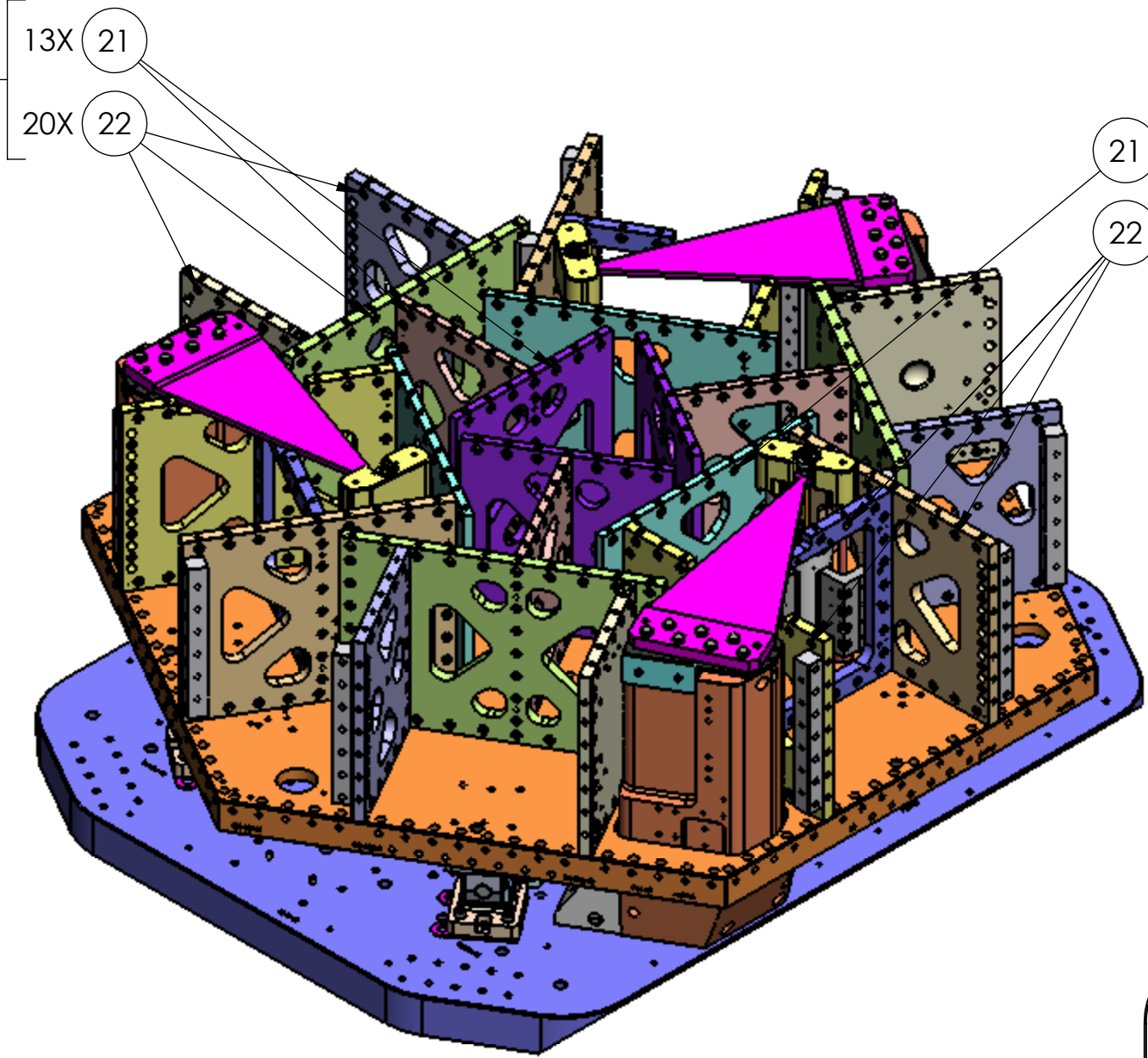


NOTES CONTINUED:
 5. Refer to LIGO-E0900216 for detailed assembly instructions.
 6. Orient Barrel Nuts with flats facing away from screws.

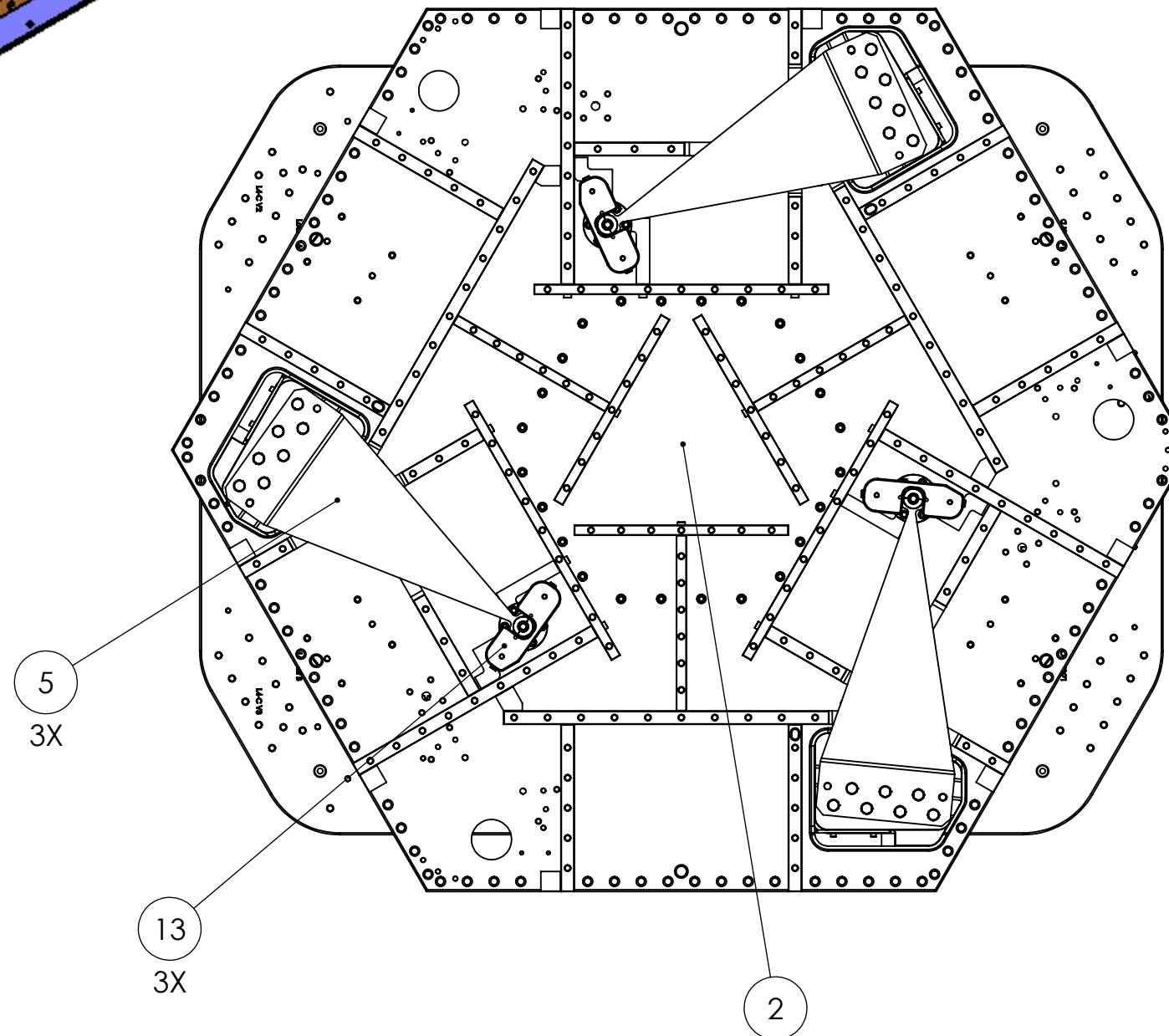
Partially Assembled: Springs Loaded

REV.	DATE	DCN #	DRAWING TREE #
v1	20 JAN 2010	E1000001	T0900305
-	-	-	-
-	-	-	-

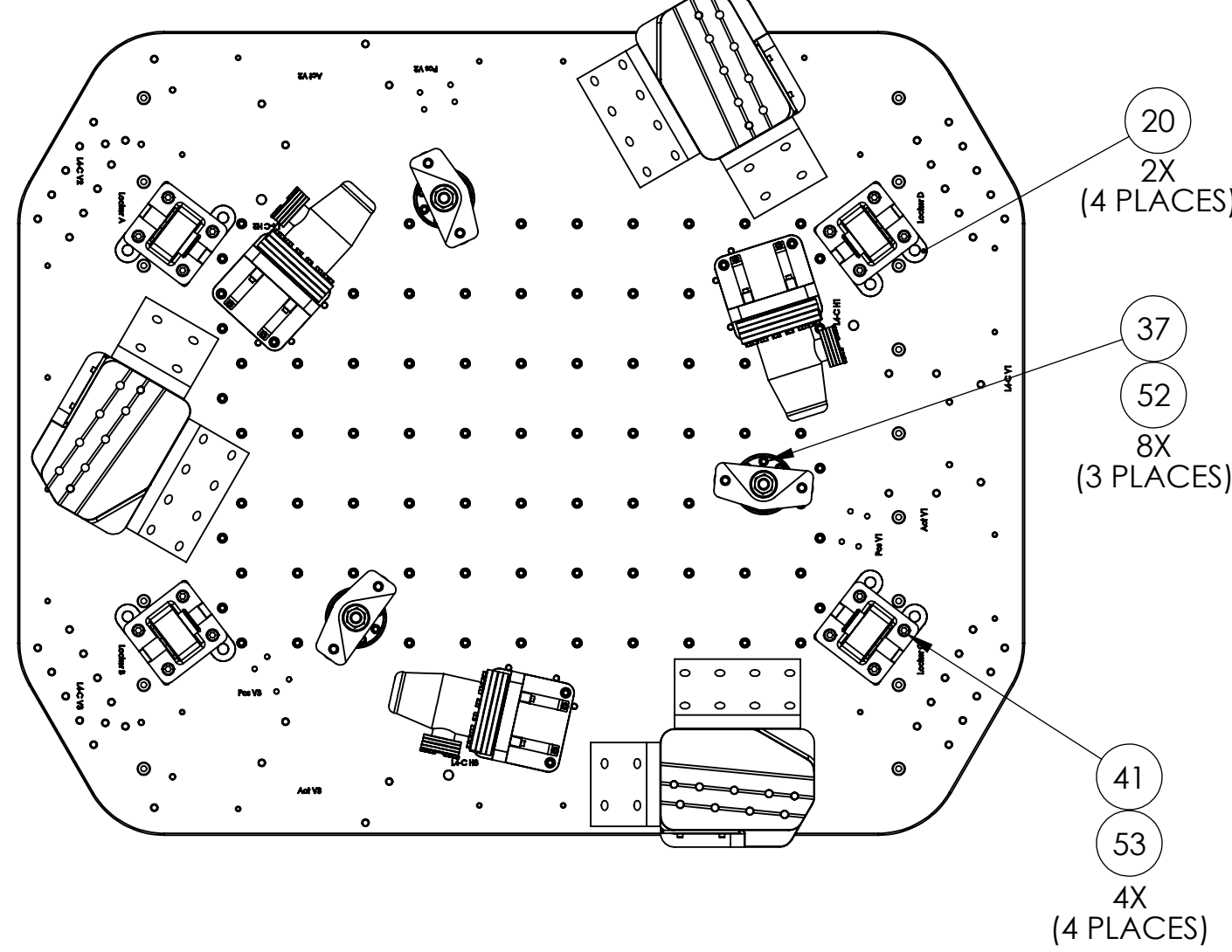
To Connect Optical Table to Pitchfork Ribs (3 Places).



