

Hybrid III 6 y/o Lab

BME254L - Spring 2026 - Palmeri

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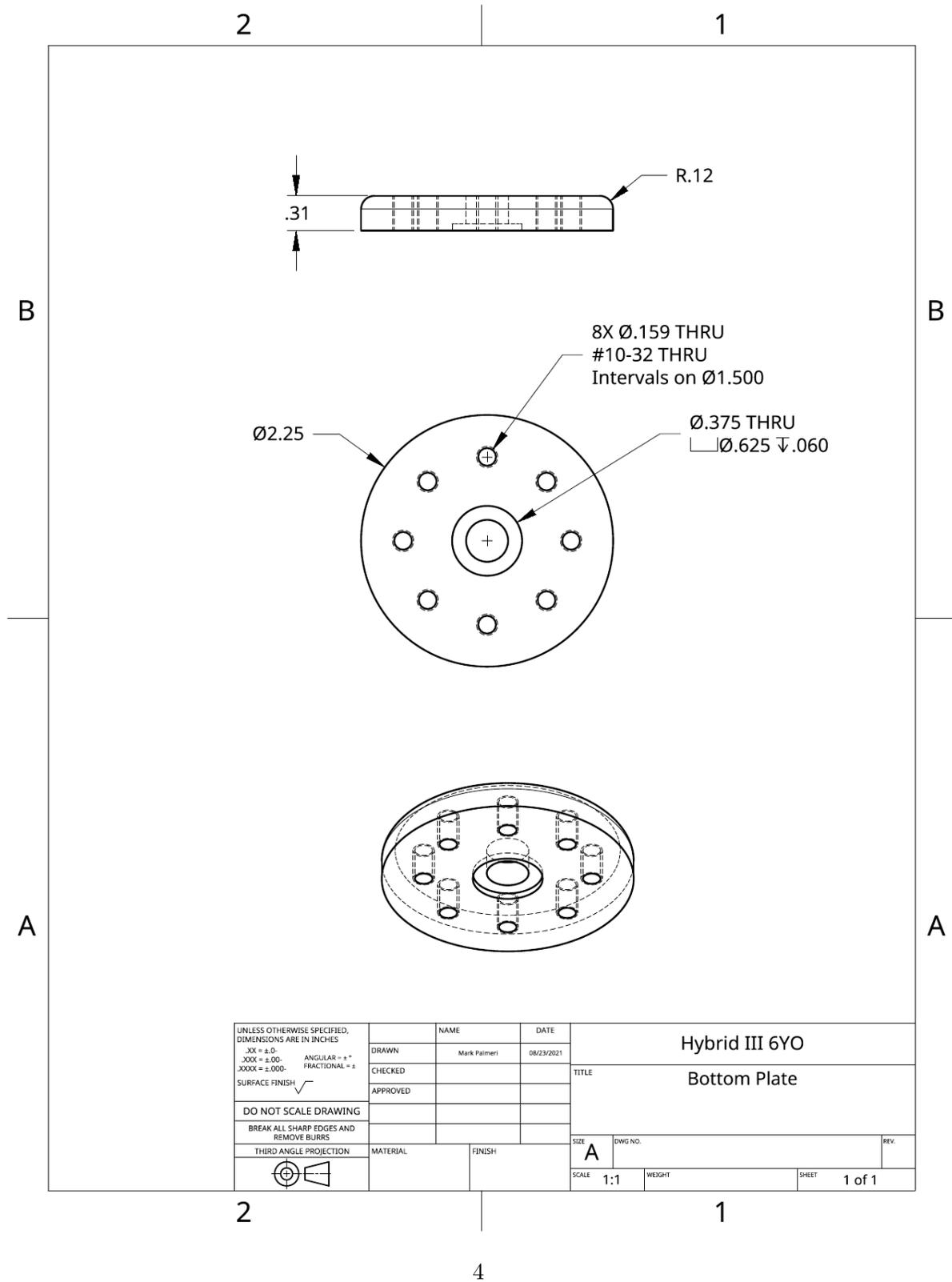
Tasks

- Create all of the parts for the Hybrid III 6yo test setup based on the attached drawings.
- You should create all of these parts and their associated drawings and assemblies as part of the same “Document” and share that document with Dr. Palmeri and the TA(s).
- Create the mechanical drawings associated with each of those parts (i.e., recreate the drawings that you are using to generate the parts) and the assembly.
- Assemble your parts as guided by the assembly diagram and as shown in the uploaded animation.
- There are online tutorials on Assemblies if you need some refreshers:
 - <https://learn.onshape.com/courses/introduction-to-assembly-design>
 - <https://learn.onshape.com/courses/fundamentals-onshape-assemblies>

