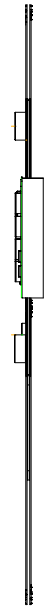
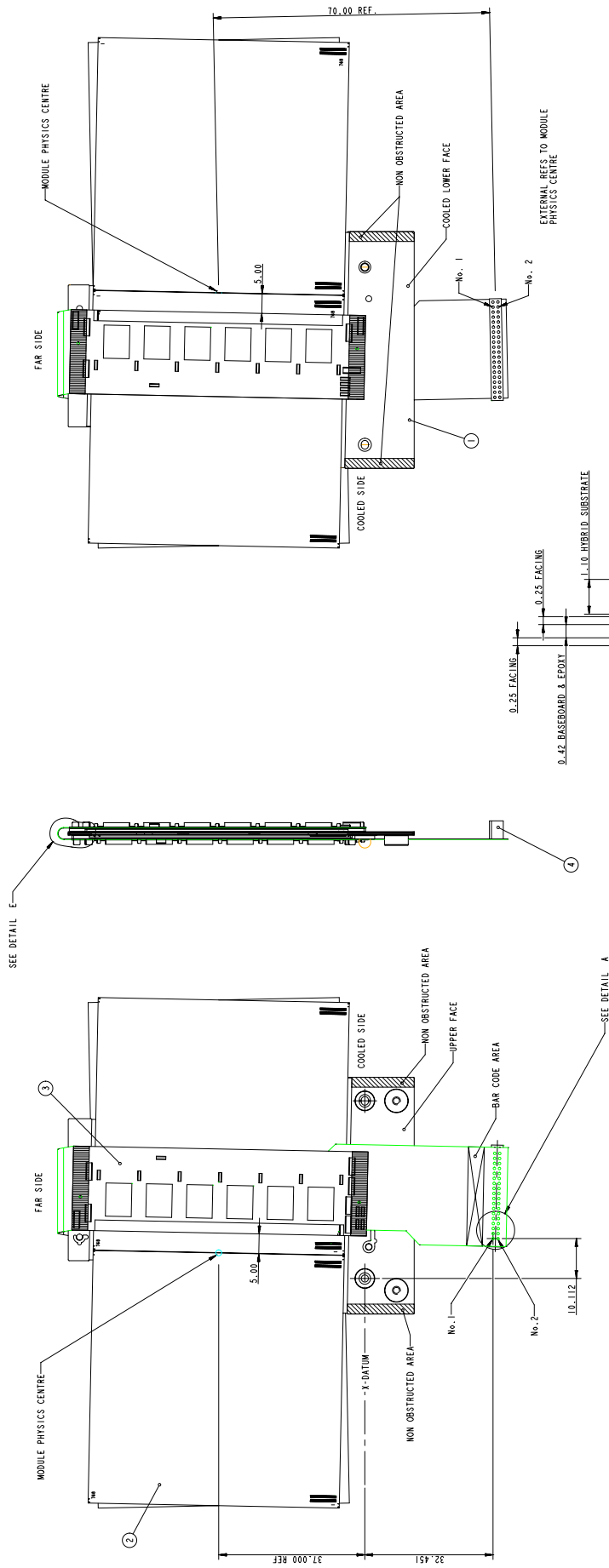
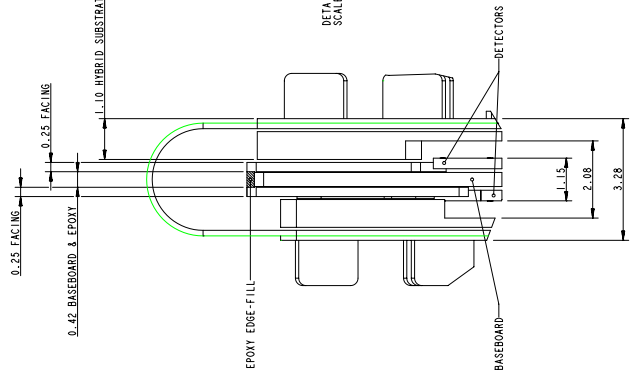


|   |                 |                              |   |
|---|-----------------|------------------------------|---|
| 1 | TB-0059-508     | BASEBOARD SUB-ASSY.          | 1 |
| 2 | TB-0059-600     | SILICON MICROSTRIP DETECTORS | 4 |
| 3 | TB-0059-650     | HYBRID SUB-ASSY.             | 1 |
| 4 | SFMC-116-L3-S-D | CONNECTOR (SAMTEC UK)        | 1 |

