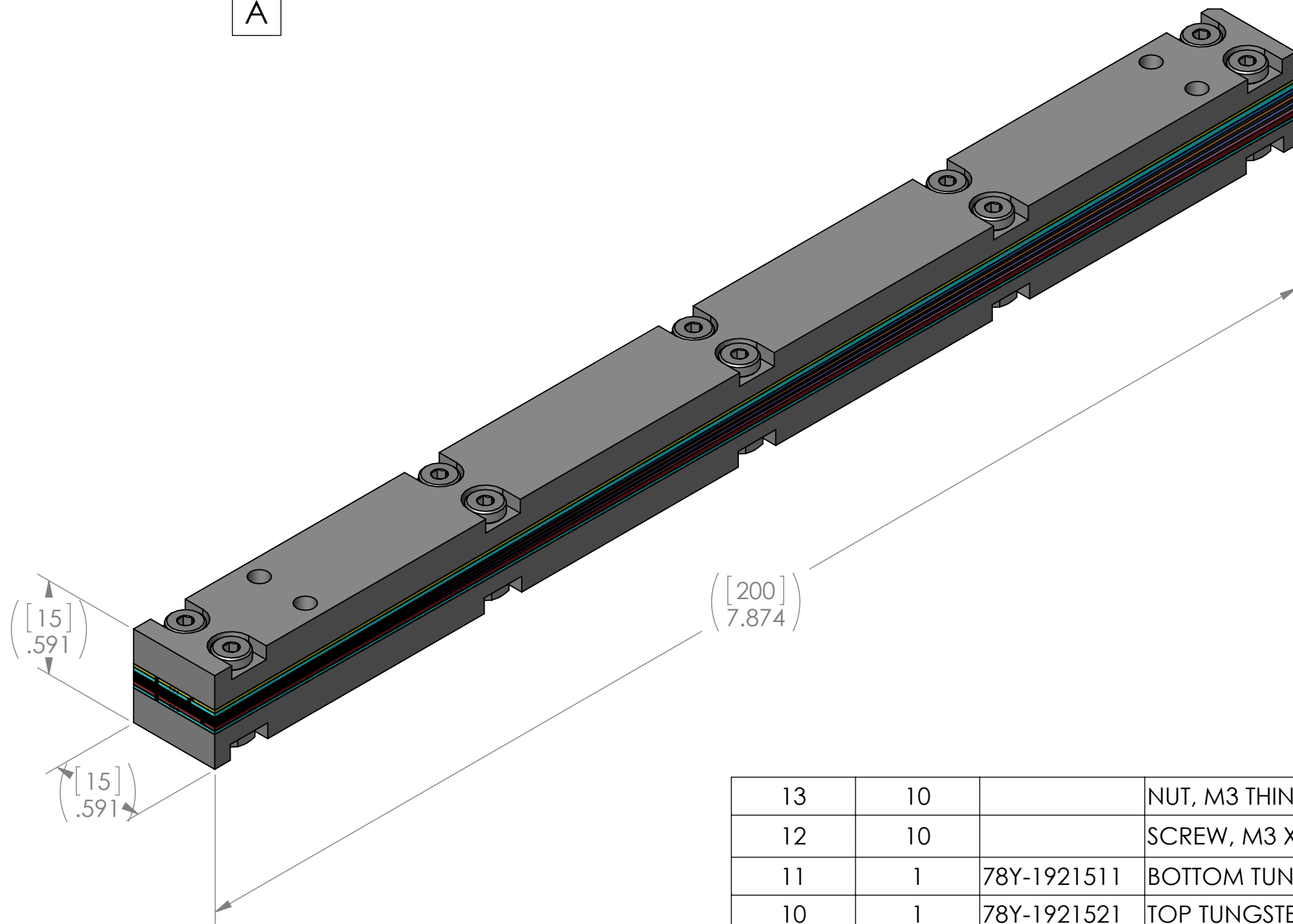
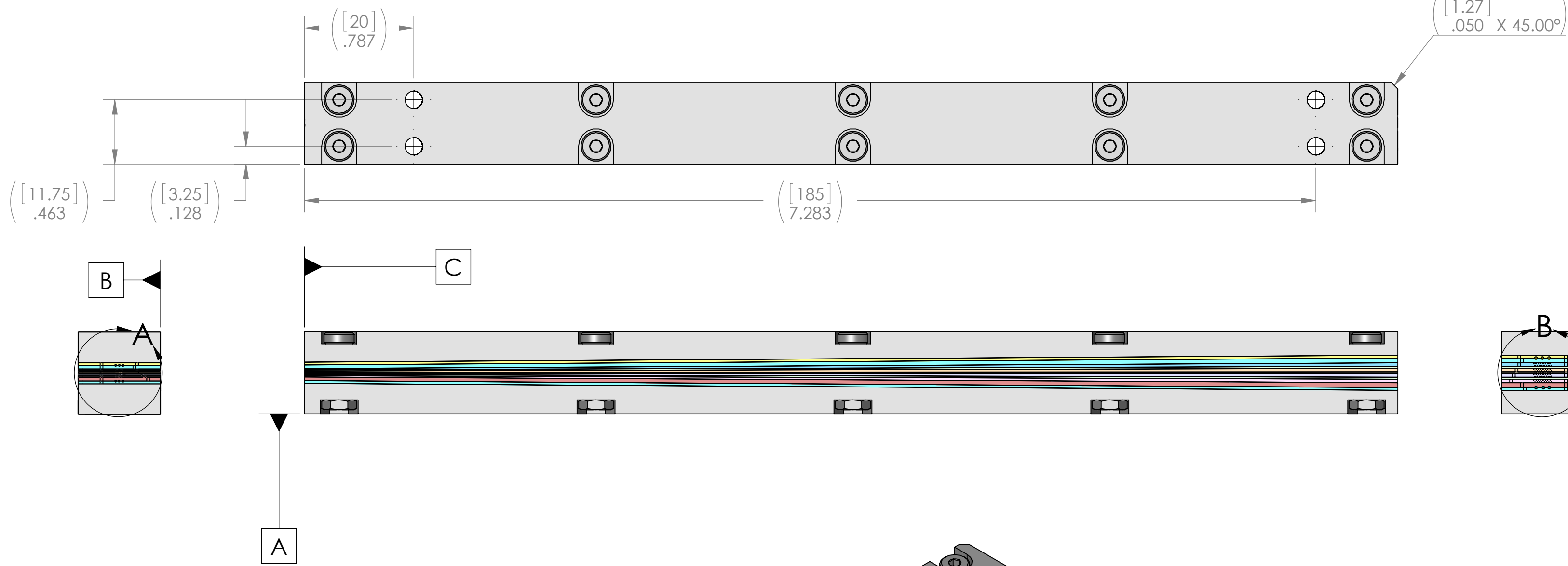
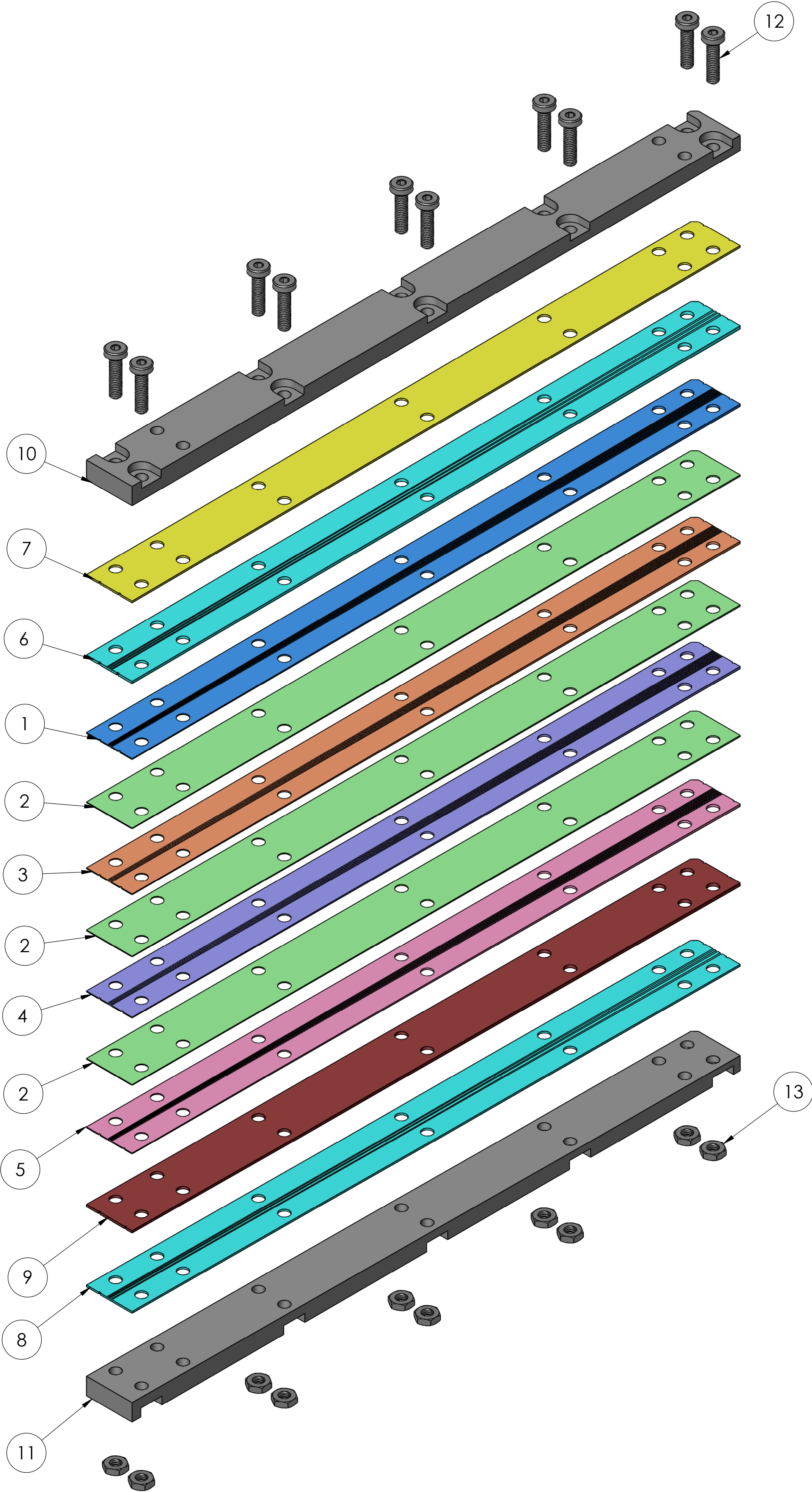


D

C

B

A



13	10		NUT, M3 THIN HEX NUT	
12	10		SCREW, M3 X 0.5 X 12, LOW PROFILE SHCS	
11	1	78Y-1921511	BOTTOM TUNGSTEN LAYER	TUNGSTEN
10	1	78Y-1921521	TOP TUNGSTEN LAYER	TUNGSTEN
9	1	78Y-1921513	INTERNAL ASYMMETRIC PENUMBRAL LAYER	GOLD
8	1	78Y-1921512	EXTERIOR ASYMMETRIC PENUMBRAL LAYER	GOLD
7	1	78Y-1921520	EXTERIOR SYMMETRIC PENUMBRAL LAYER	GOLD
6	1	78Y-1921519	INTERNAL SYMMETRIC PENUMBRAL LAYER	GOLD
5	1	78Y-1921514	PINHOLE SCRIBE LAYER 4	GOLD
4	1	78Y-1921516	PINHOLE SCRIBE LAYER 3	GOLD
3	1	78Y-1921517	PINHOLE SCRIBE LAYER 2	GOLD
2	3	78Y-1921515	SPACER LAYER	GOLD
1	1	78Y-1921518	PINHOLE SCRIBE LAYER 1	GOLD
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION	MATERIAL

THIRD ANGLE PROJECTION				UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:				TEAM DIAGNOSTIC ENGINEERING AND OPERATIONS PLASMA PHYSICS, P-24				Los Alamos National Laboratory Los Alamos, New Mexico 87545			
FRACTIONS 1/32				DECIMALS .X ± .1 .XX ± .01 .XXX ± .005				APPROVALS				TITLE			
MACHINED SFCS: 63 RMS				DO NOT SCALE DRAWING				ORIGINATED F. MERRILL				NISP PHA ASSY			
CLASSIFICATION				DRAWING: V.FATHERLEY				CHECKED V.FATHERLEY				SIZE D			
PART: A-09				DWG: A-01				DATE 06/04/2015				CAGE CODE 88516			
NEXT HIGHER ASSY 78Y-1921525				QTY USED IN NEXT ASSY: 1EA				GROUP P-23				DWG NO. 78Y-1921510			
CAD FILE: NISP PHA ASSY				PART NO. 78Y-1921510				P-24				SCALE 3:2			
								RELEASED BY V. FATHERLEY				SHEET 1 OF 2			

D

C

B

A

D

C

B

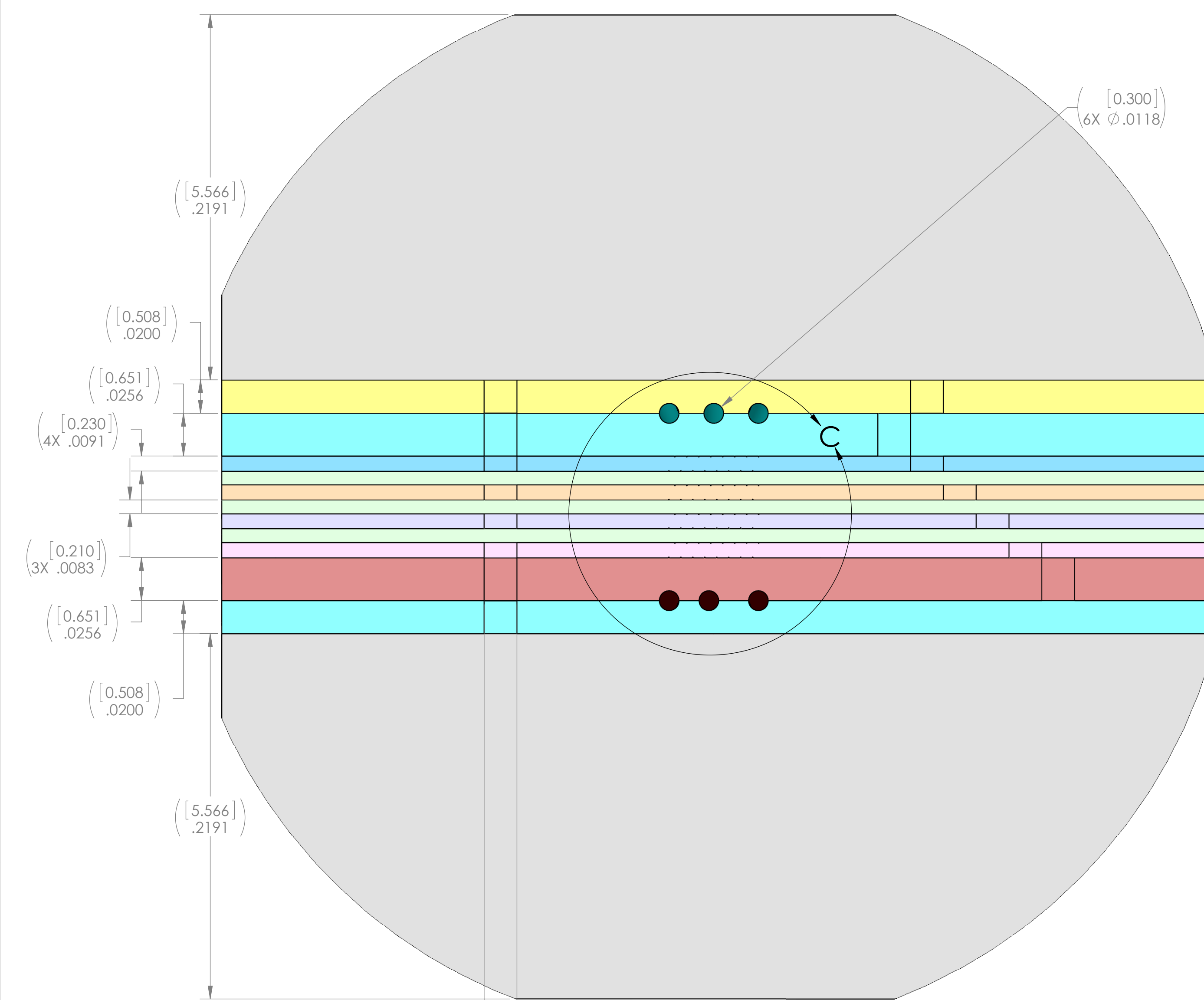
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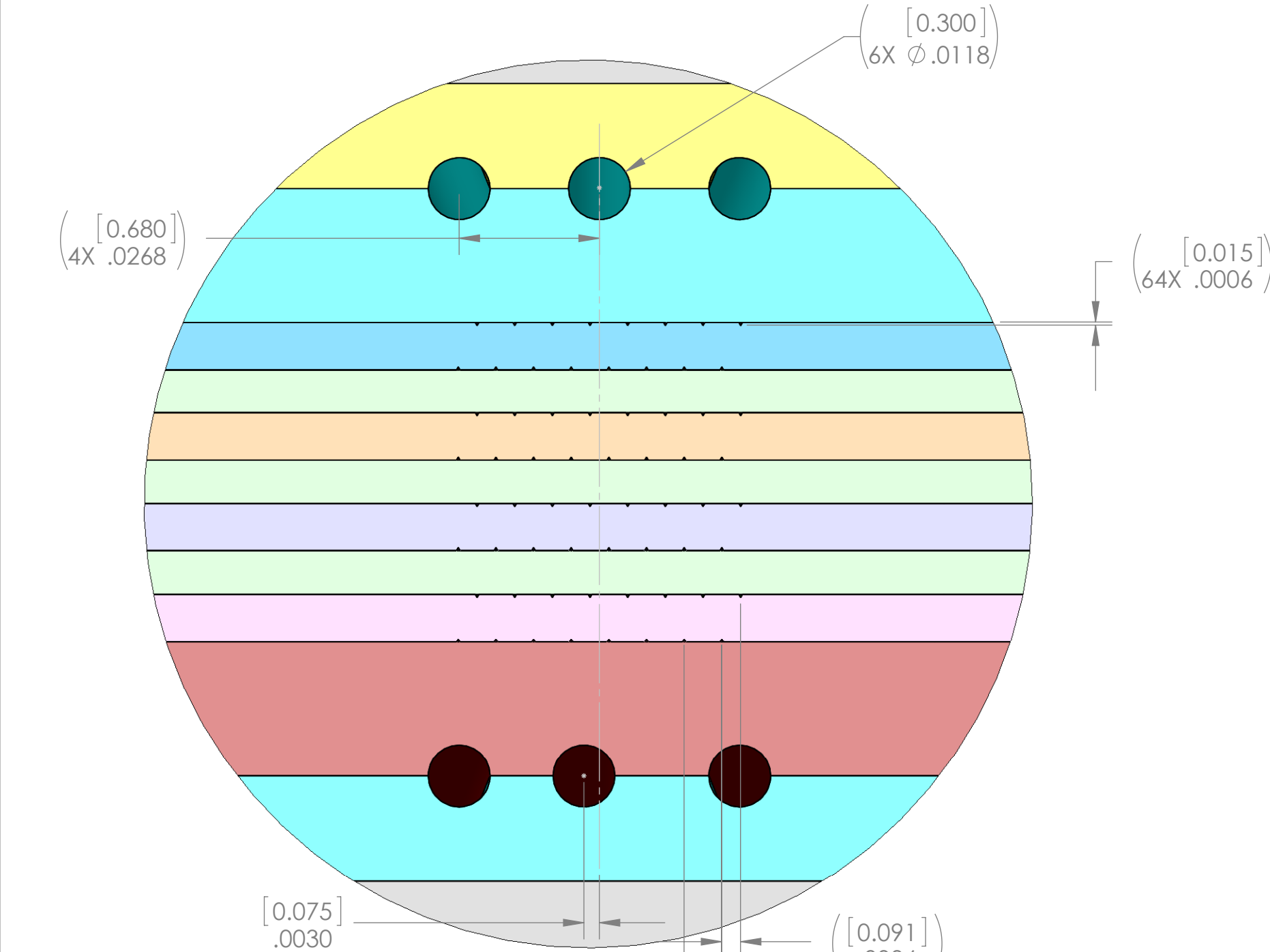
C

