

# **Mechanical Support Components for S.E.C. Cartridge Processors**

**July 1997**

Order Number: 243429-001



Information in this document is provided in connection with Intel products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications.

Intel may make changes to specifications and product descriptions at any time, without notice.

Designers must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined." Intel reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them.

The Pentium® II processor may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Contact your local Intel sales office or your distributor to obtain the latest specifications and before placing your product order.

Copies of documents which have an ordering number and are referenced in this document, or other Intel literature, may be obtained from:

Intel Corporation  
P.O. Box 7641  
Mt. Prospect IL 60056-7641

or call 1-800-879-4683

or visit Intel's website at <http://www.intel.com>

\*Third-party brands and names are the property of their respective owners.

<b>CHAPTER 1</b>	
<b>INTRODUCTION</b> .....	1-1
<b>CHAPTER 2</b>	
<b>MECHANICAL SUPPORT COMPONENTS MATERIAL COMPOSITION</b> .....	2-1
<b>CHAPTER 3</b>	
<b>RETENTION MECHANISM</b> .....	3-1
<b>CHAPTER 4</b>	
<b>ATTACH MOUNT</b> .....	4-1
<b>CHAPTER 5</b>	
<b>HEATSINK SUPPORT</b> .....	5-1
<b>CHAPTER 6</b>	
<b>S.E.C. CARTRIDGE AND MECHANICAL COMPONENTS ASSEMBLY</b> .....	6-1
<b>CHAPTER 7</b>	
<b>DUAL PROCESSOR RETENTION MECHANISM</b> .....	7-1

Figure	Title	Page
3-1	Retention Mechanism, Clip, and Captured Nut – Exploded View . . . . .	3-2
3-2	Retention Mechanism, Clip . . . . .	3-5
3-3	Retention Mechanism, Nut . . . . .	3-7
3-4	Retention Mechanism, Body Detail 1 . . . . .	3-9
3-5	Retention Mechanism, Body Detail 2 . . . . .	3-10
3-6	Retention Mechanism, Body Detail 3 . . . . .	3-11
3-7	Retention Mechanism, Body Detail 4 . . . . .	3-12
3-8	Retention Mechanism, Body Detail 5 . . . . .	3-13
3-9	Retention Mechanism, Body Detail 6 . . . . .	3-14
3-10	Retention Mechanism, Body Detail 7 . . . . .	3-15
3-11	Retention Mechanism, Body Detail 8 . . . . .	3-16
3-12	Retention Mechanism, Body Detail 9 . . . . .	3-17
3-13	Retention Mechanism Assembled View, Cover Side View . . . . .	3-18
3-14	Retention Mechanism Assembled View, Thermal Plate Side View . . . . .	3-19
3-15	S.E.C. Cartridge with Retention Mechanism, Including All Material and Assembly Tolerances . . . . .	3-20
4-1	Attach Mount Assembly . . . . .	4-5
4-2	Attach Mount Assembly Studs . . . . .	4-7
4-3	Attach Mount Bridge . . . . .	4-9
5-1	Heatsink Support Base (1 of 3) . . . . .	5-4
5-2	Heatsink Support Base (2 of 3) . . . . .	5-5
5-3	Heatsink Support Base (3 of 3) . . . . .	5-6
5-4	Heatsink Support Base, Detail (1 of 2) . . . . .	5-7
5-5	Heatsink Support Base, Detail (2 of 2) . . . . .	5-8
5-6	Heatsink Support, Top Bar (1 of 2) . . . . .	5-10
5-7	Heatsink Support, Top Bar (2 of 2) . . . . .	5-11
5-8	Heatsink Support, Pin . . . . .	5-13
5-9	Heatsink Support Assembly Steps . . . . .	5-14
5-10	Heatsink Support Assembled Views . . . . .	5-15
5-11	Baseboard Retention Mechanism and Heatsink Support Hole Locations and Sizes . . . . .	5-16
5-12	Baseboard Component Height Restrictions under Heatsink Support (Looking down at the baseboard.) . . . . .	5-17
5-13	Heatsink Support Requirements, Detail . . . . .	5-18
6-1	S.E.C. Cartridge, Retention Mechanism and Attach Mount Assembly . . . . .	6-3
6-2	S.E.C. Cartridge Processor with All Mechanical Components, Full Assembly (1 of 2) (Using an Example ATX style heatsink.) . . . . .	6-4
6-3	S.E.C. Cartridge Processor with All Mechanical Components, Full Assembly (2 of 2) (Using an Example ATX style heatsink.) . . . . .	6-5

7-1	Dual Retention Mechanism with S.E.C. Cartridge Processors (Example Heatsink Shown) Front View . . . . .	7-2
7-2	Dual Retention Mechanism with S.E.C. Cartridge Processors (Example Heatsink Shown) Side View . . . . .	7-3
7-3	Dual Retention Mechanism with S.E.C. Cartridge Processors (Example Heatsink Shown) Top View . . . . .	7-4
7-4	Dual Retention Mechanism, Isometric Views . . . . .	7-5
7-5	Dual Retention Mechanism — Top View . . . . .	7-7
7-6	Dual Retention Mechanism — Front View . . . . .	7-8
7-7	Dual Retention Mechanism — Side View . . . . .	7-9
7-8	Dual Retention Mechanism — Details (1 of 2) . . . . .	7-10
7-9	Dual Retention Mechanism — Details (2 of 2) . . . . .	7-11



# CHAPTER 1 INTRODUCTION

## **The mechanical specifications in this document are provided “AS IS.”**

This document is a set of mechanical specifications for a set of mechanical support components used for the Pentium® II processor. These components are used to integrate the Single Edge Contact (S.E.C.) cartridge onto the baseboard. This document is meant to provide the ability to copy exactly the design Intel is enabling.

If the actual mechanical component (i.e. heatsink support, retention mechanism or retention mechanism attach mount) is revised, Intel will revise this document and post the new version on the Pentium II processor web site.

Intel is not responsible for qualification of these parts nor for the suppliers that produce them.

If not provided by Intel, changes to these specifications will not be supported or qualified for use by Intel.

The hardware vendor remains solely responsible for the design, sale, and functionality of its product, including any liability arising from product infringement or product warranty.

### **NOTE**

**Unless otherwise specified:**

**All x.xxx dimensions tolerance:  $\pm 0.005$  inches.**

**All x.xx dimensions tolerance:  $\pm 0.01$  inches.**

**All drawings are not to scale.**

## **1.1 S.E.C. CARTRIDGE TERMINOLOGY**

The following terms are used often in this document and are explained here for clarification:

**Pentium II processor** — The entire product including internal components, substrate, thermal plate and cover.

**S.E.C. cartridge** — The new processor packaging technology is called a "Single Edge Contact cartridge."

**Processor substrate** — The structure on which the components are mounted inside the S.E.C. cartridge (with or without components attached).

**Processor core** — The processor's execution engine.

**Thermal plate** — The surface used to connect a heatsink or other thermal solution to the processor.

**Cover** — The processor casing on the opposite side of the thermal plate.

**Latch Arms** – A processor feature that can be utilized as a means for securing the processor in the retention mechanism.

Additional terms referred to in this and other related documentation:

**Slot 1** — The connector that the S.E.C. cartridge plugs into, just as the Pentium Pro processor uses Socket 8.

**Retention mechanism** — A mechanical component which holds the package in the Slot 1 connector.

**Heatsink support** — The support components that are mounted on the motherboard to provide added support for heatsinks.

The L2 cache (TagRAM, BSRAM) components keep standard industry names.

## 1.2 REVISION HISTORY

Changes to the overall document are from Rev. 0.5:

1. Added “Critical to Function” (CTF) dimensions to all components as needed.
2. The materials sections have been updated.
3. Specific updates for each component are included in the applicable section.

## CHAPTER 2

# MECHANICAL SUPPORT COMPONENTS MATERIAL COMPOSITION

### **Retention Mechanism:**

Retention Mechanism Base – Polycarbonate, GE Lexan 940

Nut – Brass 360, 60.5% – 63% Copper

Clip – Stainless Steel, SS301 or SS302 (Half Hard)

### **Attach Mount:**

Stud – Brass 360, 60.5% – 63% Copper

Bridge – Black Celanese Nylon 1503-2

### **Heatsink Support:**

Top Bar – Polycarbonate, GE Lexan 940

Bottom Bar Support – Polycarbonate, GE Lexan 940

Bottom Bar Pin – Polycarbonate, GE Lexan 940





## CHAPTER 3 RETENTION MECHANISM

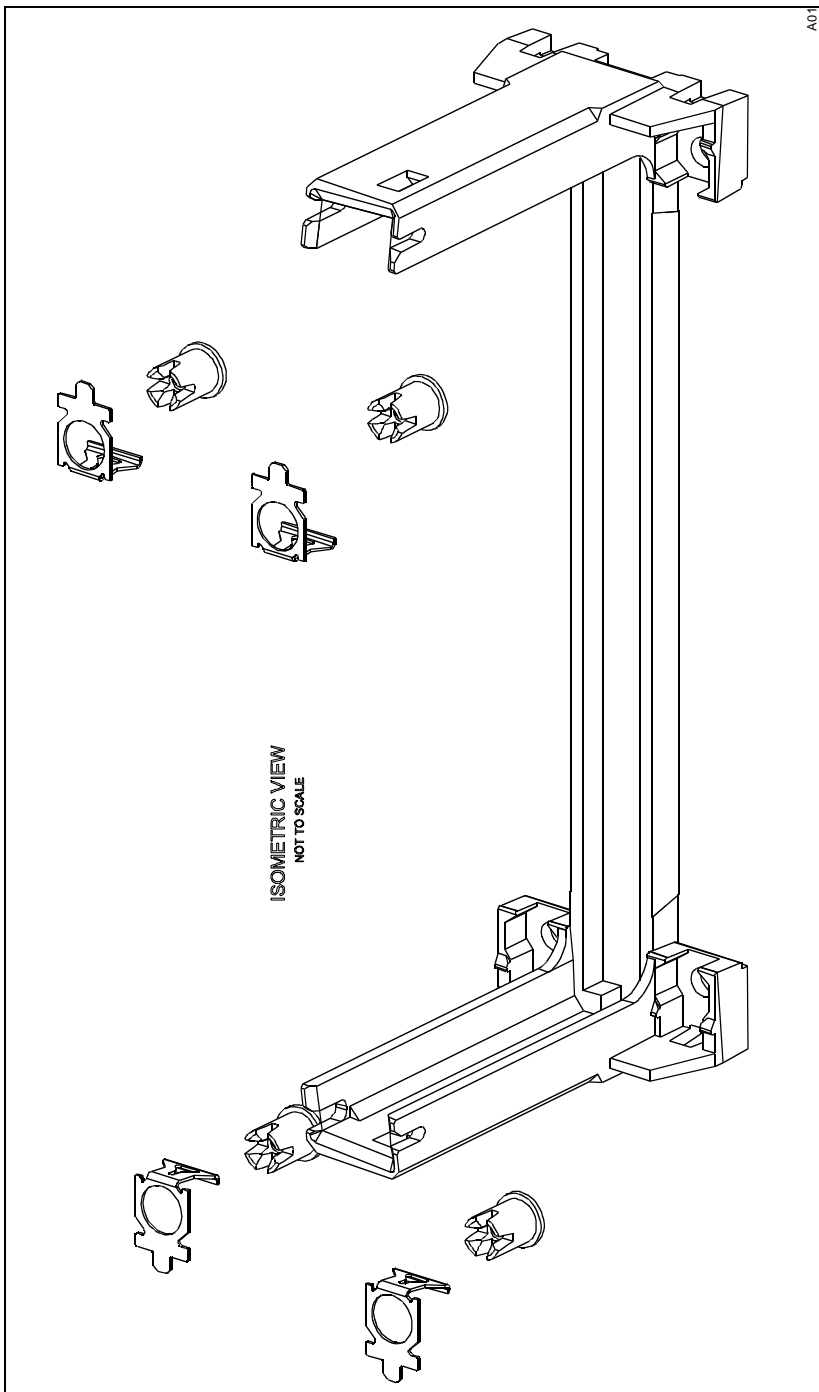


Figure 3-1. Retention Mechanism, Clip, and Captured Nut – Exploded View

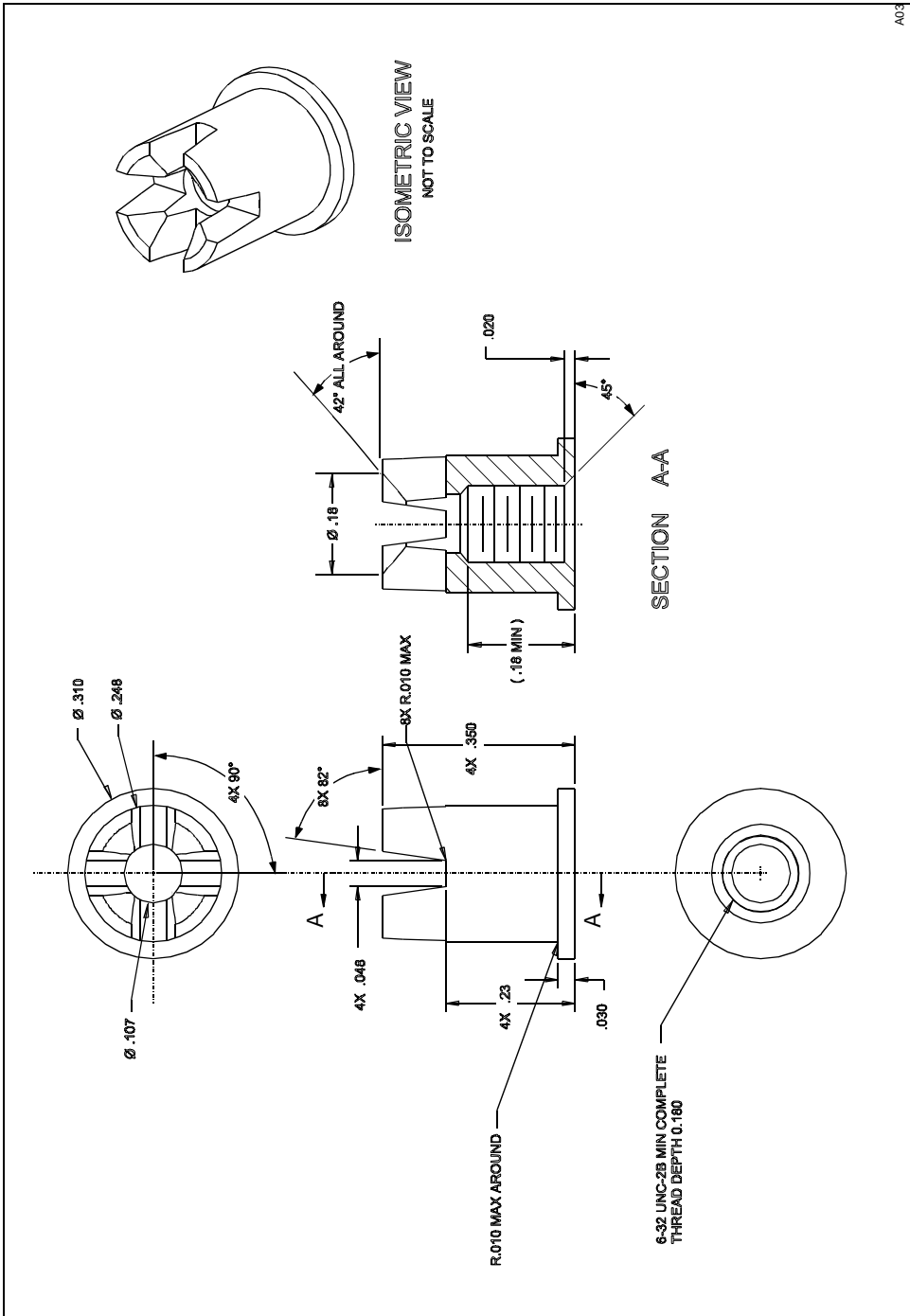
**NOTES: FOR RETENTION MECHANISM, FASTENER CLIP (Figure 3-2)**

1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1982.
2. THIS DRAWING CAN BE USED IN CORRELATION WITH AN AVAILABLE 3-D DATABASE. ALL DIMENSIONS ON THIS DRAWING TAKE PRECEDENCE OVER A SUPPLIED FILE. CONTACT YOUR LOCAL INTEL REPRESENTATIVE FOR FURTHER INFORMATION.
3. MATERIAL: STAINLESS STEEL SS301 OR SS302, HALF HARD.
4. REMOVE ALL BURRS AND SHARP EDGES.



**NOTES: FOR RETENTION MECHANISM, NUT (Figure 3-3)**

1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1982.
2. THIS DRAWING CAN BE USED IN CORRELATION WITH AN AVAILABLE 3-D DATABASE. ALL DIMENSIONS ON THIS DRAWING TAKE PRECEDENCE OVER A SUPPLIED FILE. CONTACT YOUR LOCAL INTEL REPRESENTATIVE FOR FURTHER INFORMATION.
3. MATERIAL: BRASS 360, 60.5% – 63% COPPER.
4. REMOVE ALL BURRS AND SHARP EDGES.
5. THE RECOMMENDED MAXIMUM TORQUE FOR THE NUT ONTO THE ATTACH MOUNT STUDS IS  $6 \pm 1$  INCH-LBS.



P03

## NOTES: FOR RETENTION MECHANISM (Figure 3-4 through Figure 3-12)

1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1982.
2. THIS DRAWING CAN BE USED IN CORRELATION WITH AN AVAILABLE 3-D DATABASE. ALL DIMENSIONS ON THIS DRAWING TAKE PRECEDENCE OVER A SUPPLIED FILE. CONTACT YOUR LOCAL INTEL REPRESENTATIVE FOR FURTHER INFORMATION.
3. MATERIAL: POLYCARBONATE, GE LEXAN 940. COLOR TO BE BLACK, TO MATCH GE COLOR CHIP 701.
4. PART VOLUME IS APPROXIMATELY 0.93 CU IN. PART MASS IS APPROXIMATELY 184 GRAMS.
5. DRAFT TO BE 1° UNLESS OTHERWISE SPECIFIED.  
⊕ INDICATES PLUS DRAFT.  
⊖ INDICATES MINUS DRAFT.  
P/L INDICATES PARTING LINE.
- 6 DIMENSIONED TO THEORETICAL SHARP CORNER.
- 7 SURFACE FINISH OF INDICATED SURFACES TO BE SPI/SPE A2 OR BETTER.
8. SURFACE FINISH OF UNINDICATED SURFACES TO BE SPI/SPE B2 OR BETTER.
- 9 MOLD CAVITY NUMBER AND REVISION LEVEL ON INDICATED SURFACE. 0.060 HIGH CHARACTERS TO BE DEBOSSED 0.010 BELOW SURROUNDING SURFACE. REVISION LEVEL TO BE LOCATED ON A CORE OR EJECTOR PIN.
10. GATE LOCATION TBD.
11. GATE REMNANT TO BE FLUSH OR BELOW SURROUNDING AREA.
12. EJECTOR PIN MARKS TO BE FLUSH OR BELOW SURFACE.
13. PARTING LINE MISMATCH NOT TO EXCEED 0.004.
- 14 FLASH NOT TO EXCEED 0.002 WHERE INDICATED. FLASH IN NON-INDICATED AREAS NOT TO EXCEED 0.004.
15. R.005/.007 PERMITTED IN ALL UNSPECIFIED SHARP CORNERS.
16. MOLDED PART TO BE FREE OF MOLD RELEASE OR OTHER SURFACE CONTAMINANTS.
17. INTENTIONALLY LEFT BLANK.
18. INTENTIONALLY LEFT BLANK.
19. INTENTIONALLY LEFT BLANK.
- 20 INDICATED DIMENSIONS SHALL ONLY BE MEASURED WITH PART IN CONSTRAINED CONDITION.
- 21 CRITICAL TO FUNCTION DIMENSION.