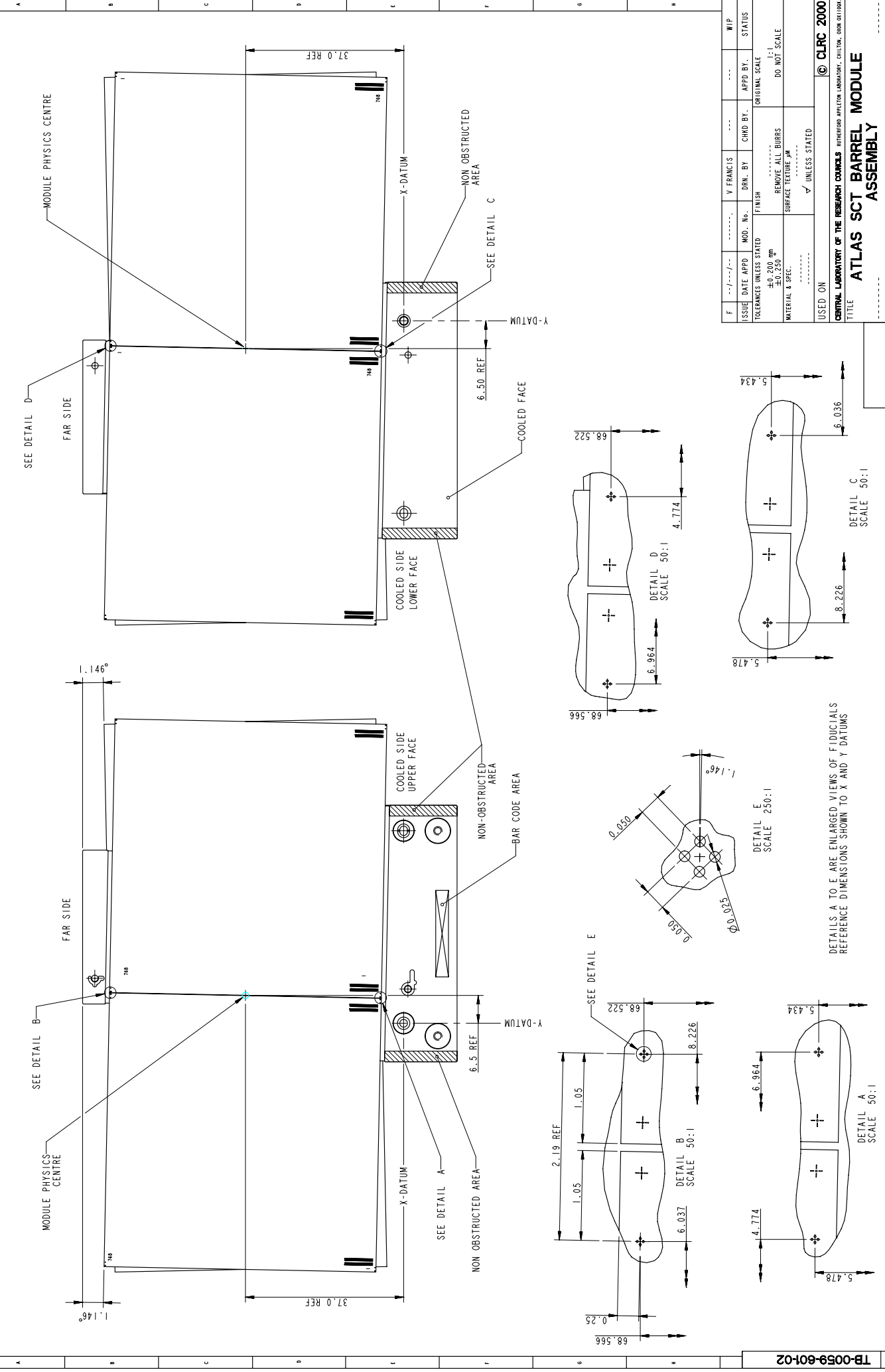
PROVISIONAL



DETAIL E  
SCALE 20:1

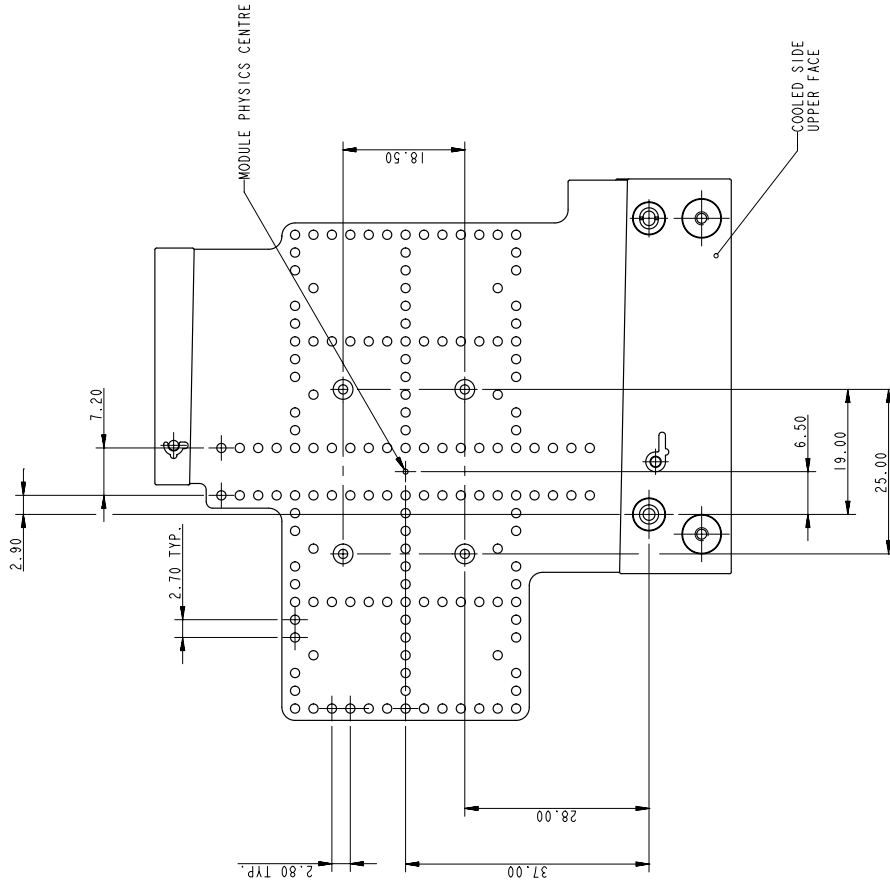


|   |                |               |               |               |               |                |
|---|----------------|---------------|---------------|---------------|---------------|----------------|
| F   | 22/NOV/00      | IV FRANCIS    | PF            | ---           | MIP           |                |
| ISSUE DATE  | APPD           | MOD. No.      | DRN. BY       | CHD. BY       | APPD. BY      | STATUS         |
| TOLERANCE UNLESS STATED   | FRESH          | ± 0.01        | ± 0.01        | ± 0.01        | ± 0.01        | ORIGINAL SCALE |
| MATERIAL & PROC.  | SEE ITEMS LIST | UNLESS STATED | UNLESS STATED | UNLESS STATED | UNLESS STATED | DO NOT SCALE   |
| USED ON   | © CLRC 2000    |               |               |               |               |                |
| CENTRAL LABORATORY OF THE HERTSMOUTH COLLEGE, HERTSMOUTH, ENGLAND, GU10 3AH |                |               |               |               |               |                |
| TITLE: ATLAS SCT BARREL MODULE ASSEMBLY                                     |                |               |               |               |               |                |
| ATLAS ID: A0 TB-0059-601-01   |                |               |               |               |               |                |
| PAGE: 1 OF 2  |                |               |               |               |               |                |



|                                  |                    |      |               |            |              |         |   |        |
|----------------------------------|--------------------|------|---------------|------------|--------------|---------|---|--------|
| ISSUE                            | DATE               | APPD | MOD. No.      | V. FRANCIS | DRN. BY      | CHRD BY | APPD BY                                     | WIP    |
| TOLERANCES UNLESS STATED         | ±0.200 mm          |      | ±0.250        |            | DO NOT SCALE |         | ORIGINAL SCALE                              | STATUS |
| MATERIAL & SPEC.                 | SURFACE TEXTURE µm |      | UNLESS STATED |            | CLRC 2000    |         | CENTRAL LABORATORY OF THE RESEARCH COUNCILS |        |
| TITLE                            |                    |      |               |            |              |         |   |        |
| ATLAS SCT BARREL MODULE ASSEMBLY |                    |      |               |            |              |         |   |        |
| SHEET 2 OF 2                     |                    |      |               |            |              |         |   |        |

DETAILS A TO E ARE ENLARGED VIEWS OF FIDUCIALS REFERENCE DIMENSIONS SHOWN TO X AND Y DATUMS



ADHESIVE TYPE "A"  
 EPOXY :- CIBA GEIGY AW106/HV953 (2D11)  
 FILLER :- BORON NITRATE - GRADE PTT405  
 MIX RATIO :- BY WEIGHT  
 2.5g RESIN/2g HARDENER/2g BORON NITRIDE  
 TYP. THICKNESS :- 0.08mm

ADHESIVE TYPE "B"  
 ELECTRICALLY CONDUCTIVE SILVER LOADED EPOXY  
 THERMAL CONDUCTIVITY (K) = 1.0 W/mk  
 TYP. THICKNESS = 0.08mm

ADHESIVE COVERAGE  
 BETWEEN SILICON & BASE BOARD - BOTH SIDES  
 ADHESIVE TYPE "A"

ADHESIVE COVERAGE  
 BETWEEN SILICON & BASEBOARD UNPASSIVATED PADS  
 BOTH SIDES - ADHESIVE TYPE "B"

PROVISIONAL ADHESIVE PATTERN AS SHOWN  
 154 DISCS ON TOP FACE  
 AND 154 DISCS ON LOWER FACE OF  
 BASEBOARD @ 21.5 ADHESIVE SHOWN  
 BEFORE SPREADING HAS OCCURRED

