

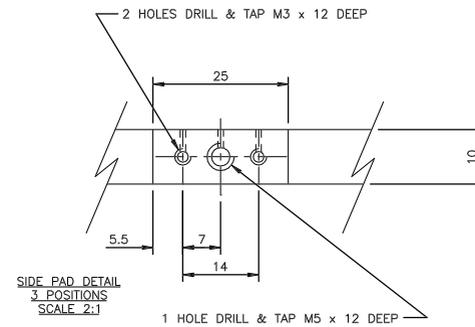
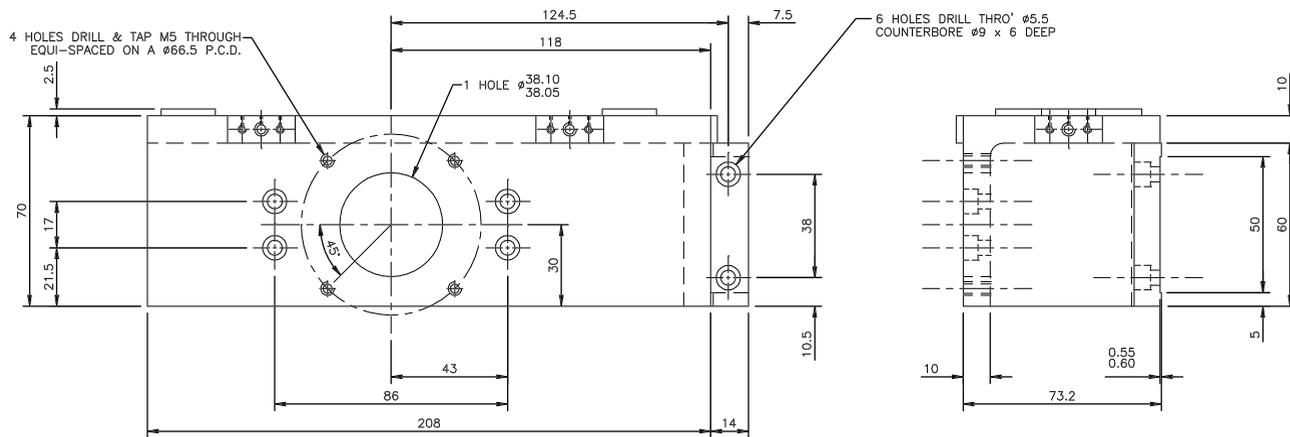
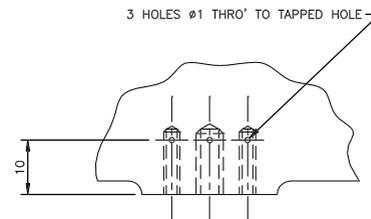
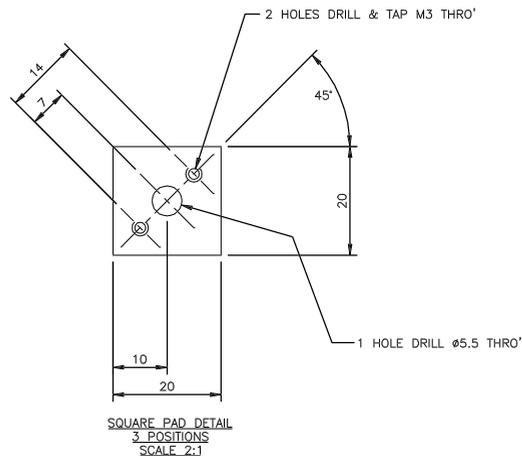
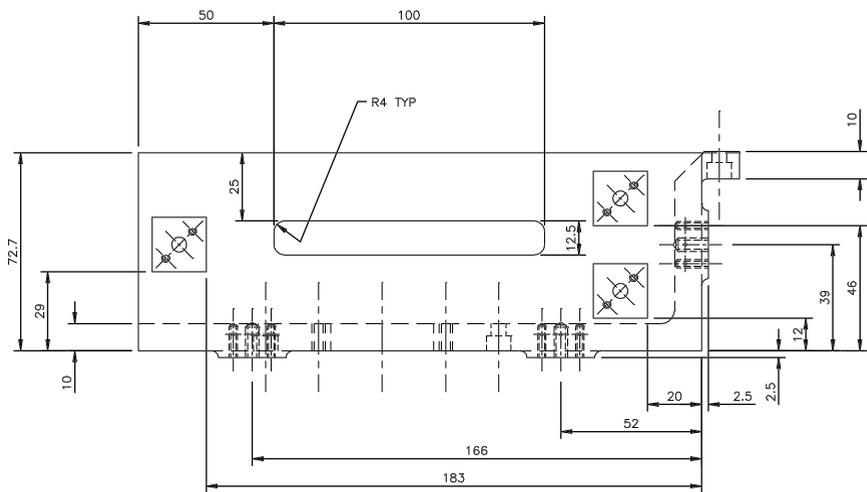
**PRELIMINARY**  
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 11/03/98  
 PRELIMINARY ISSUE: 4  
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REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE
1	PRELIMINARY ISSUE	R.M.T	N/A	N/A	N/A	18.09.97

UNLESS OTHERWISE STATED  
 DIMENSIONS ARE IN mm  
 GENERAL TOLERANCE: ± 0.1  
 ANGULAR TOLERANCE: ±  
 SURFACE FINISH: 1.6/  
 (MICRONS)  
 REMOVE ALL SHARP EDGES  
 DO NOT SCALE THIS DRAWING

MATERIAL  
 SEE DETAILS  
 FINISH  
 SEE DETAILS  
 USED ON  
 B0104

 <b>ROYAL GREENWICH OBSERVATORY</b> MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM			
TITLE LEAD SCREW ASSEMBLY FOCUS SUB-ASSEMBLY			
ORIGINAL SHEET A4	LOCATION N/A	DWG. No. B0109	REV 1
ORIGINAL SCALE 2:1	SHEET 1 OF 1		