What to submit

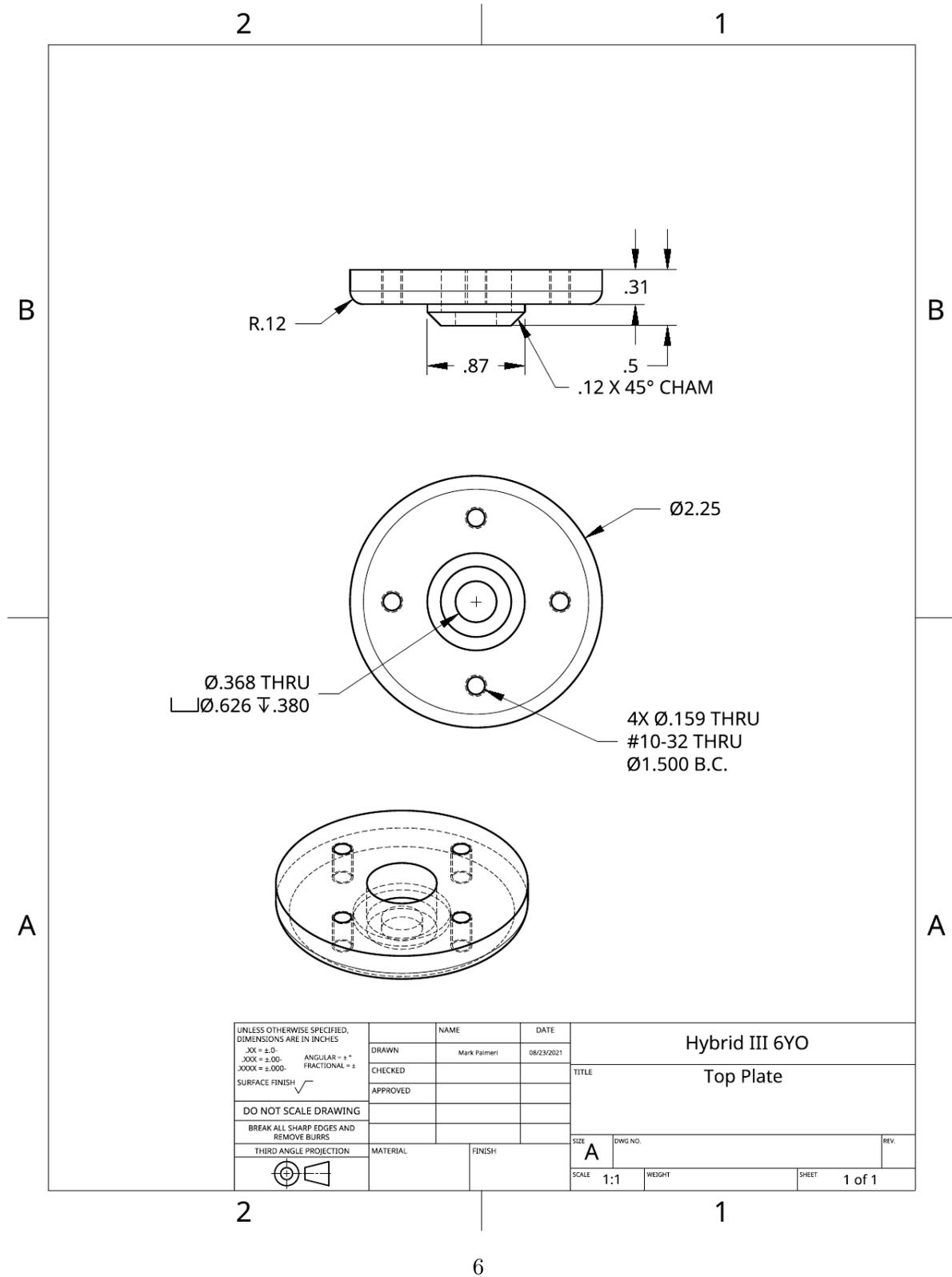
Upload mechanical drawings and a screenshot of the part for all of your parts to the Hybrid III 6 y/o Gradescope assignment.

