


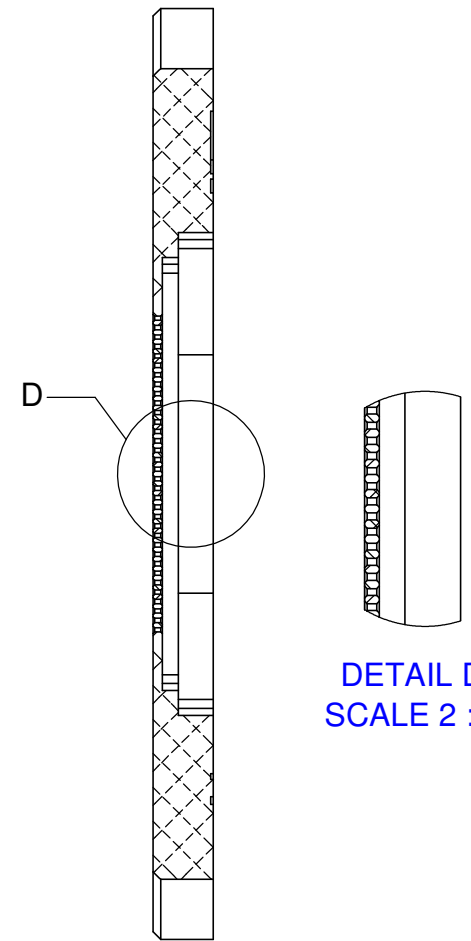
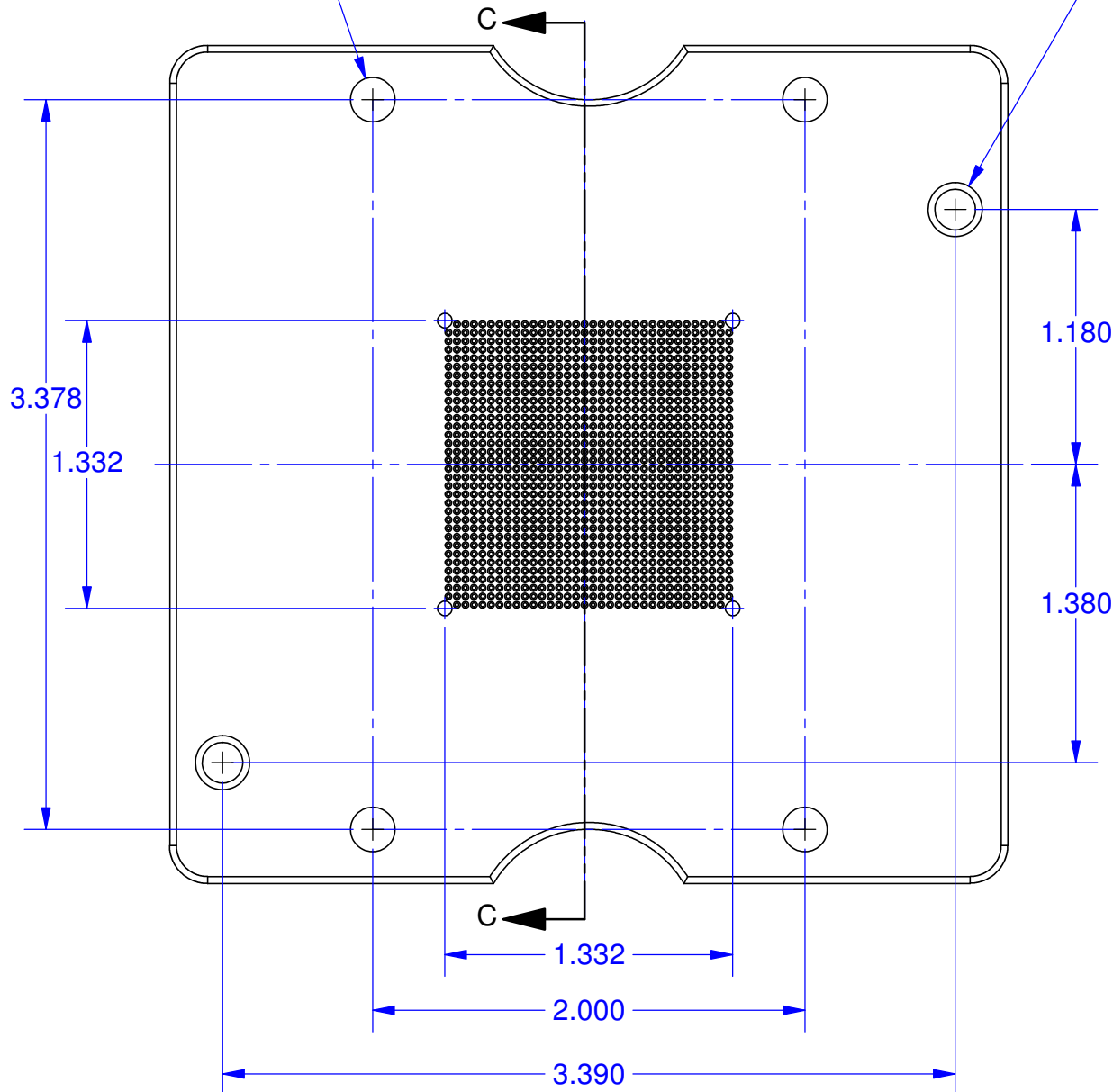
NOTES: (UNLESS OTHERWISE SPECIFIED).
 1) DIMENSIONS: INCH [MM].

APPROVALS		DATE				
DRAWN	R. Le	11/1/2018	TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
ENG	M. Hart	11/1/2018				
MFG			SCALE	SIZE	DRAWING NO.	REV
QA			1:1	A	713461	A
CUST			DO NOT SCALE DRAWING		SHEET 1 OF 15	
REVISED						

BOTTOM VIEW
TOP GRAPHITE

4X ϕ .206 THRU ALL

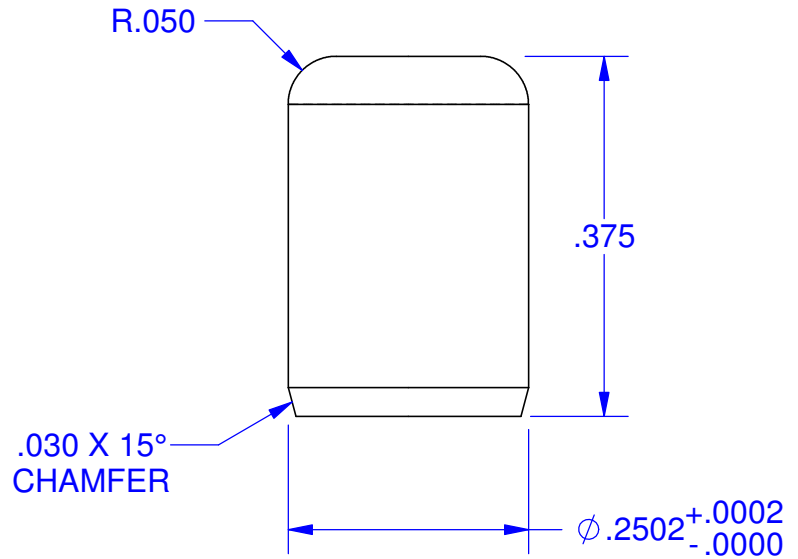
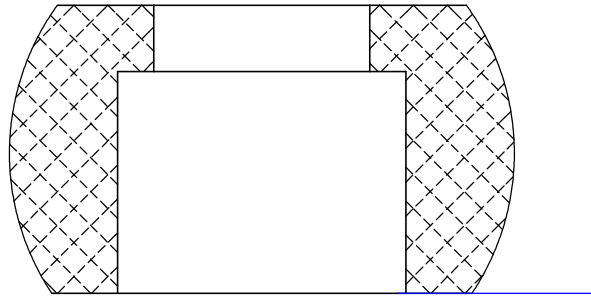
ϕ .188 THRU ALL
 ϕ .2503^{+.0002}_{-.0000} ∇ .193



