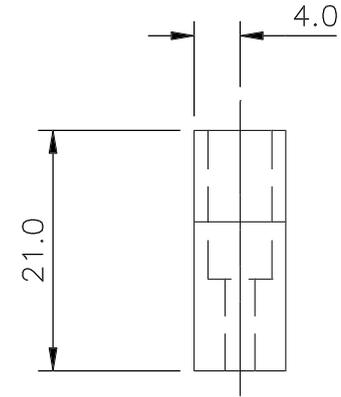
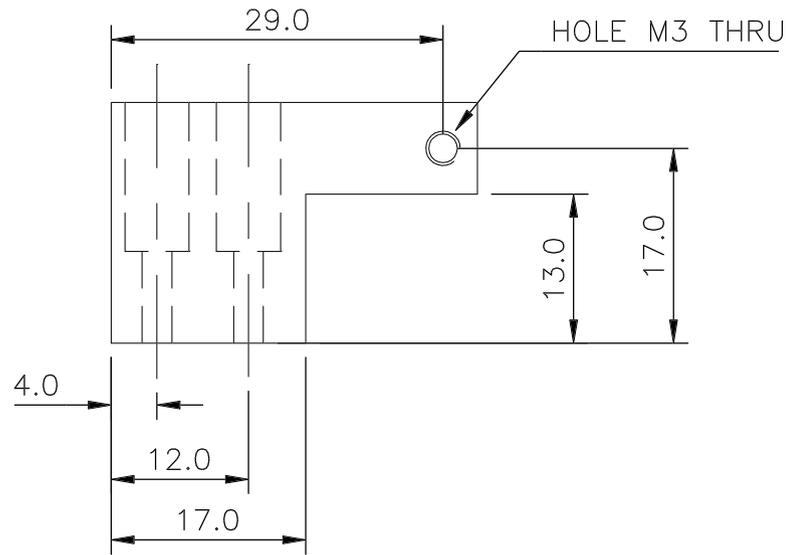
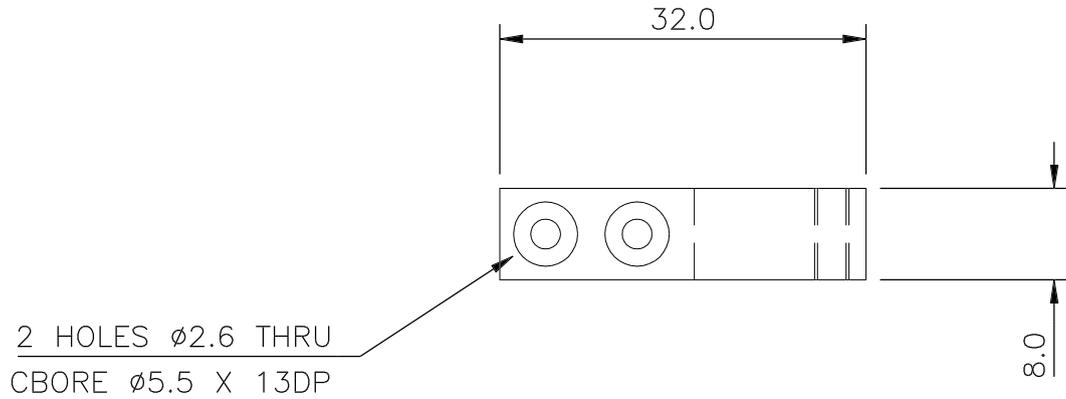


DRG NO.
BI/012

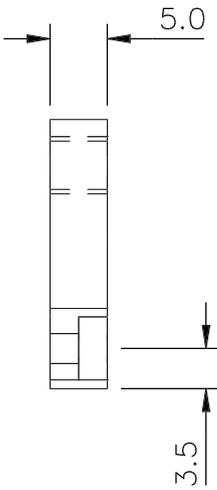
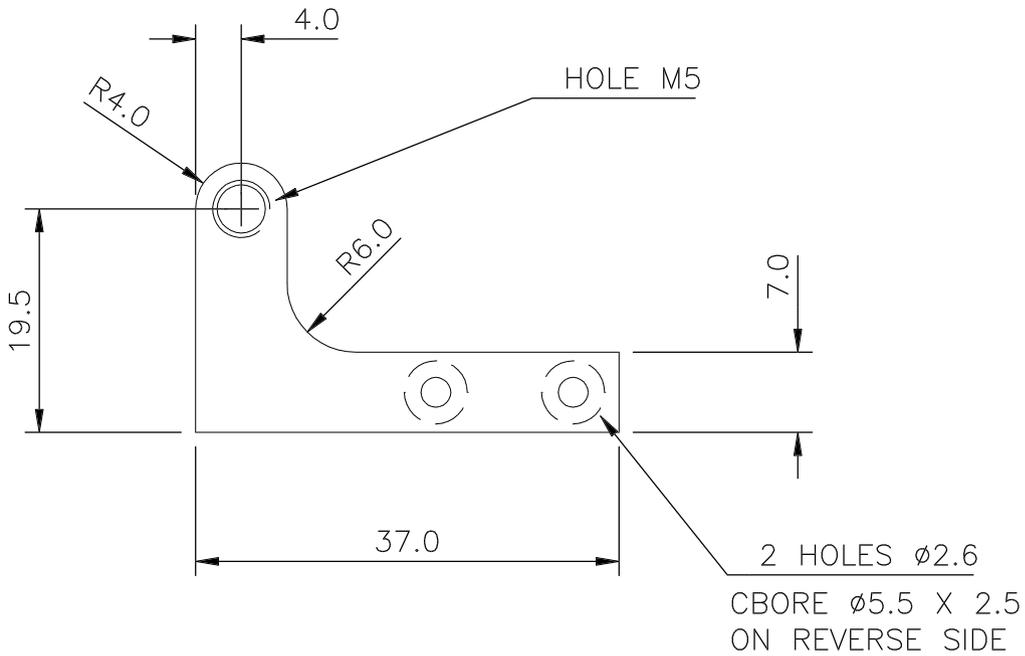
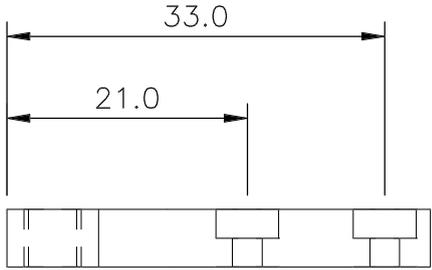
DO NOT SCALE
REMOVE SHARP EDGES



			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 2:1	ORIGINAL SHEET SIZE A3	G.A. NO. BI/036	
			X \pm	AL. ALLOY		ROYAL GREENWICH OBSERVATORY	TITLE	HWP CYLINDER STOP		
1	07/09/95	PDJ	X.X \pm 0.1	FINISH	No. REQ'D	MADINGLEY ROAD	ISIS POLARISATION UPGRADE			
ISSUE	DATE	DRAWN	X.XX \pm	BLK ANODISE	1	CAMBRIDGE CB3 0EZ	DRG NO.	BI/012	SHT. 1	LOC'N BI
			ANG. \pm							

