

REV.	DATE	DCN #	DRAWING TREE #
v1	20 MAY 2009	E0900053	E0900052
v8	21 JUL 2015	E1500293-x0	-
-	-	-	-



OMC SUS ASSEMBLY		
D	D0900295	v7
OMC MASTER DRAWING		

DESCRIPTION: SITE SPECIFIC OMC ORIENTATION		
OMC SUS ASSEMBLY		
D	D0900295	v7
OMC MASTER DRAWING		SEE SHEET 2

DESCRIPTION: OMC WITH GLASS BENCH		
OMC SUS ASSEMBLY		
D	D0900295	v7
OMC MASTER DRAWING		SEE SHEET 3

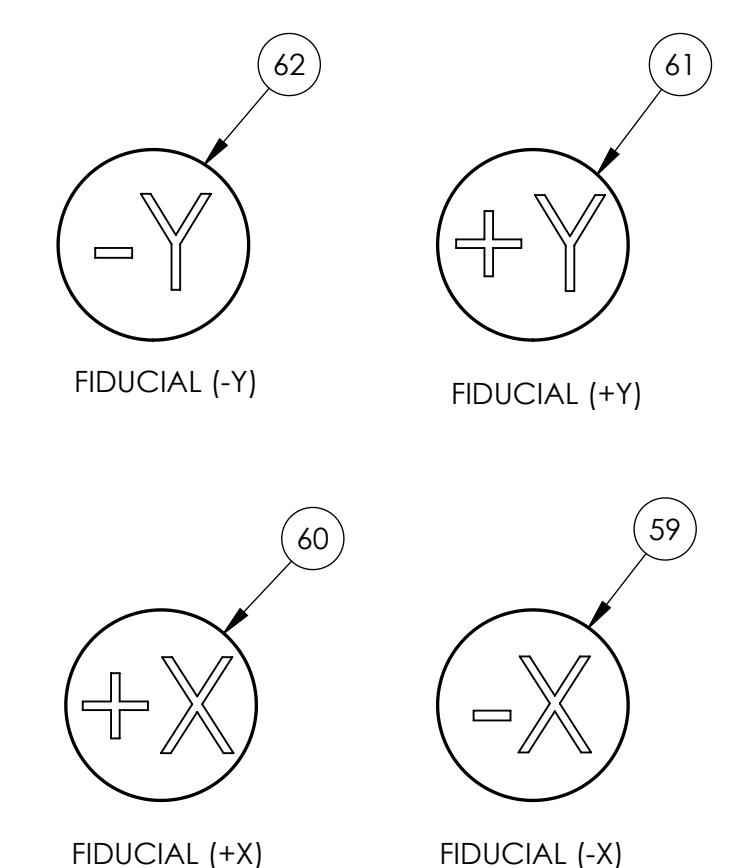
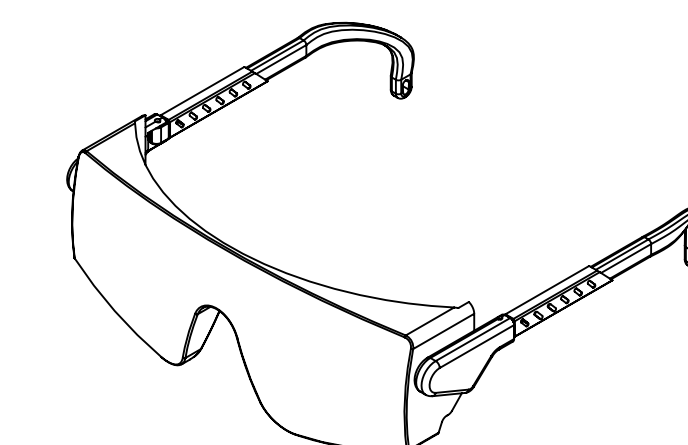
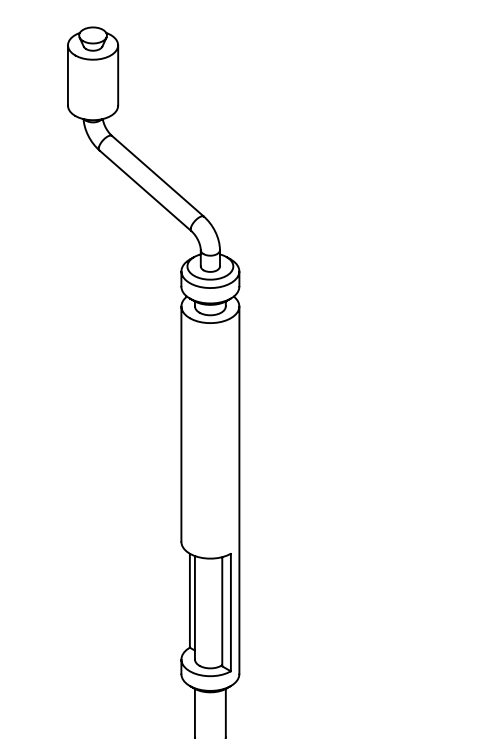
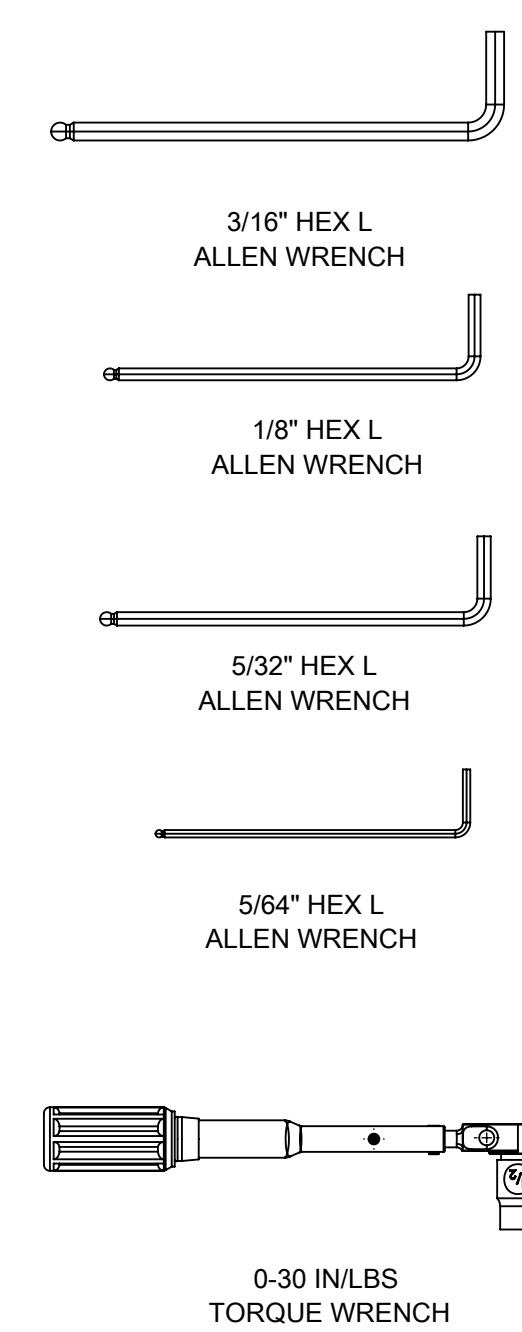
DESCRIPTION: OMC WITH METAL BENCH		
OMC SUS ASSEMBLY		
D	D0900295	v7
OMC MASTER DRAWING		SEE SHEET 4

DESCRIPTION: OMC SHROUD ASSY.		
OMC SUS ASSEMBLY		SEE SHEETS 5-18
D	D0900295	v7
OMC MASTER DRAWING		REF. E1500214
SHEET NO. 5	+Y SIDE	
SHEET NO. 6	+Y SIDE	
SHEET NO. 7	+Y SIDE	
SHEET NO. 8	-Y SIDE	
SHEET NO. 9	-X SIDE	
SHEET NO. 10	-Y SIDE	
SHEET NO. 11	-Y SIDE	
SHEET NO. 12	+X SIDE	
SHEET NO. 13	+X SIDE	
SHEET NO. 14	-X SIDE	
SHEET NO. 15	-X SIDE	
SHEET NO. 16	-X SIDE	
SHEET NO. 17	-Y SIDE	
SHEET NO. 18	+Y SIDE	

DESCRIPTION: LLO & LHO AS-BUILT CONFIGURATIONS		
OMC SUS ASSEMBLY		SEE SHEET 19-20
D	D0900295	v7
OMC MASTER DRAWING		

DESCRIPTION: OMC (IN CHAMBER, DOORS CLOSED)		
OMC SUS ASSEMBLY		SEE SHEET 21
D	D0900295	v7
OMC MASTER DRAWING		

RECOMMENDED TOOLING: OMC SHROUD
 (IMAGE SHOWN MAY NOT REFLECT ACTUAL TOOL)
 FOR COMPLETE LIST, REFER TO OMC SHROUD ASSEMBLY PROCEDURE LIGO E1500214



NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

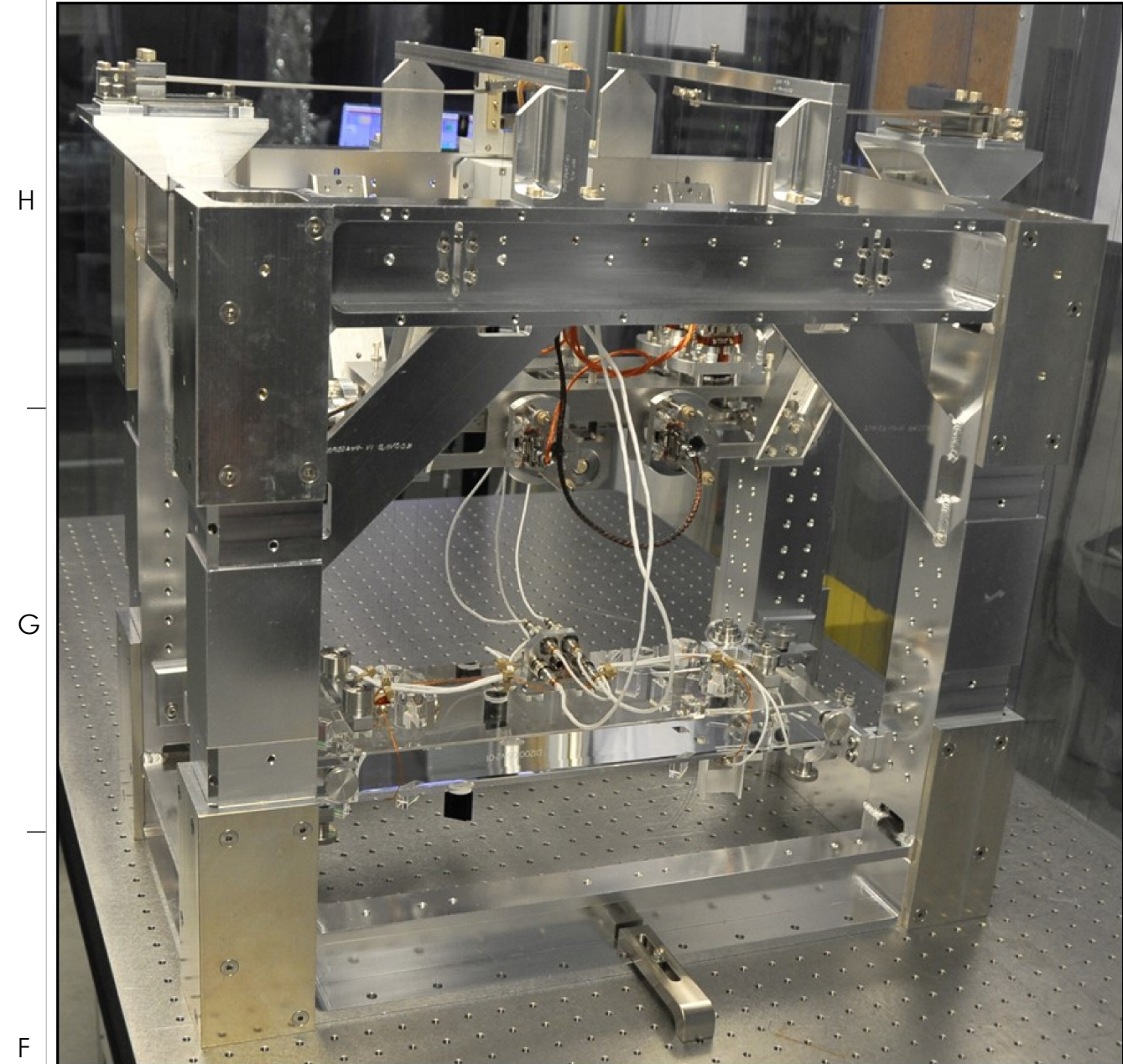
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SYSTEM: **ADVANCED LIGO** SUB-SYSTEM: **SUS**

NEXT ASSY: D1300077, D1300240

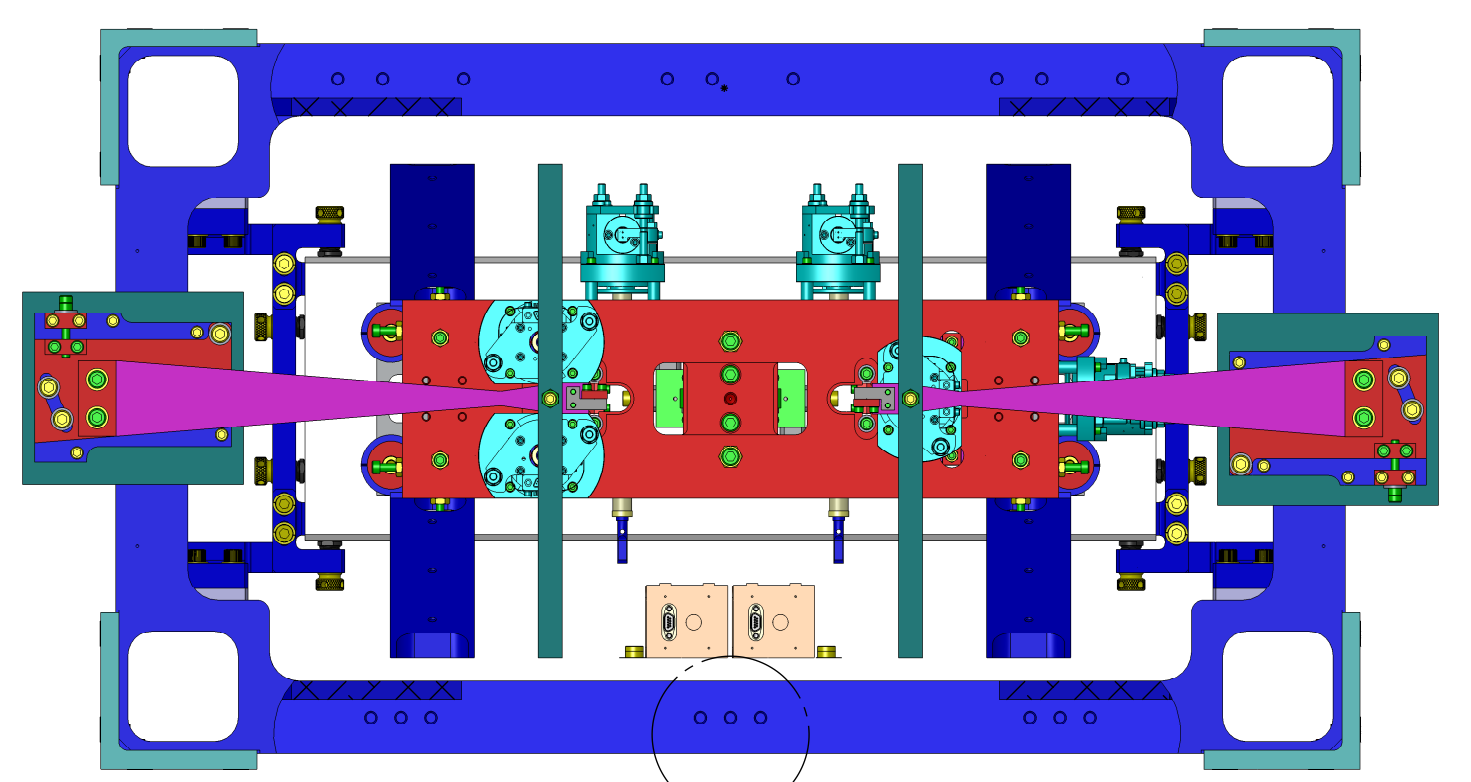
PART NAME				OMCS OVERALL ASSY			
DESIGNER	D. BRIDGES	28 JAN 2013	SIZE	D	DWG. NO.	D0900295	REV.
DRAFTER	D. BRIDGES	27 FEB 2013					v8
CHECKER	B. MOORE	27 FEB 2013					
APPROVAL			SCALE: 1:4	PROJECTION:			SHEET 1 OF 21

D0900295_AsdLIGO_SUS_Output/Mode Cleaner Overall Assembly: PART PDM REV: V4-037. DRAWING PDM REV: V4-003



L1 CONFIG

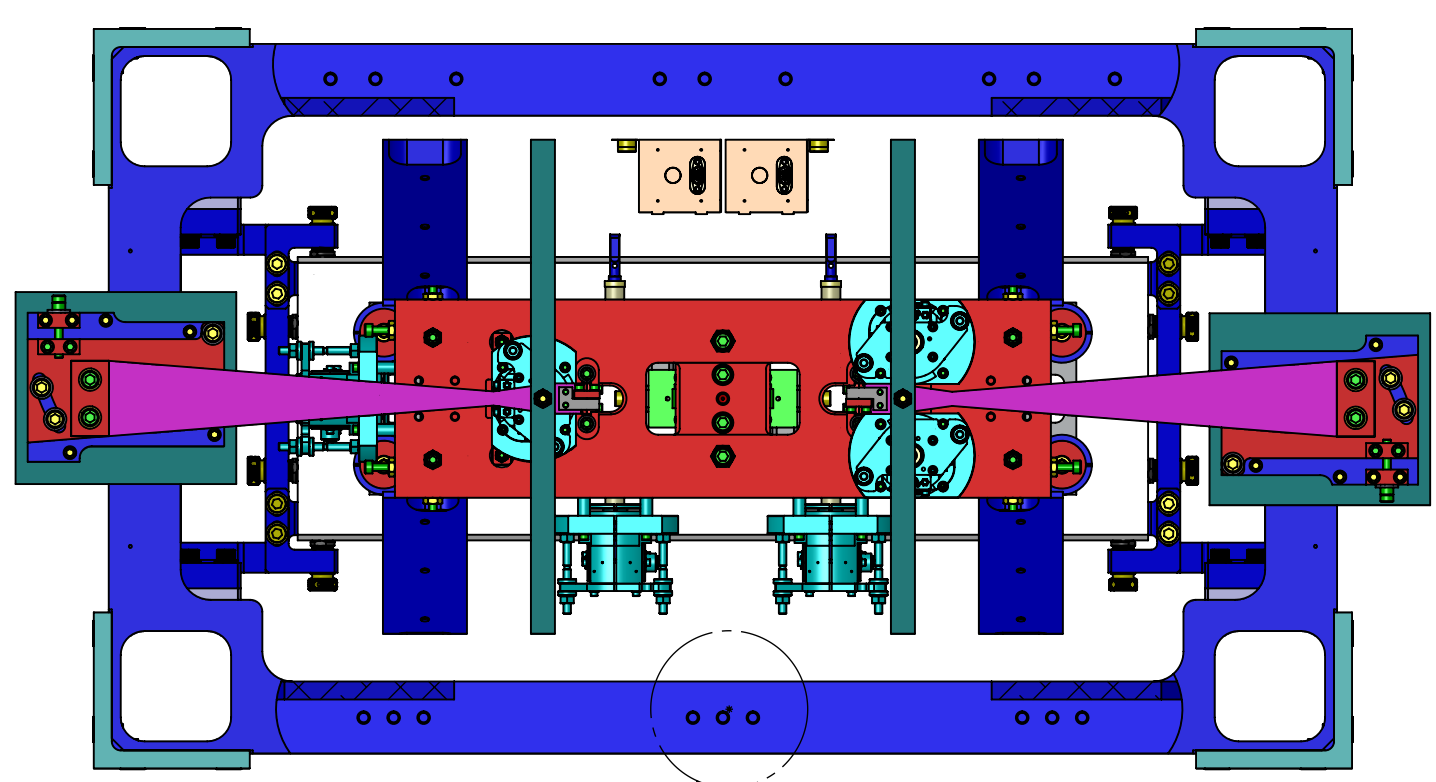
(FOR OMC SHROUD CONFIG. DETAILS REFER TO SHEET 19)



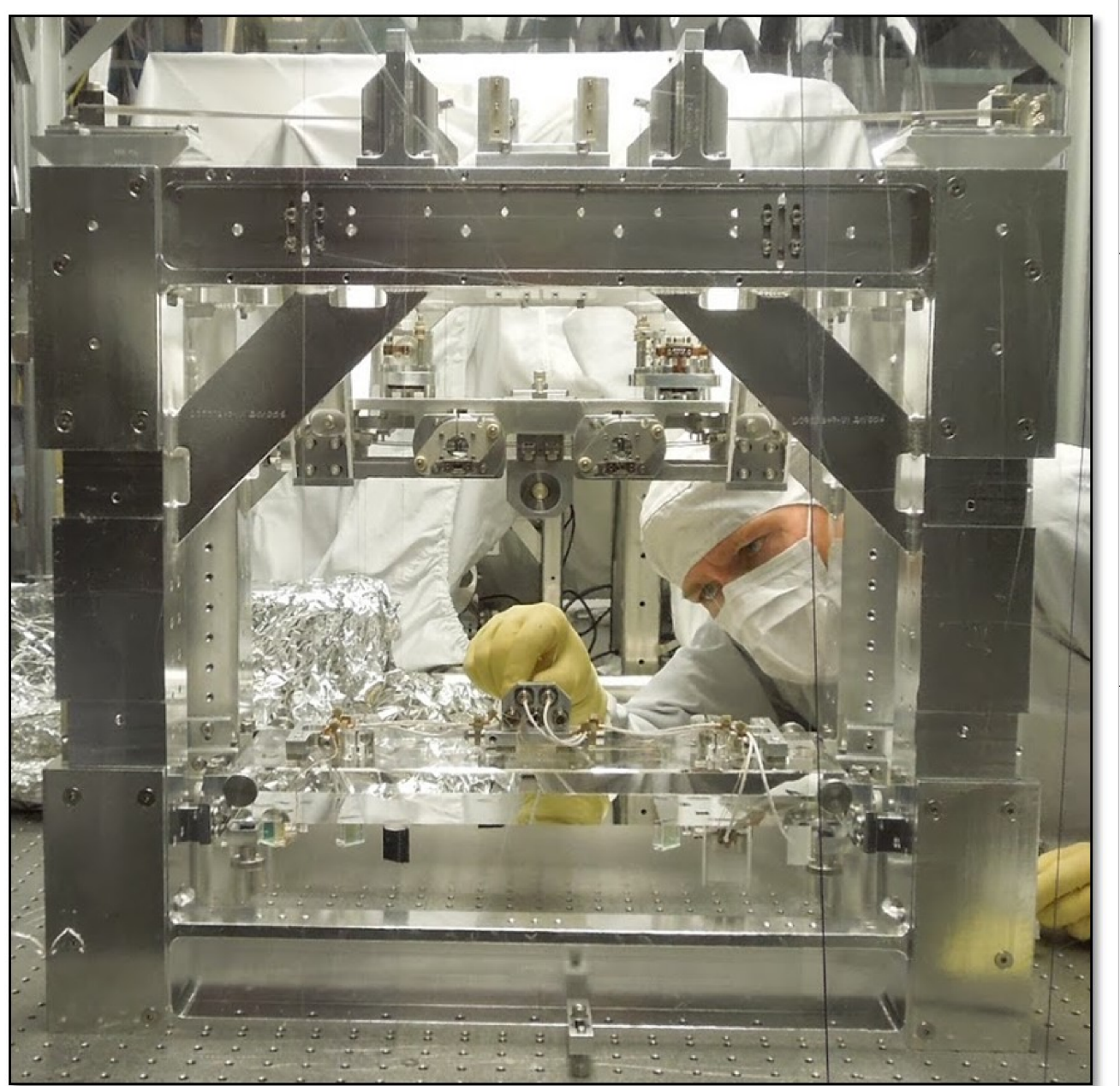
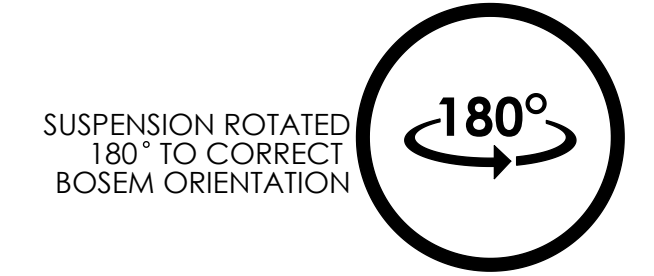
TOP VIEW
EVENLY SPACED HOLES

H1 / 3RD IFO CONFIG.

(FOR OMC SHROUD CONFIG. DETAILS REFER TO SHEET 20)

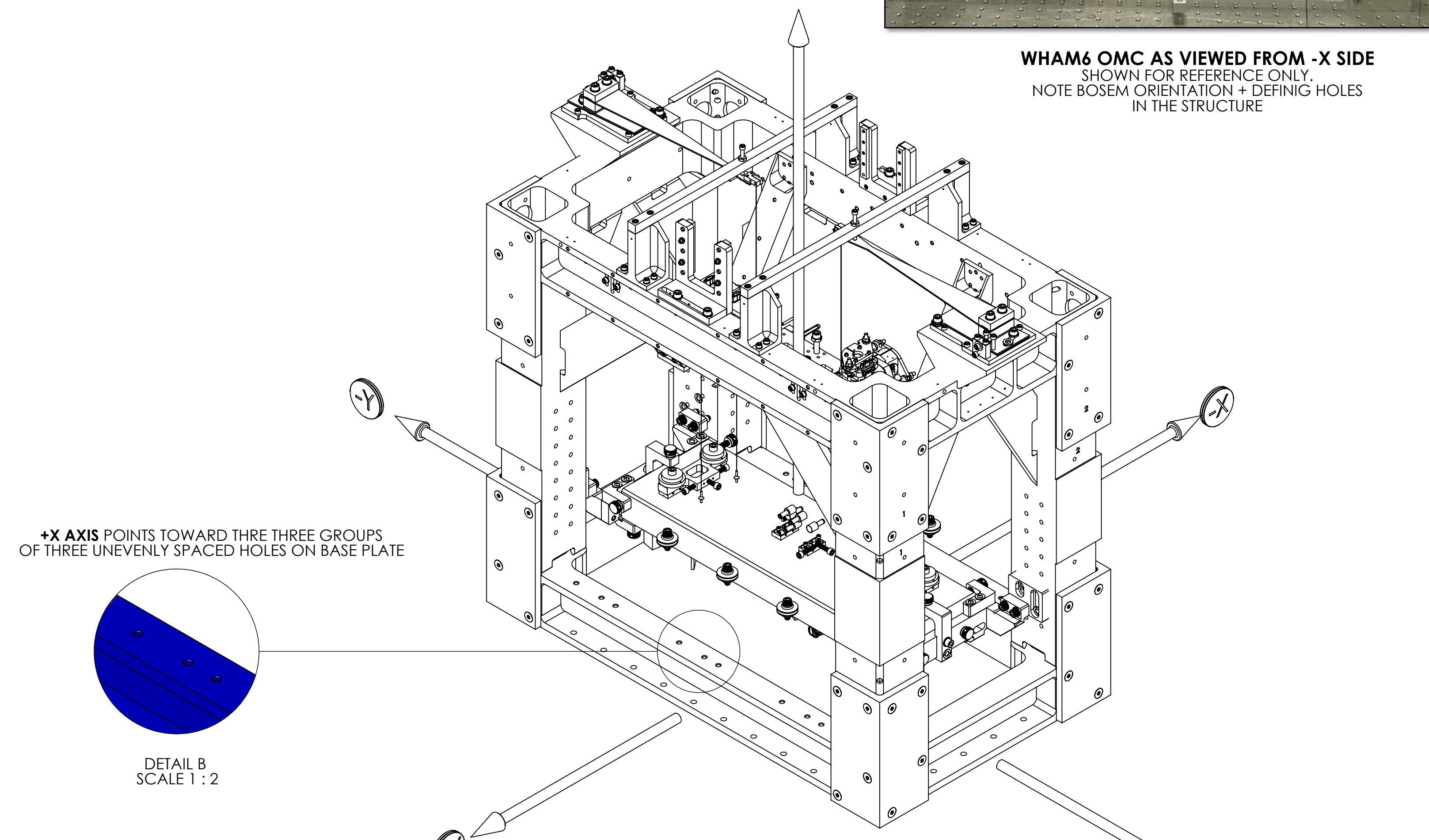
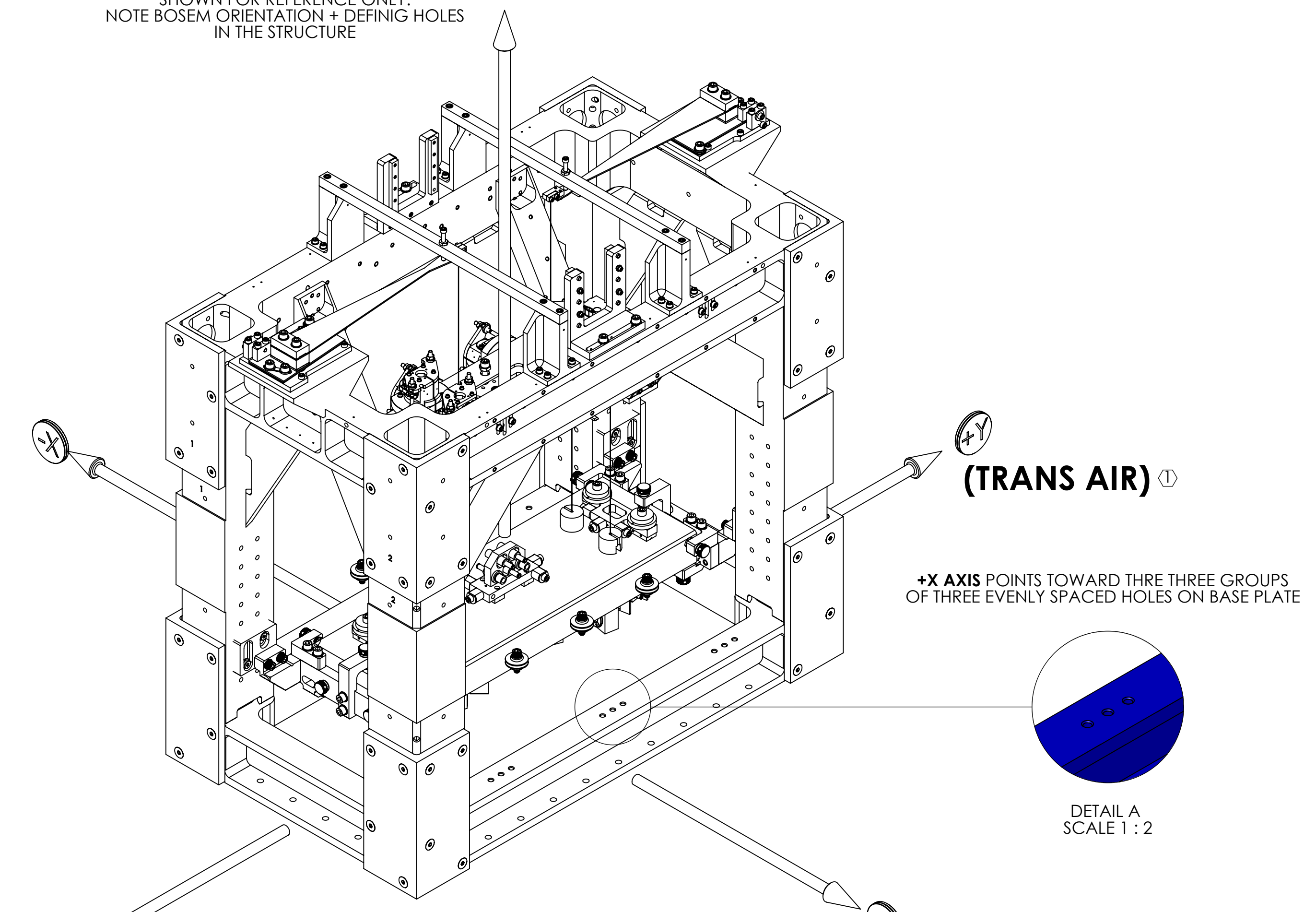


TOP VIEW
REVERSED TOP MASS
180° WITHIN WELDMENT



WHAM6 OMC AS VIEWED FROM -X SIDE
SHOWN FOR REFERENCE ONLY.
NOTE BOSEM ORIENTATION + DEFINIG HOLES
IN THE STRUCTURE

LHAM6 OMC AS VIEWED FROM -X SIDE
SHOWN FOR REFERENCE ONLY.
NOTE BOSEM ORIENTATION + DEFINIG HOLES
IN THE STRUCTURE



D0900295_Asd1UGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

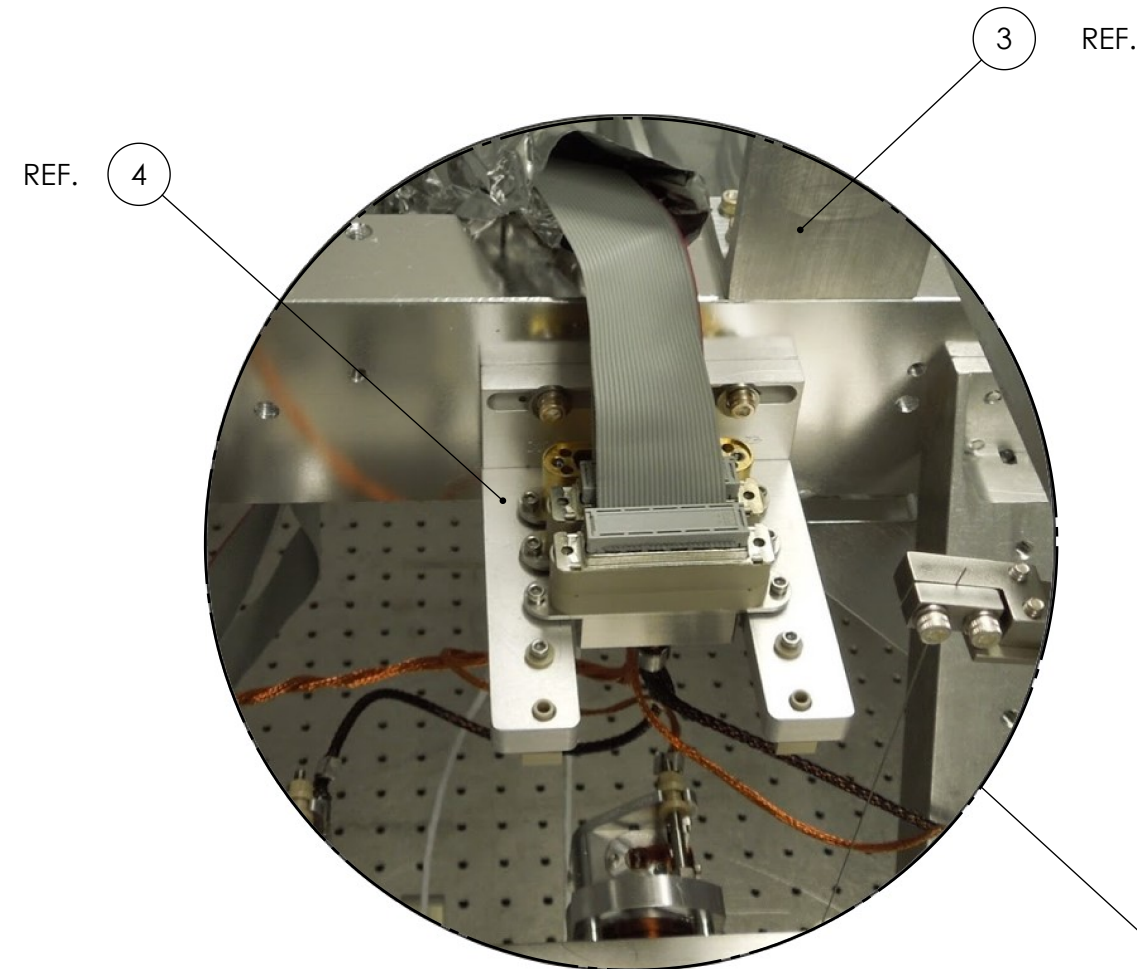
① ISC BEAM DESIGNATION, SHOWN FOR IN-CHAMBER ORIENTATION PURPOSES ONLY. REFER TO ISC BLOCK DIAGRAM LIGO D1000342 FOR DETAILS.

