

NOTES CONTINUED:

5. BAG OR WRAP AND TAG ASSEMBLY WITH DRAWING NUMBER, REVISION, TYPE, AND SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY.
EXAMPLE (TAG): DXXXXXX-VY, TYPE -02, S/N 001

⑥ INSTALL ITEMS ② (FOR -02) AND ITEMS ③⑩ (FOR -01), IN THE TWO SLOTS OF ITEM ① WHICH ARE NEAREST TO THE OUT SIDE OF ITEM ① AS SHOWN.

7. MASS: 225.26 LB [102.18 KG].

⑧ ITEM ② (BLADE CARTRIDGE) INCLUDES CLAMP ASSEMBLY LIGO-D060332, WHICH IS ALSO INCLUDED IN ITEM ③ (SUSPENSION WIRE ASSEMBLY). REMOVE D060332 FROM ITEMS ② AND ATTACH ITEMS ③ AS NOTED. DO NOT DISASSEMBLE ITEMS ③.

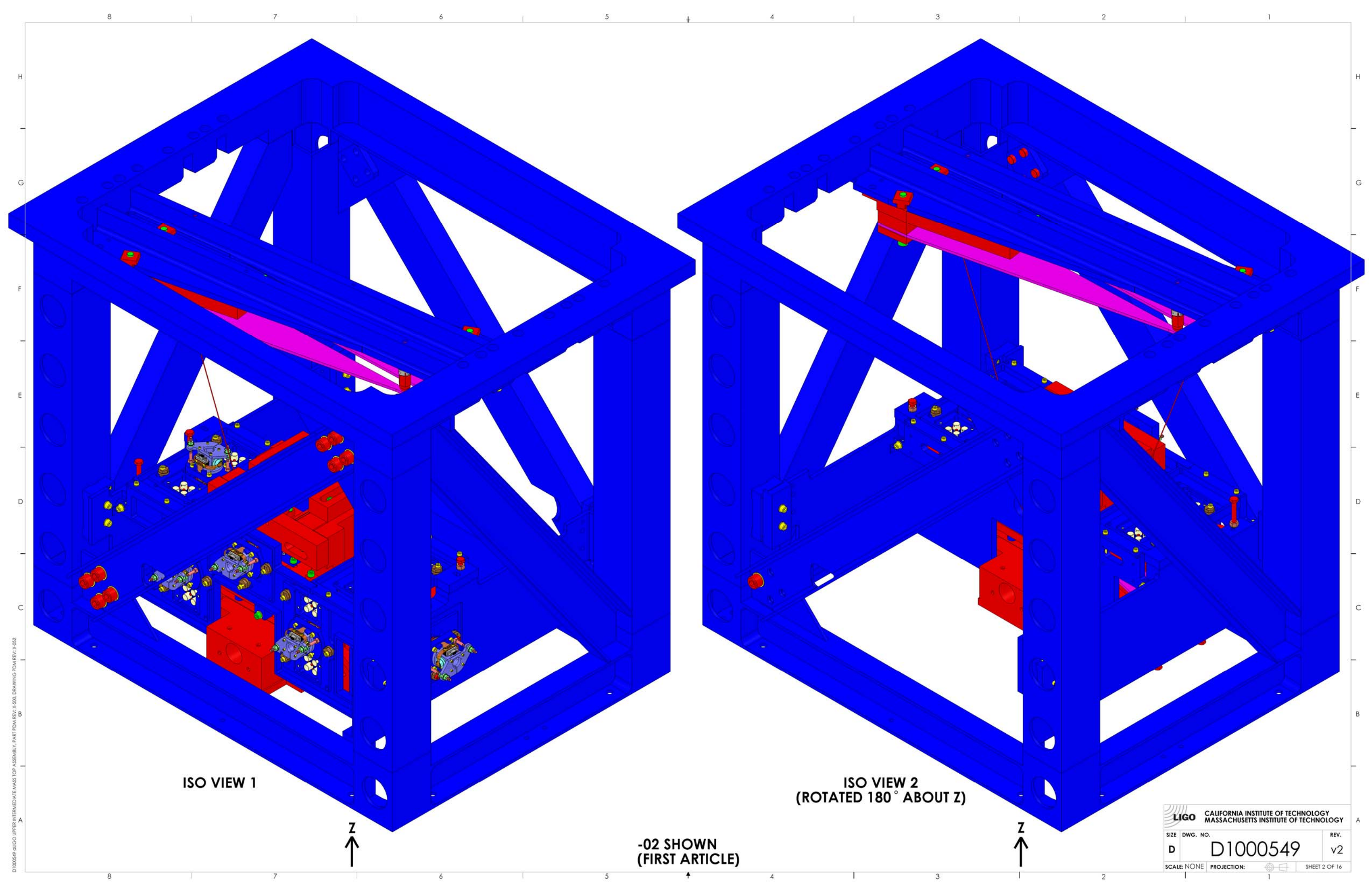
⑨ THIS ASSEMBLY HAS TWO CONFIGURATIONS, DESIGNATED -01 & -02. -02 IS FIRST ARTICLE, -01 IS ALL OTHERS.

REV	DATE		DCN #			BOM #				
	v1	20 FEB 2012	E1100351		E1100546-v1					
v2	29 MAR 2012	E1101214		E1100546-v2						
40	D1100712-02	v2	TMS EARTHQUAKE STOP SCREW, 1.5"	316 SSSL	-16					
39	D1101526	v1	aLIGO TMS MASS BALANCED ASSEMBLY	N/A	1					
38	-		SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 0.4375 LONG	300 SSSL	8					
37	D1200453	v1	aLIGO TMS UPPER STRUCTURE WELDMENT	N/A	1					
36	D1100421	v1	TMS SUSPENSION TABLECLOTH PLATE, FRONT	6061-T6 Al	1	1	2	-	-	-
35	D1000410	v3	aLIGO OSUMS INTERMEDIATE SUPPORT LEFT SIDE TRAY	6061-T6 Al	1	1	2	-	-	-
34	D1000409	v3	aLIGO OSUMS INTERMEDIATE SUPPORT RIGHT SIDE TRAY	6061-T6 Al	1	1	2	-	-	-
33	D1000411	v3	TMS INTERMEDIATE OSUM SUPPORT PLATE, REAR	6061-T6 Al	1	1	2	-	-	-
32	D1000408	v3	aLIGO OSUMS INTERMEDIATE SUPPORT LEFT SIDE BRACKET	6061-T6 Al	1	1	2	-	-	-
31	D1000407	v3	aLIGO OSUMS INTERMEDIATE SUPPORT RIGHT SIDE BRACKET	6061-T6 Al	1	1	2	-	-	-
30	D1200120	v1	aLIGO TMS UPPER STAGE BLADE CARTRIDGE	N/A	2	1	3	-	-	-
29	D1101186	v1	aLIGO SUS .500-13 X 1 SHCS MODIFIED	316 SSSL	16	5	21	16	5	21
28	.500 VENT FL WSHR		.515 ID, .875 OD, .032 TH	18-8 SSSL	16	5	21	16	5	21
27	D060499	v3	aLIGO SUS, QUAD ITM/ETM, REM. CROSS MEMBER, (UP STR)	6061-T6 Al	2	1	3	2	1	3
26	D1100554	v1	TMS OSEM PLATE CLAMP	6061-T6 Al	-	-	-	2	-	2
25	92200A542 (McM-Carr) or equiv per MS16995-52		SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 1 LONG	300 SSSL	8	2	10	4	2	6
24	-		HEX NUT, 1/4-20	NICKEL-COPPER ALLOY 400	16			8		
23	D1100712-01	v2	TMS EARTHQUAKE STOP SCREW, 2.5"	316 SSSL	-			8		
22	D1000444	v1	aLIGO INTERMEDIATE MASS TOP ASSY WITH ADDED MASS(22kg)	N/A	-	-	-	1	-	1
21	D060322	v2	aLIGO, SUS, QUAD N-PTYPE TABLECLOTH, TRANSVERSE OSEM ADJUSTER	N/A	1	1	2	1	1	2
20	D060320	v2	ADVANCED LIGO, SUS, QUAD N-PTYPE TABLECLOTH, OSEM ADJUSTMENT PLATE	N/A	1	1	2	1	1	2
19	D060316	v2	aLIGO SUS, QUAD N-PTYPE TABLECLOTH, OSEM AND ECD ADJUSTER	N/A	4	2	6	4	2	6
18	UC COMPONENTS C-2036-N or equiv		SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 2.25 LONG	18-8 SSSL	-	-	-	4	2	6
17	92200A548 (McM-Carr) or equiv per MS16995-55		SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 1.75 LONG	300 SSSL	8	4	12	4	2	6
16	D060311	v3	TMS SUSPENSION TABLECLOTH PLATE, FRONT (first article)	6061-T6 Al	-	-	-	1	-	1
15	UC COMPONENTS C-828-N or equiv		SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 1.75 LONG	18-8 SSSL	-	-	-	4	2	6
14	D1000410	v2	aLIGO OSUMS INTERMEDIATE SUPPORT LEFT SIDE TRAY (first article)	6061-T6 Al	-	-	-	1	-	1
13	92200A196 (McM-Carr) or equiv per MS16995-27		SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 0.625 LONG	300 SSSL	-	4	12	4	2	6
12	96861A400 (McM-Carr) or equiv		VENTED FLAT WASHER .169 ID, .304 OD, .032 TH	18-8 SSSL	8	3	11	8	3	11
11	D1000409	v2	aLIGO OSUMS INTERMEDIATE SUPPORT RIGHT SIDE TRAY (first article)	6061-T6 Al	-	-	-	1	-	1
10	D1000411	v2	TMS INTERMEDIATE OSUM SUPPORT PLATE, REAR (first article)	6061-T6 Al	-	-	-	1	-	1
9	D060315	v2	aLIGO, SUS, QUAD N-PTYPE TABLECLOTH, TABLECLOTH PINCH PLATE, UPPER STRUCTURE	6061-T6 Al	4	1	5	4	1	5
8	D1000408	v2	aLIGO OSUMS INTERMEDIATE SUPPORT LEFT SIDE BRACKET (first article)	6061-T6 Al	-	-	-	1	-	1
7	D1000407	v2	aLIGO OSUMS INTERMEDIATE SUPPORT RIGHT SIDE BRACKET (first article)	6061-T6 Al	-	-	-	1	-	1
6	92200A541 (McM-Carr) or equiv per MS16995-51		SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 0.875 LONG	300 SSSL	8	4	12	12	4	16
5	96861A600 (McM-Carr) or equiv		VENTED FLAT WASHER .255 ID, .468 OD, .032 TH	18-8 SSSL	40	11	43	32	11	45
4	92200A544 (McM-Carr) or equiv per MS16995-53		SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 1.25 LONG	300 SSSL	4	3	7	4	3	7
3	D1101166	v1	aLIGO TMS UPPER SUSPENSION WIRE ASSEMBLY	N/A	2	1	3	2	1	3
2	D060324	v4	aLIGO, SUS, QUAD N-PTYPE TOP STAGE, BLADE CARTRIDGE	N/A	-	-	-	2	-	2
1	D060492	v2	aLIGO, SUS, QUAD ETM-ITM, UPPER STRUCTURE WELDMENT	N/A	-	-	-	1	-	-

