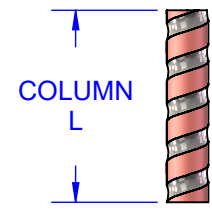
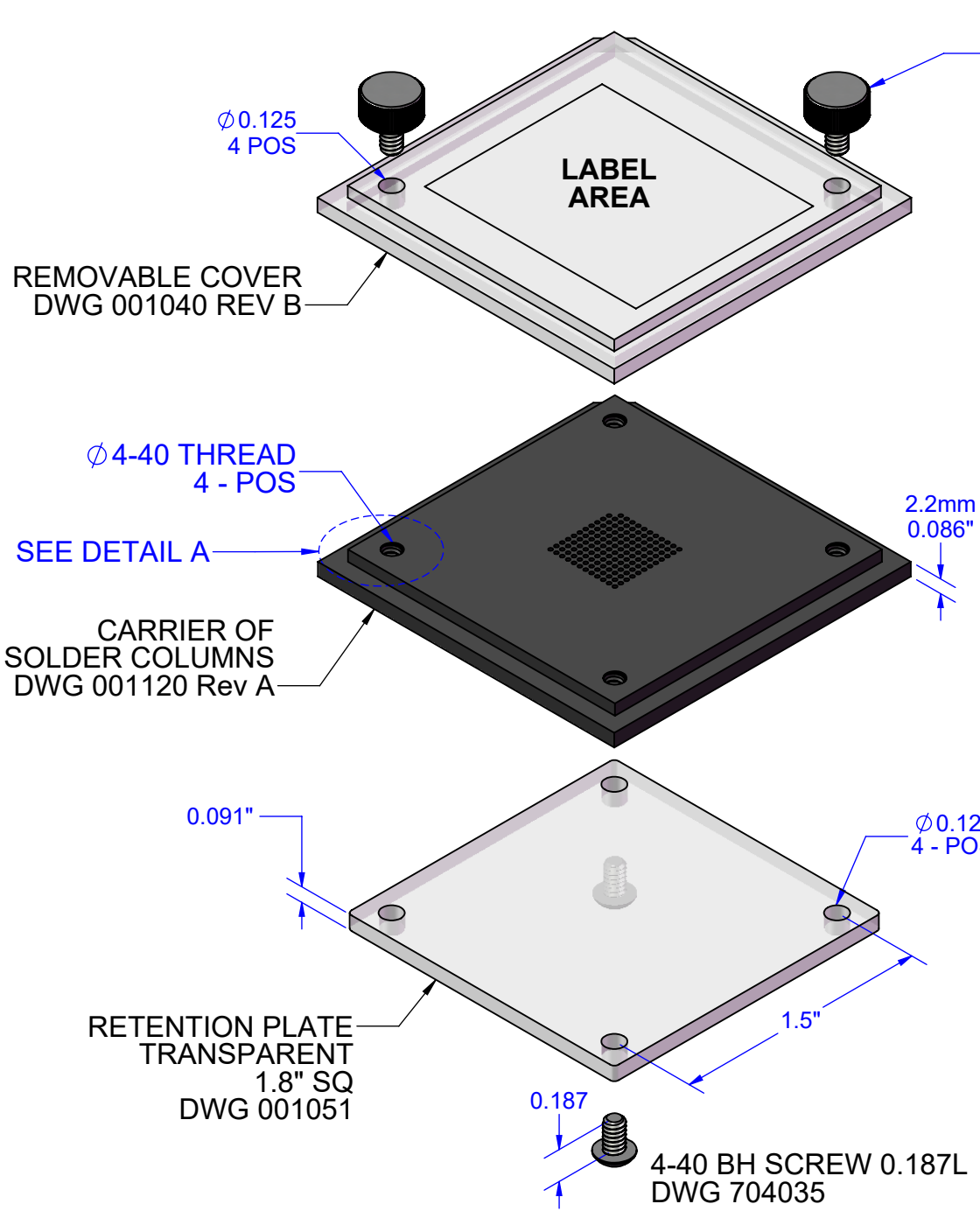
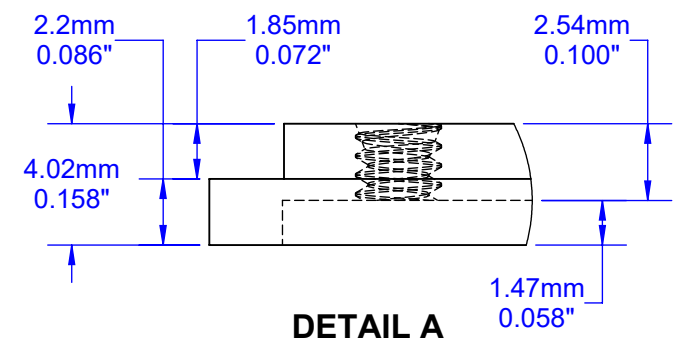


# ASSEMBLY EXPLODED VIEW FLIP-PACK<sup>®</sup> SYSTEM

U.S. PATENT No.  
9,108,262 and 9,629,259



DIMENSION TABLE			
H	L MAX	W	DWG
4.02mm 0.158"	2.54mm 0.100"	1.82mm 0.072"	120254



