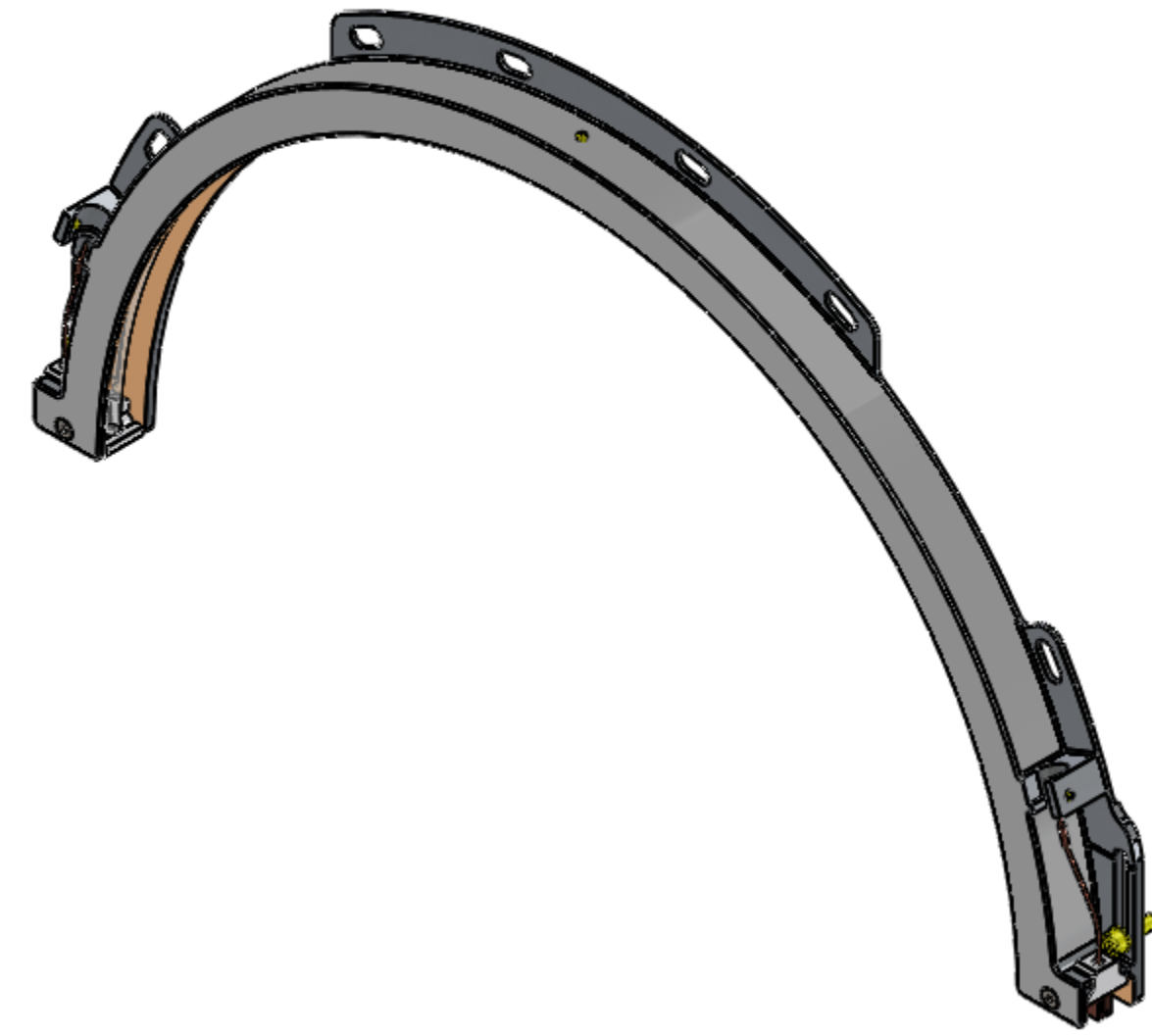
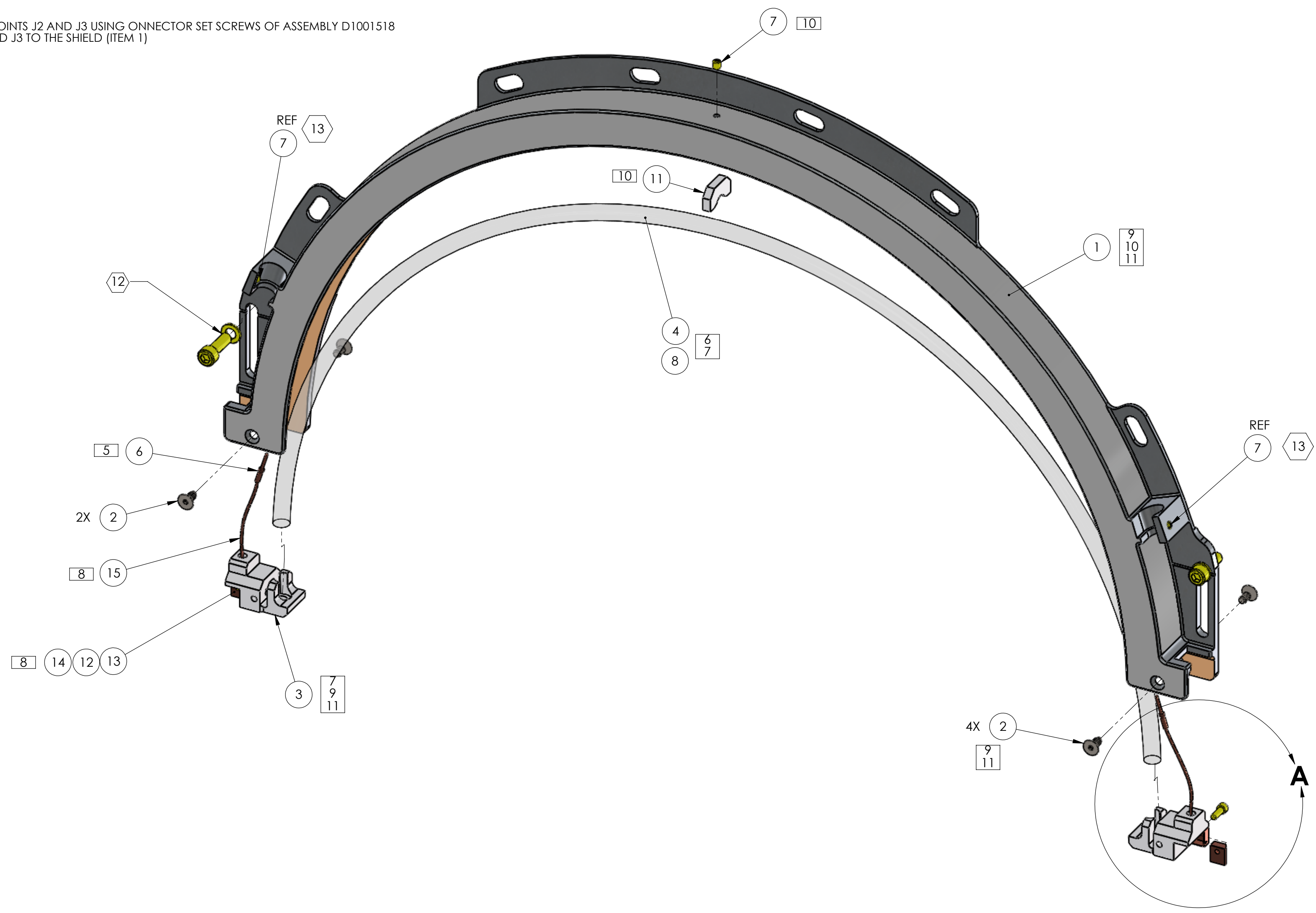


