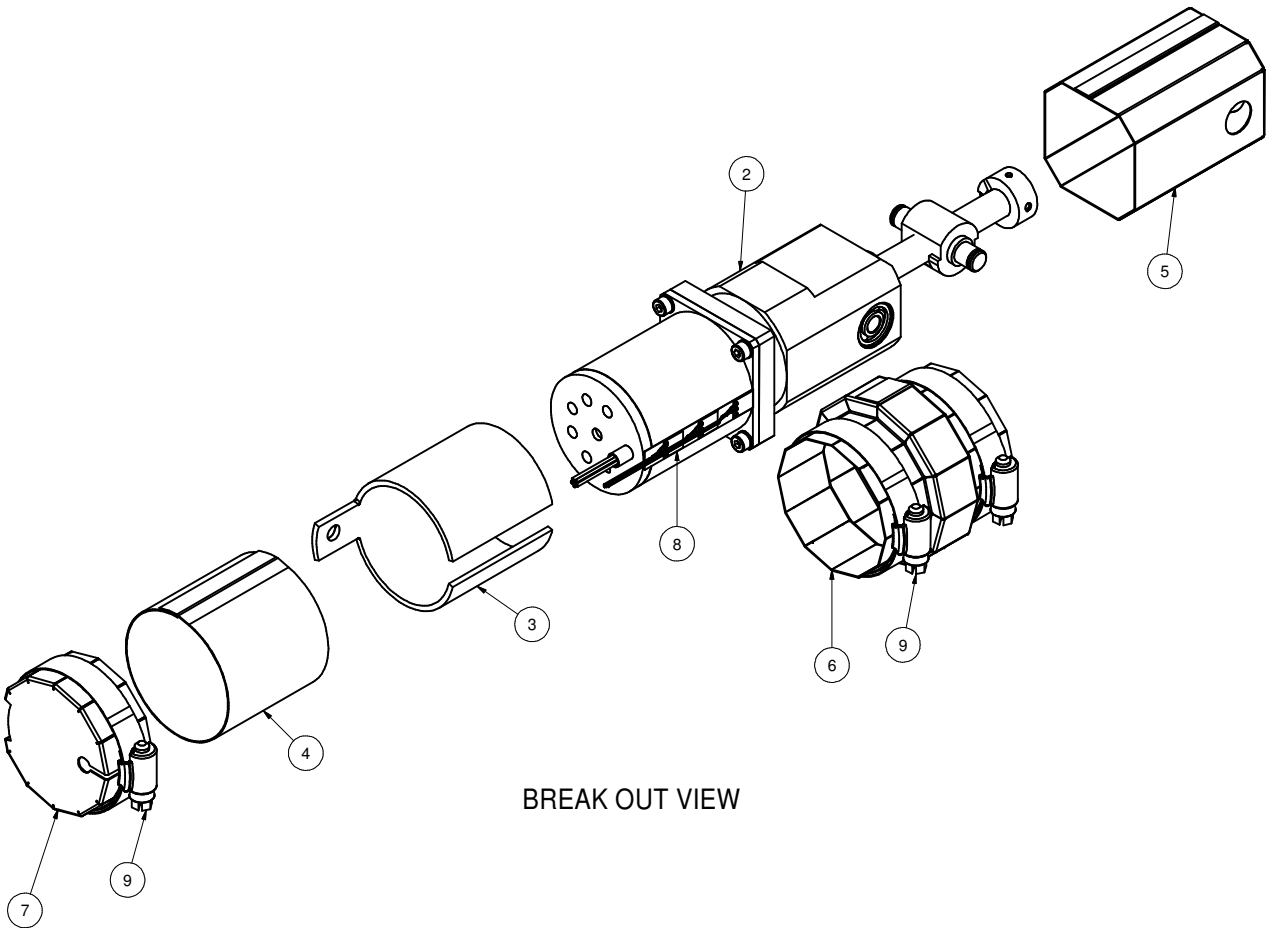
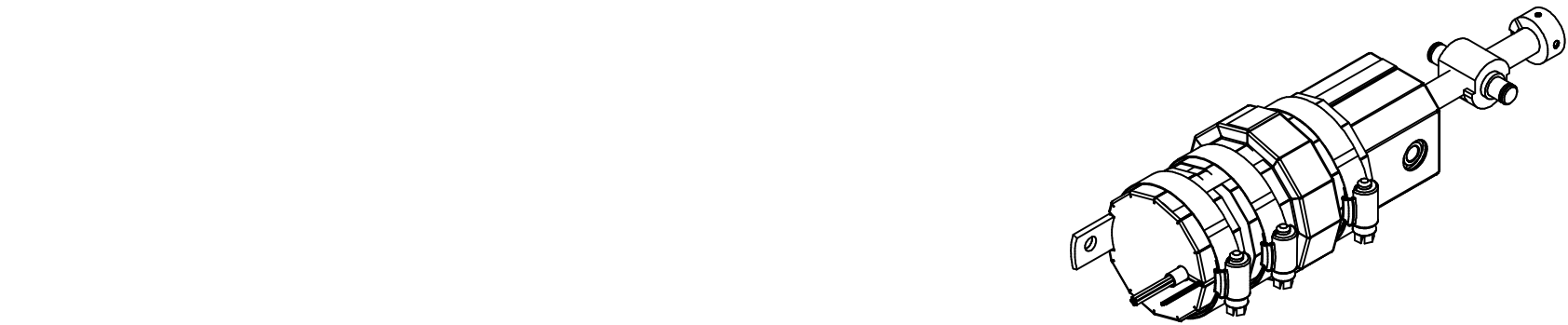
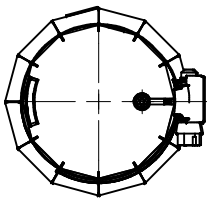
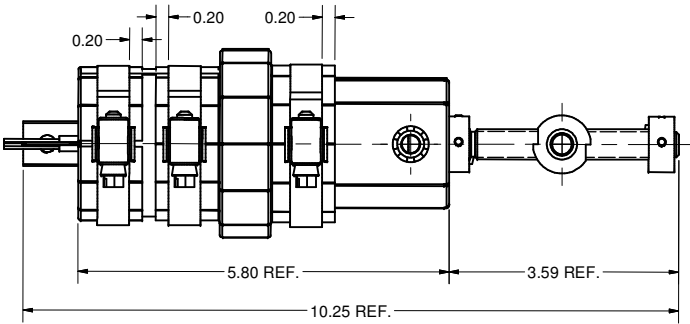
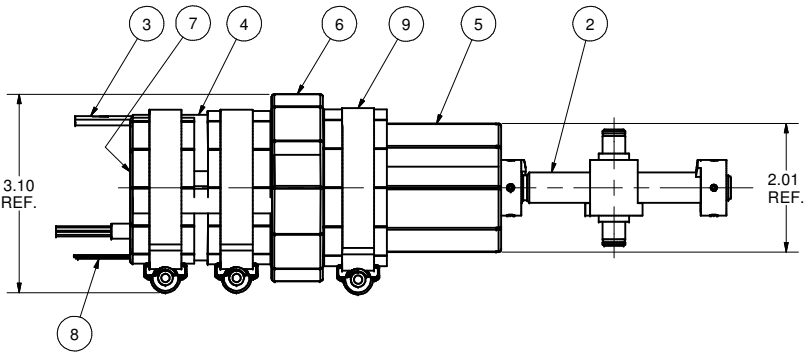








