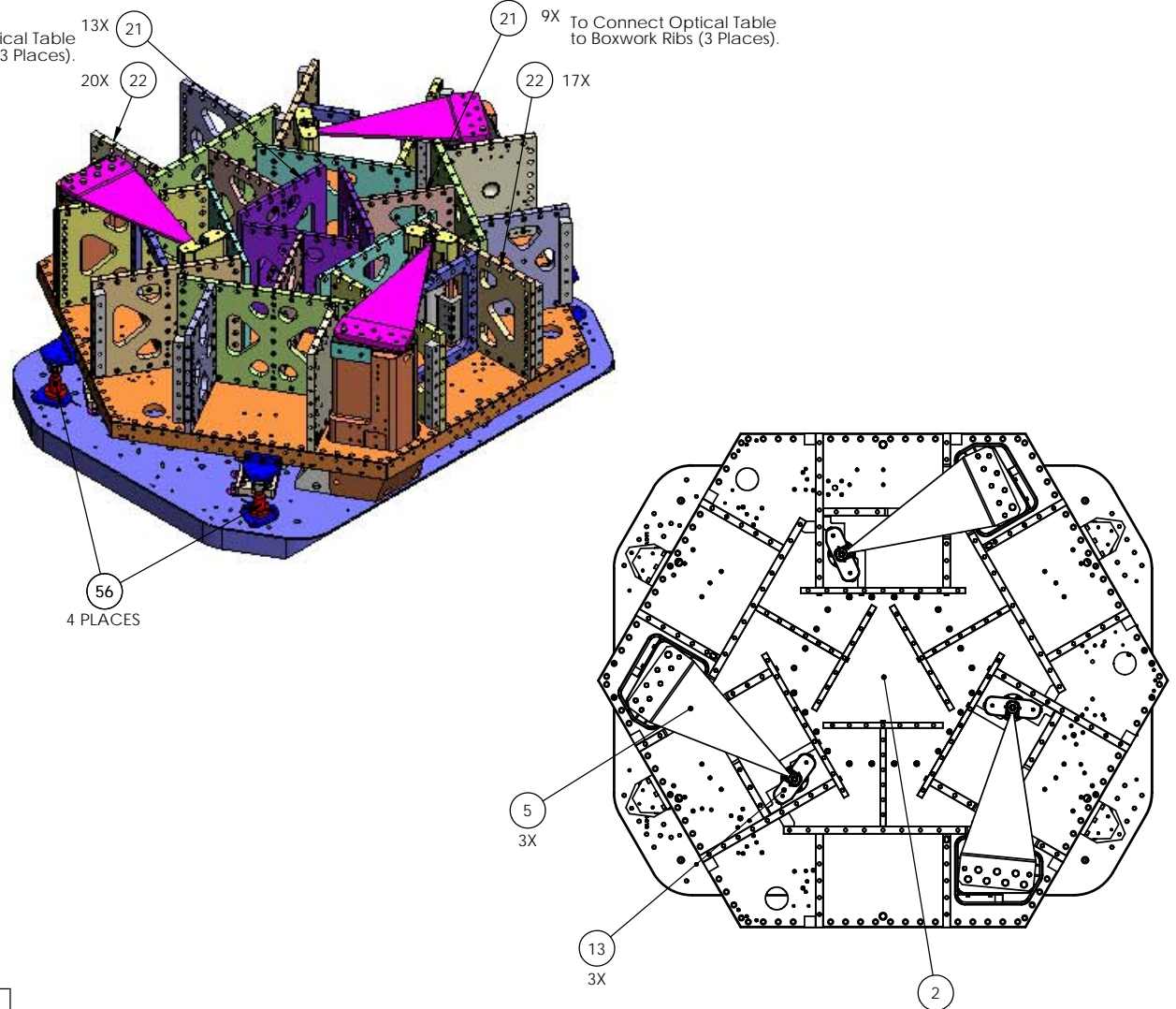


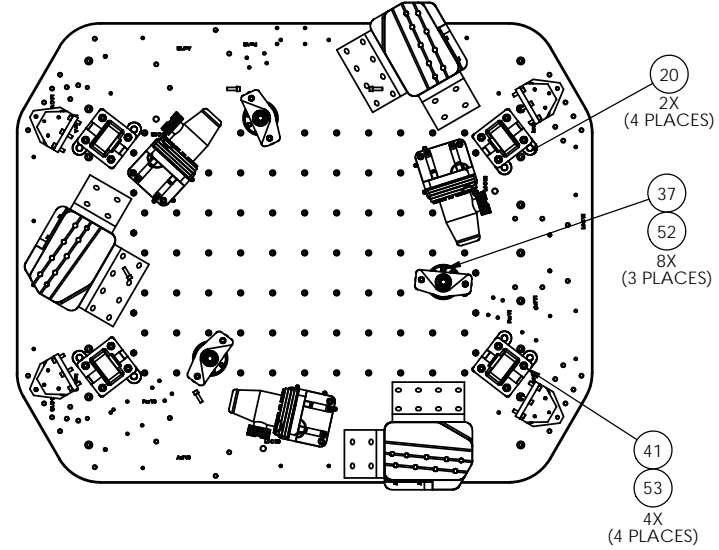
NOTES CONTINUED:
 5. Refer to LIGO-E0900216 for detailed assembly instructions.
 6. Orient Barrel Nuts with flats facing away from screws.

Partially Assembled: Springs Loaded

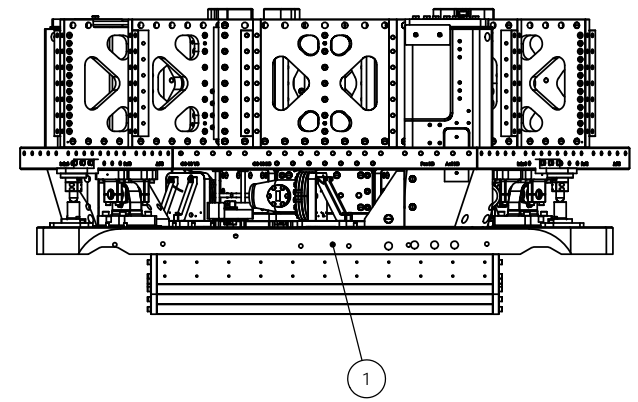
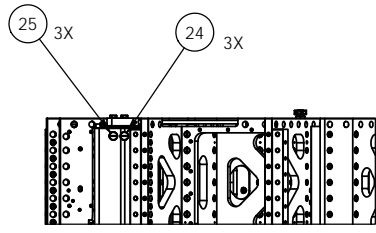
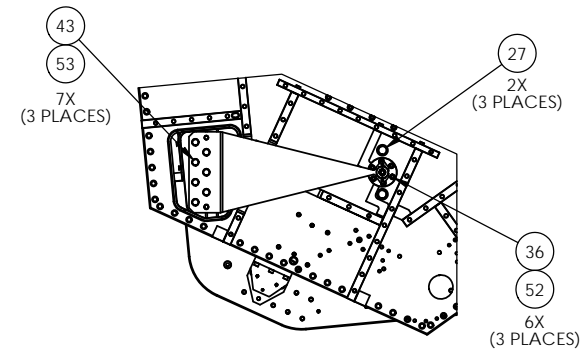
To Connect Optical Table to Pitchfork Ribs (3 Places).
 To Connect Optical Table to Boxwork Ribs (3 Places).



