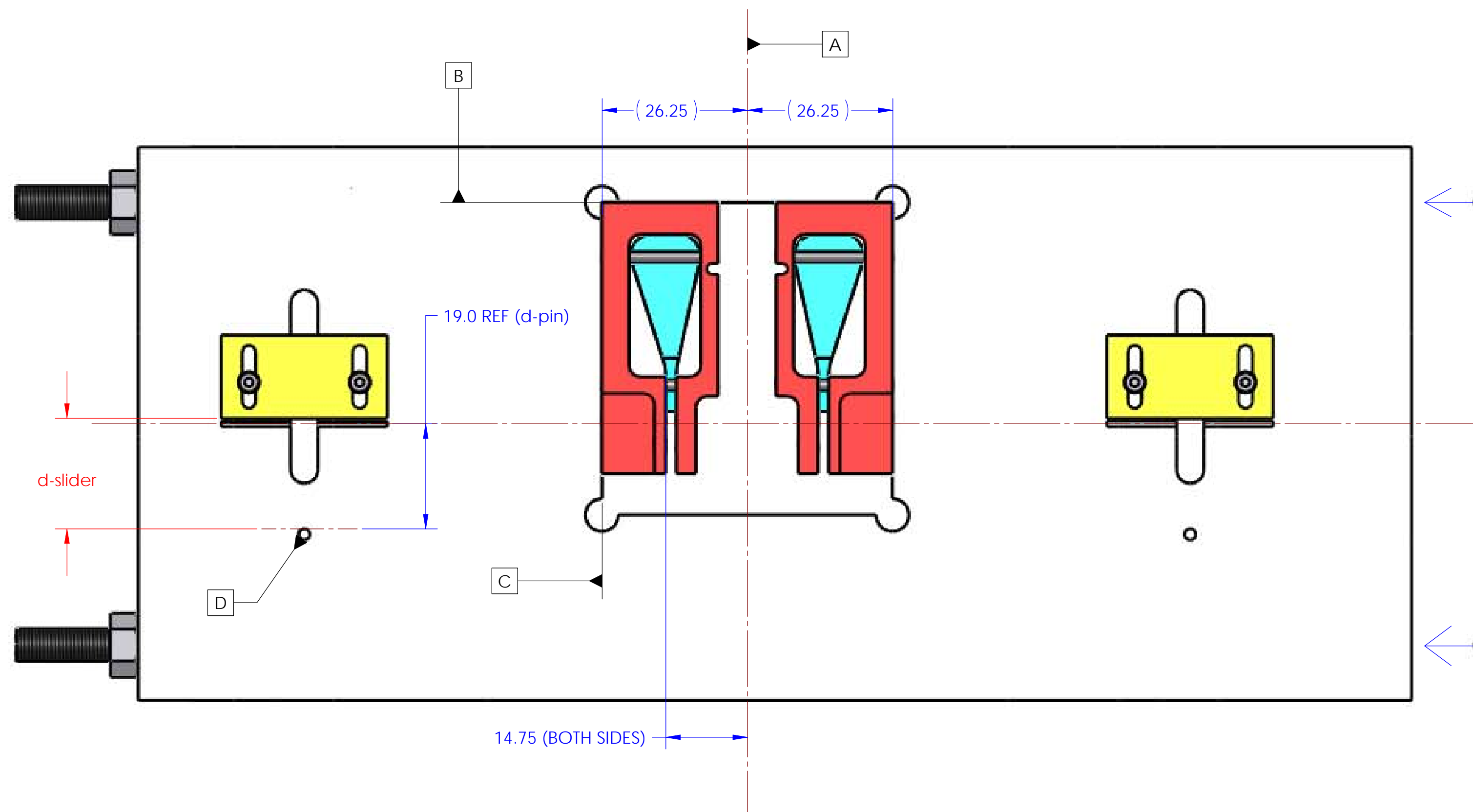
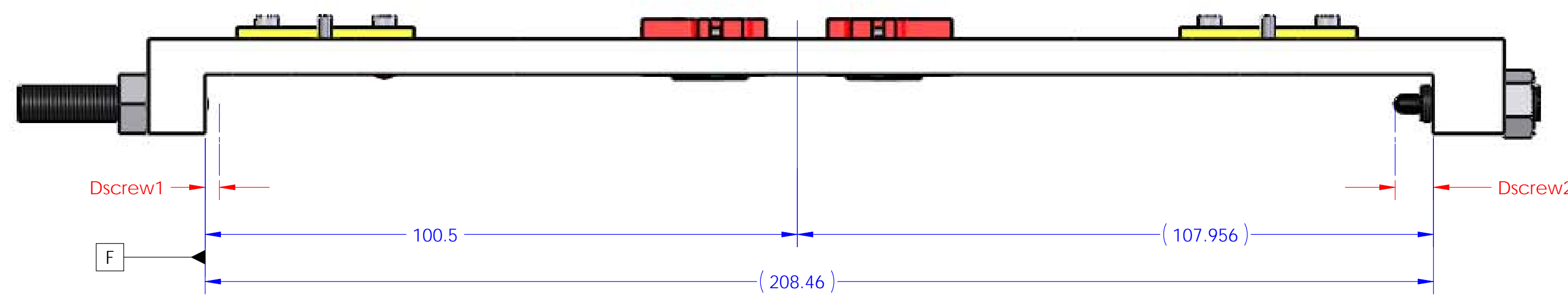


REV.	DATE	DCN #	DRAWING TREE #
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01	OCT07	ADDED SHEET TO EXPLAIN PM PRISM BONDING STEP (R.JONES)	
02	NOV08	ADDED SHEET TO EXPLAIN ADDITION OF PRISM TO LASTI OPTIC (D040431) TO FACILITATE A PSEUDO-MONOLITHIC SUSPENSION WITH METAL BREAK-OFF PRISMS. (GLASGOW SUS TEAM)	

WHEN BONDING, THE CENTRAL DATUM AXIS OF MASS MUST BE ALIGNED AS COINCIDENT WITH THE CENTRAL DATUM AXIS OF THE TEMPLATE (DATUM -A-)