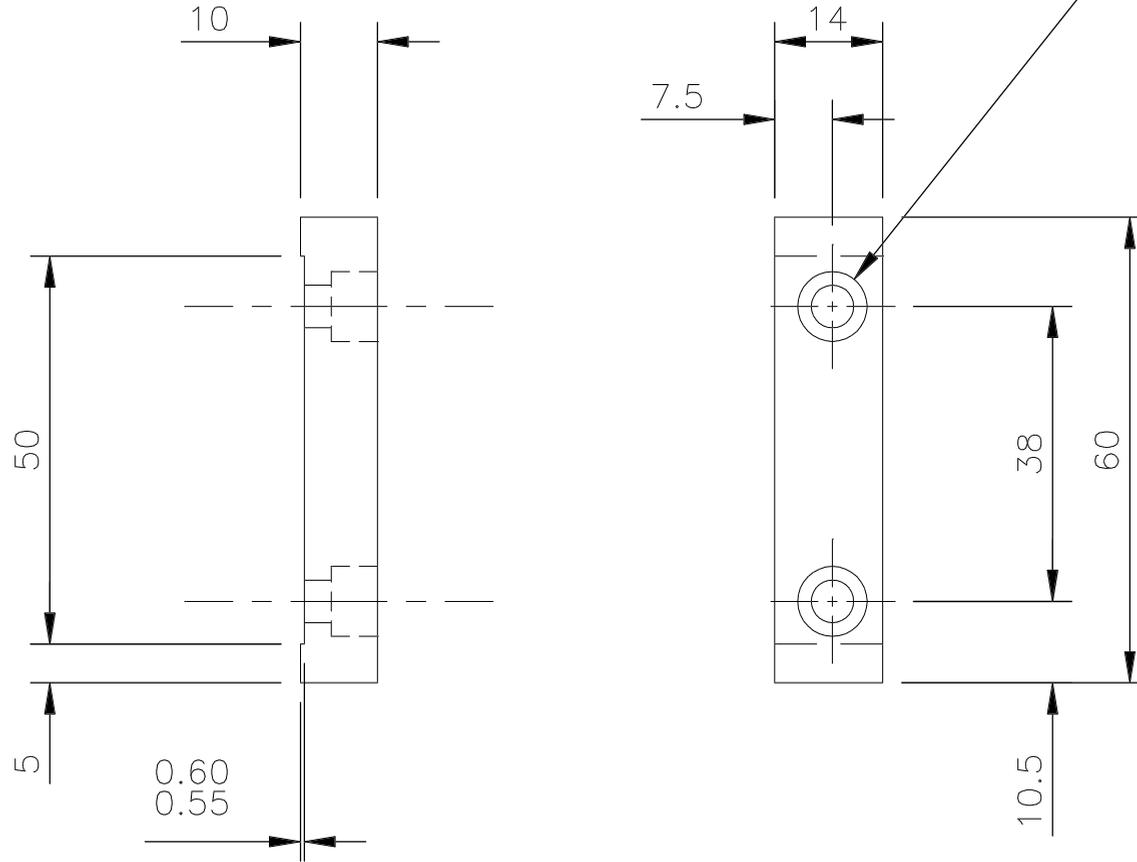
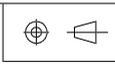
NOTE: ALL THREADS TO BE HELICOILED

REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE
1	PRELIMINARY ISSUE	A4 PLUS	IPB	SCC	ST	01/12/97
ISSUE DESCRIPTION						

UNLESS OTHERWISE STATED  
 DIMENSIONS ARE IN mm  
 GENERAL TOLERANCE: ± 0.1  
 ANGULAR TOLERANCE: ±  
 SURFACE FINISH: 1.6/  
 (MICRONS)  
 REMOVE ALL SHARP EDGES  
 DO NOT SCALE THIS DRAWING

MATERIAL  
 ALUMINIUM ALLOY  
 BS 1470 6082 TF  
 FINISH  
 BEAD BLASTED  
 S.A. 2½  
 USED ON  
 B0104

		<b>ROYAL GREENWICH OBSERVATORY</b> MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM			
TITLE		INGRID – FOCUS DRIVE ASSEMBLY MAIN BASE			
ORIGINAL SHEET	LOCATION	DWG. No.		REV	
A1	B0	BO140		1	
ORIGINAL SCALE	1:1		SHEET 1 OF 1		



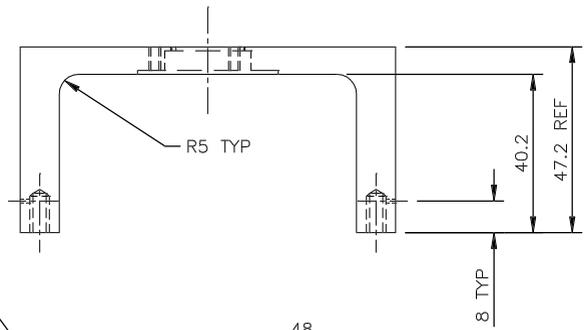
2 HOLES DRILL THRO'  $\phi 5.5$   
C/BORE  $\phi 9 \times 6$  DEEP

REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE
1	FOR MANUFACTURE	A4 PLUS	IPB	SCC	ST	01/12/97
ISSUE DESCRIPTION						

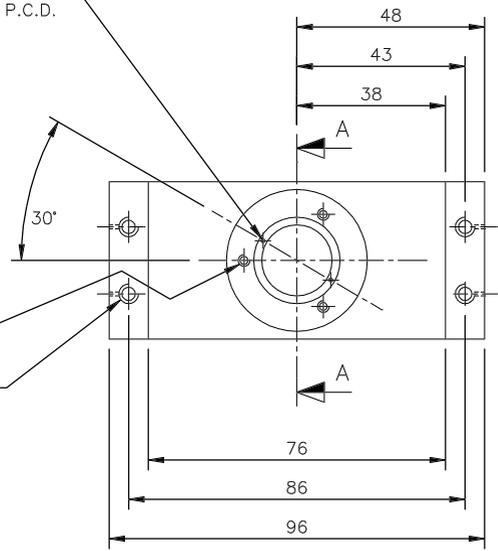
UNLESS OTHERWISE STATED  
 DIMENSIONS ARE IN mm  
 GENERAL TOLERANCE:  $\pm 0.1$   
 ANGULAR TOLERANCE:  $\pm$   
 SURFACE FINISH: 1.6/  
 (MICRONS)  $\checkmark$   
 REMOVE ALL SHARP EDGES  
 DO NOT SCALE THIS DRAWING

MATERIAL  
 ALUMINIUM ALLOY  
 BS 1470 6082 TF  
 FINISH  
 NATURAL  
 USED ON  
 B0104

		<b>ROYAL GREENWICH OBSERVATORY</b> MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM			
TITLE INGRID – FOCUS DRIVE ASSEMBLY BASE PILLAR					
ORIGINAL SHEET A4	LOCATION BO	DWG. No. B0141		REV 1	
ORIGINAL SCALE 1:1				SHEET 1 OF 1	



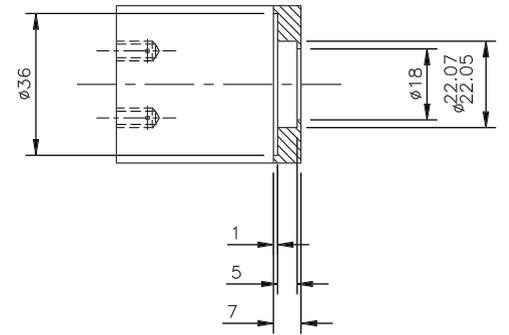
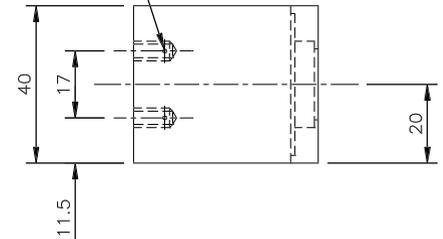
2 HOLES DRILL  $\phi 1$  THRO' SPACED ON A  $\phi 20$  P.C.D.