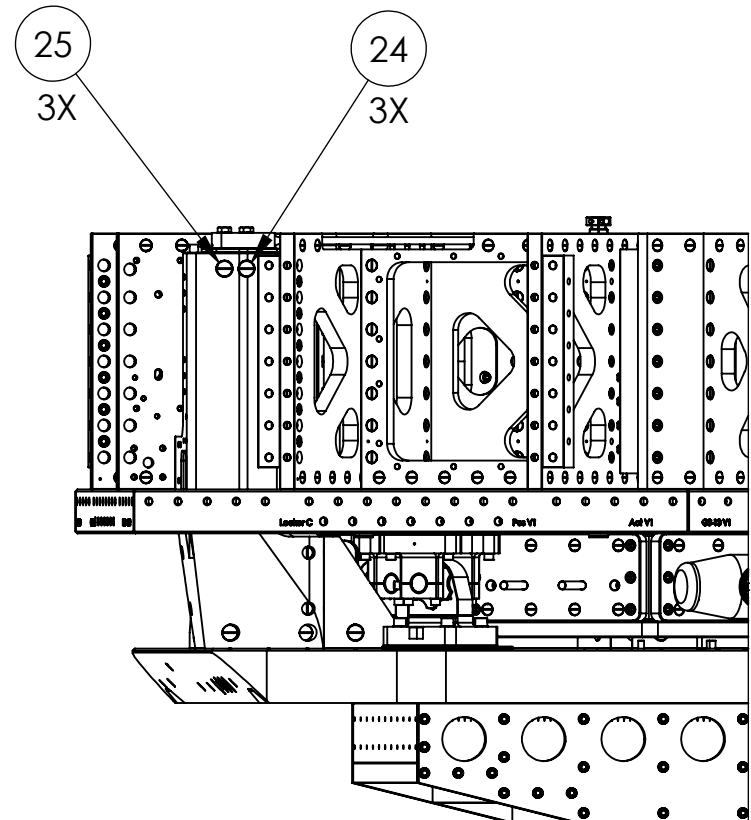
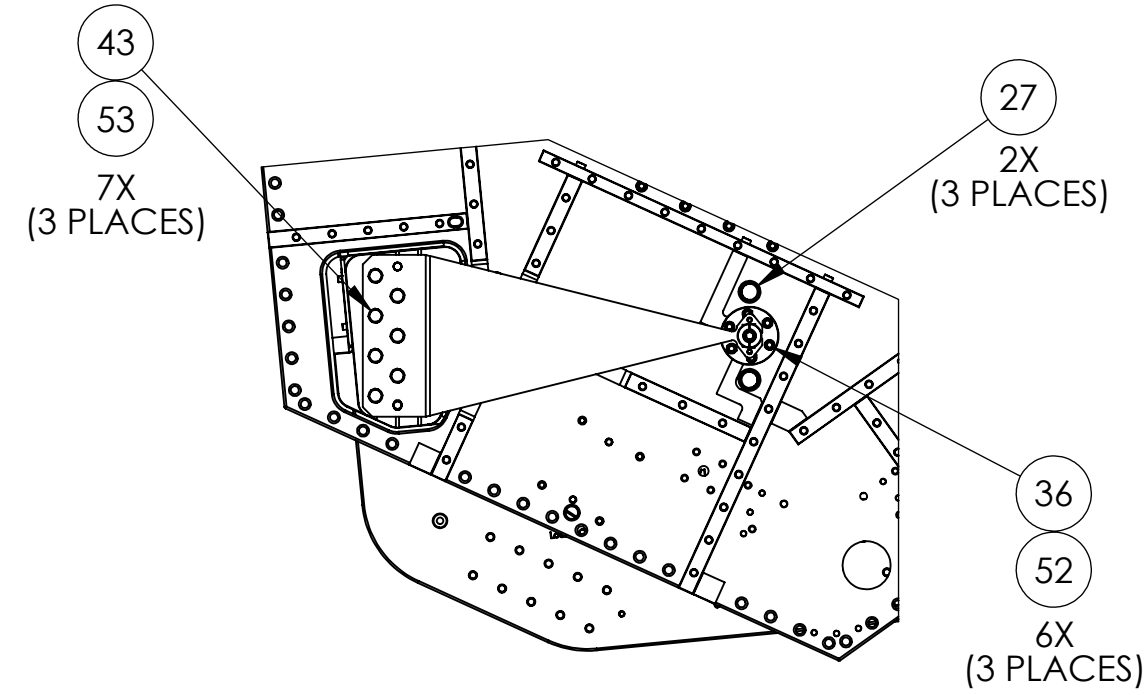
To Connect Optical Table to Boxwork Ribs (3 Places).



Interfaces to Stage 0 Base (Stage 1 Hidden in this View)



Spring/Flexure Mounting Details (Pull-Down Tool Hidden in these Views)