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



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



REV.	DATE	DCN #	DRAWING TREE #			
v1	2 FEB 2021	E2100069	T2100070			
-	-	-	-			
-	-	-	-			

ITEM NO.	PART NUMBER	DESCRIPTION	SIZE / TYPE	MATERIAL	Quantity	Quantity	Quantity	Quantity
65	D071200	Adjustment Mass	Coarse 1.19"	304SS				3
64	D071200	Adjustment Mass	Coarse .69"	304SS				3
63	D071200	Adjustment Mass	Medium .44"	304SS				12
62	D071200	Adjustment Mass	Medium .24"	304SS				6
61	D071200	Adjustment Mass	Medium .12"	304SS				6
60	D071200	Adjustment Mass	Fine .24"	304SS				3
59	D071200	Adjustment Mass	Fine .12"	304SS				6
58	D1500469	HAM Spring Damper	-	SEE BOM	-	-	-	3
57	D0900703	Tuned Mass Damper	-	SEE BOM	-	-	-	3
56	D1900478	HAM ISI VERTICAL CPS STOP ASSEMBLY	-	N/A	4	4	4	4
54	D1600085	HAM GS13 Damper Assembly	-	SEE BOM	-	-	-	6
53	UC_COMPONENTS_WFV-50	Vented Washer, .515 ID X 87 OD X .032 THK #1/2"	1/2" (.52"x.88")	18-8 SS	25	25	25	55
52	UC_COMPONENTS_WFV-38	Washer Vented, .39 ID X .63 OD X .032 THK #3/8"	3/8" (.39"x.63")	18-8 SS	28	27	27	474
51	UC_COMPONENTS_WFV-25	Vented Washer, .25 ID X .468 OD X .032 THK #1/4"	1/4" (.26"x.47")	18-8 SSSL	-	66	122	182
50	MCMMASTER_98370A021	Flat Washer, 3/8"	3/8" (.41"x1.0"x.12")	18-8 SS	-	-	12	12
49	MCMMASTER_92141A051	Flat Washer, 3/8"	3/8" (.41"x1.0"x.05")	18-8 SS	-	-	6	12
48	MCMMASTER_90313A205	Fender Washer, 1/4"	.266"IDx.875"ODx.063"	18-8 SS	-	-	10	18
47	MCMMASTER_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	3
44	D0900201	SHCS, Custom Ag-Plated, 3/8"-16x1.5"	3/8"-16x1.5", Ag-Plated	18-8 SS	-	-	3	3
43	D0900198	HHCS, Custom Ag-Plated, 1/2"-13x3.0"	1/2"-13x3.0"	A286 Iron Base Superalloy	9	9	9	21
42	MCMMASTER_92240A724	HHCS, 1/2"-13x3.0"	1/2"-13x3.0", Full Thread	18-8 SS	-	-	-	6
41	MCMMASTER_92196A722	SHCS, 1/2"-13x2.5"	1/2"-13x2.5"	18-8 SSSL	16	16	16	16
40	MCMMASTER_92196A639	SHCS, 3/8"-16x3.75"	3/8"-16x3.25"	18-8 SS	-	-	-	6
39	HOKLOKROME_78108	SHCS, 3/8"-16x2.5"	3/8"-16x2.5"	18-8 SS	-	-	12	12
38	HOKLOKROME_78104	SHCS, 3/8"-16x1.75"	3/8"-16x1.75"	18-8 SS	-	9	9	309
37	HOKLOKROME_78100	SHCS, 3/8"-16x1.25"	3/8"-16x1.25"	18-8 SS	10	-	-	147
36	HOKLOKROME_78098	SHCS, 3/8"-16x1.0"	3/8"-16x1.0"	18-8 SS	18	18	18	18
35	MCMMASTER_92196A551	SHCS 1/4"-20 x 2.25 lg 1" thd to fully thd	1/4"-20x2.25"	AISI 304	-	-	10	18
34	HOKLOKROME_78064	SHCS, 1/4"-20x1.25"	1/4"-20x1.25"	18-8 SS	-	-	24	24
33	HOKLOKROME_78062	SHCS, 1/4"-20x1.0"	1/4"-20x1.0"	18-8 SS	-	48	60	120
32	HOKLOKROME_78056	SHCS, 1/4"-20x.625"	1/4"-20x.625"	18-8 SS	-	18	38	38
31	D0900705	Clamp Cap, Vert L4-C, HAM ISI	-	304 SS	-	-	-	6
30	D0900312	Wiring Breadboard, Small	-	6061-T6 Al	-	-	4	4
29	D0900310	Dog Clamp, Vert L4-C, HAM ISI	-	6061-T6 Al	-	-	-	6
28	D0900277	Cover, Outer Wall, Horiz Act and Seals	-	6061-T6 Al	-	-	-	3
27	D071321	Spring Tension Bushing	-	PIFE	6	-	-	-
26	D071255	Wiring Breadboard, Large	-	6061-T6 Al	-	-	6	6
25	D071251	Gang Barrel Nut	4x 1/2"-13 (spaced 2.5")	17-4 PH H1150	3	3	3	3
24	D071251	Gang Barrel Nut	3x 1/2"-13 (spaced 2.5")	17-4 PH H1150	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	6	198	198	198
21	D071250	Barrel Nut	3/8-16 x .75L	2024-T351	3	3	3	3
20	D071141	Locker Spacer	.125	304 SS	8	8	8	8
19	D071072	Rib, Tan, Flexure Mid Cover	-	6061-T6 Al	-	3	3	3
18	D071067	Spring Hatch, Optics Table	-	6061-T6 Al	-	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
13	D071500	Asm, Spring Pull-Down	-	See BOM	3	-	-	-
12	D071470	Asm, GS-13 with Fixtures	VERTICAL	See BOM	-	-	3	3
11	D071470	Asm, GS-13 with Fixtures	HORIZONTAL	See BOM	-	-	3	3
10	D071464	Asm, Position Sensor	VERTICAL	See BOM	-	-	3	3
9	D071464	Asm, Position Sensor	HORIZONTAL	See BOM	-	-	3	3
8	D071463	Asm, Position Sensor Target	-	See BOM	-	-	3	3
7	D071442	Asm, Actuator	VERTICAL	See BOM	-	-	3	3
6	D071442	Asm, Actuator	HORIZONTAL	See BOM	-	-	3	3
5	D071430	Asm, Spring and Flexure	-	See BOM	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	D0900153	Stage 0 Asm, HAM ISI, Advanced LIGO	-	See BOM	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, A+

