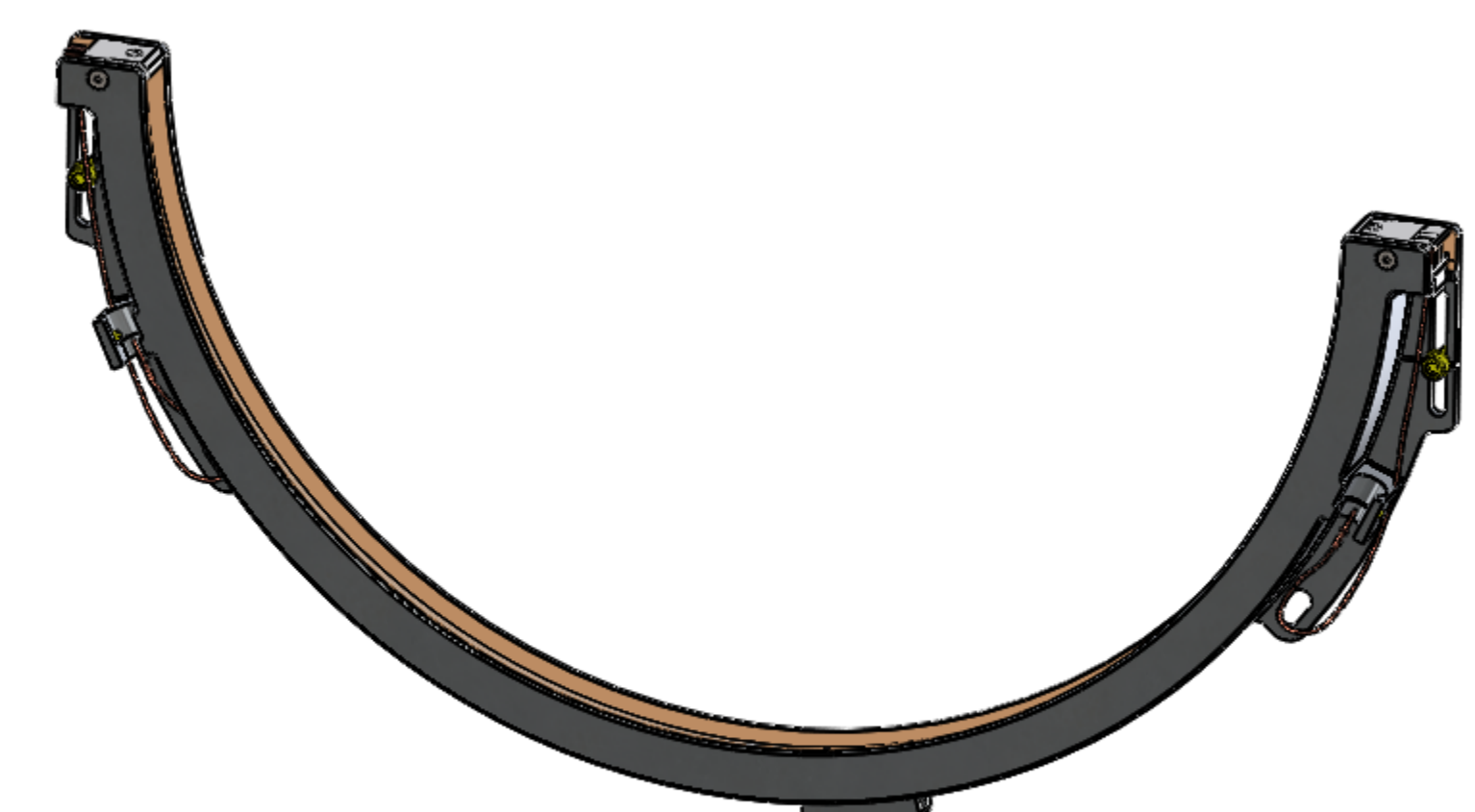
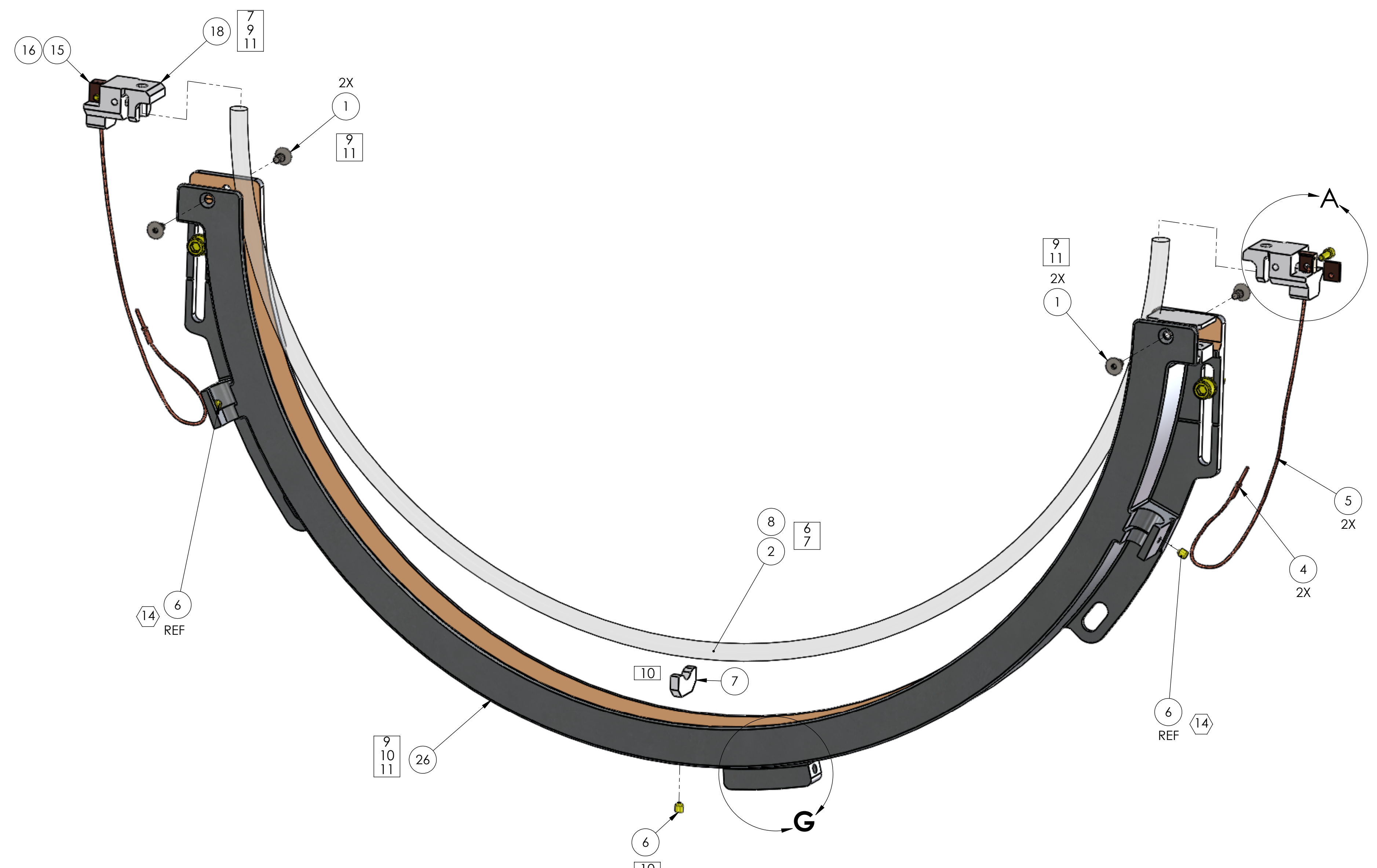
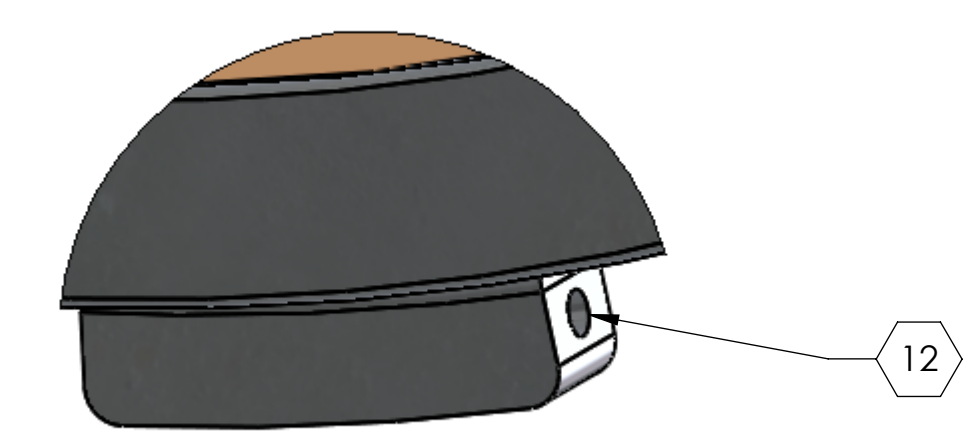


