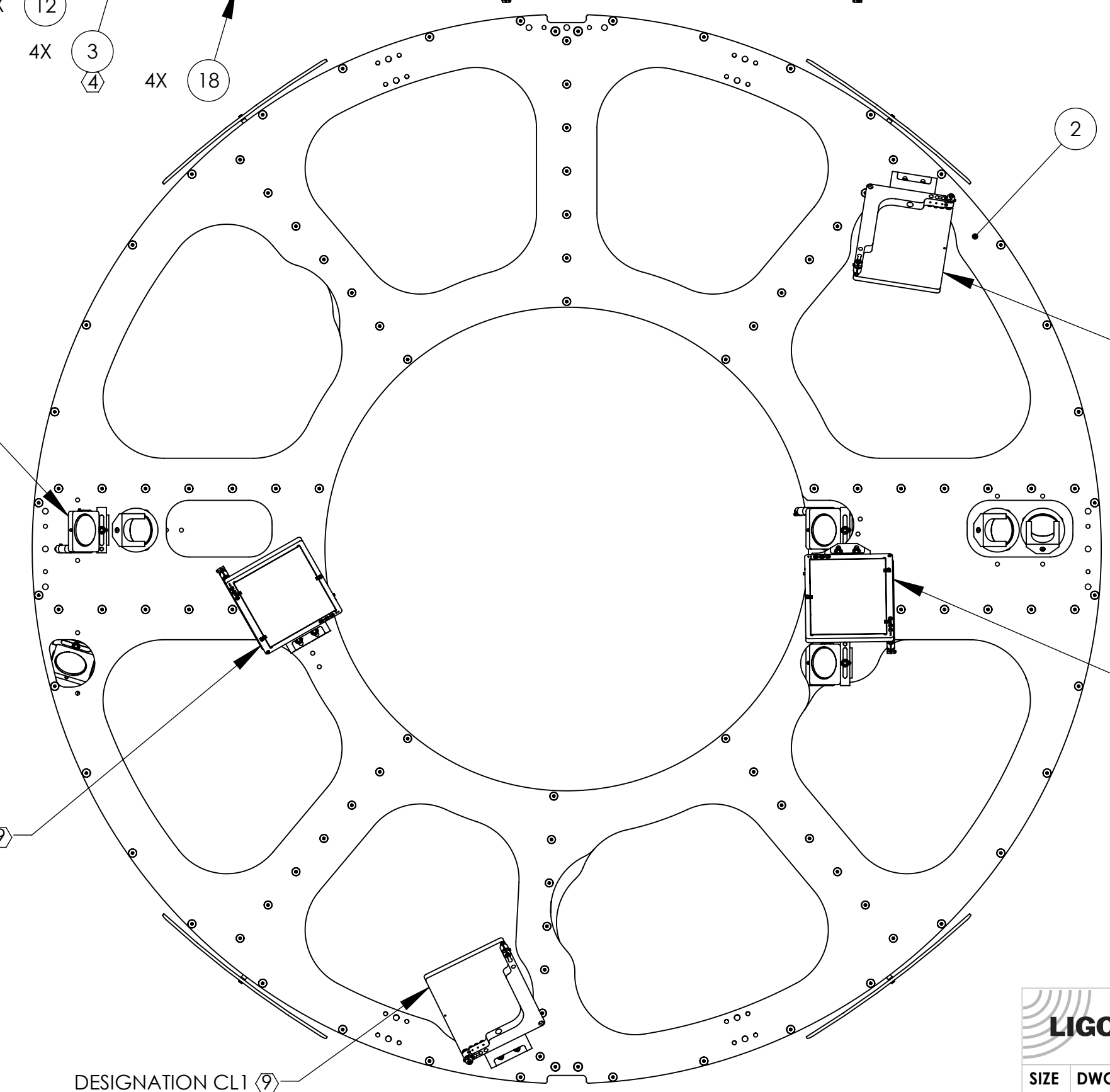
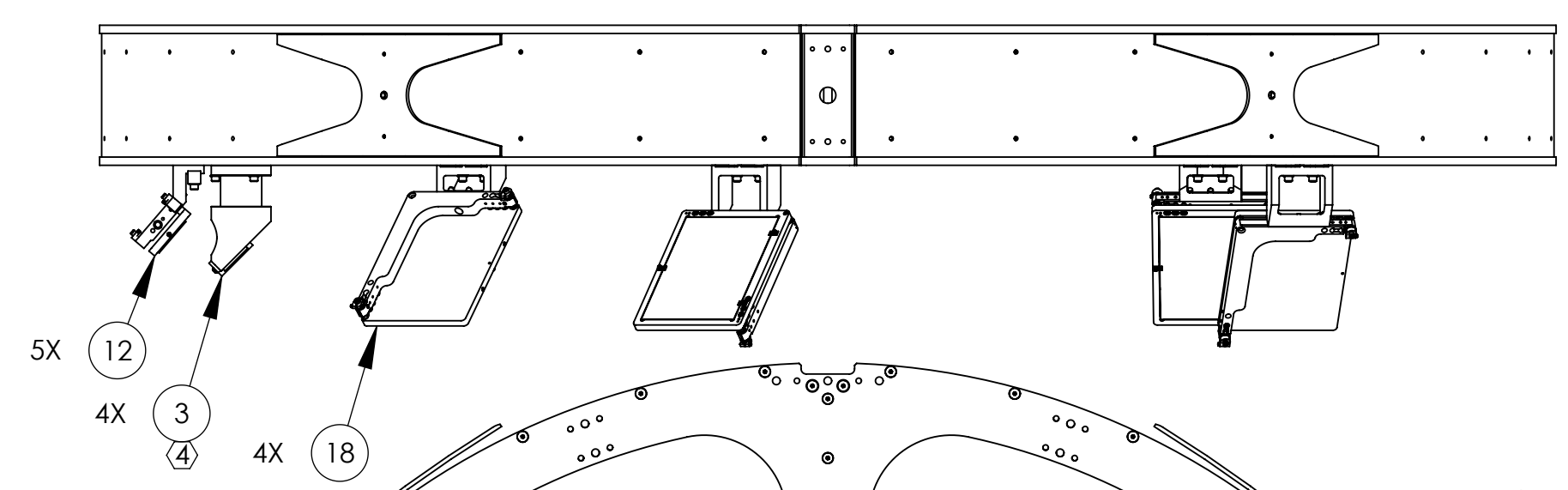
