

NOTES CONTINUED:

- 5. MASS OF TMS SYSTEM WITH TOOLING: 426.46 LB [193.44 KG].
- 6. THIS LAYOUT DETAILS THE INSTALLATION OF TOOLING ITEMS USED FOR SUPPORT & STABILIZATION OF THE SUSPENDED TELESCOPE WITHIN THE LIGO-D0901880 TMS ASSEMBLY DURING TRANSPORTATION AND INSTALLATION PROCEDURES.
- 7. THE NOTED (2) EYE-BOLTS OF THE D0901880 TMS ASSEMBLY ARE GENERALLY ADJUSTED IN A VERTICAL ORIENTATION, DETAILED ACCORDING TO DRAWING D1001160. FOR TMS TRANSPORTATION AND INSTALLATION PROCEDURES, RE-ADJUST ORIENTATION AND DEPTH OF ENGAGEMENT OF EACH AS NOTED. AT COMPLETION OF TMS TRANSPORTATION AND INSTALLATION PROCEDURES, RE-ADJUST ORIENTATIONS TO AGAIN COMPLY WITH DRAWING D1001160.
- 8. INSTALL ALL ITEMS ① FIRST (WITH ITEMS ② & ③) WITH ORIENTATIONS AND DEPTHS OF ENGAGEMENT AS SHOWN.
- 9. AFTER INSTALLATION OF ITEMS ① THRU ③ (NOTE ⑧), INSTALL ITEMS ④. ADJUST THE UPPER ITEM ④ EYE-BOLTS TO THE SHOWN ORIENTATION AND NOTED DIMENSION WRT/THE BRACKETS OF THE D0901880 TMS ASSEMBLY.
- 10. BEFORE INSTALLATION OF ITEMS ⑤ THRU ⑦, ADJUST THE NOTED 'EXCHANGE CLAMPS' OF ITEMS ④ TO LIFT THE TELESCOPE WITHIN THE D0901880 TMS ASSEMBLY, .35" TO .5", UNLOADING THE TELESCOPE SUSPENSION WIRES.
- 11. AFTER ADJUSTING ITEMS ④ (ACCORDING TO NOTE ⑩) TO LIFT THE TELESCOPE WITHIN THE D0901880 TMS ASSEMBLY, INSTALL ITEMS ⑤ THRU ⑦ AS SHOWN. TIGHTEN ITEMS ⑤ THRU ⑦ SNUGLY TO STABILIZE THE SUSPENDED TELESCOPE WITHIN THE D0901880 TMS ASSEMBLY.

REV	DATE	DCN #	BOM #
v1	18 AUG 2011	E1100351	-
-	-	-	-
-	-	-	-

⑩⑪	7	D1101565	v1	αLIGO TMS TELE SAFETY SUPPORT TURNBUCKLE ASSY, FRONT	N/A	4	-	4
	6	D1101559	v1	αLIGO TMS TELE SAFETY SUPPORT TURNBUCKLE ASSY, SIDE, LONG	N/A	2	-	2
	5	D1101506	v1	αLIGO TMS TELE SAFETY SUPPORT TURNBUCKLE ASSY, SIDE, SHORT	N/A	2	-	2
⑨⑩	4	D1001891	v1	αLIGO TMS VERTICLE SEISMIC SAFETY STOP ASSEMBLY	N/A	4	-	4
	3	96861A700 (McM-Carr) or equiv		VENTED FLAT WASHER .328 ID, .562 OD, .032 TH	18-8 SSSL	10	8	18
⑧	2	D1100989	v1	NICKEL-COPPER ALLOY 400 .312-18 HEX NUT, MODIFIED	NICKEL-COPPER ALLOY 400	10	2	12
	1	33045T72 (McM-Carr) or equiv		EYEBOLT, NON-SHOULDERED, 780# 5/16-18 X 1.88" THREAD	304 SSSL	10	2	12
ITEM NUMBER	PART NUMBER	REV	DESCRIPTION	MATERIAL	REQ	SPARE	TOTAL	

PARTS LIST

DIMENSIONS ARE IN INCHES		TOLERANCES: .XX ± .03 .XXX ±		ANGULAR ± °		<p>NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)</p> <p>1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, .005-.015, FOR MACHINED PARTS. ROUND ALL EDGES APPROXIMATELY R.02 FOR SHEET METAL PARTS. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER-SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.</p>		 CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		<p>PART NAME</p> <p>TOOLING LAYOUT- αLIGO TMS TELESCOPE SAFETY SUPPORTS</p>		DESIGNER	C. CONLEY	13 AUG 2011	SIZE	DWG. NO.	REV.	
MATERIAL		FINISH		NEXT ASSY		<p>SYSTEM</p> <p>ADVANCED LIGO</p>		<p>SUB-SYSTEM</p> <p>AOS</p>		<p>DRAPER</p> <p>C. CONLEY</p>		<p>CHECKER</p> <p>SEE DCN</p>		<p>APPROVAL</p> <p>SEE DCN</p>		<p>D</p> <p>D1101307</p>		v1
N/A		N/A μinch		TMS TOOLING		SCALE: NONE		PROJECTION:				SHEET 1 OF 6						

D1101307 TOOLING LAYOUT-αLIGO TMS Telescope Safety Supports. PART PDM REV: X010. DRAWING PDM REV: X004