PROVISIONAL

ADHESIVE DETAILS

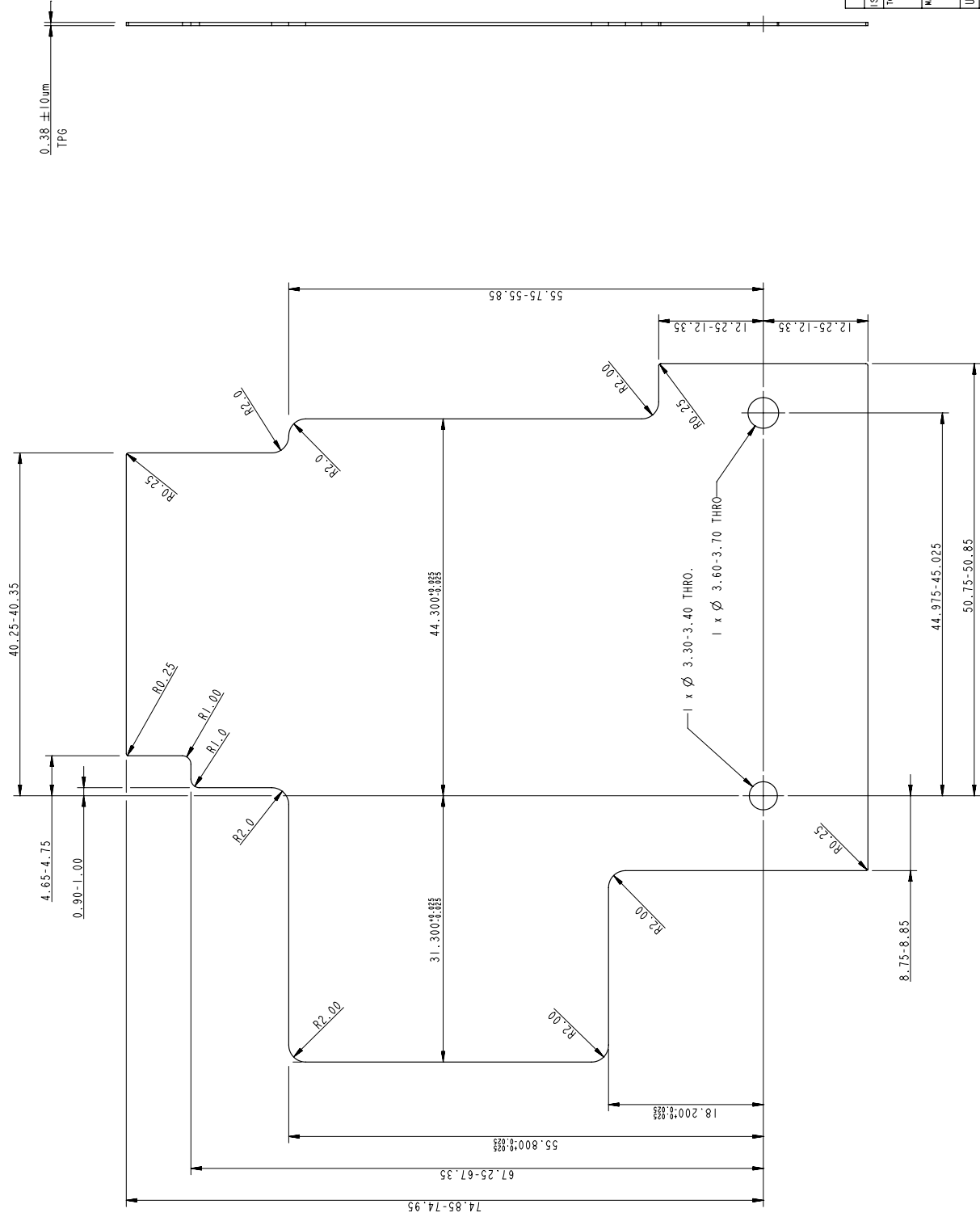
|   |           |          |                     |         |          |        |
|---|-----------|----------|---------------------|---------|----------|--------|
| F   | 13/SEP/00 | -----    | V FRANCIS           | PF      | PF       | WIP    |
| ISSUE   | DATE APPD | MOD. No. | DRN. BY             | CHD BY. | APPD BY. | STATUS |
| TOLERANCES UNLESS STATED  |           |          | FINISH              |         |          |        |
| ± 0.05  |           |          | CLEAN               |         |          |        |
| MATERIAL & SPEC.  |           |          | REMOVE ALL BURRS    |         |          |        |
| SEE ITEMS LIST  |           |          | SURFACE TEXTURE, µm |         |          |        |
| -----   |           |          | ✓ UNLESS STATED     |         |          |        |
| USED ON   |           |          |                     |         |          |        |
| © CLRC 2000   |           |          |                     |         |          |        |
| CENTRAL LABORATORY OF THE RESEARCH COUNCILS REFERENCE APPLIED LABORATORY, GILLON, OAKHILL |           |          |                     |         |          |        |
| TITLE   |           |          |                     |         |          |        |
| BASEBOARD SUB-ASSY (BeO)  |           |          |                     |         |          |        |
| ATLAS-10 ATLAS SCT BARREL MODULE ADR025   |           |          |                     |         |          |        |
| A1 TB-0059-606  |           |          |                     |         |          | SHEET  |
|   |           |          |                     |         |          | 1 OF 1 |
|   |           |          |                     |         |          | F      |

A1 TB-0059-501

PROJECTION



THIS DRAWING CONFORMS TO B.S. 308



MATERIAL  
VERY HIGH CONDUCTIVE PYROLYTIC GRAPHITE (VHCPG)

| F                        | 13/SEP/00 | MOD. No. | DRN. BY            | V FRANCIS     | PF               | PF           | WIP            |
|--------------------------|-----------|----------|--------------------|---------------|------------------|--------------|----------------|
| ISSUE DATE               | APPD      | MOD. No. | DRN. BY            | V FRANCIS     | PF               | PF           | WIP            |
| TOLERANCES UNLESS STATED |           |          | FINISH             | CLEAN         | REMOVE ALL BURRS | 4:1          | ORIGINAL SCALE |
| ±0.200 mm                |           |          | ±0.250°            | SEE DRG       | UNLESS STATED    | DO NOT SCALE |                |
| MATERIAL & SPEC.         |           |          | SEE DRG            | UNLESS STATED |                  |              |                |
| USED ON                  |           |          | A1-TB-0059-500/508 | © CLIRC 2000  |                  |              |                |

CENTRAL LABORATORY OF THE RESEARCH COUNCILS REFERENCE APPLIED LABORATORY, GILLING, OAKHILL


TITLE  
BASEBOARD-TPG

ATLAS-10 ATLAS SCT BARREL MODULE ADR025

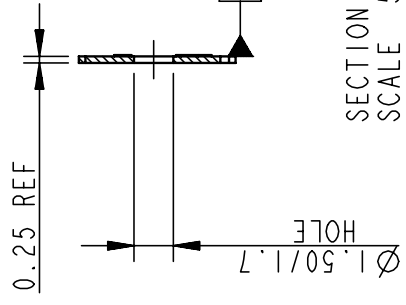
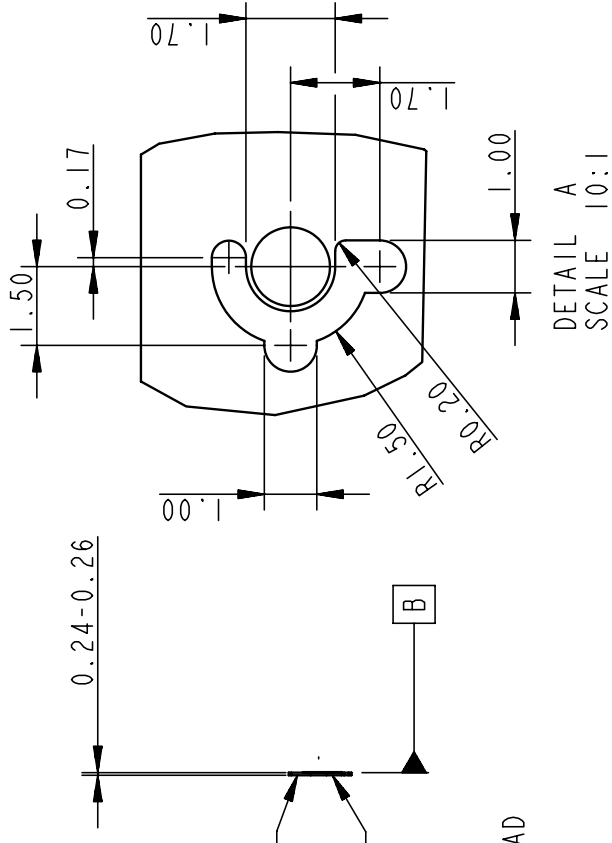
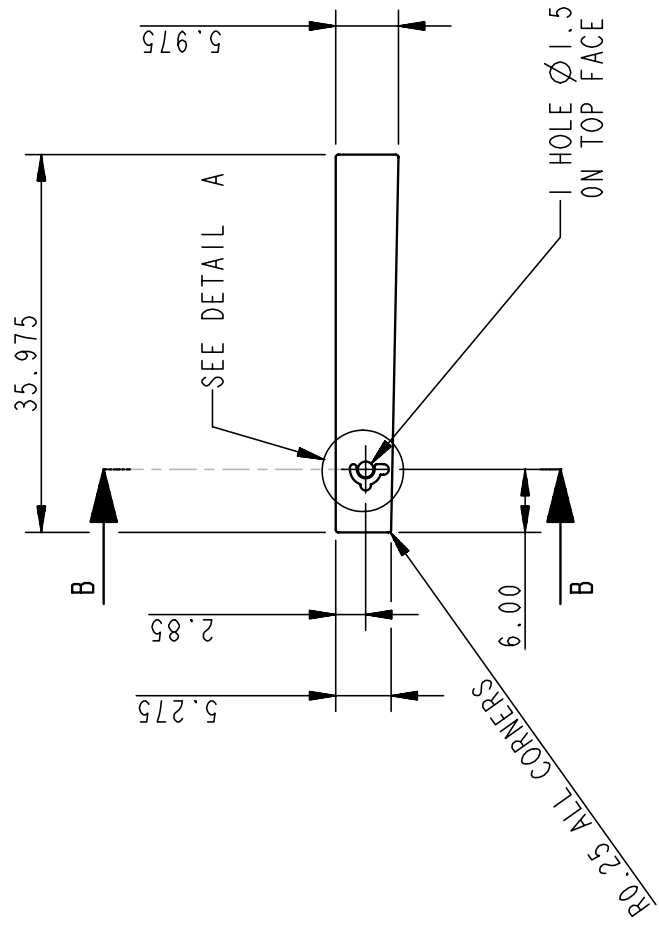
A1 TB-0059-501 SHEET 1 OF 1 F

