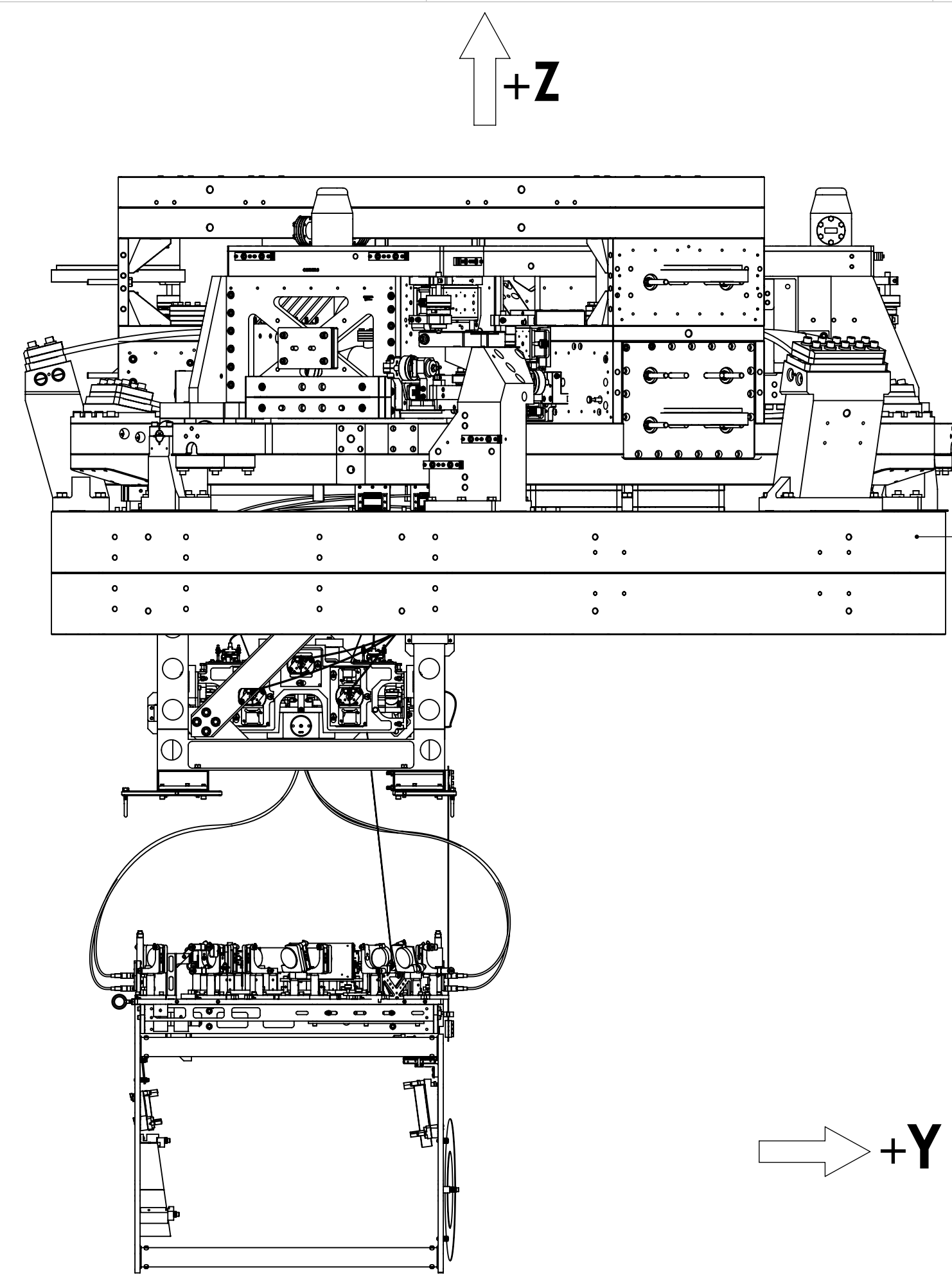
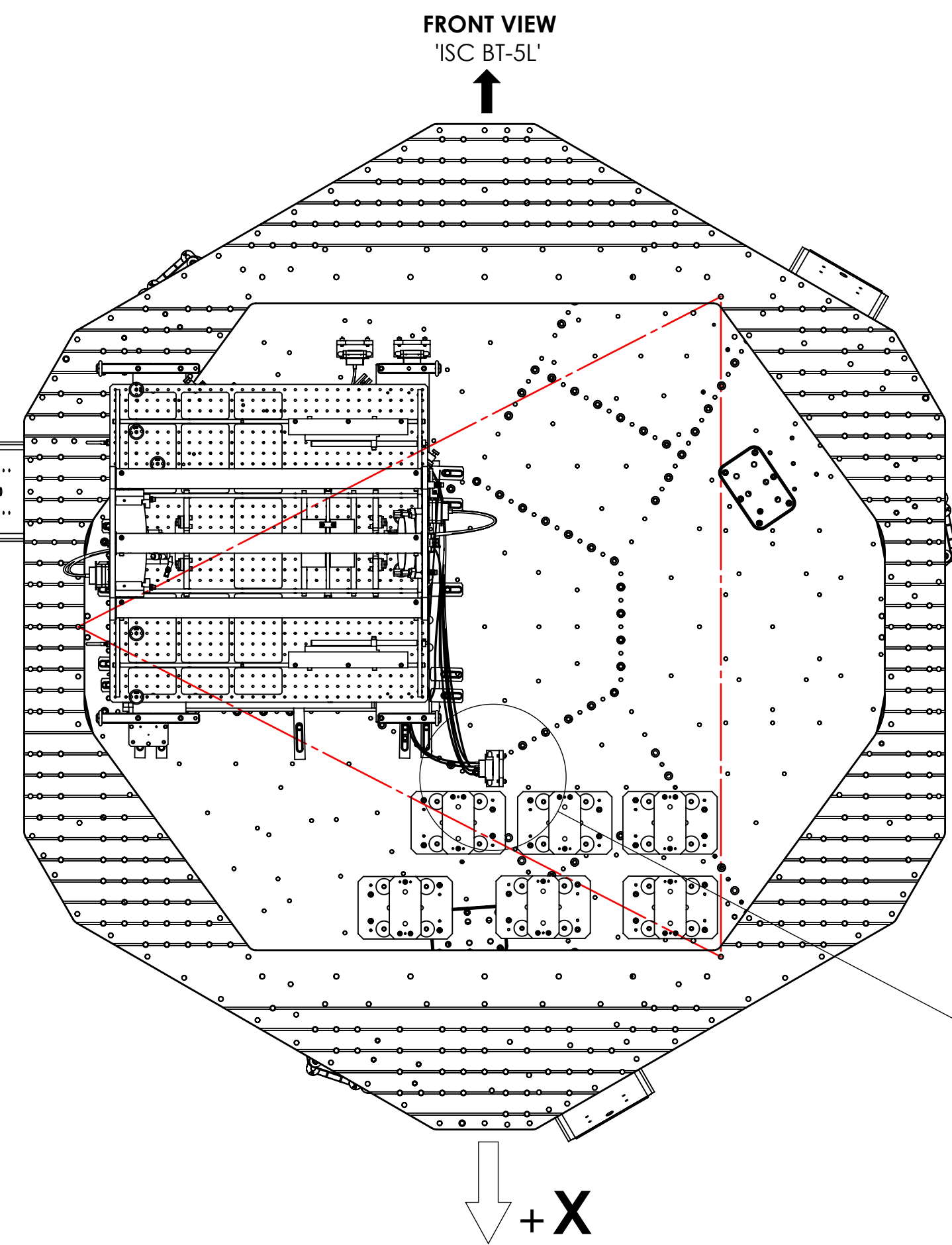
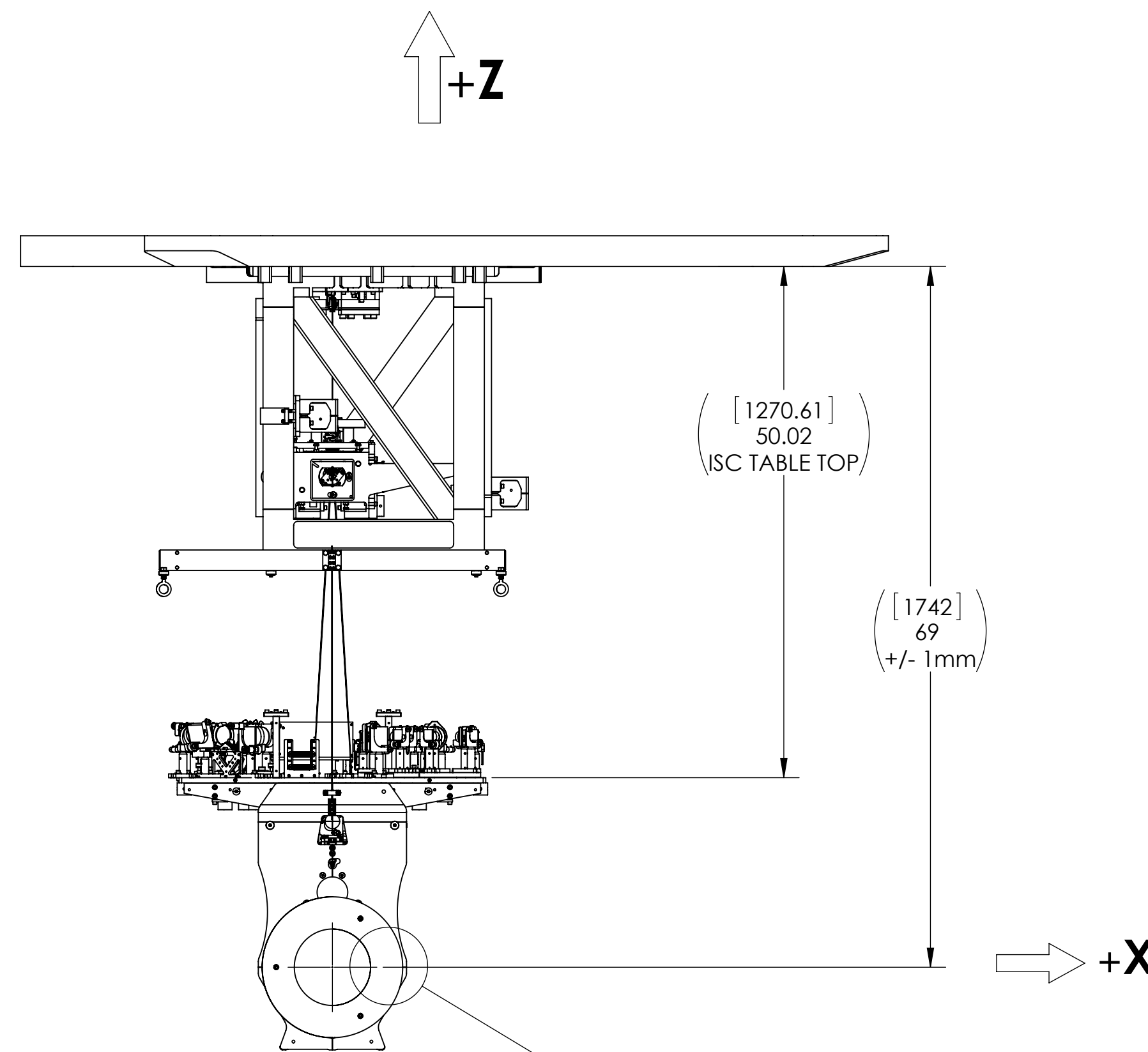


REV.	DATE	DCN #	DRAWING TREE #
v1	16 OCT 2013	-	-
-	-	-	-
-	-	-	-

- [1] MASS: 457.72 LB (207.62 KG), INCLUDING DOG CLAMPS & VIBRATION ABS.
- [2] BSC ISI ORIENTATION: THE BASE OF THE TRIANGLE SPANS THE SUPPORT TUBES; THE REST OF THE TRIANGLE FOLLOWS THE SHAPE OF THE KEEL PLATE. SEE LIGO G1000125 FOR REFERENCE.
- [3] FOR TMS CONTROLS ARRANGEMENT, SEE LIGO E1200045 (LEFT VERSION)
- [4] FOR BSC ISIS OPTICS TABLE HOLE TABULATION, SEE LIGO D1101271
- [5] USE ONLY (1) ALIGNMENT TOOL. REMOVE AFTER TMS IS CLAMPED TO ISI TABLE
- [6] TORQUE TO 300 IN/LBS (USE STANDARD 12 PT SOCKET)
- [7] ISC PICOMOTORS CIRCUIT.
- [8] ISC 1064 NM (RED) QPD CIRCUIT.
- [9] ISC 532 NM (GREEN) QPD CIRCUIT.
- [10] ISC BEAM DIVERTER CIRCUIT.
- [11] BOSEM CIRCUIT 'FACE1'.
- [12] BOSEM CIRCUIT 'FACE2'.
- [13] BOSEM CIRCUIT 'FACE3'.
- [14] BOSEM CIRCUIT 'LEFT'.
- [15] BOSEM CIRCUIT 'RIGHT'.
- [16] BOSEM CIRCUIT 'SIDE'.