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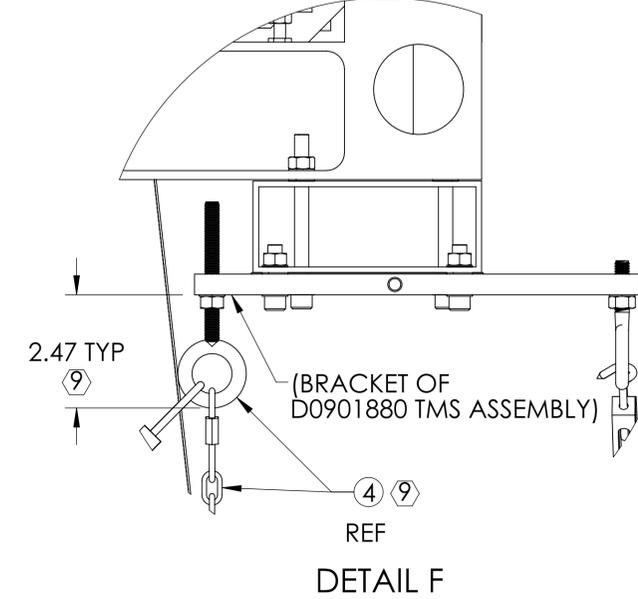
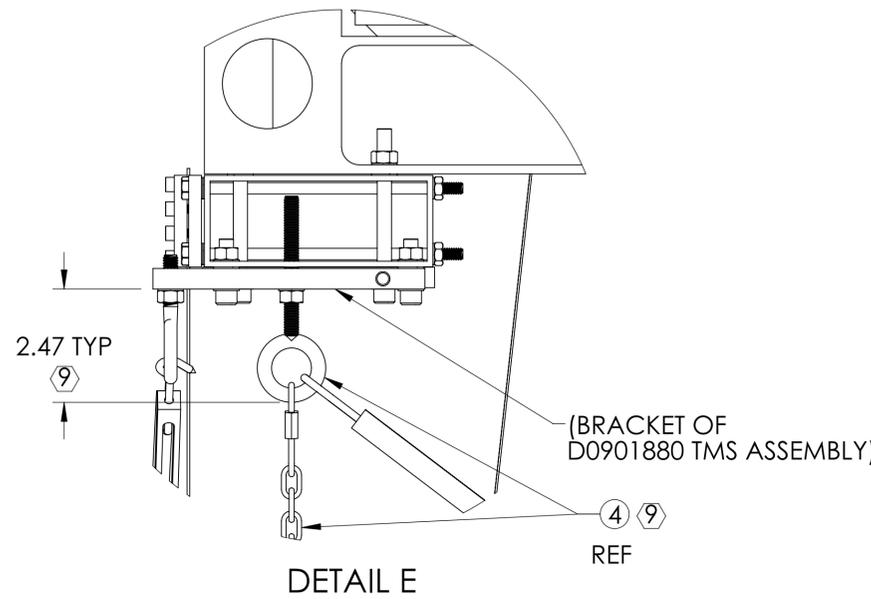
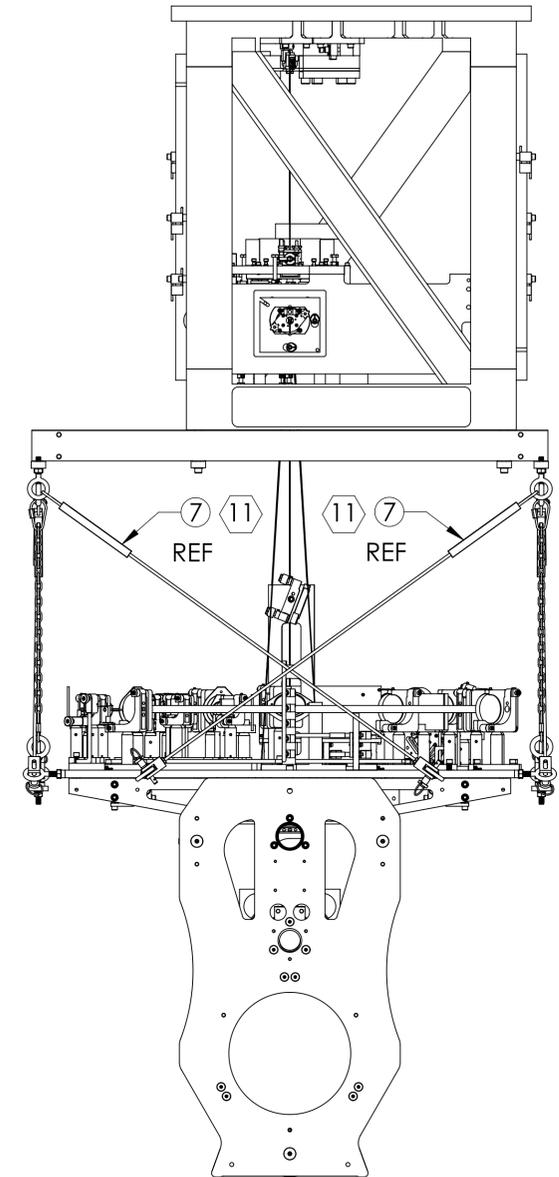
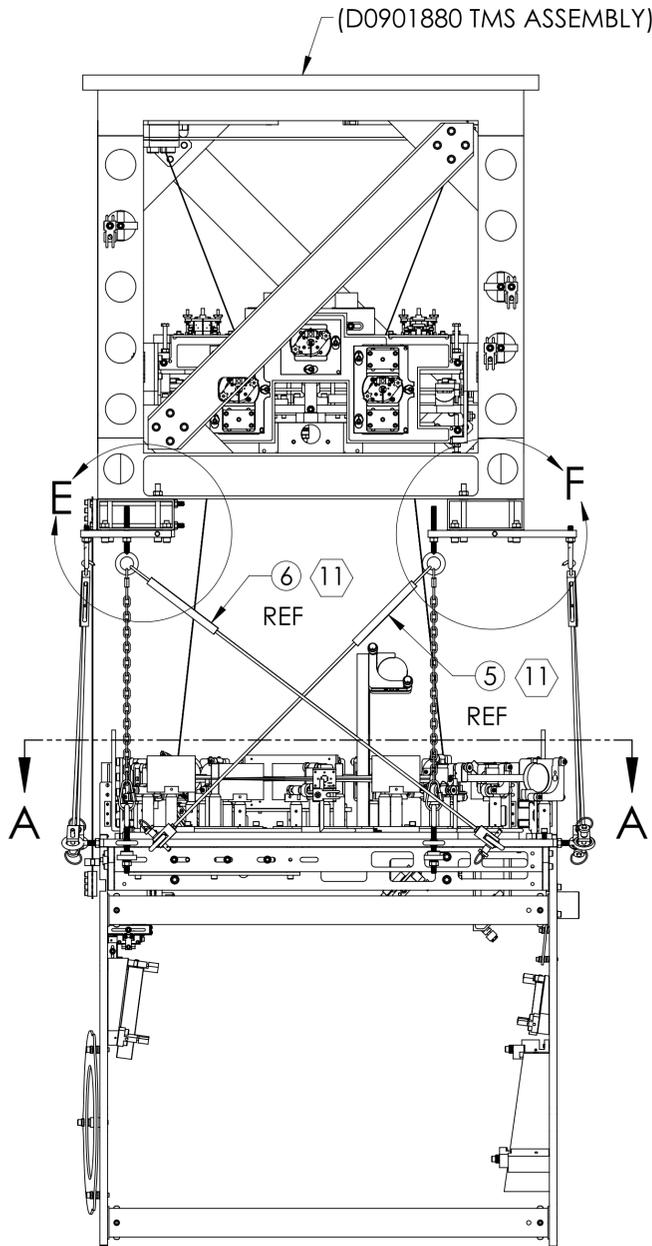
