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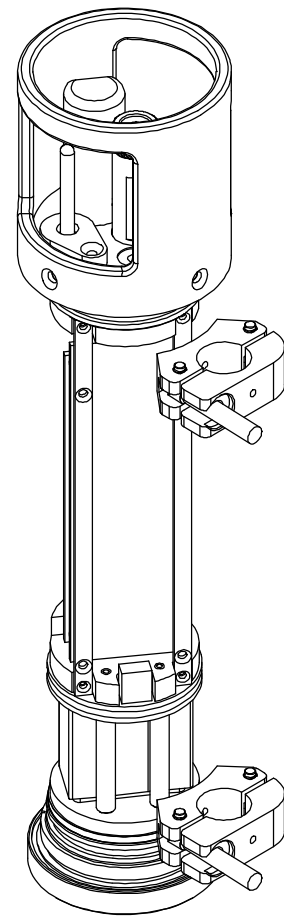
1

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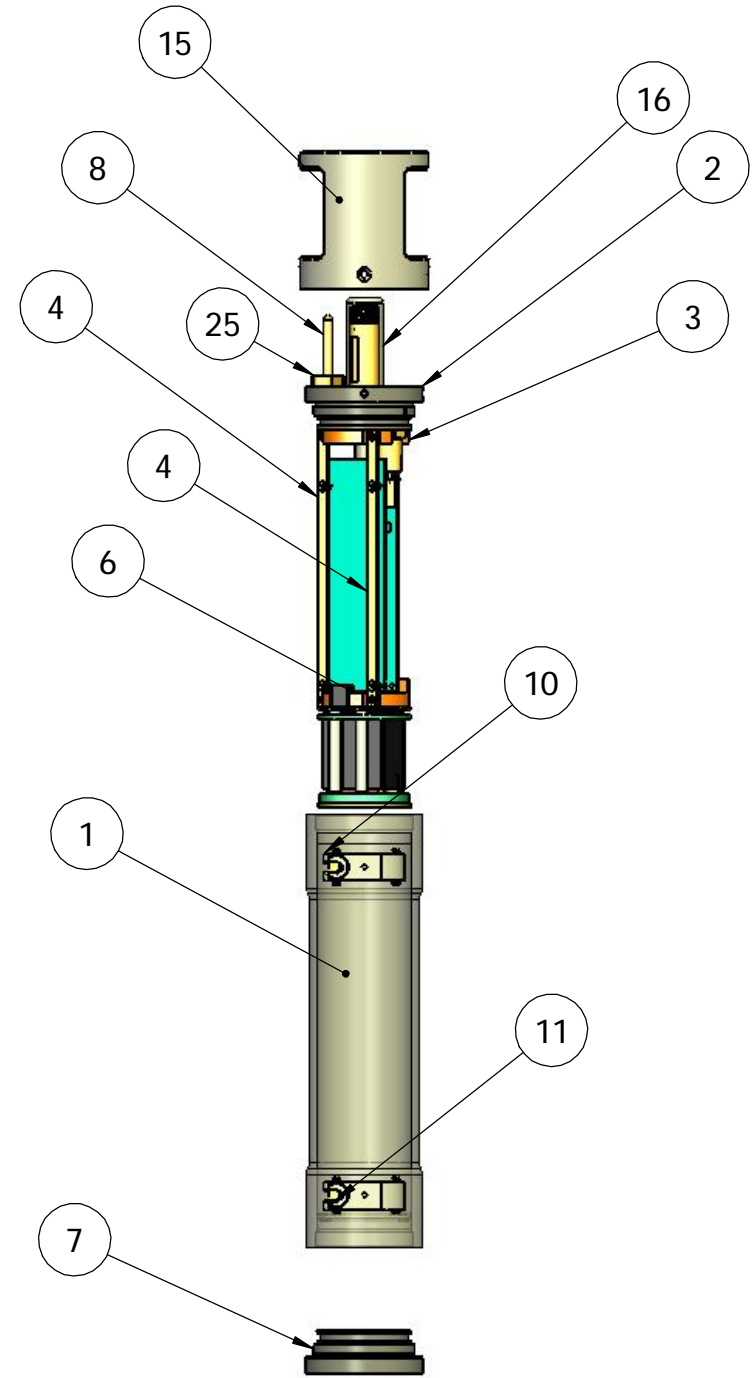


Isometric View of Basic Assembly

For battery pack BOM see page 10



Exploded Isometric View of Basic Assembly



Exploded Right Side View of Basic Assembly

ITEM NO.	QTY.	PART NO.	MATERIAL
1	1	Tube	6al-4v Titanium
2	1	Top_Cap1	6al-4v Titanium
3	1	top_endplate	Black/Grey PVC
4	2	Top_Rail	Aluminum
5	1	Bottom_Rail	Aluminum
6	1	bottom_endplate	Black/Grey PVC
7	1	Bottom_Cap1	6al-4v Titanium
8	1	Temp_Probe	6al-4v Titanium
10	2	MAPR clamp	6al-4v Titanium
11	2	toggle	6al-4v Titanium
13	4	Retaining_Pin	6al-4v Titanium
14	1	guard	G-10
25	1	TEMP_PROBE_RETAINER	WHITE DELRIN

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:

FRACTIONS $\pm 1/16$ ANGLES $\pm 1^\circ$ DECIMALS $.X \pm 0.05$ $.XX \pm 0.02$ $.XXX \pm 0.002$ DO NOT SCALE DRAWING

CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE

APPROVALS: DRAWN JB, CHECKED XX, PROJECT: VENTS

DATE: DATE, SIZE: B

CAD FILE: {Vents}{MAPR 2}{Main}{0}{w}

SCALE: NTS SHEET NAME: Main Assembly SHEET: 1 of 11

NOAA-PMEL Engineering Division 7600 Sand Point Wy NE Seattle, WA 98115 206-526-6175

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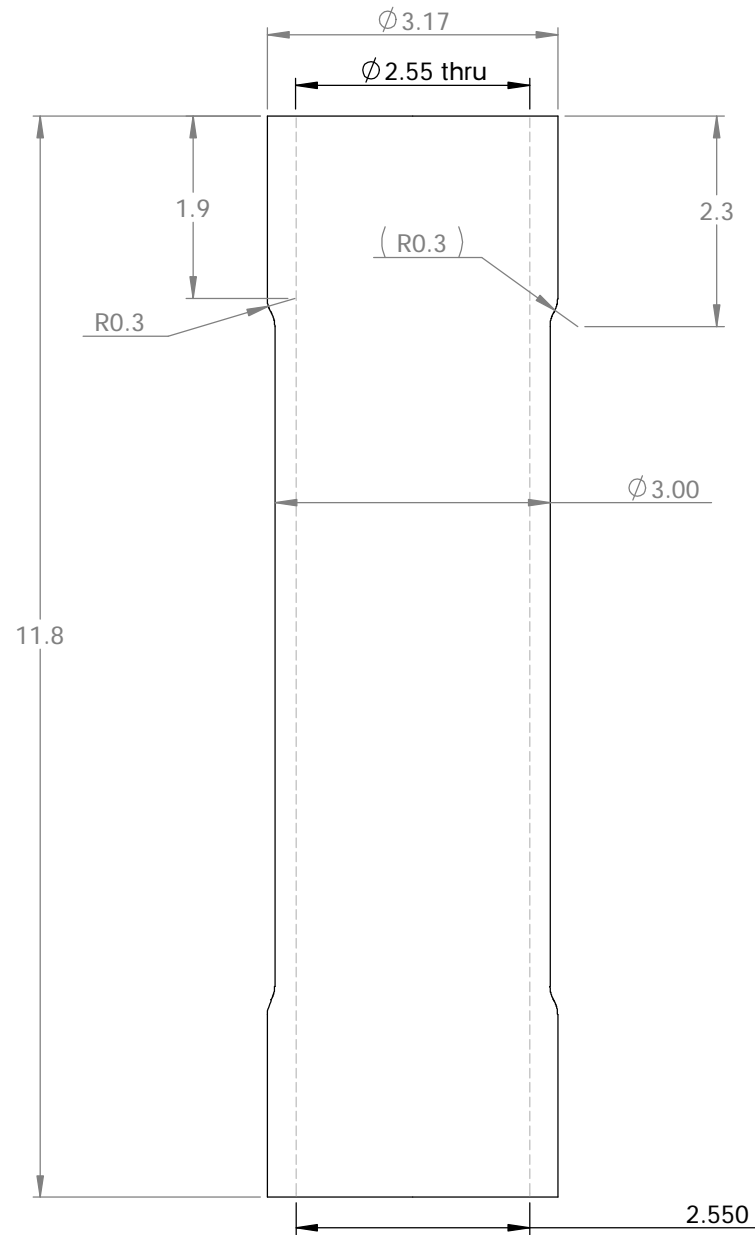
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B

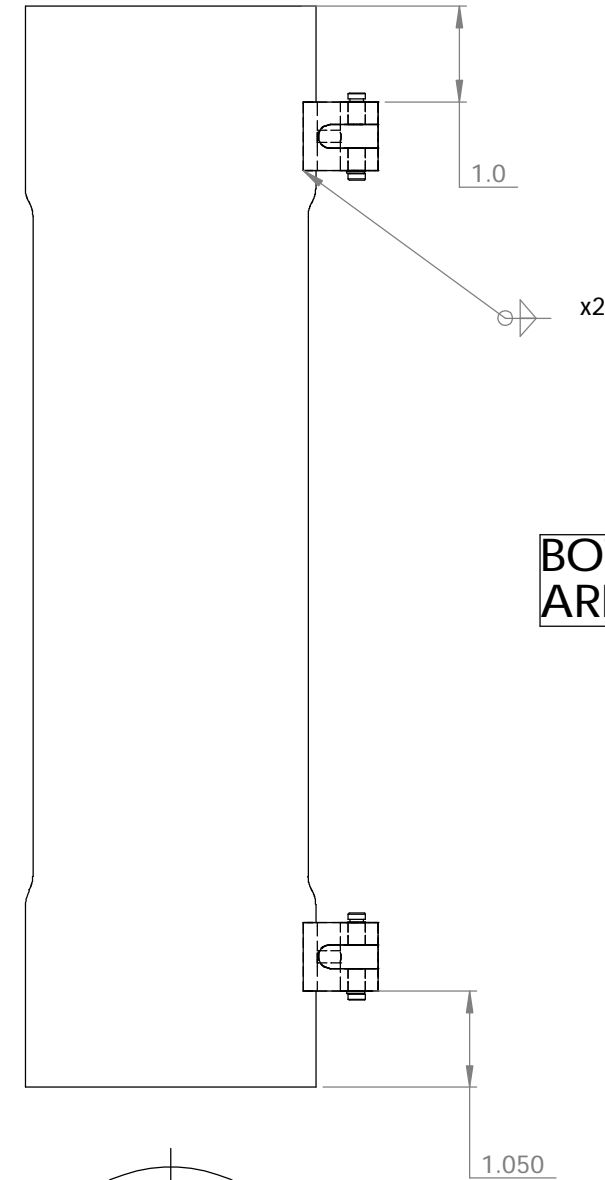
A

NOTE: THE ORDER OF OPERATIONS SHOWN BELOW IS VERY IMPORTANT. PLEASE FOLLOW THESE STEPS TO INSURE ACCURATE INNER DIMMENSIONS:

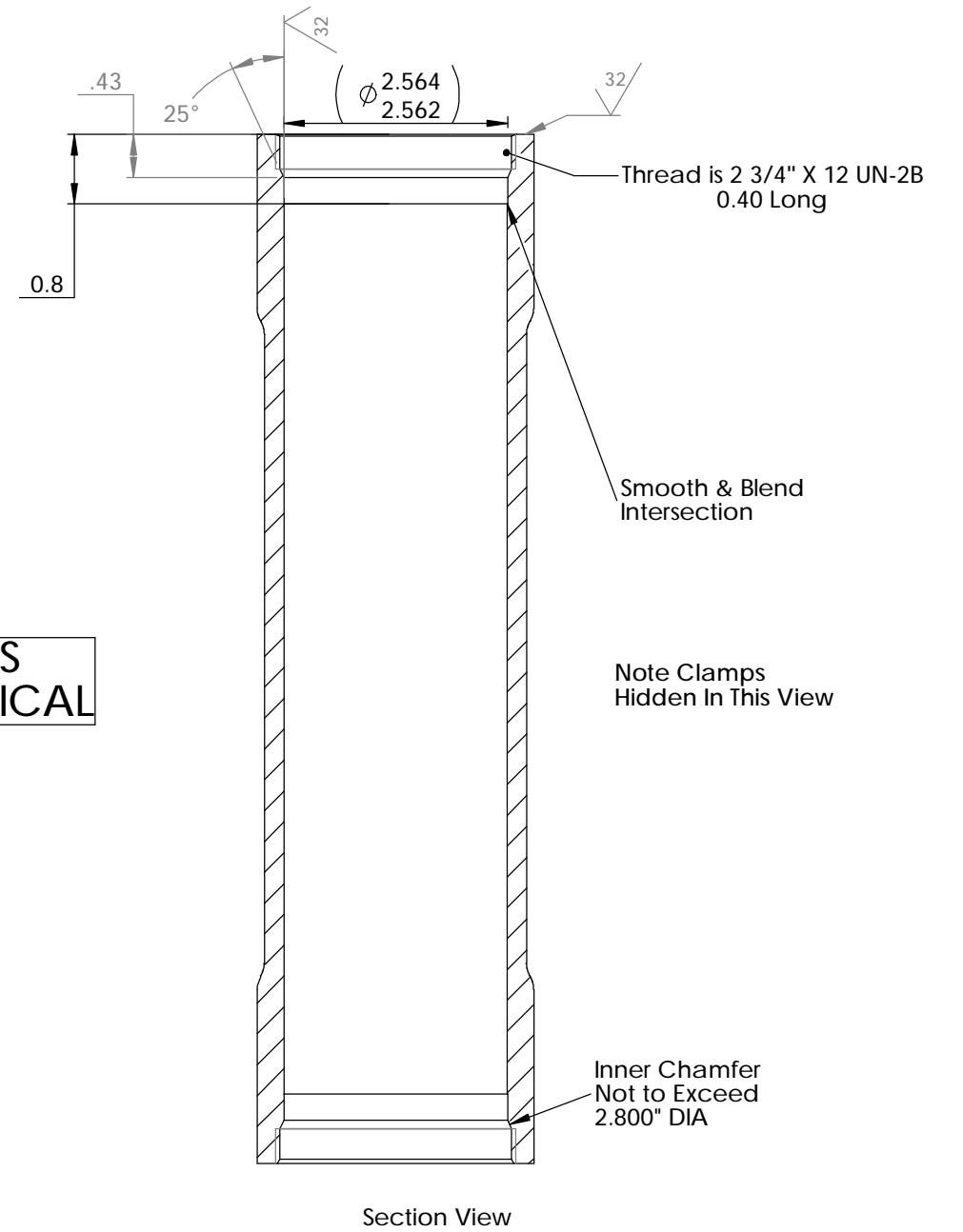
Step #1: Turn O.D.



Step #2: Weld Clamps Onto Case



Step #3: Finish I.D.'s



PART NAME:

Notes:

1. Material is: 6AL-4V Titanium
2. Qty Needed: 1 /Assembly
3. Smooth and deburr all sharp corners and edges.
4. Solid model available upon request.
5. Surface finish: 32RMS on all O-Ring Surfaces
6. Both ends are identical

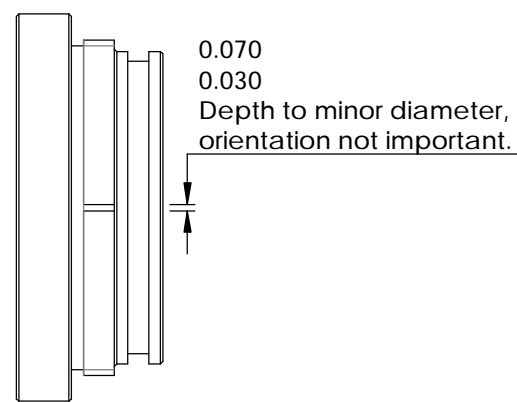
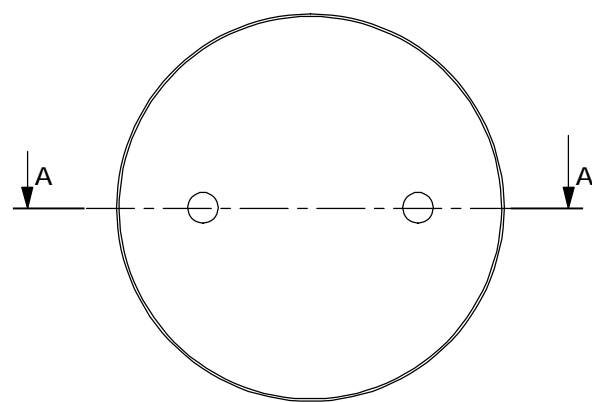
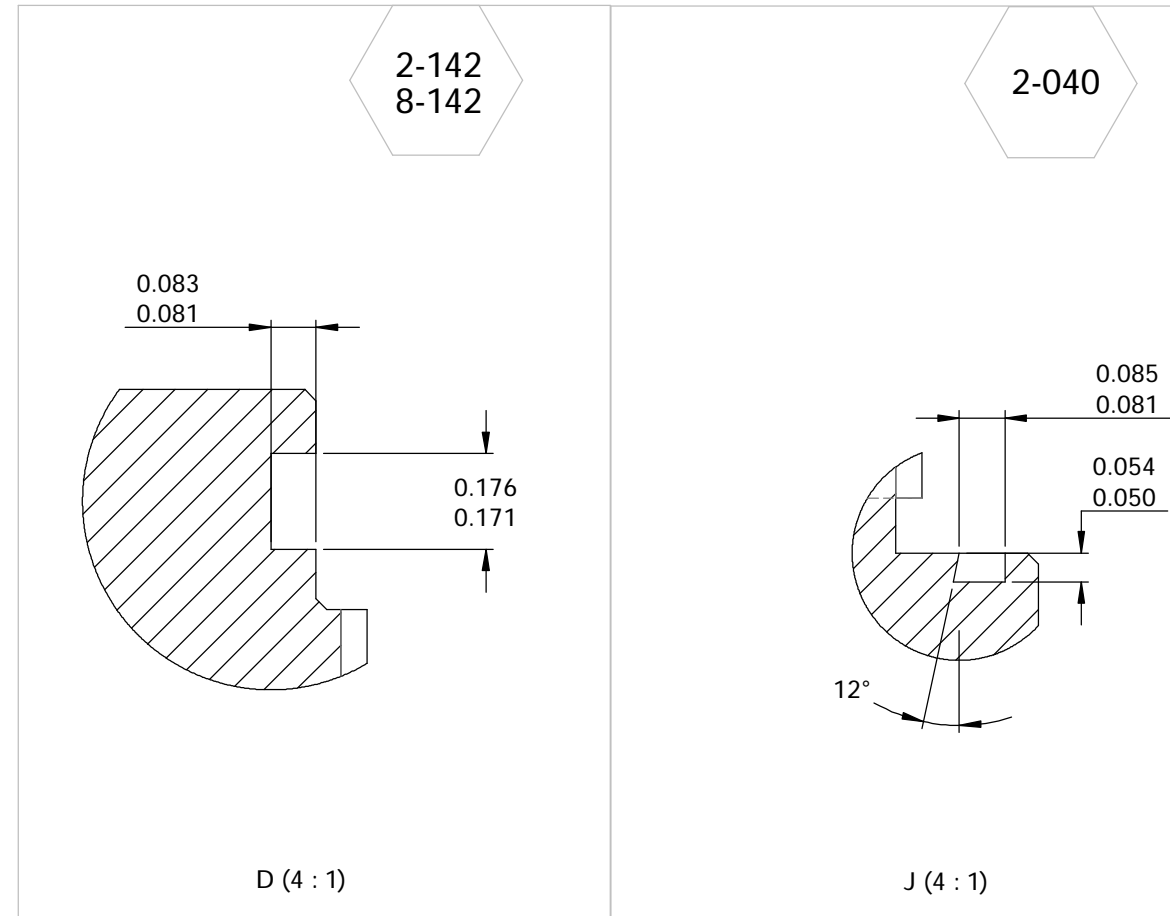
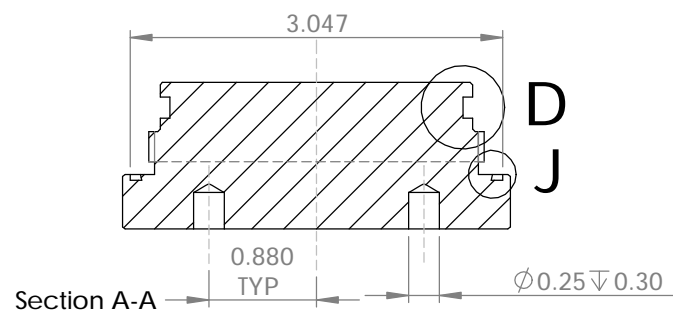
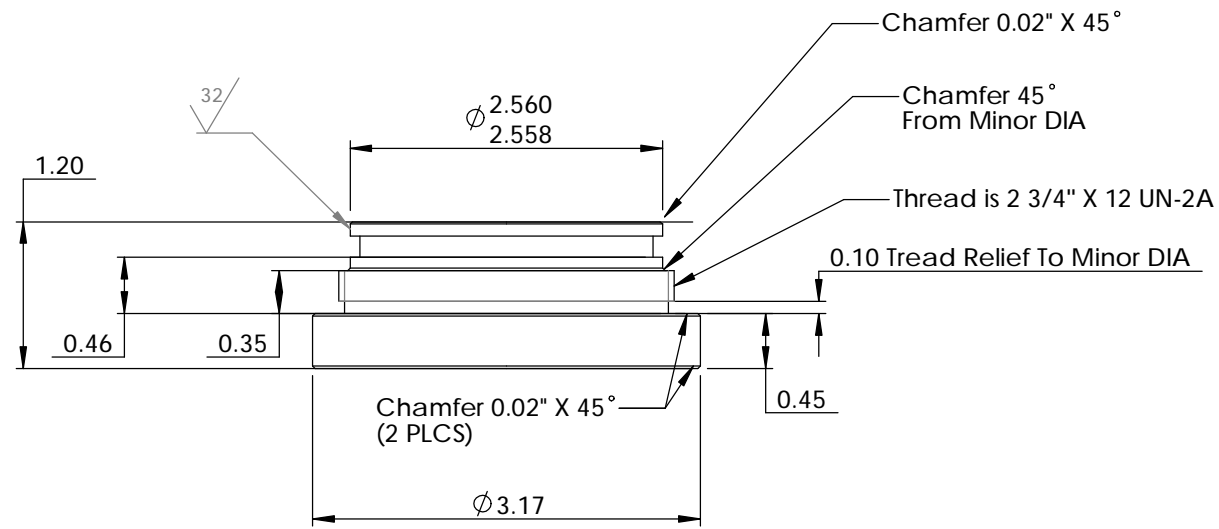
Vendor Must adhere to all dimensions and to the specified quality of construction. No Substitution of specified materials will be accepted, unless reviewed and approved by NOAA engineers.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:
 FRACTIONS ±1/16 ANGLES ±1°
 DECIMALS
 .X ±0.05
 .XX ±0.02
 .XXX ±0.002
 DO NOT SCALE DRAWING

CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE		7600 Sand Point Wy NE Seattle, WA 98115 206-526-6175	
APPROVALS		PROJECT: VENTS	
DRAWN: JB	CHECKED: XX		
DATE:	SIZE: B		
CAD FILE: {Vents}{MAPR 2}{Main}{0}{w}			
SCALE: NTS	SHEET NAME: Tube Manufacturing Process	SHEET: 2 OF 11	

BOTTOM CAP

O-RING GROOVE NOTE: ALL O-RING GROOVE SURFACES ARE 32RMS AND ALL ORING GROOVE EDGES SHOULD BE BROKEN WITH A ~0.005 RAD



PART NAME: BOTTOM CAP

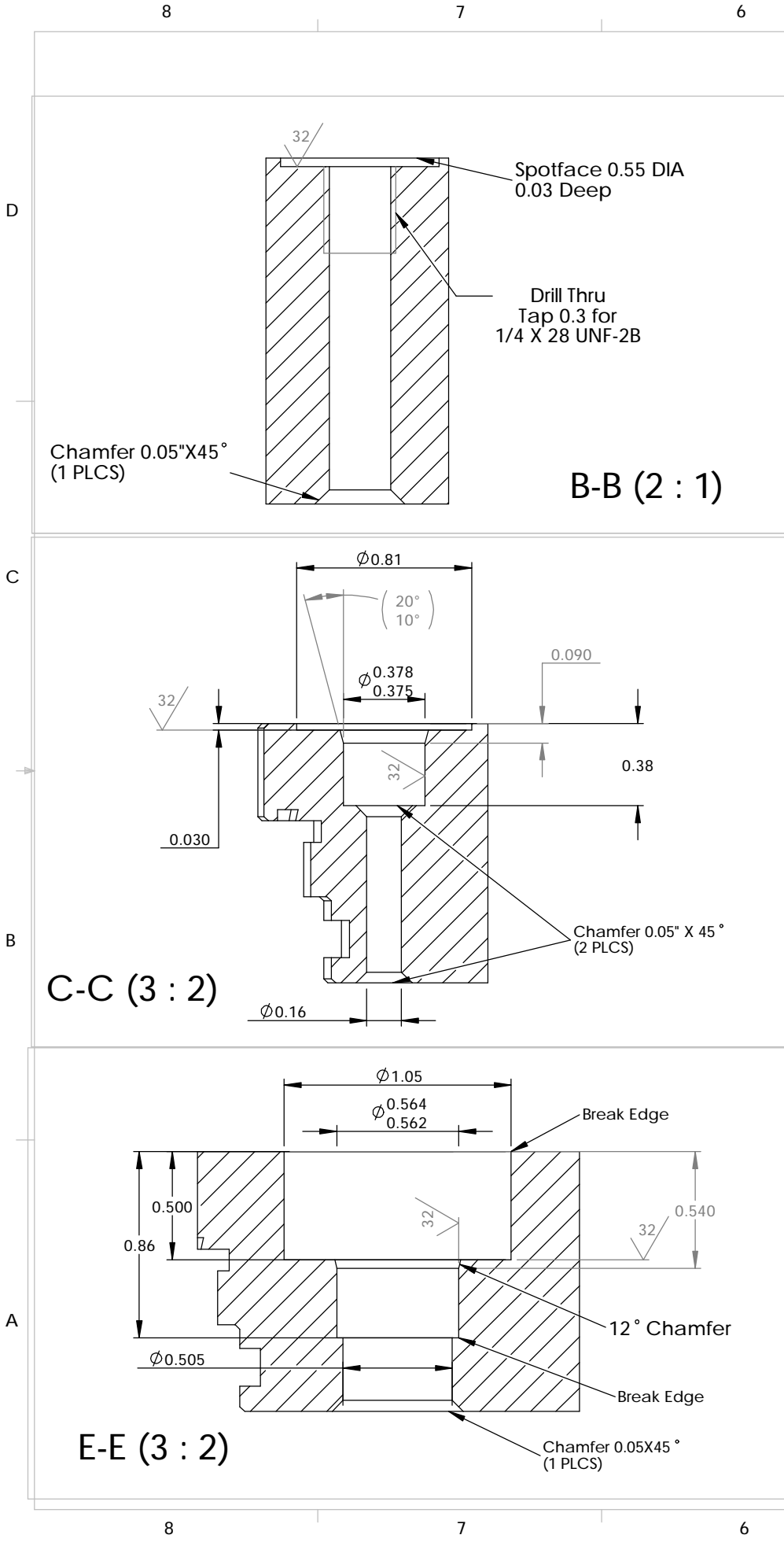
Notes:

1. Material is: 6AL-4V Titanium
2. Qty Needed: 1 /Assembly
3. Smooth and deburr all sharp corners and edges.
4. Solid model available upon request.
5. Surface finish: 32RMS on all O-Ring Surfaces

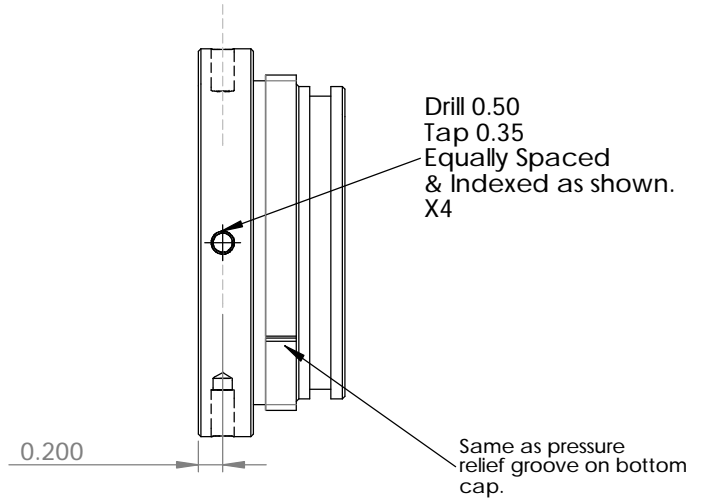
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 FRACTIONS $\pm 1/16$ ANGLES $\pm 1^\circ$
 DECIMALS
 .X ± 0.05
 .XX ± 0.02
 .XXX ± 0.002
 DO NOT SCALE DRAWING

CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE		NOAA-PMEL Engineering Division 7600 Sand Point Wy NE Seattle, WA 98115 206-526-6175	
APPROVALS		PROJECT: VENTS	
DRAWN: JB	CHECKED: XX		
DATE: DATE	SIZE: B		
CAD FILE: {Vents}{MAPR 2}{Main}{0}{w}			
SCALE: NTS	SHEET NAME: Bottom Cap	SHEET: 3 of 11	



