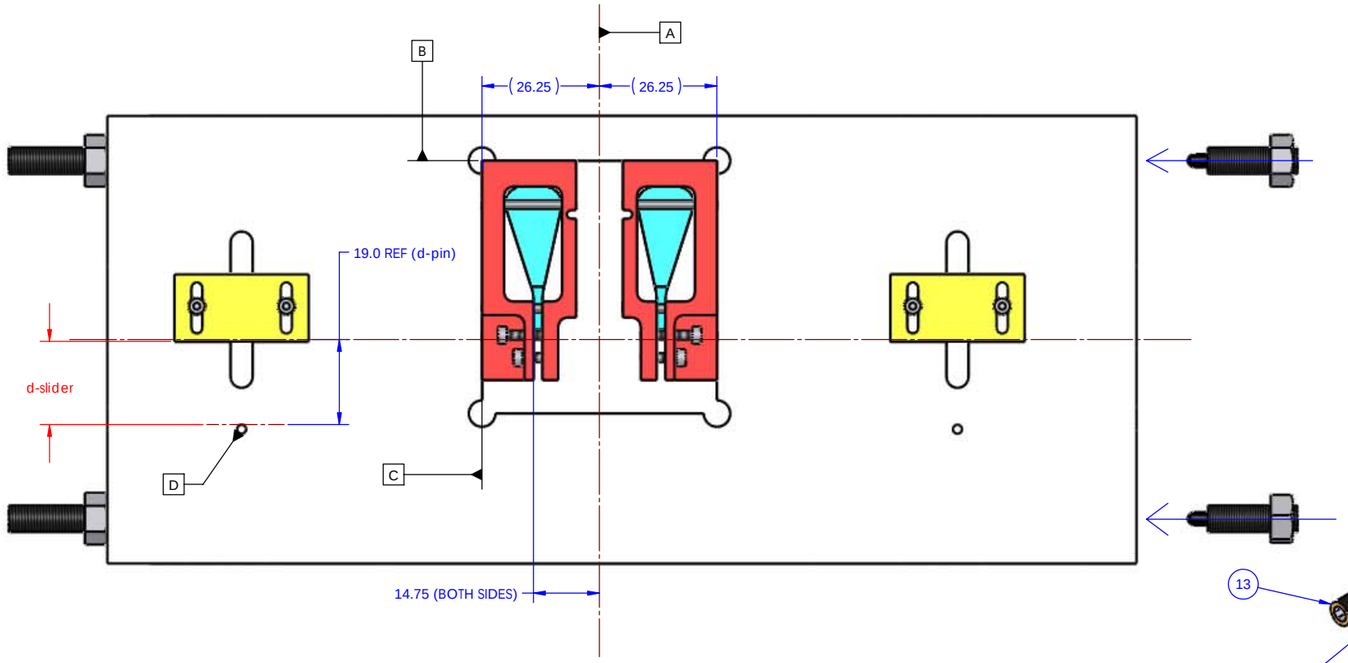
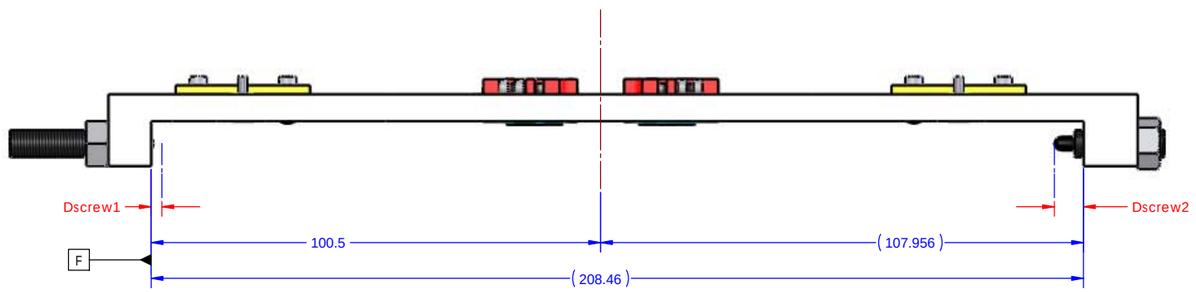
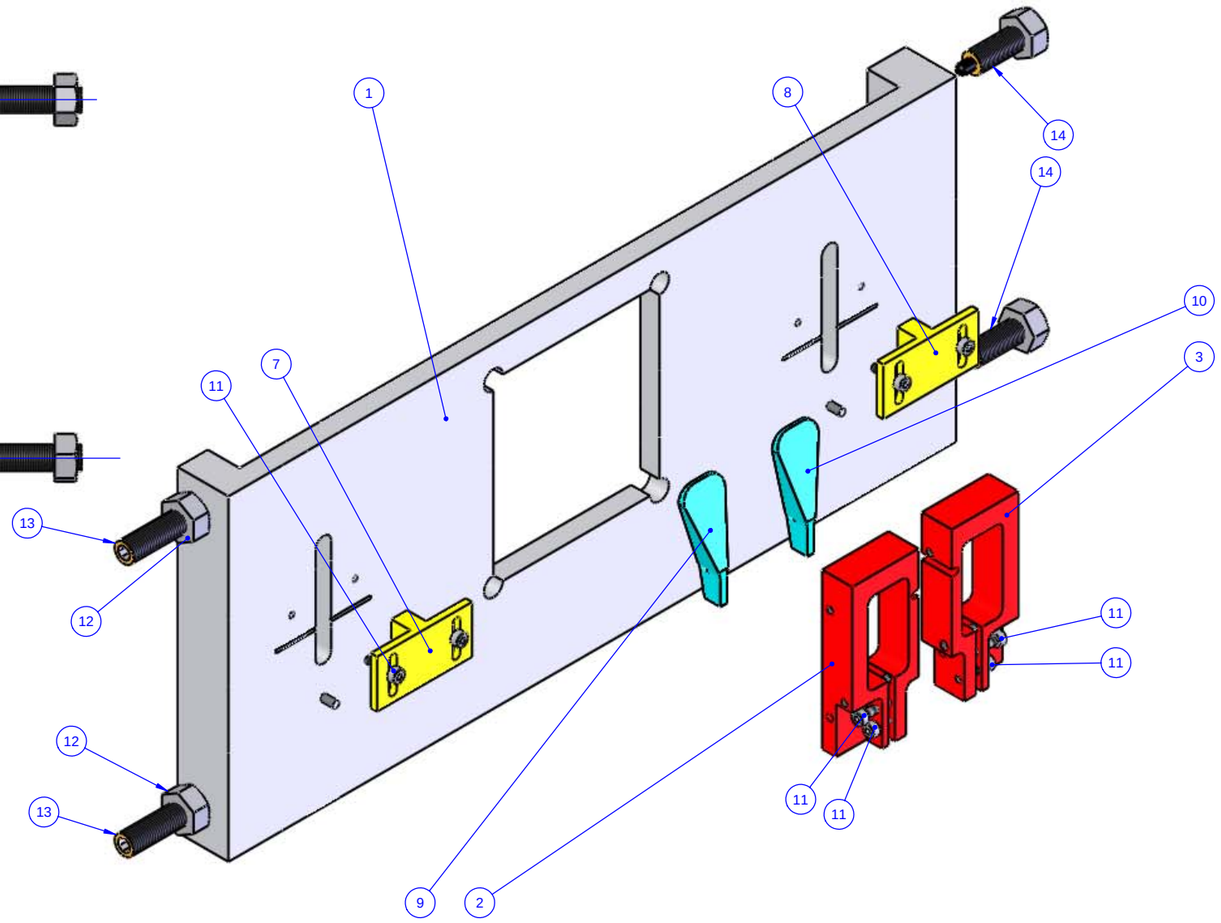
REV.	DATE	DCN #	DRAWING TREE #
00	AUG07	INITIAL RELEASE - GUIDE FOR BONDING AT LASTI (R.JONES)	