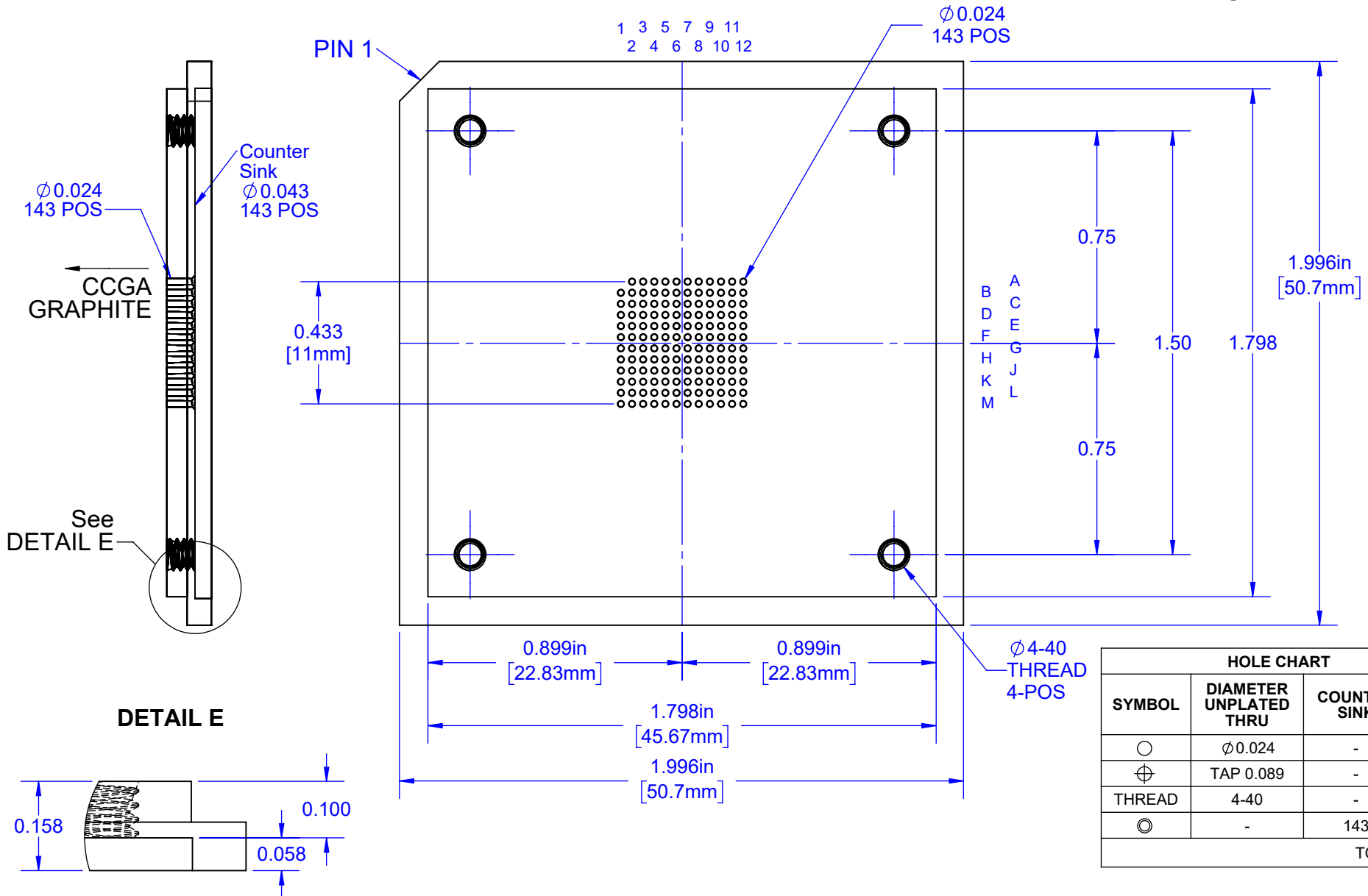
APPROVALS	DATE	<b>TopLine<sup>®</sup></b>			
DRAWN T. Au	2/8/2022				
ENG M. Hart	2/8/2022	TITLE FP143 FLIP-PACK <sup>®</sup> CCGA COLUMN CARRIER			
MFG		SCALE	SIZE	DRAWING NO.	REV
QA		1.25:1	A	001120	A
CUST		DO NOT SCALE DRAWING			SHEET 1 OF 11
REVISED					



**SIDE**

**TOP VIEW**

**TOP VIEW**



HOLE CHART			
SYMBOL	DIAMETER UNPLATED THRU	COUNTER SINK	QTY
○	$\phi 0.024$	-	143
⊕	TAP 0.089	-	4
THREAD	4-40	-	4
◎	-	143	0
TOTAL			294

<b>TopLine®</b>			
TITLE FP143 FLIP-PACK® CCGA COLUMN CARRIER			
SCALE 2:1	SIZE A	DRAWING NO. 001120	REV A
DO NOT SCALE DRAWING			SHEET 3 OF 11