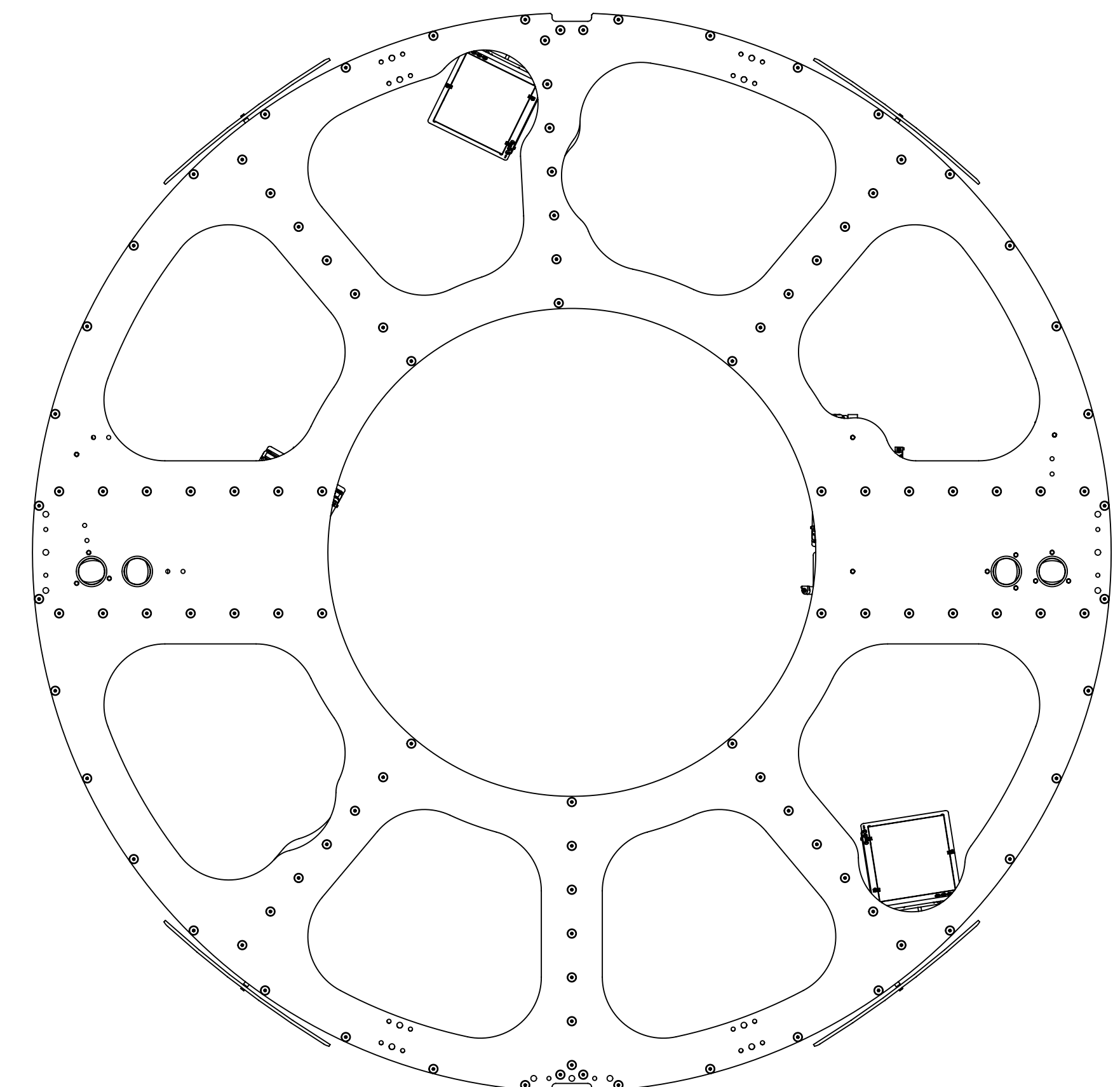
DESIGNATION CU2 (7)