Bottom Plate



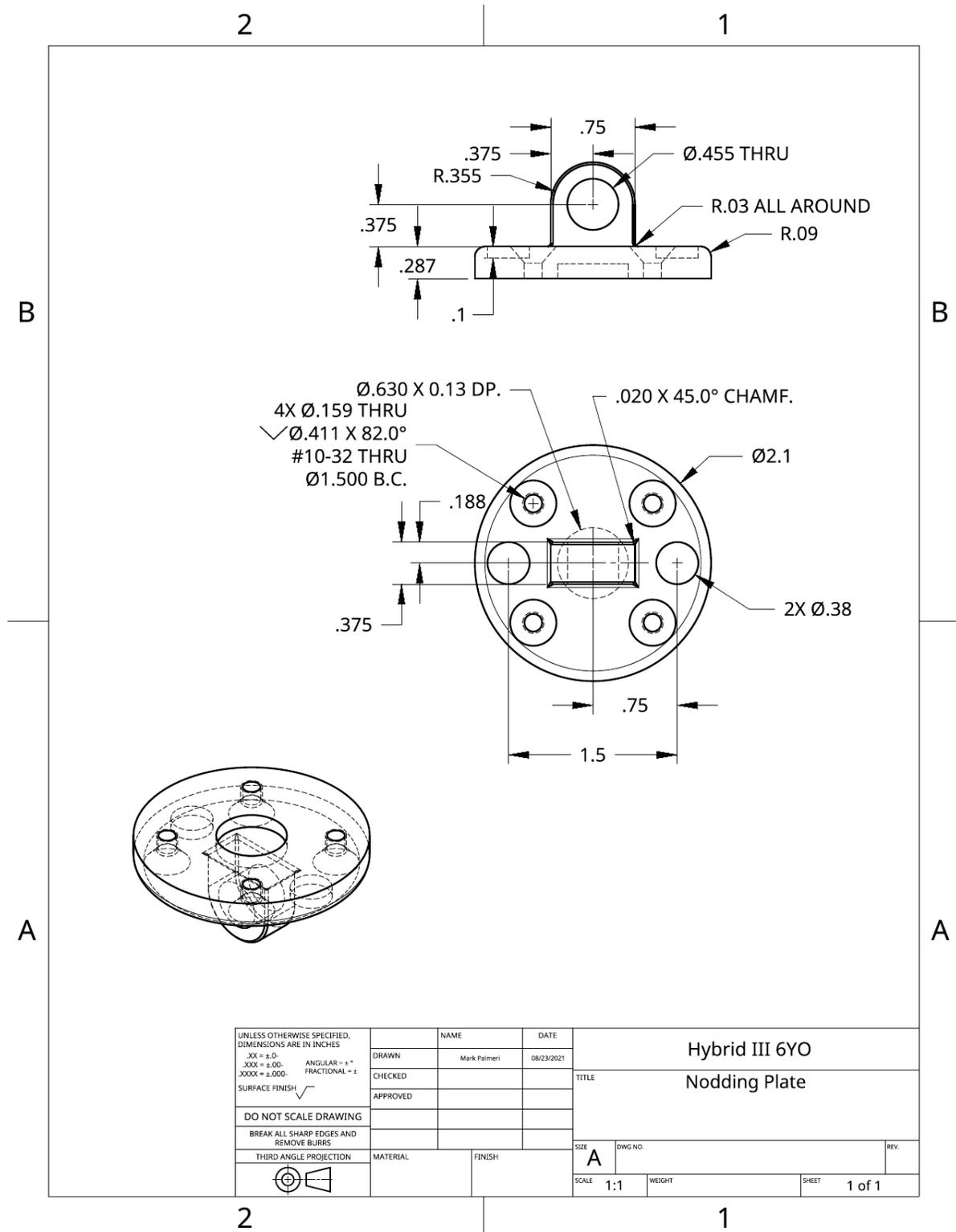
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. .XX = ±.0- .XXX = ±.00- .XXXX = ±.000- SURFACE FINISH $\sqrt{\quad}$ DO NOT SCALE DRAWING BREAK ALL SHARP EDGES AND REMOVE BURRS THIRD ANGLE PROJECTION		NAME	DATE	Hybrid III 6YO Bottom Plate			
	DRAWN	Mark Palmeri	08/23/2021				TITLE
	CHECKED			REV.			
	APPROVED			SIZE	DWG NO.	REV.	
	MATERIAL	FINISH	A				
			SCALE	1:1	WEIGHT	SHEET	1 of 1