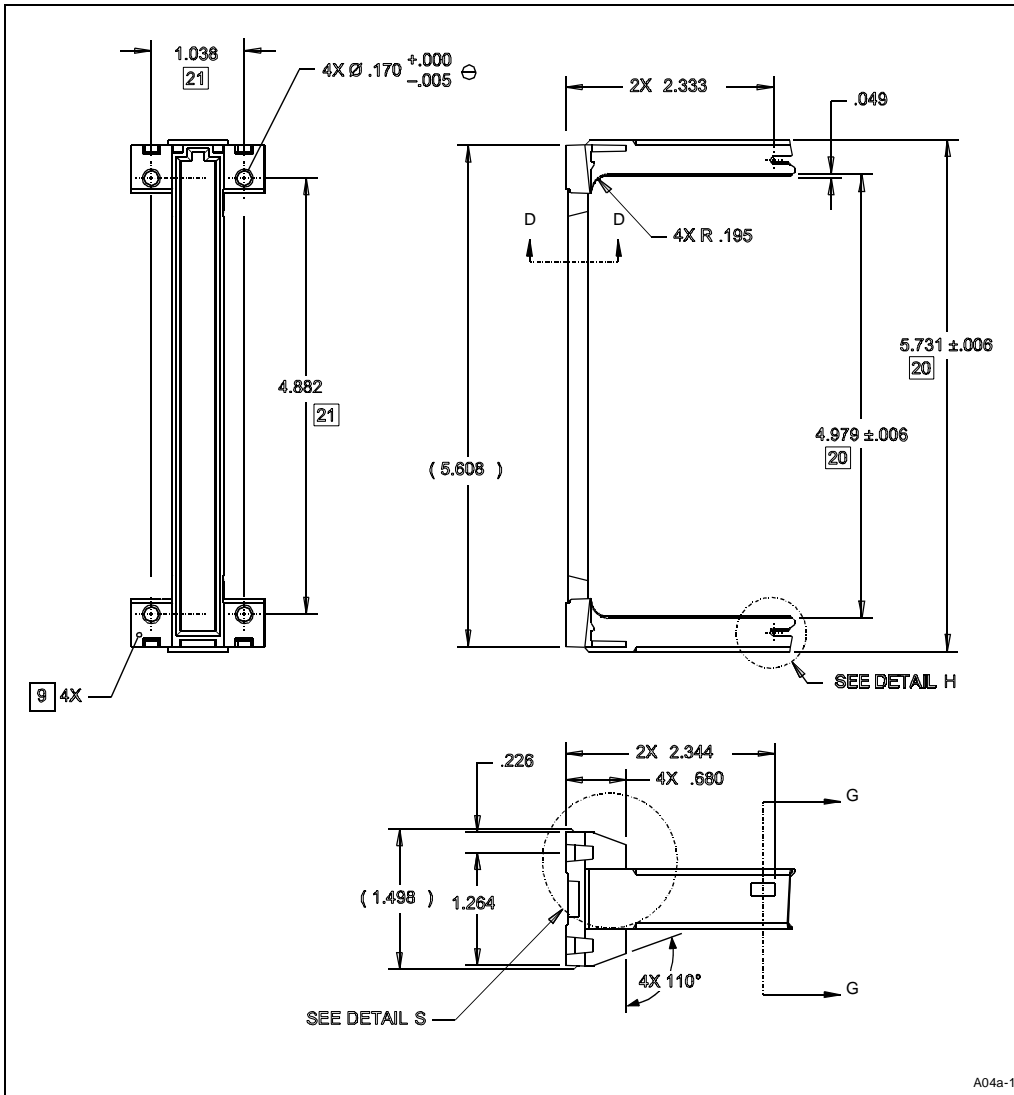


Figure 3-4. Retention Mechanism, Body Detail 1



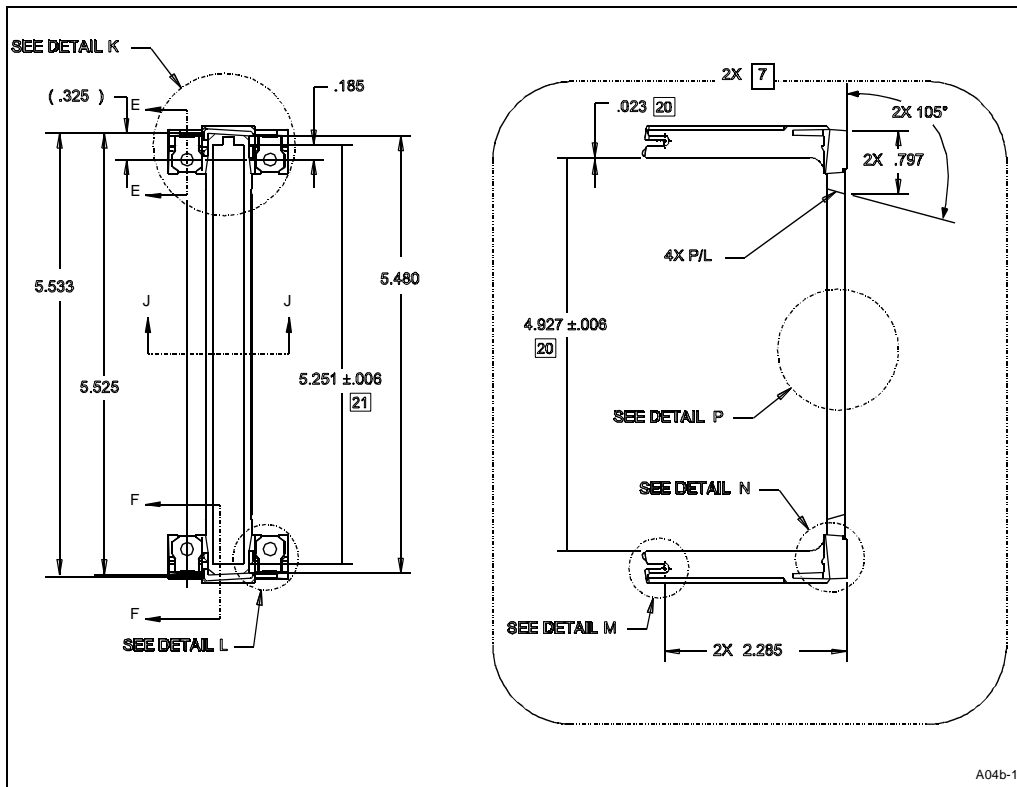


Figure 3-5. Retention Mechanism, Body Detail 2

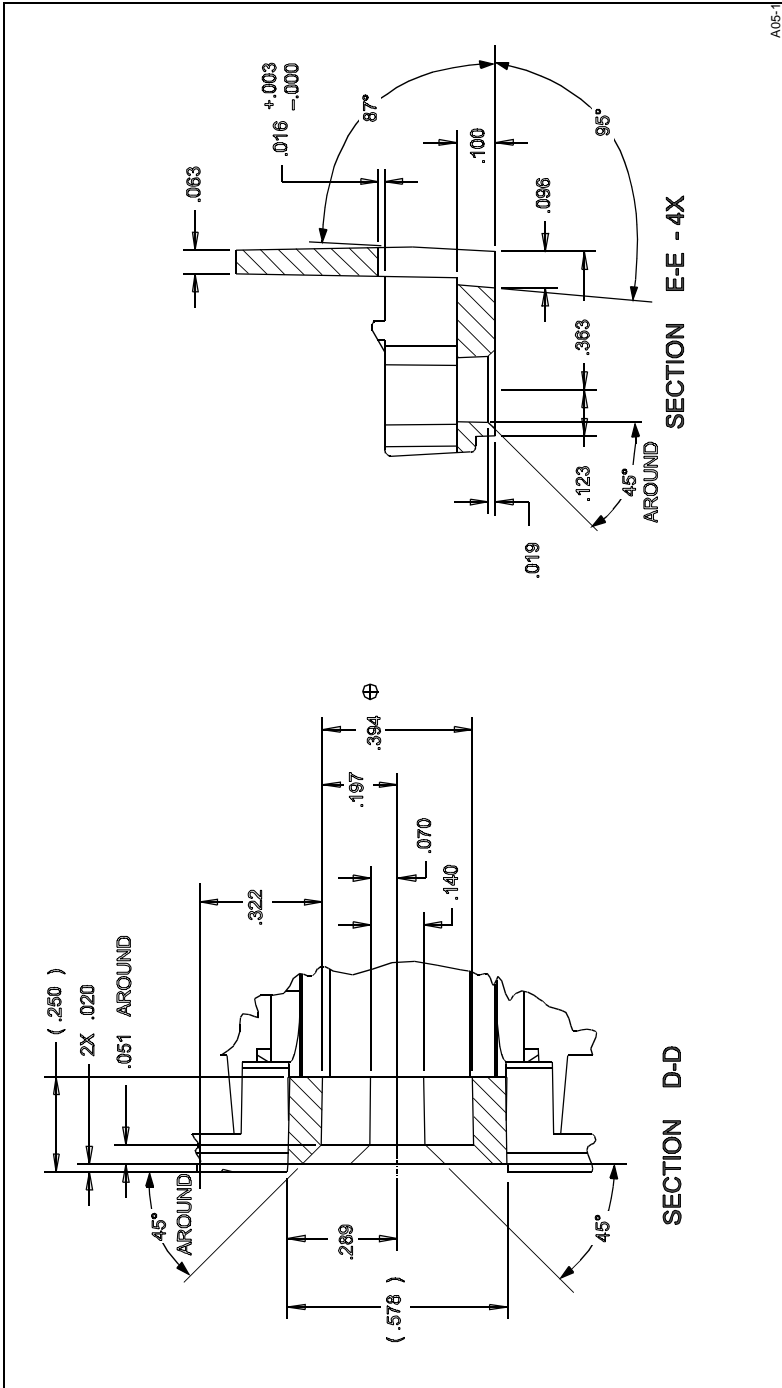


Figure 3-6. Retention Mechanism, Body Detail 3

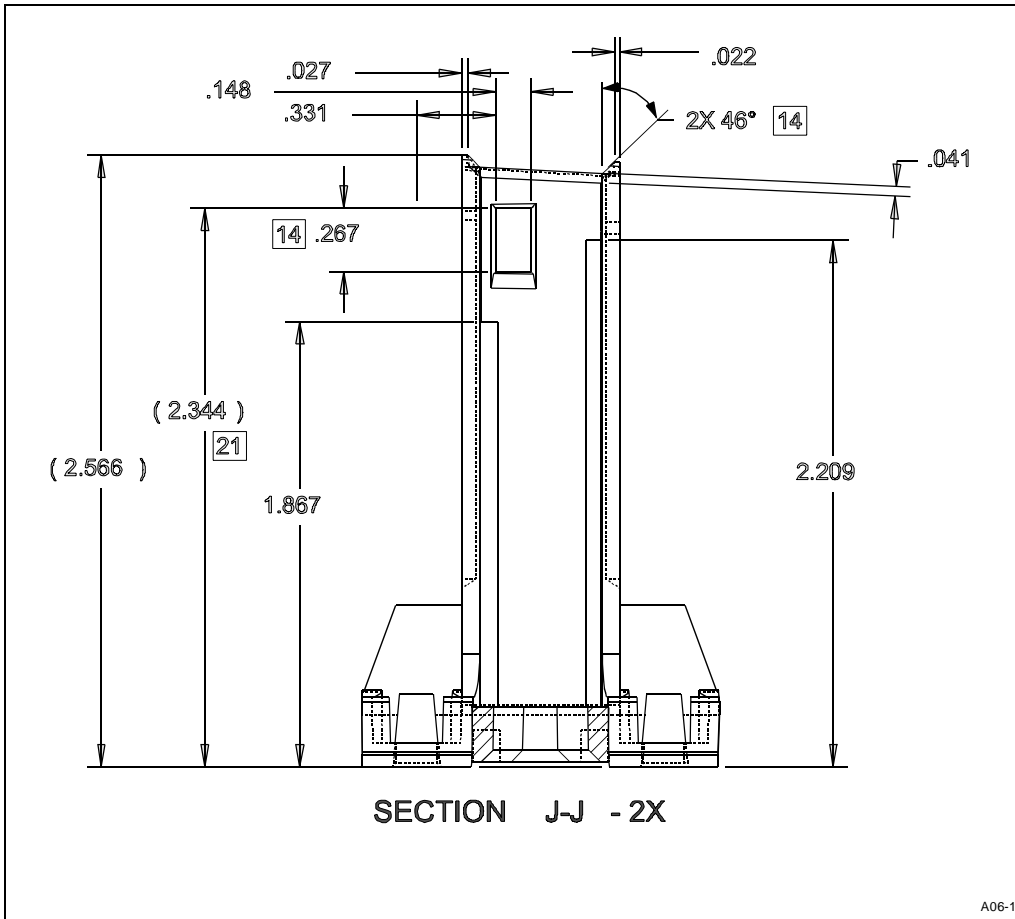


Figure 3-7. Retention Mechanism, Body Detail 4

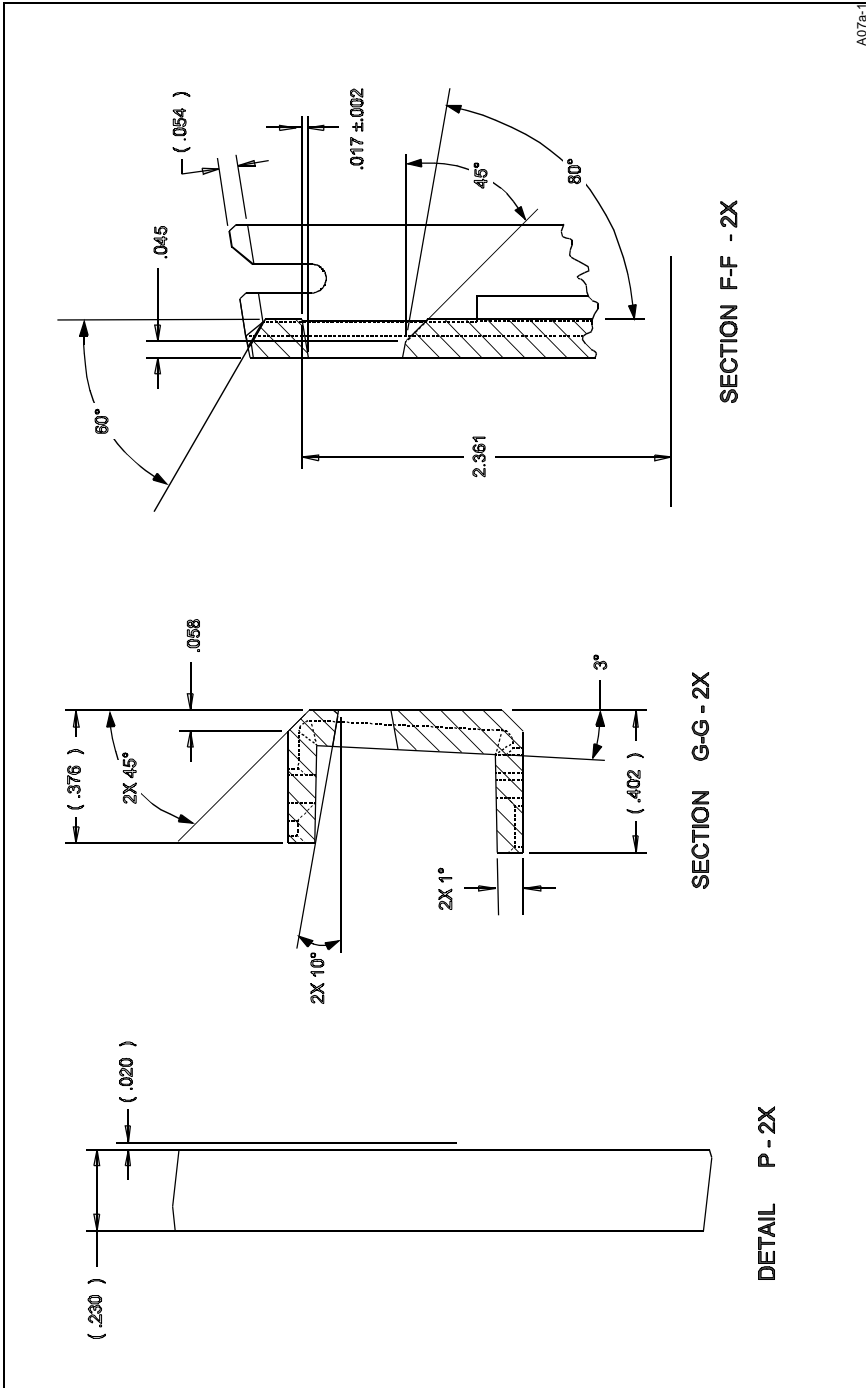


Figure 3-8. Retention Mechanism, Body Detail 5

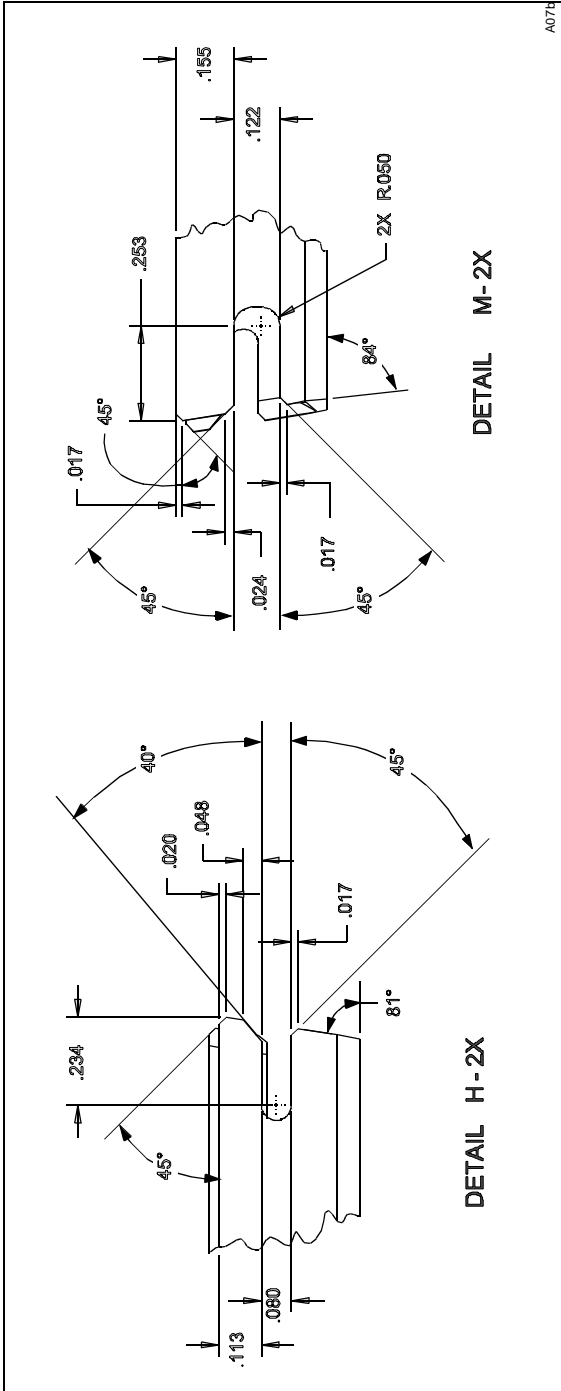


Figure 3-9. Retention Mechanism, Body Detail 6

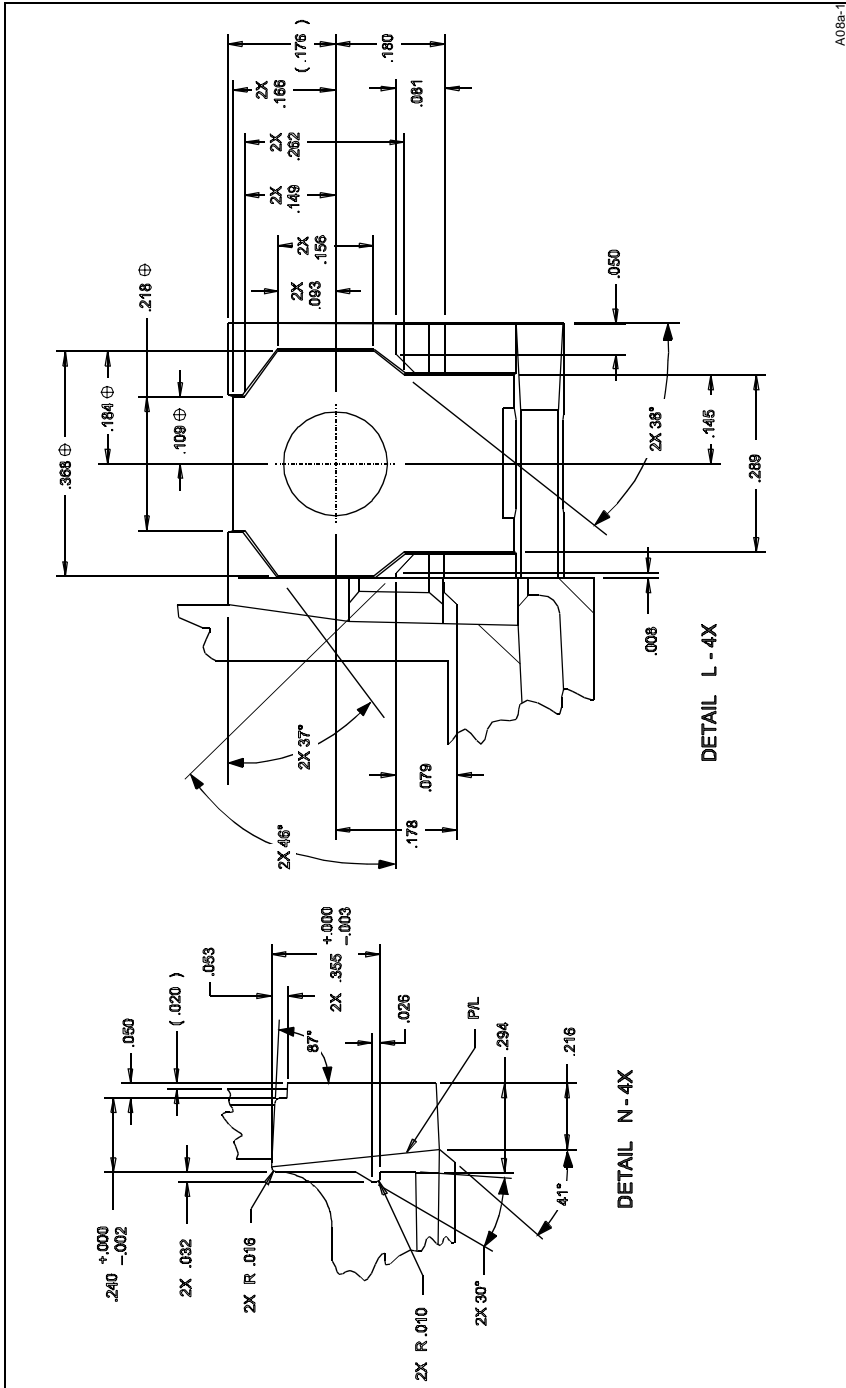


Figure 3-10. Retention Mechanism, Body Detail 7

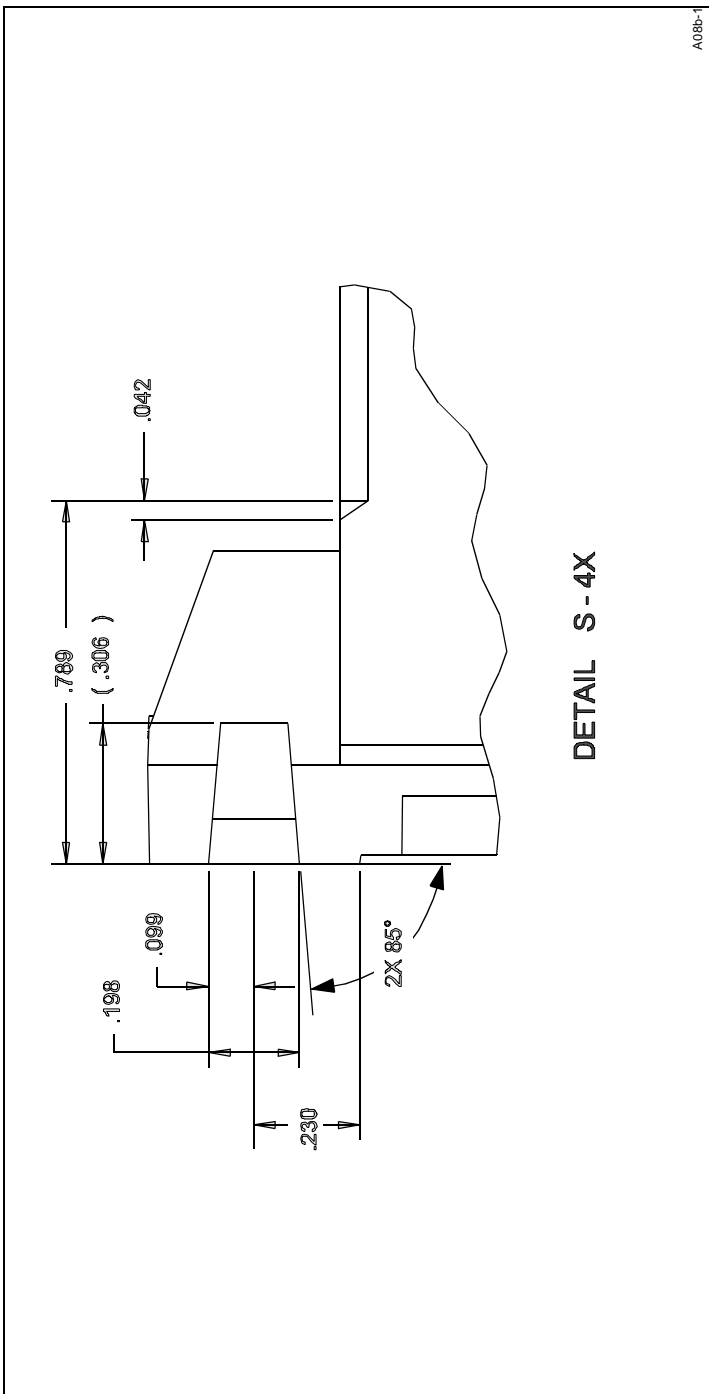


Figure 3-11. Retention Mechanism, Body Detail 8

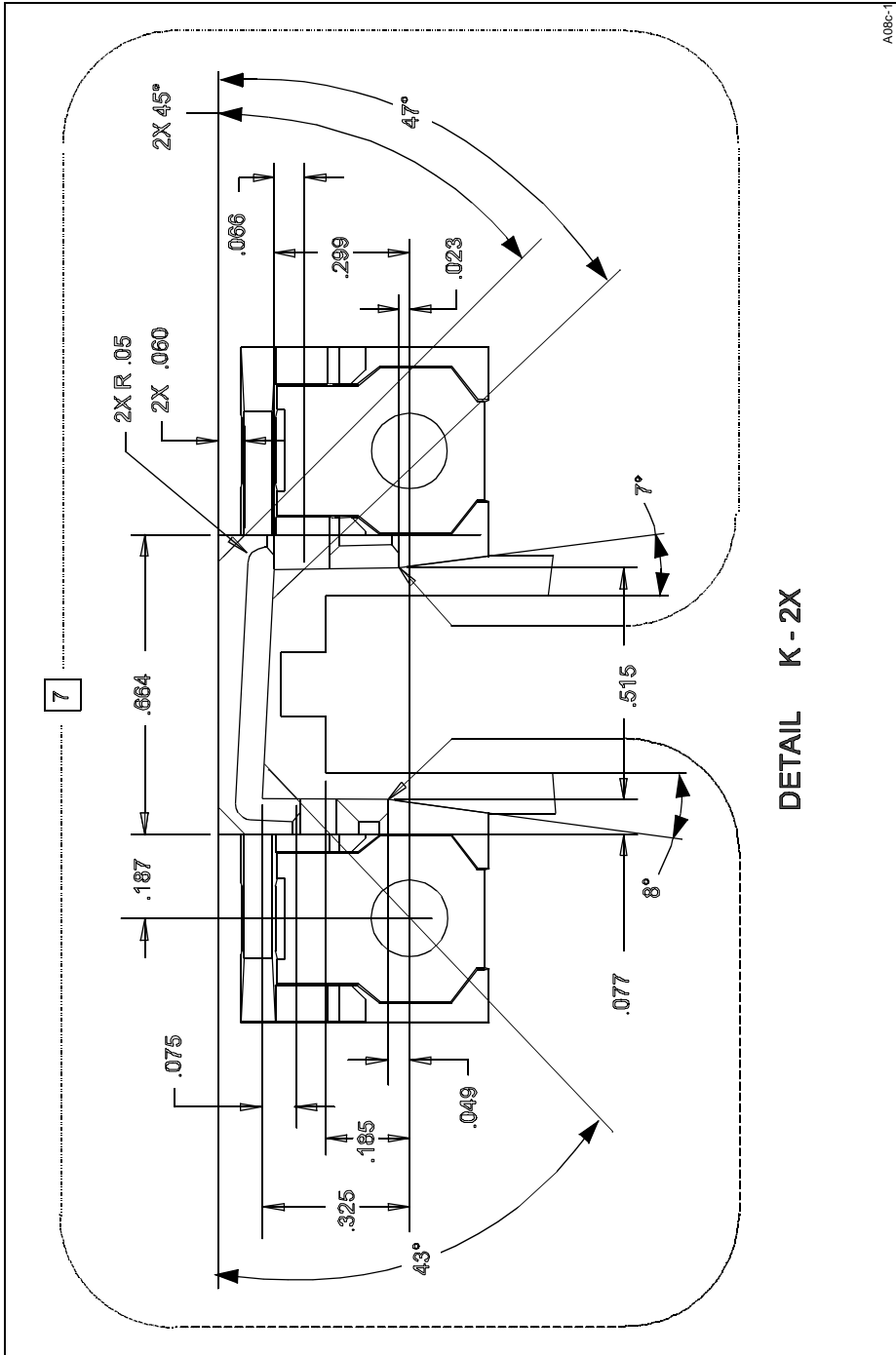


Figure 3-12. Retention Mechanism, Body Detail 9