ITEM NO.	PART NUMBER	REV	DESCRIPTION	MATERIAL	-01 /QTY	-01 /SPARE	-01 /TOTAL	-02 /QTY	-02 /SPARE	-02 /TOTAL

<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>		<p>LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY</p>		<p>PART NAME aLIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY</p>					
<p>DIMENSIONS ARE IN INCHES</p> <p>TOLERANCES: .XX ± .01 .XXX ±</p> <p>ANGULAR ± °</p>	<p>MATERIAL</p> <p>N/A</p>	<p>FINISH</p> <p>N/A μinch</p>	<p>SYSTEM</p> <p>ADVANCED LIGO</p>	<p>SUB-SYSTEM</p> <p>AOS</p>	<p>DESIGNER</p> <p>K. MAILAND</p>	<p>11 MAR 2010</p>	<p>SIZE</p> <p>D</p>	<p>DWG. NO.</p> <p>D1000549</p>	<p>REV.</p> <p>v2</p>
			<p>NEXT ASSY</p> <p>D0901880</p>		<p>CHECKER</p> <p>SEE DCN</p>	<p>20 FEB 2012</p>			
					<p>APPROVAL</p> <p>SEE DCN</p>		<p>SCALE: NONE</p>	<p>PROJECTION:</p>	<p>SHEET 1 OF 16</p>

D1000549 aLIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X.500, DRAWING FROM REV. X.052



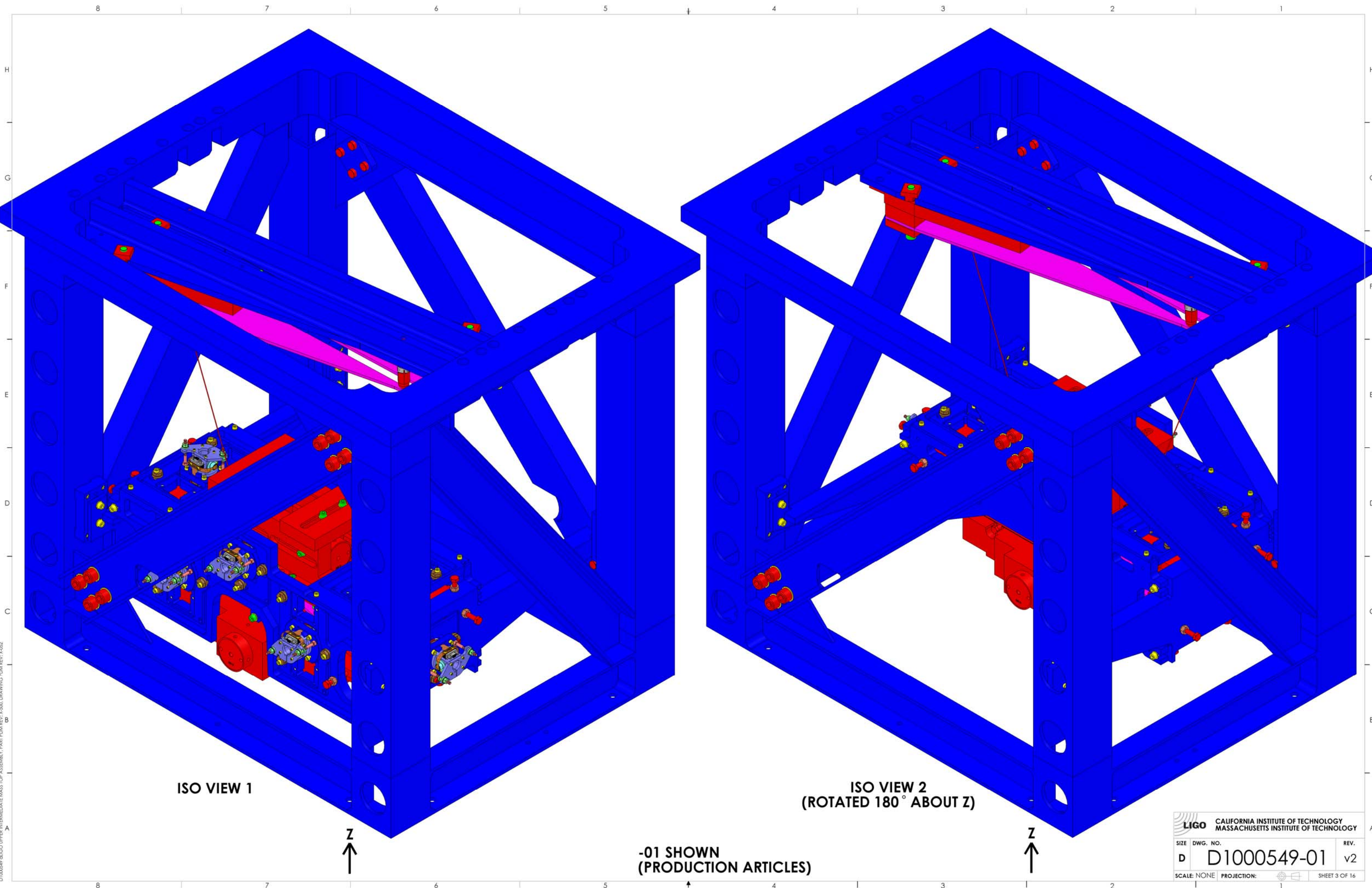
ISO VIEW 1

ISO VIEW 2
(ROTATED 180° ABOUT Z)

-02 SHOWN
(FIRST ARTICLE)

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE DWG. NO.	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 2 OF 16

