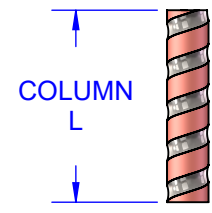
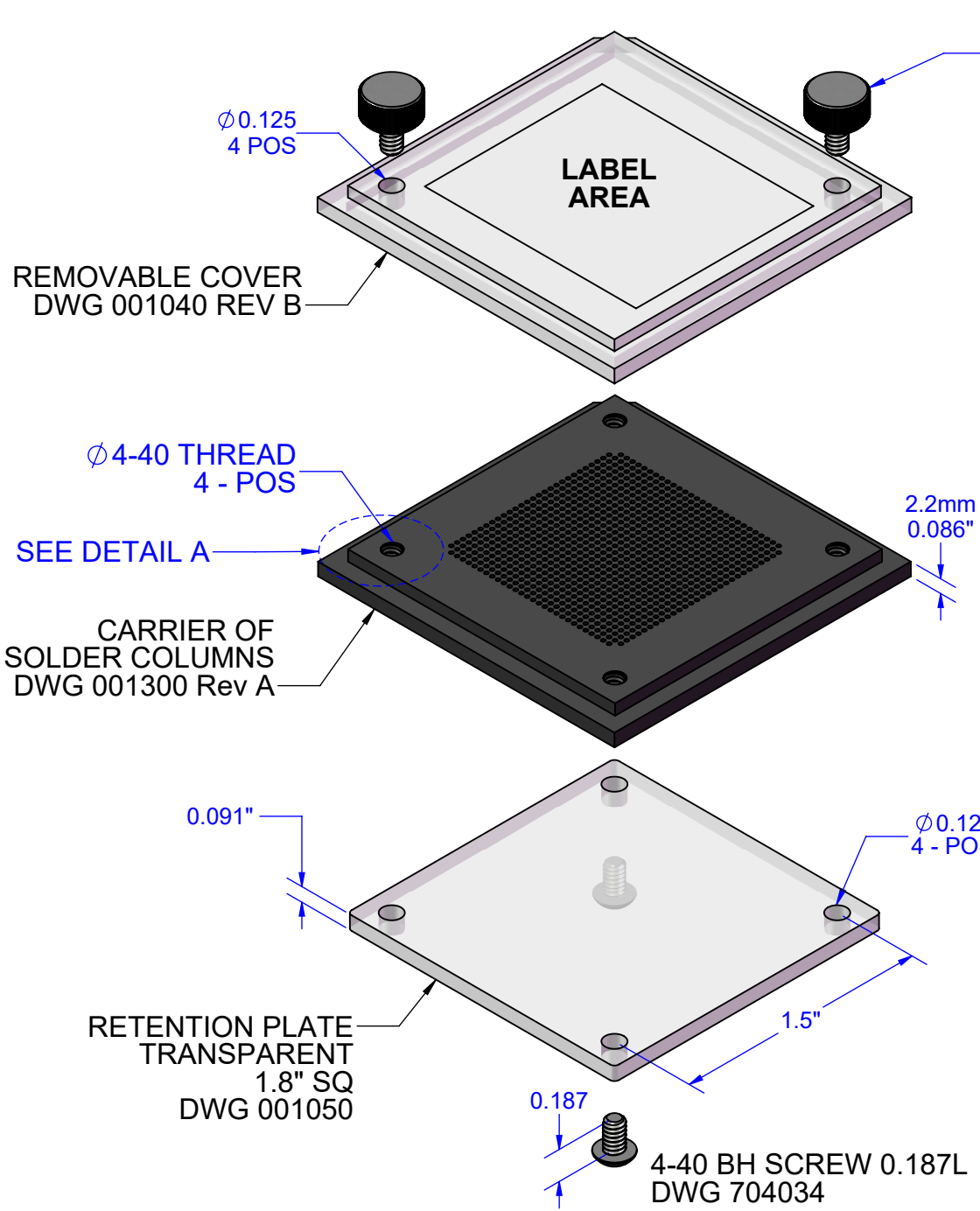
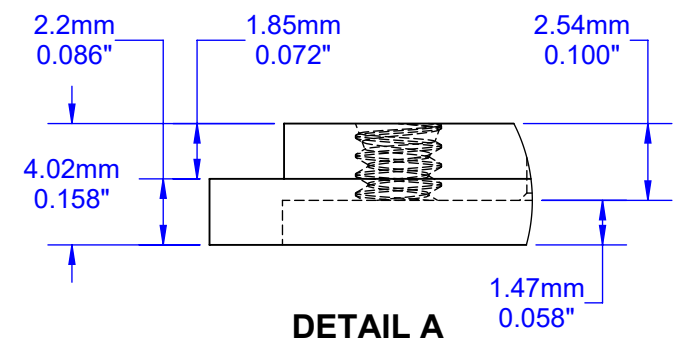