REV.	DATE	DCN #	DRAWING TREE #
v1	04-AUG-2010	E1000291	E1000295-v1
v2	17-NOV-2010	E1000291-v3	E1000295-v4
v3	03-DEC-2010	E1000291-v4	E1000295-v5
v4	06-JAN-2011	E1000291-v5	E1000295-v6
v5	28-FEB-2011	E1000291-v6	E1000295-v7
v6	26-APR-2012	E1100950-v1	E1000295-v8
v7	19-JUN-2013	ECR E1200726-v1	E1000295-v8



- NOTES CONTINUED:**
- ASSEMBLY SEQUENCE. SEE ALSO LIGO-T1100123.
- 5 ONE OF ITEM 4 IS CRIMPED TO ONE END OF EACH OF TWO PIECES OF ITEM 5 (EACH CUT TO A LENGTH OF 6.875in)
  - 6 ITEM 8 IS NOT DEPICTED; IT IS PRE-FORMED AND SLEEVED ONTO ITEM 3 PRIOR TO ASSEMBLY.
  - 7 ITEM 2 IS SEATED INTO THESE RETAINERS, ITEMS 9 AND 18.
  - 8 THE FREE ENDS OF ITEMS 8 AND 5 ARE CLAMPED BETWEEN ITEMS 13 & 14 AND 15 & 16 BY TORQUING ITEM 17 TO 2.5 in-lb, MAX.
  - 9 ITEM 26 IS BROUGHT INTO PLACE AND 2X ITEM 1 ARE SECURED -EITHER- INTO ITEM 9 -OR- INTO ITEM 18 (NOT BOTH). MAX TORQUE, ITEM 1, IS 3.5 in-lb
  - 10 ITEM 26 IS PIVOTED ABOUT THIS NEWLY SECURED JOINT SO THAT ITEM 7 CAN BE INSERTED BETWEEN ITEMS 2 AND 26 AT THE MIDSPAN. ITEM 6 IS USED TO SECURE ITEM 7, AS NECESSARY. MAX TORQUE, ITEM 6, IS 5.0 in-lb
  - 11 ITEM 26 IS PIVOTED BACK SO THAT THE OPPOSITE UNSECURED ITEM 9 OR 18 CAN BE SECURED USING 2X ITEM 1 MAX TORQUE, ITEM 1, IS 3.5 in-lb
- 12 SUBSYSTEM INTEGRATION STEP 1:  
THE SENSOR OF ASSEMBLY D1001519 AT THE END OF THE FIBERGLASS-COVERED CABLE IS TO BE INSERTED INTO THIS CAVITY AND SECURED WITHIN THE CAVITY WITH CERAMABOND 571, WHICH IS TO BE CURED IN AMBIENT CONDITIONS FOR 24 HRS
- 13 SUBSYSTEM INTEGRATION STEP 2:  
TWO #8-32 SHCS AND FLAT WASHERS ARE USED TO SECURE THE ASSEMBLY INTO PLACE ON THE SUS QUAD STRUCTURE SEE SHEETS 2 AND 4 FOR INTERFACE DETAILS
- 14 SUBSYSTEM INTEGRATION STEP 3:  
ITEM 4 IS SECURED INTO EACH OF THE JOINTS J5 AND J6 OF ASSEMBLY D1001519  
ITEM 6 IS USED TO SECURE JOINTS J5 AND J6 TO THE SHIELD (ITEM 26)
- 15 SUBSYSTEM INTEGRATION STEP 4:  
ITEM 12, NOT DEPICTED, IS USED TO SECURE ITEM 5 TO ITEM 26