DRG NO.
BI/014

DO NOT SCALE
REMOVE SHARP EDGES



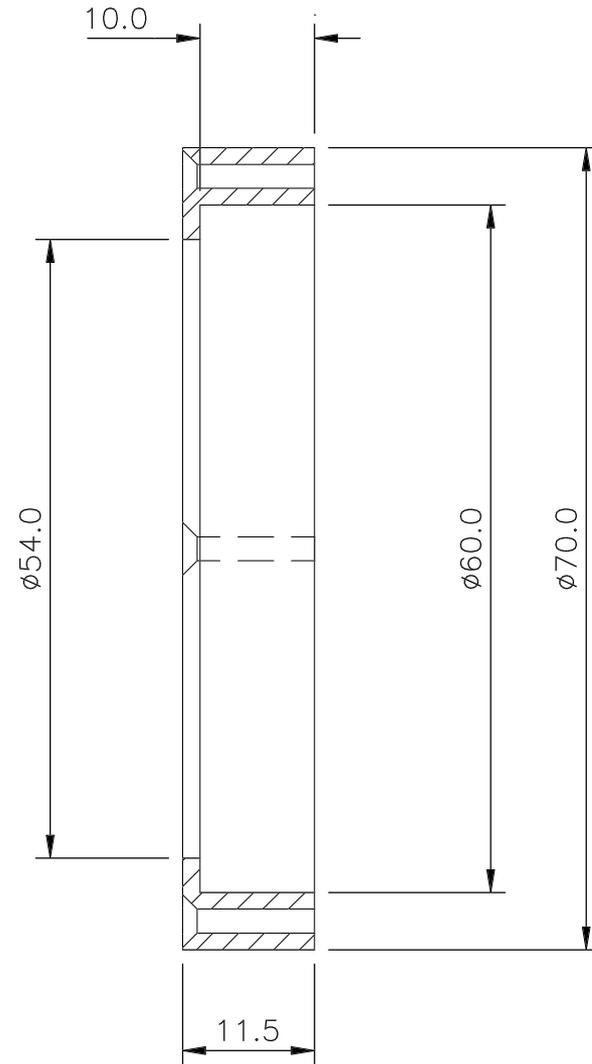
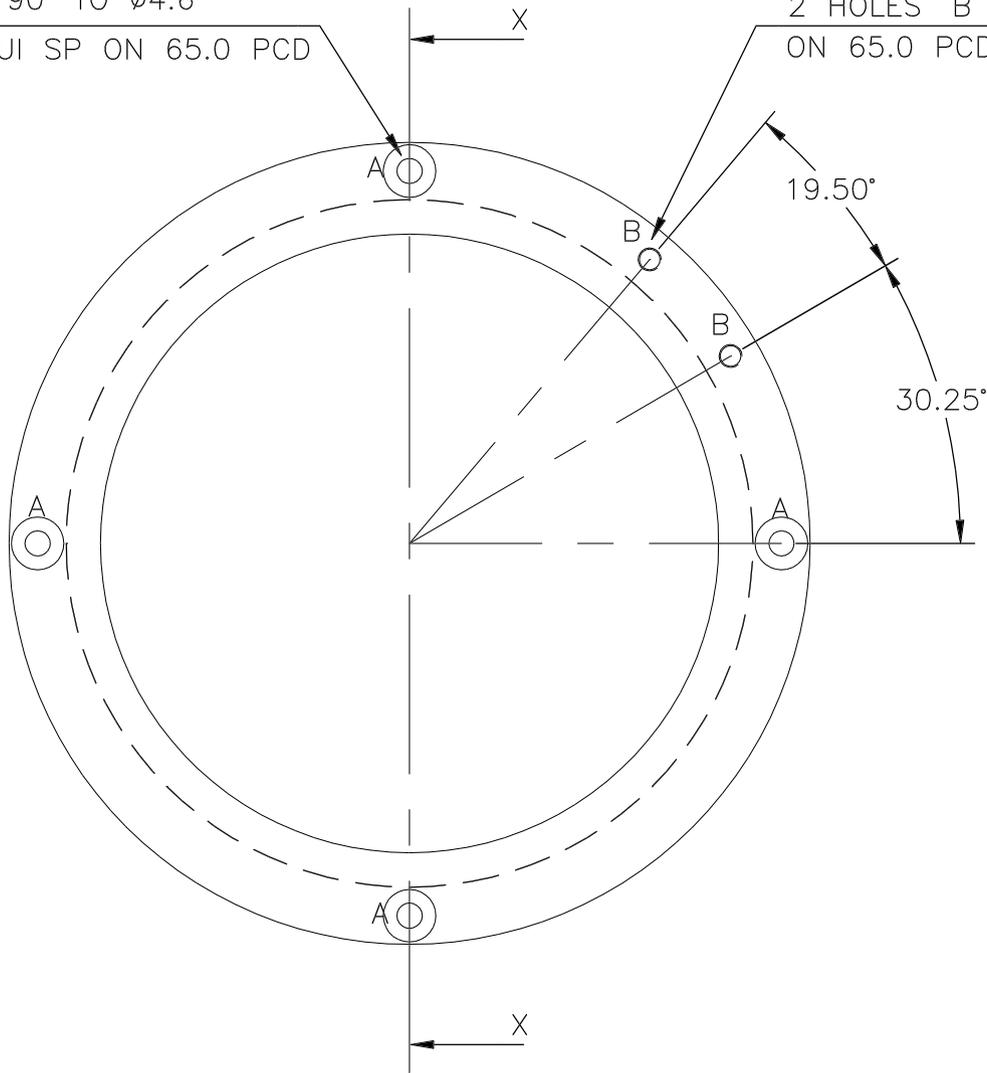
			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 2:1	ORIGINAL SHEET SIZE A3	G.A. NO. BI/036	
			X ±	ST. ST.		ROYAL GREENWICH OBSERVATORY				
1	08/09/95	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD				
ISSUE	DATE	DRAWN	X.XX ±	CLEAN	1	CAMBRIDGE CB3 0EZ				
			ANG. ±				DRG NO. BI/014		SHT. 1	LOC'N BI
						TITLE HWP CYLINDER BRACKET ISIS POLARISATION UPGRADE				

DRG NO.
BI/016

DO NOT SCALE
REMOVE SHARP EDGES

4 HOLES 'A' CSK $\phi 2.1$
@ 90° TO $\phi 4.6$
EQUI SP ON 65.0 PCD

2 HOLES 'B' M2 X 6DP
ON 65.0 PCD



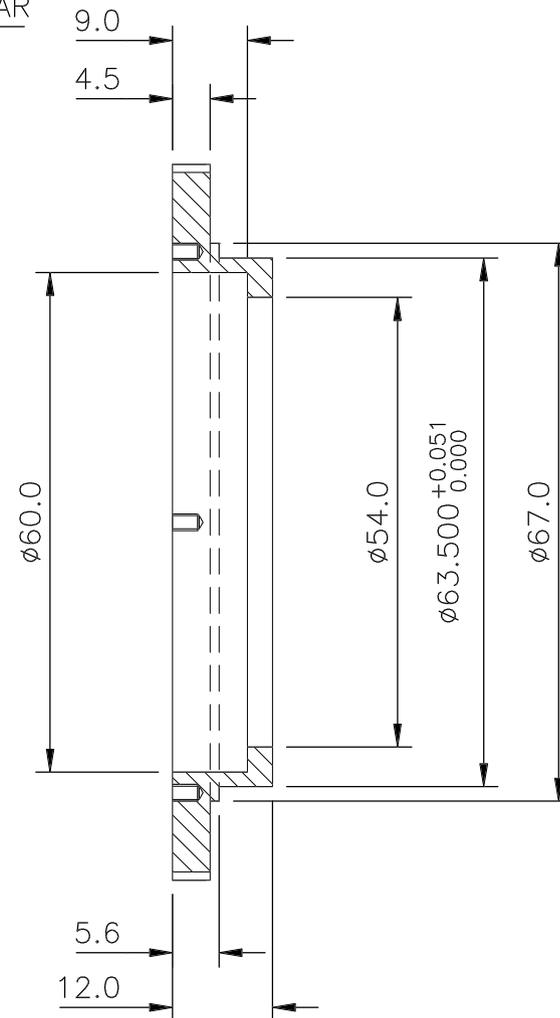
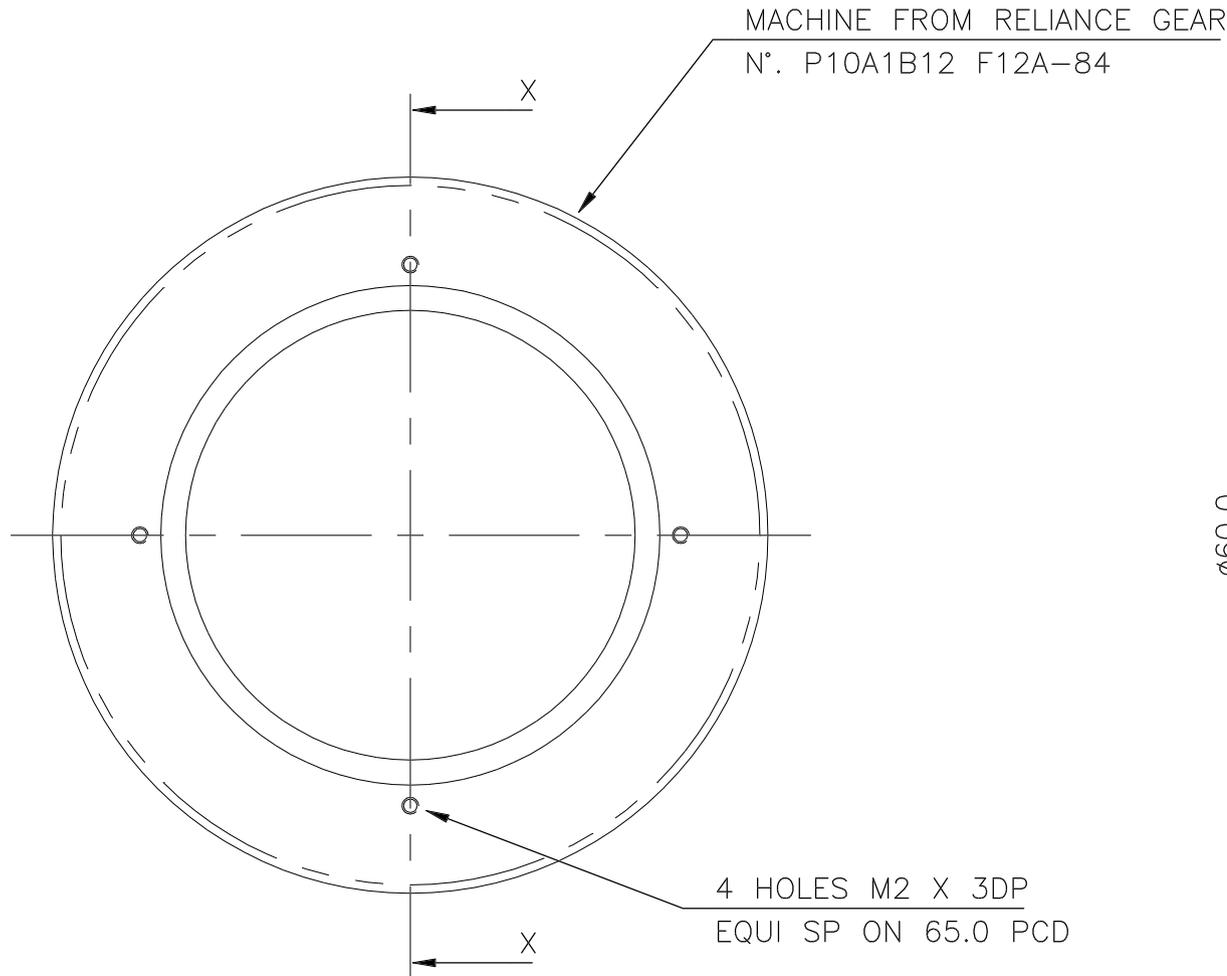
SECTION ON X-X