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

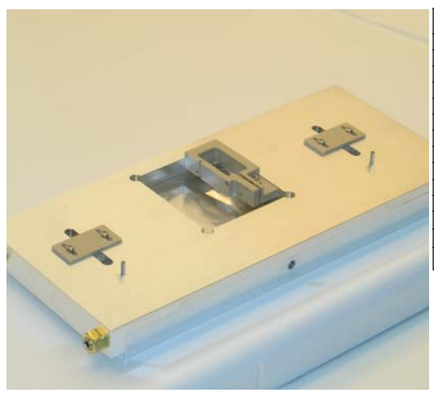




EXPLODED ISOMETRIC VIEW

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.



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

PARTS LIST

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. DO NOT SCALE FROM DRAWING.
2. SUPPORT DRAWINGS FOR ASSEMBLY ACTIVITY ONLY.

DIMENSIONS ARE IN MILLIMETERS
TOLERANCES: X ± 0.1
ANGULAR ± 0.5 °

MATERIAL --
FINISH

	NAME	DATE
DRAWN	R.JONES	AUG 07
CHECKED	I.WILMUT	AUG07
APPROVED		

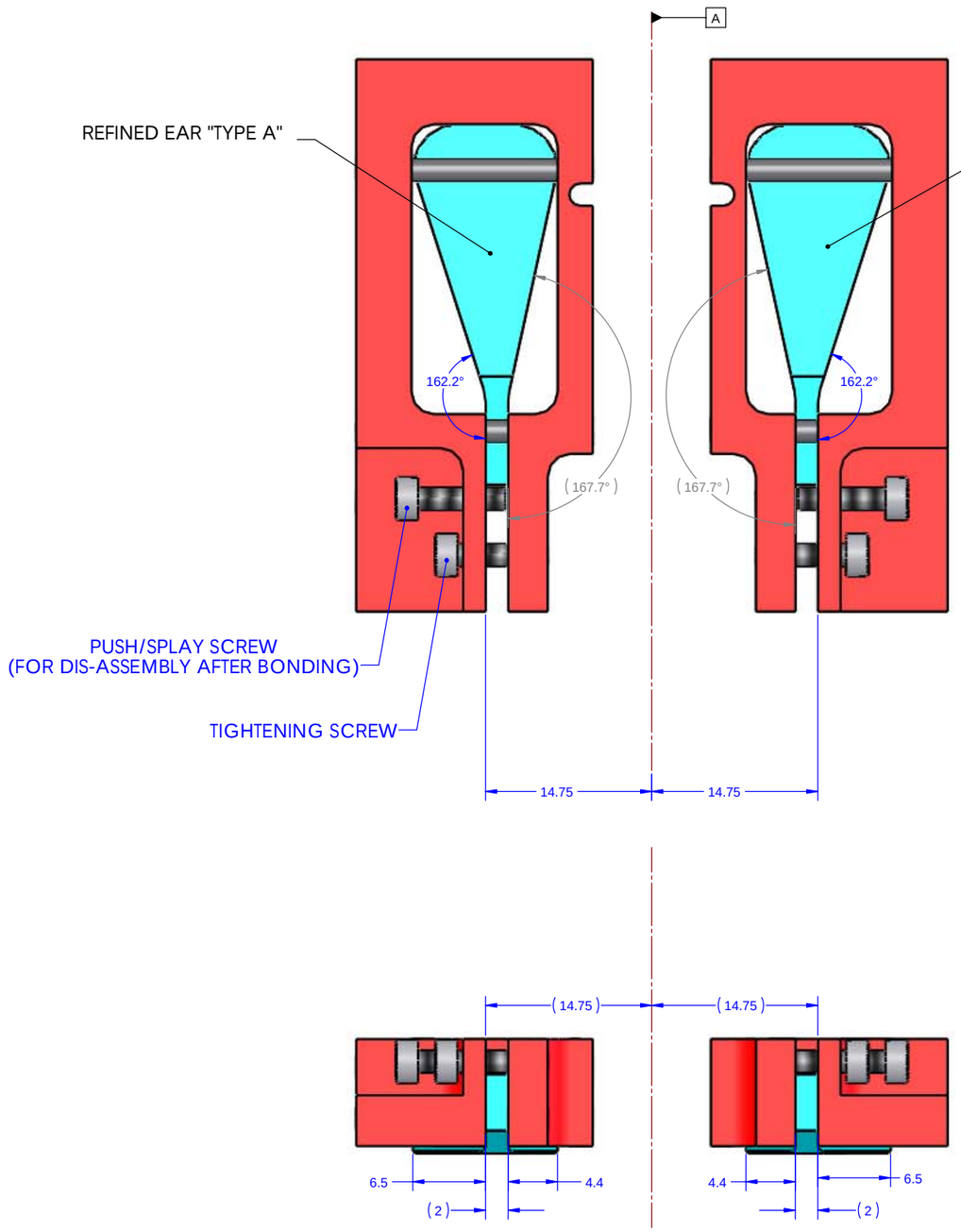
LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY IGR, GLASGOW UNIVERSITY GEO 600 GROUP