ITEM NO.	PART NUMBER	DESCRIPTION	SIZE / TYPE	MATERIAL	Quantity	Quantity	Quantity	Quantity	Quantity
60	D071200	Adjustment Mass	Coarse, 1.19"	304 SS	-	-	-	-	3
59	D071200	Adjustment Mass	Coarse, .69"	304 SS	-	-	-	-	3
58	D071200	Adjustment Mass	Medium, .44"	304 SS	-	-	-	-	12
57	D071200	Adjustment Mass	Medium, .24"	304 SS	-	-	-	-	6
56	D071200	Adjustment Mass	Medium, .12"	304 SS	-	-	-	-	6
55	D071200	Adjustment Mass	Fine, .24"	304 SS	-	-	-	-	3
54	D071200	Adjustment Mass	Fine, .12"	304 SS	-	-	-	-	6
53	UCC_WFV-50	Vented Washer, 1/2"	1/2" (.52"x.88")	18-8 SS	37	37	37	37	55
52	UCC_WFV-38	Vented Washer, 3/8"	3/8" (.39"x.63")	18-8 SS	42	195	195	642	642
51	UCC_WFV-25	Vented Washer, 1/4"	1/4" (.26"x.47")	18-8 SSSL	-	66	134	182	182
50	MCMaster_98370A021	Flat Washer, 3/8"	3/8" (.41"x1.0"x.12")	18-8 SS	-	-	-	-	12
49	MCMaster_92141A051	Flat Washer, 3/8"	3/8" (.41"x1.0"x.05")	18-8 SS	-	-	-	-	6
48	MCMaster_90313A205	Fender Washer, 1/4"	.266"IDx.875"ODx.063"	18-8 SS	-	-	-	-	18
47	MCMaster_98408A152	Retaining Ring, E-Style, 3/4"	3/4" SHAFT DIA	PH 15-7 Mo SS	-	-	-	-	216
46	D0900204	Hex Nut, Custom Ag-Plated, 1/2"-13	1/2"-13, Ag-Plated	18-8 SS	-	-	-	-	12
45	D0900202	SHCS, Custom Ag-Plated, 3/8"-16x2.5"	3/8"-16x2.5", Ag-Plated	18-8 SS	-	-	-	-	3
44	D0900201	SHCS, Custom Ag-Plated, 3/8"-16x1.5"	3/8"-16x1.5", Ag-Plated	18-8 SS	-	-	-	-	3
43	D0900198	HHCS, Custom Ag-Plated, 1/2"-13x3.0"	1/2"-13x3.0"	A286 Iron Base Superalloy	21	21	21	21	21
42	MCMaster_92240A724	HHCS, 1/2"-13x3.0"	1/2"-13x3.0", Full Thread	18-8 SS	-	-	-	-	6
41	MCMaster_92196A722	SHCS, 1/2"-13x2.5"	1/2"-13x2.5"	18-8 SS	16	16	16	16	16
40	MCMaster_92196A639	SHCS, 3/8"-16x3.75"	3/8"-16x3.75"	18-8 SS	-	-	-	-	6
39	HOLKROME_78108	SHCS, 3/8"-16x2.5"	3/8"-16x2.5"	18-8 SS	-	-	-	-	12
38	HOLKROME_78104	SHCS, 3/8"-16x1.75"	3/8"-16x1.75"	18-8 SS	-	177	177	477	477
37	HOLKROME_78100	SHCS, 3/8"-16x1.25"	3/8"-16x1.25"	18-8 SS	24	-	-	-	147
36	HOLKROME_78098	SHCS, 3/8"-16x1.0"	3/8"-16x1.0"	18-8 SS	18	18	18	18	18
35	MCMaster_92196A551	SHCS, 1/4"-20x2.25"	1/4"-20x2.25"	18-8 SS	-	-	-	-	18
34	HOLKROME_78064	SHCS, 1/4"-20x1.25"	1/4"-20x1.25"	18-8 SS	-	-	-	-	24
33	HOLKROME_78062	SHCS, 1/4"-20x1.0"	1/4"-20x1.0"	18-8 SS	-	48	72	120	120
32	HOLKROME_78056	SHCS, 1/4"-20x.625"	1/4"-20x.625"	18-8 SS	-	18	38	38	38
31	D0900705	Clamp Cap, Vert L4-C, HAM ISI	-	304 SS	-	-	-	-	6
30	D0900312	Wiring Breadboard, Small	-	6061-T6 Al	-	-	4	4	4
29	D0900310	Dog Clamp, Vert L4-C, HAM ISI	-	6061-T6 Al	-	-	-	-	6
28	D0900277	Cover, Outer Wall, Horiz Act and Sens	-	6061-T6 Al	-	-	-	-	3
27	D071321	Spring Tension Bushing	-	PTFE	6	-	-	-	-
26	D071255	Wiring Breadboard, Large	-	6061-T6 Al	-	-	6	6	6
25	D071251	Gang Barrel Nut	4x 1/2"-13 (spaced 2.5")	17-4 PH H1150	3	3	3	3	3
24	D071251	Gang Barrel Nut	3x 1/2"-13 (spaced 2.5")	17-4 PH H1150	3	3	3	3	3
23	D071250	Barrel Nut	3/8-16 x 1.3L Ret.	2024-T351	-	-	-	-	108
22	D071250	Barrel Nut	3/8-16 x 1.0L	2024-T351	111	303	303	303	303
21	D071250	Barrel Nut	3/8-16 x .75L	2024-T351	66	66	66	66	66
20	D071141	Locker Spacer	.125	304 SS	8	8	8	8	8
19	D071072	Rib, Tan, Flexure Mid Cover	-	6061-T6 Al	-	3	3	3	3
18	D071067	Spring Hatch, Optics Table	-	6061-T6 Al	-	3	3	3	3
17	D071060	Outer Wall, Bracket 120	Stage 1 Bracket (Long)	6061-T6 Al	-	-	-	-	6
16	D071058	Outer Wall, Flexure Access	-	6061-T6 Al	-	-	-	-	3
15	D071057	Outer Wall, Horiz GS-13	-	6061-T6 Al	-	-	-	-	3
14	D071050	Optical Table	-	6061-T6 Al	-	1	1	1	1
13	D071500	Asm, Spring Pull-Down	-	See BOM	3	-	-	-	-
12	D071470	Asm, GS-13 with Fixtures	VERTICAL	See BOM	-	-	3	3	3
11	D071470	Asm, GS-13 with Fixtures	HORIZONTAL	See BOM	-	-	3	3	3
10	D071464	Asm, Position Sensor	VERTICAL	See BOM	-	-	3	3	3
9	D071464	Asm, Position Sensor	HORIZONTAL	See BOM	-	-	3	3	3
8	D071463	Asm, Position Sensor Target	-	See BOM	-	-	6	6	6
7	D071442	Asm, Actuator	VERTICAL	See BOM	-	-	3	3	3
6	D071442	Asm, Actuator	HORIZONTAL	See BOM	-	-	3	3	3
5	D071430	Asm, Spring and Flexure	-	See BOM	3	3	3	3	3
4	D071427	Asm, Outer Wall, Small Panel	-	See BOM	-	-	-	-	9
3	D047820	L4-C Seismometer Pod Assembly	-	See BOM	-	-	-	-	3
2	D0900154	Stage 1 Pre-Asm, HAM ISI, Advanced LIGO	-	See BOM	1	1	1	1	1
1	D0900153	Stage 0 Asm, HAM ISI, Advanced LIGO	-	See BOM	1	1	1	1	1

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)
 1. INTERPRET DRAWING PER ASME Y14.5-1994.
 2. REMOVE ALL SHARP EDGES, R.02 MIN.
 3. DO NOT SCALE FROM DRAWING.
 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

DIMENSIONS ARE IN INCHES
 TOLERANCES:
 .XX ± .015
 .XXX ± .005
 ANGULAR ± 0.5°

MATERIAL: See BOM
 FINISH: See BOM

CALIFORNIA INSTITUTE OF TECHNOLOGY
 MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ADVANCED LIGO SEI

PART NAME: HAM ISI Table, Advanced LIGO

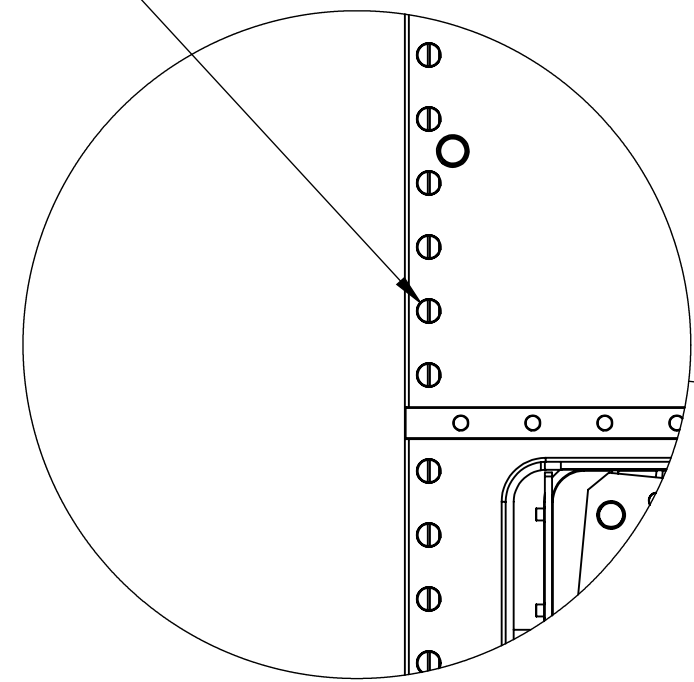
DESIGNER: Andy Stein 08 MAY 2009
 DRAFTER: Andy Stein 14 JAN 2010
 CHECKER: Ken Mason 20 JAN 2010
 APPROVAL: Ken Mason 20 JAN 2010

SIZE: D
 DWG. NO.: D0900124
 SCALE: 1:12
 PROJECTION: 1st Angle

REV. v1
 SHEET 1 OF 4

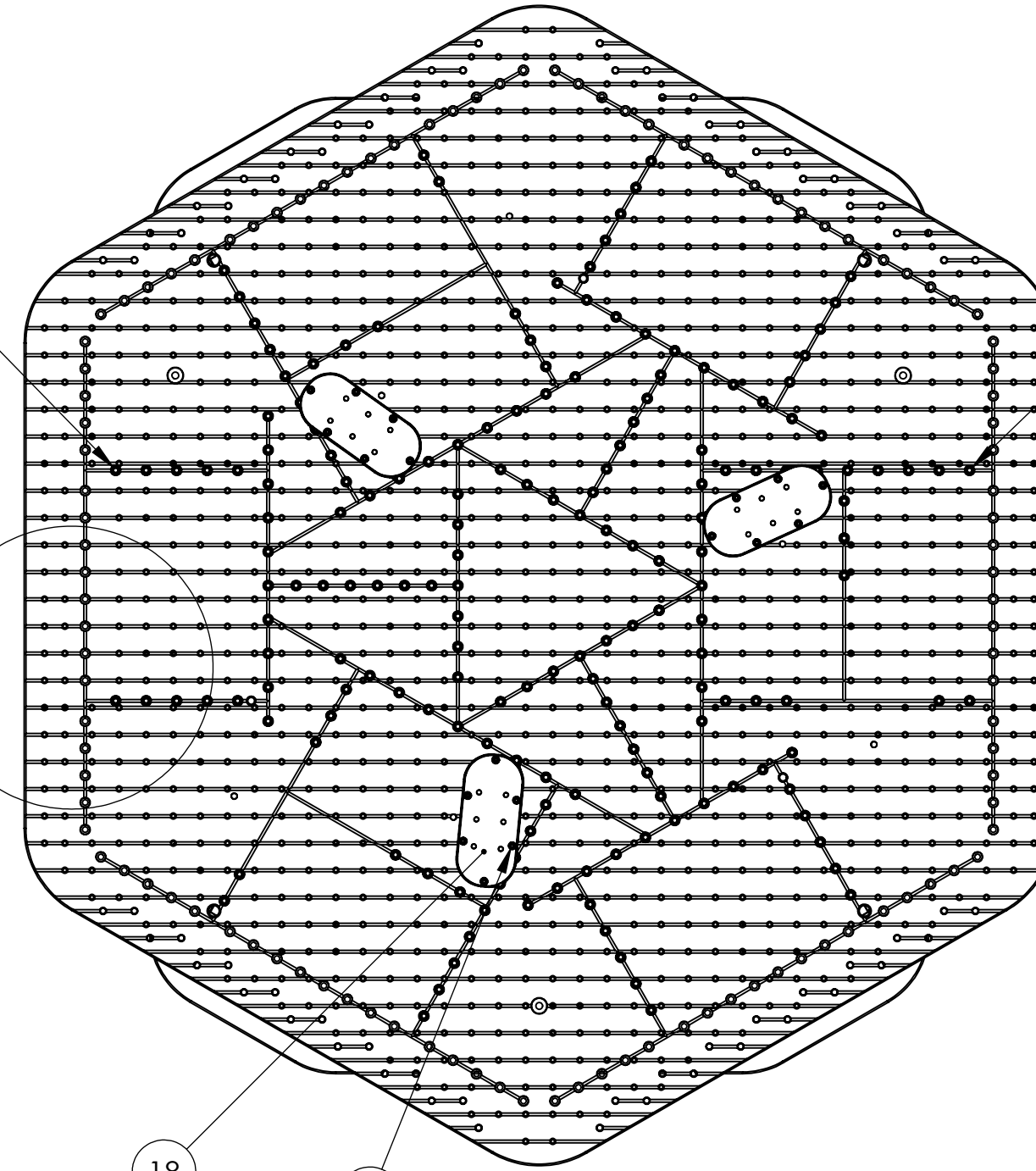
Partially Assembled: Optical Table Installed

To Connect Outer Walls
to Stage 1 Floor. 22
108X



DETAIL A
SCALE 1 : 6
(Optical Table Hidden in this View.)