			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 2:1	ORIGINAL SHEET SIZE A3	G.A. NO. BI/036	
			X \pm	AL.ALLOY		ROYAL GREENWICH OBSERVATORY				
1	08/09/95	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD				
ISSUE	DATE	DRAWN	X.XX \pm	BLK	1	CAMBRIDGE CB3 0EZ				
			ANG. $\pm 0.1^\circ$	ANODISE		DRG NO. BI/016			SHT. 1	LOC'N BI

TITLE
HWP RETAINER CAP
ISIS POLARISATION UPGRADE

DRG NO.
BI/018

DO NOT SCALE
REMOVE SHARP EDGES

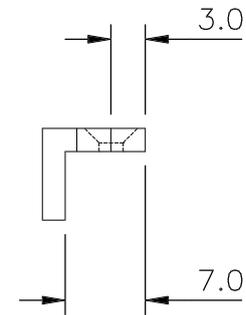
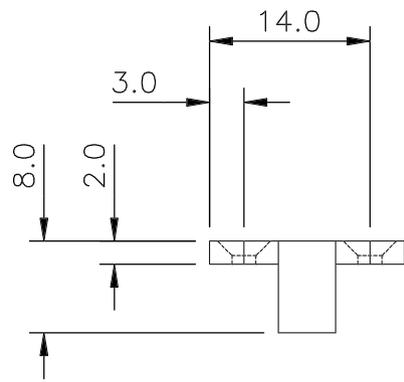
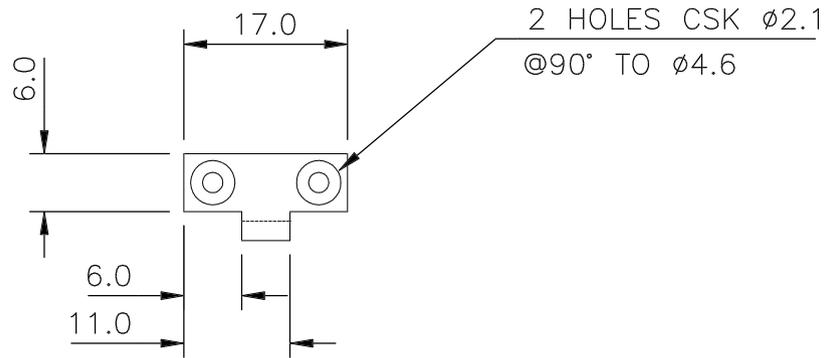


SECTION ON X-X

			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 2:1	ORIGINAL SHEET SIZE A3	G.A. NO.	BI/036
			X ±	SEE NOTE		ROYAL GREENWICH OBSERVATORY	TITLE	LOAD GEAR		
1	11/09/95	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD	ISIS POLARISATION UPGRADE			
ISSUE	DATE	DRAWN	X.XX ±	CLEAN	2	CAMBRIDGE CB3 0EZ	DRG NO.	BI/018	SHT.	1
			ANG. ±						LOC'N	BI

DRG NO.
BI/021

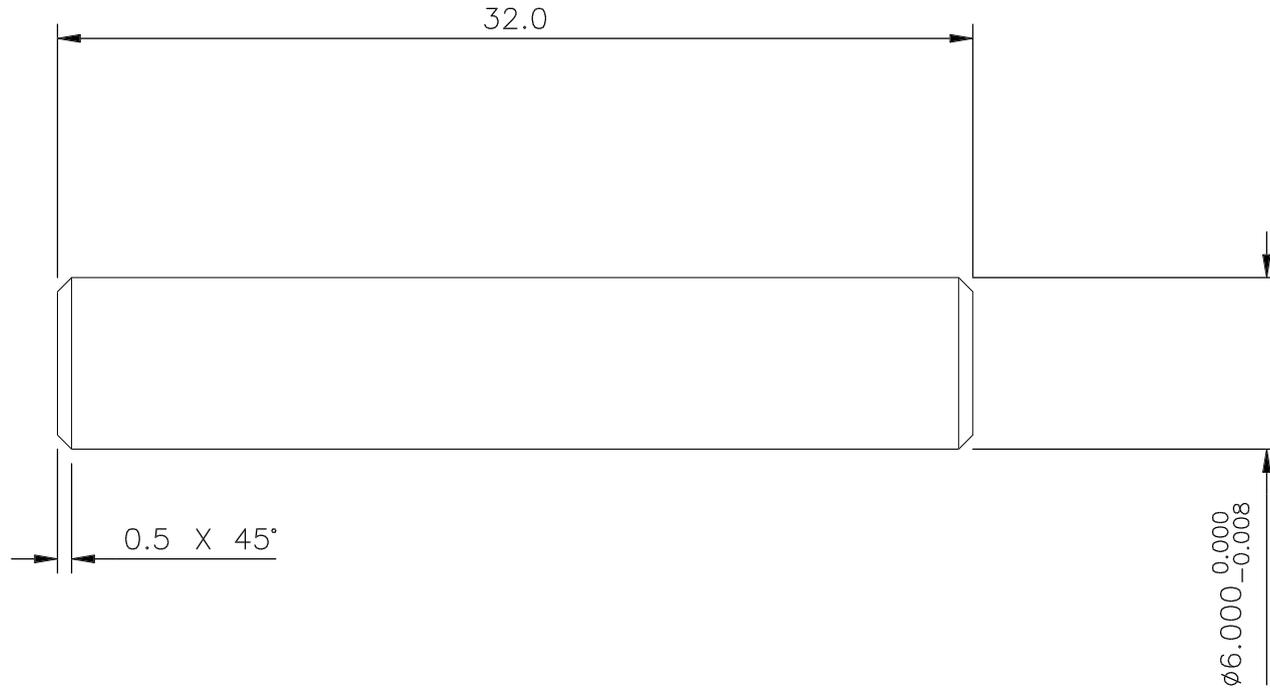
DO NOT SCALE
REMOVE SHARP EDGES



			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 2:1	ORIGINAL SHEET SIZE A3	G.A. NO. BI/036
			X ±	ST. ST.		ROYAL GREENWICH OBSERVATORY	TITLE	ZERO SWITCH FLAG	
1	12/09/95	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD	ISIS POLARISATION UPGRADE		
ISSUE	DATE	DRAWN	X.XX ±	CLEAN	1	CAMBRIDGE CB3 0EZ	DRG NO. BI/021	SHT. 1	LOC'N BI
			ANG. ±						