SECTION C-C

TopLine ®			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 1.25:1	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING			SHEET 2 OF 15

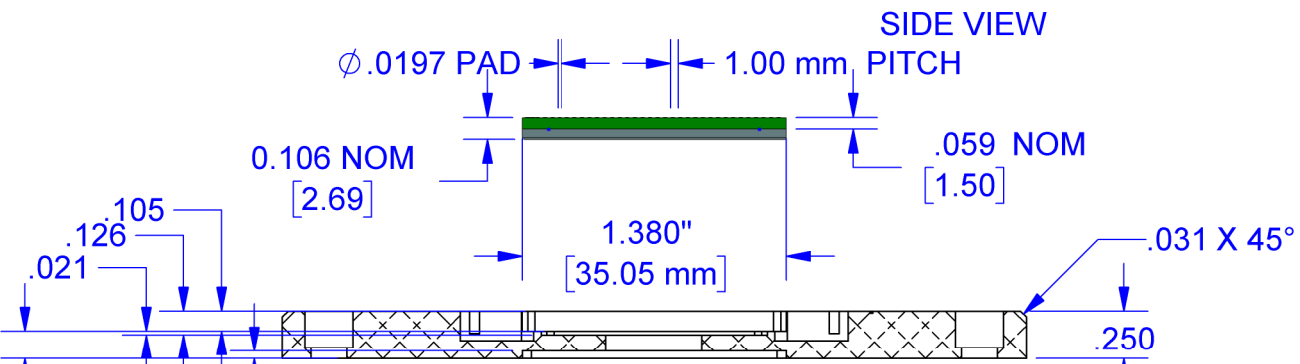
ALIGNMENT PIN
DWG 70256X



DETAIL P
SEE SHEET 1

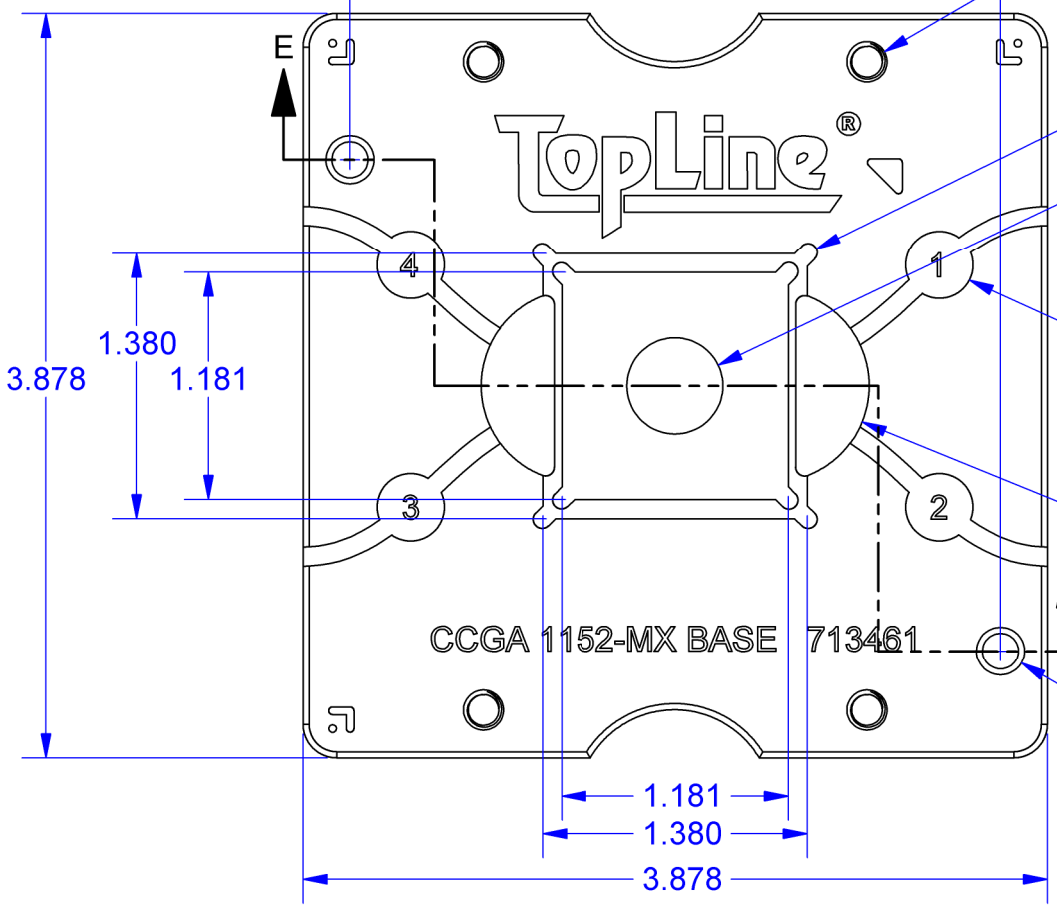
NOTES: (UNLESS OTHERWISE SPECIFIED).
1) DIMENSIONS: INCH [MM].