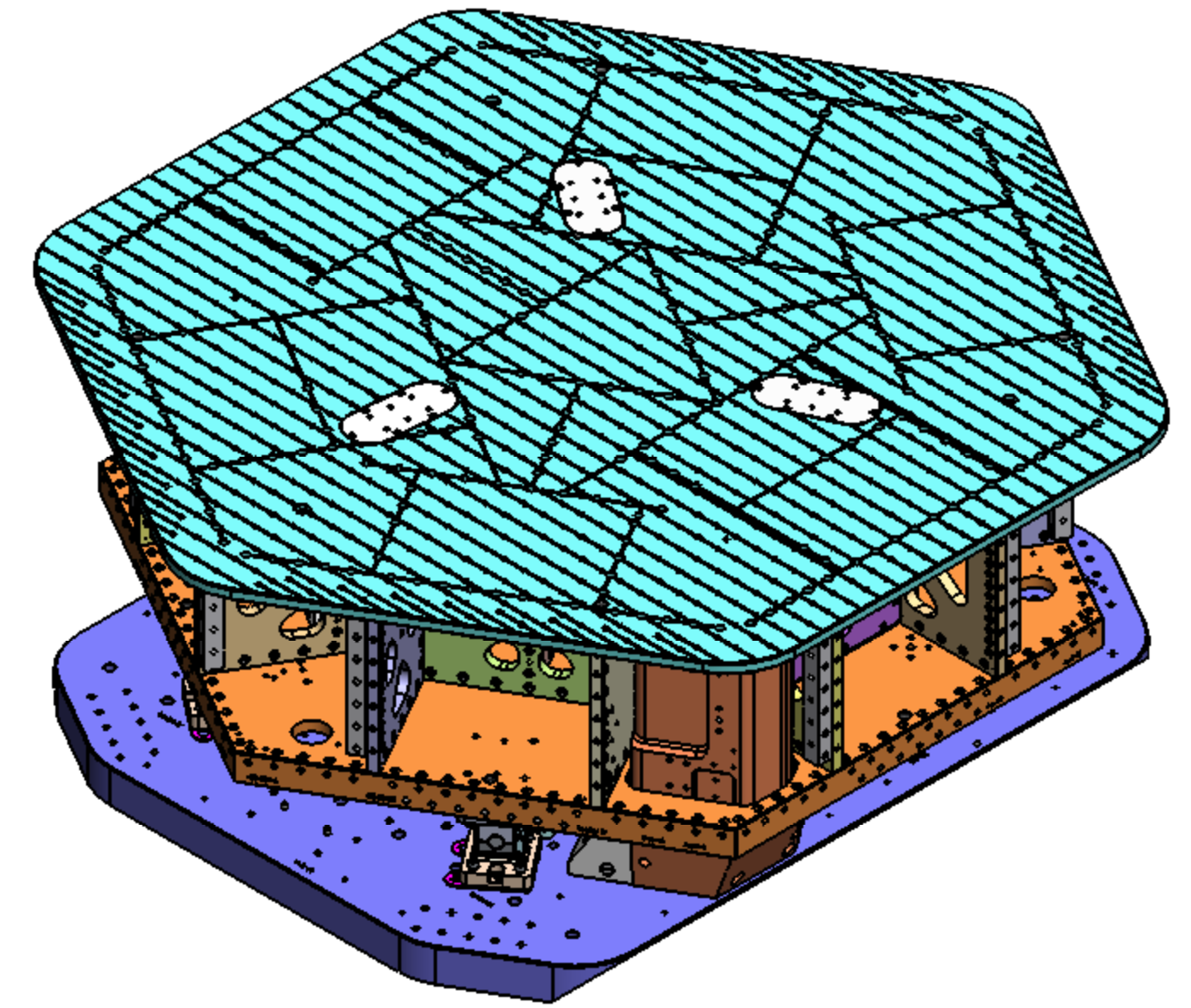
Connect Optical Table
(via Barrel Nuts)
to Pitchfork Assembly. 38
52
33X
(3 PLACES)



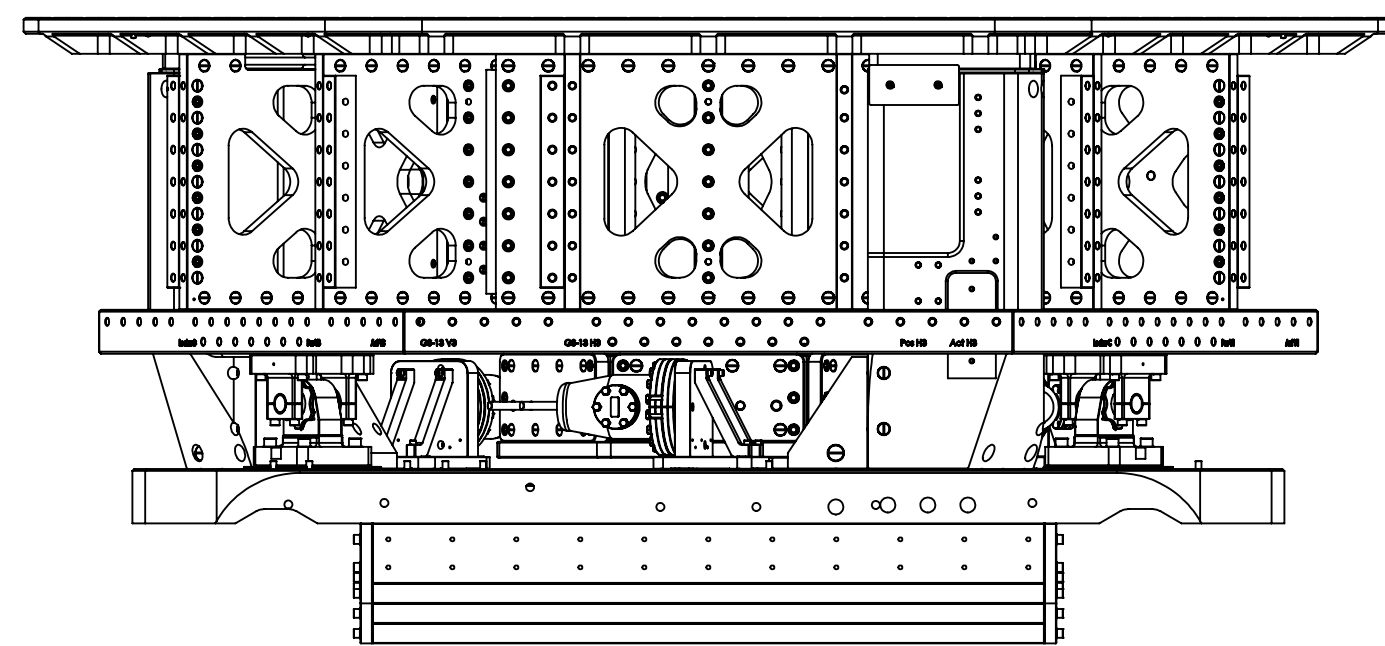
Connect Optical Table
(via Barrel Nuts)
to Boxwork Assembly. 38
52
26X
(3 PLACES)

18
3X

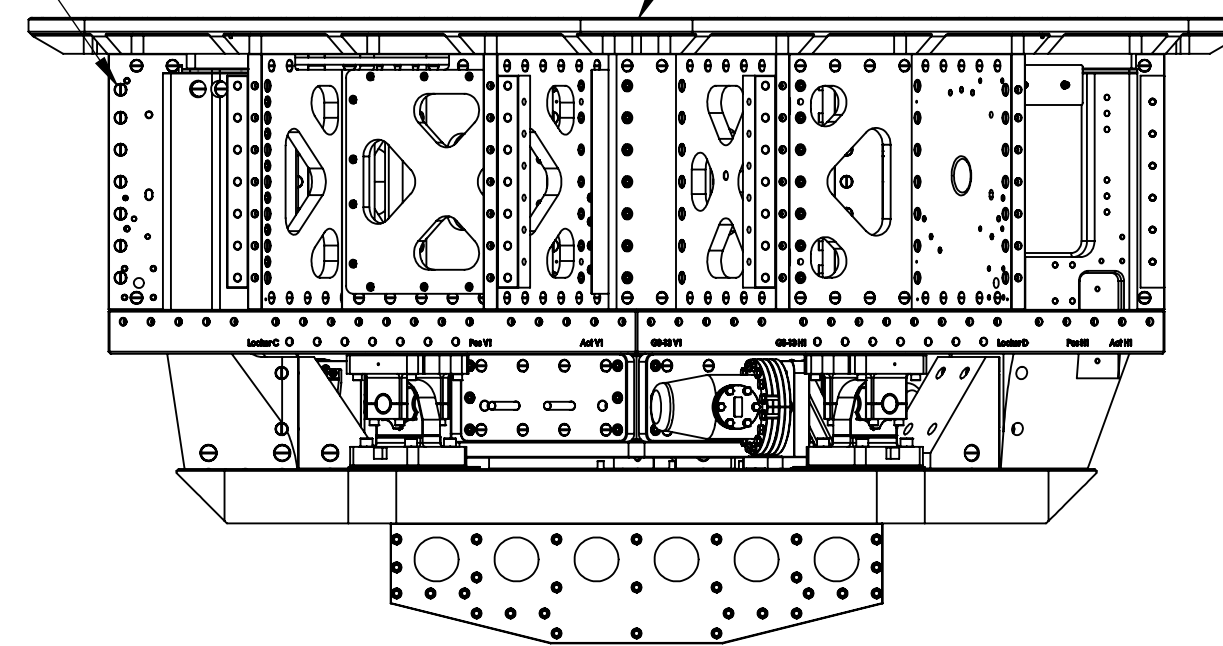
32 Connect Spring Hatch
to Optical Table.
51
6X
(3 PLACES)