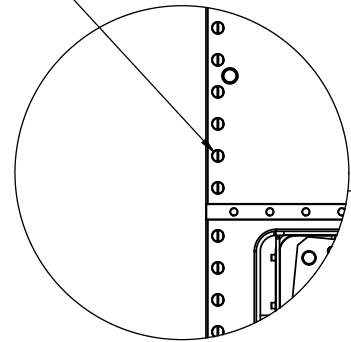
DESIGNER: Andy Stein, 08 MAY 2009
 DRAFTER: Andy Stein, 14 JAN 2010
 CHECKER: Ken Mason, 20 JAN 2010
 APPROVAL: Ken Mason, 20 JAN 2010

SIZE: D
 DWG. NO.: D2100066
 SCALE: 1:12
 PROJECTION: [Symbol]
 SHEET 1 OF 4

D2100066-v1_L1_HAM_ISI_Table_A+ - PART PDR REV. X.301, DRAWING PDM REV. X.002

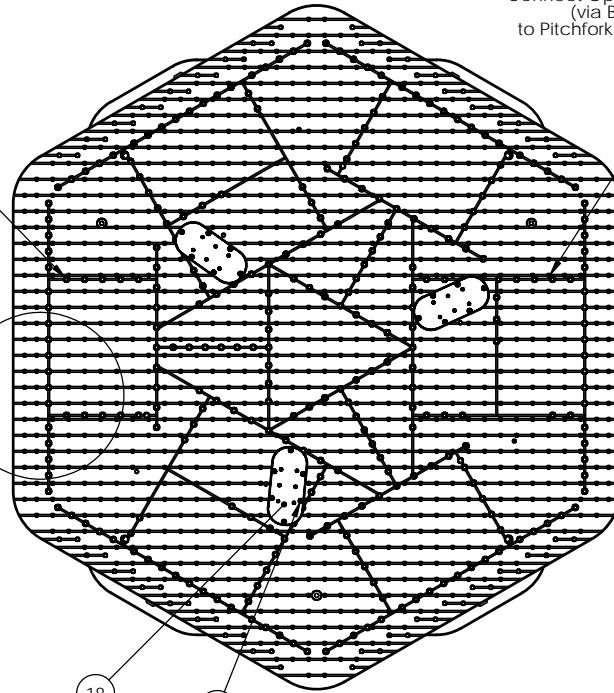
Partially Assembled: Optical Table Installed

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



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

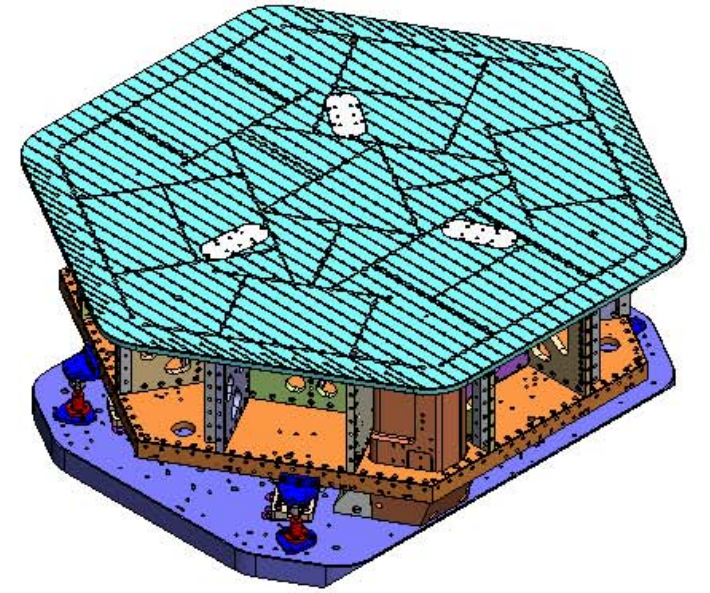
Connect Optical Table
(via Barrel Nuts)
to Pitchfork Assembly. 38
52
33X
(3 PLACES)



