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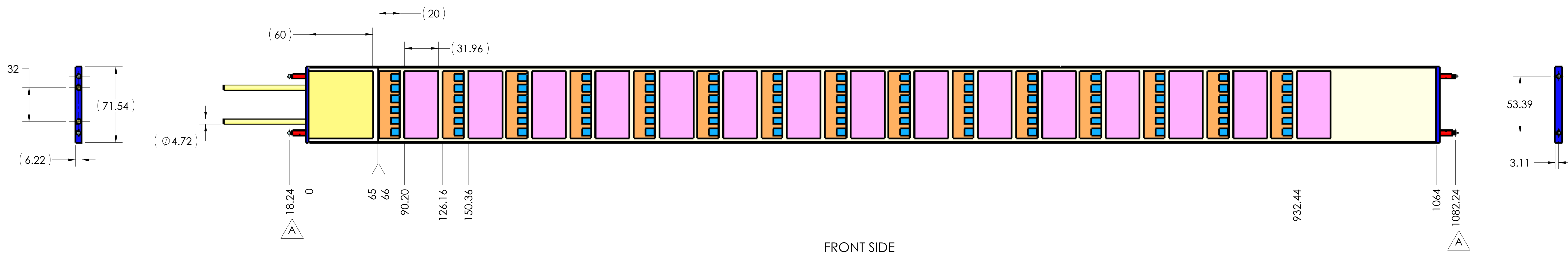
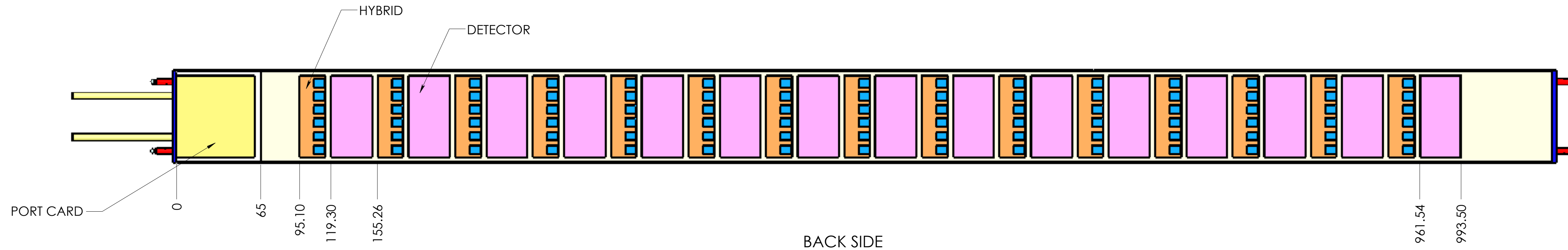
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DWG. NO. nnXnnn4	SIZE A	REV. 1	SH. 1
DESCRIPTION		MATERIAL	MAT. LOCATION



NOTES:
1. UNITS ARE IN METRIC.

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO. DATE ISSD		ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA - BERKELEY	
TOLERANCES	X.X ± 2.5 X.XX ± .25 X.XXX ± 0.13	FRAC. ± 1/64 ANGLES ± 30° FINISH -	ACCT. NO. NO. REQD.	DEL. TO	DATE REQD.	4.72 mm CIRCULAR TUBE STAVE ASSEMBLY	
DO NOT SCALE PRINT				PROJECT NUMBER ATL-IP-ED-XXXX		MICROFILMED: DWG. TYPE: ASSY	
THREADS ARE CLASS 2				PROJECT NAME US ATLAS SILICON SUBSYSTEM		SHOWN ON: -	
CHAMFER ENDS OF ALL SCREW THREADS 30°				DWG. W. K. MILLER		SCALE: 1:2	
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS				DATE 12/17/06		DO NOT SCALE PRINTS	
BREAK EDGES .016 MAX. ON MACHINED WORK				DATE 12/17/06		SHEET 1 OF 1	
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE				CHK BY: W. O. MILLER		PATENT CLEAR: -	
IN ACCORDANCE WITH ASME Y14.5m & B46.1				APR -		DESIGN ACCT. NO. P1AP-11	
REV		DWG		CHK		ZONE	
A		1-8-07		CHANGES REFLECT NEW TOOLING BALL		CATEGORY CIDE AP6250	
		DATE		CHANGES		DWG. NO. 27E313	
						SIZE A	

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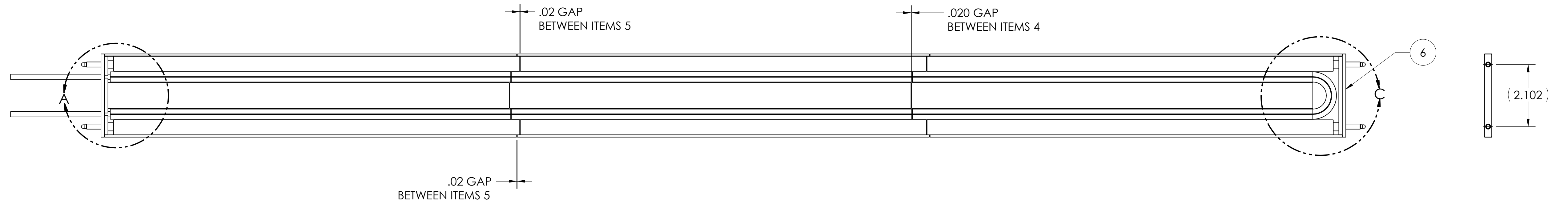
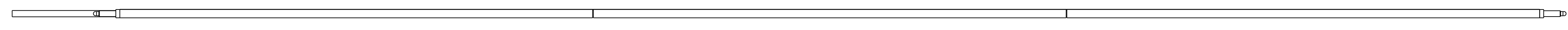
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DWG. NO. nnXnnn4	SIZE B	REV. 1	SHEET 1
DESCRIPTION		MATERIAL	MAT. LOCATION



NOTES:

- UNITS ARE IN INCHES.
- CLEAN AND DEGREASE ALL PARTS WITH ALCOHOL BEFORE BONDING.
- ABRADE BONDING SURFACE ON COMPOSITE FACING WITH SCOTCH BRITE.
- BOND CIRCULAR TUBE SUBASSEMBLY TO COMPOSITE FACINGS WITH CGL7018.
- BOND HONEYCOMB TO COMPOSITE FACINGS WITH HYSOL 9396. USE GLASS BEADS TO CONTROL BONDLINE THICKNESS.

ITEM NO	SHEET LOCATION	ZONE	QTY	PART DOCUMENT NUMBER	DESCRIPTION	REFERENCE DESIGNATION	MATERIAL NOTES
7	2	D6	1	27E318-1	END CLOSEOUT SUB-ASSEMBLY 1		
6	1	B1	1	27E318-3	END CLOSEOUT SUB-ASSEMBLY 2		
5	2	D4	6	27E321	COMPOSITE SIDE CLOSEOUT		
4	2	D6	3	27E323-1	HONEYCOMB CORE PART #1		
3	2	D6	6	27E323-3	HONEYCOMB CORE PART #2		
2	2	D6	1	27E315	CIRCULAR TUBE SUB-ASSEMBLY		
1	1	D6	2	27E322	COMPOSITE FACESHEET		

REV	DWG	CHK	ZONE	DATE	CHANGES
B				1-17-07	CHANGES REFLECT COOLING TUBE SUB-ASSEMBLY
A				1-9-07	CHANGES REFLECT NEW TOOLING BALL

UNLESS OTHERWISE SPECIFIED

TOLERANCES: X.X ± 0.1, X.XX ± 0.01, X.XXX ± 0.005

ANGLES: ± 30°

FINISH: -

THREADS ARE CLASS 2

CHAMFER ENDS OF ALL SCREW THREADS 30°

CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS

BREAK EDGES .016 MAX. ON MACHINED WORK

REMOVE BURRS, WELD SPLATTER & LOOSE SCALE

IN ACCORDANCE WITH ASME Y14.5m & B46.1

SHOP ORDERS

ACCT NO. NO. REQD. DATE ISSD. DATE RECD.

DEL TO. DATE RECD.