To Connect Outer Walls to
Boxwork and Pitchfork Ribs. 22
84X

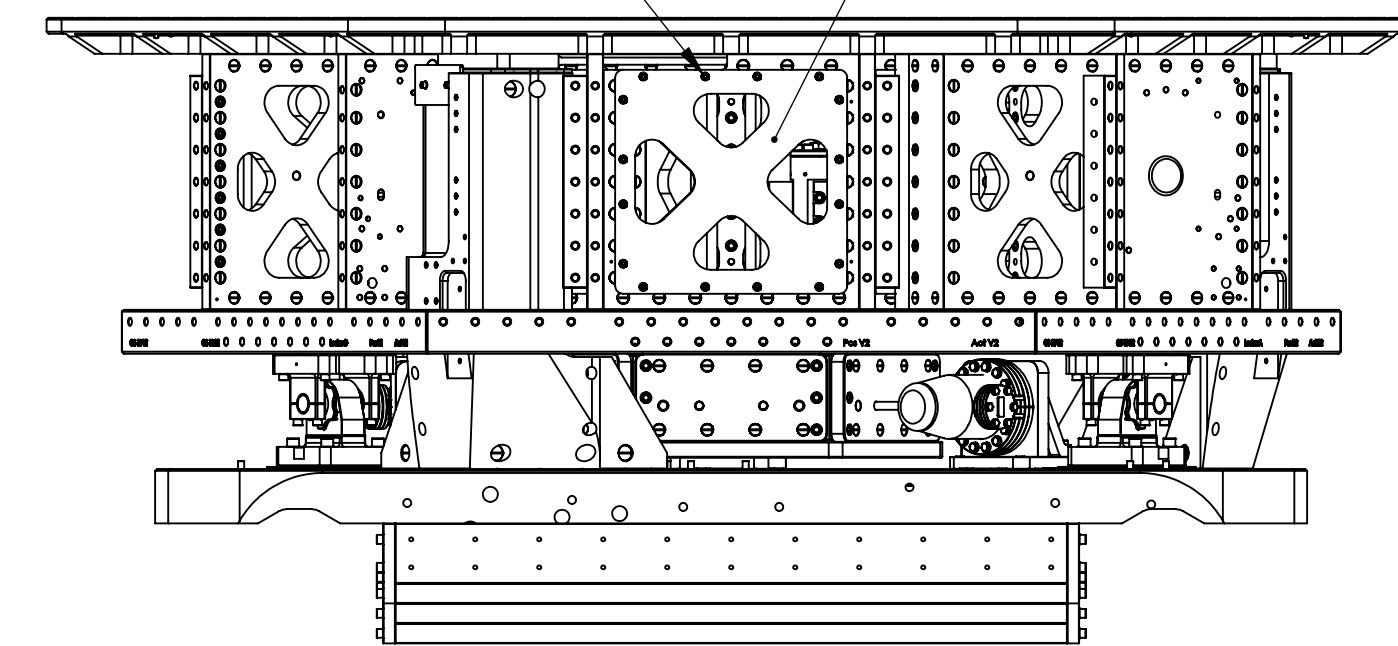


14



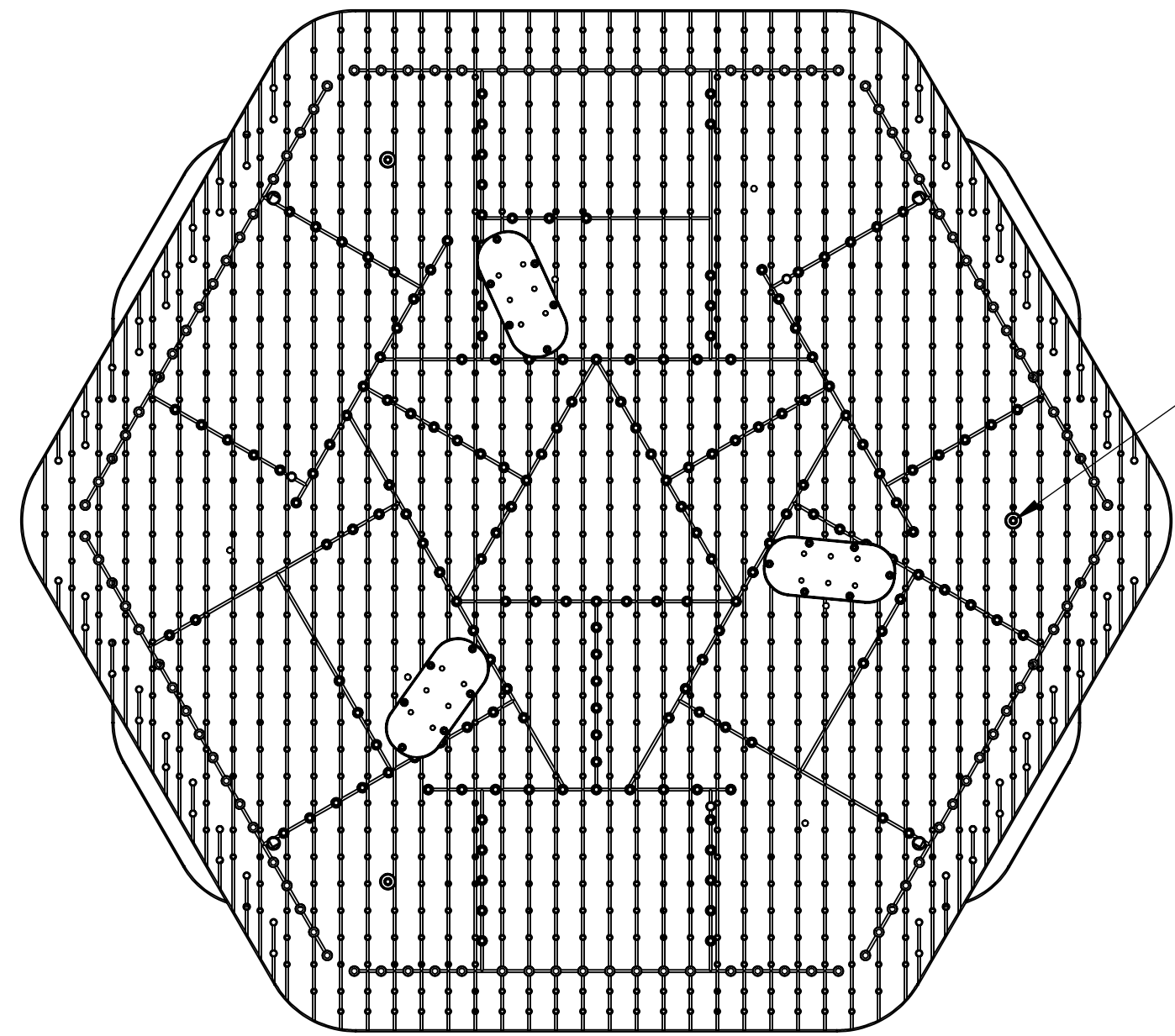
Connect Mid Tan Rib Cover
to Boxwork. 33
51
16X
(3 PLACES)