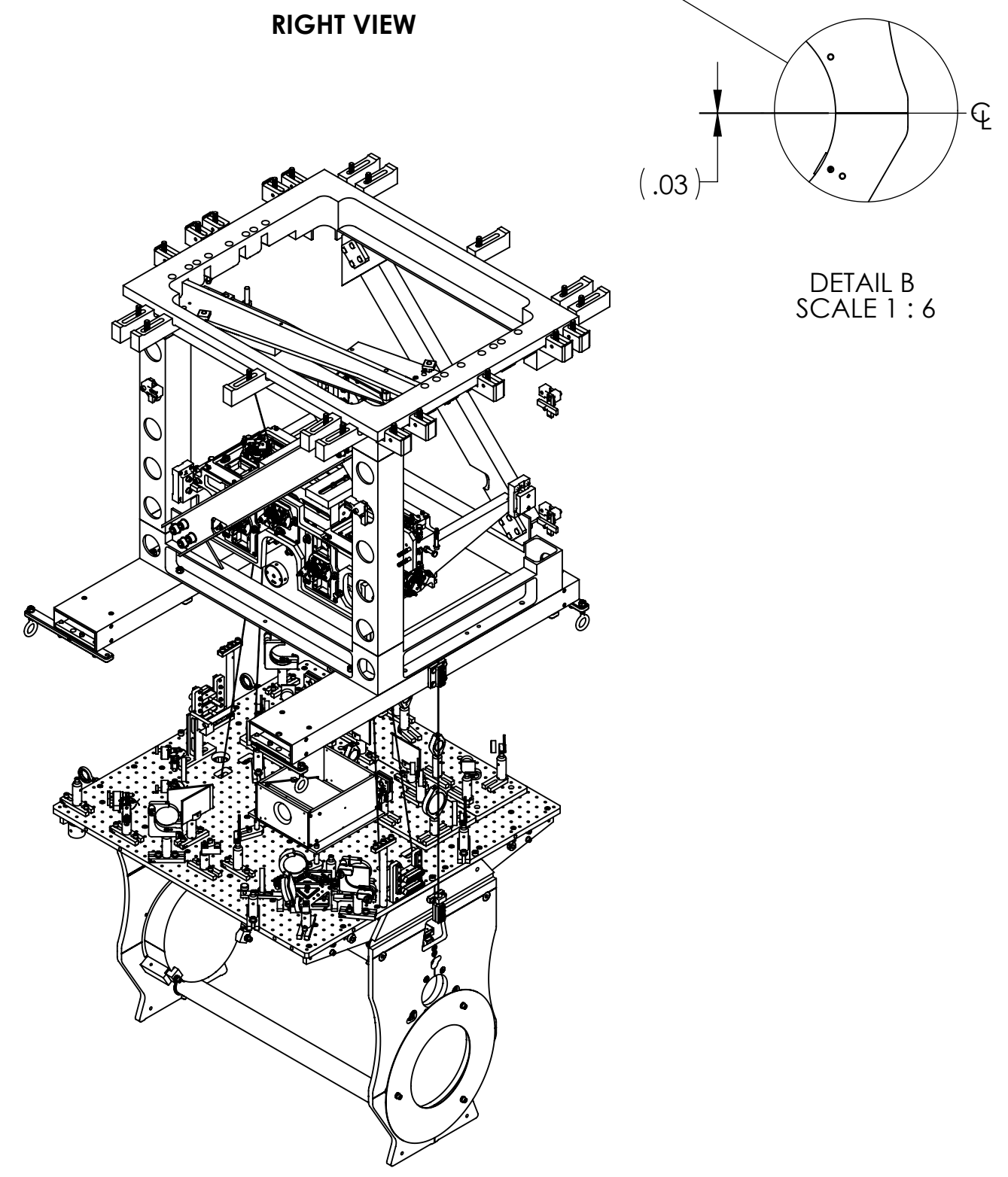


BSC ISI (SHOWN FOR REFERENCE ONLY)
ASSEMBLED AT A HIGHER LEVEL ASSY.
NOT PART OF FINISHED ETM TEL ASSY.



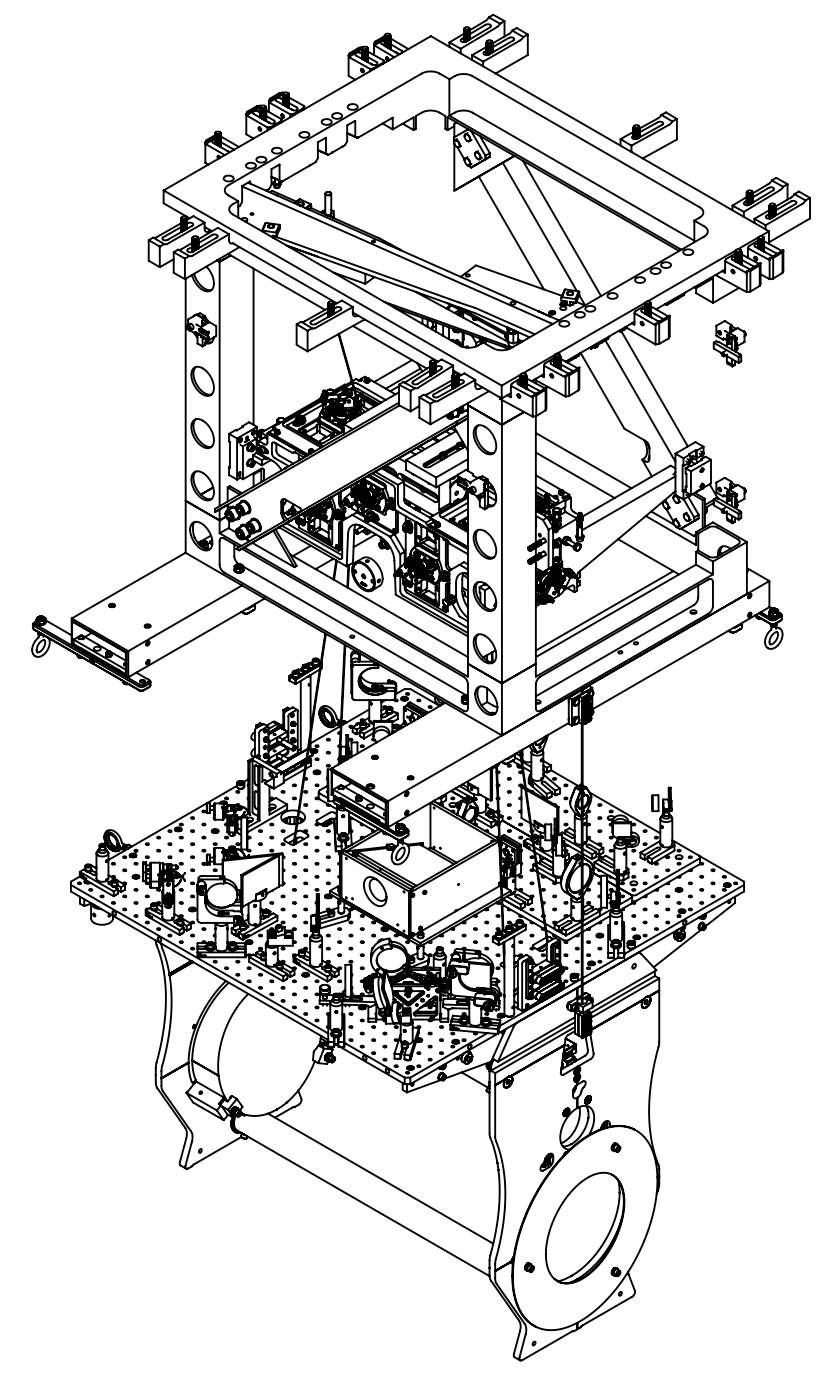
FRONT VIEW
"ISC BT-5L"

CABLE BRACKETS
SHOWN FOR REFERENCE ONLY
(ASSEMBLED AT HIGHER LEVEL ASSY., SEE D1200111)



RIGHT VIEW

DETAIL B
SCALE 1 : 6



ISO VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
11	D0902462	UHV COMPATIBLE CABLE CLAMP ASSY	N/A	4
10	C-2014-N UC COMPONENTS OR EQ.	SCREW, SOCKET HEAD CAP. 1/4-20 UNC-2A X 0.875 LONG	300 SSSL	4
9	WFV-25 UC COMPONENTS OR EQ.	WASHER, FLAT, .255 ID X .468 OD, .032 TH (VENTED)	18-8 SSSL	4
8	D1100792	TMS SUS CABLE CLAMP PLATE, OUTER	6061-T6 Al	4
7	D1100791	TMS SUS CABLE CLAMP PLATE, INNER	6061-T6 Al	4
6	TWP450-2024-N	3/8-16 X 1.50 12PT BOLT	450 SSSL	20
5	D1100785-562	WASHER, FLAT, .38 X .562 O.D.	NITRONIC 60	20
4	D1002424	VIBRATION ABSORBER ASSEMBLY	N/A	2
3	D1003190	αLIGO QUAD SHORTER DOG CLAMP	304 SSSL	10
2	D070056	αLIGO, SUS, QUAD N-PTYPE, QUAD DOG CLAMP	304 SSSL	10
1	D0901880-02	αLIGO AOS TRANSMISSION MONITOR SYSTEM ASSEMBLY, WBSC10, LBSC5	N/A	1

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

PART NAME
AdvLIGO SUS BSC5-L1, XYZ Local CS for ETM Tel Assy

MATERIAL	N/A	FINISH	N/A μinch	NEXT ASSY	D0900506
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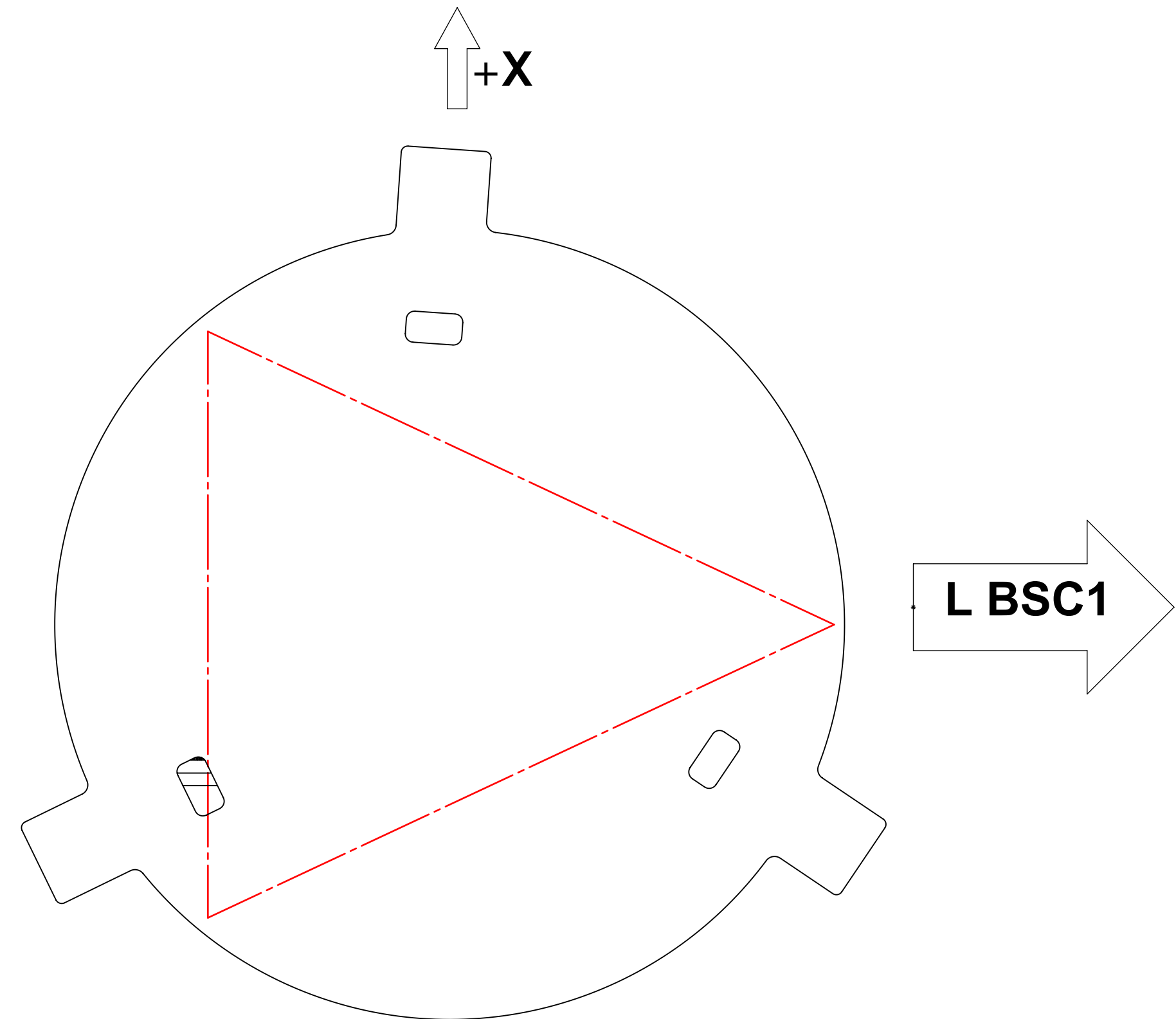
DESIGNER	E.SANCHEZ	DATE	18 OCT 2013	SIZE	D	DWG. NO.	D0900436	REV.	v1
CHECKER	SEE DCC	SEE DCC	SEE DCC	SCALE	1:12	PROJECTION	AS SHOWN	SHEET 1 OF 8	

