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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE		
A	Dec 2021 Modifications	12/18/21	hwj
B	Added 4th battery and jack screws	10/25/22	hwj
C	Lengthened housing by 1/2"	02/22/23	hwj

w	1		Ring Terminal	e.g., McMaster 69665K74
v	2		Battery cap grip screws	McMaster 97334A190
u	1		Hold-down Washer #2	McMaster 95611A225
t	1		Hold-down Washer #1	McMaster 95611A233
s	1		Vent screw	McMaster 90825A185
r	2		Nylon loop clamp	McMaster 8876T56
q	2		Battery Springs	McMaster 2415N14
p	2		Battery Spring screws	8-32 *0.5 Panhead
n	1		GDF Spacer	1/16" Washer: McMaster 92150A166
m	1		Main Battery nut	8-32 Nut
l	2		Logger bracket screws	4-40*1.0 Panhead
k	8		Logger screws	4-40*0.5 Panhead
j	4		spacer (#4 x .25")	e.g., McMaster 94639A706
i	1		Battery + screw	8-32*0.25 Panhead
h	4		O-rings	Viton -155: McMaster 9464K518
g	1		Lock Cord	1/8" PolyPro: McMaster 7889A44
f	1		Pump connector	MCBH4M
e	1		DuraFET pH Sensor	Either: DSD or GDF
d	1		Oxygen Optode	Aanderaa 5730
c	2		Optode screws	5-.8*12mm flathead, Mcmaster 93395A304
b	1		CTD/COM connector	MCBH8M
a	8		Mounting screws	1/4-20 x 2.25" Socket head, McMaster 92185A553
Item No.	Qty	Part No.	Description	Material Specification

Bill of Materials: Ordered Parts

8	1		Batery Retainer	1/4" PVC or Delrin plate
7	2		Logger Mount	3/8" PVC or Delrin plate
6	1		Battery Tube	Stainess Tube; McMaster 1750T211
5	1		Rail	Aluminum: McMaster 4490T173
4	1		Endcap, Bottom	1.5" PVC plate
3	1		Housing Pipe	4" PVC Sched 40 pipe
2	1		Housing Support	4" PVC Rod OR 2-1/8" PVC plate
1	1		Endcap, Top	1.5" PVC plate
Item No.	Qty	Part No.	Description	Material Specification