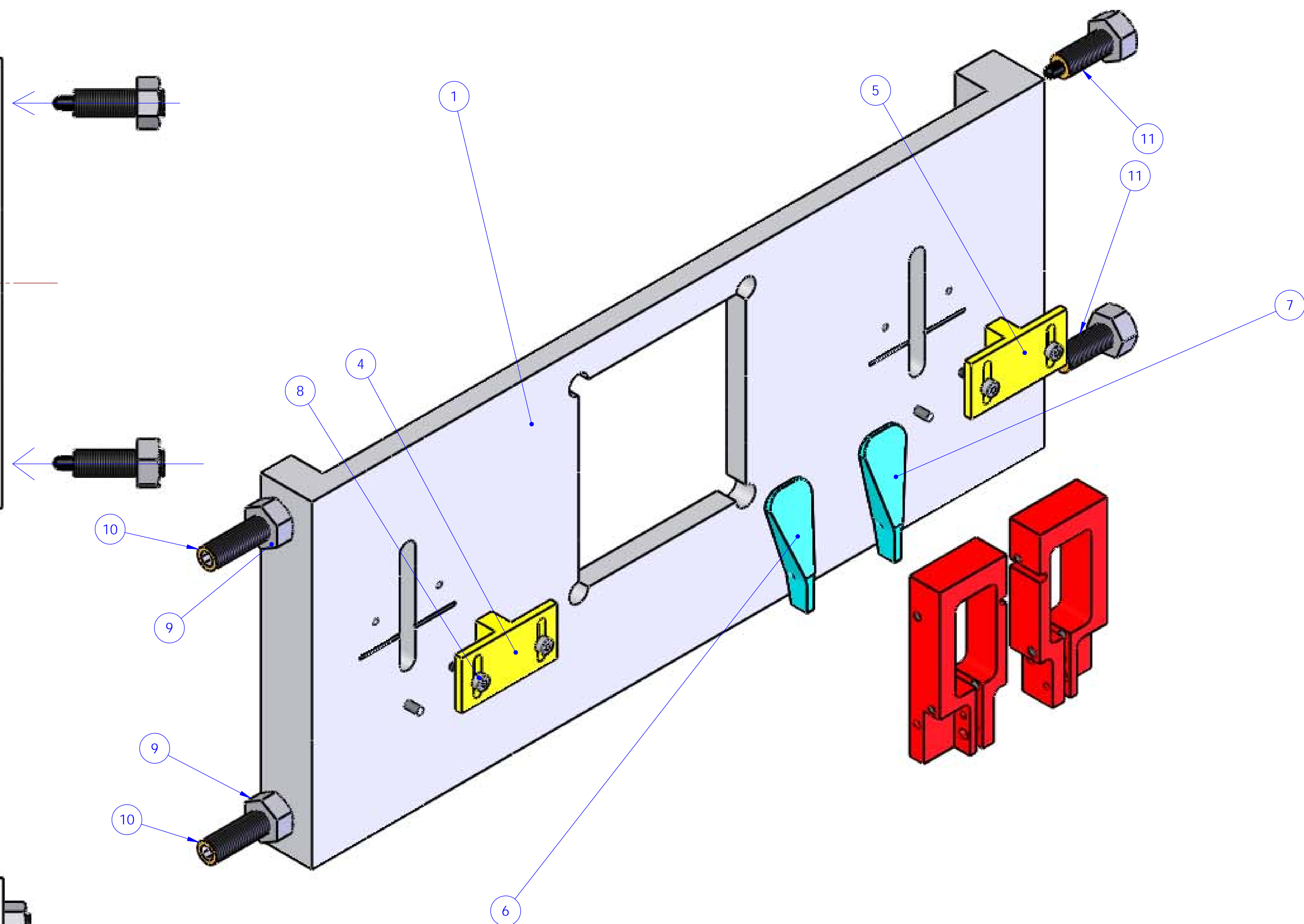


PLAN VIEW:- BONDING JIG AS IT WOULD BE VIEWED WHEN IN USE

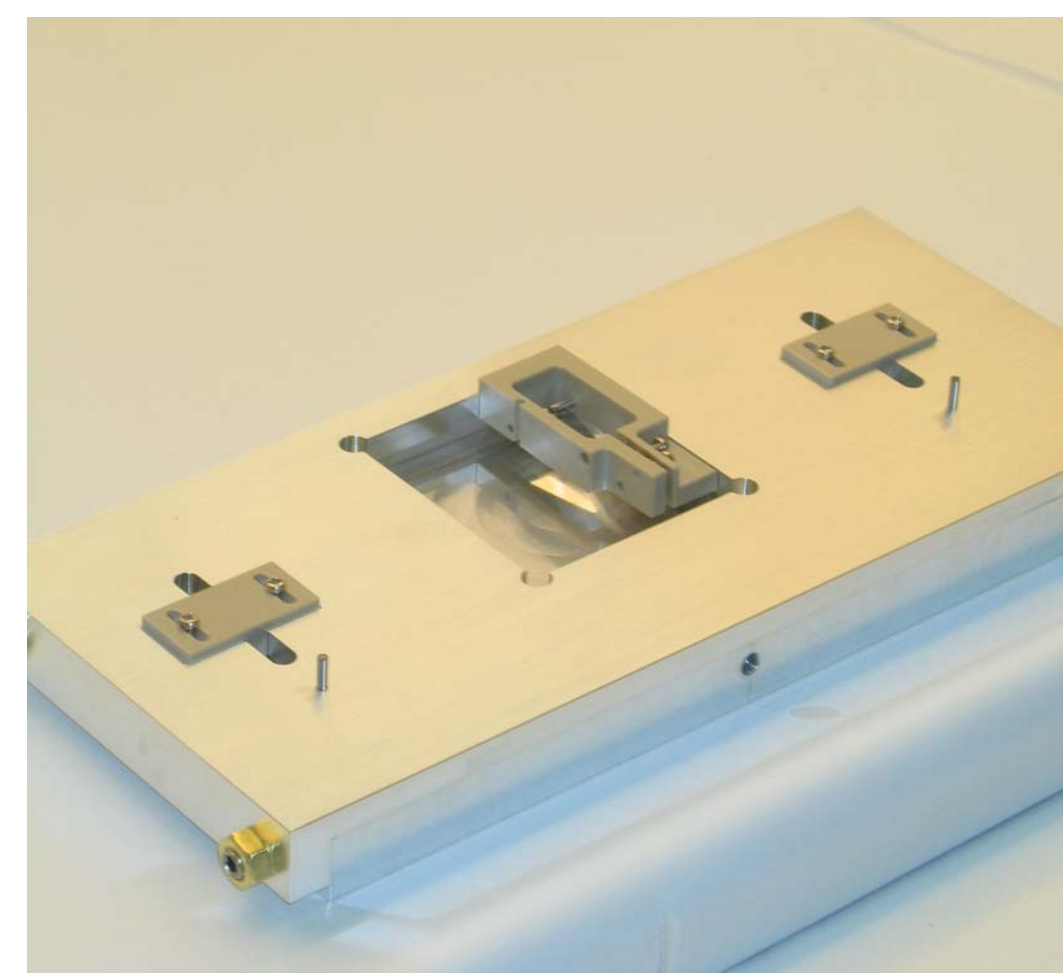


**LIST OF DATUMS ON TEMPLATE:**

- A (IMPLIED) alignment axis of template. To be coincident with central (vertical) axis of flats on mass.
- B upper reference edge for ear holder
- C side reference edge for ear holder
- D measurement pin - to correct template position for a given flexure point
- E surface on ear parallel and opposite to bonding surface)
- F datum surface when setting up template to interface with mass, F is 100.5 mm from A.