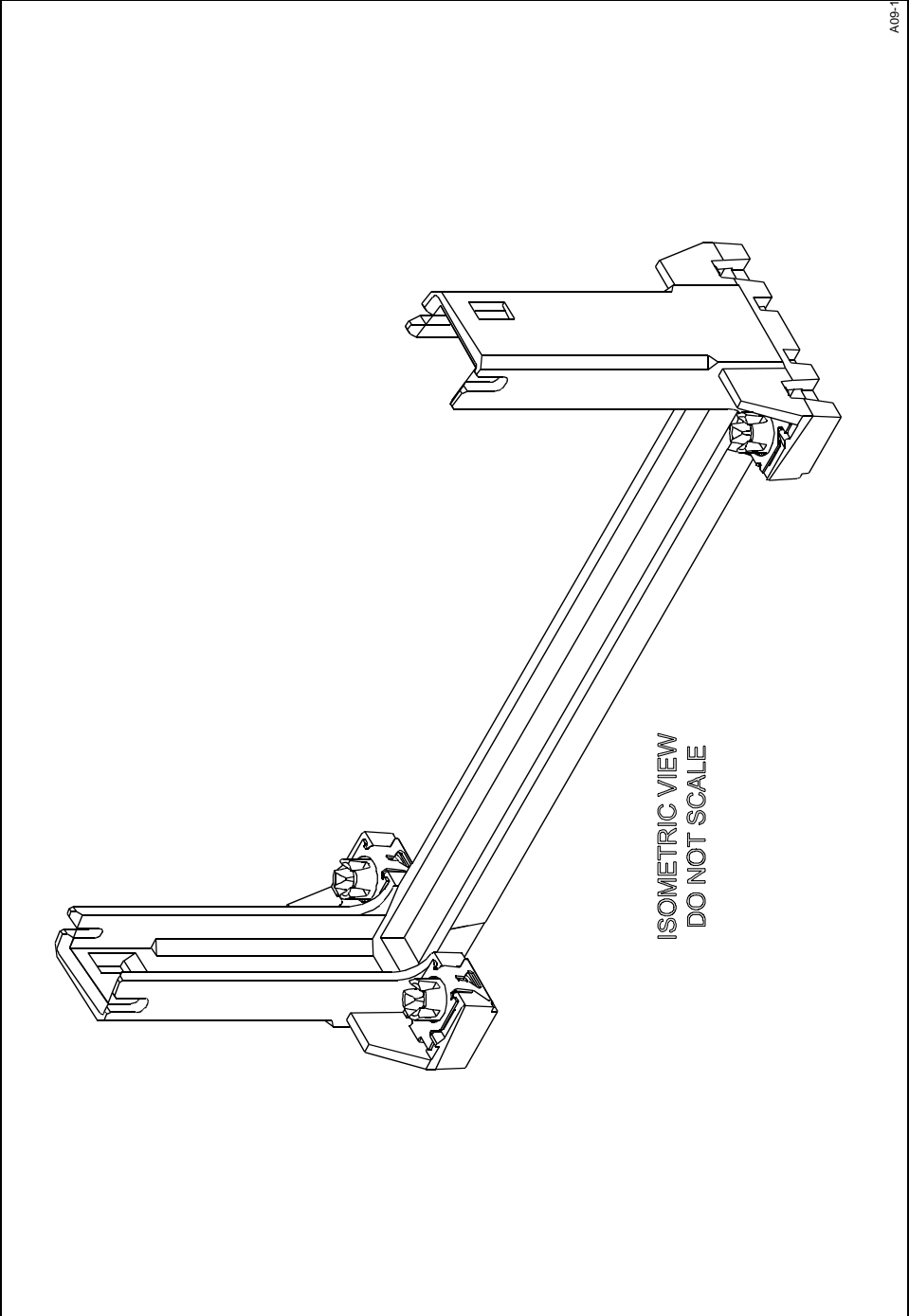


Figure 3-13. Retention Mechanism Assembled View, Cover Side View

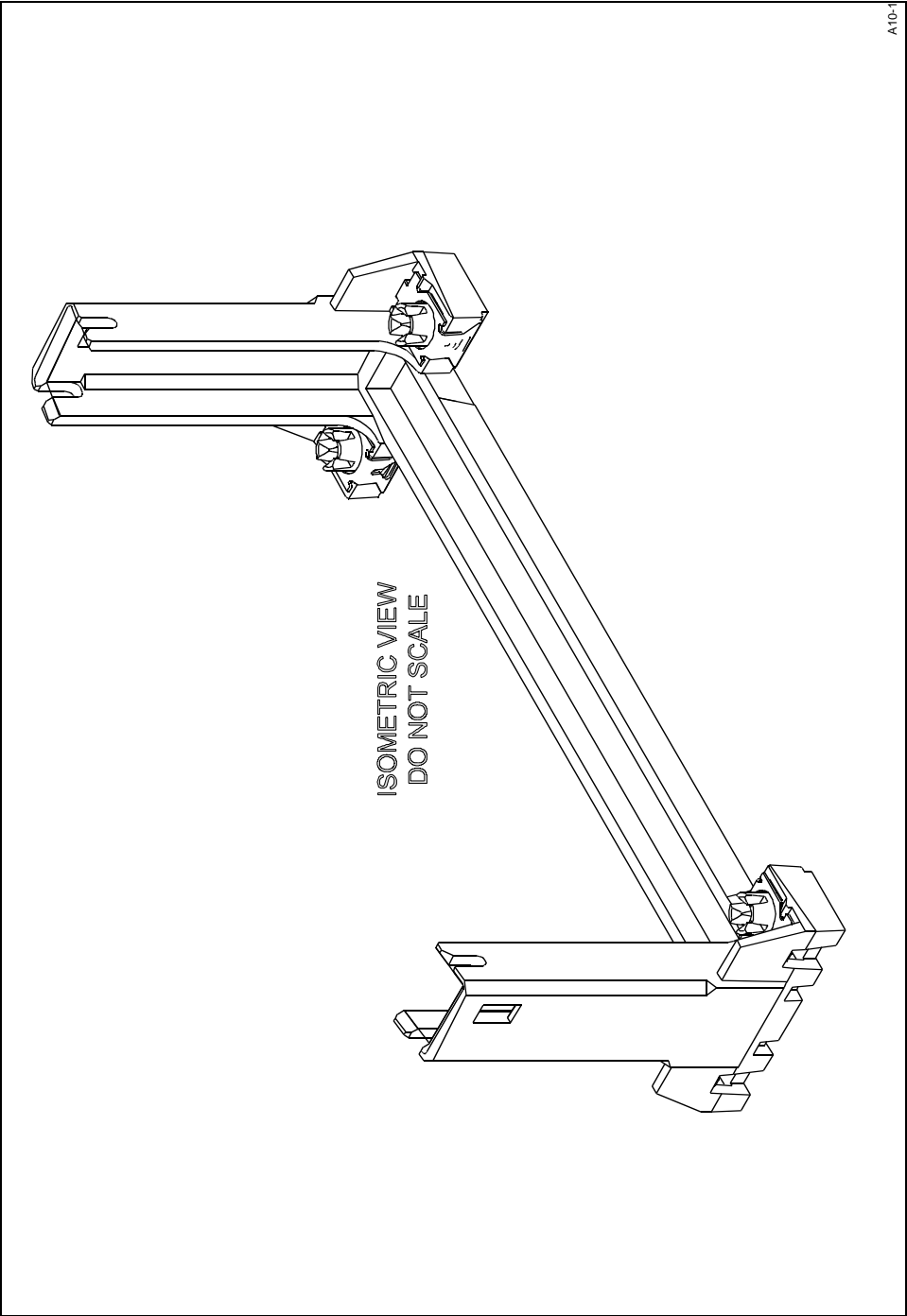
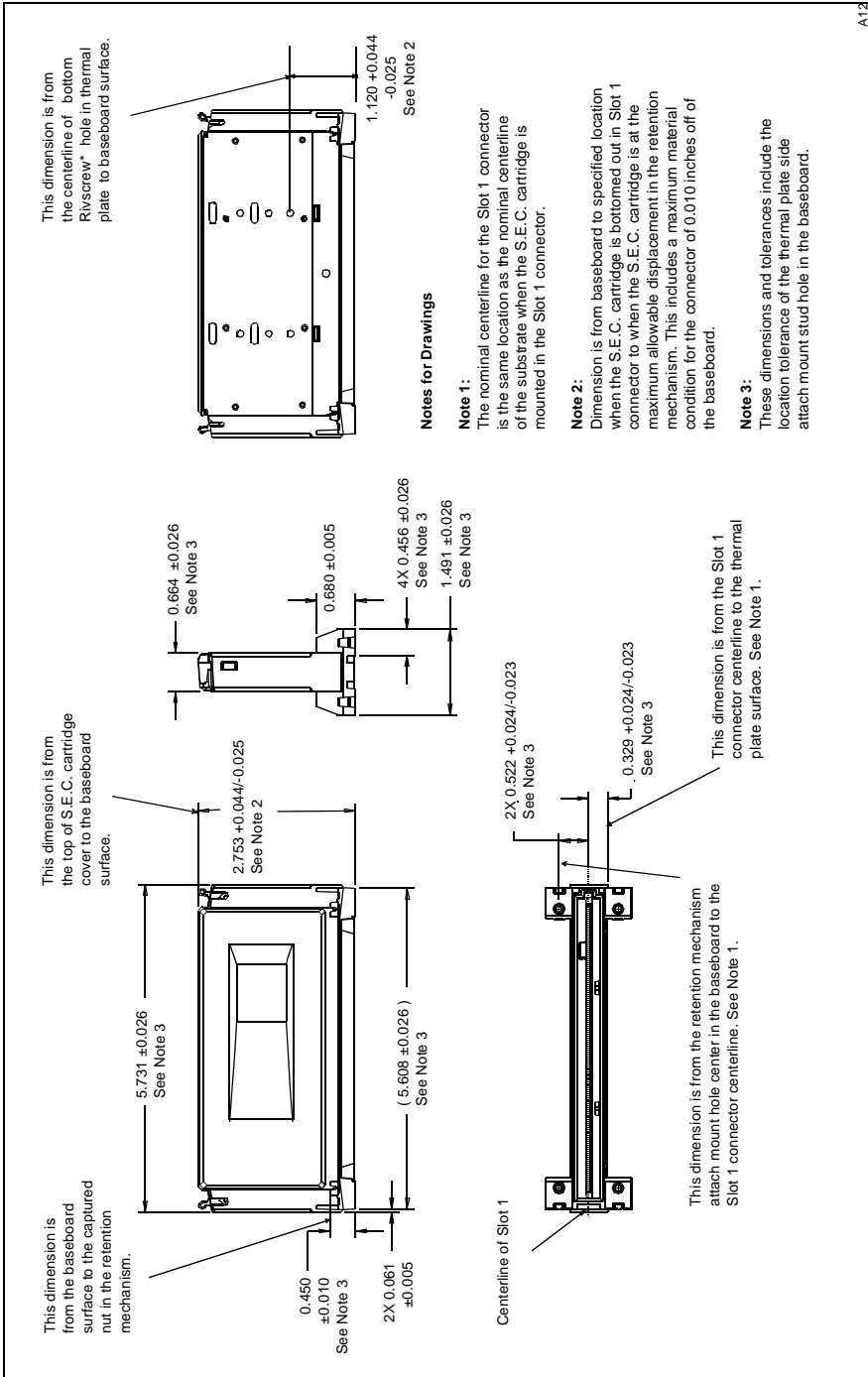


Figure 3-14. Retention Mechanism Assembled View, Thermal Plate Side View



A12

Figure 3-15. S.E.C. Cartridge with Retention Mechanism, Including All Material and Assembly Tolerances



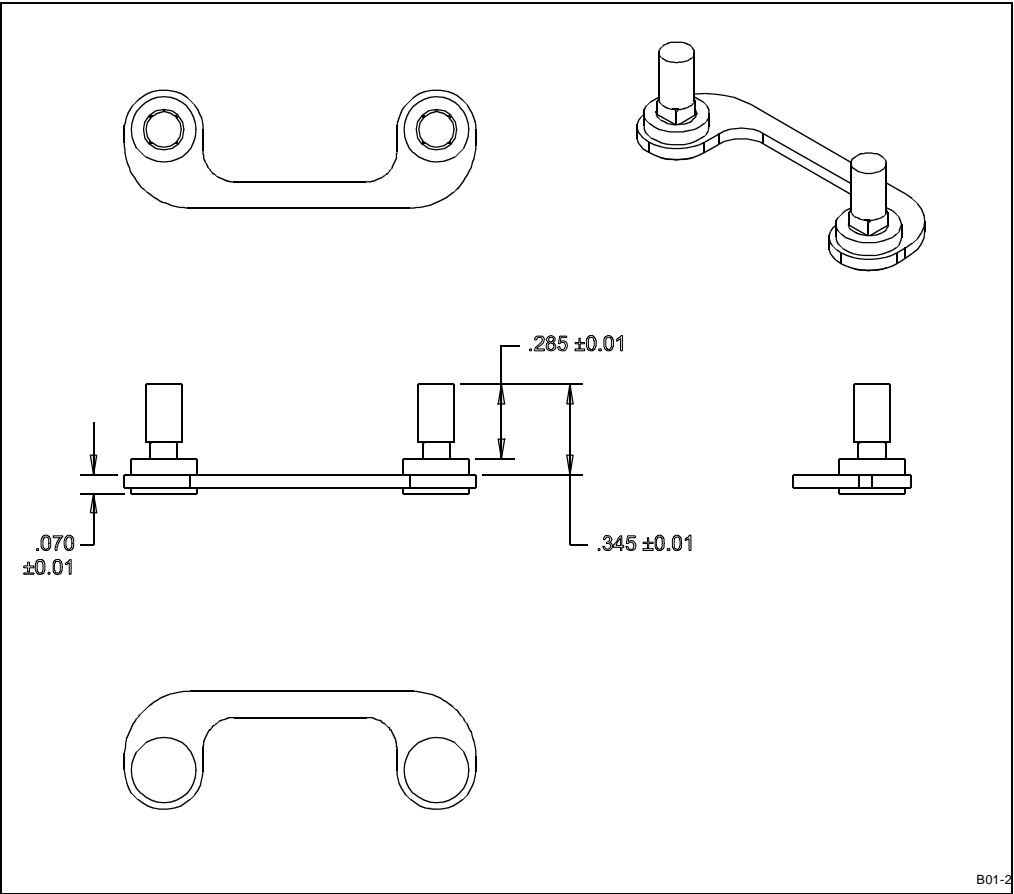
## **CHAPTER 4 ATTACH MOUNT**

**Table 4-1. Retention Mechanism Attach Mount Hard Tool Revisions**

<b>Old Dimension with Tolerances (Inches)</b>	<b>Revised Dimension with Tolerance (Inches)</b>	<b>Description of Dimension Change</b>	<b>Reason for Change</b>
0.020 ±0.010	0.029 +0.005/-0.000	Increase thickness of attach mount base.	Increase structural strength of attach mount base.