Bill of Materials: Machined Pats

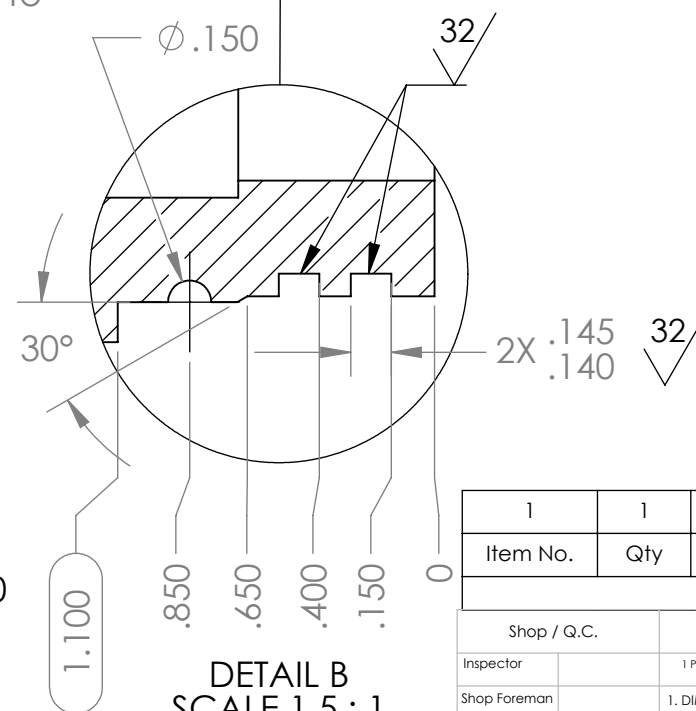
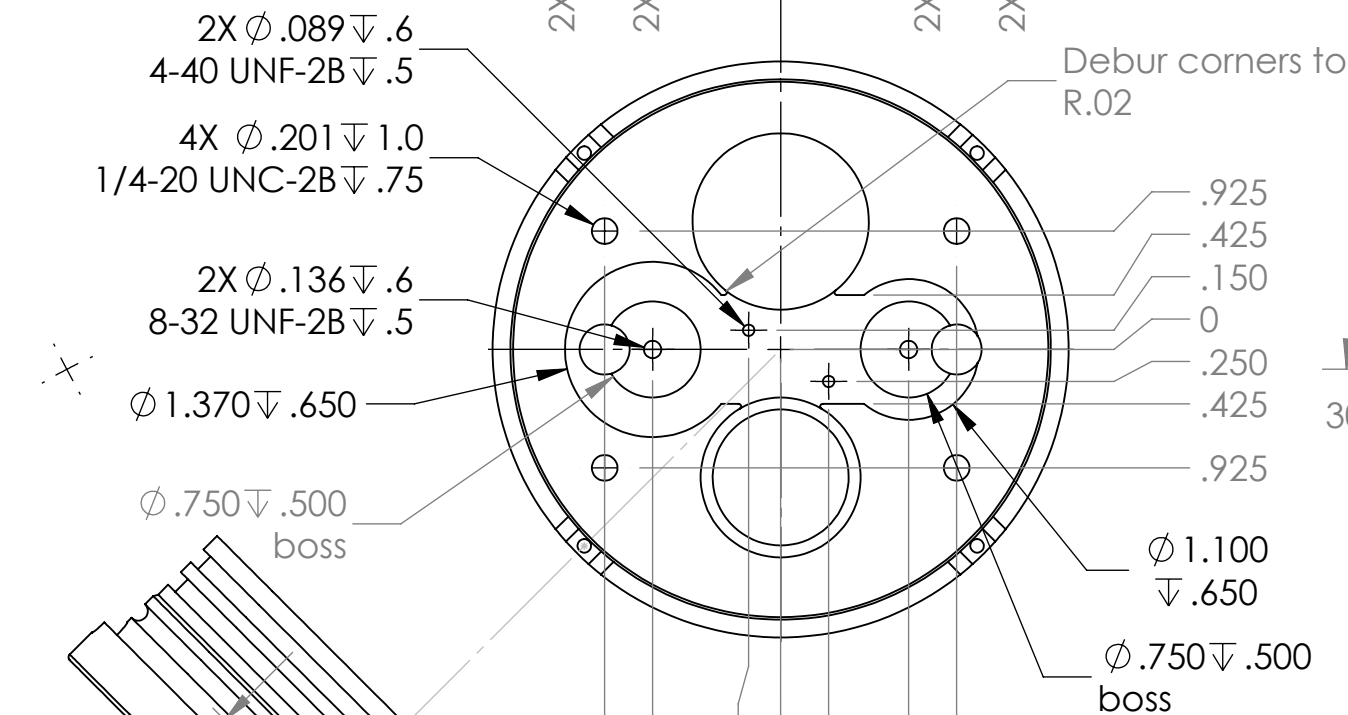
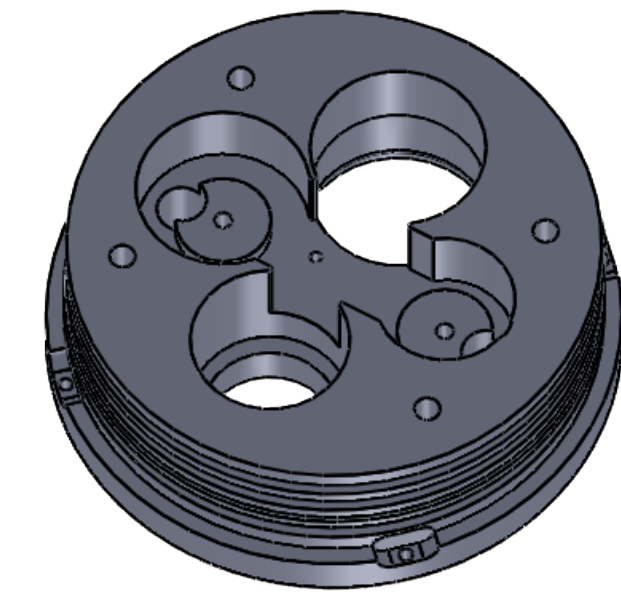
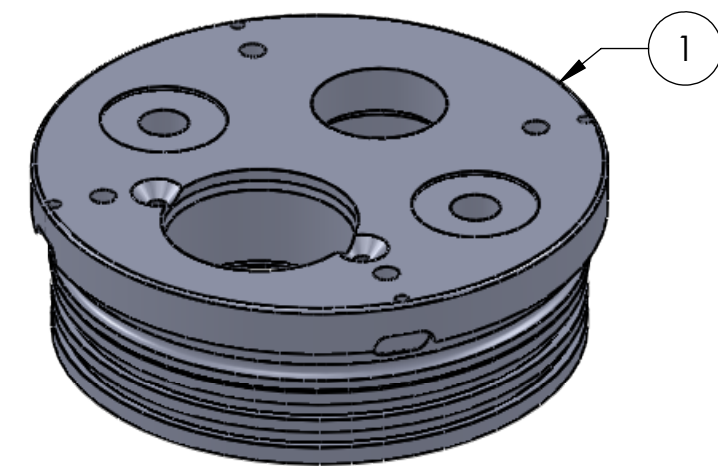
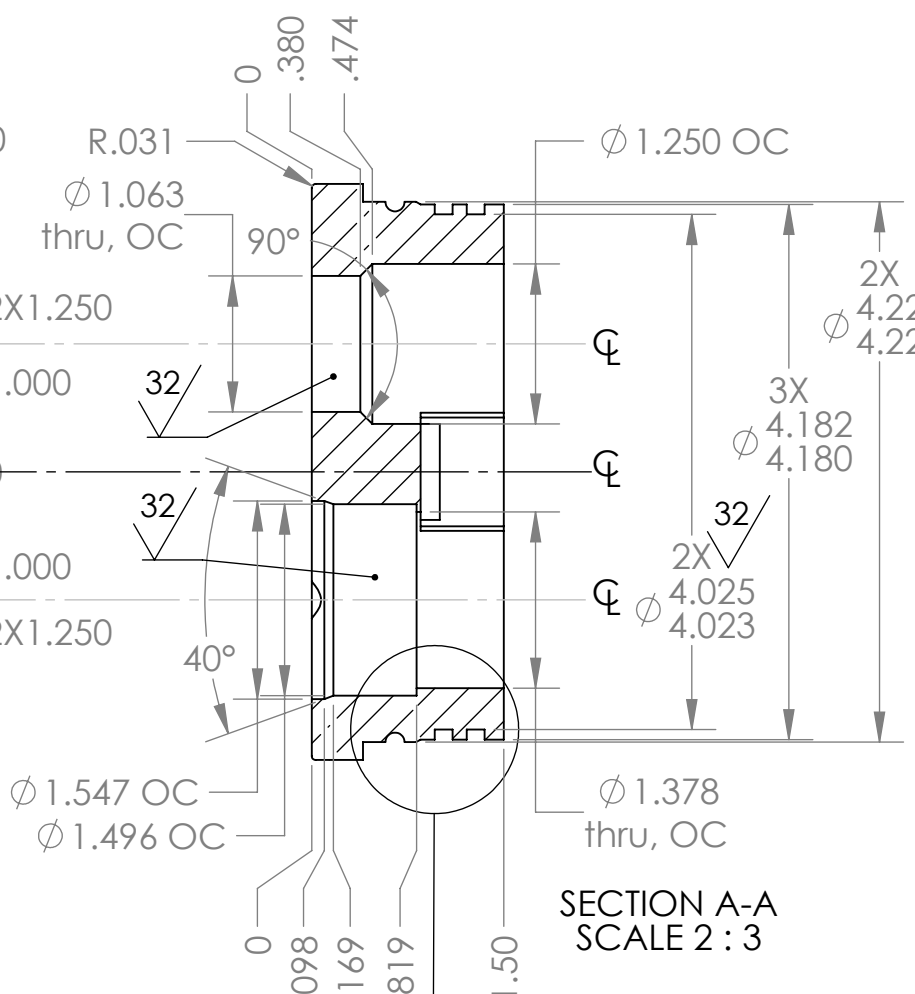
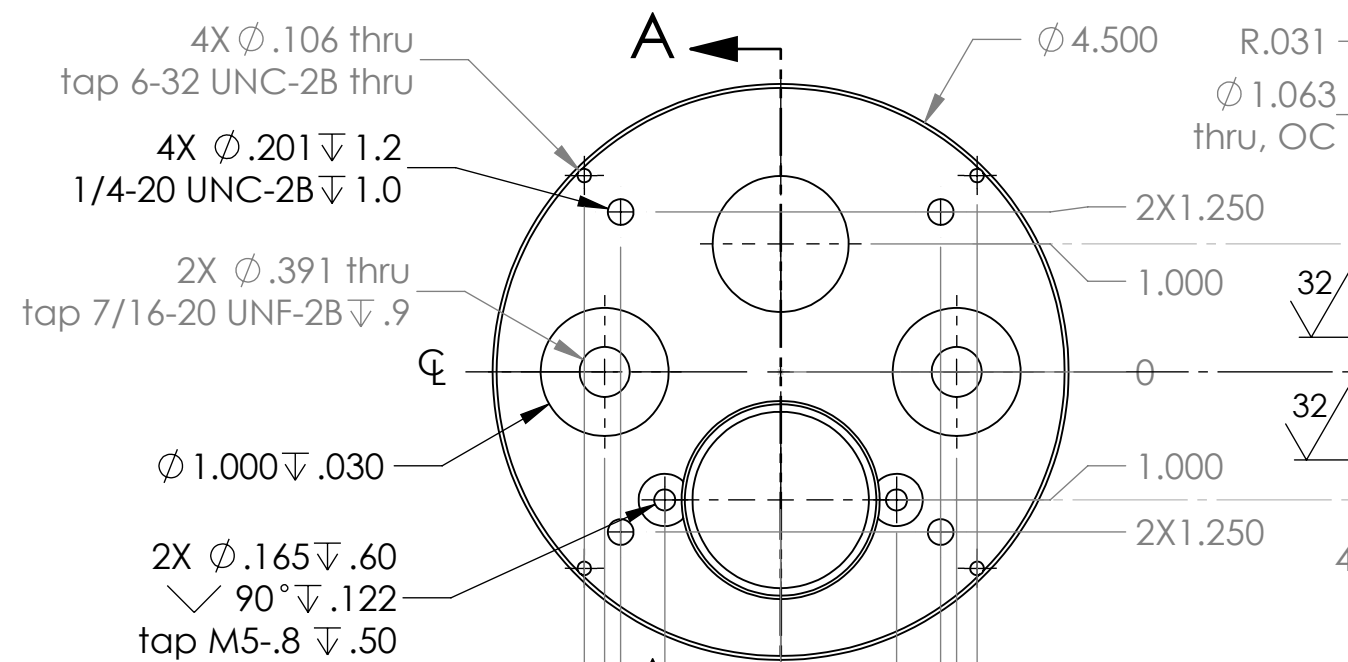
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE		jDesign Hans Jannasch 532 Herrmann Drive Monterey, CA 93940 jannasch@mac.com; 831-521-8425 mpHOx Housing			
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	Designer Hans Jannasch 9/31/2021		CHECKED					
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .015-.030. 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.				PROJECT							
Engineer													
NEXT ASSY Description	NEXT ASSY Number									SIZE B	DWG. NO. 200jD-mpHoxHousing	REV. C	
Application		DO NOT SCALE DRAWING				WEIGHT				SCALE 1:3	CAD FILE:	SHEET 1 OF 7	