| REVISIONS | | | |
|-----------|------|-------------|-----------|
| SYM. | ZONE | DESCRIPTION | DATE APP. |



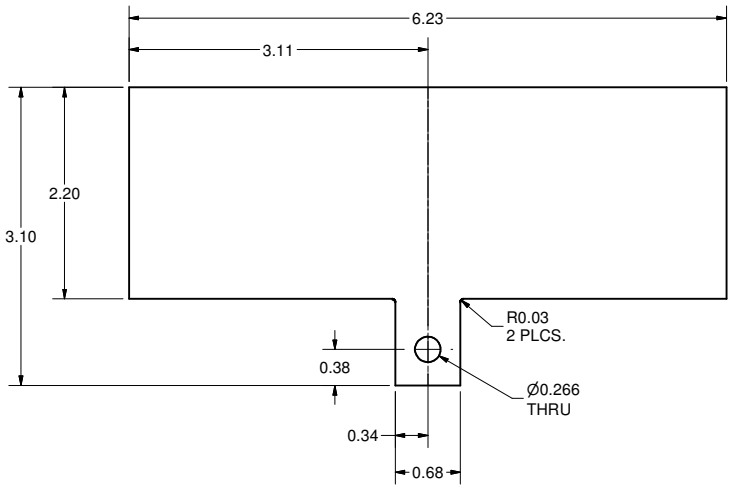
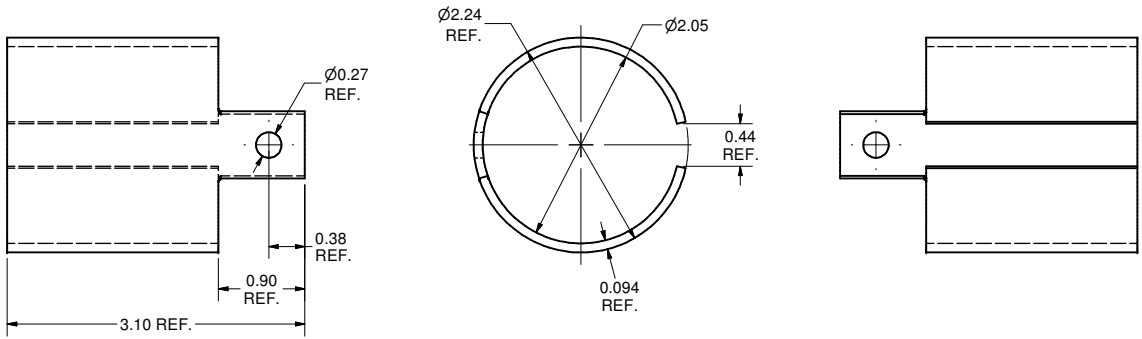
1 HEAT SINK AND MAGNETIC SHIELD ON TUNER MECHANISM ASSEMBLY