19
3X

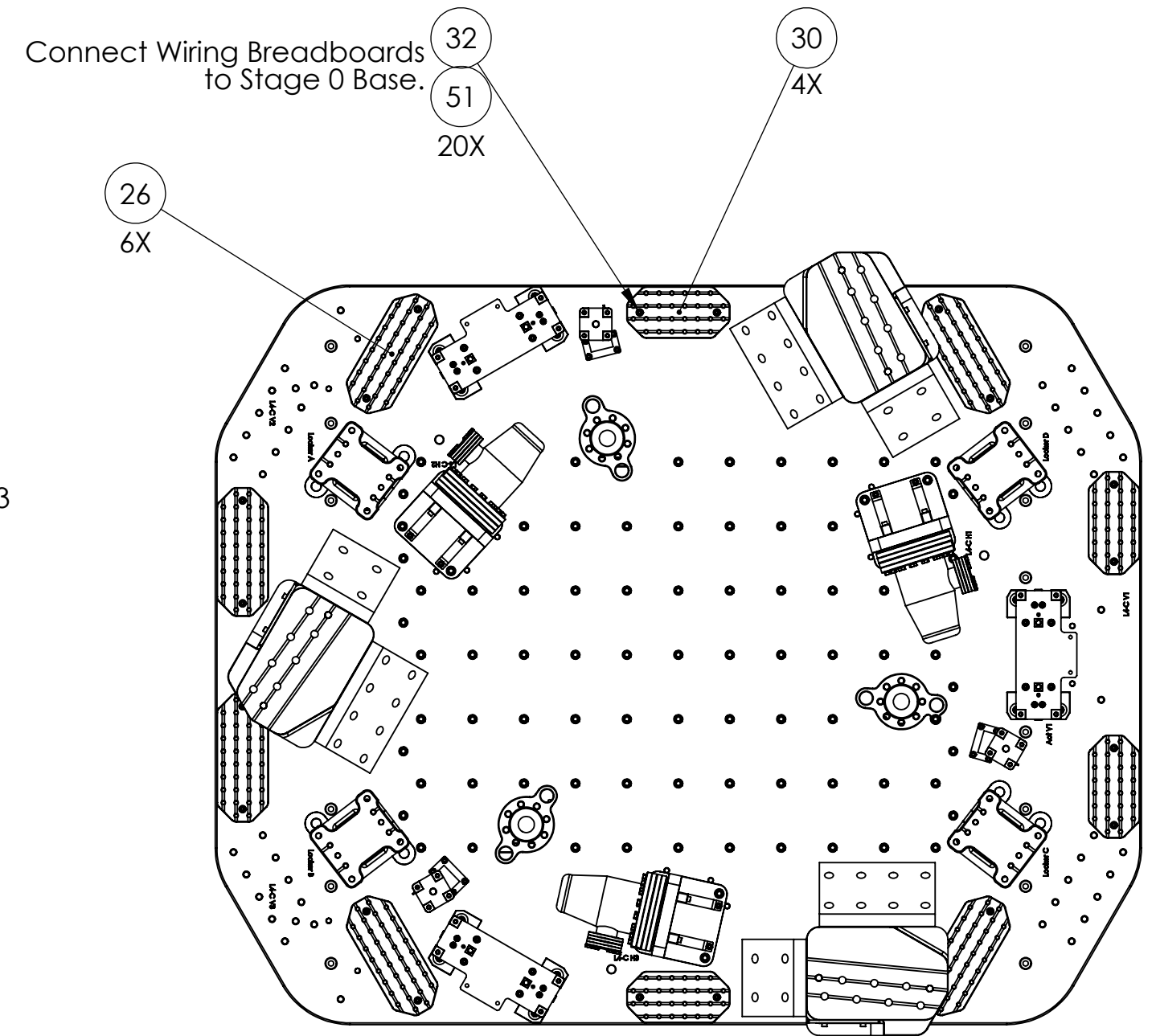


D0900124_HAM_LSI_Table-Advanced_LIGO_PART_PDM_REV_X.037_DRAWING_PDM_REV_X.002

Partially Assembled: With Sensors and Actuators

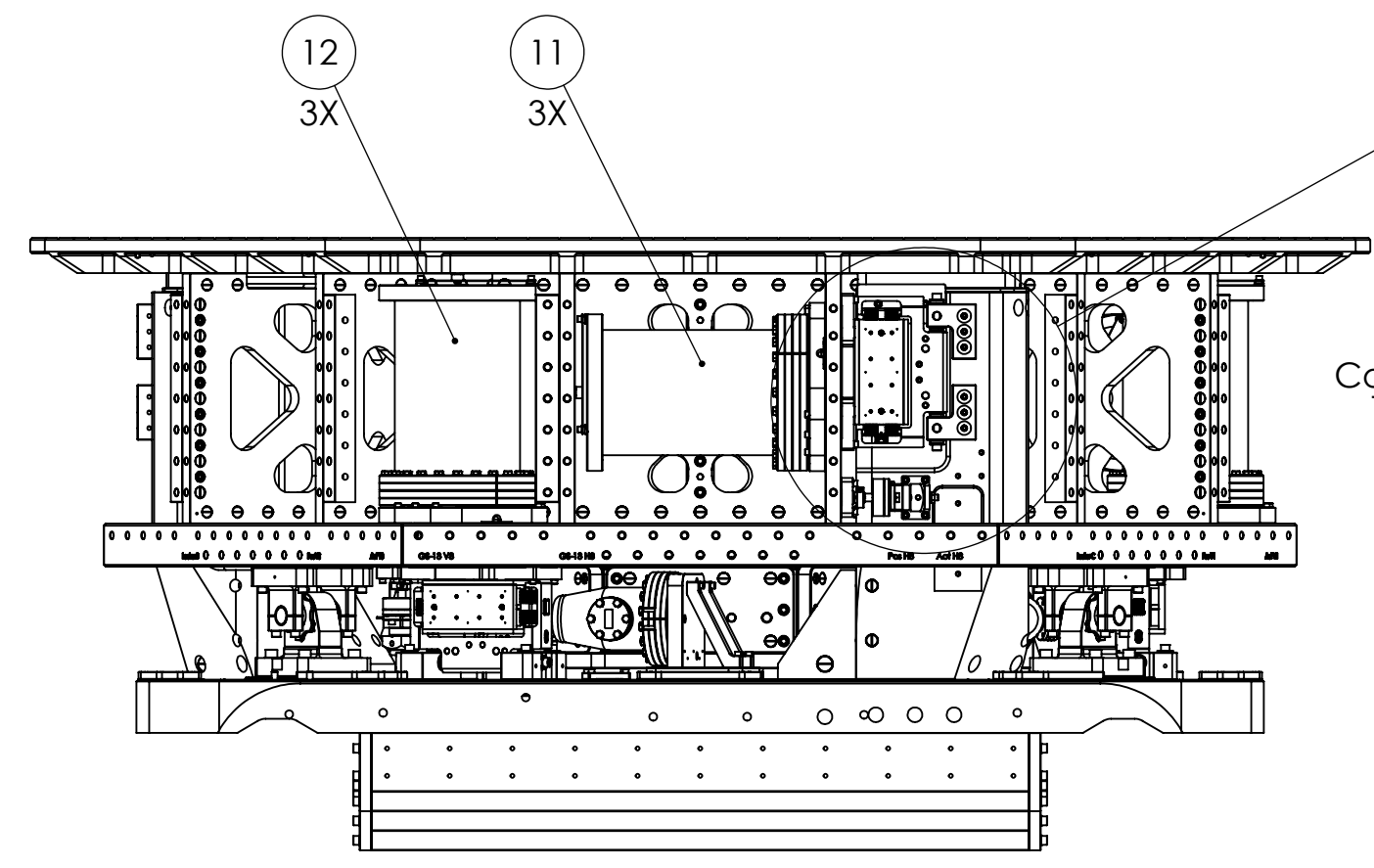
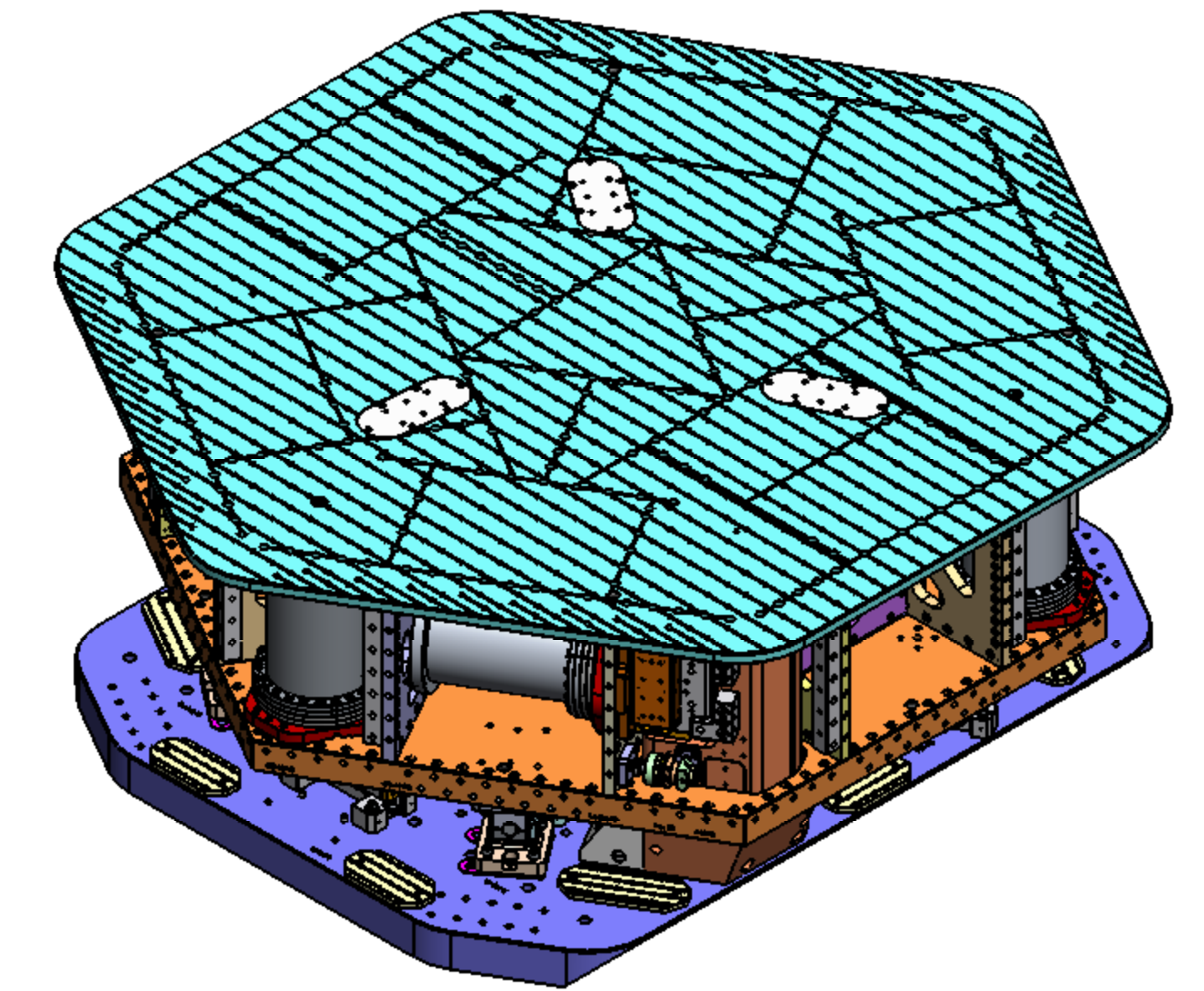