- RevA:
1) Loosened endcaps from .002 to .005"
2) Increased battery housing thread
3) Added grip screws to battery endcap
4) Added washers to hold down MCBH wires
5) Added 3 new prts (t, u & v)
6) Updated 4 parts (1, 4, 6 & 8)

- RevB:
7) Added 4th battery; longer battery tube & housing
8) Added jack screws & slots

- Rev C:
9) Lengthened housing by 1/2"

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NOTE 7
Ensure that 1/8" Polypro welding cord easily slides through groove with housing (Part 3).

NOTE 8
Ensure that Part 6 screws into Part 2 until firmly seated.

1	1		Endcap, Top	1.5" PVC plate
Item No.	Qty	Part No.	Description	Material Specification
Bill of Materials: Machined Pats				

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Engineer									
NEXT ASSY Description	NEXT ASSY Number					PROJECT			
Application		DO NOT SCALE DRAWING				WEIGHT			
						SIZE B		DWG. NO. 200jD-mpHoxHousing	
						SCALE 1:3		CAD FILE:	
						SHEET 2 OF		REV. C	

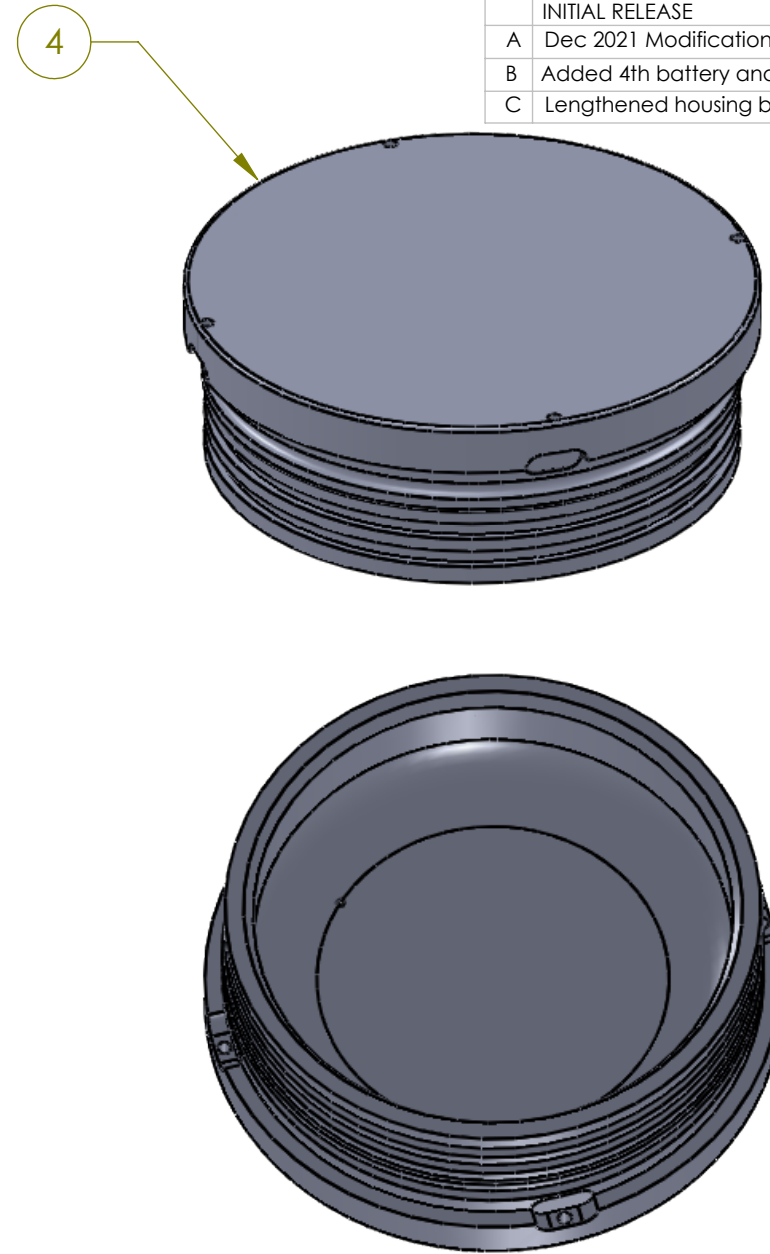
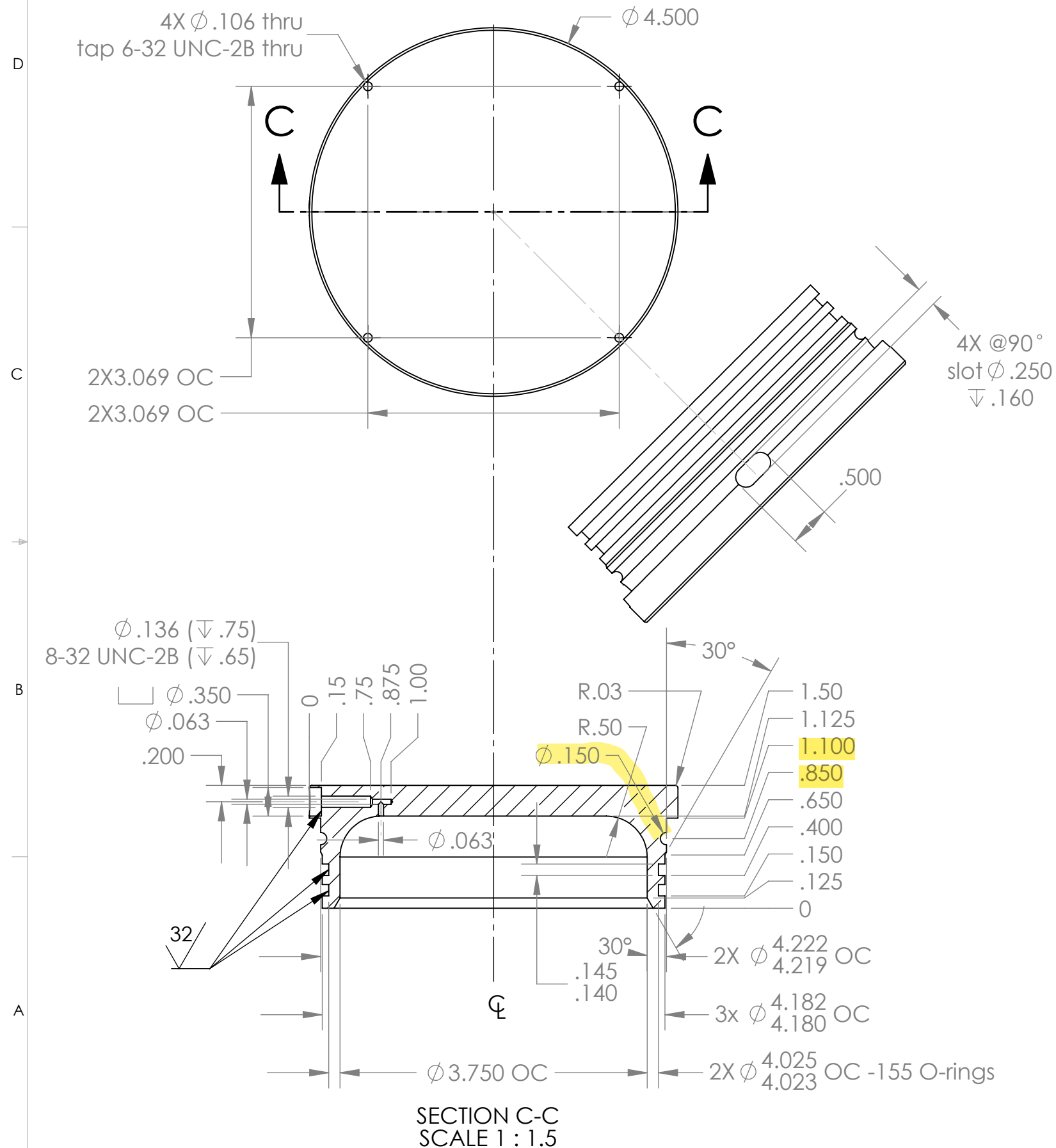
jDesign
Hans Jannasch
532 Herrmann Drive
Monterey, CA 93940
jannasch@mac.com; 831-521-8425

mpHOx Housing

SIZE B	DWG. NO. 200jD-mpHoxHousing	REV. C
SCALE 1:3	CAD FILE	SHEET 2 OF 7

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NOTE 7
Ensure that 1/8" Polypro welding cord easily slides through groove with housing (Part 3).