FILE NAME: 7102-085
SHEET NO.: 1
DFT. SCALE: 1:1.5
MATERIAL:
QTY: 5 PER CRYOMODULE
NOTES: 1. BEFORE FINAL ASSEMBLY LET PETER QUIGLEY INSTALL (GLUE)
CLTS UNIT ASSEMBLY (ITEM 8).

| | | | | | | | |
|---|------------------|---|---|--|--|-------------------------|--|
| 9 | Purchased | 2-1/16" - 3" HOSE CLAMP (SIZE 40), 316 SS | 3 | | | McMaster-Carr's 5011T22 | |
| 8 | 7102-085 (Sh.4) | CLTS UNIT ASSEMBLY | 1 | | | | |
| 7 | 7102-085 (Sh.4) | SHIELD 4 | 1 | | | | |
| 6 | 7102-085 (Sh.3) | SHIELD 3 | 1 | | | | |
| 5 | 7102-085 (Sh.3) | SHIELD 2 | 1 | | | | |
| 4 | 7102-085 (Sh.2) | SHIELD 1 | 1 | | | | |
| 3 | 7102-085 (Sh.2) | COPPER HEAT SINK | 1 | | | | |
| 2 | 7102-005 (Sh.11) | TUNER MECHANISM ASSEMBLY | 1 | | | | |
| 1 | 7102-085 (Sh.1) | HEAT SINK AND MAGNETIC SHIELD ON TUNER MECHANISM ASSEMBLY | X | | | | |

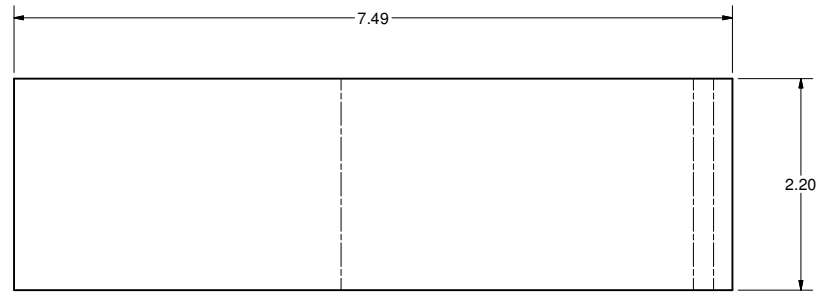
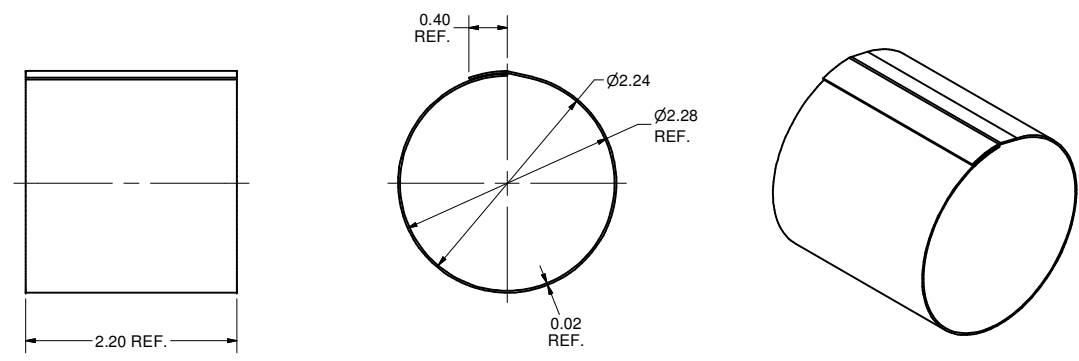
| | | | | | | | | | | | | |
|--|------------------|--|-----------------------------|--|---|--------|---|----------------|----|---------|--|------|
|  | | ITEM | DWG. NO. | DESCRIPTION | | | G1 | G2 | G3 | REMARKS | | REV. |
| | | | | | | | | QUANTITY | | | | |
|  | PRINT DISTR. | PLOT DATE: 10/22/2007 CAD FILE NAME: 7102-085.idw | | | | | | | | | | |
|  SH. NO. 1 OF 4 | 7102-085 | CR-1 | UNLESS OTHERWISE SPECIFIED: | | <div><div>CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853</div></div> | | | | | | | |
| | | | DIMENSIONS ARE IN INCHES: | | | | | | | | | |
| | | | TOLERANCES ON: | | | | | | | | | |
| | | | | | | | | | | | | |
| | | .00 ± .02 | | ERL INJECTOR CRYOMODULE HEAT SINK AND MAGN. SHIELD ON TUNER MECH. ASSY HEAT SINK AND MAGNETIC SHIELD ON TUNER MECHANISM ASSEMBLY | | | | | | | | |
| | | .00 ± .010 | | | | | | | | | | |
| | | .000 ± .005 | | | | | | | | | | |
| | | FRACTIONS ± 1/32 | | | | | | | | | | |
| | | ANGLES ± 0.5° | | | | | | | | | | |
| | | ALL SURFACES  | | | | | | | | | | |
| REV. | CHECKED BY: VM | | DRAWN BY: VM | DRAWN FOR: M.Liepe | DATE: 10/8/2007 | SCALE: |  | 7102-085 | | REV. | | |
| | APPROVED BY: EPC | | | | | | | SH. NO. 1 OF 4 | | | | |

| REVISIONS | | | |
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| SYM. | ZONE | DESCRIPTION | DATE APP. |








