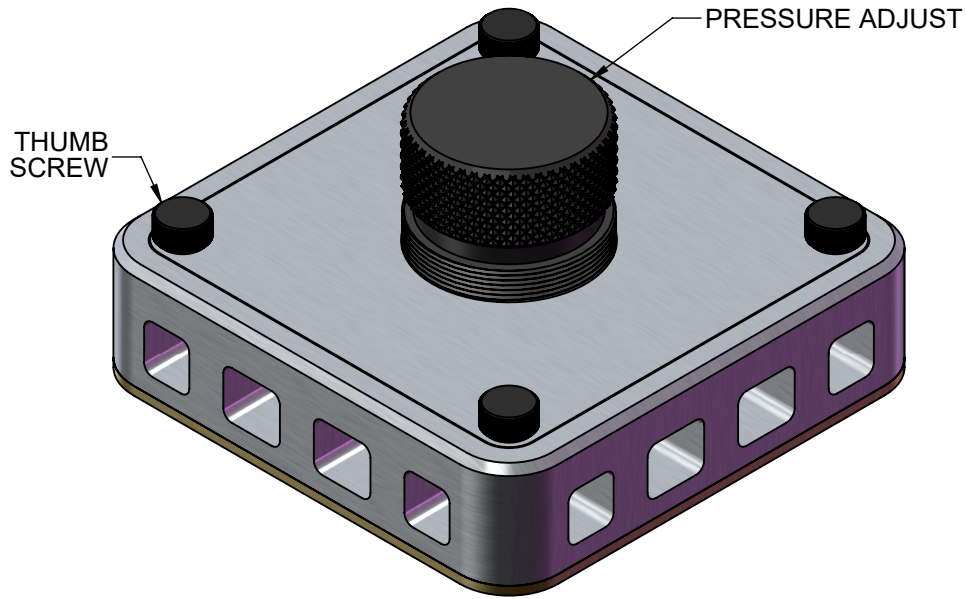
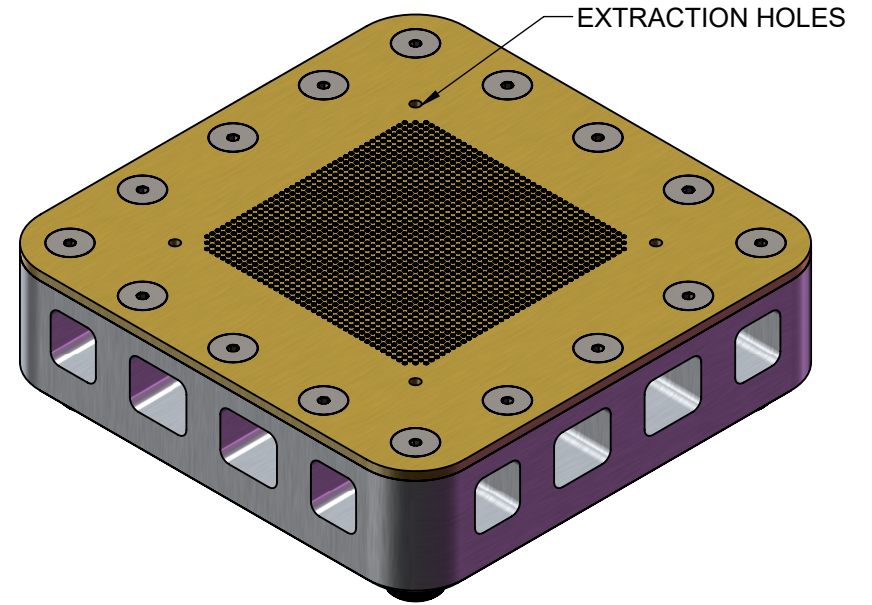