4	1	Endcap, Bottom		1.5" PVC plate	
Item No.	Qty	Part No.	Description	Material Specification	
Bill of Materials: Machined Pats					
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:		APPROVALS DATE	
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Engineer					CHECKED
NEXT ASSY Description	NEXT ASSY Number				PROJECT
Application		DO NOT SCALE DRAWING		WEIGHT	SIZE B DWG. NO. 200jd-mpHoxHousing
				SCALE 1:3	CAD FILE: SHEET 3 OF 7

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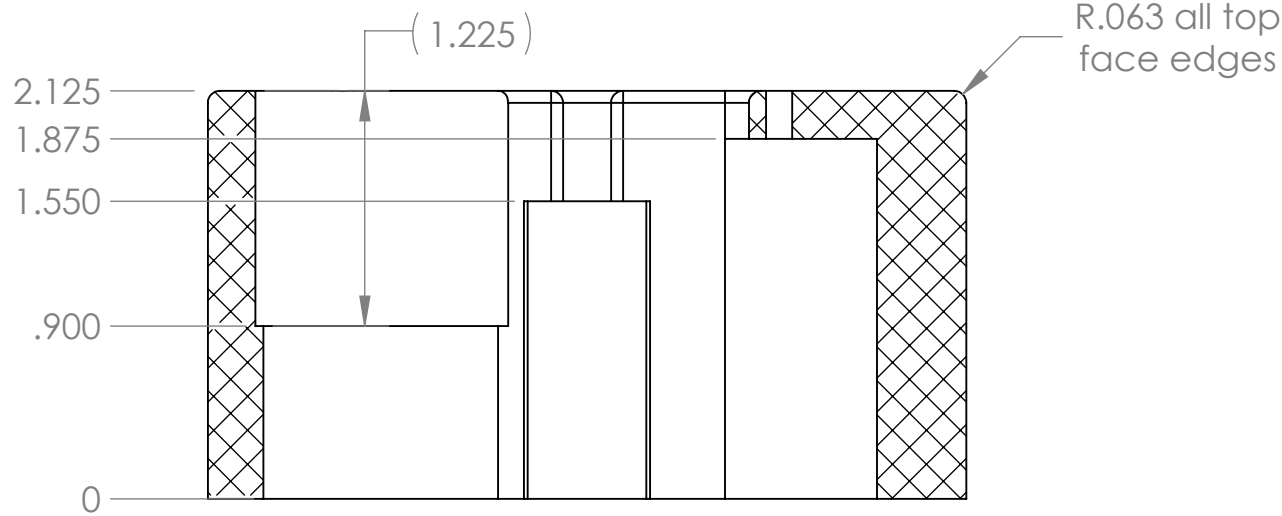
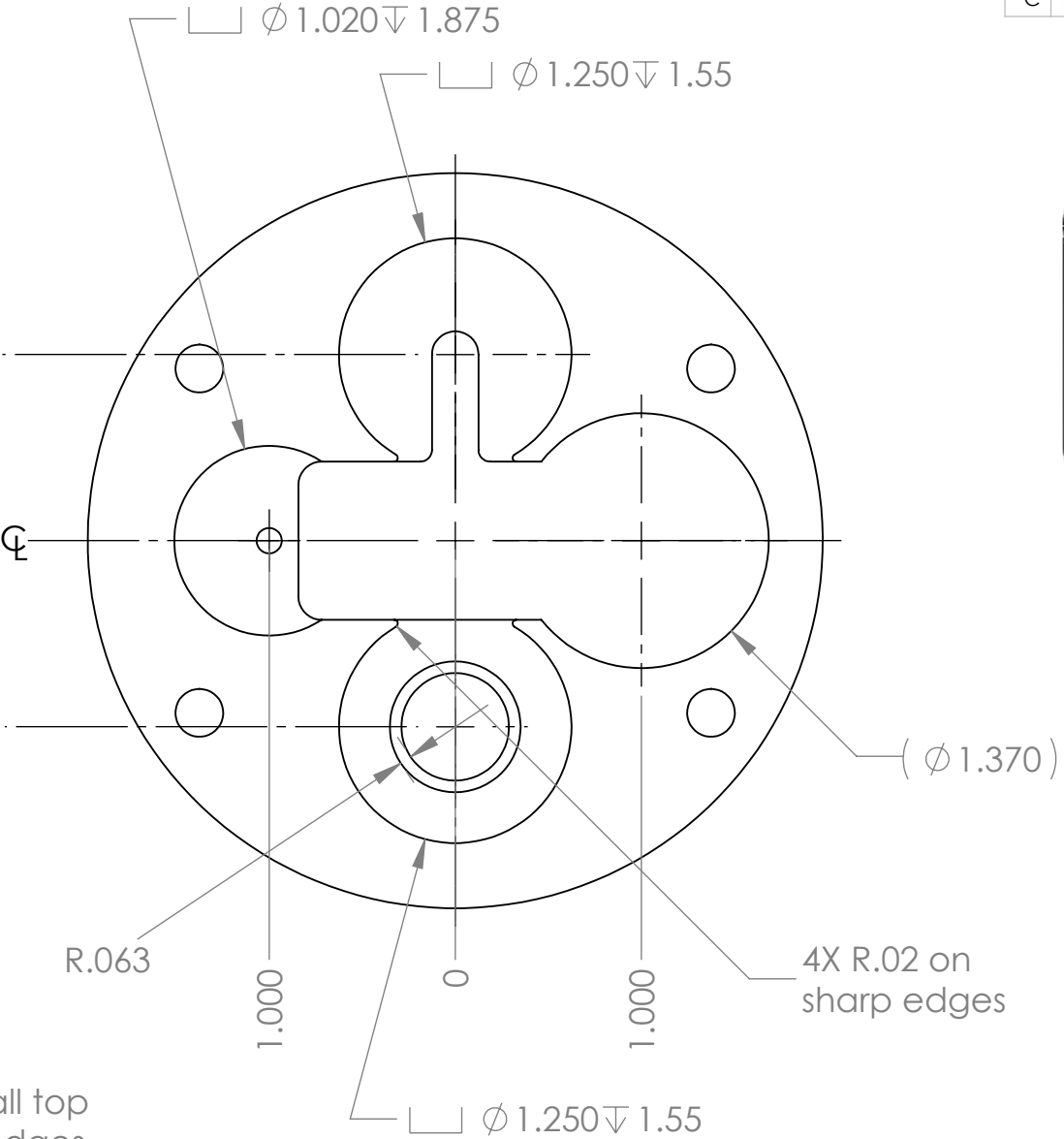
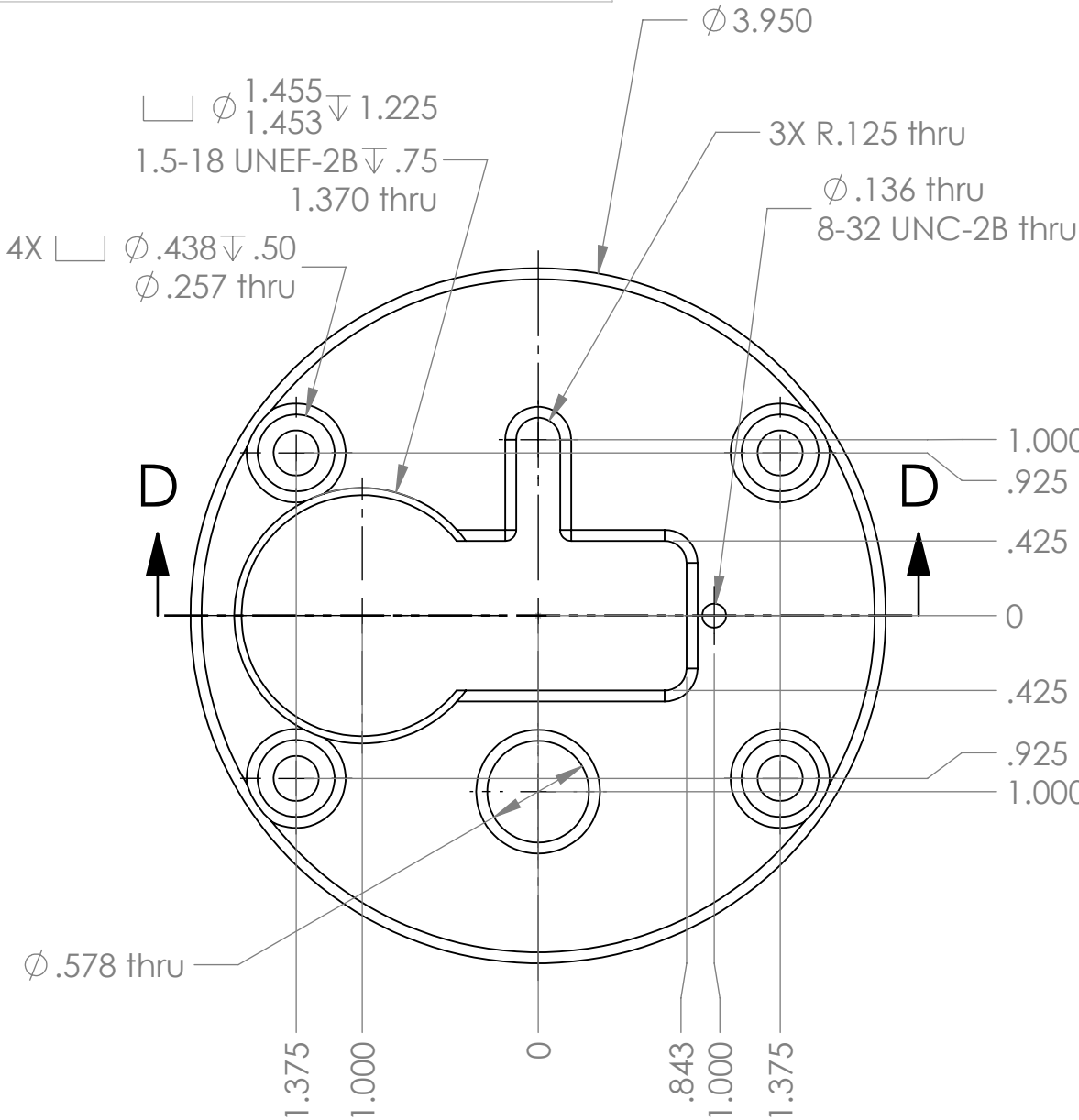
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D