TopLine ®			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 6:1	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING		SHEET 3 OF 15	



SECTION E-E
3.390

- $\phi .159$ THRU ALL
- 10-32 UNF THRU ALL
- ✓ $\phi .209$ X 90°, NEAR SIDE
- ✓ $\phi .212$ X 90°, FAR SIDE



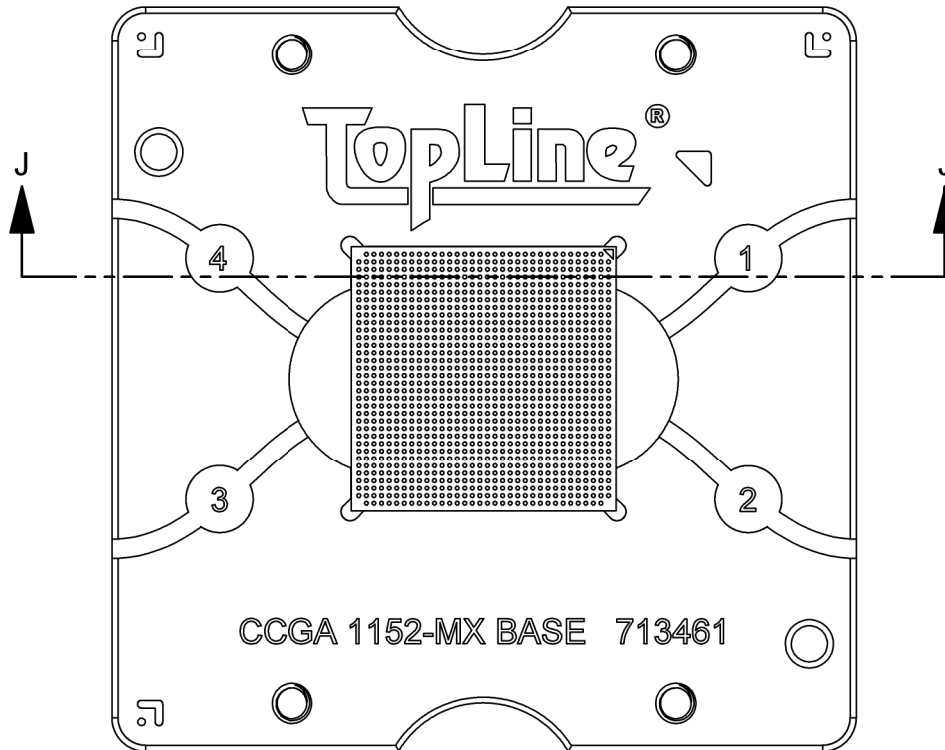
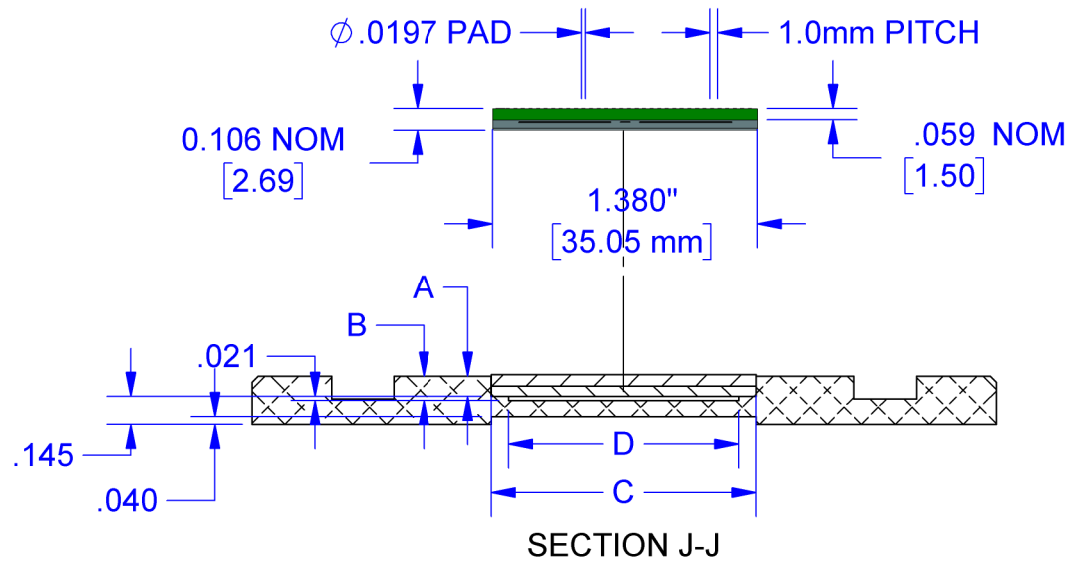
- 12X R.047
- $\phi .500$ THRU
- 4X THERMAL COUPLE (OPTIONAL)
- 2X R.500
▽.156"
- $\phi .188$ THRU
- $\phi .2503^{+.0020}_{-.0000}$ ▽.193

CCGA 1152-MX BASE 713461

TopLine®

TopLine®			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 1:1	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING			SHEET 4 OF 15

BASE ASSEMBLY



REF	DESCRIPTION	INCH
A	POCKET DEPTH PERIMETER	0.102
B	POCKET DEPTH FOR + LID	0.126
C	POCKET X/Y	1.382
D	LID DOWNSET X/Y	1.182

TopLine[®]			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 1:1	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING			SHEET 5 OF 15

BOTTOM VIEW
BASE GRAPHITE

Ø .500 THRU ALL

4X R.047
VACUUM CHASE
(OPTIONAL)