SURFACE TREATMENT

IDEN METHOD TAG

PROJECT NUMBER

PROJECT NAME

US ATLAS SILICON SUBSYSTEM

DWG. W. K. MILLER DATE 12/17/06

CHK BY W. O. MILLER DATE 12/17/06

APR - BY -

ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY

UNIVERSITY OF CALIFORNIA - BERKELEY

4.72 mm CIRCULAR TUBE STAVE SUB ASSEMBLY

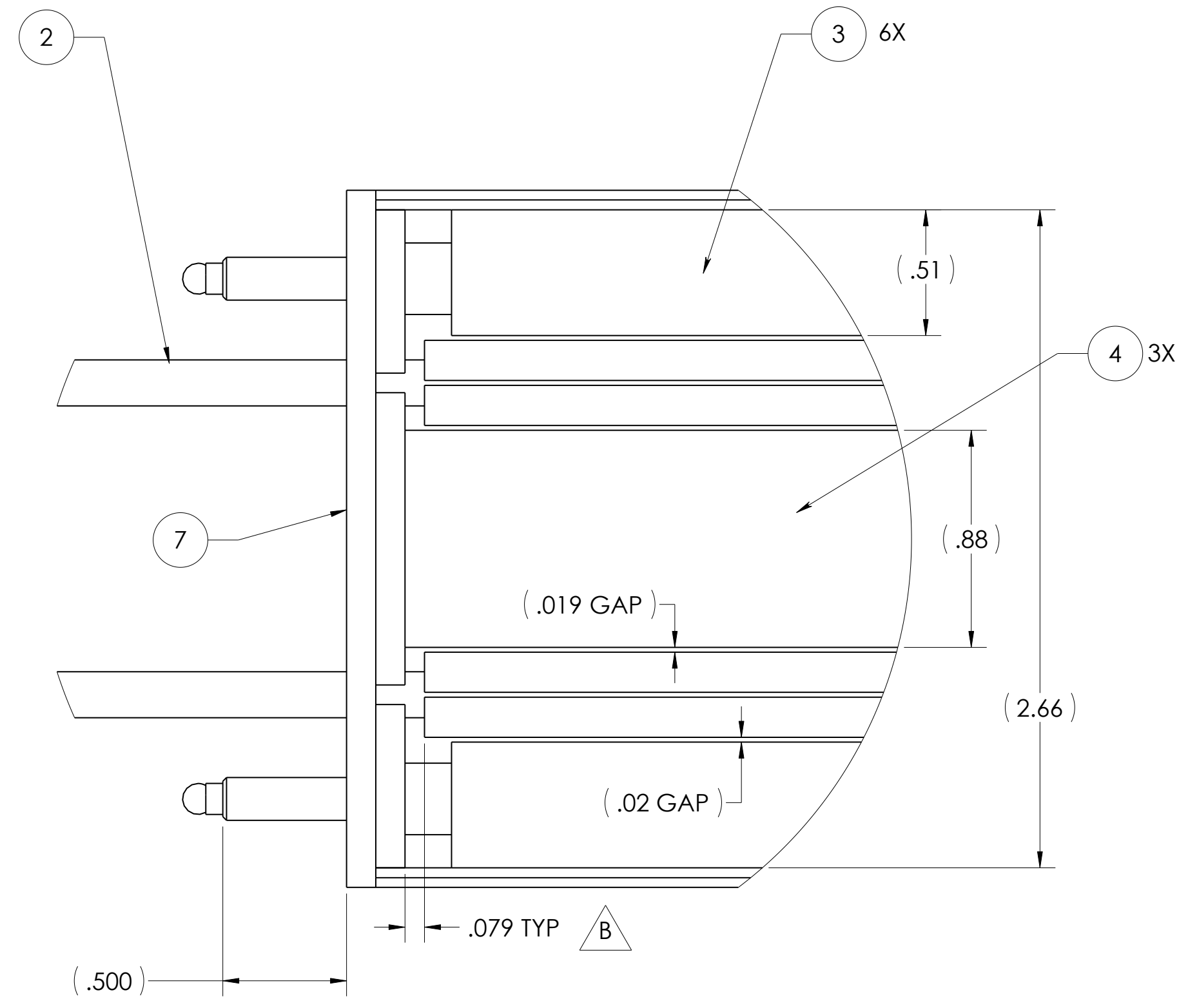
MICROFILMED: DWG. TYPE: ASSY, SHOWN ON: 27E313, SCALE: 1:2, SHEET 1 OF 2

PATENT CLEAR: DESIGN ACCT. NO. P1AP-11, CATEGORY CODE: AP6250, DWG. NO. 27E314, REV. B

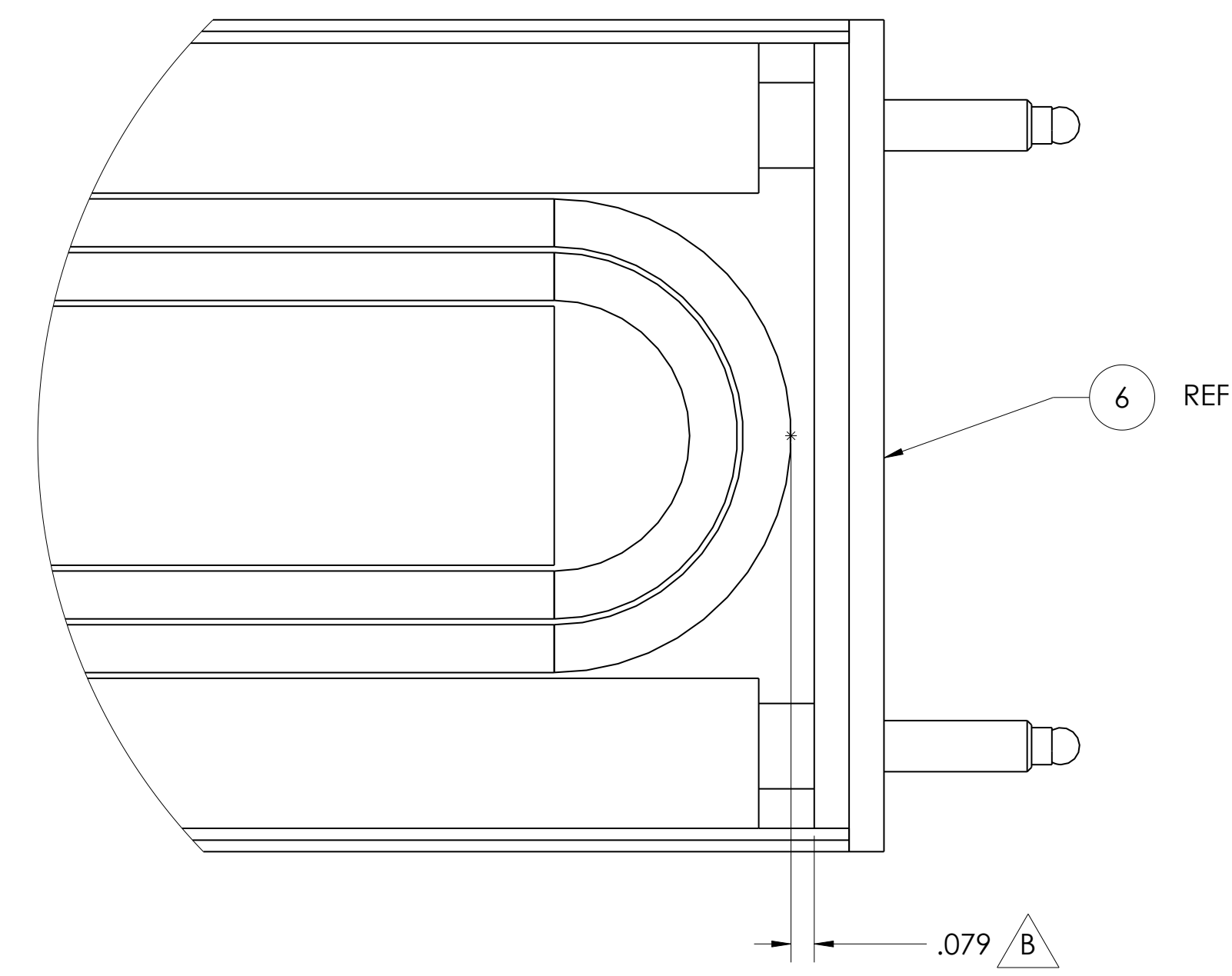
8 7 6 5 4 3 2 1

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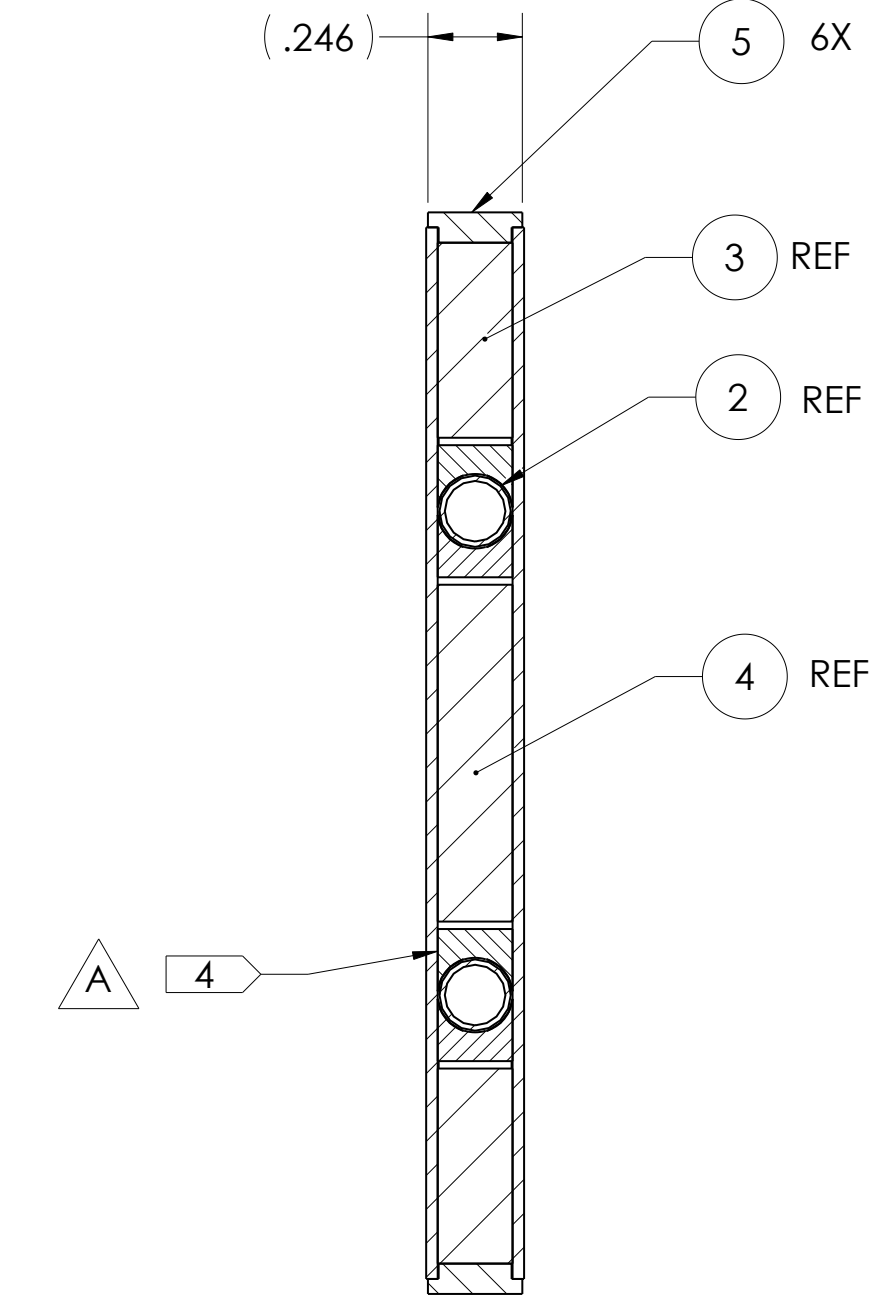
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DETAIL A
SCALE 2 : 1



DETAIL C
SCALE 2 : 1



SECTION B-B
SCALE 2 : 1

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
TOLERANCES	X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY
	X.XX ± 0.01	ANGLES ± 30°	DEL. TO	DATE REQD.		UNIVERSITY OF CALIFORNIA - BERKELEY
	X.XXX ± 0.005	FINISH -	SURFACE TREATMENT			
DO NOT SCALE PRINT			IDEN. METHOD	TAG	4.72 mm CIRCULAR TUBE STAVE SUB ASSEMBLY	
THREADS ARE CLASS 2			PROJECT NUMBER	ATL-IP-ED-XXXX	MICROFILMED:	DWG. TYPE
CHAMFER ENDS OF ALL SCREW THREADS 30°			PROJECT NAME	US ATLAS SILICON SUBSYSTEM	DATE	SHOWN ON
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS			DWG. BY	W. K. MILLER	DATE	27E313
BREAK EDGES .016 MAX. ON MACHINED WORK			CHK. BY	W. O. MILLER	DATE	12/17/06
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE			APR. BY		DATE	
IN ACCORDANCE WITH ASME Y14.5m & B46.1					PATENT CLEAR:	DESIGN ACCT. NO.
						AP6250
						AP6250
						27E314
						B
						1:2
						SHEET 2 OF 2
						SCALE: 1:2
						DO NOT SCALE PRINTS

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DWG. NO. nnXnnn4	SIZE -	REV. -	SH. 1	1
DESCRIPTION			MATERIAL	MAT. LOCATION

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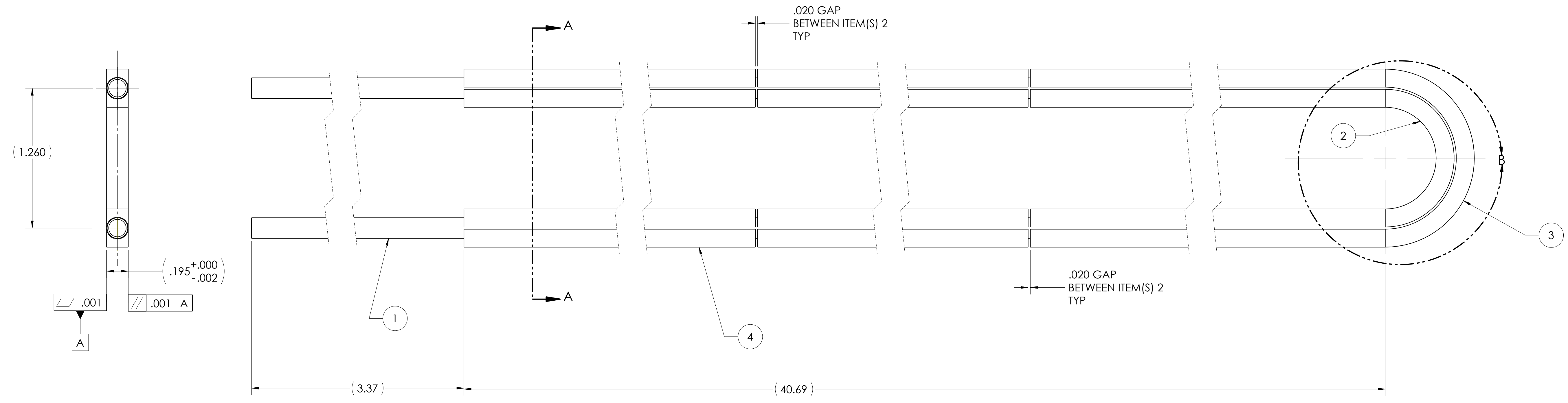
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FRONT SIDE (FACESHEET HIDDEN FOR CLARITY)

- NOTES:
- UNITS ARE IN INCHES.
 - CLEAN AND DEGREASE ALL PARTS WITH ALCOHOL BEFORE BONDING.
 - BOND POCO FOAM PARTS TO ALUMINUM TUBE WITH AI TECHNOLOGY EG7658. APPLY ADHESIVE TO POCO FOAM RADIUSED SURFACE, THEN CLAMP TWO HALVES ACROSS TUBE.

4	1	B5	12	27E316-5	POCO FOAM PART 3	
3	1	C1	1	27E316-3	POCO FOAM PART 2	
2	1	C2	1	27E316-1	POCO FOAM PART 1	
1	1	B6	1	27E317	CIRCULAR COOLING TUBE	

REV	DWG	CHK	ZONE	DATE	CHANGES	UNLESS OTHERWISE SPECIFIED	SHOP ORDERS	SER. NO.	NO. REQD.	DATE ISSD	DATE REQD.	ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA - BERKELEY
						TOLERANCES X.X ± 0.1 X.XX ± 0.01 X.XXX ± 0.005	FRAC. ± 1/64 ANGLES ± 30° FINISH -	ACCT. NO.	DEL. TO	SURFACE TREATMENT	IDENT. METHOD	4.72 mm CIRCULAR TUBE SUB-ASSEMBLY
						DO NOT SCALE PRINT	PROJECT NUMBER	PROJECT NAME	DWG. NO.	DATE	PATENT CLEAR.	SCALE: 2:1
						THREADS ARE CLASS 2	PROJECT NAME	PROJECT NAME	27E314	1-17-07	ASSY	SHEET 1 OF 2
						CHAMFER ENDS OF ALL SCREW THREADS 30°	PROJECT NAME	PROJECT NAME	P1AP-11	1-17-07	AP6250	27E315
						CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS	PROJECT NAME	PROJECT NAME				
						BREAK EDGES .016 MAX. ON MACHINED WORK	PROJECT NAME	PROJECT NAME				
						REMOVE BURRS, WELD SPLATTER & LOOSE SCALE	PROJECT NAME	PROJECT NAME				
						IN ACCORDANCE WITH ASME Y14.5m & B46.1	PROJECT NAME	PROJECT NAME				

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DWG. NO. nnXnnn4 SIZE REV. SH. 2

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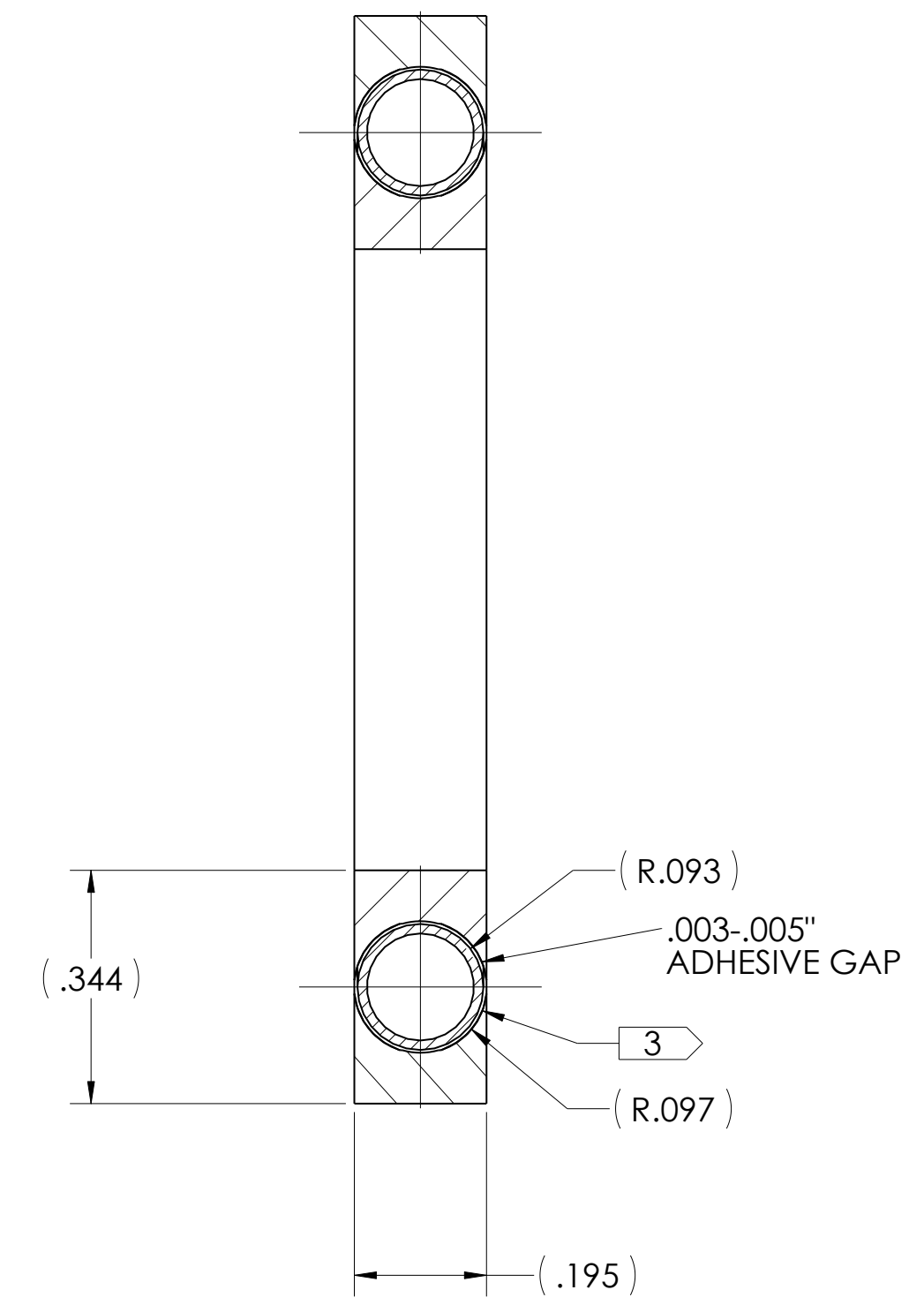
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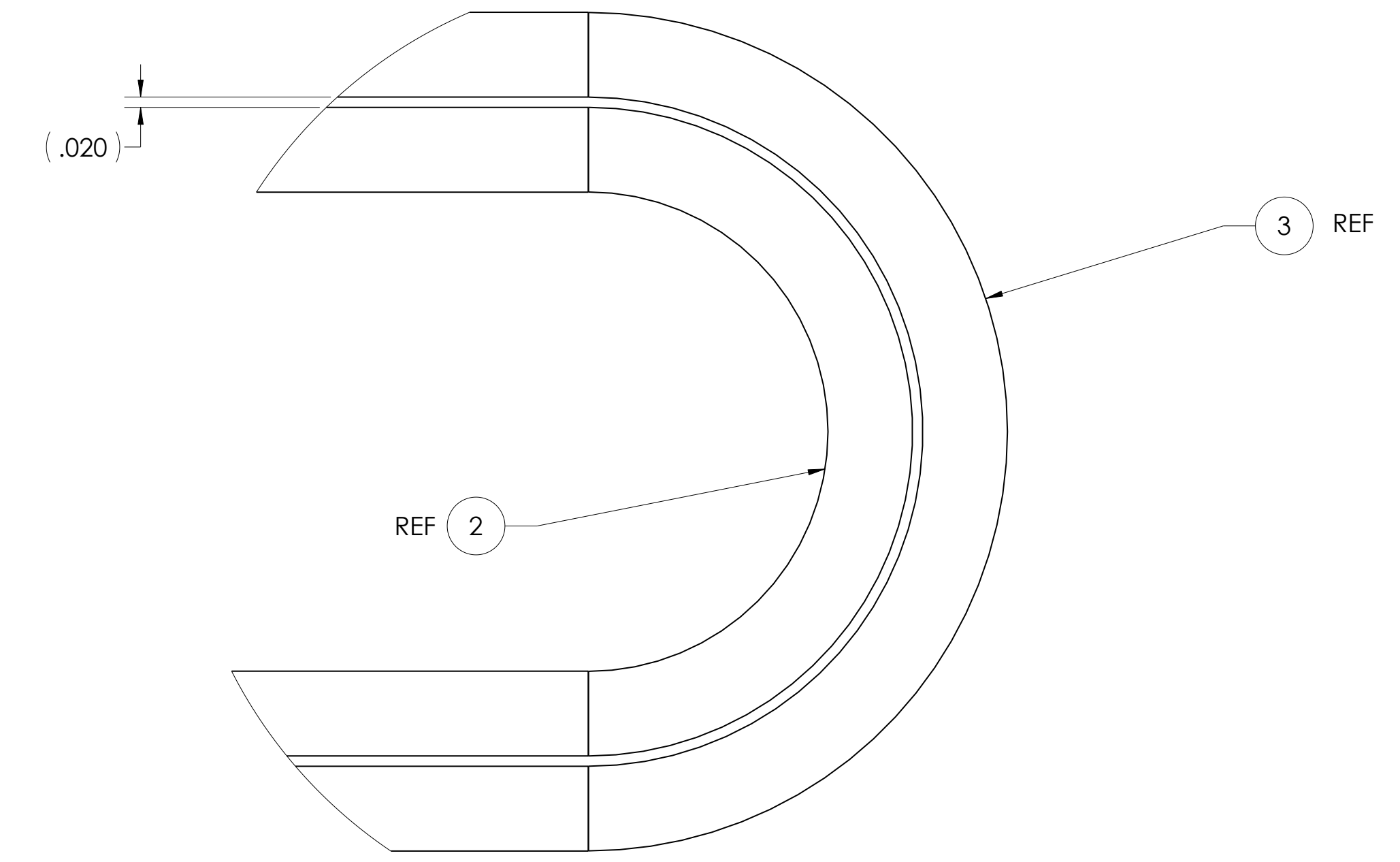
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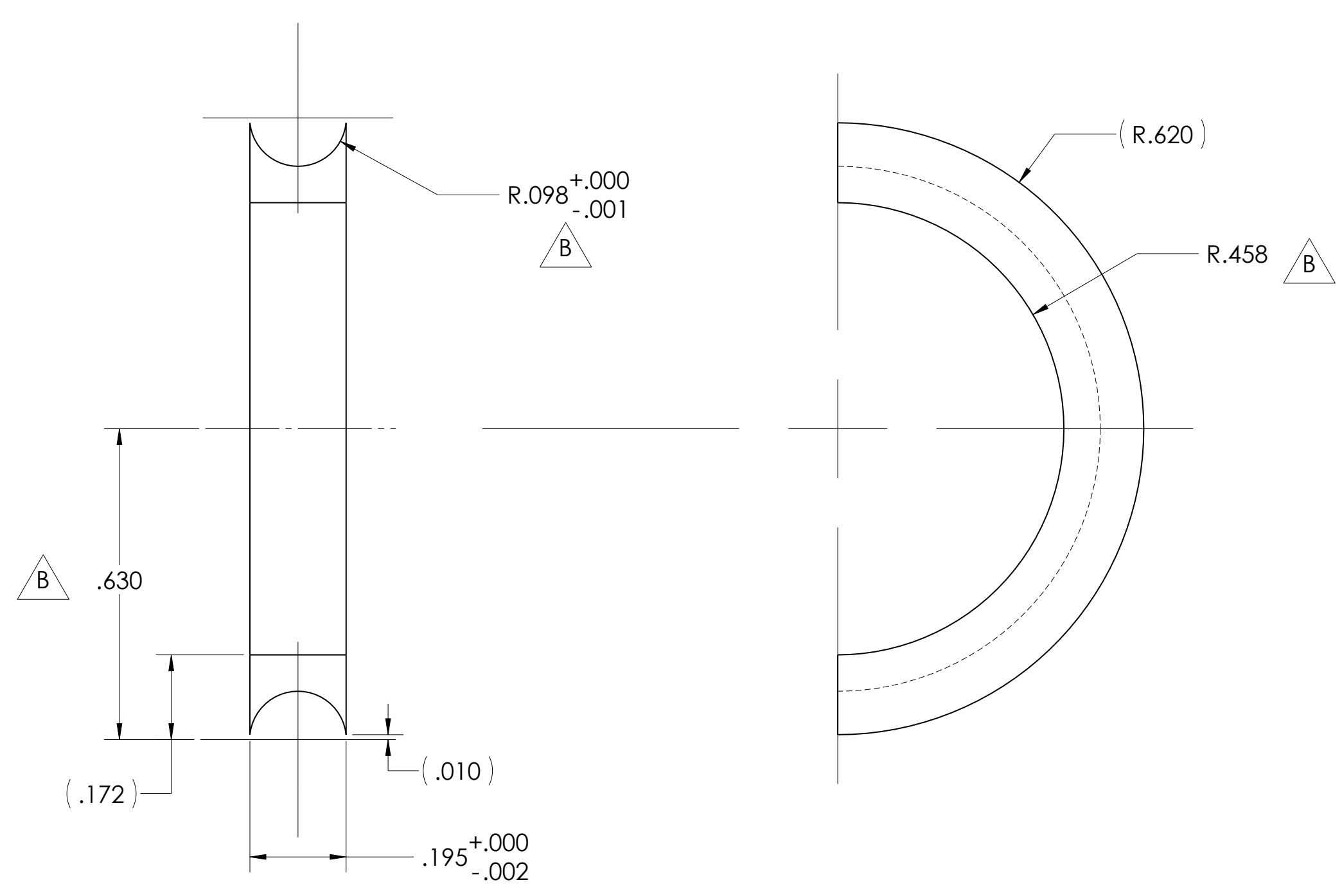
SECTION A-A
SCALE 4 : 1