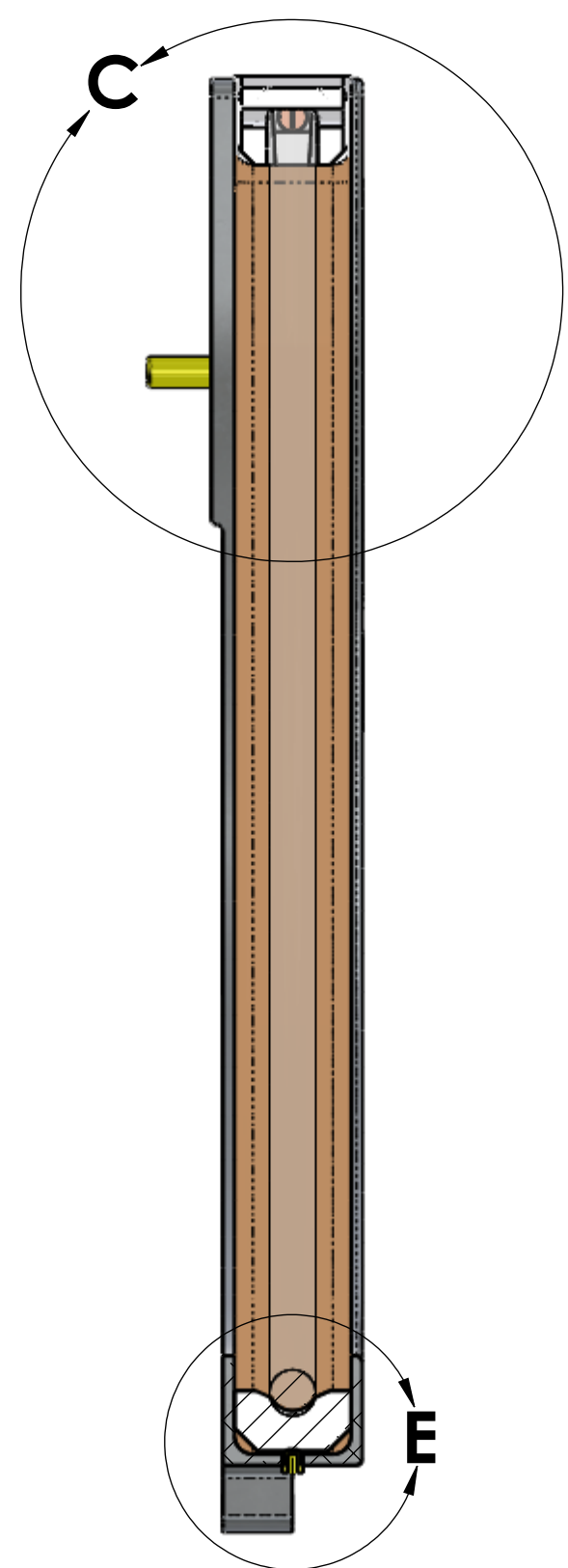
**DETAIL G  
SCALE 2 : 1**

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	REQ	SPARE	TOTAL
26	D1001680	gLIGO TCS LOWER MONOLITHIC RH SHIELD	6061 Alloy	1	0	1
18	D1002544-02	RH ELEMENT CONNECTOR, SIMPLIFIED RIGHT	MACOR CERAMIC	1	0	1
17	C-204-N	SHCS, #2-64 UNF-2A X 0.25 LONG, UC COMPONENTS	18-8 SS	2	1	3
16	D1200561-02	Cu CLAMP, RIGHT SIDE	Copper	1	0	1
15	D1200560-02	BASE OF Cu CLAMP, RIGHT SIDE	Copper	1	0	1
14	D1200561-01	Cu CLAMP, LEFT SIDE	Copper	1	0	1
13	D1200560-01	BASE OF Cu CLAMP, LEFT SIDE	Copper	1	0	1
12	A31189	1/8 IN STAINLESS STEEL CABLE TIE, WTG GROUP	SSTL	2	2	4
11	WFV-08	FLAT VENTED WASHER, #8, UC COMPONENTS	18-8 SS	2	2	4
10	C-812	SHCS, #8-32 X .75 LONG, VENTED, UC COMPONENTS	18-8 SS	2	2	4
9	D1002543-02	RH ELEMENT CONNECTOR, SIMPLIFIED LEFT	MACOR CERAMIC	1	0	1
8	MM 8880K52	24AWG NICHROME WIRE, PRE-CUT	CHROMEL-C	20 FT	10 FT	30 FT
7	D1002545	SIMPLIFIED RH ELEMENT STANDOFF	MACOR CERAMIC	1	1	2
6	T-402	SCREW, SOCKET SET, #4-40 UNC-2A X 0.125 LONG	18-8 SS	3	1	4
5	100680	22 AWG KAPTON INSULATED SOLID Cu WIRE, ACCUGLASS	AU PLT, SOLID CORE Cu, KAPTON INSULATED	6.875 IN X2	6.875 IN	20.625 IN
4	100170	Pin Contact, 10-24 AWG, AccuGlass	AU PLATED Cu	2	2	4
2	D1002538	SIMPLIFIED GLASS FORMER	GLASS, ANNEALED	1	0	1
1	FA-404	VENTED, F5HCS #4-40 UNC-2A x .25 LG, UC COMPONENTS	18-8 SS	4	2	6