D0900436-AdvLIGO SUS BSC5-L1, XYZ Local CS for ETM Tel Assy, PART PDM REV: X-025, DRAWING PDM REV: X-001

ALIGNMENT PLATE INSTALLATION / LOCATION

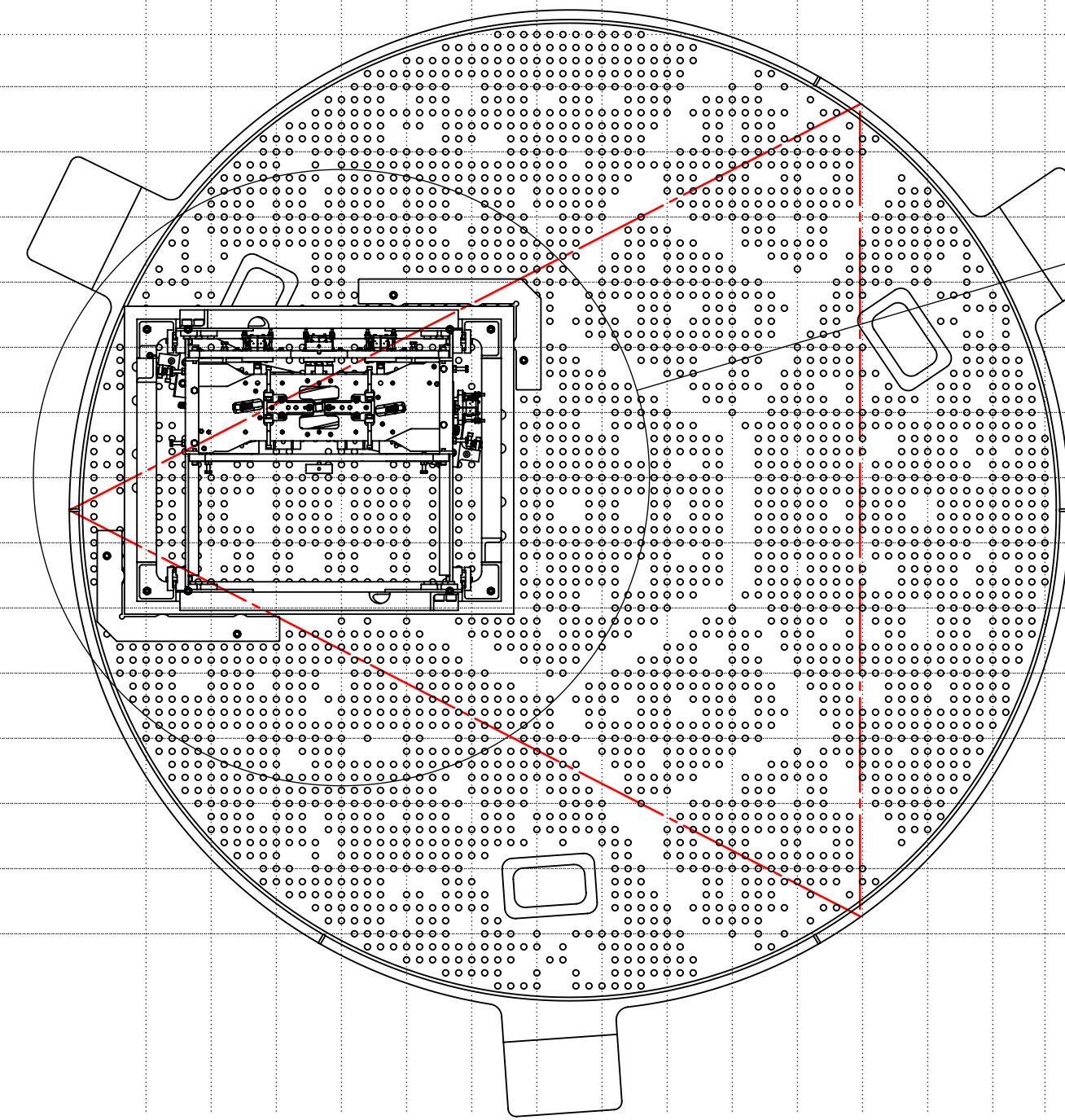
- 2 BSC ISI ORIENTATION: THE BASE OF THE TRIANGLE SPANS THE SUPPORT TUBES; THE REST OF THE TRIANGLE FOLLOWS THE SHAPE OF THE KEEL PLATE. SEE LIGO G1000125 FOR REFERENCE.
- 4 FOR BSC ISIS OPTICS TABLE HOLE TABULATION, SEE LIGO D1101271
- 5 USE ONLY (1) ALIGNMENT TOOL. REMOVE AFTER TMS IS CLAMPED TO ISI TABLE

H
G
F
E
D
C
B
A



TOP VIEW
(AS VIEWED FROM ABOVE, LOOKING DOWN)

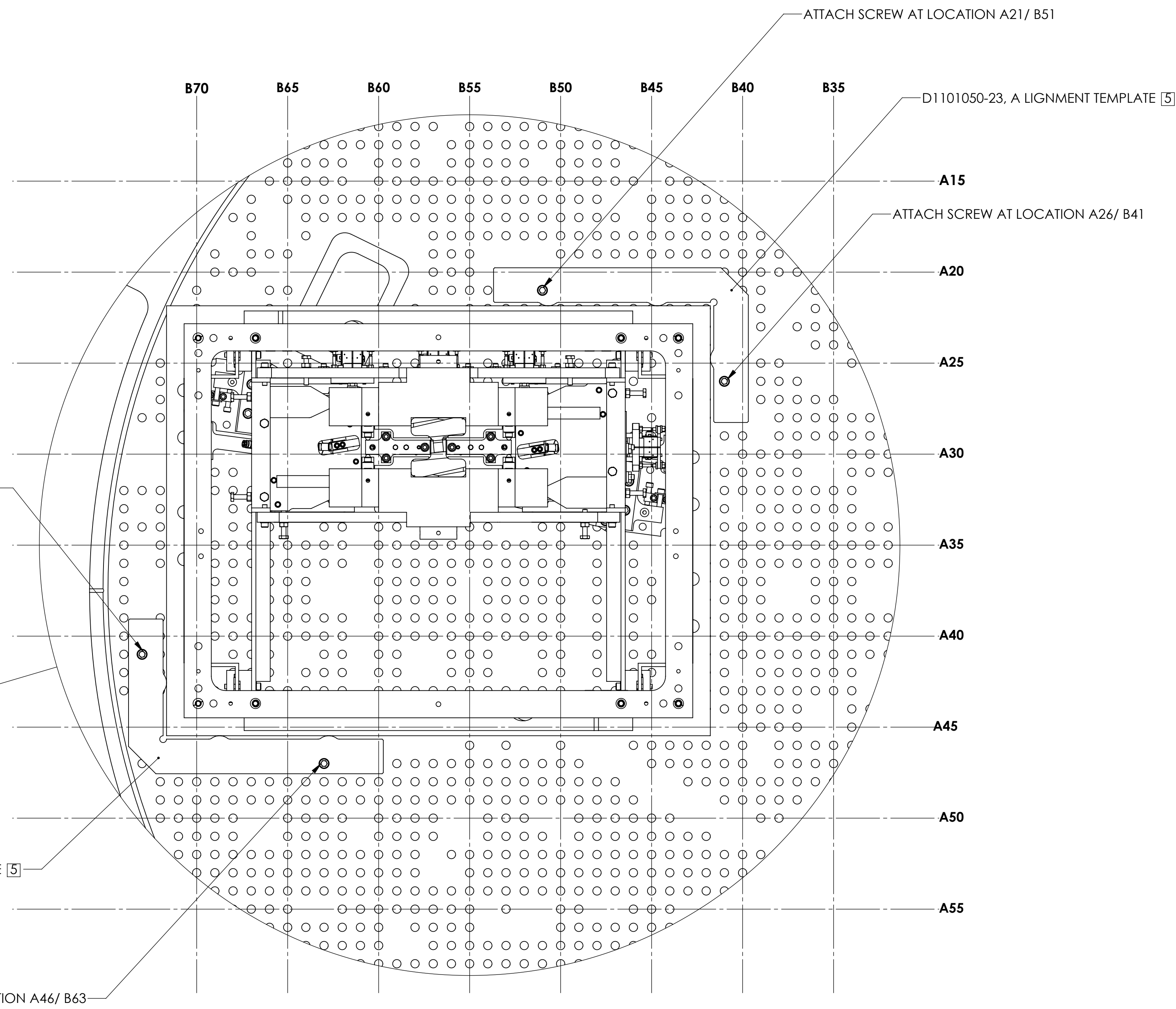
'ISC BT-5L'
↑
B70 B65 B60 B55 B50 B45 B40 B35 B30 B25 B20 B15 B10 B5 B1



BOTTOM VIEW 2 4
(AS VIEWED FROM BELOW, LOOKING UP)

L BSC1

L BSC1



DETAIL C
SCALE 1 : 4

BOTTOM VIEW (LOOKING UP)
FOR CLARITY PURPOSES TMS UPPER FRAME SHOWN ONLY
D0901056 OPTICAL TABLE SHOWN FOR TMS POSITIONING,
TEMPLATE LOCATION AND ORIENTATION ONLY.
(DOG CLAMPS AND MT. HARDWARE, NOT SHOWN FOR CLARITY)

TMS Y ARM

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE DWG. NO.	D0900436	v1
SCALE: 1:12	PROJECTION:	SHEET 2 OF 8