DRG NO.
BI/022

DO NOT SCALE
REMOVE SHARP EDGES

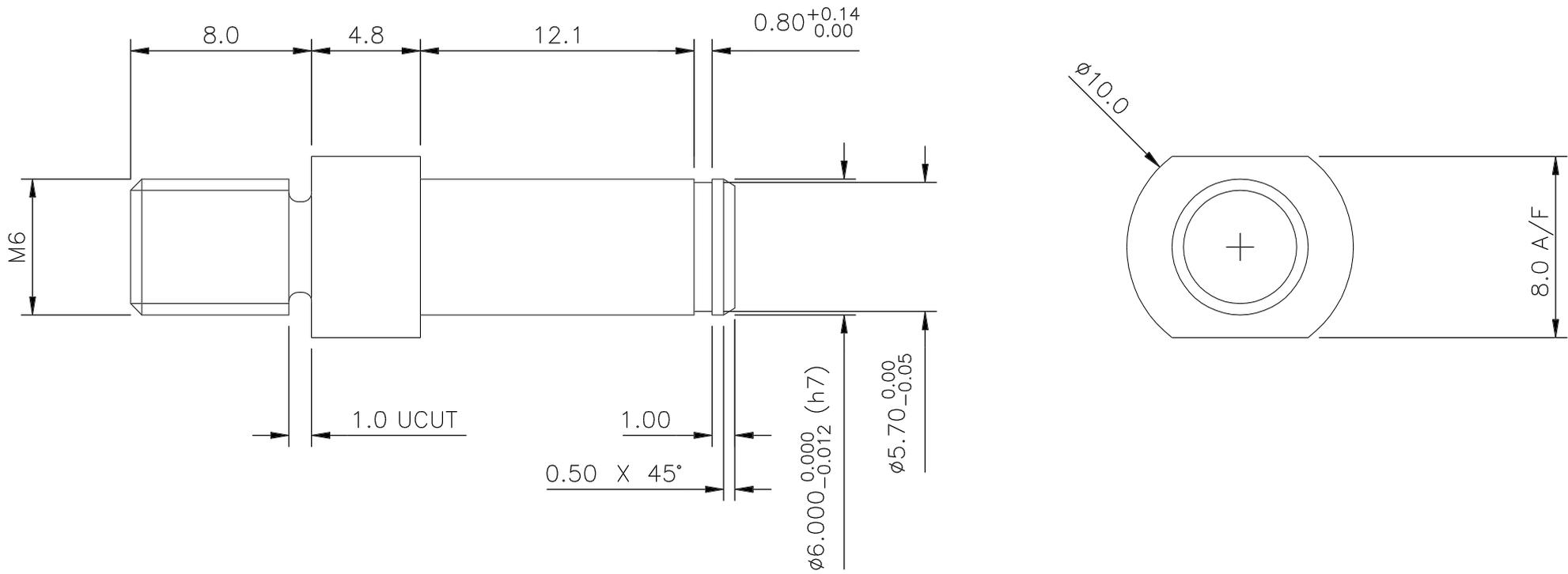


NOTE: STOCK MATL. RELIANCE BAR SM1-6A

			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 5:1	ORIGINAL SHEET SIZE A3	G.A. NO.	
			X ±	ST. ST.		ROYAL GREENWICH OBSERVATORY	TITLE	ENCODER SHAFT		
1	12/09/95	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD	ISIS POLARISATION UPGRADE			
ISSUE	DATE	DRAWN	X.XX ±	CLEAN	2	CAMBRIDGE CB3 0EZ	DRG NO.	BI/022	SHT. 1	LOC'N BI
			ANG. ±							

DRG NO.
BI/024

DO NOT SCALE
REMOVE SHARP EDGES

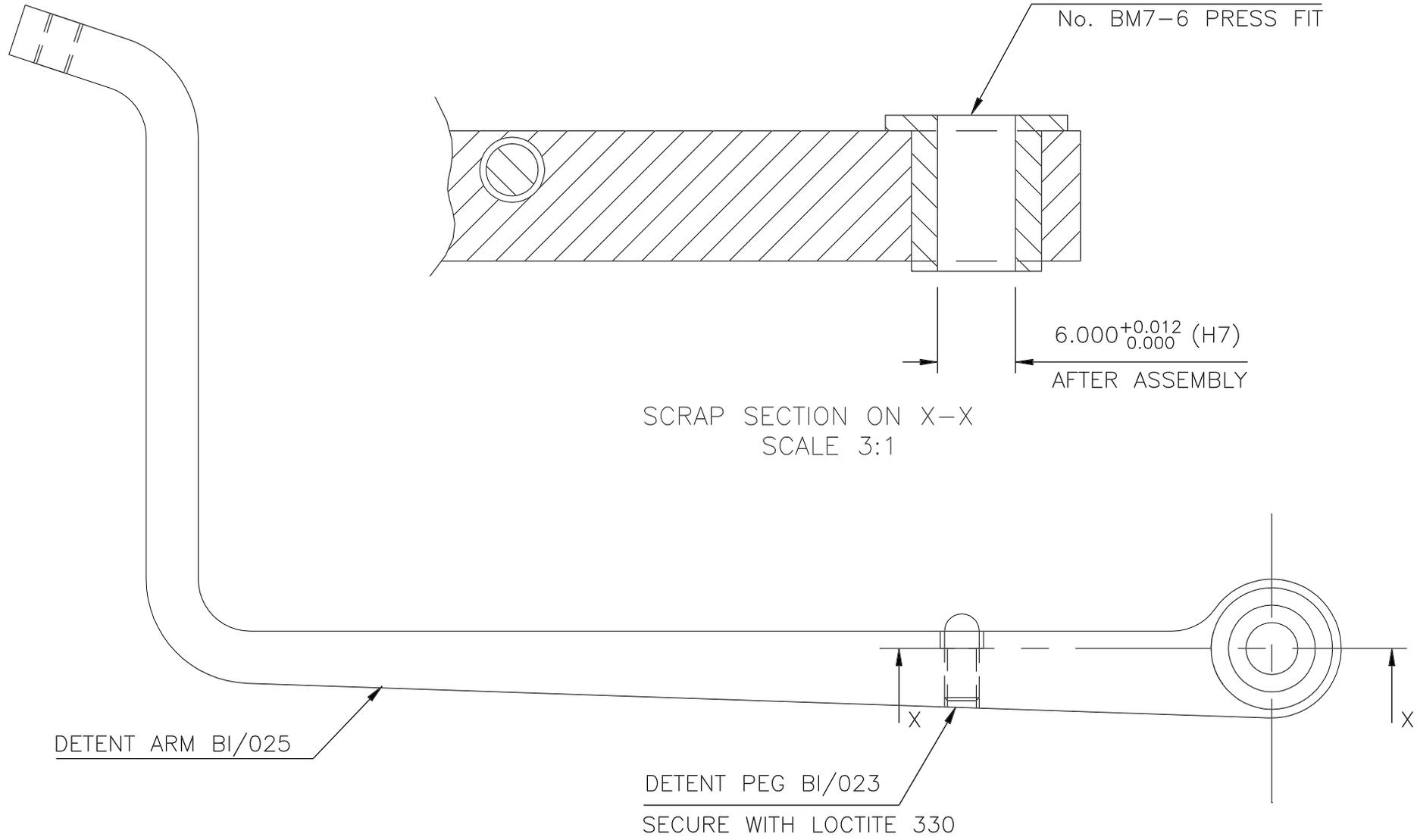


			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 5:1	ORIGINAL SHEET SIZE A3	G.A. NO. BI/036
			X ±	ST. ST		ROYAL GREENWICH OBSERVATORY			
1	13/09/95	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD			
ISSUE	DATE	DRAWN	X.XX ±	CLEAN	2	CAMBRIDGE CB3 0EZ			
			ANG. ±			TITLE			DETENT PIVOT PIN
						DRG NO.			BI/024
						SHT.			1
						LOC'N			BI

DRG NO.
BI/026

DO NOT SCALE
REMOVE SHARP EDGES

RELIANCE BRONZE BRG
No. BM7-6 PRESS FIT



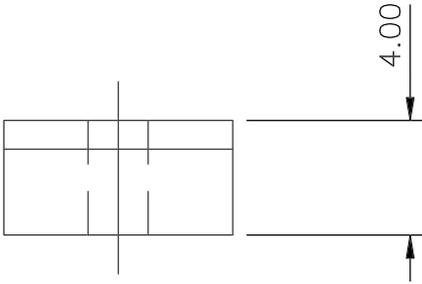
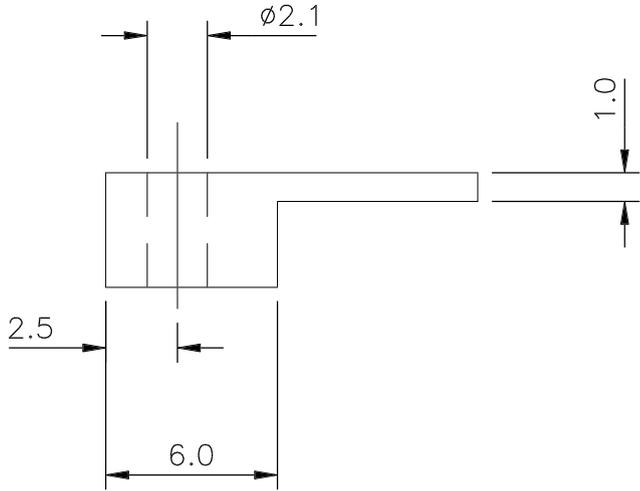
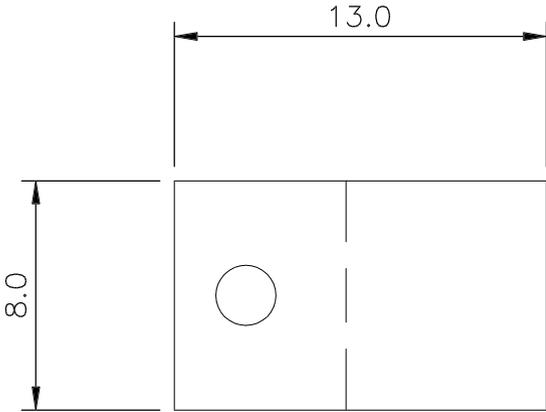
DETENT ARM BI/025

DETENT PEG BI/023
SECURE WITH LOCTITE 330

			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE	ORIGINAL SHEET SIZE A3	G.A. NO. BI/036	
			X ±			ROYAL GREENWICH OBSERVATORY		TITLE HWP DETENT ARM SUB-ASSEMBLY		
1	14/09/95	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD		ISIS POLARISATION UPGRADE		
ISSUE	DATE	DRAWN	X.XX ±			CAMBRIDGE CB3 0EZ		DRG NO. BI/026	SHT. 1	LOC'N BI
			ANG. ±							