DESIGNATION CL1 (7)

DESIGNATION CL2 (7)

DESIGNATION U3 (7)
ORIENTATION: RH

-01 (Y-ARM)



DESIGNATION CU1 (7)

DESIGNATION CU2 (7)

DESIGNATION CL1 (7)

DESIGNATION CL2 (7)

DESIGNATION U3 (7)
ORIENTATION: LH

-02 (X-ARM)

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE	DWG. NO.	REV.
D	D1200174	v4
SCALE: NONE	PROJECTION:	SHEET 2 OF 7

D:\200174\ligo\FCAL\VIDEO CAM, PERISCOPE PART PDM REV: X-161_DRAWING PDM REV: X-204

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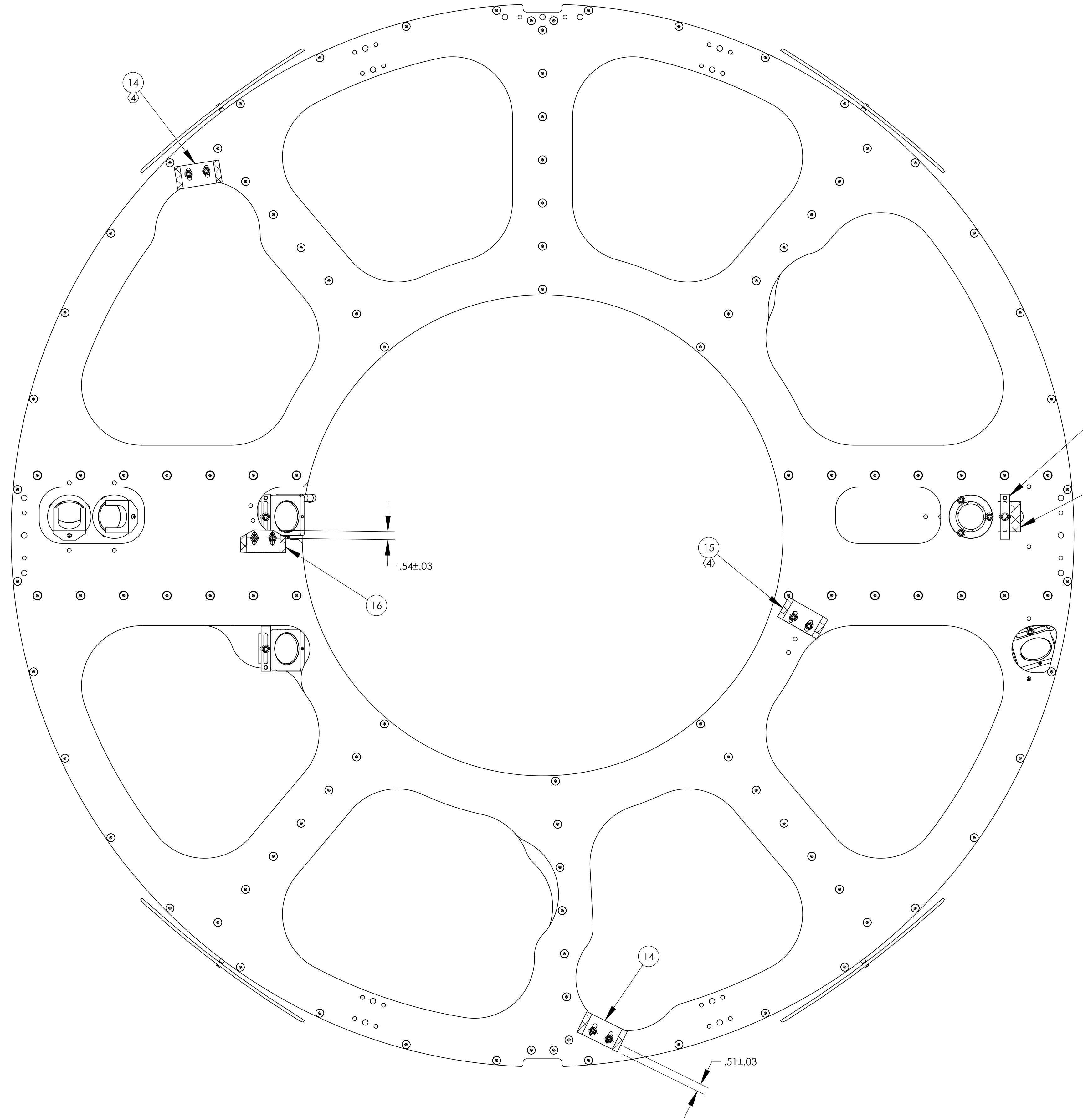
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C