FLAT PATTERN

3 COPPER HEAT SINK
FILE NAME: 7102-085
SHEET NO.: 2
DFT. SCALE: 1:1
MATERIAL: 0.094" OFE COPPER SHEET
QTY: 5 PER CRYOMODULE
NOTES:

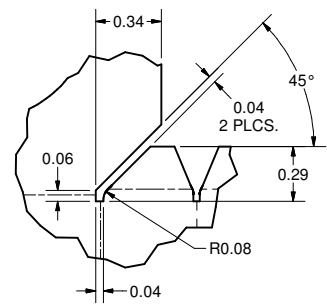
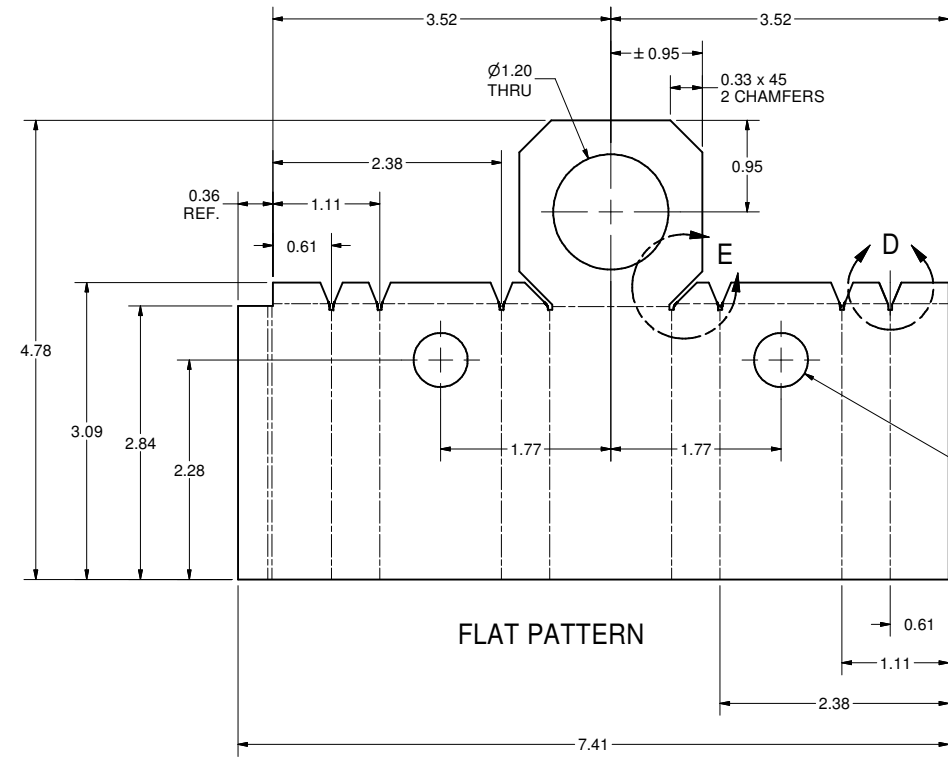
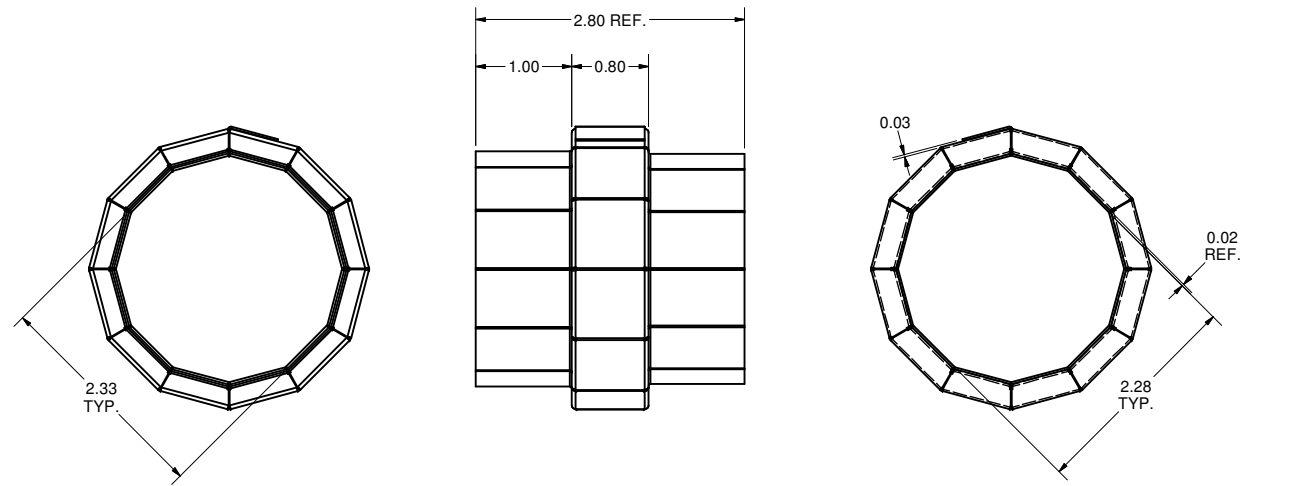
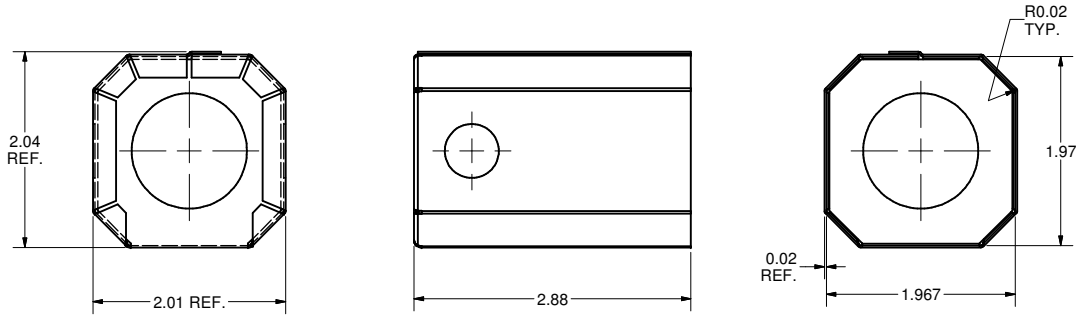