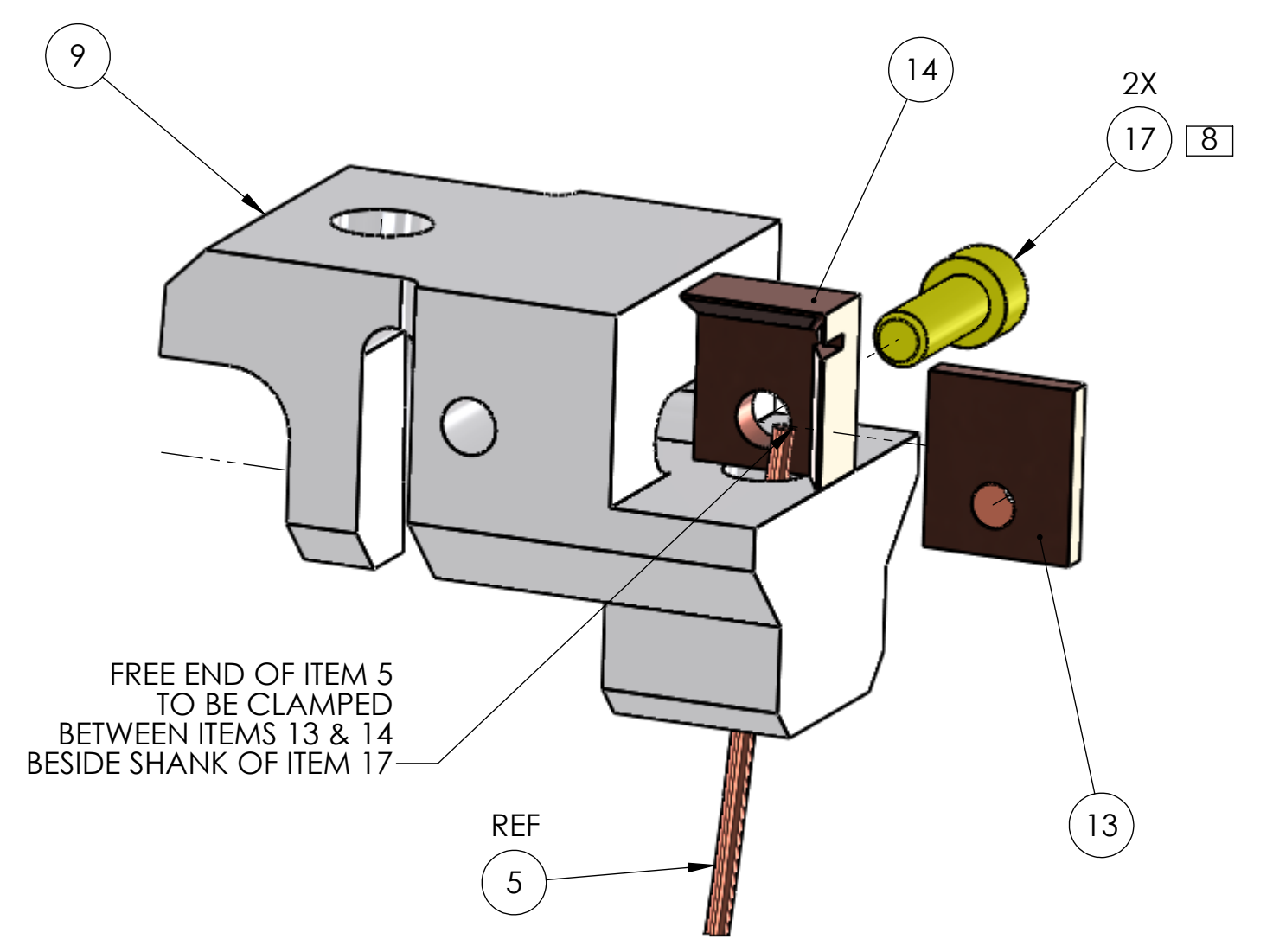
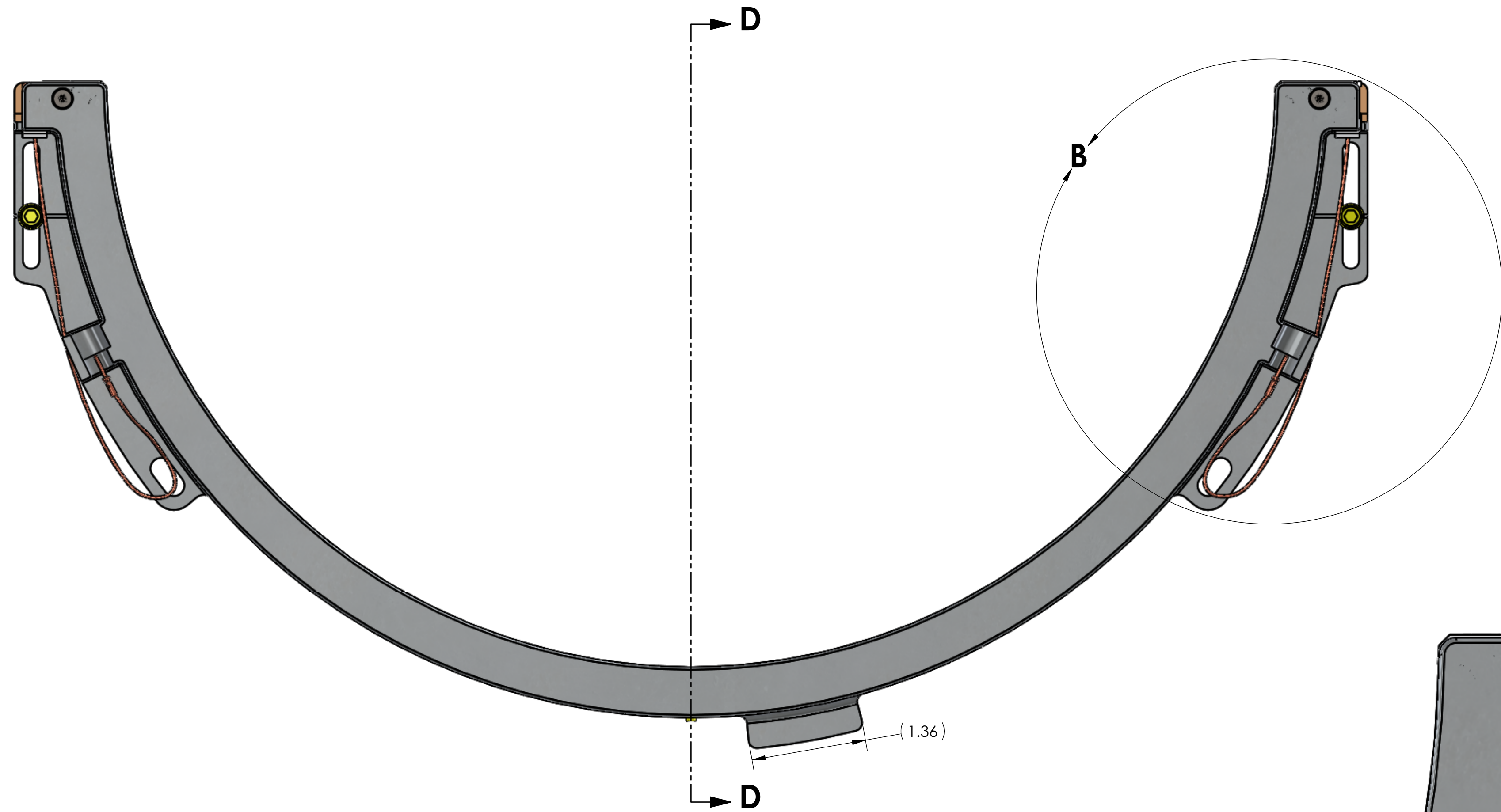
NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)		CALIFORNIA INSTITUTE OF TECHNOLOGY LIGO MASSACHUSETTS INSTITUTE OF TECHNOLOGY		PART NAME	
DIMENSIONS ARE IN TOLERANCES: .XX ± .XXX ± ANGULAR ± °		1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, R.02 MIN. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.		<b>alIGO TCS RING HEATER LOWER SEGMENT ASSY</b>	
MATERIAL		FINISH		NEXT ASSY	
N/A		N/A μinch		D1002027	
ADVANCED LIGO		SUB-SYSTEM AOS		DESIGNER M. JACOBSON 26 JUL 2010	
D1002027		D		DWG. NO. D1001895	
APPROVAL D. COYNE 20-JUN-2013		SCALE: 1:2		PROJECTION:	
		SHEET 1 OF 4		REV. v7	