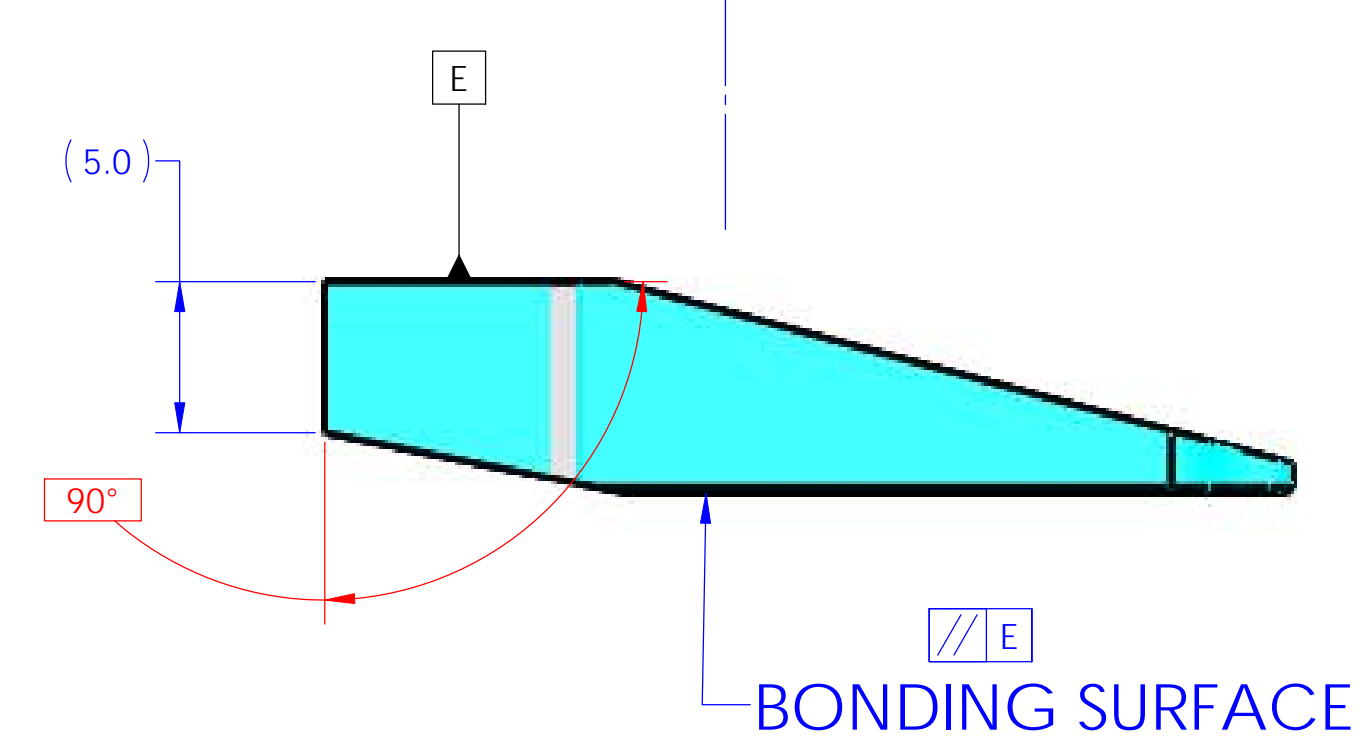
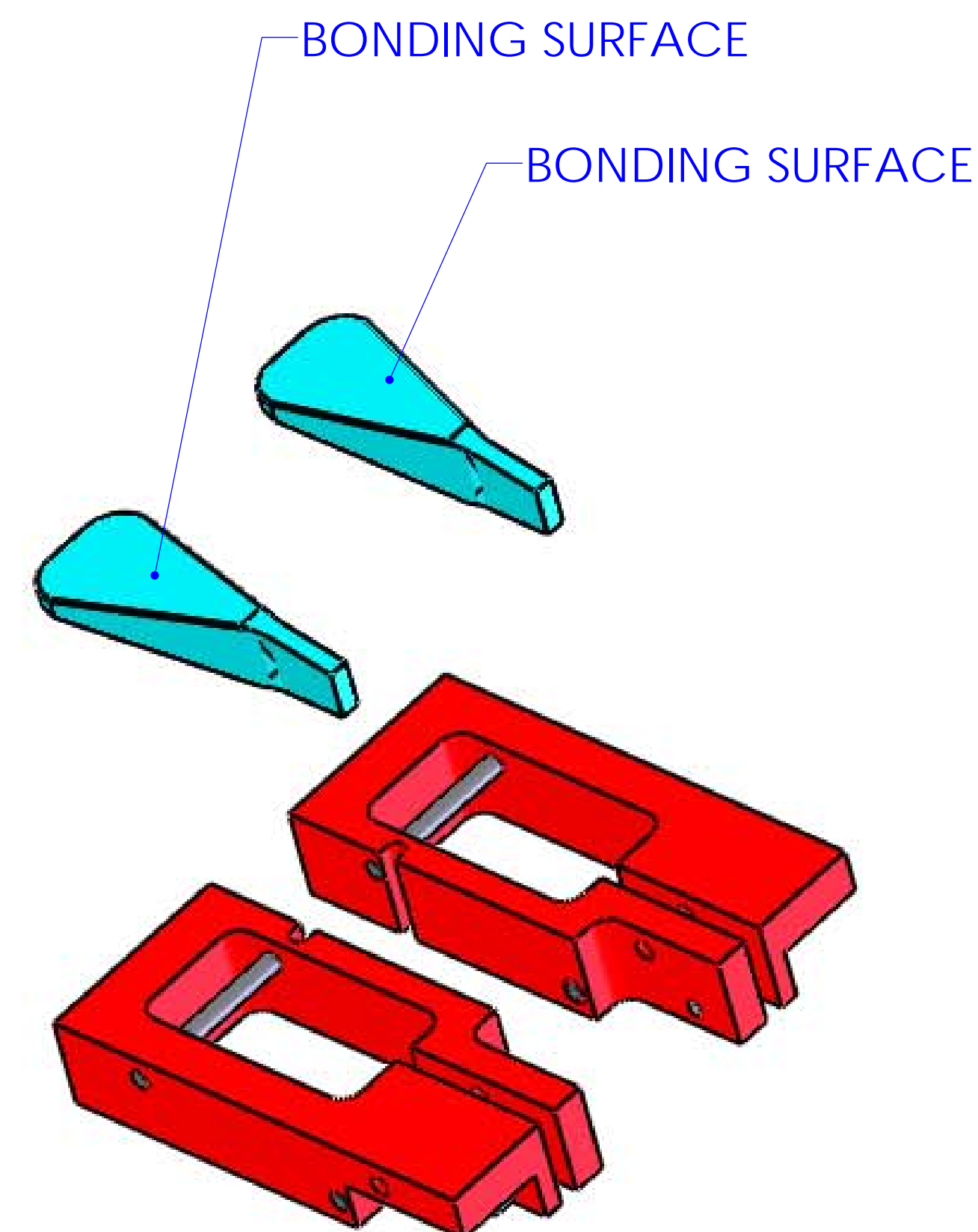
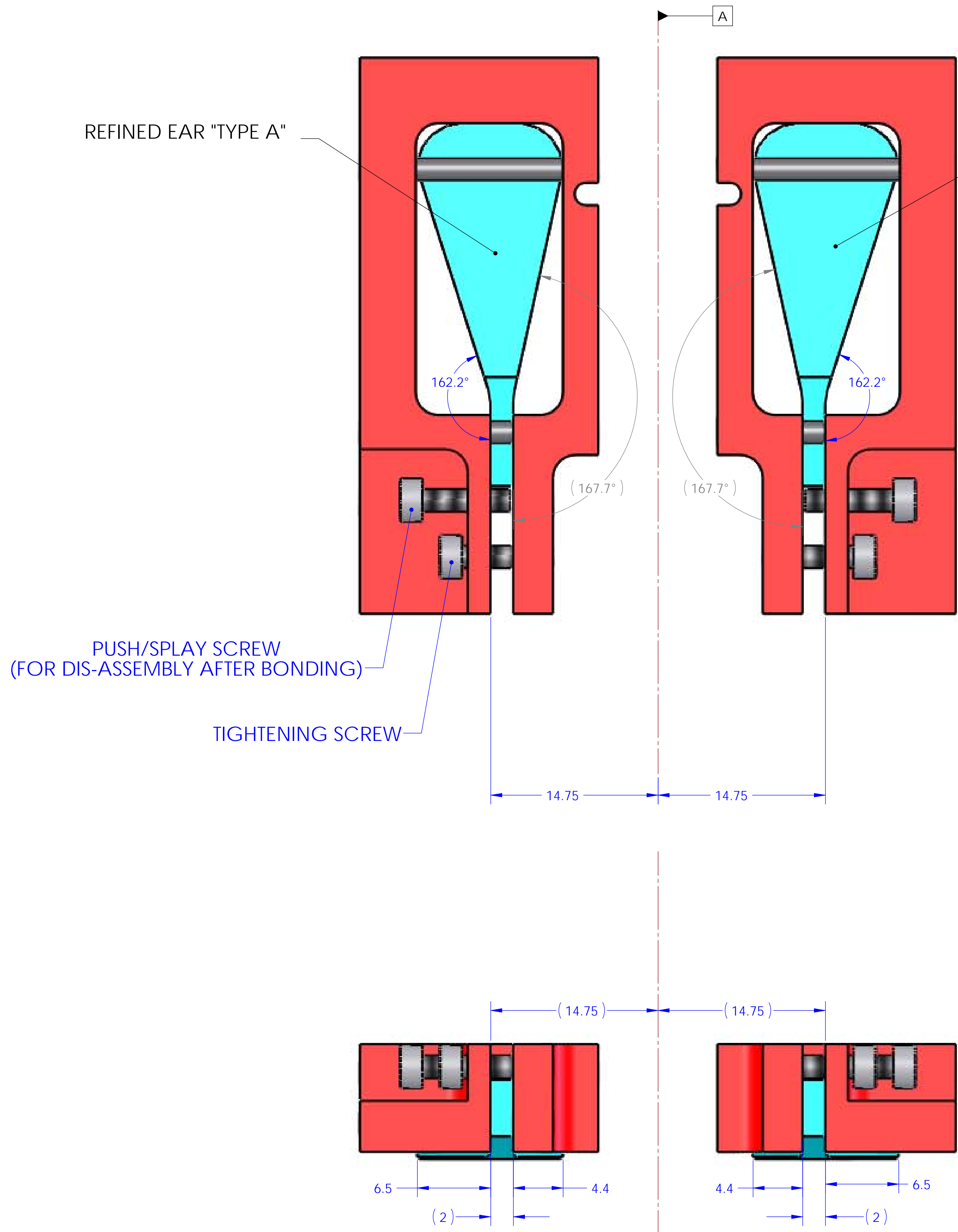
EXPLODED ISOMETRIC VIEW



ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	TD-1084-711-1	BASE PLATE	1
2	TD-1084-715_1-1	steel ball bearing	1
3	TD-1084-715_2-1	steel ball bearing	1
4	T_PIECE-1		1
5	T_PIECE_1-1		1
6	D060055_Refined Ear (Type A)	Refined Ear (Type A)	1
7	D060056_Refined Ear (Type B)	Refined Ear (Type B)	1
8	SST SOCKET HEAD CAP SCREW M2 X 8 LONG		4
9	M6 SST HEX NUT -DIN 934 (OR EQUIV.)		4
10	M6 ballended setscrew		2
11	M6_spring pin end setwcrew		2
12	TD-1084-712-1		1
13	TD-1084-712B-1		1

PARTS LIST			
NOTES: (UNLESS OTHERWISE SPECIFIED)			
1. DO NOT SCALE FROM DRAWING.			
2. SUPPORT DRAWINGS FOR ASSEMBLY ACTIVITY ONLY.			
DIMENSIONS ARE IN MILLIMETERS		LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY	
TOLERANCES:		MSS MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
X ±0.1		IGR. GLASGOW UNIVERSITY GEO 600 GROUP	
ANGULAR ± 0.5 °		SYSTEM ALIGO	
MATERIAL		SUB-SYSTEM SUS	
FINISH		NEXT ASSY ETM NP-type (GLASS MASS)	
PART NAME			
EAR BONDING JIG GA			
NAME	DATE	DWG. NO.	REV.
R.JONES	AUG07	D	02
CHECKED:	DATE:	SCALE:	PROJECTION:
APPROVED:		1:1	

REV.	DATE	DCN #	DRAWING TREE #
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**IDENTIFYING THE BONDING SURFACE:**

- LOOK CLOSELY AT THE 2mm WIDE EXTENDED LENGTH (FOR WELDING)
  - IDENTIFY THE 90° CORNER
  - THE BONDING FLAT IS OPPOSITE AND PARALLEL TO -E- (above)

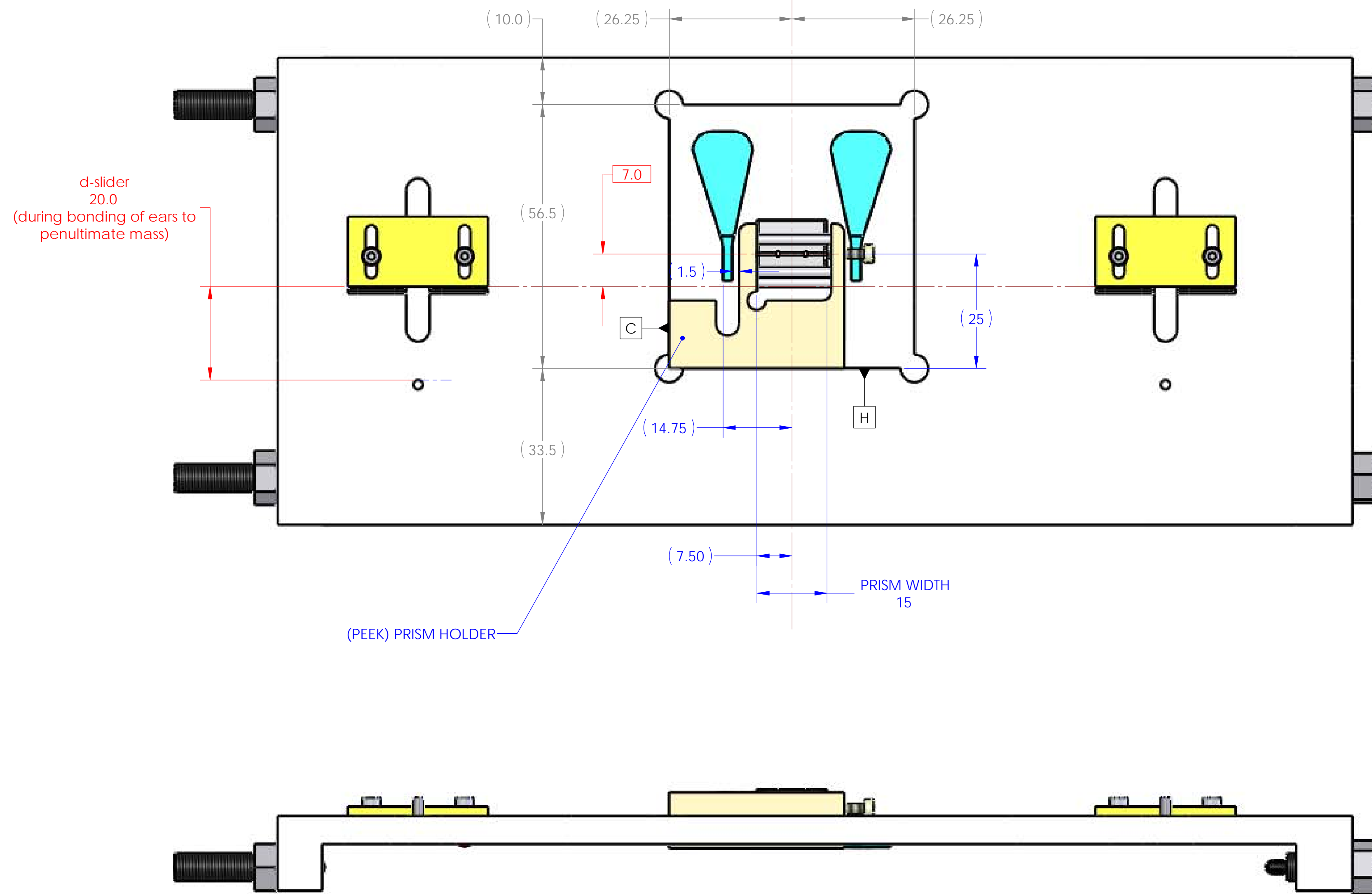
THE CENTRAL DATUM AXIS (DATUM -A-) ALSO HELPS IDENTIFY THE SUBTLE DIFFERENCE BETWEEN REFINED EAR "TYPE A" AND "TYPE B". CONSIDER DATUM -A-, AS AN AXIS OF SYMMETRY: "TYPE B" IS THE MIRROR IMAGE OF "TYPE A" ABOUT THAT AXIS.