**NOTES: FOR ATTACH MOUNT (Figure 4-1 through Figure 4-3)**

1. INTERPRET ALL DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
2. DIMENSIONS LISTED ARE REFERENCED ASSEMBLY DIMENSIONS.
3. THIS DRAWING CAN BE USED IN CORRELATION WITH AN AVAILABLE 3-D DATABASE. ALL DIMENSIONS ON THIS DRAWING TAKE PRECEDENCE OVER A SUPPLIED FILE. CONTACT YOUR LOCAL INTEL REPRESENTATIVE FOR FURTHER INFORMATION.
4. ALL LISTED DIMENSIONS ARE CRITICAL TO THIS ASSEMBLY. DETAILED DIMENSIONS WILL BE AVAILABLE IN A FUTURE REVISION OF THIS DOCUMENT.
5. THE INSERTION FORCE FOR THE ATTACH MOUNT ASSEMBLY IS 44 LBS-F INTO A BASEBOARD OF FR4 MATERIAL, WITH A HOLE SIZE AS SPECIFIED IN Figure 5-11.



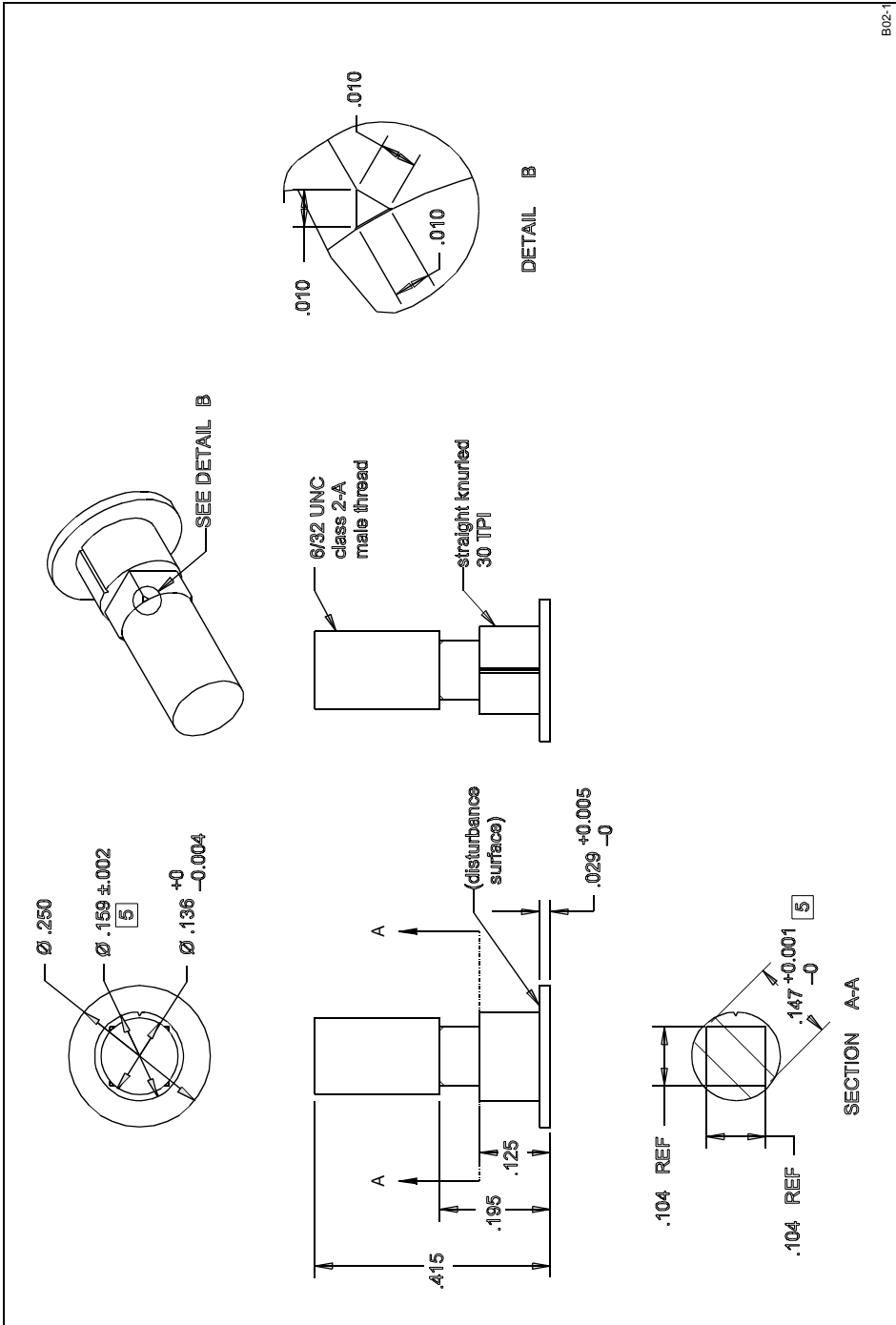
B01-2

Figure 4-1. Attach Mount Assembly

**NOTES: FOR ATTACH MOUNT STUDS (Figure 4-2)**

1. INTERPRET ALL DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1982.
2. THIS DRAWING CAN BE USED IN CORRELATION WITH AN AVAILABLE 3-D DATABASE. ALL DIMENSIONS ON THIS DRAWING TAKE PRECEDENCE OVER A SUPPLIED FILE. CONTACT YOUR LOCAL INTEL REPRESENTATIVE FOR FURTHER INFORMATION.
3. 0.020" WIDE UNDERCUT TO MINOR DIAMETER ALLOWABLE ON BOTTOM THREAD.
4. MATERIAL: MACHINING BRASS 360, 60.5% – 63% COPPER.
- 5 CRITICAL TO FUNCTION DIMENSION.
6. REMOVE ALL BURRS AND SHARP EDGES.
7. 0.010" GAP AND 0.006" DEPTH MAXIMUM UNDERCUT ALLOWABLE FOR KNURLING MATERIAL REMOVAL.
8. PART NUMBER IS PARENT ITEM NUMBER ON ENGINEERING BILL OF MATERIAL.



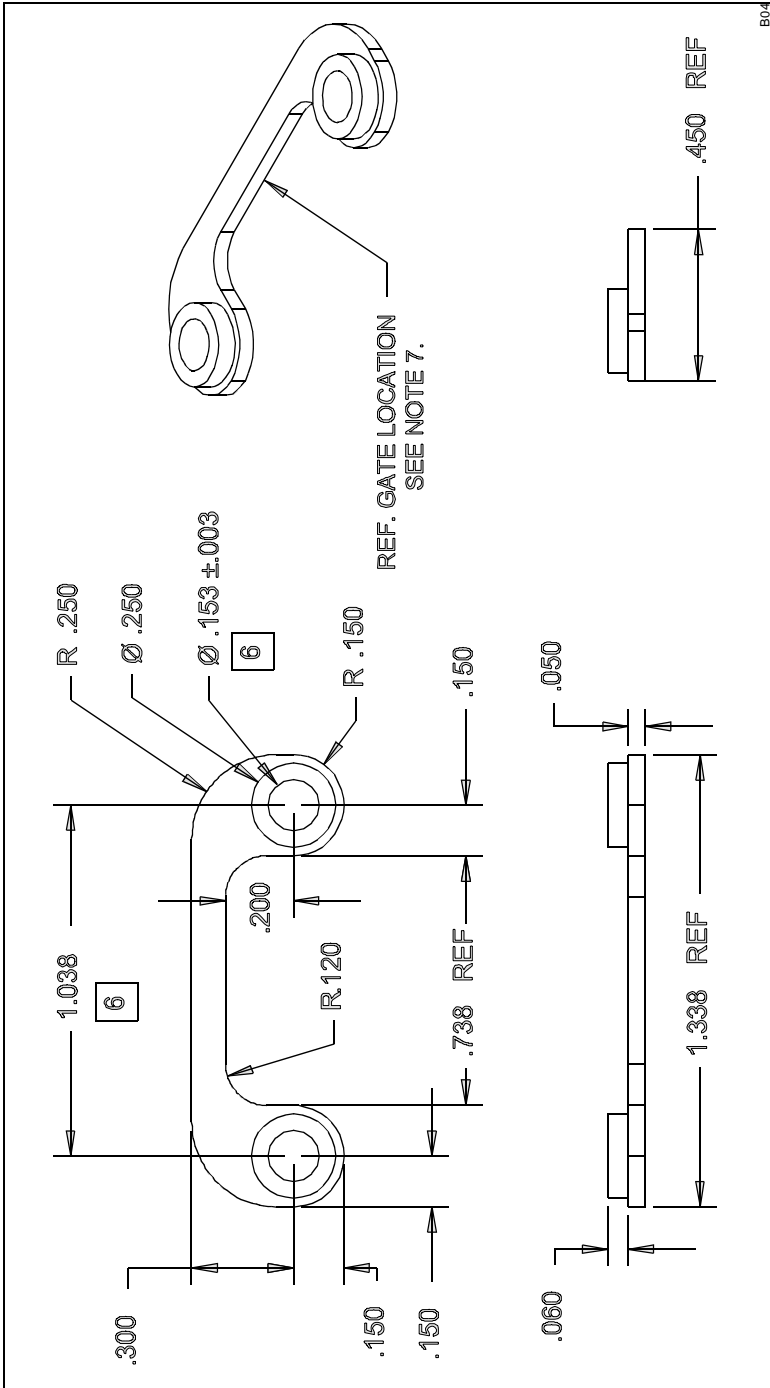


B02-1

Figure 4-2. Attach Mount Assembly Studs

**NOTES: FOR ATTACH MOUNT BRIDGE (Figure 4-3)**

1. THIS DRAWING CAN BE USED IN CORRELATION WITH AN AVAILABLE 3-D DATABASE. CONTACT YOUR LOCAL INTEL REPRESENTATIVE FOR FURTHER INFORMATION.
2. INTENTIONALLY LEFT BLANK.
3. MATERIAL: BLACK NYLON 66 ZYTEL 101L. (CELANESE)
4. INTENTIONALLY LEFT BLANK.
5. DIMENSION AND TOLERANCE PER ANSI Y14.5M.
- 6 CRITICAL TO FUNCTION DIMENSION.
7. ALLOWED 0.010 FLUSH REMOVED FOR GATE.



B04

Figure 4-3. Attach Mount Bridge



## **CHAPTER 5**

### **HEATSINK SUPPORT**

### NOTES: FOR HEATSINK SUPPORT BASE (Figure 5-1 through Figure 5-5)

1. ITEM IDENTIFICATION IS PARENT LINE ITEM ON ENGINEERING BILL OF MATERIALS.
2. TOOLING FOR THIS PART WAS GENERATED FROM 3-D PART MODEL REFERENCED ON THE ENGINEERING PARTS LIST. THE 3-D CAD MODEL SHALL CONTROL ALL FEATURES OF THIS PART NOT DEFINED ON THIS DRAWING.
3. INTENTIONALLY LEFT BLANK.
4. MATERIAL:
  - A) TYPE: POLYCARBONATE
  - B) RESIN MANUFACTURER: GENERAL ELECTRIC CORP
  - C) COLOR: BLACK, TO MATCH GE COLOR CHIP 701
  - D) REGRIND: 25% MAX
  - E) TRADE NAME AND DESIGNATION: LEXAN 940FLAMMABILITY: SHALL MEET UL 94 V-2 OR BETTER ON FINISHED PART.
5. FINISH: SPI/SPE C-2 OR BETTER ON ALL SURFACES.
- 6 INTENTIONALLY LEFT BLANK.
7. WITNESS LINE MISMATCH: 0.003 MAX.
8. FLASH 0.003 MAX.
9. INTENTIONALLY LEFT BLANK.
10. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M.
11. SUPPLIER TO HAVE REQUIRED UL CERTIFICATION DOCUMENTS ON FILE FOR EACH SHIPMENT.
- 12 NO DRAFT THIS SURFACE.
- 13 CRITICAL TO FUNCTION DIMENSION.
- 14 PROCESS CONTROL DIMENSION.
- 15 INTENTIONALLY LEFT BLANK.
16. TOOL SHALL BE MADE TO NOMINAL DIMENSION SHOWN IN DOCUMENT.
- 17 FIXTURE WITH GAGE PIN OF ACTUAL MEASUREMENT FOR  $\varnothing$  .100.
- 18 CENTER TO CENTER OF  $\varnothing$  .125 POSTS.

**Table 5-1. Heatsink Support Base Hard Tool Revisions**  
**(From Rev. 0.5 of Enabled Mechanical Pieces for S.E.C. Cartridge Processors)**

Old Dimension with Tolerances (Inches)	Revised Dimension with Tolerance (Inches)	Description of Dimension Change	Reason for Change
0.120 ±0.005	0.125 ±0.002	Diameter of base post for top bar.	Tighten fit of top bar.
5.200 ±0.001	5.194 ±0.003	Distance and tolerance of base "motherboard post to post length."	Reflect hard tool mold.
0.075 ±0.003	0.075 ±0.005	Tolerance from the top of the baseboard to the largest post diameter which passes through the hole in the motherboard.	Reflect hard tool mold.
0.475 ±0.005	0.475 +0.005/-0.010	Tolerance from baseboard to support base (top of base cross member).	Reflect hard tool mold.
0.725 ±0.005	0.725 +0.005/±0.010	Tolerance from baseboard to support base (top of top bar post) distance.	Reflect hard tool mold.
0.140 ±0.005	0.135 ±0.005	Thickness of support base cross member (top of base); also changed other dimensions referenced to surface by 0.005 inches.	Improve material stack-up clearances.
0.110 ±0.005	0.110 +0.001/±0.002	Tolerance of slot in top bar which interacts with base posts decreased .	Tighten fit of top bar.
0.177 ±0.005	0.180 ±0.005	Removed tool safe features in HSS base database file. The removal of this condition caused the flats across the base retention features (post nominal dimensions) to change.	Remove tool safe requirements.
0.146 ±0.005	0.150 ±0.005		

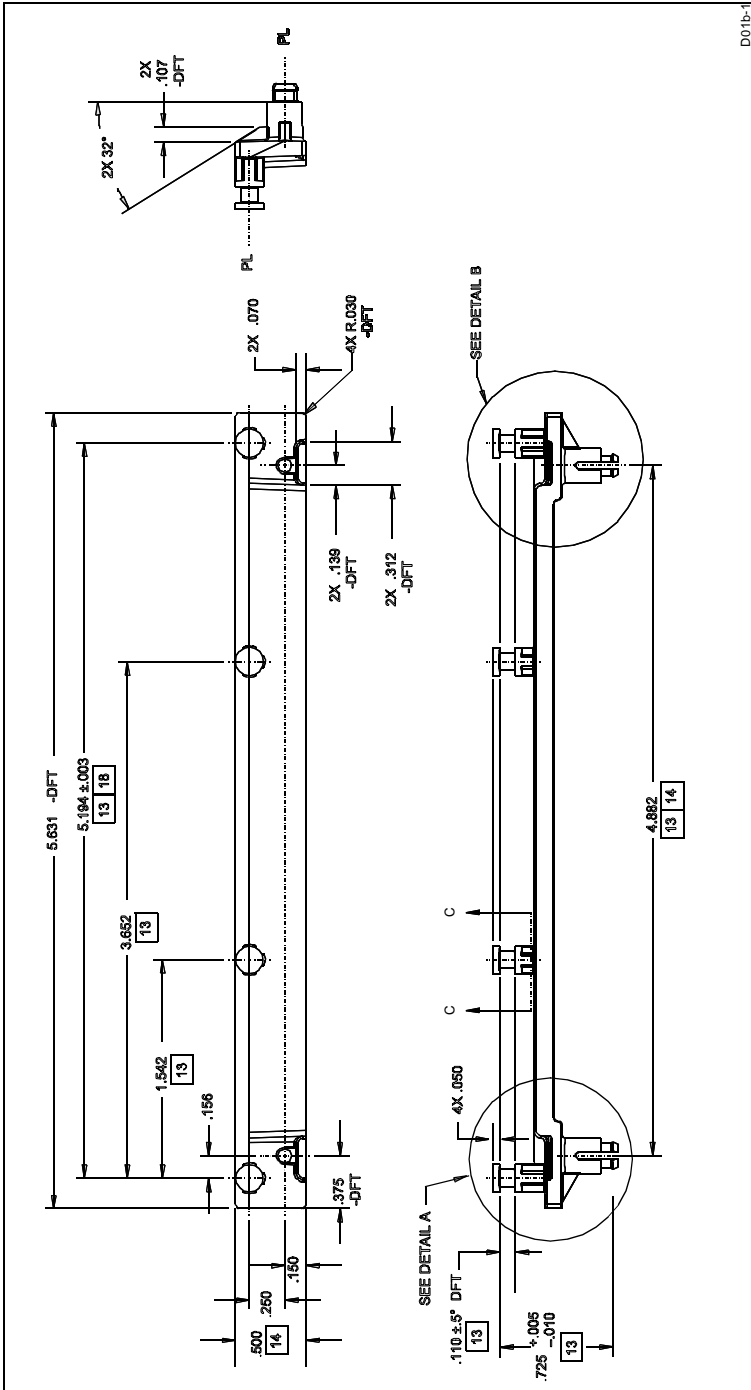


Figure 5-1. Heatsink Support Base (1 of 3)