D:\000649\GUGO UPPER INTERMEDIATE MASS TOP ASSEMBLY PART FROM REV. X500 DRAWING TDM REV. 4-02



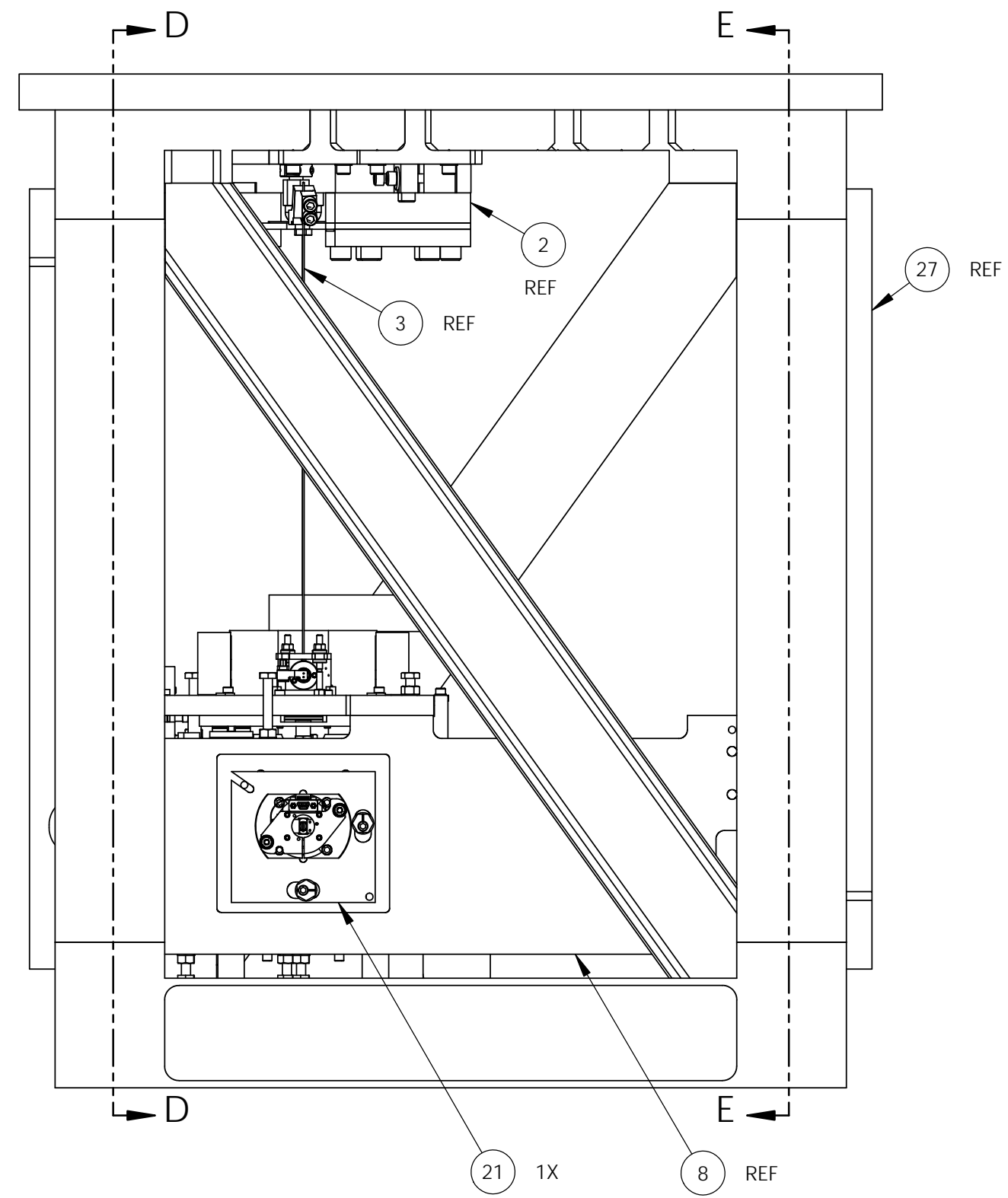
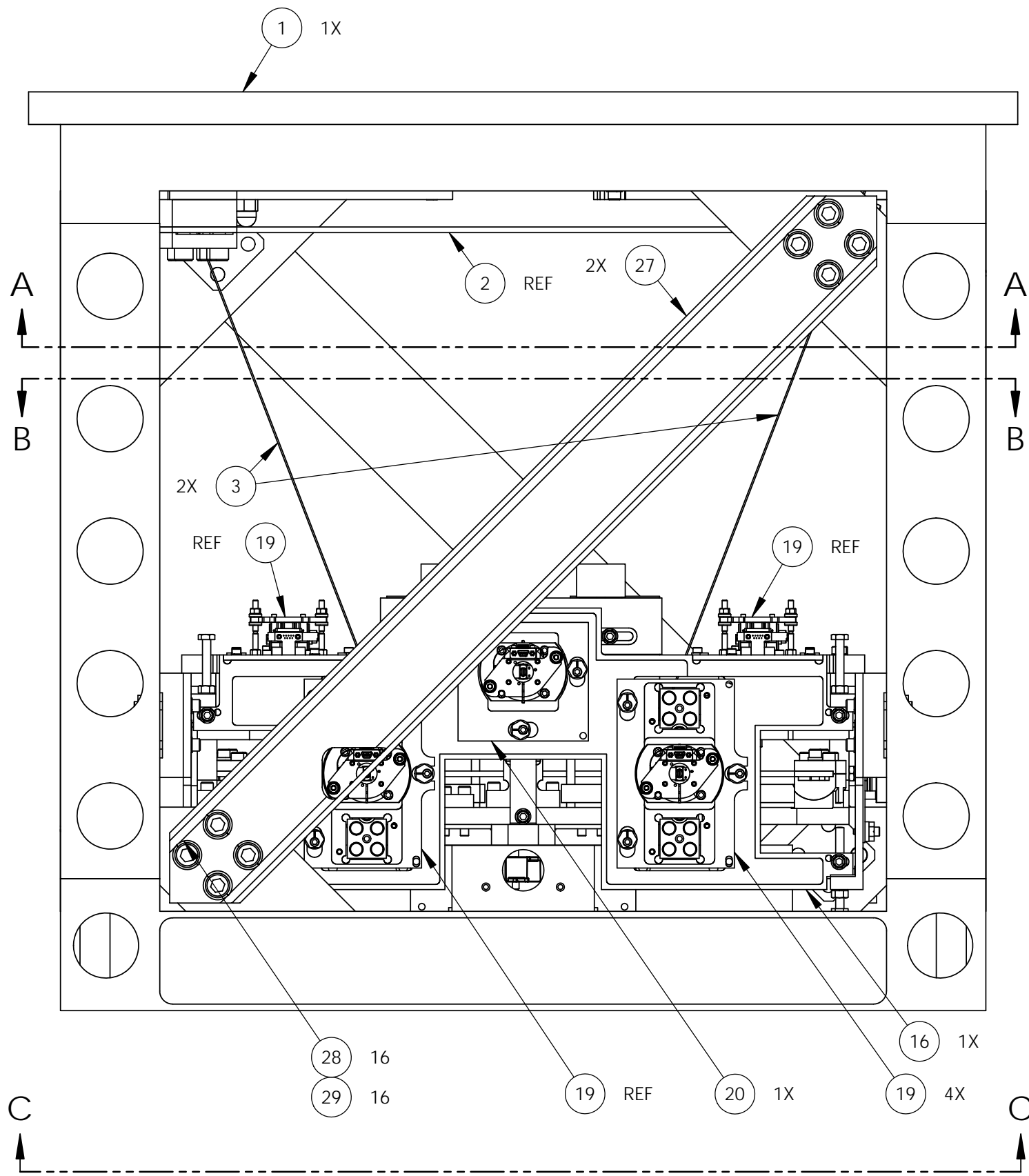
ISO VIEW 1

ISO VIEW 2
(ROTATED 180° ABOUT Z)

-01 SHOWN
(PRODUCTION ARTICLES)

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE	DWG. NO.	REV.
D	D1000549-01	v2
SCALE: NONE	PROJECTION:	SHEET 3 OF 16

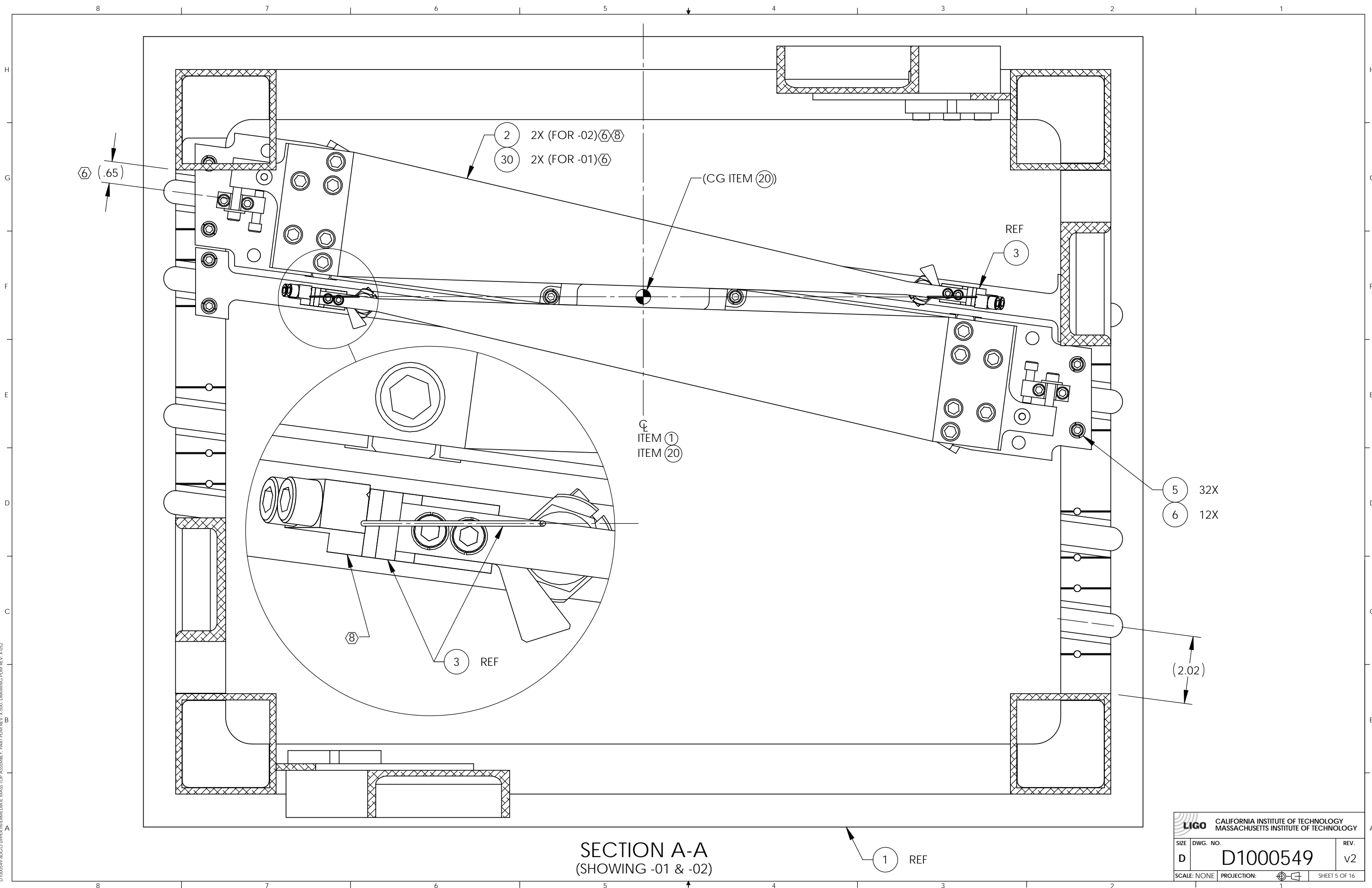
D:\000649\GUGO UPPER INTERMEDIATE MASS TOP ASSEMBLY PART FROM REV. X500 DRAWING TDM REV. 4-02