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SIZE DWG. NO.	REV.
D D0900295	v8
SCALE: 1:4	PROJECTION:
SHEET 2 OF 21	

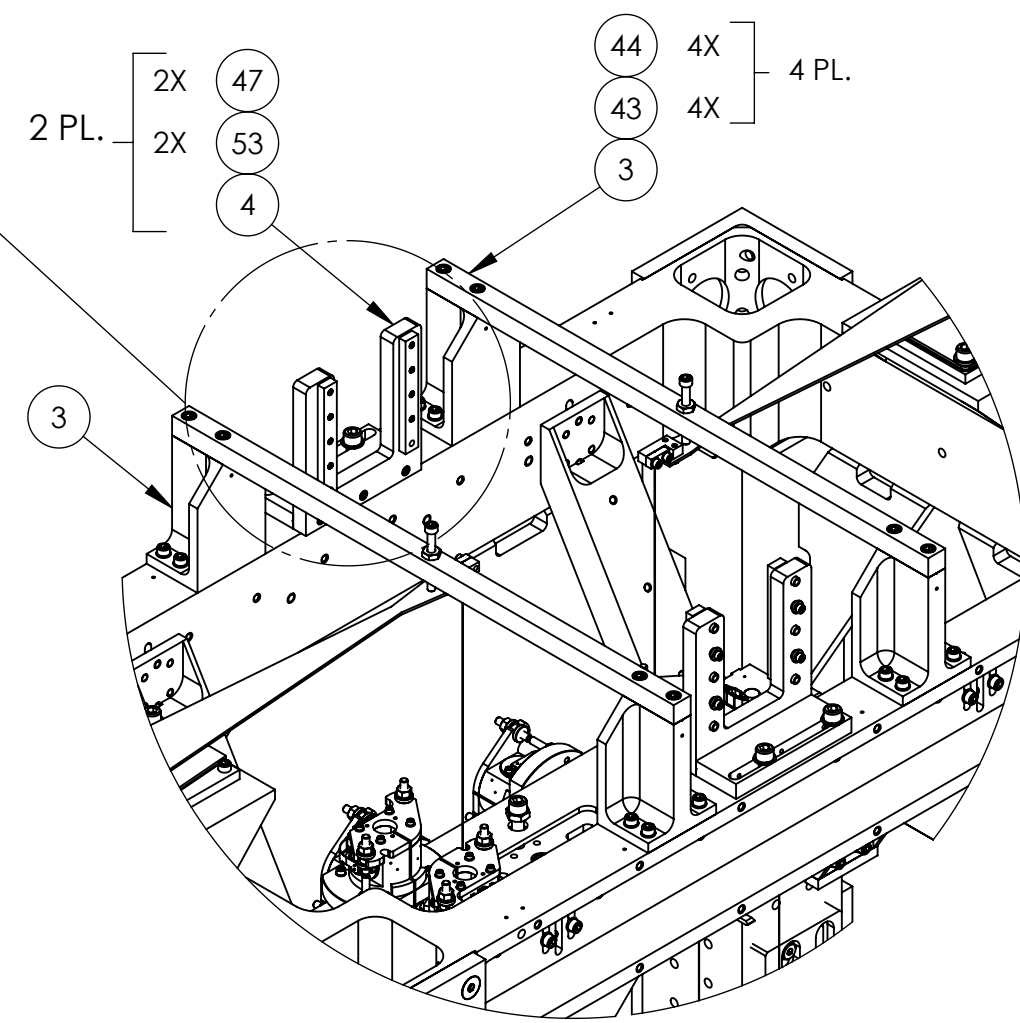
OMC W/ GLASS BENCH (DESIGN CONFIG.)

(FOR LLO OMC SHROUD CONFIG. DETAILS REFER TO SHEET 20)

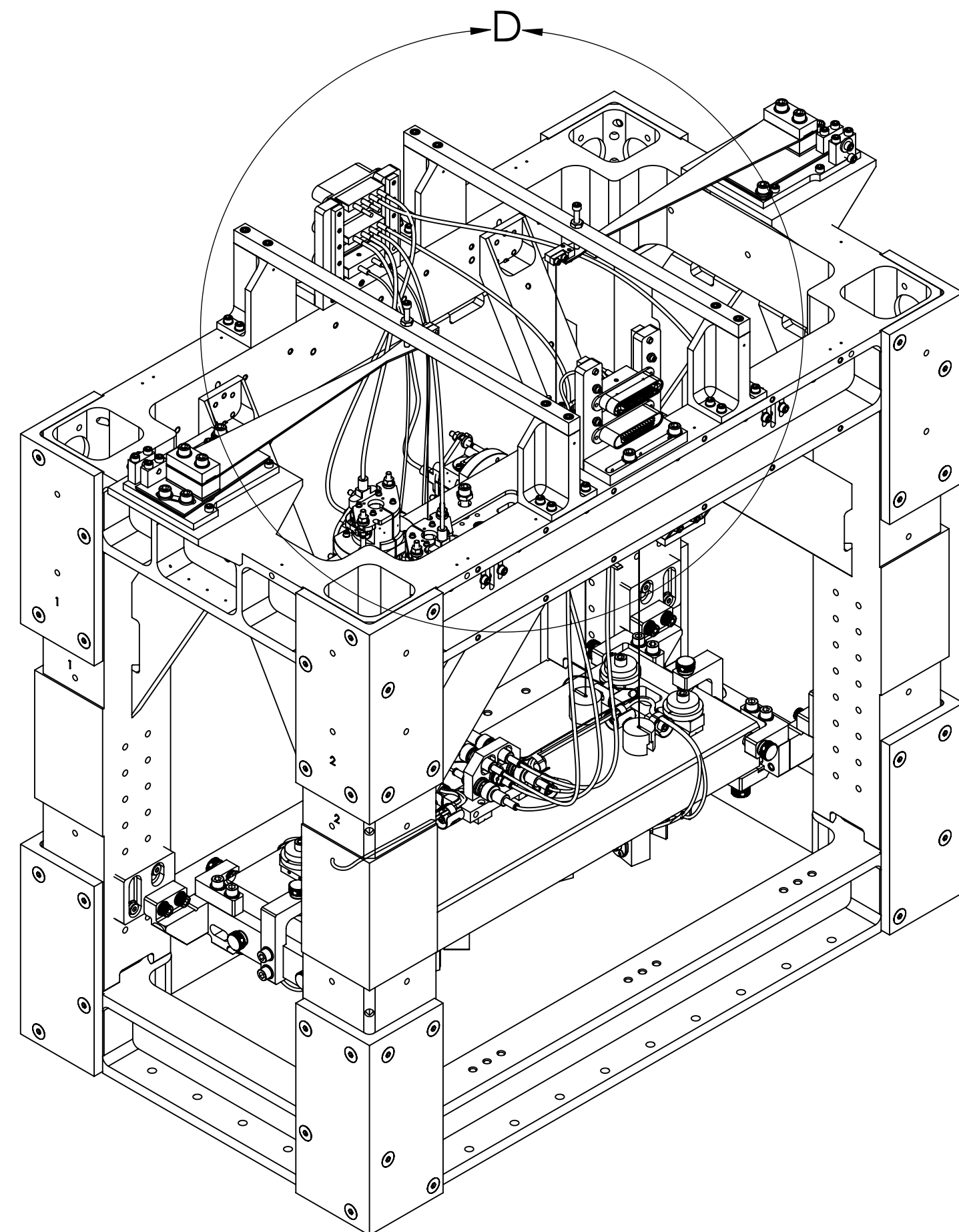
(FOR LHO OMC SHROUD CONFIG. DETAILS REFER TO SHEET 21)



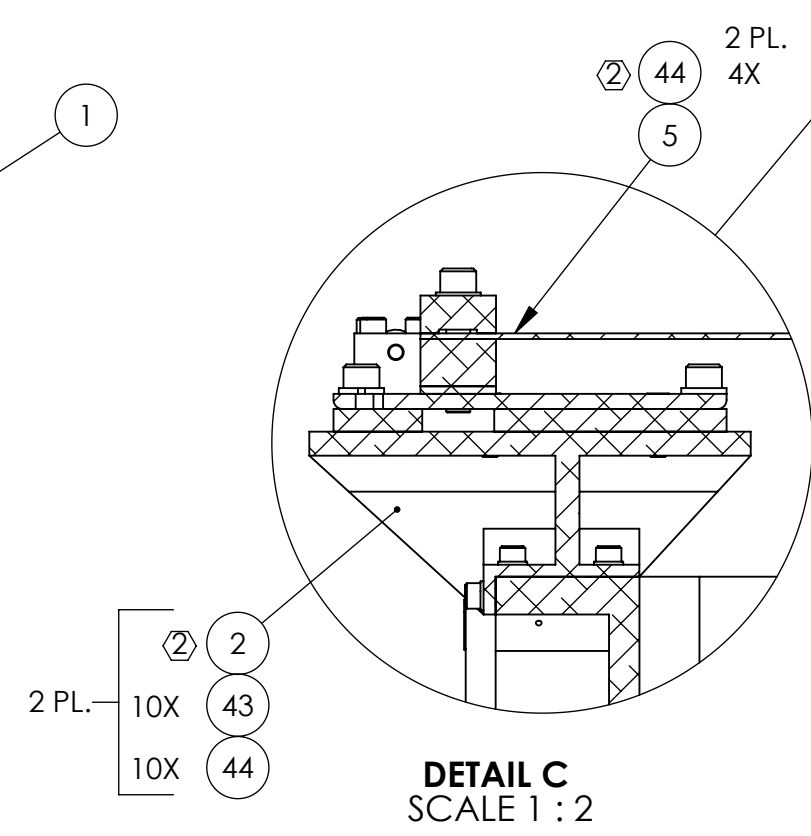
DETAIL E
(ITEM NO. 4 ORIENTATION FOR LLO ONLY)



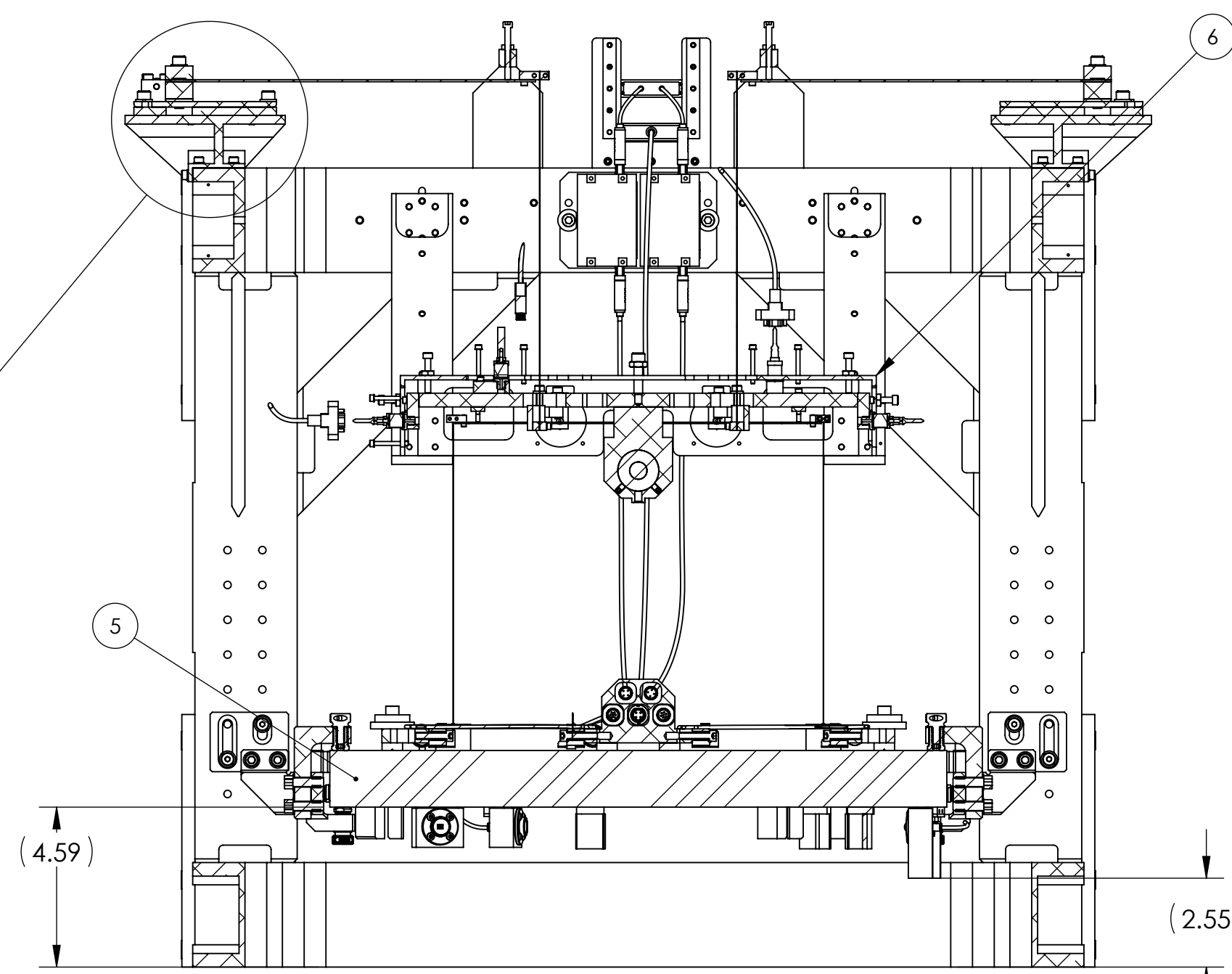
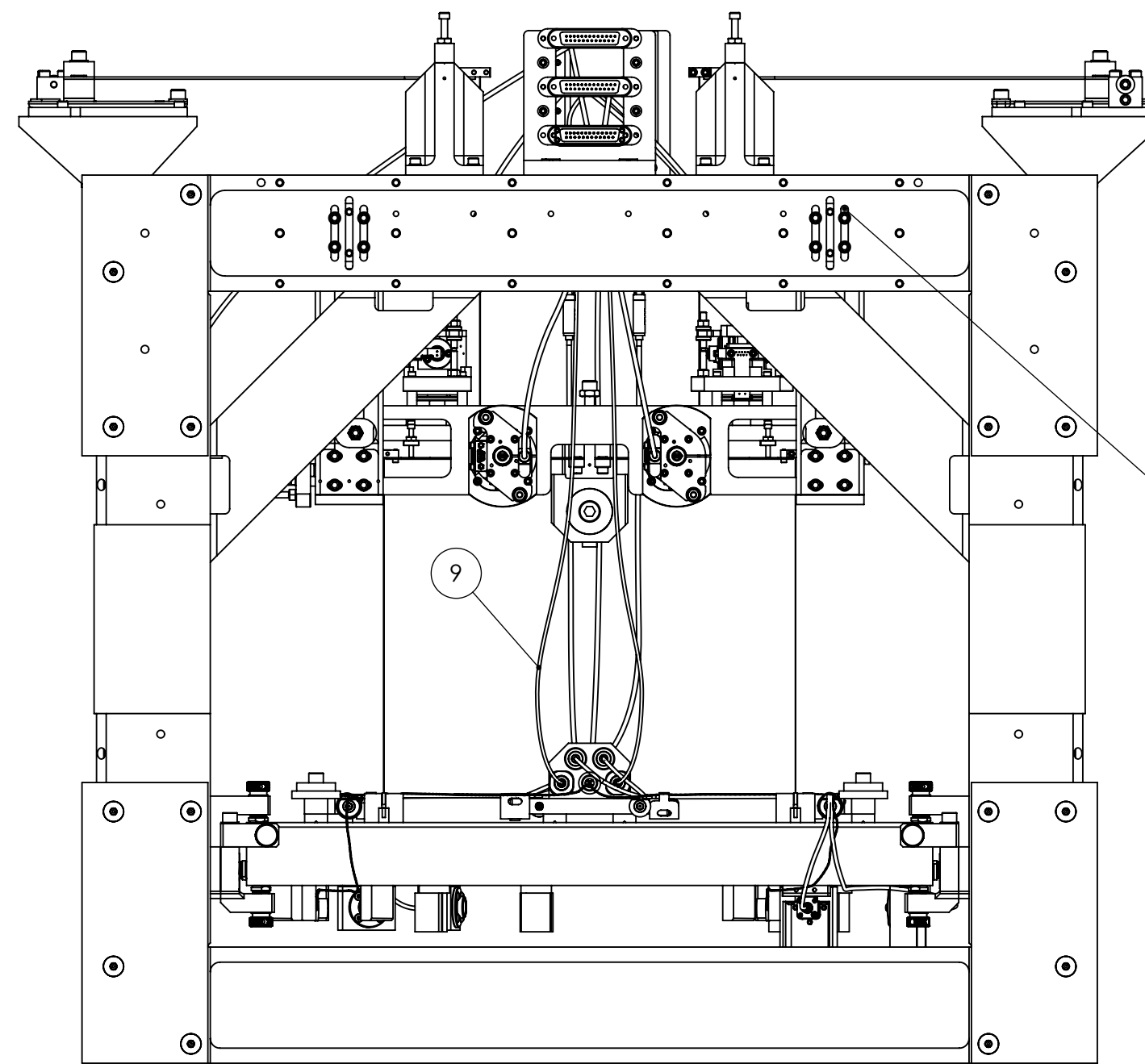
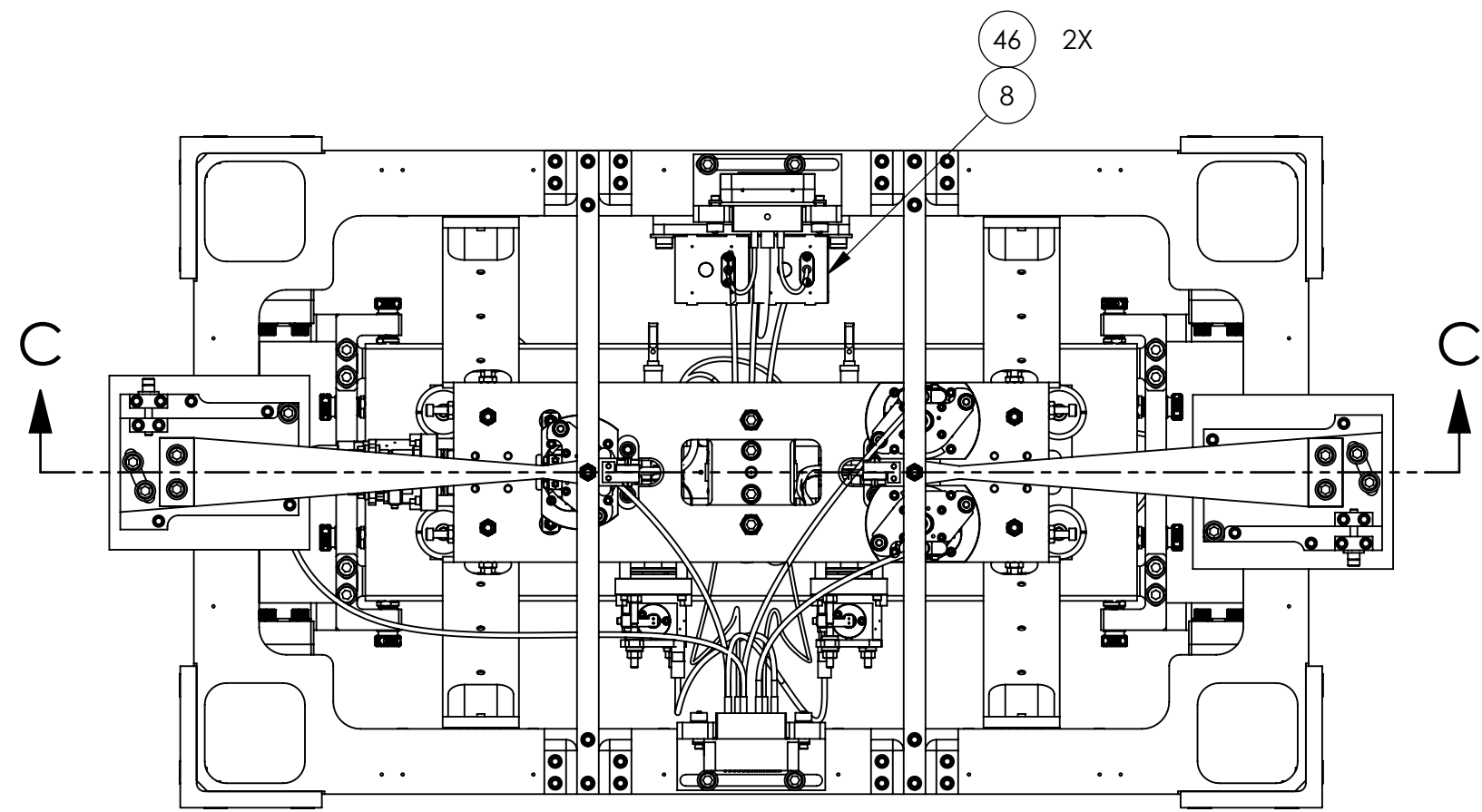
DETAIL D



ISO VIEW



DETAIL C
SCALE 1 : 2



SECTION C-C

② HELICOILS TO BE INSTALLED INTO ITEM NO. 2 BY LIGO PRIOR TO ASSEMBLY AND AFTER ALL PARTS ARE CLEANED.

3. PARTS TO BE ASSEMBLED ACCORDING TO T080117 OMCS ASSEMBLY SPECIFICATIONS.

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.	LHO CONFIG. QTY.	LLO CONFIG. QTY.
71	D1500057-1	aLIGO, OMC, Stray light Baffle, Midspan Support	PEEK	-	-	1
70	D1500105-4	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	6	6	6
69	D1500156	OMC, EQ-STOP TEMP STABILIZER ASSY.	N/A	2	2	2
68	D1500148	aLIGO, OMC, Stray light Baffle, C-CLAMP JAW	6061-T6 Al	6	6	6
67	MS16995-11 OR EQ.	SCREW, SHC, 4-40 X .50 LG.	300 SSSL	36	36	36
66	D1500147-4620	aLIGO, OMC, Stray light Baffle, C-CLAMP STIFFENER	6061-T6 Al	1	1	1
65	D1500147-5370	aLIGO, OMC, Stray light Baffle, C-CLAMP STIFFENER	6061-T6 Al	2	2	2
64	D1500147-3620	aLIGO, OMC, Stray light Baffle, C-CLAMP STIFFENER	6061-T6 Al	2	2	2
63	D1500147-3495	aLIGO, OMC, Stray light Baffle, C-CLAMP STIFFENER	6061-T6 Al	1	1	1
62	D1500145	aLIGO, OMC, Stray light Baffle, fiducials (-Y)	6061-T6 Al	1	1	1
61	D1500145	aLIGO, OMC, Stray light Baffle, fiducials (+Y)	6061-T6 Al	1	1	1
60	D1500145	aLIGO, OMC, Stray light Baffle, fiducials (+X)	6061-T6 Al	1	1	1
59	D1500145	aLIGO, OMC, Stray light Baffle, fiducials (-X)	6061-T6 Al	1	1	1
58	D1500144	aLIGO, OMC, Stray light Baffle, C-CLAMP SCREW	316 SSSL	24	24	24
57	D1500143	aLIGO, OMC, Stray light baffle, TOP PANEL EXTN	8K7 GLASS	2	2	2
56	D1500120-3545	aLIGO, OMC, Stray light baffle, C-CLAMP MT. GAUGE BLOCK	6061-T6 Al	2	2	2
55	D1500120-3250	aLIGO, OMC, Stray light baffle, C-CLAMP MT. GAUGE BLOCK	6061-T6 Al	2	2	2
54	D1500120-2140	aLIGO, OMC, Stray light baffle, C-CLAMP MT. GAUGE BLOCK	6061-T6 Al	2	2	2
53	UC_COMPONENTS_WFV_25	Vented Washer, .255 ID X .468 OD X .032 THK #1/4	18-8 SSSL	12	12	12
52	1185-4EN250 EMHART OR EQ.	HELICOIL, 1/4-20 X .25 LG.	NITRONIC 60	22	22	20
51	93615A412 MCMMASTER-CARR OR EQ.	SCREW, LSHC, 1/4"-20 Thread, 5/8" Length	18-8 SSSL	8	8	8
50	94355A192 MCMMASTER-CARR OR EQ.	SET SCREW, 8-32 X .38 LG.	18-8 SSSL	12	12	12
49	1185-2EN246	HELICOIL, #8-32 X 0.246 LONG	NITRONIC 60	8	8	8
48	8U-2008-NC UC COMPONENTS OR EQ.	SCREW, BHSC, 1/4-20 X .50 LG.	18-8 SSSL	53	53	53
47	-	SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 0.625 LONG	300 SSSL	4	4	4
46	-	SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 0.75 LONG	300 SSSL	2	2	2
45	-	SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 0.625 LONG	300 SSSL	16	16	16
44	-	SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 0.5 LONG	300 SSSL	44	44	44
43	-	WASHER, FLAT, #8 (NAS 620-C8 OR EQUIVALENT)	300 SSSL	52	52	52
42	D1500119	aLIGO, OMC, Stray light baffle, MIDSPAN SUPPORT SHIM	PEEK	6	6	6
41	D1500117	aLIGO, OMC, Stray light Baffle, Midspan Support (INNER)	PEEK	2	2	2
40	D1500116	aLIGO, OMC, Stray light baffle, TOP HORZ PANEL (INNER)	-	2	2	2
39	D1500105-3	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	4	4	4
38	D1500105-2	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	12	12	12
37	D1500105-1	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	6	6	6
36	D1500105	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	48	46	46
35	D1500058-102	aLIGO, OMC, Stray light Baffle, C-CLAMP	6061-T6 Al	5	5	5
34	D1500058-101	aLIGO, OMC, Stray light Baffle, C-CLAMP (LH)	6061-T6 Al	7	7	7
33	D1500057	aLIGO, OMC, Stray light Baffle, Midspan Support	PEEK	2	2	1
32	D1500056	aLIGO, OMC, Stray light Baffle, Panel Mounting Bracket	6061-T6 Al	8	8	8
31	D1500055-102	aLIGO, OMC, Stray light baffle, VERT PANEL (-X Side)	-	1	1	1
30	D1500055-101	aLIGO, OMC, Stray light baffle, VERT PANEL (-X Side)	-	1	1	1
29	D1500054-102	aLIGO, OMC, Stray light baffle, VERT PANEL (REFL AIR)	-	1	1	1
28	D1500054-101	aLIGO, OMC, Stray light baffle, VERT PANEL (REFL AIR)	-	1	1	1
27	D1500053	aLIGO, OMC, Stray light baffle, VERT PANEL (-Y Side)	-	1	1	1
26	D1500052	aLIGO, OMC, Stray light baffle, VERT PANEL (TRANS AIR)	-	1	1	1
25	D1500051	aLIGO, OMC, Stray light baffle, HORZ PANEL (TRANS AIR)	-	1	1	1
24	D1500050	aLIGO, OMC, Stray light baffle, HORZ PANEL (-Y Side)	-	1	1	1
23	D1500049	aLIGO, OMC, Stray light baffle, HORZ PANEL (REFL AIR)	-	1	1	1
22	D1500048	aLIGO, OMC, Stray light baffle, HORZ PANEL (-X Side)	-	1	1	1
21	D1500047-102	Aligo, OMC, Stray light baffle, Inner Panel (BOT)	-	1	1	1
20	D1500047-101	Aligo, OMC, Stray light baffle, Inner Panel (BOT)	-	1	1	1
19	D1500046-104	aLIGO, OMC, Stray light baffle, Outer Panel (TOP)	-	1	1	1
18	D1500046-103	aLIGO, OMC, Stray light baffle, Outer Panel (TOP)	-	1	1	1
17	D1500046-102	aLIGO, OMC, Stray light baffle, Outer Panel (TOP)	-	1	1	1
16	D1500046-101	aLIGO, OMC, Stray light baffle, Outer Panel (TOP)	-	1	1	1
15	D1500045	aLIGO, OMC, Stray light baffle, Outer Panel (-Y SIDE)	-	1	1	1
14	D1500044	aLIGO, OMC, Stray light baffle, Outer Panel (TRANS AIR)	-	1	1	1
13	D1500043-102	aLIGO, OMC, Stray light baffle, Outer Panel (REFL AIR) LH	-	1	1	1
12	D1500043-101	aLIGO, OMC, Stray light baffle, Outer Panel (REFL AIR) RH	-	1	1	1
11	D1500042-102	aLIGO, OMC, Stray light baffle, Outer Panel (-X Side) LH	-	1	1	1
10	D1500042-101	aLIGO, OMC, Stray light baffle, Outer Panel (-X Side) RH	-	1	1	1
9	D1300176	CABLE HARNESS ROUTING, OMC	N/A	1	-	-
8	D1201502	Bracket and Preamp Assembly, OMC, aLIGO	N/A	1	1	1
7	D1201441	EQ-Stops, OMC, aLIGO	N/A	2	2	2
6	D1201213	COIL HOLDER ASSY, OMC	N/A	1	-	1
5	D1201212	SUSPENDED MASS ASSY, OMCS	N/A	1	1	1
4	D1001346	aLIGO, ASSY, CABLE BRACKET, HAM TABLE	N/A	2	2	2
3	D070145	TOP BLADE GUARD ASSY	-	2	2	2
2	D070028	BLADE PLATFORM, OUTPUT MODE CLEANER	6061-T6 Al	2	2	2
1	D0900655	STRUCTURAL WELDMENT ASSY, OMCS	N/A	1	1	1