3 HOLES DRILL & TAP M3 THRO' EQUI-SPACED ON A  $\phi 27$  P.C.D.

4 HOLES DRILL & TAP M5 x 10 DEEP

4 HOLES  $\phi 1$  THRO' TO TAPPED HOLE



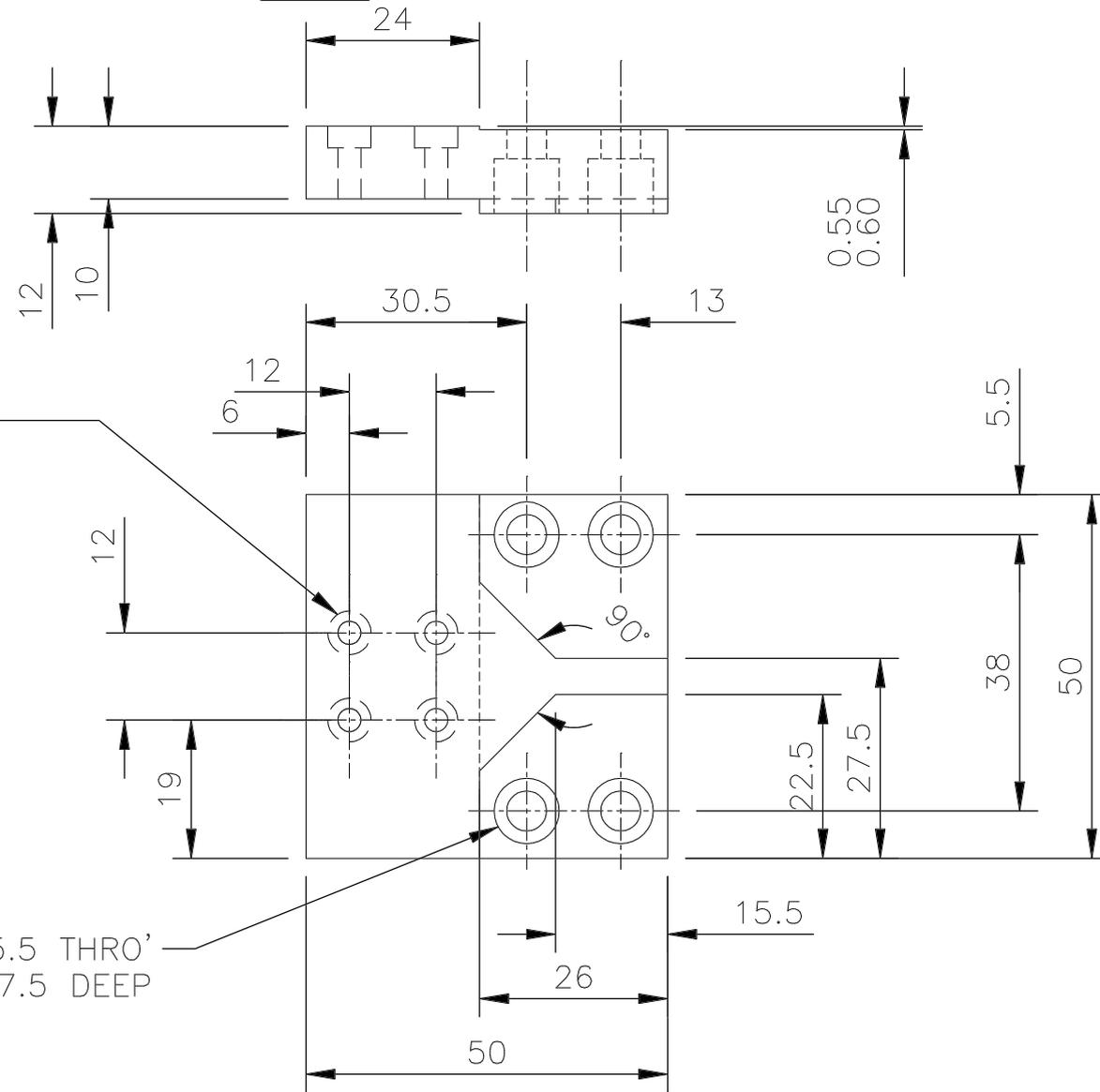
SECTION 'A - A'

							UNLESS OTHERWISE STATED	MATERIAL ALUMINIUM ALLOY BS 1470 6082 TF	<b>ROYAL GREENWICH OBSERVATORY</b> MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM		<b>PPARC</b>
							DIMENSIONS ARE IN mm	FINISH NATURAL	TITLE INGRID - FOCUS DRIVE ASSEMBLY BASE BEARING BLOCK		
							GENERAL TOLERANCE: $\pm 0.1$	USED ON B0104	ORIGINAL SHEET A2	LOCATION BO	DWG. No. BO142
							ANGULAR TOLERANCE: $\pm$	ORIGINAL SCALE 1:1	SHEET 1 OF 1		
							SURFACE FINISH: 1.6/ (MICRONS)				
							REMOVE ALL SHARP EDGES				
1	FOR MANUFACTURE	A4 PLUS	IPB	SCC	ST	01/12/97					
REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE					
ISSUE DESCRIPTION							DO NOT SCALE THIS DRAWING				