- NOTES CONTINUED:**
- ASSEMBLY SEQUENCE. SEE ALSO LIGO-T1 100123.
- 5 ONE OF ITEM 6 IS CRIMPED TO ONE END OF EACH OF TWO PIECES OF ITEM 15 (EACH CUT TO A LENGTH OF 2.125in)
  - 6 ITEM 8 IS NOT DEPECTED; IT IS PRE-FORMED AND SLEEVED ONTO ITEM 4 PRIOR TO ASSEMBLY.
  - 7 ITEM 4 IS SEATED INTO THESE RETAINERS, ITEMS 3 AND 5.
  - 8 THE FREE ENDS OF ITEMS 8 AND 15 ARE CLAMPED BETWEEN ITEMS 12 & 13 AND 16 & 17 BY TORQUING ITEM 14 TO 2.5 in-lb, MAX.
  - 9 ITEM 1 IS BROUGHT INTO PLACE AND 2X ITEM 2 ARE SECURED -EITHER- INTO ITEM 3 -OR- INTO ITEM 5 (NOT BOTH). MAX TORQUE, ITEM 2, IS 3.5 in-lb
  - 10 ITEM 1 IS PIVOTED ABOUT THIS NEWLY SECURED JOINT SO THAT ITEM 11 CAN BE INSERTED BETWEEN ITEMS 4 AND 1 AT THE MIDSPAN. ITEM 7 IS USED TO SECURE ITEM 11, AS NECESSARY. MAX TORQUE, ITEM 8, IS 5.0 in-lb
  - 11 ITEM 1 IS PIVOTED BACK SO THAT THE OPPOSITE UNSECURED ITEM 3 OR 5 CAN BE SECURED USING 2X ITEM 2 MAX TORQUE, ITEM 2, IS 3.5 in-lb
  - 12 SUBSYSTEM INTEGRATION STEP 1:  
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
  - 13 SUBSYSTEM INTEGRATION STEP 2:  
ITEM 6 IS SECURED INTO EACH OF THE JOINTS J2 AND J3 USING ONNECTOR SET SCREWS OF ASSEMBLY D1001518 ITEM 7 IS USED TO SECURE JOINTS J2 AND J3 TO THE SHIELD (ITEM 1) MAX TORQUE, ITEM 8, IS 5.0 in-lb

REV.	DATE	DCN #	DRAWING TREE #
v1	04-AUG-2010	E1000291-v1	E1000295-v1
v2	16-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	31-MAY-2012	E1100950-v1	E1000295-v9