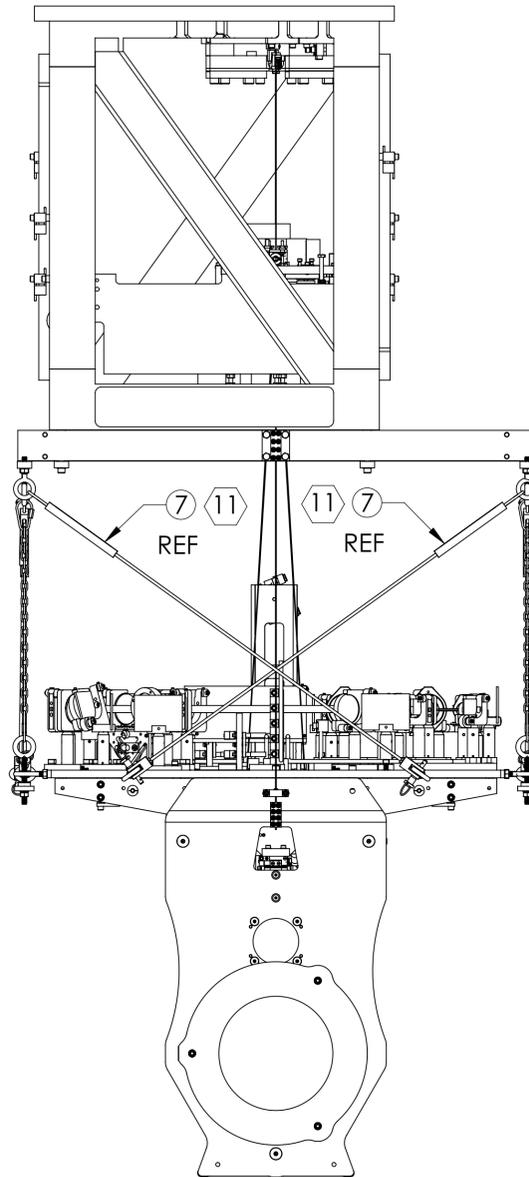
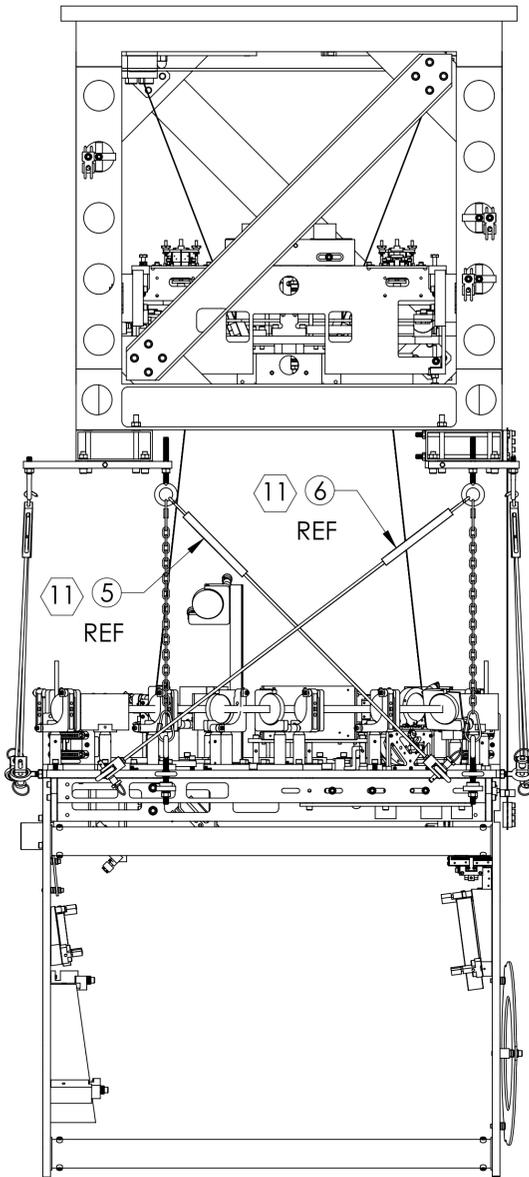
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LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO.	REV.
D D1101307	v1
SCALE: NONE	PROJECTION:

SHEET 2 OF 6

D1101307 TOOLING LAYOUT-aiGO TMs Telescope Safety supports. PART PDM REV. X:010. DRAWING PDM REV. X:004

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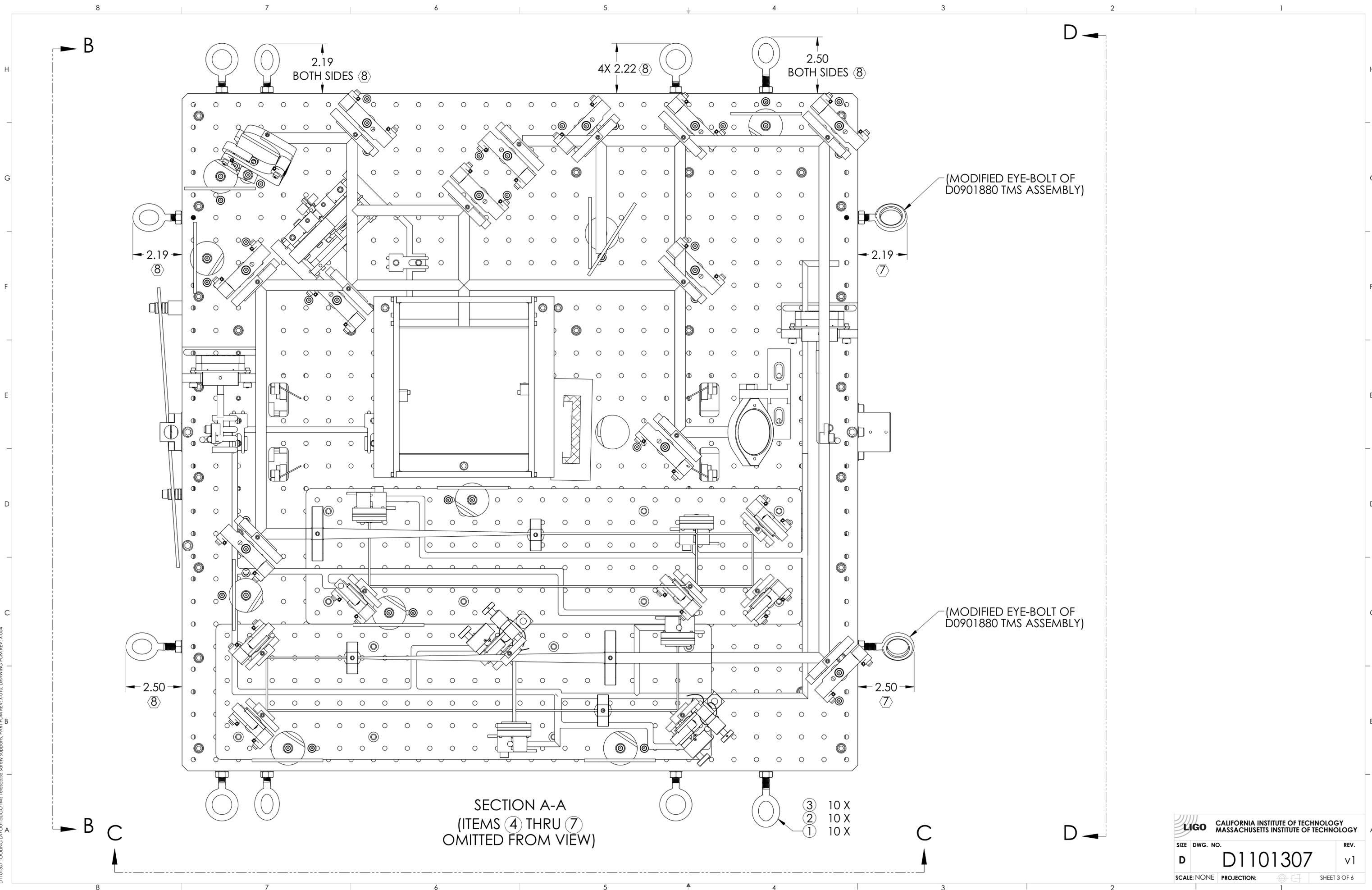
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SECTION A-A
 (ITEMS ④ THRU ⑦
 OMITTED FROM VIEW)