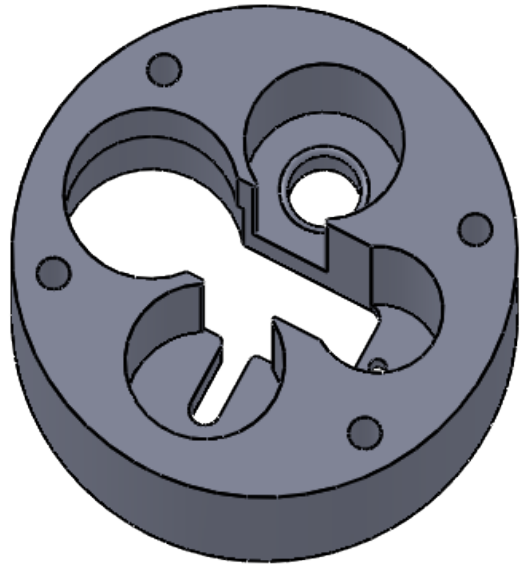
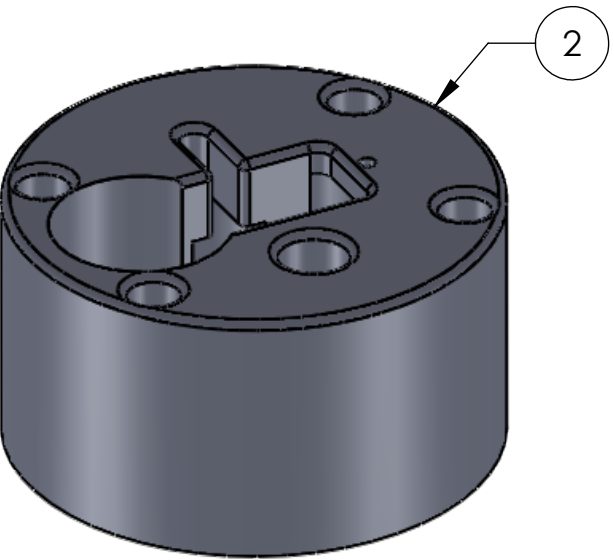
C