4 HOLES  $\phi 3.2$  C'BORE  
 $\phi 6$  X 3 DEEP ON OTHER SIDE

4 HOLES  $\phi 5.5$  THRO'  
COUNTERBORE  $\phi 9$  X 7.5 DEEP



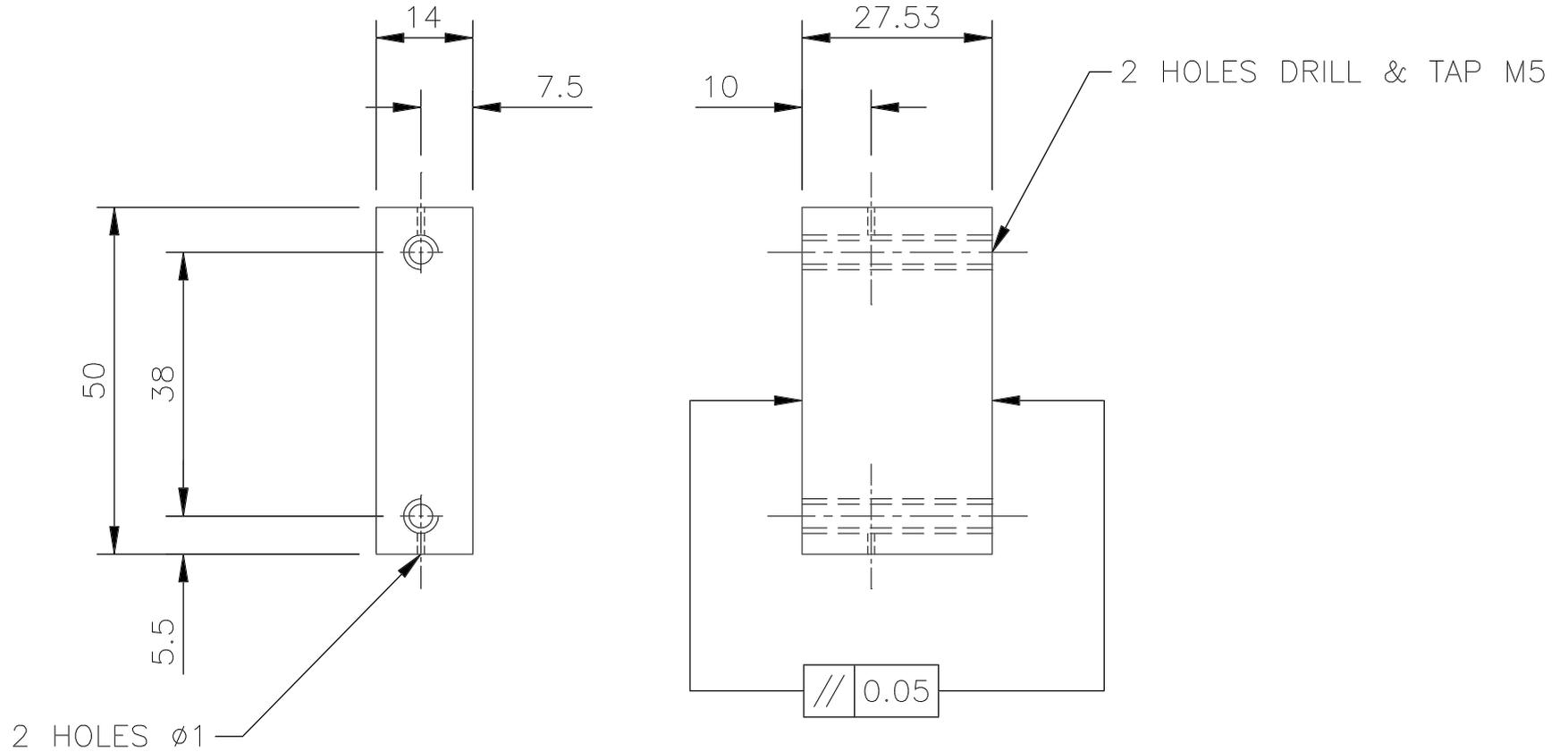
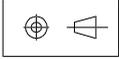
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22/06/98  
PRELIMINARY ISSUE: 4  
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REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE
1	PRELIMINARY ISSUE	R.M.T	N/A	N/A	N/A	18.09.97
ISSUE DESCRIPTION						

UNLESS OTHERWISE STATED  
DIMENSIONS ARE IN mm  
GENERAL TOLERANCE:  $\pm 0.1$   
ANGULAR TOLERANCE:  $\pm$   
SURFACE FINISH:  (MICRONS)  
REMOVE ALL SHARP EDGES  
DO NOT SCALE THIS DRAWING

MATERIAL  
ALUMINIUM ALLOY  
BS 1470 6082 TF  
FINISH  
USED ON  
B0104

		<b>ROYAL GREENWICH OBSERVATORY</b> MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM			
TITLE FLEXURE END BRACKET FOCUS SUB-ASSEMBLY					
ORIGINAL SHEET A4	LOCATION N/A	DWG. No. B0143	REV 1		
ORIGINAL SCALE 1:1	SHEET 1 OF 1				



2 HOLES  $\phi 1$

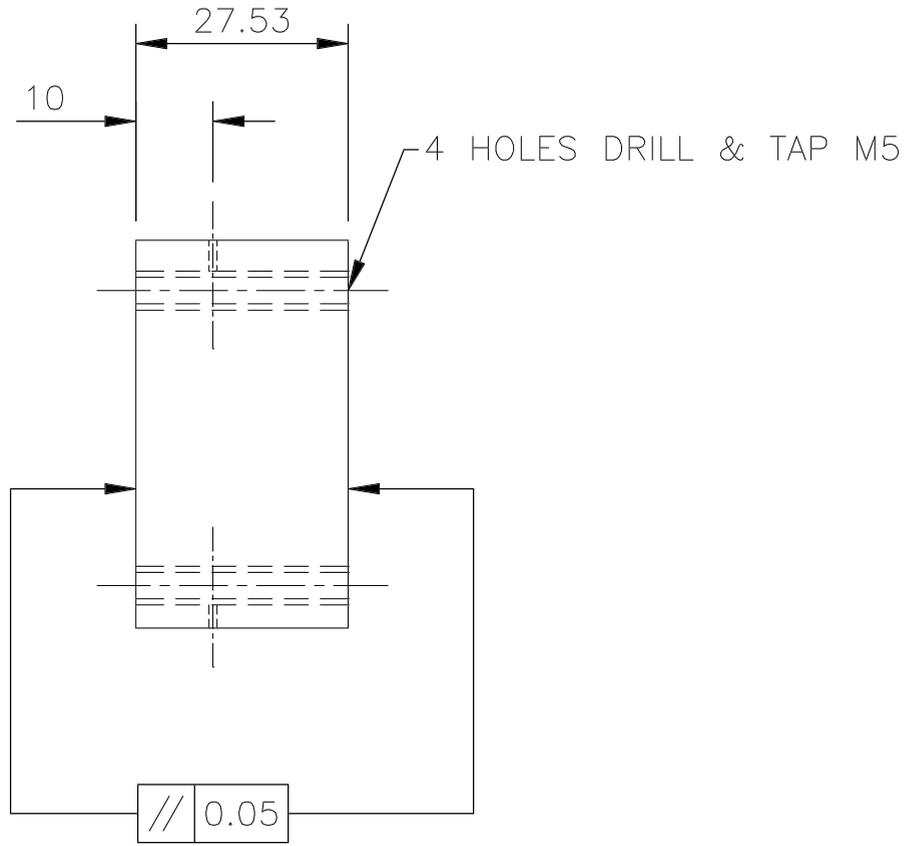
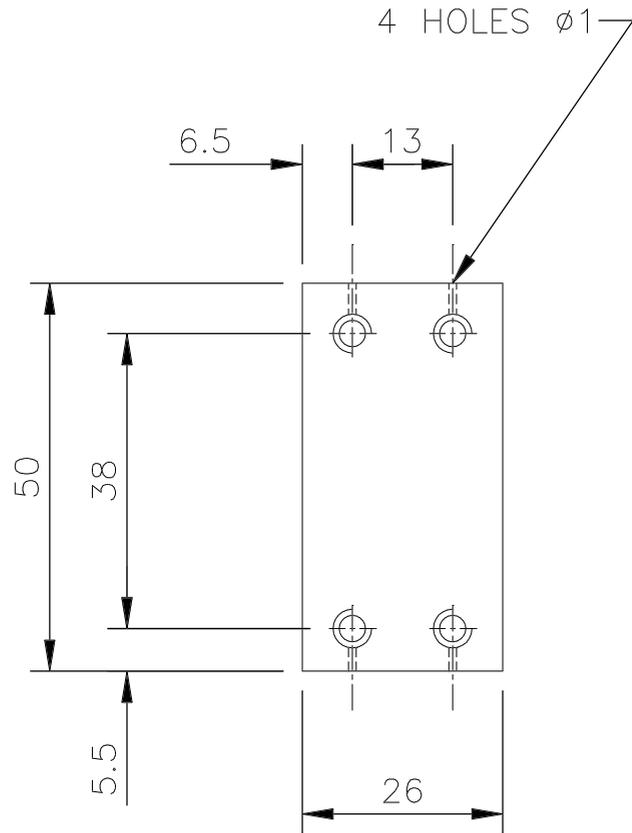
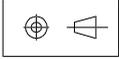
2 HOLES DRILL & TAP M5

REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE
2	7.53 Added to length	A4PLUS	PDJ	PDJ	ST	03/08/99
ISSUE DESCRIPTION						

UNLESS OTHERWISE STATED  
 DIMENSIONS ARE IN mm  
 GENERAL TOLERANCE:  $\pm 0.1$   
 ANGULAR TOLERANCE:  $\pm$   
 SURFACE FINISH: 1.6/  
 (MICRONS)  $\checkmark$   
 REMOVE ALL SHARP EDGES  
 DO NOT SCALE THIS DRAWING

MATERIAL	BLACK DELRIN
FINISH	NATURAL
USED ON	B0104

 <b>ROYAL GREENWICH OBSERVATORY</b> MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM			
TITLE INGRID – FOCUS DRIVE ASSEMBLY THERMAL INSULATOR (SMALL)			
ORIGINAL SHEET A4	LOCATION BO	DWG. No. B0144	REV 2
ORIGINAL SCALE 1:1	SHEET 1 OF 1		

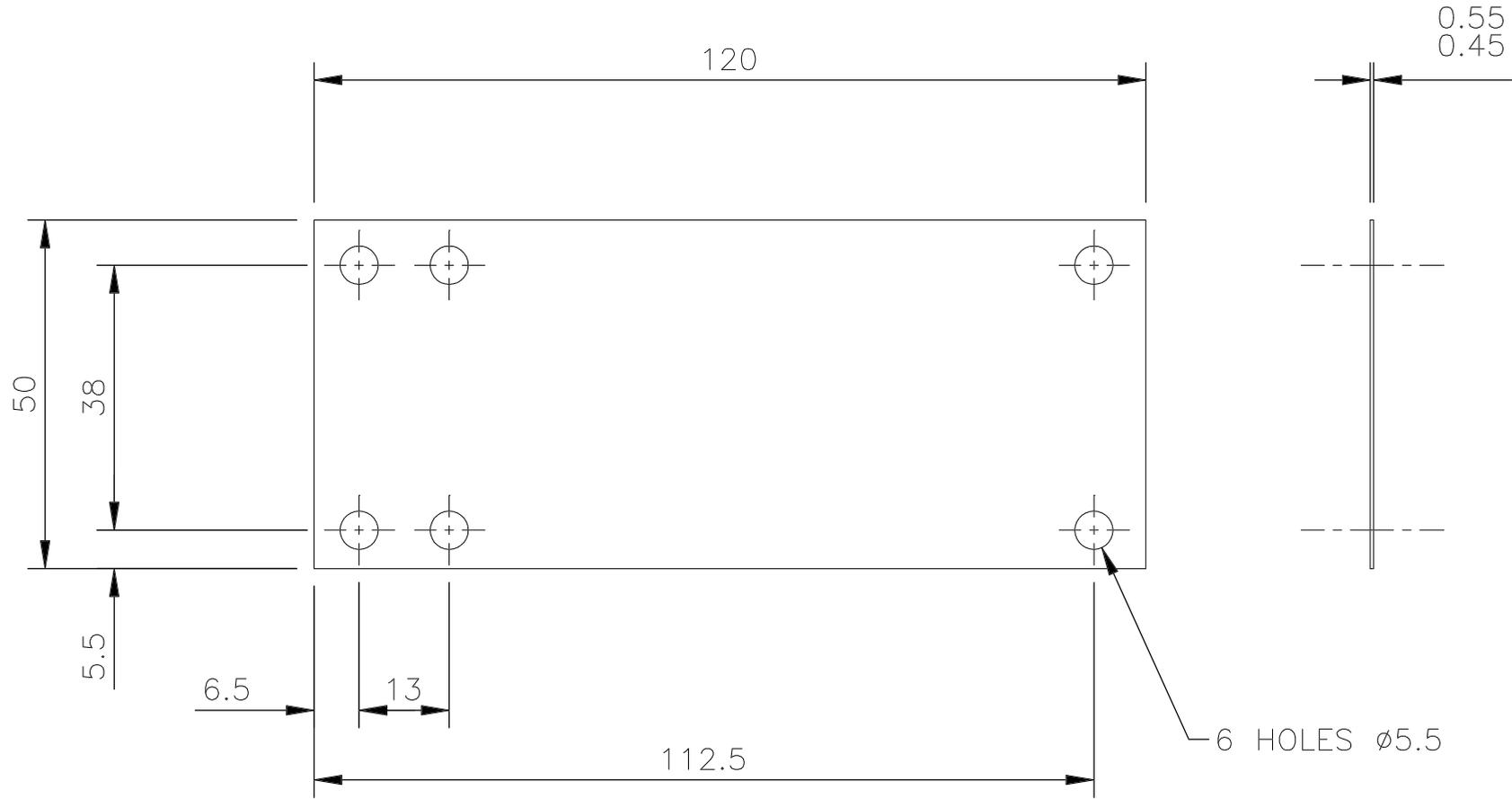
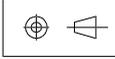


REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE
2	7.53 Added to length	A4 PLUS	PDJ	PDJ	ST	03/08/99
ISSUE DESCRIPTION						

UNLESS OTHERWISE STATED  
 DIMENSIONS ARE IN mm  
 GENERAL TOLERANCE: ± 0.1  
 ANGULAR TOLERANCE: ±  
 SURFACE FINISH: 1.6/  
 (MICRONS) ✓  
 REMOVE ALL SHARP EDGES  
 DO NOT SCALE THIS DRAWING

MATERIAL	DELIRIN
FINISH	NATURAL
USED ON	B0104

 <b>ROYAL GREENWICH OBSERVATORY</b> MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM			
TITLE INGRID – FOCUS DRIVE ASSEMBLY THERMAL INSULATOR (LARGE)			
ORIGINAL SHEET A4	LOCATION BO	DWG. No. B0145	REV 2
ORIGINAL SCALE 1:1	SHEET 1 OF 1		



REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE
1	FOR MANUFACTURE	A4 PLUS	IPB	SCC	ST	01/12/97
ISSUE DESCRIPTION						

UNLESS OTHERWISE STATED  
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 GENERAL TOLERANCE: ± 0.1  
 ANGULAR TOLERANCE: ±  
 SURFACE FINISH: 1.6/  
 (MICRONS) ✓  
 REMOVE ALL SHARP EDGES  
 DO NOT SCALE THIS DRAWING

MATERIAL  
 ALUMINIUM ALLOY  
 BS 1470 6082 TF  
 FINISH  
 NATURAL  
 USED ON  
 B0104

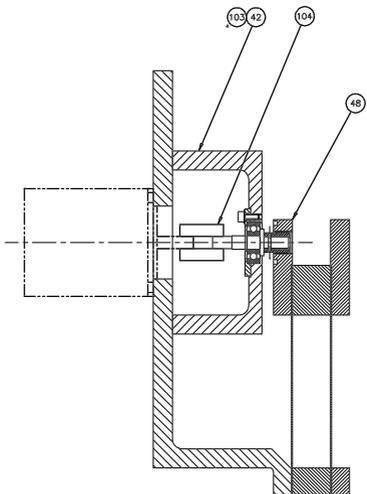


ROYAL GREENWICH OBSERVATORY  
 MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM

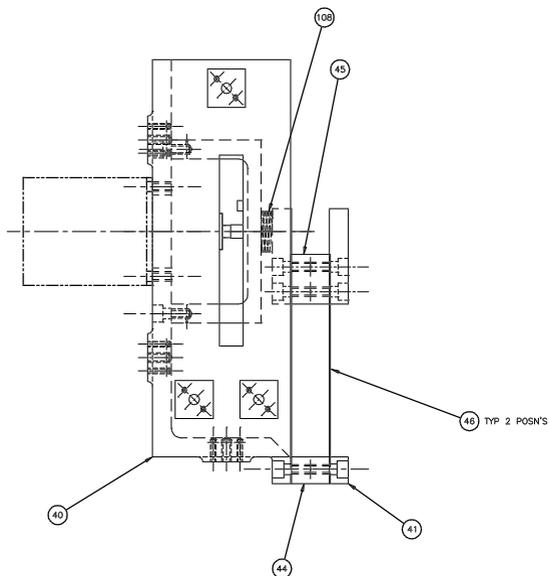


TITLE  
 INGRID – FOCUS DRIVE ASSEMBLY  
 FLEXURE

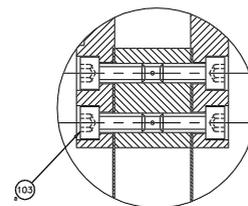
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ORIGINAL SCALE 1:1	SHEET 1 OF 1		



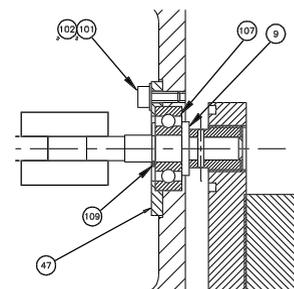
SECTION 'A - A'  
SPRING OMITTED FOR CLARITY



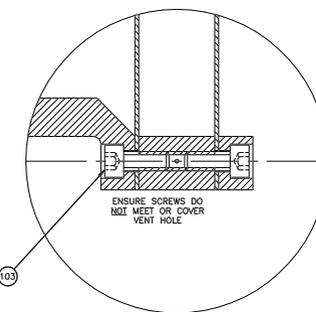
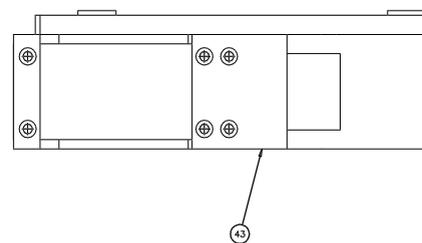
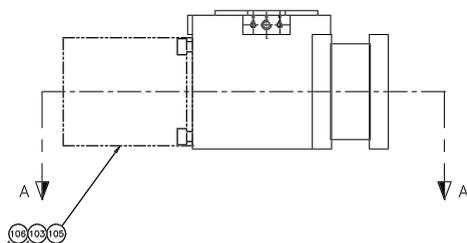
ENSURE SCREWS DO NOT MEET OR COVER VENT HOLE



INSULATOR/COLD FINGER  
DETAIL  
SCALE 2:1



LEADSCREW/BEARING ARRANGEMENT  
SPRING OMITTED FOR CLARITY  
SCALE 2:1



INSULATOR/BASE  
DETAIL  
SCALE 2:1

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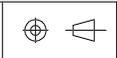
UNLESS OTHERWISE STATED  
DIMENSIONS ARE IN mm  
GENERAL TOLERANCE: ± 0.1  
ANGULAR TOLERANCE: ±  
SURFACE FINISH: 1.6/  
(MICRONS)  
REMOVE ALL SHARP EDGES  
DO NOT SCALE THIS DRAWING

MATERIAL  
SEE DETAILS  
FINISH  
SEE DETAILS  
USED ON  
B0101

 <b>ROYAL GREENWICH OBSERVATORY</b> MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM		<b>PPARC</b>
TITLE FOCUS SUB-ASSEMBLY INGRID NEAR INFRA-RED CAMERA		
ORIGINAL SHEET A0	LOCATION N/A	DWG. No. B0104
ORIGINAL SCALE 1:1	SHEET 1 OF 1	