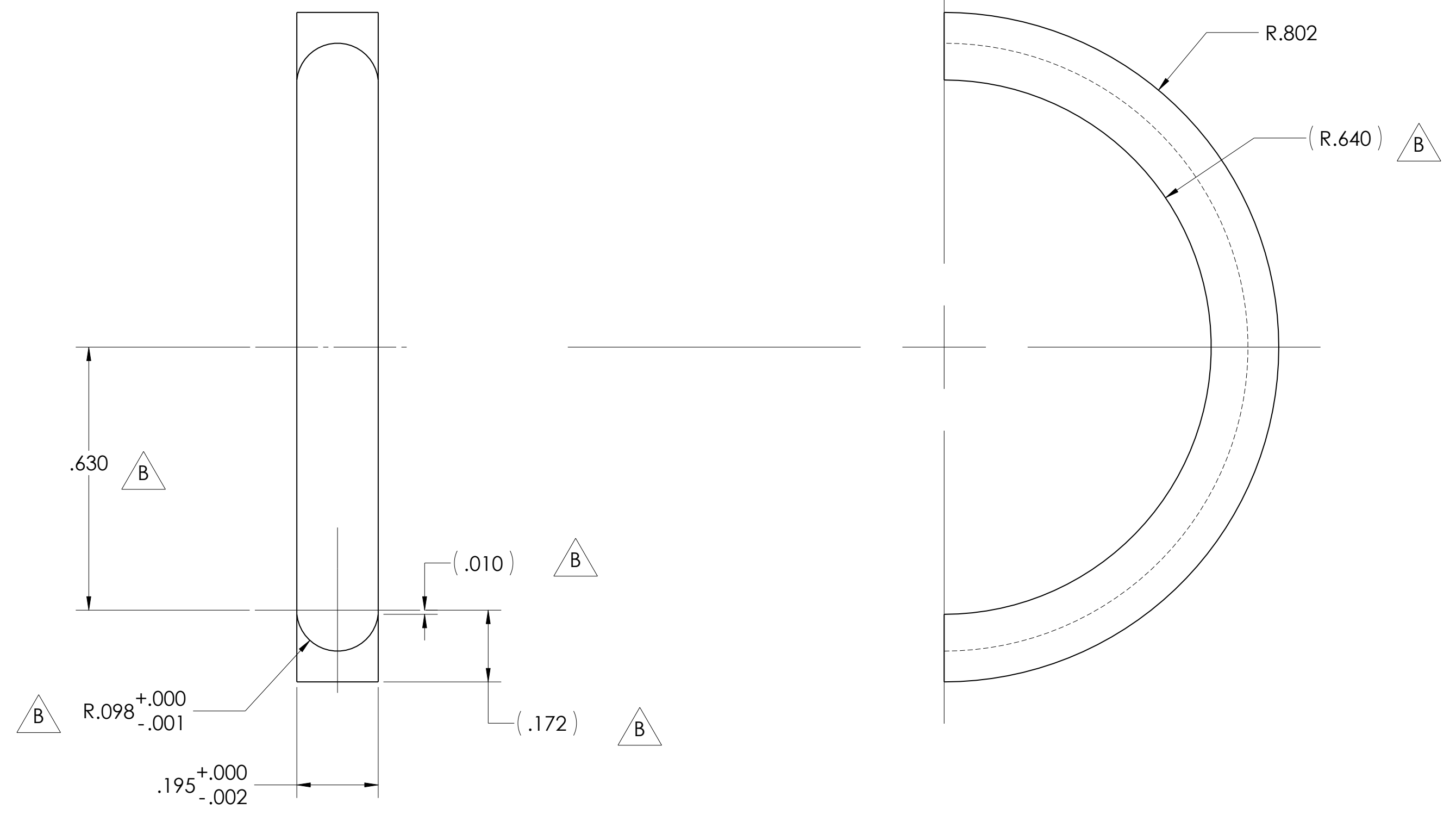
DETAIL B
SCALE 4 : 1

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY	
X.XX ± 0.01	ANGLES ± 30°	DEL. TO	DATE REQD.	DATE REQD.	UNIVERSITY OF CALIFORNIA - BERKELEY	
X.XXX ± 0.005	FINISH -	SURFACE TREATMENT		4.72 mm CIRCULAR TUBE SUB-ASSEMBLY		
DO NOT SCALE PRINT		IDEN. METHOD	TAG			
THREADS ARE CLASS 2		PROJECT NUMBER	ATL-IP-ED-XXXX			
CHAMFER ENDS OF ALL SCREW THREADS 30°		PROJECT NAME	US ATLAS SILICON SUBSYSTEM	MICROFILMED:	DWG. TYPE	SHOWN ON
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS		DWG. BY	W. K. MILLER	DATE	1-17-07	SCALE: 1:2
BREAK EDGES .016 MAX. ON MACHINED WORK		CHK. BY	W. O. MILLER	DATE	1-17-07	DO NOT SCALE PRINTS
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		APPR. BY		PATENT CLEAR:	DESIGN ACCT. NO.	CATEGORY CIDE
IN ACCORDANCE WITH ASME Y14.5m & B46.1		DATE		P1AP-11	27E314	27E315
					AP6250	SHEET 2 OF 2
						DWG. NO. 27E315
						SIZE -
						REV. -

DWG. NO. nnXnnn4	SIZE B	REV. 1	SHEET 1
DESCRIPTION		MATERIAL	MAT. LOCATION



-1 POCO FOAM PART #1
QTY: 1



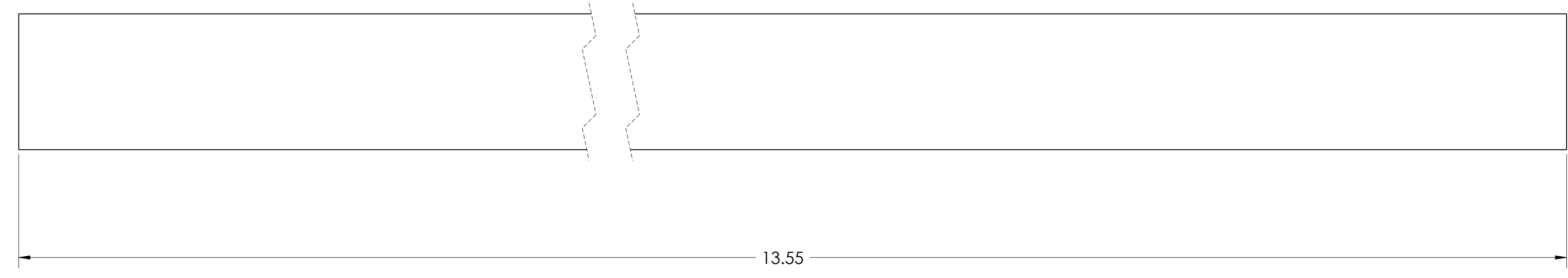
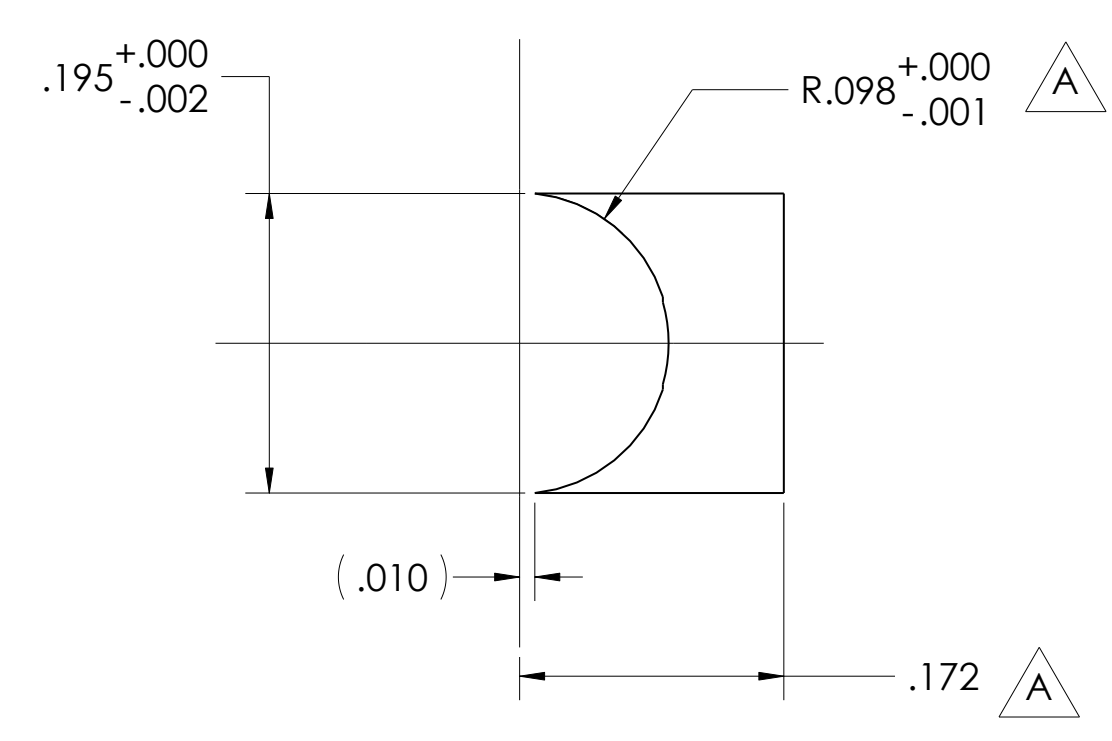
-3 POCO FOAM PART #2
QTY: 1

NOTES:
1. UNITS ARE IN INCHES.