MODELS

TOP VIEW

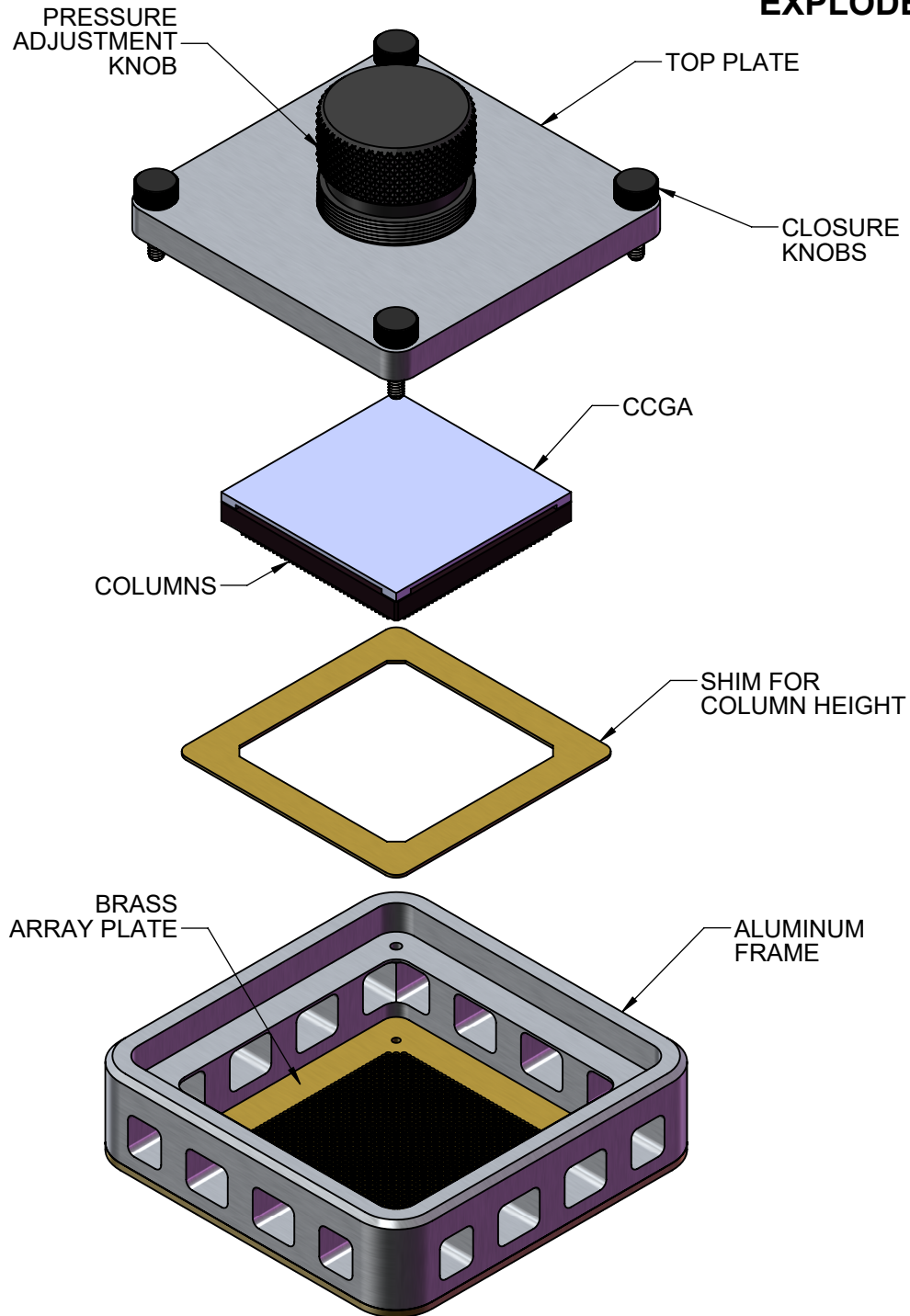


ARRAY PLATE



APPROVALS	DATE	TopLine®			
DRAWN T. Au	08/10/16				
ENG M. Hart	08/10/16	TITLE CCGA LAPPING HOLDER			
MFG		SCALE 1:1	SIZE A	DRAWING NO. 700099	REV A
QA					
CUST		DO NOT SCALE DRAWING			SHEET 1 OF 13
REVISED					

EXPLODED VIEW



TopLine[®]

TITLE CCGA LAPPING HOLDER

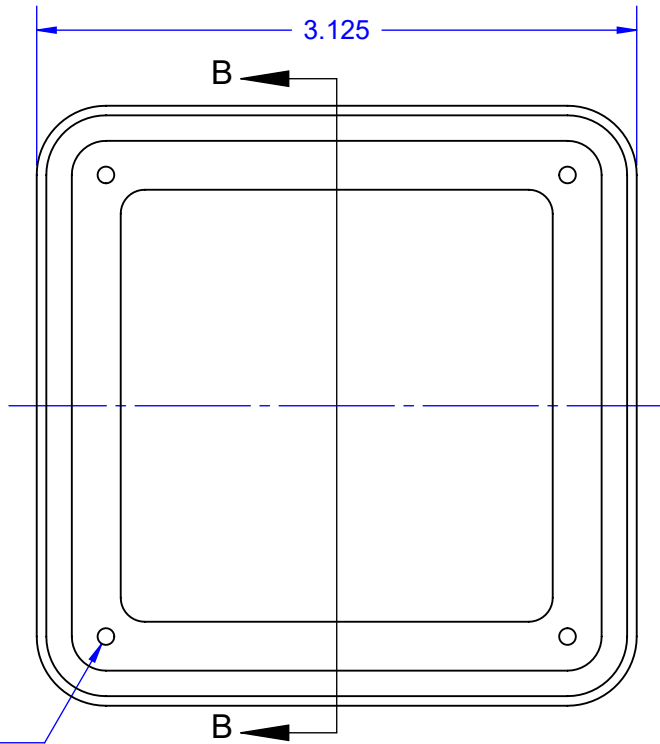
SCALE 1:1.25	SIZE A	DRAWING NO. 700099	REV A
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DO NOT SCALE DRAWING

SHEET 2 OF 13

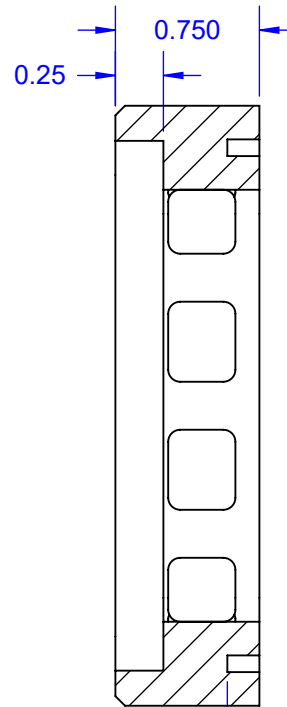
ALUMINUM FRAME

TOP



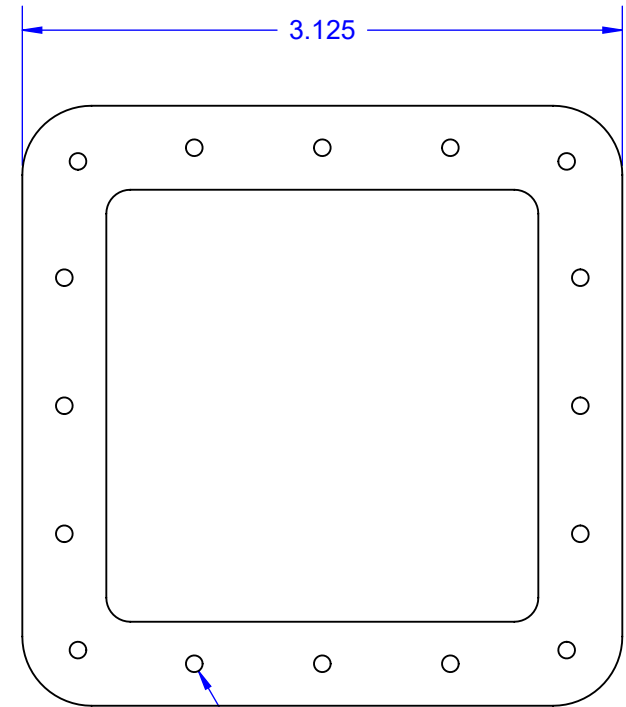
4-40 Thread
0.187 DEEP
4 POS

EDGE



4-40
THREAD

BOTTOM



4-40 THREAD
16 POS
1/4" FLAT
HEX HEAD

TopLine[®]