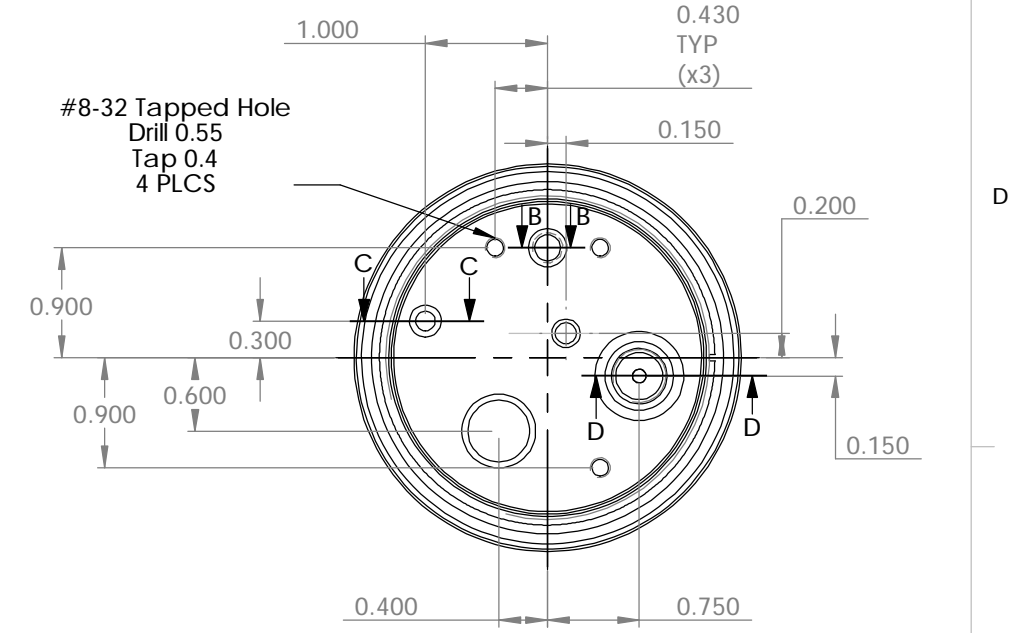
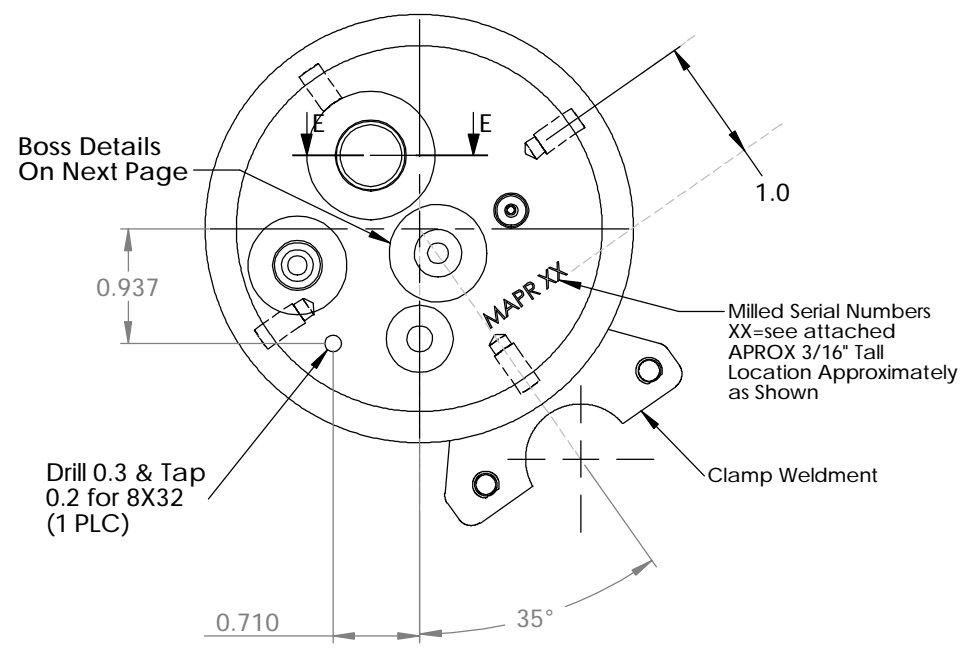
TOP CAP



All dimensions not shown are identical to the Bottom Cap

VERY IMPORTANT:

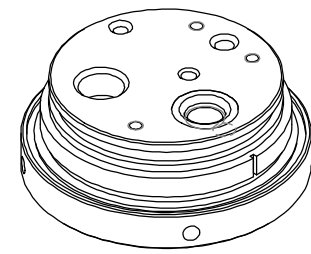
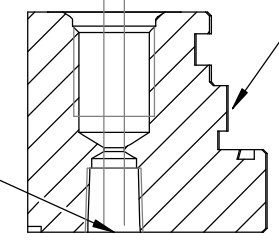
TIMING MARK
 Screw down blank endcap and mark with center of clamp on tube. Ref all dimensions from timing mark.



All dimensions not shown are identical to the Top Cap

Boss Details On Next Page

1/16 NPT Tapped Hole Max. drill depth 0.400"