B

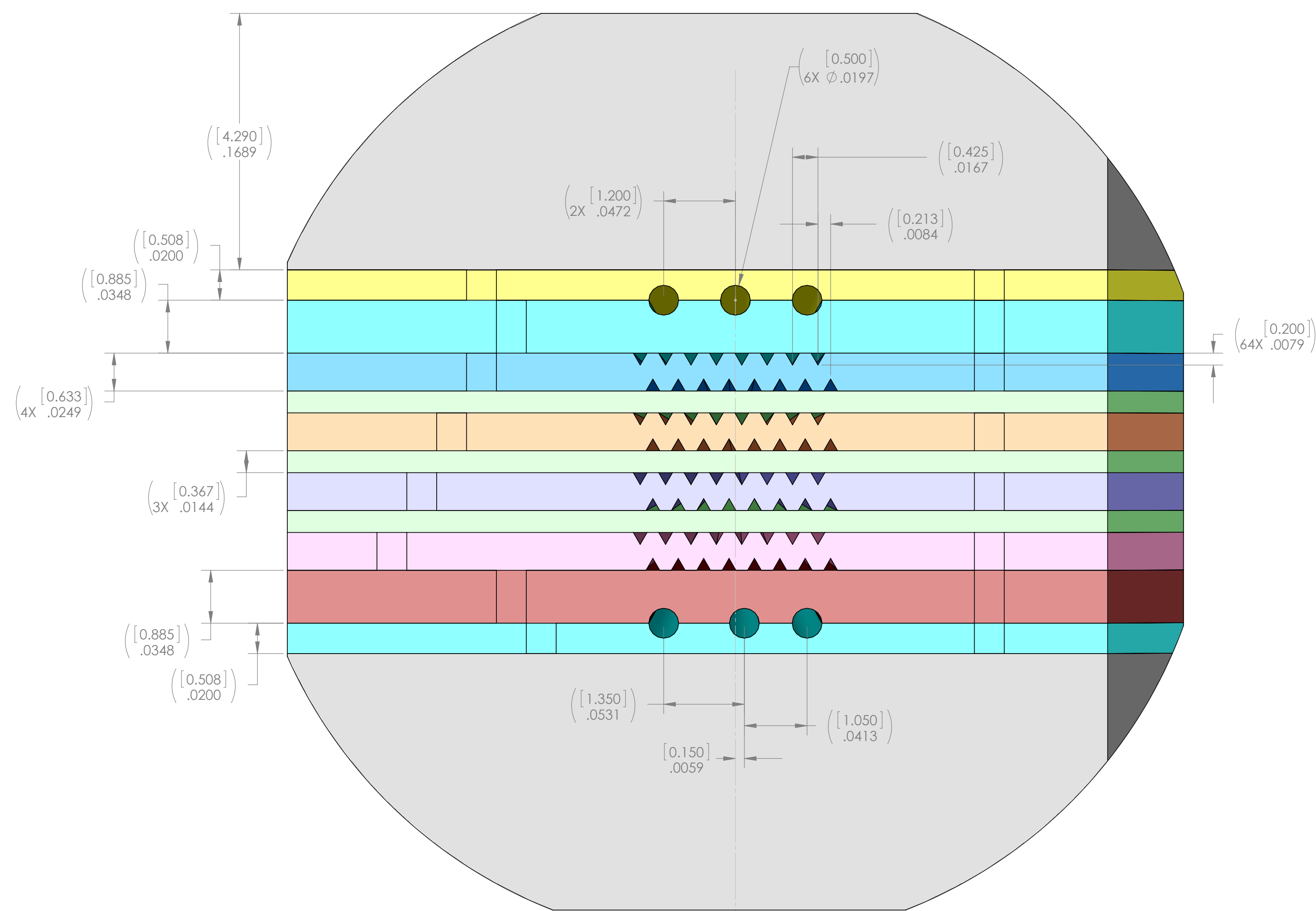
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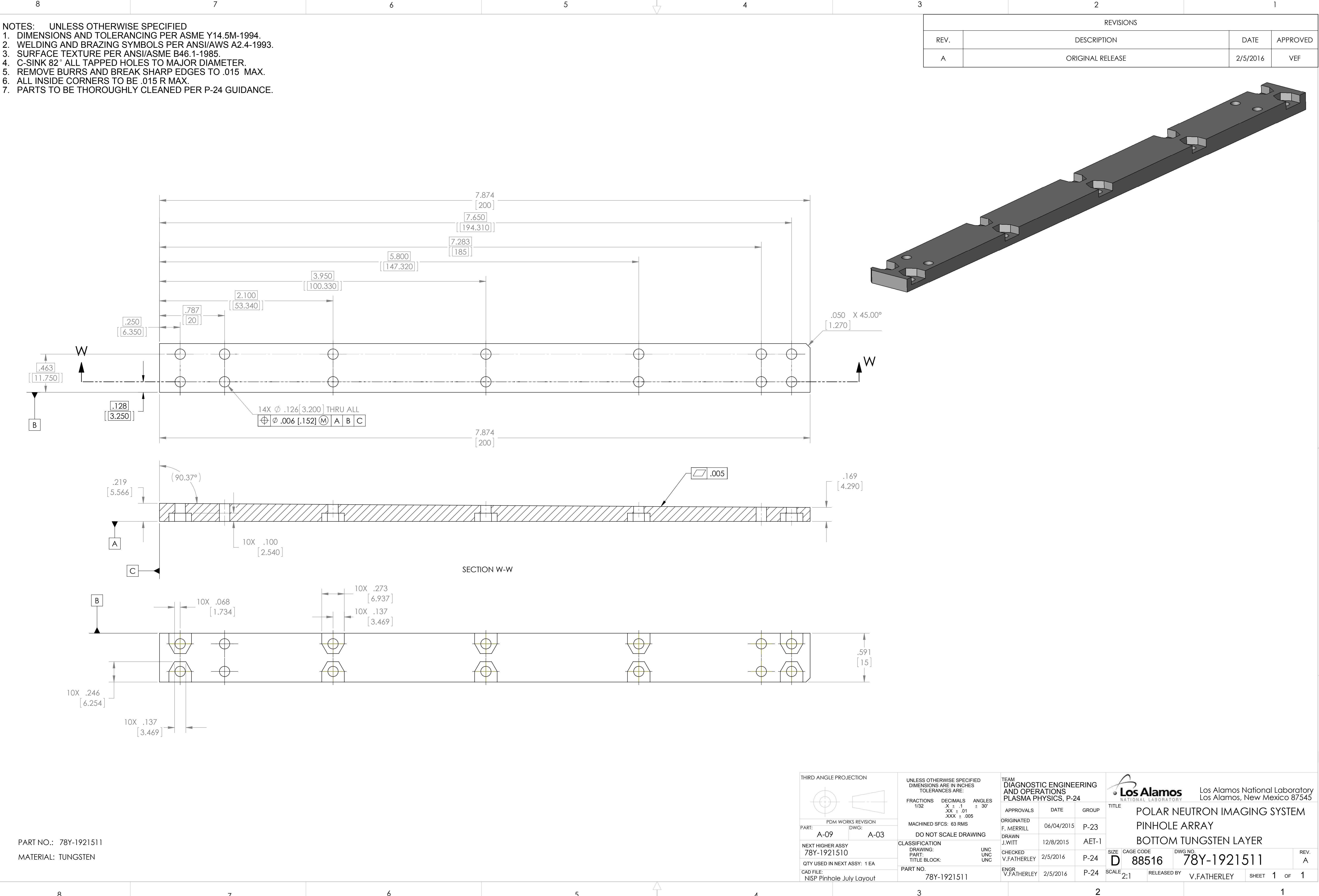
DETAIL A
FRONT VIEW

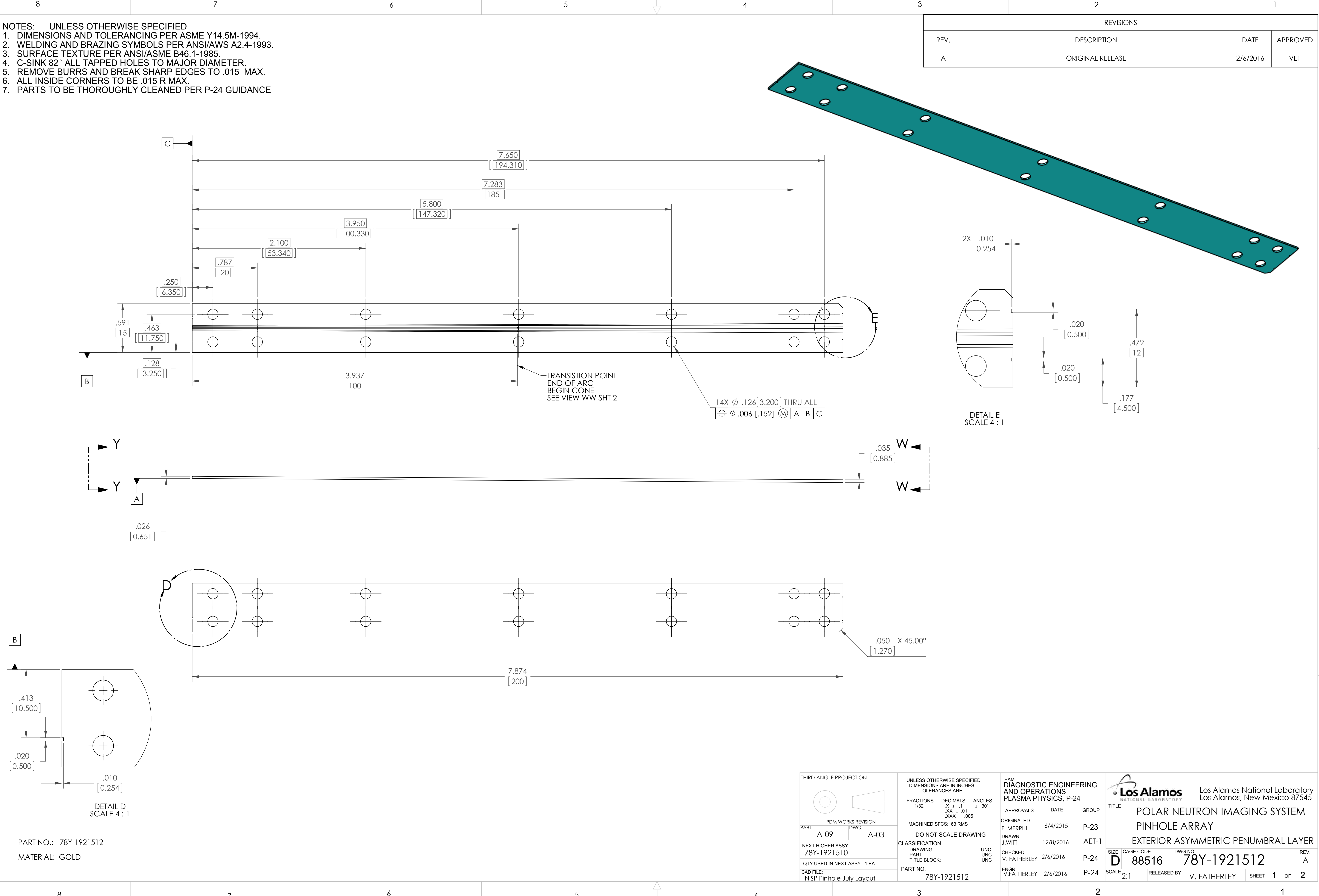


DETAIL C
SCALE 40:1



DETAIL B
BACK VIEW





D

C

B

A

D

C

B

A

8

7

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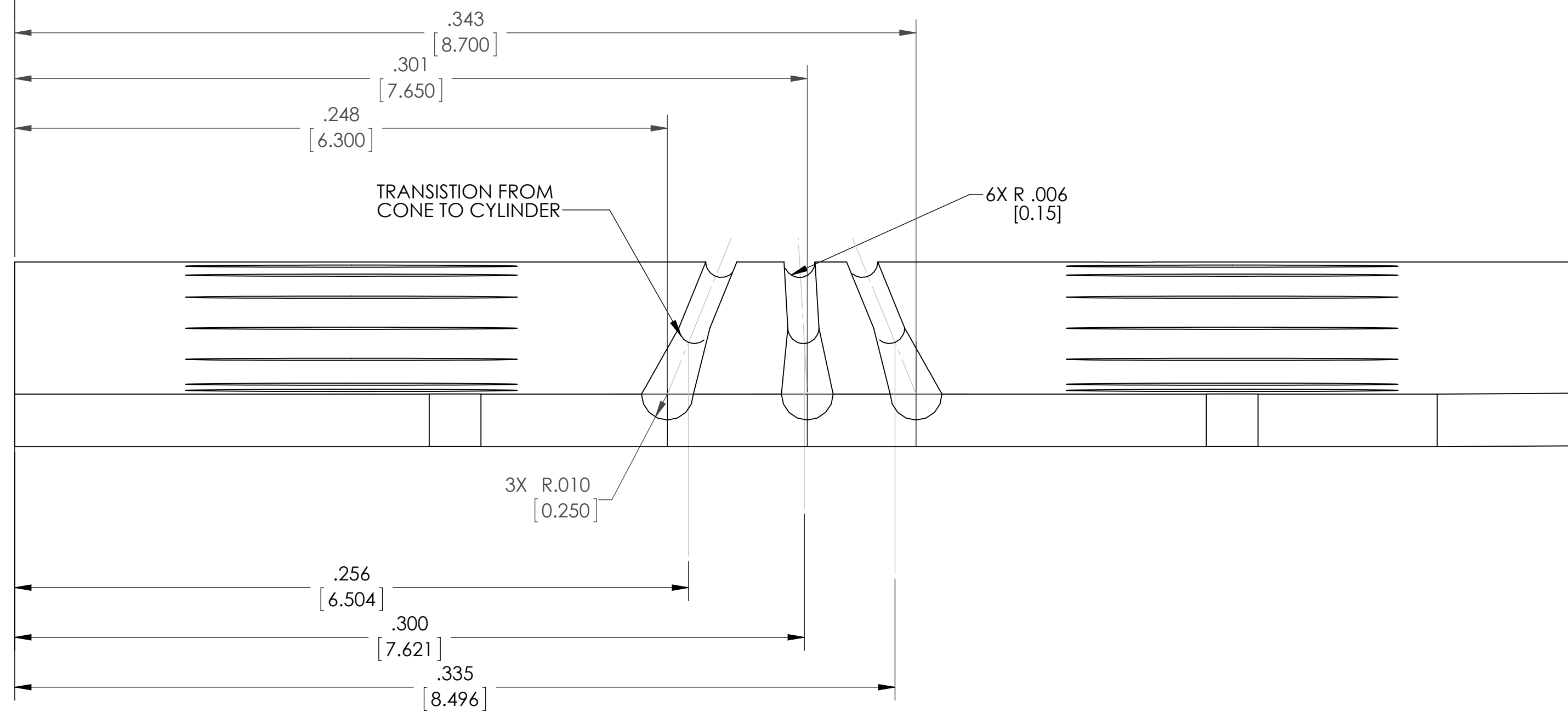
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2

1



B



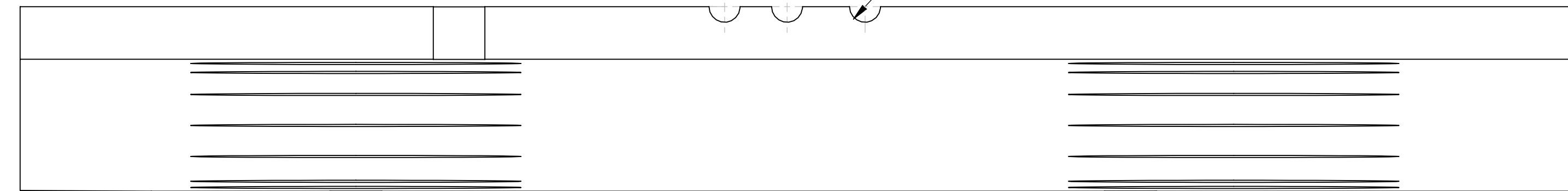
VIEW W-W
SCALE 25 : 1

BACK

B

VIEW Y-Y
SCALE 25 : 1

FRONT



TEAM
DIAGNOSTIC ENGINEERING
AND OPERATIONS
PLASMA PHYSICS, P-24

Los Alamos NATIONAL LABORATORY		Los Alamos National Laboratory Los Alamos, New Mexico 87545	
SIZE D	CAGE CODE 88516	DWG NO. 78Y-1921512	REV. A
SCALE 1:1	RELEASED BY V. FATHERLEY	SHEET 2	OF 2