D1001895-ALIGO TCS RING HEATER LOWER SEGMENT ASSY - PART PDM REV: X-319 - DRAWING PDM REV: X-049

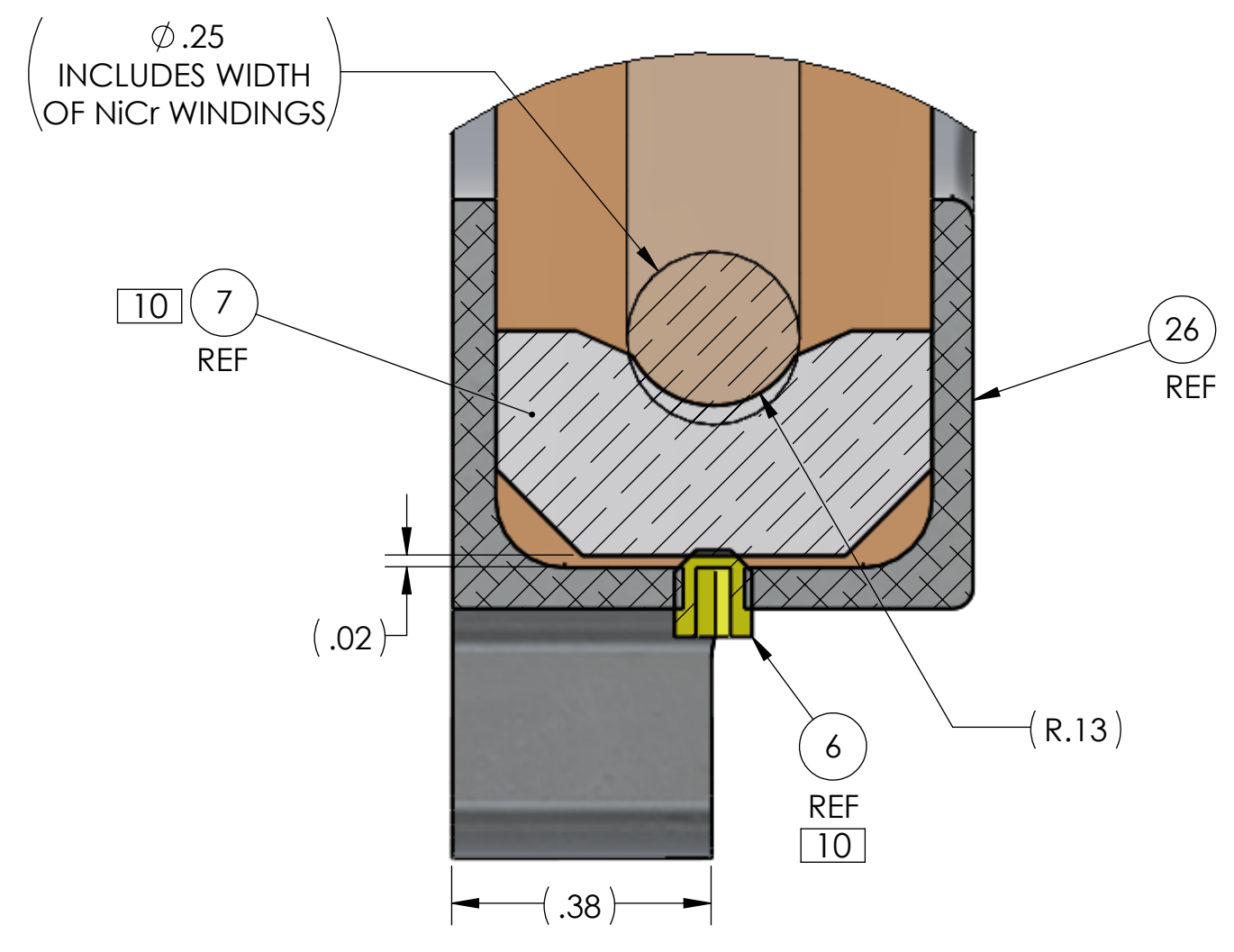




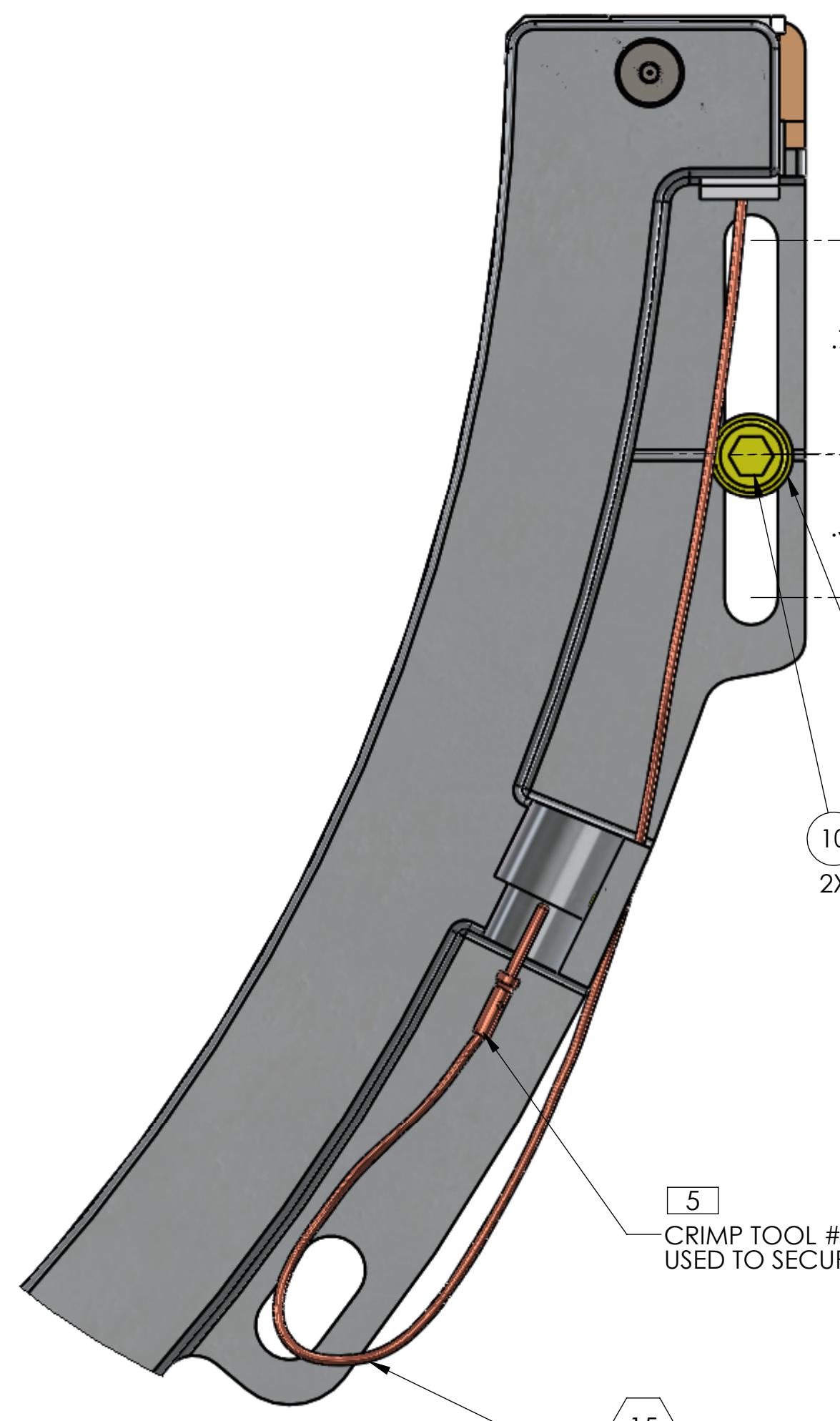
**SECTION D-D  
SCALE 1 : 1**



**DETAIL A  
SCALE 4 : 1**