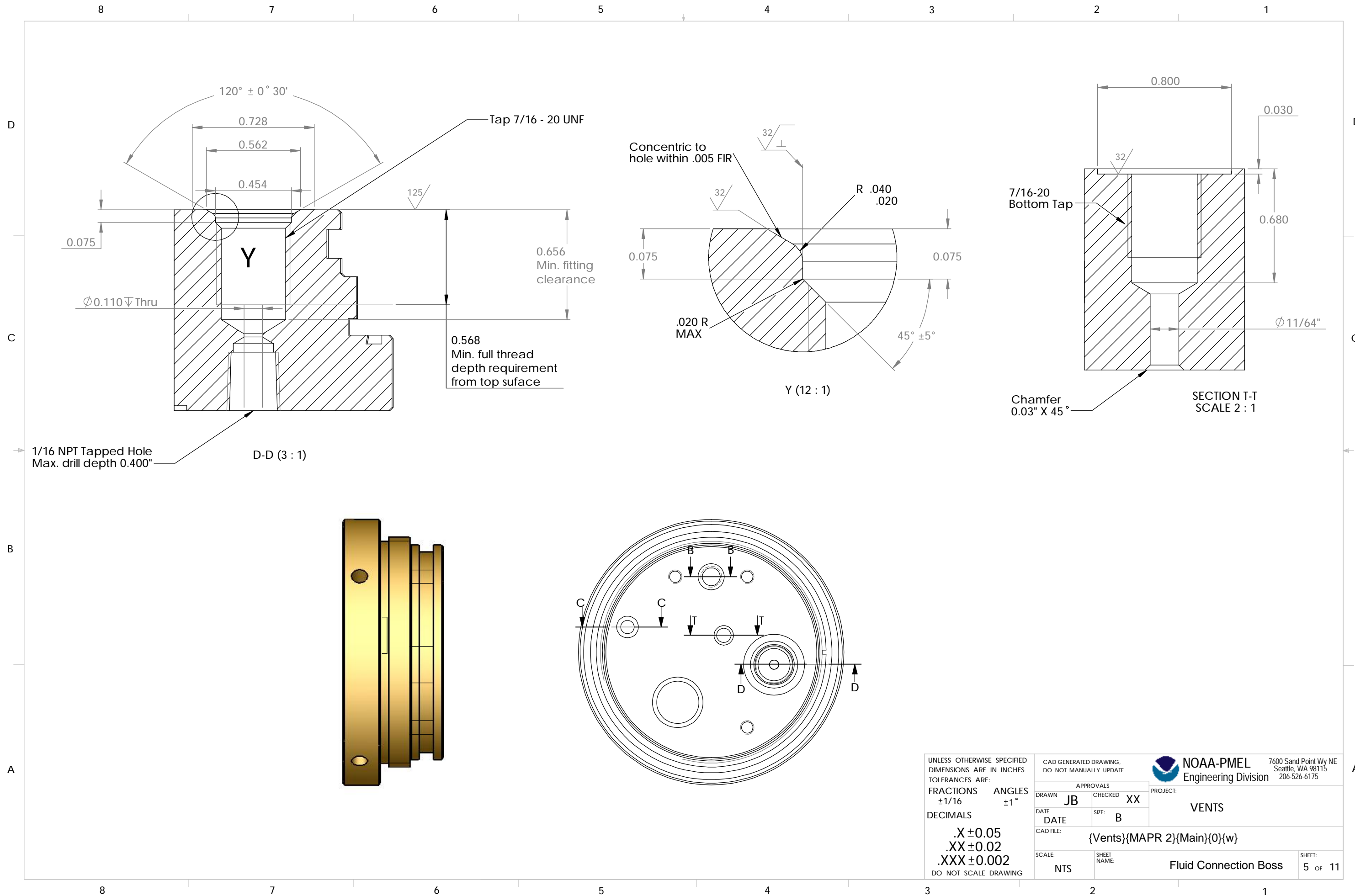


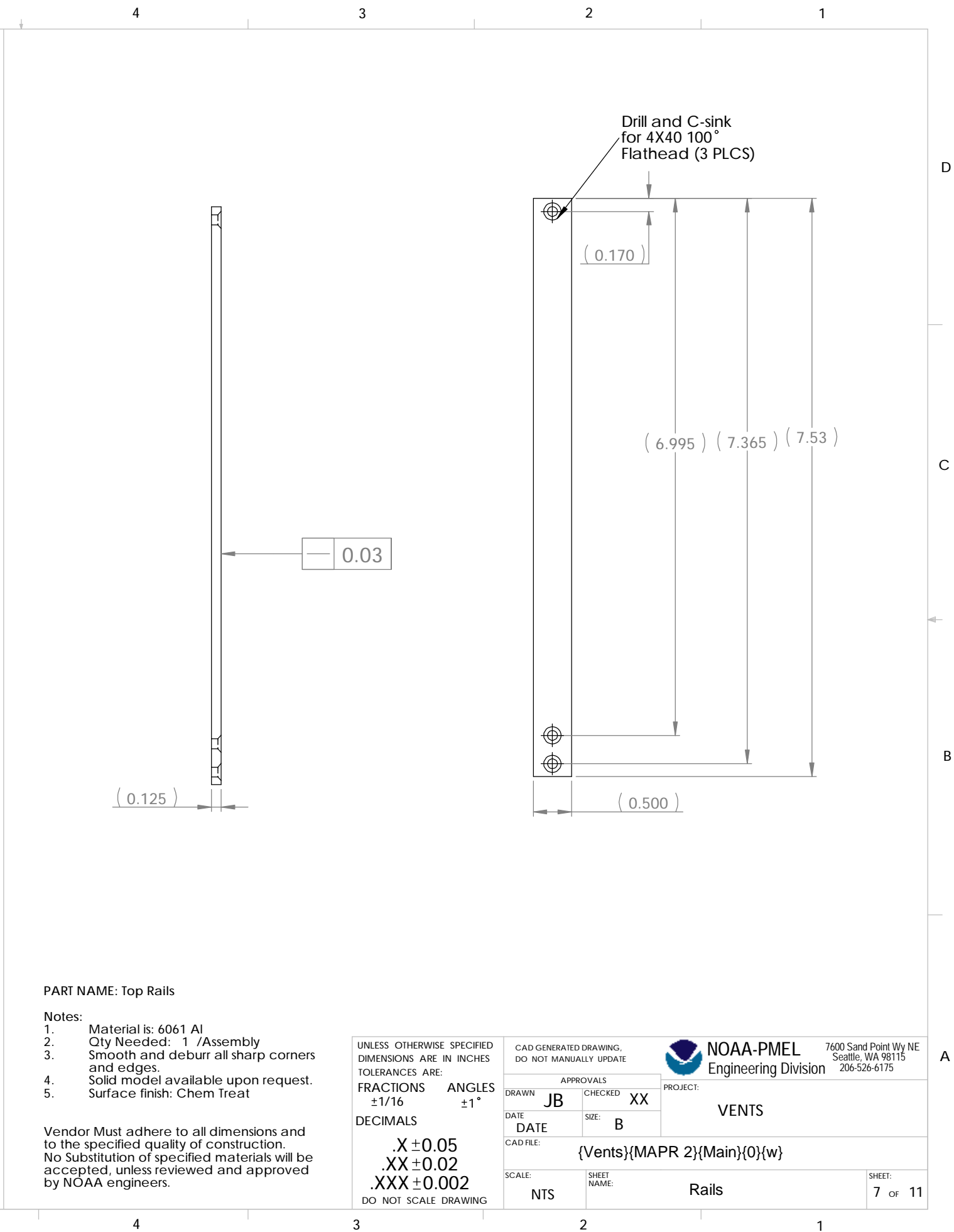
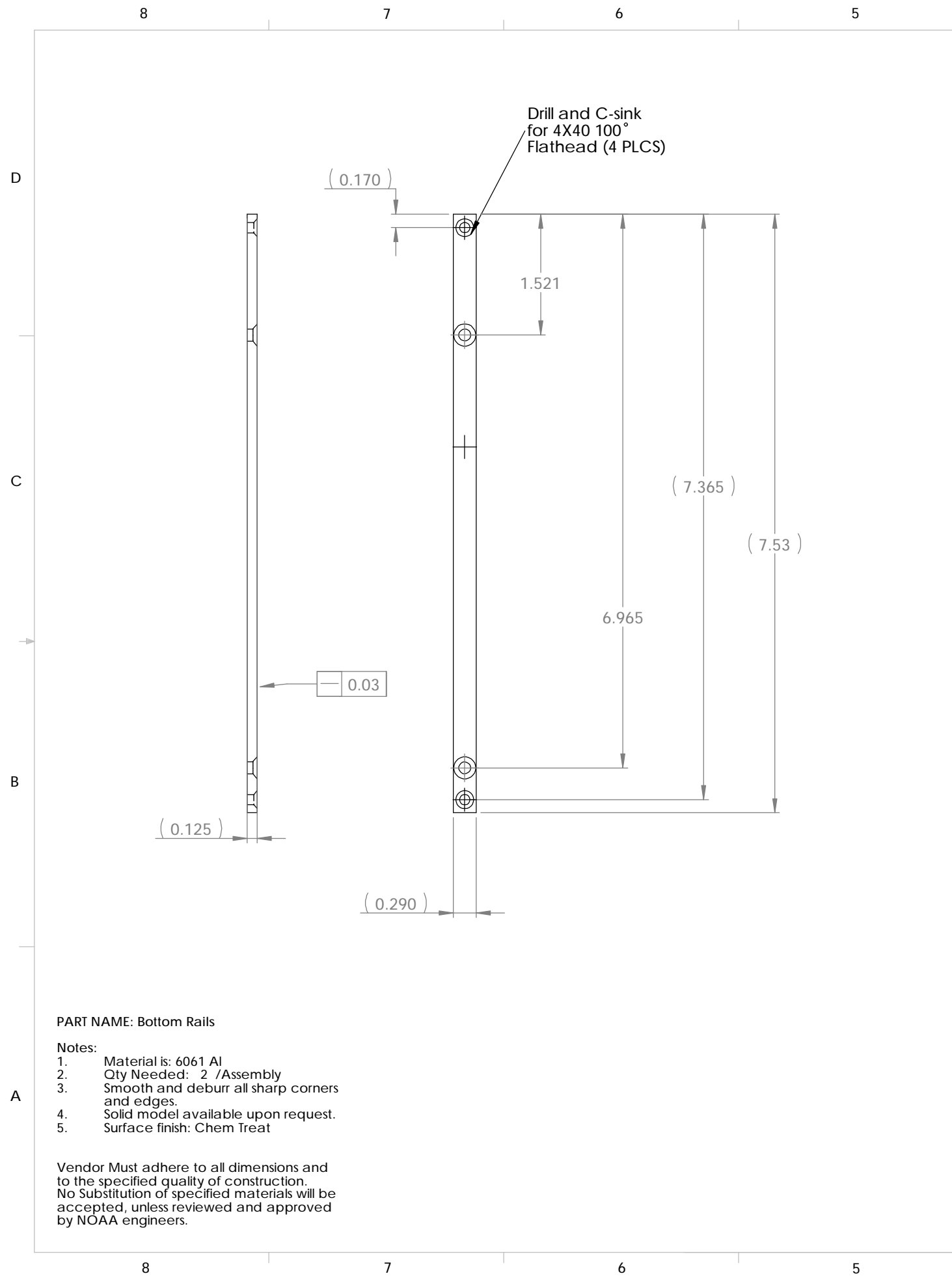
PART NAME: BOTTOM CAP

- Notes:
1. Material is: 6AL-4V Titanium
 2. Qty Needed: 1 /Assembly
 3. Smooth and deburr all sharp corners and edges.
 4. Solid model available upon request.
 5. Surface finish: 32RMS on all O-Ring Surfaces

Vendor Must adhere to all dimensions and to the specified quality of construction. No Substitution of specified materials will be accepted, unless reviewed and approved by NOAA engineers.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE		NOAA-PMEL Engineering Division		7600 Sand Point Wy NE Seattle, WA 98115 206-526-6175	
FRACTIONS ±1/16	ANGLES ±1°	APPROVALS	CHECKED XX	PROJECT: VENTS			
DECIMALS .X ±0.05 .XX ±0.02 .XXX ±0.002	DO NOT SCALE DRAWING	DRAWN JB	DATE	SIZE: B	SHEET: Top Cap		
		CAD FILE: {Vents}{MAPR 2}{Main}{0}{w}		SHEET NAME: Top Cap		SHEET: 4 of 11	





PART NAME: Bottom Rails

- Notes:
1. Material is: 6061 Al
 2. Qty Needed: 2 /Assembly
 3. Smooth and deburr all sharp corners and edges.
 4. Solid model available upon request.
 5. Surface finish: Chem Treat

Vendor Must adhere to all dimensions and to the specified quality of construction. No Substitution of specified materials will be accepted, unless reviewed and approved by NOAA engineers.

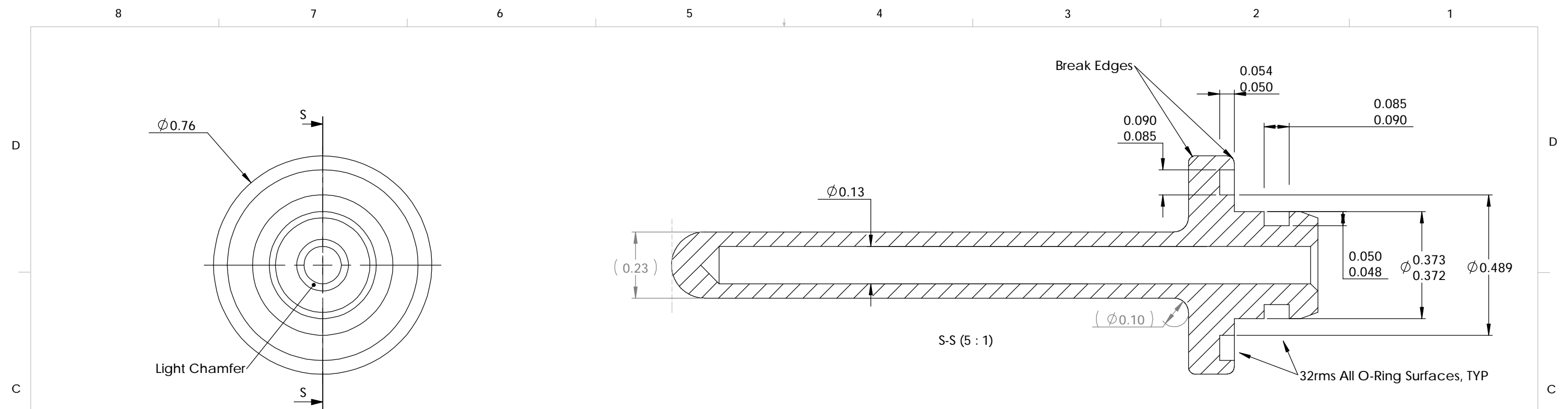
PART NAME: Top Rails

- Notes:
1. Material is: 6061 Al
 2. Qty Needed: 1 /Assembly
 3. Smooth and deburr all sharp corners and edges.
 4. Solid model available upon request.
 5. Surface finish: Chem Treat