FLAT PATTERN

4 SHIELD 1
FILE NAME: 7102-085
SHEET NO.: 2
DFT. SCALE: 1:1
MATERIAL: 0.02" CRYOPERM-10 SHEET
QTY: 5 PER CRYOMODULE
NOTES: 1. HEAT TREAT TO IMPROVE MAGNETIC PROPERTIES FOR OPERATION AT 2 K.

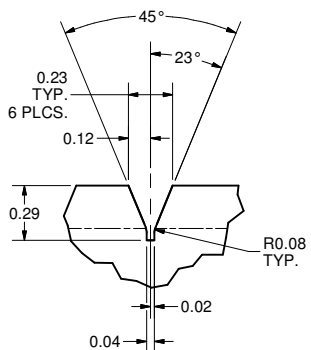
| | | | | | | | | | | |
|---|--|--|-------------|----------------------|--|-------------------|----------|-------|---|----------|
|  | ITEM | DWG. NO. | DESCRIPTION | | | G1 | G2 | G3 | REMARKS | REV. |
| | | | | | | | QUANTITY | | | |
|  | PRINT DISTR. | PLOT DATE: 10/22/2007 CAD FILE NAME: 7102-085.idw | | | | | | | | |
| | CR-1 | <div>UNLESS OTHERWISE SPECIFIED:</div> <div>DIMENSIONS ARE IN INCHES:</div> <div>TOLERANCES ON:</div> <div>0 ± .02</div> <div>.00 ± .010</div> <div>.000 ± .005</div> <div>FRACTIONS ± 1/32</div> <div>ANGLES ± 0.5°</div> <div>ALL SURFACES </div> | | | <div> LEPP</div> <div>CORNELL UNIVERSITY</div> <div>Floyd R. Newman Laboratory</div> <div>Ithaca, NY 14853</div> <div>LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS</div> | | | | | |
| SH. NO. 2 OF 4 7102-085 | ERL INJECTOR CRYOMODULE | | | | | | | | | |
| | HEAT SINK AND MAGN. SHIELD ON TUNER MECH. ASSY | | | | | | | | | |
| REV. | COPPER HEAT SINK; SHIELD 1 | | | | | | | | | |
| | CHECKED BY: VM | DRAWN BY VM | | DRAWN FOR M.Liepe | | DATE 10/8/2007 | | SCALE |  | 7102-085 |
| APPROVED BY: EPC | SH. NO. 2 OF 4 | | | | | | | | | |