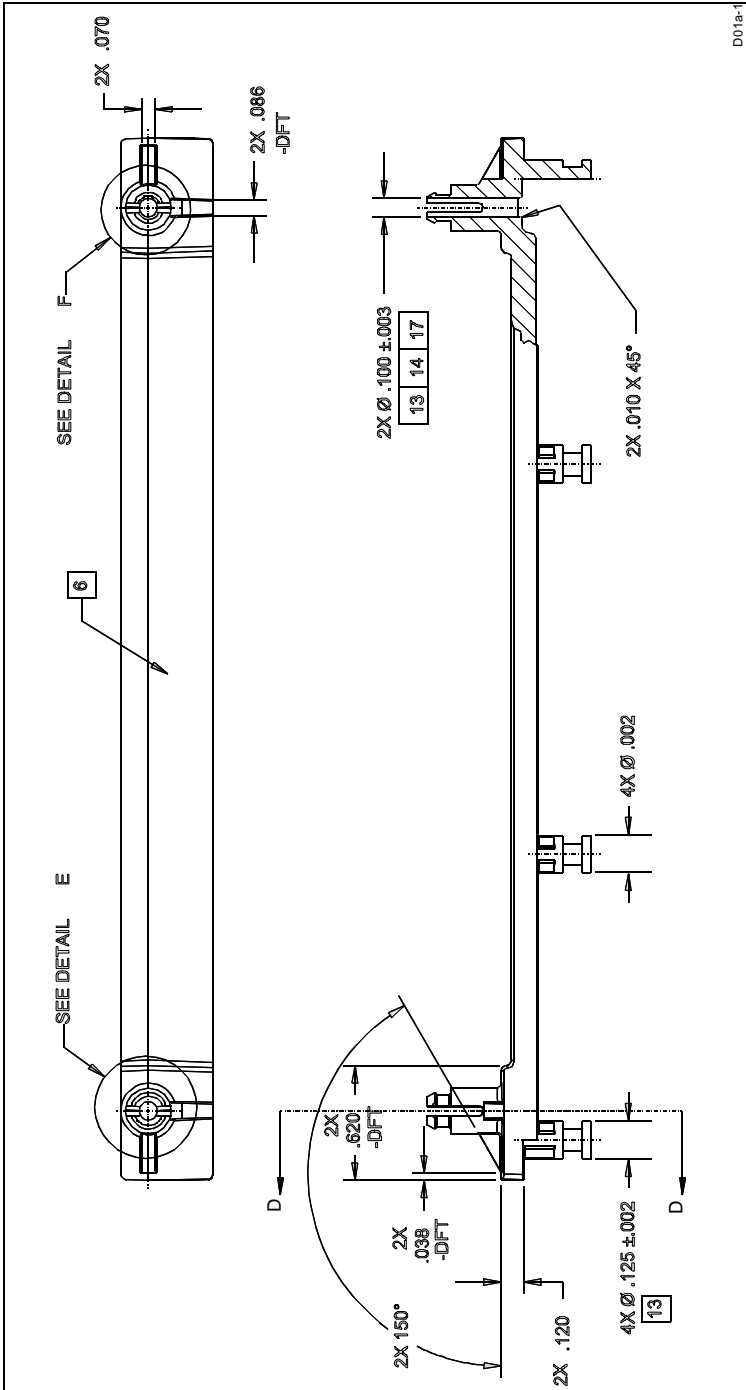


Figure 5-2. Heatsink Support Base (2 of 3)



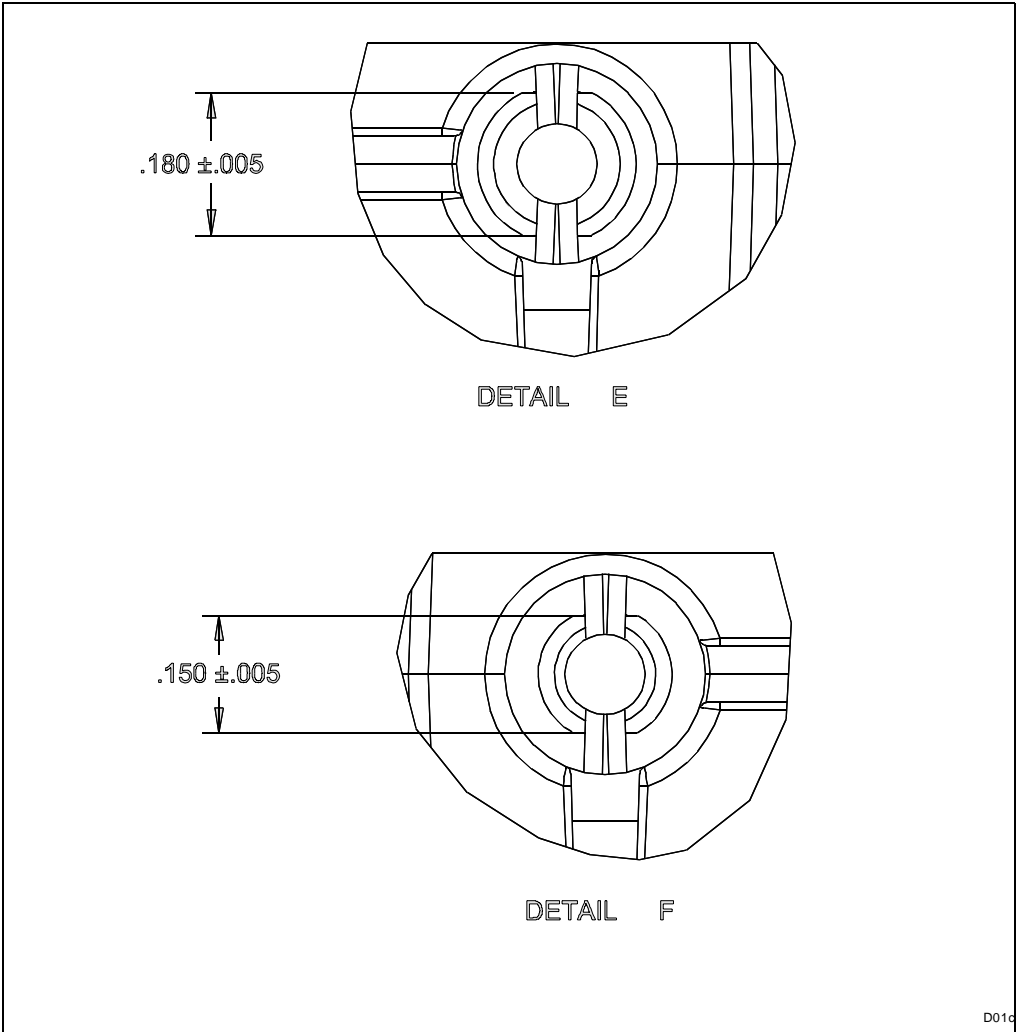


Figure 5-3. Heatsink Support Base (3 of 3)

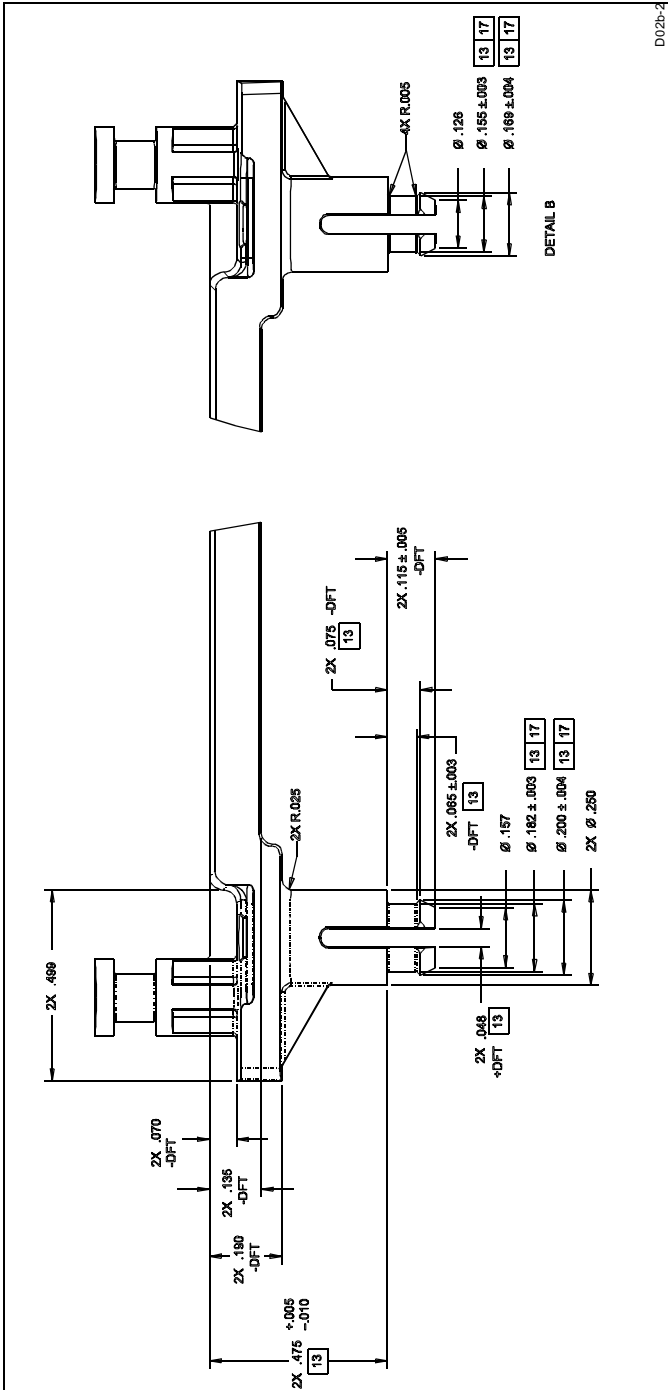


Figure 5-4. Heatsink Support Base, Detail (1 of 2)

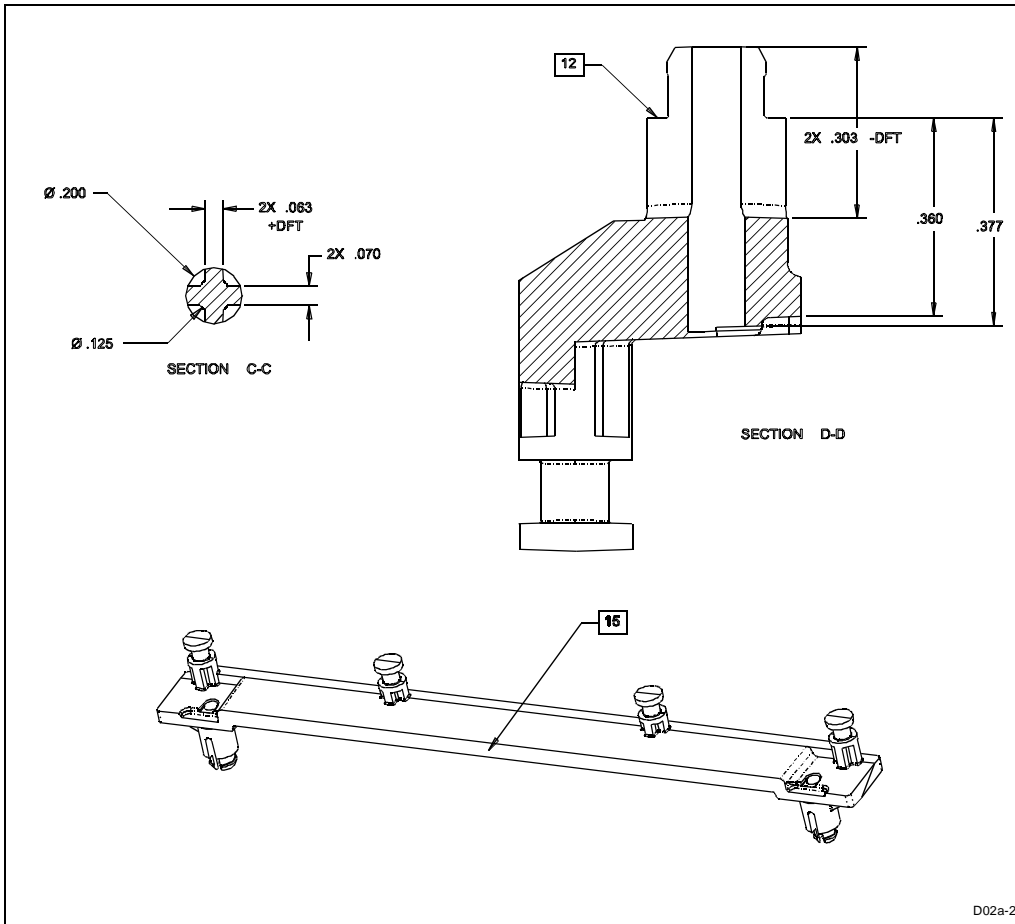


Figure 5-5. Heatsink Support Base, Detail (2 of 2)

**NOTES: FOR HEATSINK SUPPORT TOP BAR (Figure 5-6 and Figure 5-7)**

1. ITEM IDENTIFICATION IS PARENT LINE ITEM ON ENGINEERING BILL OF MATERIALS.
2. TOOLING FOR THIS PART WAS GENERATED FROM 3-D PART MODEL REFERENCED ON THE ENGINEERING PARTS LIST. THE 3-D CAD MODEL SHALL CONTROL ALL FEATURES OF THIS PART NOT DEFINED ON THIS DRAWING.
3. INTENTIONALLY LEFT BLANK.
4. MATERIAL:
  - A) TYPE: POLYCARBONATE
  - B) RESIN MANUFACTURER: GENERAL ELECTRIC CORP
  - C) COLOR: BLACK, TO MATCH GE COLOR CHIP 701
  - D) REGRIND: 25% MAX
  - E) TRADE NAME AND DESIGNATION: LEXAN 940FLAMMABILITY: SHALL MEET UL 94 V-2 OR BETTER ON FINISHED PART.
5. FINISH: SPI/SPE C-2 OR BETTER ON ALL SURFACES.
- 6** INTENTIONALLY LEFT BLANK.
7. WITNESS LINE MISMATCH: 0.003 MAX.
8. FLASH 0.005 MAX.
9. INTENTIONALLY LEFT BLANK.
10. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M.
11. SUPPLIER TO HAVE REQUIRED UL CERTIFICATION DOCUMENTS ON FILE FOR EACH SHIPMENT.
12. UNSPECIFIED RADII SHALL BE 0.030R.
- 13** CRITICAL TO FUNCTION DIMENSION.
- 14** INTENTIONALLY LEFT BLANK.
- 15** INTENTIONALLY LEFT BLANK.

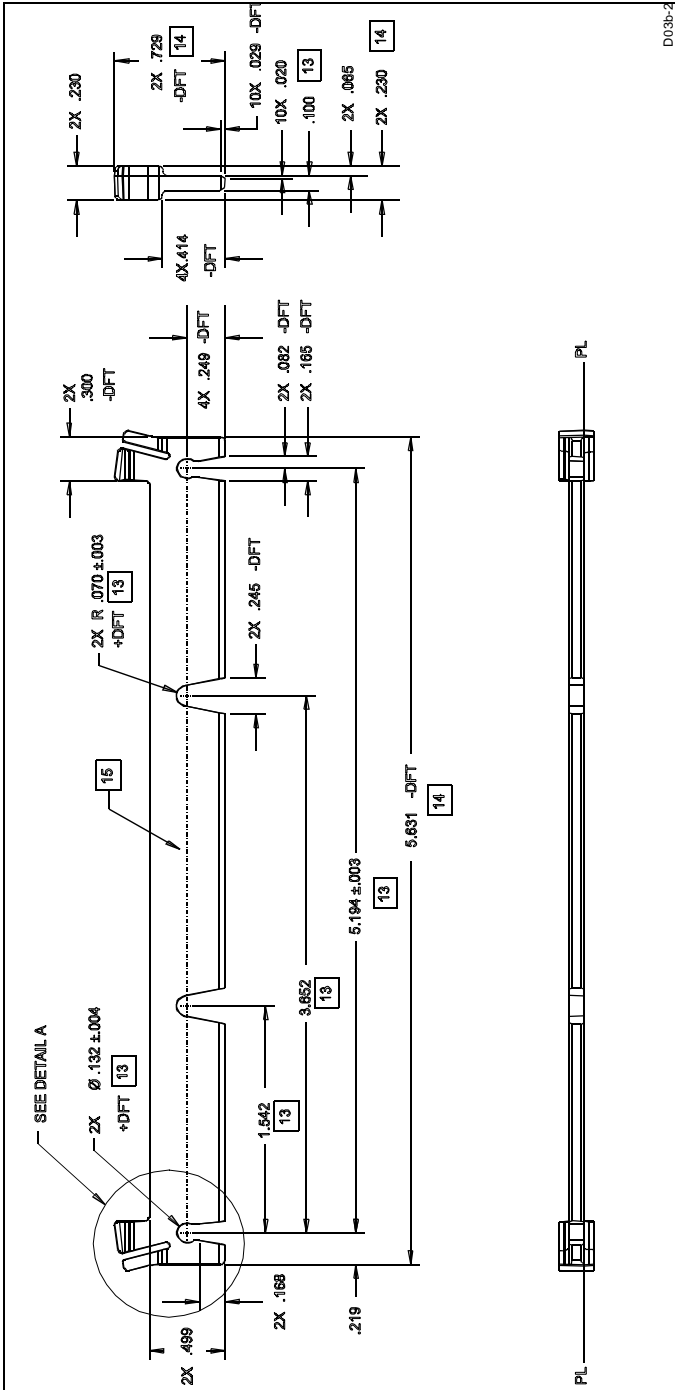


Figure 5-6. Heatsink Support, Top Bar (1 of 2)

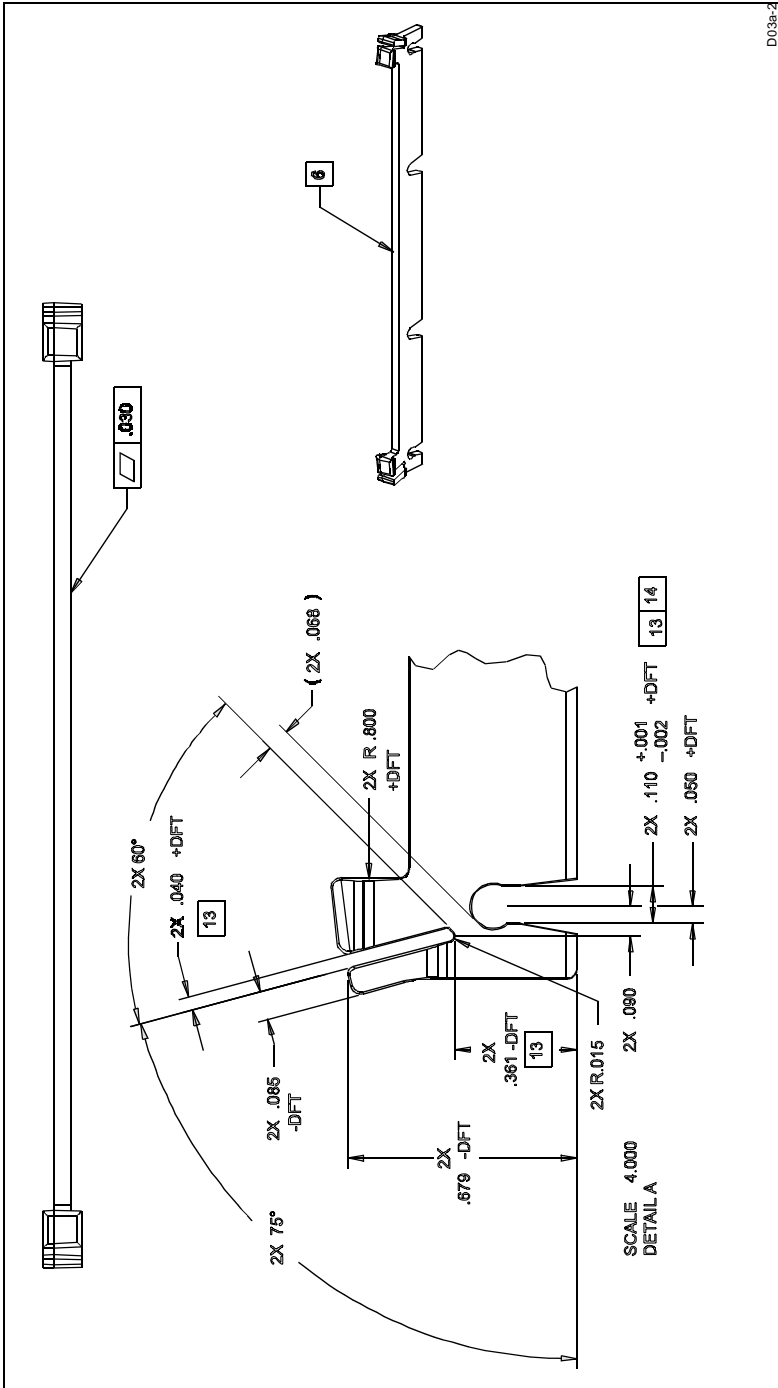


Figure 5-7. Heatsink Support, Top Bar (2 of 2)

### NOTES: FOR HEATSINK SUPPORT PINS (Figure 5-8)

1. ITEM IDENTIFICATION IS PARENT LINE ITEM ON ENGINEERING BILL OF MATERIALS.
2. TOOLING FOR THIS PART WAS GENERATED FROM 3-D PART MODEL REFERENCED ON THE ENGINEERING PARTS LIST. THE 3-D CAD MODEL SHALL CONTROL ALL FEATURES OF THIS PART NOT DEFINED ON THIS DRAWING.
3. INTENTIONALLY LEFT BLANK.
4. MATERIAL:
  - A) TYPE: POLYCARBONATE
  - B) RESIN MANUFACTURER: GENERAL ELECTRIC CORP
  - C) COLOR: BLACK, TO MATCH GE COLOR CHIP 701
  - D) REGRIND: 25% MAX
  - E) TRADE NAME AND DESIGNATION: LEXAN 940FLAMMABILITY: SHALL MEET UL 94 V-2 OR BETTER ON FINISHED PART.
5. FINISH: SPI/SPE C-2 OR BETTER ON ALL SURFACES.
- 6 INTENTIONALLY LEFT BLANK.
7. WITNESS LINE MISMATCH: 0.003 MAX.
8. FLASH 0.005 MAX.
9. INTENTIONALLY LEFT BLANK.
10. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M.
11. SUPPLIER TO HAVE REQUIRED UL CERTIFICATION DOCUMENTS ON FILE FOR EACH SHIPMENT.
- 12 CRITICAL TO FUNCTION DIMENSION.
- 13 INTENTIONALLY LEFT BLANK.
14. INTENTIONALLY LEFT BLANK.