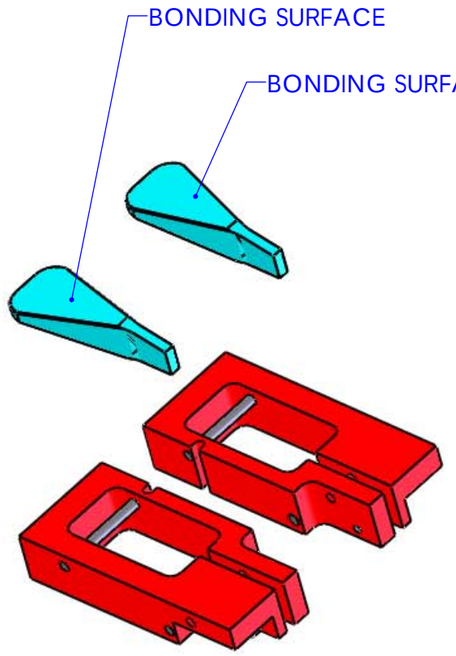
SYSTEM ALIGO
SUB-SYSTEM SUS
NEXT ASSY ETM NP-type (GLASS MASS)
PART NAME EAR BONDING JIG GA

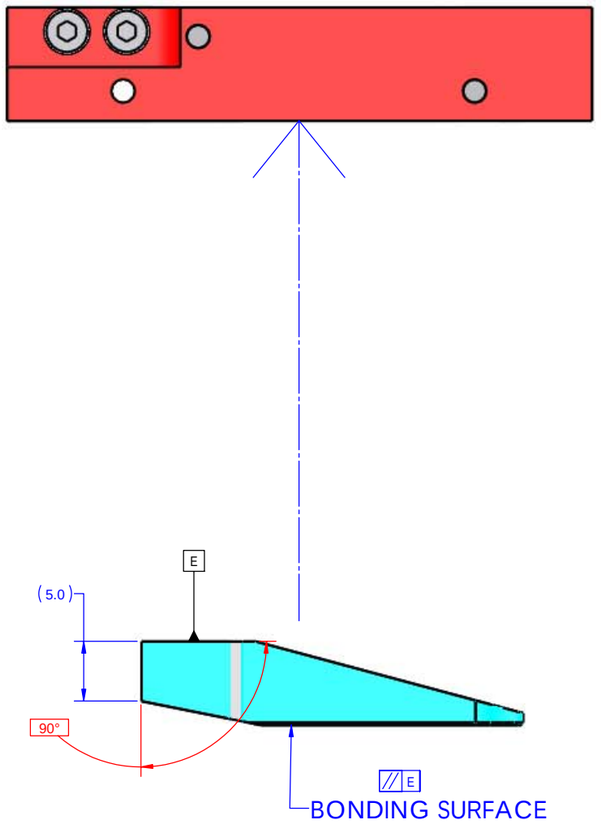
SIZE D | DWG. NO. D070391 | REV. 01

SCALE: 1:1 | PROJECTION: | SHEET 1 OF 3

REV.	DATE	DCN #	DRAWING TREE #
00	AUG07	INITIAL RELEASE - GUIDE FOR BONDING AT LASTI (R.JONES)	