-02 (FIRST ARTICLE) SHEETS 4-11
 -01 (ALL OTHERS) SHEETS 11-16

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 4 OF 16

D1000549 LIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X-500, DRAWING FROM REV. X-052

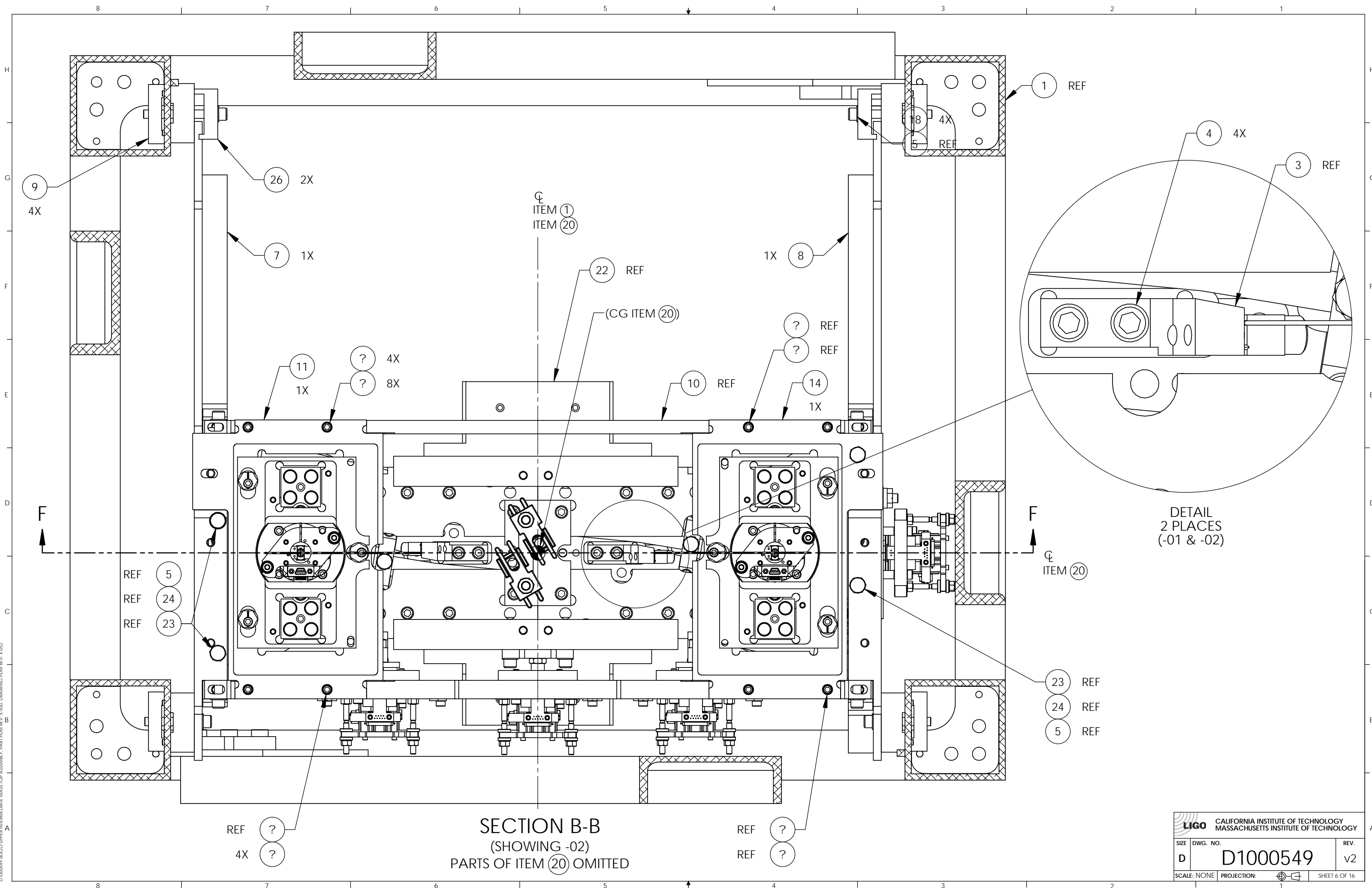


SECTION A-A
(SHOWING -01 & -02)

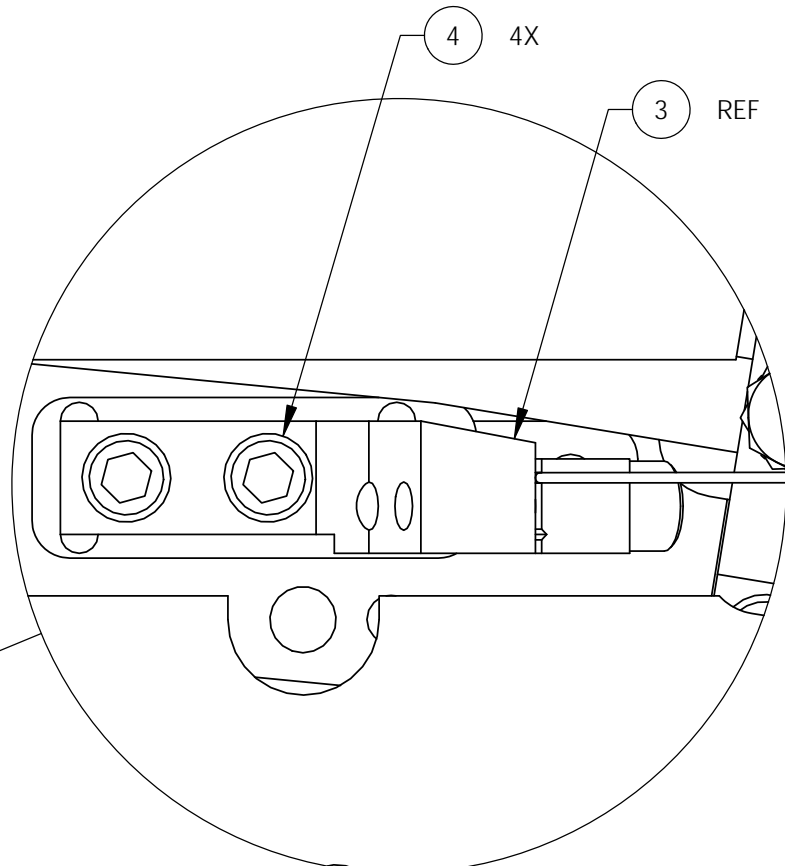
1 REF

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 5 OF 16

D1000549 ALIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X-500, DRAWING FROM REV. X-052



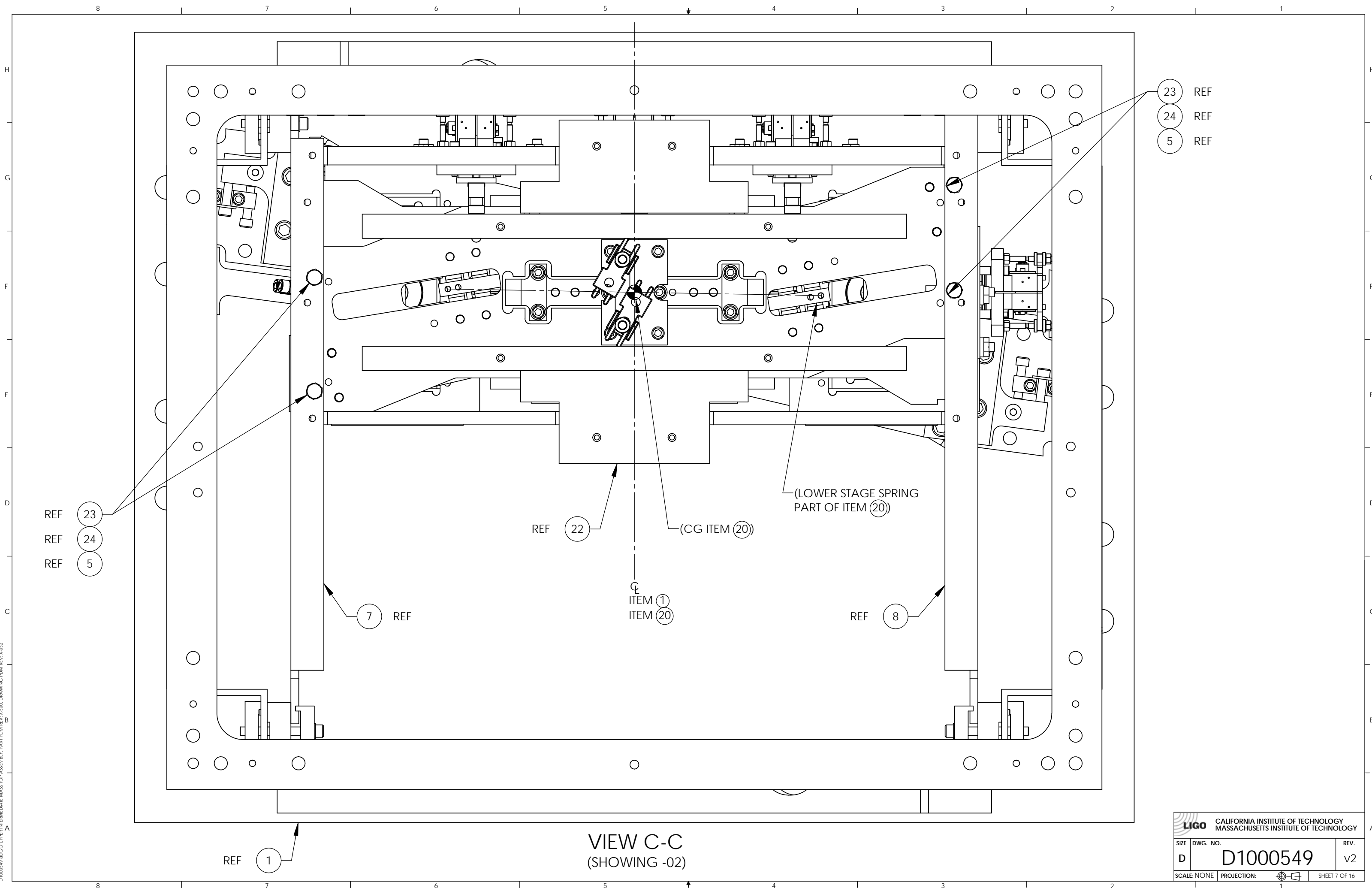
SECTION B-B
 (SHOWING -02)
 PARTS OF ITEM (20) OMITTED