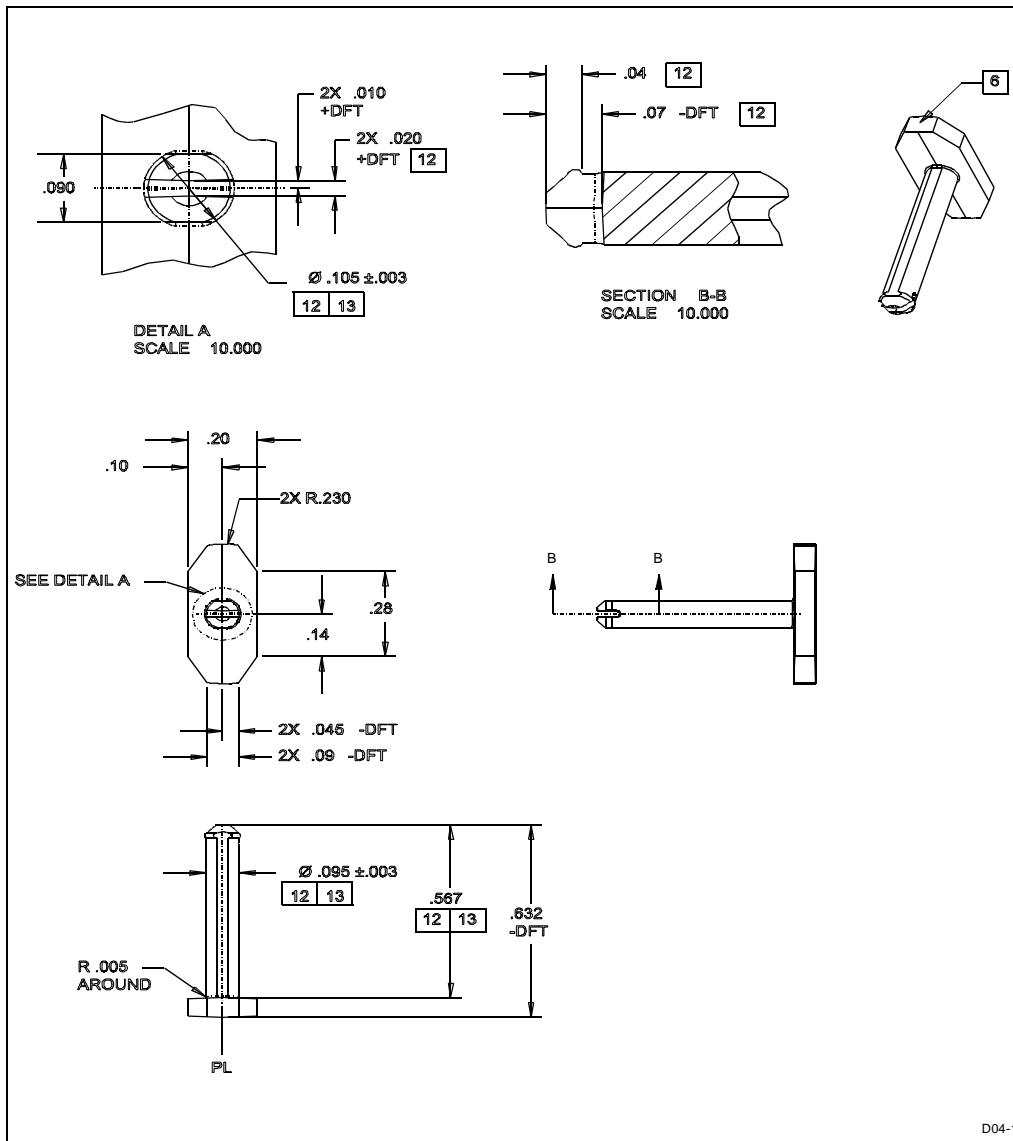


Figure 5-8. Heatsink Support, Pin



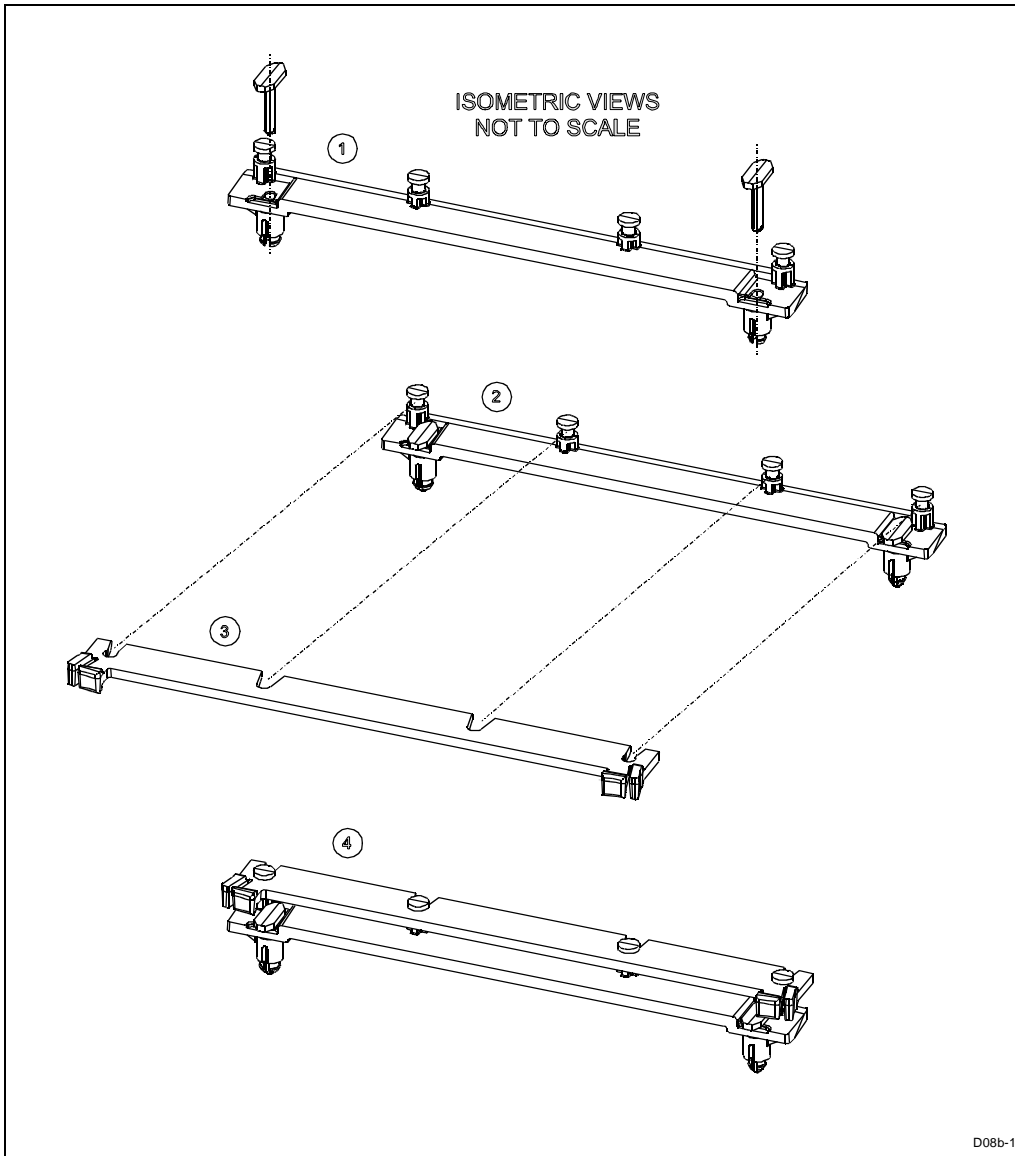


Figure 5-9. Heatsink Support Assembly Steps

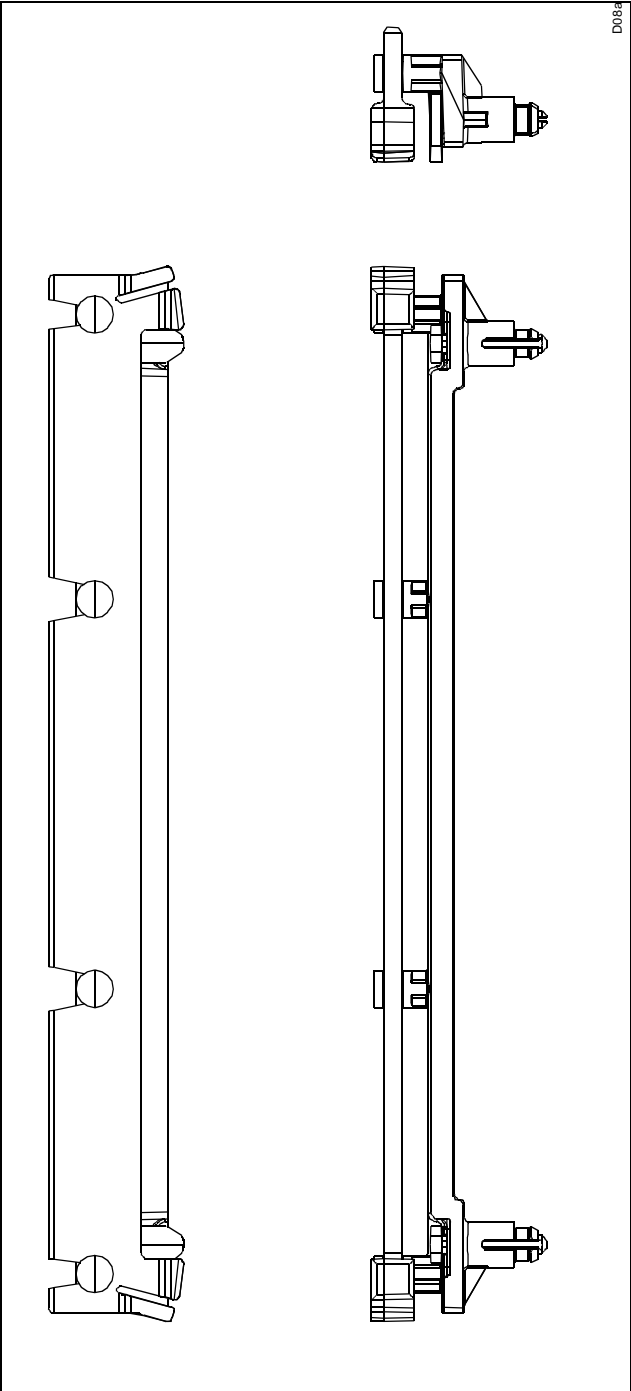


Figure 5-10. Heatsink Support Assembled Views

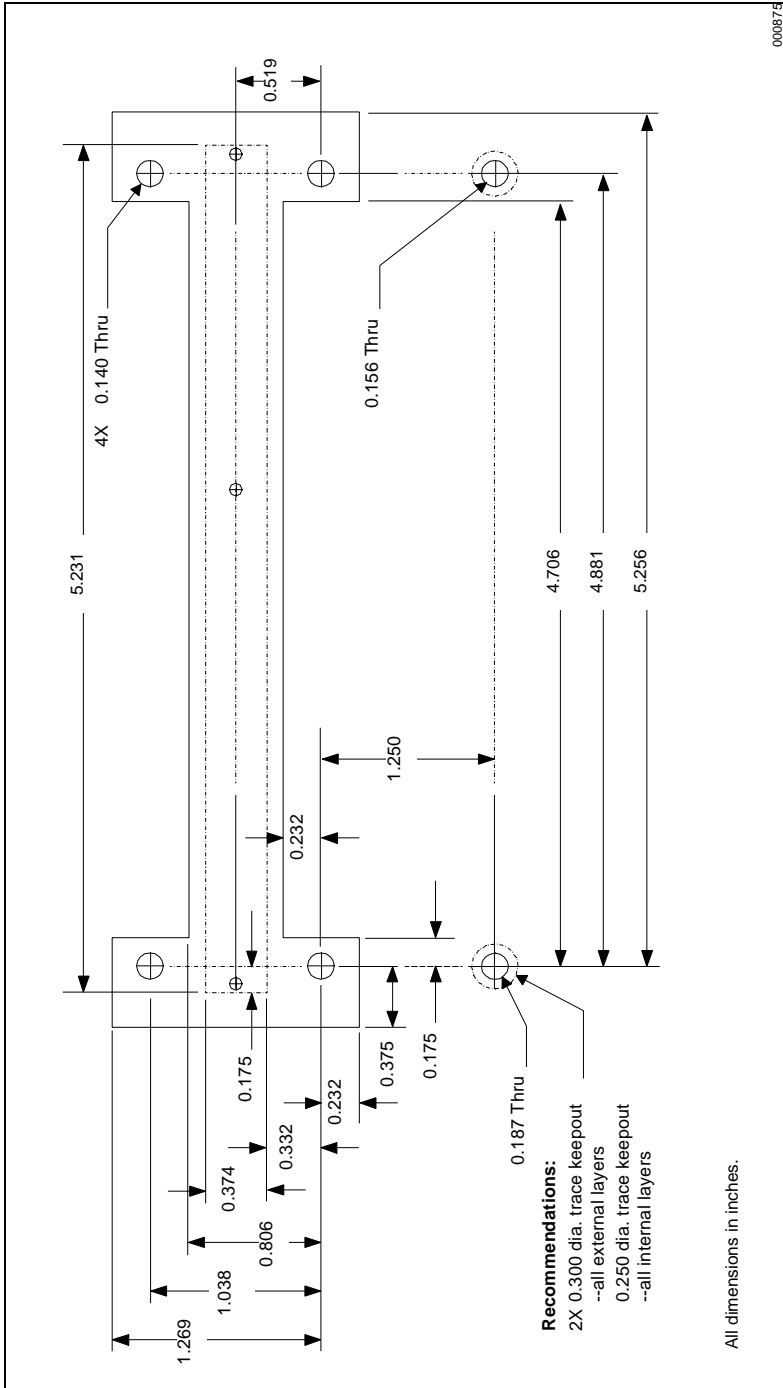


Figure 5-11. Baseboard Retention Mechanism and Heatsink Support Hole Locations and Sizes

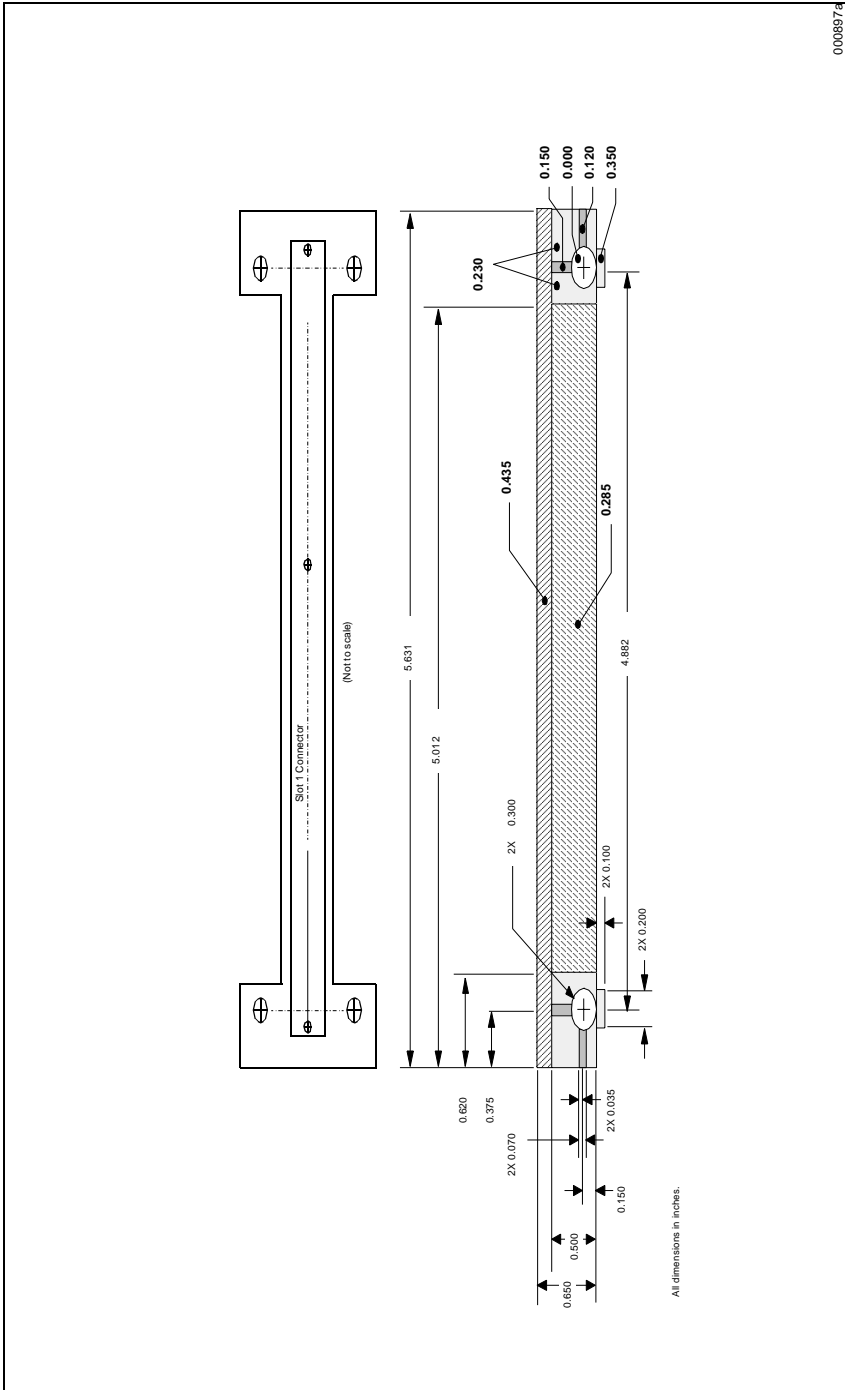


Figure 5-12. Baseboard Component Height Restrictions under Heatsink Support  
(Looking down at the baseboard.)

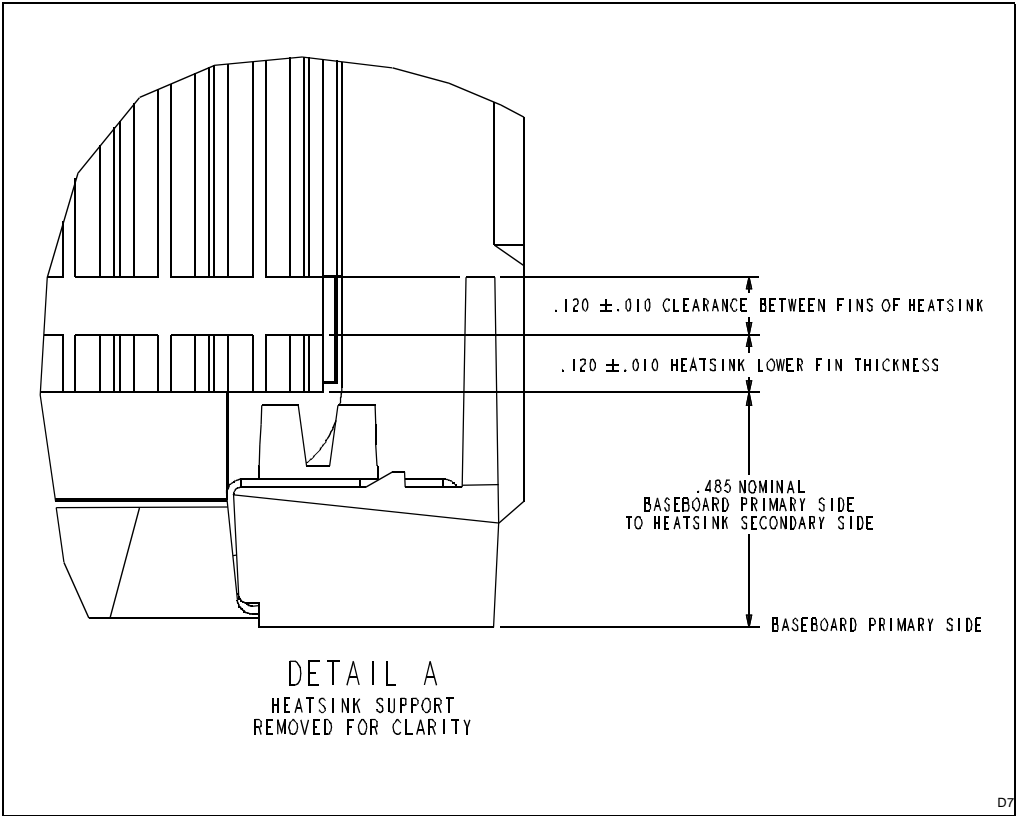


Figure 5-13. Heatsink Support Requirements, Detail



# CHAPTER 6

## S.E.C. CARTRIDGE AND MECHANICAL COMPONENTS ASSEMBLY

**NOTES: UNLESS OTHERWISE SPECIFIED**

1. INTERPRET ALL DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1982.
2. ALL LISTED DIMENSIONS ARE CRITICAL TO THIS ASSEMBLY.