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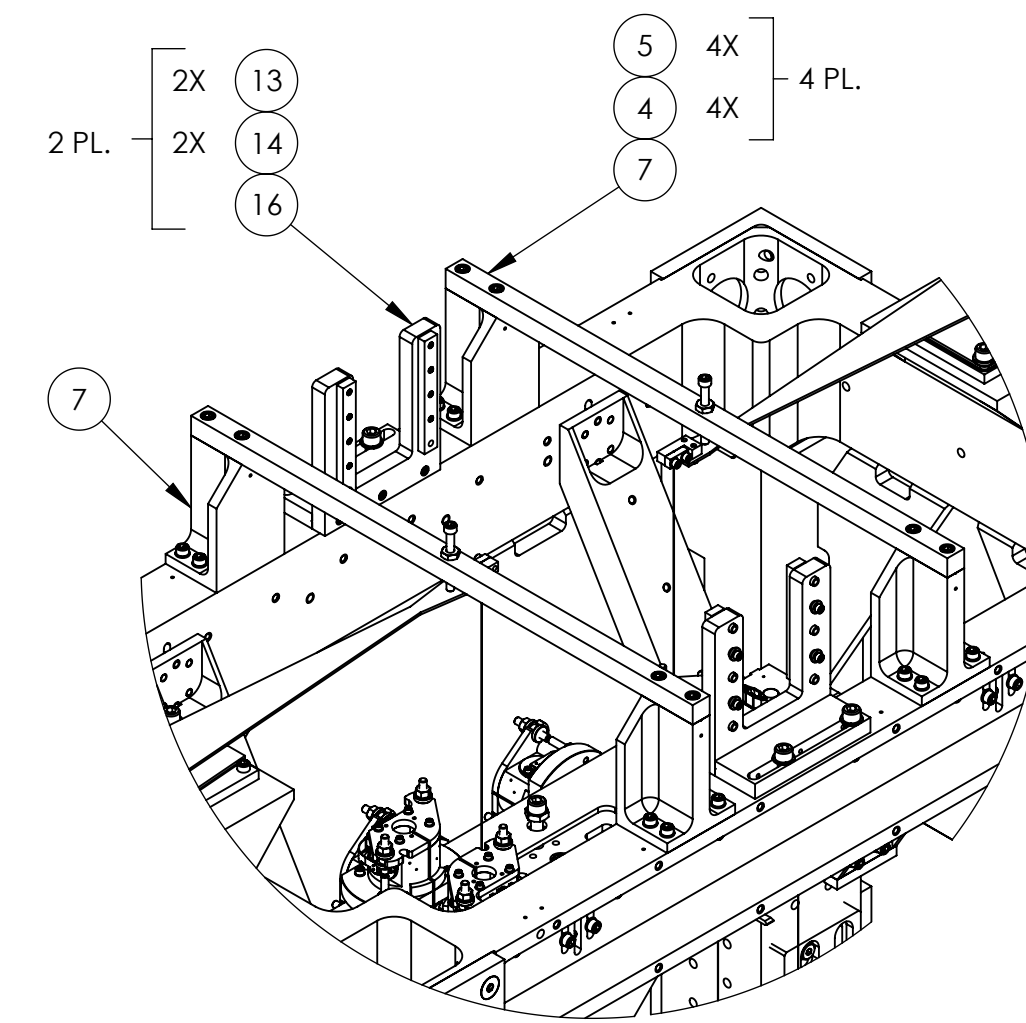
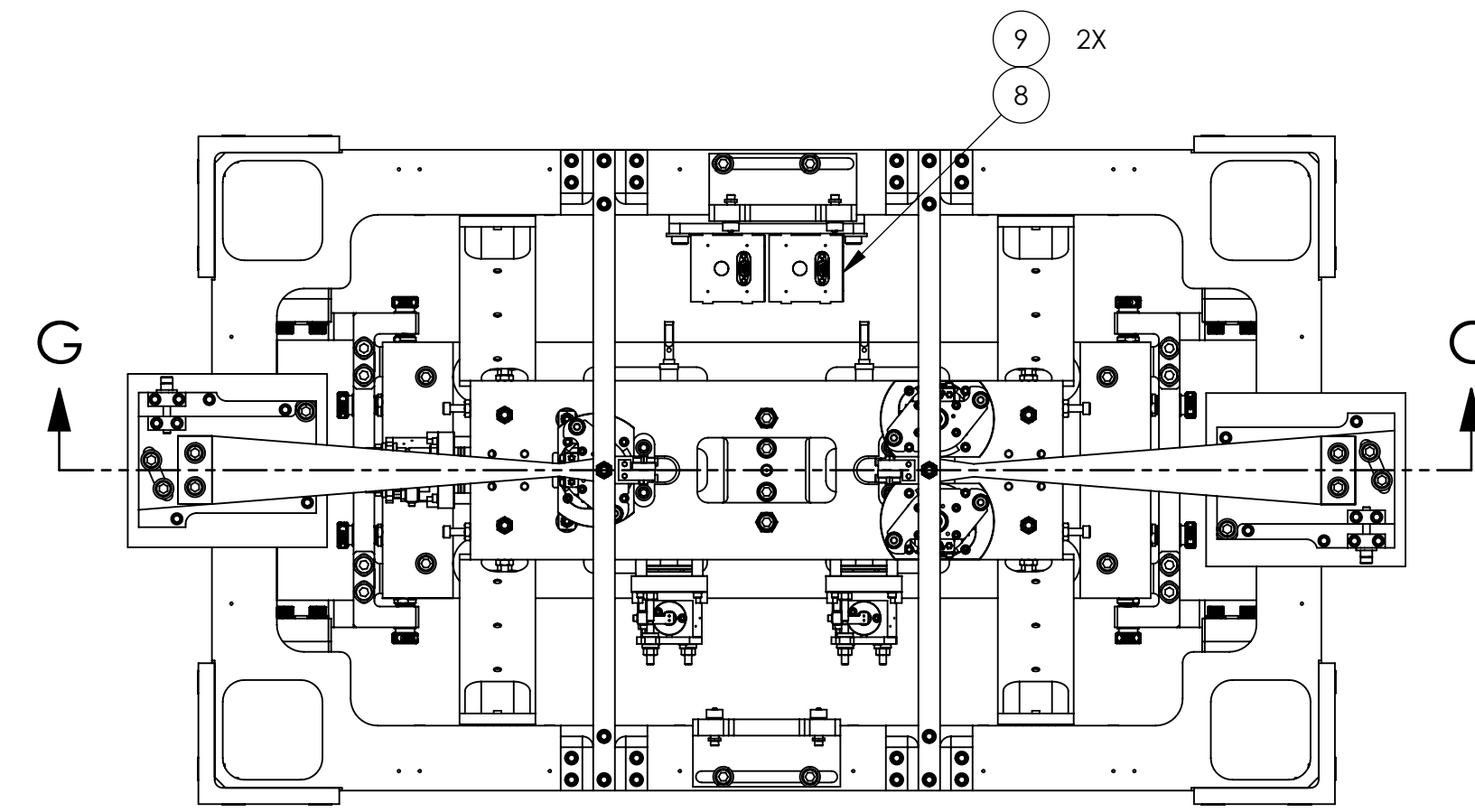
SIZE DWG. NO. REV. D D0900295 v8

SCALE: 1:4 PROJECTION: SHEET 3 OF 21

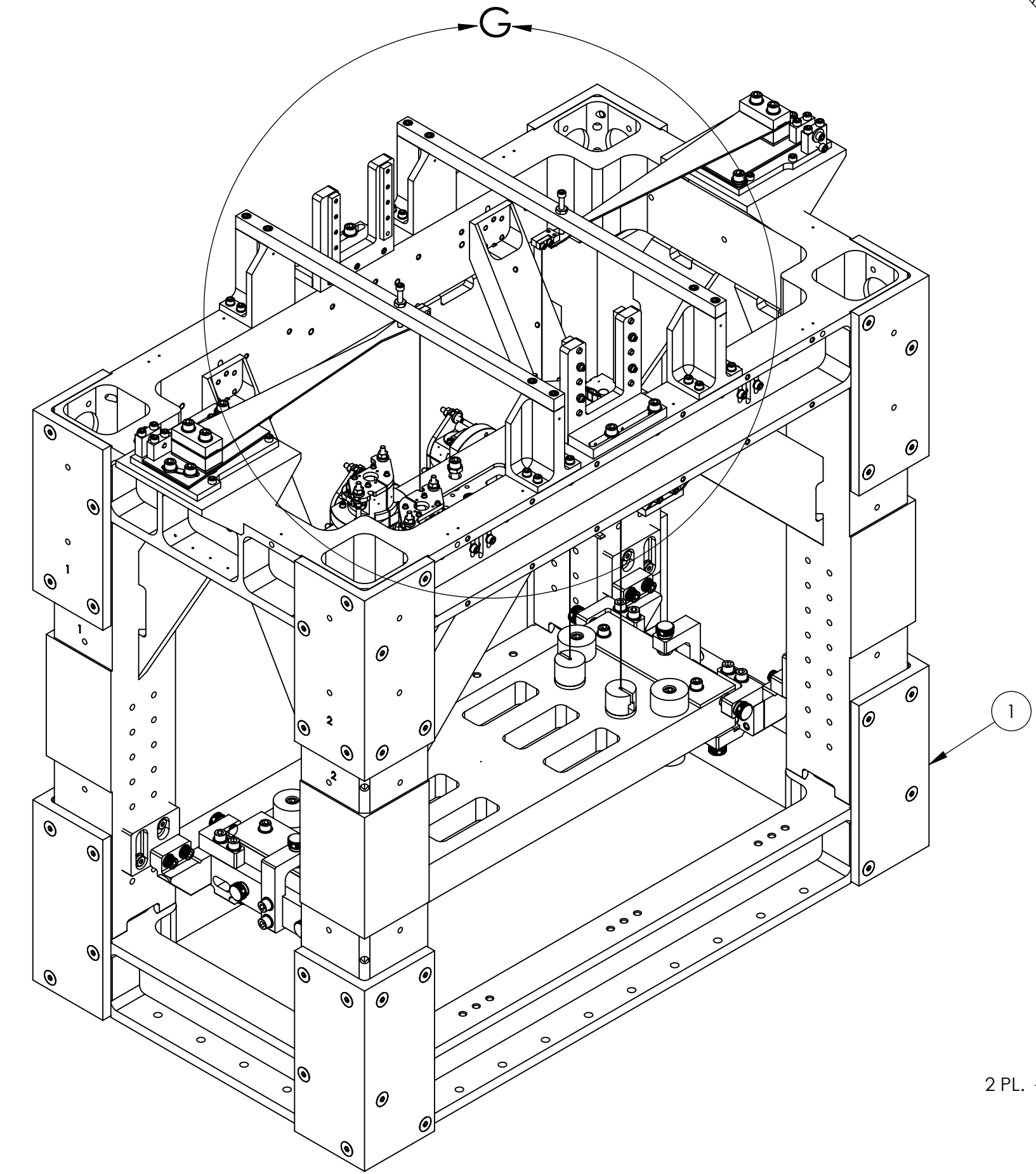
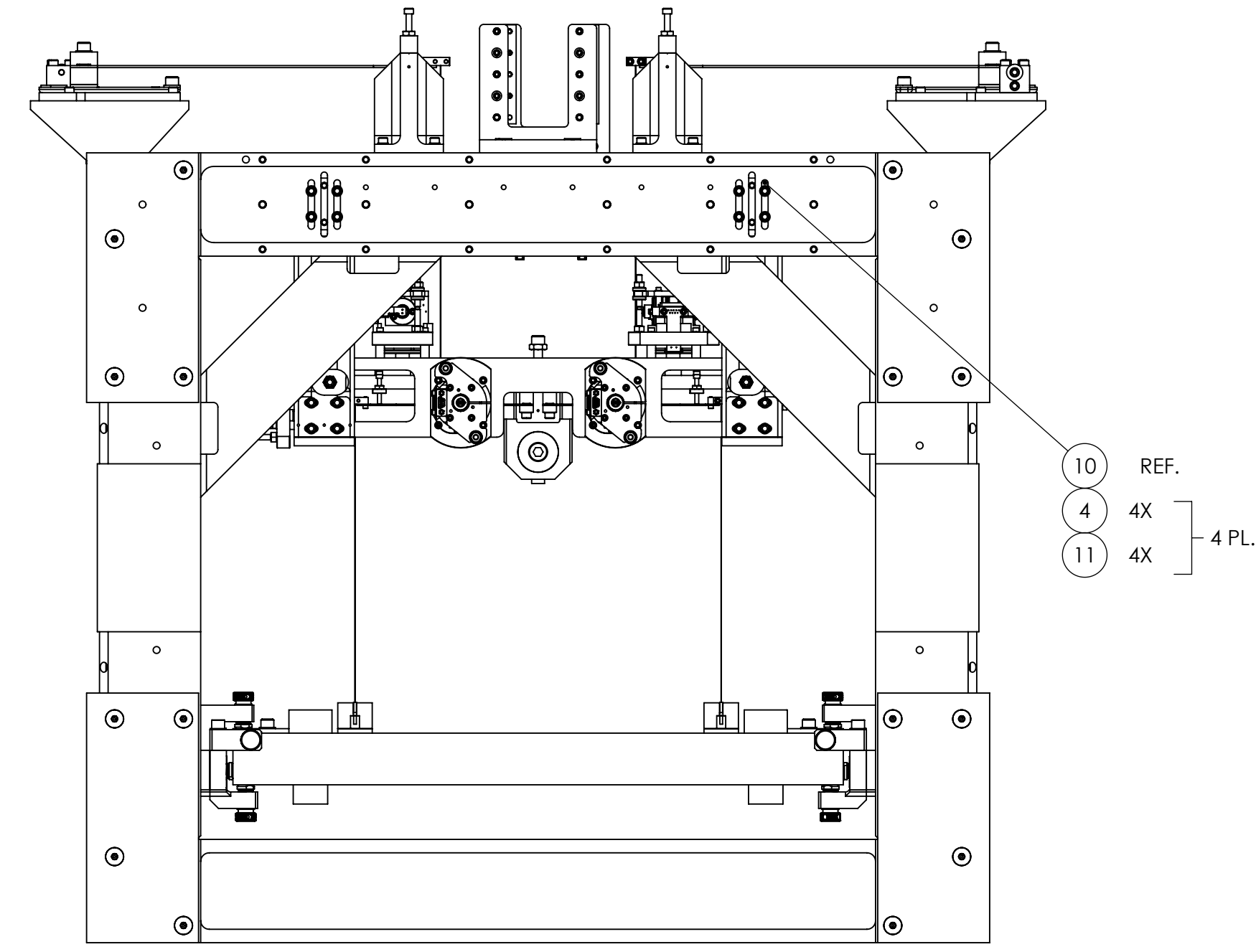
D0900295_AdrLIGO_SUS_OutputModeCleaner_Overset Assembly, PART FDM REV: V4-037, DRAWING FDM REV: V4-003

OMC W/ METAL BENCH

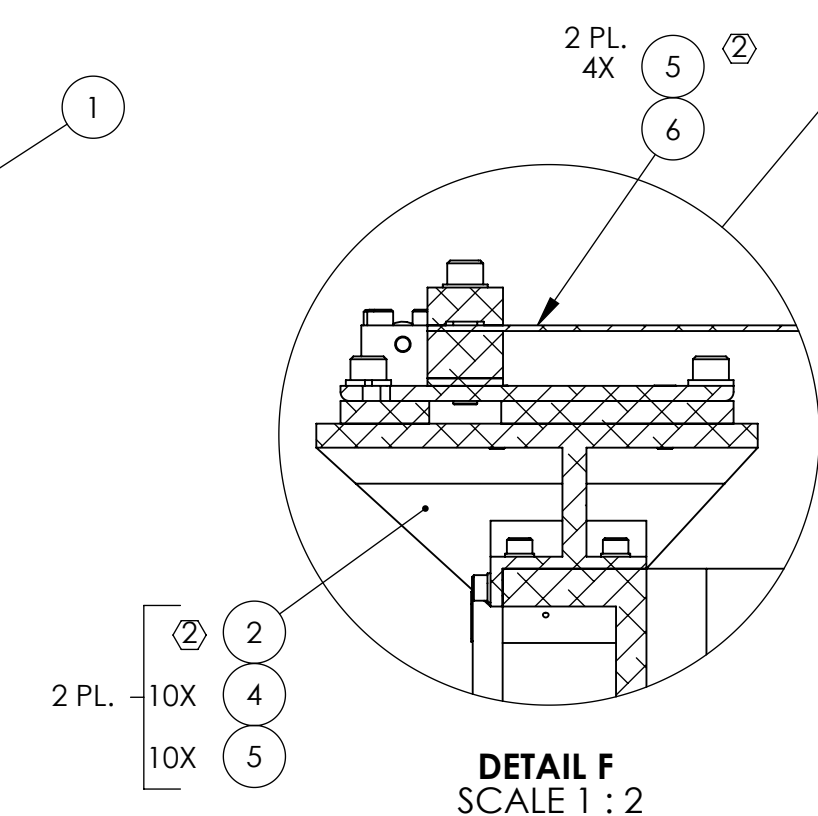
- ② HELICOILS TO BE INSTALLED INTO ITEM NO. 2 BY LIGO PRIOR TO ASSEMBLY AND AFTER ALL PARTS ARE CLEANED.
- 3. PARTS TO BE ASSEMBLED ACCORDING TO T080117 OMCS ASSEMBLY SPECIFICATIONS.



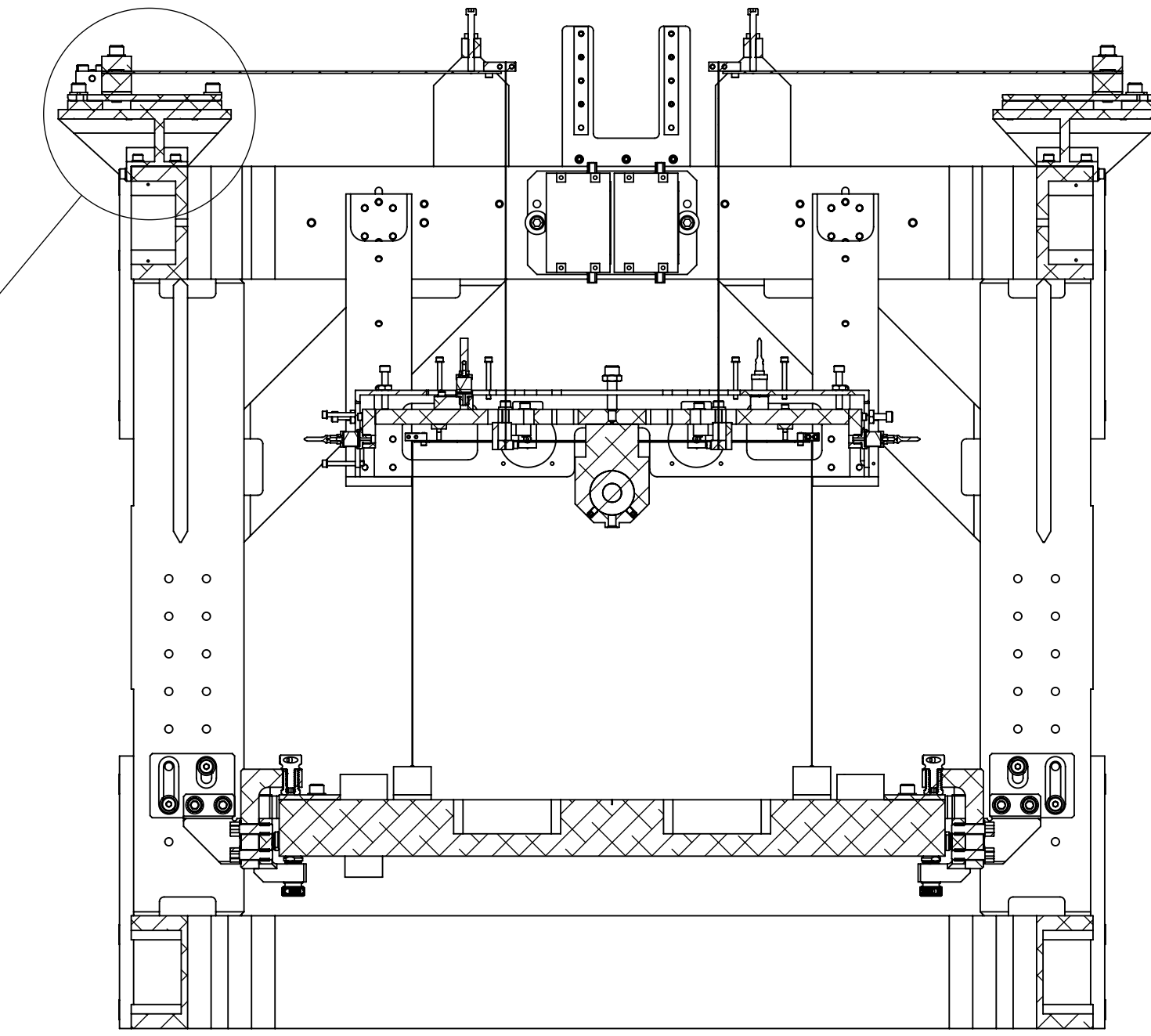
DETAIL G



ISO VIEW



DETAIL F
SCALE 1:2



SECTION G-G

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	REV.
16	D1001346	αLIGO, ASSY, CABLE BRACKET, HAM TABLE	N/A	2
15	93615A412 McMaster-CARR OR EQ.	SCREW, LSHC, 1/4"-20 Thread, 5/8" Length	18-8 SSSL	8
14	UC_COMPONENTS_WFV-25	Vented Washer, .255 ID X .468 OD X .032 THK #1/4	18-8 SSSL	12
13	-	SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 0.625 LONG	300 SSSL	4
12	D1201441	EQ-Stops, OMC, αLIGO	N/A	2
11	-	SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 0.625 LONG	300 SSSL	16
10	D1201213	COIL HOLDER ASSY, OMC	N/A	1
9	-	SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 0.75 LONG	300 SSSL	2
8	D1201502	Bracket and Preamp Assembly, OMC, αLIGO	N/A	1
7	D070145	TOP BLADE GUARD ASSY	-	2
6	D1201212	SUSPENDED MASS ASSY, OMCS	N/A	1
5	-	SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 0.5 LONG	300 SSSL	44
4	-	WASHER, FLAT, #8 (NAS 620-C8 OR EQUIVALENT)	300 SSSL	52
3	1185-2EN246	HELICOIL, #8-32 X 0.246 LONG	NITRONIC 60	8
2	D070028	BLADE PLATFORM, OUTPUT MODE CLEANER	6061-T6 Al	2
1	D0900655	STRUCTURAL WELDMENT ASSY, OMCS	N/A	1

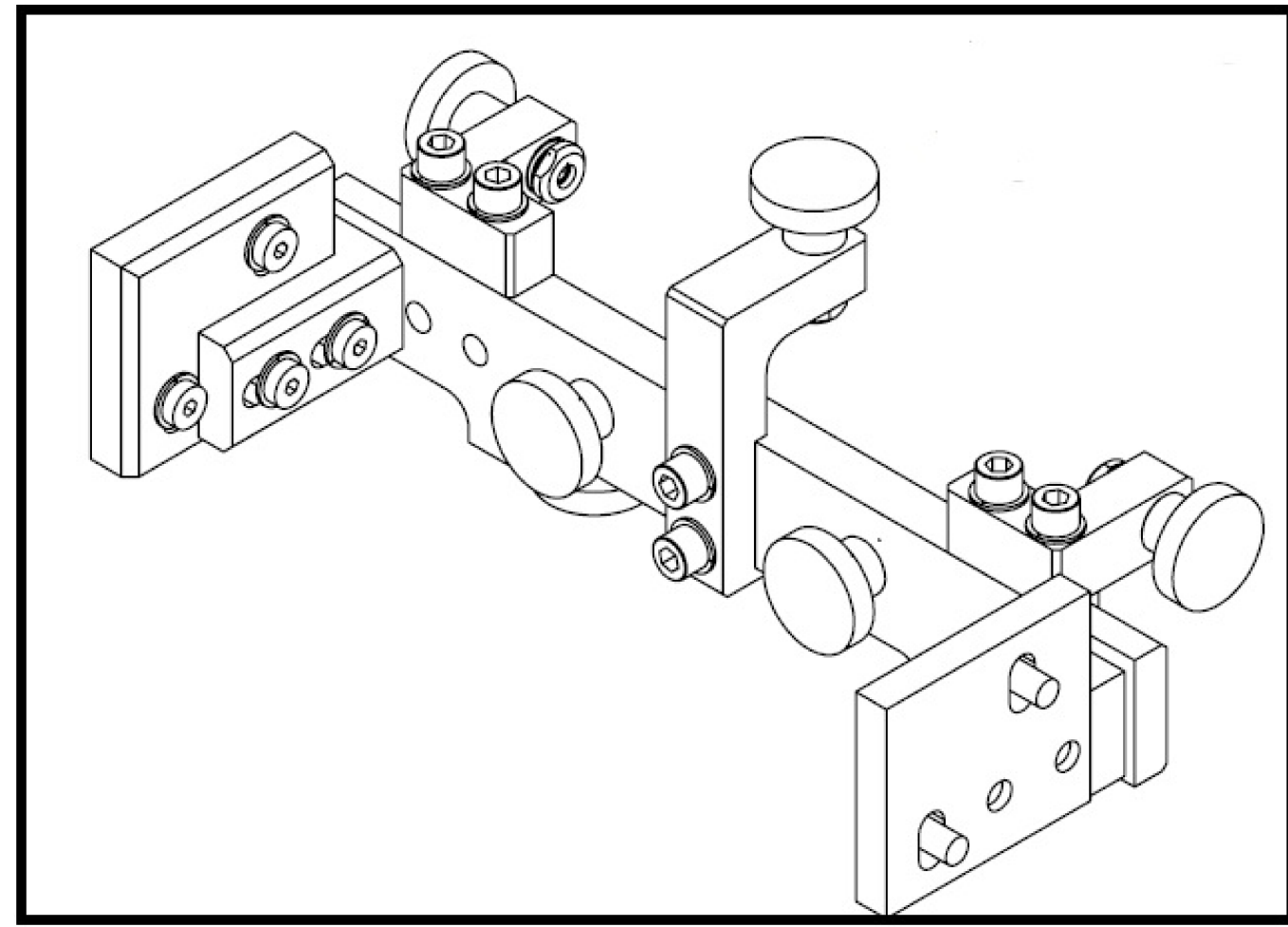
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SIZE DWG. NO. **D0900295** REV. **v8**
 SCALE: 1:4 PROJECTION: SHEET 4 OF 21

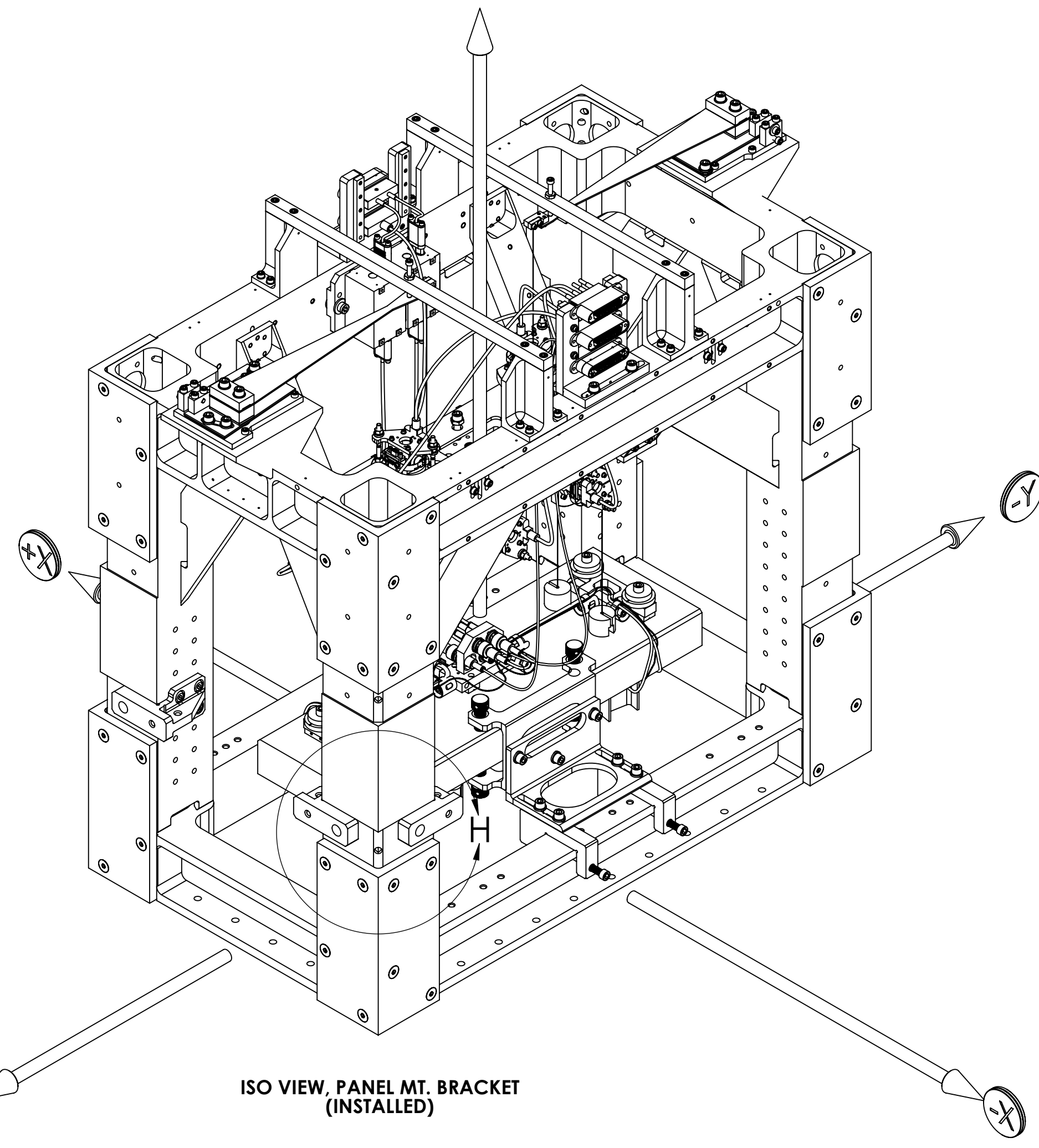
D0900295_AsdLIGO_SUS_OutputModeCleaner_Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (+Y SIDE)

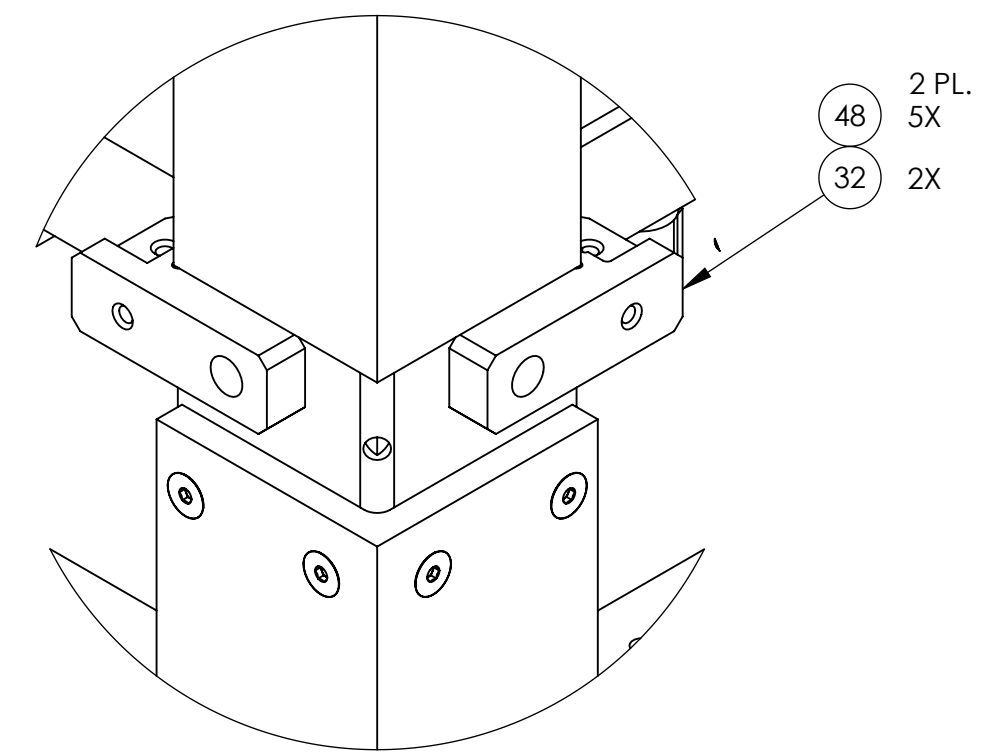
(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)



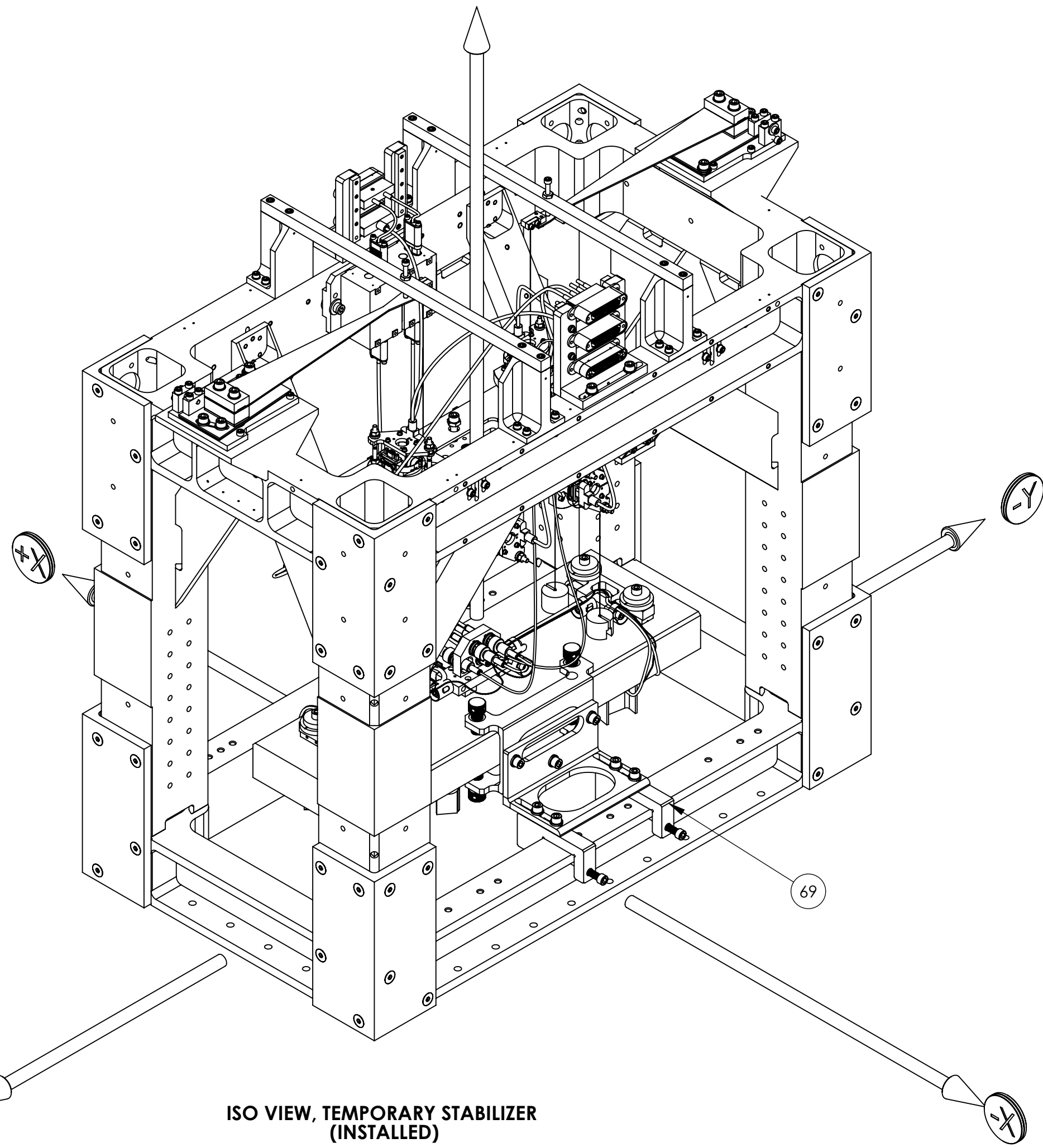
REMOVE EXISTING EQ.S TOP
PRIOR TO INSTALLATION OF PANEL MT. BRACKETS



ISO VIEW, PANEL MT. BRACKET
(INSTALLED)



DETAIL H
SCALE 1 : 2
2 PL.