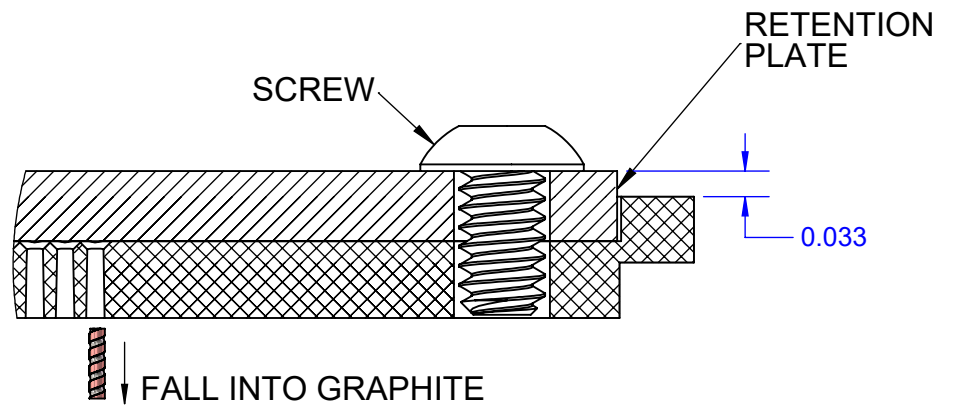
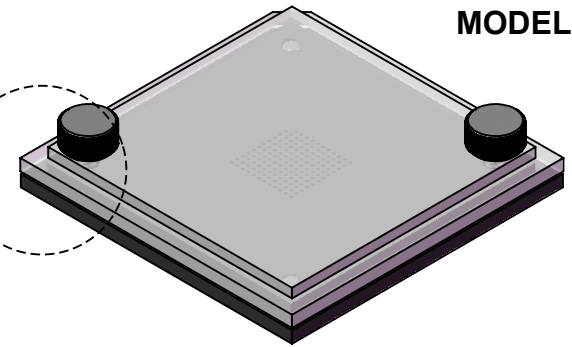
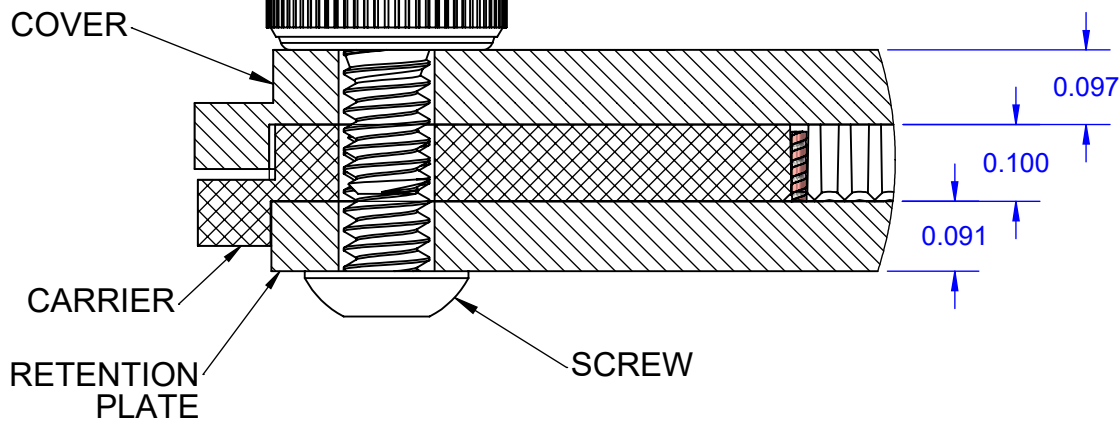
Notes: (Unless Otherwise Specified).  
 1) MATERIAL: BLACK PLASTIC, CONDUCTIVE.  
 2) DIMENSIONS : INCHES [MM].

# DETAIL D WITH COVER PLATE

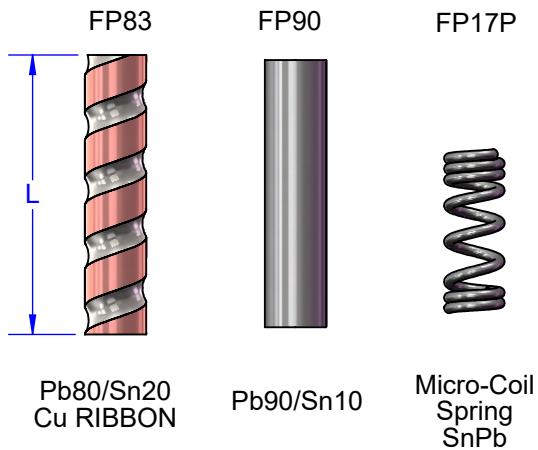
MODEL

THUMB SCREW

SEE DETAIL D



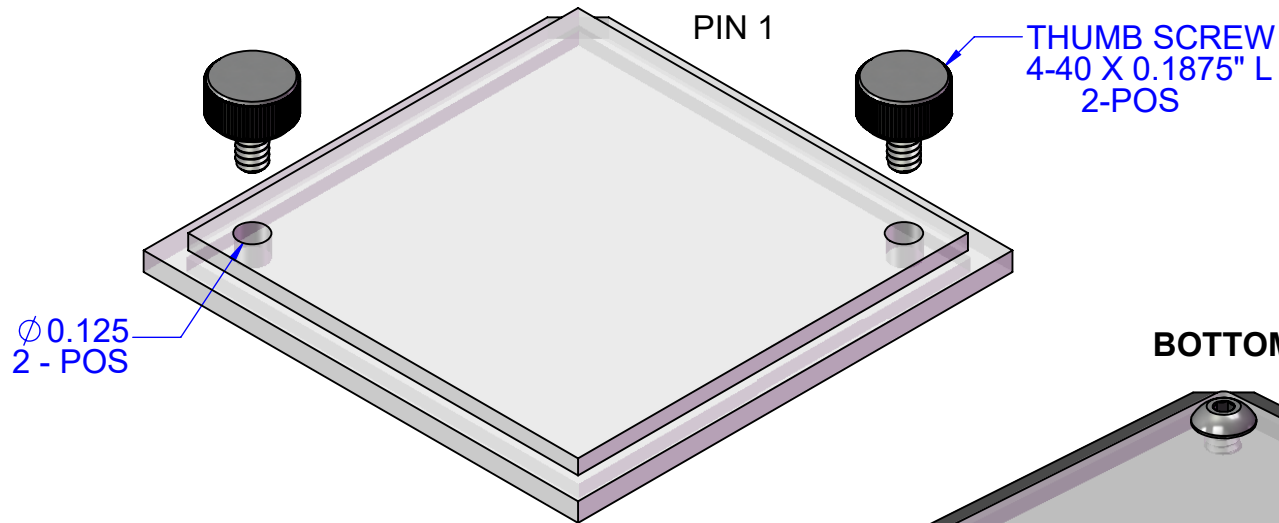
## EXAMPLE OF COLUMNS



<b>TopLine®</b>			
TITLE    FP143 FLIP-PACK® CCGA COLUMN CARRIER			
SCALE	SIZE	DRAWING NO.	REV
4:1	A	001120	A
DO NOT SCALE DRAWING			SHEET 4 OF 11