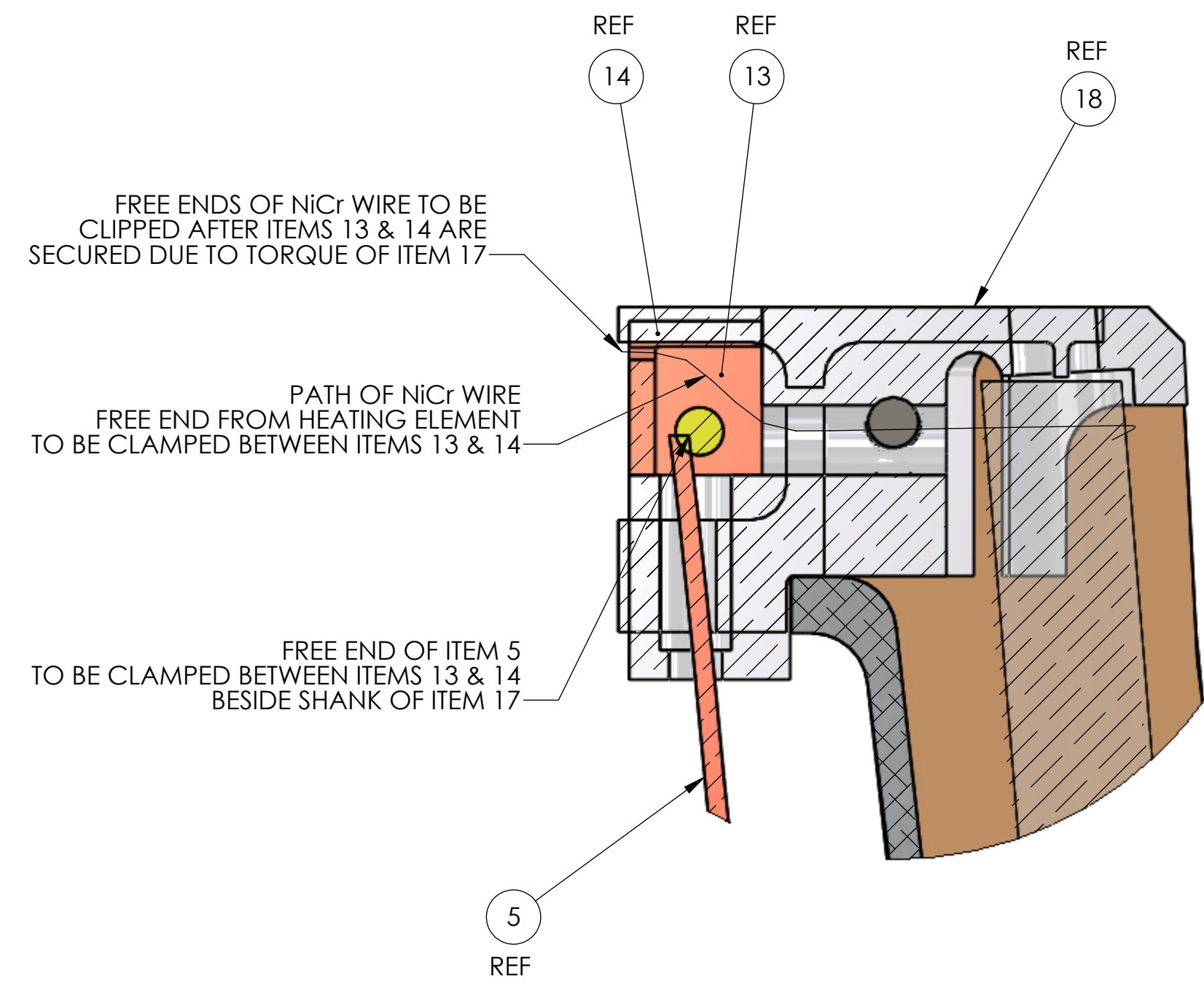
**DETAIL E  
SCALE 4 : 1**



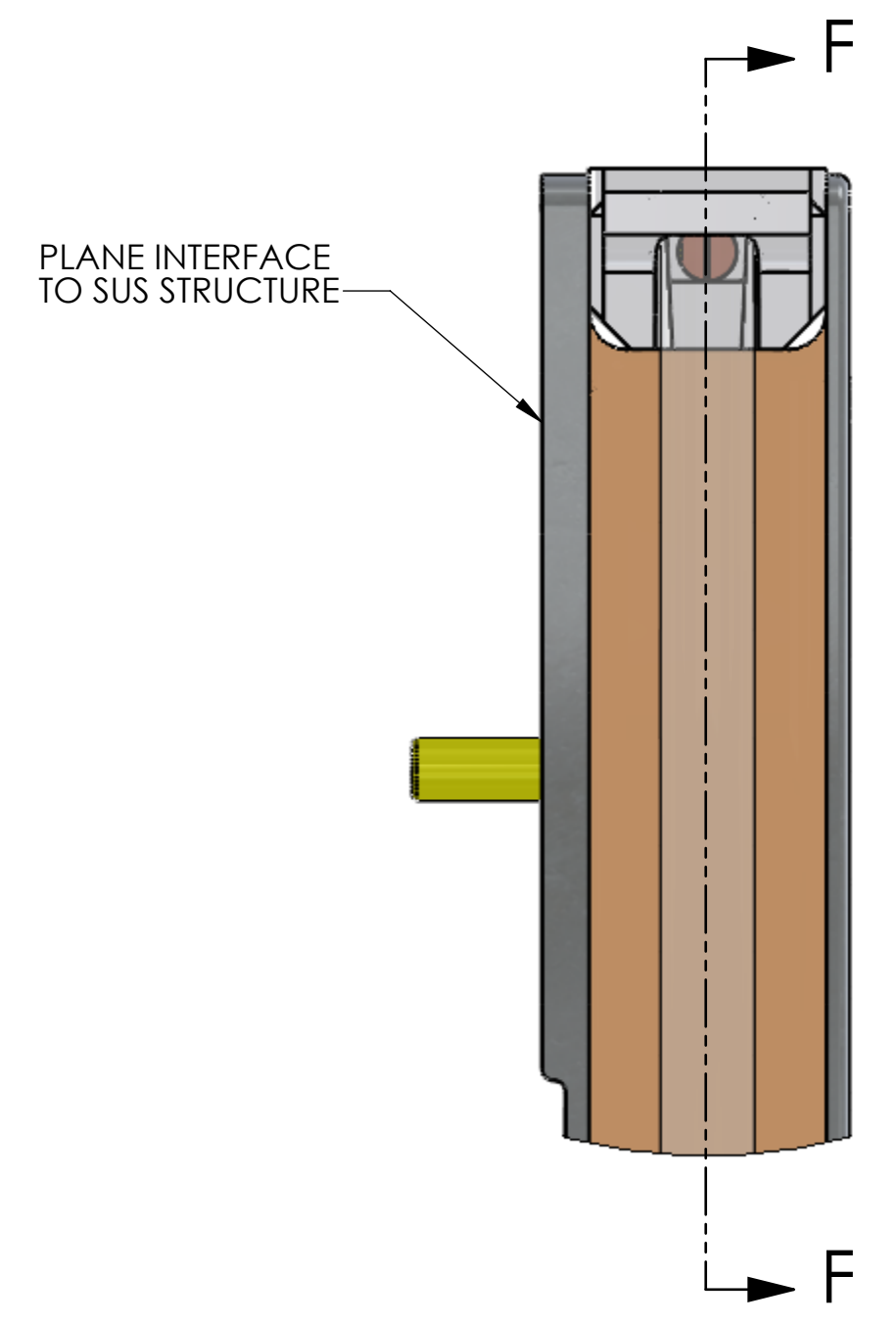
**DETAIL B  
SCALE 2 : 1**

<b>LIGO</b> CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE DWG. NO.	REV.
<b>D</b>	<b>D1001895</b>
SCALE: 1:2	SHEET 2 OF 4