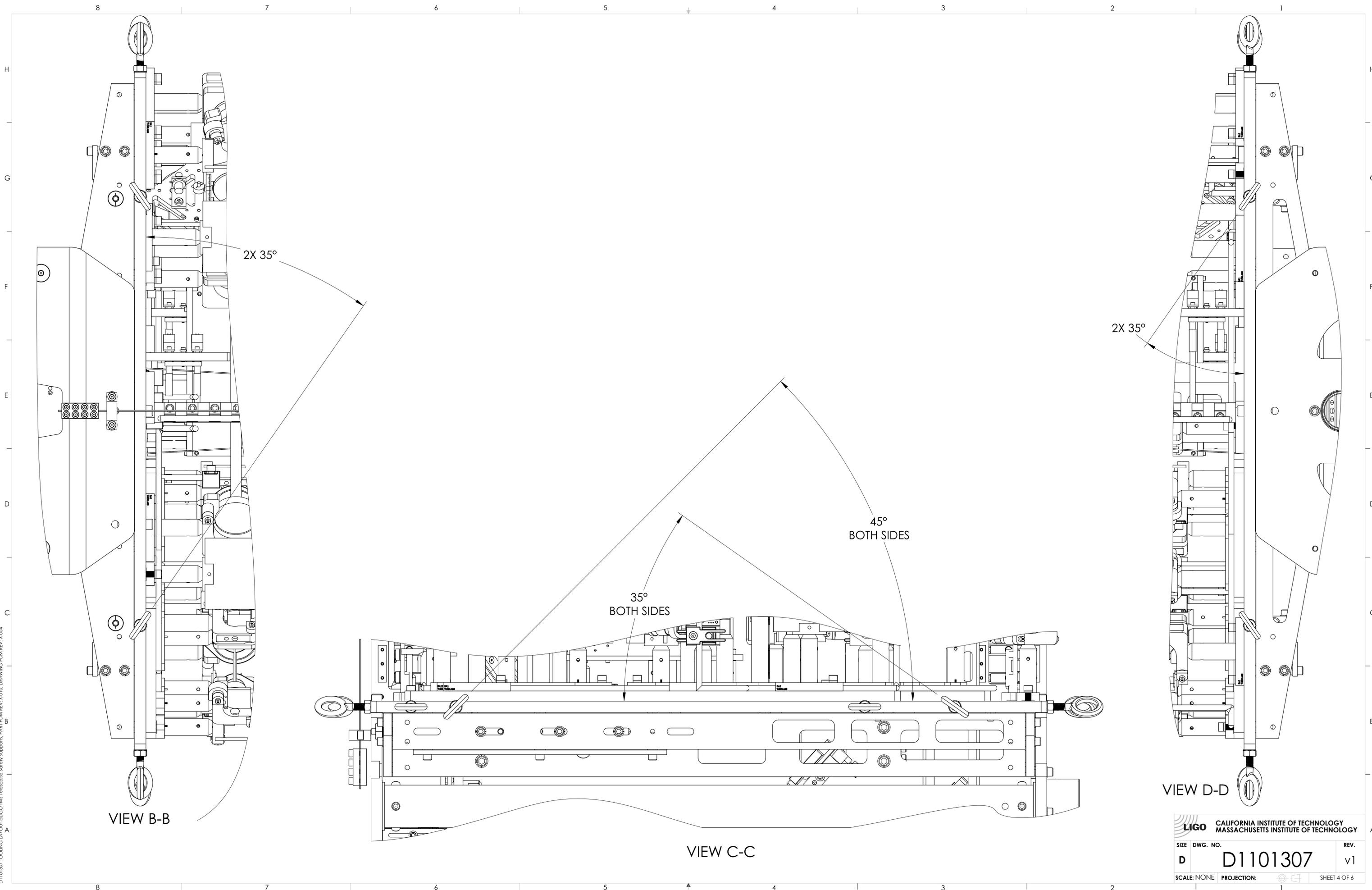
- ③ 10 X
- ② 10 X
- ① 10 X

(MODIFIED EYE-BOLT OF
 D0901880 TMS ASSEMBLY)

(MODIFIED EYE-BOLT OF
 D0901880 TMS ASSEMBLY)

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE DWG. NO.	REV.
D D1101307	v1
SCALE: NONE PROJECTION:	SHEET 3 OF 6

D1101307 TOOLING LAYOUT - LIGO TMS Telescope Safety Supports. PART PDM REV. X:010. DRAWING PDM REV. X:004