A3

TB-0059-502

PROJECTION 

THIS DRAWING CONFORMS TO B.S. 308



MATL :-  
 BERYLLIA CERAMIC, COMPRISING NOMINALLY  
 99.5% BERYLLIUM OXIDE  
 MIN. DENSITY - 2.86gm/cc  
 SUPPLIED DUST FREE IN SEALED PLASTIC

PROVISIONAL

TB-0059-502

SECTION B-B  
 SCALE 5:1

|   |  |                                       |
|---|--|---------------------------------------|
| TOLERANCES UNLESS STATED<br>±0.025 mm<br>±0.025 ° | FINISH<br>CLEAN<br>REMOVE ALL BURRS            | ORIGINAL SCALE<br>2:1<br>DO NOT SCALE |
| MATERIAL & SPEC.<br>SEE DRG<br>-----              | SURFACE TEXTURE µm<br>STOCK<br>✓ UNLESS STATED |                                       |

|             |                    |          |           |          |          |        |
|-------------|--------------------|----------|-----------|----------|----------|--------|
| F           | 23/NOV/00          | -----    | V FRANCIS | PF       | PF       | WIP    |
| ISSUE       | DATE APPD          | MOD. No. | DRN. BY   | CHKD BY. | APPD BY. | STATUS |
| USED ON     | A1-TB-0059-500/508 |          |           |          |          |        |
| © CLRC 2000 |                    |          |           |          |          |        |

|   |             |       |   |    |   |   |
|---|-------------|-------|---|----|---|---|
| CENTRAL LABORATORY OF THE RESEARCH COUNCILS RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX1100X |             |       |   |    |   |   |
| TITLE   |             |       |   |    |   |   |
| FACING-FARSIDE-UPPER (BeO)  |             |       |   |    |   |   |
| ATLAS SCT BARREL MODULE   |             |       |   |    |   |   |
| ATLAS_ID  |             |       |   |    |   |   |
| ADR025  |             |       |   |    |   |   |
| A3  | TB-0059-502 | SHEET | 1 | OF | 1 | F |

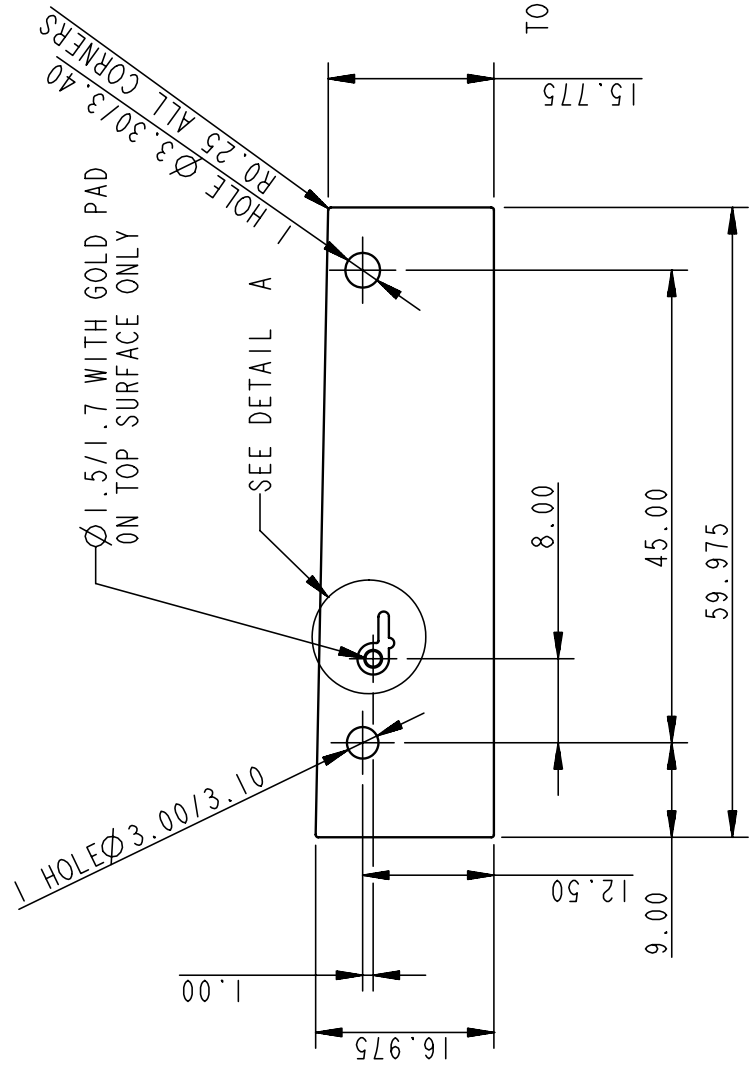
A3

TB-0059-503

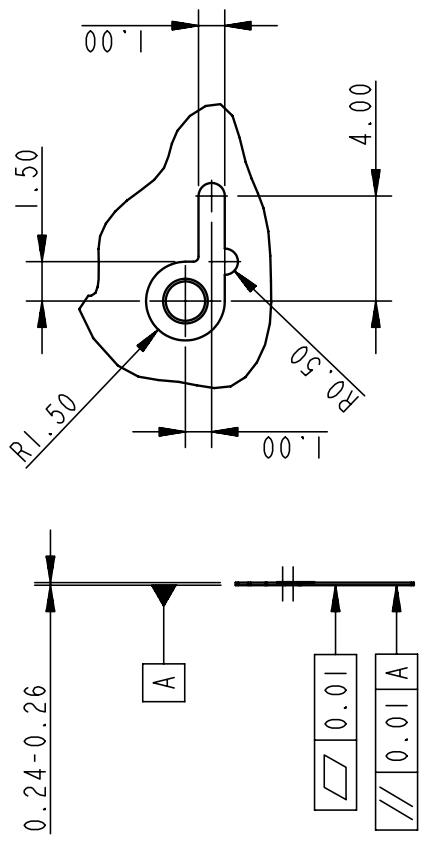
PROJECTION



THIS DRAWING CONFORMS TO B.S. 308



DETAIL A  
SCALE 5:1



TOLERANCES FOR CERAMIC ONLY

MATL :-  
 BERYLLIA CERAMIC, COMPRISING NOMINALLY  
 99.5% BERYLLIUM OXIDE  
 MIN. DENSITY - 2.86 gm/cc  
 SUPPLIED DUST FREE IN SEALED PLASTIC