3.378

1.378

Ø .159 THRU ALL

10-32 UNF THRU ALL

✓ Ø .209 X 90°, BOTTOM SIDE

✓ Ø .212 X 90°, TOP SIDE

1.378

2.000

TopLine®

TITLE C7-GRAPHITE-1152-MX
GRAPHITE TOOL

SCALE	SIZE	DRAWING NO.	REV
1.5:1	A	713461	A

DO NOT SCALE DRAWING

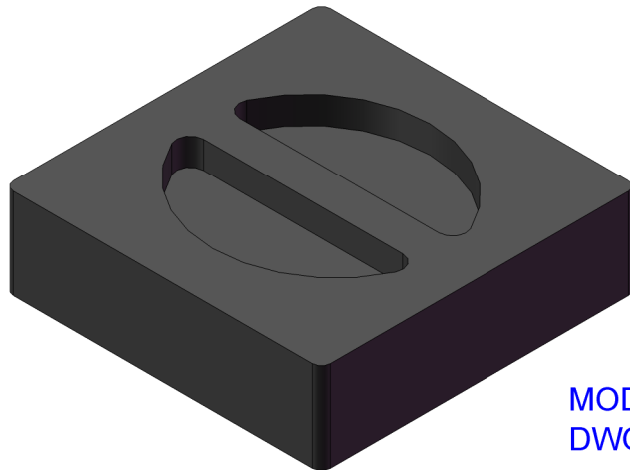
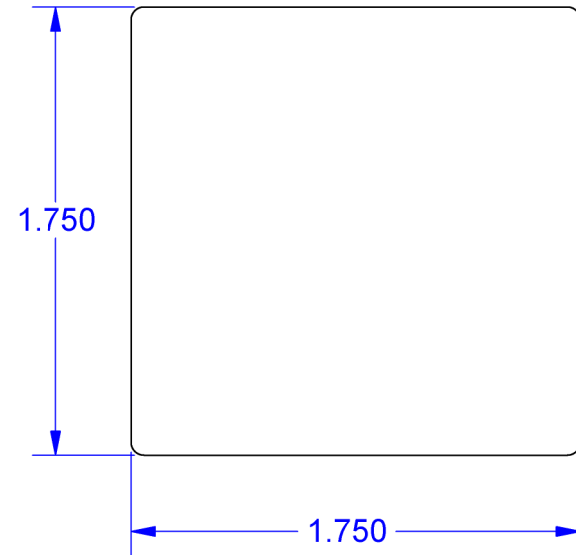
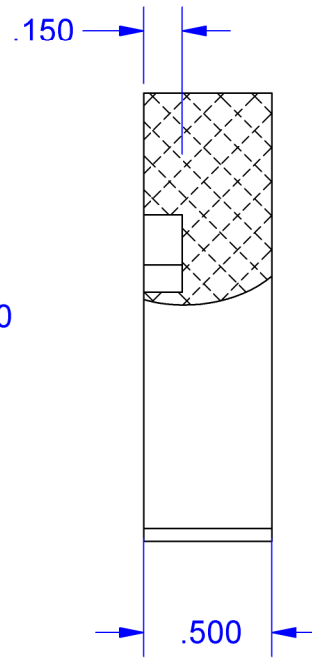
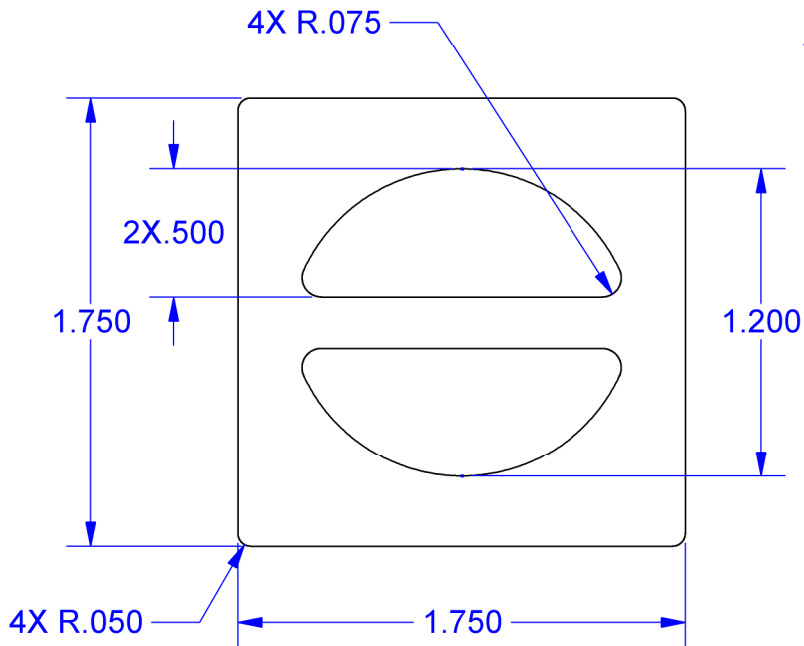
SHEET 6 OF 15

**C7-WEIGHT-A
700150**

TOP VIEW

SIDE VIEW

BOTTOM VIEW



MODEL
DWG 700150

NOTES: (UNLESS OTHERWISE SPECIFIED).

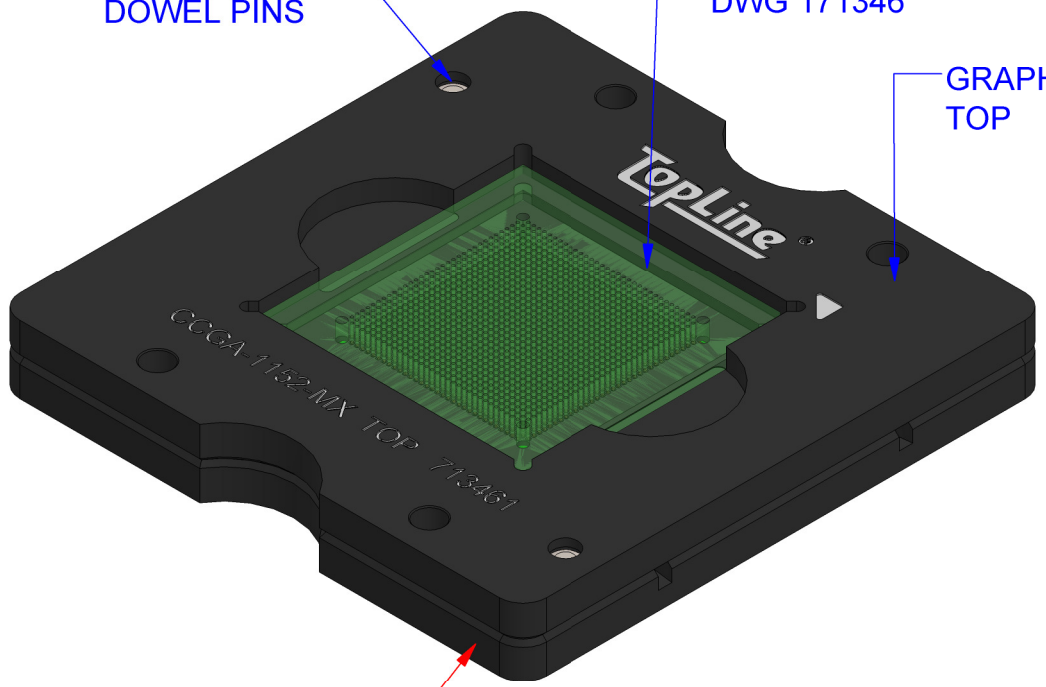
- 1) DIMENSIONS: INCHES.
- 2) MATERIAL: GRAPHITE.
- 3) OMNI-DIRECTIONAL.
- 4) APPLICATION: APPLIES PRESSURE TO COLUMNS.

TopLine [®]			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 2:1.5	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING			SHEET 7 OF 15