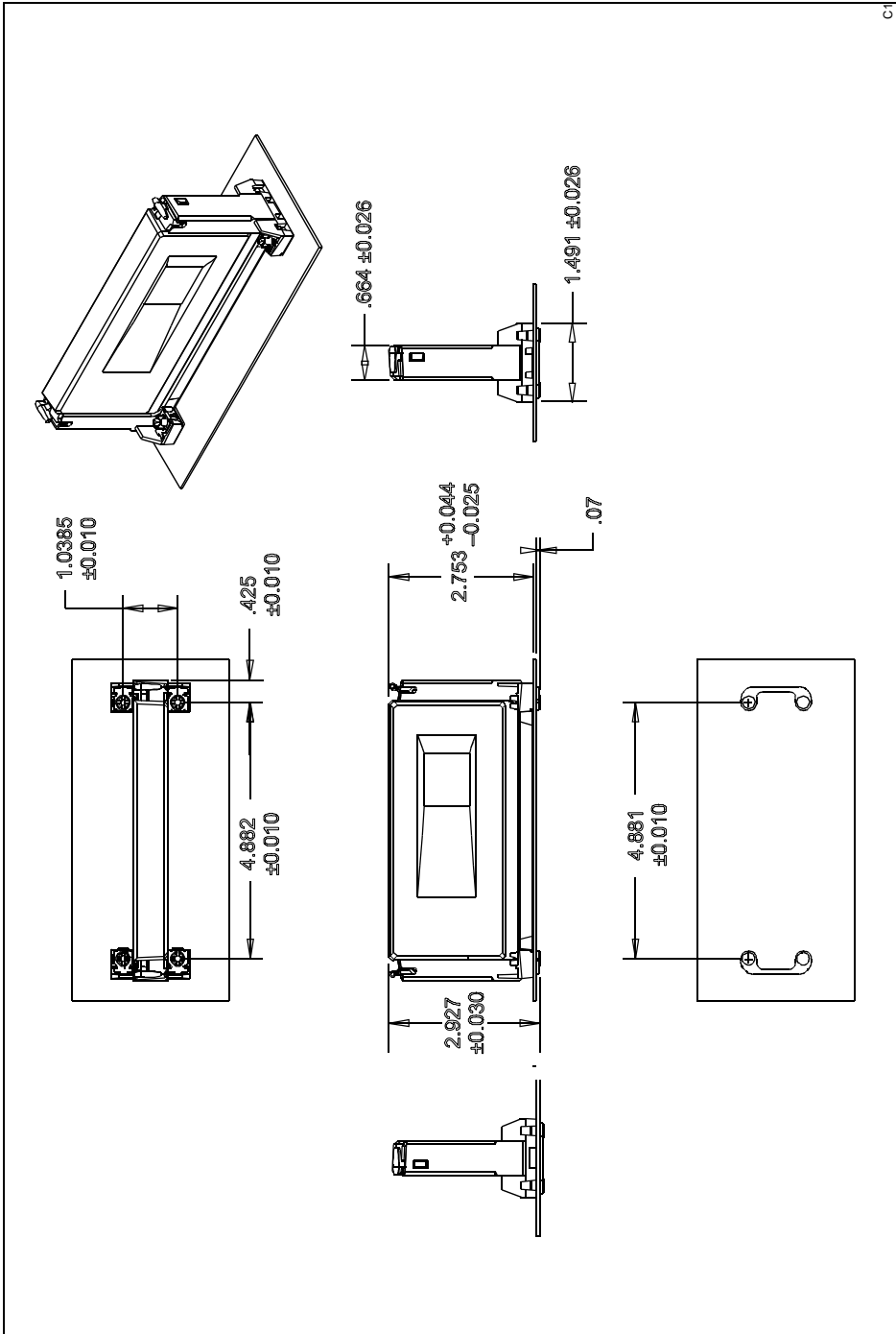


Figure 6-1. S.E.C. Cartridge, Retention Mechanism and Attach Mount Assembly



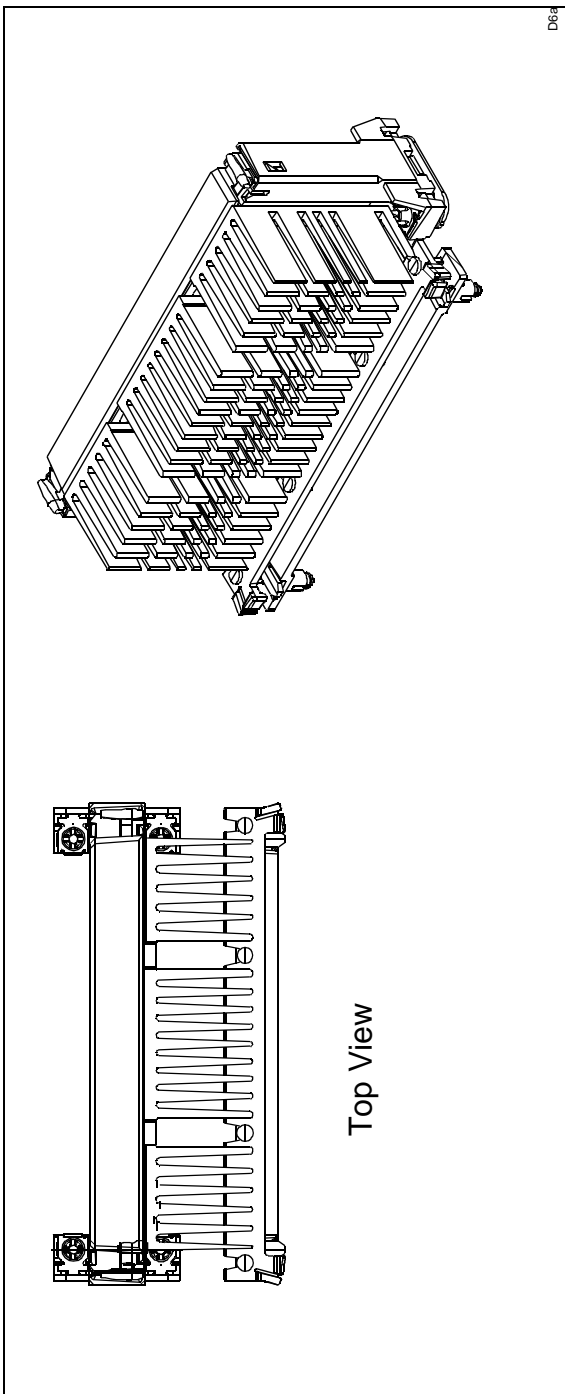
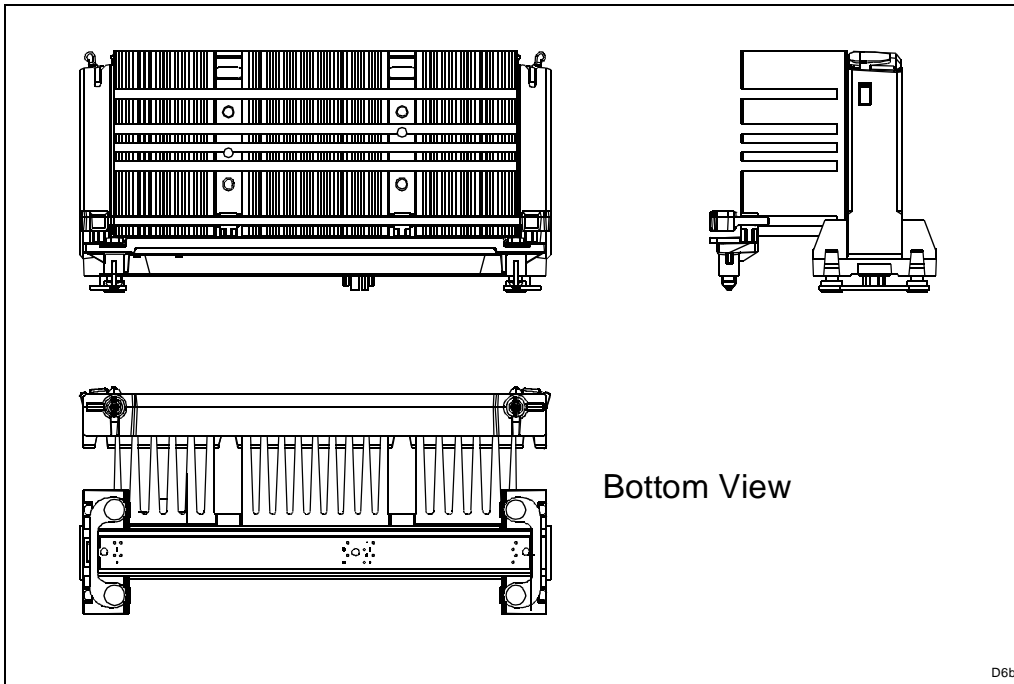


Figure 6-2. S.E.C. Cartridge Processor with All Mechanical Components, Full Assembly (1 of 2)  
(Using an Example ATX style heatsink.)

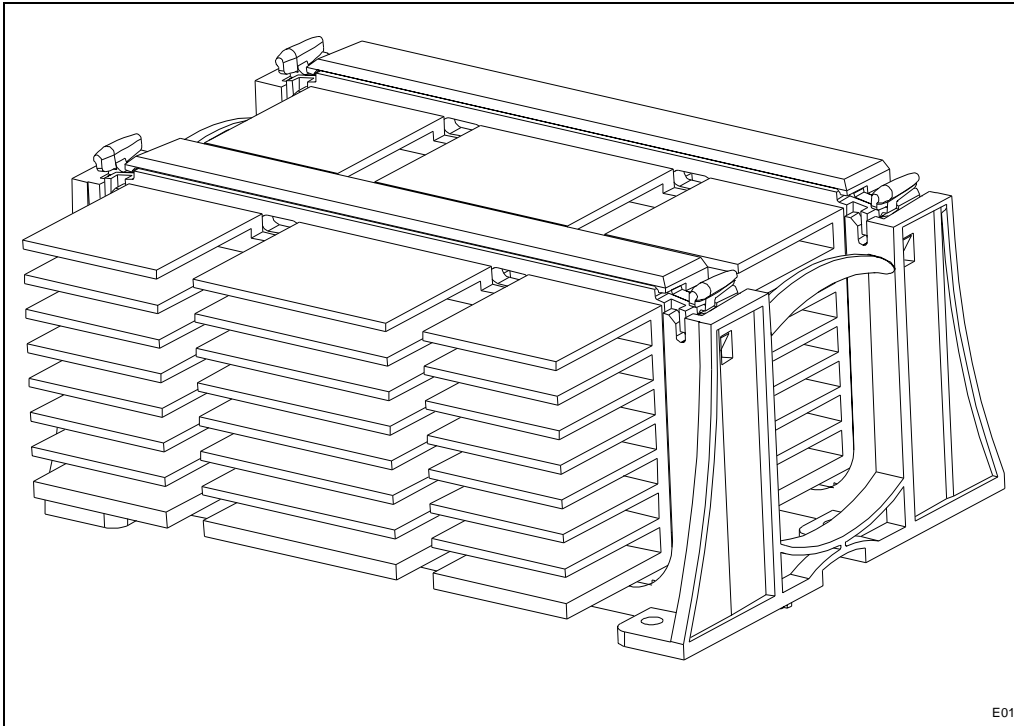


**Figure 6-3. S.E.C. Cartridge Processor with All Mechanical Components,  
Full Assembly (2 of 2)  
(Using an Example ATX style heatsink.)**