Top Plate



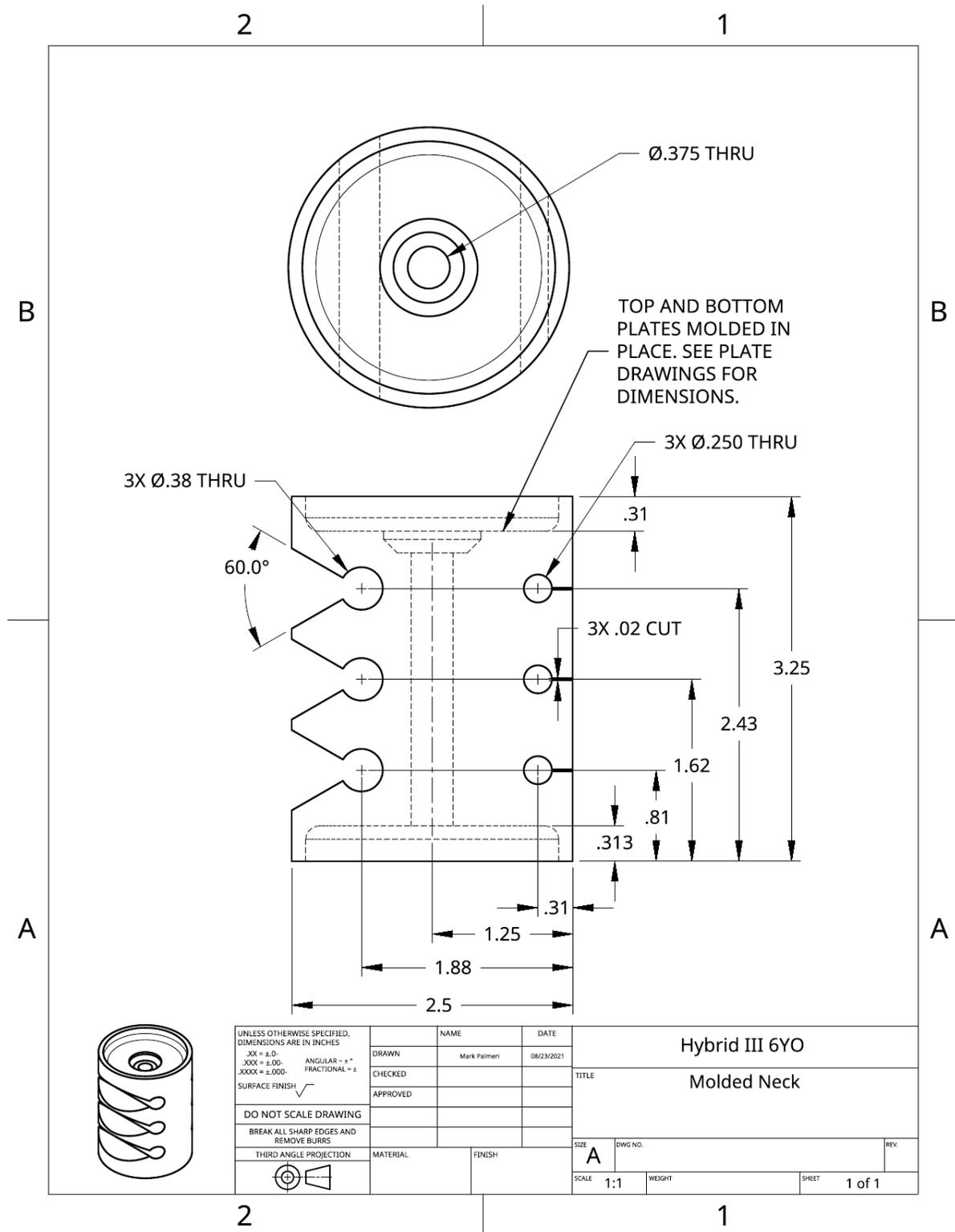
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XXX = ±.01 .XXX = ±.00- .XXXX = ±.000- SURFACE FINISH	NAME	DATE	Hybrid III 6YO	
	DRAWN	Mark Palmeri	08/23/2021	TITLE
	CHECKED			Top Plate
	APPROVED			
DO NOT SCALE DRAWING BREAK ALL SHARP EDGES AND REMOVE BURRS	MATERIAL	FINISH	SIZE A	DWG NO.
THIRD ANGLE PROJECTION 			SCALE 1:1	WEIGHT
			SHEET	1 of 1

Nodding Plate



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XXX = ±.01 .XXXX = ±.001 .XXXXX = ±.0005 SURFACE FINISH	DRAWN	NAME	DATE	Hybrid III 6YO	
	CHECKED	Mark Palmeri	08/23/2021	TITLE	
	APPROVED			Nodding Plate	
	DO NOT SCALE DRAWING				
BREAK ALL SHARP EDGES AND REMOVE BURRS					
THIRD ANGLE PROJECTION	MATERIAL	FINISH	SIZE	DWG NO.	REV.
			A		
			SCALE	WEIGHT	SHEET
			1:1		1 of 1