B

A



SECTION D-D
SCALE 1 : 1

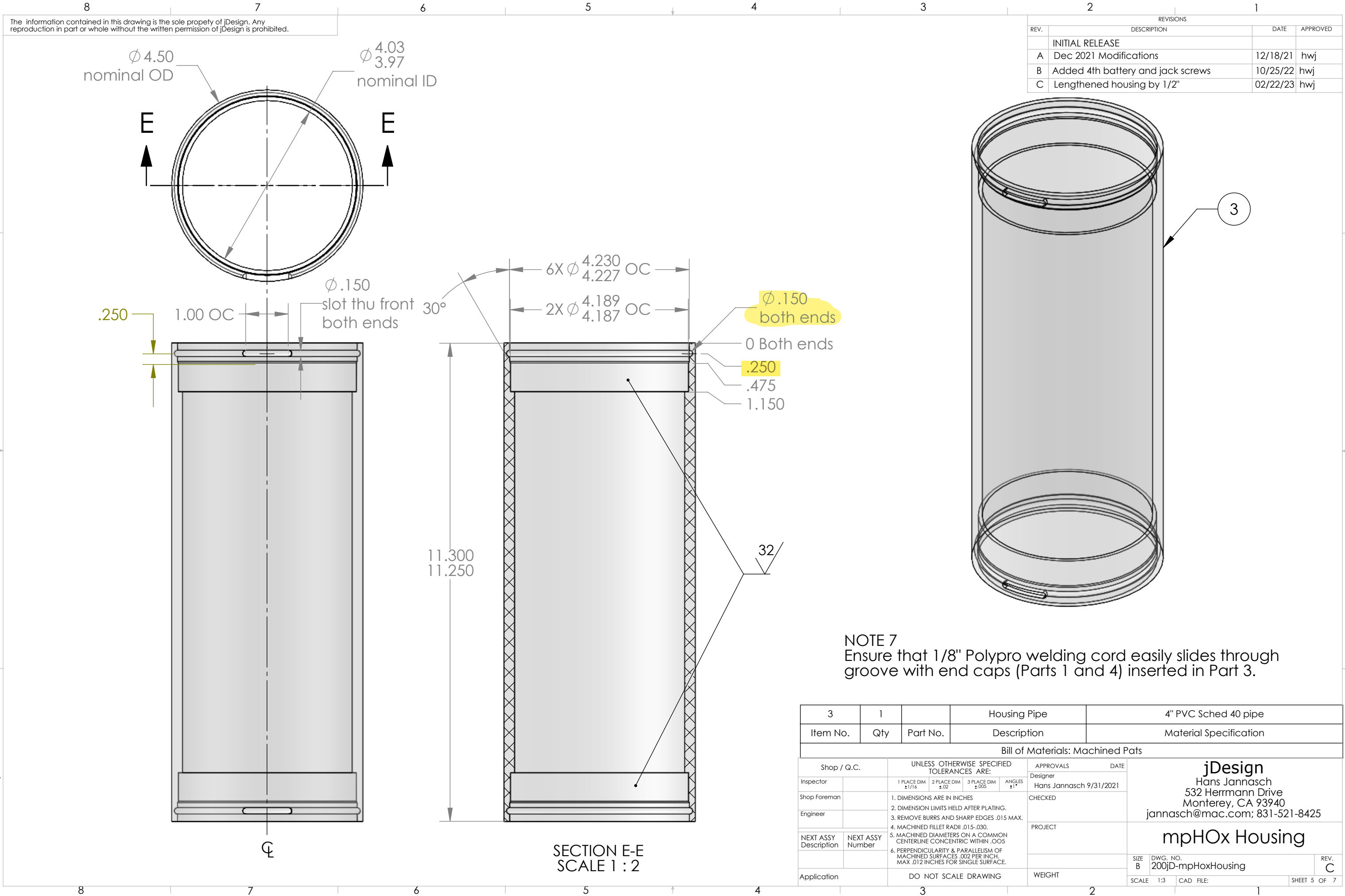


2		1		Housing Support		4" PVC Rod OR 2-1/8" PVC plate				
Item No.		Qty	Part No.	Description		Material Specification				
Bill of Materials: Machined Pats										
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE		
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Shop Foreman		1. DIMENSIONS ARE IN INCHES				CHECKED				
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.				PROJECT				
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.								
NEXT ASSY Description	NEXT ASSY Number	4. MACHINED FILLET RADII .015-.030.				WEIGHT		mpHOx Housing SIZE B DWG. NO. 200jD-mpHoxHousing REV. C		
		5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005								
Application		DO NOT SCALE DRAWING				SCALE 1:3		CAD FILE:		SHEET 4 OF 7
		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE.								

jDesign
Hans Jannasch
532 Herrmann Drive
Monterey, CA 93940
jannasch@mac.com; 831-521-8425