IDENTIFYING THE BONDING SURFAFCE:

- 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.

PARTS LIST

NOTES: (UNLESS OTHERWISE SPECIFIED)

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TOLERANCES: X ± 0.1
ANGULAR ± 0.5 °
MATERIAL --
FINISH

	NAME	DATE
DRAWN	R.JONES	AUG 07
CHECKED	I.WILMUT	AUG07
APPROVED		

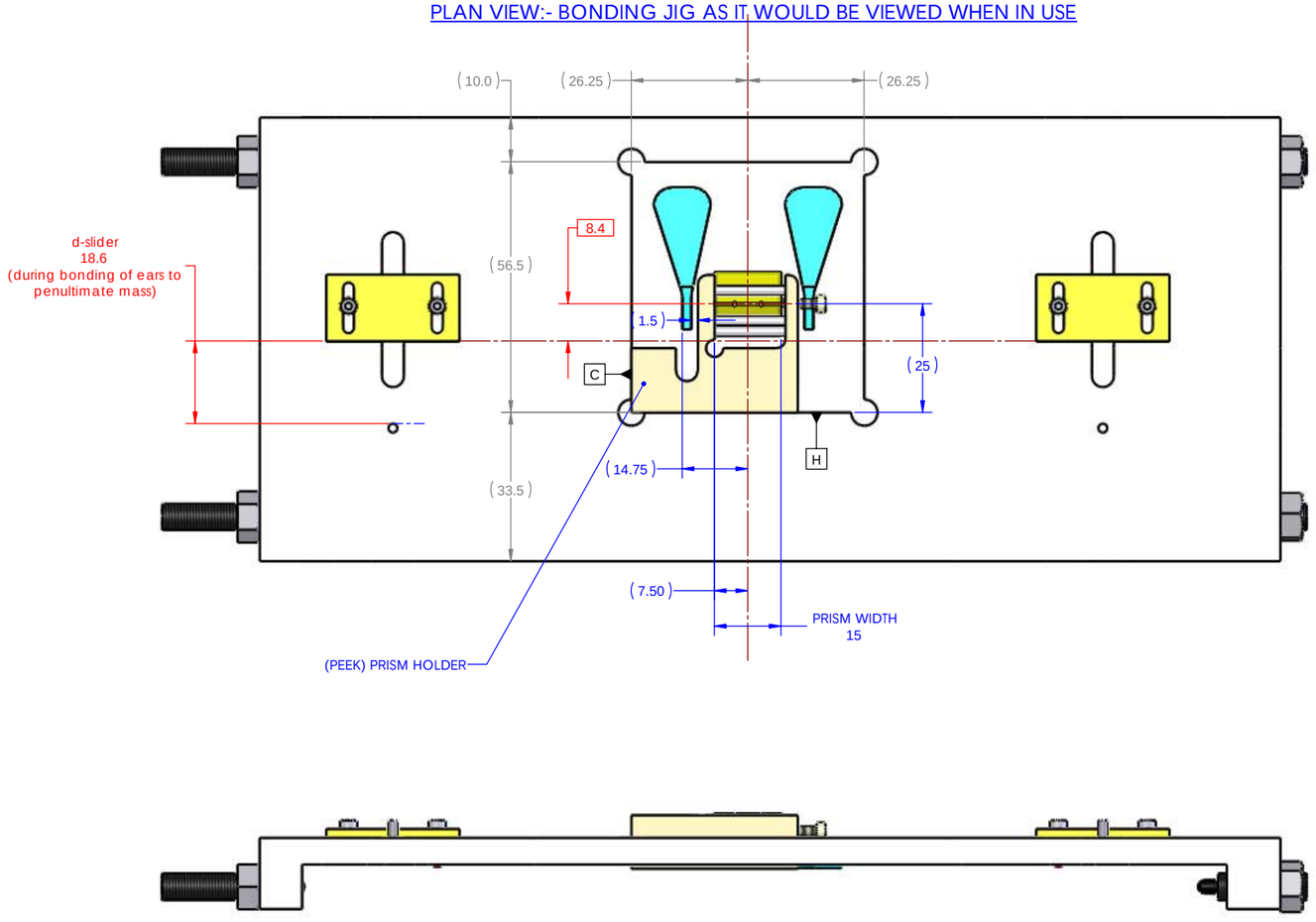
LIGO — CALIFORNIA INSTITUTE OF TECHNOLOGY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, IGR, GLASGOW UNIVERSITY GEO 600 GROUP