| REVISIONS | | | |
|-----------|------|-------------|-----------|
| SYM. | ZONE | DESCRIPTION | DATE APP. |

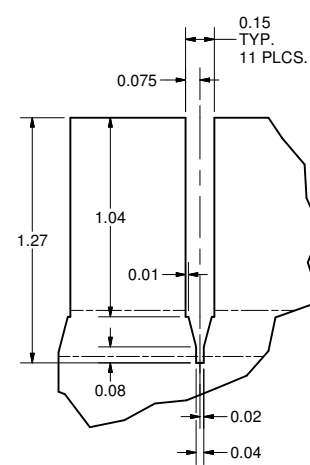


DETAIL E
SCALE 2 : 1

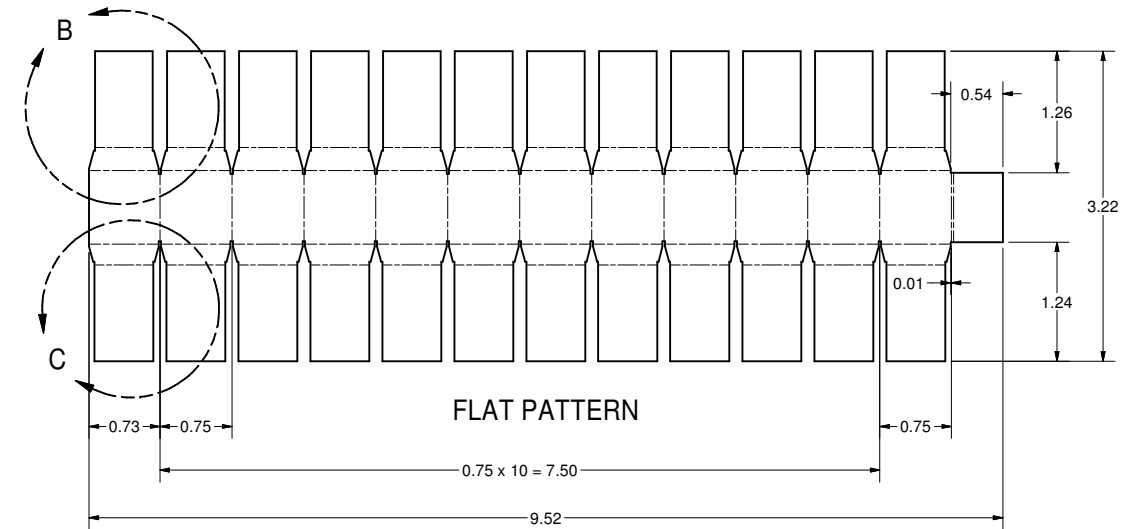
Ø0.56
THRU
2 HOLES



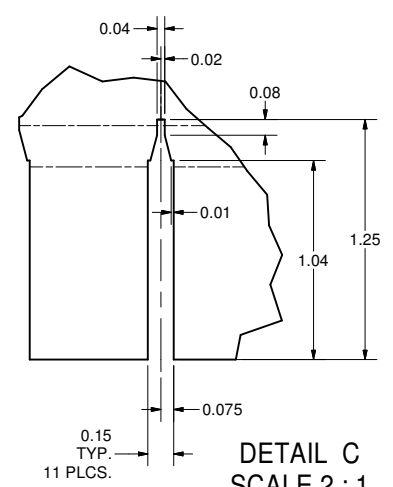
DETAIL D
SCALE 2 : 1



DETAIL B
SCALE 2 : 1

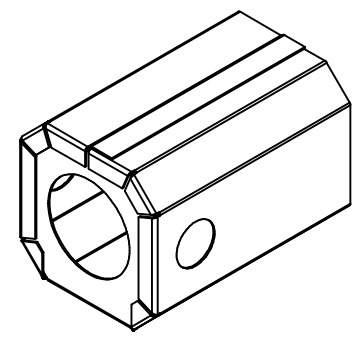


FLAT PATTERN

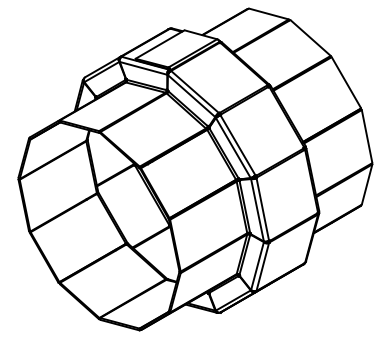







DETAIL C
SCALE 2 : 1

6 SHIELD 3
FILE NAME: 7102-085
SHEET NO.: 3
DFT. SCALE: 1:1
MATERIAL: 0.02" CRYOPERM-10 SHEET
QTY: 5 PER CRYOMODULE
NOTES: 1. HEAT TREAT TO IMPROVE MAGNETIC PROPERTIES FOR OPERATION AT 2 K.

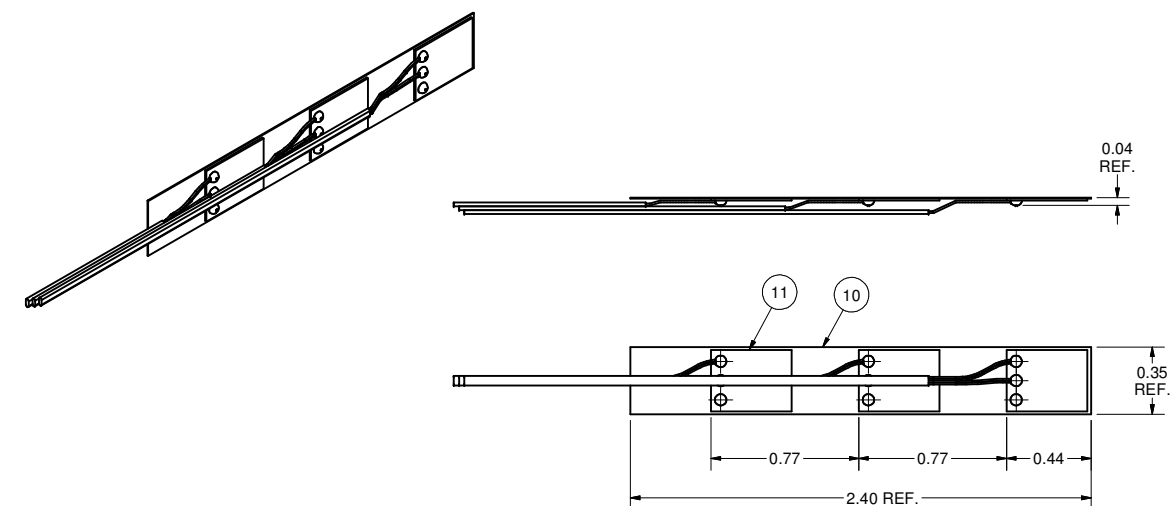
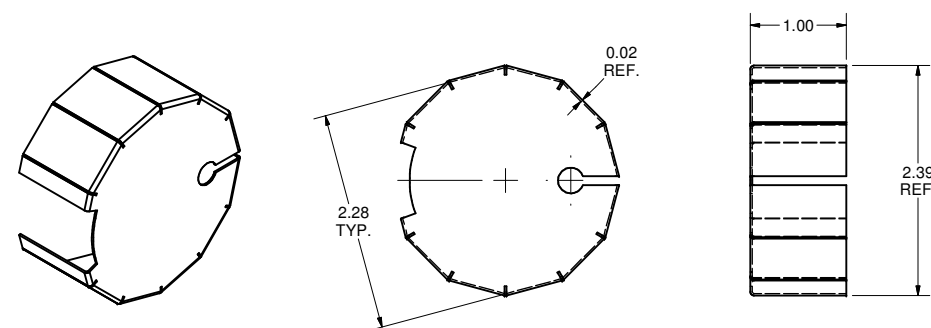