ASSEMBLY EXPLODED VIEW FLIP-PACK[®] SYSTEM

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



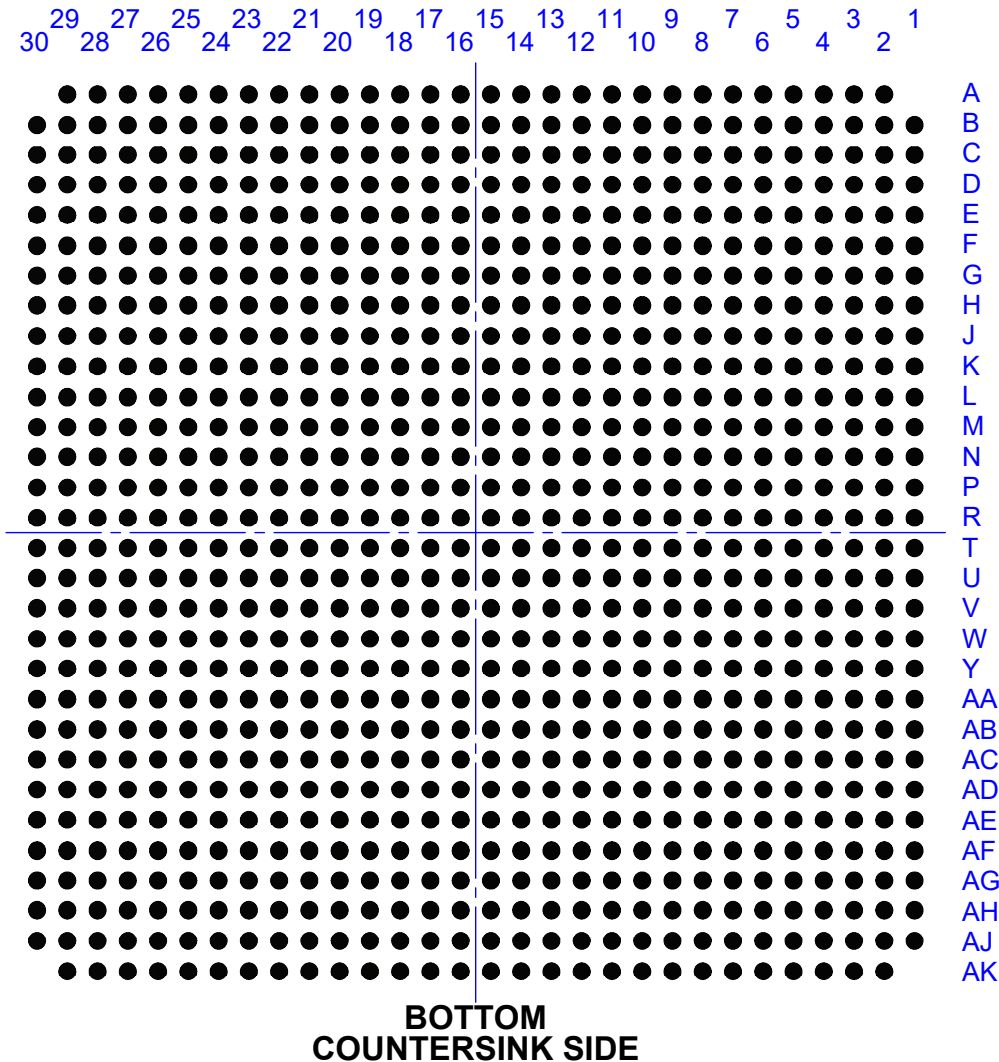
DIMENSION TABLE			
H	L MAX	W	DWG
4.02mm 0.158"	2.54mm 0.100"	1.82mm 0.072"	120254



APPROVALS	DATE	TopLine[®]			
DRAWN T. Au	12/4/2021				
ENG M. Hart	12/4/2021	TITLE FP896-A FLIP-PACK [®] CCGA COLUMN CARRIER			
MFG		SCALE 1.25:1	SIZE A	DRAWING NO. 001300	REV A
QA		DO NOT SCALE DRAWING			SHEET 1 OF 11
CUST					
REVISED					

PART NUMBER TABLE

FLIP-PACK®	Pins	Pitch	Matrix	COLUMN					Empty DWG	Filled DWG
				Alloy	Construction	Plating	Ø Dia	Length		
FP83C896E20x93A FP90U896E20x91A FP17P896E20x50A	896	1.0mm	30x30	Pb80 Pb90 MCS	Cu Ribbon Plain Micro Coil	SnPb	0.51mm	2.36mm 2.31mm 1.27mm	001300	831300 901300 171300