8

7

6

5

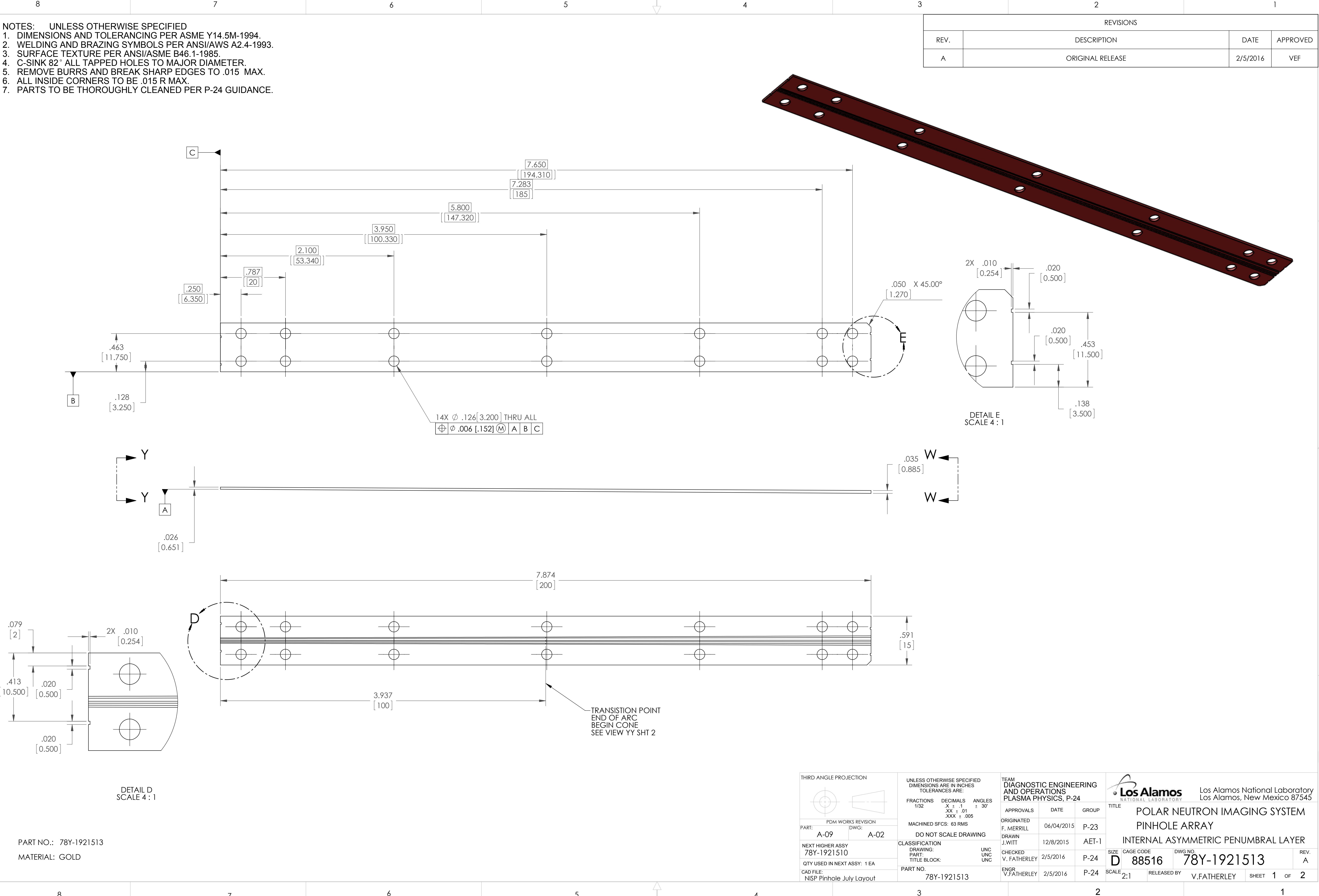
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3

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1





D

D

C

C

B

B

A

A

D

C

B

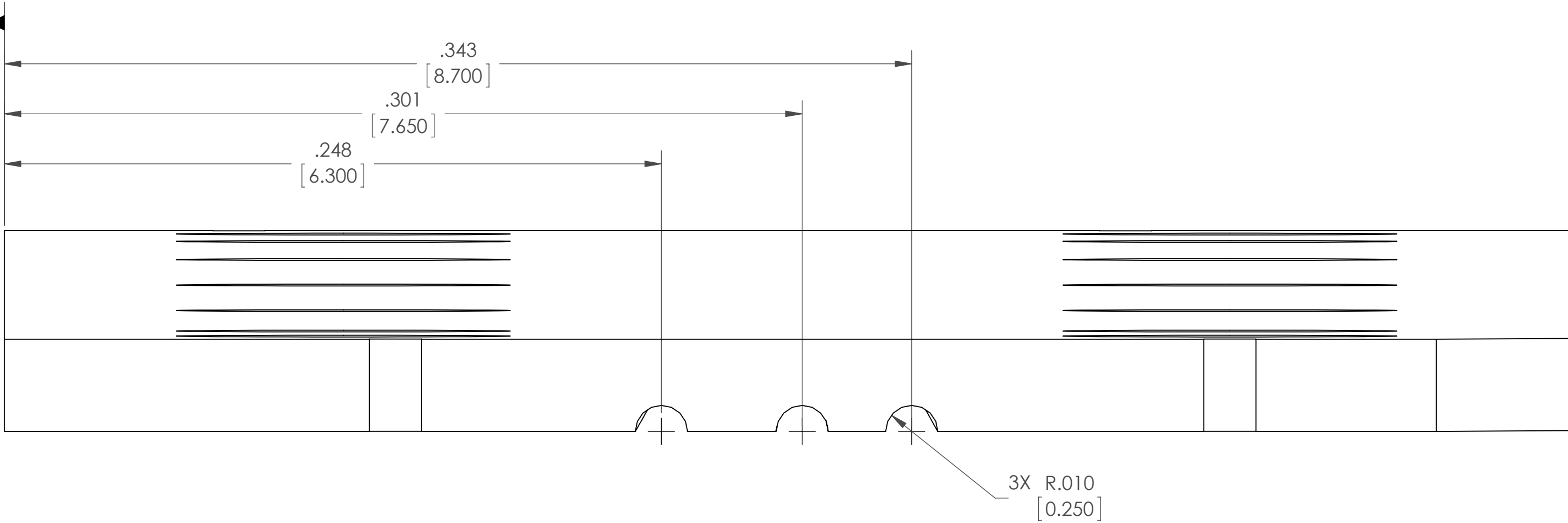
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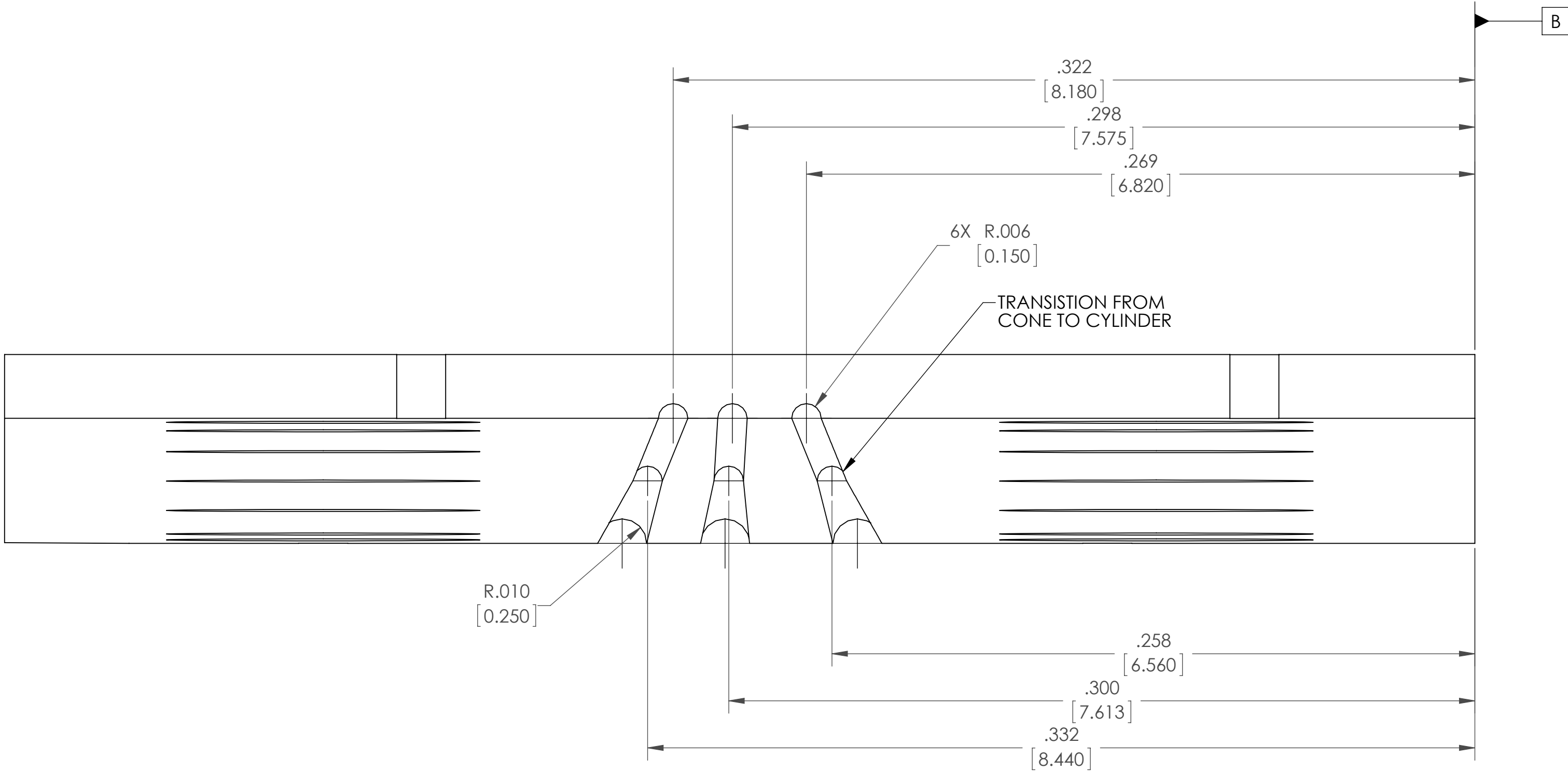
C

B

A



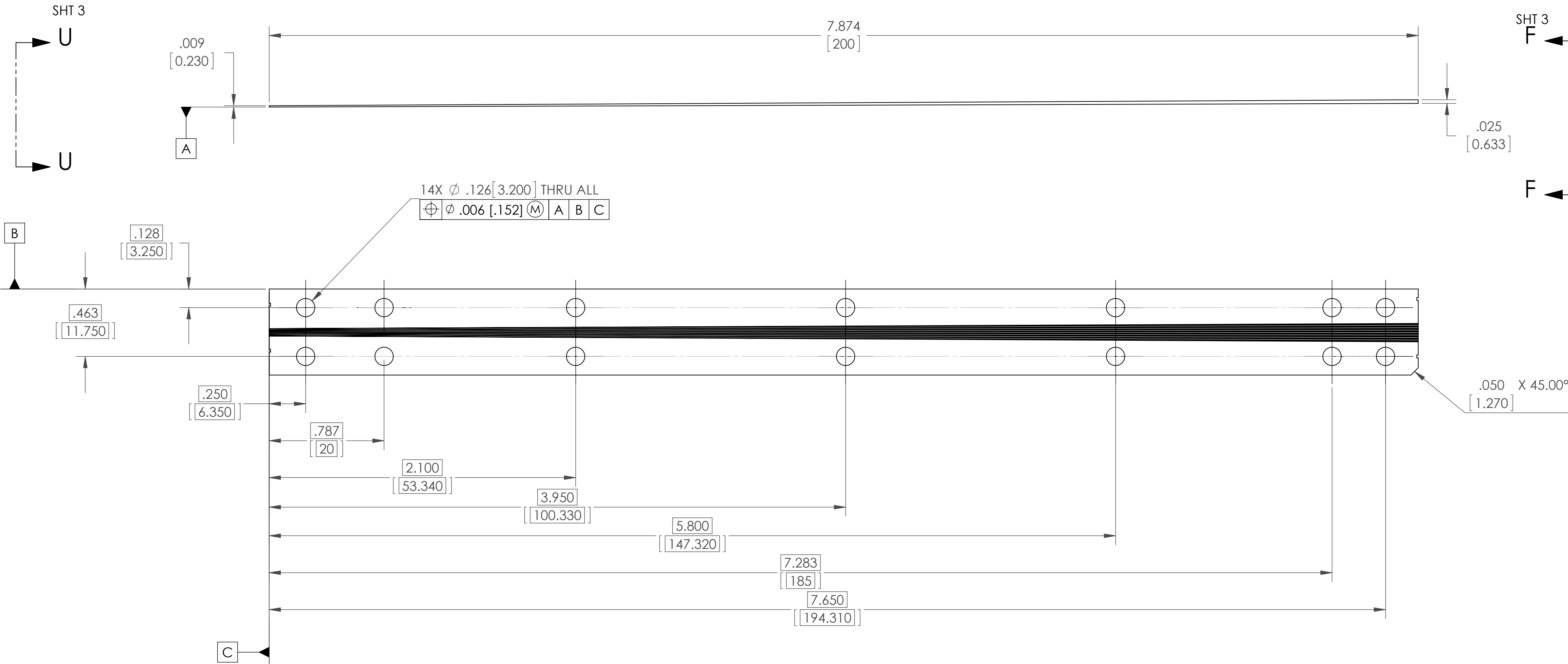
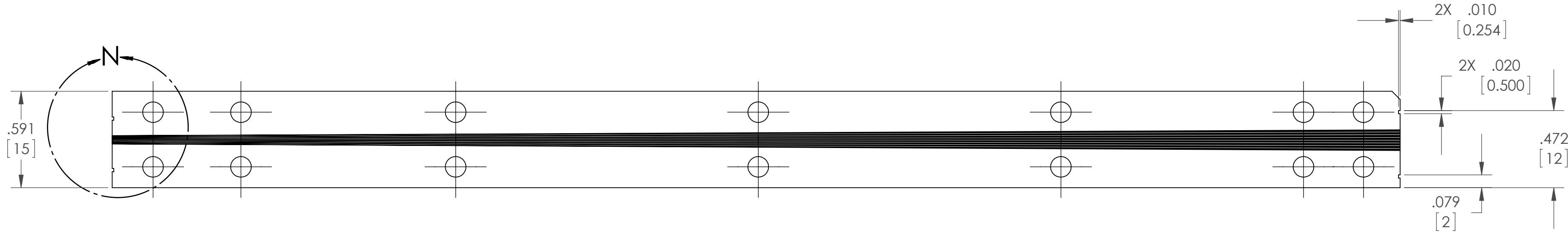
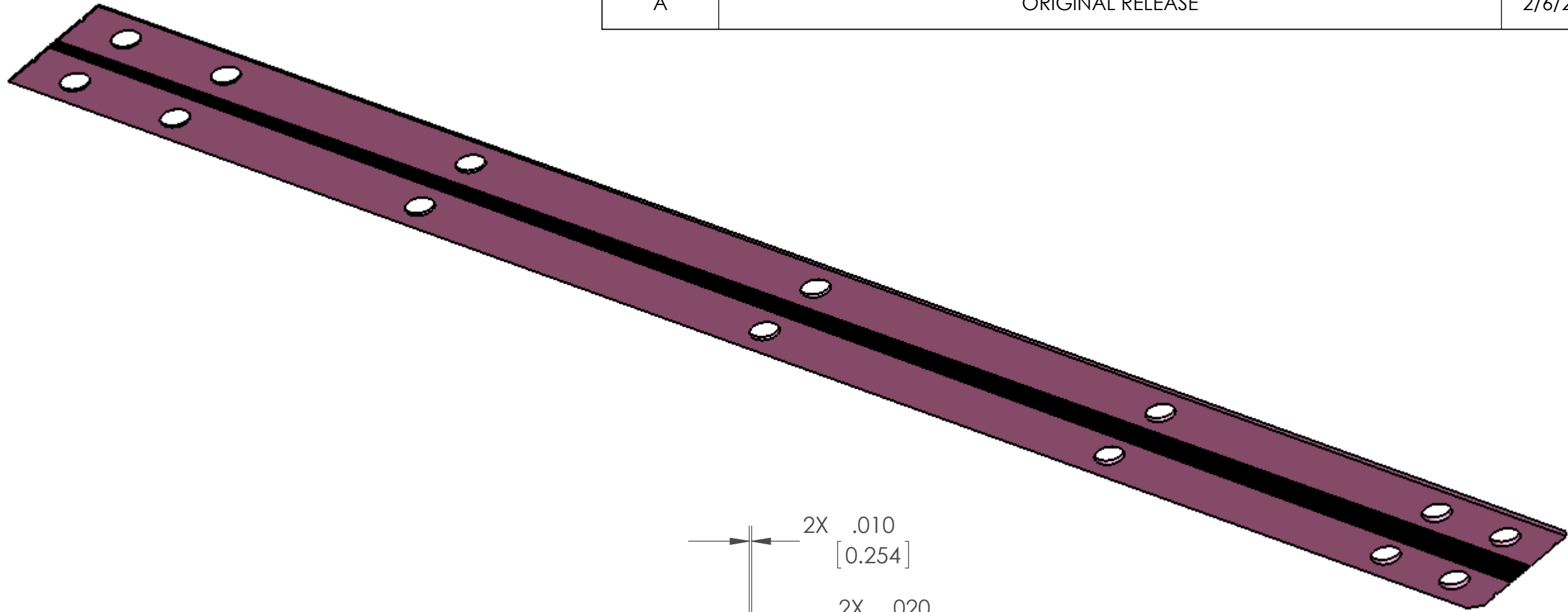
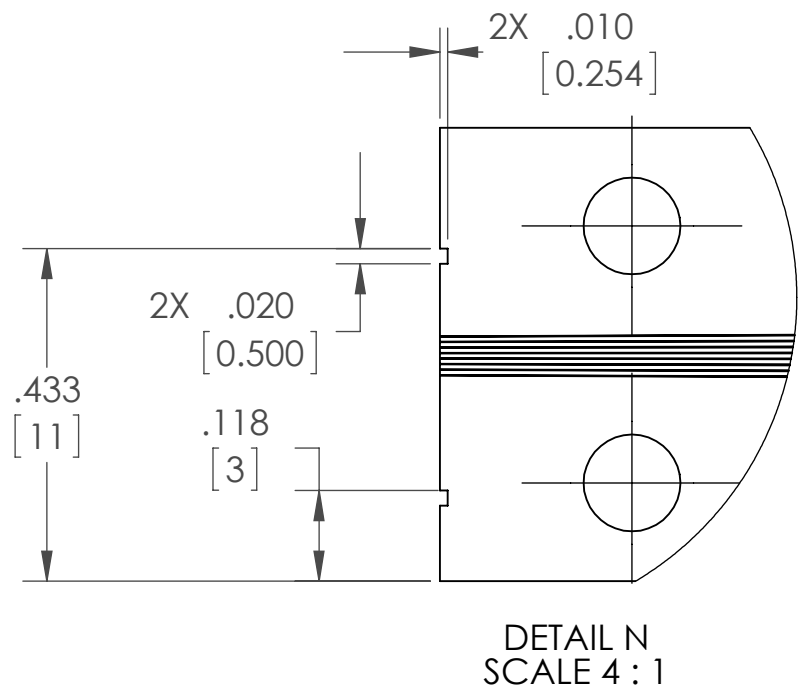
VIEW W-W
SCALE 25 : 1
BACK