ISO VIEW, TEMPORARY STABILIZER
(INSTALLED)

PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
69	D1500156	OMC, EQ-STOP TEMP STABILIZER ASSY.	N/A	2
48	BU-2008-N UC COMPONENTS OR EQ.	SCREW, BHSC, 1/4-20 X .50 LG.	18-8 SSSL	53
32	D1500056	aLIGO, OMC, Stray light Baffle, Panel Mounting Bracket	6061-T6 Al	8

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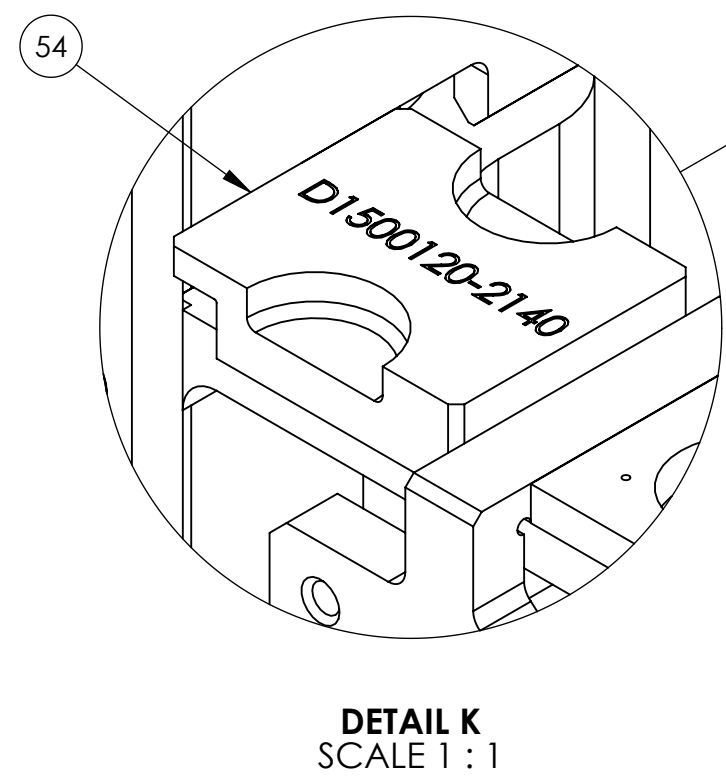
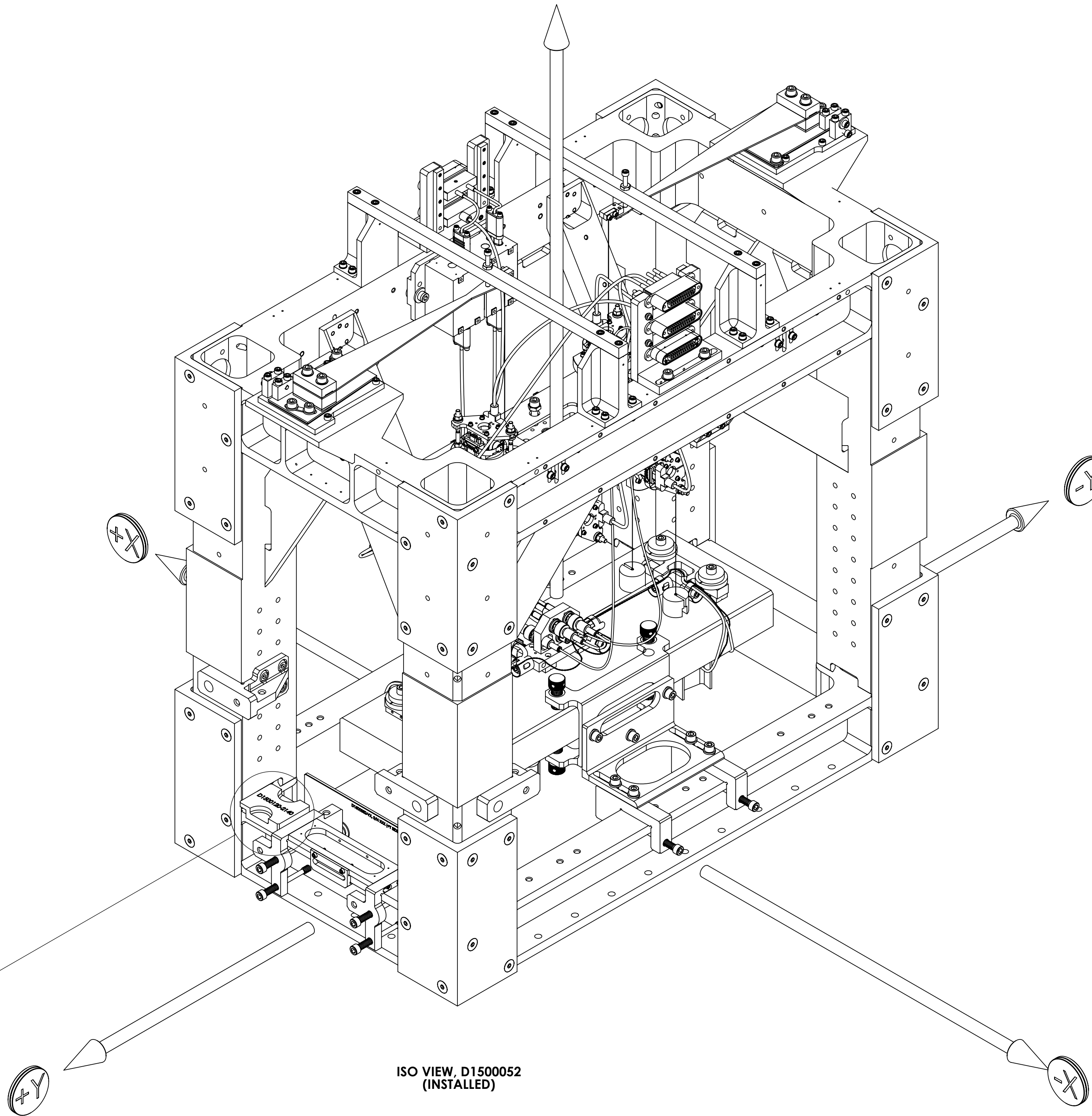
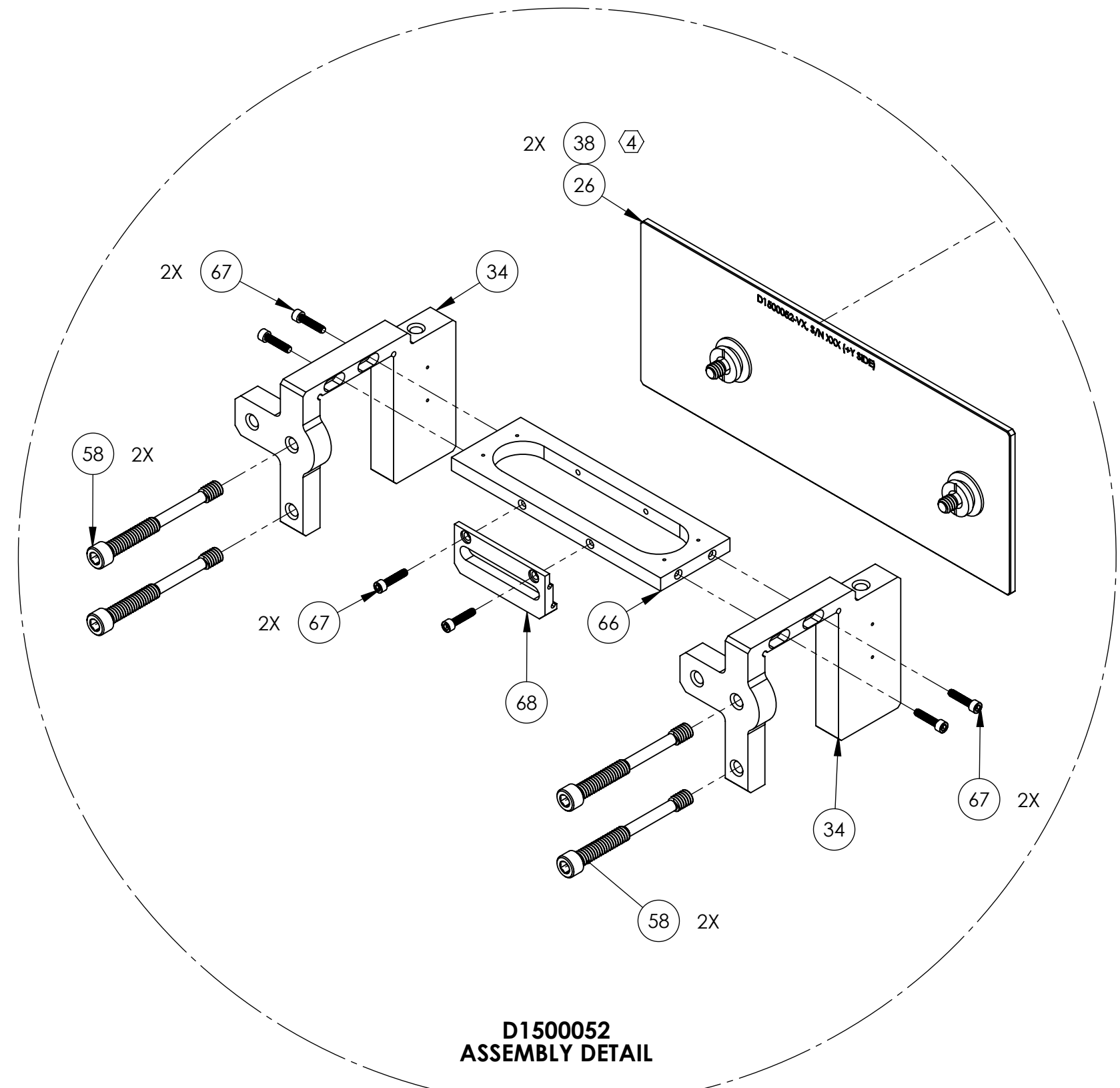
SIZE DWG. NO. **D0900295** REV. **v8**

SCALE: 1:4 PROJECTION: SHEET 5 OF 21

DDP0295_AdrLIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (+Y SIDE)

(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)



PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
68	D1500148	aLIGO, OMC, Stray light Baffle, C-CLAMP JAW	6061-T6 Al	6
67	MS16995-11 OR EQ.	SCREW, SHC, 4-40 X .50 LG.	300 SSSL	36
66	D1500147-4620	aLIGO, OMC, Stray light Baffle, C-CLAMP STIFFENER	6061-T6 Al	1
58	D1500144	aLIGO, OMC, Stray light Baffle, C-CLAMP SCREW	316 SSSL	24
54	D1500120-2140	aLIGO, OMC, Stray light baffle, C-CLAMP MT. GAUGE BLOCK	6061-T6 Al	2
38	D1500105-2	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	12
34	D1500058-101	aLIGO, OMC, Stray light Baffle, C-CLAMP (LH)	6061-T6 Al	7
26	D1500052	aLIGO, OMC, Stray light baffle, VERT PANEL (TRANS AIR)	BK7 GLASS	1

PARTS LIST

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO.	REV.
D D0900295	v8
SCALE: 1:4	PROJECTION:

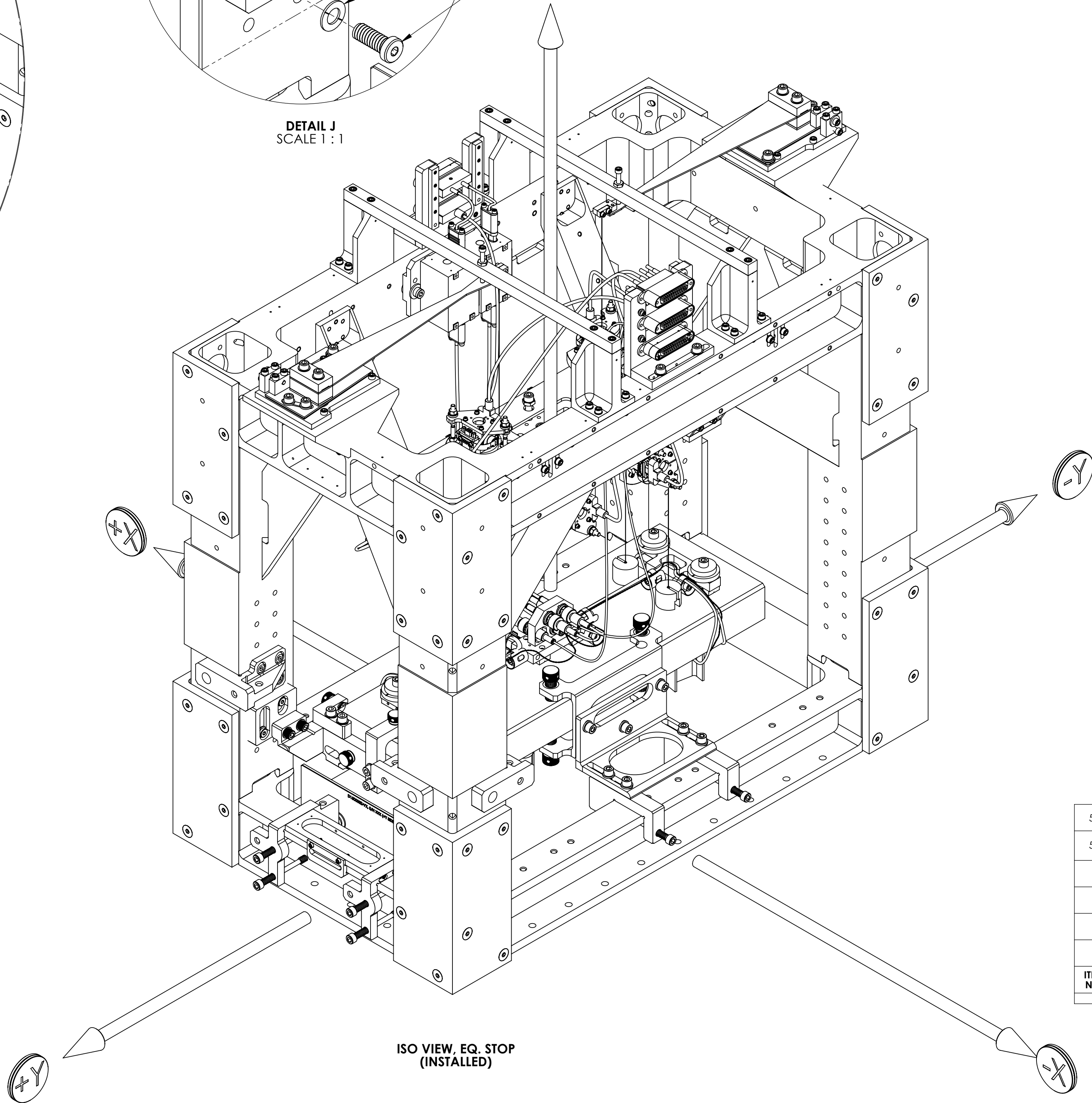
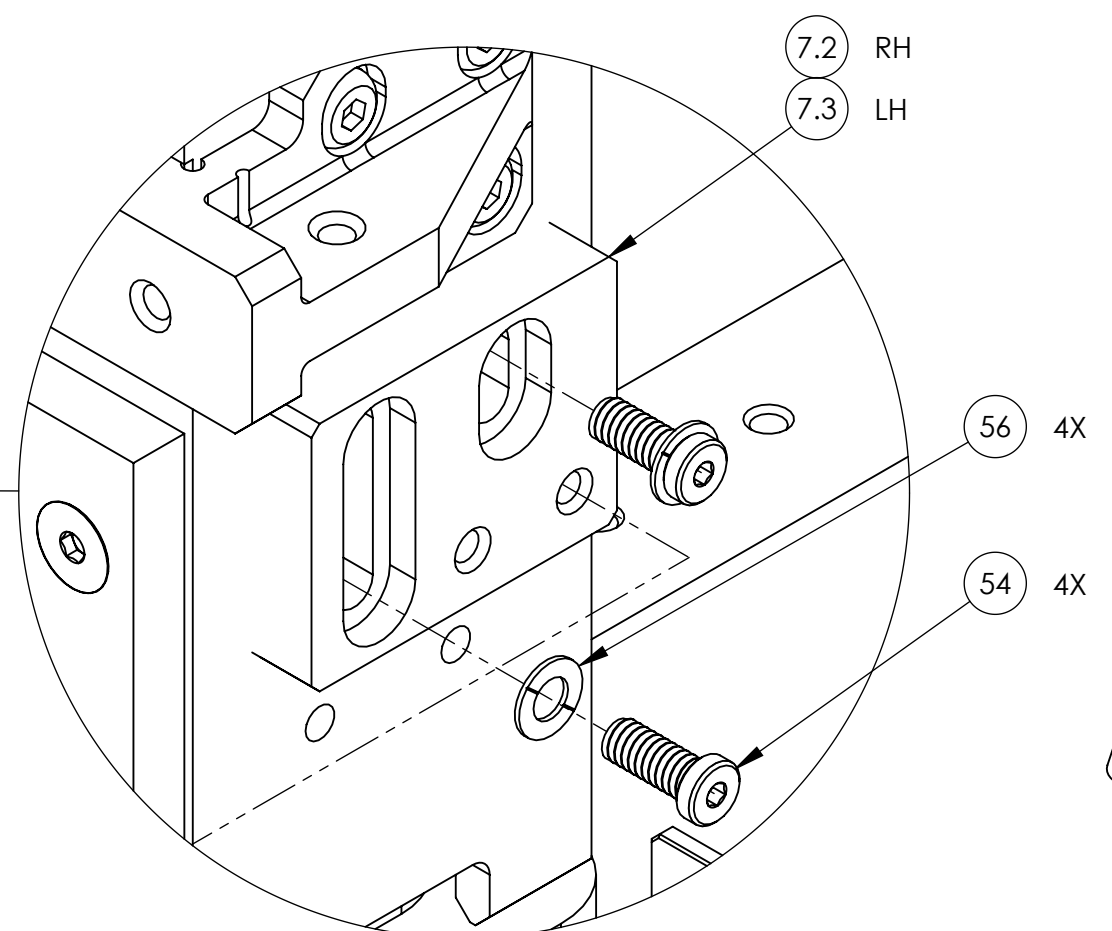
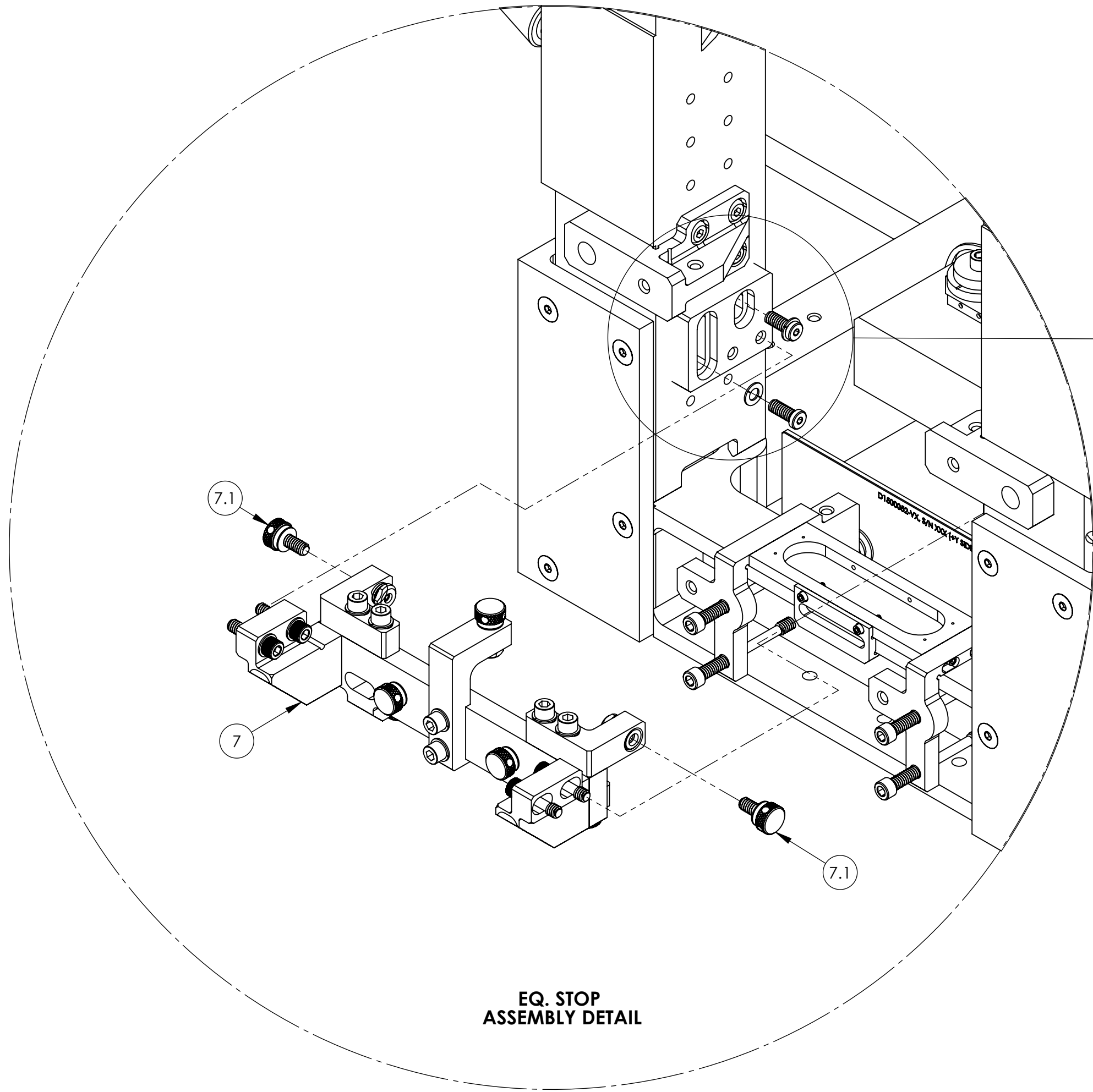
SHEET 6 OF 21

④ TORQUE INDICATED FASTENER TO 10 IN/LBS.

DD900295_A01 LIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (+Y SIDE)

(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)



PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG.	QTY.
56	UC_COMPONENTS_WFV-25	Vented Washer, .255 ID X .468 OD X .032 THK #1/4	18-8 SSSL		12
54	93615A412 McMASTER-CARR OR EQ.	SCREW, LSHC, 1/4"-20 Thread, 5/8" Length	18-8 SSSL		8
7.3	D1201473	RIGHT, SUPPORT, EQ-STOP, OMC, aLIGO	N/A		1
7.2	D1201472	LEFT, SUPPORT, EQ-STOP, OMC, aLIGO	N/A		1
7.1	D1201471	KNOB, EQ-STOP, OMC aLIGO	N/A		7
7	D1201441	EQ-Stops, OMC, aLIGO	N/A		2

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

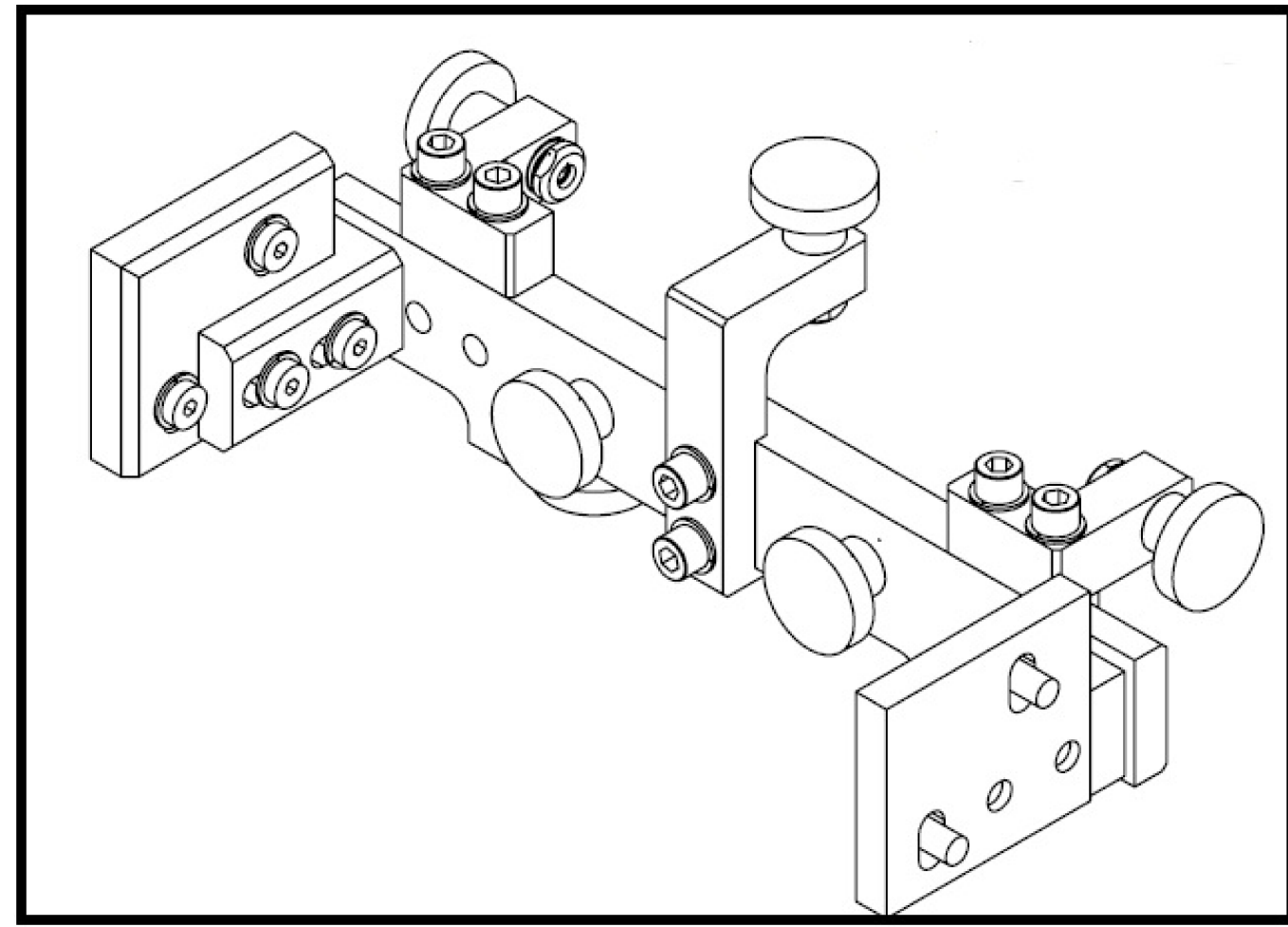
SIZE DWG. NO. **D0900295** REV. **v8**

SCALE: 1:4 PROJECTION: SHEET 7 OF 21

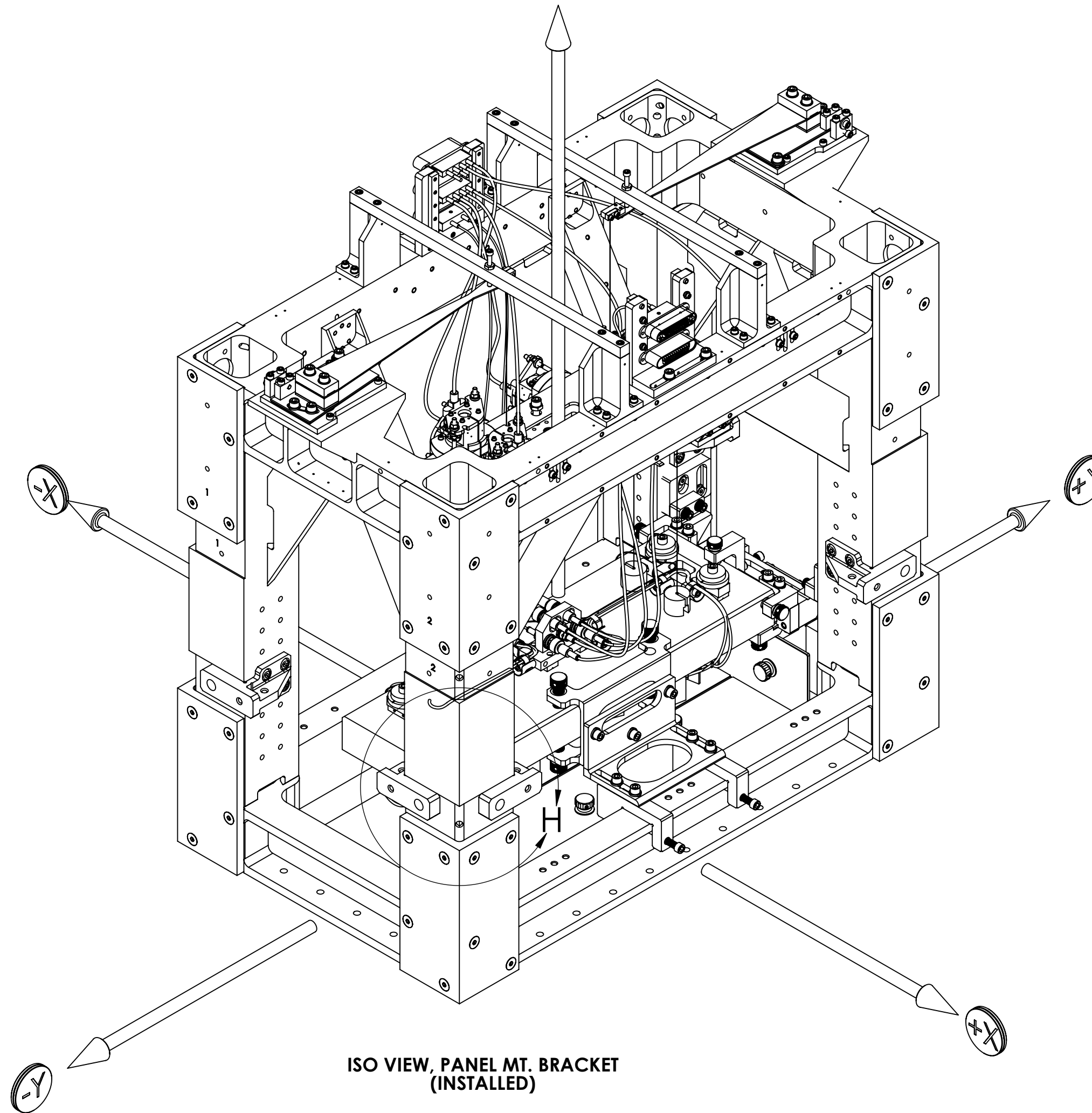
D0900295_A01/LIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (-Y SIDE)

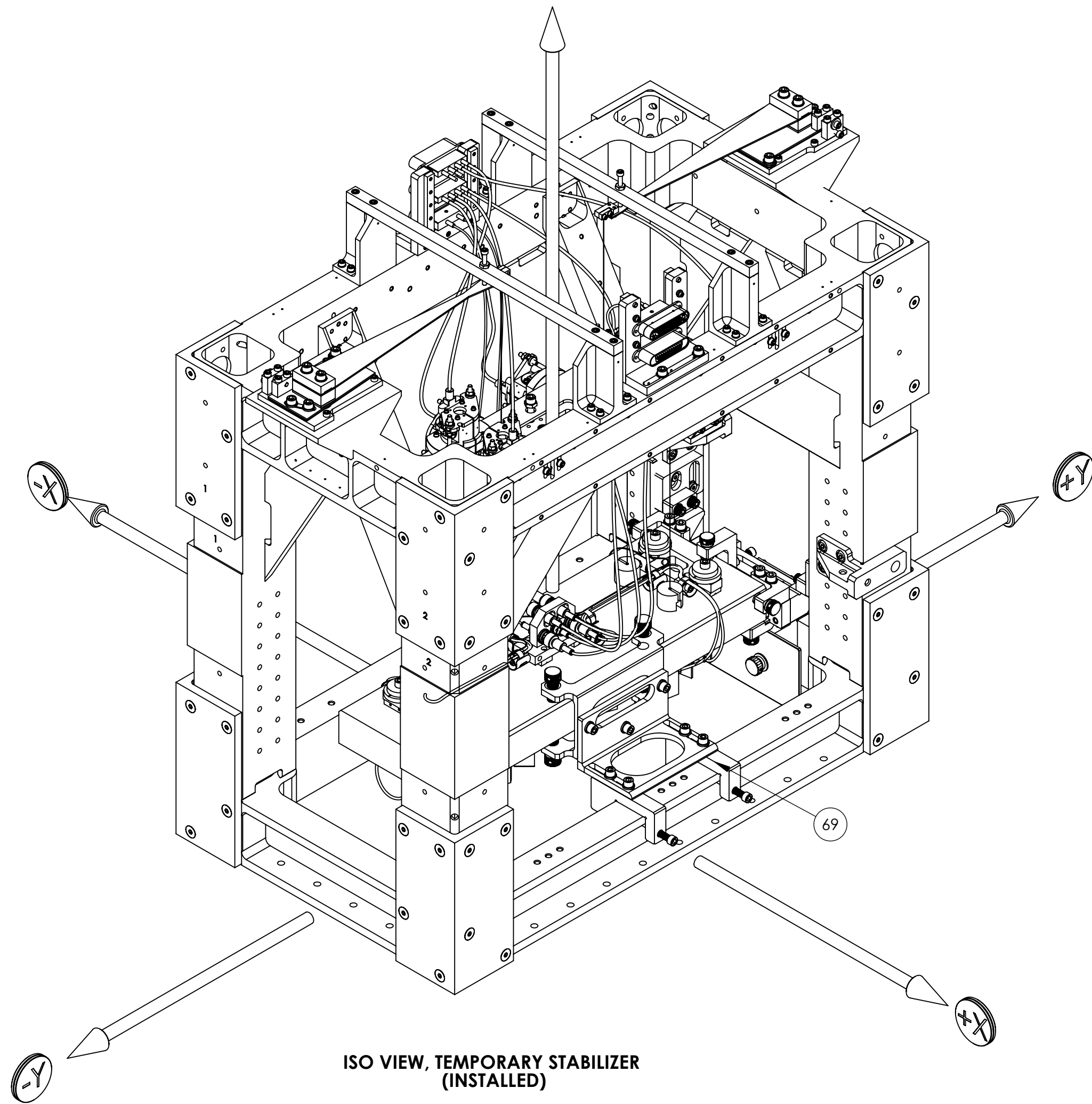
(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)



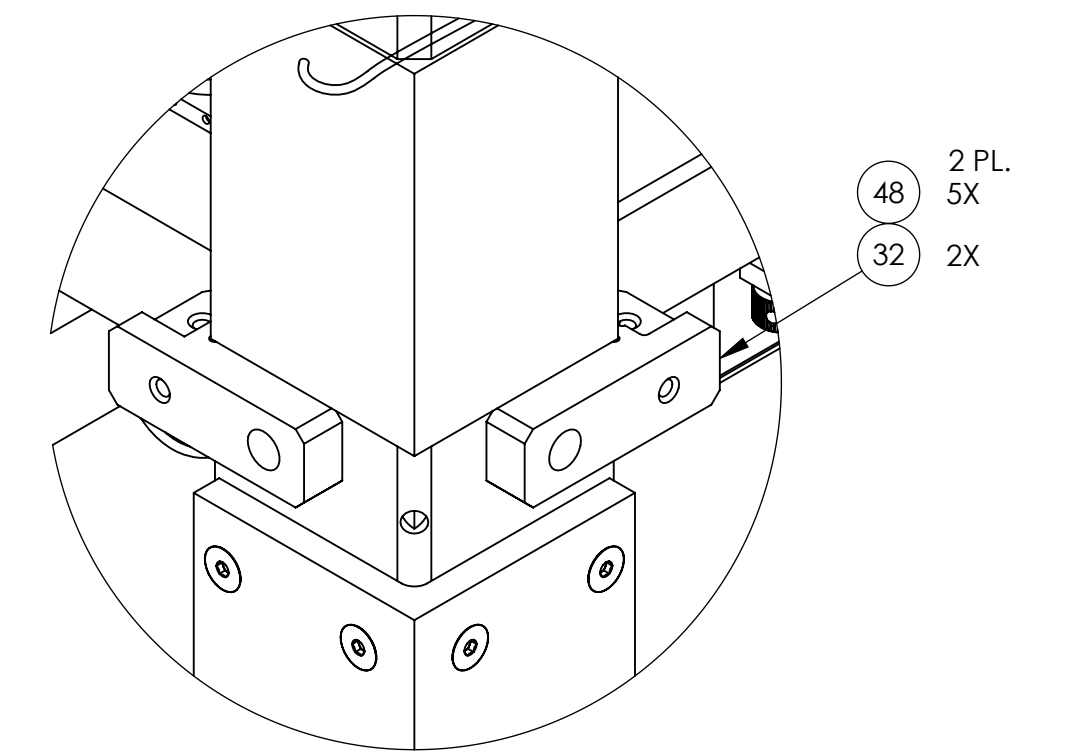
REMOVE EXISTING EQ. STOP
PRIOR TO INSTALLATION OF PANEL MT. BRACKETS



ISO VIEW, PANEL MT. BRACKET
(INSTALLED)



ISO VIEW, TEMPORARY STABILIZER
(INSTALLED)



DETAIL I
SCALE 1 : 2
2 PL.

PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
69	D1500156	OMC, EQ-STOP TEMP STABILIZER ASSY.	N/A	2
48	BU-2008-N UC COMPONENTS OR EQ.	SCREW, BHSC, 1/4-20 X .50 LG.	18-8 SSSL	53
32	D1500056	aLIGO, OMC, Stray light Baffle, Panel Mounting Bracket	6061-T6 Al	8

PARTS LIST

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

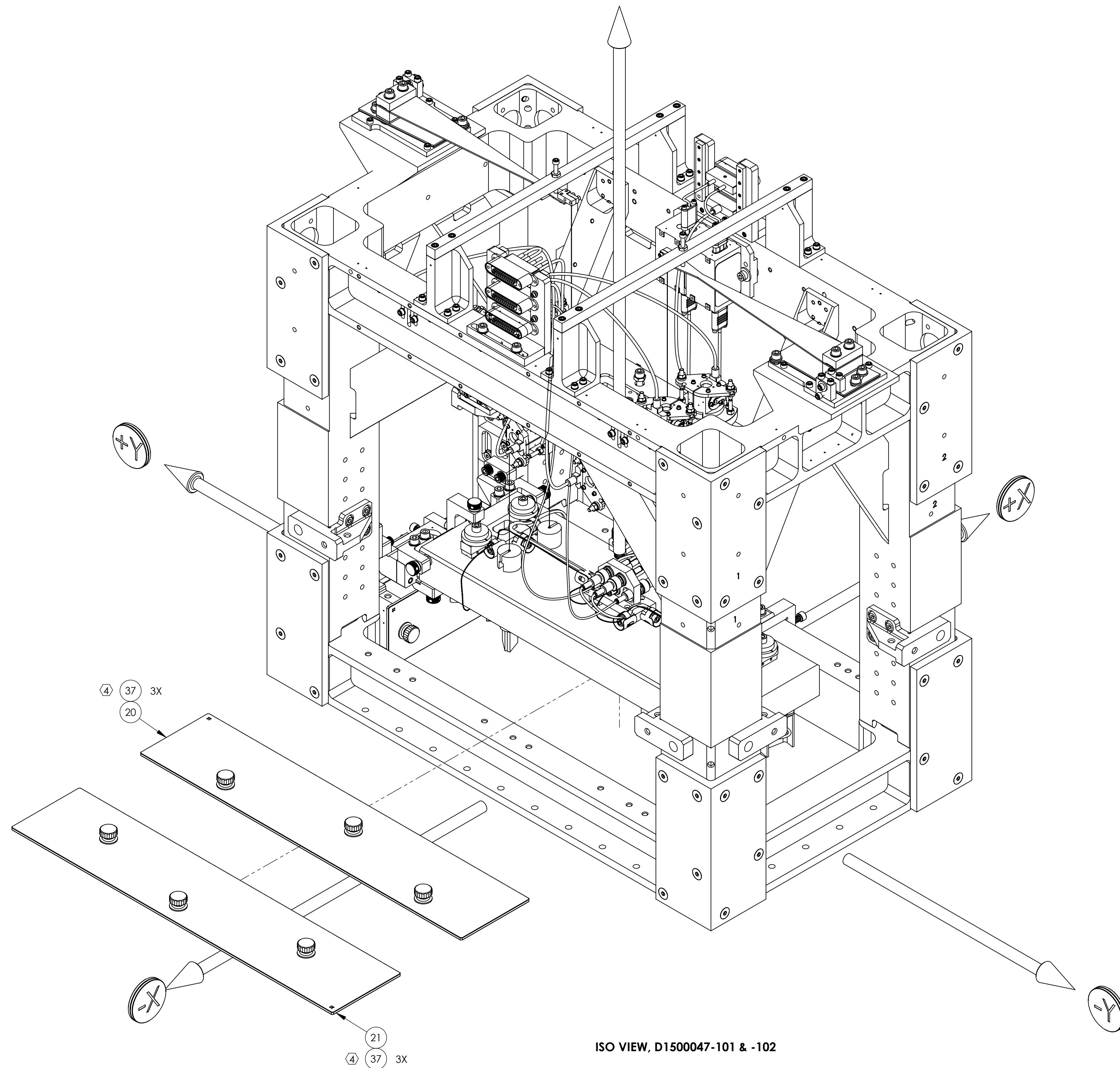
SIZE DWG. NO. **D0900295** REV. **v8**

SCALE: 1:4 PROJECTION: SHEET 8 OF 21

DD900295_AdrLIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (-X SIDE)

(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)



ISO VIEW, D1500047-101 & -102

PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
37	D1500105-1	ALIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	6
21	D1500047-102	ALIGO, OMC, Stray light baffle, Inner Panel (BOT)	-	1
20	D1500047-101	ALIGO, OMC, Stray light baffle, Inner Panel (BOT)	-	1

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO. **D0900295** REV. **v8**

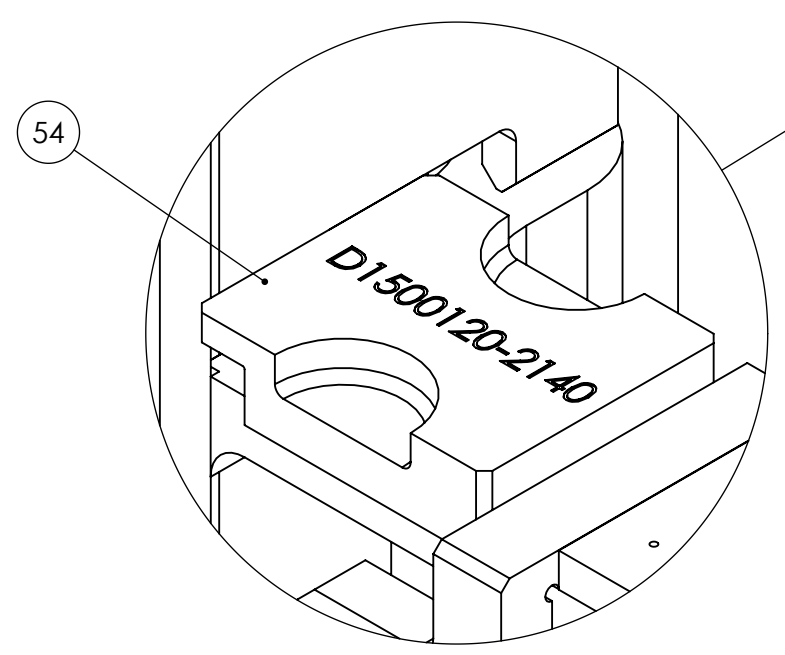
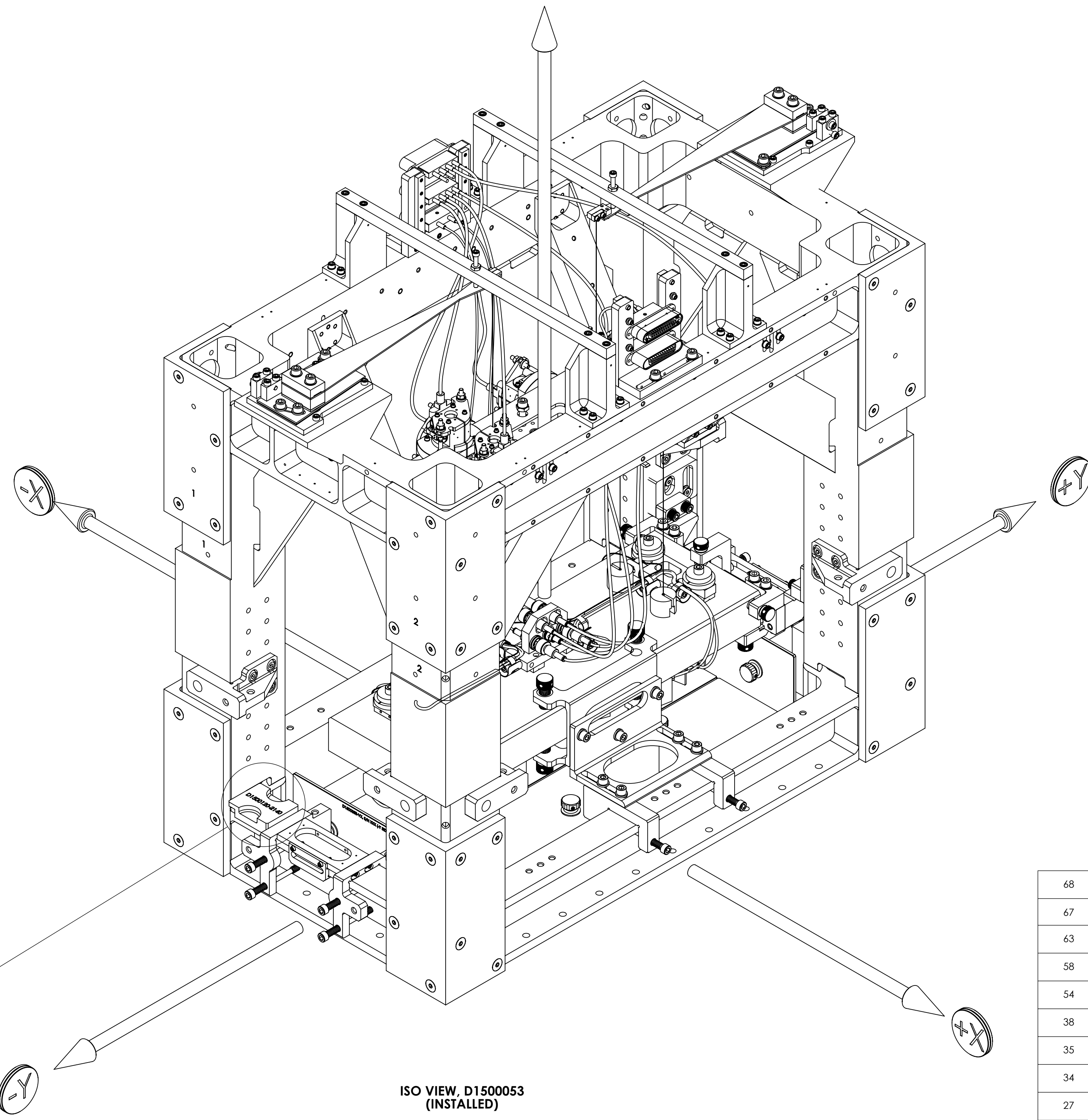
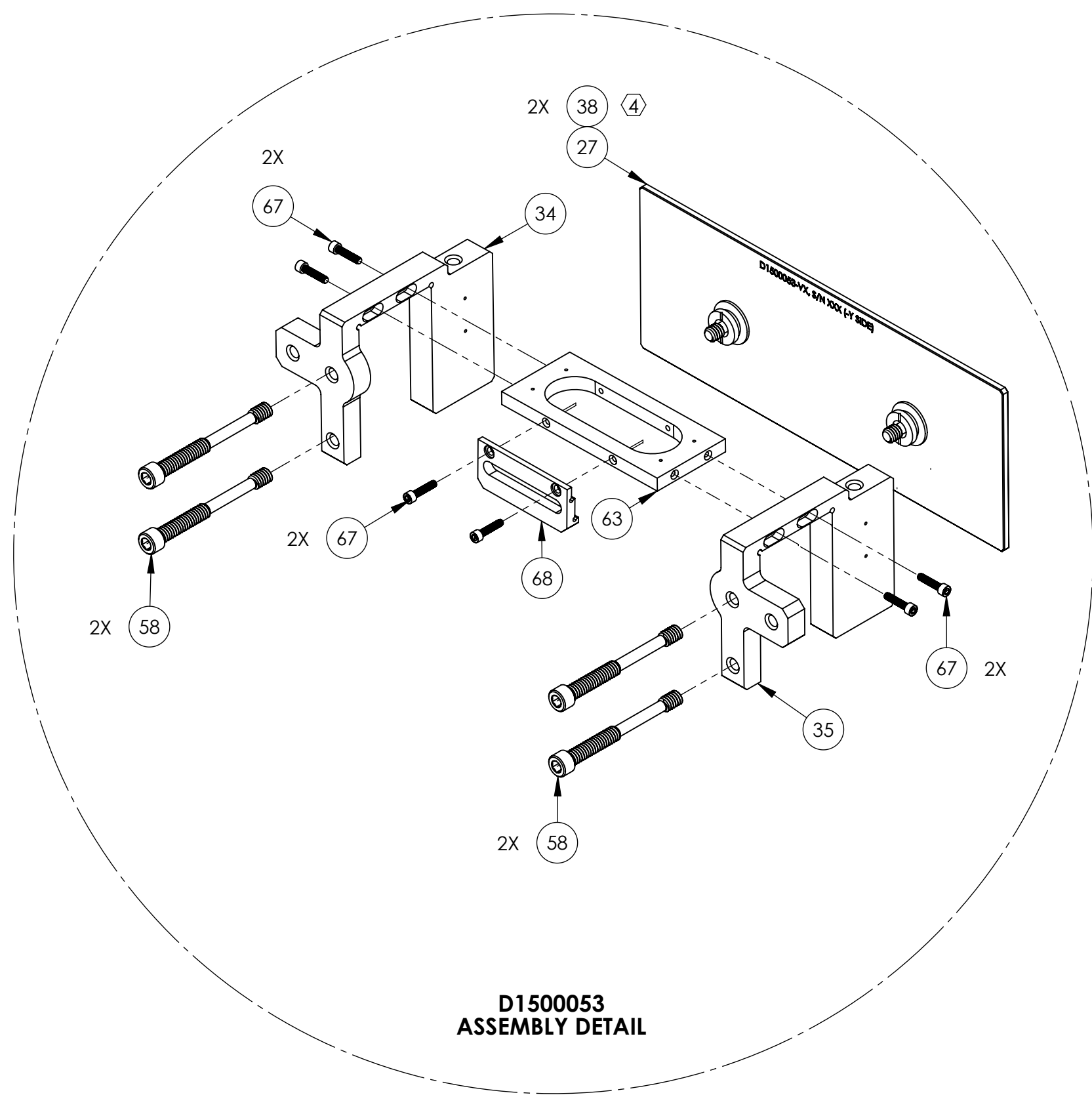
SCALE: 1:4 PROJECTION: SHEET 9 OF 21

④ TORQUE INDICATED FASTENER TO 10 IN/LBS.

D0900295_A01/LIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (-Y SIDE)

(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)



PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
68	D1500148	aLIGO, OMC, Stray light Baffle, C-CLAMP JAW	6061-T6 Al	6
67	MS16995-11 OR EQ.	SCREW, SHC, 4-40 X .50 LG.	300 SSSL	36
63	D1500147-3495	aLIGO, OMC, Stray light Baffle, C-CLAMP STIFFENER	6061-T6 Al	1
58	D1500144	aLIGO, OMC, Stray light Baffle, C-CLAMP SCREW	316 SSSL	24
54	D1500120-2140	aLIGO, OMC, Stray light baffle, C-CLAMP MT. GAUGE BLOCK	6061-T6 Al	2
38	D1500105-2	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	12
35	D1500058-102	aLIGO, OMC, Stray light Baffle, C-CLAMP	6061-T6 Al	5
34	D1500058-101	aLIGO, OMC, Stray light Baffle, C-CLAMP (LH)	6061-T6 Al	7
27	D1500053	aLIGO, OMC, Stray light baffle, VERT PANEL (-Y Side)	BK7 GLASS	1

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SIZE DWG. NO. **D0900295** REV. **v8**

SCALE: 1:4 PROJECTION: SHEET 10 OF 21

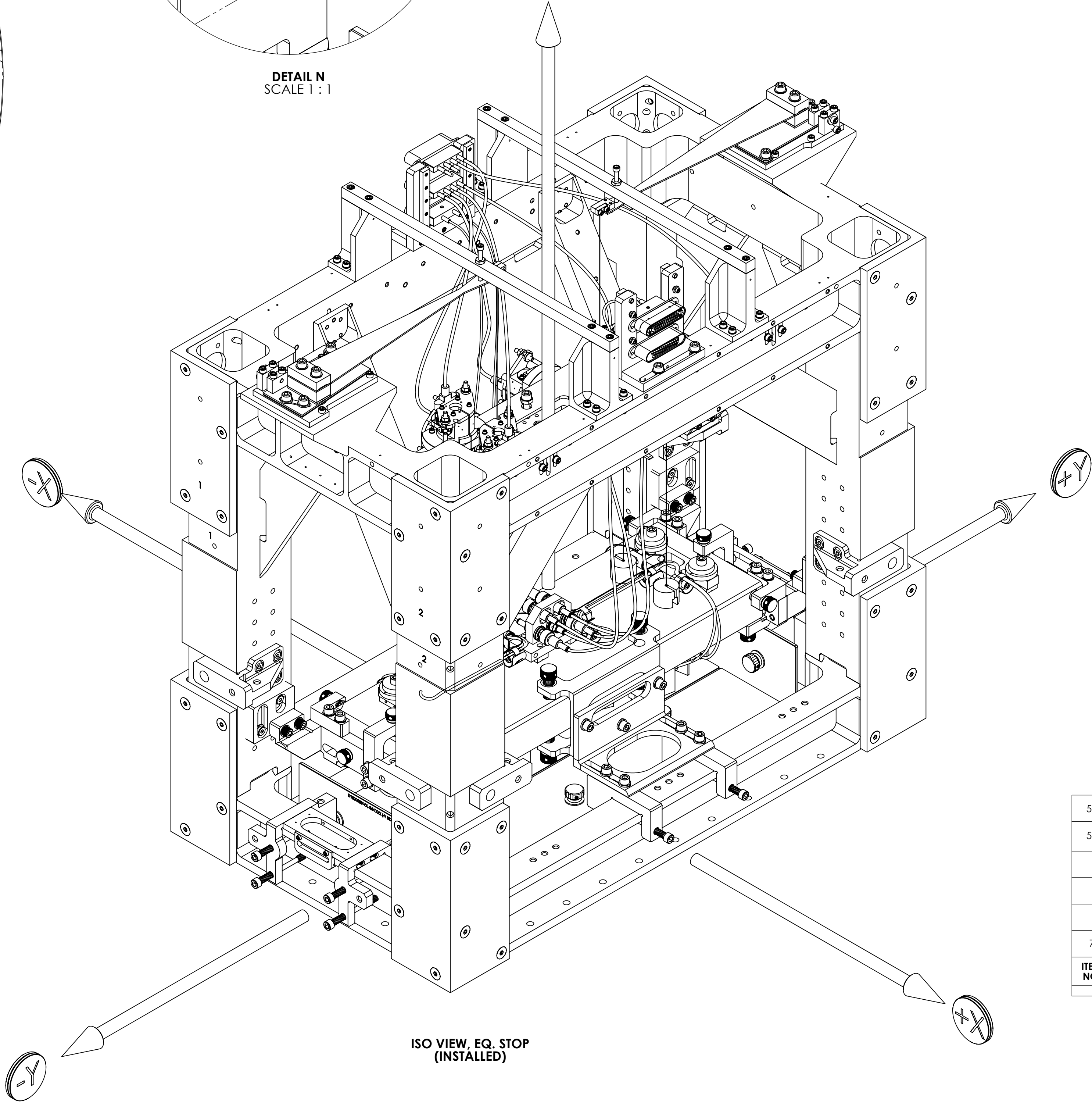
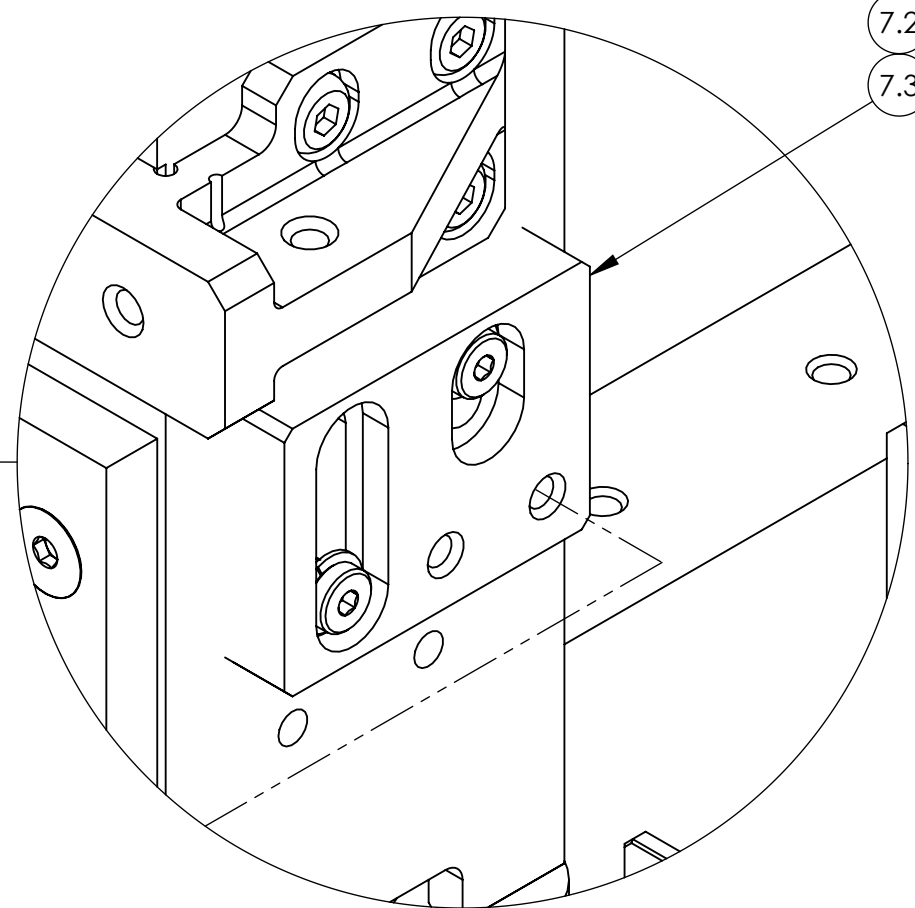
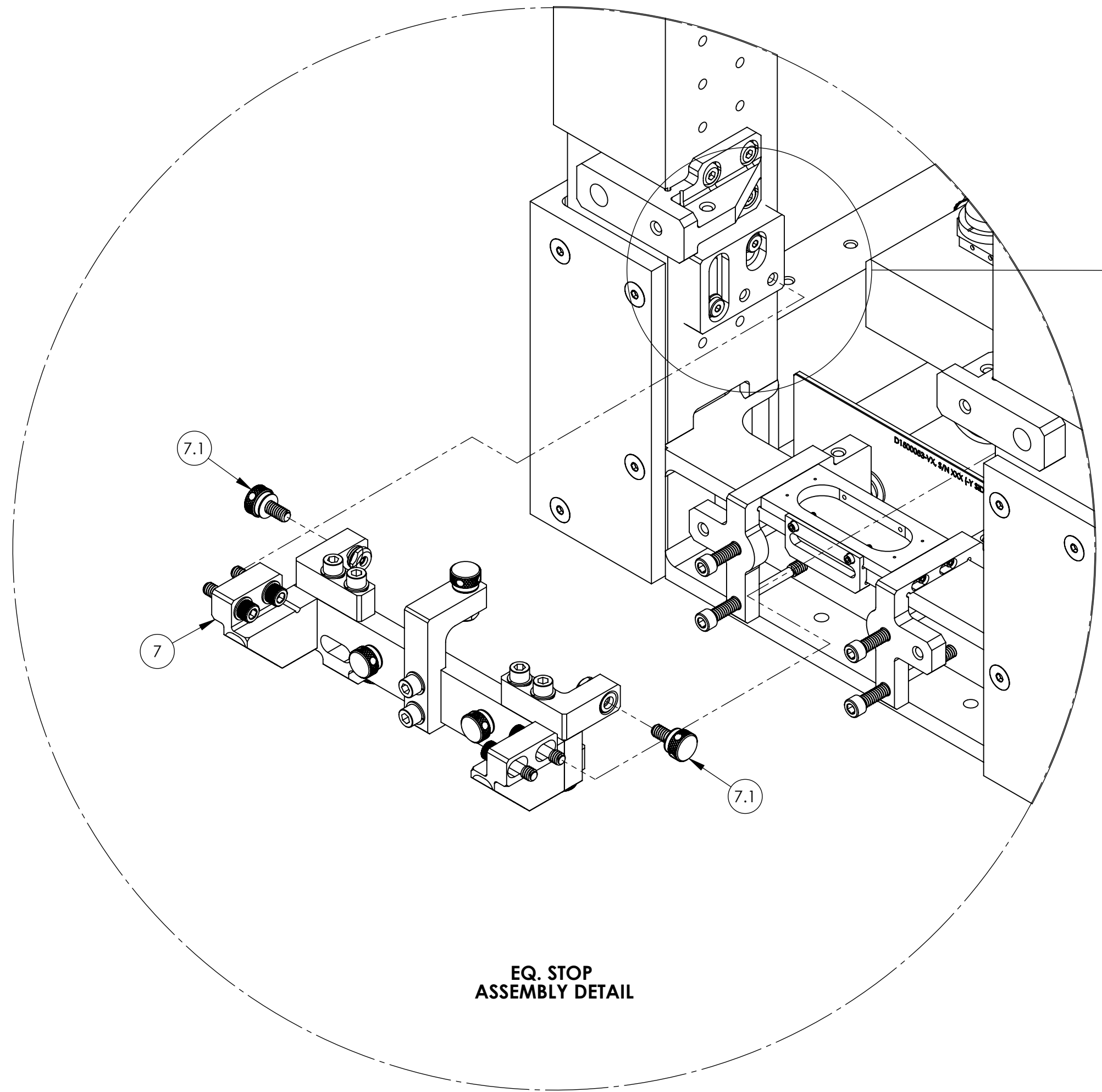
④ TORQUE INDICATED FASTENER TO 10 IN/LBS.

D0900295_AsdLIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (-Y SIDE)

(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)

- 54 4X
- 56 4X
- 7.2 RH
- 7.3 LH



PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
56	UC_COMPONENTS_WFV-25	Vented Washer, .255 ID X .468 OD X .032 THK #1/4	18-8 SSSL	12
54	93215A412 McMASTER-CARR OR EQ.	SCREW, LSHC, 1/4"-20 Thread, 5/8" Length	18-8 SSSL	8
7.3	D1201473	RIGHT, SUPPORT, EQ-STOP, OMC, aLIGO	N/A	1
7.2	D1201472	LEFT, SUPPORT, EQ-STOP, OMC, aLIGO	N/A	1
7.1	D1201471	KNOB, EQ-STOP, OMC aLIGO	N/A	7
7	D1201441	EQ-Stops, OMC, aLIGO	N/A	2

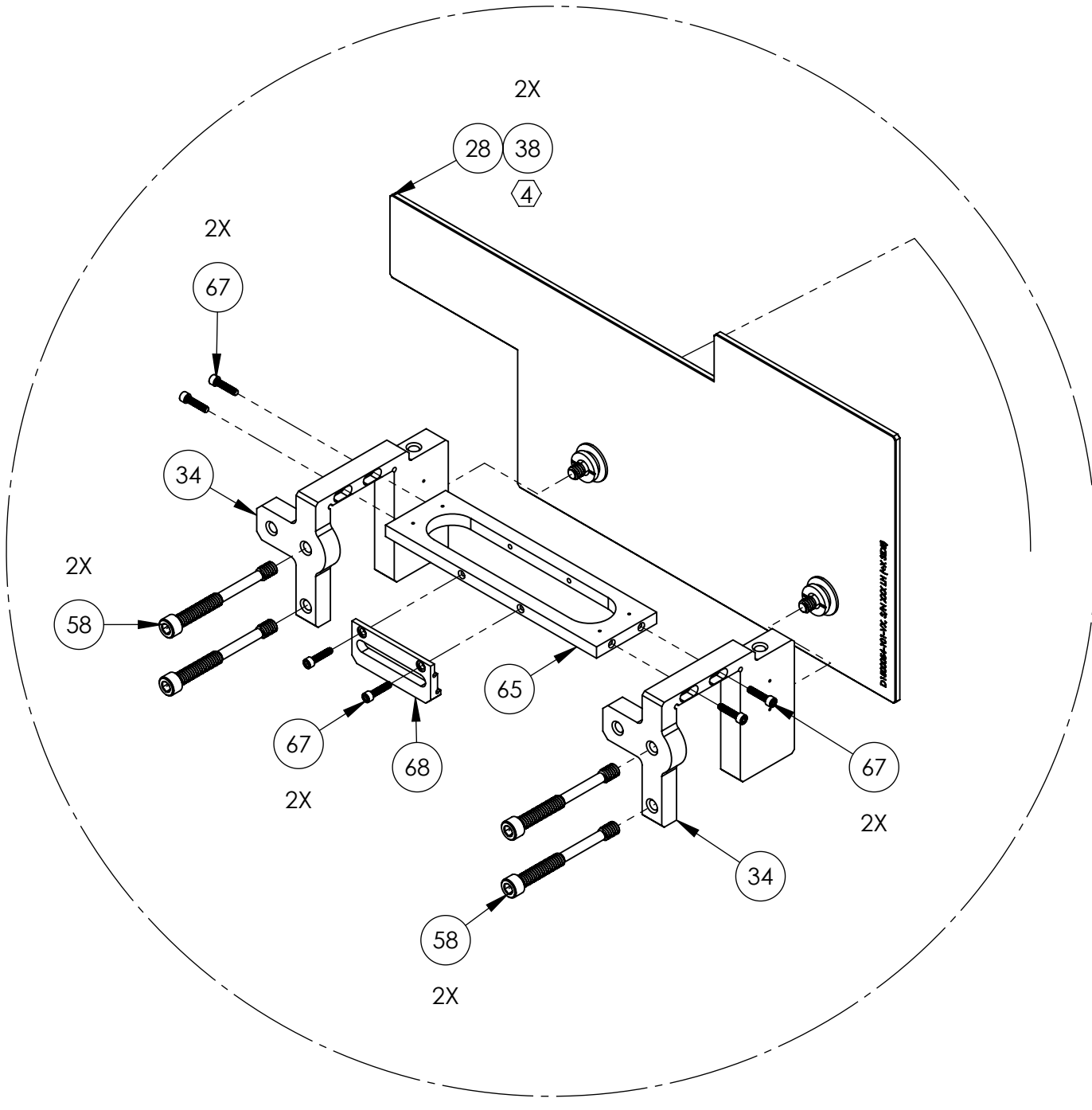
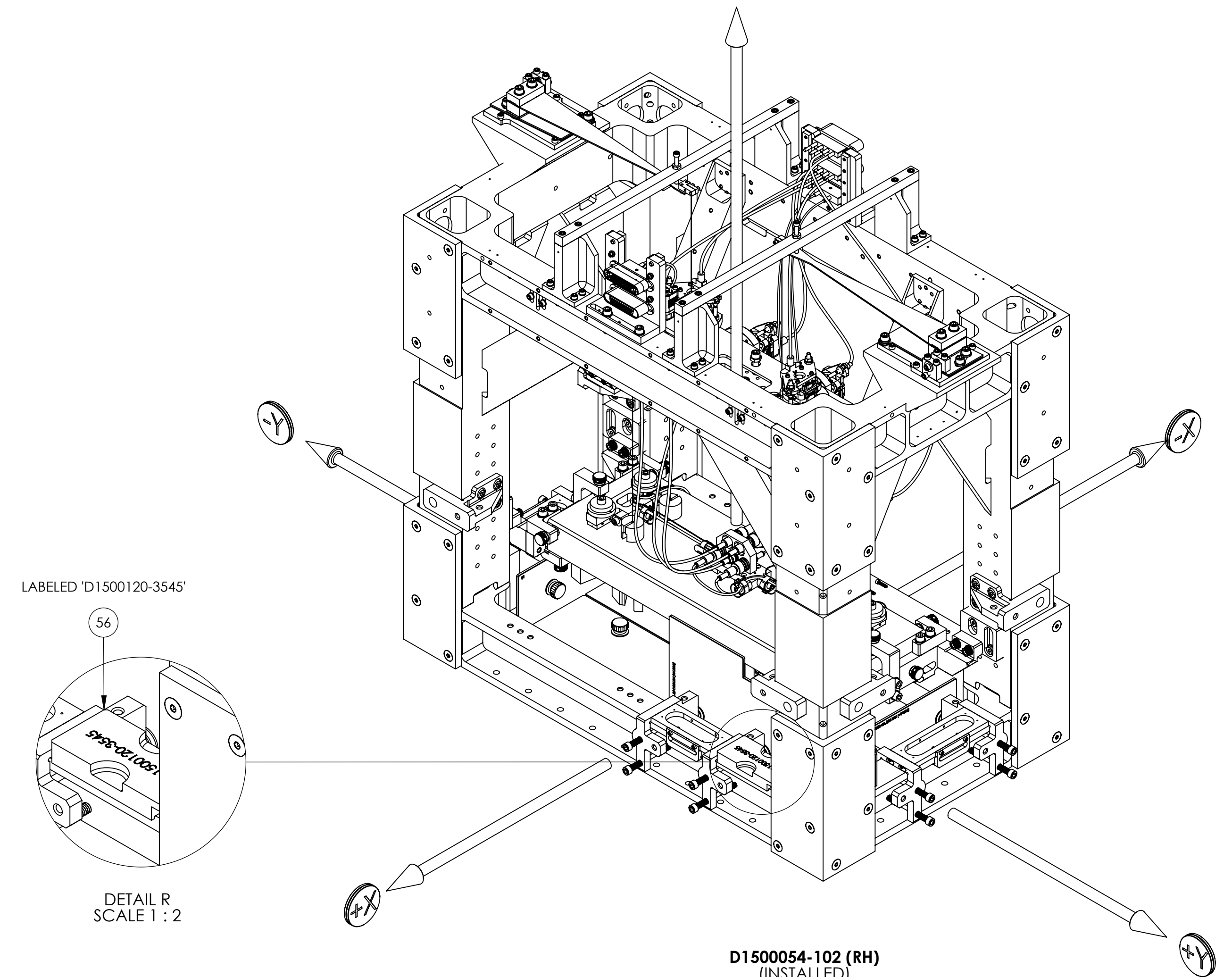
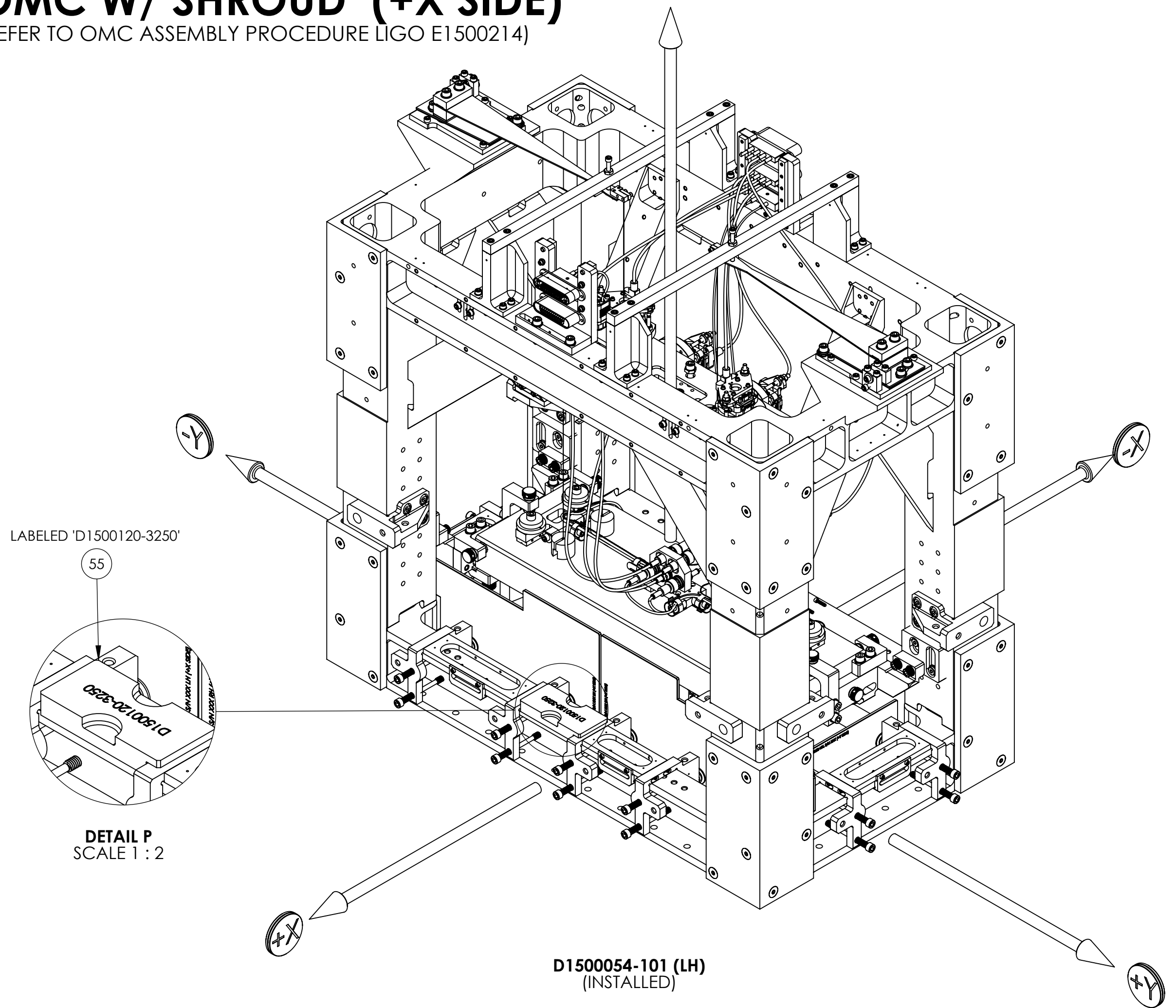
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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO. **D0900295** REV. **v8**
SCALE: 1:4 PROJECTION: SHEET 11 OF 21