D0900436-A04/LIGO S16 BSC-L1.XYZ Locs/CS for ETM Tel Assy, PART FDM REV. X-025, DRAWING FDM REV. X-001

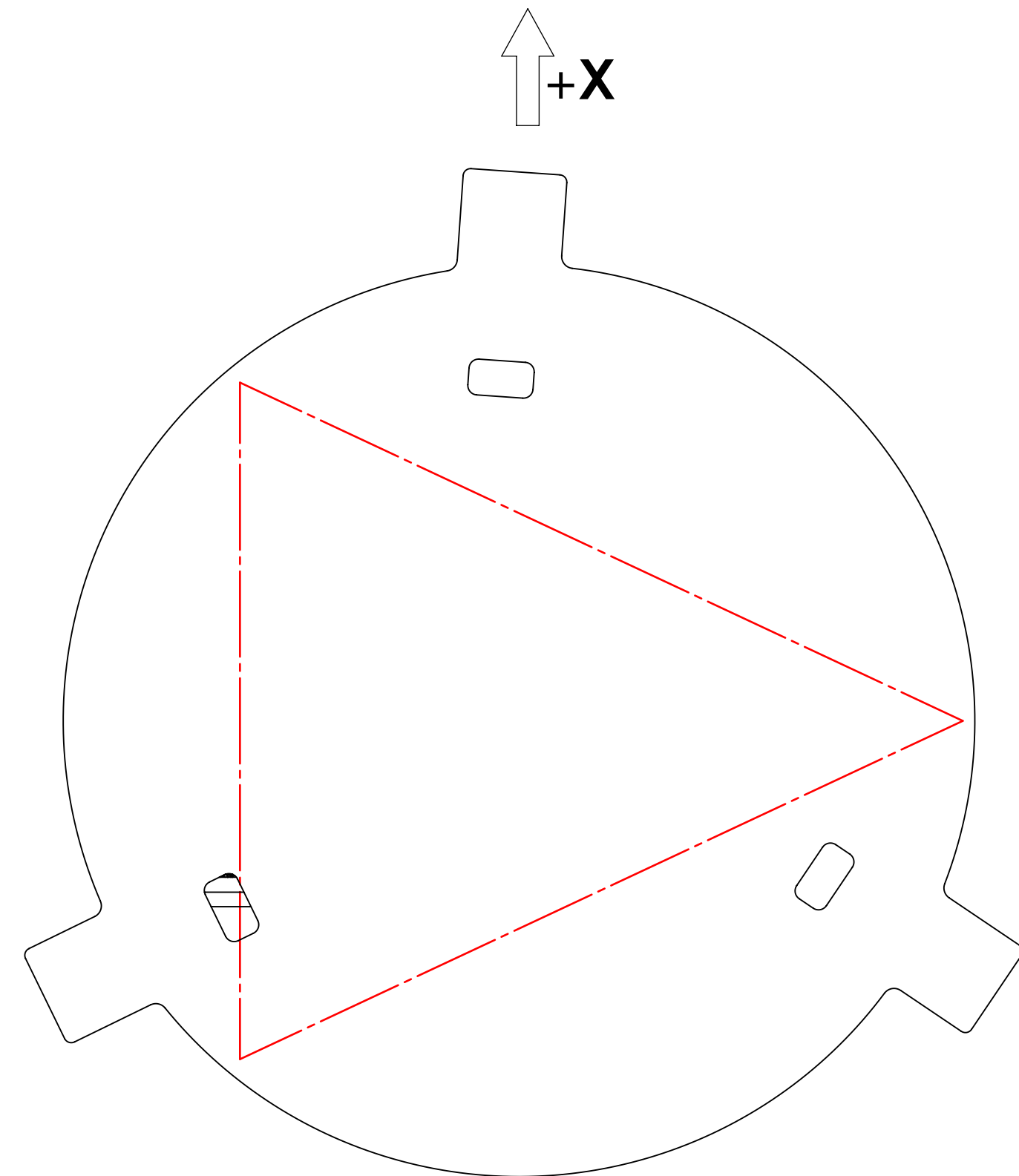
8 7 6 5 4 3 2 1

DOG CLAMPS IDENTIFICATION / INSTALLATION

[2] BSC ISI ORIENTATION: THE BASE OF THE TRIANGLE SPANS THE SUPPORT TUBES; THE REST OF THE TRIANGLE FOLLOWS THE SHAPE OF THE KEEL PLATE. SEE LIGO G1000125 FOR REFERENCE.

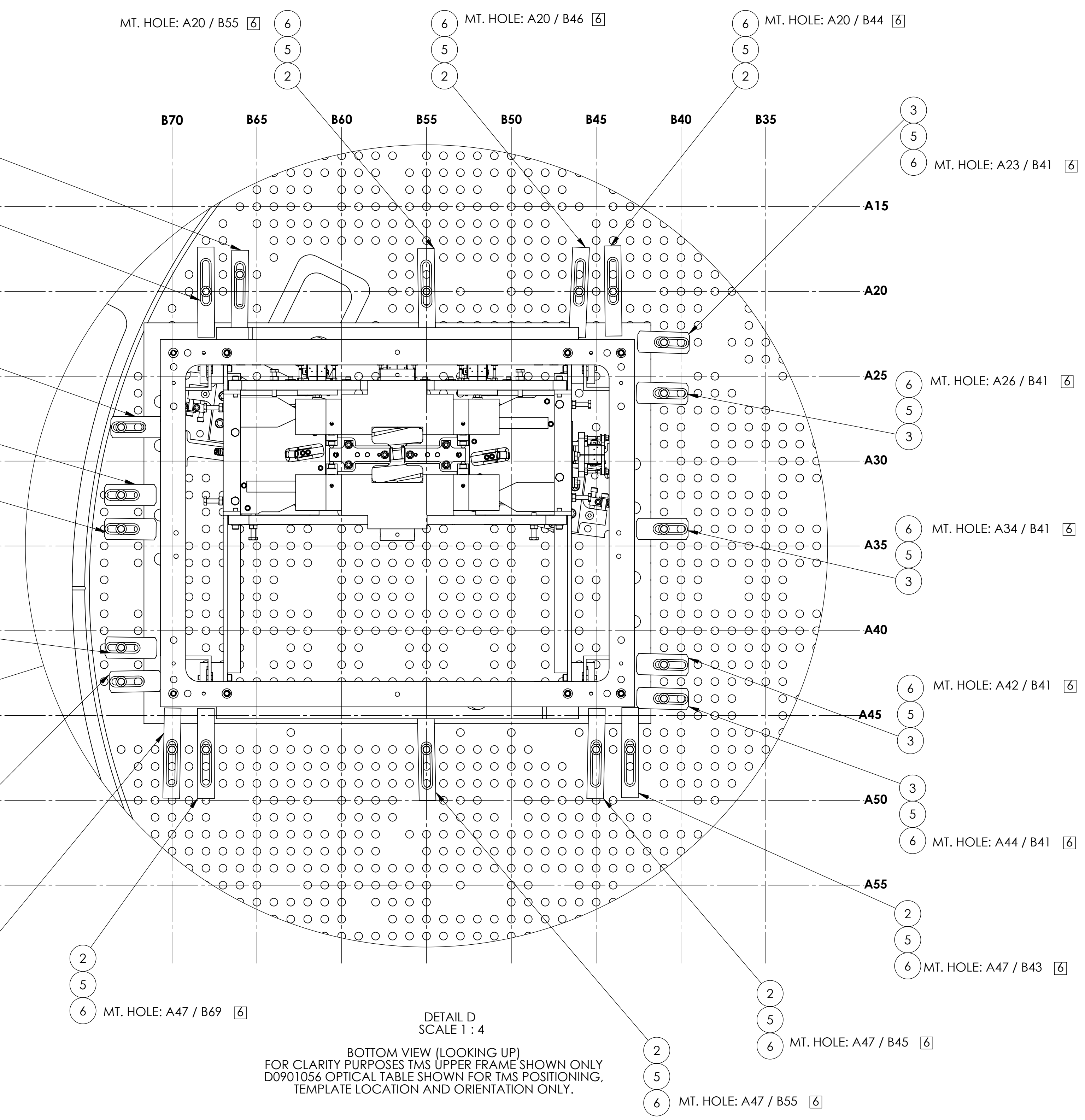
[4] FOR BSC ISI OPTICS TABLE HOLE TABULATION, SEE LIGO D1101271

[6] TORQUE TO 300 IN/LBS (USE STANDARD 12 PT SOCKET)

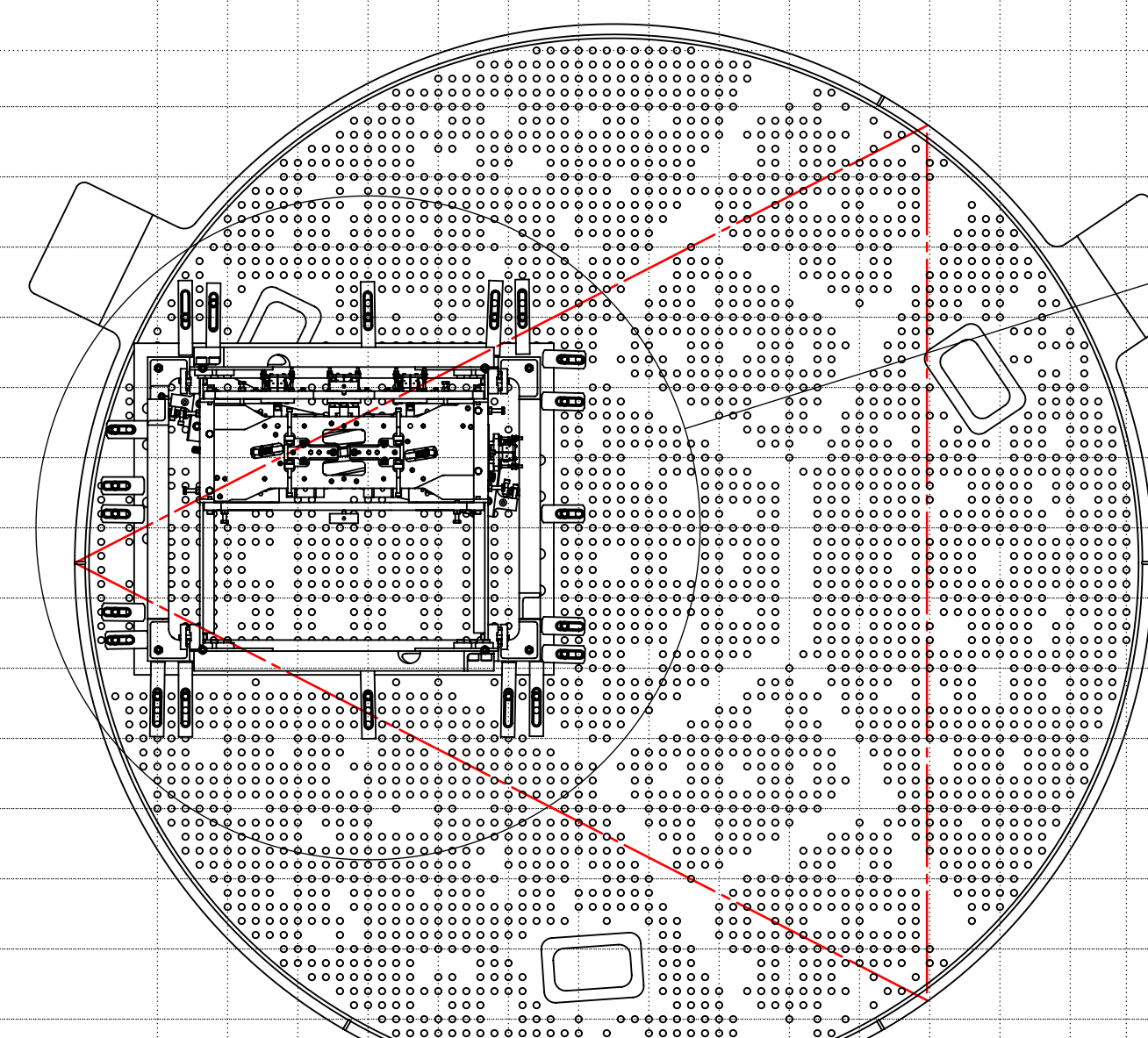


TOP VIEW
(AS VIEWED FROM ABOVE, LOOKING DOWN)

L BSC1



'ISC BT-5L'
B70 B65 B60 B55 B50 B45 B40 B35 B30 B25 B20 B15 B10 B5 B1



BOTTOM VIEW [2] [4]
(AS VIEWED FROM BELOW, LOOKING UP)

L BSC1

DETAIL D
SCALE 1 : 4
BOTTOM VIEW (LOOKING UP)
FOR CLARITY PURPOSES TMS UPPER FRAME SHOWN ONLY
D0901056 OPTICAL TABLE SHOWN FOR TMS POSITIONING,
TEMPLATE LOCATION AND ORIENTATION ONLY.