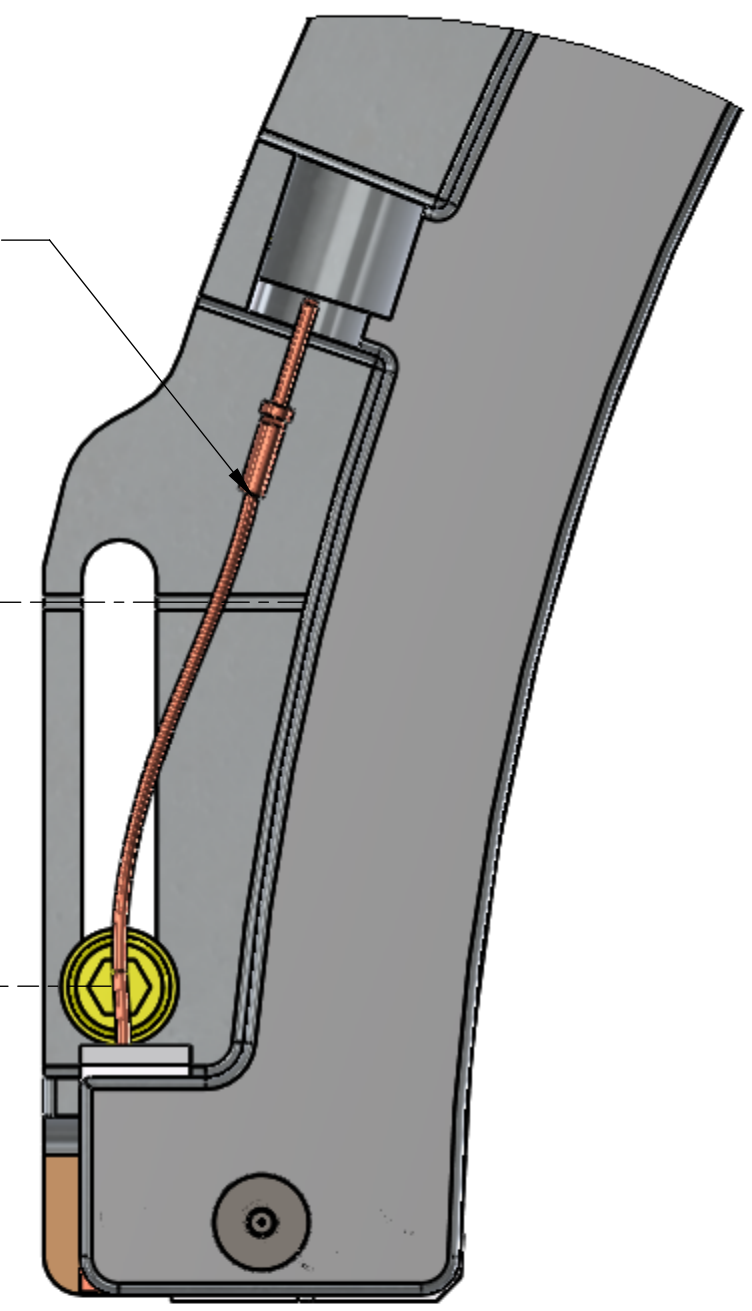
ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	REQ	SPARE	TOTAL
17	D1200560-02	BASE OF Cu CLAMP, RIGHT SIDE	Copper	1	0	1
16	D1200561-02	Cu CLAMP, RIGHT SIDE	Copper	1	0	1
15	100680	22AWG KAPTON INSULATED, Cu SOLID WIRE, ACCUGLASS	Au PLT. SOLID CORE Cu, KAPTON INSULATED	2.125 IN X2	2.125 IN	6.375 IN
14	C-204-N	SHCS, #2-56 UNF-2A X 0.25 LONG, UC COMPONENTS	18-8 SS	2	1	3
13	D1200560-01	BASE OF Cu CLAMP, LEFT SIDE	Copper	1	0	1
12	D1200561-01	Cu CLAMP, LEFT SIDE	Copper	1	0	1
11	D1002545	SIMPLIFIED RH ELEMENT STANDOFF	MACOR CERAMIC	1	0	1
10	WFV-08	FLAT VENTED WASHER, #8, UC COMPONENTS	18-8 SS	2	2	4
9	C-812	SHCS, #8-32 X .75 LONG, VENTED, UC COMPONENTS	18-8 SS	2	2	4
8	MM 8880K52	24AWG NICHROME WIRE, PRE-CUT	CHROMEL-C	20 FT	10 FT	30 FT
7	T-402	SCREW, SOCKET SET, #4-40 UNC-2A X 0.125 LONG	18-8 SS	3	1	4
6	100170	20-24 AWG ACCUGLASS PIN CONTACT, MALE	AU-PLATED Cu	2	2	4
5	D1002544-01	RH ELEMENT CONNECTOR, SIMPLIFIED RIGHT	MACOR CERAMIC	1	0	1
4	D1002538	SIMPLIFIED GLASS FORMER	GLASS, ANNEALED	1	0	1
3	D1002543-01	RH ELEMENT CONNECTOR, SIMPLIFIED LEFT	MACOR CERAMIC	1	0	1
2	FA-404	VENTED SS 18-8 FSHCS #4-40 UNC-2A x .25 LG, UC COMPONENTS	18-8 SS	4	2	6
1	D1001679	αLIGO TCS UPPER MONOLITHIC RH SHIELD	6061 Alloy	1	0	1
PARTS LIST						

DIMENSIONS ARE IN INCHES TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± °		<b>NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)</b> 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.		CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		<b>PART NAME</b> αLIGO TCS RING HEATER ASSY, UPPER SEGMENT									
<b>MATERIAL</b> N/A		<b>FINISH</b> N/A μinch		<b>SYSTEM</b> ADVANCED LIGO		<b>SUB-SYSTEM</b> AOS		<b>DESIGNER</b> M. JACOBSON 29 JUL 2010		<b>SIZE</b> D		<b>DWG. NO.</b> D1001838		<b>REV.</b> v6	
<b>ANGULAR</b> ± °		<b>FINISH</b> N/A μinch		<b>NEXT ASSY</b> D1002027		<b>CHECKER</b> M. JACOBSON 20-MAR-2012		<b>APPROVAL</b> D. COYNE 20-MAR-2012		<b>SCALE:</b> 1:2		<b>PROJECTION:</b>		SHEET 1 OF 4	