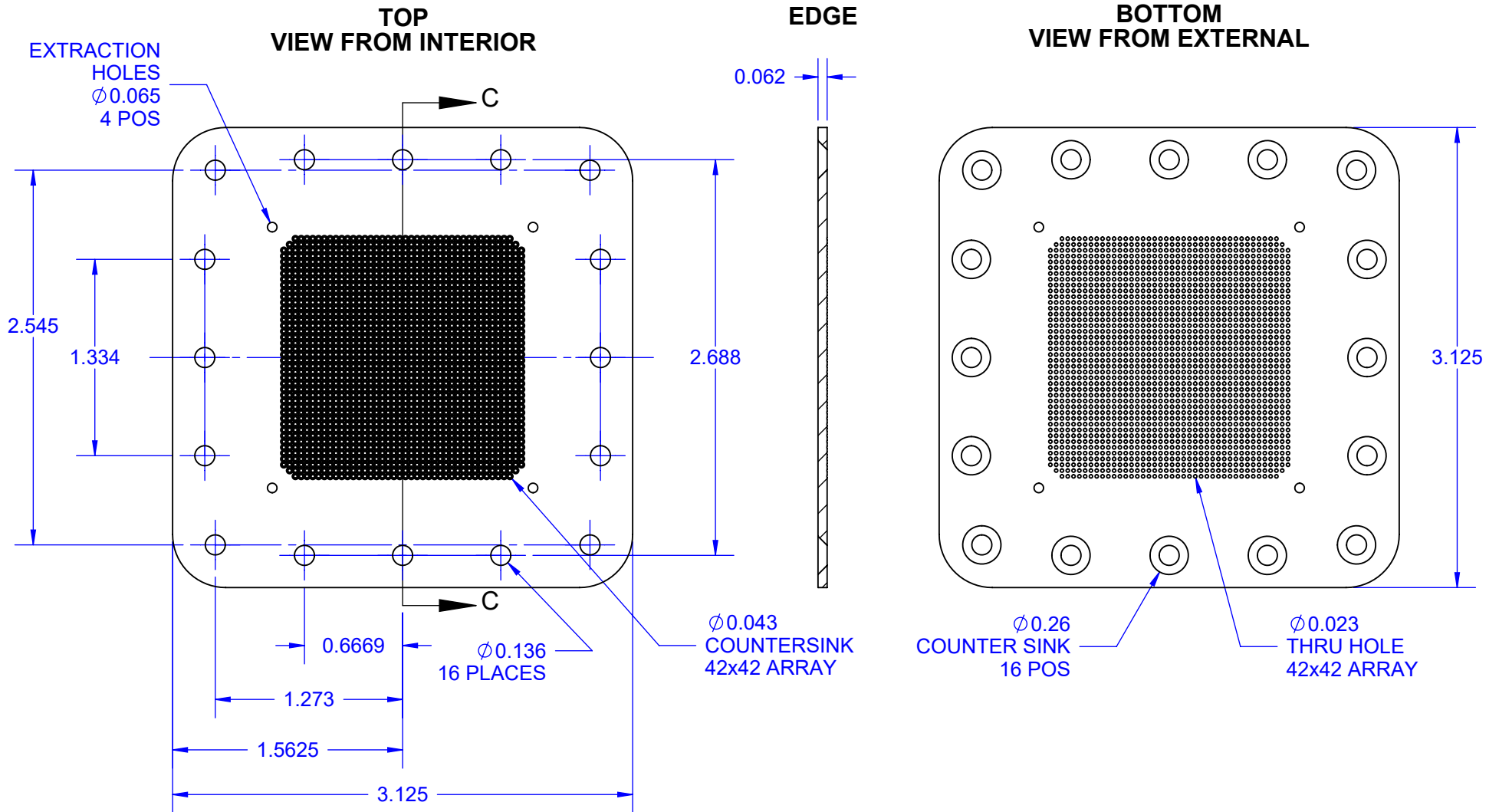
TITLE CCGA LAPPING HOLDER

SCALE 1:1	SIZE A	DRAWING NO. 700099	REV A
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DO NOT SCALE DRAWING

SHEET 3 OF 13

BRASS ARRAY PLATE



NOTES:
 1. EXTRACTION HOLES POSITIONED AT 4 CORNERS OF CCGA.

TopLine[®]