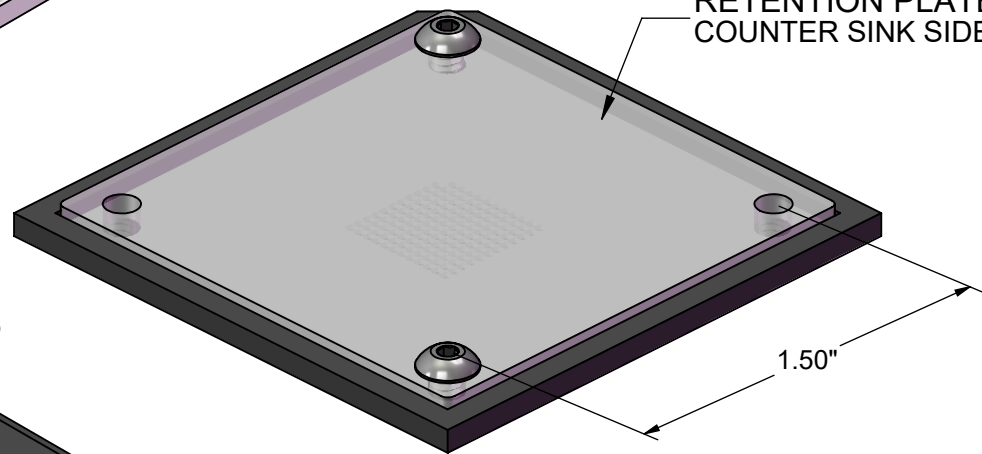
# FLIP PACK<sup>®</sup> MODEL

COVER 001040 REV B



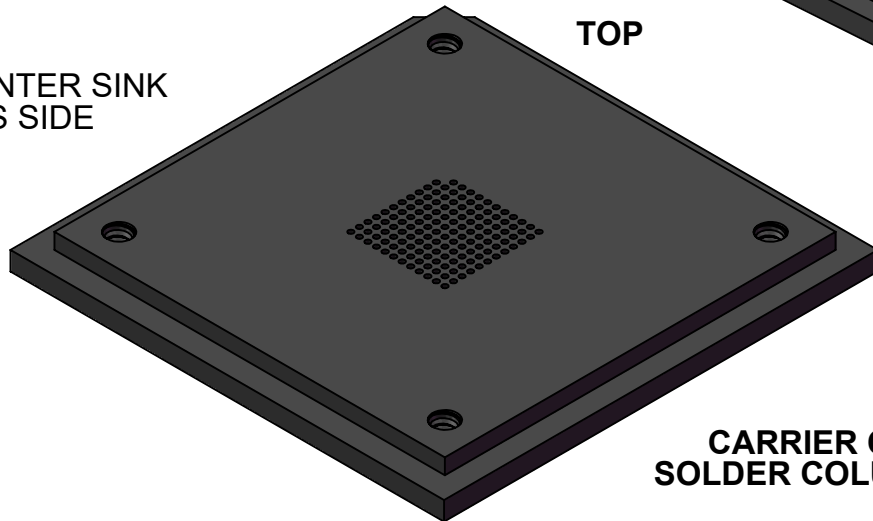
BOTTOM

RETENTION PLATE 001051  
COUNTER SINK SIDE



NO COUNTER SINK  
THIS SIDE

TOP



CARRIER OF  
SOLDER COLUMNS

**TopLine<sup>®</sup>**

TITLE FP143 FLIP-PACK<sup>®</sup>  
CCGA COLUMN CARRIER