VIEW Y-Y
SCALE 25 : 1
FRONT

NOTES: UNLESS OTHERWISE SPECIFIED
1. DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994.
2. WELDING AND BRAZING SYMBOLS PER ANSI/AWS A2.4-1993.
3. SURFACE TEXTURE PER ANSI/ASME B46.1-1985.
4. C-SINK 82° ALL TAPPED HOLES TO MAJOR DIAMETER.
5. REMOVE BURRS AND BREAK SHARP EDGES TO .015 MAX.
6. ALL INSIDE CORNERS TO BE .015 R MAX.
7. PARTS TO BE THOROUGHLY CLEANED PER P-24 GUIDANCE.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	2/6/2016	VEF



PART NO.: 78Y-1921514
MATERIAL: GOLD

THIRD ANGLE PROJECTION

PART: A-09

DWG: A-01

NEXT HIGHER ASSY: 78Y-1921510

QTY USED IN NEXT ASSY: 1 EA

CAD FILE: NISP Pinhole July Layout

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS 1/32 DECIMALS .X ± .1 .XX ± .01 .XXX ± .005 ANGLES ± 30°
MACHINED SFCS: 63 RMS
DO NOT SCALE DRAWING

CLASSIFICATION
DRAWING: 78Y-1921510
PART: 78Y-1921514
TITLE BLOCK: 78Y-1921514

UNC
UNC
UNC

TEAM
DIAGNOSTIC ENGINEERING
AND OPERATIONS
PLASMA PHYSICS, P-24

APPROVALS

DATE

GROUP

ORIGINATED
F. MERRILL

12/08/2016

P-23

DRAWN
J.WITT

2/6/2016

AET-1

CHECKED
V.FATHERLEY

12/08/2016

P-24

ENGR
V.FATHERLEY

12/08/2016

P-24

Los Alamos
NATIONAL LABORATORY

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

TITLE
POLAR NEUTRON IMAGING SYSTEM
PINHOLE ARRAY
PINHOLE SCRIBE LAYER 4

SIZE
D

CAGE CODE
88516

DWG NO.
78Y-1921514

REV.
A

SCALE
2:1

RELEASED BY
V. FATHERLEY

SHEET
1 OF 3

D

C

B

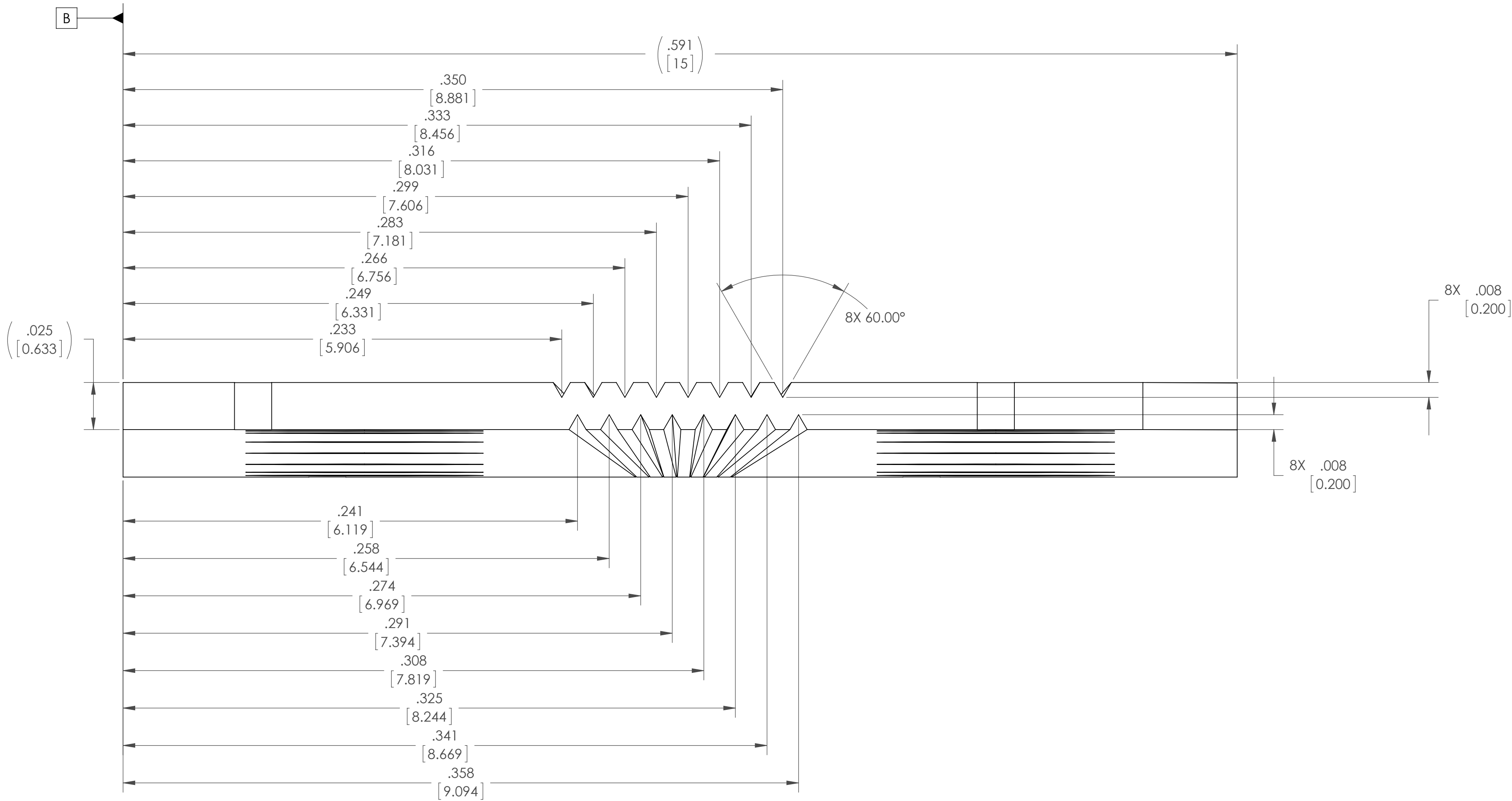
A

D

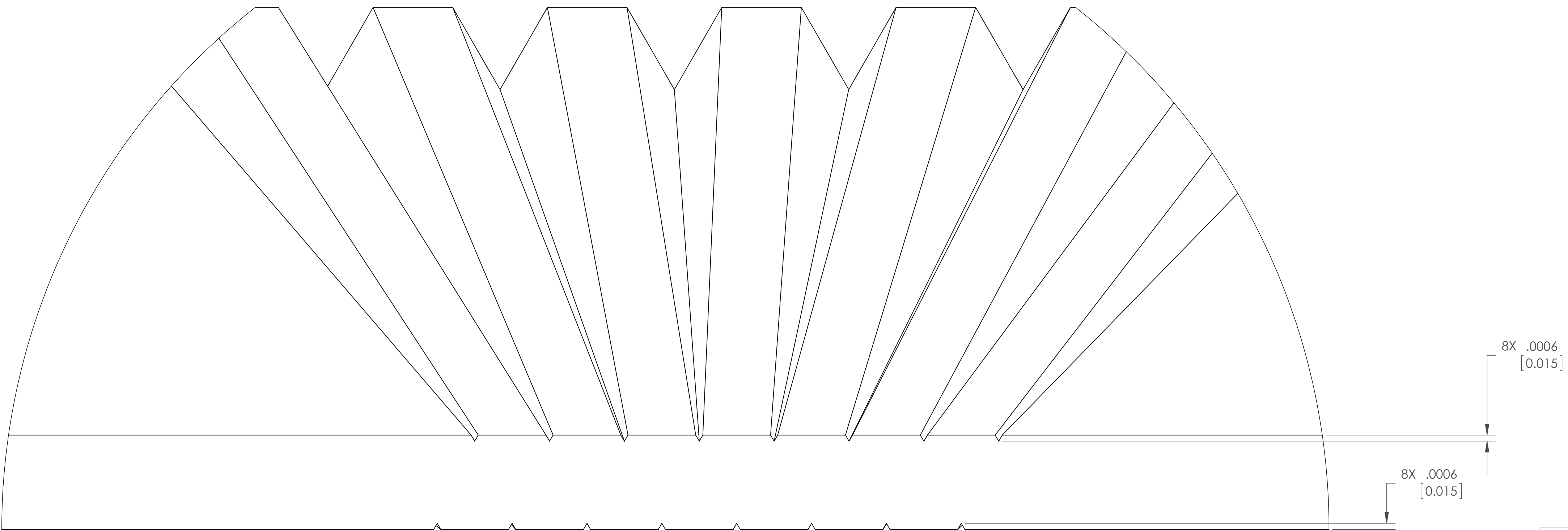
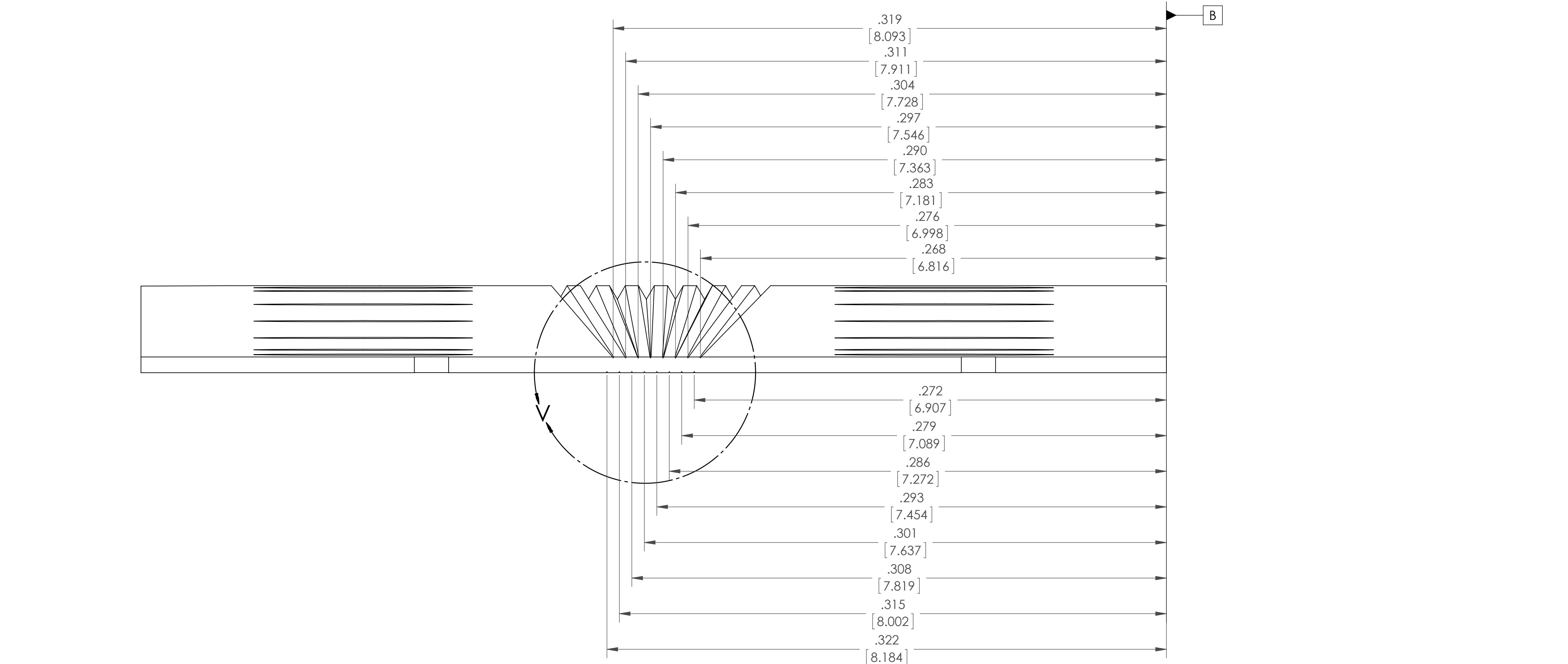
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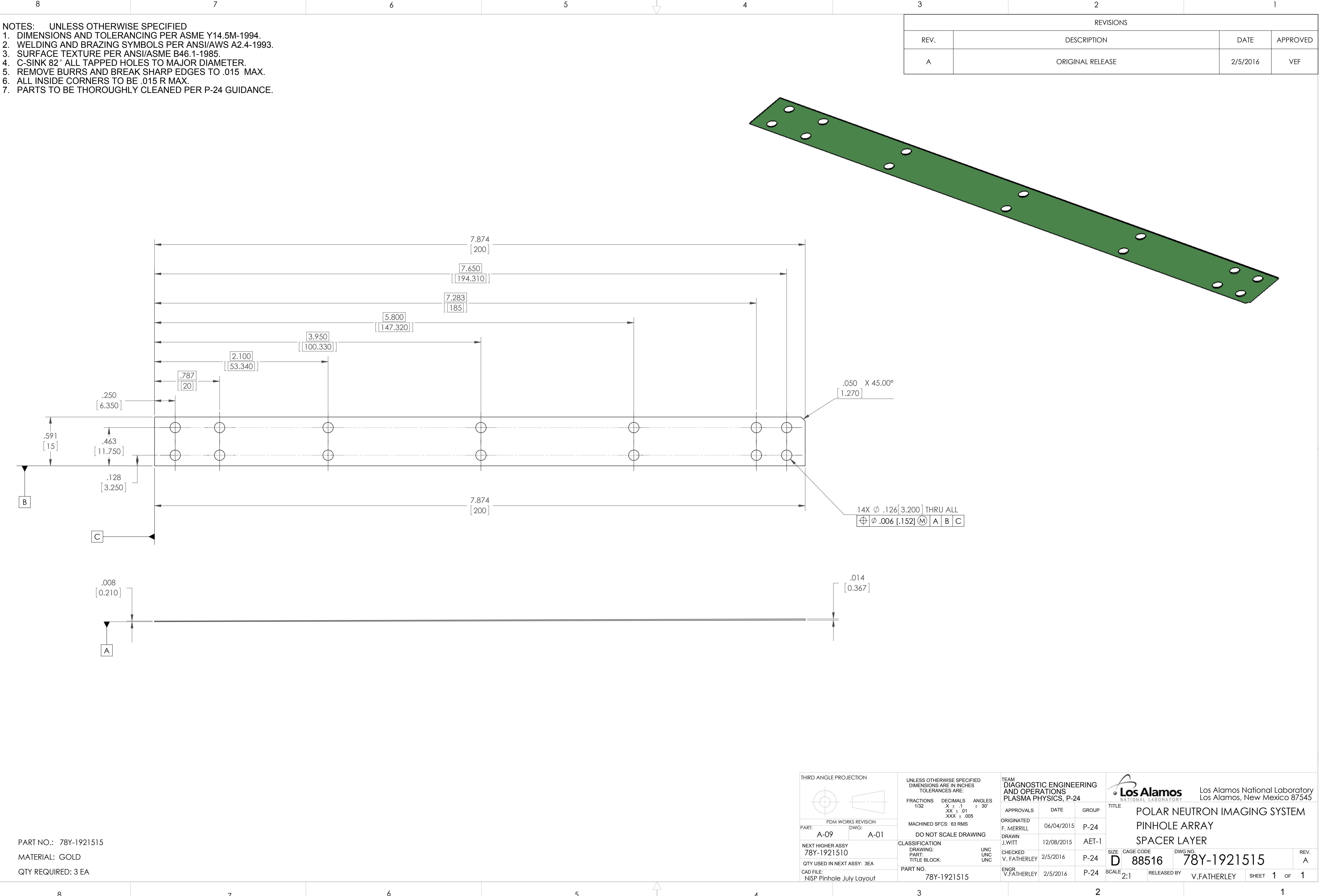
B