DETAIL
 2 PLACES
 (-01 & -02)

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 6 OF 16

D1000549 ALIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X-500, DRAWING FROM REV. X-052



VIEW C-C
(SHOWING -02)

- 23 REF
- 24 REF
- 5 REF

- REF 23
- REF 24
- REF 5

REF 1

7 REF

REF 22

ITEM 1
ITEM 20

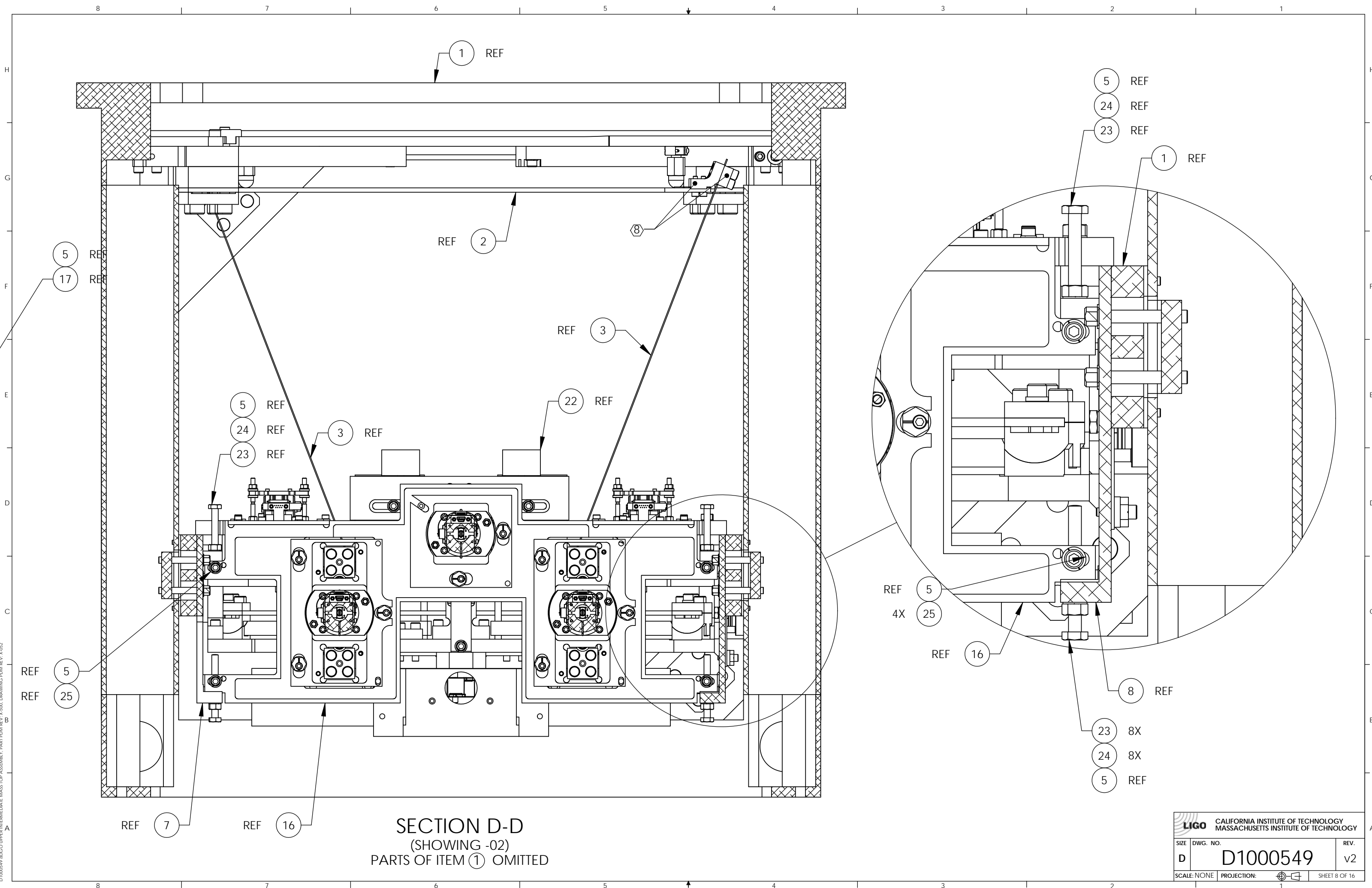
(CG ITEM 20)

(LOWER STAGE SPRING
PART OF ITEM 20)

REF 8

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV. v2
SIZE D	DWG. NO. D1000549	REV. v2
SCALE: NONE	PROJECTION:	SHEET 7 OF 16

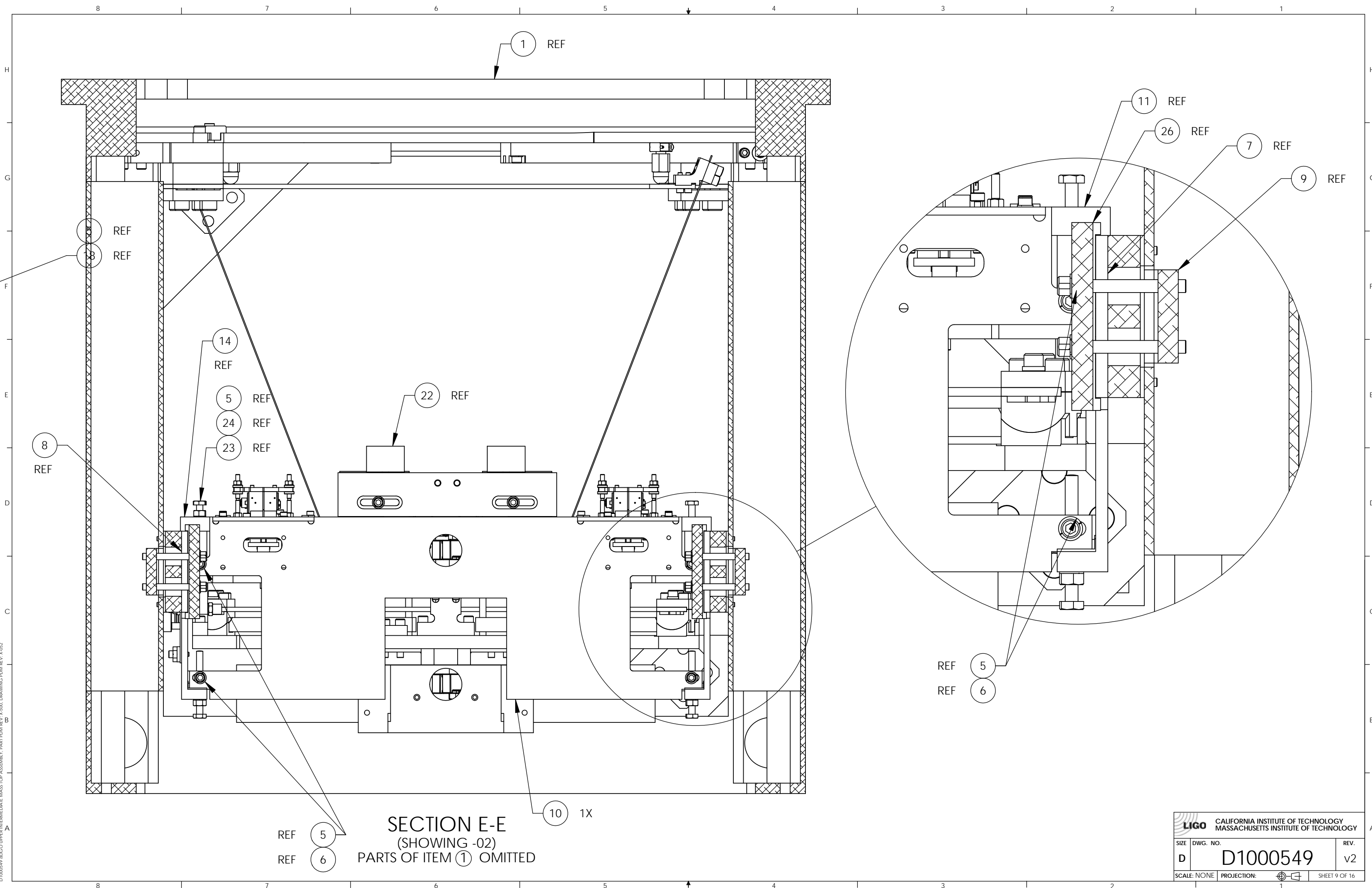
D1000549 ALIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X-500, DRAWING FROM REV. X-052