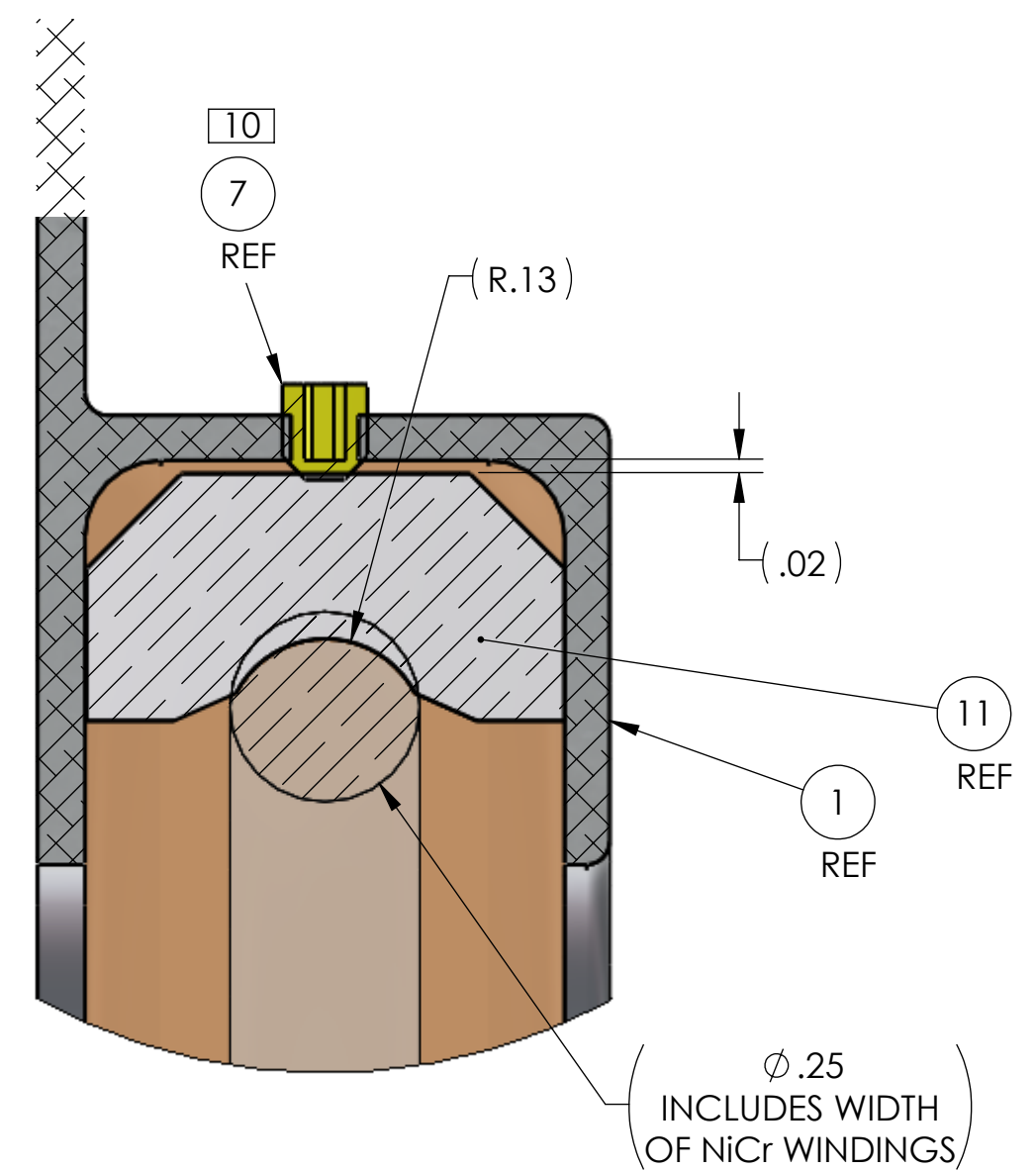
D1001838 αLIGO TCS SUPERSEGMENT RING HEATER ASSY, PART PDM REV: 3-206, DRAWING PDM REV: X-064

5  
CRIMP TOOL #100190  
USED TO SECURE ITEMS 6 & 15

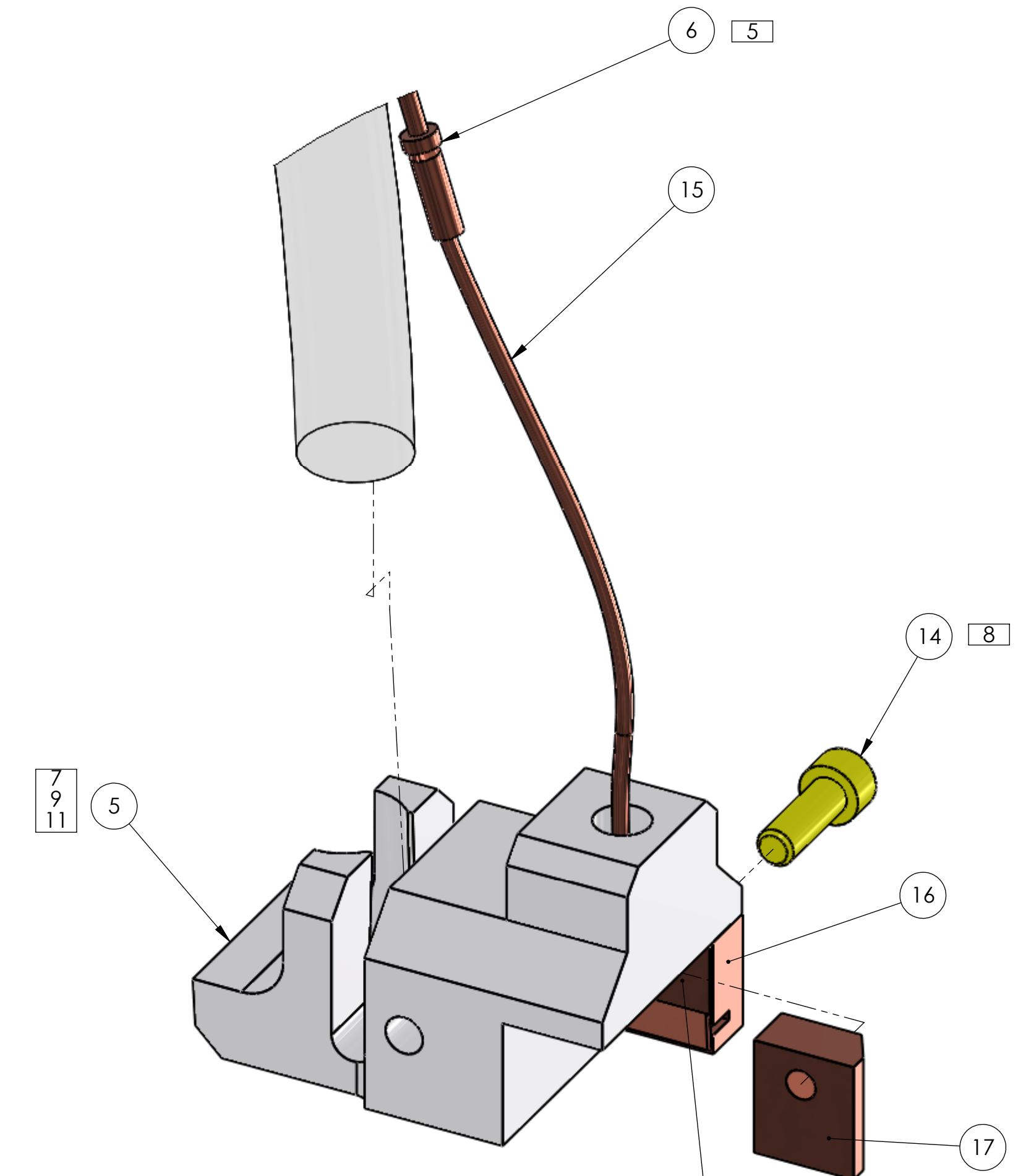
SETS "CLOSED" POSITION  
1.00  
"OPEN" POSITION