TB-0059-503

A3

|   |  |                                       |
|---|--|---------------------------------------|
| TOLERANCES UNLESS STATED<br>±0.025 mm<br>±0.025 ° | FINISH<br>CLEAN<br>REMOVE ALL BURRS            | ORIGINAL SCALE<br>2:1<br>DO NOT SCALE |
| MATERIAL & SPEC.<br>SEE DRG<br>-----              | SURFACE TEXTURE µm<br>STOCK<br>✓ UNLESS STATED |                                       |

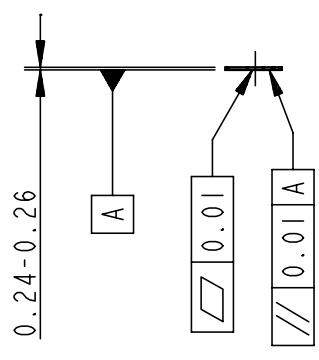
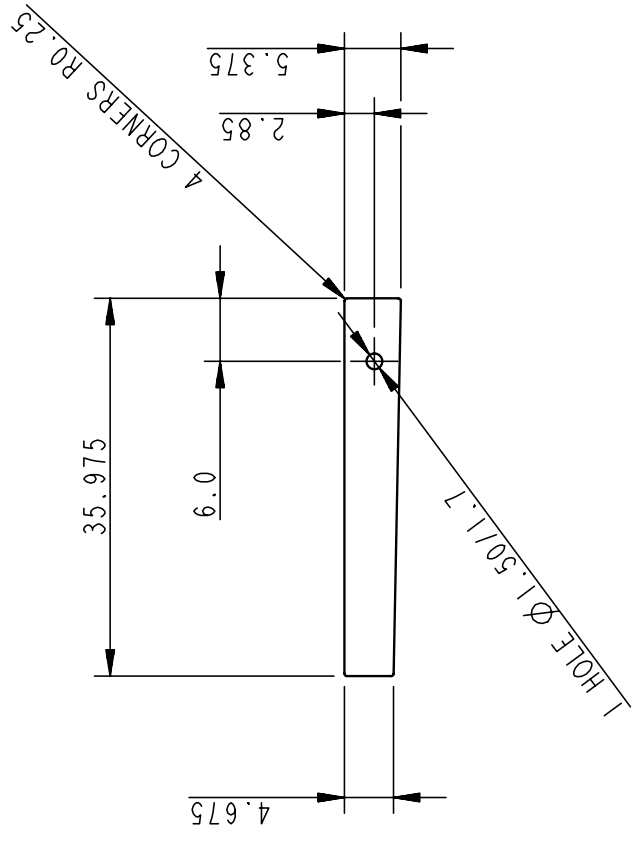
|         |                    |          |           |          |          |             |
|---------|--------------------|----------|-----------|----------|----------|-------------|
| F       | 23/NOV/00          | -----    | V FRANCIS | PF       | PF       | WIP         |
| ISSUE   | DATE APPD          | MOD. No. | DRN. BY   | CHKD BY. | APPD BY. | STATUS      |
| USED ON | A1-TB-0059-500/508 |          |           |          |          | © CLRC 2000 |

|  |                      |
|--|----------------------|
| CENTRAL LABORATORY OF THE RESEARCH COUNCILS<br>RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX1100X |                      |
| TITLE<br><b>FACING-COOLED SIDE-UPPER (BeO)</b><br>ATLAS SCT BARREL MODULE                            |                      |
| ATLAS_ID   | ADR025               |
| <b>A3</b>  | <b>TB-0059-503</b>   |
| SHEET  | <b>1</b> OF <b>1</b> |
|  | <b>F</b>             |

A3

TB-0059-504

THIS DRAWING CONFORMS TO B.S. 308



MATL :-  
BERYLLIA CERAMIC, COMPRISING NOMINALLY  
99.5% BERYLLIUM OXIDE  
MIN. DENSITY - 2.86 gm/cc.  
SUPPLIED DUST FREE IN SEALED PLASTIC

PROVISIONAL

|         |                    |          |           |          |          |             |
|---------|--------------------|----------|-----------|----------|----------|-------------|
| F       | 23/NOV/00          | -----    | V FRANCIS | PF       | PF       | WIP         |
| ISSUE   | DATE APPD          | MOD. No. | DRN. BY   | CHKD BY. | APPD BY. | STATUS      |
| USED ON | A1-TB-0059-500/508 |          |           |          |          | © CLRC 2000 |

|   |                      |
|---|----------------------|
| CENTRAL LABORATORY OF THE RESEARCH COUNCILS RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX1100X |                      |
| TITLE   |                      |
| <b>FACING-FAR SIDE-LOWER (BeO)</b>  |                      |
| <b>ATLAS SCT BARREL MODULE</b>  |                      |
| ATLAS_ID  | ADR025               |
| <b>A3</b>   | <b>TB-0059-504</b>   |
| SHEET   | <b>1</b> OF <b>1</b> |
|   | <b>F</b>             |

|   |  |                                       |
|---|--|---------------------------------------|
| TOLERANCES UNLESS STATED<br>±0.025 mm<br>±0.025 ° | FINISH<br>CLEAN<br>REMOVE ALL BURRS            | ORIGINAL SCALE<br>2:1<br>DO NOT SCALE |
| MATERIAL & SPEC.<br>SEE DRG<br>-----              | SURFACE TEXTURE μm<br>STOCK<br>✓ UNLESS STATED |                                       |

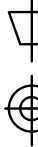
TB-0059-504

A3

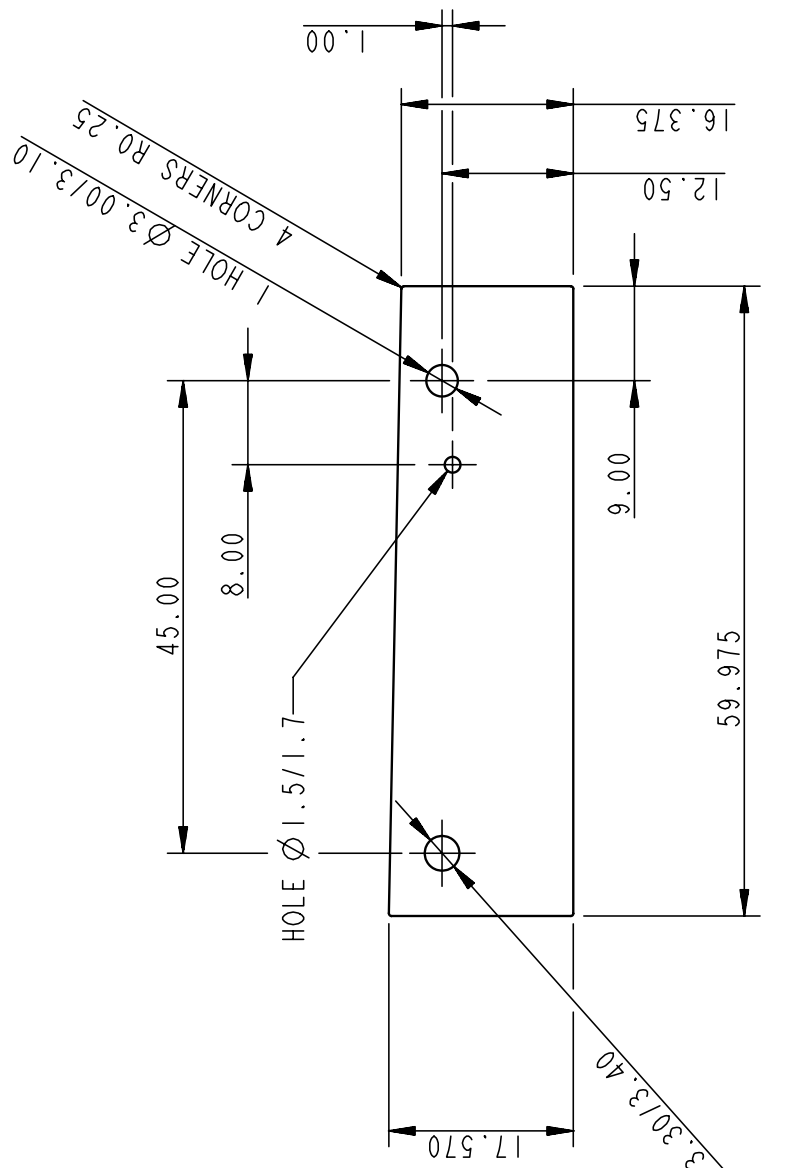
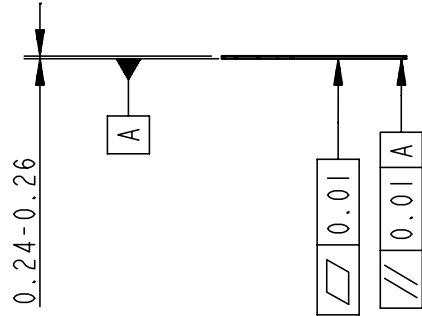
A3