EXAMPLES OF COLUMNS

FP83



Pb80/Sn20
Cu RIBBON

FP90



Pb90/Sn10

FP17P



Micro-Coil
Spring



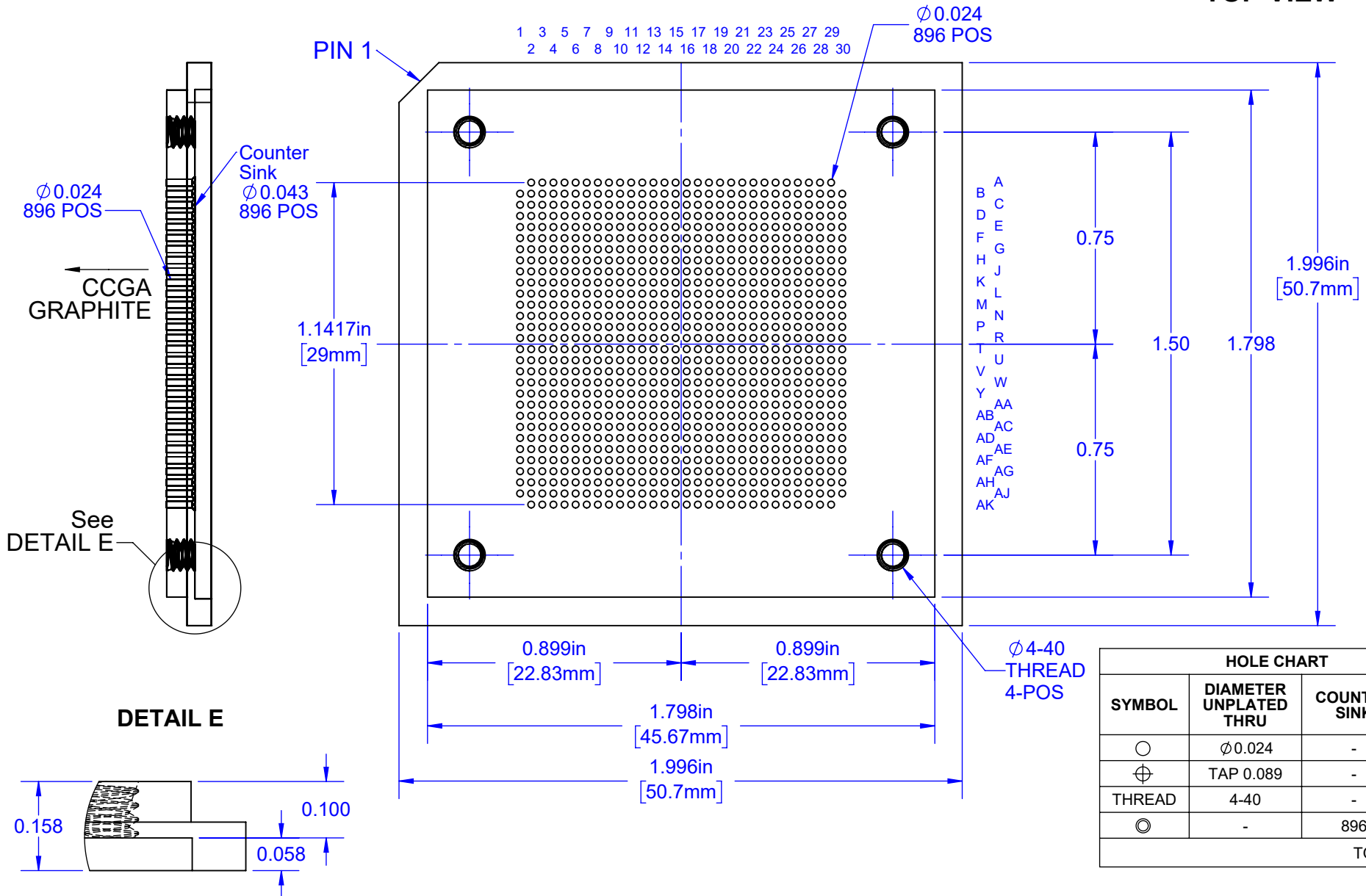
TITLE FP896-A FLIP-PACK®
 CCGA COLUMN CARRIER

SCALE NONE	SIZE A	DRAWING NO. 001300	REV A
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SIDE

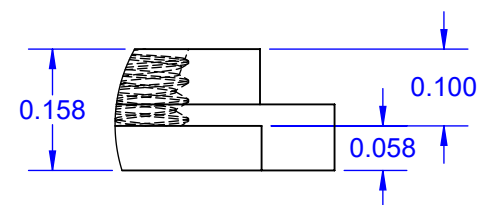
TOP VIEW

TOP VIEW



See
DETAIL E

DETAIL E



HOLE CHART			
SYMBOL	DIAMETER UNPLATED THRU	COUNTER SINK	QTY
○	$\phi 0.024$	-	896
⊕	TAP 0.089	-	4
THREAD	4-40	-	4
◎	-	896	0
TOTAL			1800

TopLine®

TITLE FP896-A FLIP-PACK®
CCGA COLUMN CARRIER

SCALE 2:1	SIZE A	DRAWING NO. 001300	REV A
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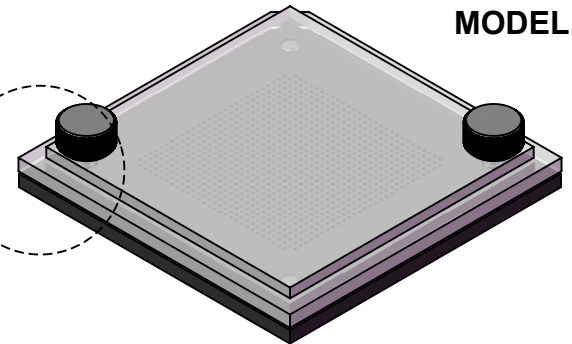
DO NOT SCALE DRAWING SHEET 3 OF 11