**DETAIL B  
SCALE 2 : 1**

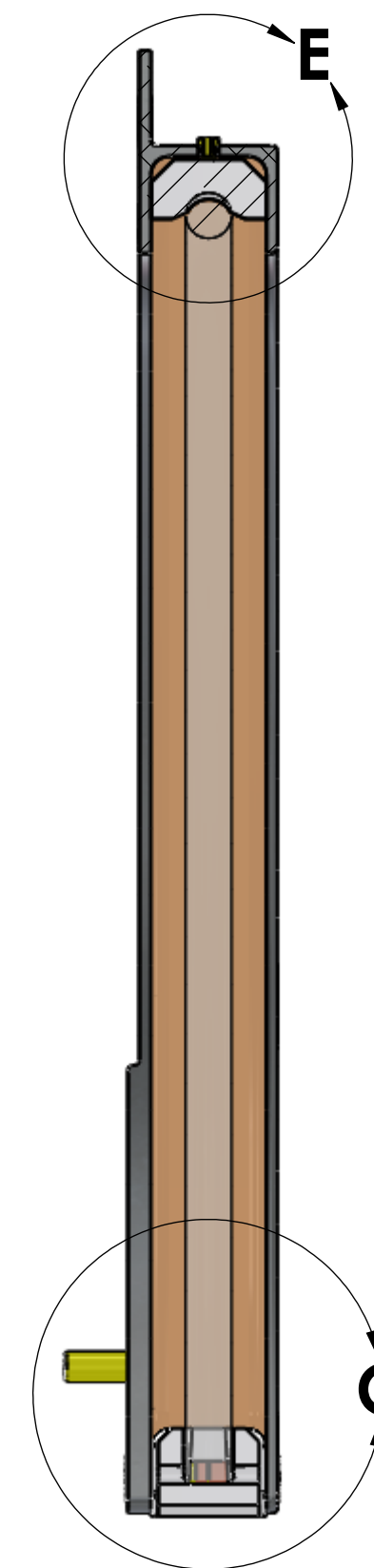
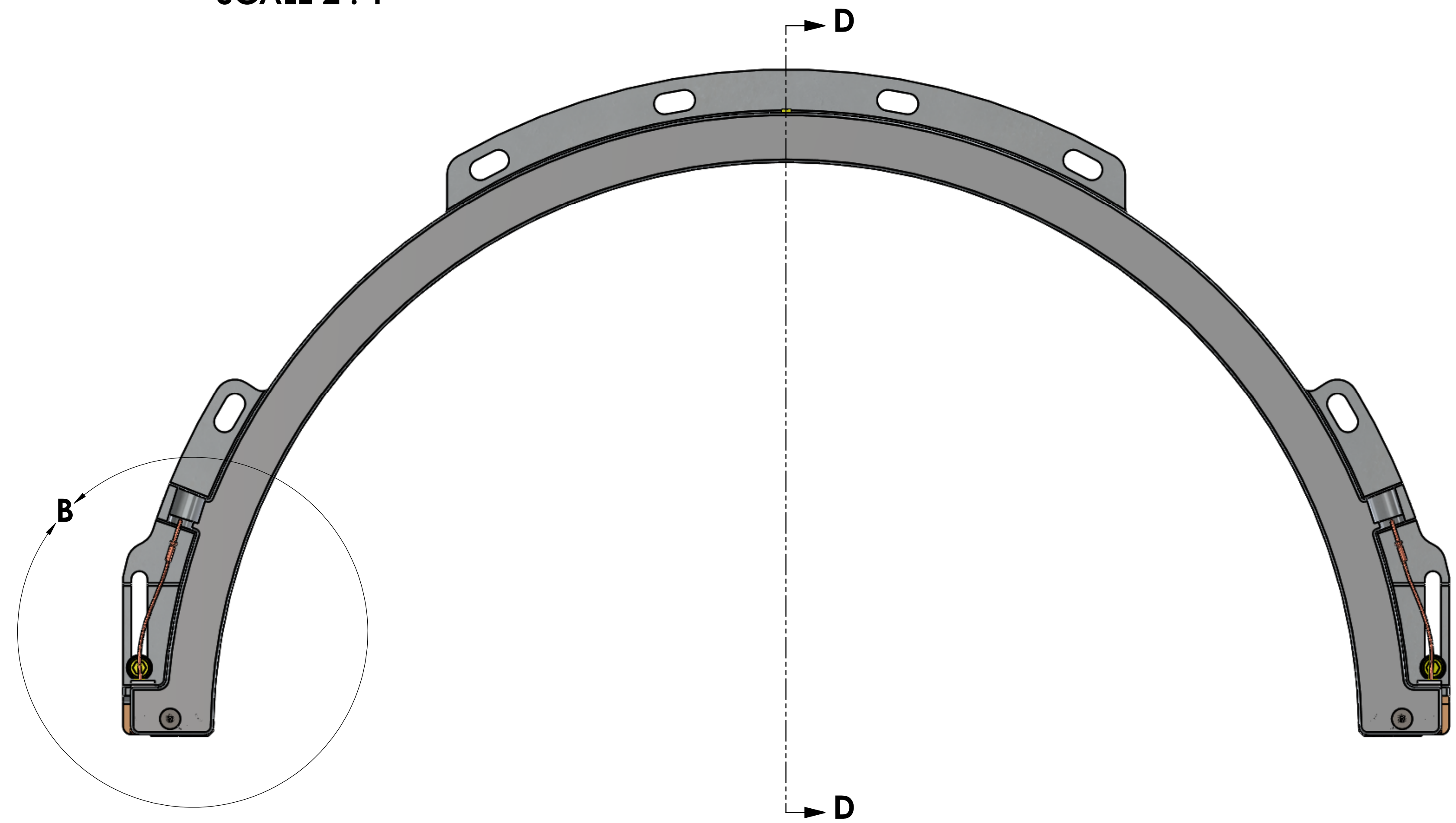