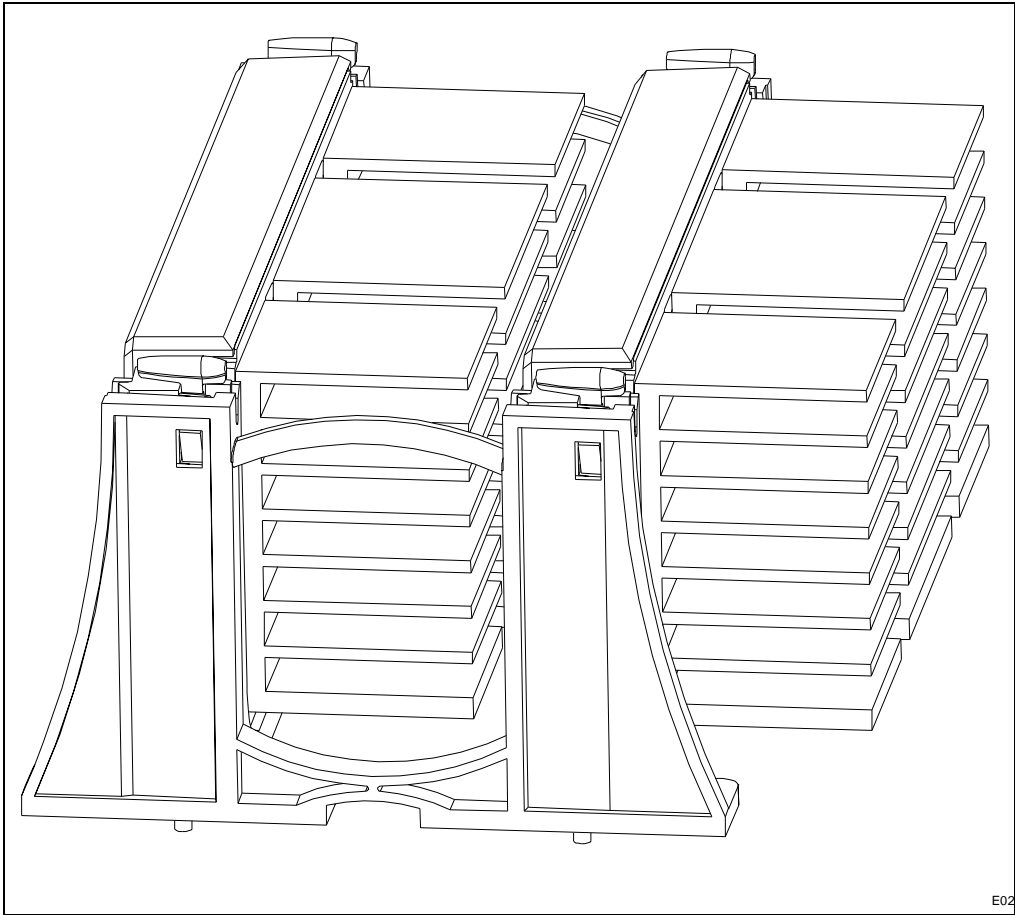
# CHAPTER 7

## DUAL PROCESSOR RETENTION MECHANISM



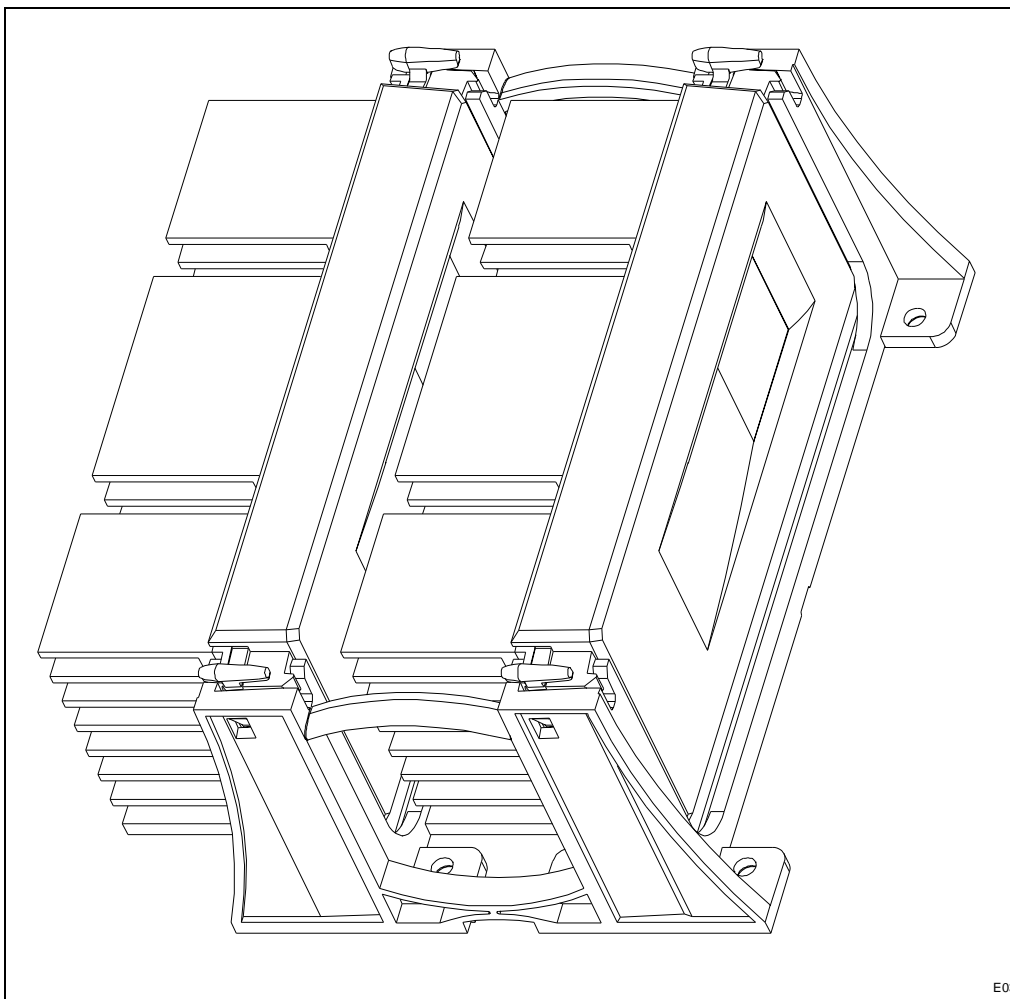
E01

**Figure 7-1. Dual Retention Mechanism with S.E.C. Cartridge Processors  
(Example Heatsink Shown) Front View**



E02

**Figure 7-2. Dual Retention Mechanism with S.E.C. Cartridge Processors  
(Example Heatsink Shown) Side View**



E03

**Figure 7-3. Dual Retention Mechanism with S.E.C. Cartridge Processors  
(Example Heatsink Shown) Top View**

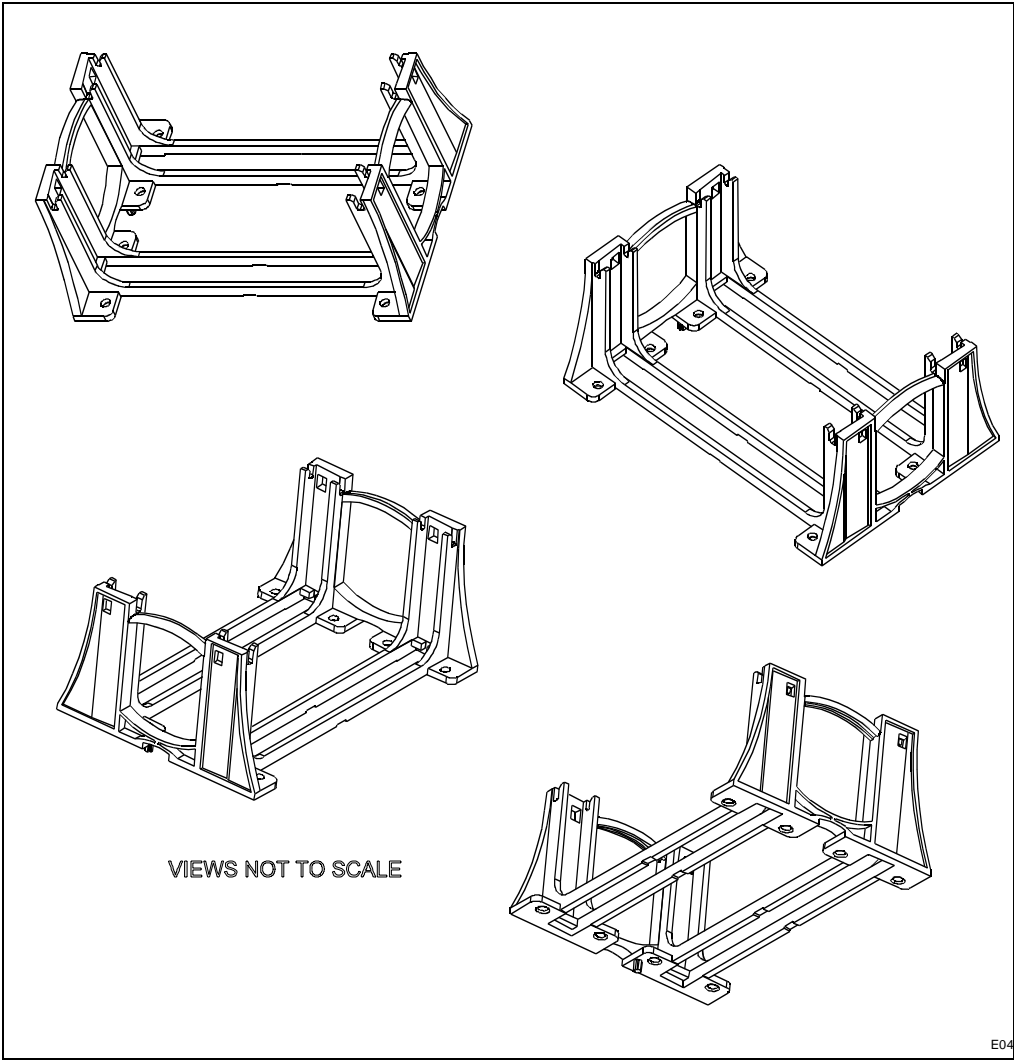
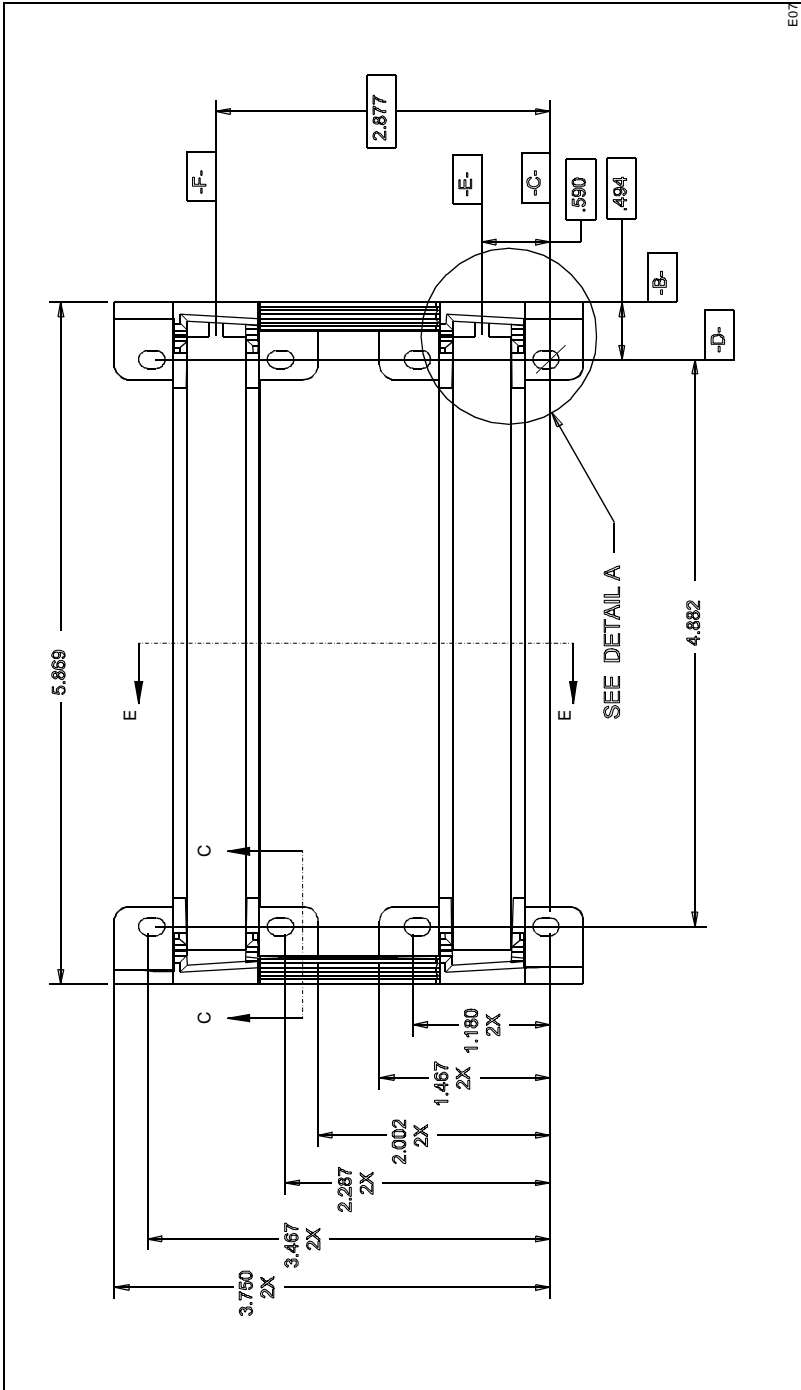


Figure 7-4. Dual Retention Mechanism, Isometric Views

NOTES: FOR DUAL RETENTION MECHANISM (fFigure 7-5 through Figure 7-9)

1. PART NUMBER IS PARENT ITEM NUMBER ON ENGINEERING BILL OF MATERIAL.
2. TOOLING FOR THIS PART WAS GENERATED FROM 3-d PART MODEL REFERENCED ON THE ENGINEERING PARTS LIST. IT SHALL CONTROL ALL FEATURES OF THIS PART NOT DEFINED ON THIS DRAWING.
3. INTENTIONALLY LEFT BLANK.
4. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M.
5. FLAMMABILITY: FINISHED PART SHALL HAVE A MINIMUM UL FLAMMABILITY RATING OF 94 V5.
- 6 INTENTIONALLY LEFT BLANK.
7. MATERIAL:
  - A) TYPE: GENERAL ELECTRIC CORP. C2800-701 THERMOPLASTIC ALLOY OF POLYCARBONATE AND ACRYLONITRILE, BUTADIENE, STYRENE (ABS)
  - B) COLOR: BLACK
  - C) REGRIND: 15% PERMISSIBLE.
- 8 INTENTIONALLY LEFT BLANK.
9. WALL THICKNESS: .118" [3.00 MM] TYPICAL.
10. DRAFT: AS SHOWN.
11. FILLETS RADII: .020 MAX.
12. CORNERS RADII: .020 MAX.
13. DEGATE: .010 MAX.
14. FLASH: .005 MAX.
15. SINK: .005 MAX.
16. EJECTOR MARKS: FLUSH TO +.000/-.015.
- 17 INTENTIONALLY LEFT BLANK.





E07

Figure 7-5. Dual Retention Mechanism — Top View

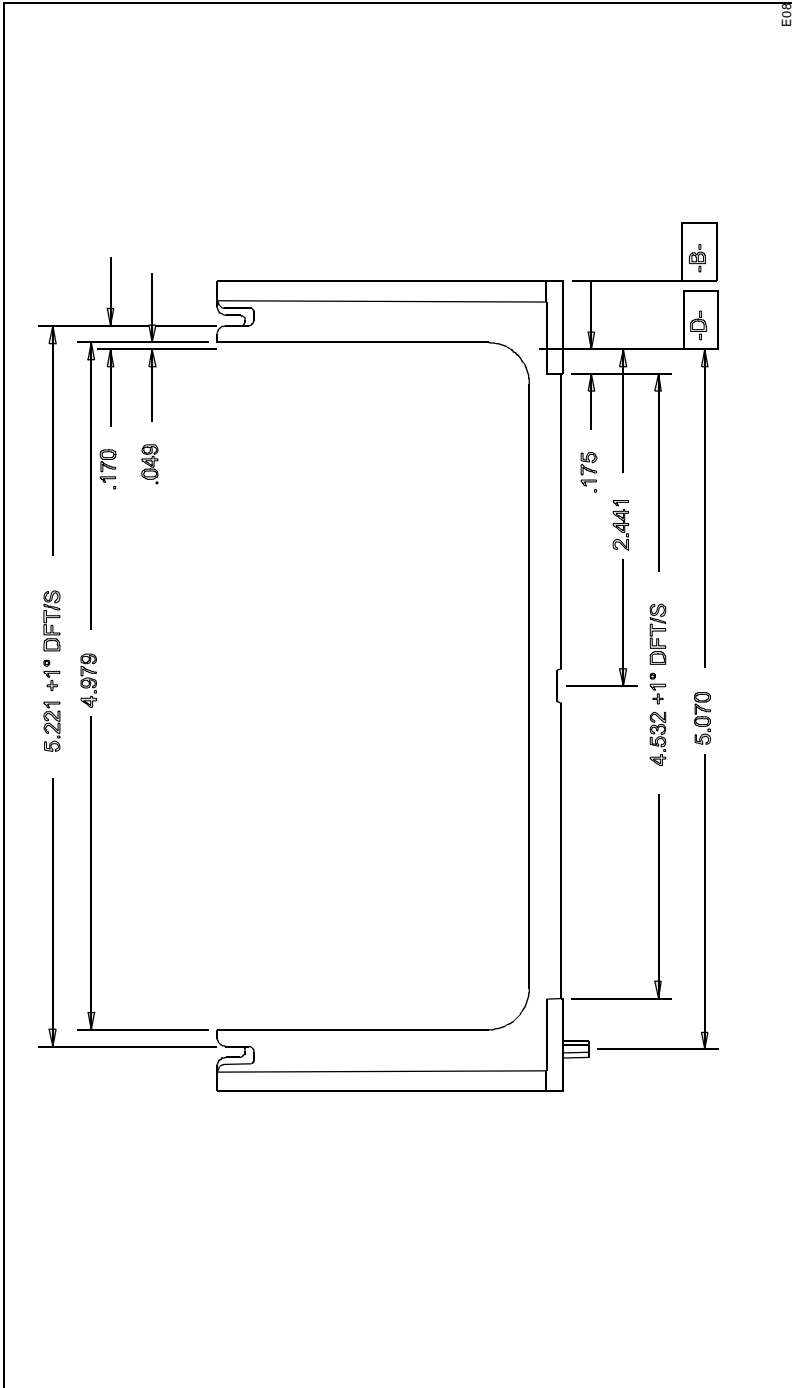


Figure 7-6. Dual Retention Mechanism — Front View

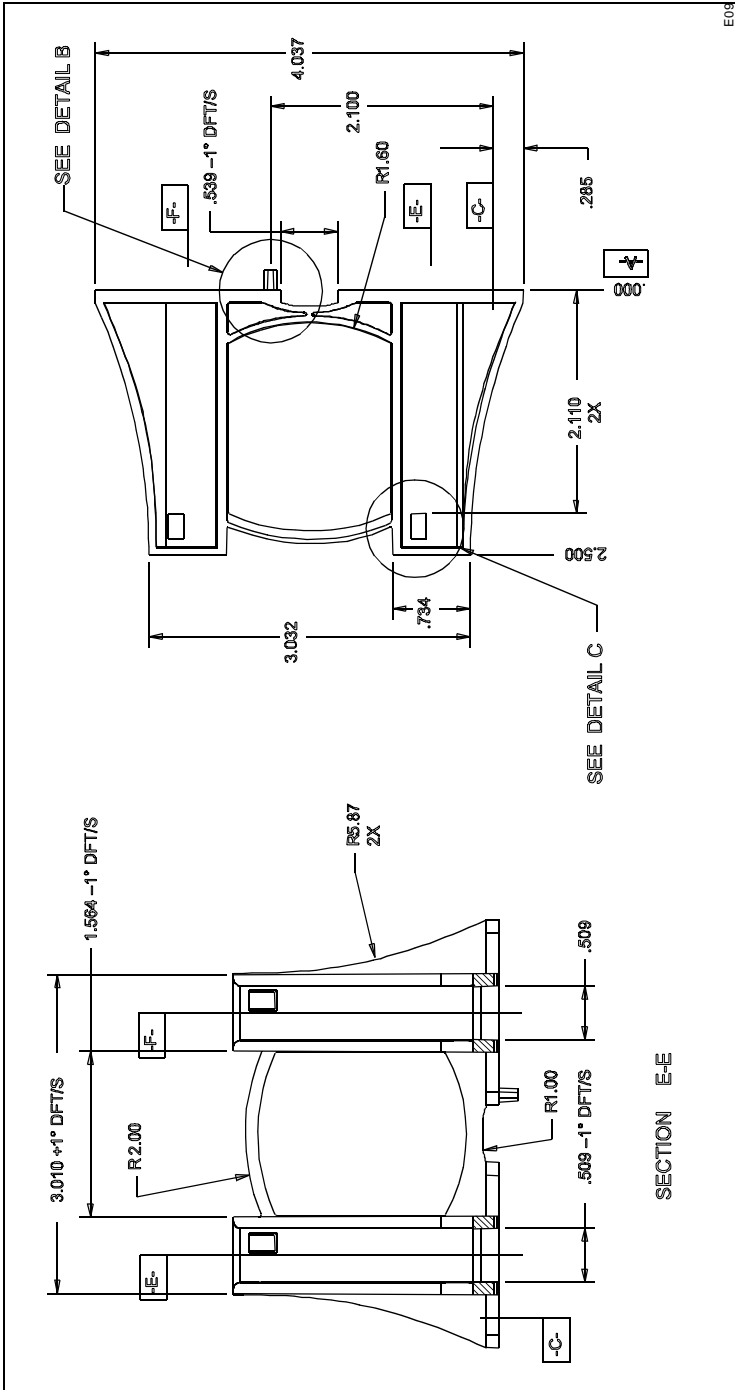
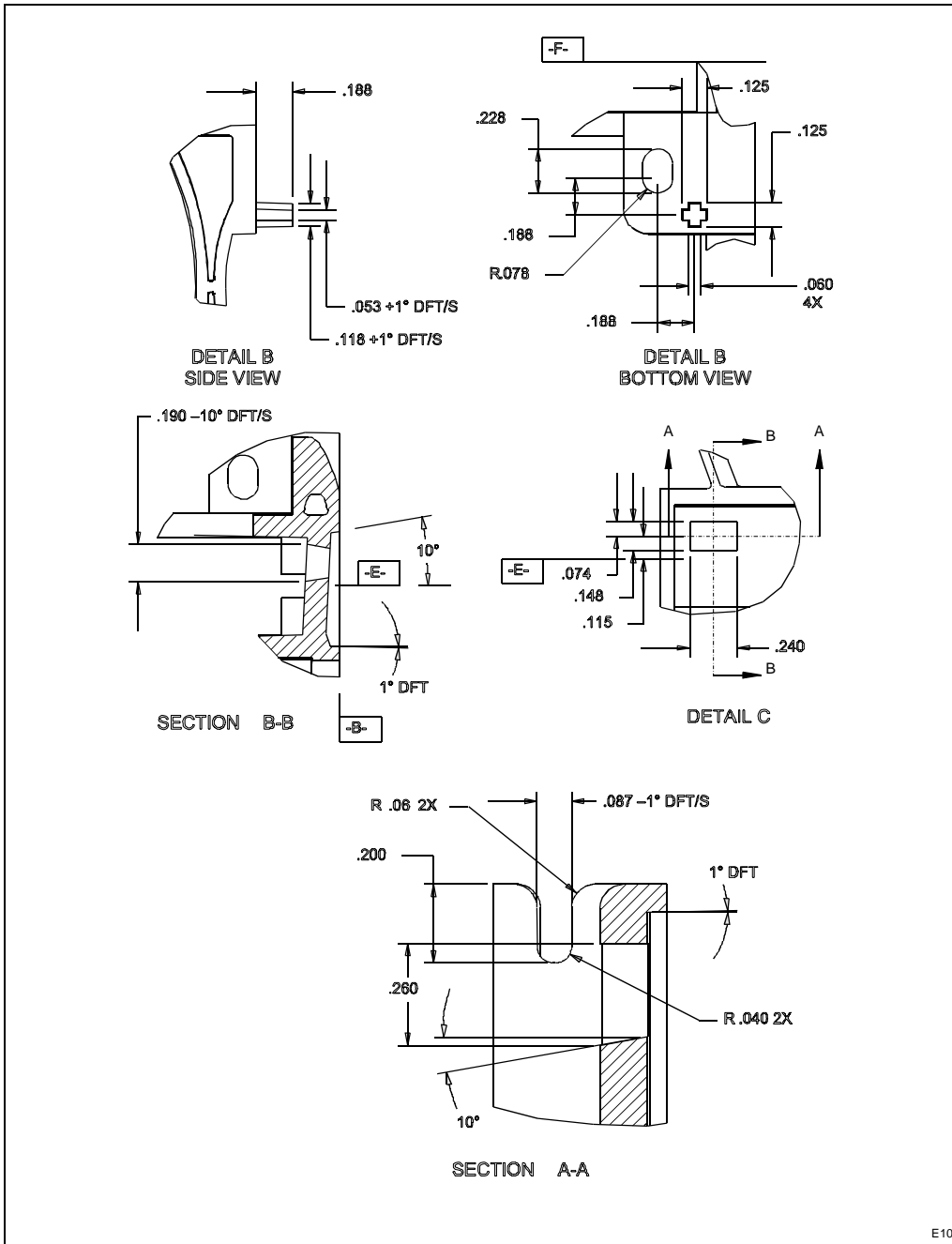


Figure 7-7. Dual Retention Mechanism — Side View



E10

Figure 7-8. Dual Retention Mechanism — Details (1 of 2)

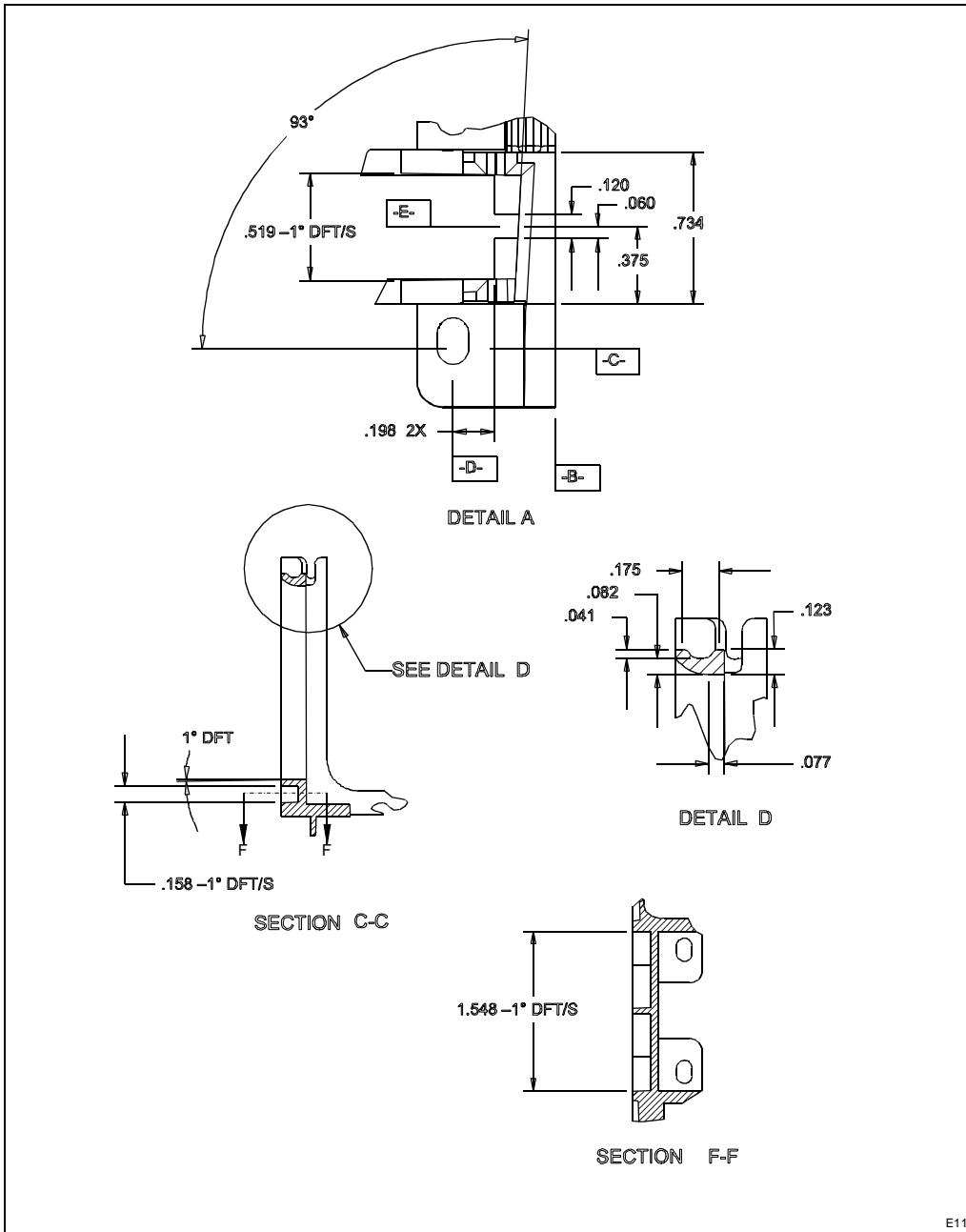


Figure 7-9. Dual Retention Mechanism — Details (2 of 2)

E11