TITLE
 CCGA LAPPING HOLDER

SCALE 1:1	SIZE A	DRAWING NO. 700099	REV A
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DO NOT SCALE DRAWING

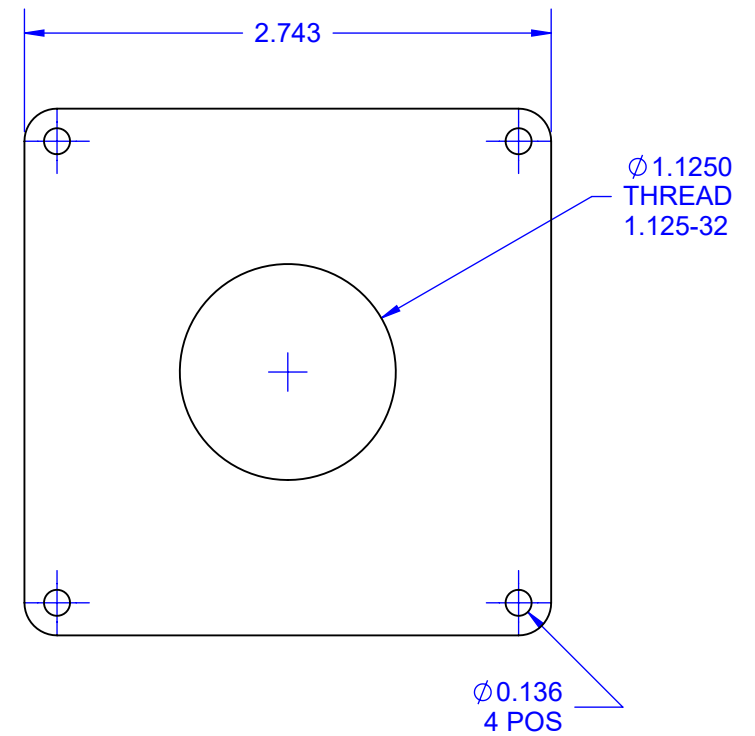
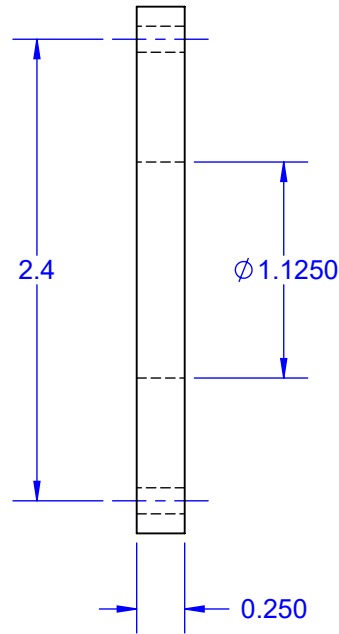
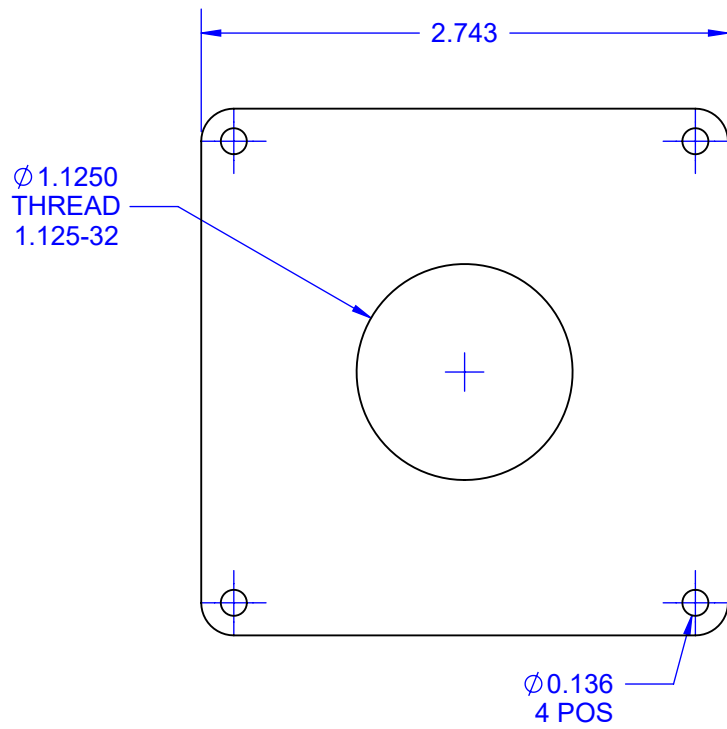
SHEET 4 OF 13

TOP PLATE

TOP

EDGE

BOTTOM

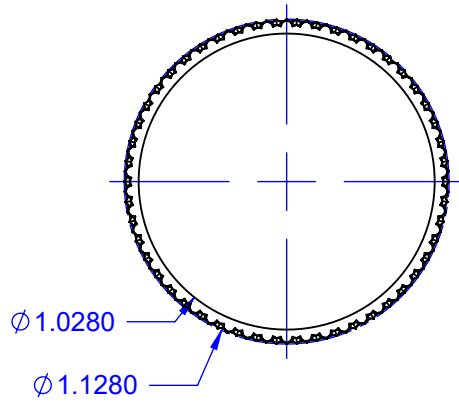


NOTES:
 1) CONTROLLING DIMENSION IS INCHES.
 2) MATERIAL: ALUMINUM.

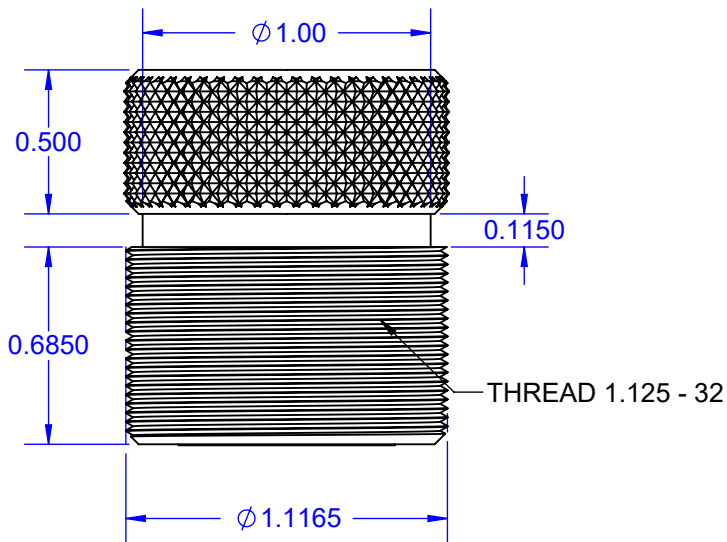
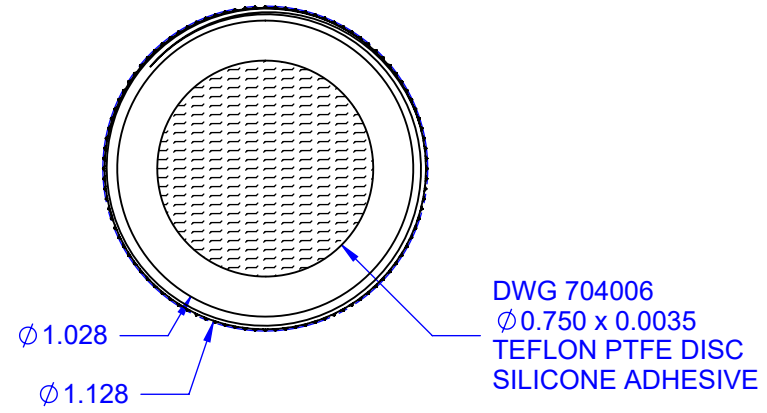
TopLine[®]			
TITLE CCGA LAPPING HOLDER			
SCALE 1:1	SIZE A	DRAWING NO. 700099	REV A
DO NOT SCALE DRAWING		SHEET 5 OF 13	