TB-0059-505

PROJECTION



THIS DRAWING CONFORMS TO B.S. 308



PROVISIONAL

MATL: -  
 BERYLLIA CERAMIC, COMPRISING NOMINALLY  
 99.5% BERYLLIUM OXIDE  
 MIN. DENSITY - 2.86 gm/cc  
 SUPPLIED DUST FREE IN SEALED PLASTIC

23/NOV/00  
 V FRANCIS  
 DATE APPD  
 MOD. No.  
 DRN. BY

|             |                    |          |           |          |          |        |
|-------------|--------------------|----------|-----------|----------|----------|--------|
| F           | 23/NOV/00          | -----    | V FRANCIS | PF       | PF       | WIP    |
| ISSUE       | DATE APPD          | MOD. No. | DRN. BY   | CHKD BY. | APPD BY. | STATUS |
| USED ON     | A1-TB-0059-500/508 |          |           |          |          |        |
| © CLRC 2000 |                    |          |           |          |          |        |

|                          |                    |        |                |
|--------------------------|--------------------|--------|----------------|
| TOLERANCES UNLESS STATED |                    | FINISH | ORIGINAL SCALE |
| ±0.025 mm                | CLEAN              | 2:1    | DO NOT SCALE   |
| ±0.025 °                 | REMOVE ALL BURRS   |        |                |
| MATERIAL & SPEC.         | SURFACE TEXTURE µm | STOCK  |                |
| SEE DRG                  | UNLESS STATED      |        |                |

|   |             |   |        |
|---|-------------|---|--------|
| CENTRAL LABORATORY OF THE RESEARCH COUNCILS |             | RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX1100X |        |
| TITLE                                       |             |   |        |
| FACING-COOLED SIDE-LOWER                    |             |   |        |
| ATLAS SCT BARREL MODULE                     |             |   |        |
| ATLAS_ID                                    |             | ADR025  |        |
| A3  | TB-0059-505 | SHEET   | 1 OF 1 |
|   |             |   | F      |

A3

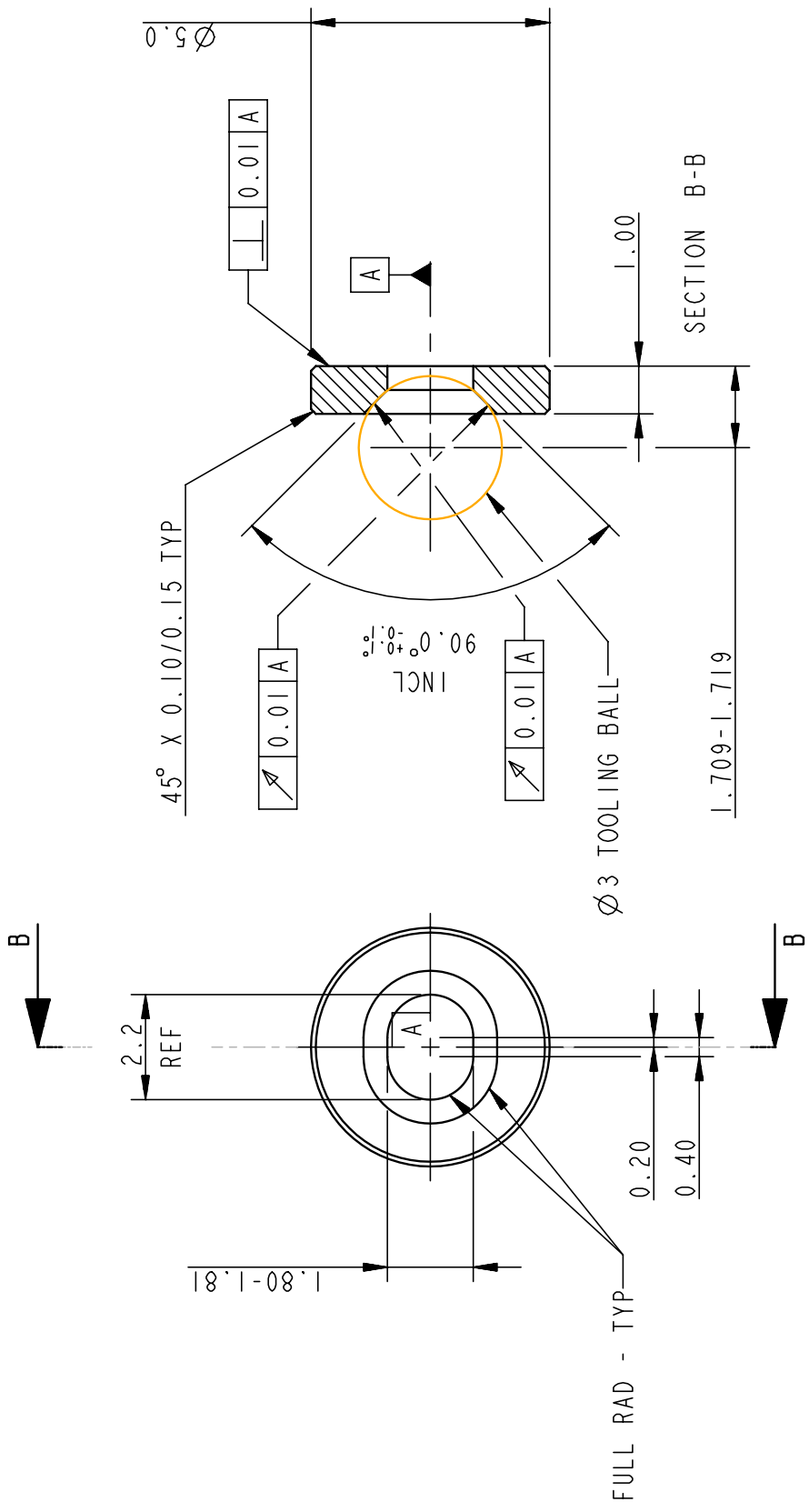
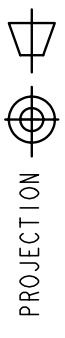
TB-0059-505