ALIGNMENT
DOWEL PINS

FLIP-PACK®
DWG 171346

GRAPHITE
TOP

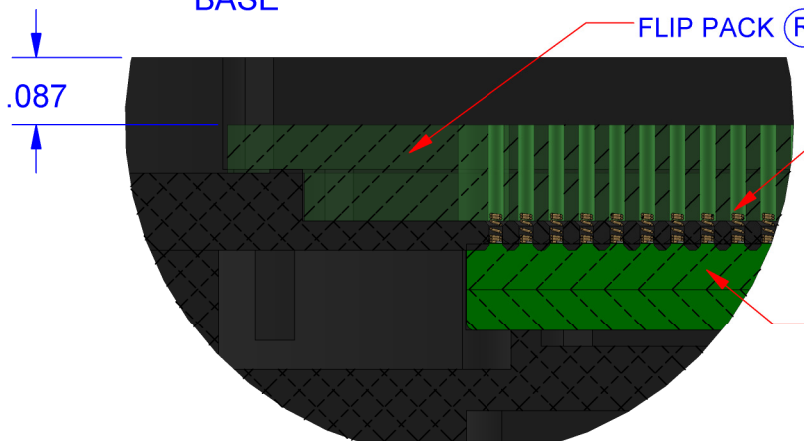


GRAPHITE
BASE

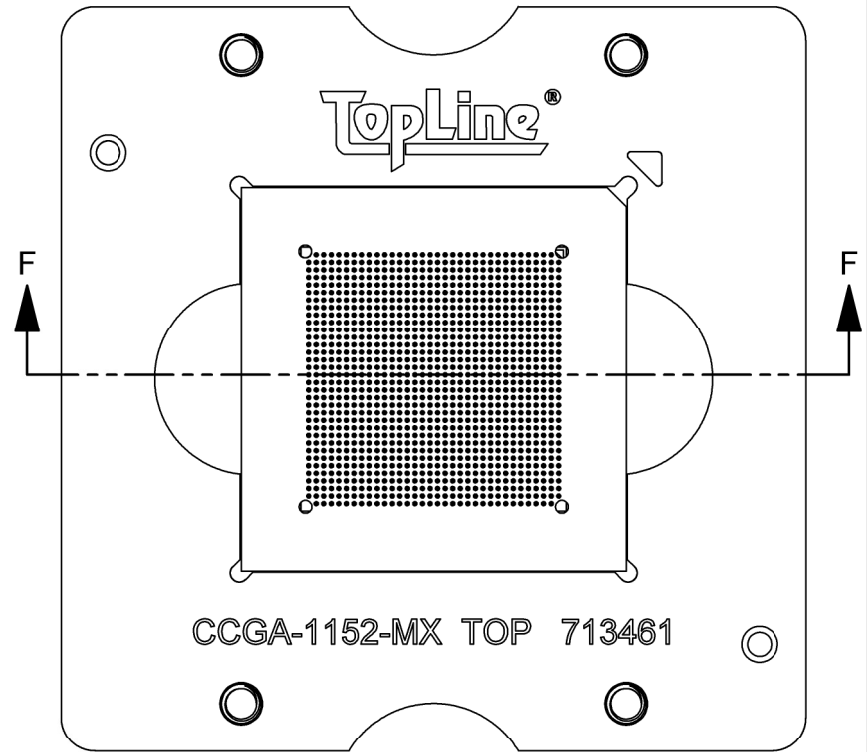
FLIP PACK®

COLUMNS

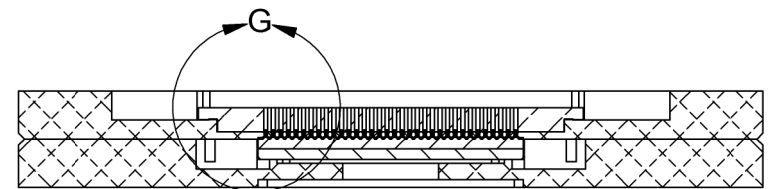
SUBSTRATE



DETAIL G
SCALE 4 : 1



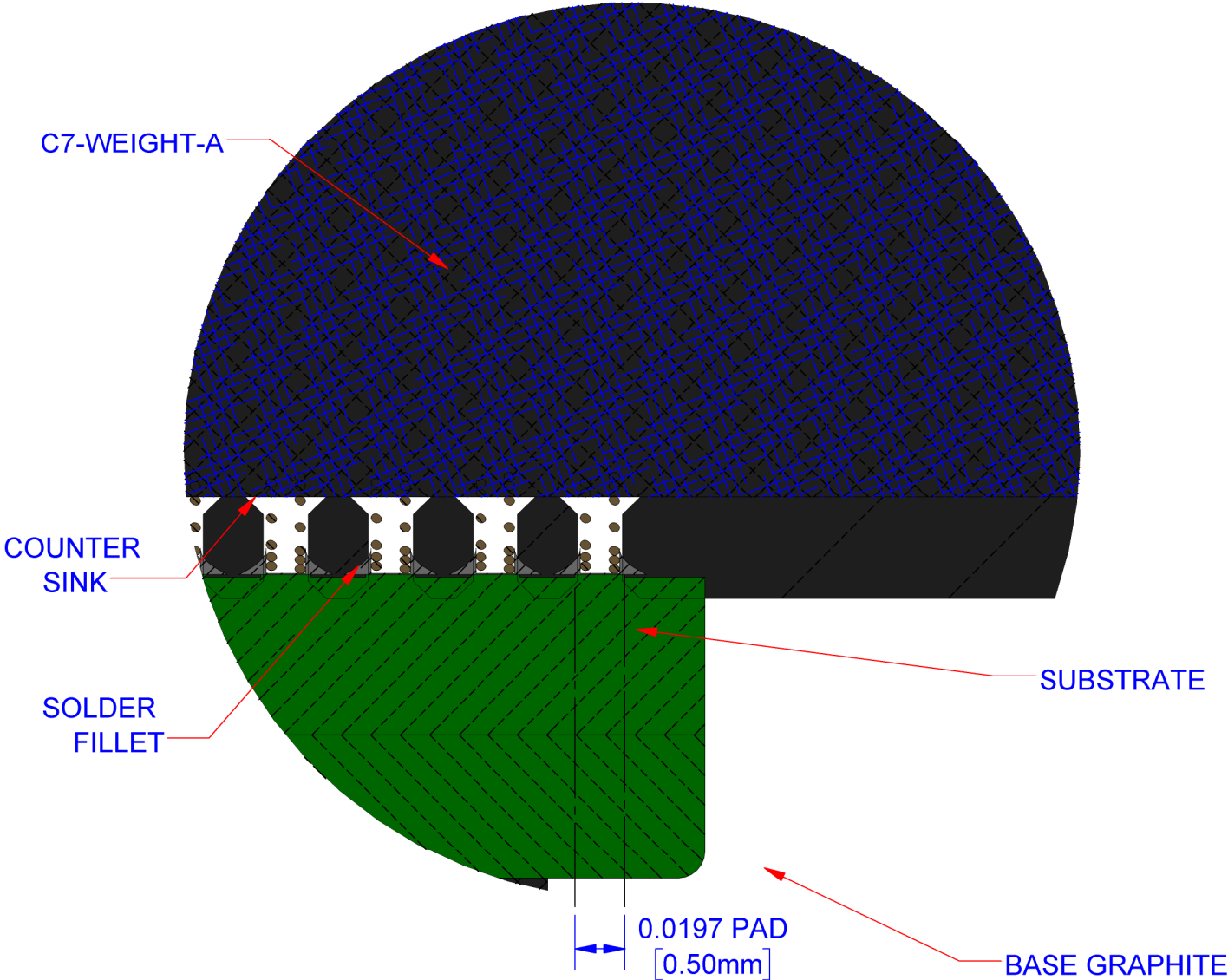
TWO SECTIONS
GRAPHITE
SEATED TOGETHER



SECTION F-F

TopLine®			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 1:1	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING			SHEET 8 OF 15

STACK-UP DIAGRAM



DETAIL Q
SEE SHEET 12

TopLine [®]			
TITLE		C7-GRAPHITE-1152-MX GRAPHITE TOOL	
SCALE	SIZE	DRAWING NO.	REV
16:1	A	713461	A
DO NOT SCALE DRAWING			SHEET 9 OF 15