SCALE	SIZE	DRAWING NO.	REV
2:1	A	001120	A

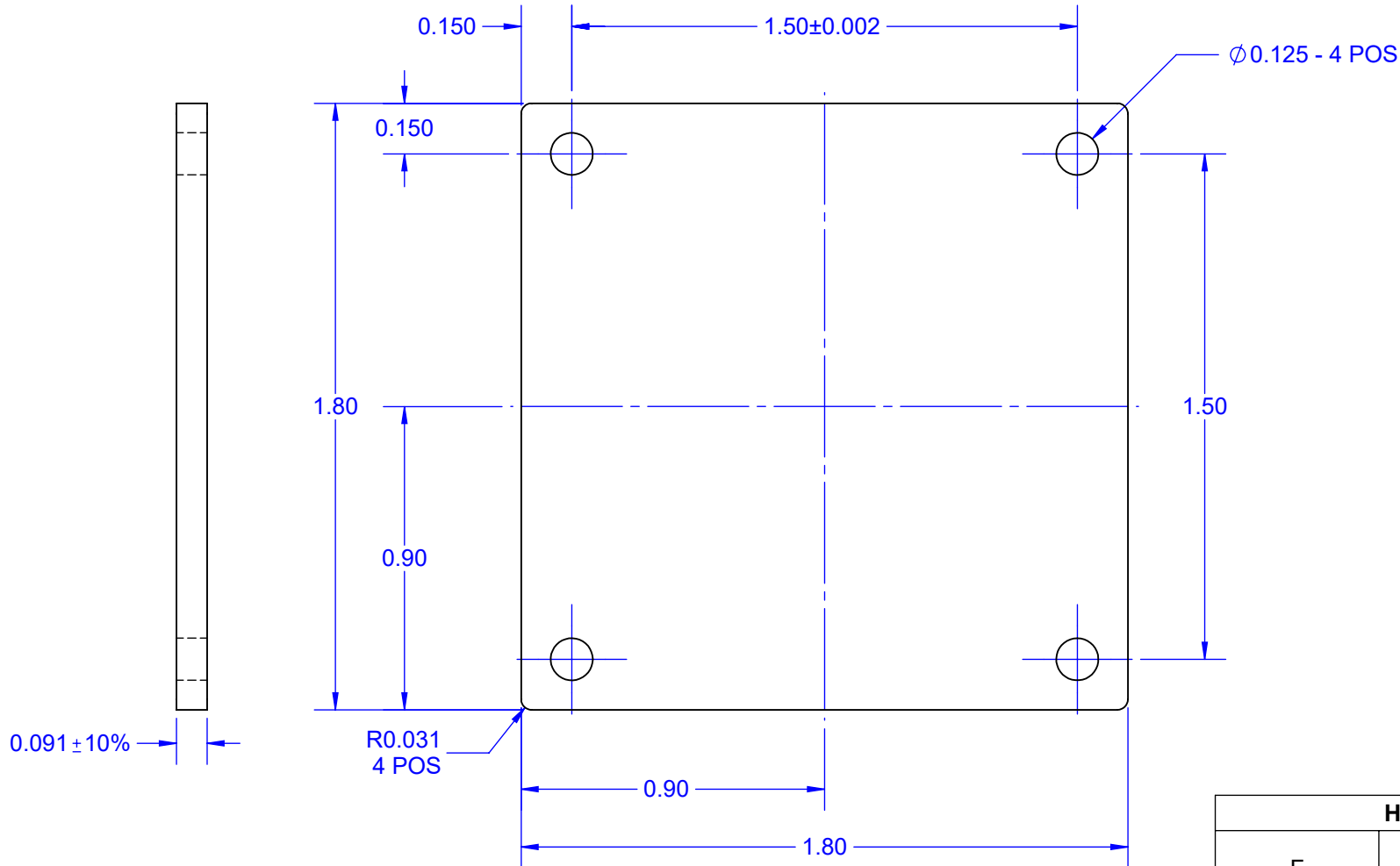
DO NOT SCALE DRAWING

SHEET 5 OF 11

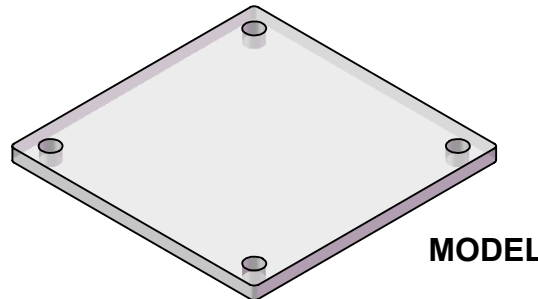
# BOTTOM RETENTION PLATE

SIDE VIEW

TOP VIEW



HOLE CHART		
F	DIAMETER UNPLATED	QTY HOLES
+	$\phi 0.125$	4



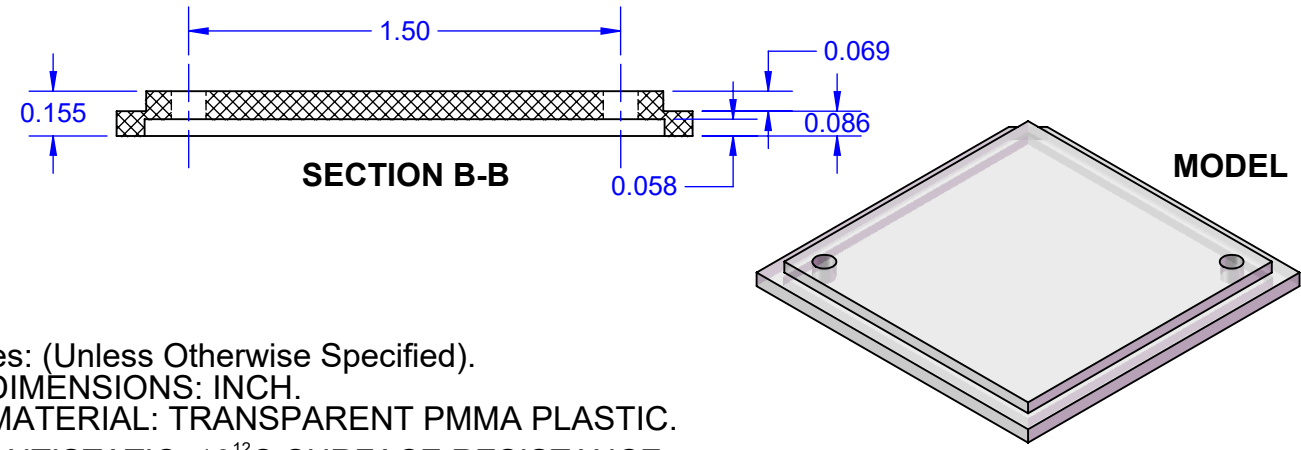
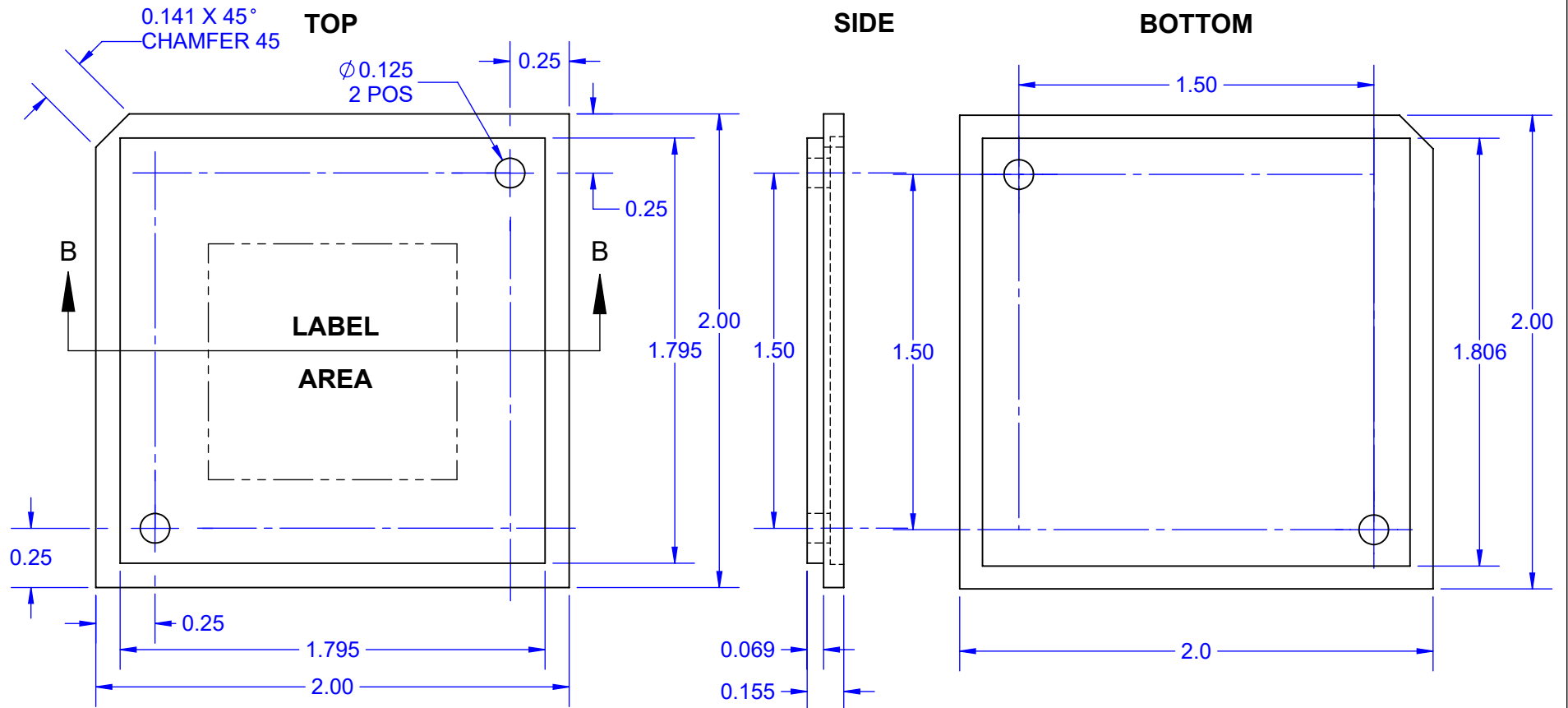
MODEL

NOTES: (Unless Otherwise Specified).

- 1) DIMENSIONS INCH.
- 2) MATERIAL: CLEAR PC-300 POLYCARBONATE.
- 3) STATIC DISIPATIVE  $10^6 \sim 10^8 \Omega$ . (ESD SAFE).
- 4) HOLE BREAK OUT ALLOWED.

TITLE FP1.8-BOTTOM-1.5B BOTTOM RETENTION PLATE			
SCALE 2:1	SIZE A	DRAWING NO. 001051	REV A
DO NOT SCALE DRAWING			SHEET 6 OF 11