5 SHIELD 2
FILE NAME: 7102-085
SHEET NO.: 3
DFT. SCALE: 1:1
MATERIAL: 0.02" CRYOPERM-10 SHEET
QTY: 5 PER CRYOMODULE
NOTES: 1. HEAT TREAT TO IMPROVE MAGNETIC PROPERTIES FOR OPERATION AT 2 K.



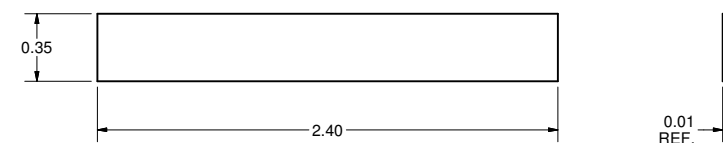
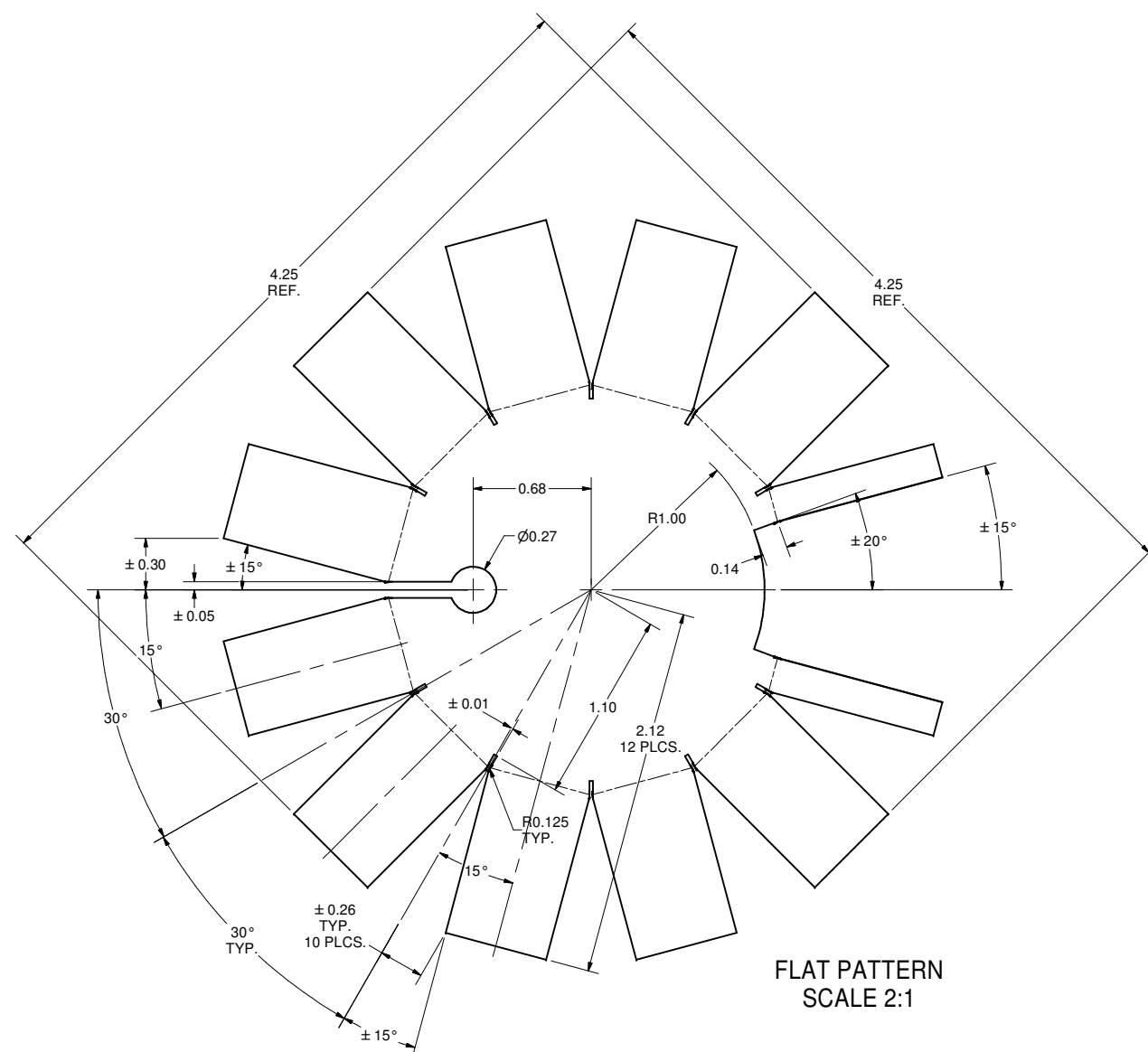
| | | | | | | | | | | |
|---|----------------------------|--|--|----------------------|-------------------|--|---|----|----------------------------|------|
|  | ITEM | DWG. NO. | DESCRIPTION | | | G1 | G2 | G3 | REMARKS | REV. |
| | QUANTITY | | | | | | | | | |
|  | PRINT DISTR. | PLOT DATE: 10/22/2007 CAD FILE NAME: 7102-085.idw | | | | | | | | |
| | 7102-085 SH. NO. 3 OF 4 | CR-1 | UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .0 ± .02 .00 ± .010 .000 ± .005 FRACTIONS ± 1/32 ANGLES ± 0.5° ALL SURFACES  | | | <div> CORNELL UNIVERSITY Floyd R. Newman Laboratory Ithaca, NY 14853 ERL INJECTOR CRYOMODULE HEAT SINK AND MAGN. SHIELD ON TUNER MECH. ASSY SHIELD 2; SHIELD 3</div> | | | | |
| REV. | | CHECKED BY: VM APPROVED BY: EPC | DRAWN BY VM | DRAWN FOR M.Liepe | DATE 10/8/2007 | SCALE |  | | 7102-085 SH. NO. 3 OF 4 | REV. |