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SECTION A-A

 CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE	DWG. NO.	REV.
D	D1200174	v4
SCALE: NONE	PROJECTION:	SHEET 3 OF 7

D:\200174\ligo\FCAL\VIDEO CAM, PERISCOPE PART PDM REV-X:161 DRAWING PDM REV-X:024

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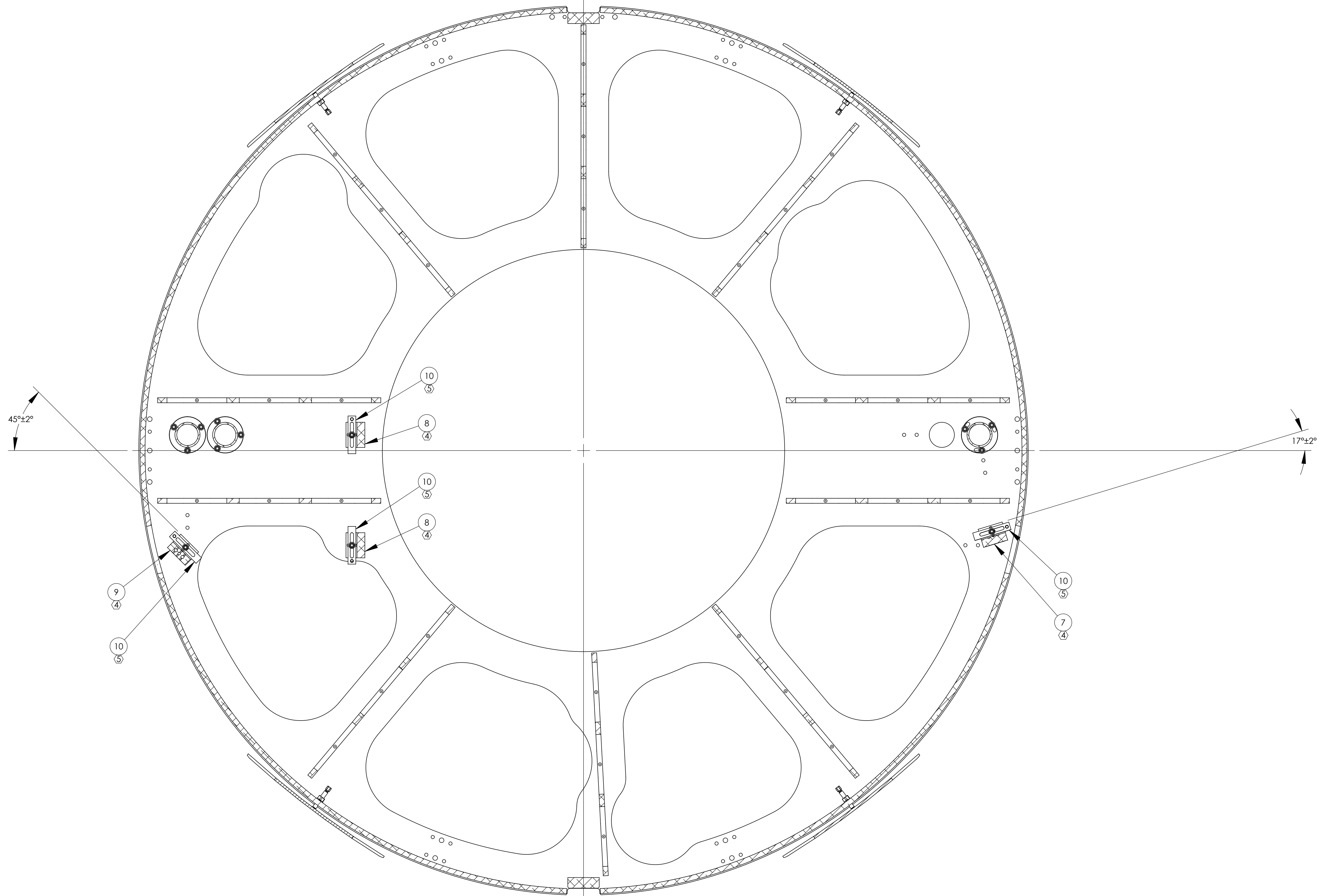
E