A



VIEW F-F
SCALE 25 : 1
BACK

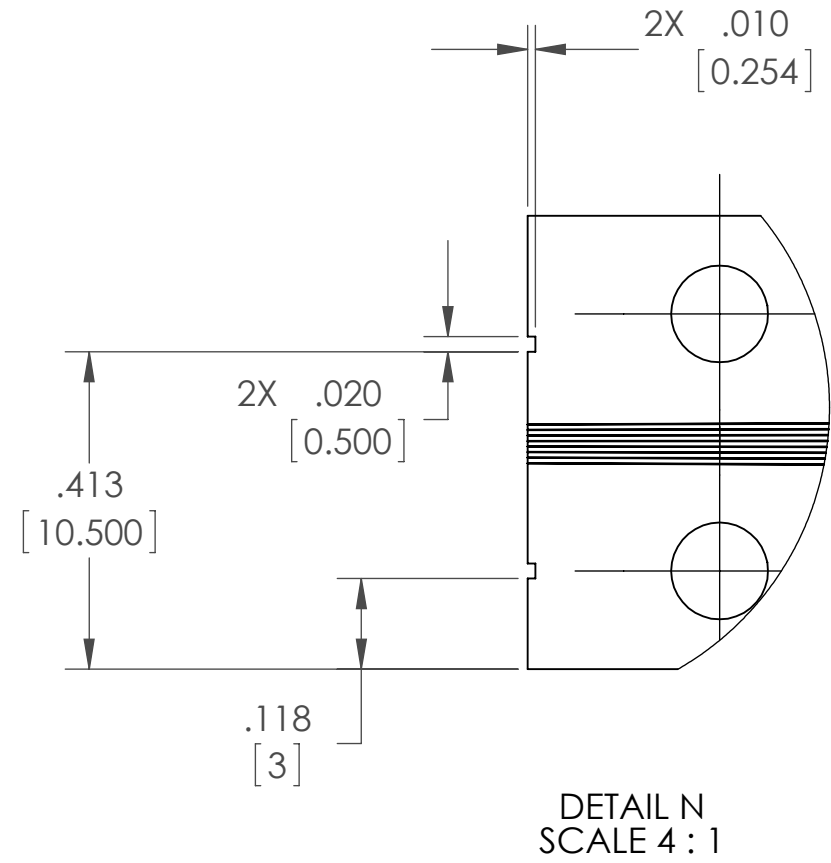
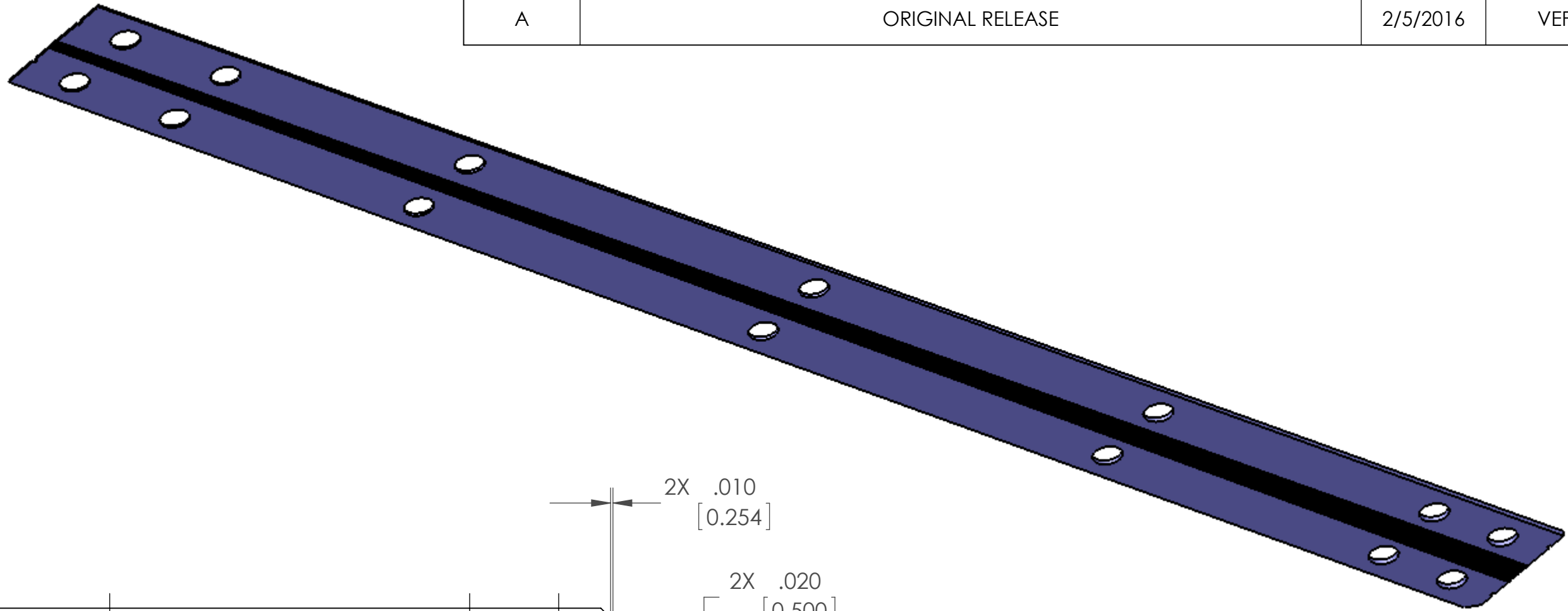




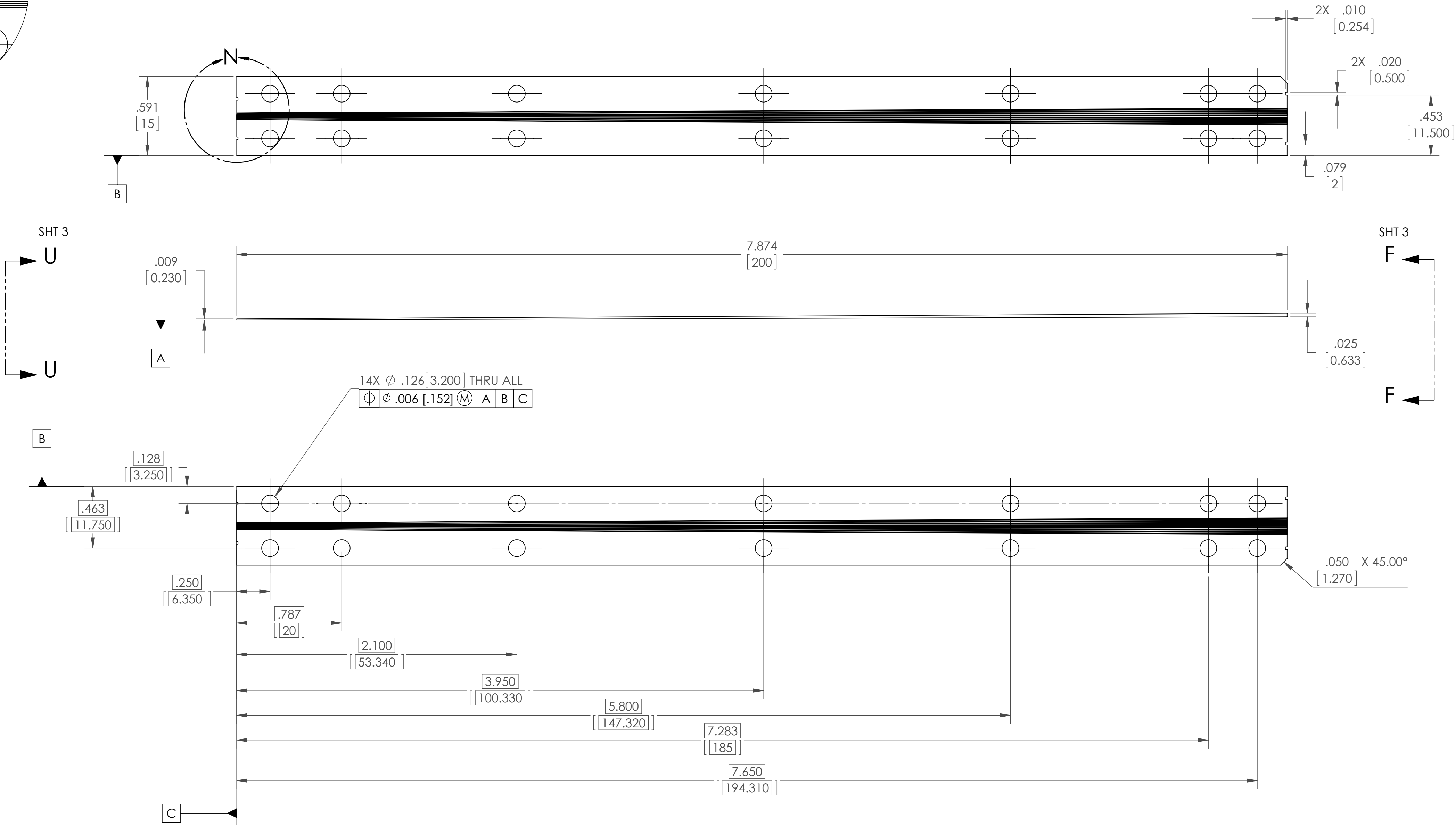
NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994.
2. WELDING AND BRAZING SYMBOLS PER ANSI/AWS A2.4-1993.
3. SURFACE TEXTURE PER ANSI/ASME B46.1-1985.
4. C-SINK 82° ALL TAPPED HOLES TO MAJOR DIAMETER.
5. REMOVE BURRS AND BREAK SHARP EDGES TO .015 MAX.
6. ALL INSIDE CORNERS TO BE .015 R MAX.
7. PARTS TO BE THOROUGHLY CLEANED PER P-24 GUIDANCE.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	2/5/2016	VEF



DETAIL N
SCALE 4:1



PART NO.: 78Y-1921516
MATERIAL: GOLD

THIRD ANGLE PROJECTION		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		TEAM DIAGNOSTIC ENGINEERING AND OPERATIONS PLASMA PHYSICS, P-24			
		FRACTIONS 1/32 DECIMALS .X ± .1 ANGLES ± 30° XX ± .01 XXX ± .005		APPROVALS DATE GROUP		TITLE POLAR NEUTRON IMAGING SYSTEM PINHOLE ARRAY PINHOLE SCRIBE LAYER 3	
PART: A-09 DWG: A-02		MACHINED SFCS: 63 RMS DO NOT SCALE DRAWING		ORIGINATED F. MERRILL 06/04/2015 P-23		SIZE CAGE CODE DWG NO. REV. D 88516 78Y-1921516 A	
NEXT HIGHER ASSY 78Y-1921510		DRAWING: PART: TITLE BLOCK: PART NO. 78Y-1921516		DRAWN J.WITT 12/08/2015 AET-1		SCALE 2:1	
QTY USED IN NEXT ASSY: 1 EA		CHECKED V.FATHERLEY 2/5/2016 P-24		ENGR V.FATHERLEY 2/5/2016 P-24		RELEASED BY V.FATHERLEY SHEET 1 OF 3	
CAD FILE: NISP Pinhole July Layout							

D

C

B

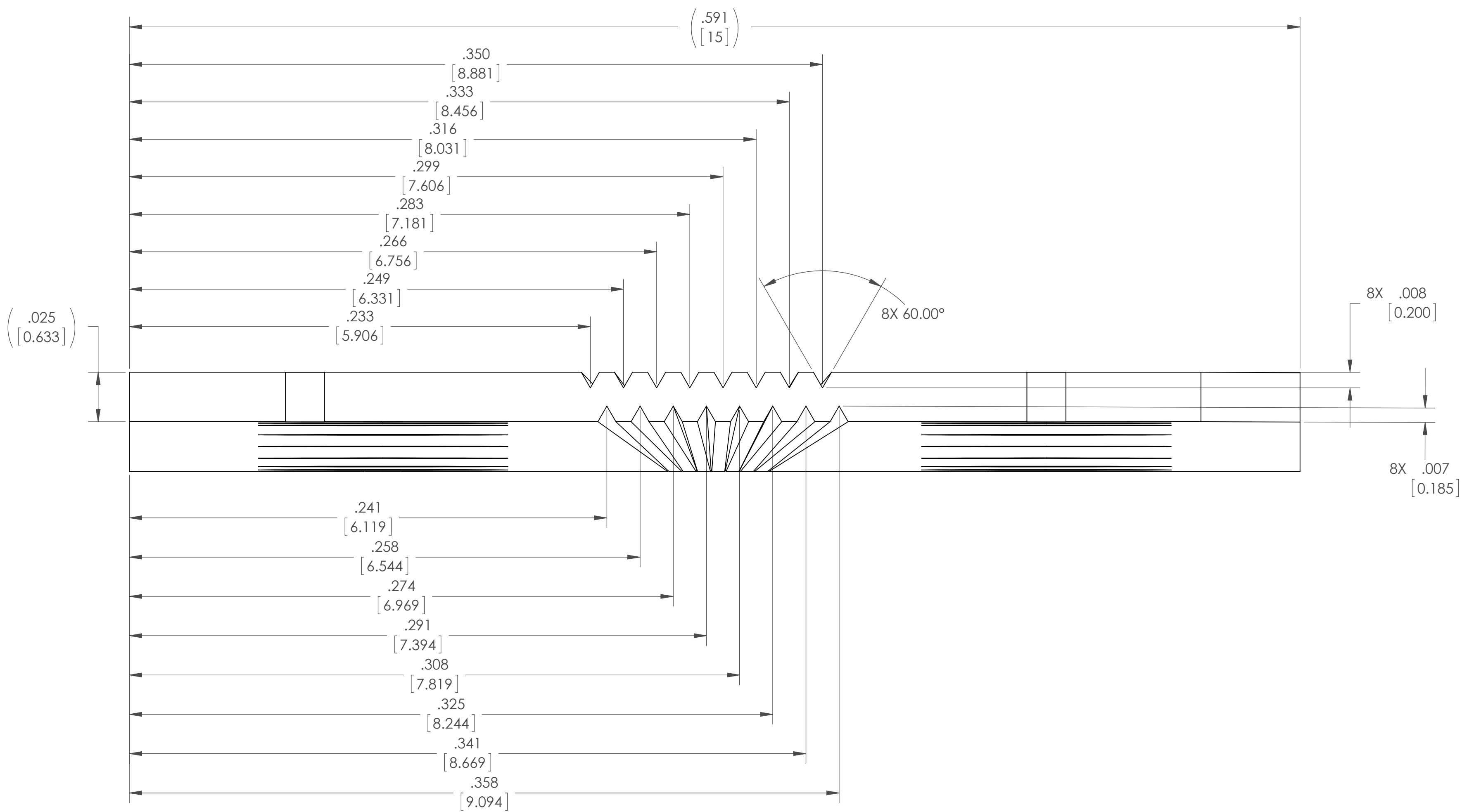
A

D

C

B

A



VIEW F-F
SCALE 25 : 1
BACK

TEAM
DIAGNOSTIC ENGINEERING
AND OPERATIONS
PLASMA PHYSICS, P-24

SIZE
D

CAGE CODE
88516

DWG NO.
78Y-1921516

RELEASED BY
V.FATHERLEY

SHEET
2

OF
3

REV.
A

Los Alamos Los Alamos National Laboratory
NATIONAL LABORATORY Los Alamos, New Mexico 87545