PRESSURE ADJUSTMENT KNOB

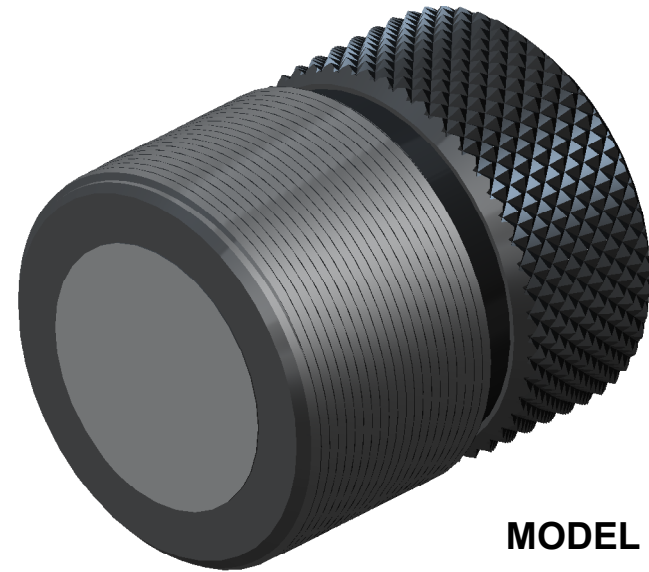
TOP



BOTTOM



SIDE



MODEL

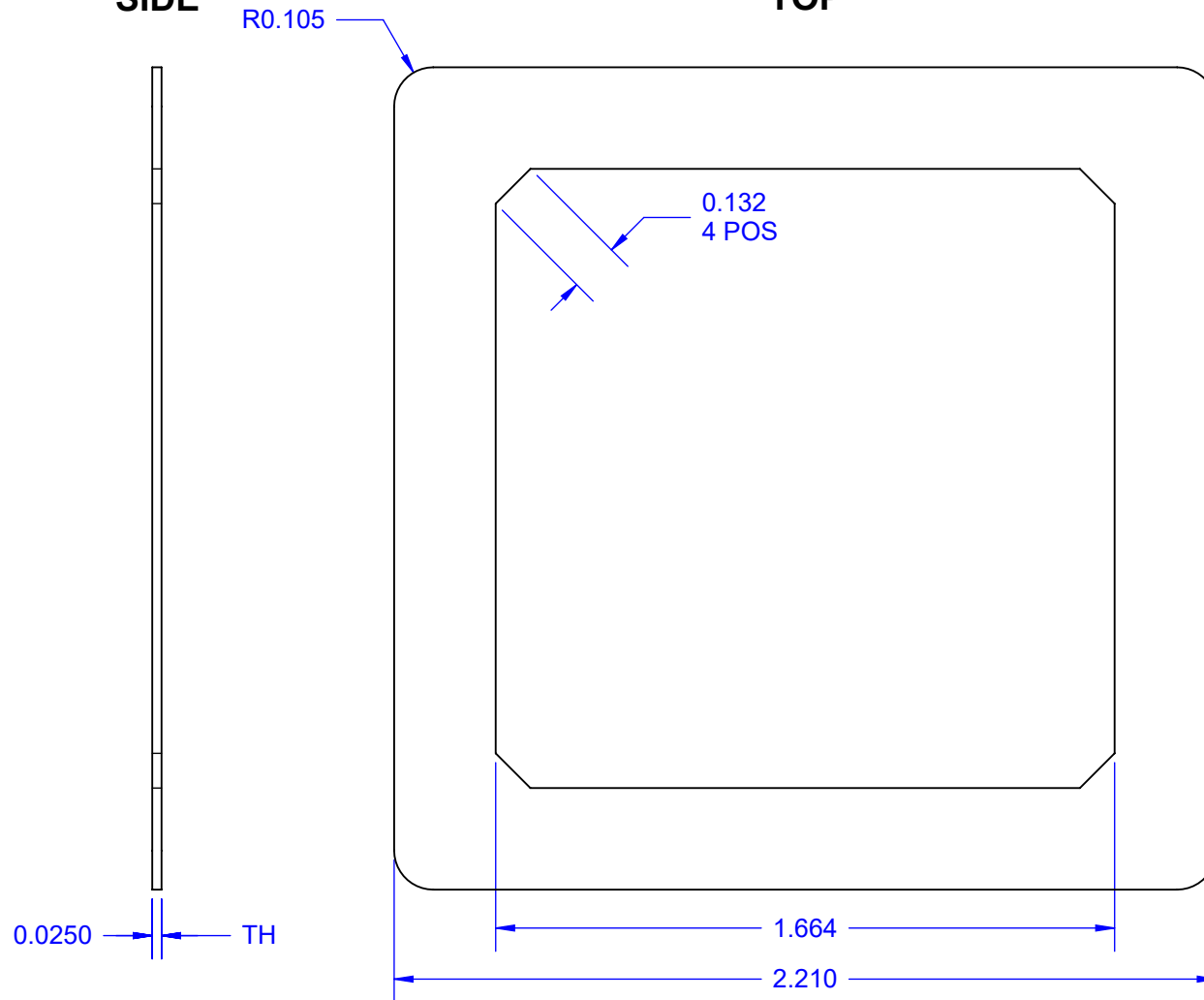
- NOTES:
 1. MATERIAL: Acetal Resin Homopolymer.
 2. COLOR: BLACK.