45 Connect Stabilizer Flexure on Vert GS-13 to Optical Table.
49 3X

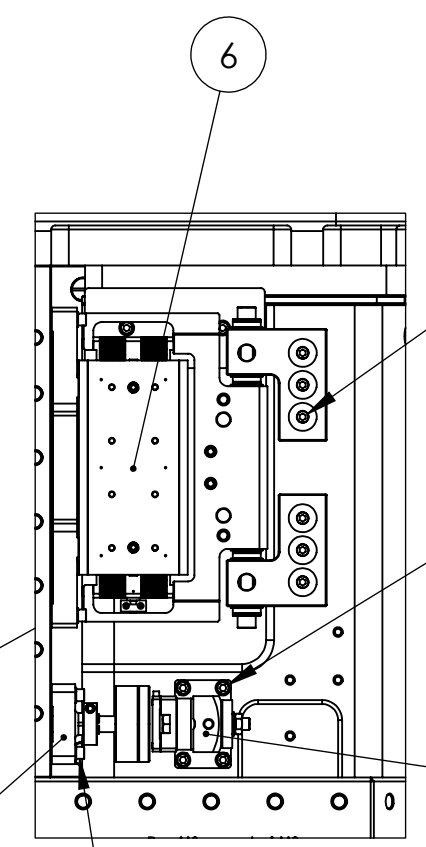


Connect Wiring Breadboards to Stage 0 Base.
32 51 20X
26 6X
30 4X

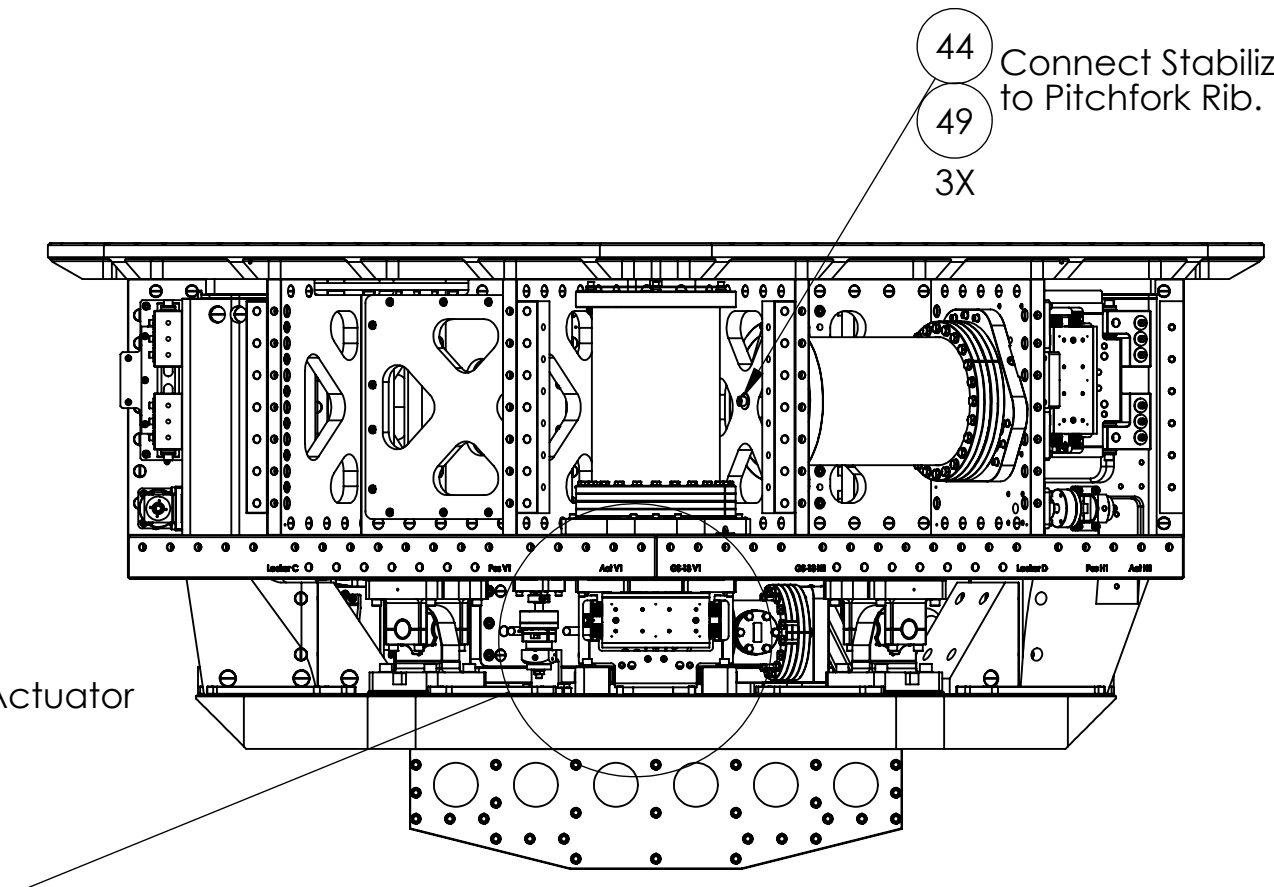
Wiring Breadboard Mounting Details (Stage 1 Hidden in this View)



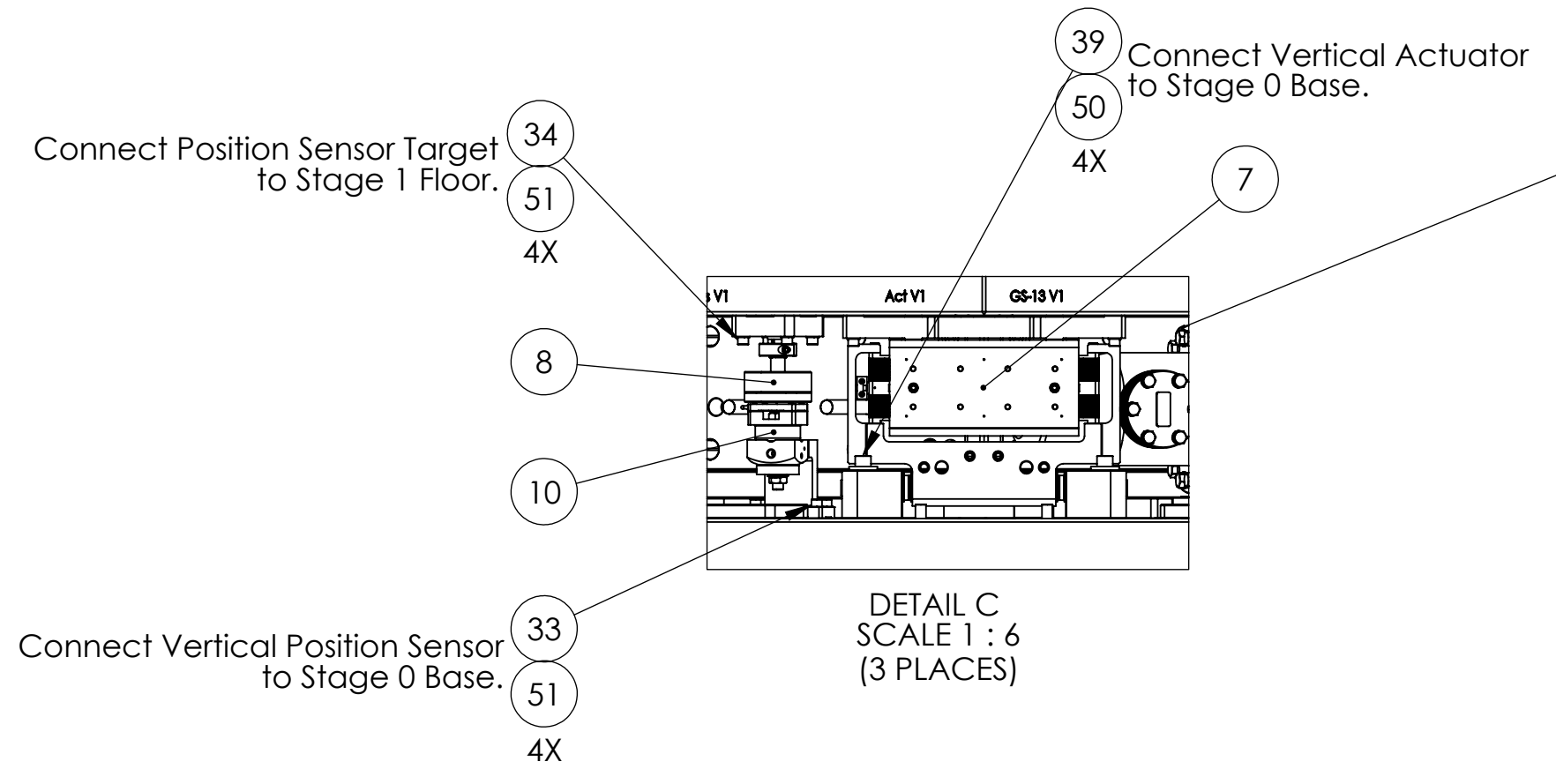
12 3X
11 3X



6
35 Connect Horizontal Actuator to Support Post on Stage 0.
48 6X
33 Connect Horizontal Position Sensor to Support Post on Stage 0.
51 4X
9
8
DETAIL B SCALE 1 : 6 (3 PLACES)
34 Connect Position Sensor Target to Pitchfork Rib on Stage 1.
51 4X