DRG NO.
BI/011

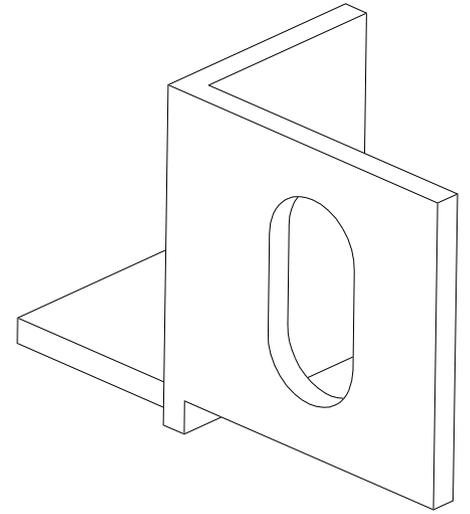
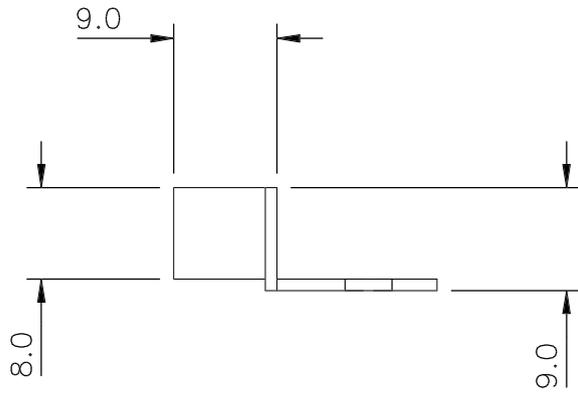
DO NOT SCALE
REMOVE SHARP EDGES



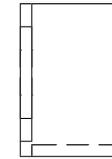
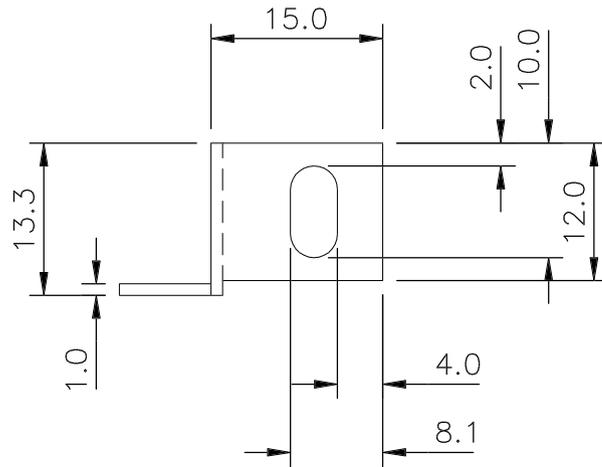
			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 5:1	ORIGINAL SHEET SIZE A3	G.A. NO. BI/036	
			X ±	ST. ST.		ROYAL GREENWICH OBSERVATORY	TITLE	PROXIMITY SWITCH FLAG		
1	07/09/95	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD	ISIS POLARISATION UPGRADE			
ISSUE	DATE	DRAWN	X.XX ± 0.05	CLEAN	2	CAMBRIDGE CB3 0EZ	DRG NO.	BI/011	SHT. 1	LOC'N BI
			ANG. ±							

DRG NO.
BI/028

DO NOT SCALE
REMOVE SHARP EDGES

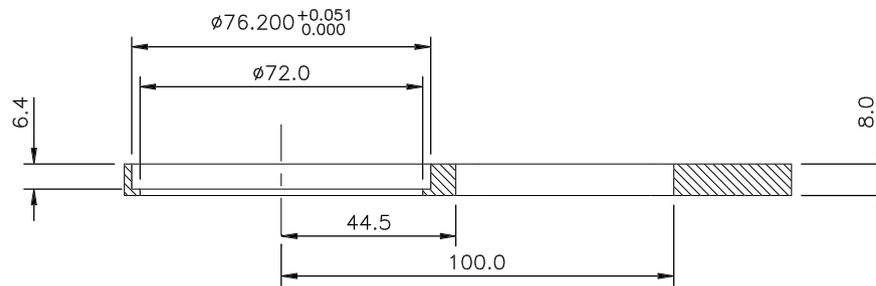
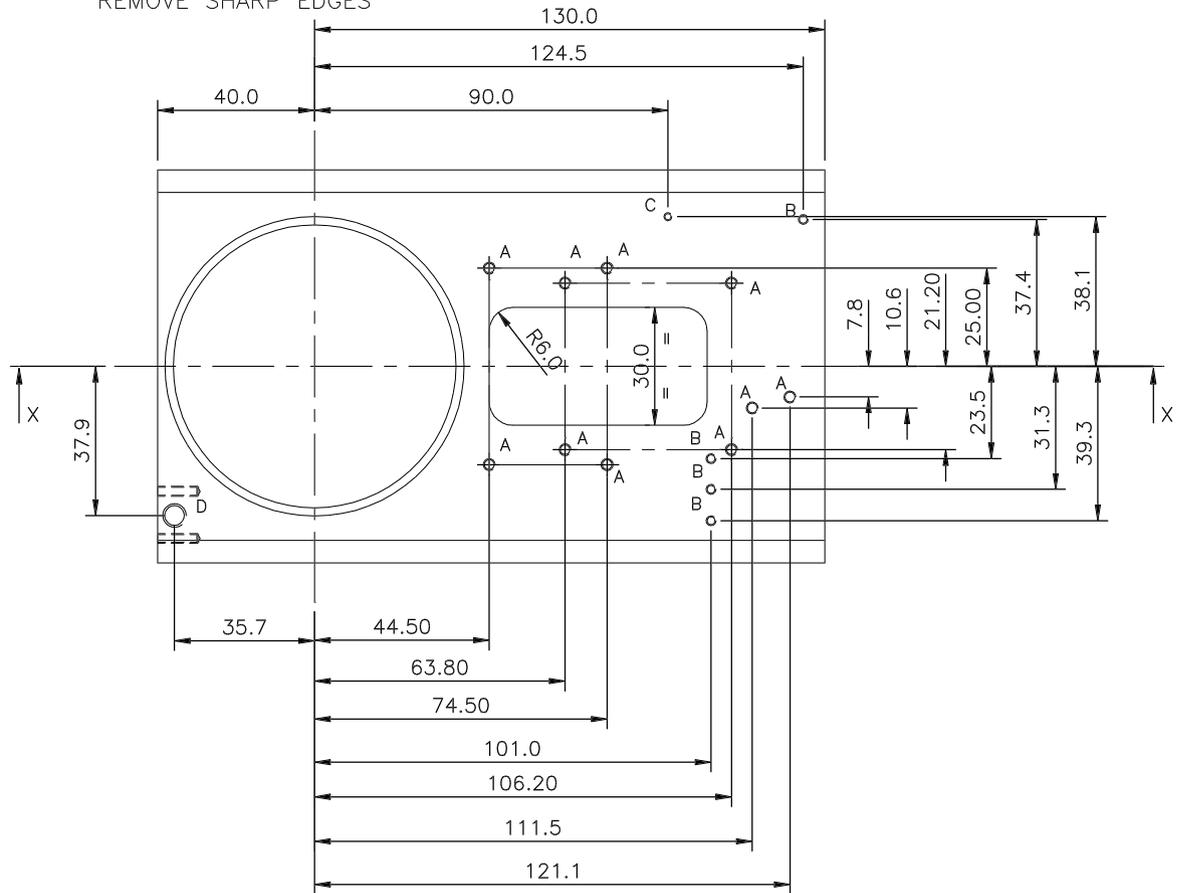
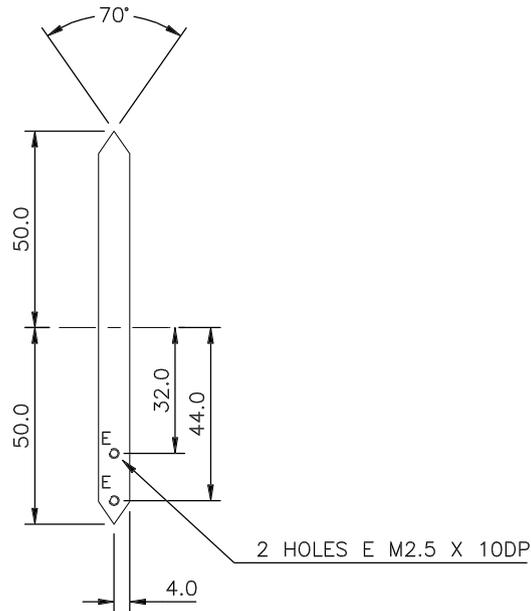


SCALE 5:1



			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 2:1	ORIGINAL SHEET SIZE A3	G.A. NO. BI/036	
			X ±	1mm THK		ROYAL GREENWICH OBSERVATORY	TITLE	HWP DETENT FLAG		
1	18/09/95	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD	ISIS POLARISATION UPGRADE			
ISSUE	DATE	DRAWN	X.XX ±	CLEAN	1	CAMBRIDGE CB3 0EZ	DRG NO.	BI/028	SHT. 1	LOC'N BI
			ANG. ±							