D

C

B

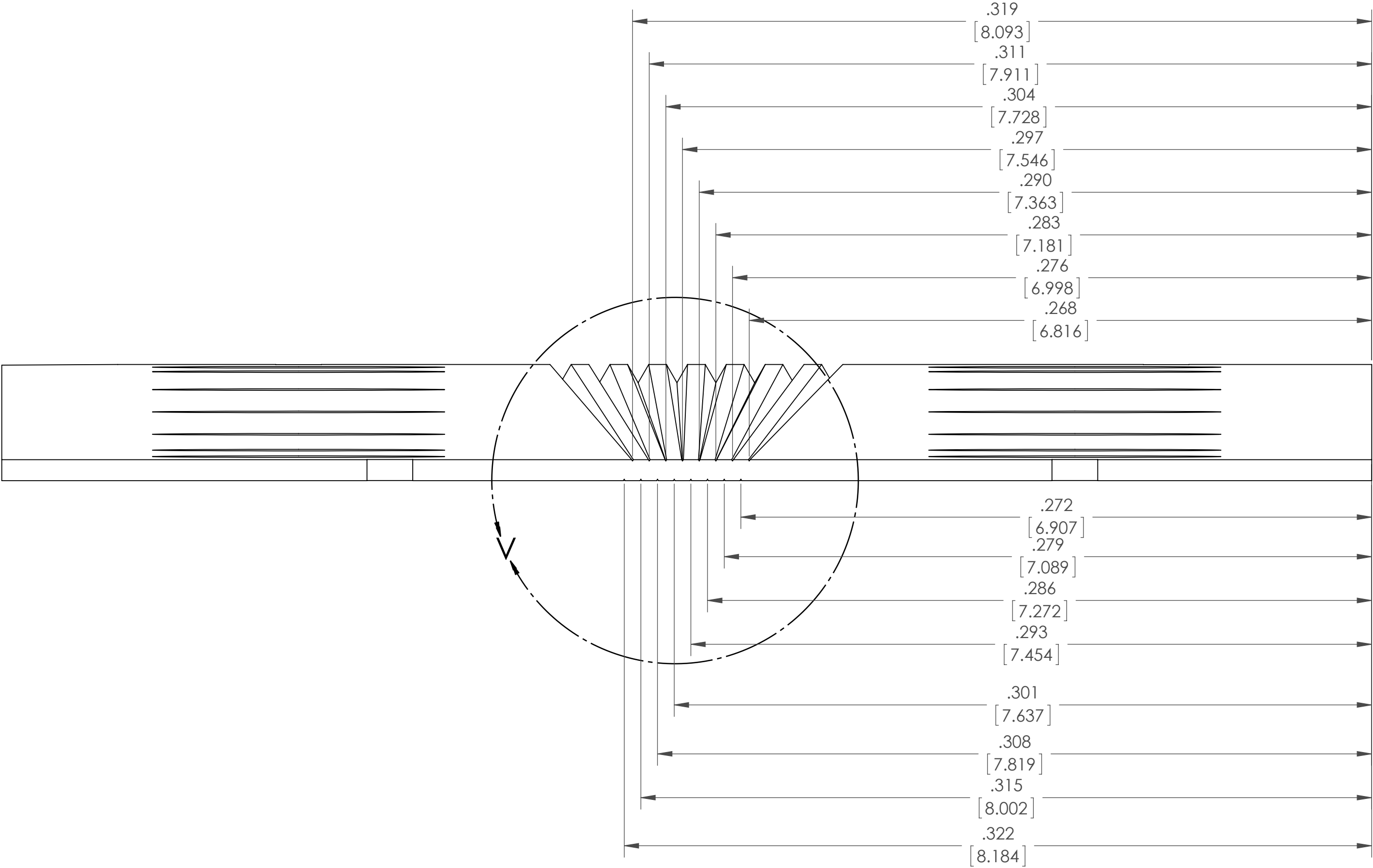
A

D

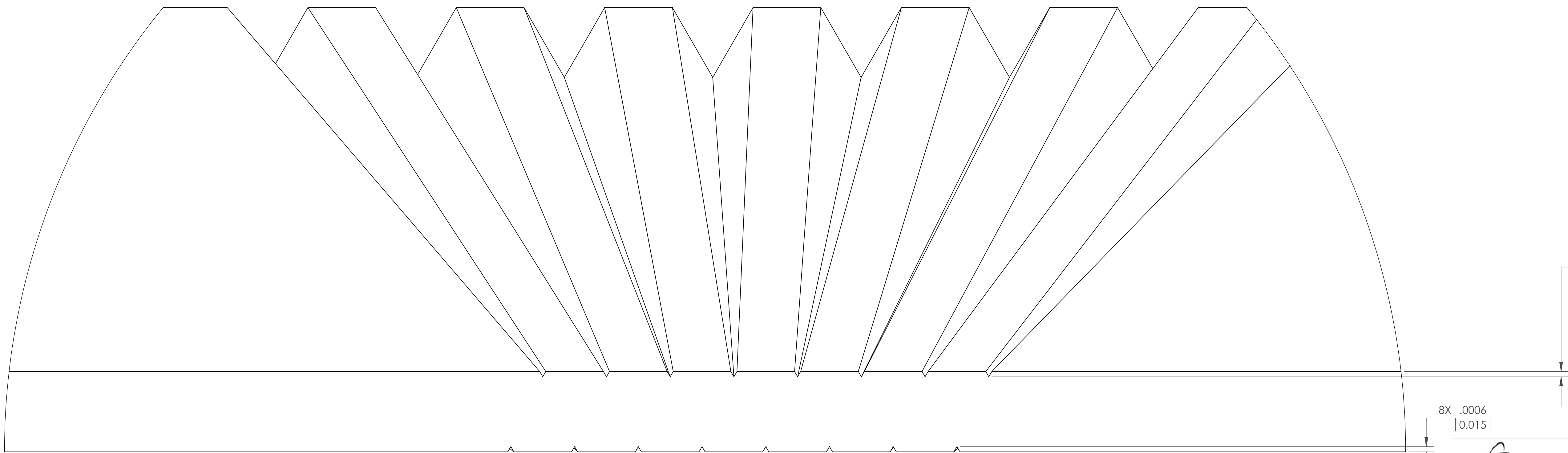
C

B

A



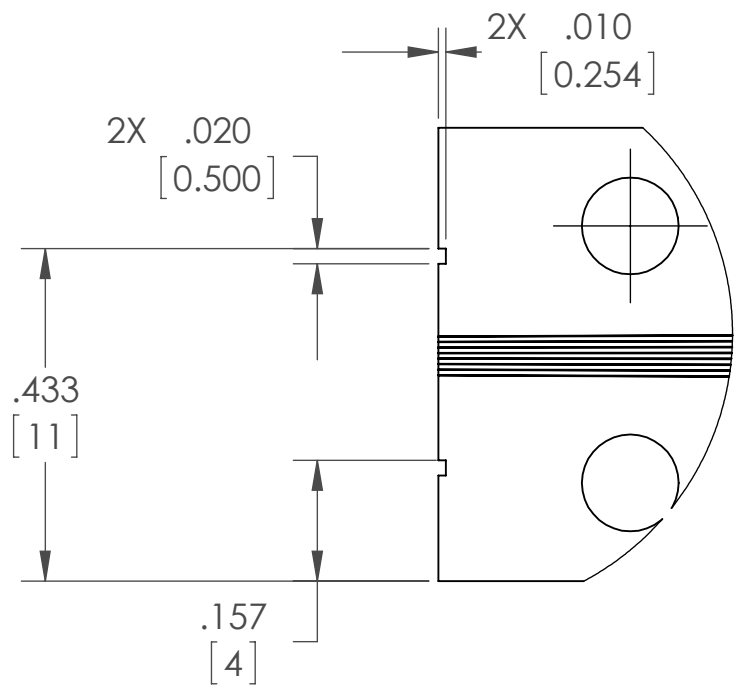
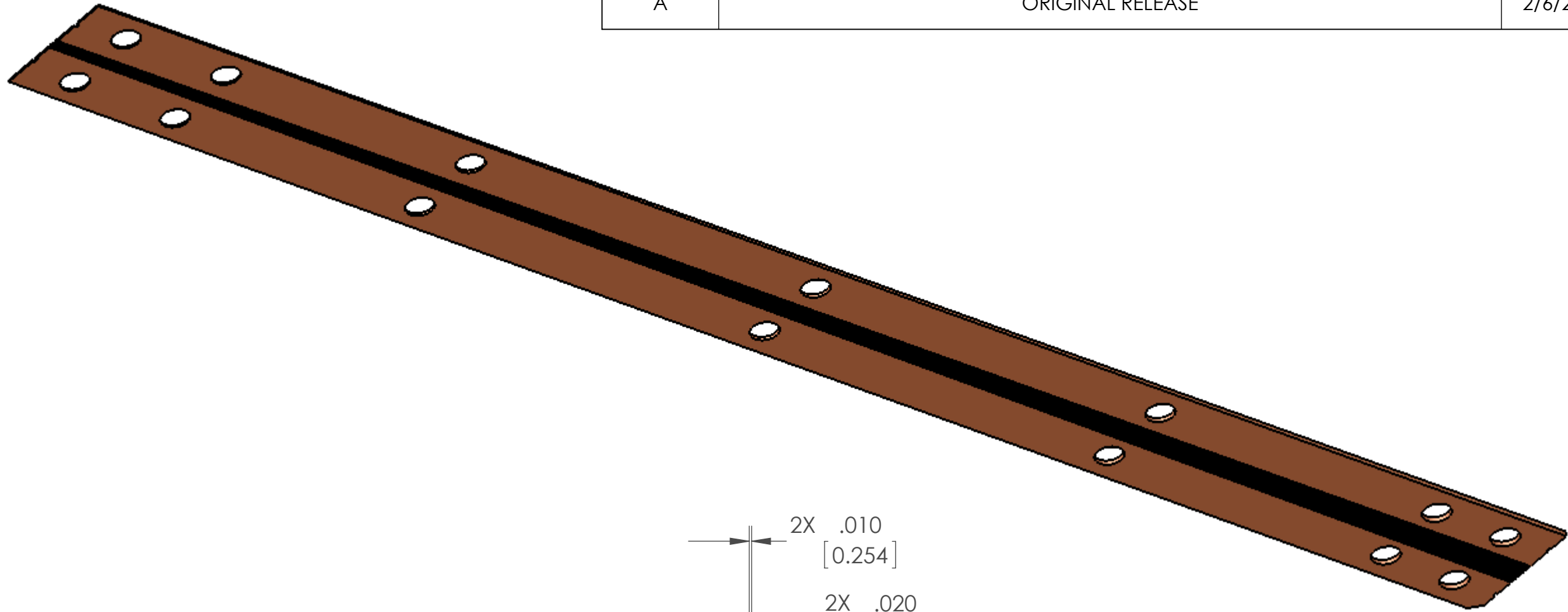
VIEW U-U
SCALE 25 : 1
FRONT



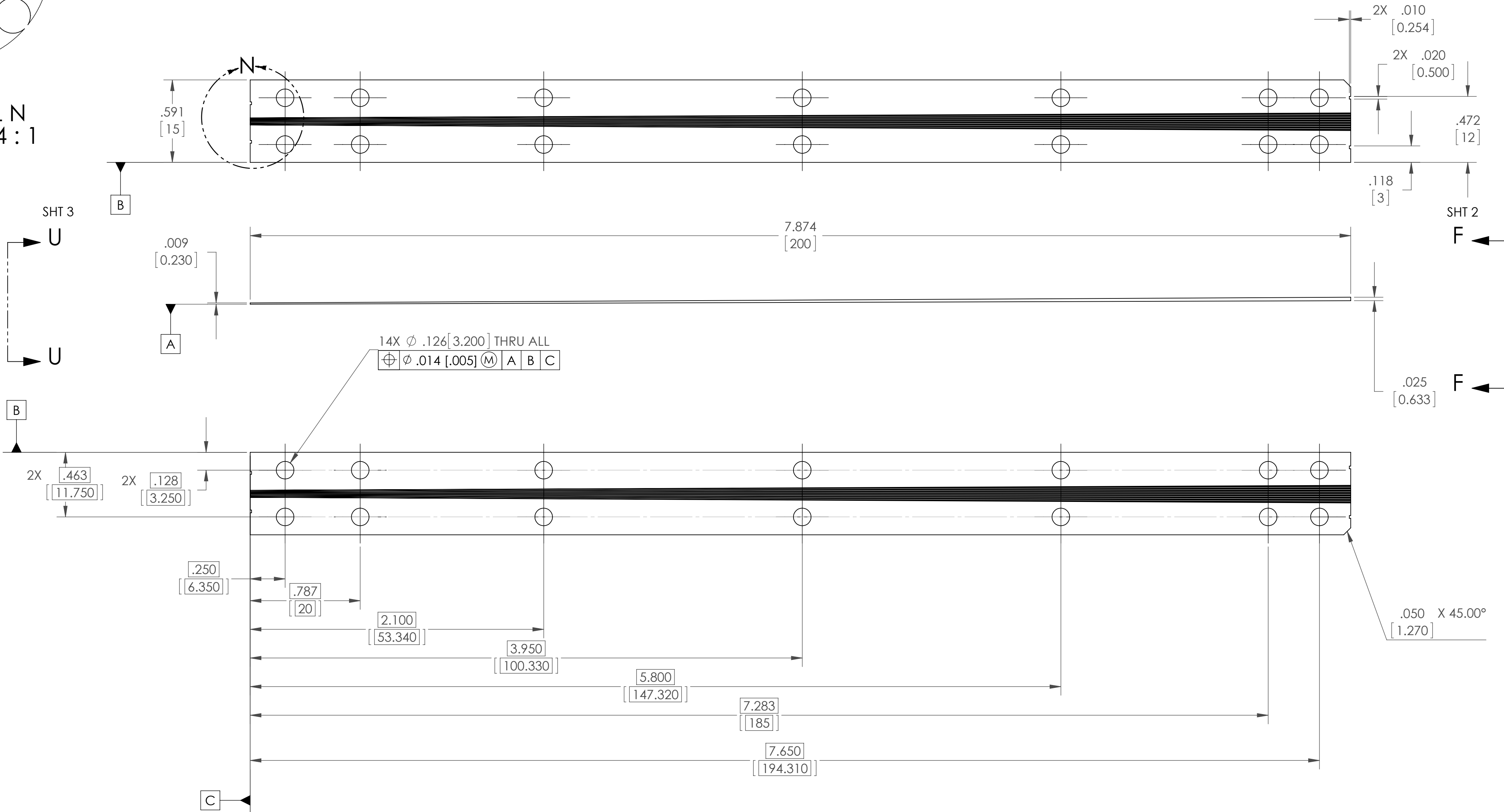
DETAIL V
SCALE 150 : 1

NOTES: UNLESS OTHERWISE SPECIFIED
1. DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994.
2. WELDING AND BRAZING SYMBOLS PER ANSI/AWS A2.4-1993.
3. SURFACE TEXTURE PER ANSI/ASME B46.1-1985.
4. C-SINK 82° ALL TAPPED HOLES TO MAJOR DIAMETER.
5. REMOVE BURRS AND BREAK SHARP EDGES TO .015 MAX.
6. ALL INSIDE CORNERS TO BE .015 R MAX.
7. PARTS TO BE THOROUGHLY CLEANED PER P-24 GUIDANCE.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	2/6/2016	VEF



DETAIL N
SCALE 4 : 1



PART NO.: 78Y-1921517
MATERIAL: GOLD

THIRD ANGLE PROJECTION

PART: A-09

NEXT HIGHER ASSY: 78Y-1921510

QTY USED IN NEXT ASSY: 1 EA

CAD FILE: NISP Pinhole July Layout

DWG: A-01

DRAWING: 78Y-1921517

PART: 78Y-1921517

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS 1/32 DECIMALS .X ± .1 .XX ± .01 .XXX ± .005 ANGLES ± 30'
MACHINED SFCS: 63 RMS
DO NOT SCALE DRAWING

CLASSIFICATION

DRAWING: 78Y-1921517

PART: 78Y-1921517

TEAM
DIAGNOSTIC ENGINEERING
AND OPERATIONS
PLASMA PHYSICS, P-24

APPROVALS

DATE

GROUP

ORIGINATED

06/04/2002

P-23

DRAWN

12/08/2015

AET-1

CHECKED

2/6/2016

P-24

ENGR

2/6/2016

P-24

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

TITLE

POLAR NEUTRON IMAGING SYSTEM
PINHOLE ARRAY
PINHOLE SCRIBE LAYER 2

SIZE

CAGE CODE

DWG NO.

REV.

D

88516

78Y-1921517

A

SCALE

2:1

RELEASED BY

V. FATHERLEY

SHEET

1

OF

3



D

C

B

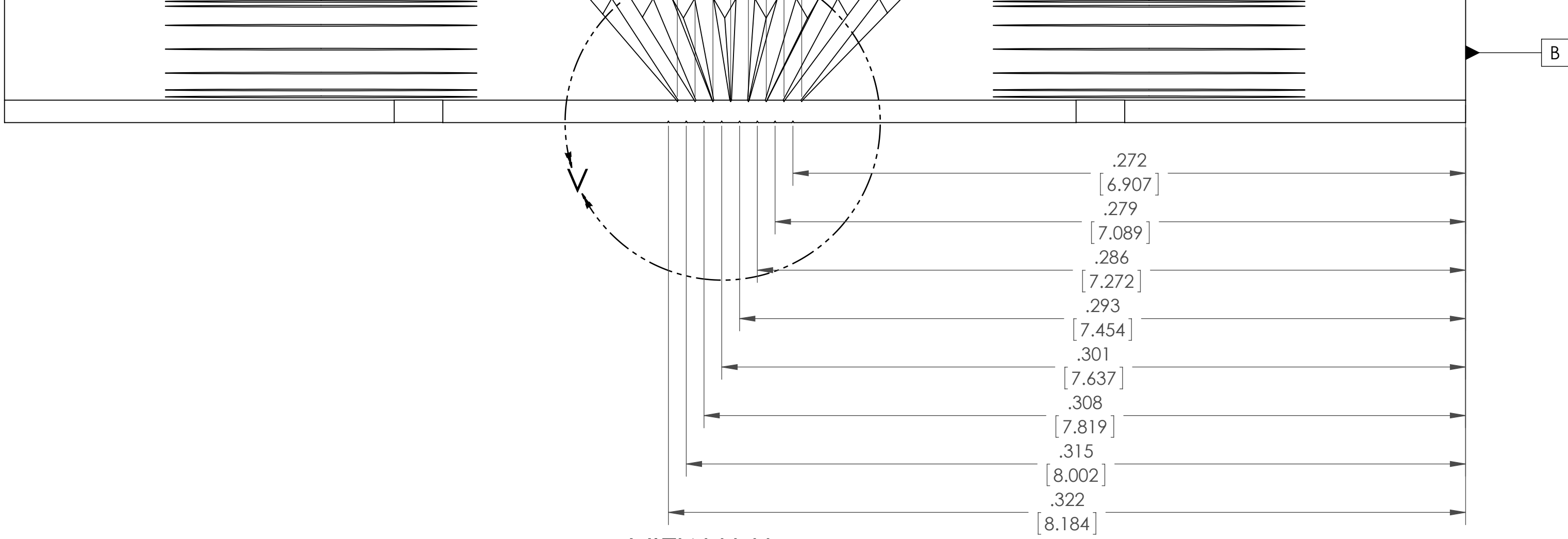
A

D

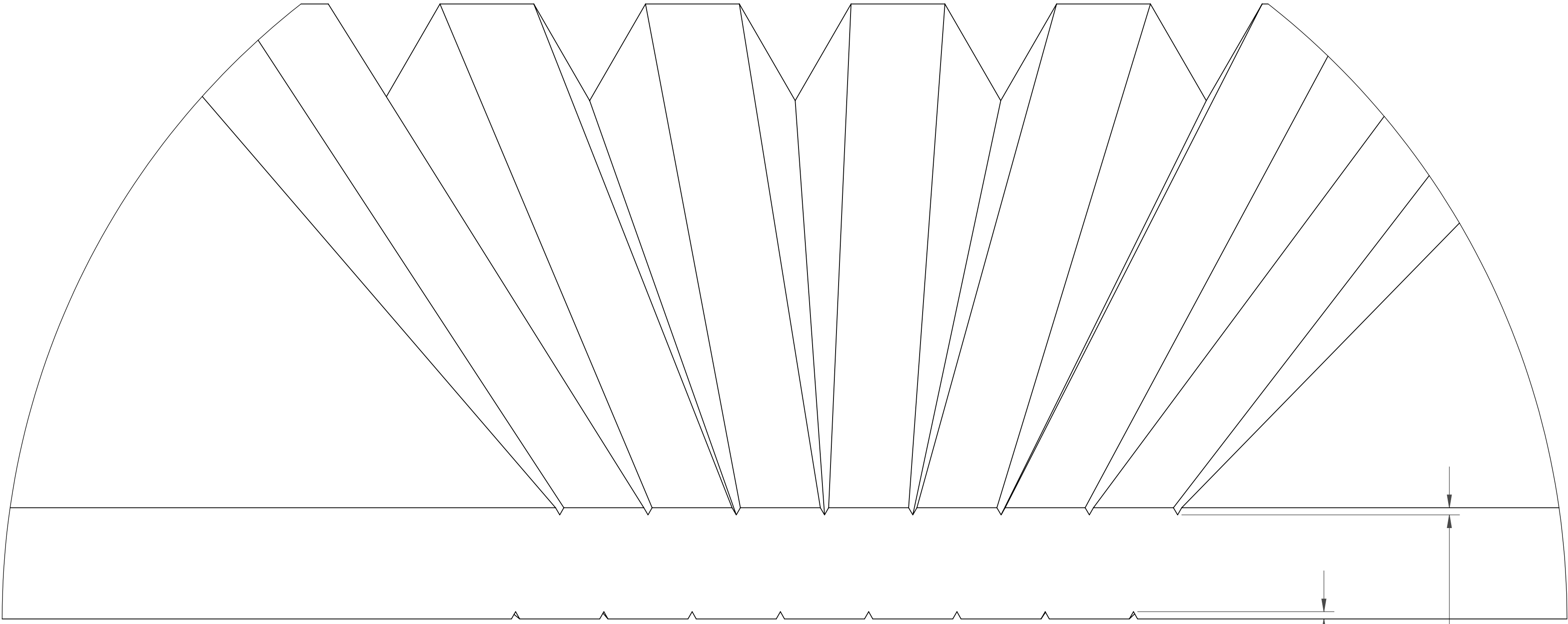
C

B

A



VIEW U-U
SCALE 25 : 1




DETAIL V
SCALE 150 : 1
FRONT

8X .0006
[0.015]