SECTION D-D
 (SHOWING -02)
 PARTS OF ITEM ① OMITTED

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 8 OF 16

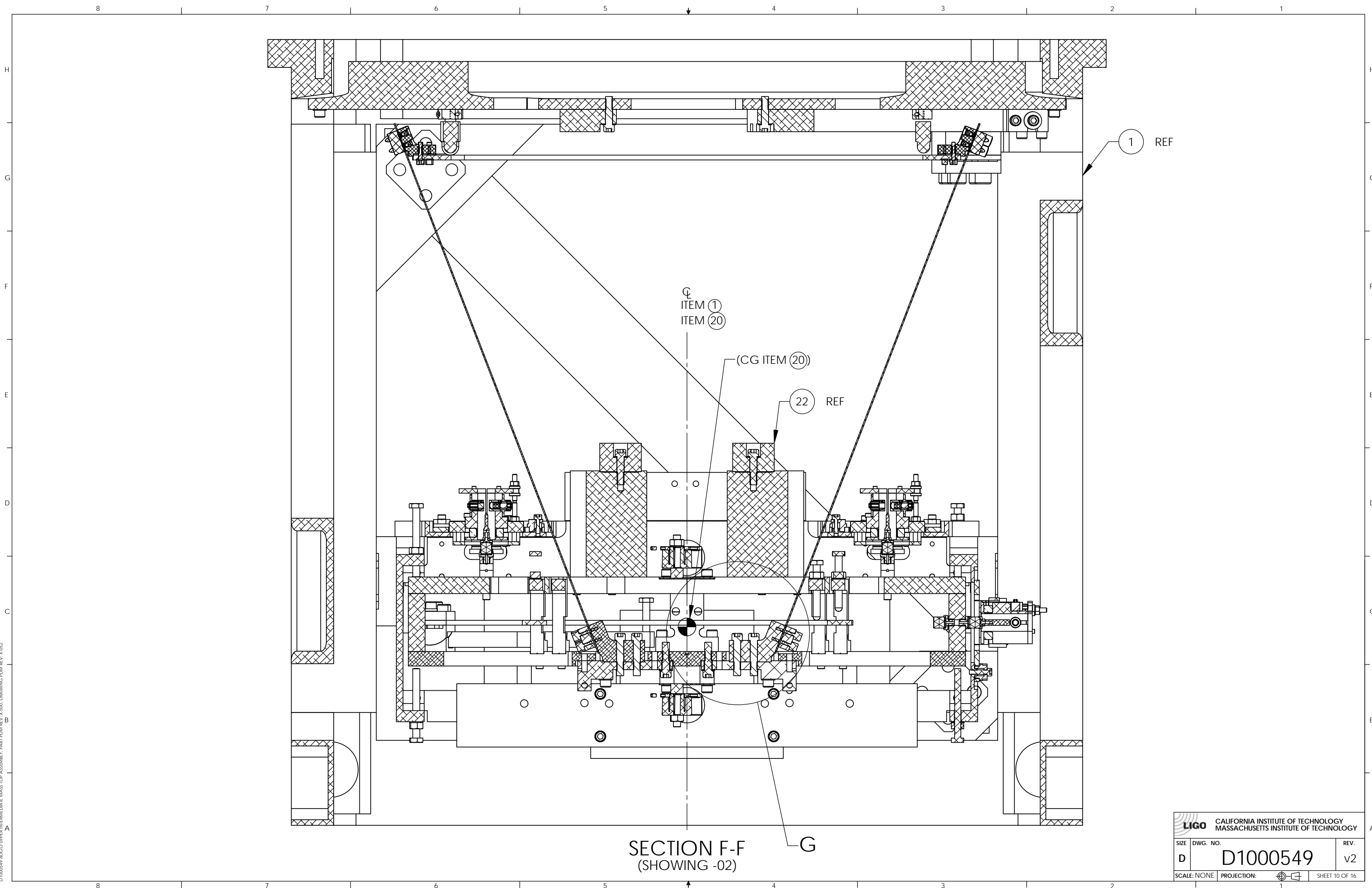
D1000549 LIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X-500, DRAWING FROM REV. X-052



SECTION E-E
 (SHOWING -02)
 PARTS OF ITEM ① OMITTED

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 9 OF 16

D1000549 LIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X-500, DRAWING FROM REV. X-052

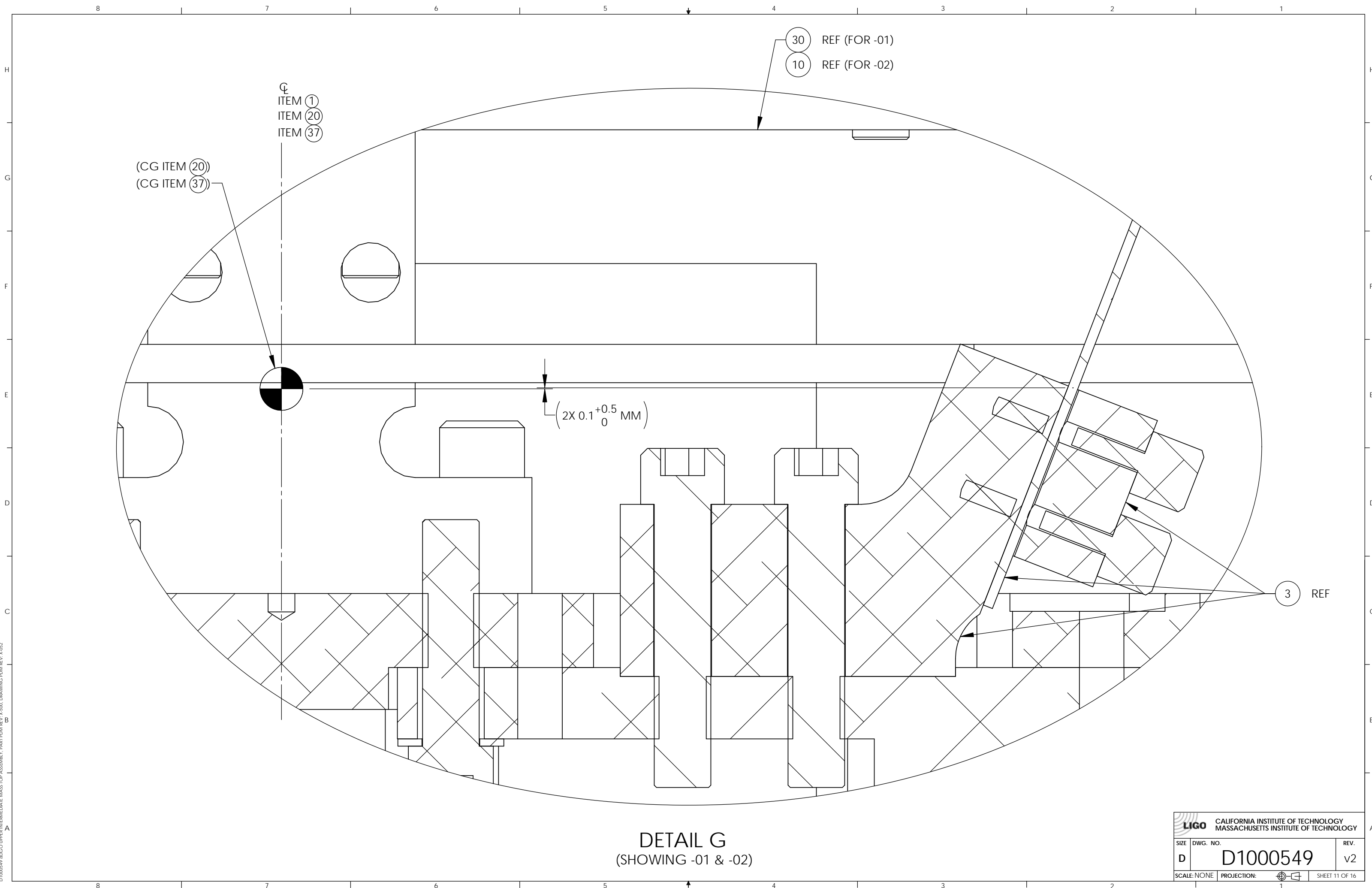


SECTION F-F
(SHOWING -02)