TopLine[®]			
TITLE CCGA LAPPING HOLDER			
SCALE 3:2	SIZE A	DRAWING NO. 700202	REV A
DO NOT SCALE DRAWING			SHEET 6 OF 13

SIDE

TOP

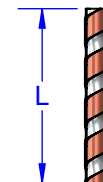
**SHIM FOR
COLUMN LENGTH
ADJUSTMENT**



- NOTES:**
- 1) CONTROLLING DIMENSION IS INCHES
 - 2) COLUMN LENGTH IS EQUAL TO THE THICKNESS OF THE SHIM PLUS THE THICKNESS OF BRASS ARRAY PLATE.
 - 3) SHIM MATERIAL BRASS OR PLASTIC.

SHIM THICKNESS TABLE				
COLUMN (L)		SHIM DIMENSION		DWG
0.087"	2.21mm	0.025"	0.63mm	700250
0.062"	1.58mm	NONE	NONE	---
0.101"	2.56mm	0.040"	1.00mm	700242
0.112"	2.85mm	0.050"	1.27mm	700243
0.124"	3.15mm	0.062"	1.57mm	700244
0.137"	3.45mm	0.075"	1.90mm	700245
0.158"	3.86mm	0.090"	2.28mm	700246
0.162"	4.15mm	0.100"	2.54mm	700247

STANDARD

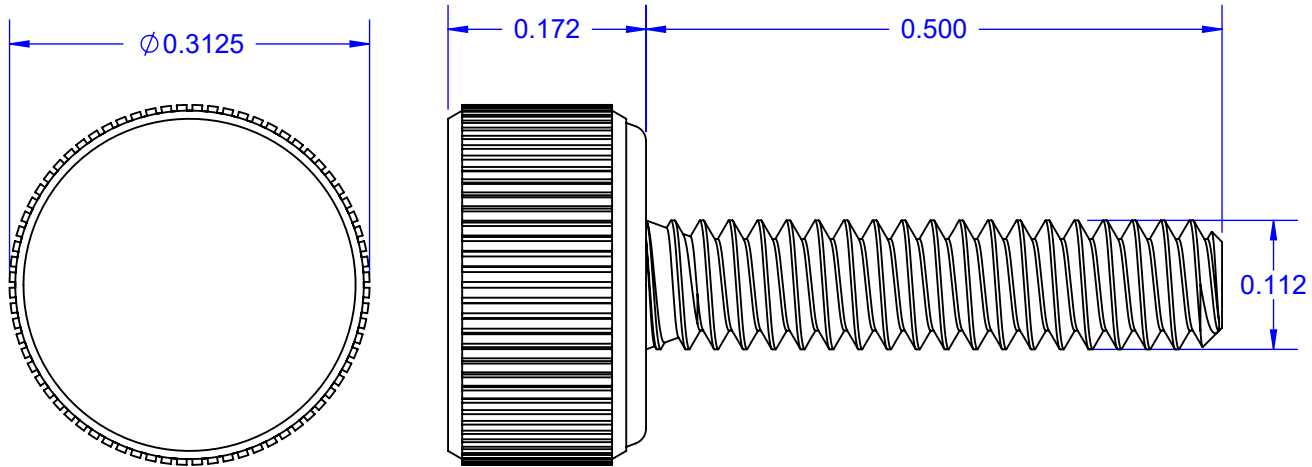


COLUMN LENGTH AFTER PLANARIZING

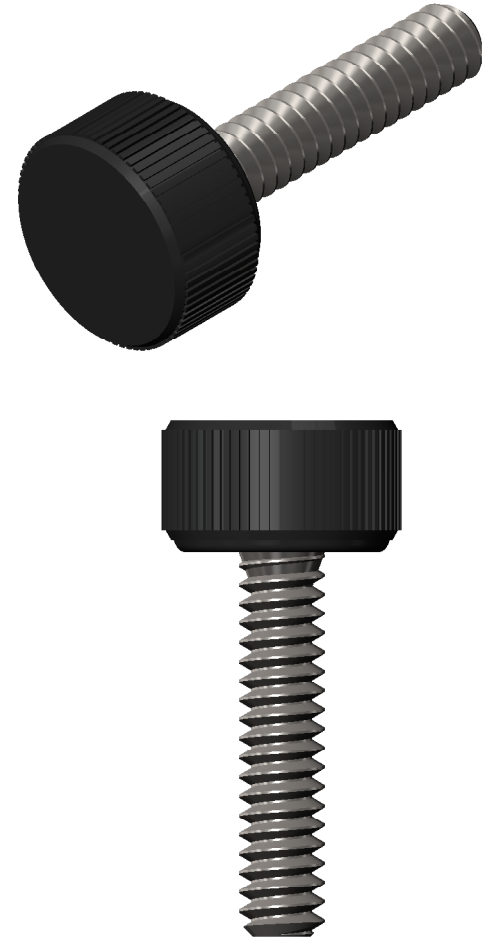
CONTACT TOPLINE FOR OTHER SHIM THICKNESS.