UNLESS OTHERWISE SPECIFIED				SHOP ORDERS		SER. NO.		ERNEST ORLANDO LAWRENCE	
TOLERANCES		X.X ± 0.1		FRAC. ± 1/64		ACCT. NO.		BERKELEY NATIONAL LABORATORY	
		X.XX ± 0.01		ANGLES ± 30°		DEL. TO		UNIVERSITY OF CALIFORNIA - BERKELEY	
		X.XXX ± 0.005		FINISH -		DATE ISSD		POCO FOAM MATERIAL 4.72 mm CIRCULAR COOLING TUBE STAVE ASSEMBLY	
		DO NOT SCALE PRINT		SURFACE TREATMENT		DATE RECD			
THREADS ARE CLASS 2				PROJECT NAME		IDEN. METHOD		MICROFILMED:	
CHAMFER ENDS OF ALL SCREW THREADS 30°				PROJECT NO.		TAG		DWG. TYPE	
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS				PROJECT TAG		PROJECT NO.		PART	
BREAK EDGES .016 MAX. ON MACHINED WORK				PROJECT NAME		PROJECT NO.		SHOWN ON	
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE				PROJECT NAME		PROJECT NO.		27E3145	
IN ACCORDANCE WITH ASME Y14.5m & B46.1				PROJECT NAME		PROJECT NO.		SCALE: 4:1	
				PROJECT NAME		PROJECT NO.		DO NOT SCALE PRINTS	
				PROJECT NAME		PROJECT NO.		SHEET 1 OF 2	
				PROJECT NAME		PROJECT NO.		PATENT CLEAR:	
				PROJECT NAME		PROJECT NO.		DESIGN ACCT. NO.	
				PROJECT NAME		PROJECT NO.		CATEGORY CODE	
				PROJECT NAME		PROJECT NO.		DWG. NO.	
				PROJECT NAME		PROJECT NO.		27E316	
				PROJECT NAME		PROJECT NO.		SIZE	
				PROJECT NAME		PROJECT NO.		REV.	
				PROJECT NAME		PROJECT NO.		B	

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③ POCO FOAM PART #3
QTY: 12

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY	
X.XX ± 0.01	ANGLES ± 30°	DEL. TO		DATE REQD.	UNIVERSITY OF CALIFORNIA - BERKELEY	
X.XXX ± 0.005	FINISH -	SURFACE TREATMENT			POCO FOAM MATERIAL	
DO NOT SCALE PRINT		IDEN. METHOD	TAG		4.72 mm CIRCULAR COOLING TUBE STAVE ASSEMBLY	
THREADS ARE CLASS 2		PROJECT NUMBER	ATL-IP-ED-XXXX		MICROFILMED:	DWG. TYPE
CHAMFER ENDS OF ALL SCREW THREADS 30°		PROJECT NAME	US ATLAS SILICON SUBSYSTEM			PART
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS		DWG. BY	W. K. MILLER	DATE 12/17/06		27E315
BREAK EDGES .016 MAX. ON MACHINED WORK		CHK. BY	W. O. MILLER	DATE 12/17/06	PATENT CLEAR:	DESIGN ACCT. NO.
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		APR. BY		DATE -		P1AP-11
IN ACCORDANCE WITH ASME Y14.5m & B46.1						AP6250
					SCALE: 8:1	DO NOT SCALE PRINTS
					SHEET 2 OF 2	
					DWG. NO. 27E316	REV. B

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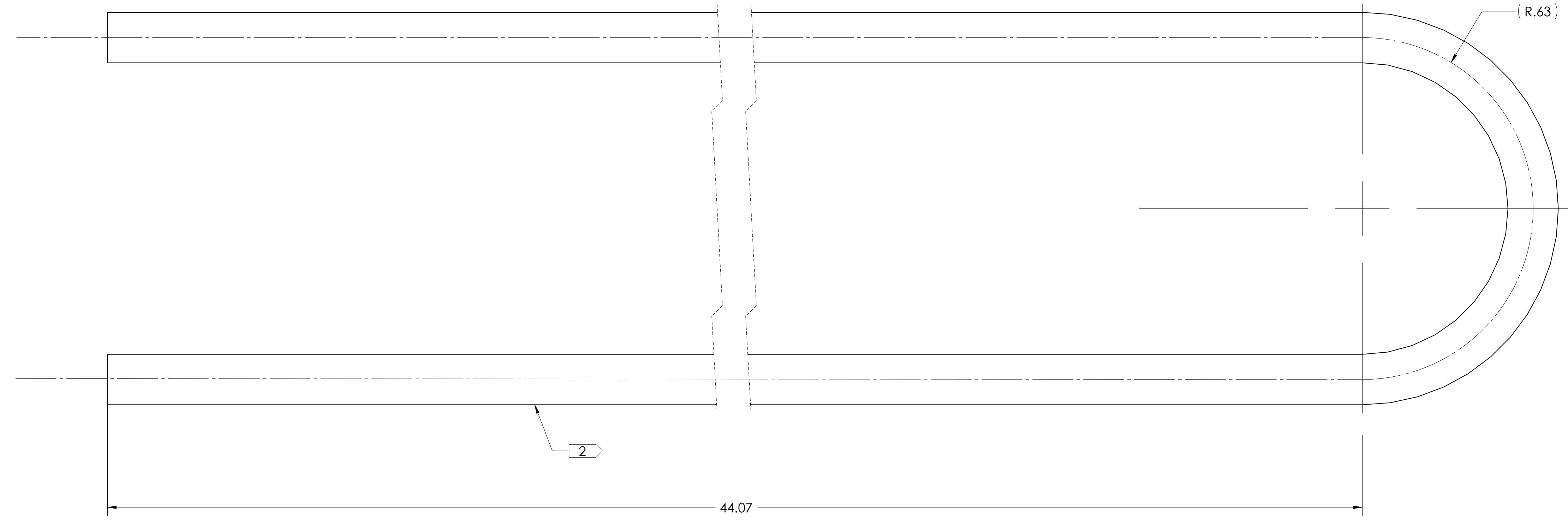
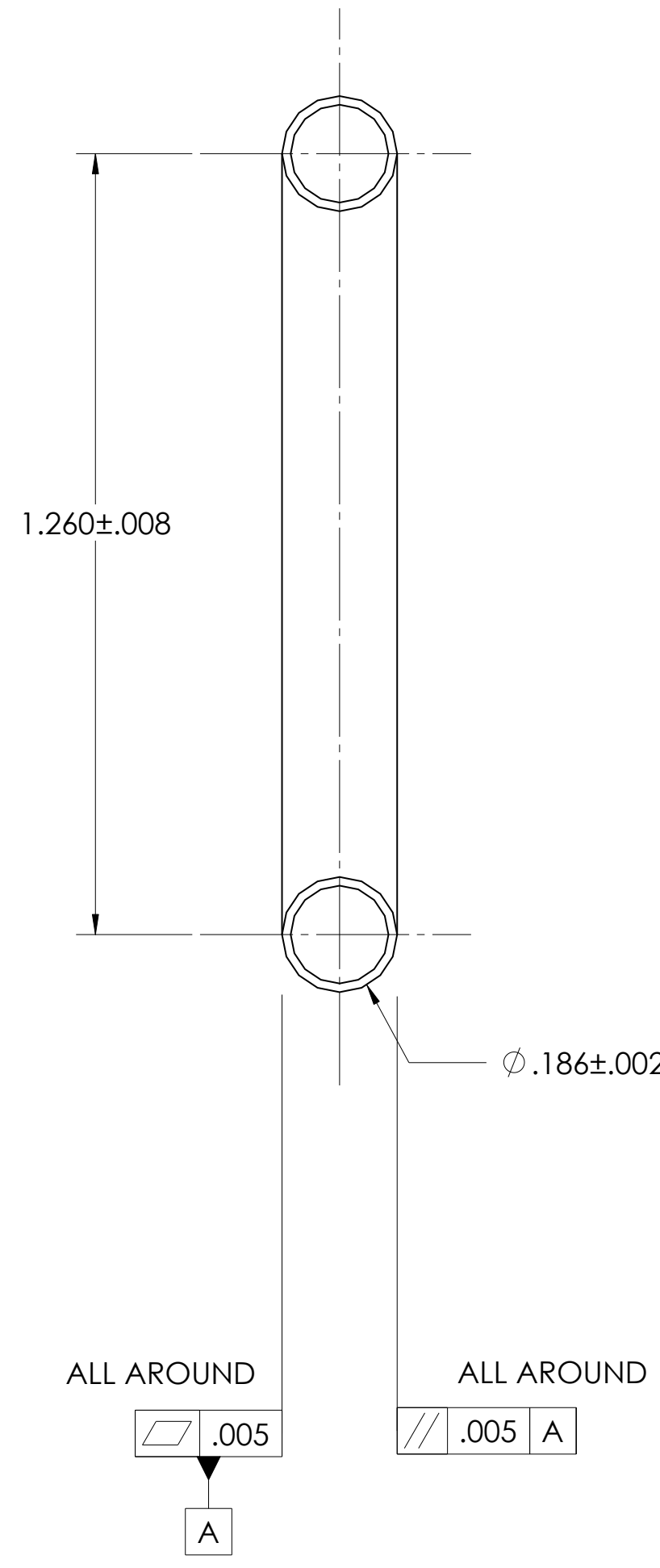
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NOTES:
 1. EXTRUDED ALUMINUM TUBING (.012 WALL THICKNESS).
 2 FINISH: GRAY ANODIZE ALL SURFACES

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE		
TOLERANCES	X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY	
	X.XX ± 0.01	ANGLES ± 30°	DEL. TO	DATE REQD.		UNIVERSITY OF CALIFORNIA - BERKELEY	
	X.XXX ± 0.005	FINISH: NOTE 2	SURFACE TREATMENT			4.72 mm CIRCULAR COOLING TUBE	
DO NOT SCALE PRINT				IDEN. METHOD TAG			
THREADS ARE CLASS 2		PROJECT NAME	PROJECT NO.	PROJECT TAG			
CHAMFER ENDS OF ALL SCREW THREADS 30°		NAME	DATE	DATE			
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS		DWG. BY	DATE	DATE			
BREAK EDGES .016 MAX. ON MACHINED WORK		CHK. BY	DATE	DATE			
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		APP. BY	DATE	DATE			
IN ACCORDANCE WITH ASME Y14.5m & B46.1							
REV	DWG	CHK	ZONE	DATE	CHANGES		

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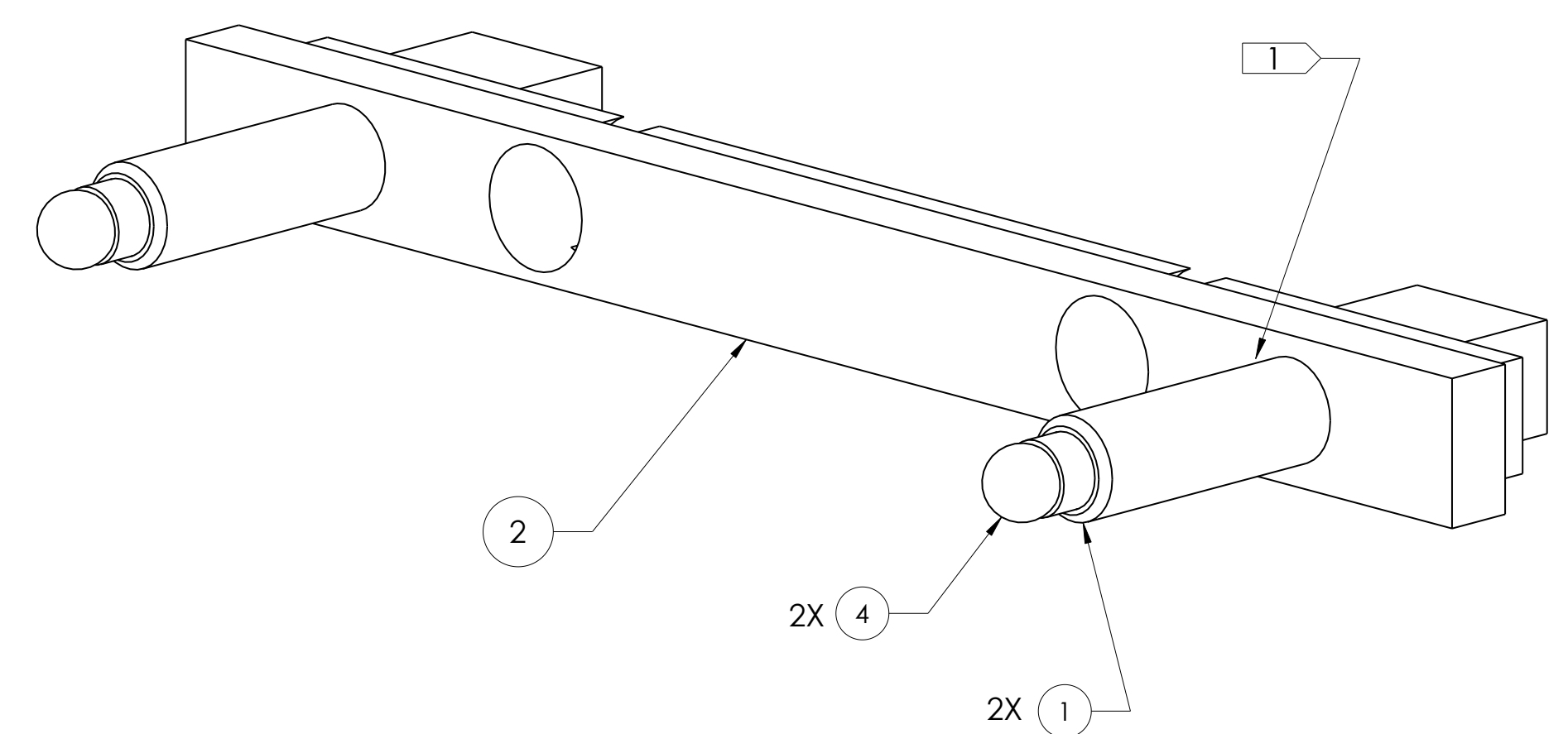
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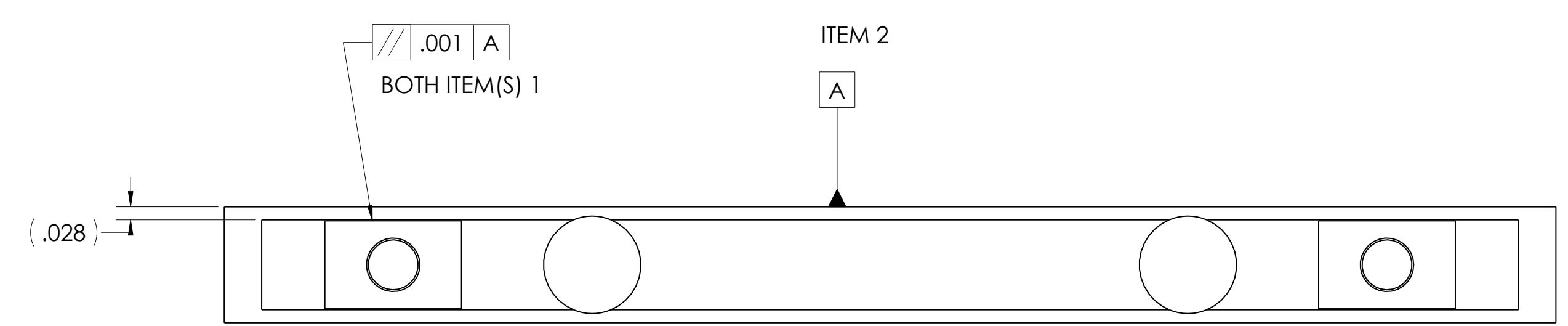
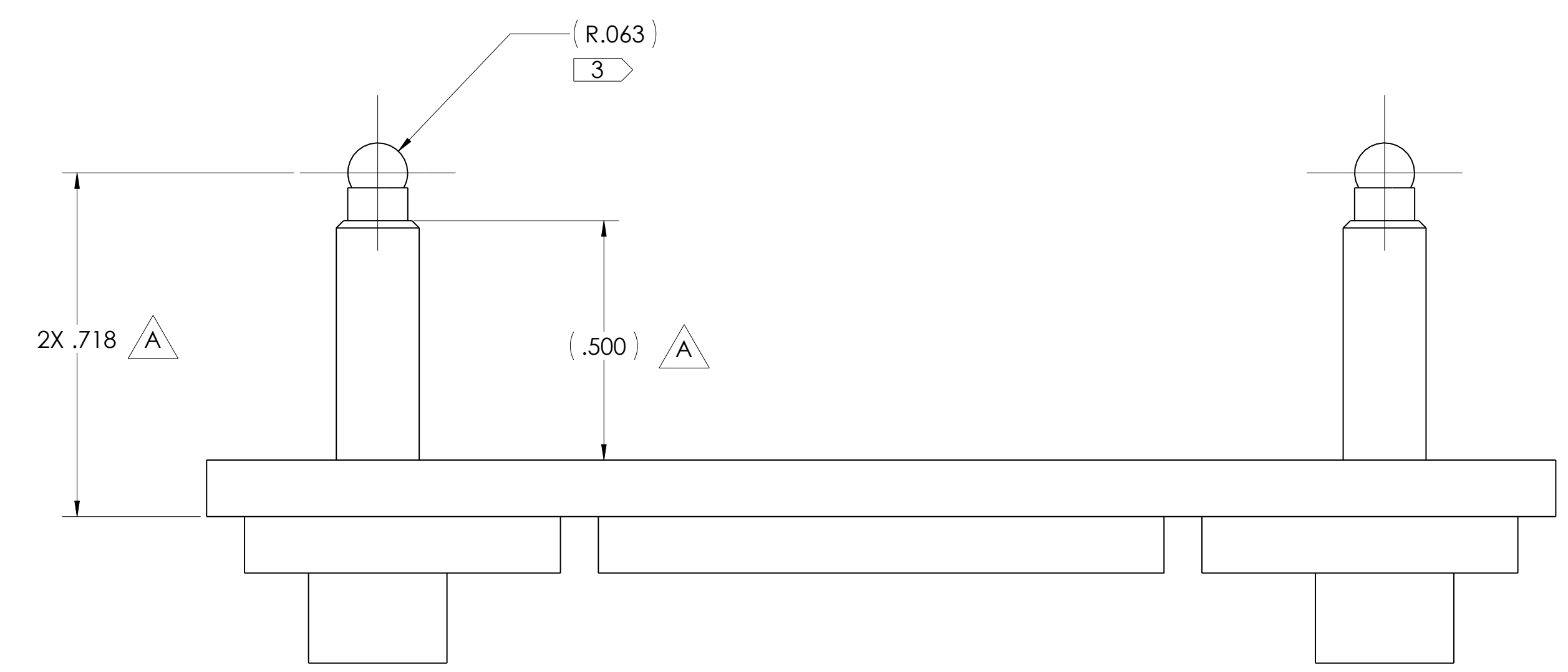
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DWG. NO.	SIZE	REV.	SH.	
nnXnnn4	A	1		
DESCRIPTION		MATERIAL	MAT. LOCATION	



(-1) STAVE END CLOSEOUT #1
QTY: 1



REAR VIEW

- NOTES:
- 1 PRESS FIT ITEM(S) 1 INTO ITEM 2. INTERFERENCE SHOULD BE 0.0000/0.0004".
 - 2. DIMENSIONS ARE IN INCHES.
 - 3 TOOLING BALL PART NO. 448-2 , INDUSTRIAL TECTONICS INC.