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
6	TWP450-2024-N	3/8-16 X 1.50 12PT BOLT	450 SSSL	20
5	D1100785-562	WASHER, FLAT, .38 X .562 O.D.	NITRONIC 60	20
3	D1003190	Q LIGO QUAD SHORTER DOG CLAMP	304 SSSL	10
2	D070056	Q LIGO, SUS, QUAD N-PTYPE, QUAD DOG CLAMP	304 SSSL	10

PARTIAL BOM. SEE SHEET 1 FOR COMPLETE BOM

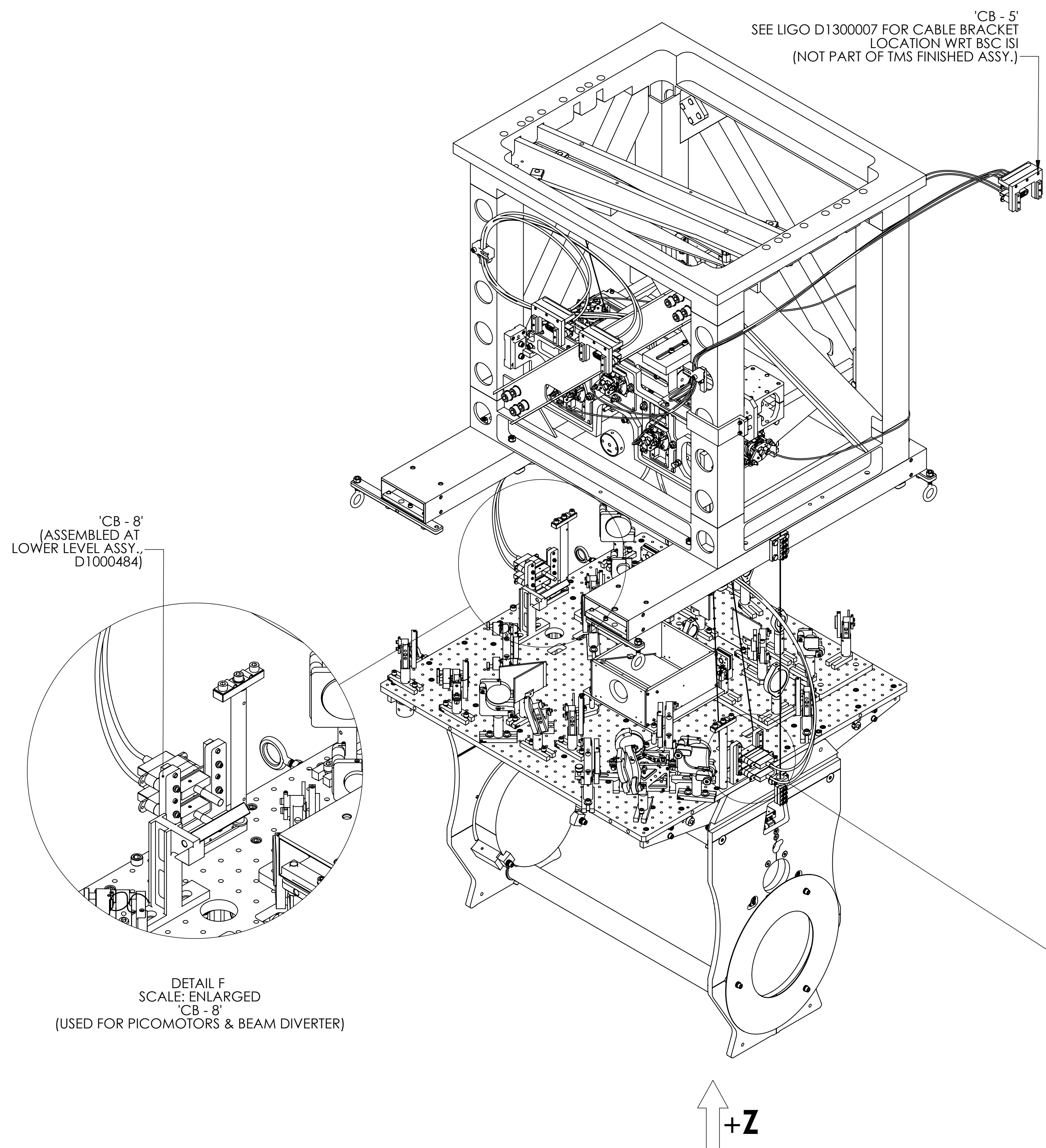
LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO. **D0900436** REV. **v1**