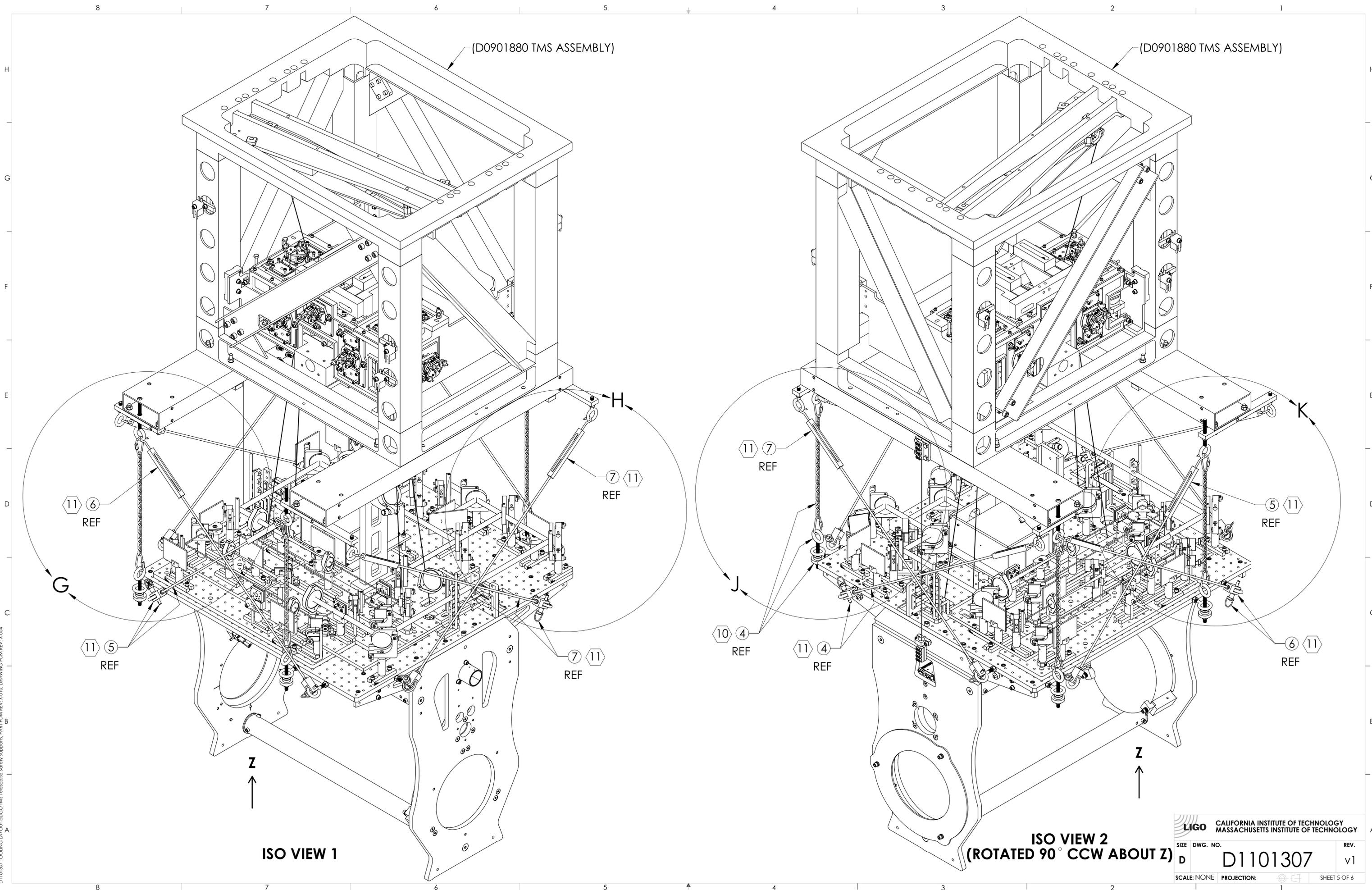
VIEW B-B

VIEW C-C

VIEW D-D

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE	DWG. NO.	v1
D	D1101307	
SCALE: NONE	PROJECTION:	SHEET 4 OF 6

D1101307 TOOLING LAYOUT-aiGO TMS Telescope Safety supports. PART PDM REV: X-010. DRAWING PDM REV: X-004