TopLine®			
TITLE		CCGA LAPPING HOLDER	
SCALE	SIZE	DRAWING NO.	REV
2:1	A	700099	A
DO NOT SCALE DRAWING			SHEET 7 OF 13

HARDWARE PLASTIC KNURLED HEAD THUMB SCREW



MODELS

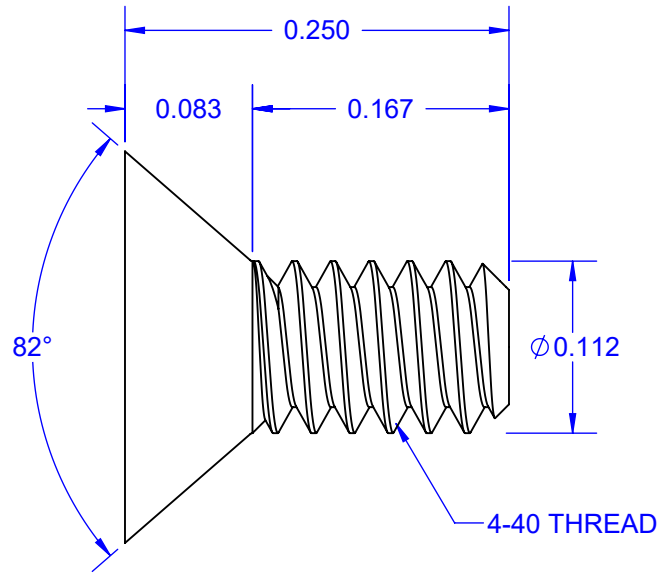
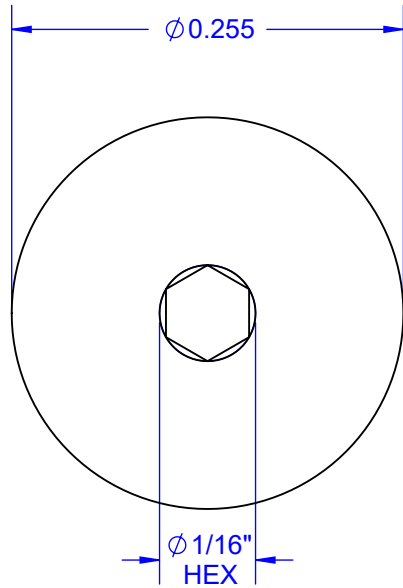


- NOTES:**
1. DIMENSIONS INCHES (UNLESS OTHERWISE SPECIFIED).
 2. SHAFT MATERIAL 18-8 STAINLESS STEEL.
 3. HEAD: PLASTIC.
 4. COLOR: SEE TABLE.

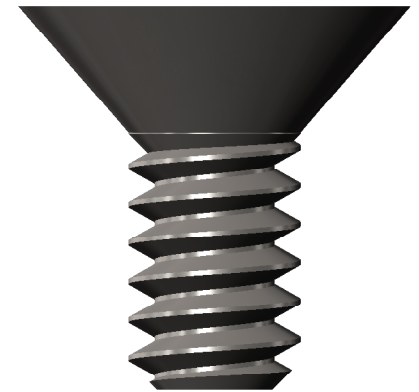
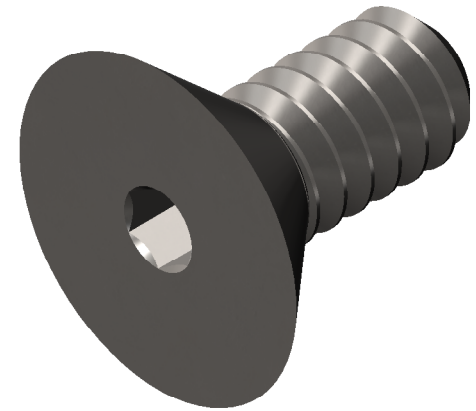
DRILL TABLE						
HEAD COLOR	THREAD	MAX OD	TAP DRILL Start Hole	CL HOLE Loose Fit	L SHAFT	DWG
BLACK	4-40	0.112"	0.089"	0.136"	0.500	704028

TopLine®			
TITLE KNURL THUMB SCREW 4-40 PLASTIC HEAD .500" L			
SCALE 6:1	SIZE A	DRAWING NO. 704028	REV A
DO NOT SCALE DRAWING			SHEET 8 OF 13

HARDWARE FLAT HEAD SOCKET CAP SCREW



MODELS

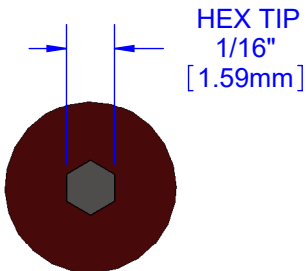
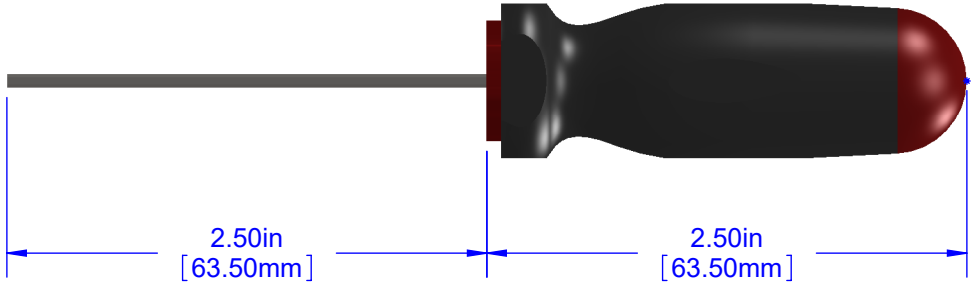
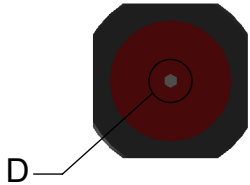


- NOTES:
 1. DIMENSIONS INCHES (UNLESS OTHERWISE SPECIFIED).
 2. SHAFT MATERIAL: SEE TABLE.
 3. HEAD: SEE TABLE.
 4. COLOR: STAINLESS.

DRILL TABLE						
MATL	THREAD	MAX OD	TAP DRILL Start Hole	CL HOLE Loose Fit	L SHAFT	DWG
STAINLESS 316	4-40	0.112"	0.089"	0.136"	0.167"	704038

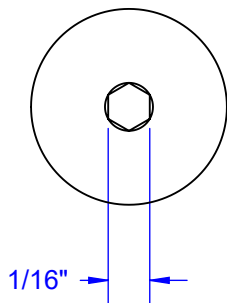
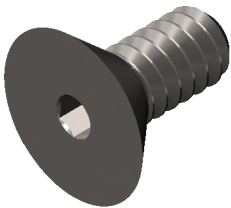
TopLine®			
TITLE FLAT HEX HEAD SCREW 4-40 x 3/16"			
SCALE 6:1	SIZE A	DRAWING NO. 704038	REV A
DO NOT SCALE DRAWING			SHEET 9 OF 13

SCREW DRIVER HEX 1/16



DETAIL A
SCALE 4:1

EXAMPLE SCREW HEX 1/16" SCALE = 4:1



NOTES: (UNLESS OTHERWISE SPECIFIED).
1) DIMENSIONS: INCH [MM].