NOTES: (UNLESS OTHERWISE SPECIFIED)		PARTS LIST	
1. DO NOT SCALE FROM DRAWING.		DIMENSIONS ARE IN MILLIMETERS	
2. SUPPORT DRAWINGS FOR ASSEMBLY ACTIVITY ONLY.		TOLERANCES: X ± 0.1 ANGULAR ± 0.5 °	
		MATERIAL: SUS	
		NEXT ASSY: ETM NP-type (GLASS MASS)	
		PART NAME: EAR BONDING JIG GA	
		DRAWN: R.JONES	
		DATE: AUG07	
		SIDE: D	
		DWG. NO.: D070391	
		REV. 02	
		SCALE: 1:1	
		PROJECTION: 1st Angle	
		SHEET 2 OF 4	

# BONDING OF PRISMS TO NP-type PENULTIMATE MASSES

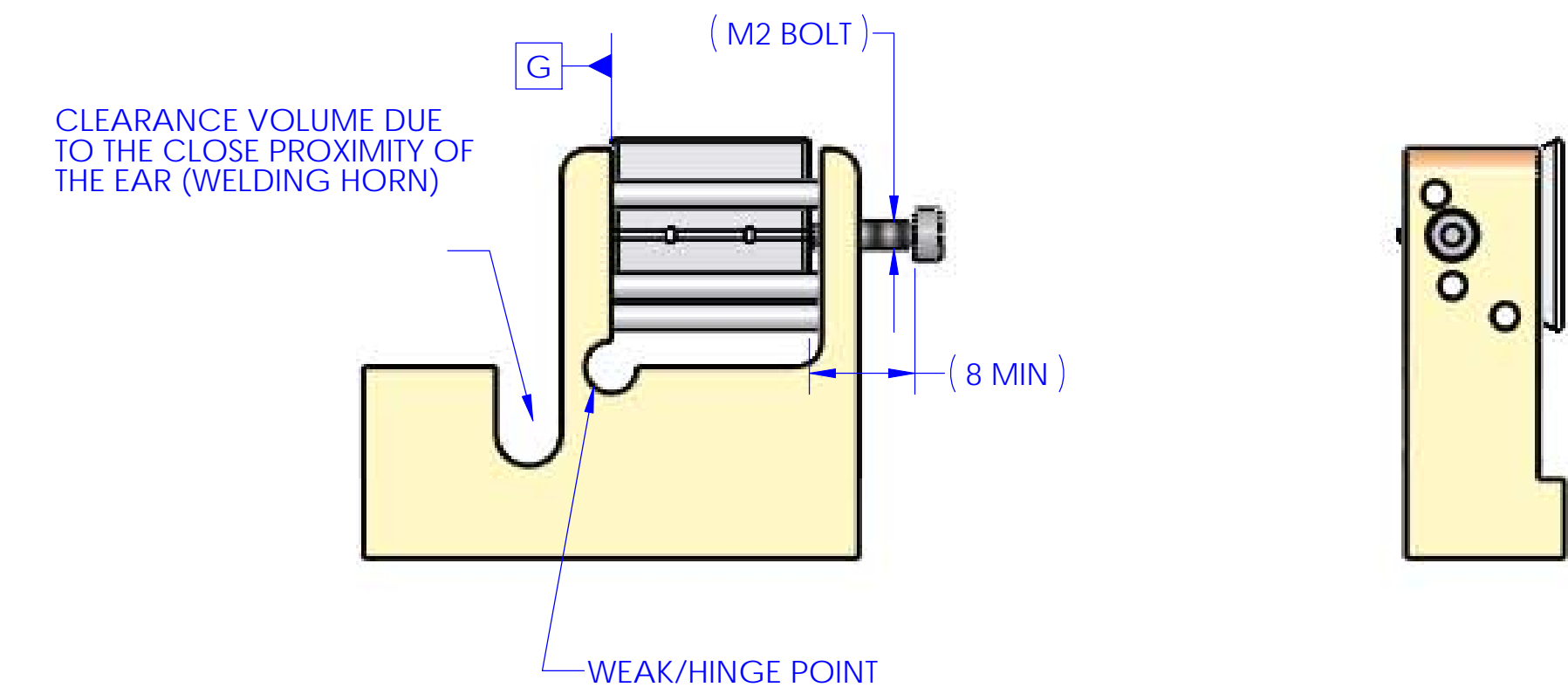
REV.	DATE	DCN #	DRAWING TREE #
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PLAN VIEW:- BONDING JIG AS IT WOULD BE VIEWED WHEN IN USE



## ASSEMBLY/DISASSEMBLY TIPS - THE HOLDER:

- LOAD PRISM INTO HOLDER WHEN HOLDER IS INVERTED
- ALLOW PRISM TO SLIDE UNTIL ALIGNED WITH REFERENCE SURFACE (DATUM -G- BELOW)
- USE GRIPPING BOLT TO HOLD PRISM IN PLACE. THE BOLT SHOULD HAVE A TIP OF AN APPROPRIATE MATERIAL OR GEOMETRY SUCH THAT THE SURFACE OF THE PRISM IS NOT LOADED IN AN UNDESIRABLE MANNER. (E.G. TEFLON TIP?)
- BE CAREFUL NOT TO OVER-TORQUE THE BOLT CAUSING A DEFLECTION OF THE REFERENCE SURFACE (-G-)
- ONCE THE PRISM BOND HAS CURED, DIS-ASSEMBLY SHOULD BE RELATIVELY STRAIGHTFORWARD. RETRACT THE BOLT, AND LIFT THE HOLDER CAREFULLY AWAY. THE HOLDER HAS A WEAK POINT SUCH THAT THE HOLDER CAN BE PRISED APART IF THE PROCESS PROVES TROUBLESOME.
- NOTE ALSO THAT THE M2 BOLT USED IN THE HOLDER, SITS VERY CLOSE TO THE TOP SURFACE OF THE RIGHT HAND EAR, SO EXTREME CARE SHOULD BE TAKEN AT EACH STAGE TO MINIMISE RISK OF DAMAGE TO THE EAR