| REVISIONS | | | | |
|-----------|------|-------------|------|------|
| SYM. | ZONE | DESCRIPTION | DATE | APP. |



8 CLTS UNIT ASSEMBLY

FILE NAME: 7102-085
SHEET NO.: 4
DFT. SCALE: 2:1
MATERIAL:
QTY: 5 PER CRYOMODULE
NOTES: 1. GLUE CLTs 11 TO BASE 10 WITH THERMAL-CONDUCTIVE
EPOXY (PETER QUIGLEY).









10 CLTS BASE

FILE NAME: 7102-085
SHEET NO.: 4
DFT. SCALE: 2:1
MATERIAL: 0.01" OFE COPPER SHEET
QTY: 5 PER CRYOMODULE
NOTES:

7 SHIELD 4

FILE NAME: 7102-085
SHEET NO.: 4
DFT. SCALE: 1:1
MATERIAL: 0.02" CRYOPERM-10 SHEET
QTY: 5 PER CRYOMODULE
NOTES: 1. HEAT TREAT TO IMPROVE MAGNETIC
PROPERTIES FOR OPERATION AT 2 K.

| | | | | | | | |
|------|-----------------|--------------------|----------|----|----|---------|------|
| 11 | Purchased | CLTS SENSOR | 3 | | | | |
| 10 | 7102-085 (Sh.4) | CLTS BASE | 1 | | | | |
| 8 | 7102-085 (Sh.4) | CLTS UNIT ASSEMBLY | X | | | | |
| ITEM | DWG. NO. | DESCRIPTION | G1 | G2 | G3 | REMARKS | REV. |
| | | | QUANTITY | | | | |

| | | | | | | | | | | | | | |
|---|--|--|---|--------------------|----------------------|--|-------|---|----------------------------|---------|------|------|--|
|  | | 8 | 7102-085 (SH.4) | CLTS UNIT ASSEMBLY | | | A | | | | | | |
| | | ITEM | DWG. NO. | DESCRIPTION | | | G1 | G2 | G3 | REMARKS | | REV. | |
| | | | | | | | | QUANTITY | | | | | |
|  | | PLOT DATE: 10/22/2007 CAD FILE NAME: 7102-085.idw | | | | | | | | | | | |
|  | | CR-1 | UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES: TOLERANCES ON: .00 ± .02 .01 ± .010 .000 ± .005 FRACTIONS ± 1/32 ANGLES ± 0.5° ALL SURFACES ✓ | | | <div><div><div><p>CORNELL UNIVERSITY</p><p>LEPP</p><p>LABORATORY FOR ELEMENTARY-PARTICLE PHYSICS</p></div></div><div><p>CORNELL UNIVERSITY</p><p>Floyd R. Newman Laboratory</p><p>Ithaca, NY 14853</p></div></div> | | | | | | | |
| SH. NO. 4 OF 4 | | ERL INJECTOR CRYOMODULE HEAT SINK AND MAGN. SHIELD ON TUNER MECH. ASSY SHIELD 4; SLTS UNIT ASSEMBLY; CLTS BASE | | | | | | | | | | | |
|  | | CHECKED BY: VM APPROVED BY: EPC | | DRAWN BY: VM | DRAWN FOR M.Liepe | DATE 10/8/2007 | SCALE |  | 7102-085 SH. NO. 4 OF 4 | | REV. | | |
| REV. | | | | | | | | | | | | | |