TopLine[®]			
TITLE		SCREW DRIVER 1/16 HEX HEAD	
SCALE	SIZE	DRAWING NO.	REV
1:1	A	704000	A
DO NOT SCALE DRAWING			SHEET 10 OF 13

SPARE PARTS

NBR	ITEM	DESCRIPTION AND NOTES	DETAIL DWG
1	TEFLON PAD	REDUCES MARRING OF CCGA. REPLACE EVERY 50 CCGA, OR AS REQUIRED	704006
2	SCREW DRIVER	SCREW DRIVER FOR 1/16" HEX HEAD SCREWS ON BRASS PLATE ARRAY	704000
3	FLAT HEAD SCREWS	HEX-FLAT HEAD STAINLESS STEEL SCREWS 4-40 THREAD 1/4" LONG (1/16" HEX SLOT)	704042
4	THUMB SCREWS	PLASTIC KNURL HEAD THUMB SCREWS 4-40 THREAD 1/2" LONG	704028
5	PRESSURE ADJUSTMENT THREADED KNOB	THREADED KNOB SCREW 1.125-32 THREAD	700200
6	SHIM	0.025" THICK (0.63mm) FOR 0.087" (2.21mm) LONG COLUMN	700250*
7	BRASS ARRAY PLATE	PATTERN OF ARRAY AND LOCATION OF EXTRACTION HOLES ARE SPECIFIC TO CCGA DEVICE.	CALL
8	ALUMINUM FRAME	UNIVERSAL LAPPING TOOL HOLDER 3.125" x 0.750"	700240
9	TOP PLATE	UNIVERSAL TOP PLATE LAPPING TOOL HOLDER 2.743" x 0.250"	700241
10	CCGA EXTRACTION TOOL	GENTLY LIFTS CORNERS OF CCGA SUBSTRATE TO EXTRACT AND REMOVE CCGA FROM LAPPING TOOL	CALL

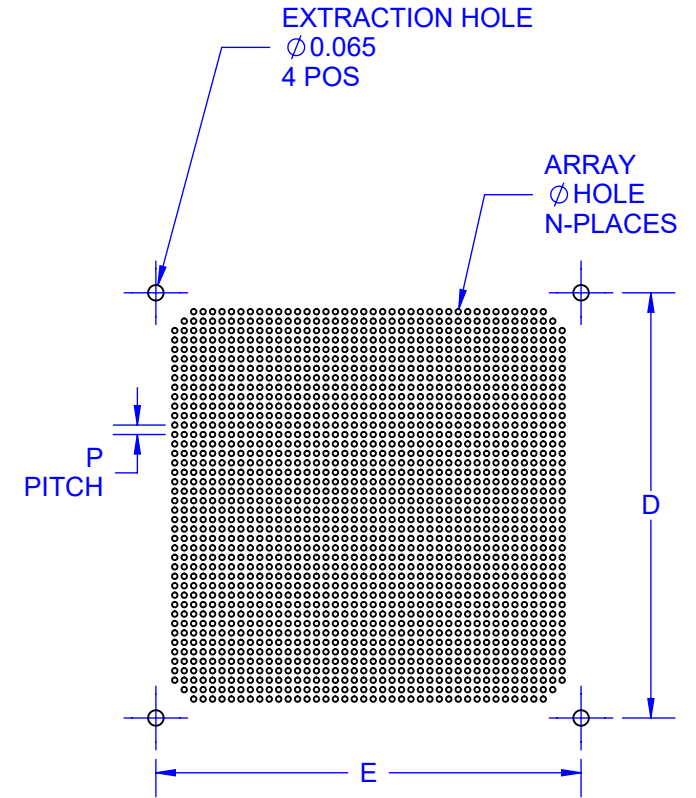
*NOTE: CONTACT TOPLINE FOR OTHER SHIM.

TopLine®			
TITLE CCGA LAPPING HOLDER			
SCALE NONE	SIZE A	DRAWING NO. 700099	REV A
DO NOT SCALE DRAWING			SHEET 12 OF 13

BRASS ARRAY PLATE

PART NUMBER TABLE (PARTIAL LIST)

N HOLES	P PITCH	MATRIX HOLES	D mm	E mm	Ø DIA HOLES	DWG
483	1.27mm	22x22	23mm	23mm	Ø0.023"	CALL
624	1.27mm	25x25	32.5mm	32.5mm	Ø0.023"	CALL
717	1.27mm	27x27	35mm	35mm	Ø0.023"	CALL
771	1.17/1.09mm	30x33	37.5mm	37.5mm	Ø0.023"	CALL
898	1.0mm	30x30	31mm	31mm	Ø0.023"	CALL
1144	1.0mm	34x34	35mm	35mm	Ø0.023"	CALL
1152	1.0mm	34x34	35mm	35mm	Ø0.023"	CALL
1152	1.0mm	34x34	35mm	35mm	Ø0.018"	CALL
1272	1.0mm	36x36	37.5mm	37.5mm	Ø0.023"	CALL
1509	1.0mm	39x39	40mm	40mm	Ø0.023"	CALL
1657	1.0mm	41x41	42.5mm	42.5mm	Ø0.023"	CALL
1752	1.0mm	42x42	45mm	45mm	Ø0.023"	CALL
1752	1.0mm	42x42	45mm	45mm	Ø0.018"	CALL



NOTE: CONTACT TOPLINE FOR OTHER CONFIGURATIONS.

TopLine®			
TITLE CCGA LAPPING HOLDER			
SCALE NONE	SIZE A	DRAWING NO. 700099	REV A
DO NOT SCALE DRAWING		SHEET 13 OF 13	