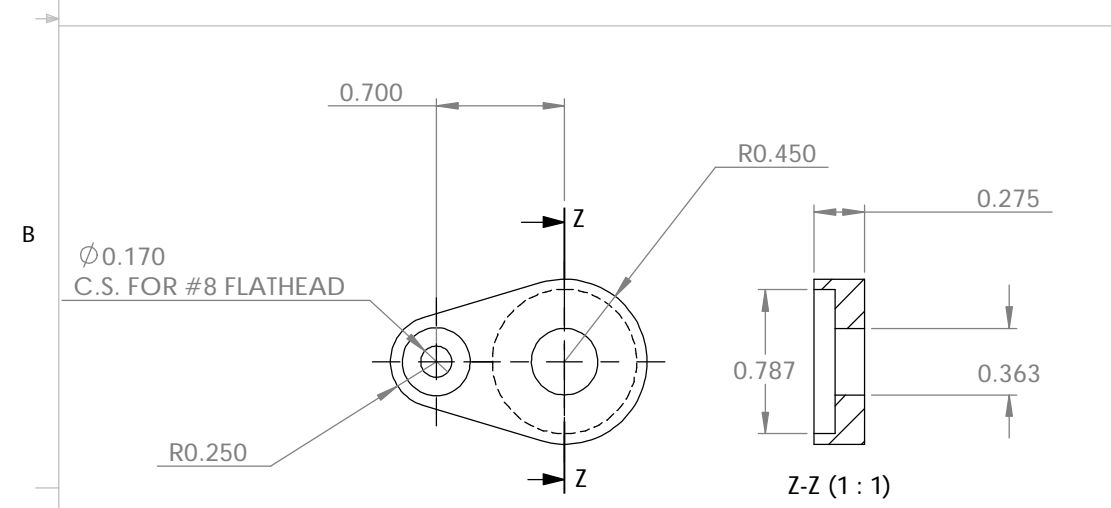
Vendor Must adhere to all dimensions and to the specified quality of construction. No Substitution of specified materials will be accepted, unless reviewed and approved by NOAA engineers.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS $\pm 1/16$ ANGLES $\pm 1^\circ$
DECIMALS
.X ± 0.05
.XX ± 0.02
.XXX ± 0.002
DO NOT SCALE DRAWING

CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE		 7600 Sand Point Wy NE Seattle, WA 98115 206-526-6175
APPROVALS		
DRAWN JB	CHECKED XX	PROJECT: VENTS
DATE DATE	SIZE: B	
CAD FILE: {Vents}{MAPR 2}{Main}{0}{w}		
SCALE: NTS	SHEET NAME: Rails	SHEET: 7 of 11



2-014
2-010



PART NAME: Temp Probe Retainer

Notes:

1. Material is: Black Delrin
2. Qty Needed: 1 /Assembly
3. Smooth and deburr all sharp corners and edges.
4. Solid model available upon request.
5. Surface finish: NA

Vendor Must adhere to all dimensions and to the specified quality of construction. No Substitution of specified materials will be accepted, unless reviewed and approved by NOAA engineers.

PART NAME:

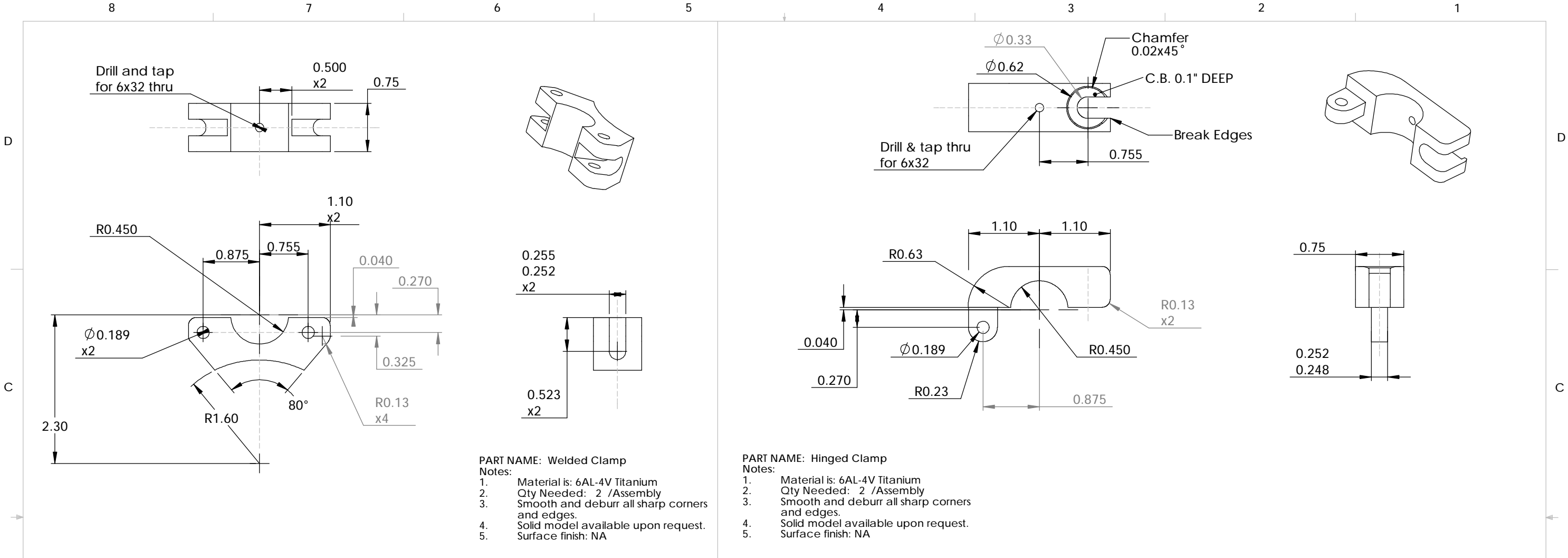
Notes:

1. Material is: 6AL-4V Titanium
2. Qty Needed: 1 /Assembly
3. Smooth and deburr all sharp corners and edges.
4. Solid model available upon request.
5. Surface finish: 32RMS on all O-Ring Surfaces

Vendor Must adhere to all dimensions and to the specified quality of construction. No Substitution of specified materials will be accepted, unless reviewed and approved by NOAA engineers.

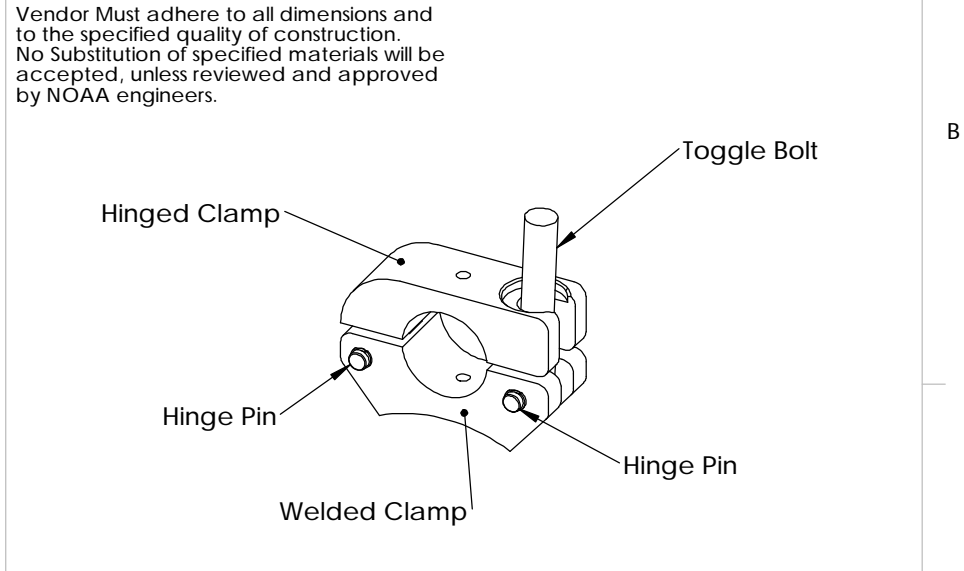
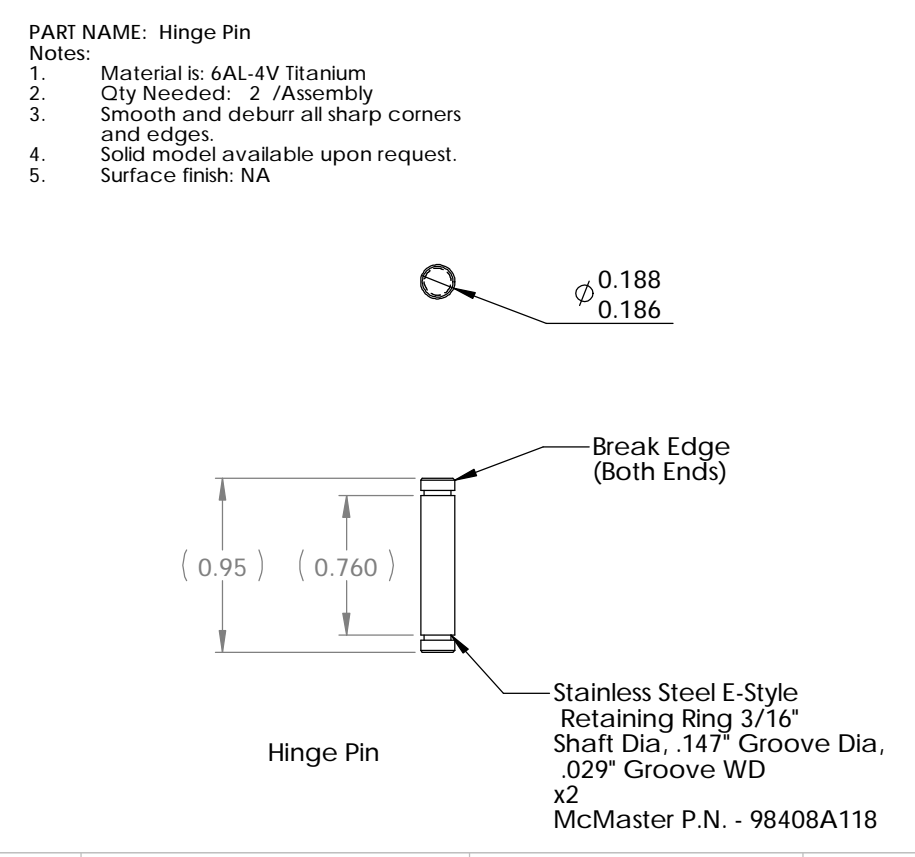
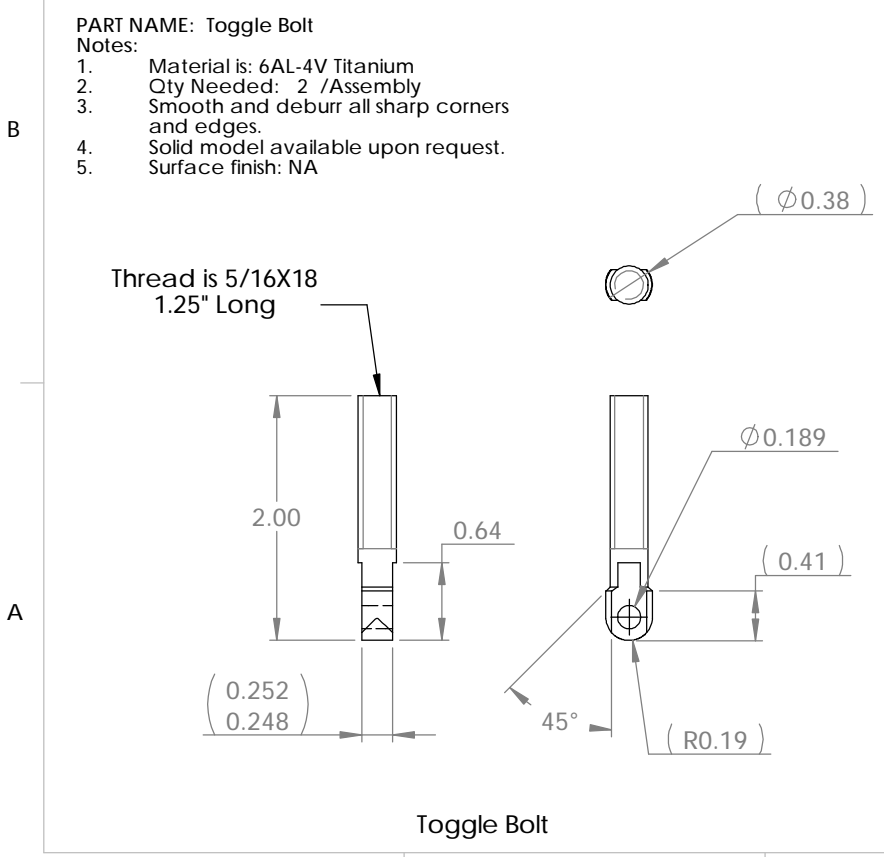


UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE				7600 Sand Point Wy NE Seattle, WA 98115 206-526-6175	
FRACTIONS ±1/16	ANGLES ±1°	APPROVALS	CHECKED	PROJECT: VENTS			
DECIMALS .X ±0.05 .XX ±0.02 .XXX ±0.002 DO NOT SCALE DRAWING		DRAWN JB	CHECKED XX	DATE	SIZE: B	SHEET: 8 OF 11	
		CAD FILE: {Vents}{MAPR 2}{Main}{0}{w}		SCALE: NTS		SHEET NAME: Temperature Probe	



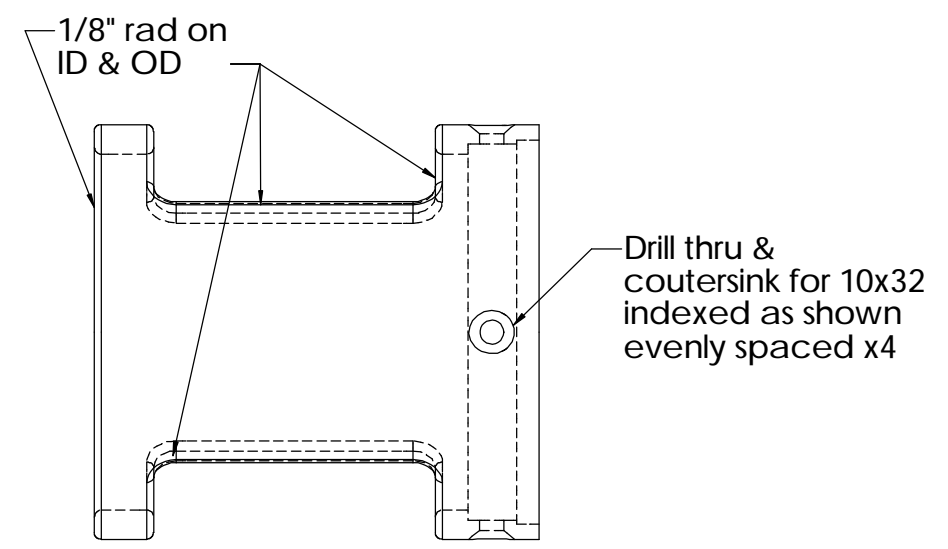
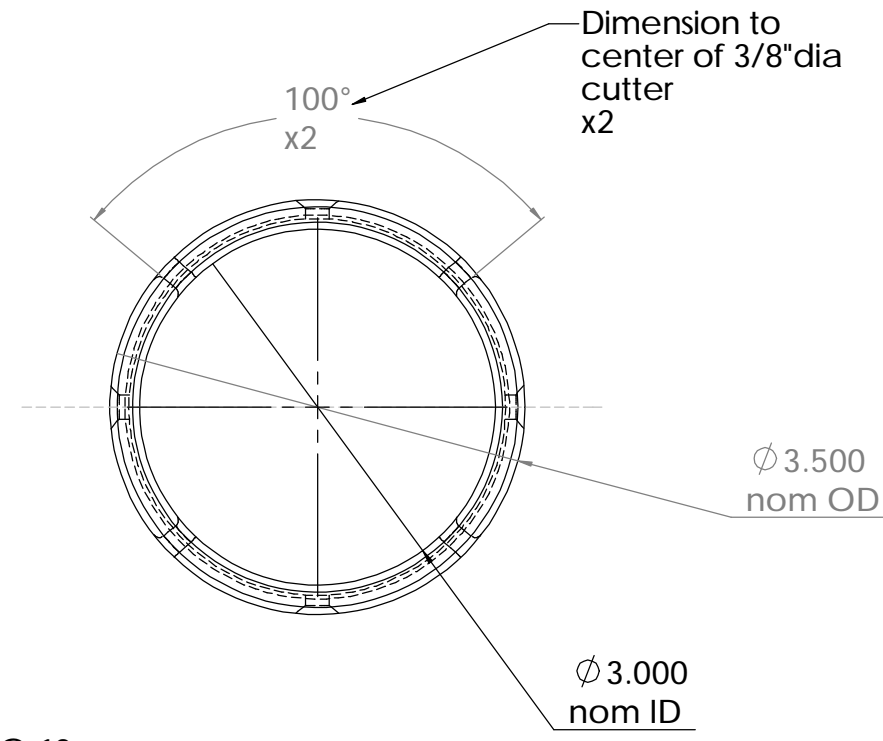
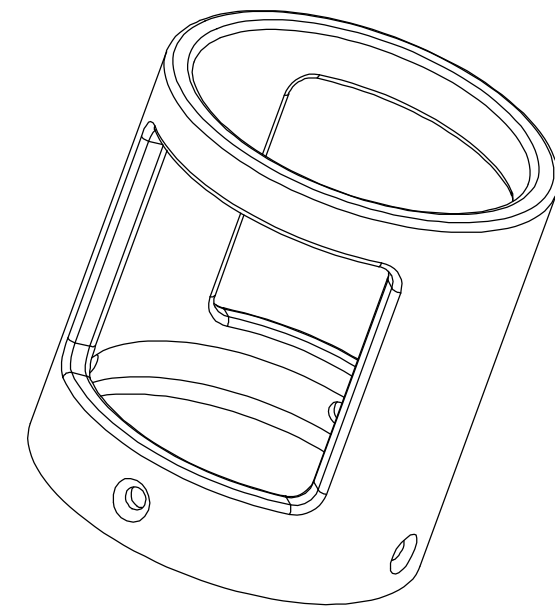
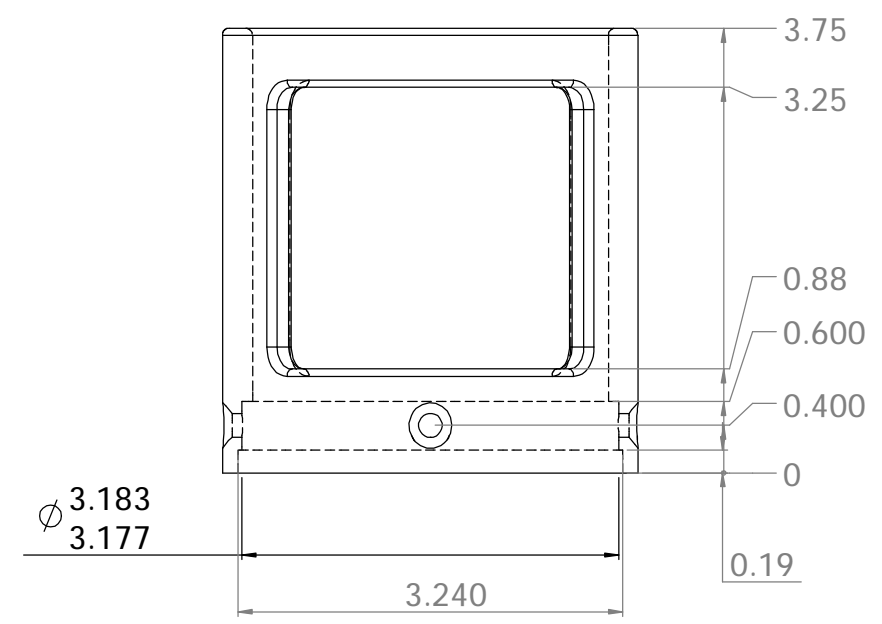
PART NAME: Welded Clamp
 Notes:
 1. Material is: 6AL-4V Titanium
 2. Qty Needed: 2 /Assembly
 3. Smooth and deburr all sharp corners and edges.
 4. Solid model available upon request.
 5. Surface finish: NA

PART NAME: Hinged Clamp
 Notes:
 1. Material is: 6AL-4V Titanium
 2. Qty Needed: 2 /Assembly
 3. Smooth and deburr all sharp corners and edges.
 4. Solid model available upon request.
 5. Surface finish: NA



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FRACTIONS ±1/16	ANGLES ±1°	APPROVALS	PROJECT: VENTS		
DECIMALS		DRAWN: JB	CHECKED: XX		
.X ±0.05		DATE:	SIZE: B		
.XX ±0.02		CAD FILE:	{Vents}{MAPR 2}{Main}{0}{w}		
.XXX ±0.002		SCALE: NTS	SHEET NAME: Clamps	SHEET: 9 of 11	
DO NOT SCALE DRAWING					