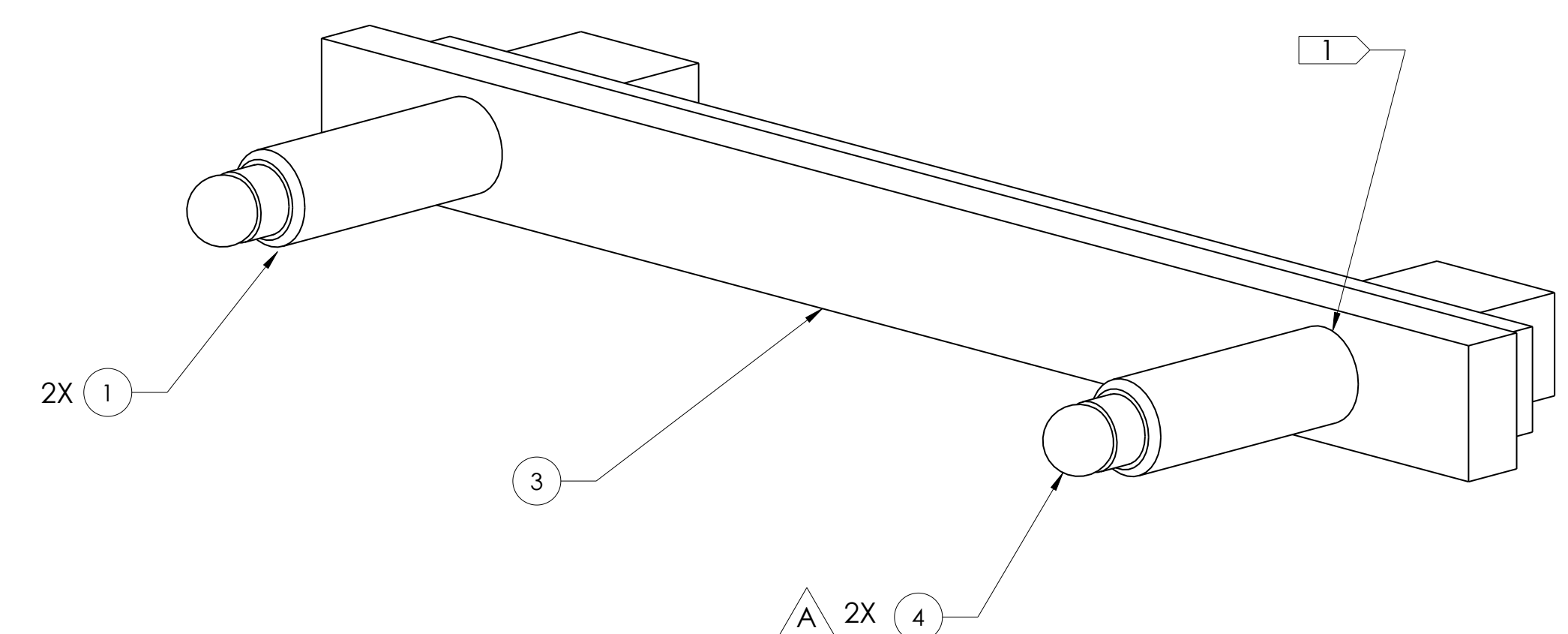
4	MULT	C7		2	2	448-2	TOOLING BALL (SEE NOTE 3)	
3	2	B5		1		27E319-3	END CLOSEOUT #2	
2	1	C5			1	27E319-1	END CLOSEOUT #1	
1	MULT	MULT		2	2	27E320	CLOSEOUT PIN	
ITEM NO	SHEET LOCATION	ZONE	A3	A2	A1	PART DOCUMENT NUMBER	DESCRIPTION	REFERENCE DESIGNATION MATERIAL NOTES

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
TOLERANCES	X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY
	X.XX ± 0.01	ANGLES ± 30°	DEL. TO	DATE REQD.		UNIVERSITY OF CALIFORNIA - BERKELEY
	X.XXX ± 0.005	FINISH -	SURFACE TREATMENT			
DO NOT SCALE PRINT			ITEM METHOD TAG			END CLOSEOUT SUB ASSEMBLY
THREADS ARE CLASS 2			PROJECT NUMBER			4.72 mm CIRCULAR TUBE STAVE ASSEMBLY
CHAMFER ENDS OF ALL SCREW THREADS 30°			PROJECT NAME			
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS			DWG. NO.	DATE		
BREAK EDGES .016 MAX. ON MACHINED WORK			W. K. MILLER	12/17/2006		
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE			CHK BY	DATE		
IN ACCORDANCE WITH ASME Y14.5m & B46.1			W. O. MILLER	12/17/2006		
			APR -	DATE -		

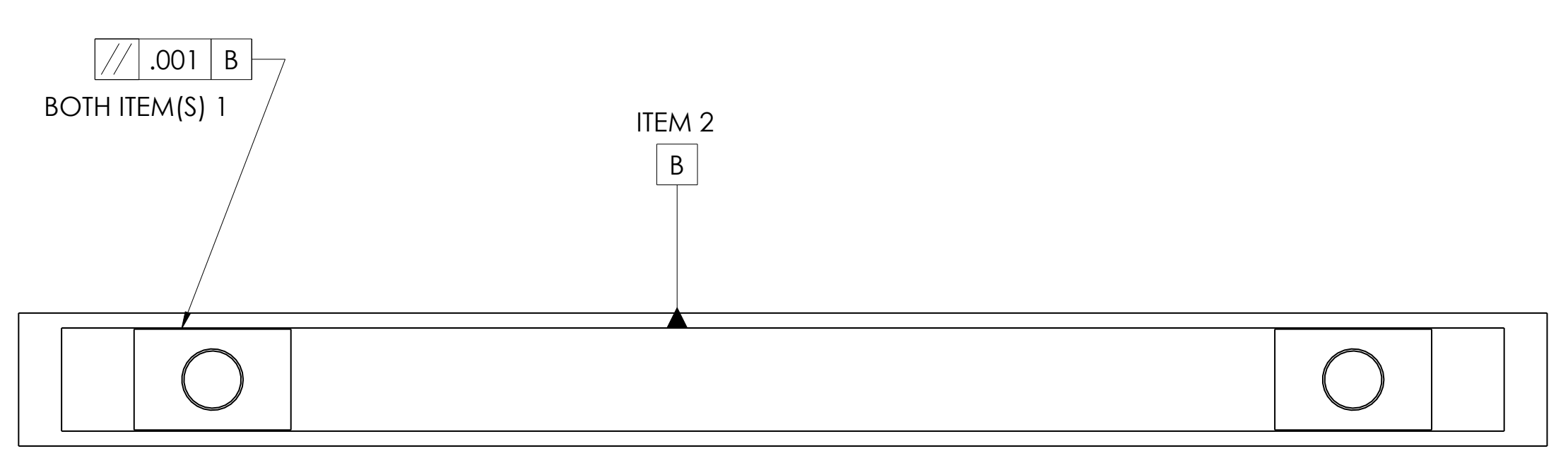
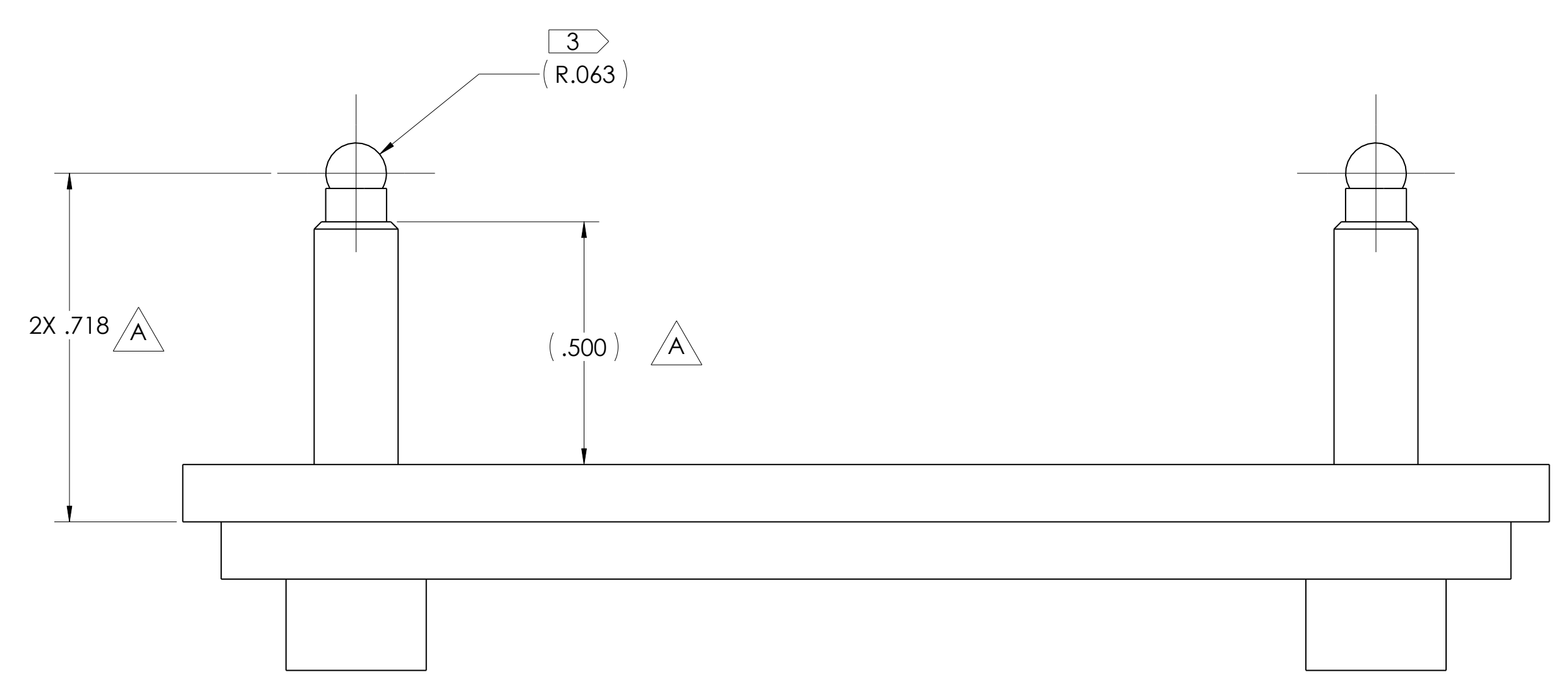
REV	DWG	CHK	ZONE	DATE	CHANGES
A				1-8-07	CHANGES REFLECT NEW TOOLING BALL

MICROFILMED:	DWG. TYPE	SHOWN ON	SCALE:	DO NOT SCALE PRINTS
	ASSY	27E314	4:1	
PATENT CLEAR:	DESIGN ACCT. NO.	CATEGORY CIDE	DWG. NO.	SIZE
	P1AP-11	AP6250	27E318	A

SHEET 1 OF 2



-3 STAVE END CLOSEOUT #2
QTY: 1



REAR VIEW

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY	
X.XX ± 0.01	ANGLES ± 30°	DEL. TO	DATE REQD.	DATE REQD.	UNIVERSITY OF CALIFORNIA - BERKELEY	
X.XXX ± 0.005	FINISH -	SURFACE TREATMENT		END CLOSEOUT SUB ASSEMBLY 4.72 mm CIRCULAR TUBE STAVE ASSEMBLY		
DO NOT SCALE PRINT		IDEN. METHOD TAG				
THREADS ARE CLASS 2		PROJECT NAME		SCALE: 4:1		
CHAMFER ENDS OF ALL SCREW THREADS 30°		PROJECT NUMBER		DO NOT SCALE PRINTS		
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS		PROJECT NAME		MICROFILMED:		
BREAK EDGES .016 MAX. ON MACHINED WORK		DWG. BY		DWG. TYPE		
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		CHK. BY		SHOWN ON		
IN ACCORDANCE WITH ASME Y14.5m & B46.1		APR. BY		SCALE: 4:1		
		DATE		SHEET 2 OF 2		
		DATE		DWG. NO. 27E318		
		DATE		REV. A		

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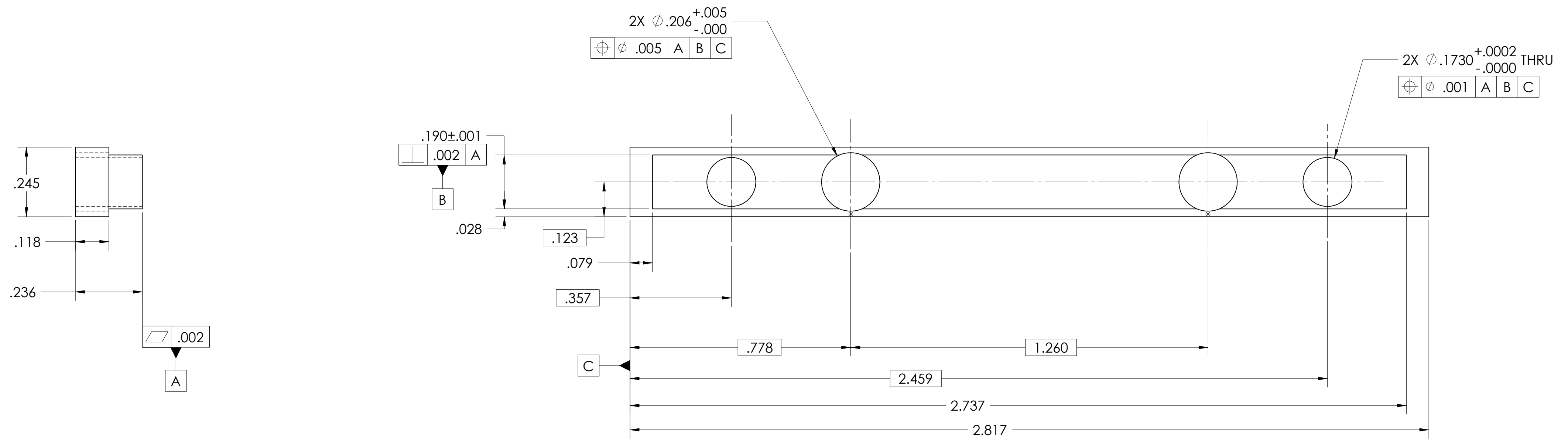
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DWG. NO. nnXnnn4	SIZE -	REV. -	SH. 1
DESCRIPTION		MATERIAL	MAT. LOCATION



-1 STAVE END CLOSEOUT PART #1
 QTY : 1
 MATERIAL: 6061-T6 ALUMINUM

NOTES:
 1 FINISH: ANODIZE ALUMINUM (.0005 THK)