G

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 10 OF 16

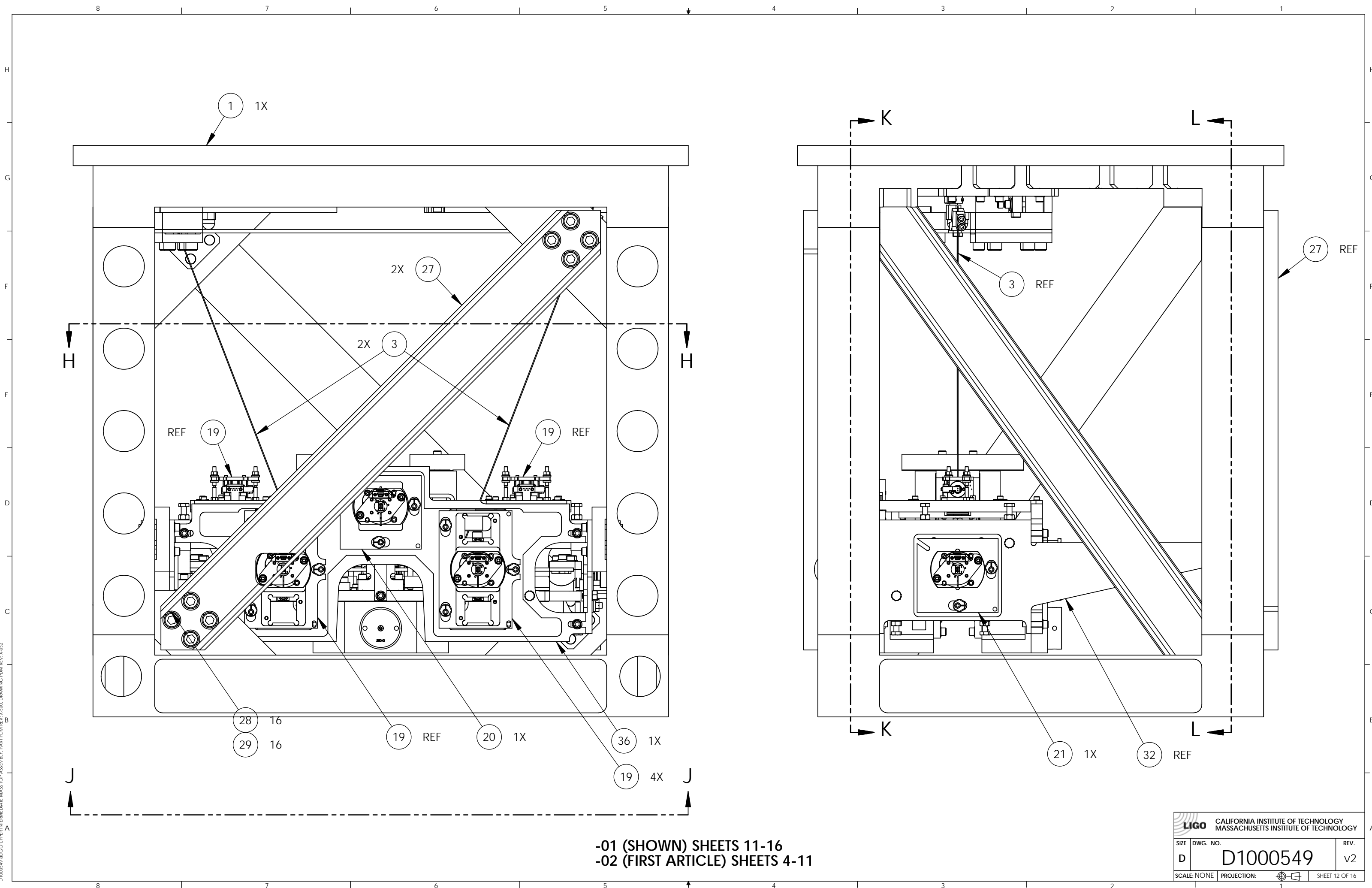
D1000549 ALIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X-500, DRAWING FROM REV. X-052



DETAIL G
(SHOWING -01 & -02)

 CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		SIZE D	DWG. NO. D1000549	REV. v2
SCALE: NONE		PROJECTION: 		SHEET 11 OF 16

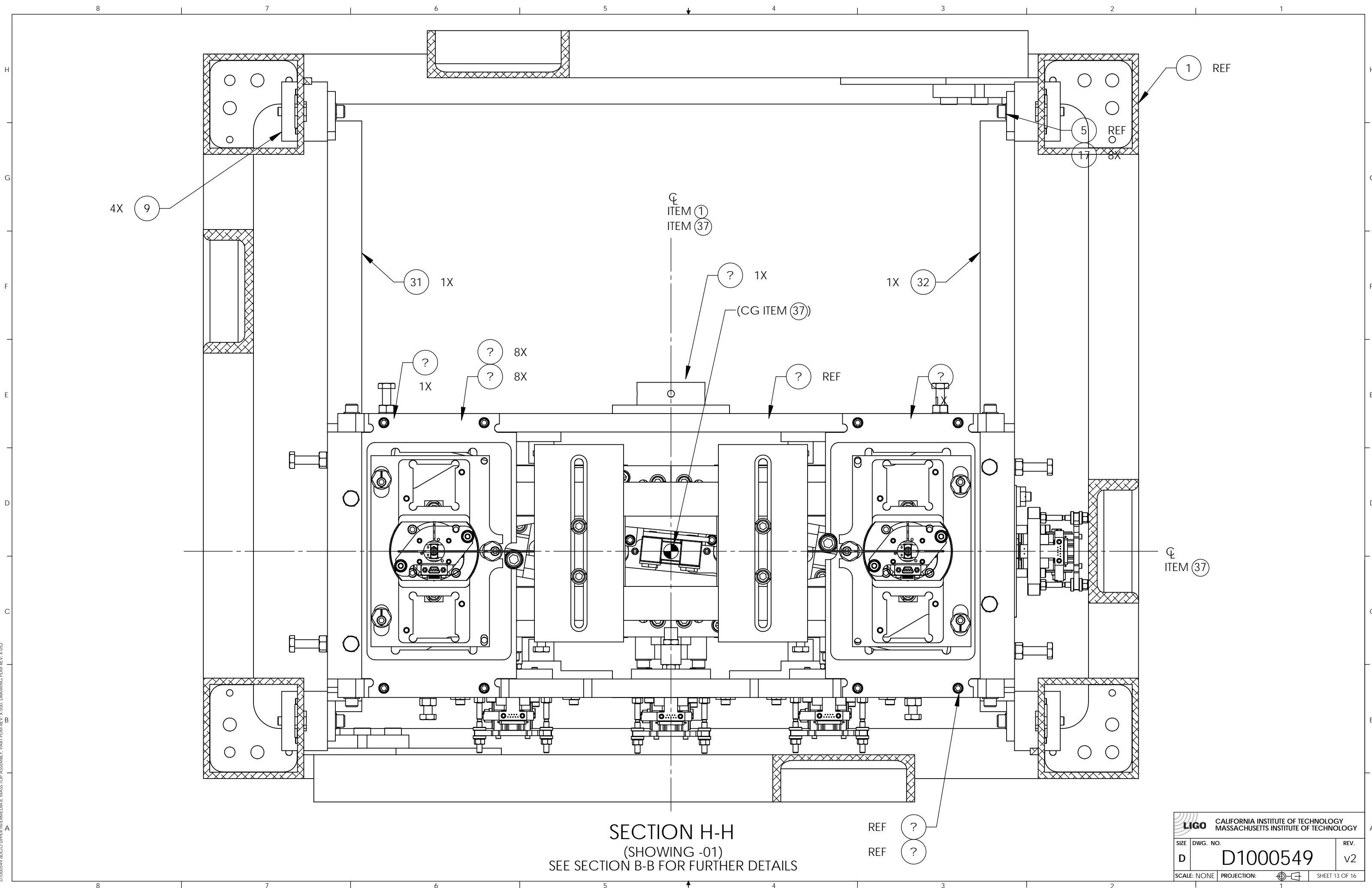
D1000549 LIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X-500, DRAWING FROM REV. X-052



-01 (SHOWN) SHEETS 11-16
 -02 (FIRST ARTICLE) SHEETS 4-11

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 12 OF 16

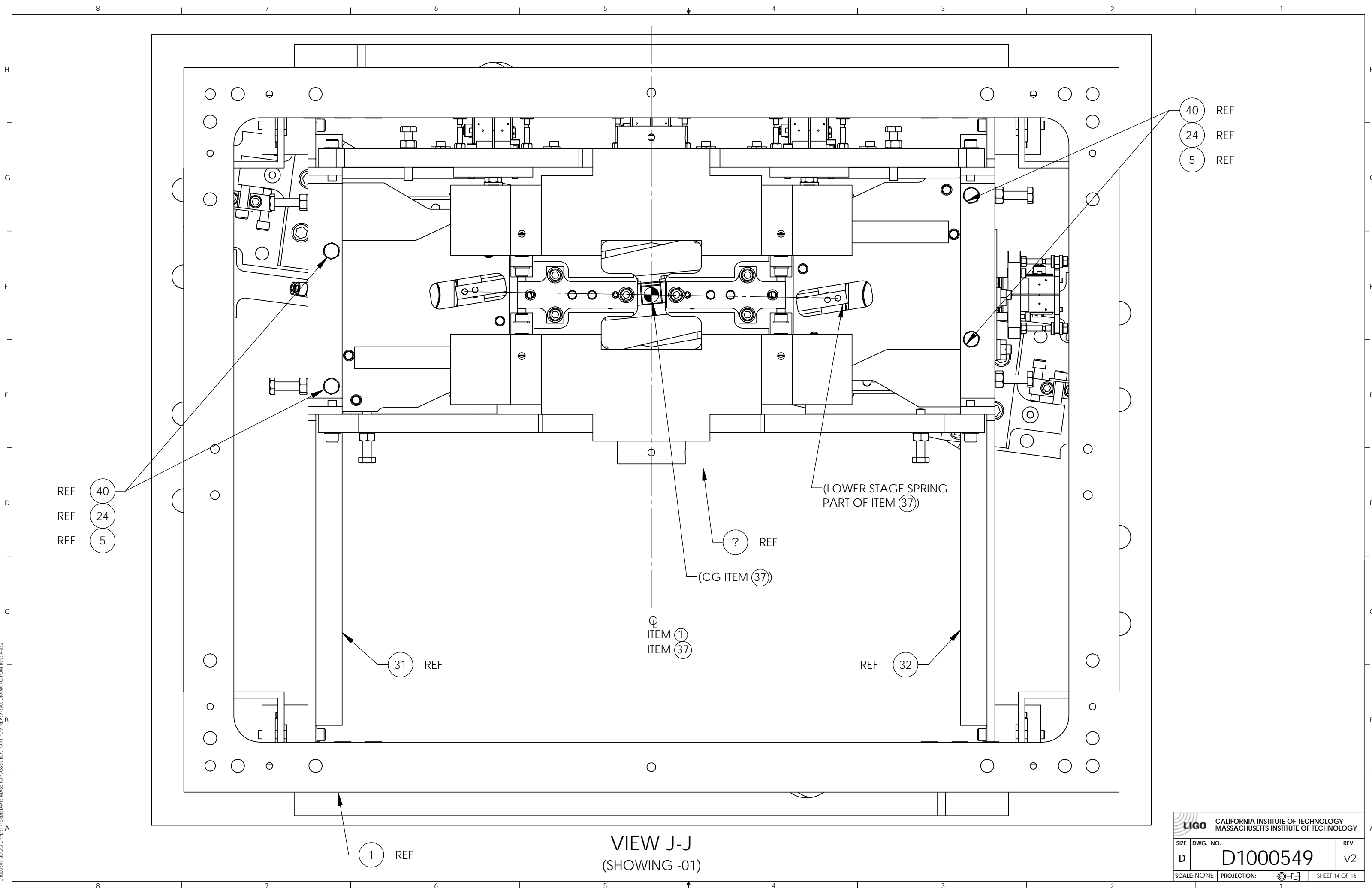
D1000549 LIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X.500, DRAWING FROM REV. X.052