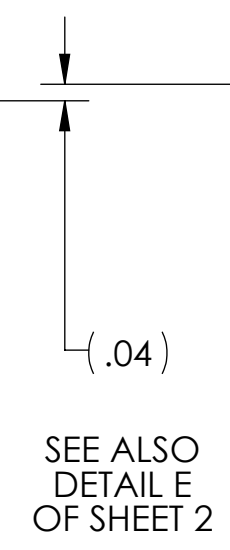
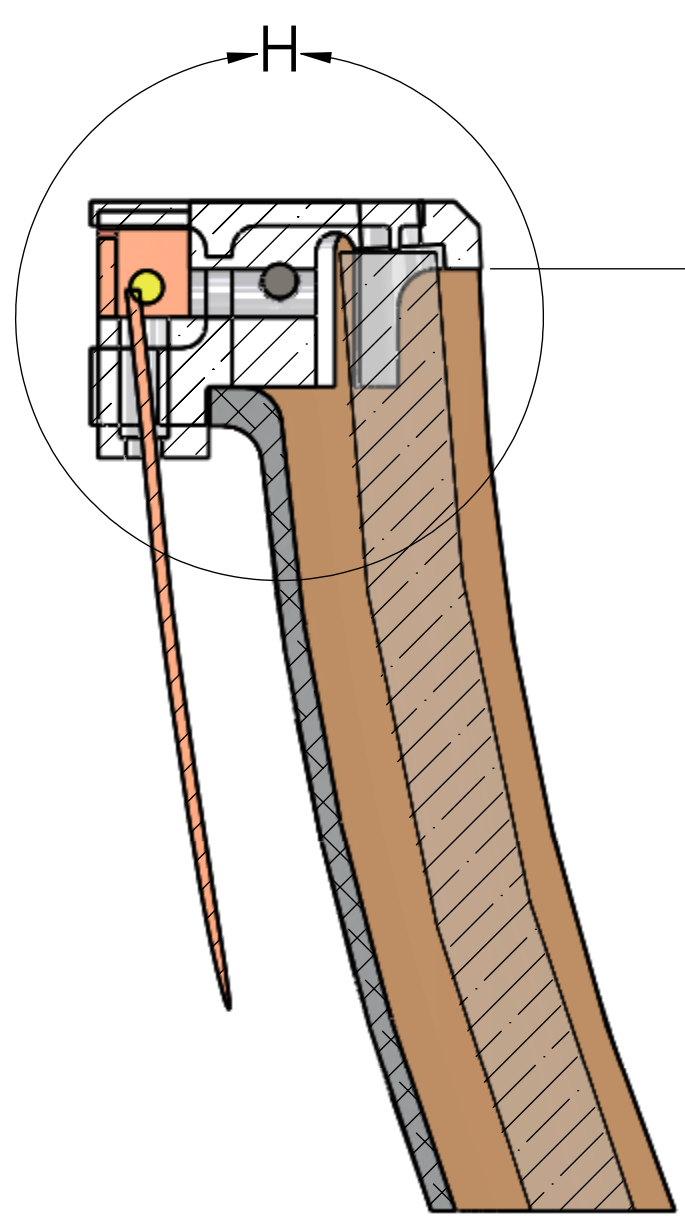
D1001895\_01UGO TCS BING-HEATER LOWER SEGMENT ASSY.PART PDM REV: X-219. DRAWING PDM REV: X-049