EXPLODED SIDE VIEW

FLIP-PACK[®]
U.S. PATENT 9,629,259

COLUMNS
X 1152

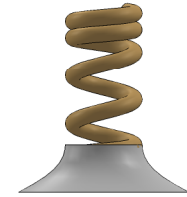
H

GRAPHITE
TOP

CCGA

PADS

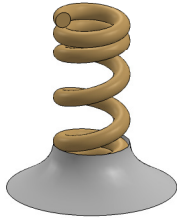
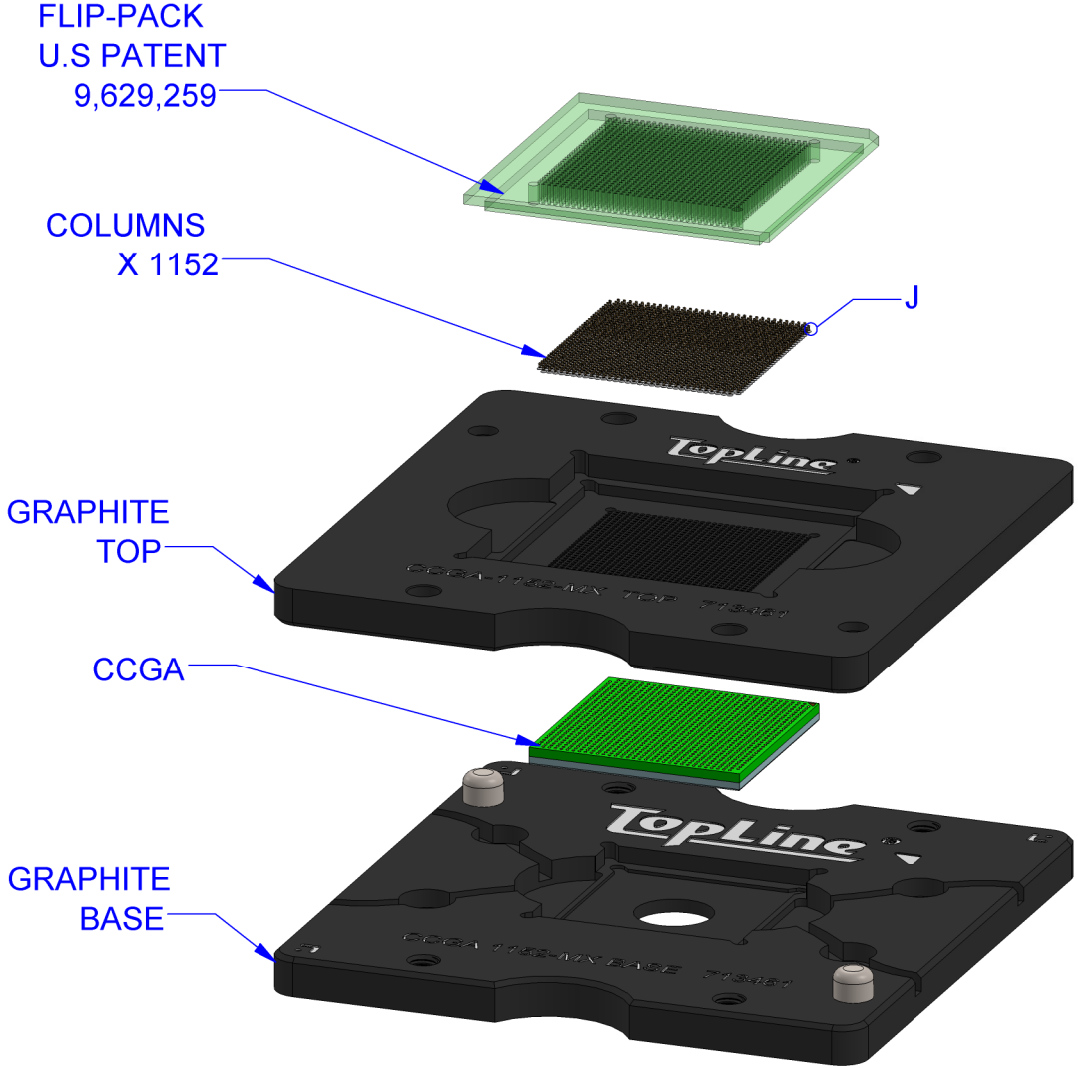
GRAPHITE
BASE



DETAIL H
SCALE 25 : 1

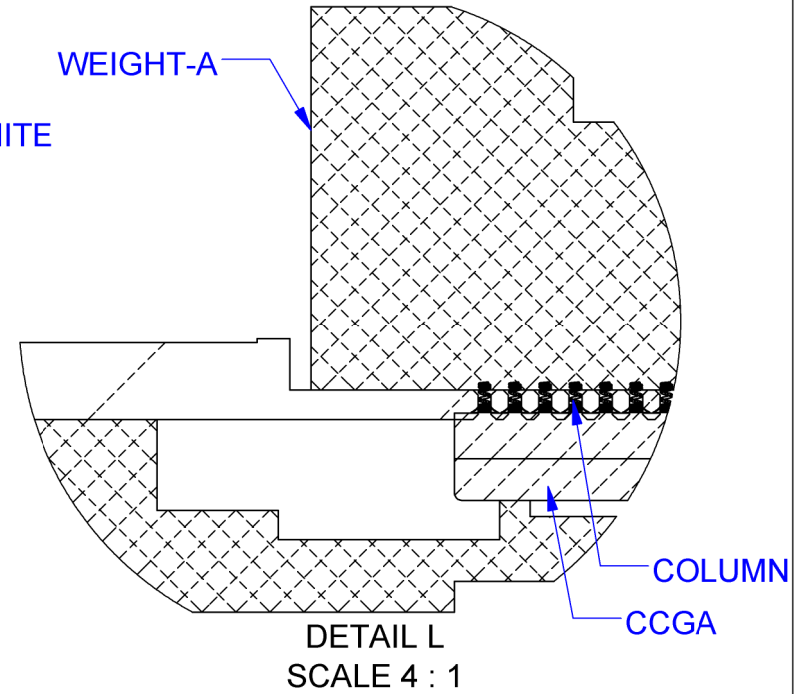
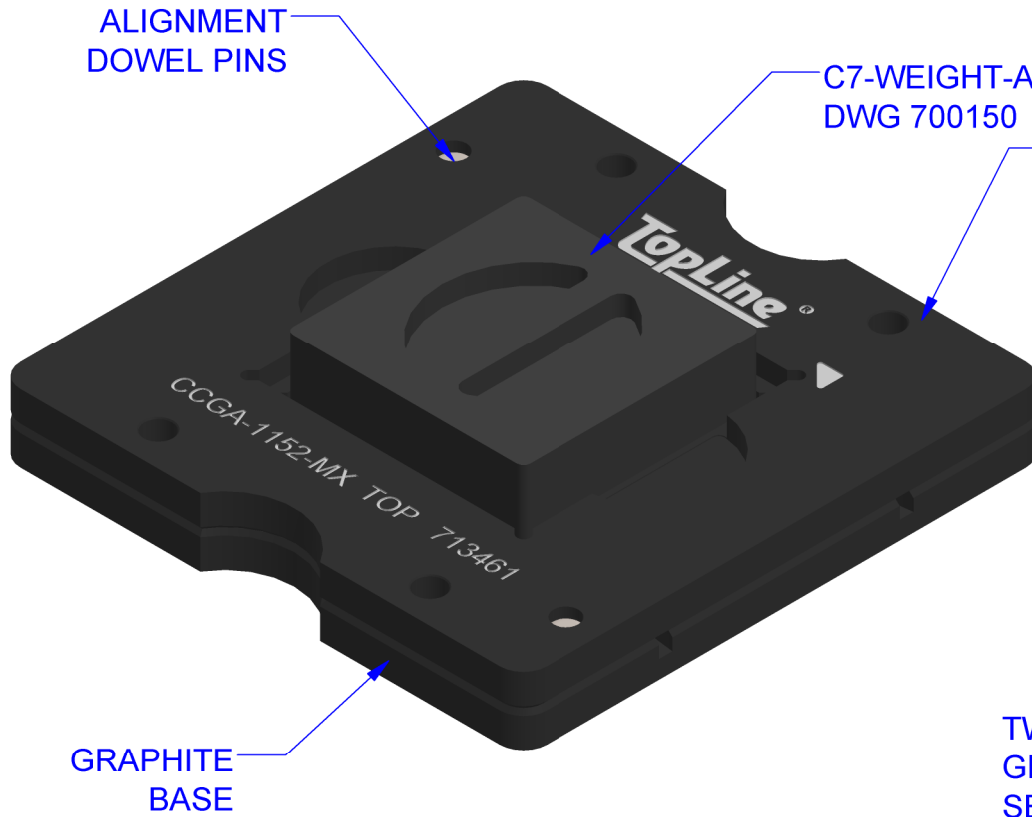
TopLine[®]			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 1:1	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING		SHEET 10 OF 15	