mpHOx Housing

SIZE B DWG. NO. 200jD-mpHoxHousing REV. C



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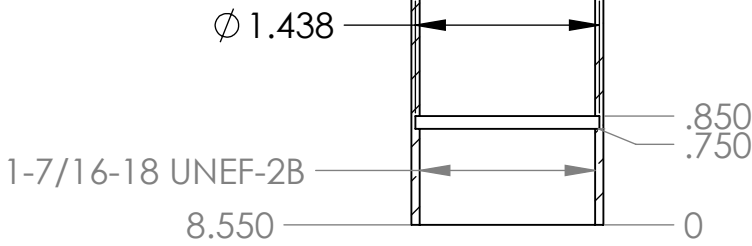
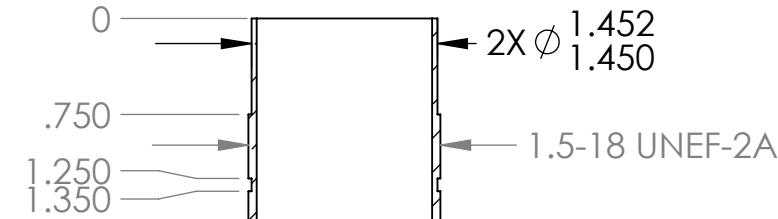
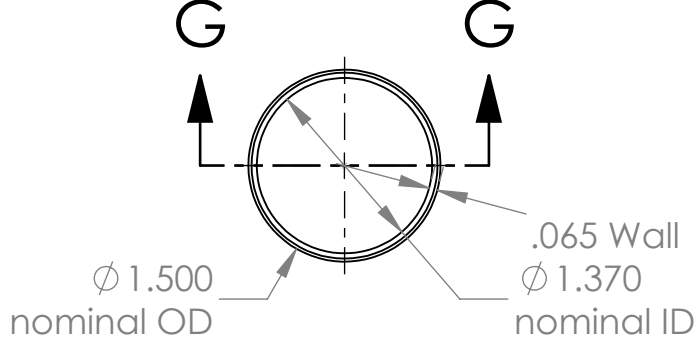
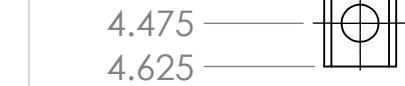
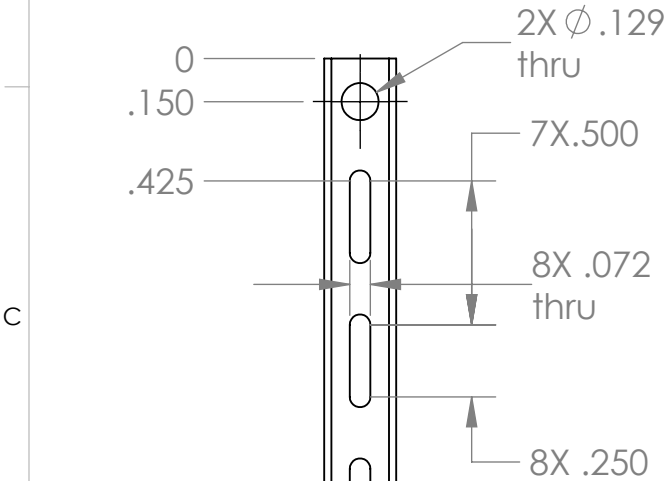
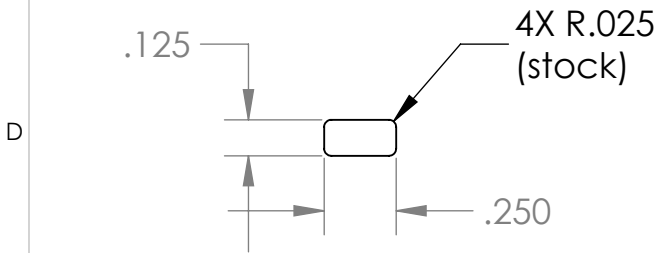
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NOTE 7
Ensure that 1/8" Polypro welding cord easily slides through groove with end caps (Parts 1 and 4) inserted in Part 3.

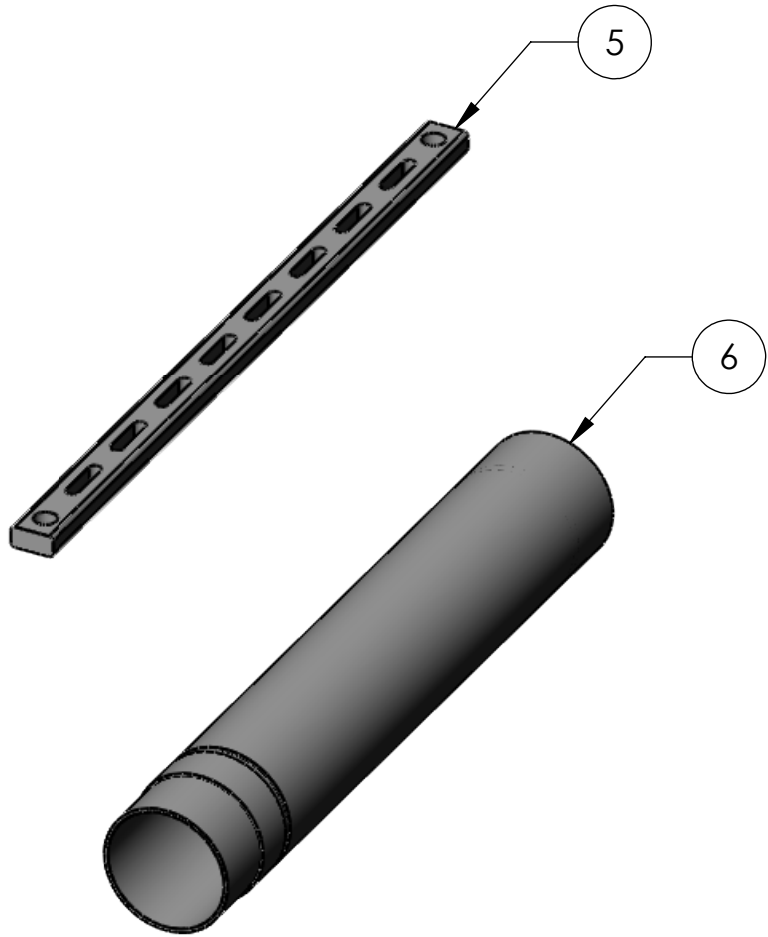
3		1		Housing Pipe		4" PVC Sched 40 pipe		
Item No.		Qty	Part No.	Description		Material Specification		
Bill of Materials: Machined Pats								
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:			APPROVALS	DATE	jDesign Hans Jannasch 532 Herrmann Drive Monterey, CA 93940 jannasch@mac.com; 831-521-8425 mpHOx Housing	
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NEXT ASSY Description	NEXT ASSY Number	4. MACHINED FILLET RADII .015-.030.				PROJECT		
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Application		DO NOT SCALE DRAWING			WEIGHT	SIZE B	DWG. NO. 200JID-mpHoxHousing	REV. C
						SCALE 1:3	CAD FILE:	SHEET 5 OF 7

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SECTION G-G
SCALE 1 : 1.5



NOTE 7
Ensure that Part 6 screws into Part 2 until firmly seated.

NOTE 8
Ensure that Part 8 easily screws into Part 6.

6	1		Battery Tube	Stainless Tube; McMaster 1750T211
5	1		Rail	Aluminum; McMaster 4490T173
Item No.	Qty	Part No.	Description	Material Specification

Bill of Materials: Machined Pats								
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:			APPROVALS DATE			
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Shop Foreman		DESIGNER Hans Jannasch 9/31/2021						
Engineer		CHECKED						
		PROJECT						
NEXT ASSY Description	NEXT ASSY Number							
		1. DIMENSIONS ARE IN INCHES				mpHOx Housing		
		2. DIMENSION LIMITS HELD AFTER PLATING.						
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		4. MACHINED FILLET RADII .015-.030.						
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Application		DO NOT SCALE DRAWING			WEIGHT			
					SCALE 1:3 CAD FILE:		SHEET 6 OF 7	

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Monterey, CA 93940
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mpHOx Housing