A3

TB-0059-506

THIS DRAWING CONFORMS TO B.S. 308



PROVISIONAL

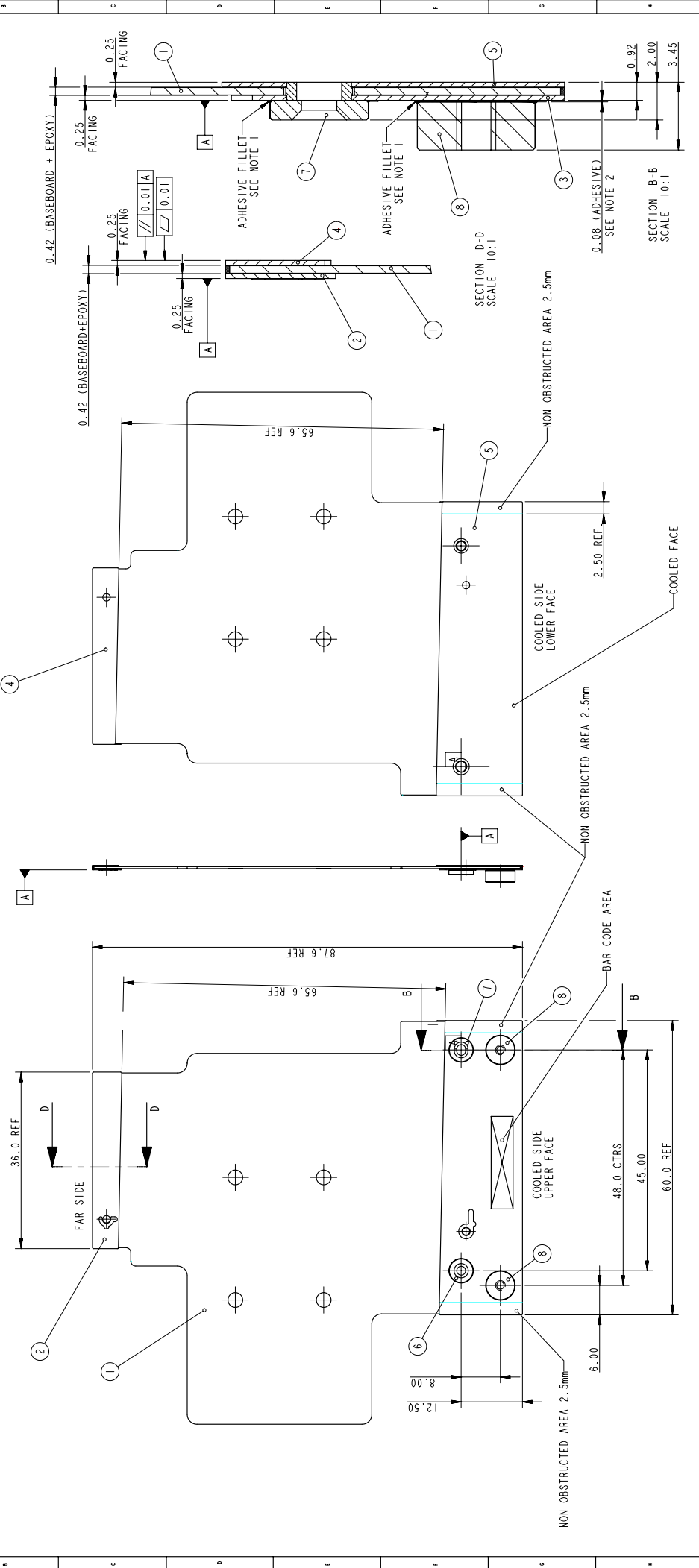
|   |           |          |                |          |             |        |
|---|-----------|----------|----------------|----------|-------------|--------|
| F   | 13/SEP/00 | -----    | V FRANCIS      | PF       | PF          | WIP    |
| ISSUE   | DATE APPD | MOD. No. | DRN. BY        | CHKD BY. | APPD BY.    | STATUS |
| USED ON   |           |          | A1-TB-0059-508 |          | © CLRC 2000 |        |
| CENTRAL LABORATORY OF THE RESEARCH COUNCILS RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX1100X |           |          |                |          |             |        |
| TITLE   |           |          |                |          |             |        |
| SLOTTED WASHER  |           |          |                |          |             |        |
| ATLAS SCT BARREL MODULE   |           |          |                |          |             |        |
| ATLAS_ID  |           |          |                |          |             |        |
| ADR025  |           |          |                |          |             |        |
| A3 TB-0059-506  |           |          | SHEET          |          | 1 OF 1      |        |

|                          |                    |                |
|--------------------------|--------------------|----------------|
| TOLERANCES UNLESS STATED | FINISH             | ORIGINAL SCALE |
| ±0.200 mm                | CLEAN              | 10:1           |
| ±0.250 °                 | REMOVE ALL BURRS   | DO NOT SCALE   |
| MATERIAL & SPEC.         | SURFACE TEXTURE µm |                |
| ALUM. ALLOY              | 1.6                |                |
| 6082                     | ✓ UNLESS STATED    |                |

TB-0059-506

A3

|                  |                |                          |   |                                   |   |   |   |   |    |    |    |     |           |    |
|------------------|----------------|--------------------------|---|-----------------------------------|---|---|---|---|----|----|----|-----|-----------|----|
| 1                | 2              | 3                        | 4 | 5                                 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13  | 14        | 15 |
| A1   TB-0059-508 |                | PROJECTION               |   | THIS DRAWING CONFORMS TO B.S. 308 |   |   |   |   |    |    |    |     |           |    |
| 1                | A1-TB-0059-501 | DESCRIPTION              |   |                                   |   |   |   |   |    |    |    | QTY | REMARKS   |    |
| 2                | A3-TB-0059-502 | BASEBOARD - TPG          |   |                                   |   |   |   |   |    |    |    | 1   | TPG       |    |
| 3                | A3-TB-0059-503 | FACING-FAR SIDE-UPPER    |   |                                   |   |   |   |   |    |    |    | 1   | BxO       |    |
| 4                | A3-TB-0059-504 | FACING-FAR SIDE-LOWER    |   |                                   |   |   |   |   |    |    |    | 1   | BxO       |    |
| 5                | A3-TB-0059-505 | FACING-COOLED SIDE-UPPER |   |                                   |   |   |   |   |    |    |    | 1   | BxO       |    |
| 6                | A3-TB-0059-506 | FACING-COOLED SIDE-LOWER |   |                                   |   |   |   |   |    |    |    | 1   | BxO       |    |
| 7                | A3-TB-0059-206 | DATUM WASHER             |   |                                   |   |   |   |   |    |    |    | 1   | AL. ALLOY |    |
| 8                | A3-TB-0059-506 | SLOTTED WASHER           |   |                                   |   |   |   |   |    |    |    | 1   | AL. ALLOY |    |
| 9                | A3-TB-0059-208 | HANDLING POINT           |   |                                   |   |   |   |   |    |    |    | 2   | PEEK      |    |



|  |           |           |                    |         |          |                |
|--|-----------|-----------|--------------------|---------|----------|----------------|
| F  | 18/NOV/00 | V FRANCIS | PF                 | PF      | WIP      |                |
| ISSUE  | DATE APPD | MOD. No.  | DRN. BY            | CHD BY. | APPD BY. | STATUS         |
| TOLERANCES UNLESS STATED   |           |           | FINISH             |         |          | ORIGINAL SCALE |
| ± 0.01   |           |           | CLEAN              |         |          | 5:2            |
| SEE ITEMS LIST   |           |           | REMOVE ALL BURRS   |         |          | DO NOT SCALE   |
| UNLESS STATED  |           |           | SURFACE TEXTURE μm |         |          |                |
| USED ON A0-TB-0059-601 SHEET 1 OF 2 © CLRC 2000  |           |           |                    |         |          |                |
| CENTRAL LABORATORY OF THE RESEARCH COUNCILS REFERENCE APPLICATOR LABORATORY, GILLON, OAKHILL |           |           |                    |         |          |                |
| TITLE  |           |           |                    |         |          |                |
| BASEBOARD SUB-ASSY (BeO)   |           |           |                    |         |          |                |
| ATLAS-10 ATLAS SCT BARREL MODULE ADR025  |           |           |                    |         |          |                |
| A1 TB-0059-508   |           |           |                    |         | SHEET    | 1 OF 1         |