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

18
3X

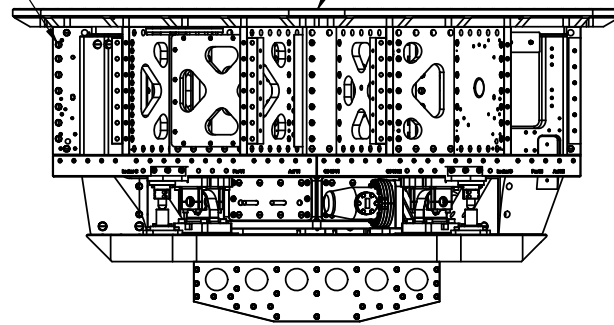
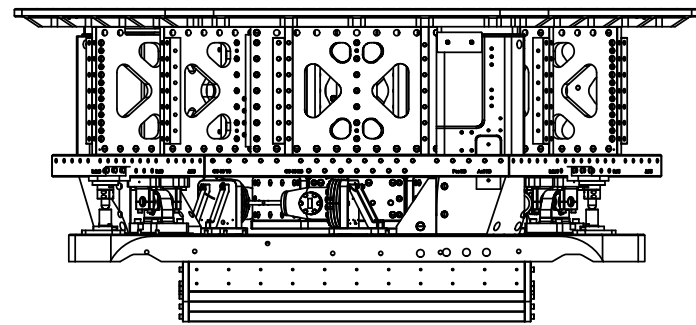
32 Connect Spring Hatch
to Optical Table.
51
6X
(3 PLACES)



To Connect Outer Walls to
Boxwork and Pitchfork Ribs.