**DETAIL E  
SCALE 4 : 1**



FREE END OF ITEM 15  
TO BE CLAMPED BETWEEN ITEMS 16 & 17  
BESIDE SHANK OF ITEM 14

**DETAIL A  
SCALE 4 : 1**



SEE SHEET 3

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

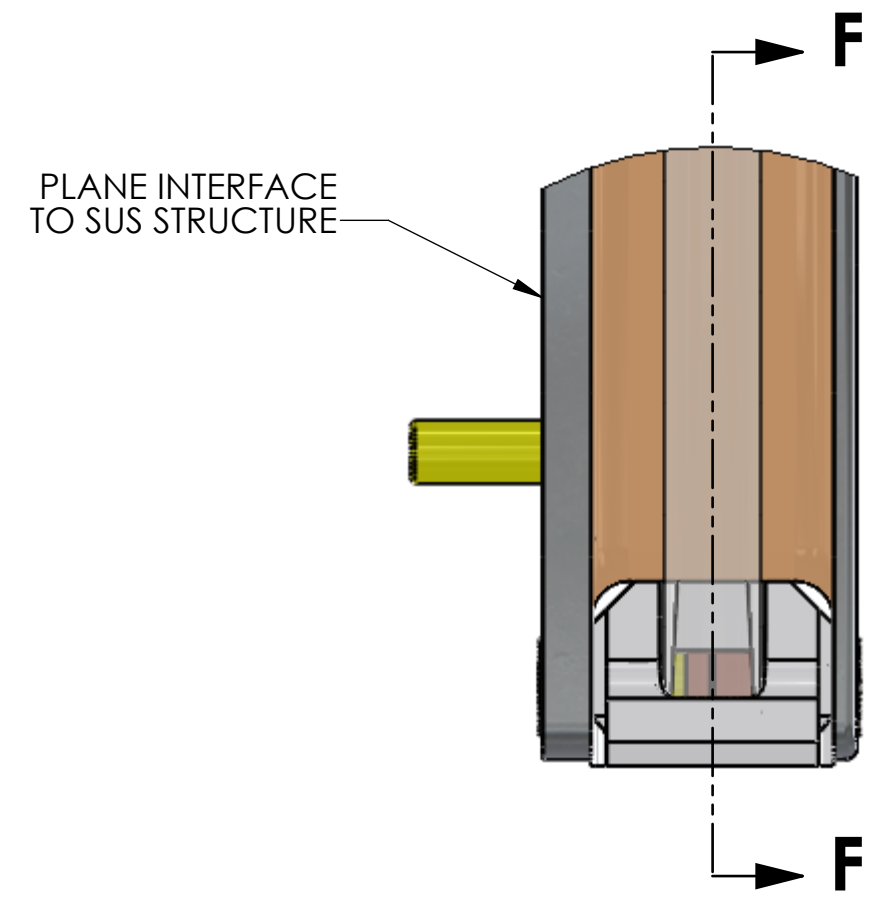
<b>LIGO</b> CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE DWG. NO.	D1001838	V6
SCALE: 1:2	PROJECTION:	SHEET 2 OF 4