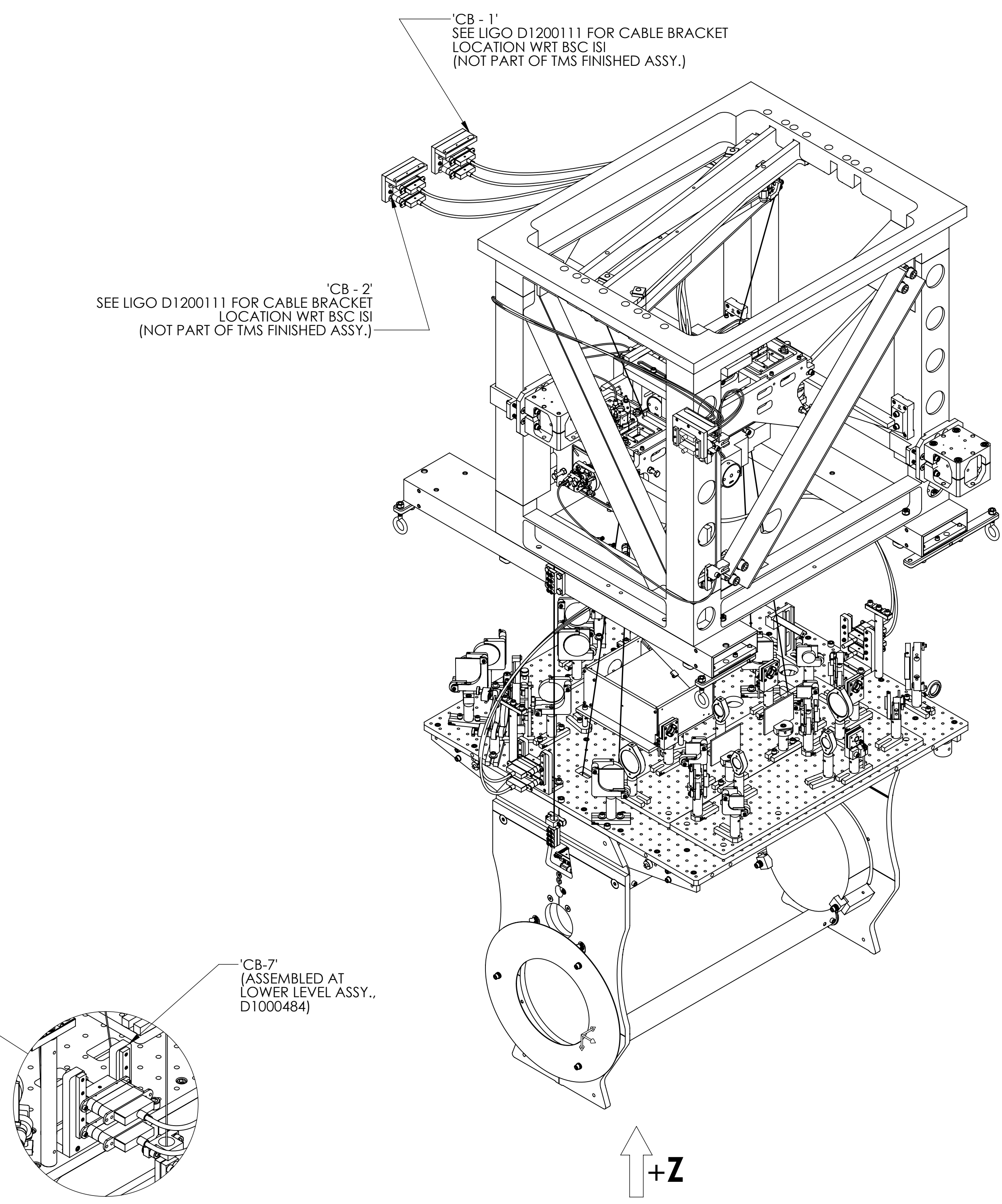
SCALE: 1:12 PROJECTION: SHEET 3 OF 8

D0900436-AS01 LIGO S16 BSC-11.XTZ Loc01 CS for ETM Tel Assy, PART PDM REV. X-025, DRAWING PDM REV. X-001

CABLE BRACKETS IDENTIFICATION



ISO VIEW

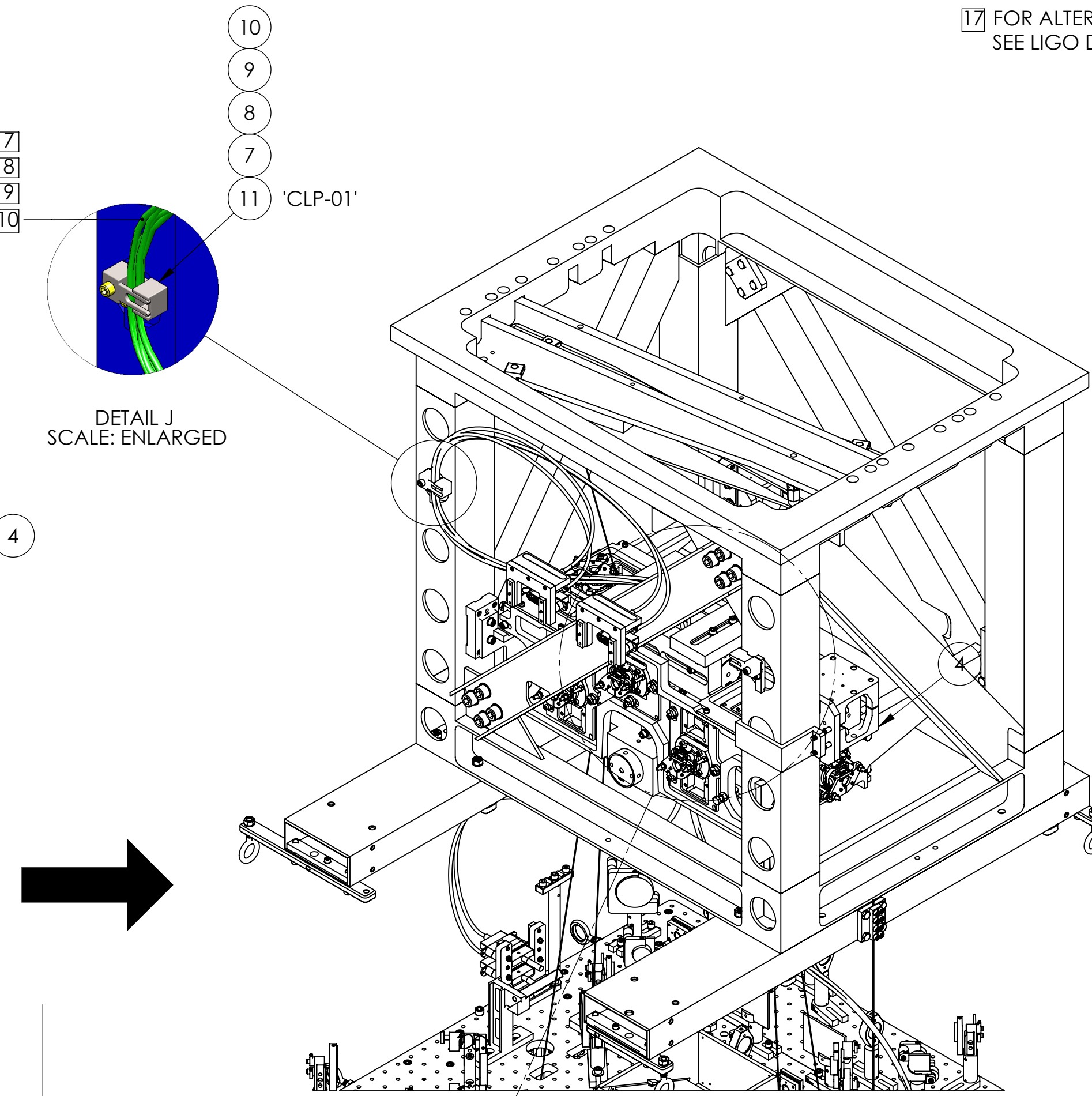
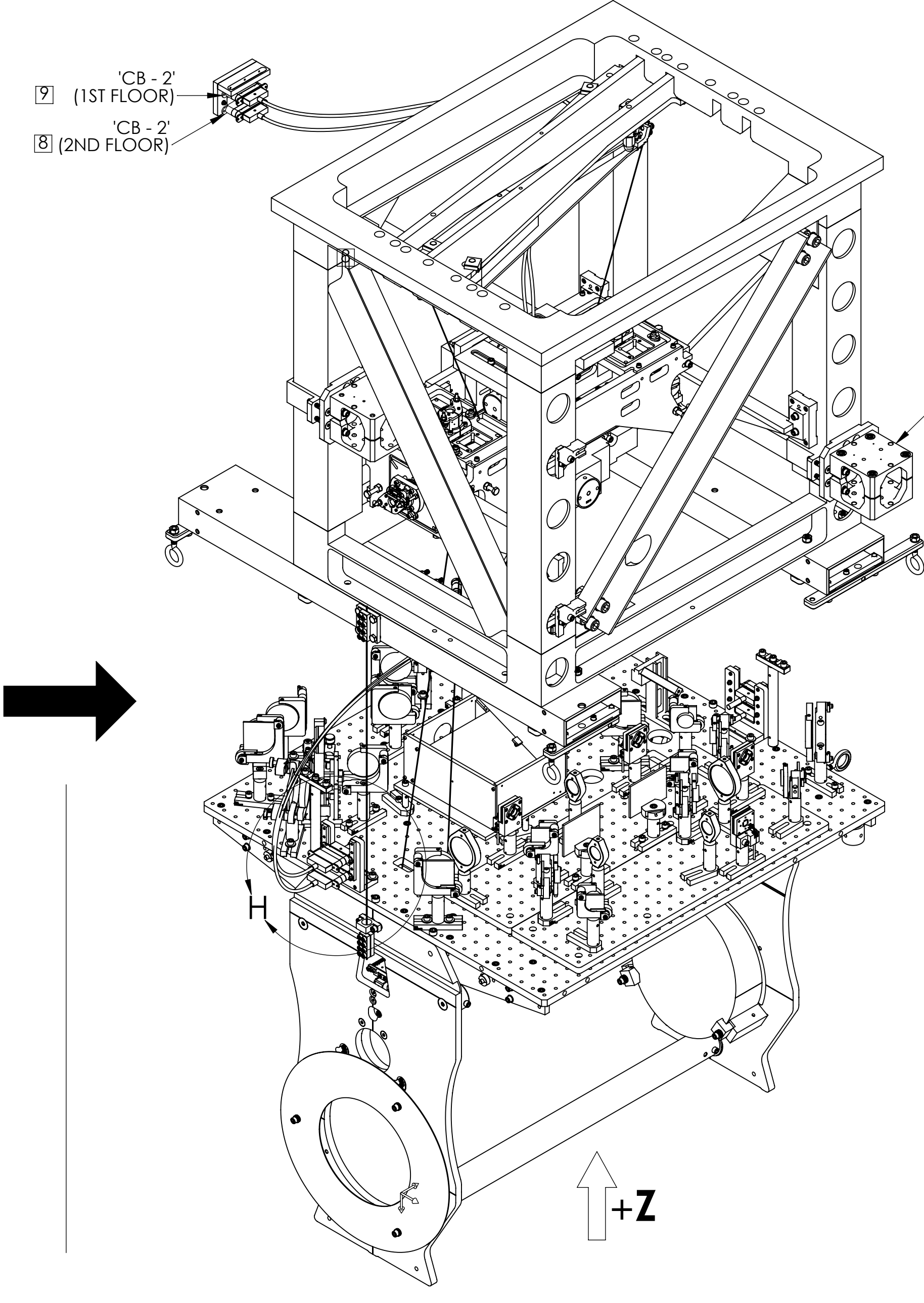
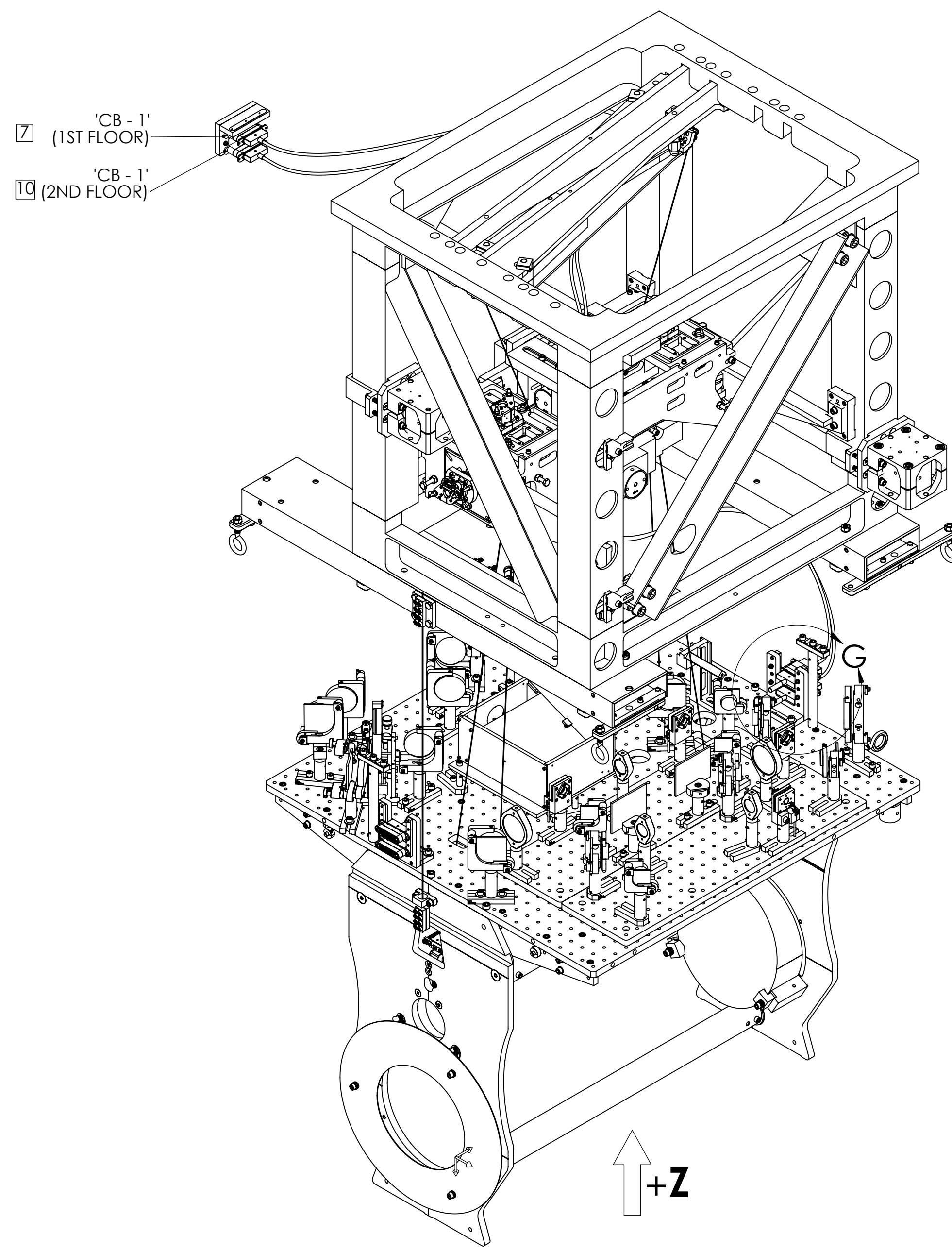


ISO VIEW
(ROTATED 90° CW ABOUT Z)

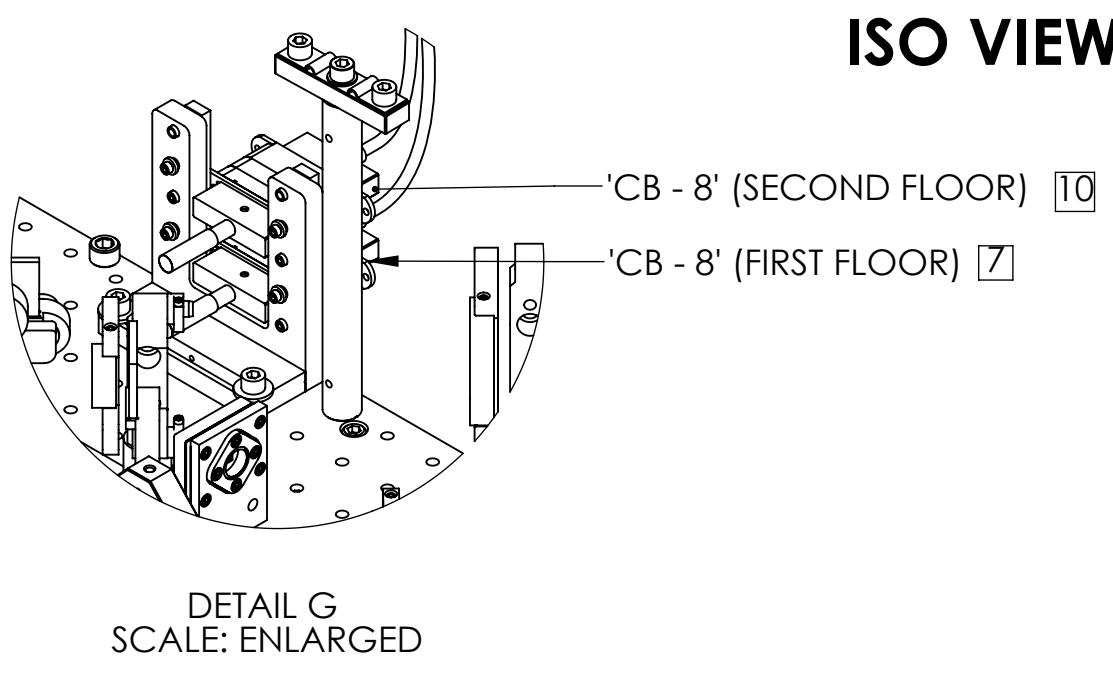
D:\D0900436\ASSEMBLY\ISO\516_BSC-11_XYZ\loc01_CB for ETM Tel Assy_PART PDM_REV.X-025_DRAWING_PDM_REV.X-001

CABLE ROUTING

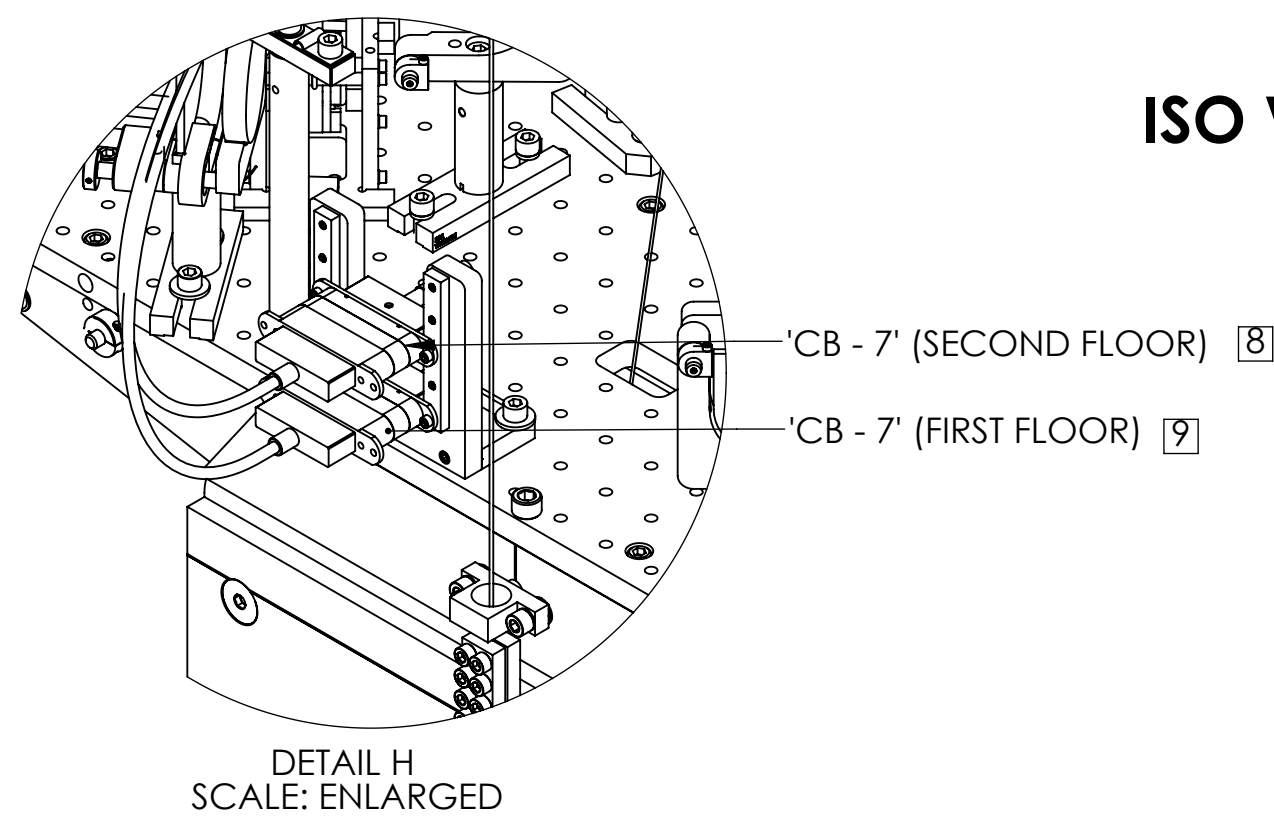
- 7 ISC PICOMOTORS CIRCUIT.
- 8 ISC 1064 NM (RED) QPD CIRCUIT.
- 9 ISC 532 NM (GREEN) QPD CIRCUIT.
- 10 ISC BEAM DIVERTER CIRCUIT.
- 17 FOR ALTERNATE ROUTING METHOD, SEE LIGO D1101526