22 84X

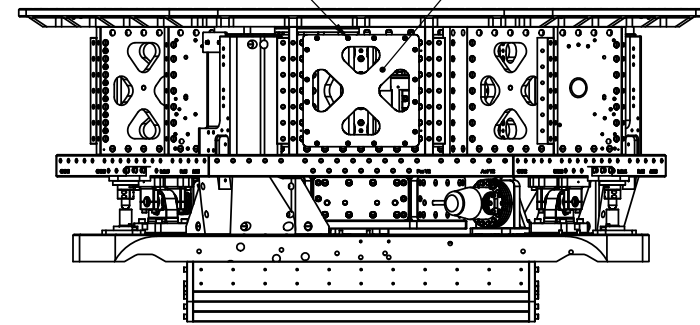
14



Connect Mid Tan Rib Cover
to Boxwork

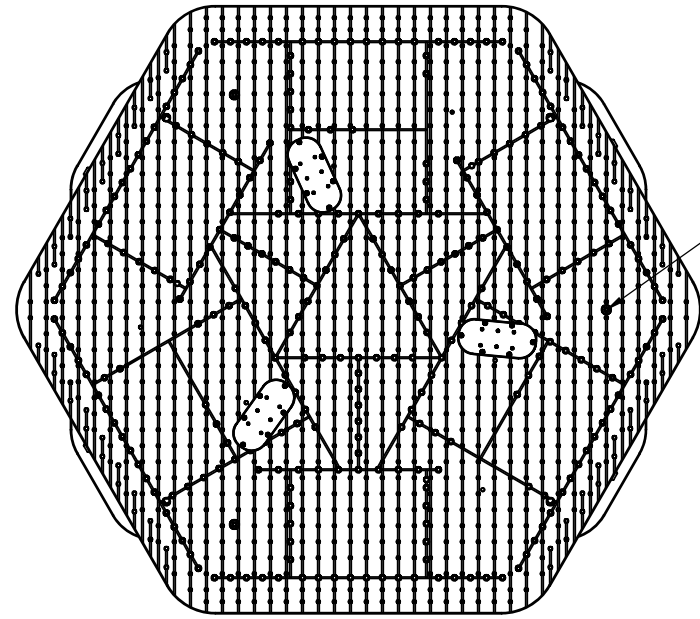
33 16X
(3 PLACES)
51

19 3X

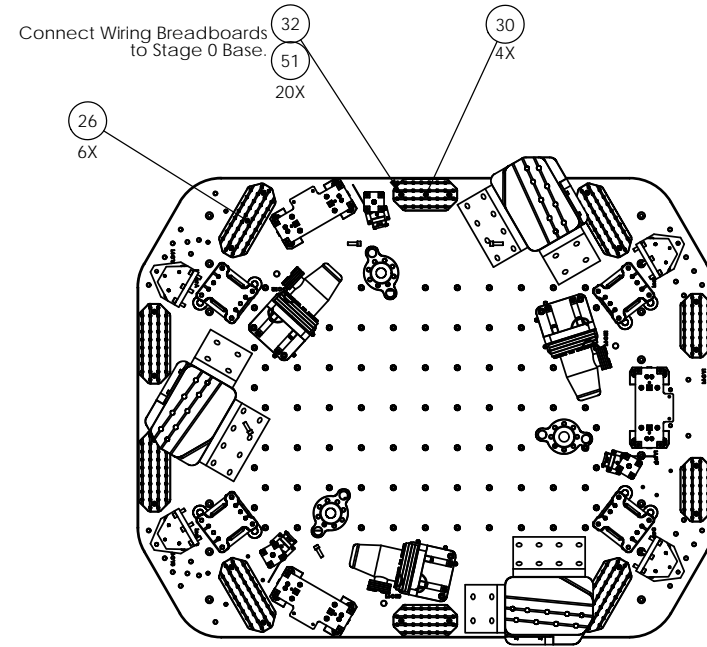