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

DETAIL D WITH COVER PLATE

MODEL

SEE DETAIL D



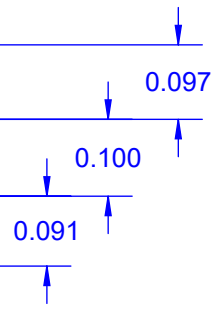
THUMB SCREW

COVER

CARRIER

RETENTION
PLATE

SCREW

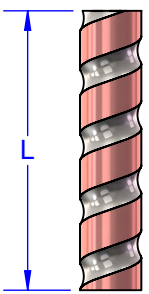


EXAMPLE OF COLUMNS

FP83

FP90

FP17P



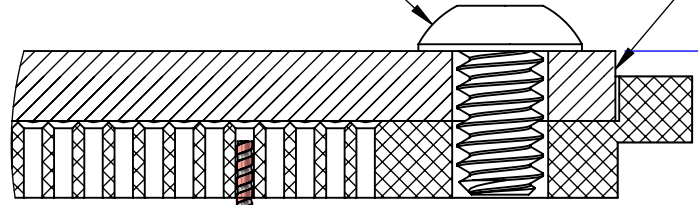
Pb80/Sn20
Cu RIBBON

Pb90/Sn10

Micro-Coil
Spring
SnPb

SCREW

RETENTION
PLATE



0.033

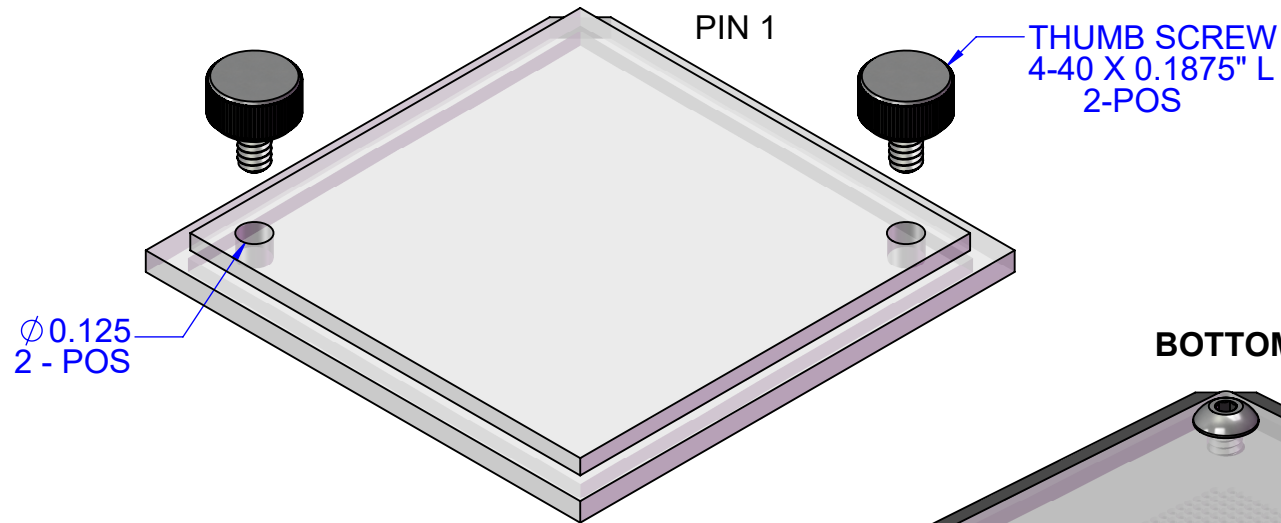
FALL INTO GRAPHITE

TopLine[®]

TITLE			
FP896-A FLIP-PACK® CCGA COLUMN CARRIER			
SCALE	SIZE	DRAWING NO.	REV
4:1	A	001300	A
DO NOT SCALE DRAWING			SHEET 4 OF 11