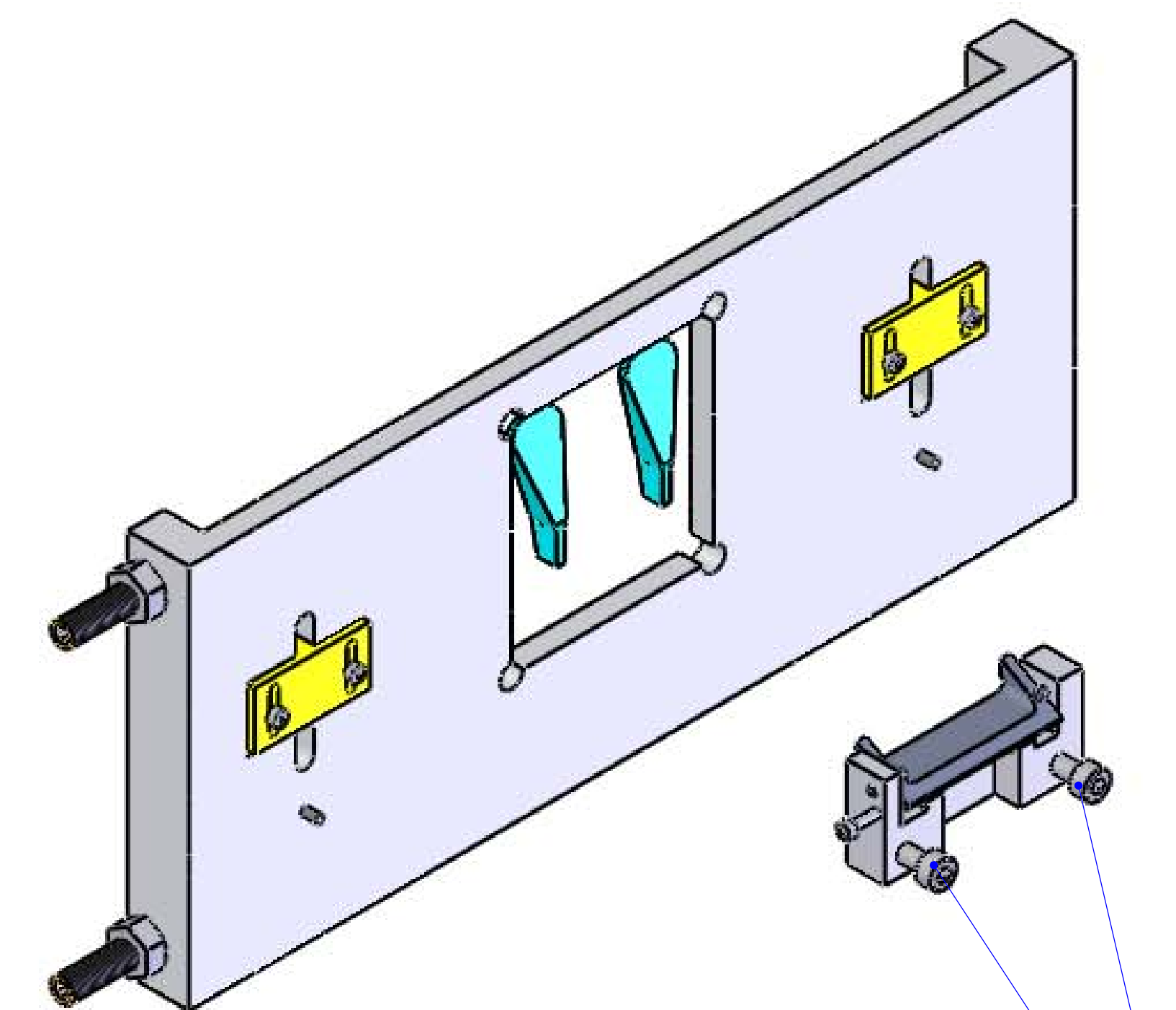
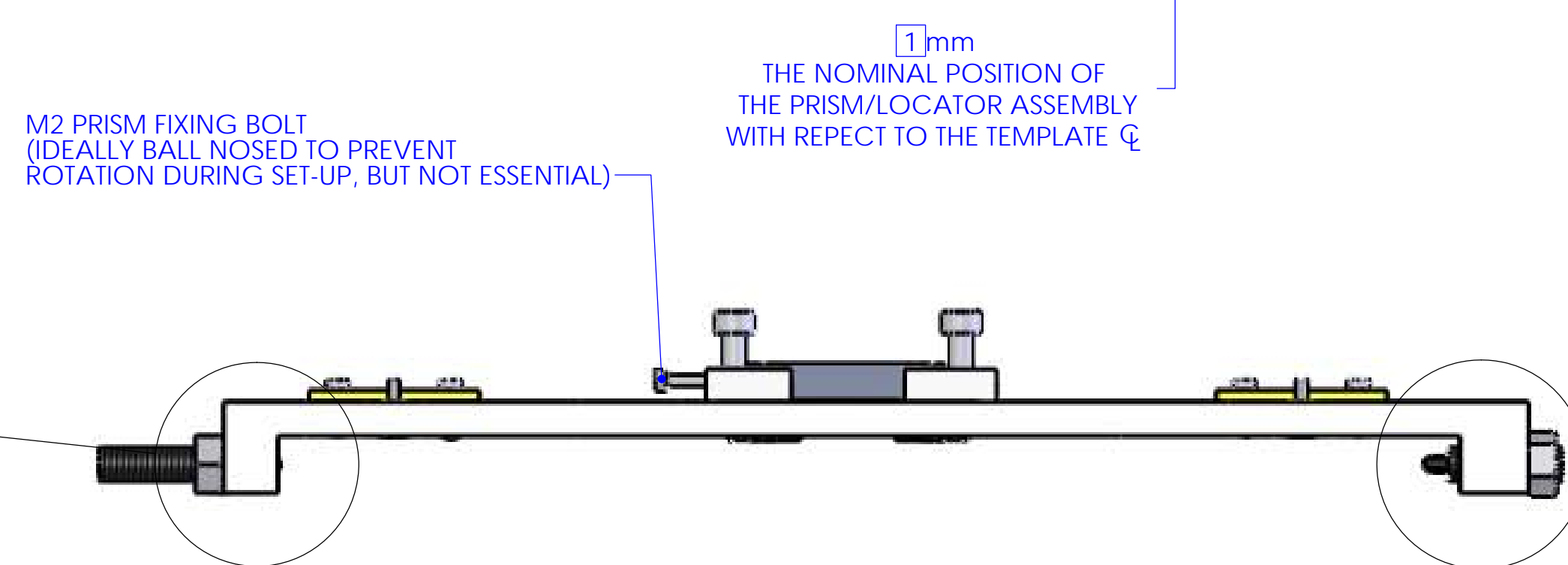
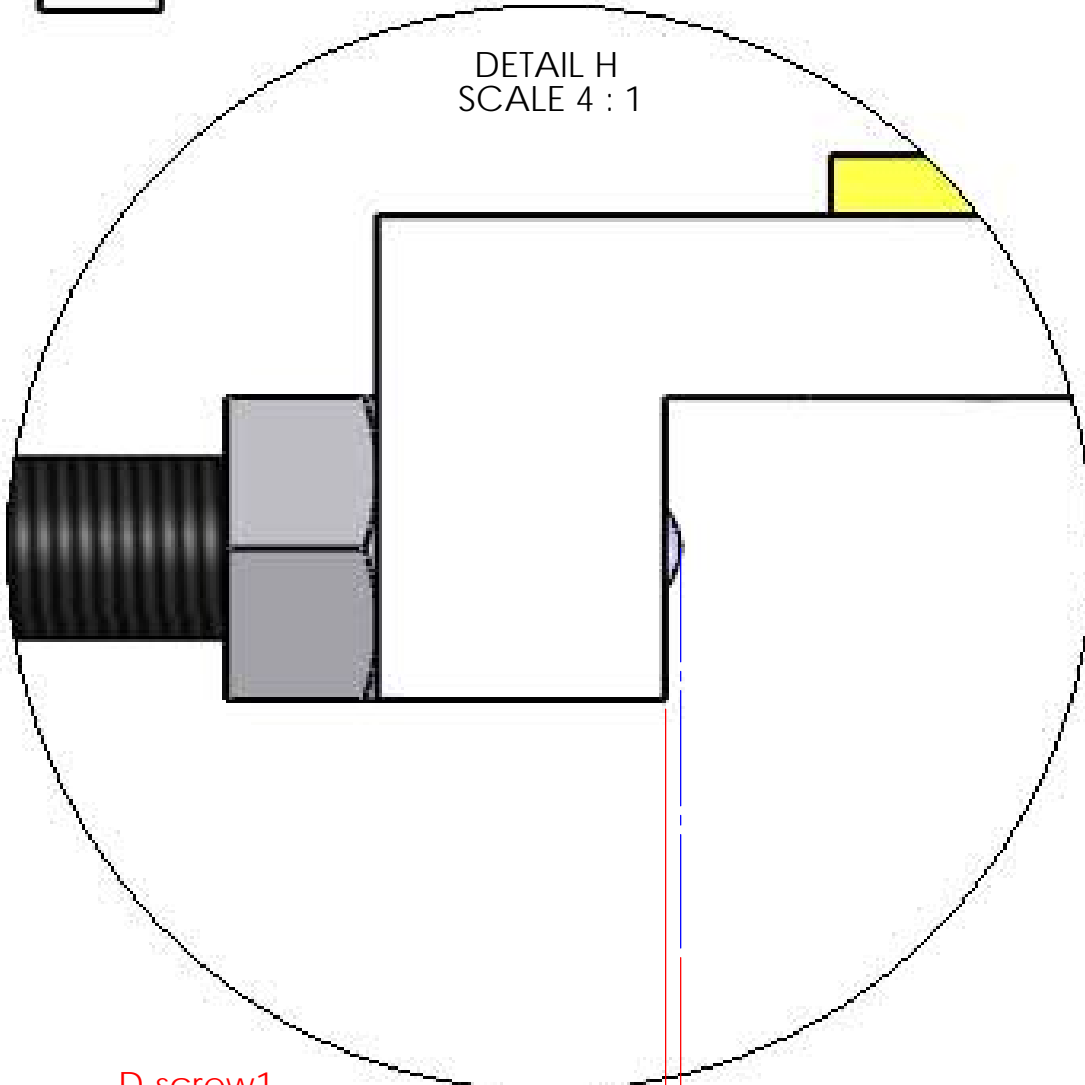