D2100066-v1_LHM_LB_1a_086-A - PART PDM REV. X.301. DRAWING PDM REV. X.002

Partially Assembled: With Sensors and Actuators

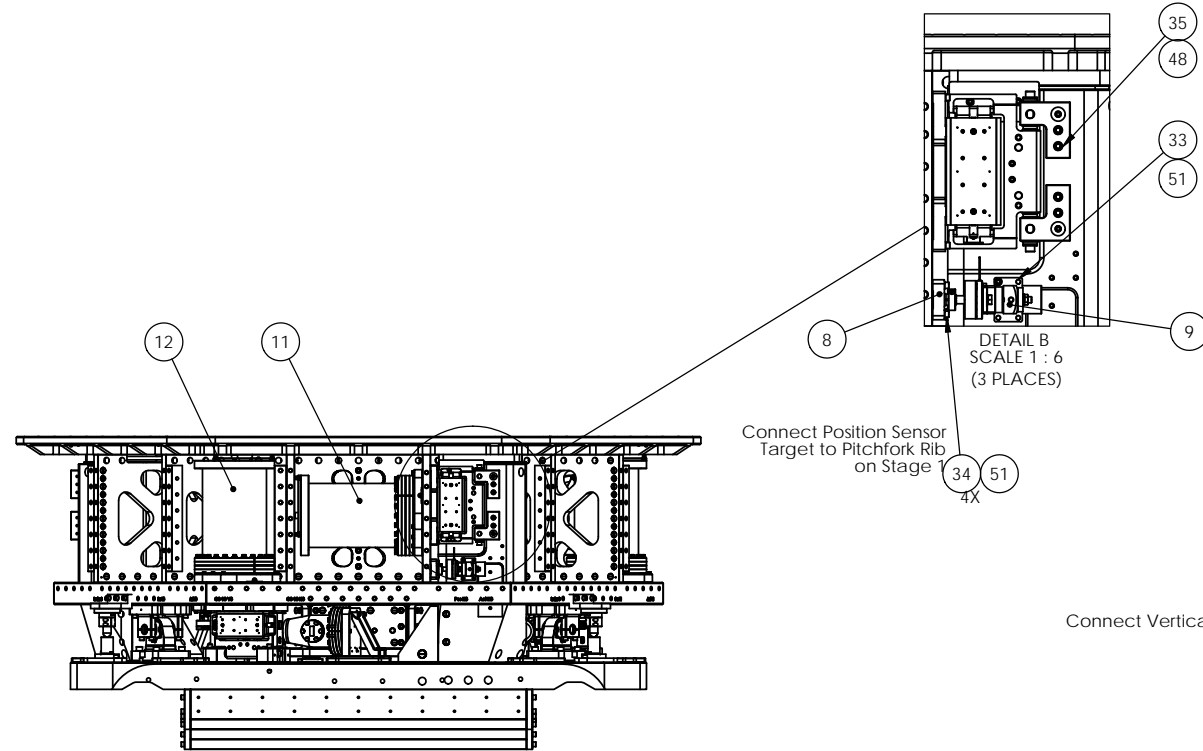
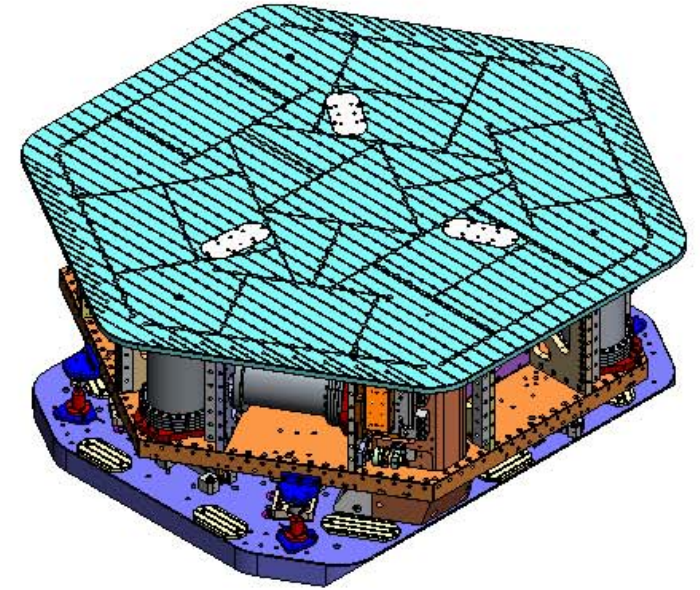