DWG. No. B0148

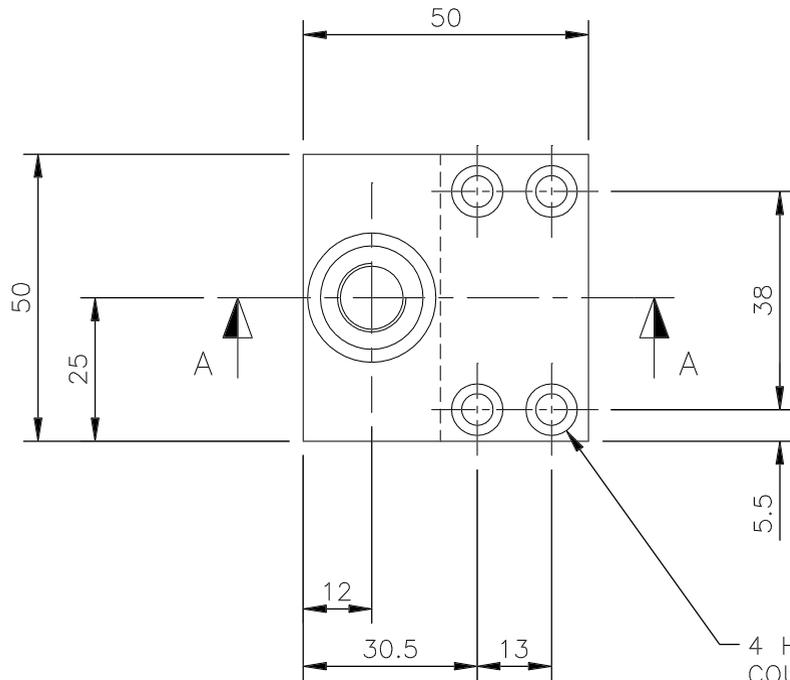
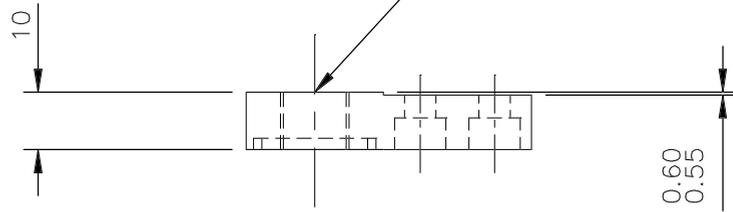
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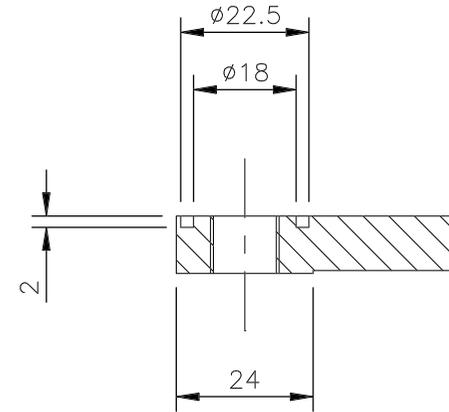
NOTE

ALL THREADS INTO ALUMINIUM ALLOY SHALL BE HELICOILED WHERE POSSIBLE.

1 HOLE DRILL & TAP M12 x 0.5 TO MATE WITH B0190.



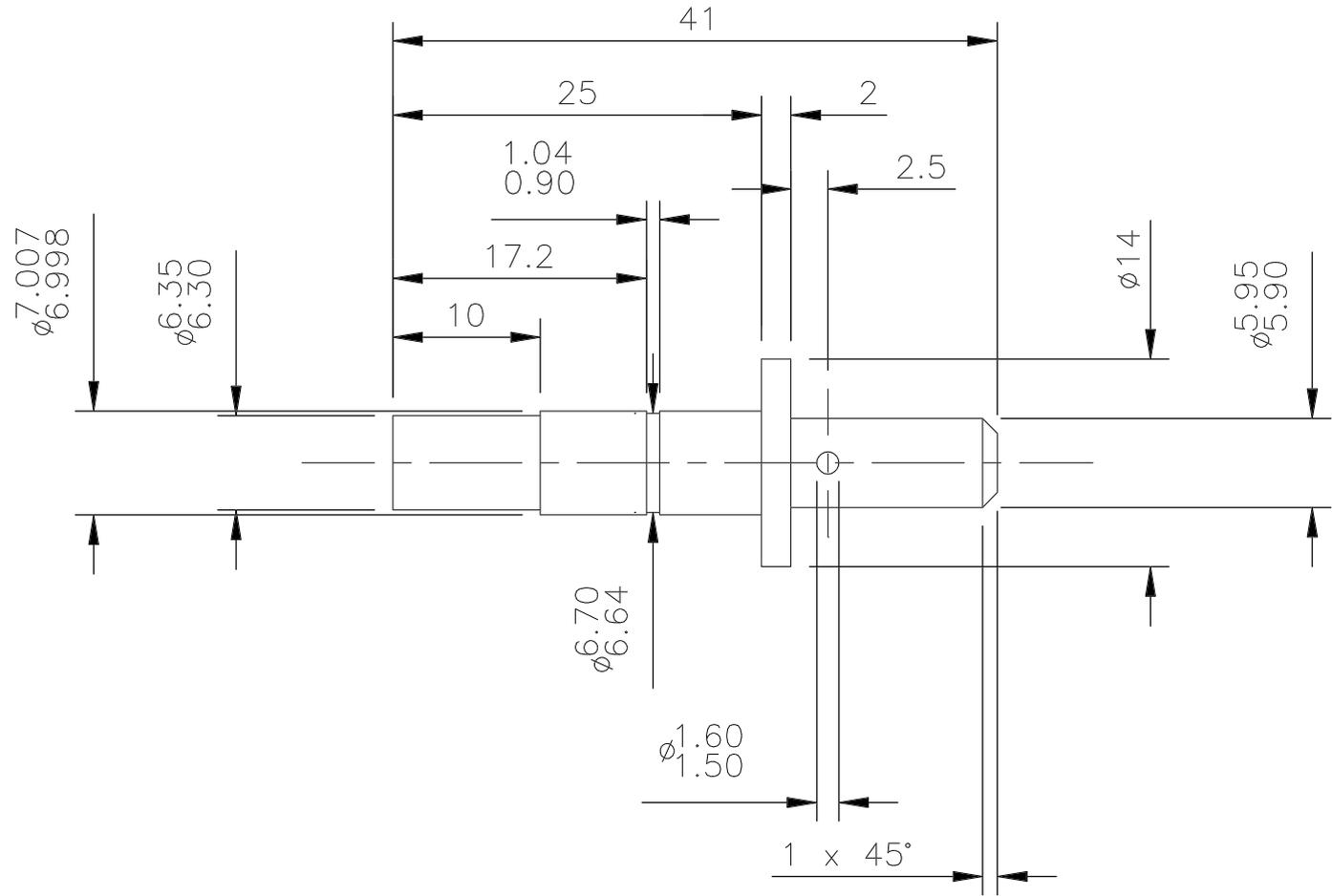
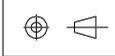
4 HOLES  $\phi 5.5$  THRO' COUNTERBORE  $\phi 9 \times 5.5$  DEEP



SECTION 'A - A'

**PRELIMINARY**  
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10.10.97  
PRELIMINARY ISSUE: 3  
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PROCUREMENT OR MANUFACTURE.