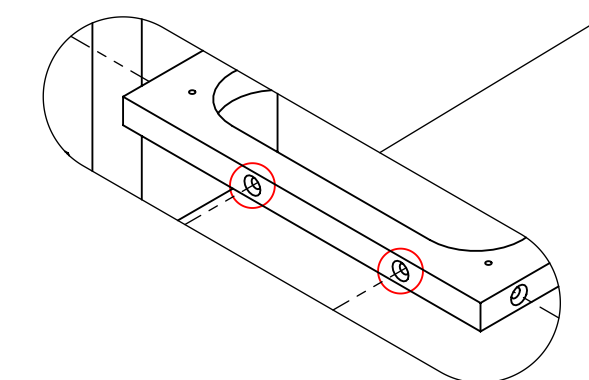
DD900295_AsdLIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (+X SIDE)

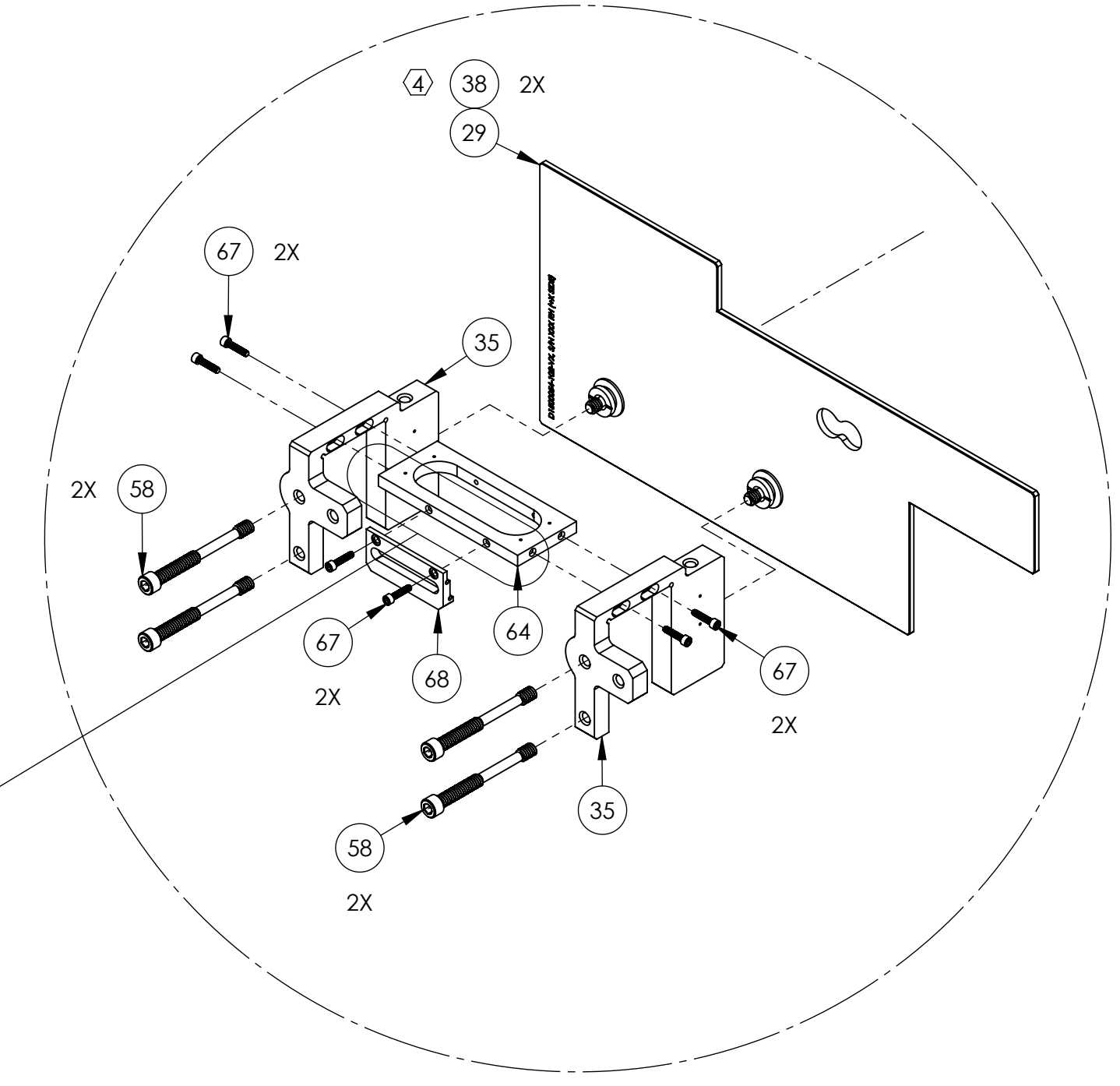
(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)



D1500054-101 (LH)
ASSEMBLY DETAIL



DETAIL AB
SCALE: ENLARGED
(NOTE ORIENTATION OF MT. HOLES)



D1500054-102 (RH)
ASSEMBLY DETAIL

PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
68	D1500148	aLIGO, OMC, Stray light Baffle, C-CLAMP JAW	6061-T6 Al	6
67	MS16995-11 OR EQ.	SCREW, SHC, 4-40 X .50 LG.	300 SSSL	36
65	D1500147-5370	aLIGO, OMC, Stray light Baffle, C-CLAMP STIFFENER	6061-T6 Al	2
64	D1500147-3620	aLIGO, OMC, Stray light Baffle, C-CLAMP STIFFENER	6061-T6 Al	2
58	D1500144	aLIGO, OMC, Stray light Baffle, C-CLAMP SCREW	316 SSSL	24
56	D1500120-3545	aLIGO, OMC, Stray light baffle, C-CLAMP MT. GAUGE BLOCK	6061-T6 Al	2
55	D1500120-3250	aLIGO, OMC, Stray light baffle, C-CLAMP MT. GAUGE BLOCK	6061-T6 Al	2
38	D1500105-2	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	12
35	D1500058-102	aLIGO, OMC, Stray light Baffle, C-CLAMP	6061-T6 Al	5
34	D1500058-101	aLIGO, OMC, Stray light Baffle, C-CLAMP (LH)	6061-T6 Al	7
29	D1500054-102	aLIGO, OMC, Stray light baffle, VERT PANEL (REFL AIR)	BK7 GLASS	1
28	D1500054-101	aLIGO, OMC, Stray light baffle, VERT PANEL (REFL AIR)	BK7 GLASS	1

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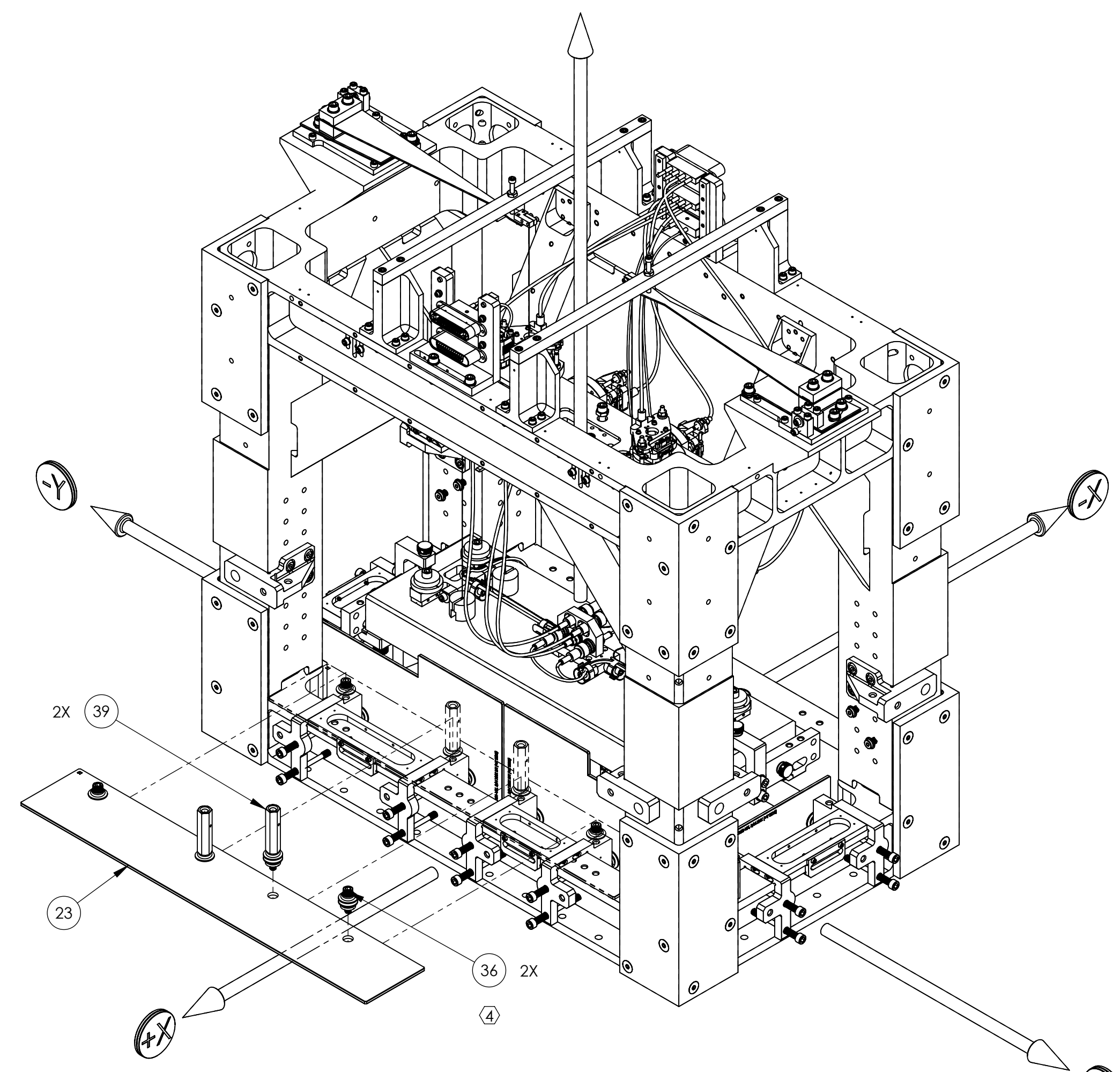
SIZE DWG. NO. **D0900295** REV. **v8**
SCALE: 1:4 PROJECTION: SHEET 12 OF 21

④ TORQUE INDICATED FASTENER TO 10 IN/LBS.

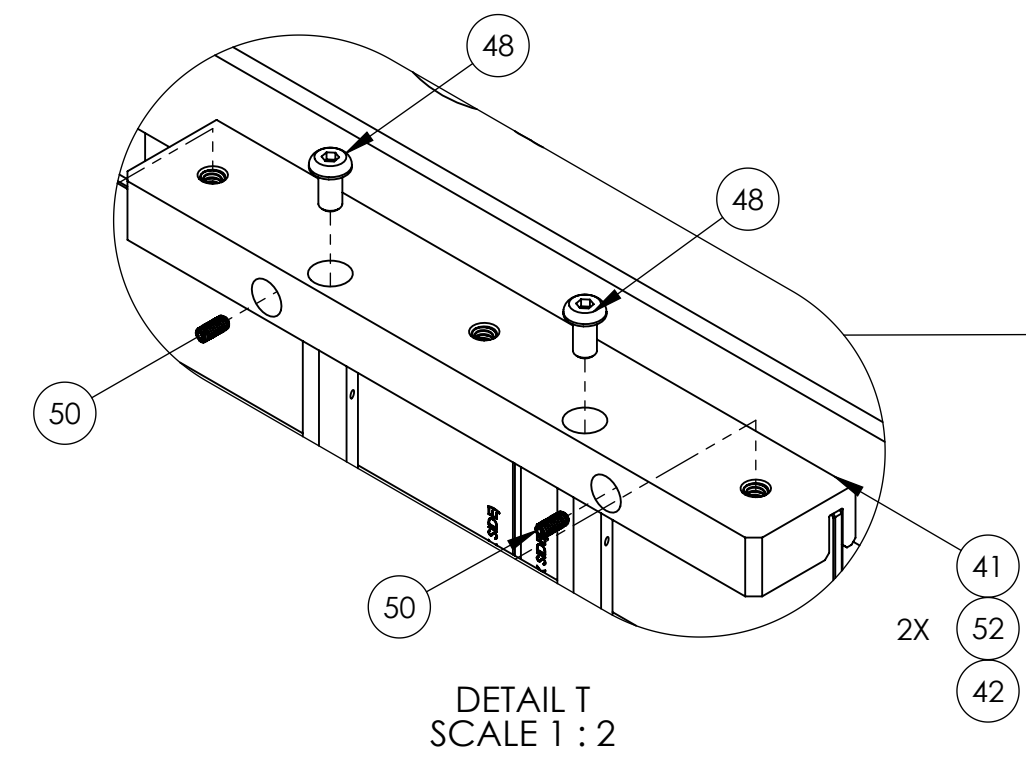
D0900295_A01 LIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4.037, DRAWING PDM REV: V4.003

OMC W/ SHROUD (+X SIDE)

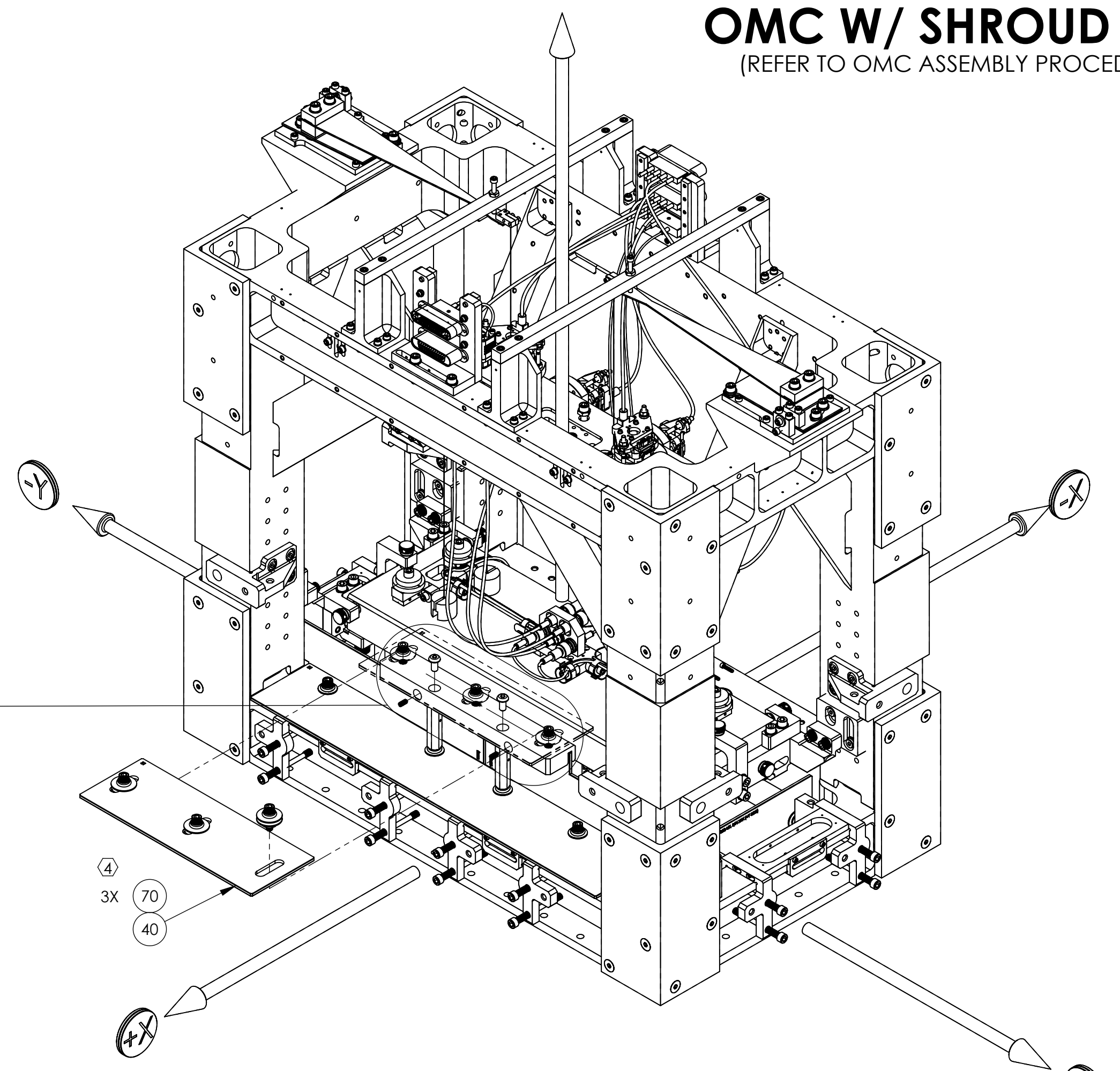
(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)



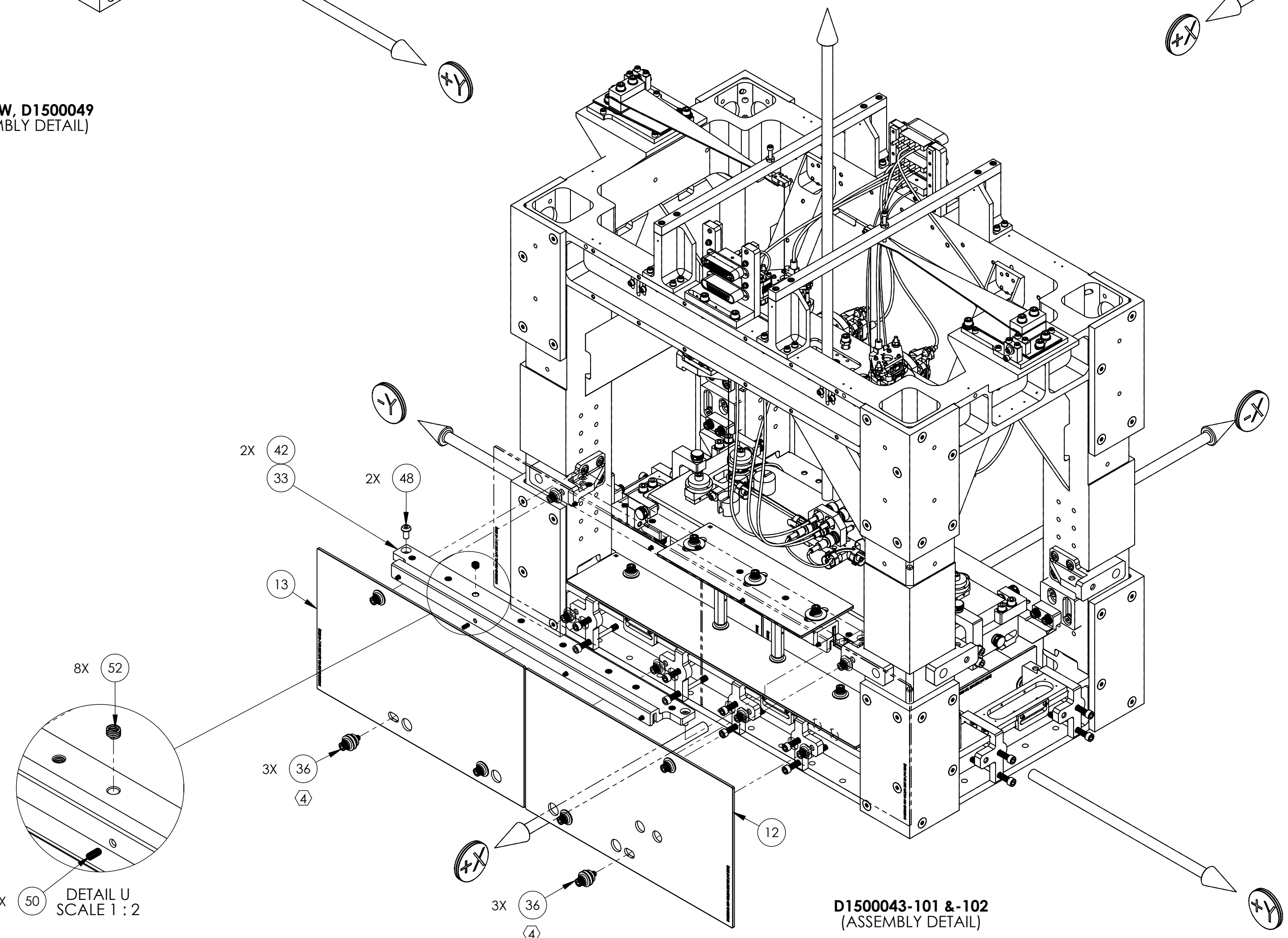
ISO VIEW, D1500049
(ASSEMBLY DETAIL)



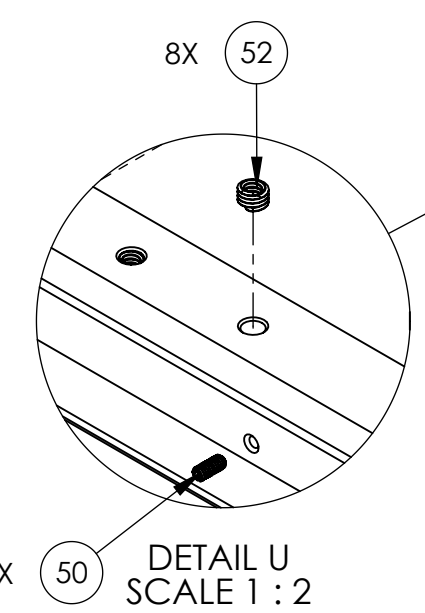
DETAIL T
SCALE 1:2



ISO VIEW, D1500116
(ASSEMBLY DETAIL)



D1500043-101 & -102
(ASSEMBLY DETAIL)



DETAIL U
SCALE 1:2

PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
70	D1500105-4	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	6
52	1185-4EN250 EMHART OR EQ.	HELICOIL, 1/4-20 X .25 LG.	NITRONIC 60	22
50	94355A192 McMASTER-CARR OR EQ.	SET SCREW, 8-32 X .38 LG.	18-8 SSSL	12
48	BU-2008-N UC COMPONENTS OR EQ.	SCREW, BHSC, 1/4-20 X .50 LG.	18-8 SSSL	53
42	D1500119	aLIGO, OMC, Stray light baffle, MIDSPAN SUPPORT SHIM	PEEK	6
41	D1500117	aLIGO, OMC, Stray light Baffle, Midspan Support (INNER)	PEEK	2
40	D1500116	aLIGO, OMC, Stray light baffle, TOP HORZ PANEL (INNER)	BK7 GLASS	2
39	D1500105-3	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	4
36	D1500105	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	48
33	D1500057	aLIGO, OMC, Stray light Baffle, Midspan Support	PEEK	2
23	D1500049	aLIGO, OMC, Stray light baffle, HORZ PANEL (REFL AIR)	BK7 GLASS	1
13	D1500043-102	aLIGO, OMC, Stray light baffle, Outer Panel (REFL AIR) LH	BK7 GLASS	1
12	D1500043-101	aLIGO, OMC, Stray light baffle, Outer Panel (REFL AIR) RH	BK7 GLASS	1