SYSTEM ALIGO
SUB-SYSTEM SUS
NEXT ASSY ETM NP-type (GLASS MASS)
PART NAME EAR BONDING JIG GA
SIZE D | DWG. NO. D070391 | REV. 01
SCALE 1:1 | PROJECTION: | SHEET 2 OF 3

BONDING OF PRISMS TO NP-type PENULTIMATE MASSES

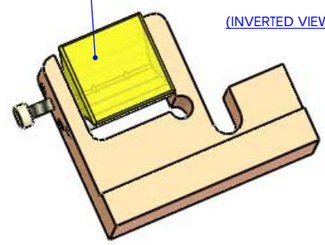
REV.	DATE	DCN #	DRAWING TREE #

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



BOND SURFACE

(INVERTED VIEW OF PRISM IN HOLDER)



ASSEMBLY/DISASSEMBLY TIPS - THE HOLDER:

- LOAD PRISM INTO HOLDER WHEN HOLDER IS INVERTED

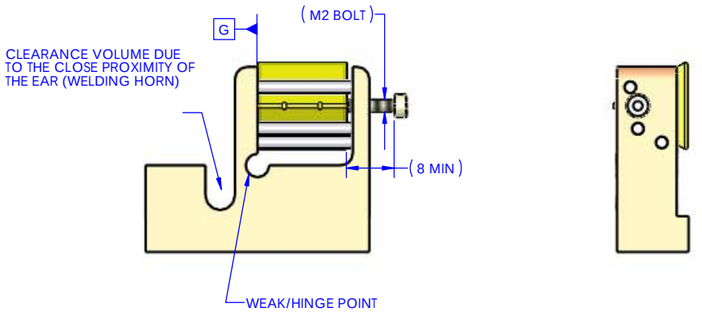
- ALLOW PRISM TO SLIDE UNTIL ALIGNED WITH REFERENCE SURFACE (DATUM -G- BELOW)

- 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 UNDESIREABLE 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 CLOE 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).

PARTS LIST

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. DO NOT SCALE FROM DRAWING.

DIMENSIONS ARE IN MILLIMETERS

TOLERANCES:
X ± 0.1
ANGULAR ± 0.5 °

MATERIAL: --

FINISH: --

	NAME	DATE
DRAWN	R.JONES	AUG 07
CHECKED		
APPROVED		

LIGO — CALIFORNIA INSTITUTE OF TECHNOLOGY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, IGR, GLASGOW UNIVERSITY GEO 600 GROUP

SYSTEM: ALIGO
SUB-SYSTEM: SUS
NEXT ASSY: ETM NP-type (GLASS MASS)
PART NAME: EAR BONDING JIG GA

SIZE: D | DWG. NO.: D070391 | REV.: 01
SCALE: 1:1 | PROJECTION: | SHEET 3 OF 3