EXPLODED ISOMETRIC VIEW

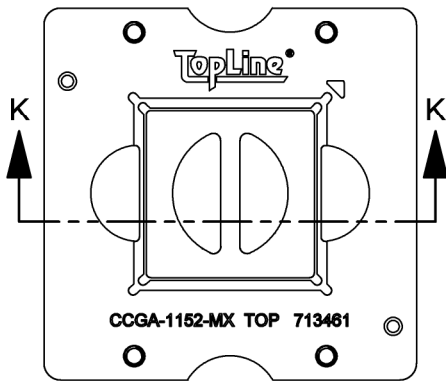


DETAIL J
SCALE 25 : 1

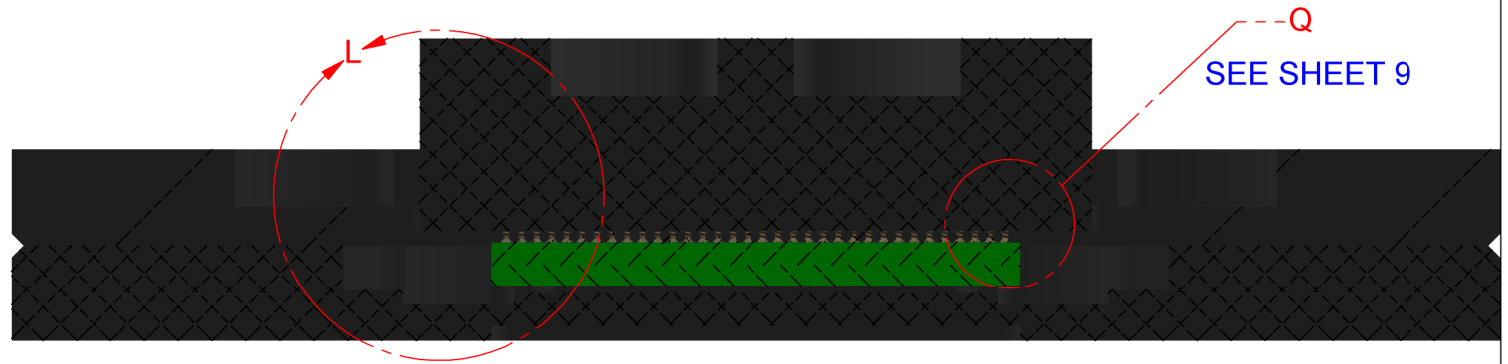
TopLine [®]			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 0.85:1	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING			SHEET 11 OF 15



TWO SECTIONS
GRAPHITE
SEATED TOGETHER



SCALE= 1:2



SECTION K-K
SCALE 2 : 1

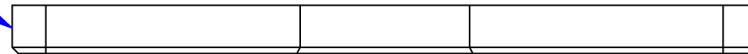
TopLine [®]			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 1:1	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING			SHEET 12 OF 15

EXPLODED SIDE VIEW

C7-WEIGHT-A
DWG 700150



GRAPHITE
TOP



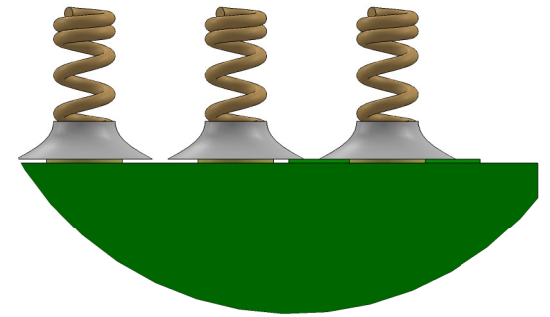
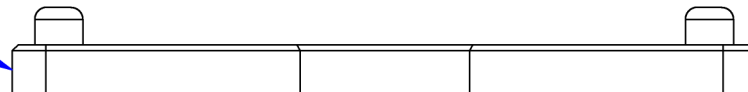
COLUMNS
X 1152