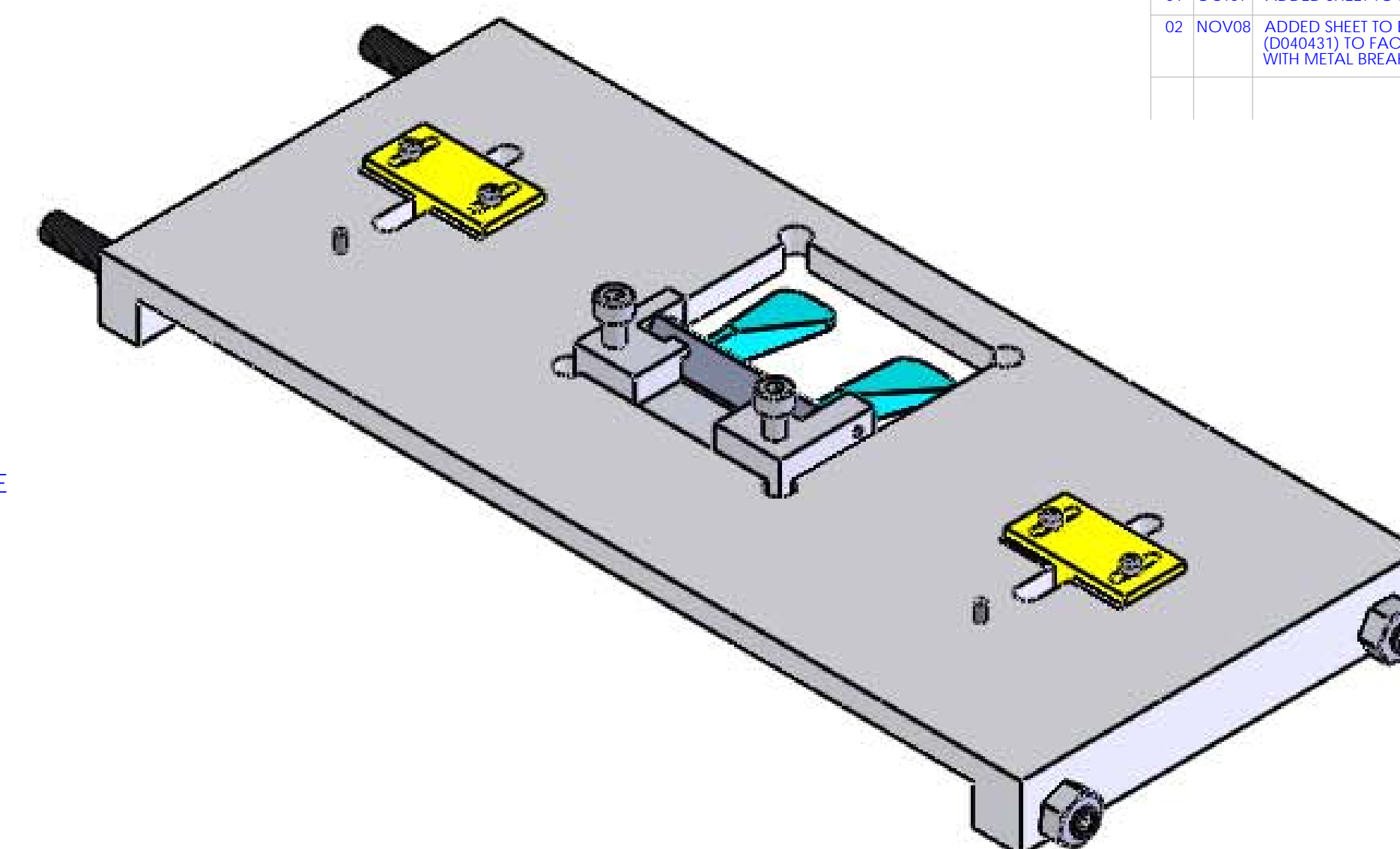
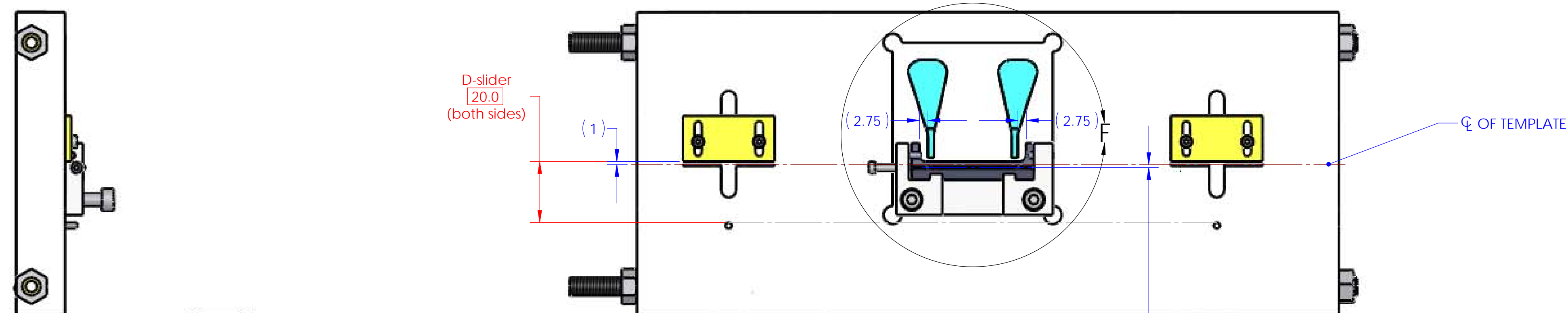