SECTION H-H
 (SHOWING -01)
 SEE SECTION B-B FOR FURTHER DETAILS

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 13 OF 16

D1000549 ALIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X-500, DRAWING FROM REV. X-052



VIEW J-J
(SHOWING -01)

- 40 REF
- 24 REF
- 5 REF

- REF 40
- REF 24
- REF 5

31 REF

ITEM 1
ITEM 37

? REF

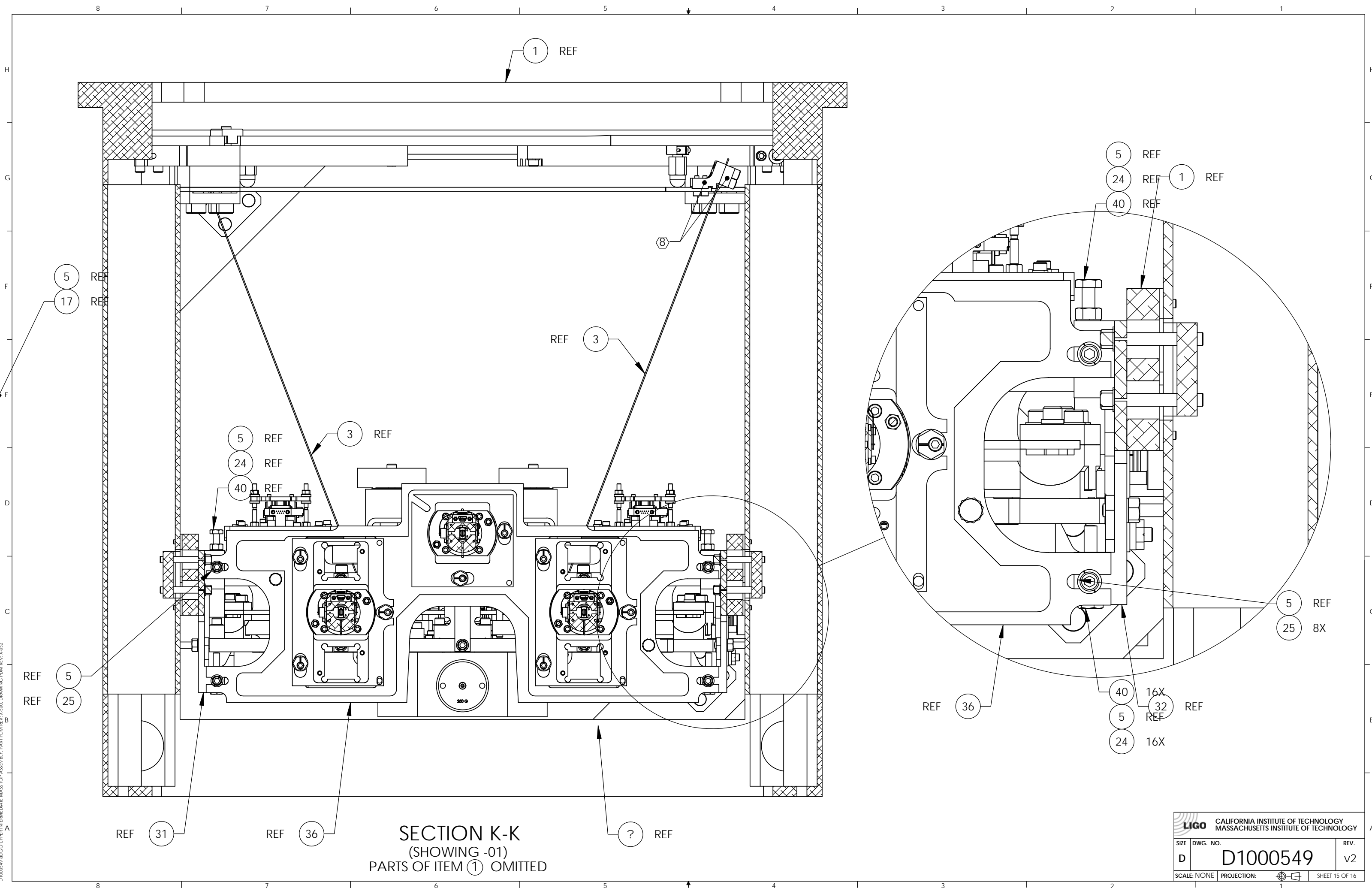
(CG ITEM 37)

(LOWER STAGE SPRING
PART OF ITEM 37)

REF 32

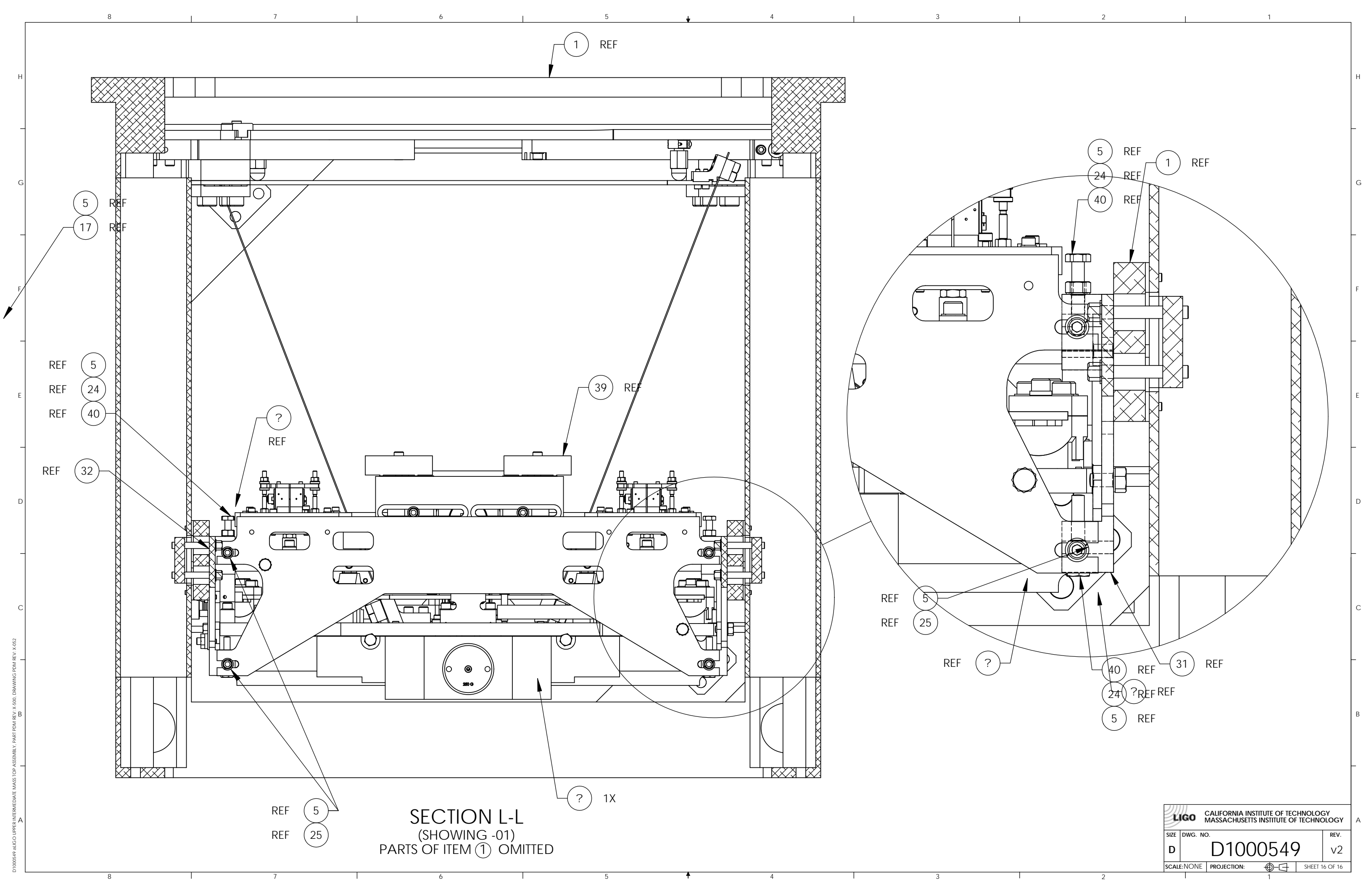
CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 14 OF 16

D1000549 LIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY PART FROM REV. X-500. DRAWING FROM REV. X-052



SECTION K-K
 (SHOWING -01)
 PARTS OF ITEM ① OMITTED

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 15 OF 16



SECTION L-L
 (SHOWING -01)
 PARTS OF ITEM ① OMITTED

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
SIZE	DWG. NO.	REV.
D	D1000549	v2
SCALE: NONE	PROJECTION:	SHEET 16 OF 16

D1000549 JLIGO UPPER INTERMEDIATE MASS TOP ASSEMBLY, PART FROM REV. X-500, DRAWING FROM REV. X-052