DO NOT SCALE
REMOVE SHARP EDGES

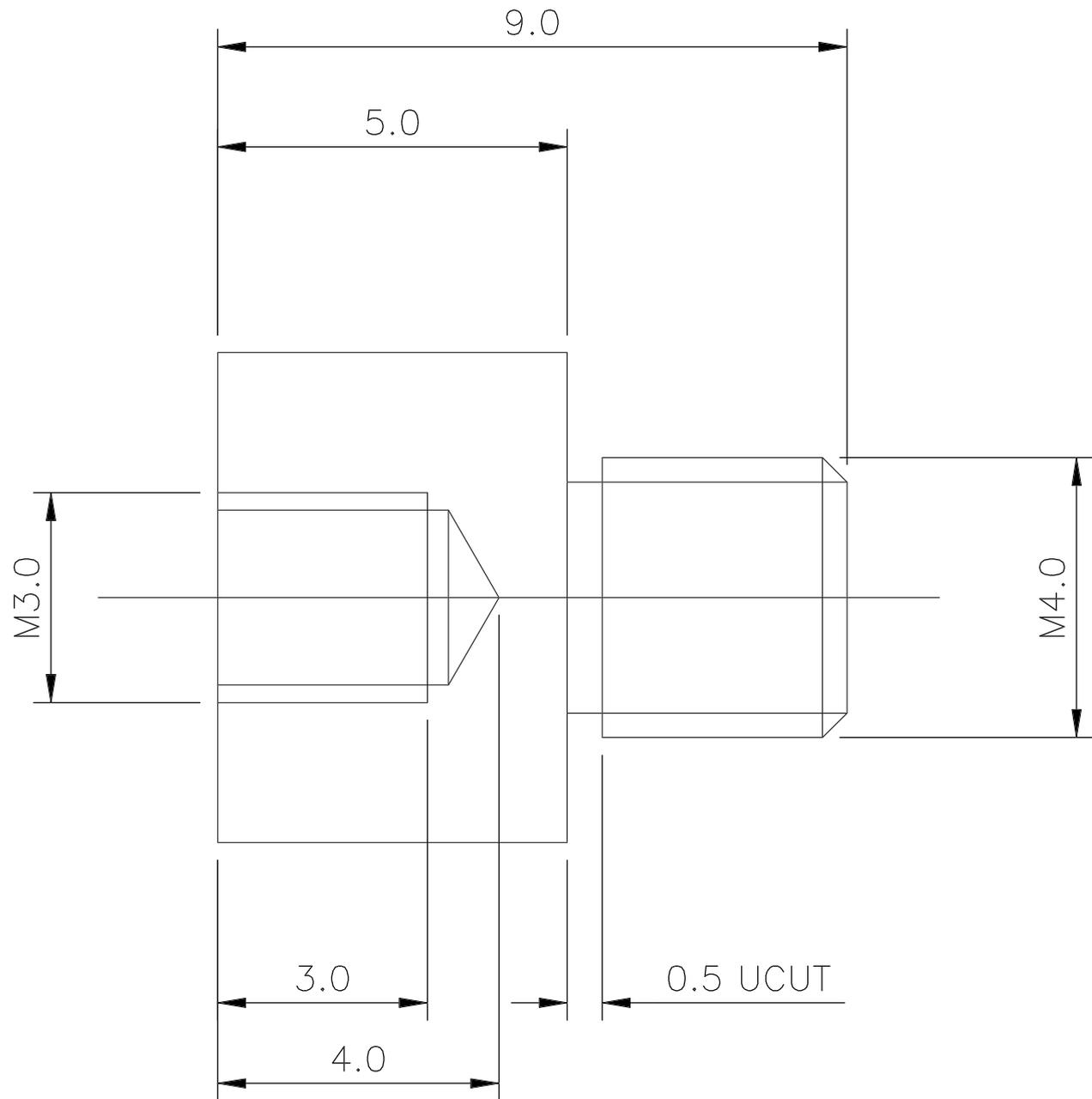
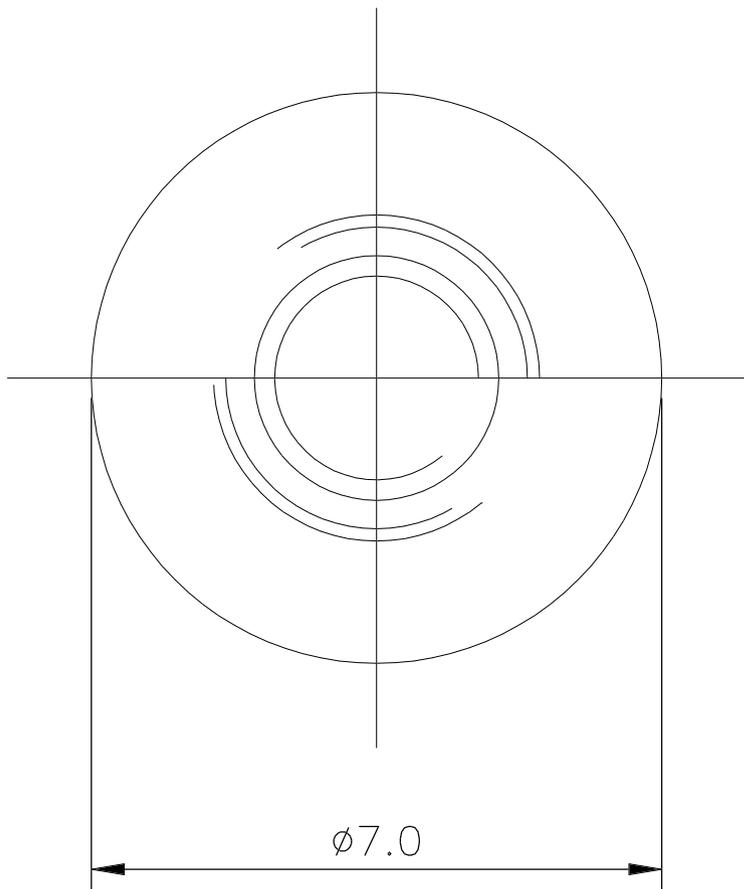


SECTION ON X-X

HOLE	SIZE
A	M3 THRU
B	M2.5 THRU
C	M2 THRU
D	M6 THRU

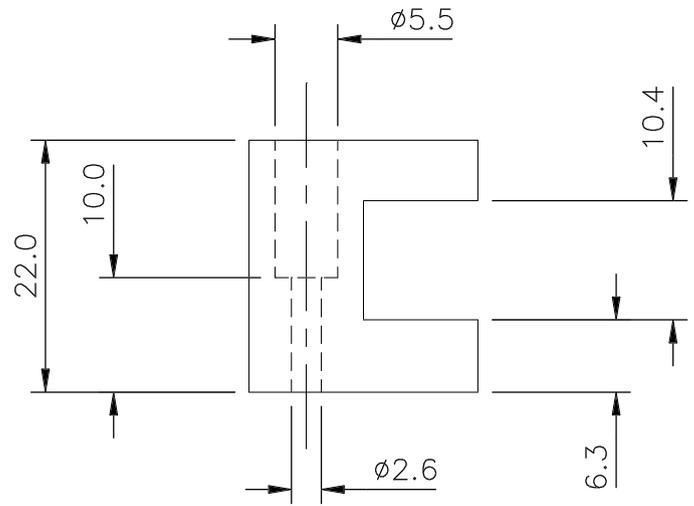
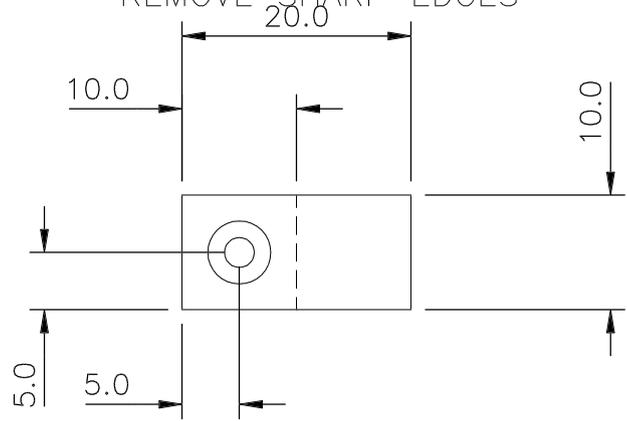
NOTE
ALL DIMENSIONS ARE FINISHED SIZES

				TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 1:1	ORIGINAL SHEET SIZE A2		G.A. NO.	BI/036	
				X ±	MILD STEEL				TITLE		LOC'N.	BI	SHT.
				X.X ± 0.1	FINISH	NO. REQ'D PER ASS'Y	ROYAL GREENWICH OBSERVATORY				HWP MAIN SLIDE PLATE		1
ISSUE	MOD. NO.	DATE	DRAWN BY	X.XX ± 0.05	Ni PLATED	1	CAMBRIDGE	CB3 0EZ	ISIS POLARISATION UPGRADE		DRG NO.		BI/029
1		22/09/95	PDJ	ANG. ± 0.1									