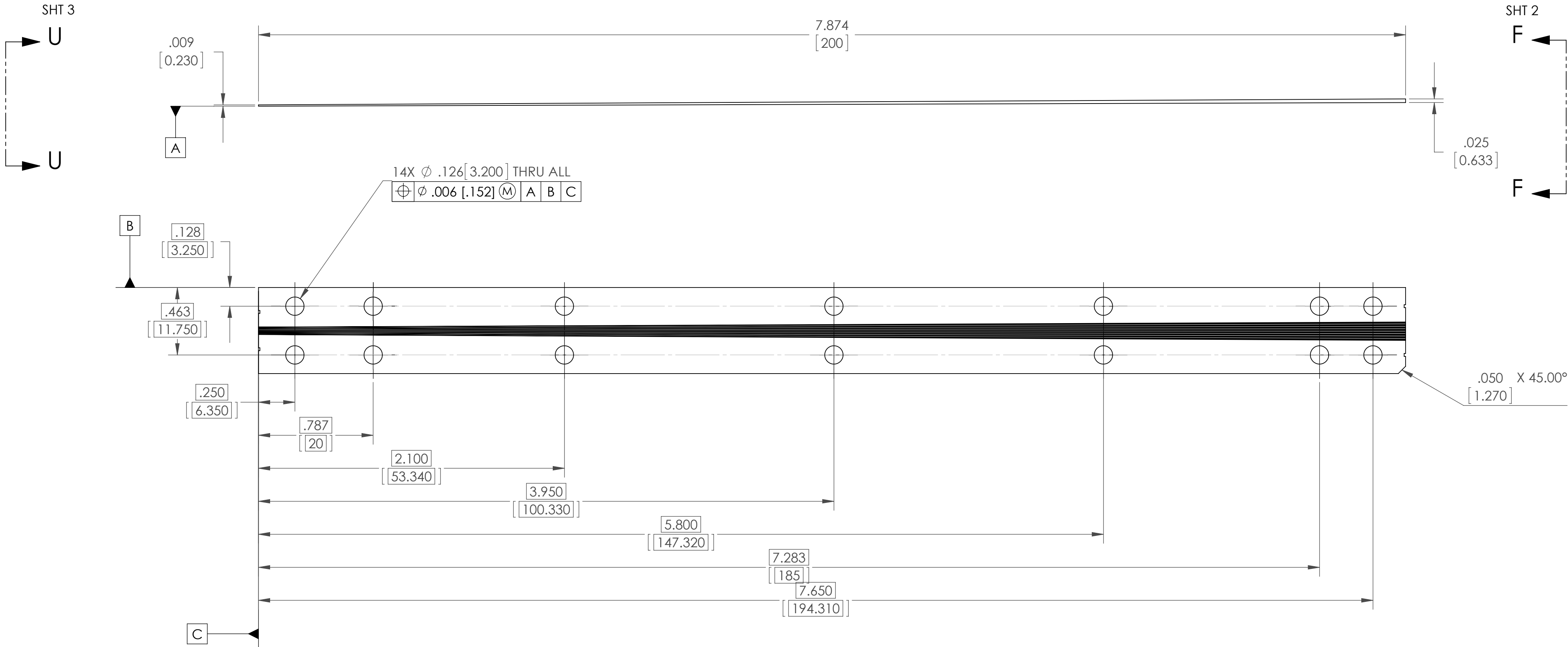
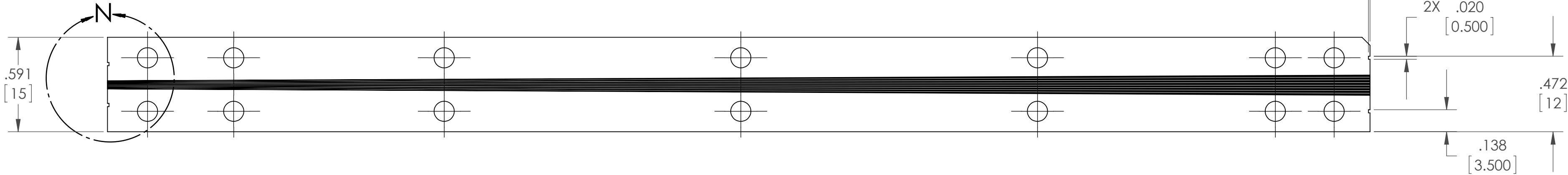
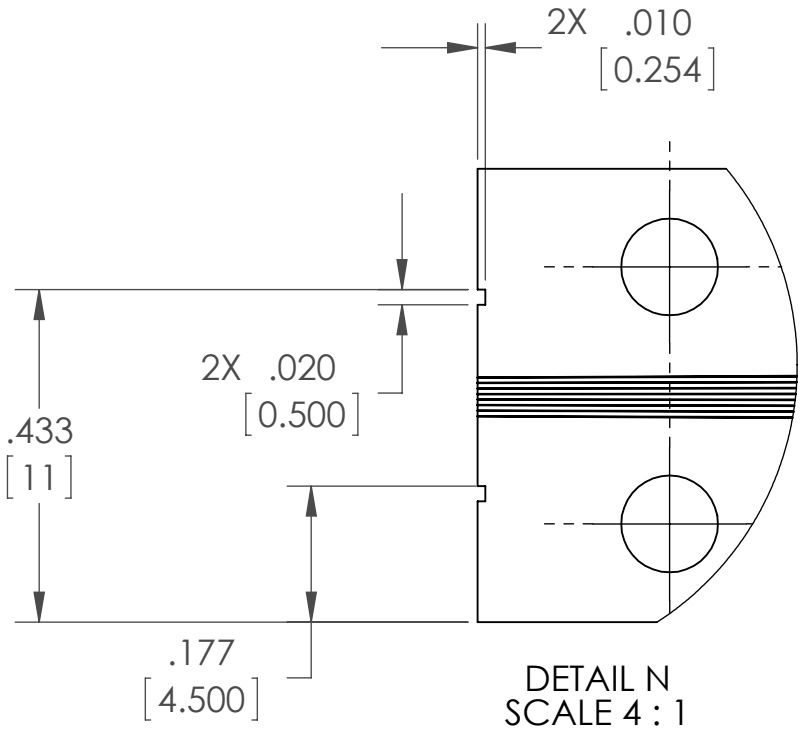
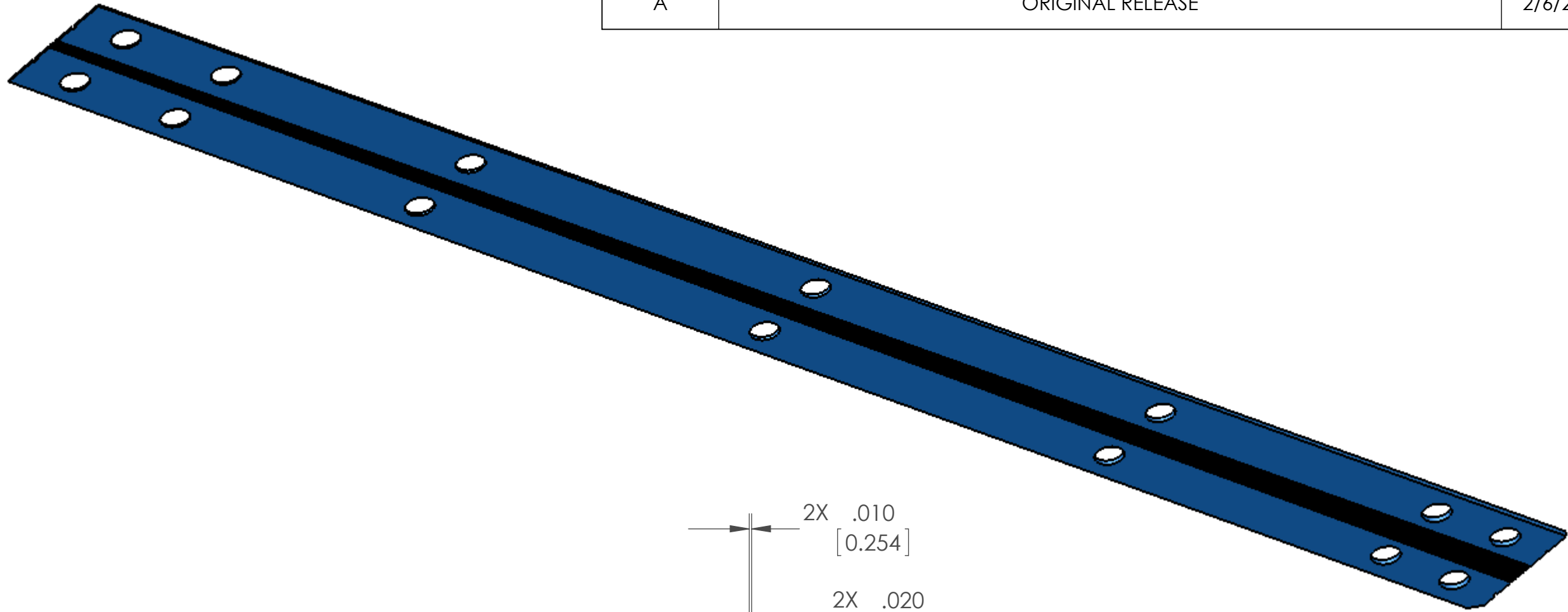
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[0.015]

TEAM
DIAGNOSTIC ENGINEERING
AND OPERATIONS
PLASMA PHYSICS, P-24

		Los Alamos National Laboratory Los Alamos, New Mexico 87545	
SIZE	CAGE CODE	DWG NO.	REV.
D	88516	78Y-1921517	A
SCALE	RELEASED BY	SHEET	OF
1:1	V. FATHERLEY	3	3

NOTES: UNLESS OTHERWISE SPECIFIED
1. DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994.
2. WELDING AND BRAZING SYMBOLS PER ANSI/AWS A2.4-1993.
3. SURFACE TEXTURE PER ANSI/ASME B46.1-1985.
4. C-SINK 82° ALL TAPPED HOLES TO MAJOR DIAMETER.
5. REMOVE BURRS AND BREAK SHARP EDGES TO .015 MAX.
6. ALL INSIDE CORNERS TO BE .015 R MAX.
7. PARTS TO BE THOROUGHLY CLEANED PER P-24 GUIDANCE.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	ORIGINAL RELEASE	2/6/2016	VEF



PART NO.: 78Y-1921518
MATERIAL: GOLD

THIRD ANGLE PROJECTION		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS 1/32 DECIMALS .X ± .1 ANGLES ± 30' MACHINED SFCS: 63 RMS DO NOT SCALE DRAWING		TEAM DIAGNOSTIC ENGINEERING AND OPERATIONS PLASMA PHYSICS, P-24		Los Alamos National Laboratory Los Alamos, New Mexico 87545	
PDM WORKS REVISION PART: A-09 DWG: A-03		CLASSIFICATION DRAWING: 78Y-1921510 PART: QTY USED IN NEXT ASSY: 1 EA CAD FILE: NISP Pinhole July Layout		APPROVALS ORIGINATED F. MERRILL 06/04/2015 P-23 DRAWN J.WITT 12/08/2016 AET-1 CHECKED V. FATHERLEY 2/6/2016 P-24 ENGR V.FATHERLEY 2/6/2016 P-24		TITLE POLAR NEUTRON IMAGING SYSTEM PINHOLE ARRAY PINHOLE SCRIBE LAYER 1	
NEXT HIGHER ASSY 78Y-1921510		PART NO. 78Y-1921518		SIZE D 2:1		CAGE CODE 88516	
DWG NO. 78Y-1921518		REV. A		RELEASED BY V. FATHERLEY		SHEET 1 OF 3	

D

C

B

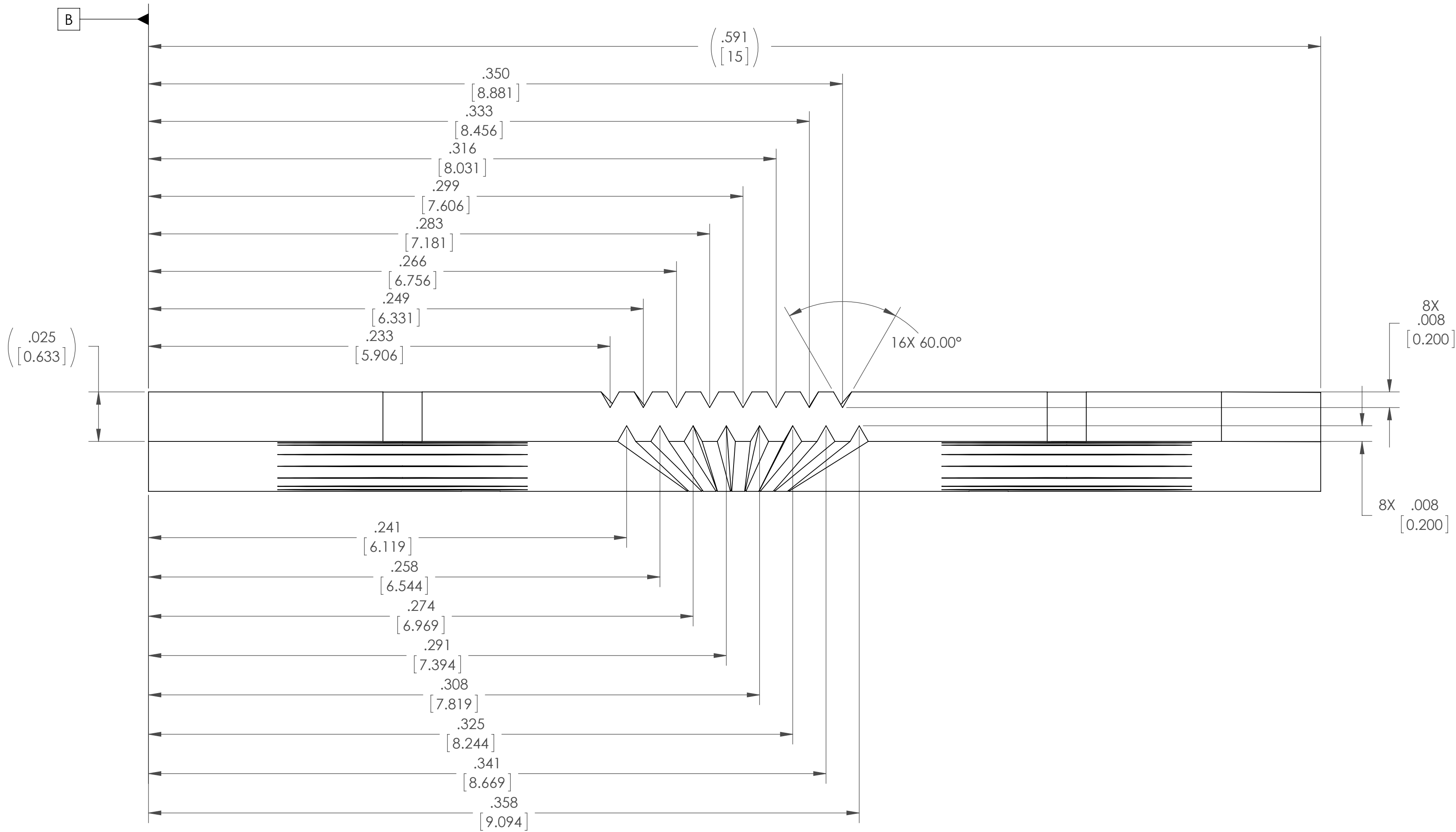
A

D

C

B

A



VIEW F-F
SCALE 25 : 1
(BACK)

TEAM
DIAGNOSTIC ENGINEERING
AND OPERATIONS
PLASMA PHYSICS, P-24

SIZE
D

CAGE CODE
88516

DWG NO.
78Y-1921518

RELEASED BY
V. FATHERLEY

SHEET
2

OF
3

REV.
A

Los Alamos Los Alamos National Laboratory
NATIONAL LABORATORY Los Alamos, New Mexico 87545