# COVER 001040 REV B

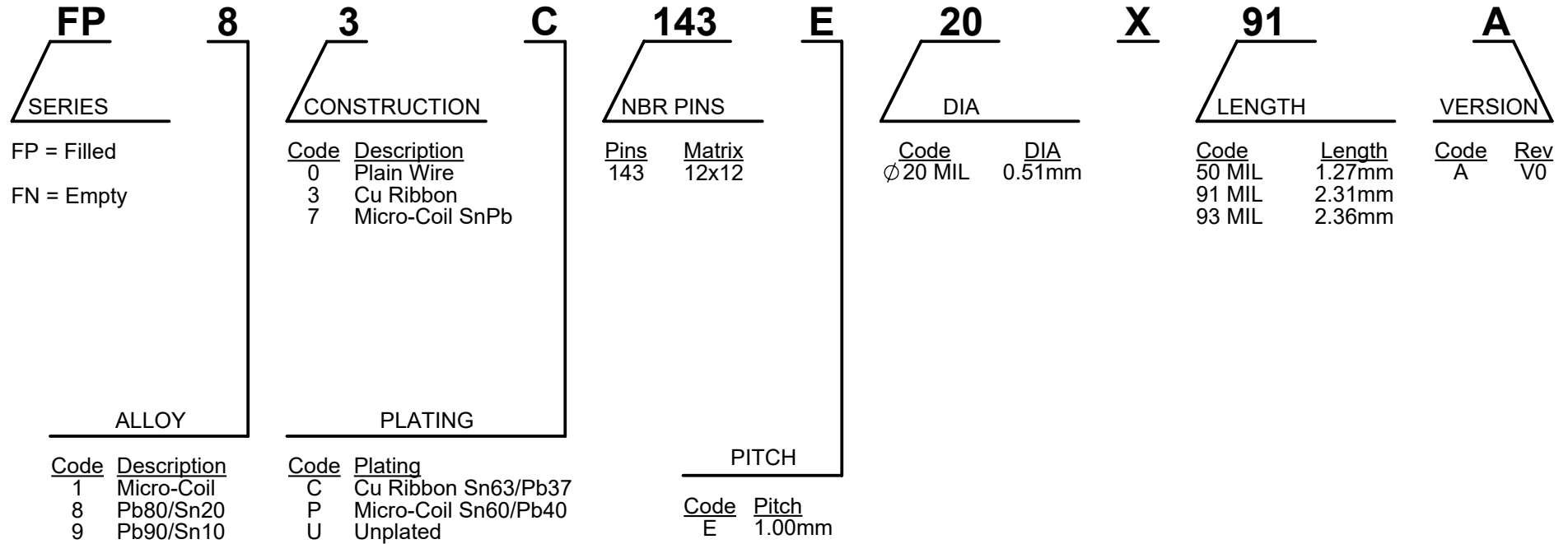


HOLE CHART		
SYMBOL	DIAMETER UNPLATED	QTY HOLES
+	Ø0.125	2

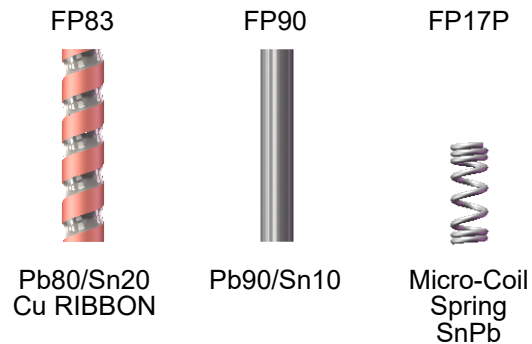
- Notes: (Unless Otherwise Specified).  
 1) DIMENSIONS: INCH.  
 2) MATERIAL: TRANSPARENT PMMA PLASTIC.  
 3) ANTISTATIC:  $10^{12}\Omega$  SURFACE RESISTANCE.

<b>TopLine®</b>			
TITLE FLIP-PACK® TOP COVER 2-INCH 1.50 SPACE			
SCALE 3:2	SIZE A	DRAWING NO. 001040	REV B
DO NOT SCALE DRAWING			SHEET 7 OF 11

# FLIP-PACK® PART NUMBERING SYSTEM



## EXAMPLES OF COLUMNS

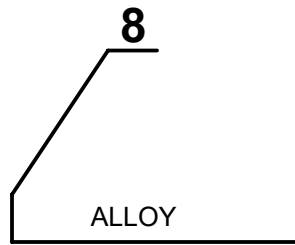


NOTE: COLUMN TO BE TRIMMED TO 2.21mm AFTER ATTACHMENT.

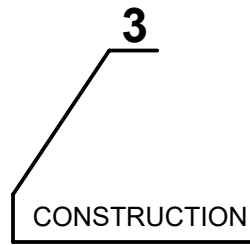
<b>TopLine®</b>			
TITLE FP143 FLIP-PACK® CCGA COLUMN CARRIER			
SCALE 10:1	SIZE A	DRAWING NO. 001120	REV A
DO NOT SCALE DRAWING			SHEET 8 OF 11



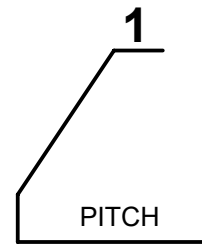
# FLIP-PACK® DRAWING NUMBERING SYSTEM



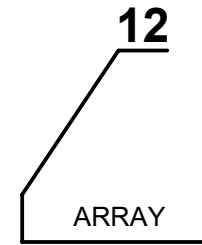
Code	Description
00	Empty
1	Micro-Coil
8	Pb80/Sn20
9	Pb90/Sn10



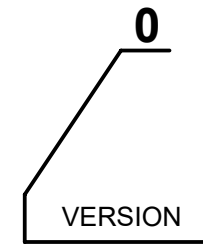
Code	Description
0	Plain Wire
3	Cu Ribbon
7	Micro-Coil SnPb