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	NO.	DATE ISSD	BERKELEY NATIONAL LABORATORY
X.XX ± 0.01	ANGLES ± 30°	DEL. TO	DATE REQD.	DATE REQD.	DATE REQD.	UNIVERSITY OF CALIFORNIA - BERKELEY
X.XXX ± 0.005	FINISH -	SURFACE TREATMENT		END CLOSEOUT		
DO NOT SCALE PRINT		IDENT. METHOD TAG		4.72mm CIRCULAR TUBE STAVE ASSEMBLY		
THREADS ARE CLASS 2		PROJECT NUMBER		MICROFILMED:		
CHAMFER ENDS OF ALL SCREW THREADS 30°		PROJECT NAME		DWG. TYPE		
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS		DWG. W. K. MILLER		PART		
BREAK EDGES .016 MAX. ON MACHINED WORK		DATE 12/17/06		SHOWN ON		
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		CHK W. O. MILLER		27E318		
IN ACCORDANCE WITH ASME Y14.5m & B46.1		DATE -		SCALE: 4:1		
REV DWG CHK ZONE DATE		CHANGES		PATENT CLEAR:		DO NOT SCALE PRINTS
				DESIGN ACCT. NO.		
				CATEGORY CIDE		
				DWG. NO.		
				27E319		
				SIZE		
				REV.		
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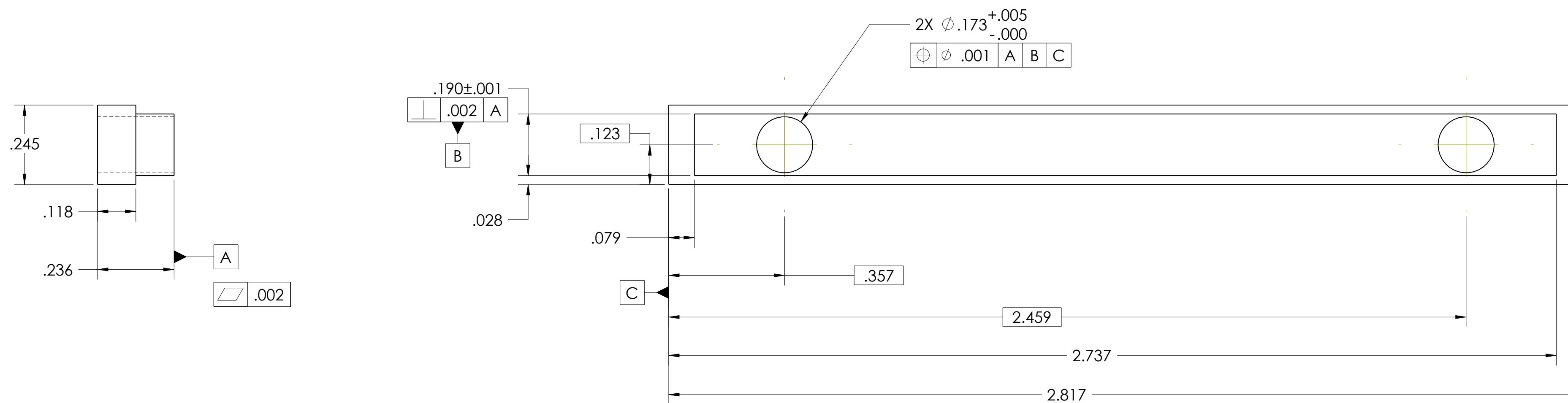
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DWG. NO. nnXnnn4 SIZE - REV. 2 SH. 2

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-3 STAVE END CLOSEOUT PART #2
 QTY : 1
 MATERIAL: 6061-T6 ALUMINUM

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY	
X.XX ± 0.01	ANGLES ± 30°	DEL. TO	DATE REQD.	DATE REQD.	UNIVERSITY OF CALIFORNIA - BERKELEY	
X.XXX ± 0.005	FINISH -	SURFACE TREATMENT		END CLOSEOUT 4.72mm CIRCULAR TUBE STAVE ASSEMBLY		
DO NOT SCALE PRINT		IDEN. METHOD	TAG			
THREADS ARE CLASS 2		PROJECT NUMBER	ATL-IP-ED-XXXX	MICROFILMED: DWG. TYPE PART SHOWN ON 27E318 SCALE: 4:1 DO NOT SCALE PRINTS		
CHAMFER ENDS OF ALL SCREW THREADS 30°		PROJECT NAME	US ATLAS SILICON SUBSYSTEM			
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS		DWG. BY	W. K. MILLER	DATE	12/17/06	DESIGN ACCT. NO. P1AP-11
BREAK EDGES .016 MAX. ON MACHINED WORK		CHK. BY	W. O. MILLER	DATE	12/17/06	
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		APR. BY		DATE		CATEGORY CIDE AP6250
IN ACCORDANCE WITH ASME Y14.5m & B46.1						DWG. NO. 27E319
						SIZE -

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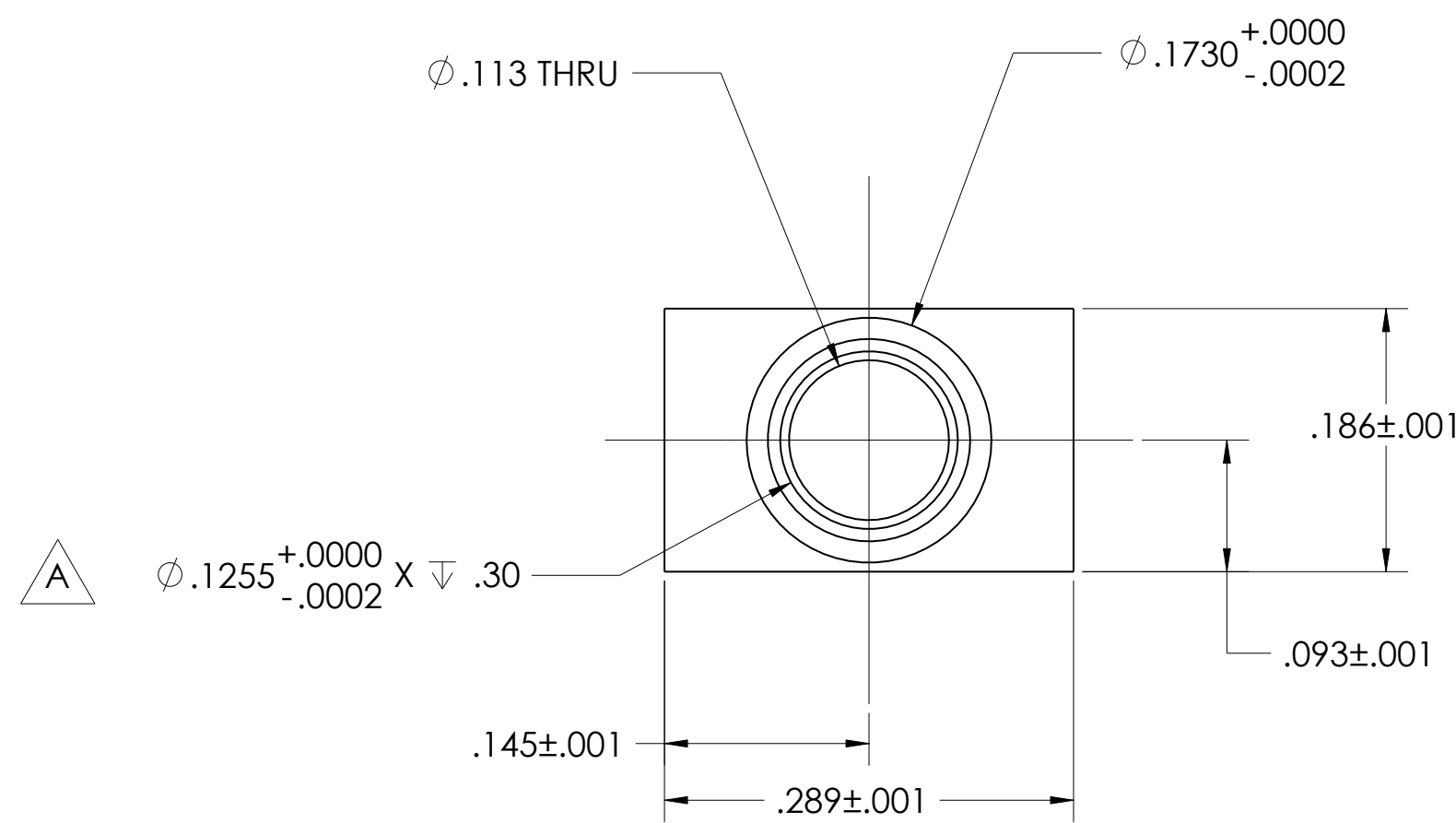
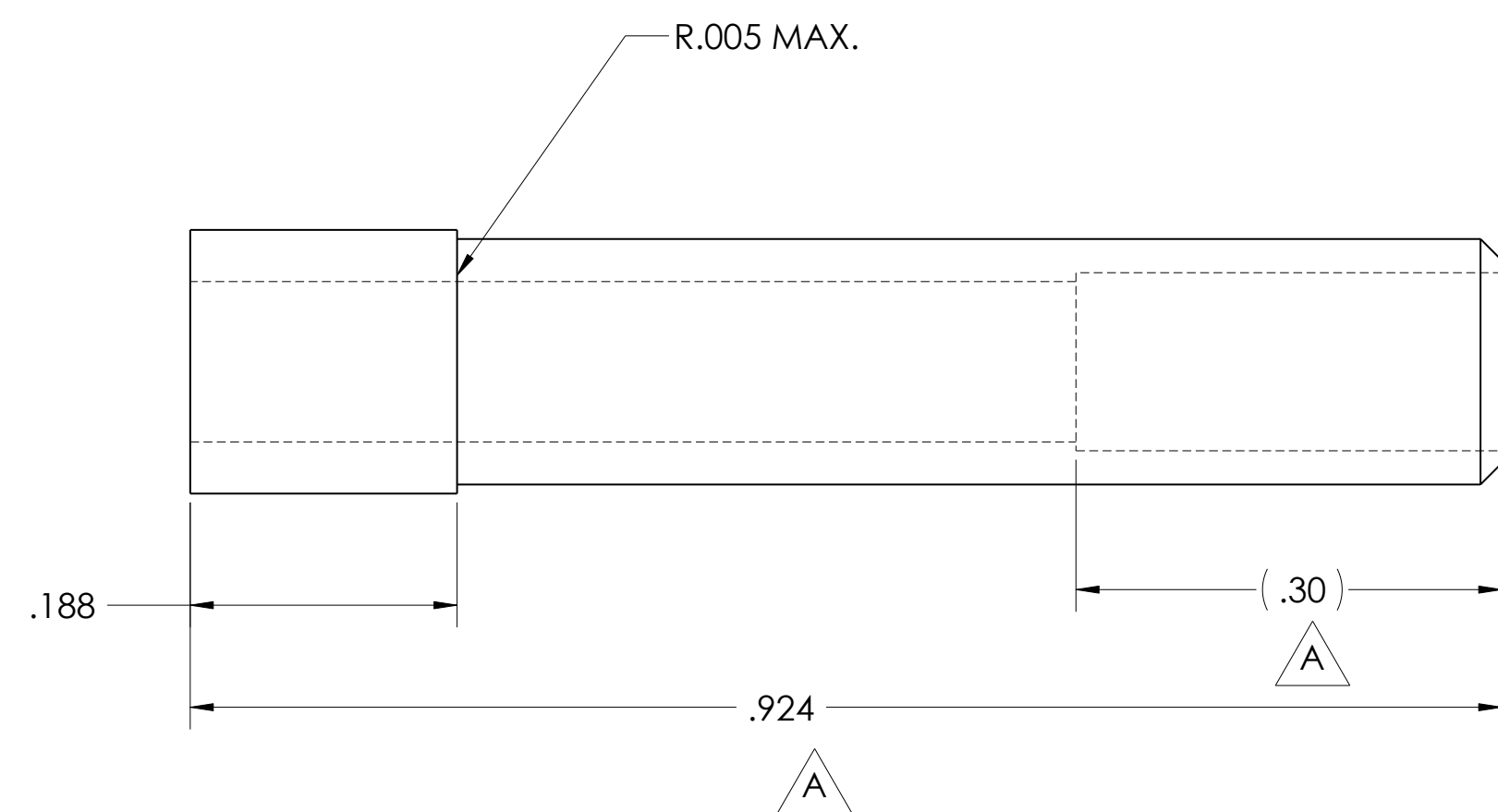
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DWG. NO. nnXnnn4 SIZE A REV. 1 SH. 1

DESCRIPTION	MATERIAL	MAT. LOCATION



NOTES:

- 1. MATERIAL: 303 STAINLESS STEEL

UNLESS OTHERWISE SPECIFIED				SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
TOLERANCES		FRAC. ± 1/64		ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY	
X.X ± 0.1		X.XX ± 0.01		DEL. TO		DATE REQD.	UNIVERSITY OF CALIFORNIA - BERKELEY	
X.XXX ± 0.005		FINISH -		SURFACE TREATMENT			CLOSEOUT PIN	
DO NOT SCALE PRINT				IDENT. METHOD TAG			4.72 mm CIRCULAR TUBE STAVE ASSEMBLY	
THREADS ARE CLASS 2				PROJECT NAME			MICROFILMED:	
CHAMFER ENDS OF ALL SCREW THREADS 30°				PROJECT NO.			DWG. TYPE: PART	
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS				DWG. NO.		DATE 12/17/2006	SHOWN ON: 27E318	
BREAK EDGES .016 MAX. ON MACHINED WORK				BY: W. O. MILLER		DATE 12/17/2006	SCALE: 8:1	
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE				CHK: W. O. MILLER		PATENT CLEAR:	DESIGN ACCT. NO. P1AP-11	
IN ACCORDANCE WITH ASME Y14.5m & B46.1				APR -		DATE -	CATEGORY CIDE: AP6250	
REV	DWG	CHK	ZONE	DATE	CHANGES		DWG. NO.	SCALE
A				1-9-07	REVISED PART		27E320	8:1
							SHEET 1 OF 1	DO NOT SCALE PRINTS
							27E320	DO NOT SCALE PRINTS
							SIZE	REV. A

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DWG. NO. nnXnnn4	SIZE -	REV. -	SH. 1
DESCRIPTION		MATERIAL	MAT. LOCATION

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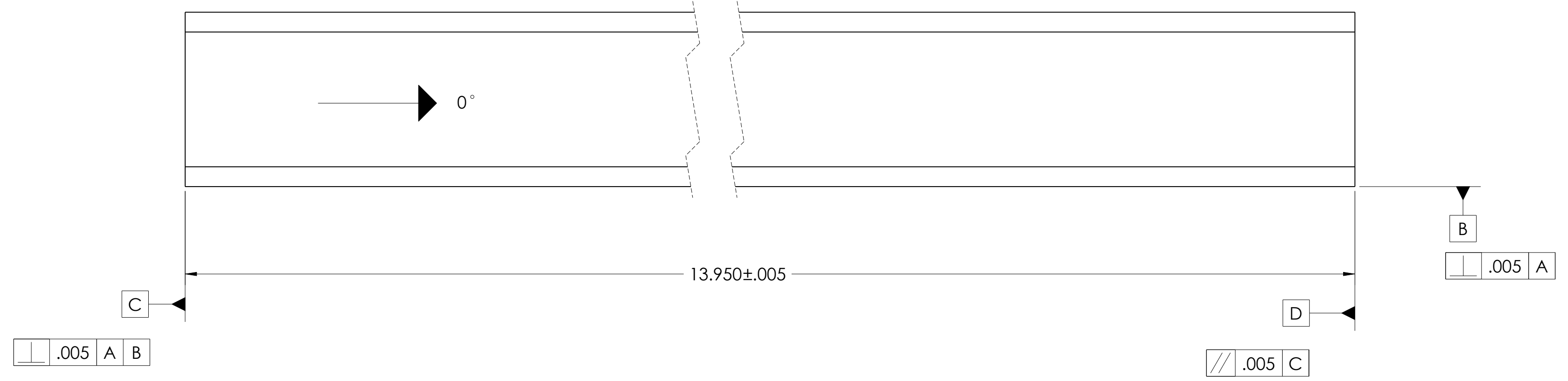
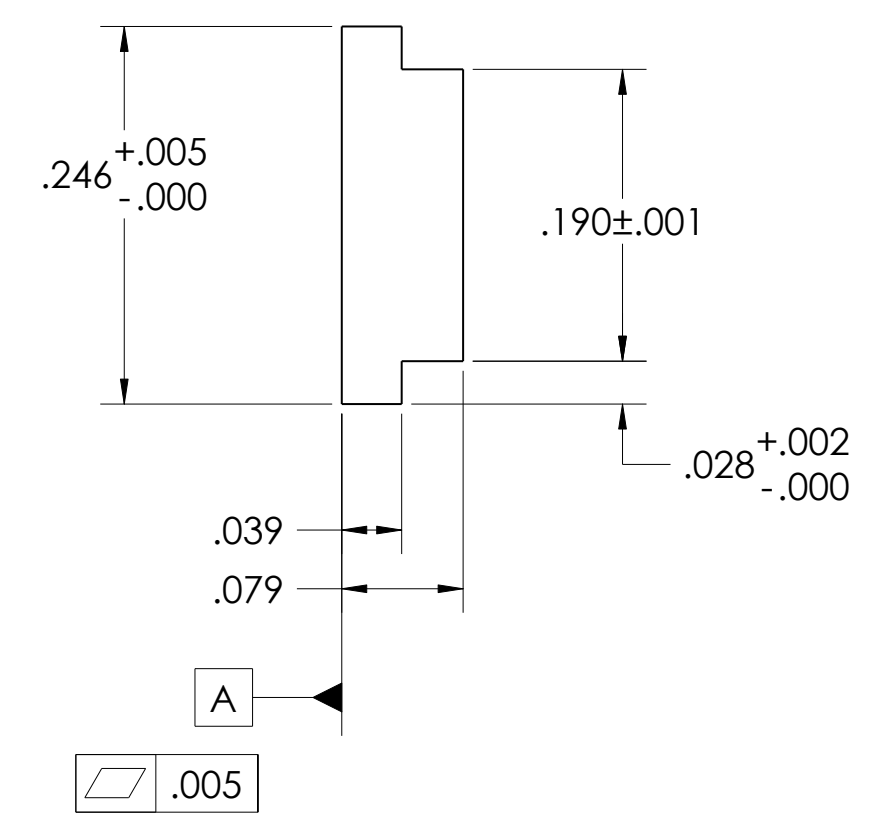
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NOTES:

1. K13D2U 90fsm FIBER AREAL WEIGH T/EX 1515 CYANATE ESER RESIN (250 °F CURE) 34% RESIN CONTENT. 6" UNITAPE WIDTH (BRYTE TECHNOLOGY).
2. FIBER ORIENTATION: (90,0,0,0,0/S).
3. FIBER VOLUME FRACTION 60%.
4. UNITS ARE IN INCHES.