D1001838\_01 LIGO TCS SUPERSEGMENT RING HEATER ASSY. PART FDM REV. 3-206. DRAWING FDM REV. X-064

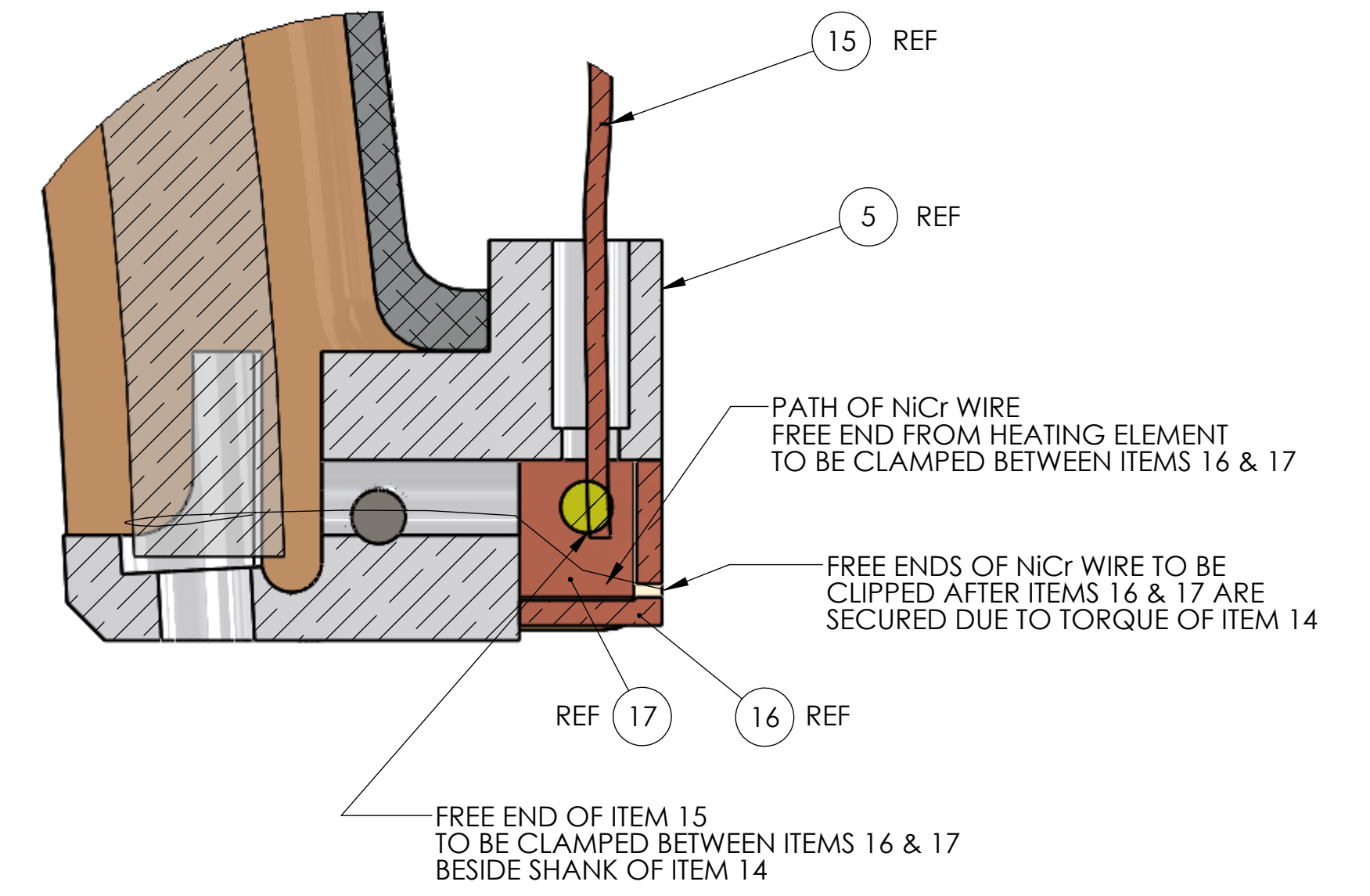
8 7 6 5 4 3 2 1

H  
G  
F  
E  
D  
C  
B  
A

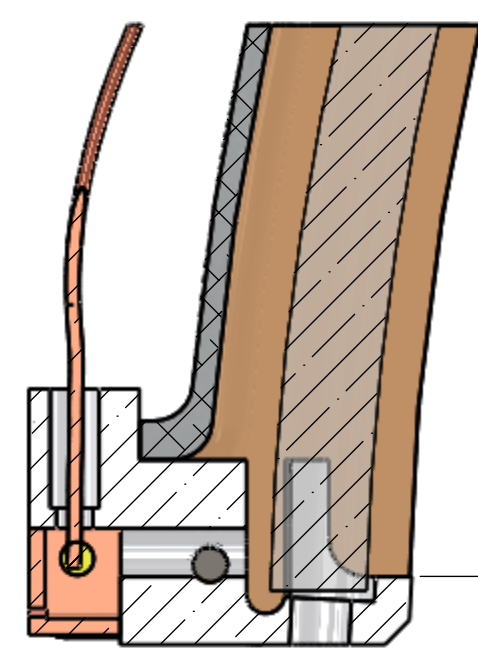
H  
G  
F  
E  
D  
C  
B  
A



**DETAIL C**  
SCALE 2 : 1



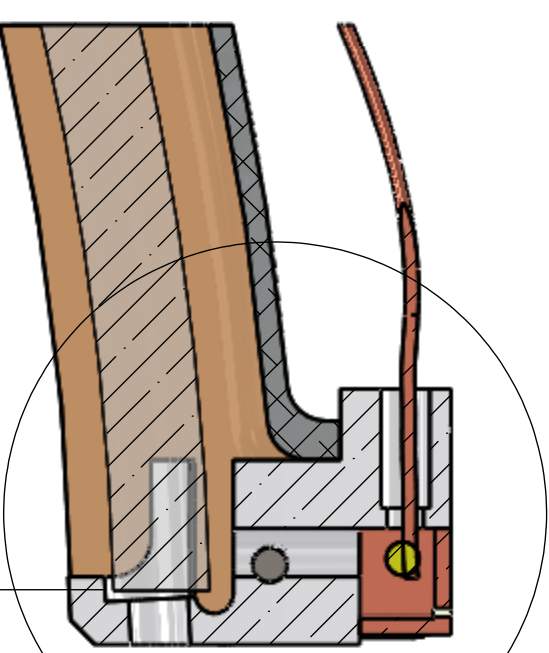
**DETAIL G**  
SCALE 4 : 1



SEE ALSO  
DETAIL E  
OF SHEET 2

(.035)