Code	Pitch
1	1.00mm



Code	Matrix
12	12x12



Code	Rev
0	143 Pins

## EXAMPLES OF COLUMNS

FP83



Pb80/Sn20  
Cu RIBBON

FP90



Pb90/Sn10

FP17P



Micro-Coil  
Spring

**TopLine®**

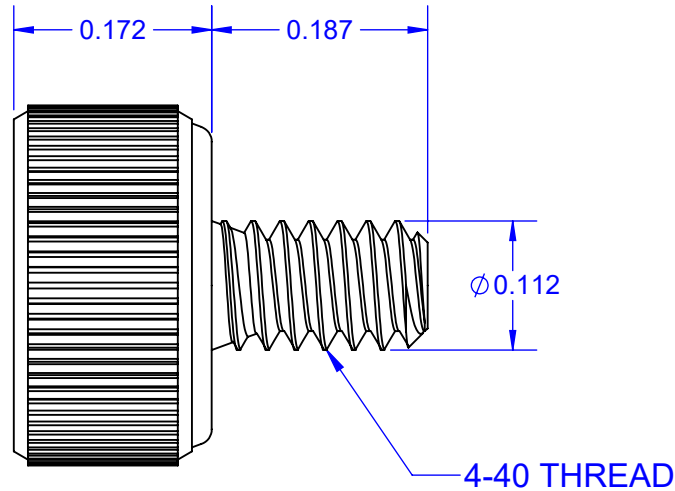
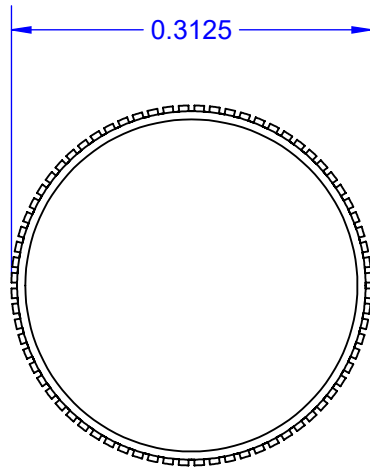
TITLE FP143 FLIP-PACK®  
CCGA COLUMN CARRIER

SCALE	SIZE	DRAWING NO.	REV
10:1	A	001120	A

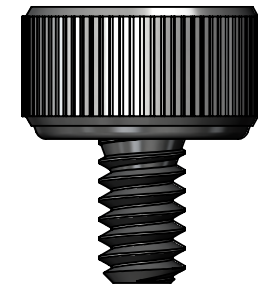
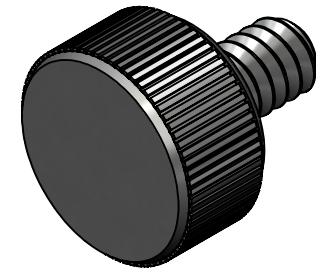
DO NOT SCALE DRAWING

SHEET 9 OF 11

# HARDWARE PLASTIC KNURLED HEAD THUMB SCREW



## MODELS



### NOTES:

1. DIMENSIONS INCHES (UNLESS OTHERWISE SPECIFIED).
2. SHAFT MATERIAL 18-8 STAINLESS STEEL.
3. HEAD: PLASTIC.
4. COLOR: BLACK.

### DRILL TABLE

HEAD COLOR	THREAD	MAX OD	TAP DRILL Start Hole	CL HOLE Loose Fit	L SHAFT	DWG
BLACK	4-40	0.112"	0.089"	0.136"	0.187	704018

**TopLine<sup>®</sup>**

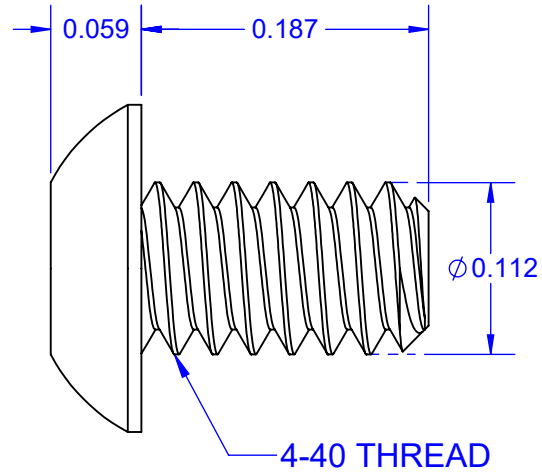
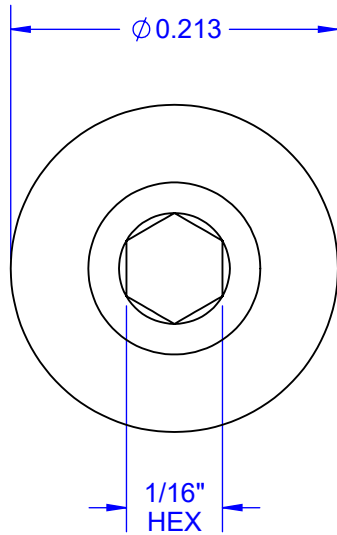
TITLE    **KNURL THUMB SCREW  
4-40 PLASTIC HEAD**

SCALE 6:1	SIZE A	DRAWING NO. 704018	REV A
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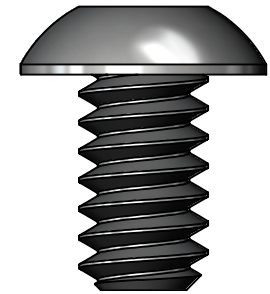
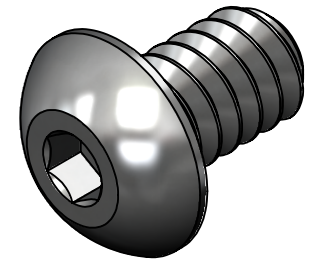
DO NOT SCALE DRAWING

SHEET 10 OF 11

# BUTTON HEAD SCREW




## MODELS



- NOTES: (UNLESS OTHERWISE SPECIFIED)
1. DIMENSIONS INCHES.
  2. MATERIAL: SEE TABLE.
  3. COLOR: SEE TABLE.

DRILL TABLE						
MATERIAL	COLOR	THREAD	MAX OD	TAP DRILL Start Hole	L	DWG
8-18	STAINLESS	4-40	0.112"	0.089"	0.187"	704035

			
TITLE    BUTTON HEAD CAP SCREW 4-40x .187" (1/16 HEX)			
SCALE 8:1	SIZE A	DRAWING NO. 704035	REV A
DO NOT SCALE DRAWING			SHEET 11 OF 11