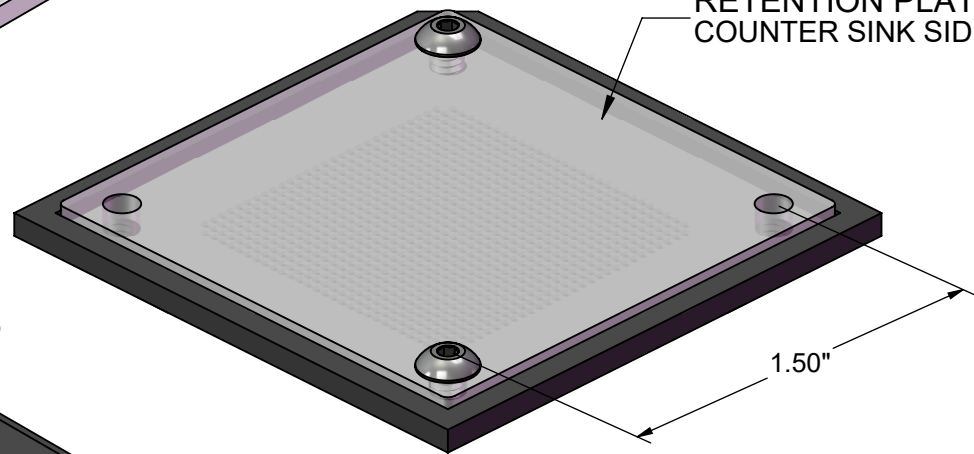
FLIP PACK[®] MODEL

COVER 001040 REV B



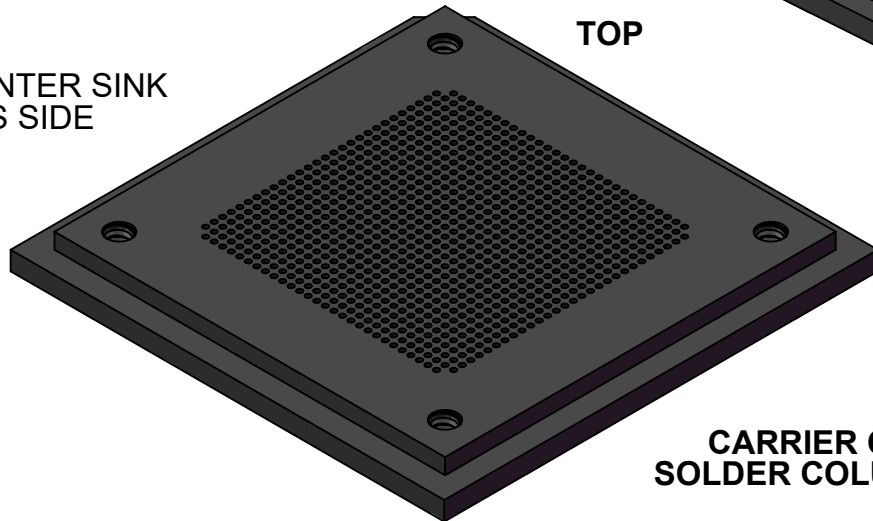
BOTTOM

RETENTION PLATE 001051
COUNTER SINK SIDE



NO COUNTER SINK
THIS SIDE

TOP



CARRIER OF
SOLDER COLUMNS

TopLine[®]