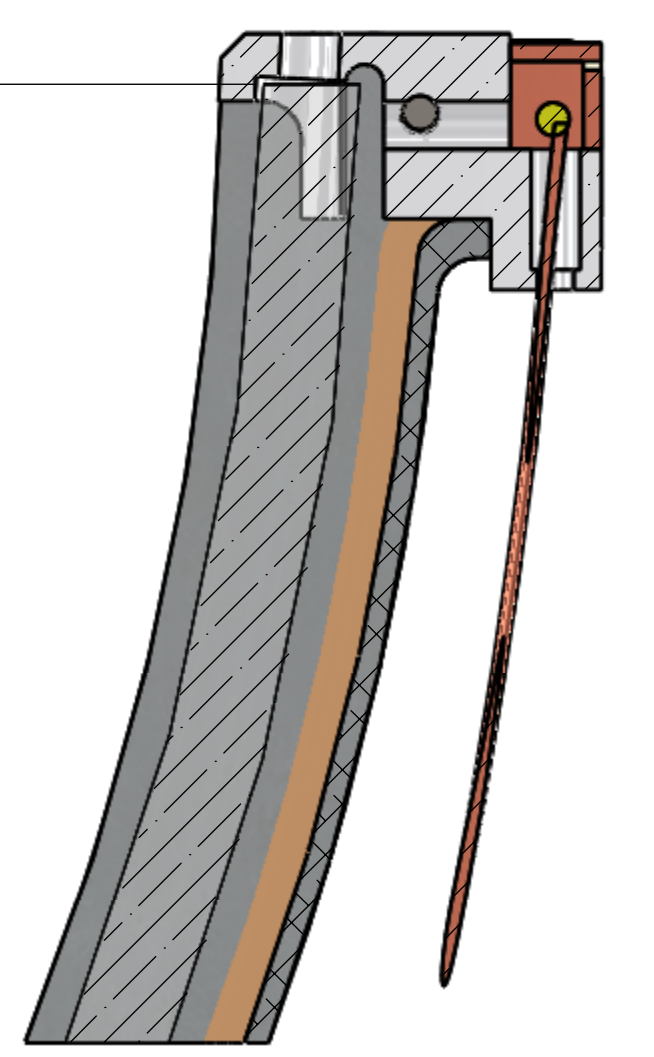
**DETAIL H**  
**SCALE 4 : 1**



**DETAIL C**  
**SCALE 2 : 1**



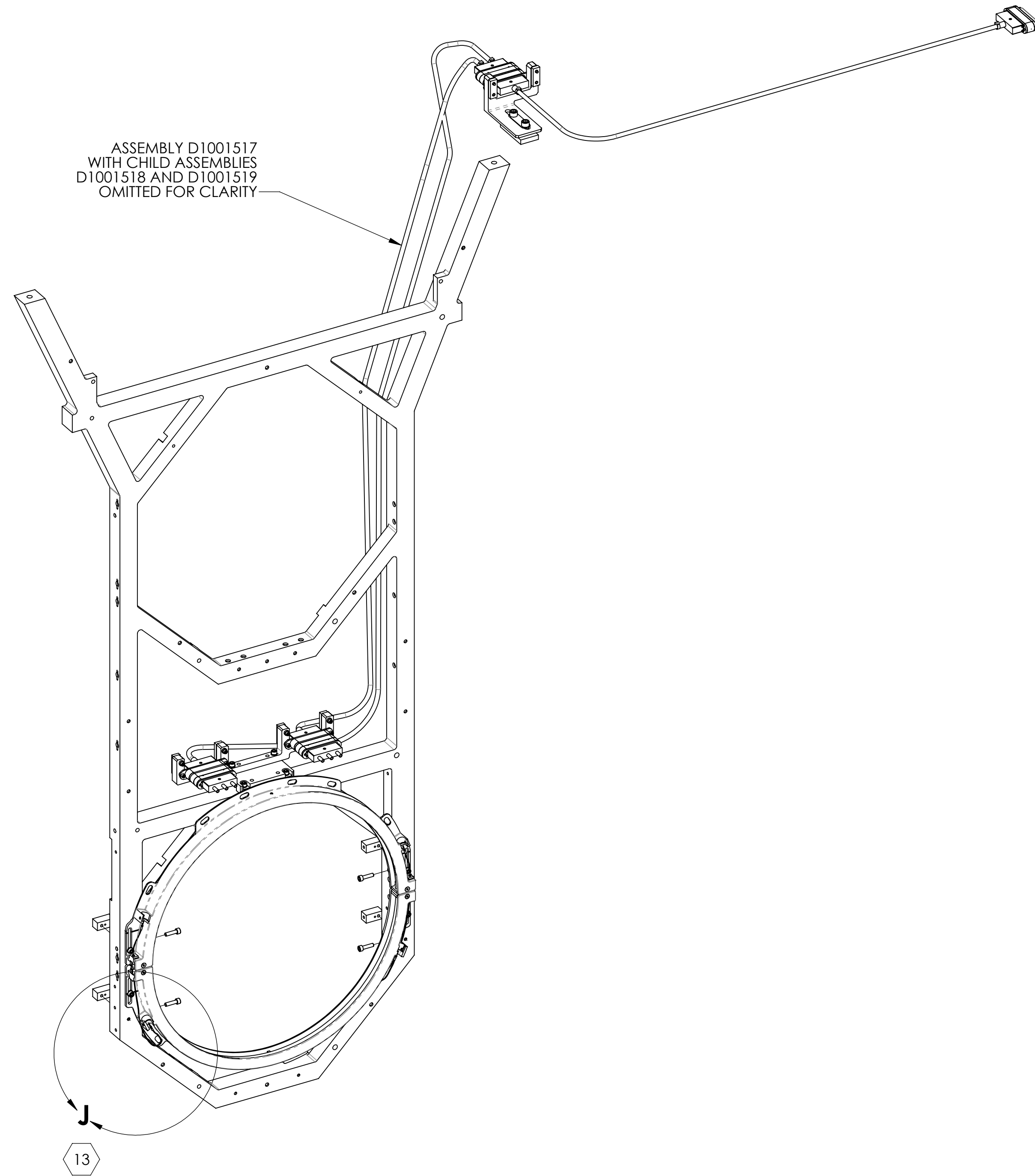
**SECTION F-F**  
**SCALE 2 : 1**



<b>LIGO</b> CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE DWG. NO.	D1001895	v7
SCALE: 1:2	PROJECTION:	SHEET 3 OF 4

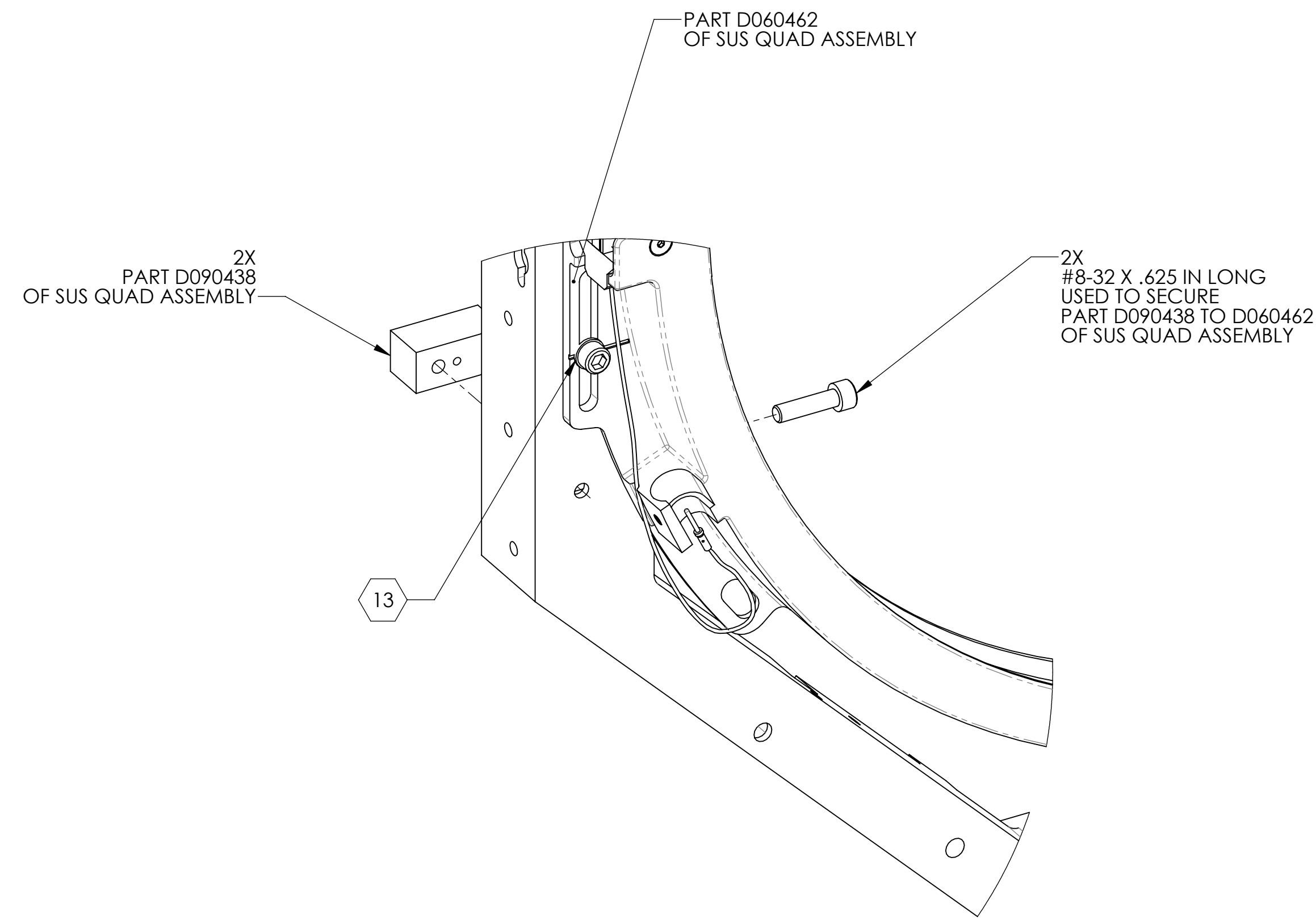
D:\001895\_01\G01\TCS\RING-HEATER LOWER SEGMENT ASSY.PART.PDM REV: X-219.DRAWING PDM REV: X-049





ASSEMBLY D1001517  
WITH CHILD ASSEMBLIES  
D1001518 AND D1001519  
OMITTED FOR CLARITY

SCALE 1:4



2X  
PART D090438  
OF SUS QUAD ASSEMBLY

PART D060462  
OF SUS QUAD ASSEMBLY

2X  
#8-32 X .625 IN LONG  
USED TO SECURE  
PART D090438 TO D060462  
OF SUS QUAD ASSEMBLY

DETAIL J  
SCALE 1 : 1

<b>LIGO</b> CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE DWG. NO.	D1002027	v7
SCALE: 1:2	PROJECTION:	SHEET 4 OF 4

D:\001\_895\_01\GCO\_TCS\_RING\_HEATER\_LOWER\_SEGMENT\_ASSY.PART.PDM.REV.X.126.DRAWING.PDM.REV.X.049