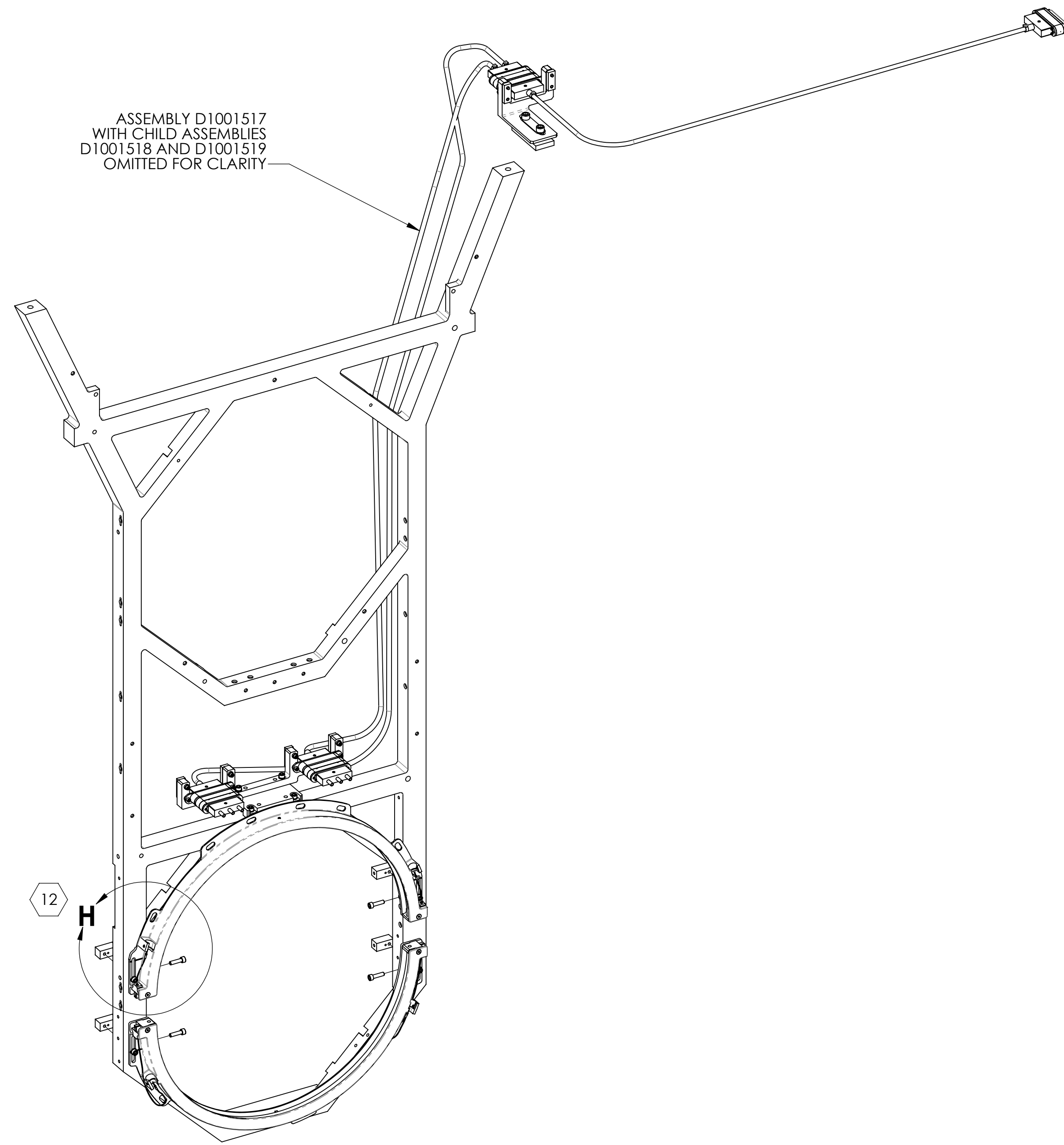
**SECTION F-F**  
SCALE 2 : 1



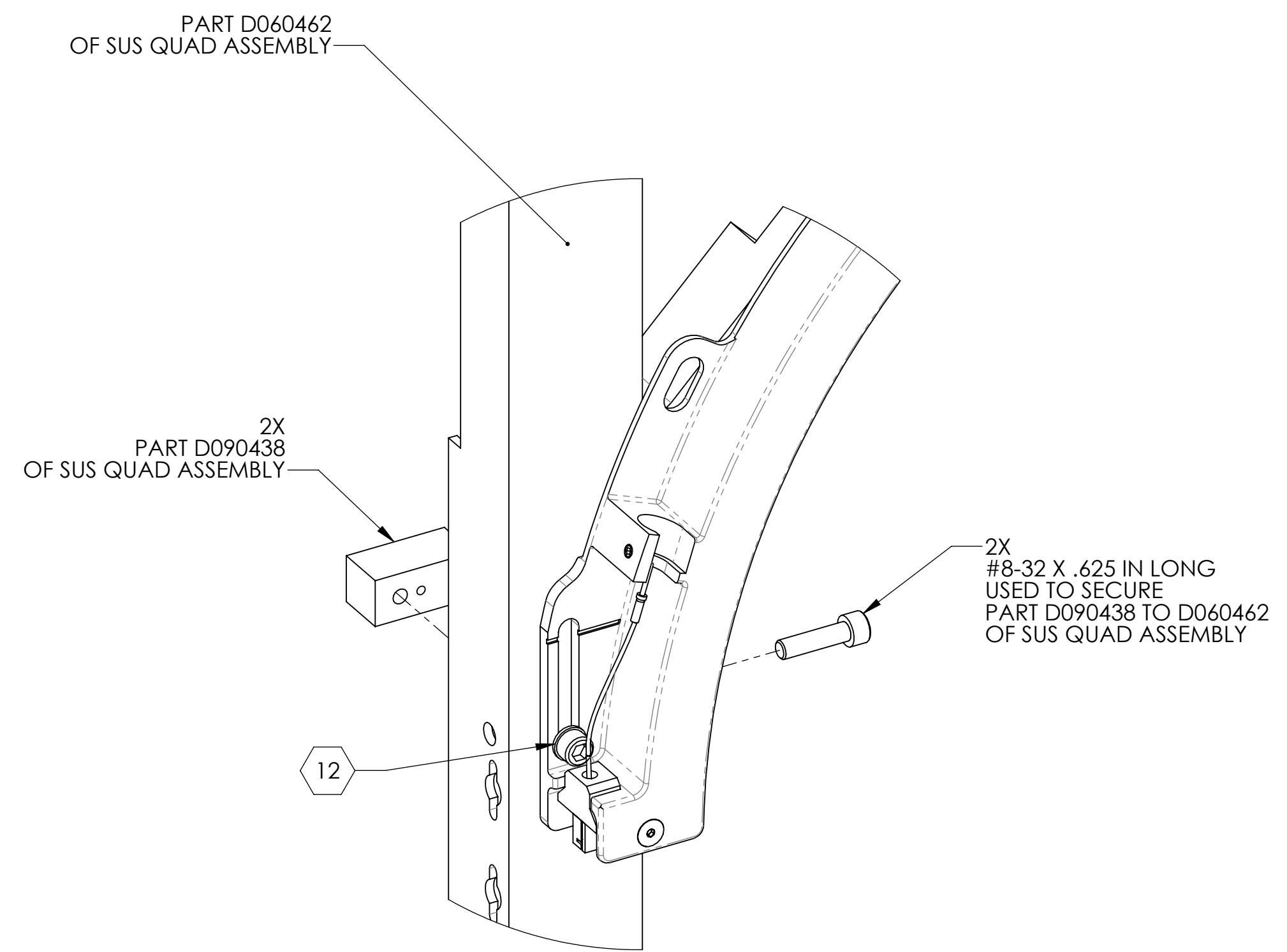
<b>LIGO</b> CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
SIZE	DWG. NO.	REV.
D	D1001838	V6
SCALE: 1:2	PROJECTION:	SHEET 3 OF 4

8 7 6 5 4 3 2 1

D:\001838\_d1001838\_SUPERSEGMENTRING\_HEATER\_ASSY\_PARR\FDM\REV\X-206\_DRAWING\FDM\_REV\_X-064



SCALE 1:4



DETAIL H  
SCALE 1:1

CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		REV.
SIZE	DWG. NO.	REV.
D	D1002027	V6
SCALE: 1:2	PROJECTION:	SHEET 4 OF 4

D:\001688\_d\UGO\TCS\SUPERSEGMENTRING HEATER ASSY\_PARR\FDM\REV.X-111\_DRAWING\FDM\_REV.X-064