TITLE FP896-A FLIP-PACK[®]
CCGA COLUMN CARRIER

SCALE	SIZE	DRAWING NO.	REV
2:1	A	001300	A

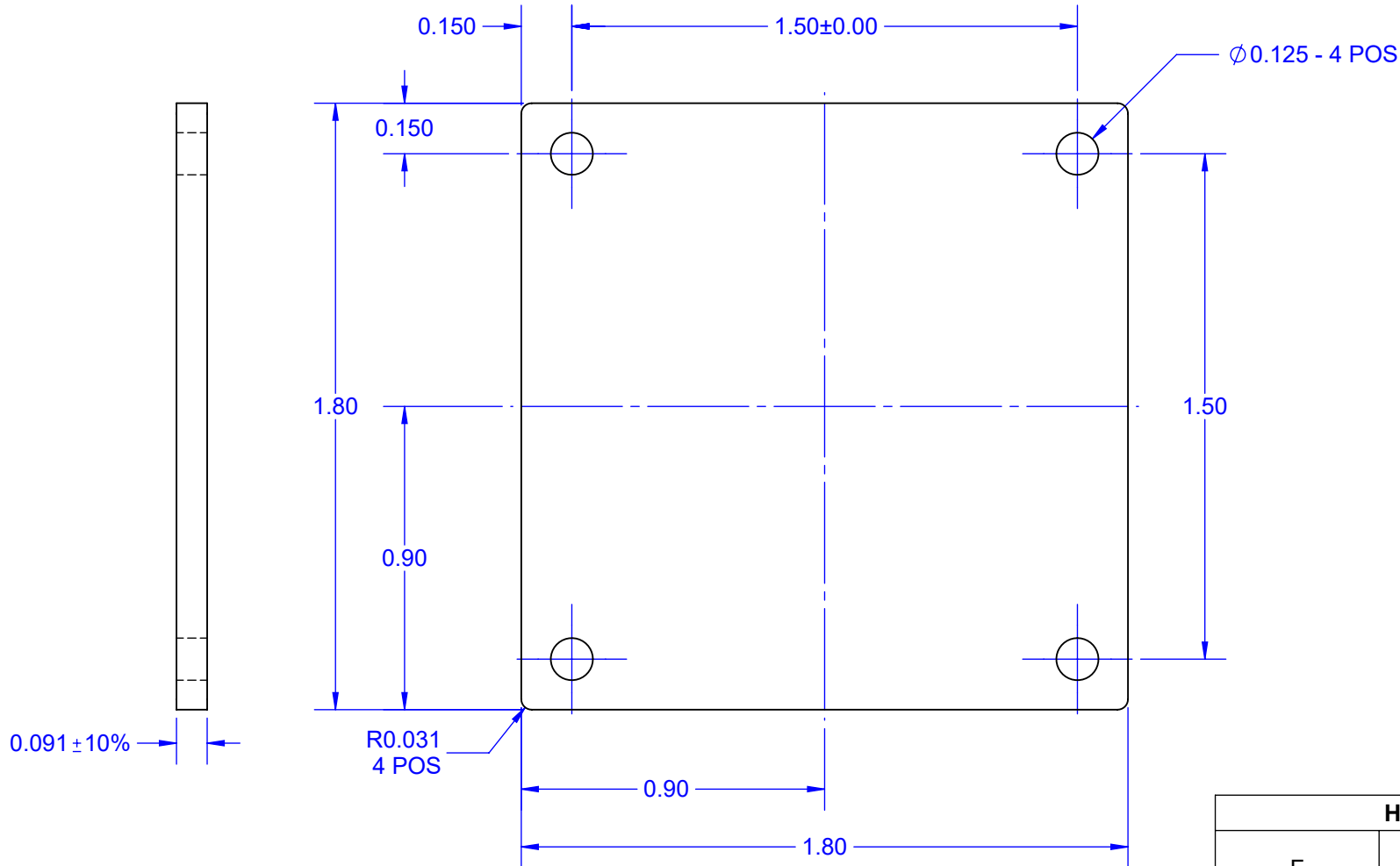
DO NOT SCALE DRAWING

SHEET 5 OF 11

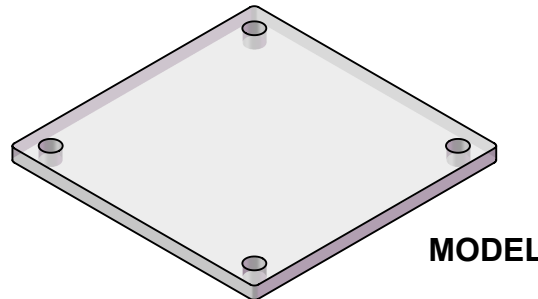
BOTTOM RETENTION PLATE

SIDE VIEW

TOP VIEW



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



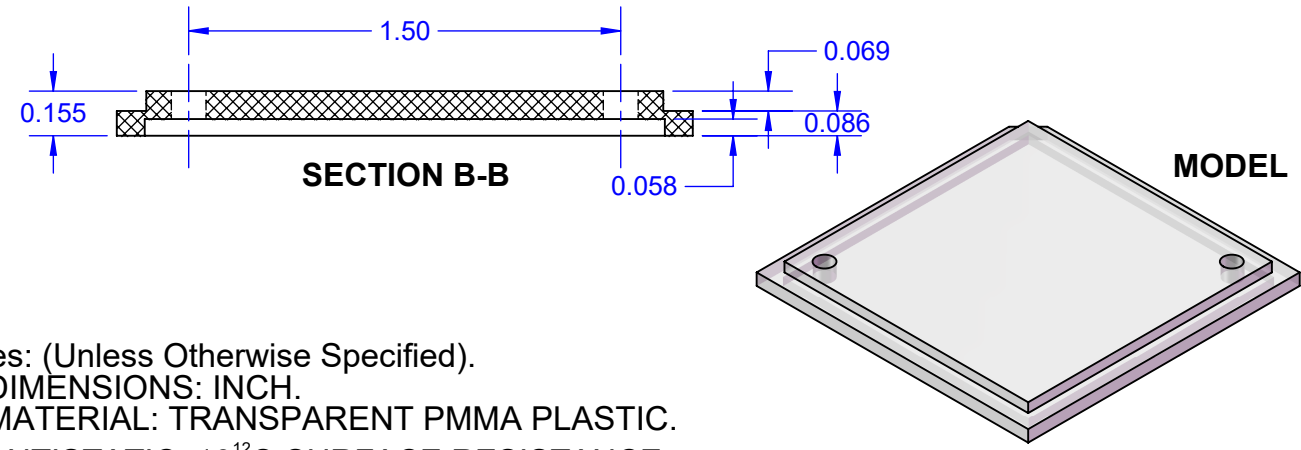
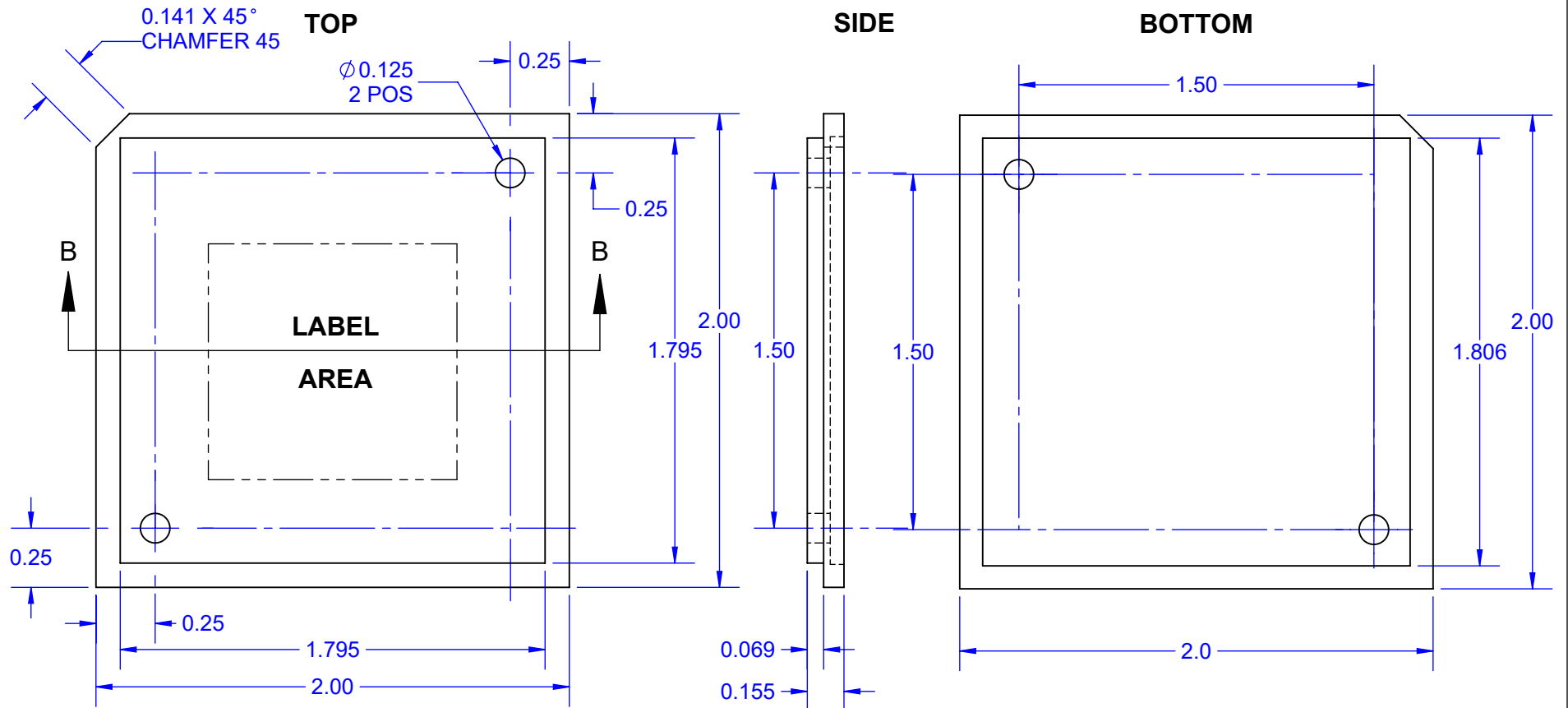
MODEL