## ADDITIONAL NOTES:

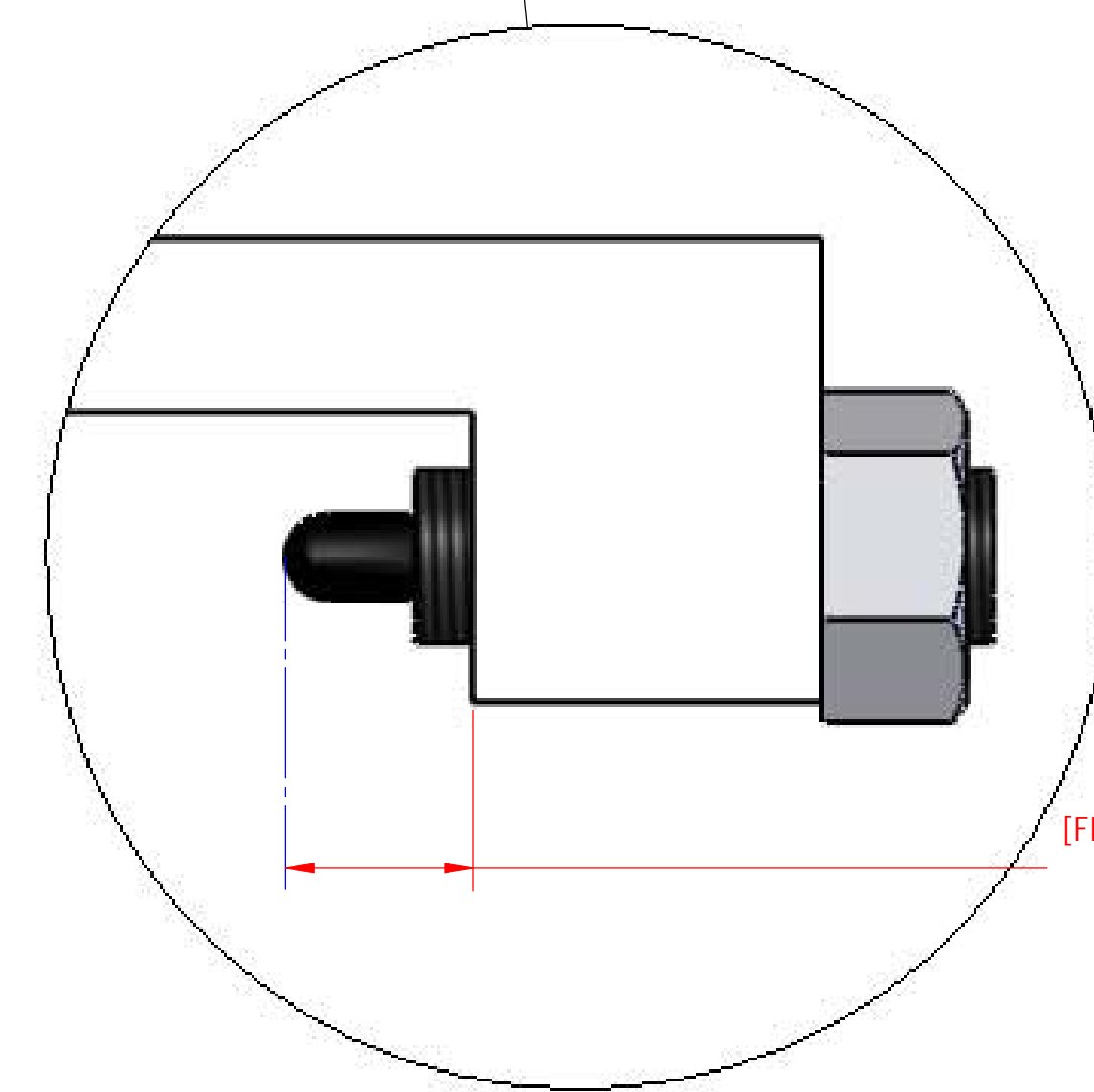
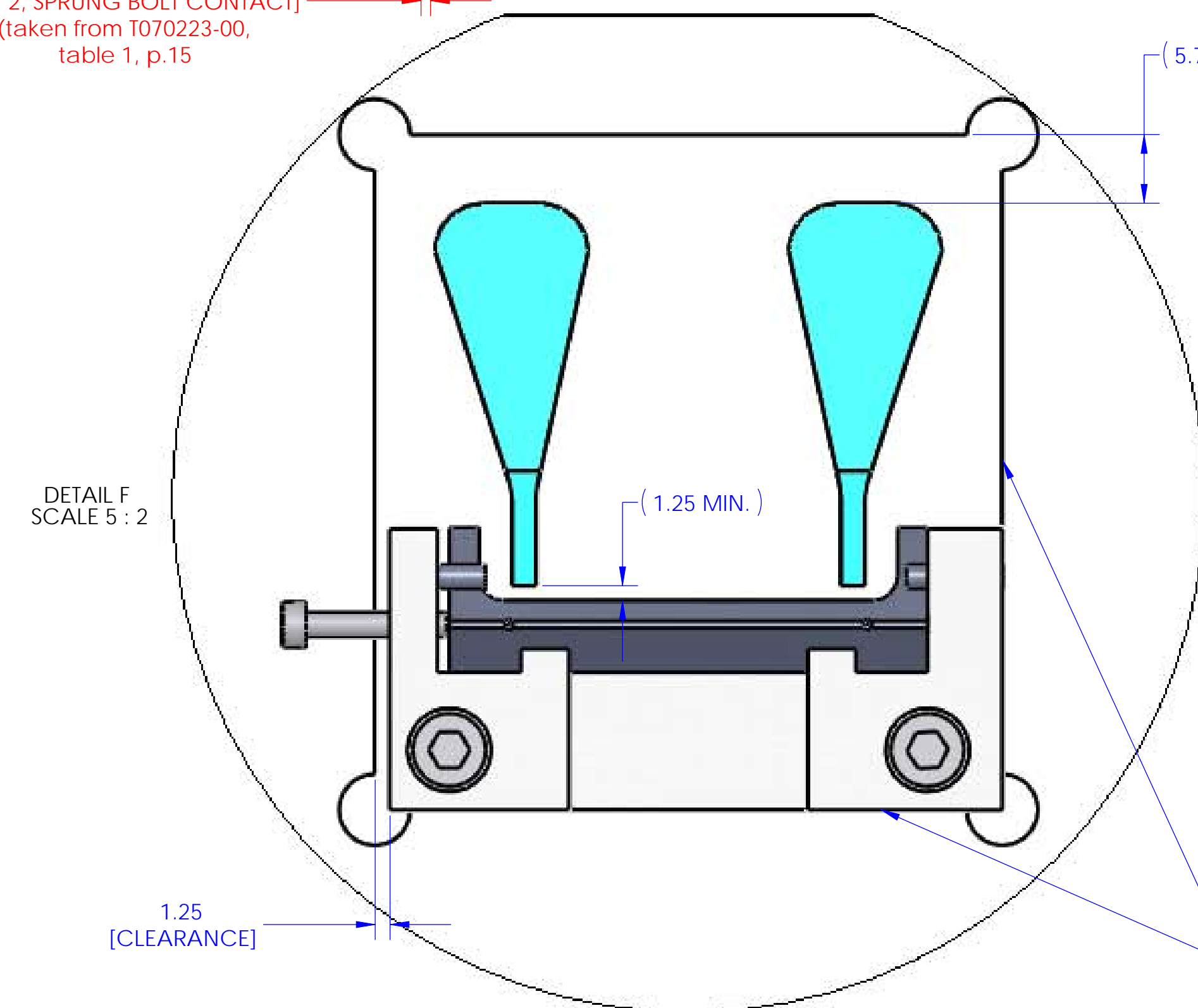
- DATUM -C- AND DATUM -H-, AS SHOWN IN THE PLAN VIEW ABOVE, ARE USED AS THE REFERENCES WHEN POSITIONING THE PRISM HOLDER DURING BONDING
- THE DRAWING ABOVE SHOWS THE HIGHEST POSSIBLE POSITION (TO ACHIEVE MAXIMUM 'd2') OF THE PRISM GIVEN THE POSITIONS OF THE EARS ON THE NP-type PENULTIMATE MASSES. THIS POSITION DOES NOT TAKE INTO ACCOUNT EAR MISALIGNMENTS (VERTICAL).

NOTES: (UNLESS OTHERWISE SPECIFIED)		PARTS LIST	
1. DO NOT SCALE FROM DRAWING.		DIMENSIONS ARE IN MILLIMETERS	
TOLERANCES: X ± 0.1 ANGULAR ± 0.5 °		CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY SYSTEM ALIGO SUB-SYSTEM SUS	
FINISH: --		NEXT ASSY: ETM NP-type (GLASS MASS)	
DRAWN: R.JONES		PART NAME: EAR BONDING JIG GA	
CHECKED: APPROVED:		DATE: AUG 07	
SCALE: 1:1		PROJECTION:	
		DWG. NO. D070391	
		REV. 02	
		SHEET 3 OF 4	

REV.	DATE	DCN #	DRAWING TREE #
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D-screw1  
[FLAT 1, 0.5mm ±0.1mm]  
[FLAT 2, SPRUNG BOLT CONTACT]  
(taken from T070223-00,  
table 1, p.15)



REFERENCE EDGES (IN LOWER RIGHT CORNER OF CUT-AWAY SECTION) FOR PRISM LOCATOR (D080720)

NOTES: (UNLESS OTHERWISE SPECIFIED)		PARTS LIST	
1. DO NOT SCALE FROM DRAWING.		LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY IGR, GLASGOW UNIVERSITY GEO 600 GROUP	
DIMENSIONS ARE IN MILLIMETERS		SYSTEM ALIGO	
TOLERANCES: X ±0.2 X ±0.1 ANGULAR ±0.2°		SUB-SYSTEM SUS	
MATERIAL --		NEXT ASSY ETM NP-type (GLASS MASS)	
FINISH --		PART NAME	
LUM		EAR BONDING JIG GA	
DRAWN	R.JONES	DATE	AUG07
CHECKED	LIVEMAN	SIZE	D
APPROVED		DWG. NO.	D070391
		REV.	02
		SCALE:	1:1
		PROJECTION:	
			SHEET 4 OF 4