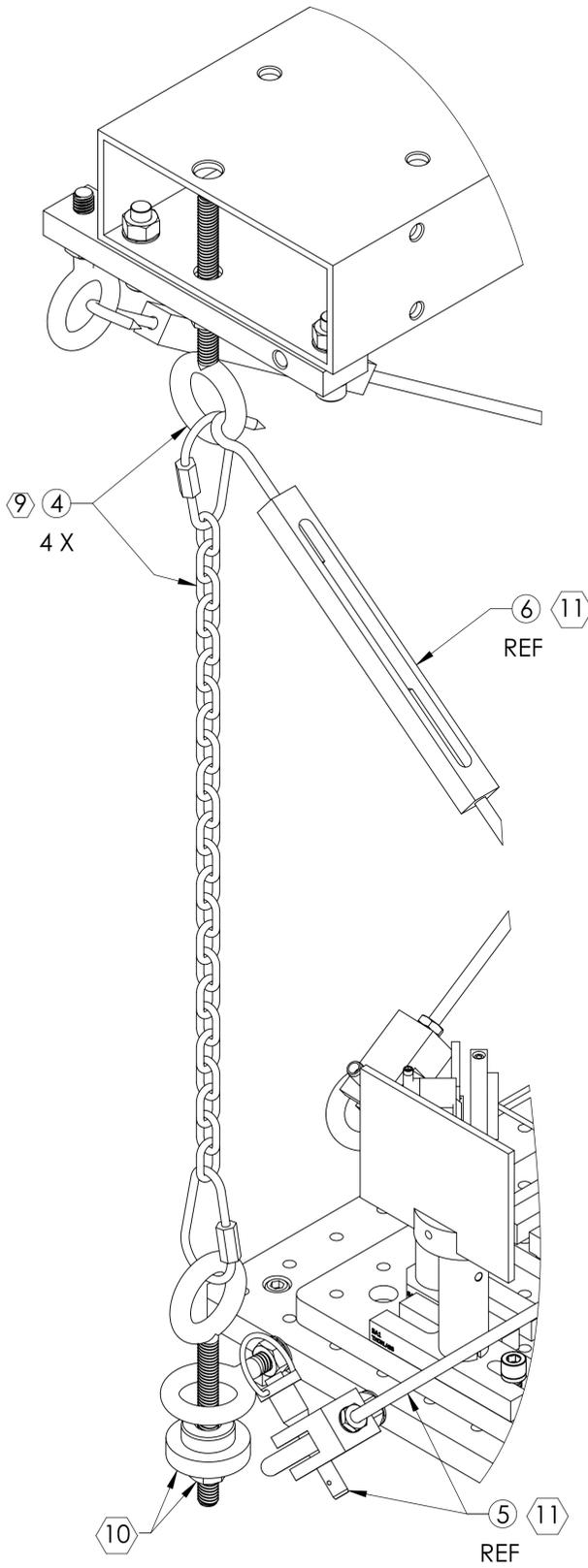


ISO VIEW 1

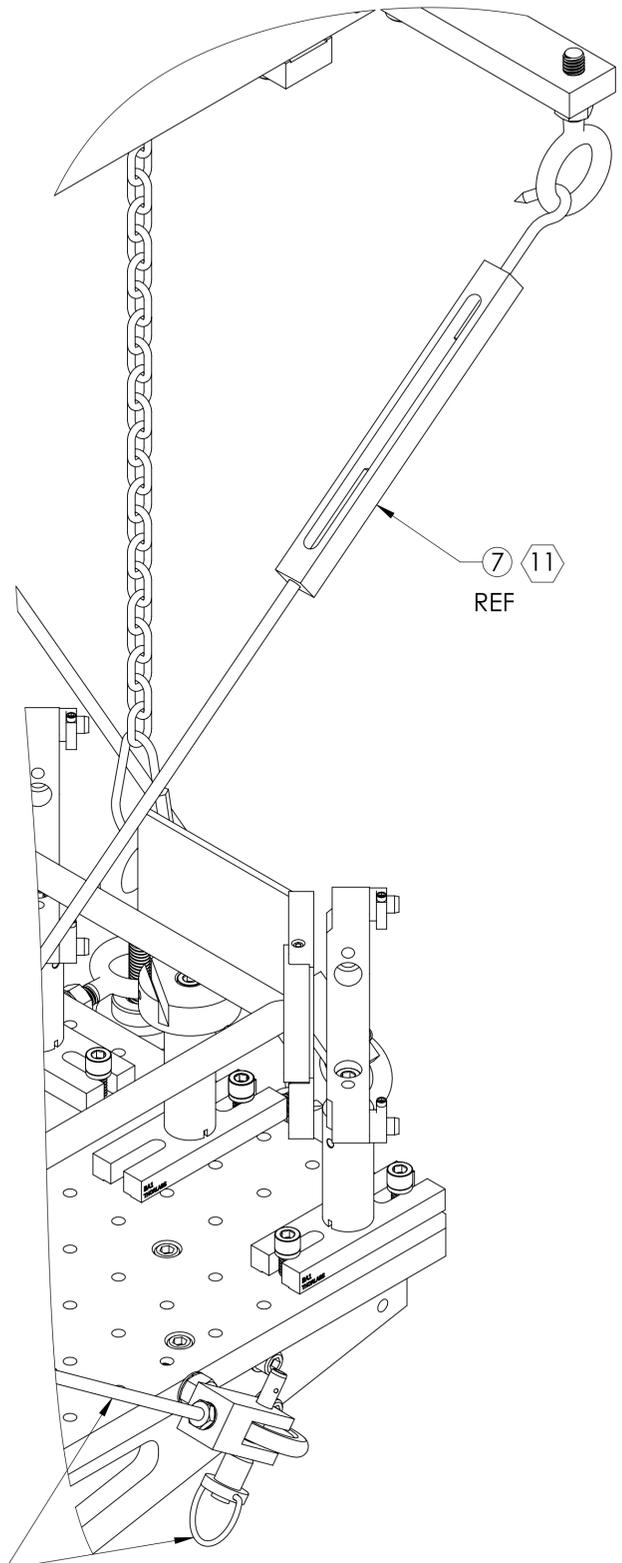
**ISO VIEW 2
(ROTATED 90° CCW ABOUT Z)**

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE DWG. NO.	D	D1101307
SCALE: NONE	PROJECTION:	v1
		SHEET 5 OF 6

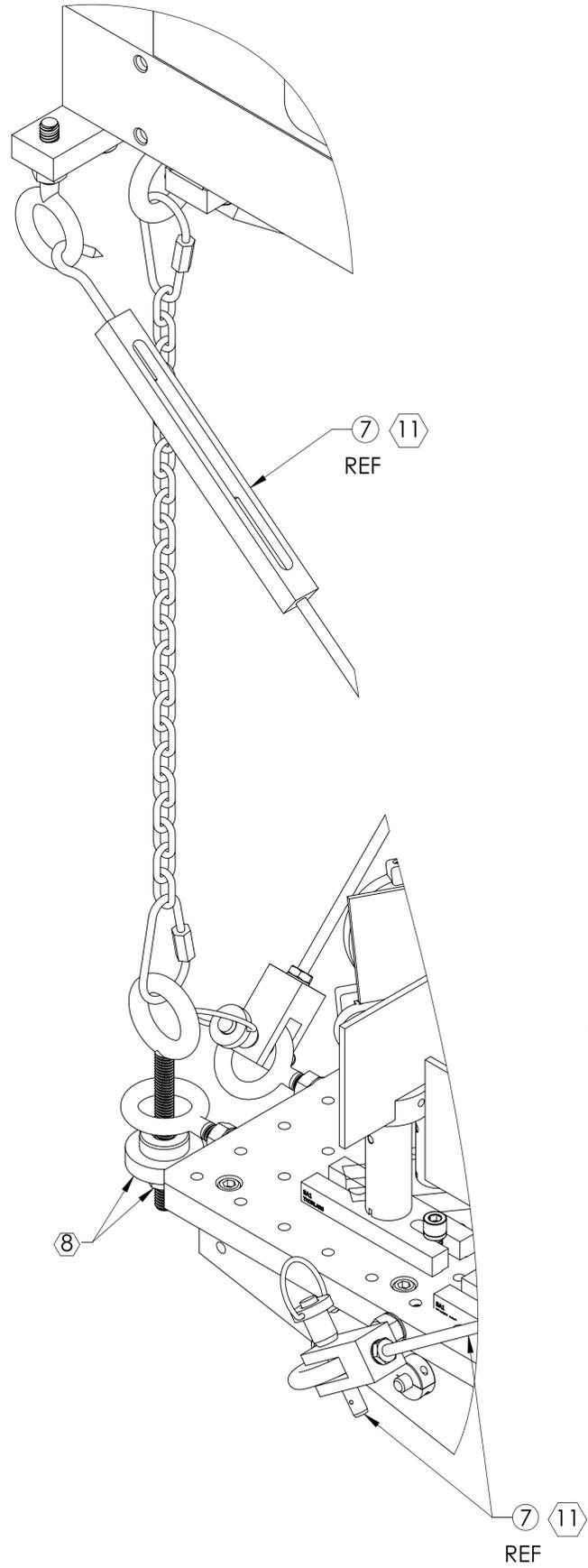
D:\1101307\TOOLING\LAYOUT\G0 TMS Telescope Safety Supports. PART PDM REV. X:010. DRAWING PDM REV. X:004