45 Connect Stabilizer Flexure on Vert GS-13 to Optical Table.
49 3X

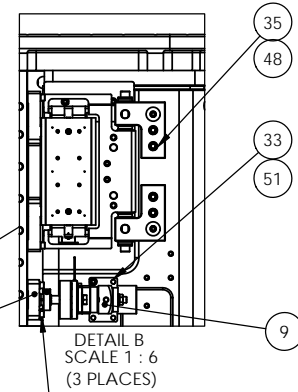


Connect Wiring Breadboards to Stage 0 Base.
32 51 20X
30 4X
26 6X

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

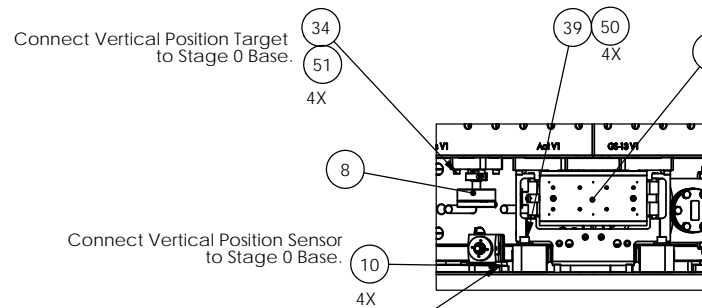


Connect Position Sensor Target to Pitchfork Rib on Stage 1
34 51 4X

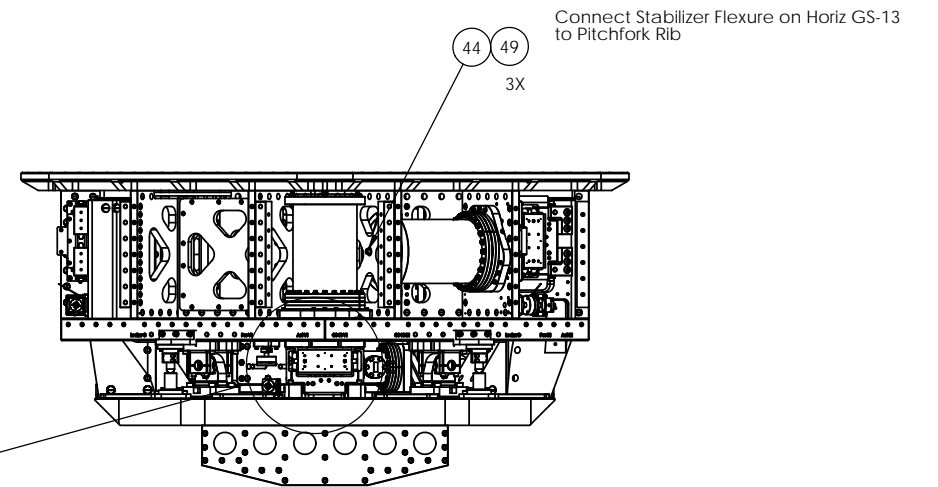


DETAIL B SCALE 1 : 6 (3 PLACES)