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.

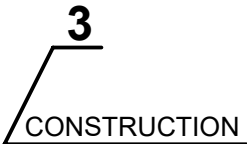
TopLine®			
TITLE FLIP-PACK® TOP COVER 2-INCH 1.50 SPACE			
SCALE 3:2	SIZE A	DRAWING NO. 001040	REV B
DO NOT SCALE DRAWING			SHEET 7 OF 11

FLIP-PACK® PART NUMBERING SYSTEM



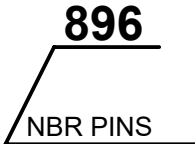
FP = Filled
FN = Empty

8



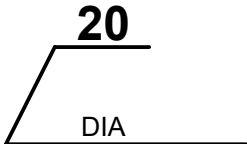
Code	Description
0	Plain Wire
3	Cu Ribbon
7	Micro-Coil SnPb

C



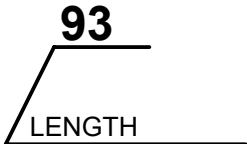
Pins	Matrix
896	30x30

E



Code	DIA
∅20 MIL	0.51mm

X



Code	Length
50 MIL	1.27mm
91 MIL	2.31mm
93 MIL	2.36mm

A



Code	Rev
A	V0

ALLOY

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

PLATING

Code	Plating
C	Cu Ribbon Sn63/Pb37
P	Micro-Coil Sn60/Pb40
U	Unplated

PITCH

Code	Pitch
E	1.00mm

EXAMPLES OF COLUMNS

FP83



Pb80/Sn20
Cu RIBBON

FP90



Pb90/Sn10

FP17P



Micro-Coil
Spring
SnPb

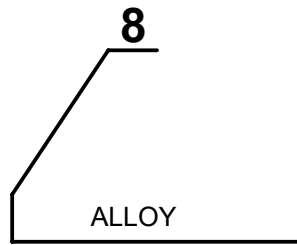
NOTE: COLUMN TO BE TRIMMED TO 2.21mm AFTER ATTACHMENT.



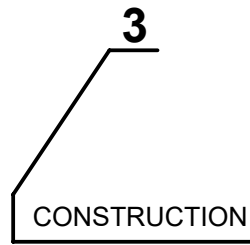
TITLE FP896-A FLIP-PACK®
CCGA COLUMN CARRIER

SCALE	SIZE	DRAWING NO.	REV
10:1	A	001300	A

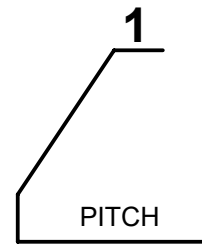
FLIP-PACK® DRAWING NUMBERING SYSTEM



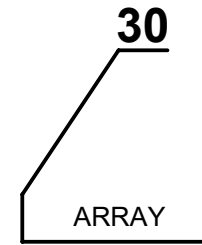
<u>Code</u>	<u>Description</u>
00	Empty
1	Micro-Coil
8	Pb80/Sn20
9	Pb90/Sn10



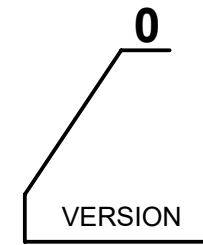
<u>Code</u>	<u>Description</u>
0	Plain Wire
3	Cu Ribbon
7	Micro-Coil SnPb