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UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE			
TOLERANCES	X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY		
	X.XX ± 0.01	ANGLES ± 30°	DEL. TO	DATE REQD.		UNIVERSITY OF CALIFORNIA - BERKELEY		
	X.XXX ± 0.005	FINISH -	SURFACE TREATMENT					
DO NOT SCALE PRINT			IDEN. METHOD	TAG	SIDE COMPOSITE CLOSEOUT			
THREADS ARE CLASS 2			PROJECT NUMBER	ATL-IP-ED-XXXX	4.72 mm CIRCULAR TUBE STAVE ASSEMBLY			
CHAMFER ENDS OF ALL SCREW THREADS 30°			PROJECT NAME	US ATLAS SILICON SUBSYSTEM	MICROFILMED:	DWG. TYPE		
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS			DWG. W. K. MILLER	DATE 12/17/2006		PART		
BREAK EDGES .016 MAX. ON MACHINED WORK			CHK W. O. MILLER	DATE 12/17/2006	PATENT CLEAR:	27E314		
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE			APR -	DATE -	DESIGN ACCT. NO.	27E321		
IN ACCORDANCE WITH ASME Y14.5m & B46.1					CATEGORY CODE	AP6250		
REV	DWG	CHK	ZONE	DATE	CHANGES		SCALE: 8:1	DO NOT SCALE PRINTS
-							SHEET 1 OF 1	
							DWG. NO. 27E321	SIZE
								REV. -

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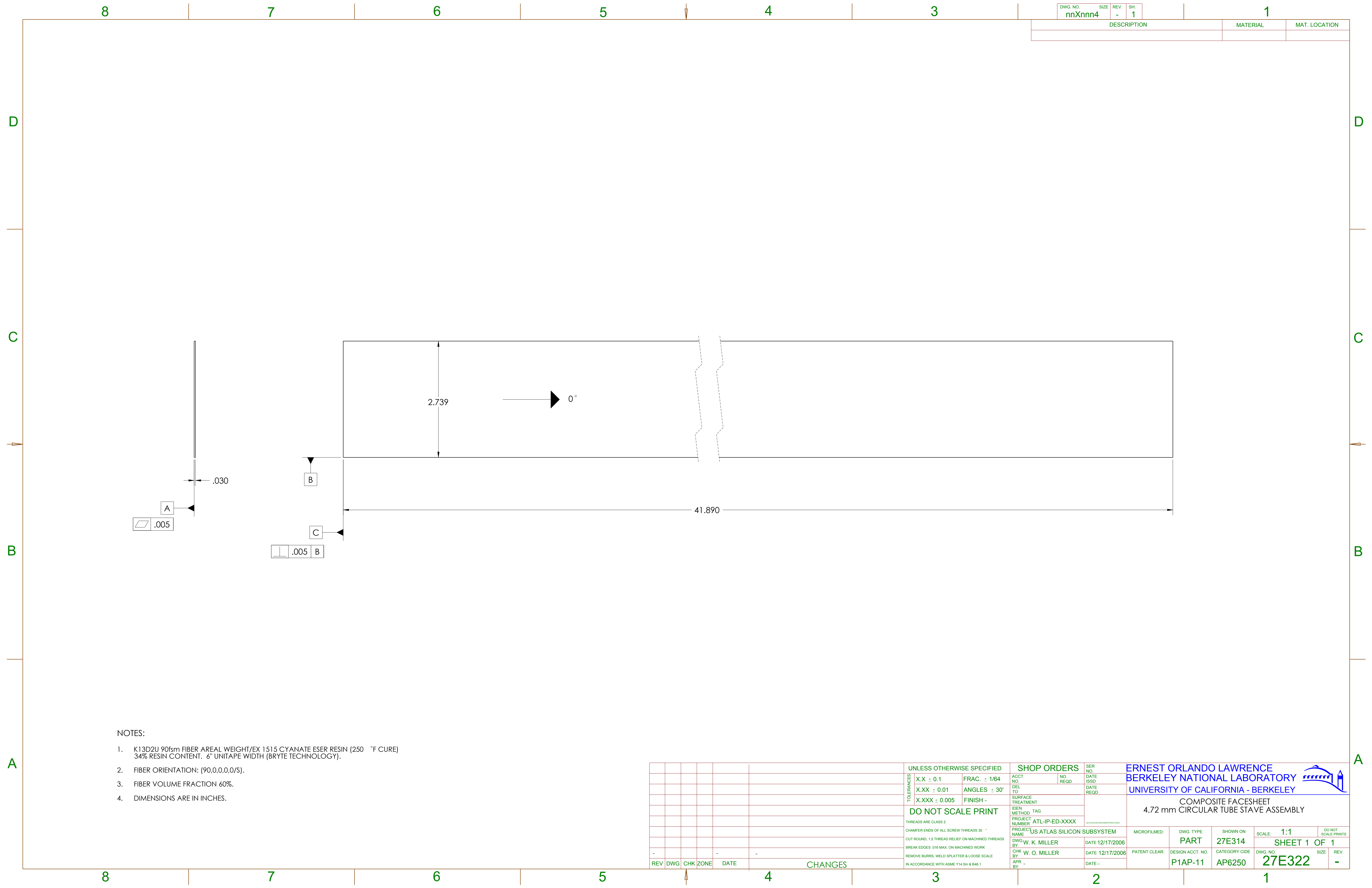
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DWG. NO. nnXnnn4	SIZE -	REV. -	SH. 1
DESCRIPTION		MATERIAL	MAT. LOCATION



- NOTES:
1. K13D2U 90fsm FIBER AREAL WEIGHT/EX 1515 CYANATE ESER RESIN (250 °F CURE) 34% RESIN CONTENT. 6" UNITAPE WIDTH (BRYTE TECHNOLOGY).
 2. FIBER ORIENTATION: (90,0,0,0/S).
 3. FIBER VOLUME FRACTION 60%.
 4. DIMENSIONS ARE IN INCHES.

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
TOLERANCES	X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY
	X.XX ± 0.01	ANGLES ± 30°	DEL. TO	DATE REQD.		UNIVERSITY OF CALIFORNIA - BERKELEY
	X.XXX ± 0.005	FINISH -	SURFACE TREATMENT			
DO NOT SCALE PRINT			IDEN. METHOD	TAG	COMPOSITE FACESHEET	
THREADS ARE CLASS 2			PROJECT NUMBER	ATL-IP-ED-XXXX	4.72 mm CIRCULAR TUBE STAVE ASSEMBLY	
CHAMFER ENDS OF ALL SCREW THREADS 30°			PROJECT NAME	US ATLAS SILICON SUBSYSTEM	MICROFILMED:	DWG. TYPE
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS			DWG. BY	W. K. MILLER	DATE	12/17/2006
BREAK EDGES .016 MAX. ON MACHINED WORK			CHK. BY	W. O. MILLER	DATE	12/17/2006
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE			APPR. BY	-	DATE	-
IN ACCORDANCE WITH ASME Y14.5m & B46.1					PATENT CLEAR:	DESIGN ACCT. NO.
REV	DWG	CHK	ZONE	DATE	CHANGES	
					MICROFILMED:	DWG. TYPE
					DATE	12/17/2006
					NO. REQD.	27E314
					SCALE:	1:1
					DO NOT SCALE PRINTS	
					PROJECT NO.	27E322
					DATE	12/17/2006
					DESIGN ACCT. NO.	P1AP-11
					CATEGORY CODE	AP6250
					DWG. NO.	27E322
					SIZE	
					REV.	-

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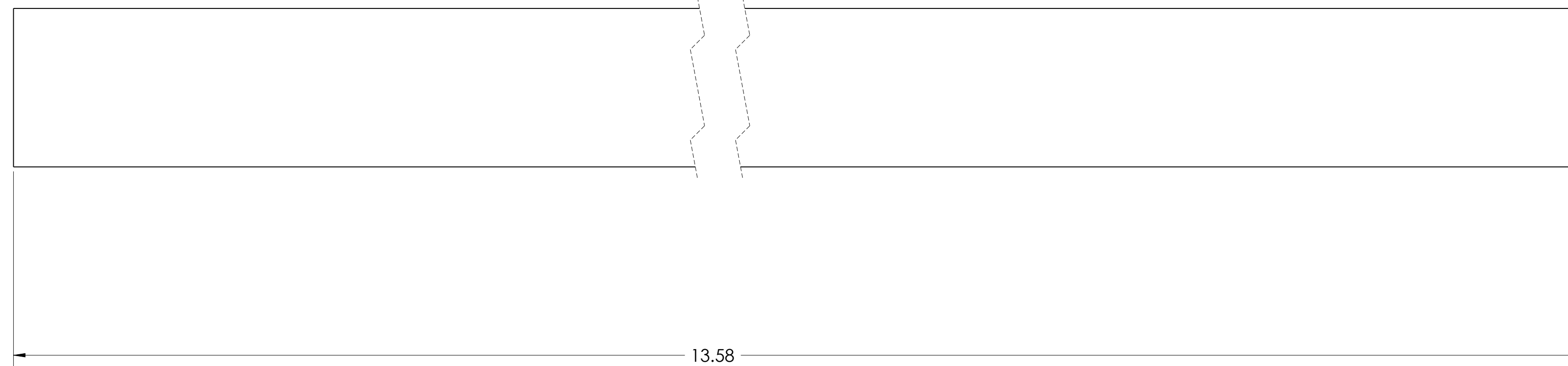
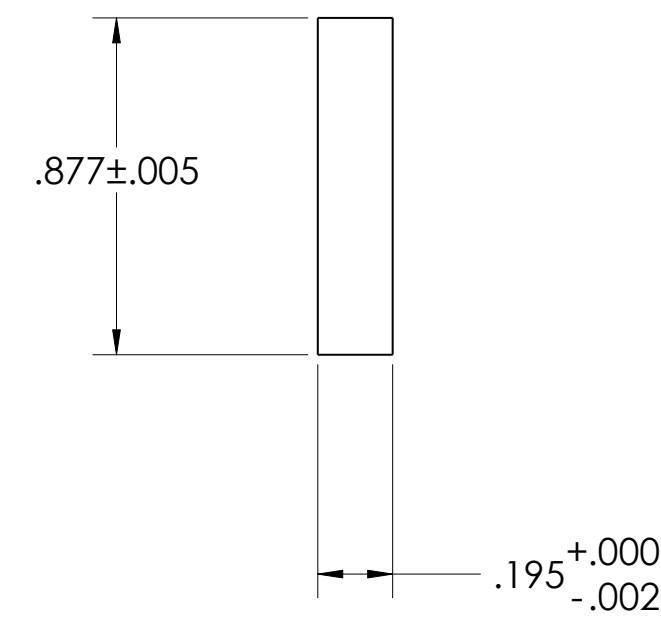
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DWG. NO.	SIZE	REV.	SH.
nnXnnn4		-	1

DESCRIPTION	MATERIAL	MAT. LOCATION



-1 HONEYCOMB PART #1
 QTY# 3
 MATERIAL: ULTRACORE UCF-119-3/16 -3.5
 GRAPHITE FIBER HONEYCOMB WITH
 RS-3 CYANATE ESTER RESIN

NOTES:
 1. UNITS ARE IN INCHES.

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO. DATE ISSD		ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY UNIVERSITY OF CALIFORNIA - BERKELEY	
TOLERANCES	X.X ± 0.1 X.XX ± 0.01 X.XXX ± 0.005	FRAC. ± 1/64 ANGLES ± 30° FINISH -	ACCT. NO. DEL. TO SURFACE TREATMENT	NO. REQD. DATE REQD.	DATE REQD.	HONEYCOMB CORE MATERIAL 4.72 mm CIRCULAR COOLING TUBE STAVE ASSEMBLY	
DO NOT SCALE PRINT		PROJECT NAME US ATLAS SILICON SUBSYSTEM		DATE 12/17/06		SCALE: 2:1 SHEET 1 OF 2	
THREADS ARE CLASS 2 CHAMFER ENDS OF ALL SCREW THREADS 30°		DWG. BY W. K. MILLER		DATE 12/17/06		MICROFILMED: PART 27E314	
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS BREAK EDGES .016 MAX. ON MACHINED WORK REMOVE BURRS, WELD SPLATTER & LOOSE SCALE IN ACCORDANCE WITH ASME Y14.5m & B46.1		CHK BY W. O. MILLER		DATE 12/17/06		DESIGN ACCT. NO. P1AP-11 CATEGORY CODE AP6250	
REV		DWG		CHK		ZONE	
DATE		CHANGES		DATE		DWG. NO. 27E323	
						SCALE: 2:1 SHEET 1 OF 2 DWG. NO. 27E323 SIZE -	

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DWG. NO.	SIZE	REV.	SH.
nnXnnn4	-	-	2

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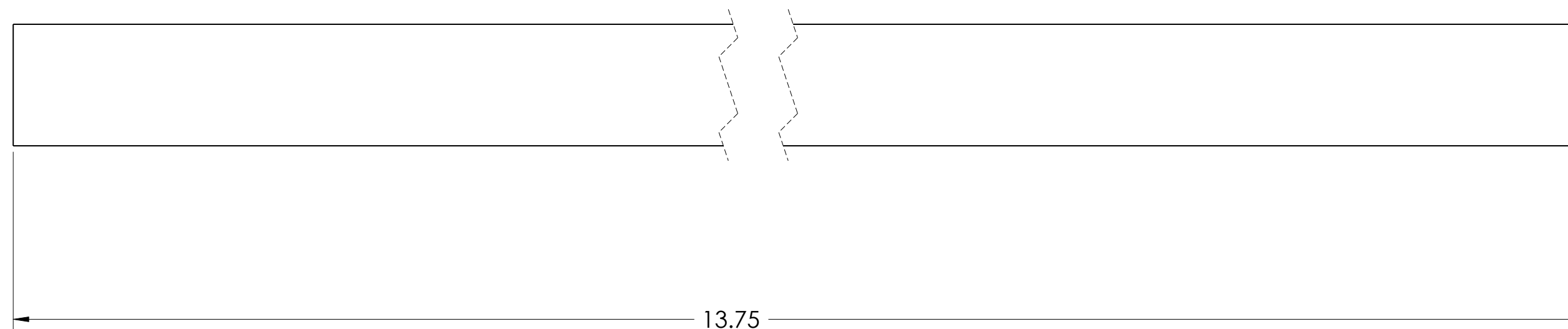
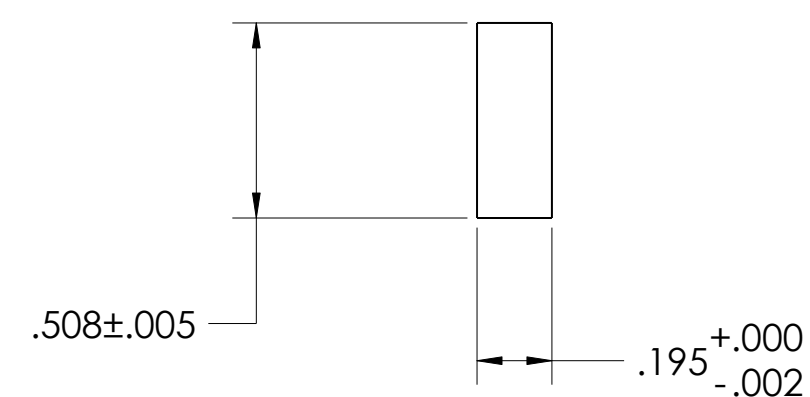
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(-3) HONEYCOMB PART #2
 QTY# 6
 MATERIAL: ULTRACORE UCF-119-3/16 -3.5
 GRAPHITE FIBER HONEYCOMB WITH
 RS-3 CYANATE ESTER RESIN