DRG NO.
BI/038

DO NOT SCALE
REMOVE SHARP EDGES



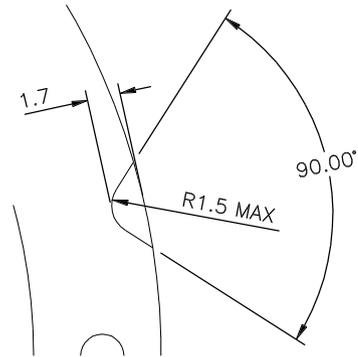
			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 2:1	ORIGINAL SHEET SIZE A3	G.A. NO.	BI/036
			X ±	NYLON		ROYAL GREENWICH OBSERVATORY		TITLE		
1	26/10/95	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD		DETENT ARM SUPPORT		
ISSUE	DATE	DRAWN	X.XX ±	CLEAN	2	CAMBRIDGE CB3 0EZ		DRG NO.		BI/038
			ANG. ±					SHT.	1	LOC'N BI

DRAWING NUMBER	No. OF SHEETS	GA ITEM No.	DRAWING TITLE OR COMPONENT NAME	No. OFF	MATERIAL STOCK OR ORDER No. AND DATE	REMARKS	ISSUE DATE	ISSUED TO	FINISH DATE	
		1	SMC PIN CYLINDER	1	CJPB6-15H4					
BI/027		2	DETENT CYLINDER BRACKET	1	ST.ST					
BI/010		3	CYLINDER COUPLING	1	AL. ALLOY					
		4	SMC FLOATING JOINT	1	JA10-4-070					
		5	INDUCTIVE PROXIMITY SWITCH	1	RS 285-201					
BI/028		6	HWP DETENT FLAG	1	ST. ST.					
BI/011		7	PROXIMITY SWITCH FLAG	1	ST. ST.					
BI/019		8	ENCODER SUPPORT	1	AL. ALLOY					
		9	INDUCTIVE PROXIMITY SWITCH	1	RS 633-458					
BI/020		10	ZERO PROXIMITY SWITCH BRACKET	1	AL. ALLOY					
BI/021		11	ZERO SWITCH FLAG	1	ST. ST.					
BI/024		12	DETENT PIVOT PIN	1	ST. ST.					
		13	CIRCLIP	1	SIZE CODE 0060 (TO DIN 471)					
BI/026		14	HWP DETENT ARM SUB-ASSEMBLY	1						
BI/038		15	DETENT ARM SUPPORT	1	NYLON					
		16	MOTOR GEAR	1	RELIANCE C10A1B5	F4A-16 A				
		17	GEAR CLAMP	1	RELIANCE CGM1-5					
		18	PORTESCAPP MOTOR	1	P520					
BI/022		19	ENCODER SHAFT	1	RELIANCE SMI-6A					
		20	GEAR CLAMP	1	RELIANCE CGM1-6					
		21	ENCODER ANTIBACKLASH GEAR	1	RELIANCE AC10A1B6	F35A-35 A				
		22	KAYDON FOUR POINT CONTACT BRG	1	KA 025XP6					
BI/018		23	LOAD GEAR	1	RELIANCE P10A 1B12	F12A-84 A				
BI/017		24	HWP RETAINER	1	BRASS					
BI/016		25	HWP RETAINER CAP	1	AL. ALLOY					
		26	HEIDENHAIN ENCODER	1	ERO 1421					
BI/012		27	HWP CYLINDER STOP	1	AL. ALLOY					
BI/029		28	HWP MAIN SLIDE PLATE	1	MILD STEEL					
BI/014		29	HWP CYLINDER BRACKET	1	ST. ST.					
		30	DEEP GROOVED BALL BEARING	1	SKF No. 618/6 OR	EQUIVALENT				
			M3 X 16LG CAP HD SCREWS	3	ST. ST.					
			M3 X 8LG CAP HD SCREWS	7	ST. ST.					
			M2.5 X 15LG CAP HD SCREWS	3	ST. ST.					
			M2.5 X 10LG CAP HD SCREWS	3	ST. ST.					
			M2 X 15LG CSK HD SCREWS	4	ST. ST.					
			M2 X 6LG CSK HD SCREWS	2	ST. ST.					
			M2 X 8LG CAP HD SCREWS	5	ST. ST.					
			M2 X 6LG CAP HD SCREWS	3	ST. ST.					
TITLE	HWP ASSEMBLY - PARTS LIST ISIS POLARISATION UPGRADE				LOC'N. BI	ISSUE 2	ASS'Y DRG. NO. BI/036	SHEET NO. 1	DRAWN BY PDJ	DATE 29/01/96
ROYAL GREENWICH OBSERVATORY, MADINGLEY ROAD, CAMBRIDGE								DRG. NO.	BI/036/PL	

DRG NO.

BI/017

DO NOT SCALE
REMOVE SHARP EDGES

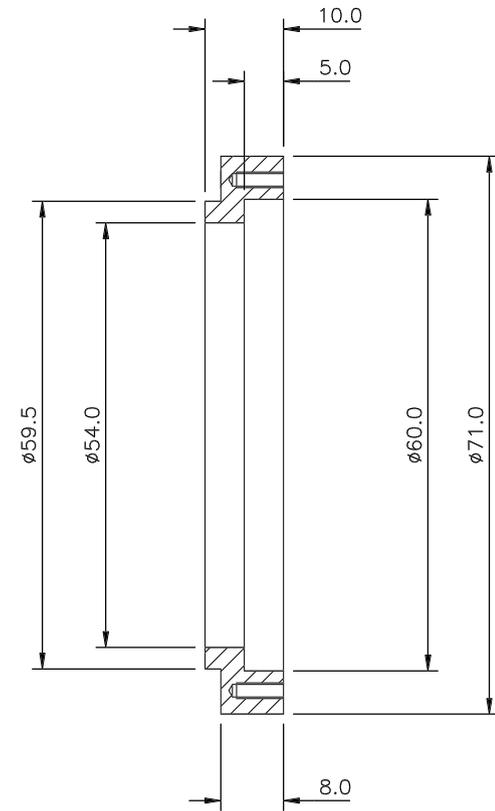
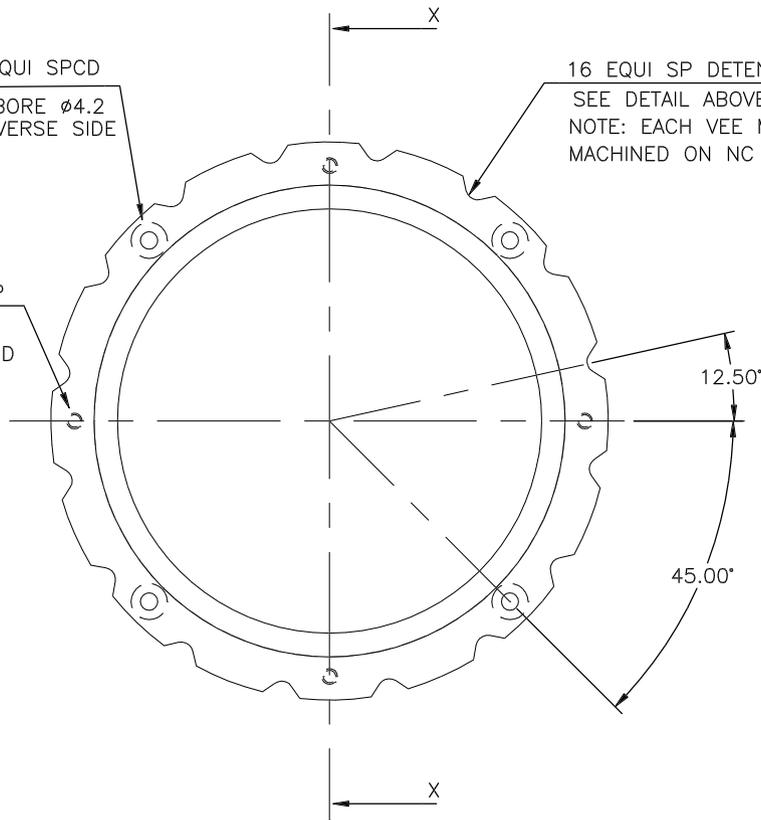