44 Connect Stabilizer Flexure on Horz GS-13 to Pitchfork Rib.
49 3X

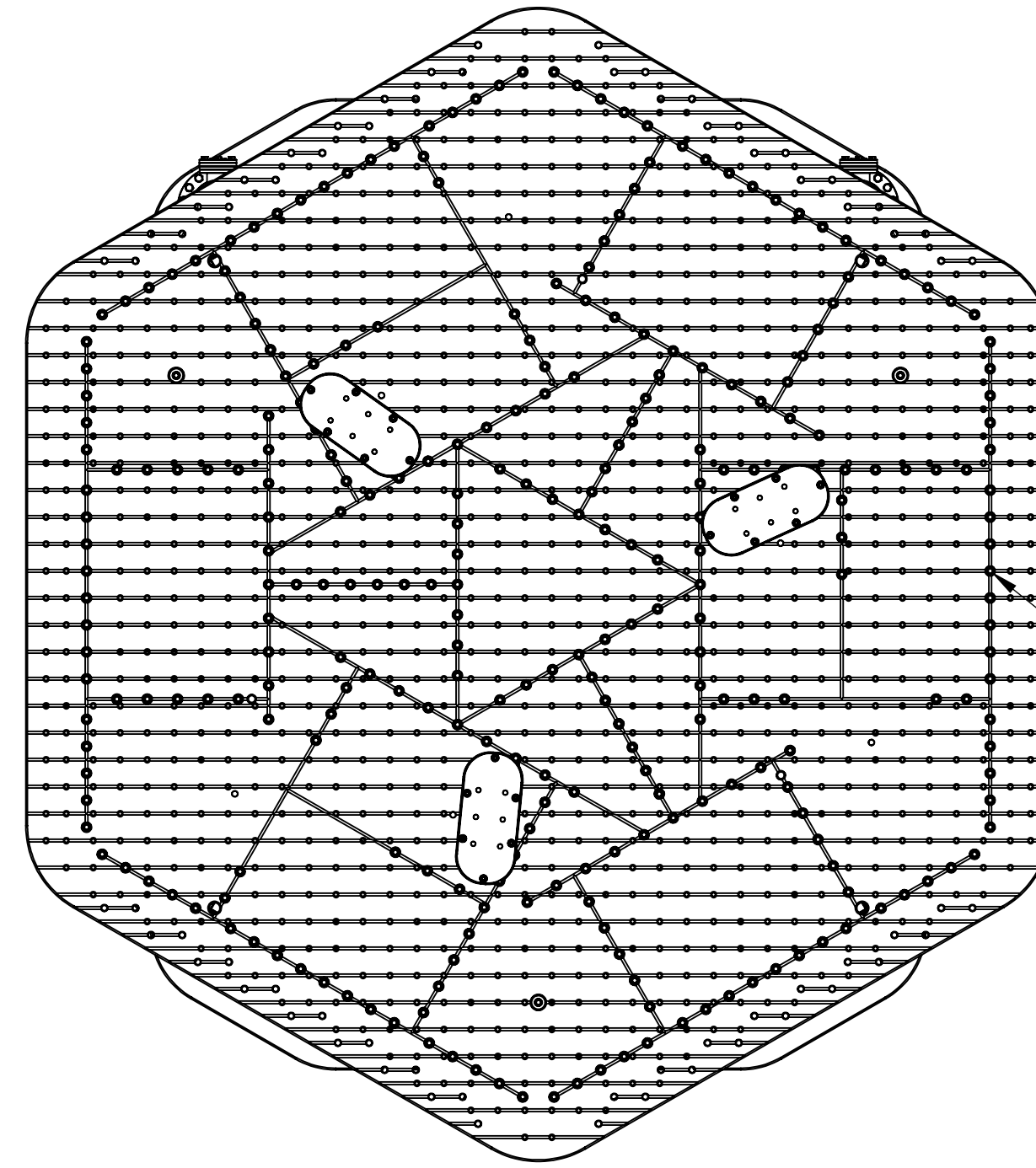
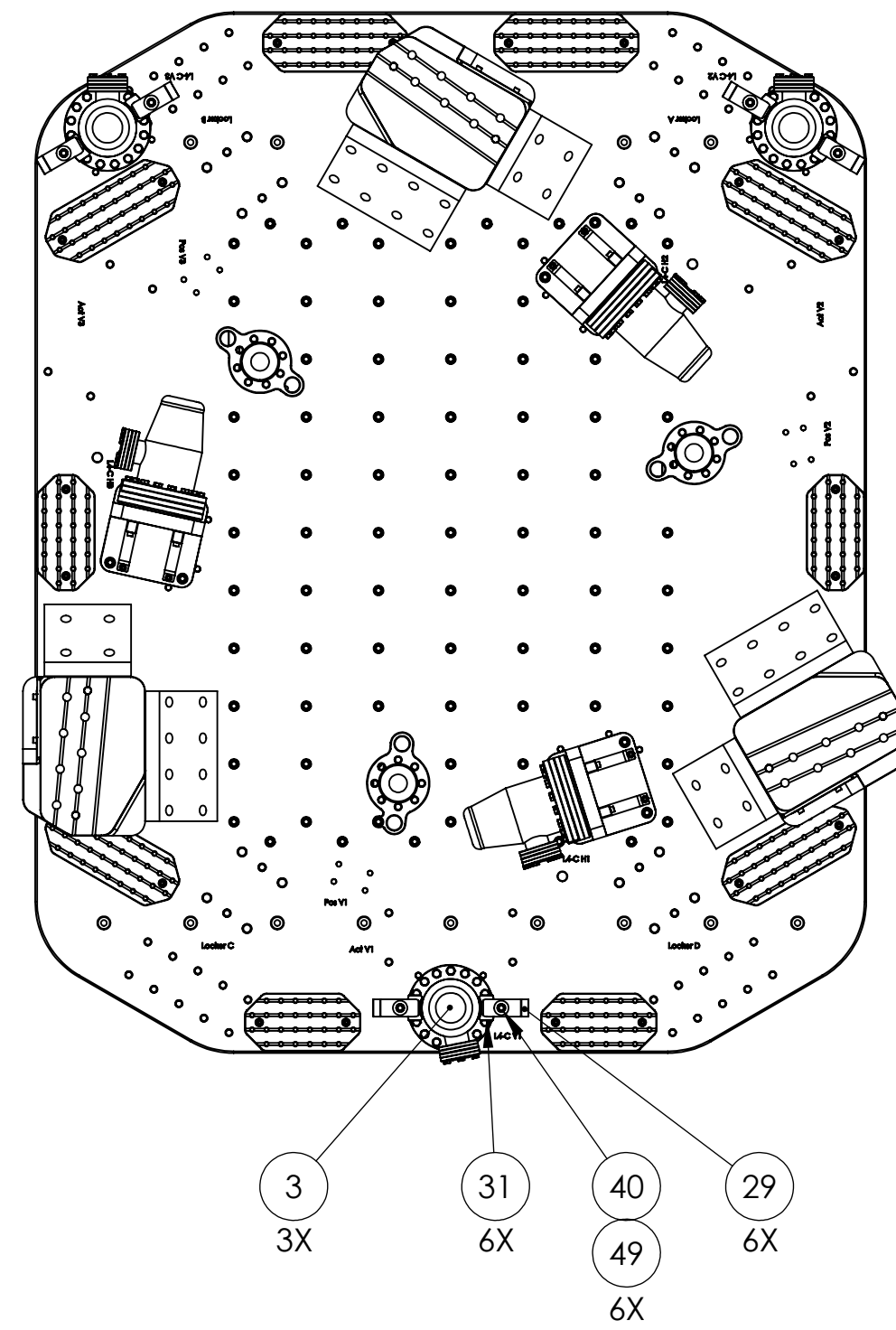


39 Connect Vertical Actuator to Stage 0 Base.
50 4X
7
34 Connect Position Sensor Target to Stage 1 Floor.
51 4X
8
10
33 Connect Vertical Position Sensor to Stage 0 Base.
51 4X
DETAIL C SCALE 1 : 6 (3 PLACES)

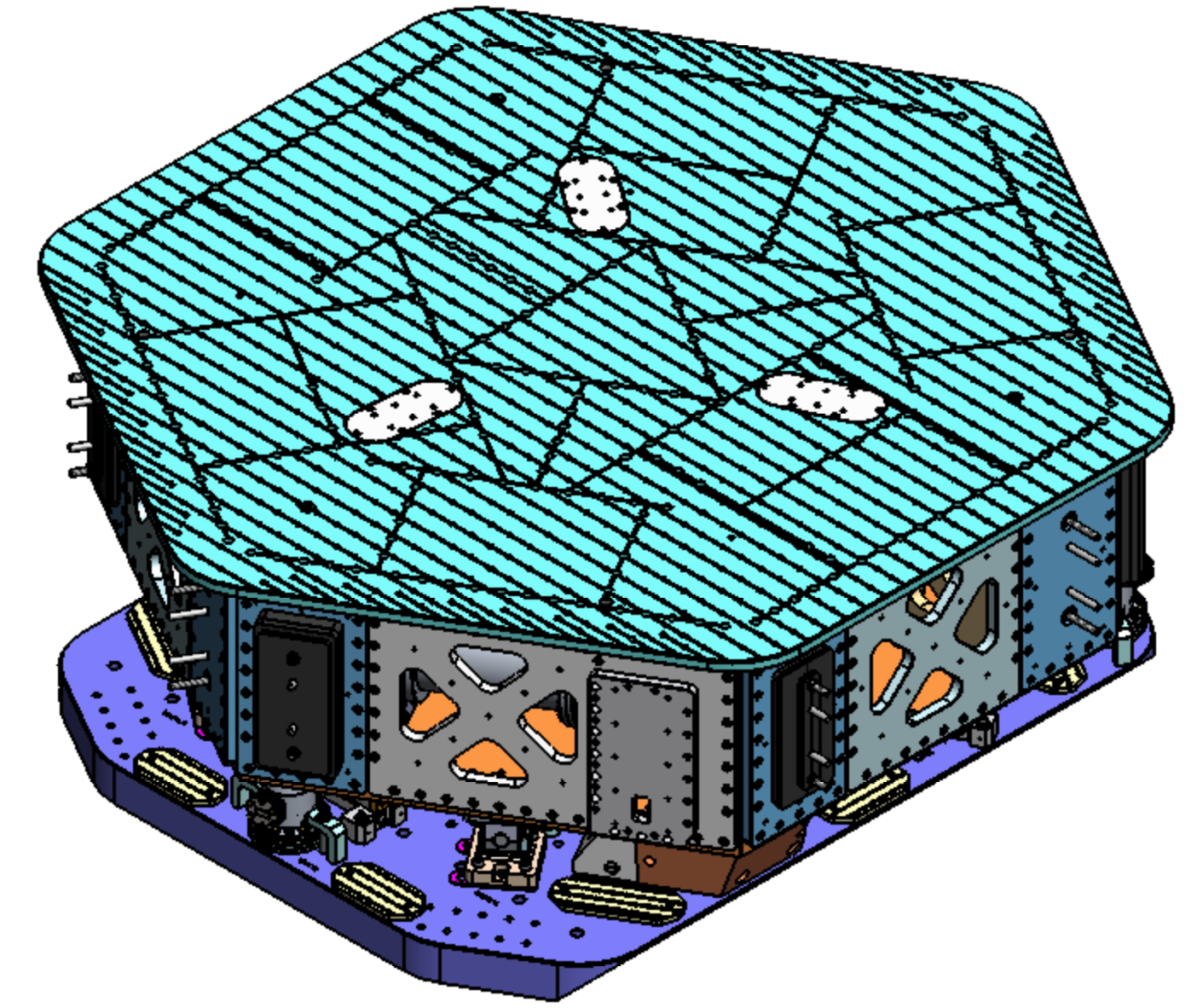
D0900124_HAM_LSI_Table-Advanced_LIGO_PART_PDM_REV_X.037_DRAWING_PDM_REV_X.02

Fully Assembled

Vertical L4-C Mounting Details
(Stage 1 Hidden in this View)



38 Connect Optical Table
(via Barrel Nuts)
52 to Outer Walls.
108X



108 PLACES