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED



Material is G-10
1ea Prototype
Part is symmetric about centerline

REV	DATE	DESCRIPTION	BY
B	5/01	window height & ID change	
C	6/01	additional 3.24" dia step	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS ±1/16 ANGLS ±1°
DECIMALS
.X ±0.05
.XX ±0.02
.XXX ±0.002
DO NOT SCALE DRAWING

CAD GENERATED DRAWING.
DO NOT MANUALLY UPDATE

APPROVALS
DRAWN: JB
CHECKED:

DATE:

PROJECT: **VENTS**

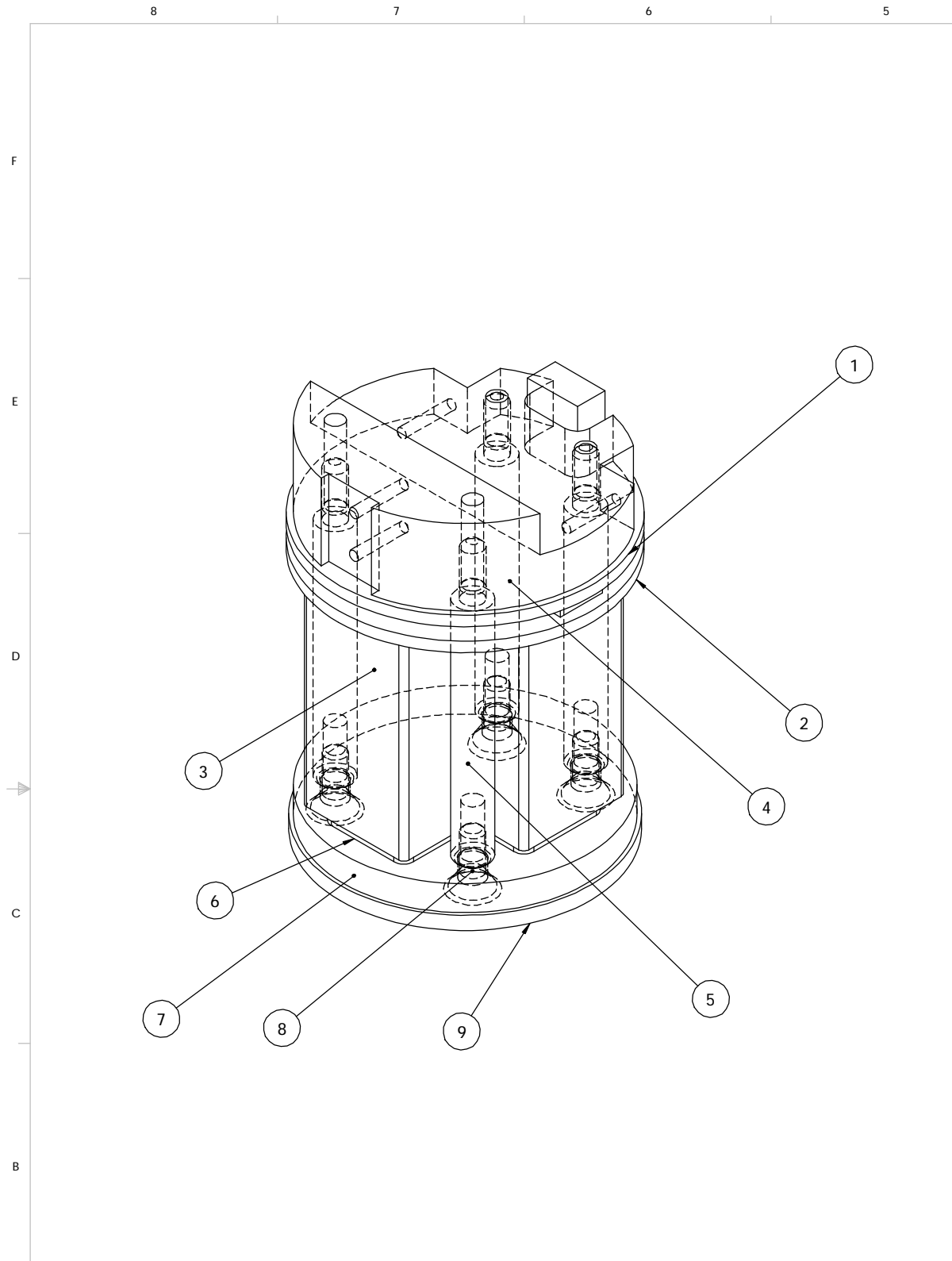
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MATERIAL:

SCALE: NTS SIZE:

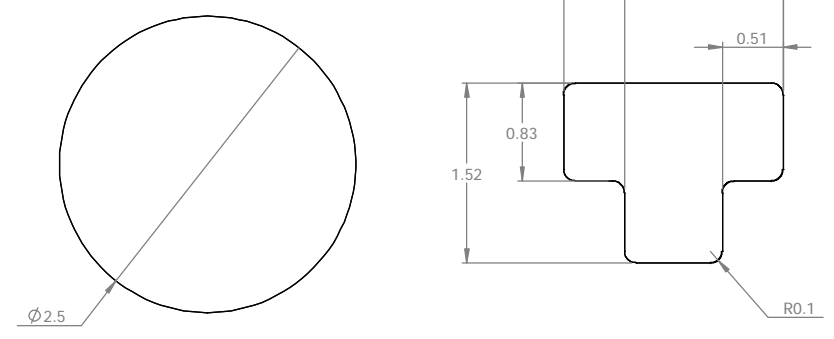
SHEET NAME: Guard SHEET: 10 of 11

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Seattle, WA 98115
206-526-6175

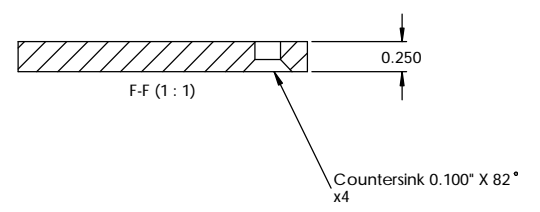
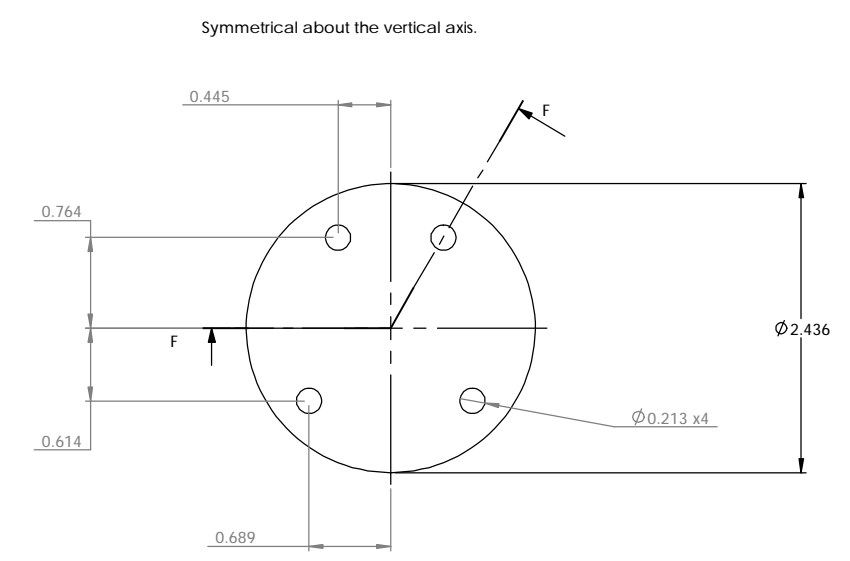


ITEM NO.	QTY.	PART NO.	MATERIAL
20	1	Top_Contact_Board	NA
21	1	Bottom_Contact_Board	NA
22	4	Lithium_Battery	NA
23	1	bottom_endplate	Black/Grey PVC
24	4	Battery_Standoff	Aluminum
25	1	Bottom_Compression_Rubber	3/16" Silicone Foam Rubber Mc Master P.N. - 8785K831
26	1	Bottom_Compression_Board	Black/Grey PVC
27	4	Flat_Head_#10	316 S.S.
28	1	Foam	

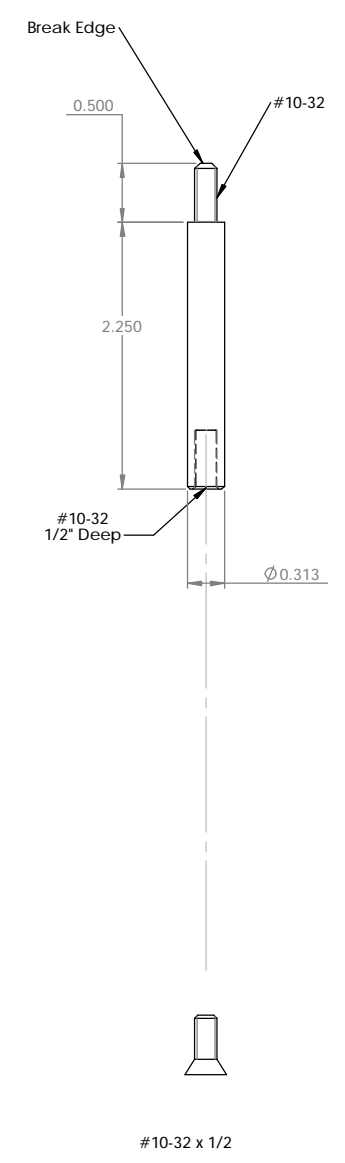
Compression Foam - 1/2" Thick



BLK DELRIN



Note: Chem Treat Finished Standoffs



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FRACTIONS ±1/16		ANGLES ±1°		APPROVALS DRAWN: JB		PROJECT: VENTS	
DECIMALS .X±0.05 .XX±0.02 .XXX±0.002		DO NOT SCALE DRAWING		MATERIAL: {Vents}{MAPR 2}{Main}{0}{w}		SHEET: 11 of 11	
SCALE: NTS		SHEET NAME: Battery Pack		DATE:		SHEET:	
REV	DATE	DESCRIPTION	BY				
REVISIONS							