CCGA



M

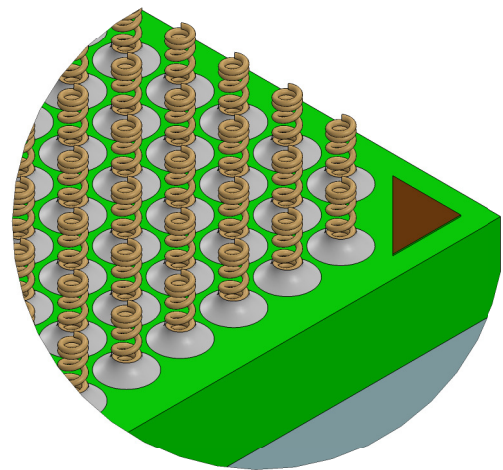
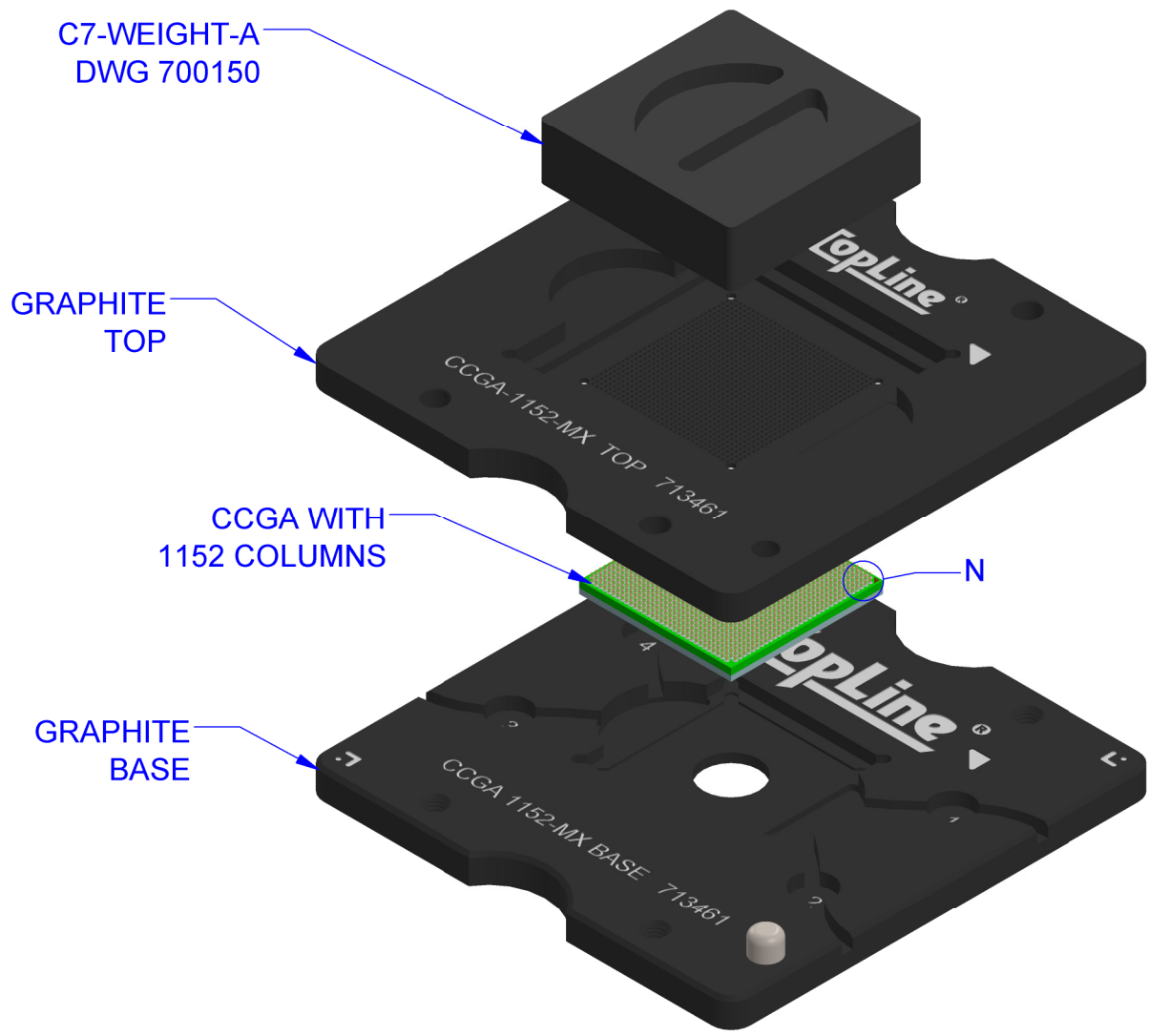
GRAPHITE
BASE



DETAIL M
SCALE 20 : 1
Sn63Pb37 FILLET
AFTER REFLOW

TopLine ®			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 1:1	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING			SHEET 13 OF 15

EXPLODED ISOMETRIC VIEW

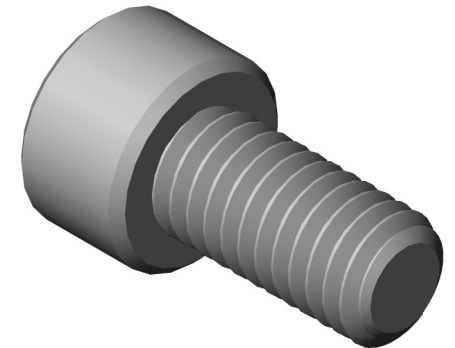
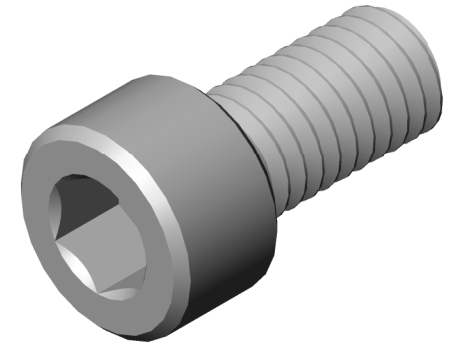
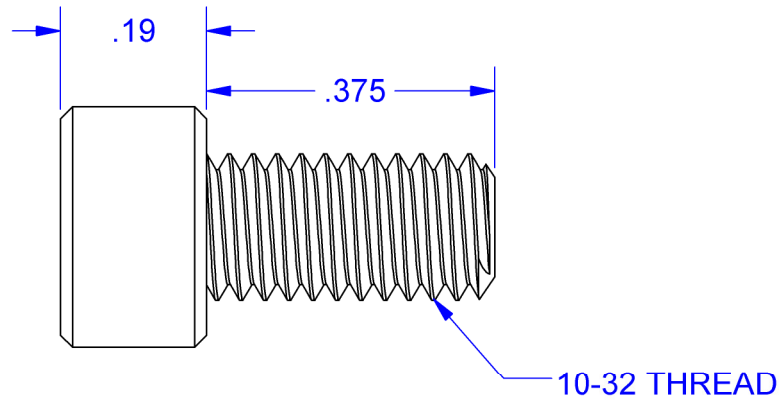
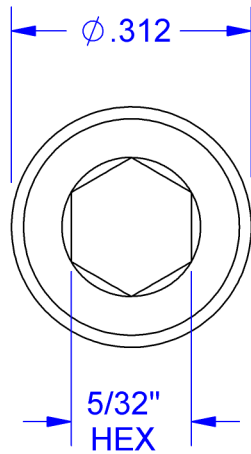


DETAIL N
SCALE 10 : 1
Sn63Pb37 FILLET
AFTER REFLOW

TopLine [®]			
TITLE C7-GRAPHITE-1152-MX GRAPHITE TOOL			
SCALE 0.85:1	SIZE A	DRAWING NO. 713461	REV A
DO NOT SCALE DRAWING			SHEET 14 OF 15

CAP SCREW DWG 704051

MODELS



NOTES:

- 1) DIMENSIONS: INCH (UNLESS OTHERWISE SPECIFIED).
- 2) MATERIAL: SEE TABLE.
- 3) THREAD: SEE TABLE.
- 4) COLOR: STAINLESS.

DRILL TABLE

MATERIAL	THREAD	MAX OD	TAP DRILL START HOLE	CL HOLE CLOSE FIT	DWG
STAINLESS	10-32	0.190"	0.156"	0.206"	704051

TopLine[®]

TITLE C7-GRAPHITE-1152-MX
GRAPHITE TOOL

SCALE 4:1	SIZE A	DRAWING NO. 713461	REV A
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DO NOT SCALE DRAWING

SHEET 15 OF 15