<u>Code</u>	<u>Pitch</u>
1	1.00mm



<u>Code</u>	<u>Matrix</u>
30	30x30



<u>Code</u>	<u>Rev</u>
0	896 Pins

EXAMPLES OF COLUMNS

FP83



Pb80/Sn20
Cu RIBBON

FP90



Pb90/Sn10

FP17P



Micro-Coil
Spring

TopLine®

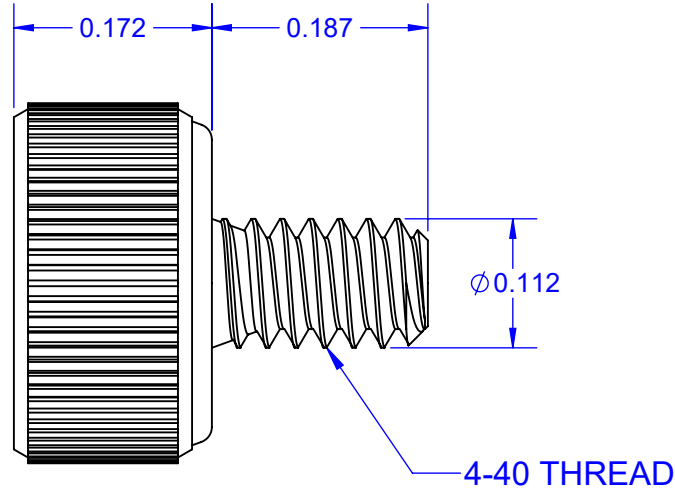
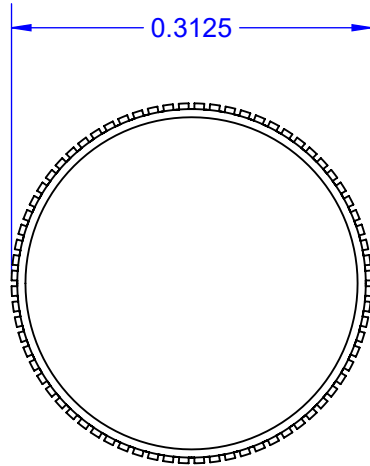
TITLE FP896-A FLIP-PACK®
CCGA COLUMN CARRIER

SCALE 10:1	SIZE A	DRAWING NO. 001300	REV A
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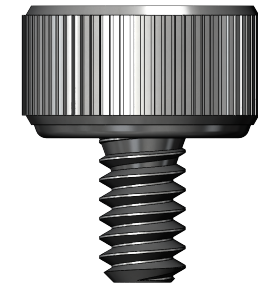
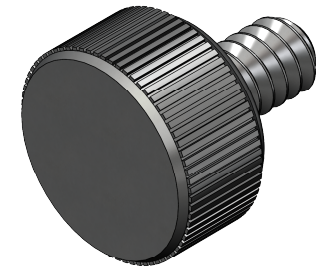
DO NOT SCALE DRAWING

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®

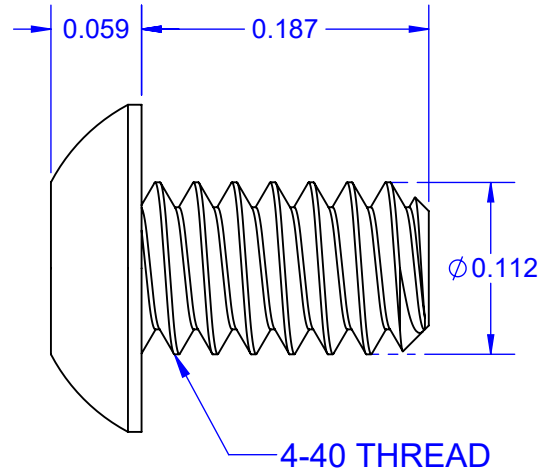
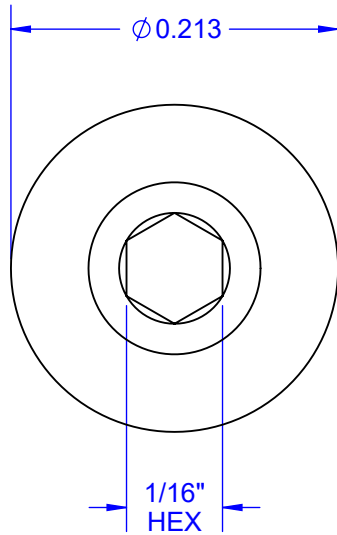
TITLE KNURL THUMB SCREW
4-40 PLASTIC HEAD

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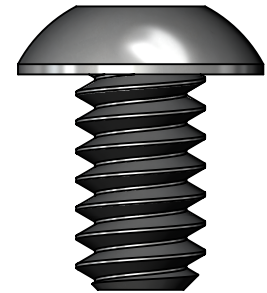
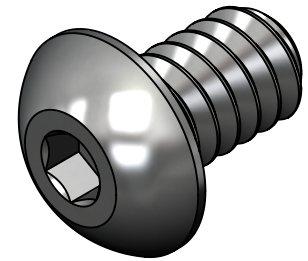
DO NOT SCALE DRAWING

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
STAINLESS	BLACK	4-40	0.112"	0.136"	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