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							DIMENSIONS ARE IN mm	ALUMINIUM ALLOY	TITLE FLEXTURE END PLATE FOCUS SUB-ASSEMBLY					
							GENERAL TOLERANCE: $\pm ?$	BS 1470 6082 TF						
							ANGULAR TOLERANCE: $\pm ?$	FINISH	ORIGINAL SHEET A3					
							SURFACE FINISH: $??$ (MICRONS)	?						
							REMOVE ALL SHARP EDGES	USED ON	LOCATION N/A		DWG. No. B0148		REV	
1	PRELIMINARY ISSUE	R.M.T	N/A	N/A	N/A	29.08.97	DO NOT SCALE THIS DRAWING	B0104	ORIGINAL SCALE 1:1		SHEET 1 OF 1			
REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE								
ISSUE DESCRIPTION														



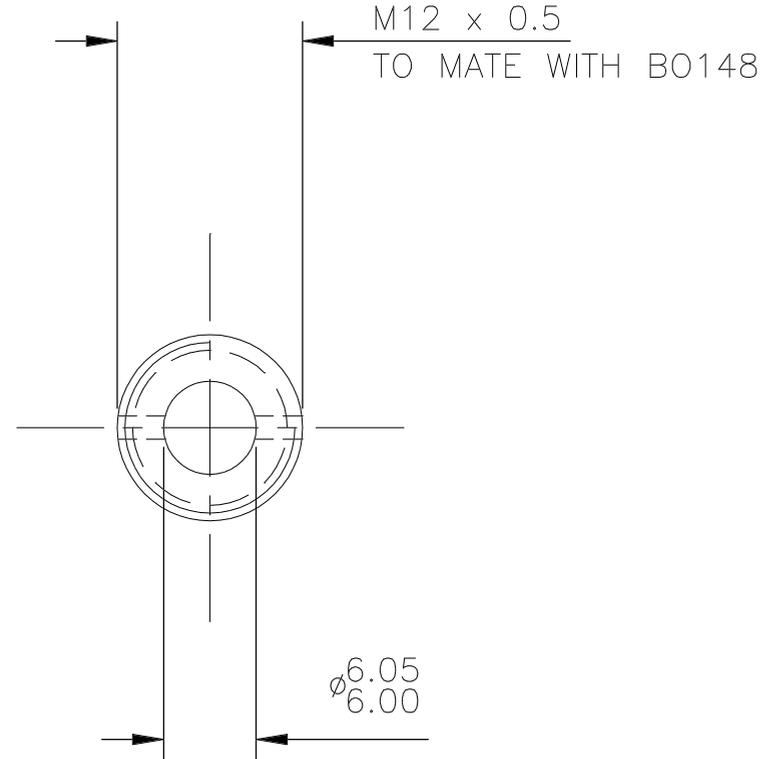
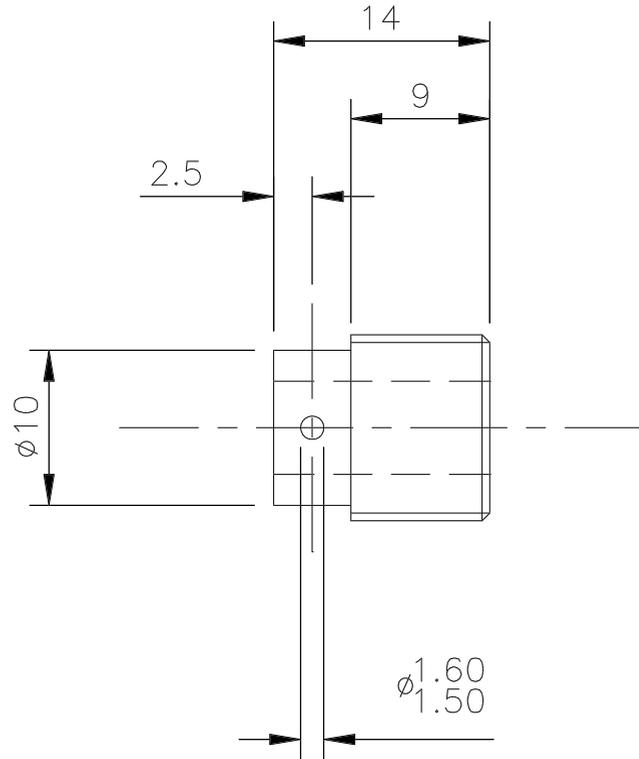
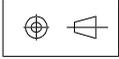
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 11/03/98  
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REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE
1	PRELIMINARY ISSUE	R.M.T	N/A	N/A	N/A	01.09.97
ISSUE DESCRIPTION						

UNLESS OTHERWISE STATED  
 DIMENSIONS ARE IN mm  
 GENERAL TOLERANCE: ± 0.1  
 ANGULAR TOLERANCE: ±  
 SURFACE FINISH: 1.6/  
 (MICRONS)  
 REMOVE ALL SHARP EDGES  
 DO NOT SCALE THIS DRAWING

MATERIAL  
 STAINLESS STEEL  
 BS 970 304 S11  
 FINISH  
 NATURAL  
 USED ON  
 B0104

		<b>ROYAL GREENWICH OBSERVATORY</b> MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM			
TITLE LEAD SCREW FOCUS SUB-ASSEMBLY					
ORIGINAL SHEET A4	LOCATION N/A	DWG. No. B0149	REV 1		
ORIGINAL SCALE 2:1	SHEET 1 OF 1				



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REV	DESCRIPTION	DRAWN BY	CHECKED	APPROVED	STATUS	DATE
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UNLESS OTHERWISE STATED  
 DIMENSIONS ARE IN mm  
 GENERAL TOLERANCE: ± 0.1  
 ANGULAR TOLERANCE: ±  
 SURFACE FINISH: 1.6/  
 (MICRONS) ✓  
 REMOVE ALL SHARP EDGES  
 DO NOT SCALE THIS DRAWING

MATERIAL	VESPEL SP 3
FINISH	NATURAL
USED ON	B0191

		<b>ROYAL GREENWICH OBSERVATORY</b> MADINGLEY ROAD, CAMBRIDGE CB3 0EZ, UNITED KINGDOM			
TITLE					
LEAD SCREW THREADED BOSS LEAD SCREW ASSEMBLY					
ORIGINAL SHEET	LOCATION	DWG. No.		REV	
A4	N/A	B0190		1	
ORIGINAL SCALE	2:1			SHEET 1 OF 1	