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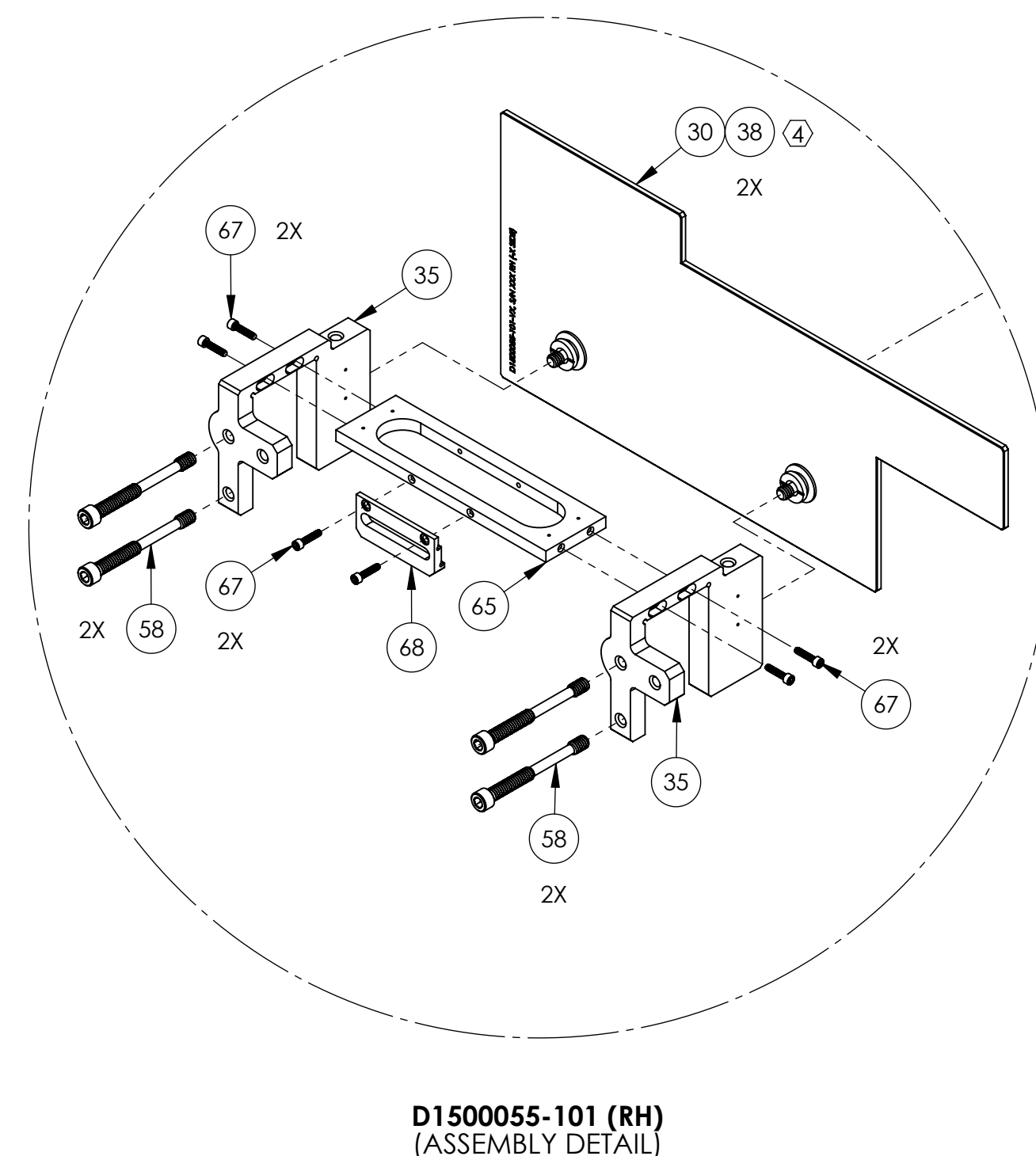
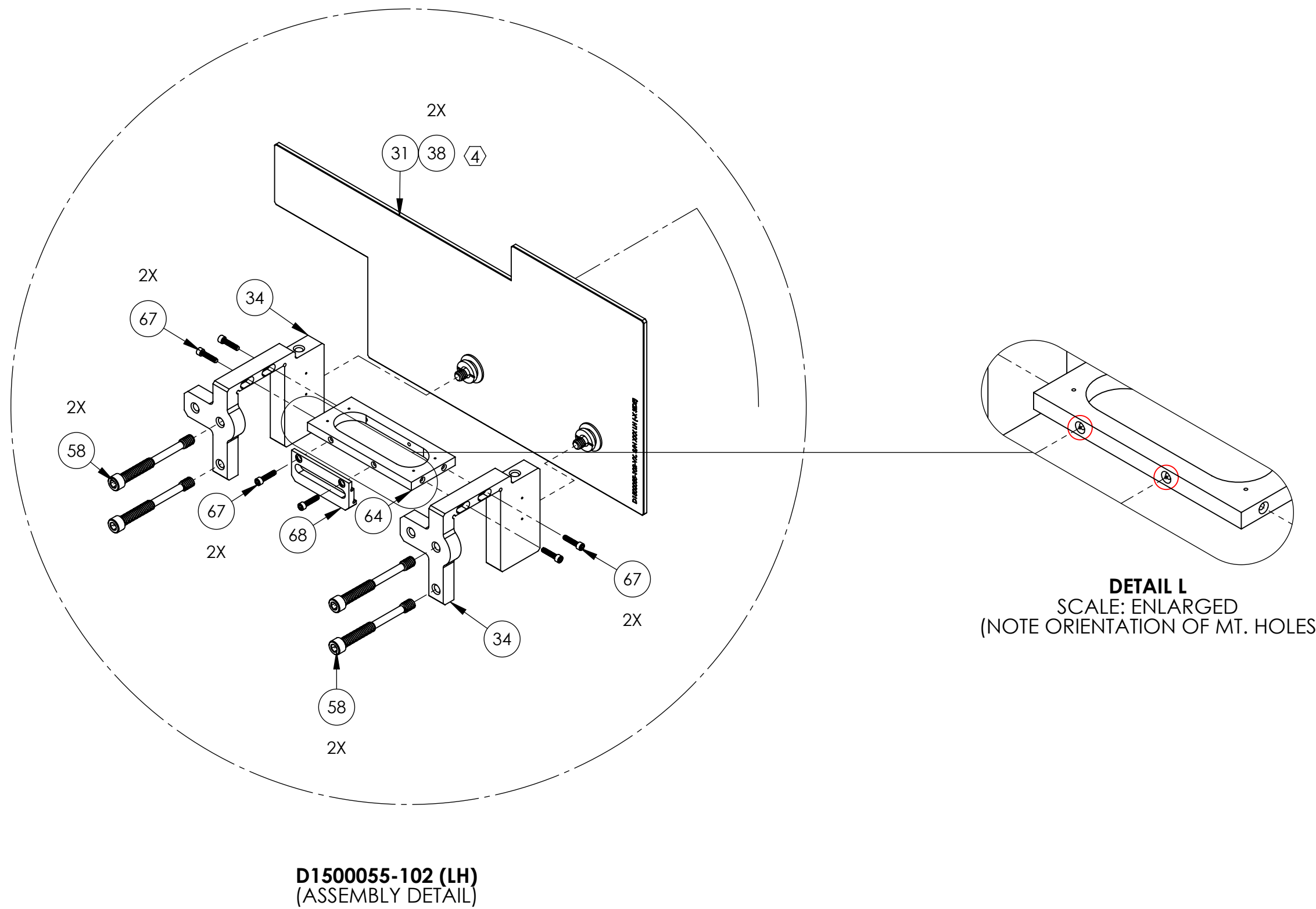
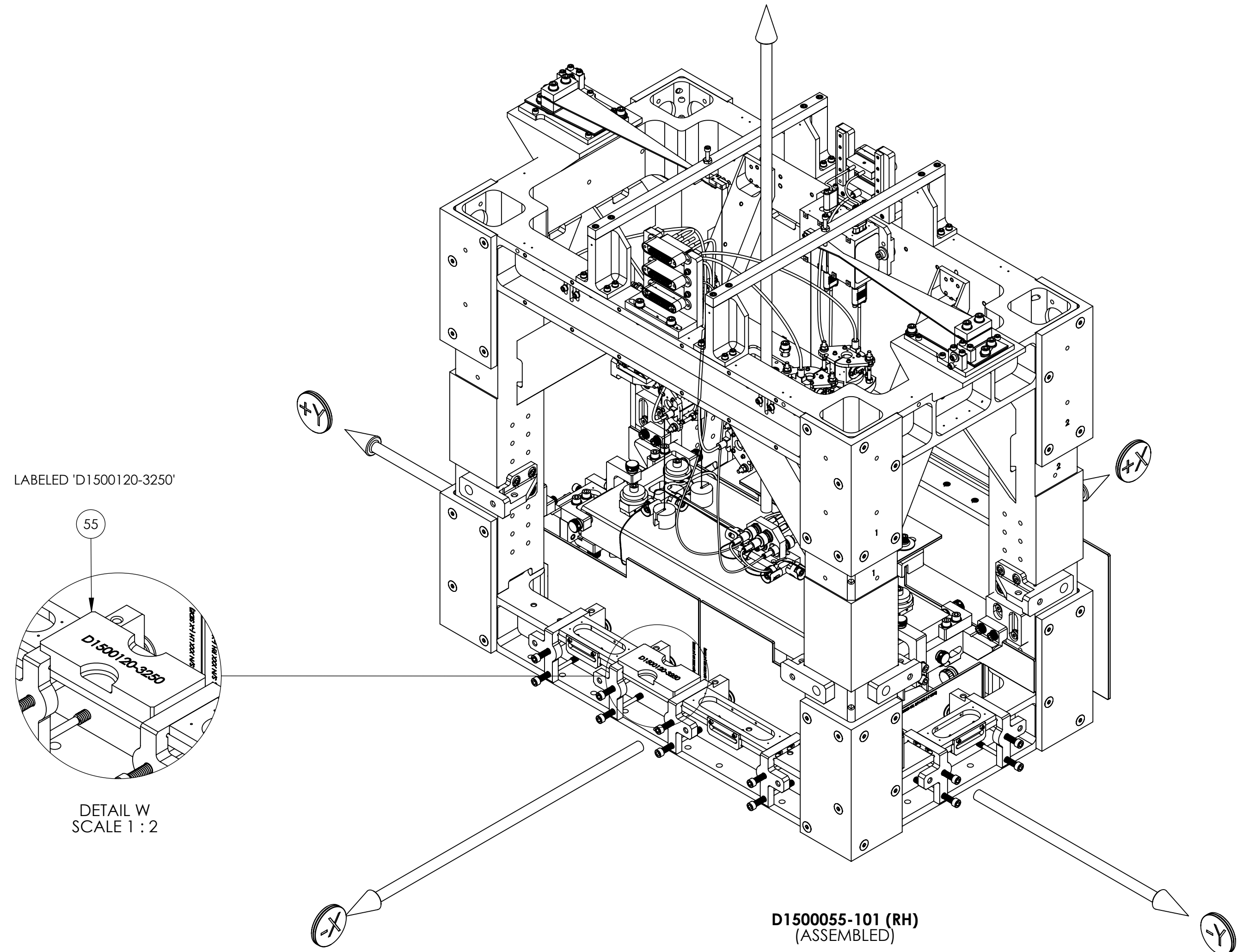
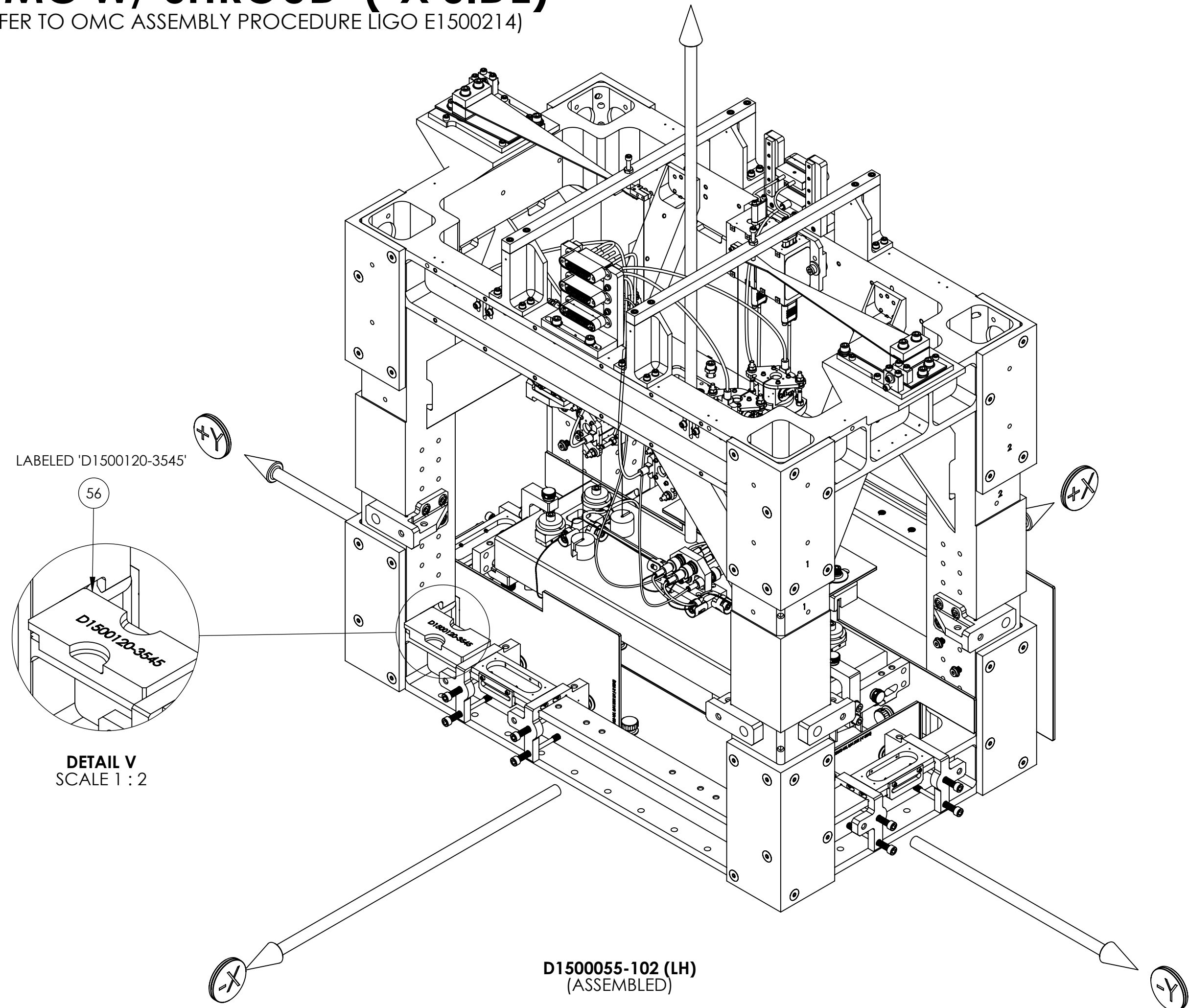
SIZE DWG. NO. **D0900295** REV. **v8**
SCALE: 1:4 PROJECTION: SHEET 13 OF 21

④ TORQUE INDICATED FASTENER TO 10 IN/LBS.

D0900295_A01 LIGO_SUS_Output/Mode Cleaner Overhead Assembly, PART FDM REV: V4.037, DRAWING FDM REV: V4.003

OMC W/ SHROUD (-X SIDE)

(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)



PARTIAL BOM (FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
68	D1500148	aLIGO, OMC, Stray light Baffle, C-CLAMP JAW	6061-T6 Al	6
67	MS16995-11 OR EQ.	SCREW, SHC, 4-40 X .50 LG.	300 SSSL	36
65	D1500147-5370	aLIGO, OMC, Stray light Baffle, C-CLAMP STIFFENER	6061-T6 Al	2
64	D1500147-3620	aLIGO, OMC, Stray light Baffle, C-CLAMP STIFFENER	6061-T6 Al	2
58	D1500144	aLIGO, OMC, Stray light Baffle, C-CLAMP SCREW	316 SSSL	24
56	D1500120-3545	aLIGO, OMC, Stray light baffle, C-CLAMP MT. GAUGE BLOCK	6061-T6 Al	2
55	D1500120-3250	aLIGO, OMC, Stray light baffle, C-CLAMP MT. GAUGE BLOCK	6061-T6 Al	2
38	D1500105-2	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	12
35	D1500058-102	aLIGO, OMC, Stray light Baffle, C-CLAMP	6061-T6 Al	5
34	D1500058-101	aLIGO, OMC, Stray light Baffle, C-CLAMP (LH)	6061-T6 Al	7
31	D1500055-102	aLIGO, OMC, Stray light baffle, VERT PANEL (-X Side)	BK7 GLASS	1
30	D1500055-101	aLIGO, OMC, Stray light baffle, VERT PANEL (-X Side)	BK7 GLASS	1

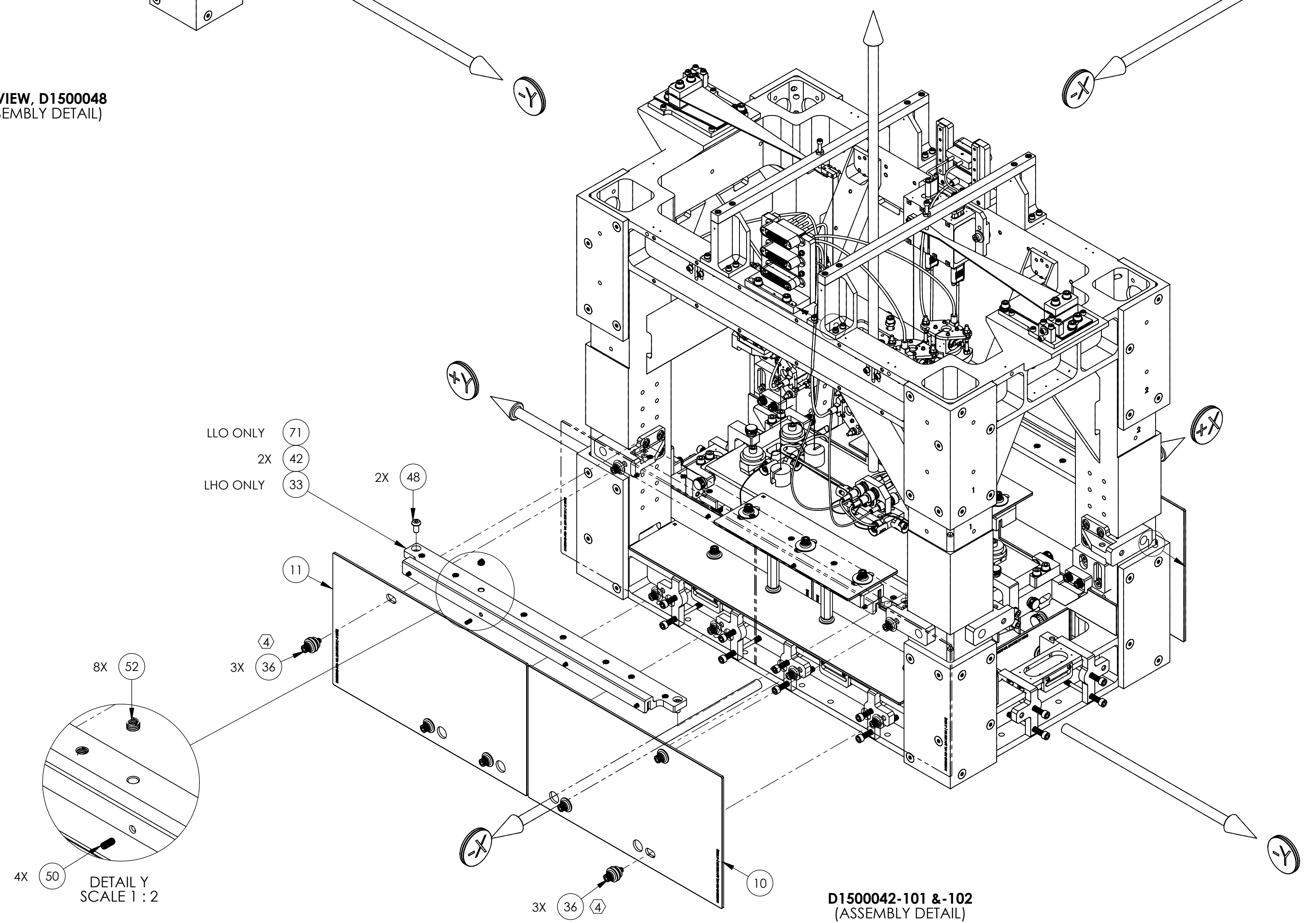
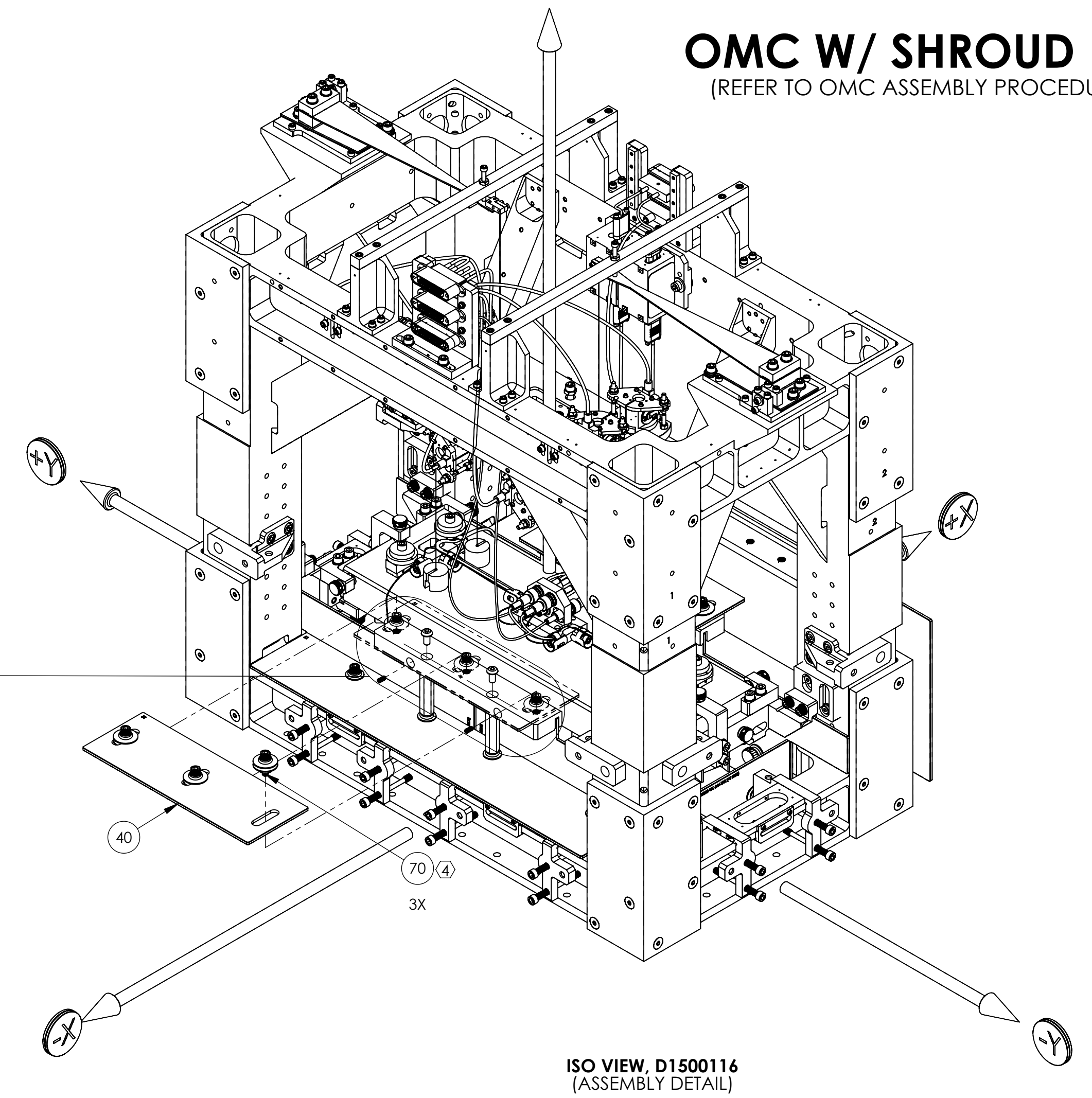
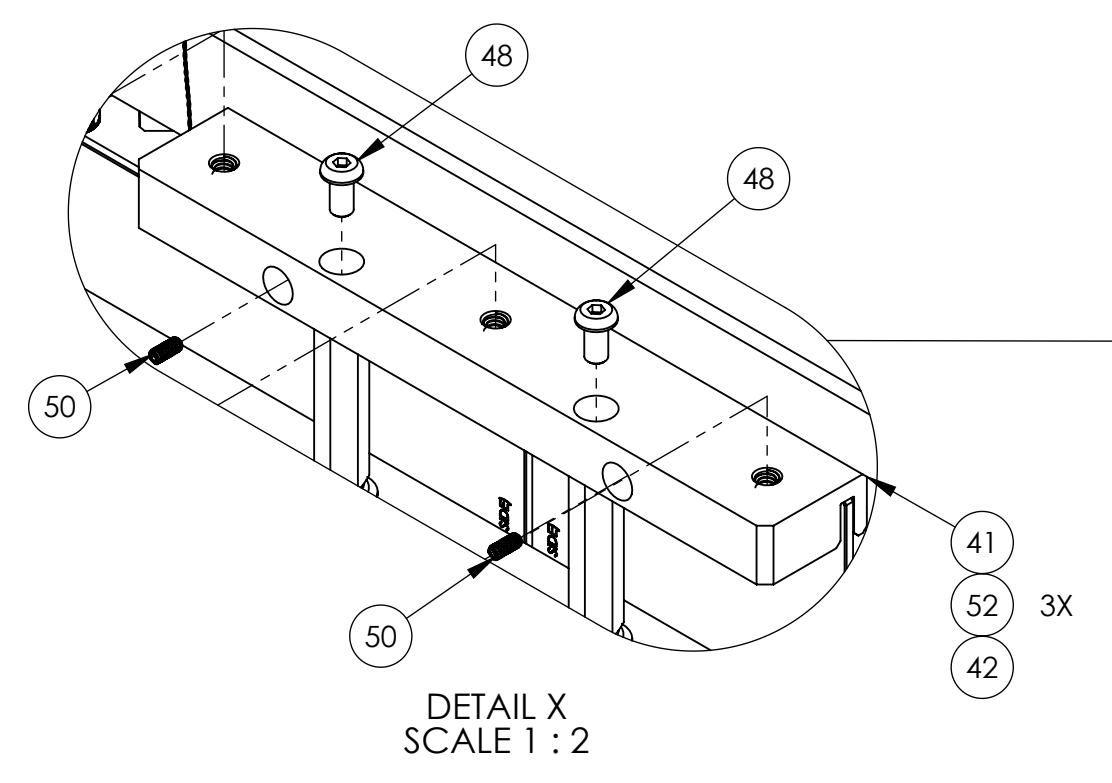
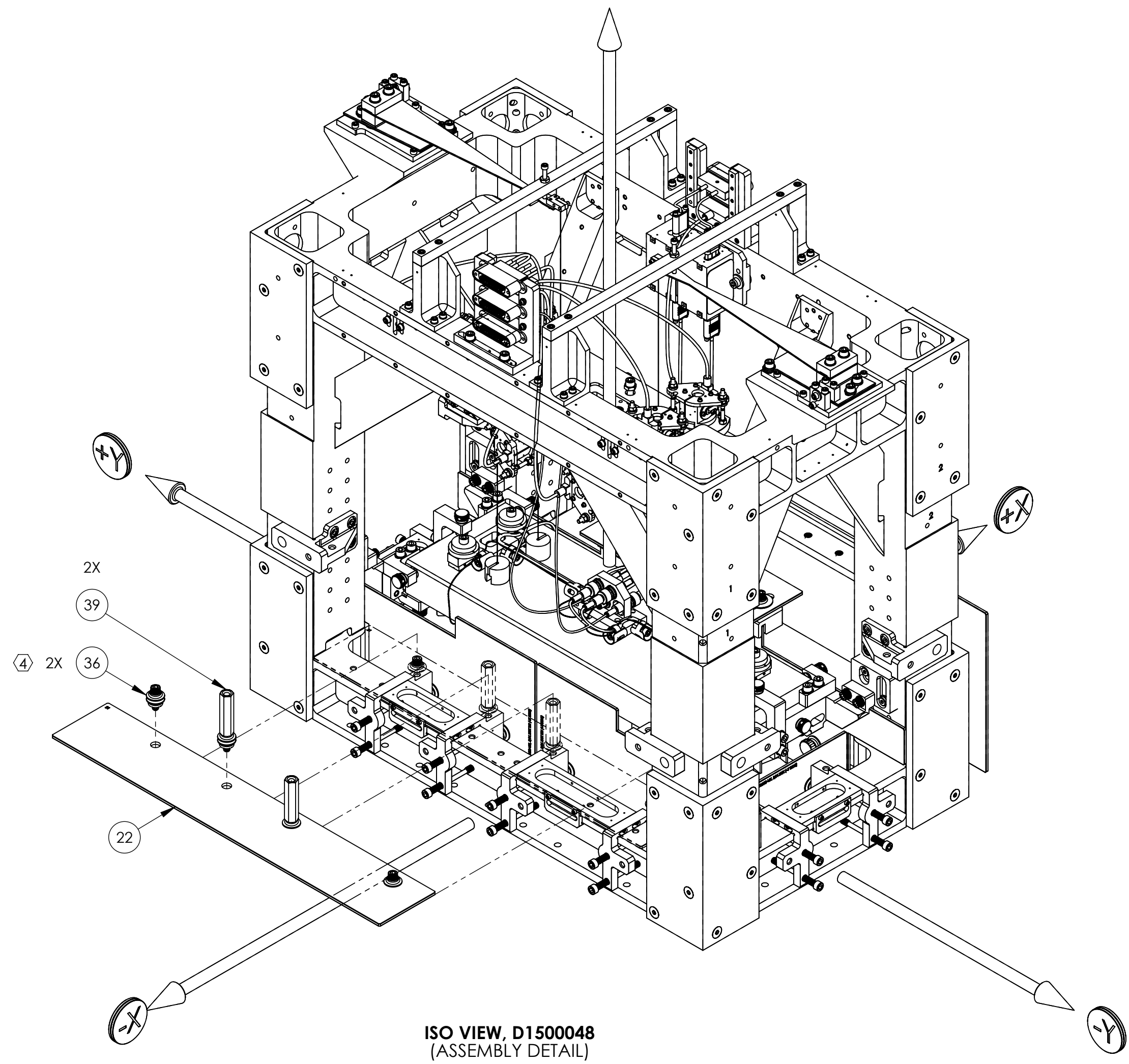
LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO. **D0900295** REV. **v8**
SCALE: 1:4 PROJECTION: SHEET 14 OF 21

(4) TORQUE INDICATED FASTENER TO 10 IN/LBS.

OMC W/ SHROUD (-X SIDE)

(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)



PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.	LHO CONFIG. QTY.	LLO CONFIG. QTY.
71	D1500057-1	aLIGO, OMC, Stray light Baffle, Midspan Support	PEEK	-	-	1
70	D1500105-4	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	6	6	6
52	1185-4EN250 EMHART OR EQ.	HELICOIL, 1/4-20 X .25 LG.	NITRONIC 60	22	22	20
50	94355A192 MCMMASTER-CARR OR EQ.	SET SCREW, 8-32 X .38 LG.	18-8 SSSL	12	12	12
48	BU-2008-N UC COMPONENTS OR EQ.	SCREW, BHSC, 1/4-20 X .50 LG.	18-8 SSSL	53	53	53
42	D1500119	aLIGO, OMC, Stray light baffle, MIDSPAN SUPPORT SHIM	PEEK	6	6	6
41	D1500117	aLIGO, OMC, Stray light Baffle, Midspan Support (INNER)	PEEK	2	2	2
40	D1500116	aLIGO, OMC, Stray light baffle, TOP HORZ PANEL (INNER)	BK7 GLASS	2	2	2
39	D1500105-3	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	4	4	4
36	D1500105	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	48	46	46
33	D1500057	aLIGO, OMC, Stray light Baffle, Midspan Support	PEEK	2	2	1
22	D1500048	aLIGO, OMC, Stray light baffle, HORZ PANEL (-X Side)	BK7 GLASS	1	1	1
11	D1500042-102	aLIGO, OMC, Stray light baffle, Outer Panel (-X Side) LH	BK7 GLASS	1	1	1
10	D1500042-101	aLIGO, OMC, Stray light baffle, Outer Panel (-X Side) RH	BK7 GLASS	1	1	1

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO. **D0900295** REV. **v8**
SCALE: 1:4 PROJECTION: SHEET 15 OF 21

④ TORQUE INDICATED FASTENER TO 10 IN/LBS.

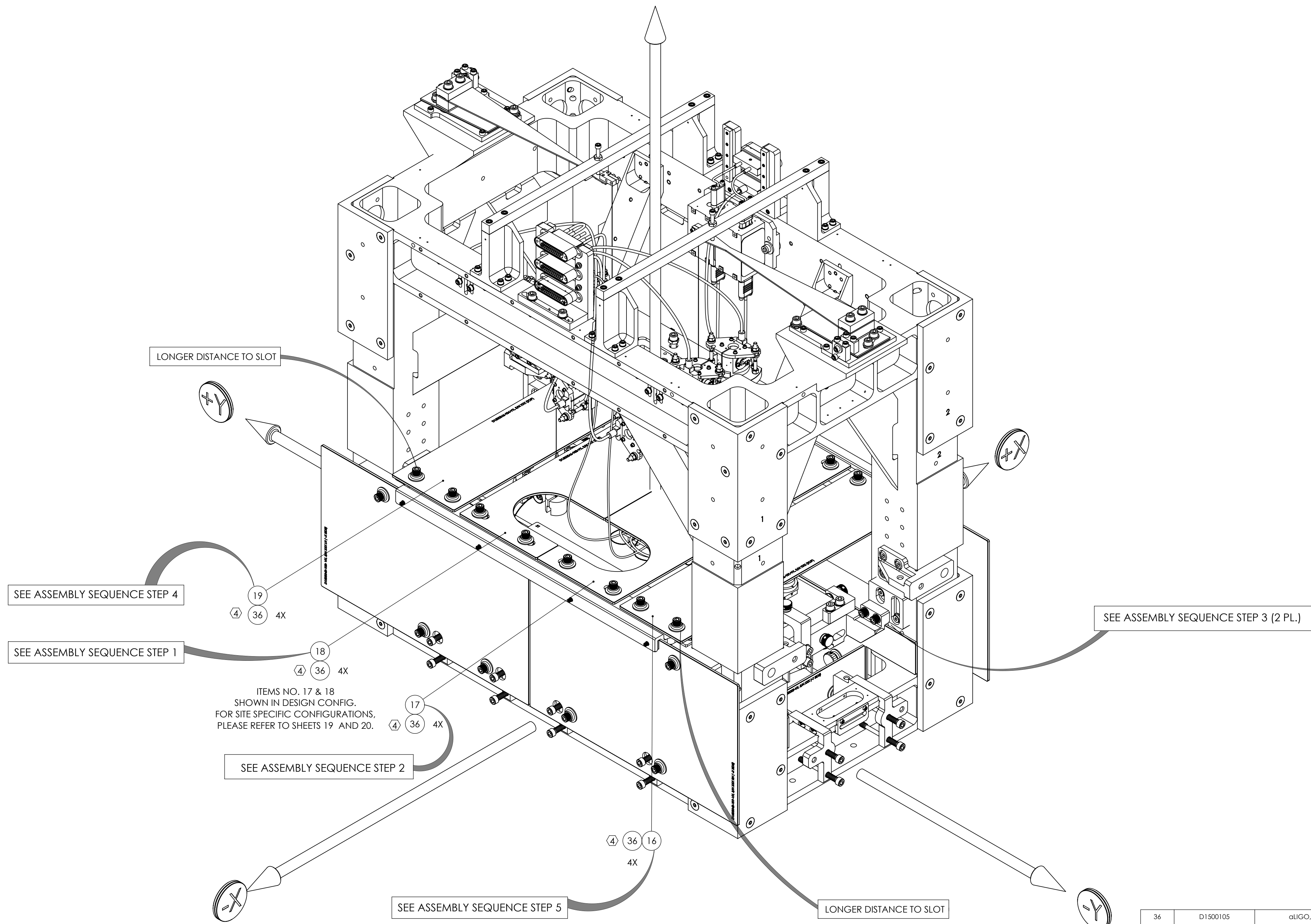
D0900295_A01 LIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (-X SIDE)

(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)

ASSEMBLY SEQUENCE

1. INSTALL ITEM NO. 18
2. INSTALL ITEM NO. 17
3. RELEASE ALL EQ. STOPS KNOBS
4. INSTALL ITEM NO. 19
5. INSTALL ITEM NO. 16



ISO VIEW, D1500046-101,102,-103 &-104
(ASSEMBLY DETAIL)

PARTIAL BOM (FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.	LHO CONFIG. QTY.	LLO CONFIG. QTY.
36	D1500105	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	48	46	46
19	D1500046-104	aLIGO, OMC, Stray light baffle, Outer Panel (TOP)	-	1	1	1
18	D1500046-103	aLIGO, OMC, Stray light baffle, Outer Panel (TOP)	-	1	1	1
17	D1500046-102	aLIGO, OMC, Stray light baffle, Outer Panel (TOP)	-	1	1	1
16	D1500046-101	aLIGO, OMC, Stray light baffle, Outer Panel (TOP)	-	1	1	1

PARTS LIST

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO. REV.

D **D0900295** v8

SCALE: 1:4 PROJECTION: SHEET 16 OF 21

(4) TORQUE INDICATED FASTENER TO 10 IN/LBS.