Connect Vertical Actuator to Stage 0 Base



DETAIL C SCALE 1 : 6

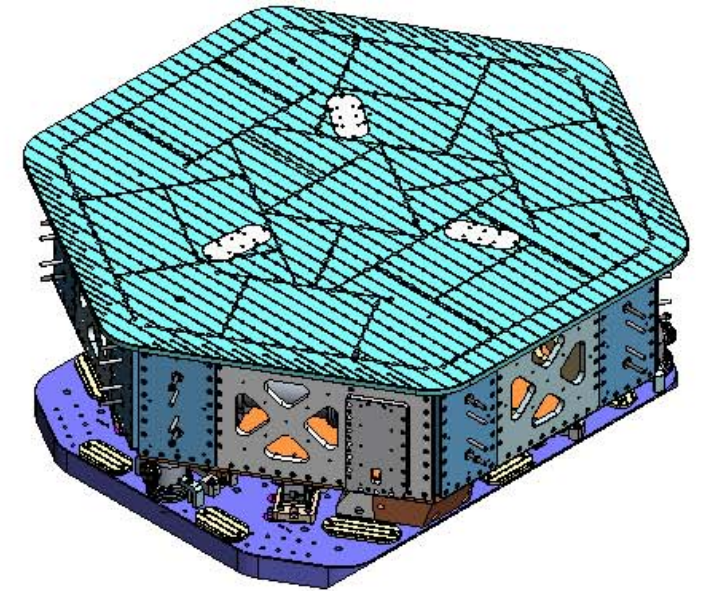
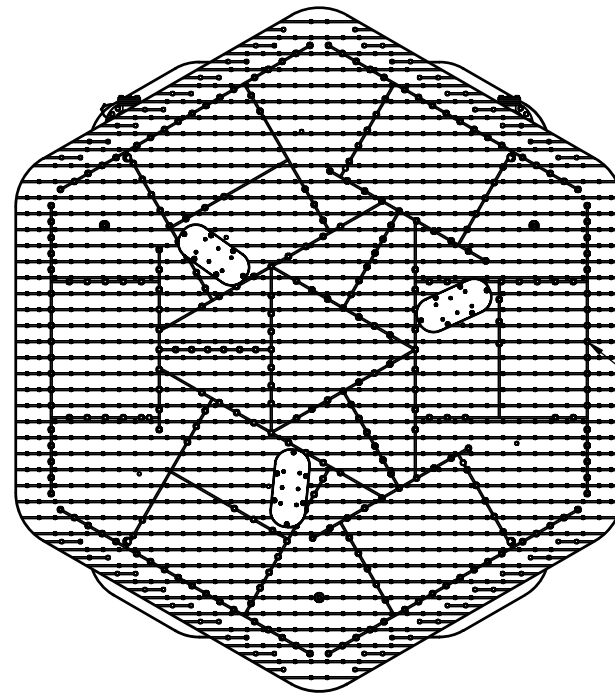
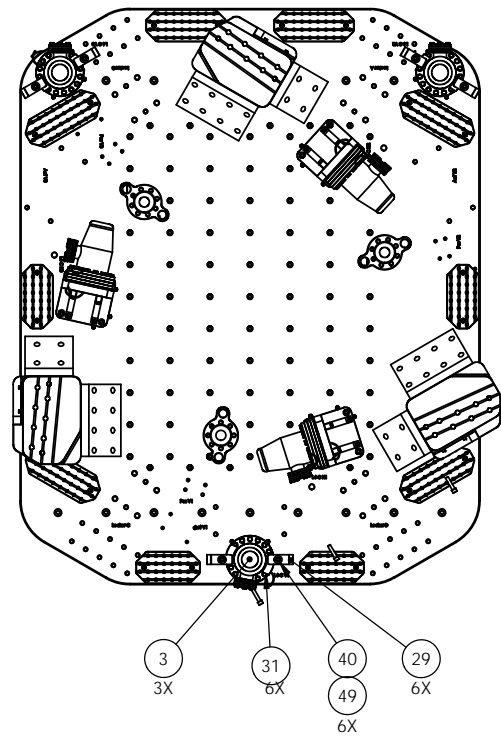


Connect Stabilizer Flexure on Horiz GS-13 to Pitchfork Rib
44 49 3X

D2100066-V1_LHAM_B3_1018-A- PART PDM REV. X 301 DRAWING PDM REV. X 002

Fully Assembled

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



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

108 PLACES