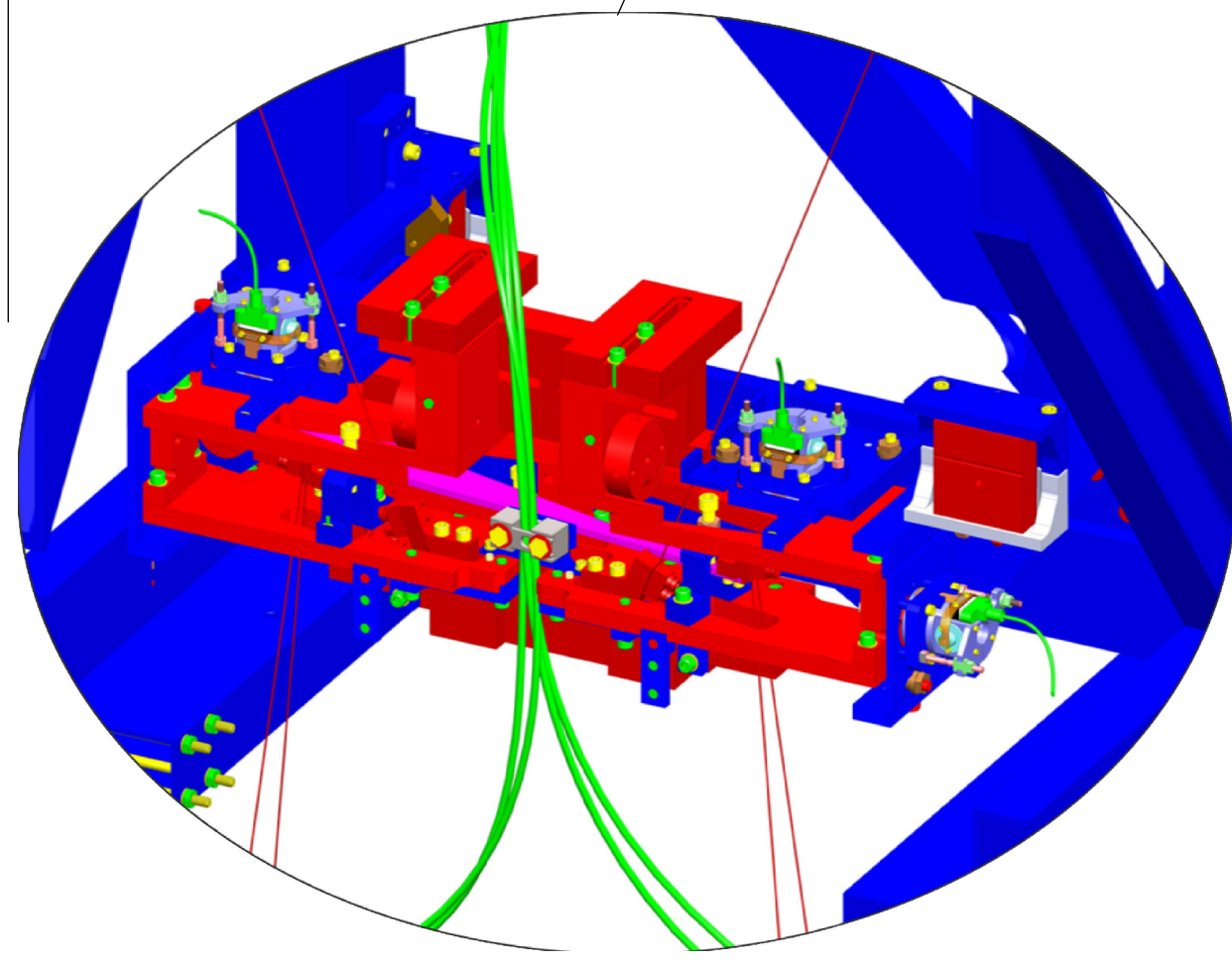
↑ +Z
ISO VIEW-PARTIAL
(ROTATED 90° CW ABOUT Z)



ISO VIEW - PARTIAL



ISO VIEW - PARTIAL



TMS MASS CABLE CLAMP DETAIL
ROUTE CABLE(S), THROUGH
TMS MASS CABLE CLAMP ASSY. MOUNTED ON
THE SUSPENDED MASS AS SHOWN.
(TMS CABLE CLAMP INSTALLED AT LOWER LEVEL ASSY. D1101527)

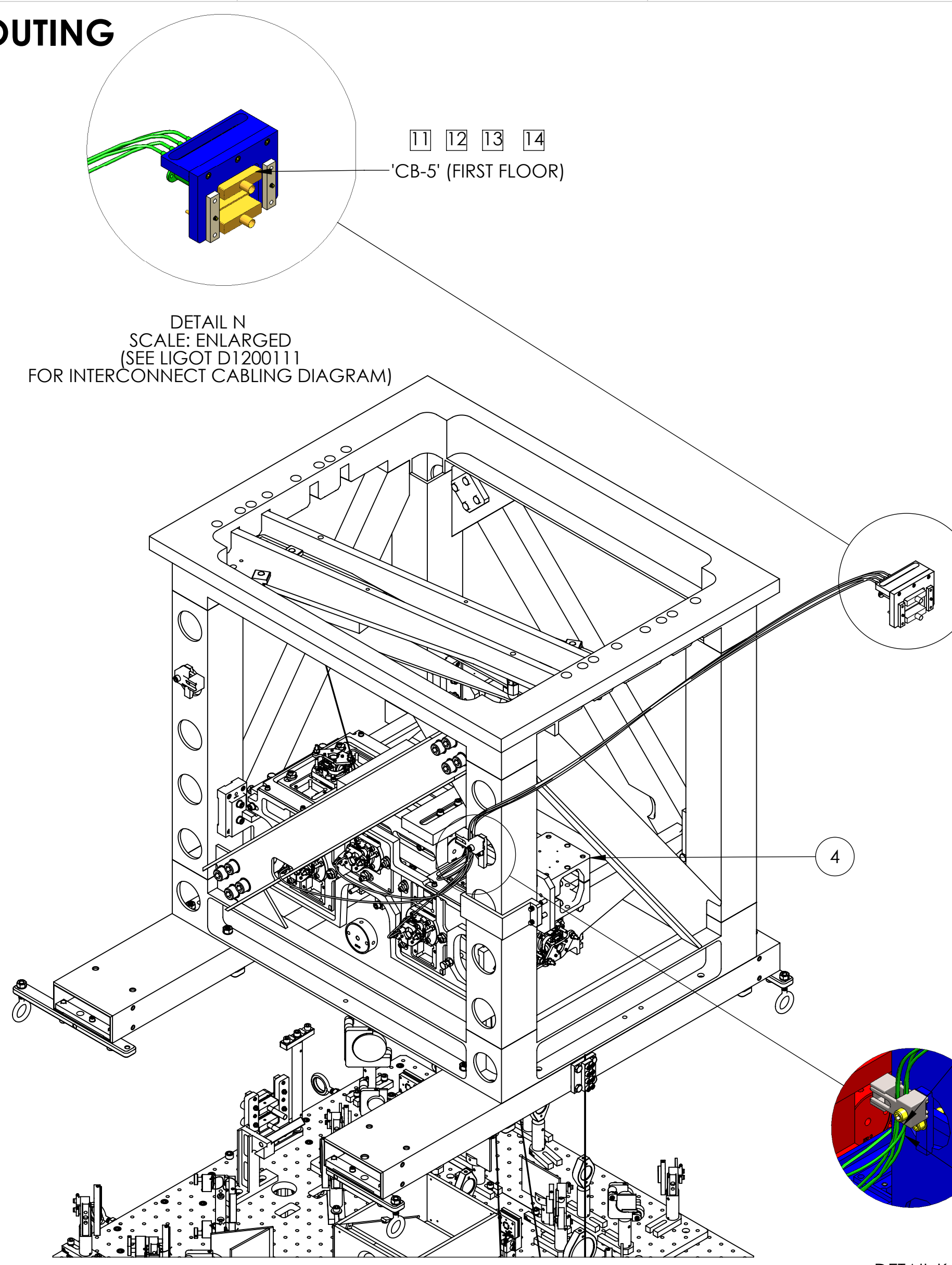
TMS Y ARM

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE DWG. NO.	REV.
D D0900436	v1
SCALE: 1:12	PROJECTION:
SHEET 5 OF 8	

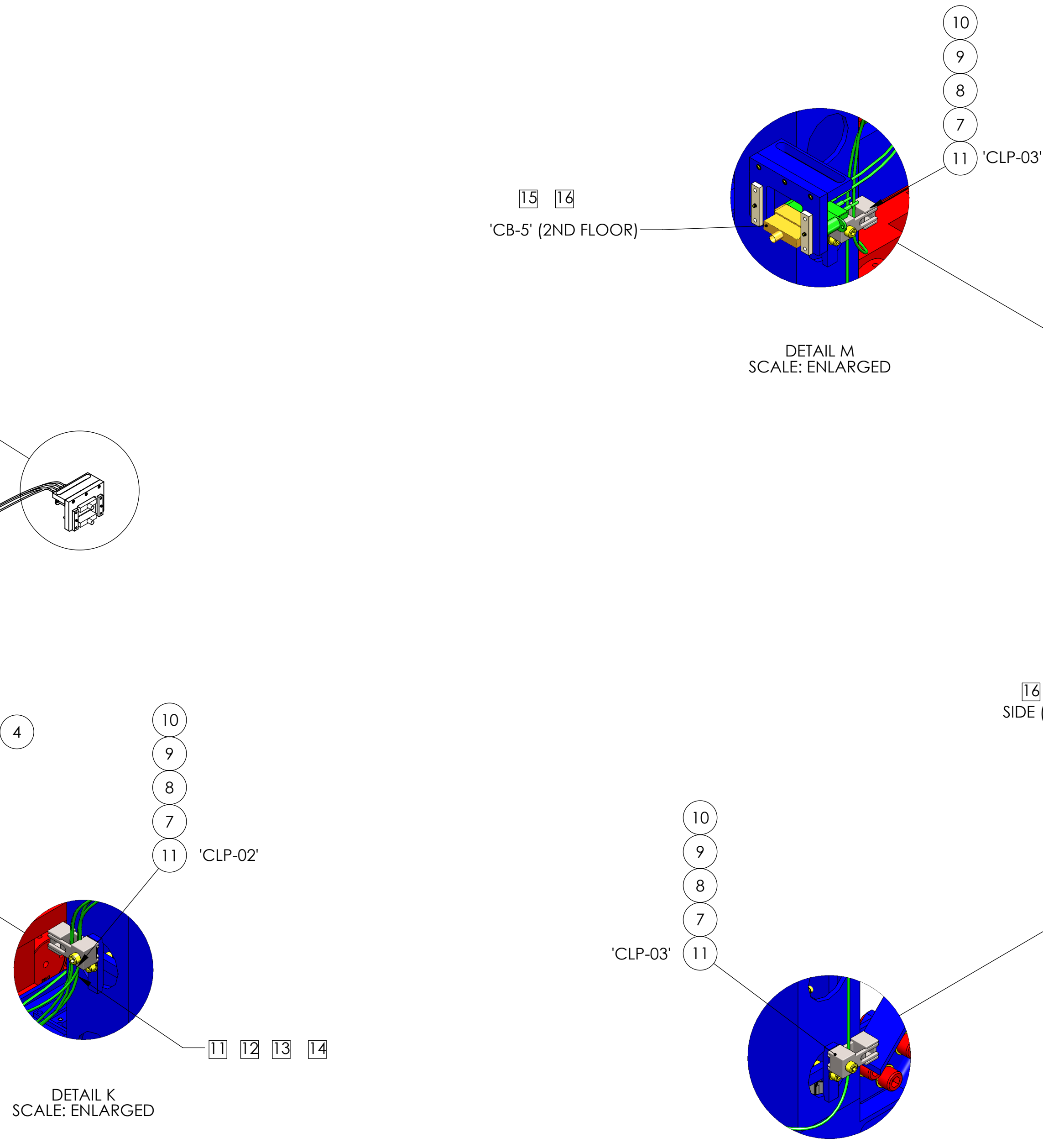
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CABLE ROUTING