D

C

B

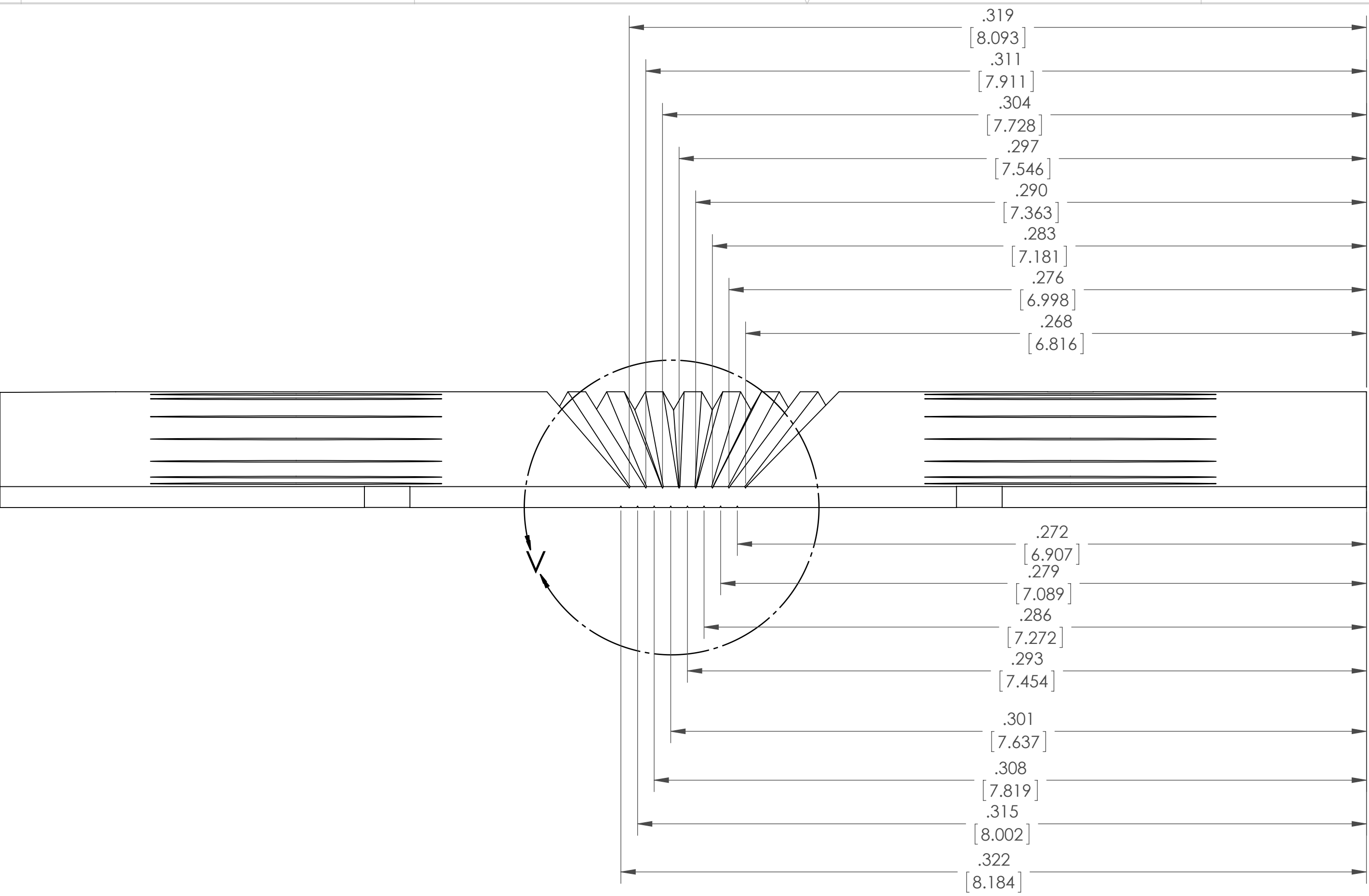
A

D

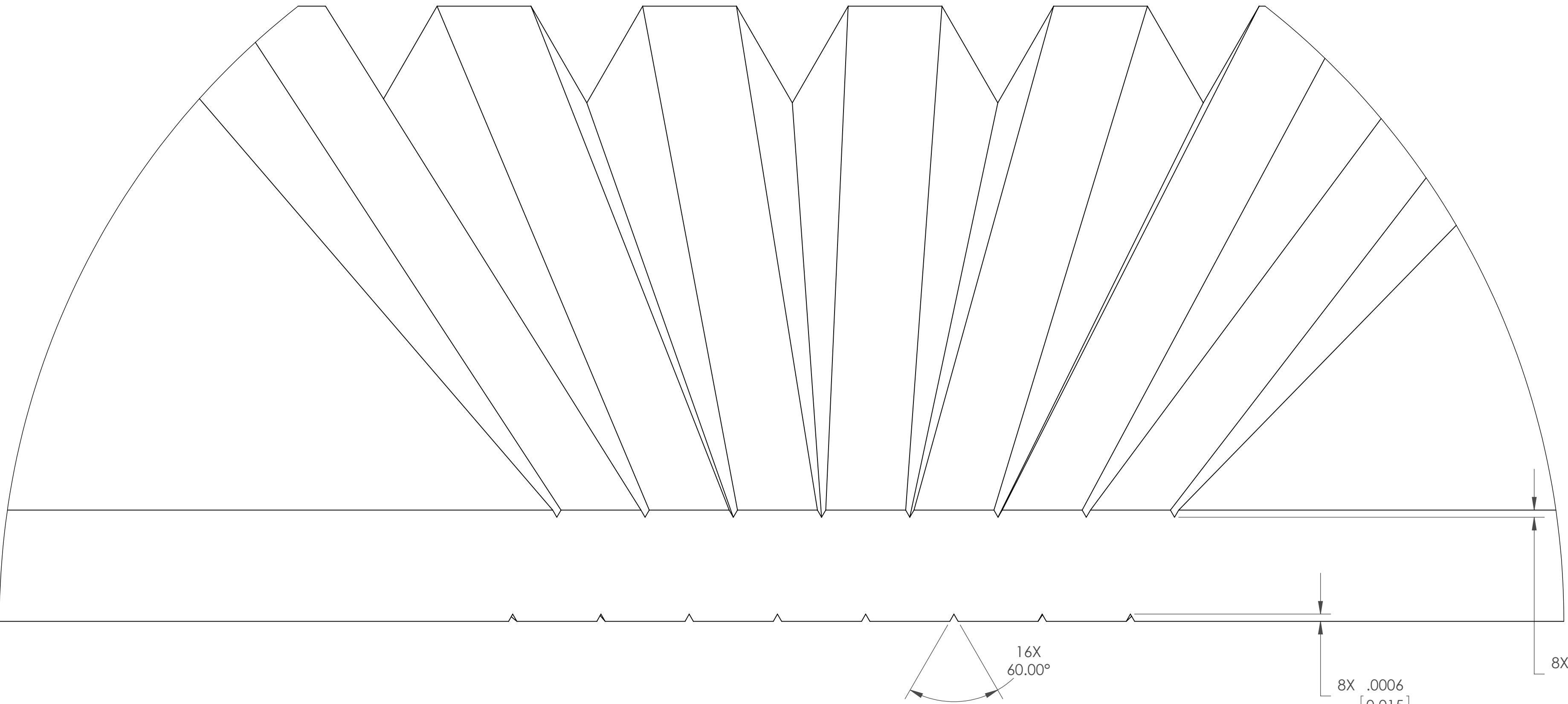
C

B

A



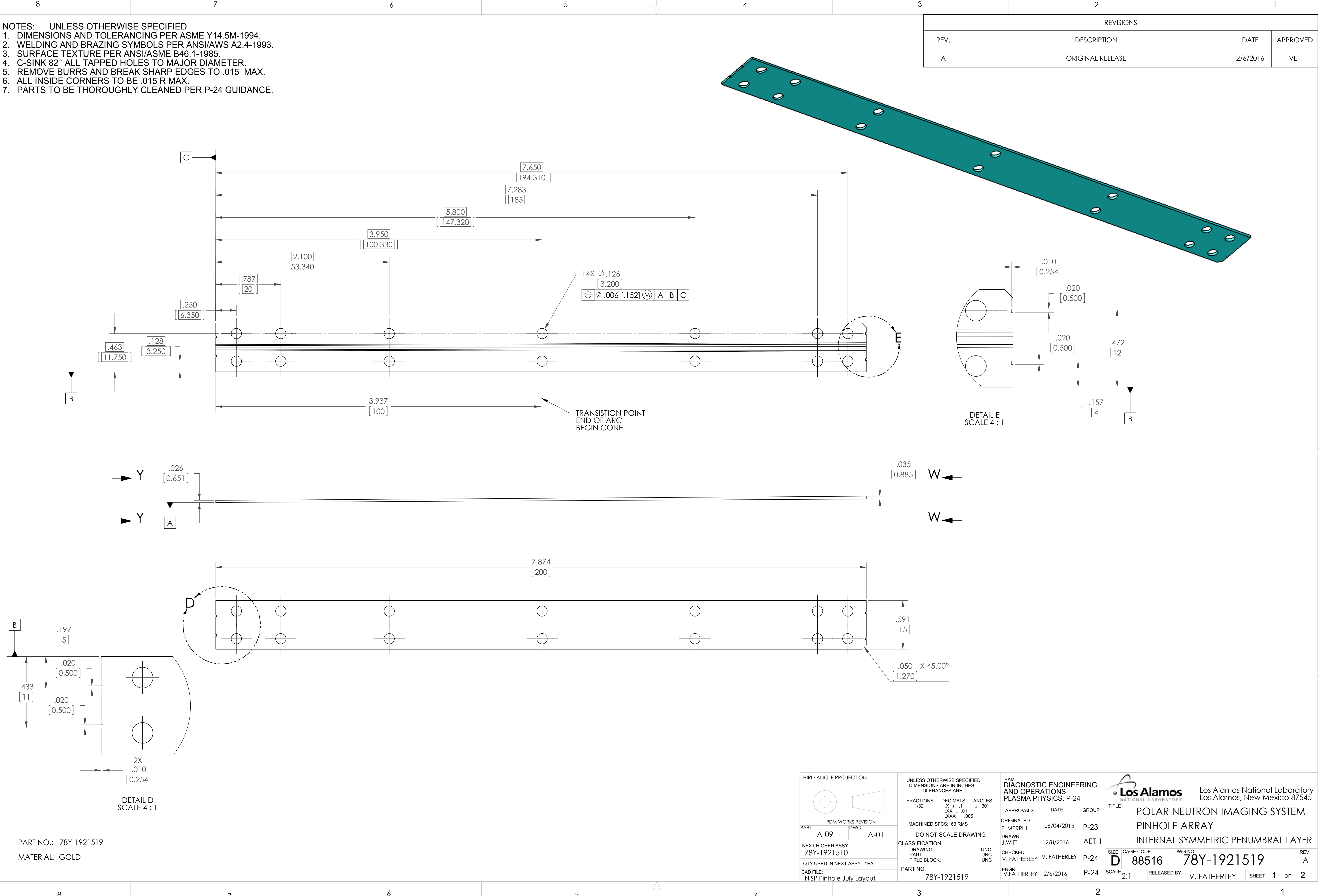
VIEW U-U
SCALE 25 : 1
(FRONT)



DETAIL V
SCALE 150 : 1

			
Los Alamos National Laboratory Los Alamos, New Mexico 87545			
SIZE	CAGE CODE	DWG NO.	REV.
D	88516	78Y-1921518	A
SCALE	RELEASED BY	SHEET	OF
1:1	V. FATHERLEY	3	3

TEAM
DIAGNOSTIC ENGINEERING
AND OPERATIONS
PLASMA PHYSICS, P-24



D

C

B

A

D

C

B

A

B


B

VIEW W-W
SCALE 25 : 1
BACK

VIEW Y-Y
SCALE 25 : 1
FRONT

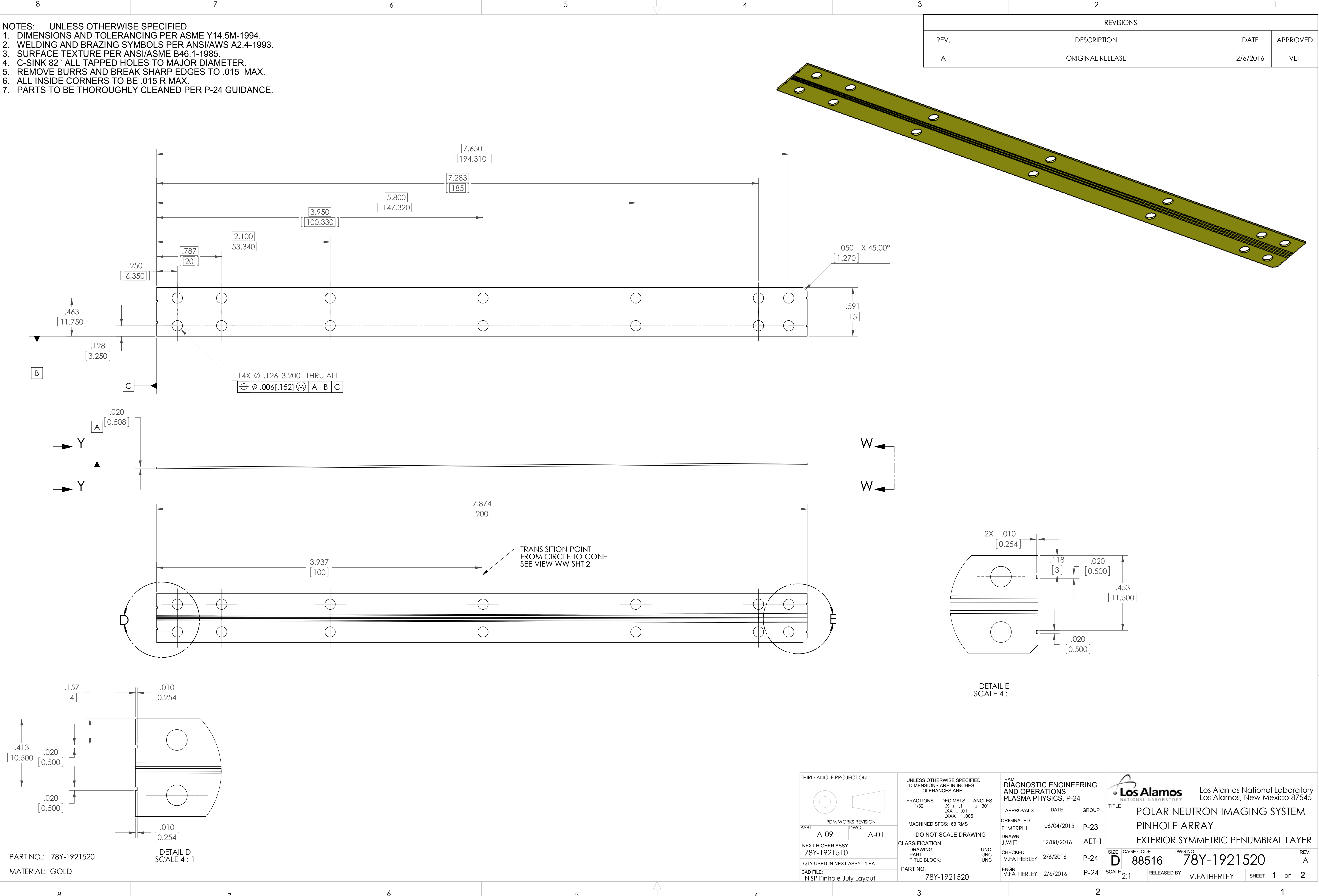
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3X R.006
[0.150]
TRANSITION POINT
SEE SHT 1
ZONE C6



Los Alamos National Laboratory
Los Alamos, New Mexico 87545

TEAM DIAGNOSTIC ENGINEERING AND OPERATIONS PLASMA PHYSICS, P-24	SIZE D	CAGE CODE 88516	DWG NO. 78Y-1921519	REV. A
SCALE 1:1		RELEASED BY V. FATHERLEY	SHEET 2 OF 2	



D

C

B

A

D

C

B

A

B

.343
[8.700]

.295
[7.500]

.248
[6.300]

3X R.010
[0.250]

3X R.006
[0.151]

.258
[6.560]

.332
[8.440]

VIEW W-W
SCALE 25 : 1
BACK

B

.322
[8.180]

.295
[7.500]

.269
[6.820]

3X R.006
[0.150]

VIEW Y-Y
SCALE 25 : 1
FRONT



Los Alamos National Laboratory
Los Alamos, New Mexico 87545

TEAM
DIAGNOSTIC ENGINEERING
AND OPERATIONS
PLASMA PHYSICS, P-24

SIZE

D

CAGE CODE

88516

DWG NO.

78Y-1921520

REV.

A

SCALE

1:1

RELEASED BY

V.FATHERLEY

SHEET

2

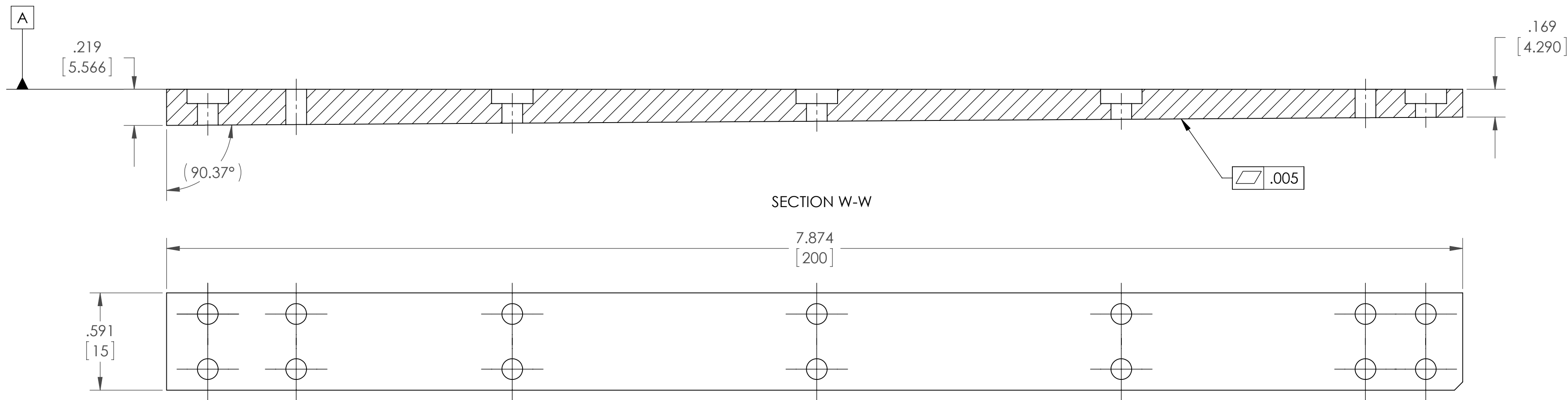
OF



2

1. DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994.
2. WELDING AND BRAZING SYMBOLS PER ANSI/AWS A2.4-1993.
3. SURFACE TEXTURE PER ANSI/ASME B46.1-1985.
4. C-SINK 82° ALL TAPPED HOLES TO MAJOR DIAMETER.
5. REMOVE BURRS AND BREAK SHARP EDGES TO .015 MAX.
6. ALL INSIDE CORNERS TO BE .015 R MAX.
7. PARTS TO BE THOROUGHLY CLEANED PER P-24 GUIDANCE.

A	ORIGINAL RELEASE	2/6/2016
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3D isometric view of a long, thin mechanical part. The part features a series of rectangular slots and circular holes along its length. A detailed view of the end shows a chamfer with dimensions: $.050 \times 45.00^\circ$ and 1.270 . A dimension line indicates a length of 1.270 . A small 'W' with an arrow points to the width of the part.



THIRD ANGLE PROJECTION		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		TEAM DIAGNOSTIC ENGINEERING AND OPERATIONS PLASMA PHYSICS, P-24		 Los Alamos National Laboratory Los Alamos, New Mexico 87545				
		FRACTIONS 1/32	DECIMALS X ± .1 XX ± .01 XXX ± .005	ANGLES ± 30°	TITLE POLAR NEUTRON IMAGING SYSTEM PINHOLE ARRAY TOP TUNGSTEN LAYER					
PDM WORKS REVISION		MACHINED SFCs: 63 RMS		APPROVALS	DATE	GROUP				
PART:	DWG:	DO NOT SCALE DRAWING		ORIGINATED F. MERRILL	06/04/2015	P-23				
A-09		A-01		DRAWN J.WITT	12/08/2016	AET-I				
NEXT HIGHER ASSY 78Y-1921510		CLASSIFICATION DRAWING: PART: TITLE BLOCK:	UNC UNC UNC	CHECKED V.FATHERLEY	2/6/2016	P-24	SIZE D	CAGE CODE 88516	DWG NO. 78Y-1921521	REV. A
QTY USED IN NEXT ASSY: 1 EA			PART NO. 78Y-1921521	ENGR V.FATHERLEY	2/6/2016	P-24	SCALE 2:1	RELEASED BY V. FATHERLEY	SHEET 1 OF 1	
CAD FILE: NISP Pinhole July Layout										