D

C

B

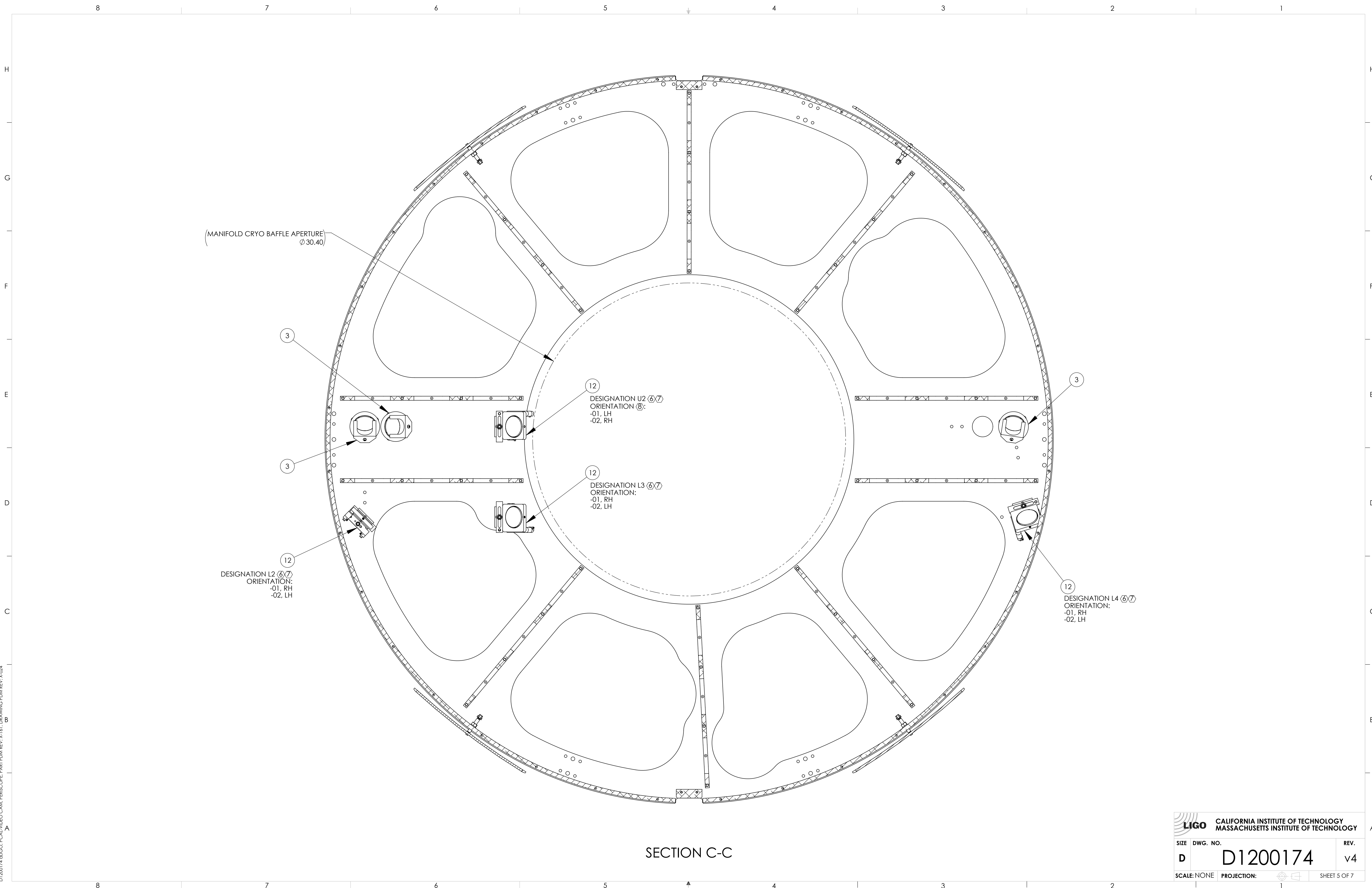
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SECTION B-B

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE DWG. NO.	REV.
D D1200174	v4
SCALE: NONE PROJECTION:	SHEET 4 OF 7