NOTES -  
 1. ADHESIVE FILLETS - CIBA GIGY AM106/HV953U (2011)  
 2. ADHESIVE - PERMABOND SUPERGLUE

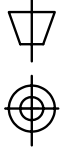
PROVISIONAL

A1 TB-0059-508

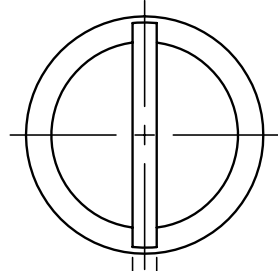
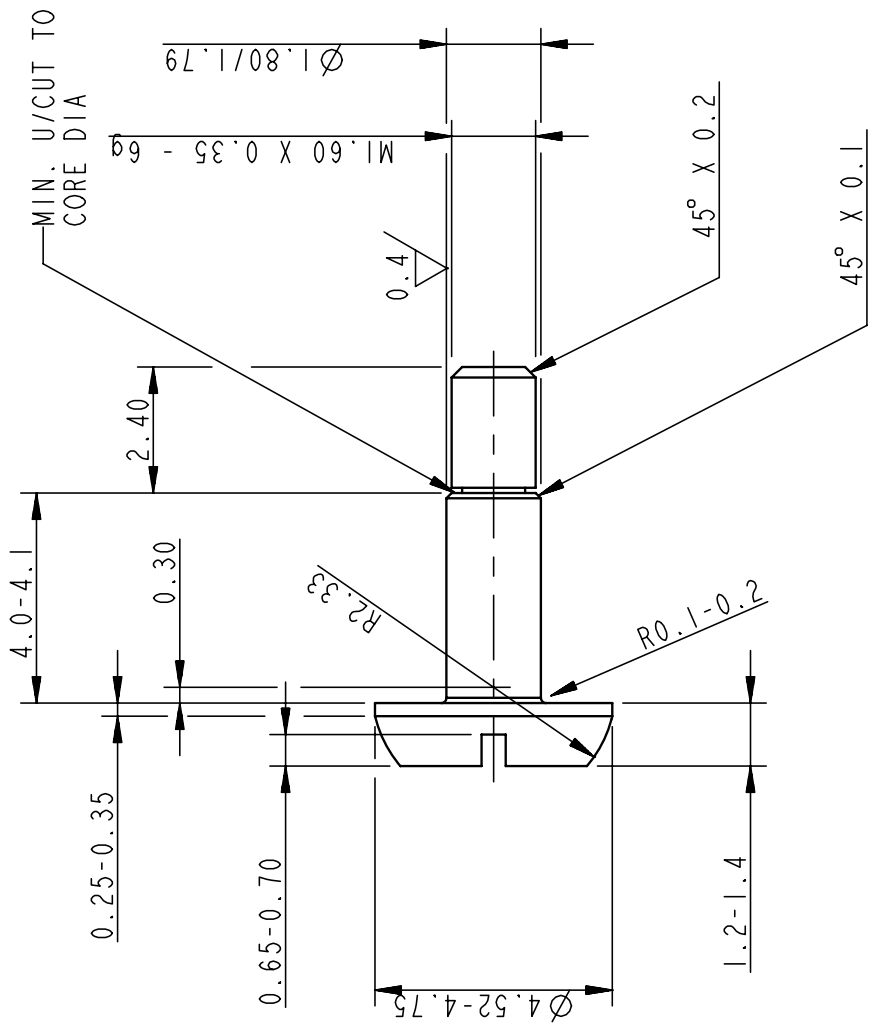
A3

TB-0059-130

PROJECTION



THIS DRAWING CONFORMS TO B.S. 308



PROVISIONAL



ACTUAL SIZE

TB-0059-130

|   |                    |          |           |          |          |             |               |
|---|--------------------|----------|-----------|----------|----------|-------------|---------------|
| F   | 13/SEP/00          | -----    | V FRANCIS | PF       | PF       | WIP         |               |
| ISSUE   | DATE APPD          | MOD. No. | DRN. BY   | CHKD BY. | APPD BY. | STATUS      |               |
| USED ON   |                    |          |           |          |          | © CLRC 2000 |               |
| CENTRAL LABORATORY OF THE RESEARCH COUNCILS RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX1100X |                    |          |           |          |          |             |               |
| TITLE   |                    |          |           |          |          |             |               |
| <b>SHOULDER SCREW (SLOTTED HEAD)</b>  |                    |          |           |          |          |             |               |
| MODULE FIXING - PRODUCTION VERSION  |                    |          |           |          |          |             |               |
| ATLAS_ID  |                    |          |           |          |          |             |               |
| ADR025  |                    |          |           |          |          |             |               |
| <b>A3</b>   | <b>TB-0059-130</b> |          |           |          |          | SHEET       | <b>1 OF 1</b> |

|                          |                    |                |
|--------------------------|--------------------|----------------|
| TOLERANCES UNLESS STATED | FINISH             | ORIGINAL SCALE |
| ±0.100 mm                | CLEAN              | 10:1           |
| ±0.250 °                 | REMOVE ALL BURRS   | DO NOT SCALE   |
| MATERIAL & SPEC.         | SURFACE TEXTURE µm |                |
| STAINLESS STEEL          | 1.6                |                |
| A2/A4                    | ✓ UNLESS STATED    |                |

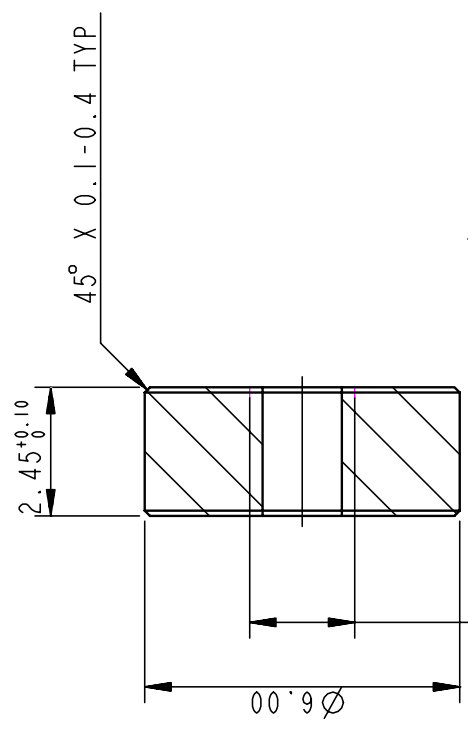
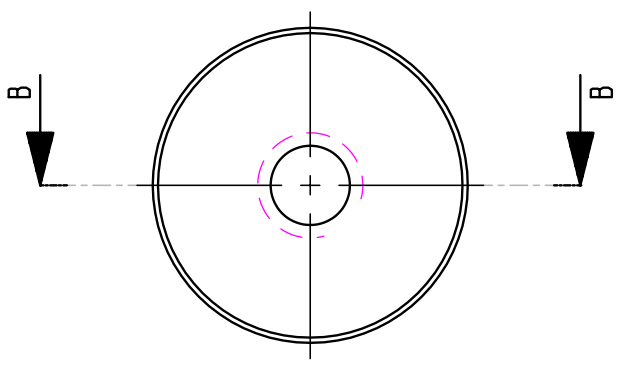
A3

A3

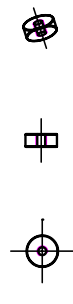
TB-059-208

PROJECTION

THIS DRAWING CONFORMS TO B.S. 308



SECTION B-B



ACTUAL SIZE

PROVISIONAL

TB-059-208

|         |           |          |                |          |             |        |
|---------|-----------|----------|----------------|----------|-------------|--------|
| F       | 13/SEP/00 | -----    | V FRANCIS      | PF       | PF          | WIP    |
| ISSUE   | DATE APPD | MOD. No. | DRN. BY        | CHKD BY. | APPD BY.    | STATUS |
| USED ON |           |          | A1-TB-0059-508 |          | © CLRC 2000 |        |

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|   |   |  |
|---|---|--|
| TOLERANCES UNLESS STATED<br>±0.200 mm<br>±0.250 ° | FINISH<br>CLEAN<br>REMOVE ALL BURRS                     | ORIGINAL SCALE<br>10:1<br>DO NOT SCALE |
| MATERIAL & SPEC.<br>PEEK<br>-----                 | SURFACE TEXTURE $\mu\text{m}$<br>1.6<br>✓ UNLESS STATED |  |

HANDLING POINT  
ATLAS SCT BARREL MODULE

ADR025

A3

A3 TB-059-208

SHEET

1 OF 1

F