DETENT VEE DETAIL SCALE 5:1

4 HOLES $\phi 2.1$ EQUI SPCD
ON 65.0 PCD CBORE $\phi 4.2$
X 2.5DP ON REVERSE SIDE

16 EQUI SP DETENT VEE'S
SEE DETAIL ABOVE
NOTE: EACH VEE MUST BE
MACHINED ON NC M/C

4 HOLES M2 X 6DP
FROM BACK FACE
EQUI SP ON 65.0PCD

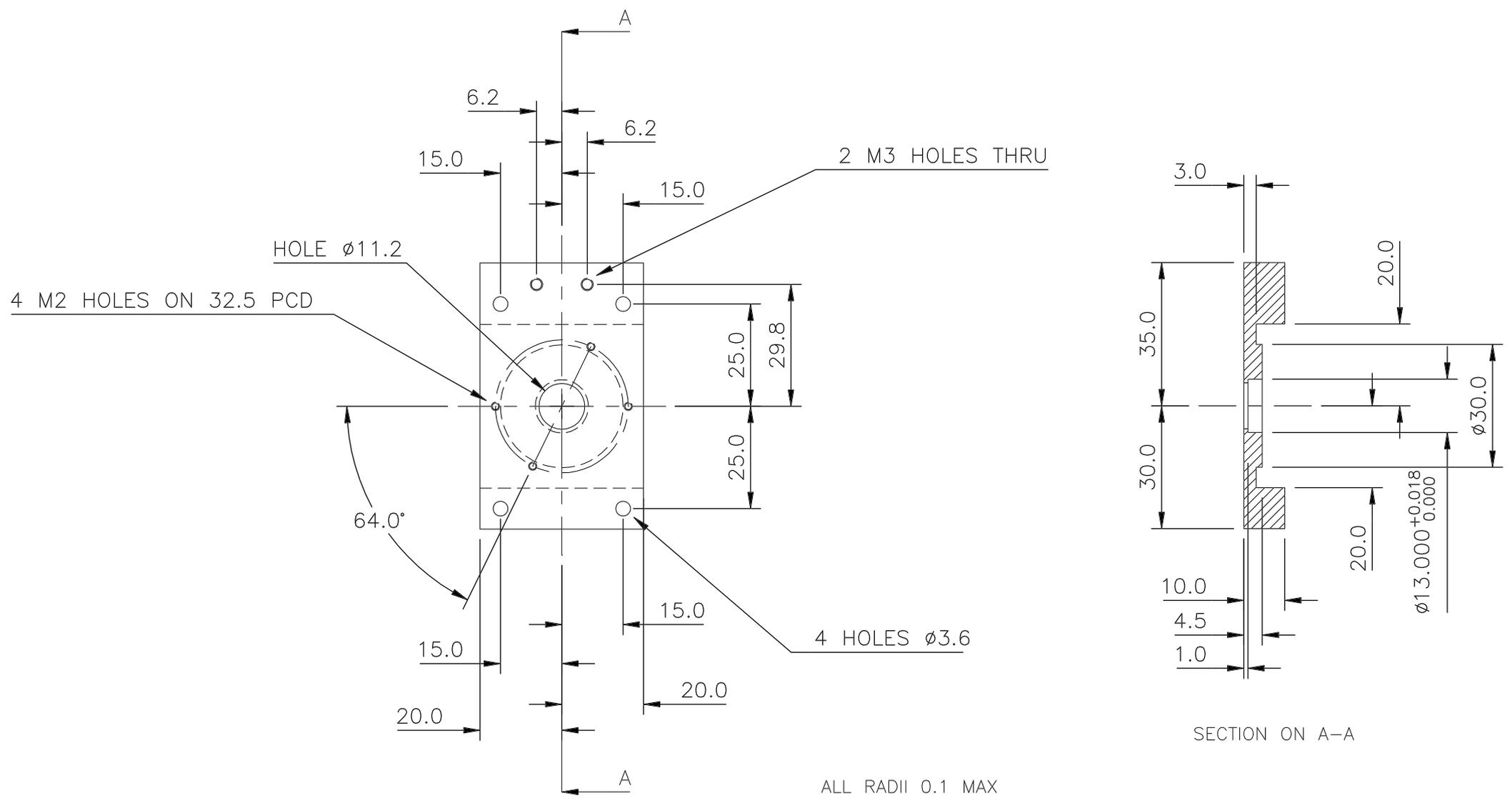


SECTION ON X-X

				TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL BRASS	THIRD ANGLE PROJECTION 	DIMS IN mm	ORIGINAL SCALE 2:1	ORIGINAL SHEET SIZE A2		G.A. NO. BI/036	
1		11/09/95	PDJ	X \pm					TITLE HWP RETAINER ISIS POLARISATION UPGRADE	LOC'N.	BI	SHT. 1
2		30/01/96	PDJ	X.X \pm 0.1	FINISH NICKLE PLATED	NO. REQ'D PER ASS'Y	ROYAL GREENWICH OBSERVATORY			DRG NO.	BI/017	
ISSUE	MOD. NO.	DATE	DRAWN BY	X.XX \pm		1	MADINGLEY ROAD					
				ANG. \pm 0.1			CAMBRIDGE CB3 0EZ					

DRG NO.
BI/019

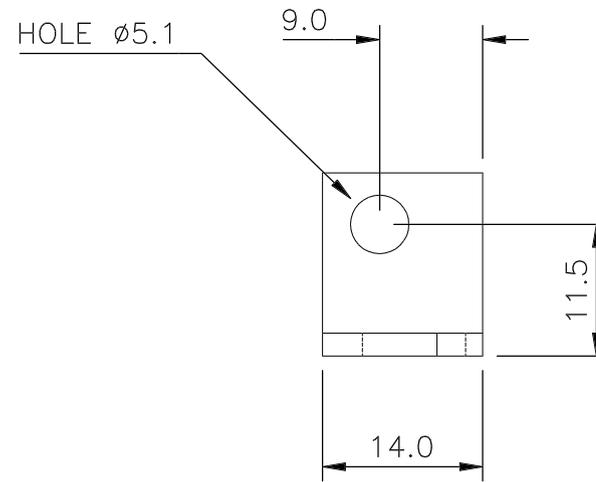
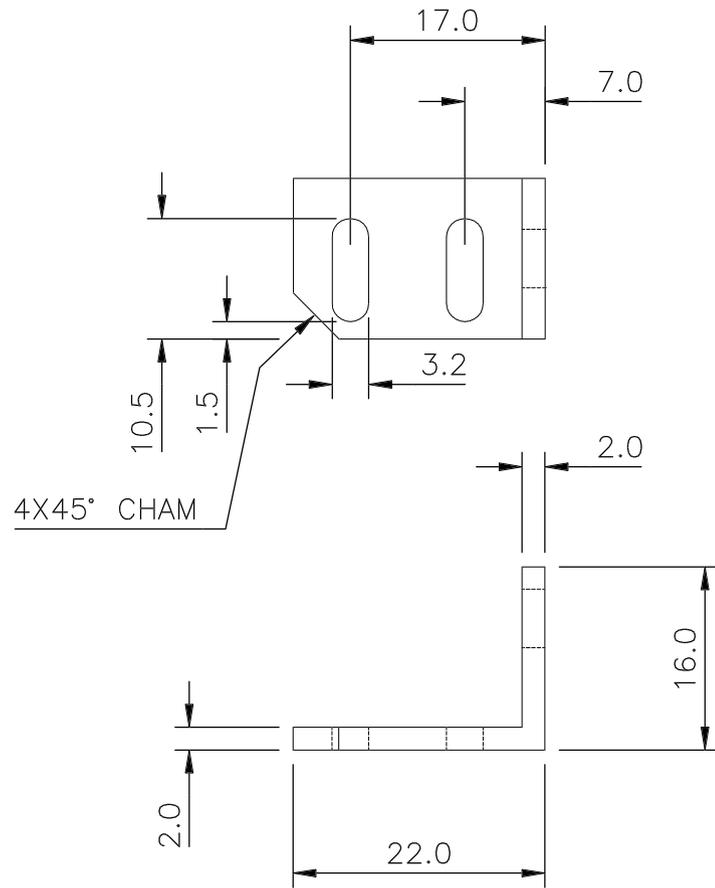
DO NOT SCALE
REMOVE SHARP EDGES



1	12/09/95	PDJ	TOLERANCES (UNLESS OTHERWISE STATED) X \pm X.X \pm 0.1 X.XX \pm ANG. \pm 0.1	MATERIAL AL. ALLOY	THIRD ANGLE PROJECTION 	DIMS IN mm	ORIGINAL SCALE 1:1	ORIGINAL SHEET SIZE A3	G.A. NO. BI/036	
2	29/01/96	PDJ				ROYAL GREENWICH OBSERVATORY	TITLE HWP ENCODER SUPPORT ISIS POLARISATION UPGRADE			
3	28/03/96	PDJ		FINISH BLK ANODISE	No. REQ'D 2	MADINGLEY ROAD CAMBRIDGE CB3 0EZ	DRG NO.	BI/019	SHT. 1	LOC'N BI
ISSUE	DATE	DRAWN								

DRG NO.
BI/020

DO NOT SCALE
REMOVE SHARP EDGES



			TOLERANCES (UNLESS OTHERWISE STATED)	MATERIAL	THIRD ANGLE PROJECTION	DIMS IN mm	ORIGINAL SCALE 2:1	ORIGINAL SHEET SIZE A3	G.A. NO. BI/036	
1	03/05/96	PDJ	X ±	AL. ALLOY		ROYAL GREENWICH OBSERVATORY	TITLE	ZERO PROXIMITY SWITCH BRACKET		
2	03/05/96	PDJ	X.X ± 0.1	FINISH	No. REQ'D	MADINGLEY ROAD	ISIS POLARISATION UPGRADE			
ISSUE	DATE	DRAWN	X.XX ±	CLEAN	2	CAMBRIDGE CB3 0EZ	DRG NO.	BI/020	SHT. 1	LOC'N BI
			ANG. ±							