UNLESS OTHERWISE SPECIFIED		SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
X.X ± 0.1	FRAC. ± 1/64	ACCT. NO.	NO. REQD.	DATE ISSD	BERKELEY NATIONAL LABORATORY	
X.XX ± 0.01	ANGLES ± 30°	DEL. TO	DATE REQD.	DATE REQD.	UNIVERSITY OF CALIFORNIA - BERKELEY	
X.XXX ± 0.005	FINISH -	SURFACE TREATMENT		HONEYCOMB CORE MATERIAL		
DO NOT SCALE PRINT		IDEN. METHOD	TAG	4.72 mm CIRCULAR COOLING TUBE STAVE ASSEMBLY		
THREADS ARE CLASS 2		PROJECT NUMBER	ATL-IP-ED-XXXX	MICROFILMED:	DWG. TYPE	SHOWN ON
CHAMFER ENDS OF ALL SCREW THREADS 30°		PROJECT NAME	US ATLAS SILICON SUBSYSTEM	DATE 12/17/06	PART	27E314
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS		DWG. BY	W. K. MILLER	DATE 12/17/06	SCALE:	2:1
BREAK EDGES .016 MAX. ON MACHINED WORK		CHK. BY	W. O. MILLER	DATE 12/17/06	PATENT CLEAR:	DESIGN ACCT. NO. P1AP-11
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE		APR. BY	-	DATE -	CATEGORY CIDE	AP6250
IN ACCORDANCE WITH ASME Y14.5m & B46.1				DWG. NO.		27E323
				SHEET 2 OF 2		DO NOT SCALE PRINTS
				SIZE		REV.
				-		-

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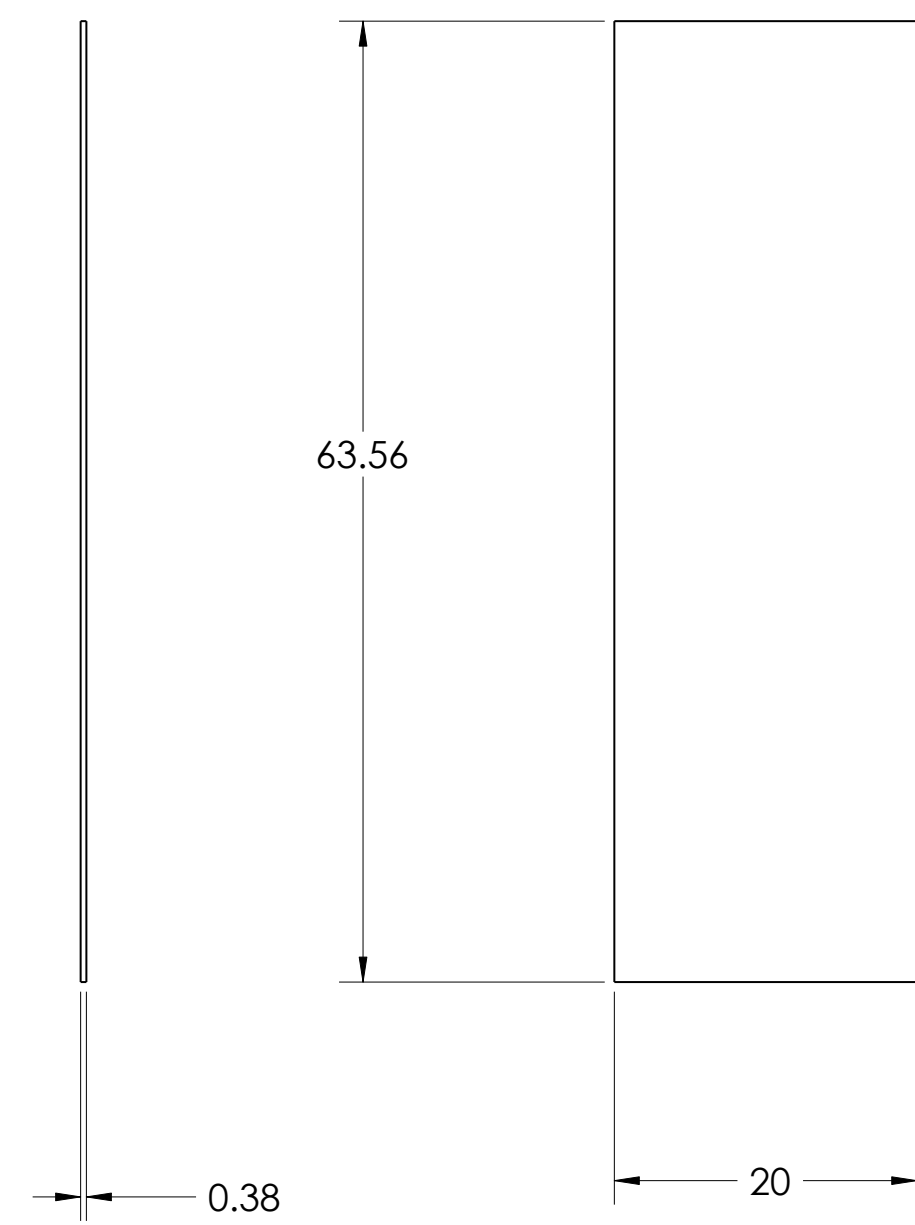
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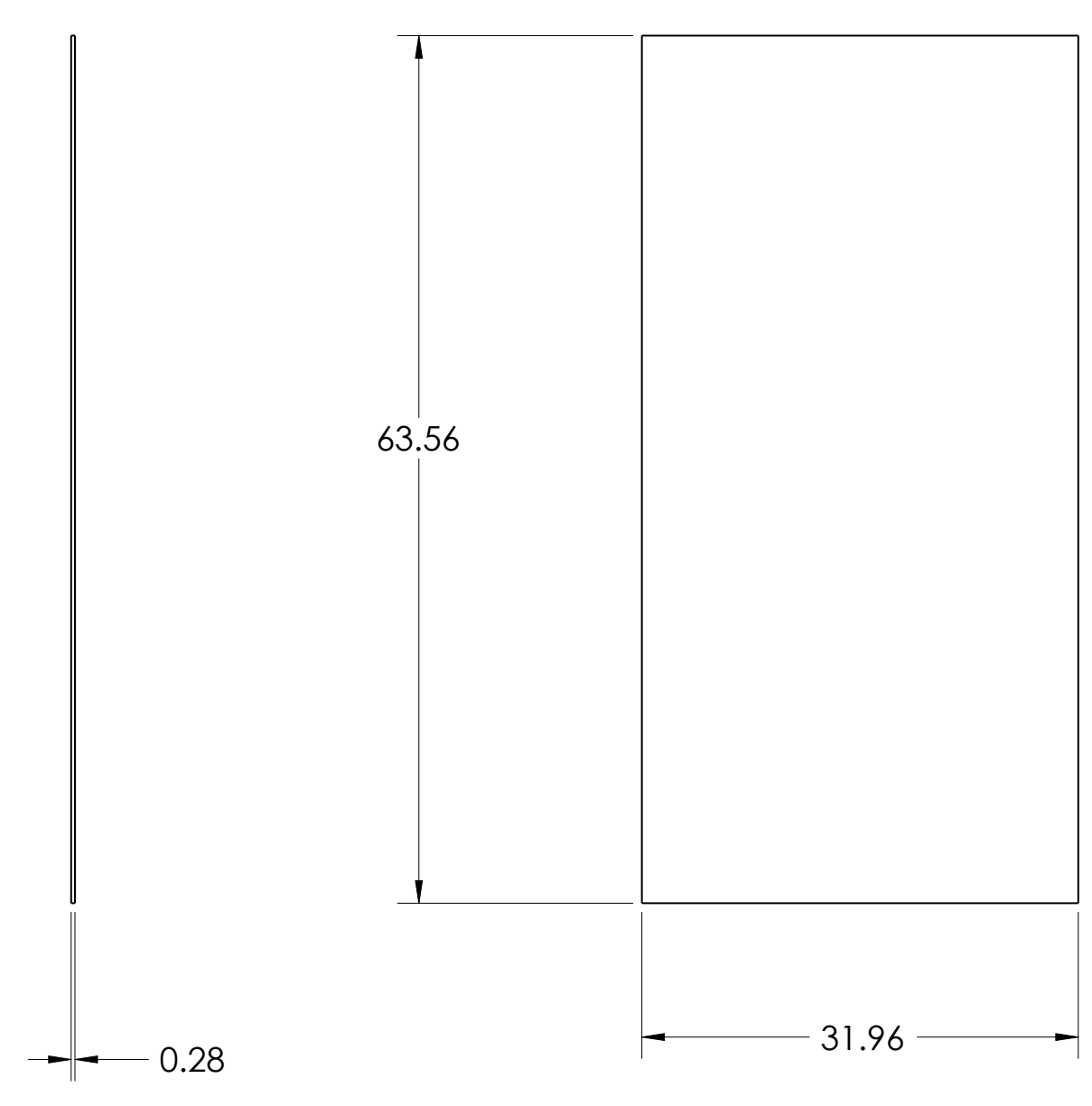
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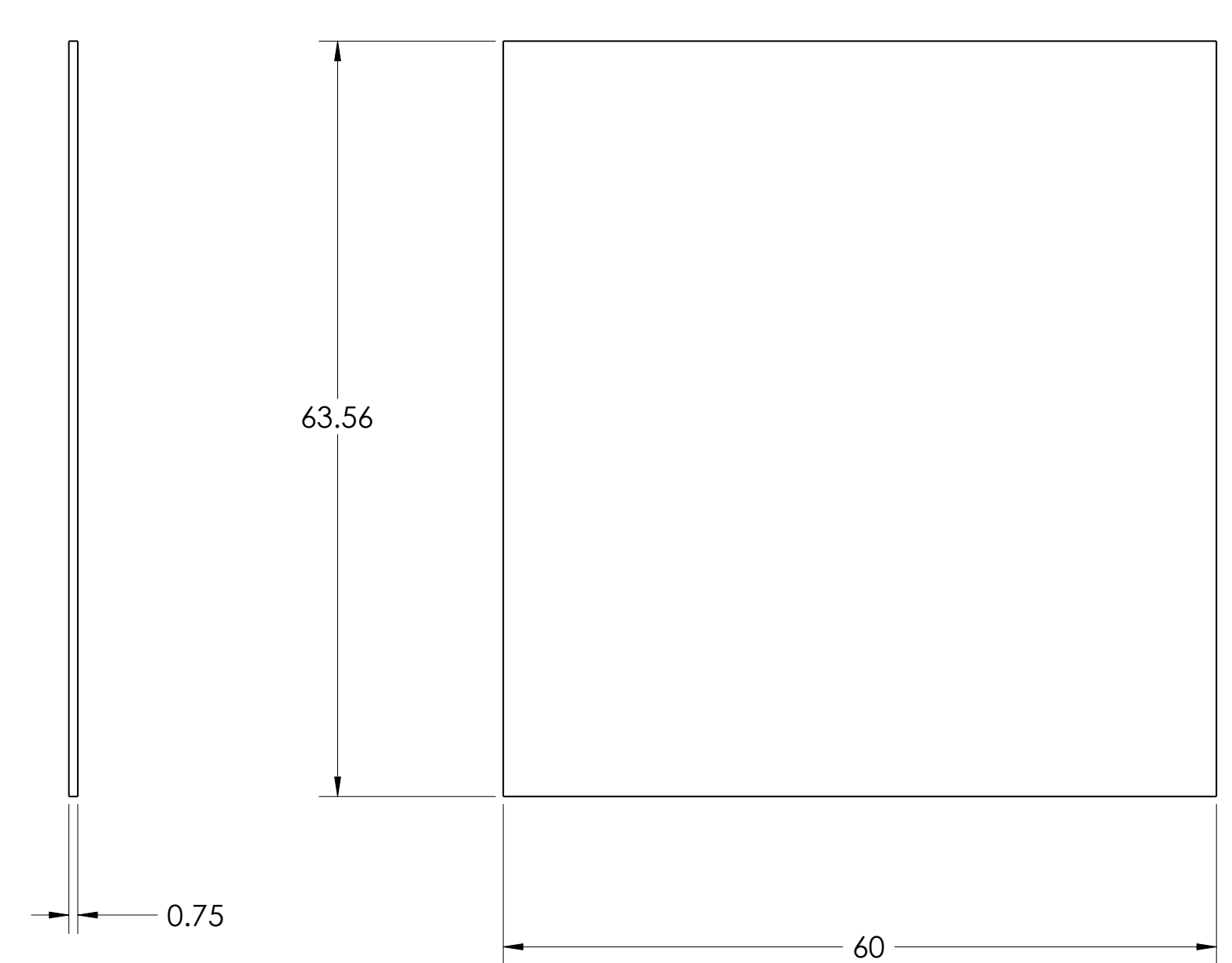
DWG. NO. nnXnnn4	SIZE -	REV. -	SH. 1
DESCRIPTION		MATERIAL	MAT. LOCATION



① HYBRID CHIP



② DETECTOR CHIP



③ PORT CARD

NOTES:
1. UNITS ARE IN METRIC.

UNLESS OTHERWISE SPECIFIED				SHOP ORDERS		SER. NO.	ERNEST ORLANDO LAWRENCE	
TOLERANCES		ACCT. NO.		NO. REQD.		DATE ISSD	BERKELEY NATIONAL LABORATORY	
X.X ± 0.5	FRAC. ± 1/64	DEL. TO		DATE REQD.		UNIVERSITY OF CALIFORNIA - BERKELEY		
X.XX ± 0.25	ANGLES ± 30°	SURFACE TREATMENT		PROJECT NUMBER		HYBRID AND DETECTOR CHIP		
X.XXX ± 0.13	FINISH -	IDEN. METHOD TAG		PROJECT NAME		4.72 mm CIRCULAR TUBE STAVE ASSEMBLY		
DO NOT SCALE PRINT				PROJECT NAME		MICROFILMED:		DWG. TYPE
THREADS ARE CLASS 2				PROJECT NAME		DATE 12/17/2006		SHOWN ON
CHAMFER ENDS OF ALL SCREW THREADS 30°				PROJECT NAME		DATE 12/17/2006		SCALE: 2:1
CUT ROUND, 1.5 THREAD RELIEF ON MACHINED THREADS				PROJECT NAME		DATE 12/17/2006		DO NOT SCALE PRINTS
BREAK EDGES .016 MAX. ON MACHINED WORK				PROJECT NAME		DATE 12/17/2006		PART
REMOVE BURRS, WELD SPLATTER & LOOSE SCALE				PROJECT NAME		DATE 12/17/2006		27E313
IN ACCORDANCE WITH ASME Y14.5m & B46.1				PROJECT NAME		DATE 12/17/2006		SHEET 1 OF 1
REV. DWG. CHK. ZONE. DATE				PROJECT NAME		DATE 12/17/2006		27E324
CHANGES				PROJECT NAME		DATE 12/17/2006		AP6250
				PROJECT NAME		DATE 12/17/2006		SIZE
				PROJECT NAME		DATE 12/17/2006		REV.
				PROJECT NAME		DATE 12/17/2006		-