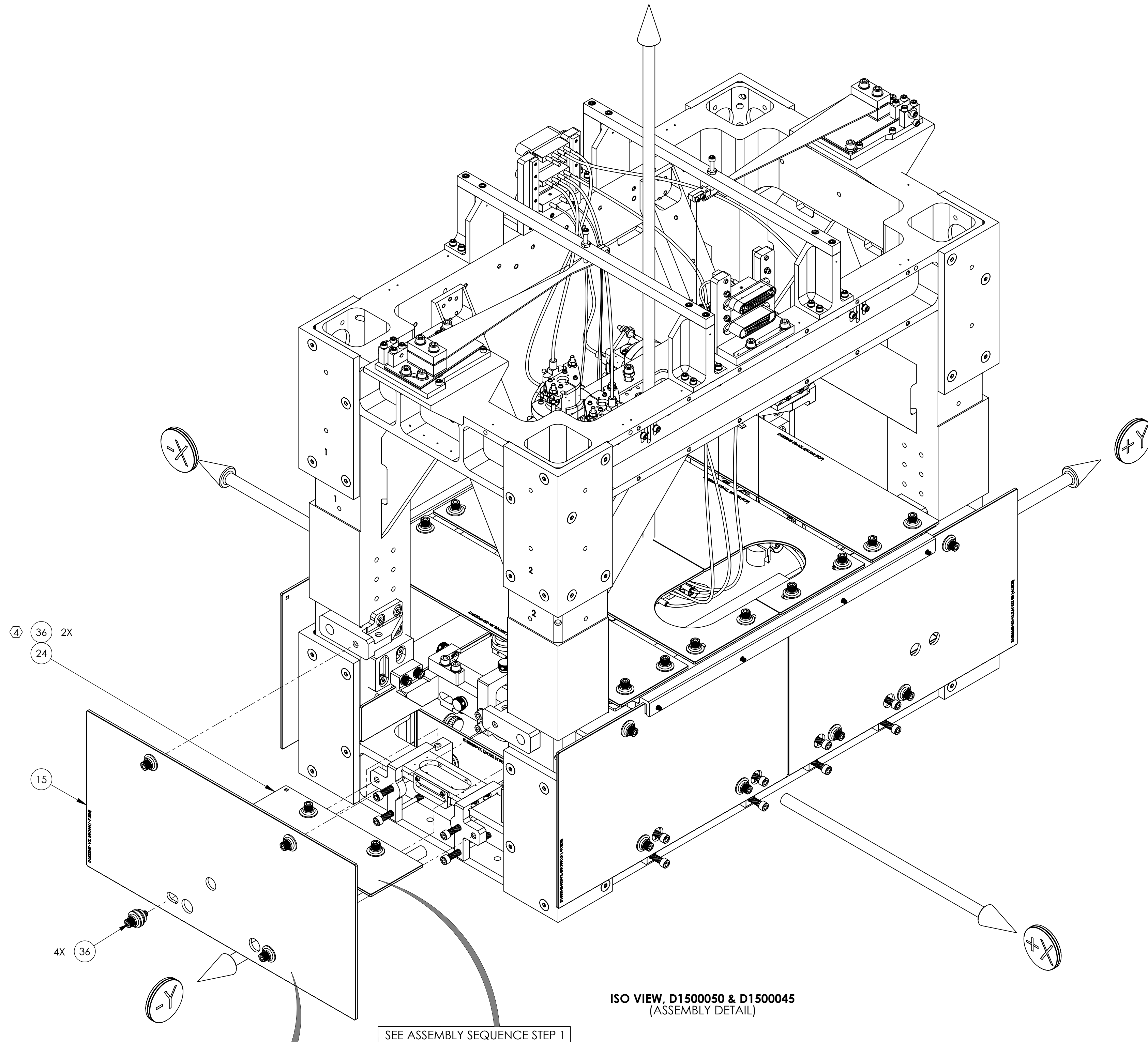
DD900295_Asd1LIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (-Y SIDE)

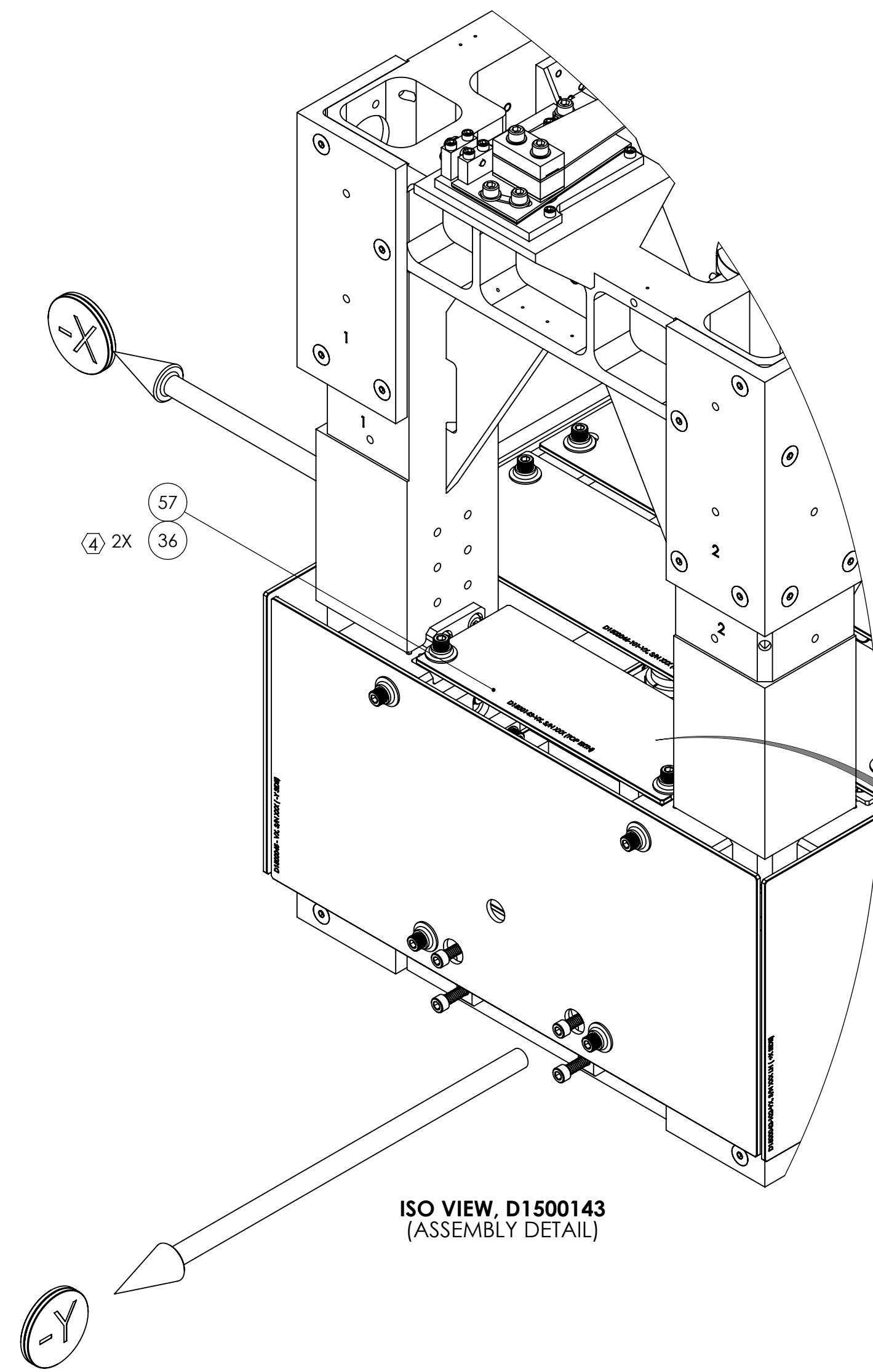
(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)

ASSEMBLY SEQUENCE

1. INSTALL ITEM NO. 24
2. FIT CHECK ITEM NO. 15, THEN REMOVE.
3. INSTALL ITEM NO. 57



ISO VIEW, D1500050 & D1500045
(ASSEMBLY DETAIL)



ISO VIEW, D1500143
(ASSEMBLY DETAIL)

SEE ASSEMBLY SEQUENCE STEP 3

PARTIAL BOM
(FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
57	D1500143	aLIGO, OMC, Stray light baffle, TOP PANEL EXTN	BK7 GLASS	2
36	D1500105	aLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	48
24	D1500050	aLIGO, OMC, Stray light baffle, HORZ PANEL (-Y Side)	-	1
15	D1500045	aLIGO, OMC, Stray light baffle, Outer Panel (-Y SIDE)	-	1

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SIZE DWG. NO. REV.

D D0900295 v8

SCALE: 1:4 PROJECTION: SHEET 17 OF 21

④ TORQUE INDICATED FASTENER TO 10 IN/LBS.

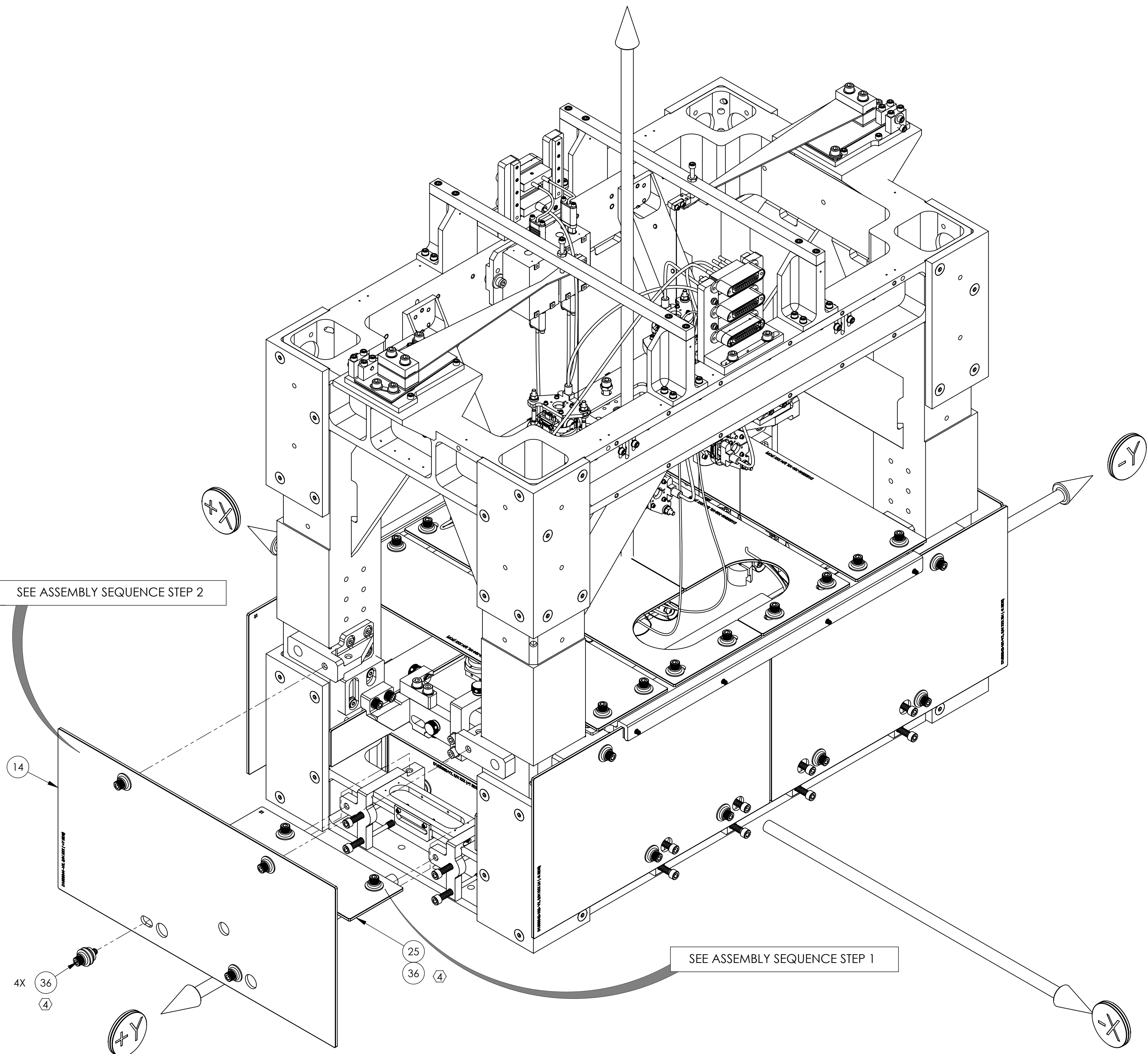
D0900295_AsdLIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

OMC W/ SHROUD (+Y SIDE)

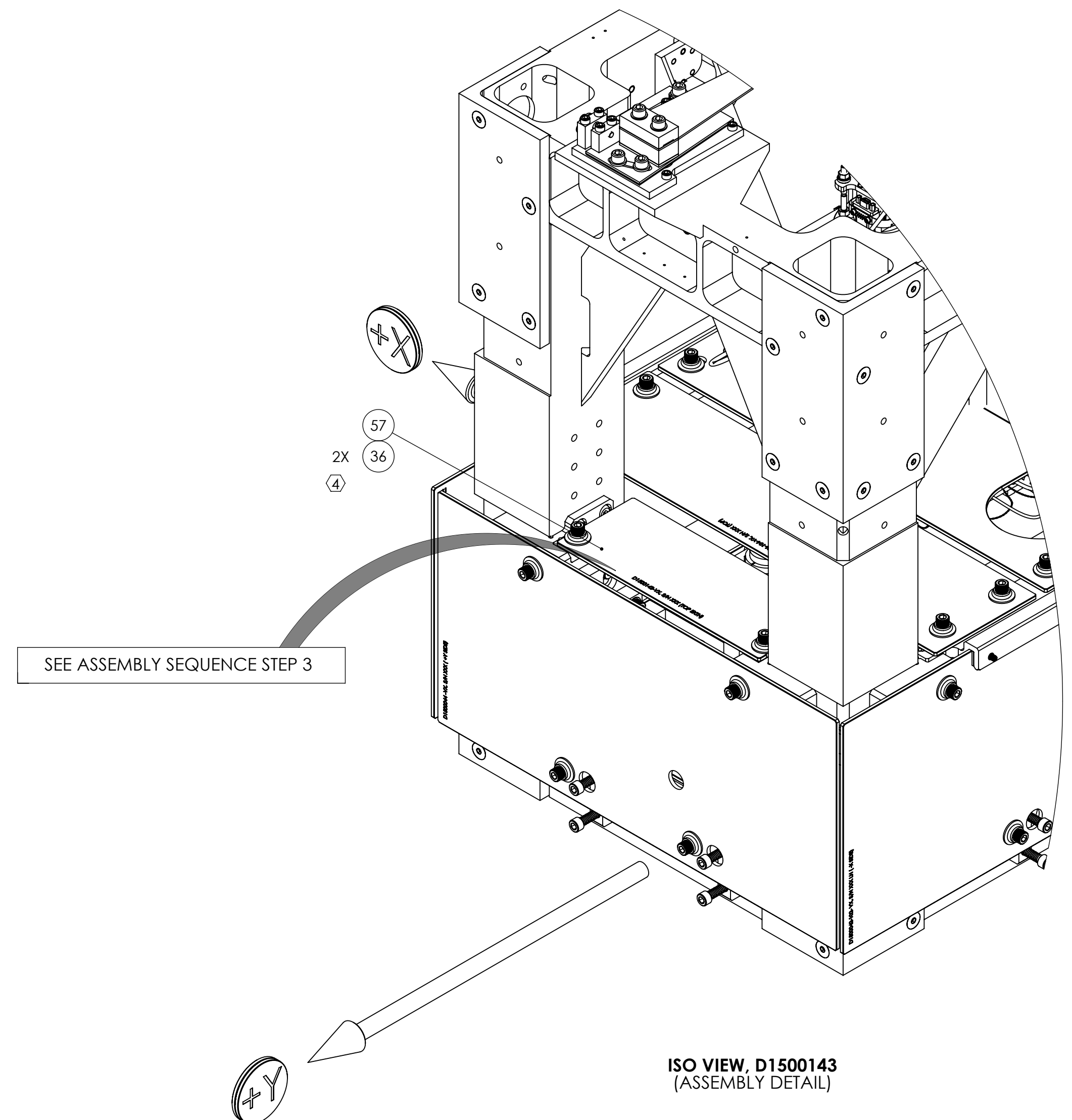
(REFER TO OMC ASSEMBLY PROCEDURE LIGO E1500214)

ASSEMBLY SEQUENCE

1. INSTALL ITEM NO. 25
2. FIT CHECK ITEM NO. 14, THEN REMOVE.
3. INSTALL ITEM NO. 57



ISO VIEW, D1500051 & D1500044
(ASSEMBLY DETAIL)



ISO VIEW, D1500143
(ASSEMBLY DETAIL)

PARTIAL BOM (FOR COMPLETE BOM REFER TO SHEET 2)

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	DESIGN CONFIG. QTY.
57	D1500143	αLIGO, OMC, Stray light baffle, TOP PANEL EXTN	BK7 GLASS	2
36	D1500105	αLIGO, OMC, Stray light baffle, BOLT ASSY.	N/A	48
25	D1500051	αLIGO, OMC, Stray light baffle, HORZ PANEL (TRANS AIR)	-	1
14	D1500044	αLIGO, OMC, Stray light baffle, Outer Panel (TRANS AIR)	-	1

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SIZE	DWG. NO.	REV.
D	D0900295	v8
SCALE: 1:4	PROJECTION:	SHEET 18 OF 21

DD900295_A01/LIGO_SUS_Output/Mode Cleaner Overhaul Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

④ TORQUE INDICATED FASTENER TO 10 IN/LBS.

OMC W/ SHROUD - AS BUILT (LLO)

TOP PANELS, P/N D1500046-102 & -103
 MODIFIED AS PER D1500046-v2
 TO ELIMINATE INTERFERENCES WITH
 OMC OPTIC BENCH CABLES.
 (REFER TO LLO aLOG #19047 FOR DETAILS)


APPROX. 5.5mm
 (SEE LLO aLOG #19129)

MOVED PANEL
 IN THE +X +Y DIRECTION
 TO ELIMINATE CLIPPING OF
 OMC REFL BEAM
 (REFER TO LLO aLOG #19104 FOR DETAILS)

OMC OPTIC BENCH
 CABLES

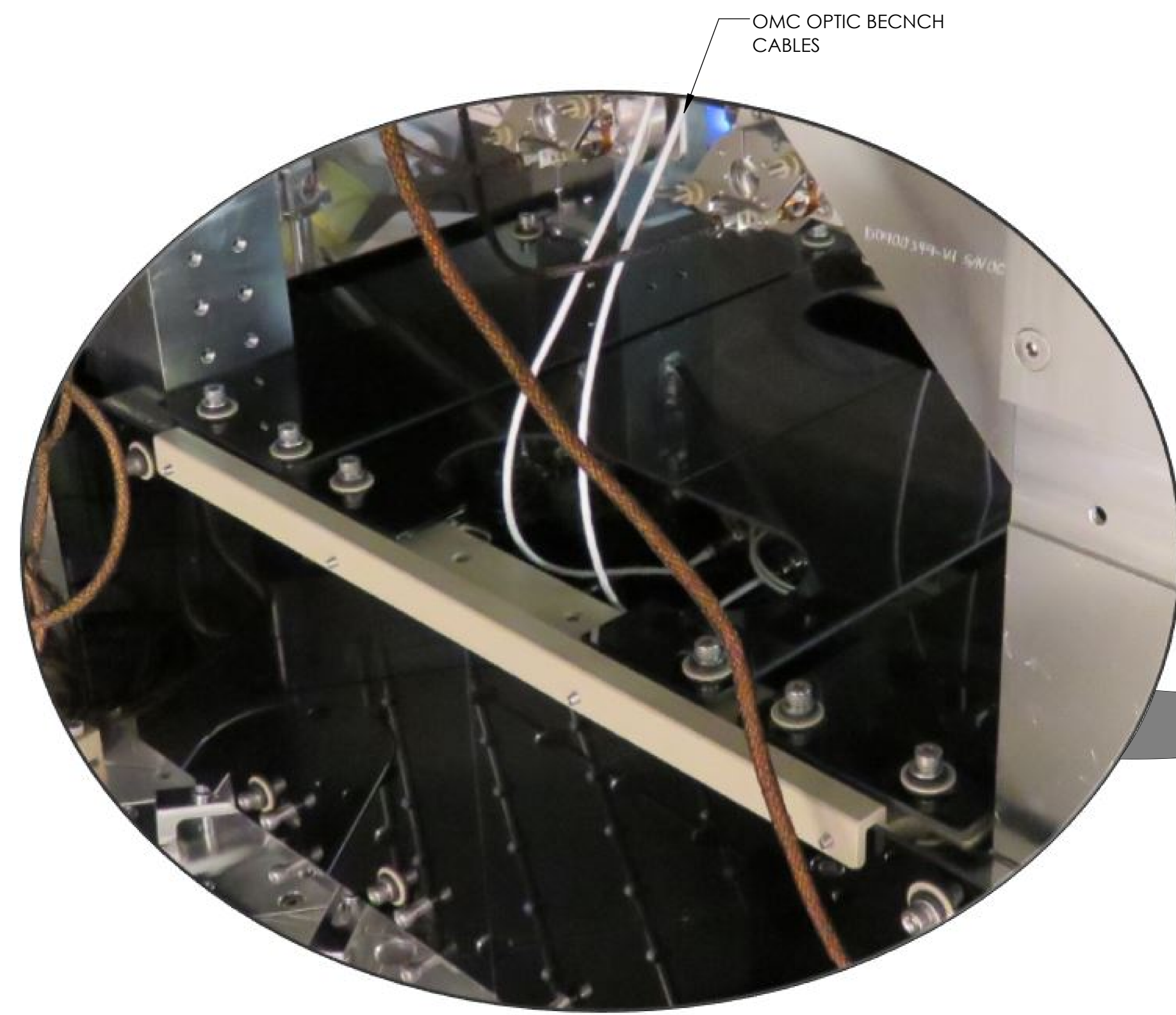
PEEK SUPPORT BAR MODIFIED AS SHOWN
 TO PROVIDE CLEARANCE FOR OMC BENCH CABLES
 (REFER TO LLO aLOG #19035 FOR DETAILS)

ISO VIEW

 CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
SIZE	DWG. NO.	REV.
D	D0900295	v8
SCALE: 1:4	PROJECTION:	SHEET 19 OF 21

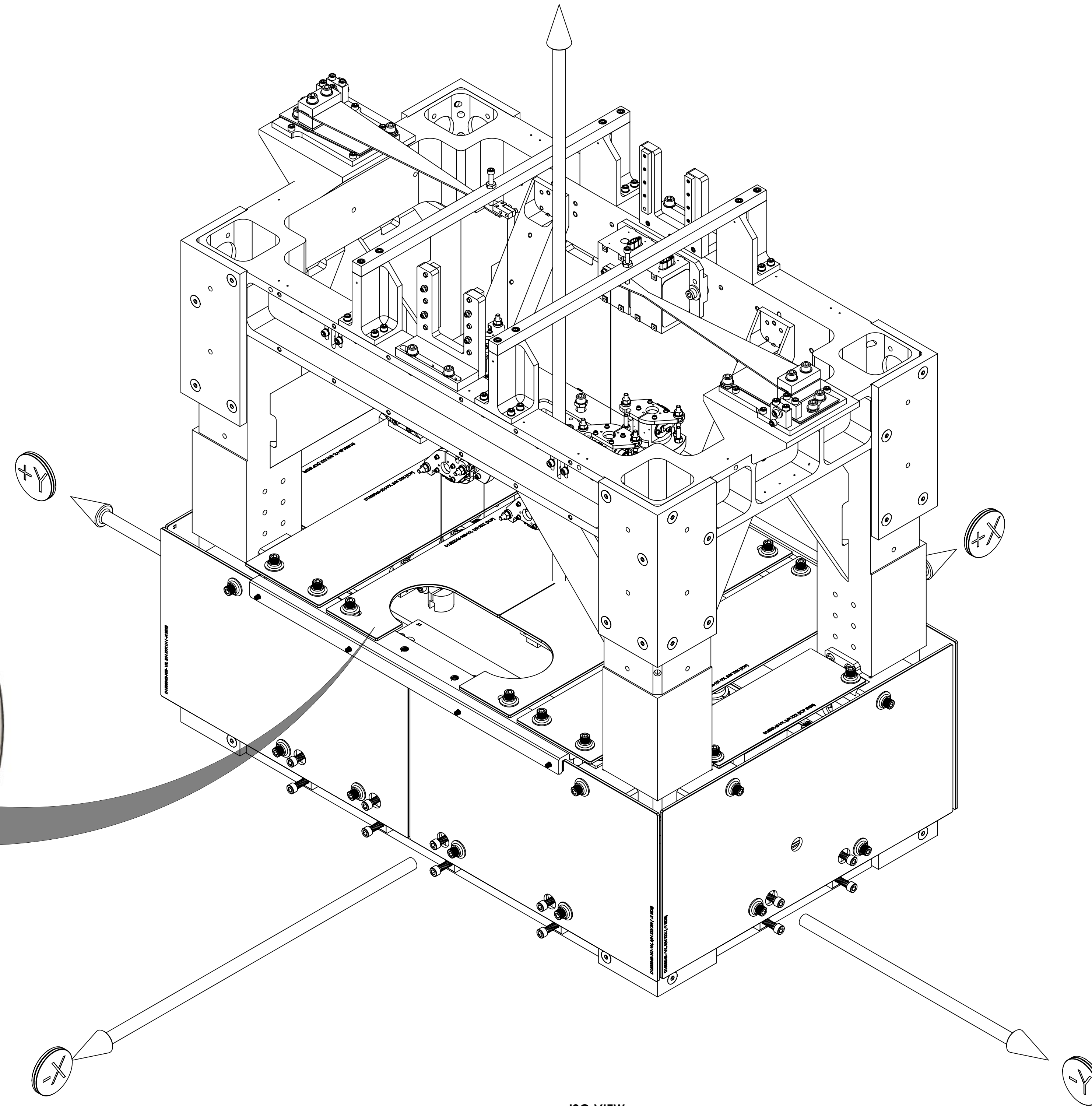
DDP0295_AsdLIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4.037, DRAWING PDM REV: V4.003

OMC W/ SHROUD - AS BUILT (LHO)



OMC OPTIC BENCH CABLES

TOP PANELS, P/N D1500046-102 & -103
 MODIFIED AS PER D1500046-v3
 TO ELIMINATE INTERFERENCES WITH
 OMC OPTIC BENCH CABLES.
 (REFER TO LHO αLOG #19342 FOR DETAILS)

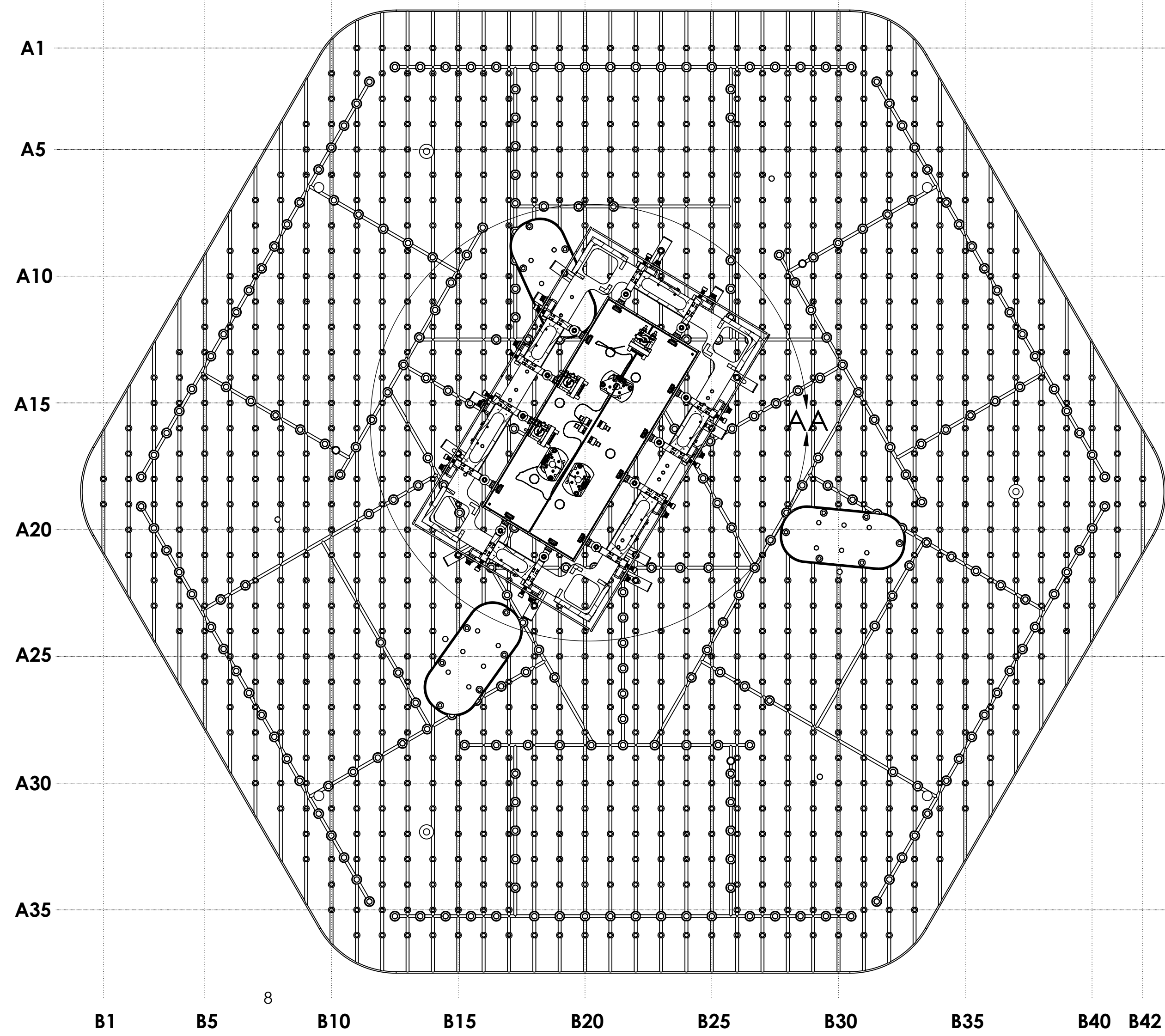
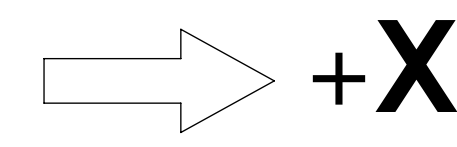
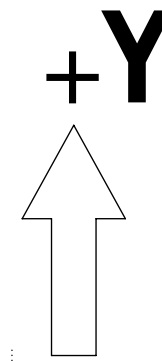


ISO VIEW

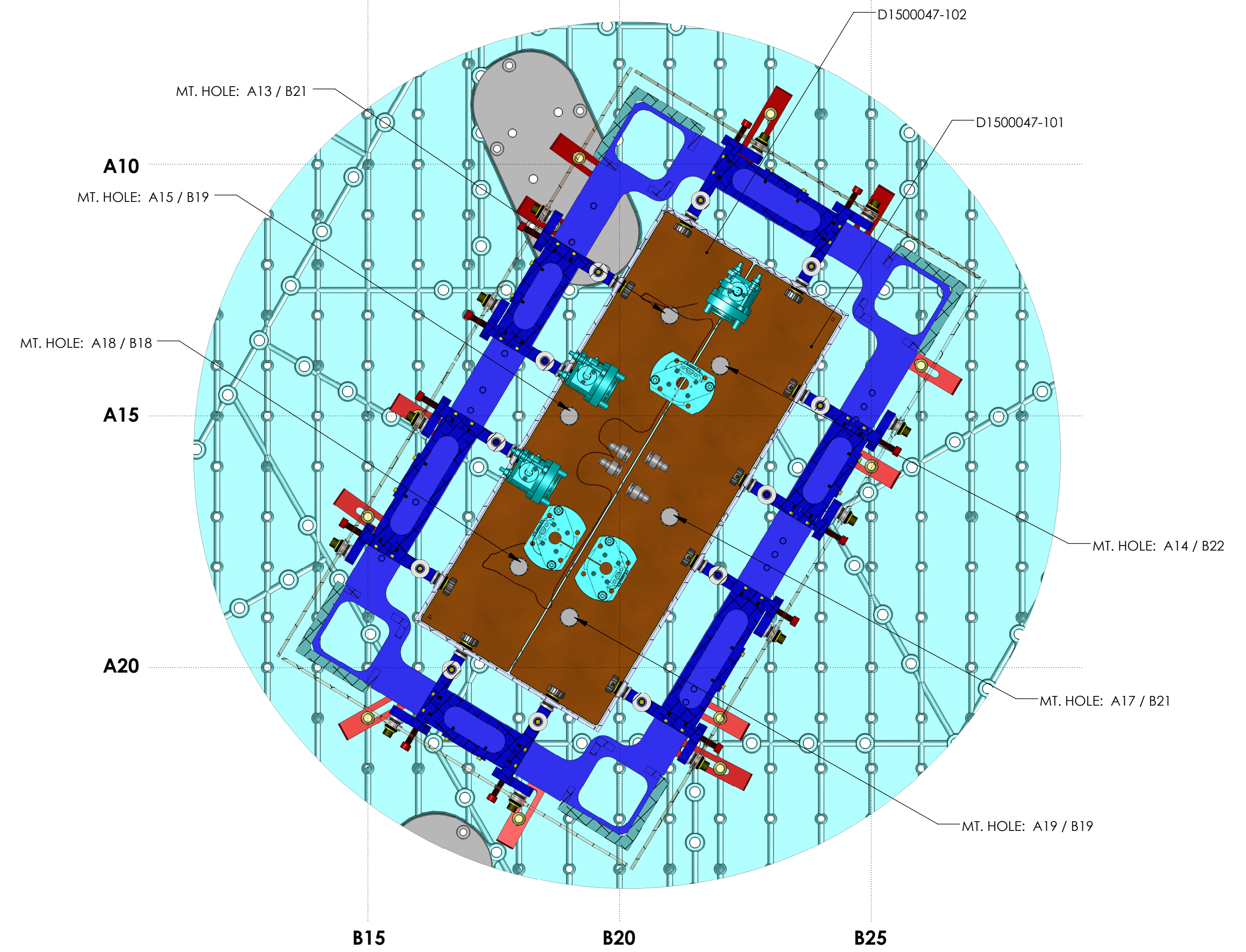
LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE DWG. NO.	REV.
D D0900295	v8
SCALE: 1:4	PROJECTION: SHEET 20 OF 21

DDP0295_AsdLIGO_SUS_Output/Mode Cleaner Overall Assembly, PART PDM REV: V4-037, DRAWING PDM REV: V4-003

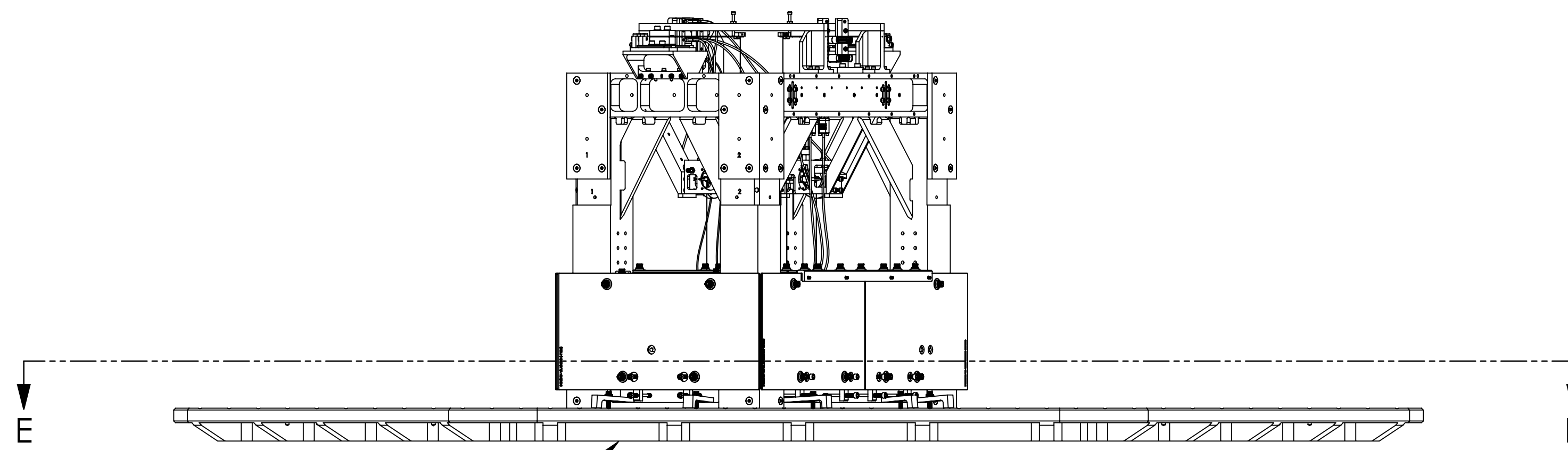
OMC W/ SHROUD (IN CHAMBER)



SECTION E-E



DETAIL AA



HAM6 ISI SHOWN FOR REFERENCE ONLY

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE DWG. NO.	REV.
D D0900295	v8
SCALE: NTS	PROJECTION:
	SHEET 21 OF 21

D0900295_A01.dwg; SUS_Output/Mode Cleaner Overall Assembly; PART PDM REV: V4-037; DRAWING PDM REV: V4-003