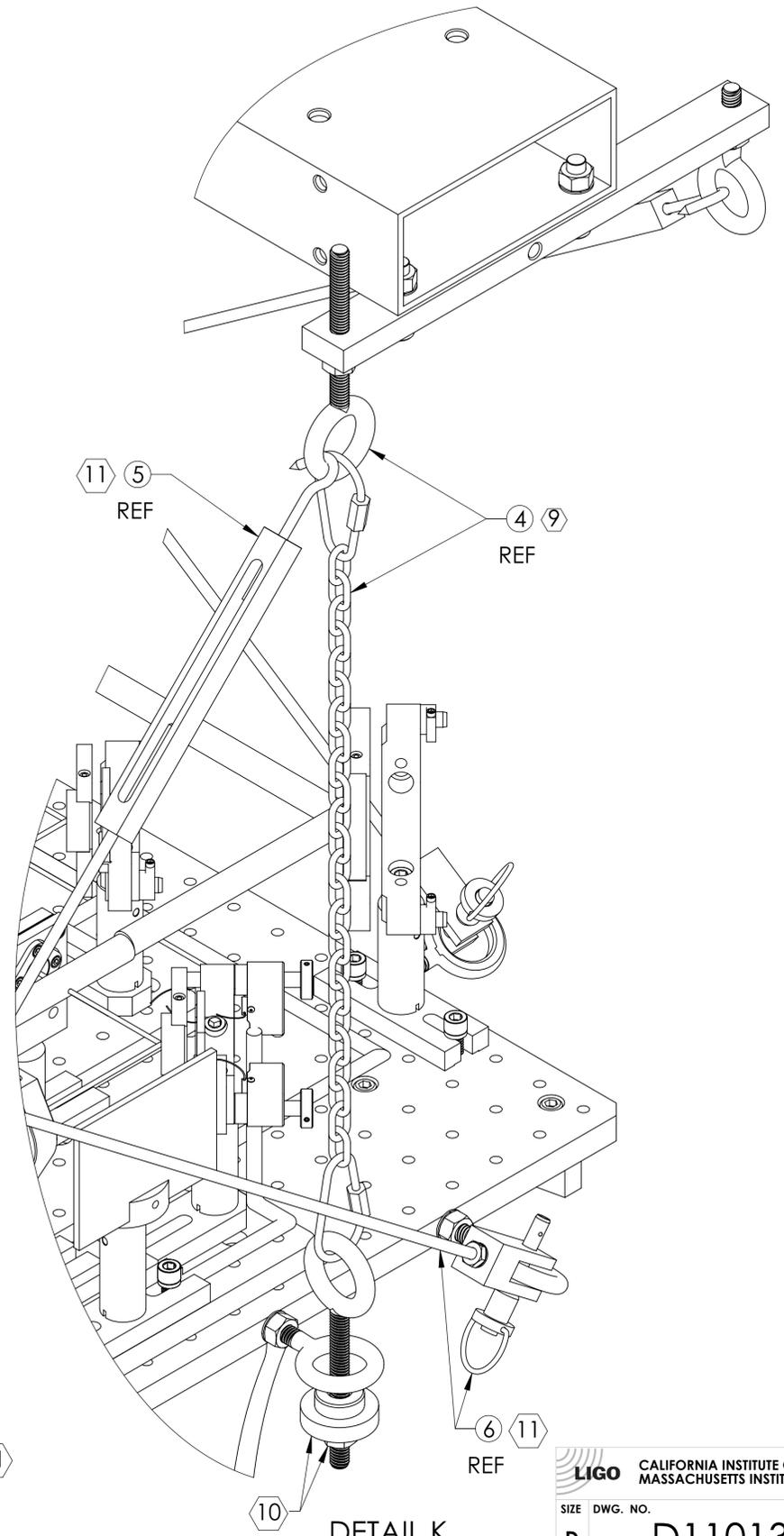
DETAIL G



DETAIL H



DETAIL J



DETAIL K

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SIZE DWG. NO.	REV.
D D1101307	v1
SCALE: NONE	PROJECTION:

SHEET 6 OF 6