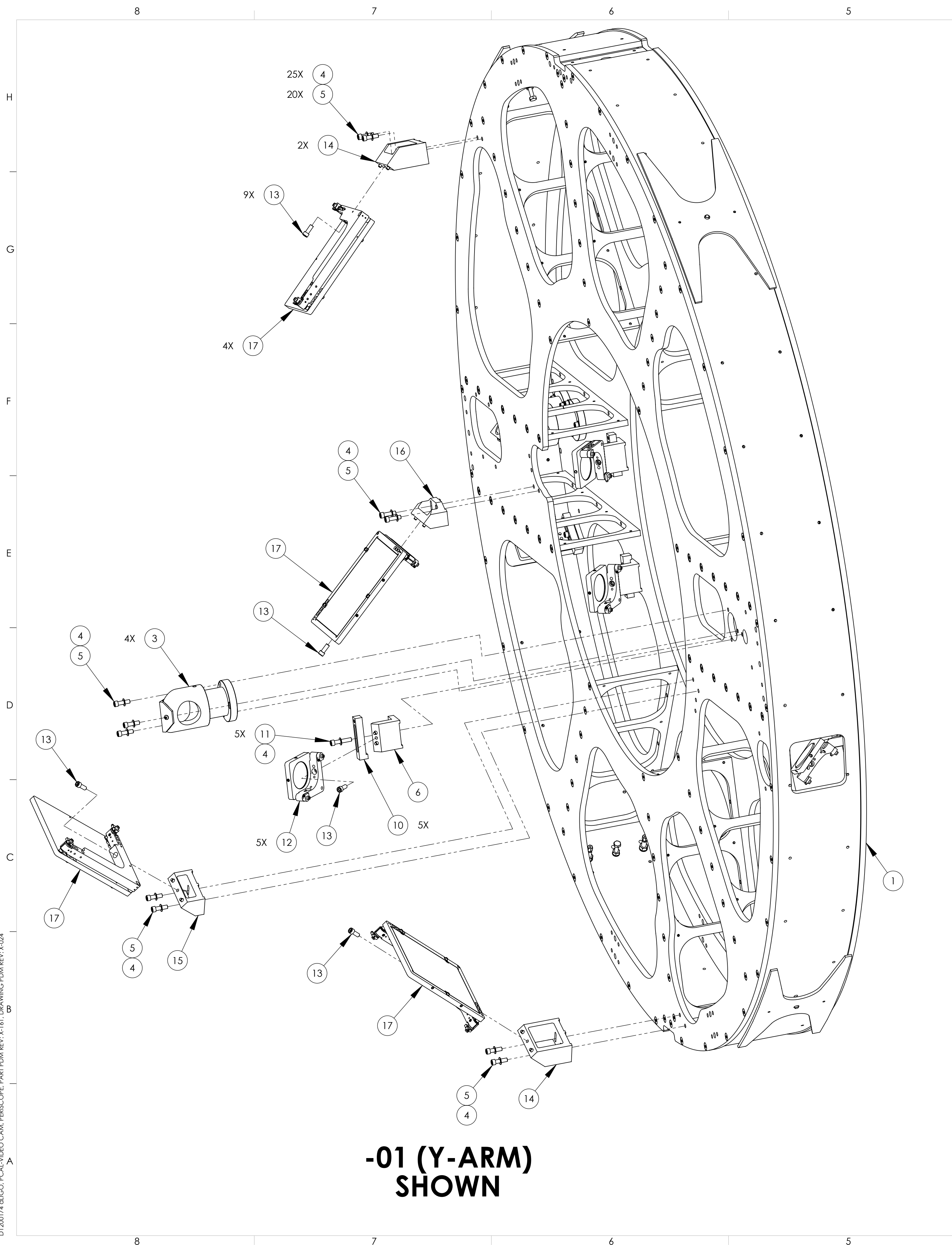
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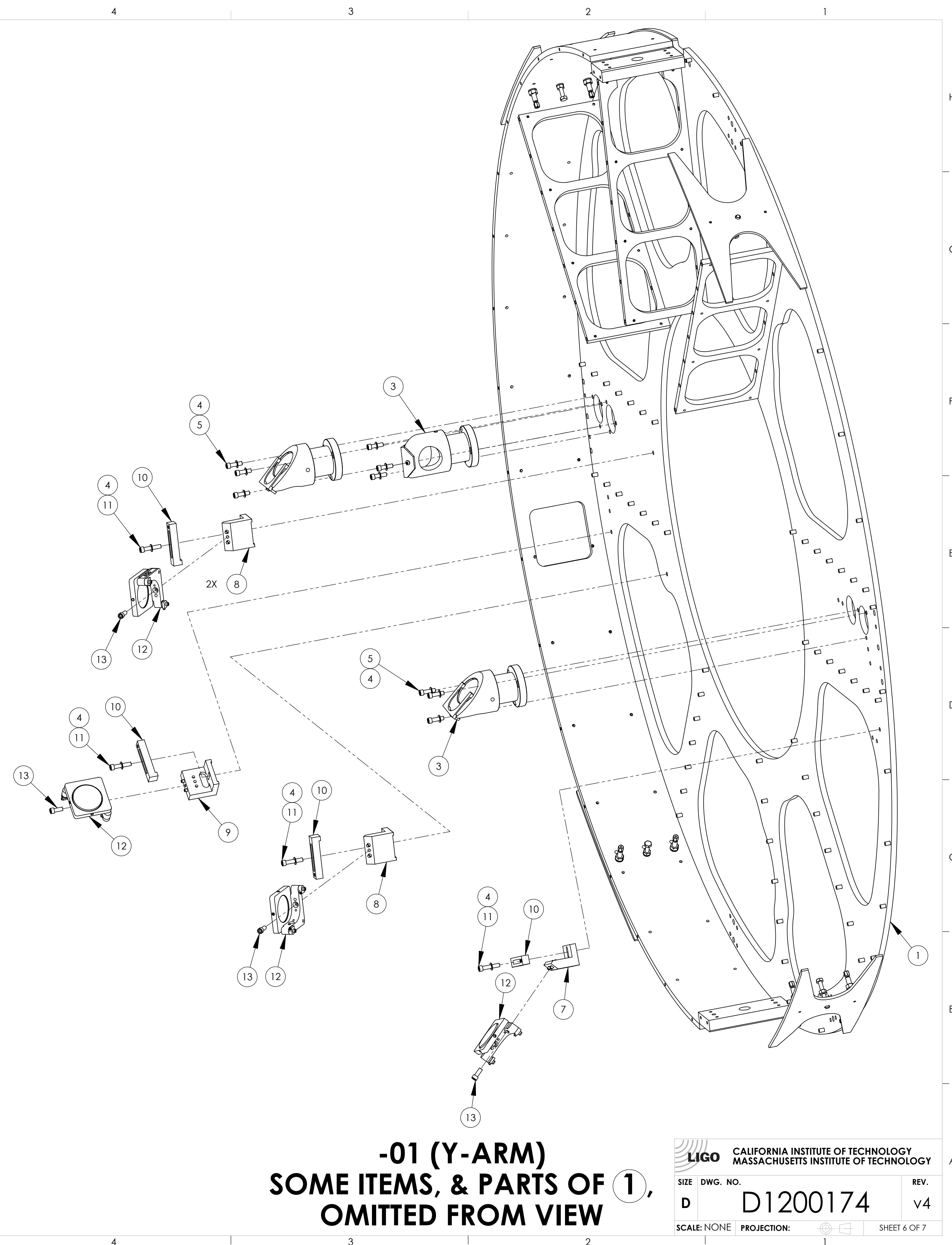
SECTION C-C

		CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE	DWG. NO.	REV.	
D	D1200174	v4	
SCALE: NONE	PROJECTION:	SHEET 5 OF 7	

D1200174.dwg, FCAL_VIDEO_CAM, PERISCOPE_PART_PDM_REV_X.1.61, DRAWING_PDM_REV_X.024



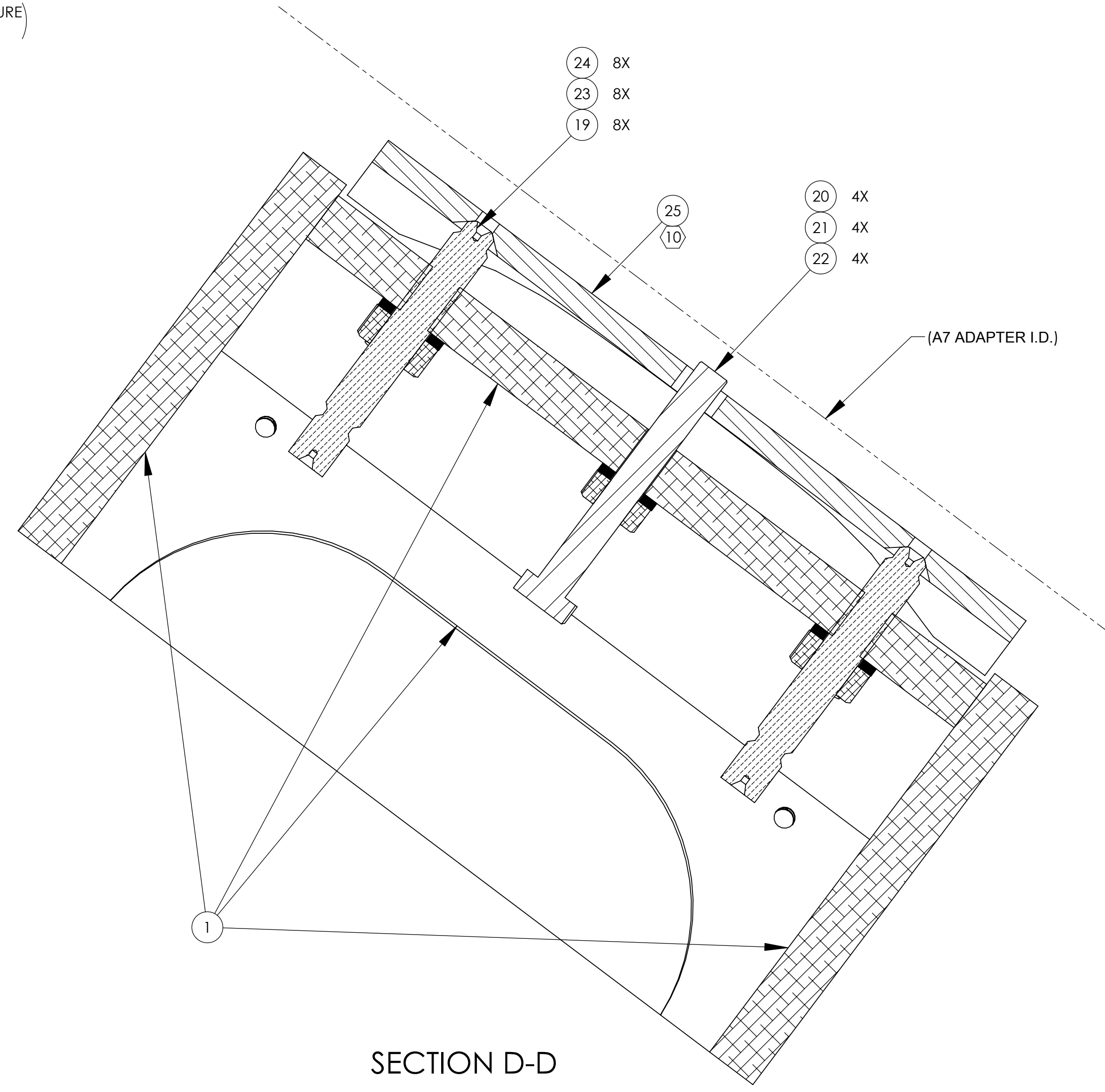
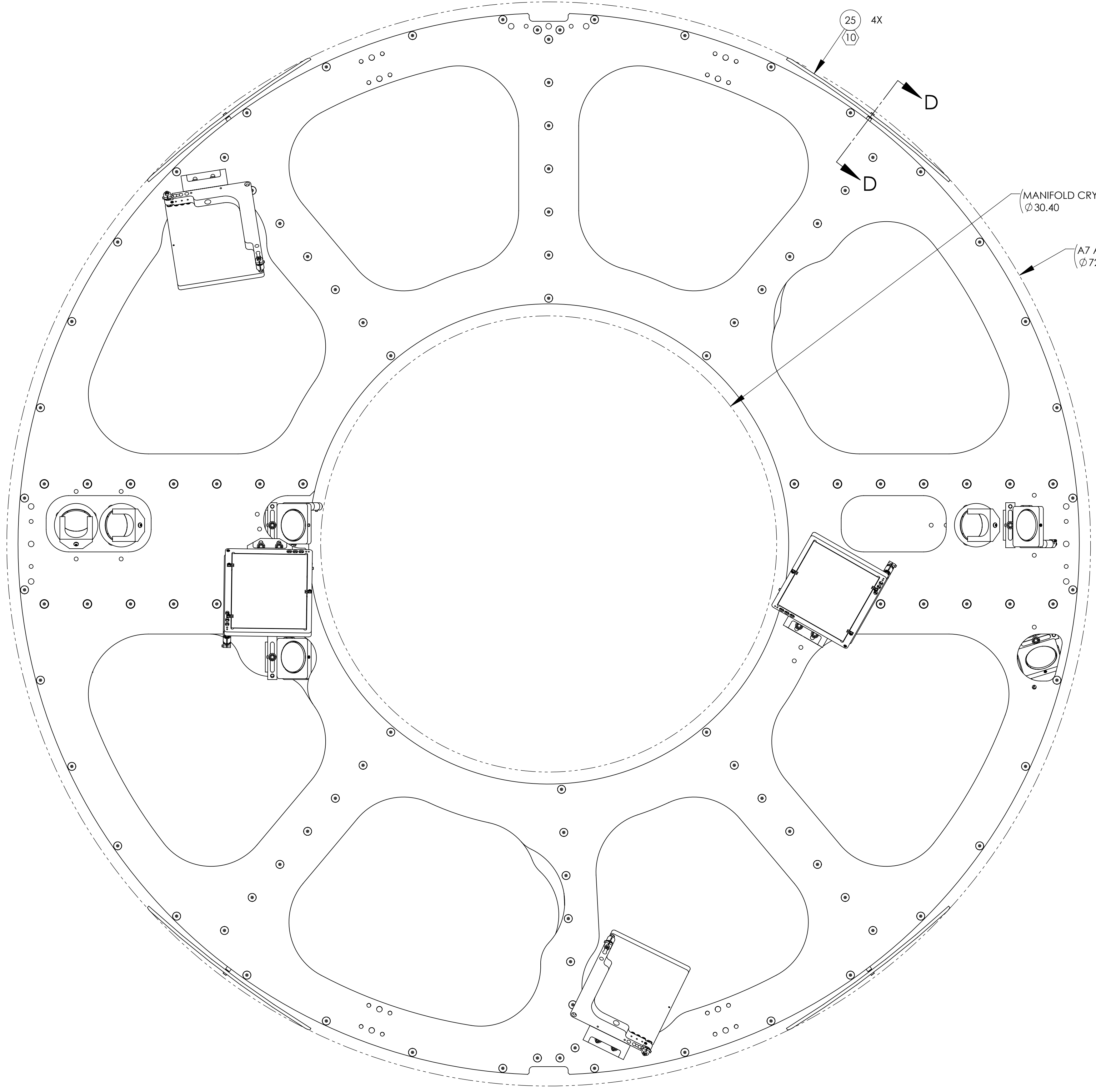
**-01 (Y-ARM)
SHOWN**



**-01 (Y-ARM)
SOME ITEMS, & PARTS OF 1,
OMITTED FROM VIEW**

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE DWG. NO.	D1200174	v4
SCALE: NONE	PROJECTION:	SHEET 6 OF 7

D:\200174\ligo\FCAL\VIDEO CAM, PERISCOPE PART PDM REV-X-161 DRAWING PDM REV-X-204
 01



**-01 (Y-ARM)
SHOWN**

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE DWG. NO.	REV.
D D1200174	v4
SCALE: NONE	PROJECTION:
SHEET 7 OF 7	

D1200174-LIGO; FCAL VIDEO CAM; PERISCOPE PART PDM REV-X:1.61; DRAWING PDM REV-X:024