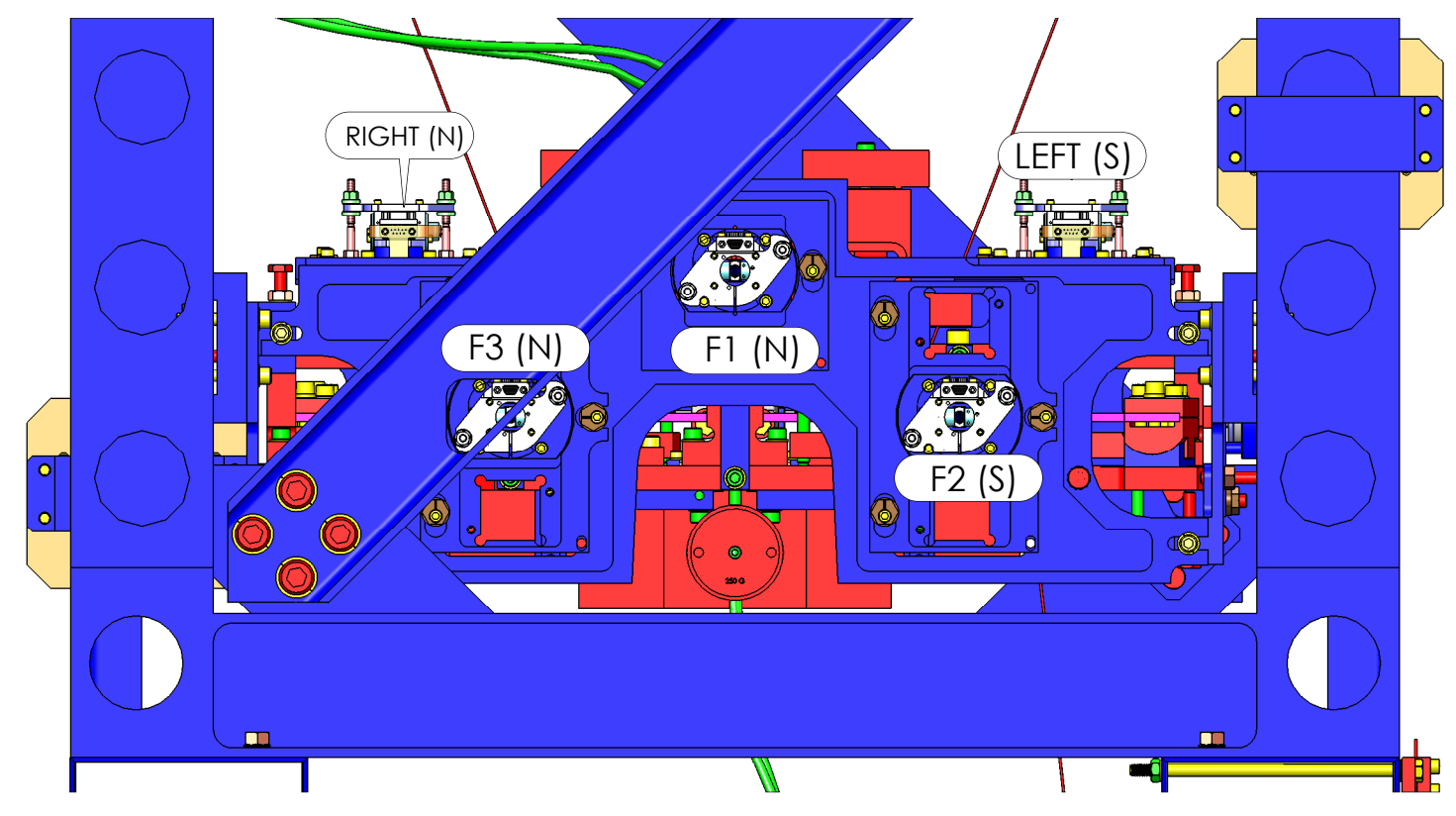
- 11 BOSEM CIRCUIT 'FACE1'.
- 12 BOSEM CIRCUIT 'FACE2'.
- 13 BOSEM CIRCUIT 'FACE3'.
- 14 BOSEM CIRCUIT 'LEFT'.
- 15 BOSEM CIRCUIT 'RIGHT'.
- 16 BOSEM CIRCUIT 'SIDE'.



↑ +Z
ISO VIEW - PARTIAL



↑ +Z
**ISO VIEW - PARTIAL
(ROTATED 90° CW ABOUT Z)**



FRONT VIEW
(SUS CONTROLS ARRANGEMENT)

DETAIL N
SCALE: ENLARGED
(SEE LIGOT D1200111
FOR INTERCONNECT CABLING DIAGRAM)

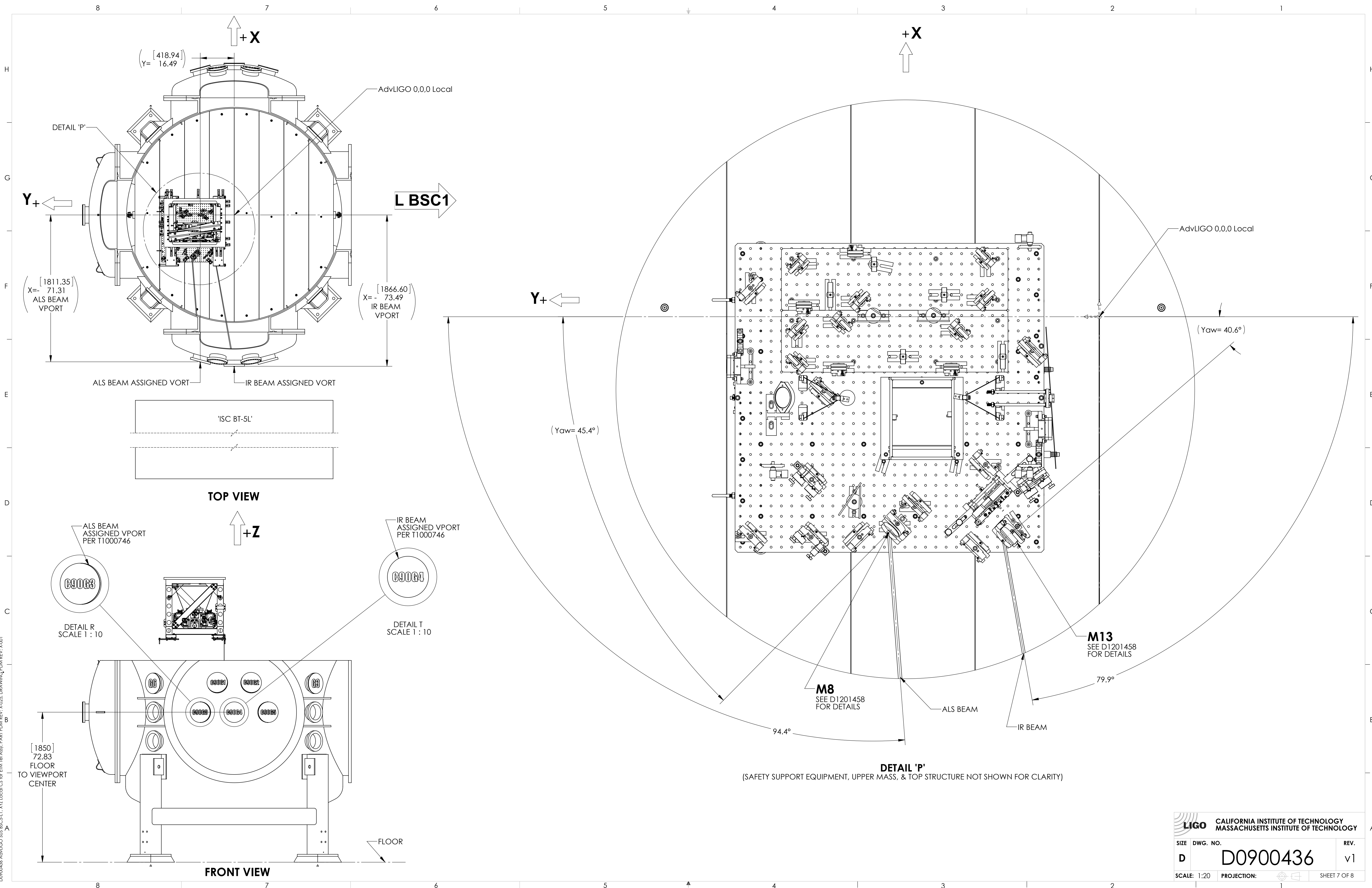
DETAIL M
SCALE: ENLARGED

DETAIL K
SCALE: ENLARGED

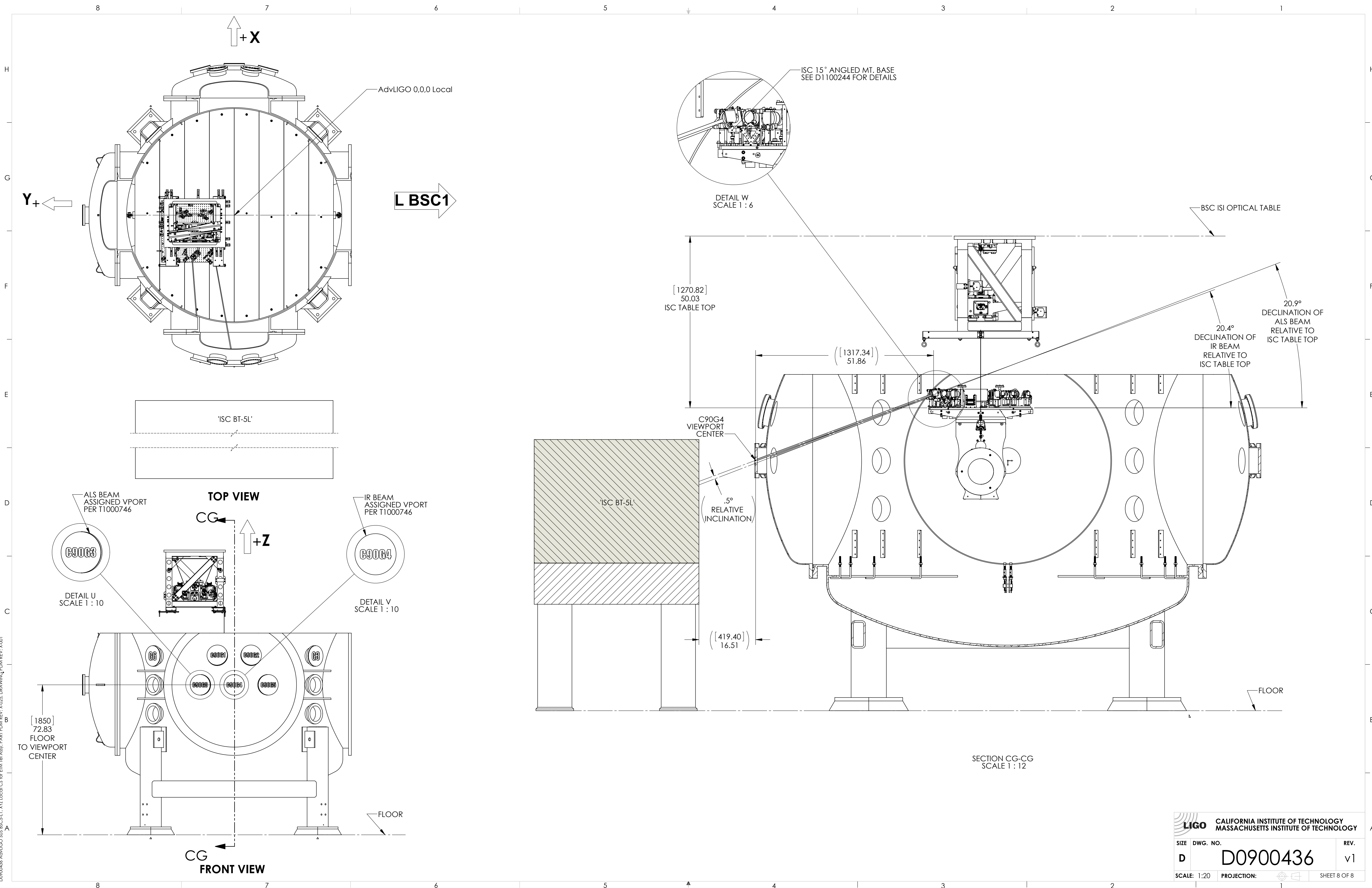
DETAIL L
SCALE: ENLARGED

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE DWG. NO.	REV.
D D0900436	v1
SCALE: 1:12	PROJECTION:
SHEET 6 OF 8	

D:\D090436\ASU\LIGO_SUS_BSC-11_XYZ\loc\CS for ETM Tel Assy_PART PDM_REV.X-025_DRAWING_PDM_REV.X-001



D:\0900436\AdvLIGO SLS BEAMS-L1.XYZ Local CS for ETM for Assy PART PDM REV. X-025 DRAWING PDM REV. X-001



LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
 MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE	DWG. NO.	REV.
D	D0900436	v1
SCALE: 1:20	PROJECTION:	SHEET 8 OF 8

D:\090436\AdvLIGO 0,0,0 Local\CS for ETM for Assy\PART PDM REV.X-025.DRAWING PDM REV.X-001