Molded Neck



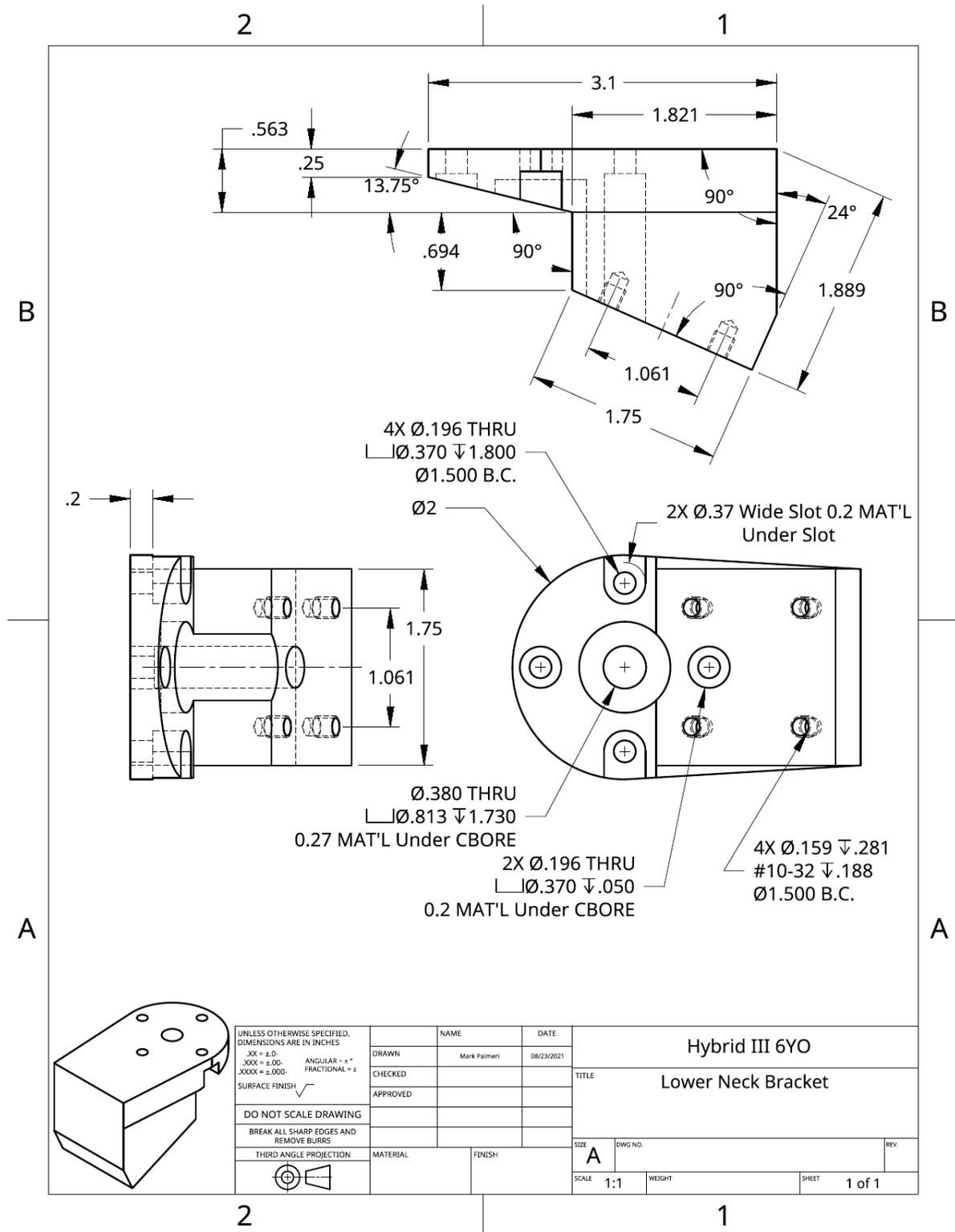
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.		NAME	DATE	Hybrid III 6YO	
.XX = ±.0-	ANGULAR = ±°	DRAWN	08/23/2021	TITLE	
.XXX = ±.00-	FRACTIONAL = 1/16	CHECKED		Molded Neck	
.XXXX = ±.000-		APPROVED		SIZE	DWG NO.
SURFACE FINISH ✓				A	
DO NOT SCALE DRAWING				SCALE	WEIGHT
BREAK ALL SHARP EDGES AND REMOVE BURRS				1:1	
THIRD ANGLE PROJECTION		MATERIAL	FINISH	SHEET	1 of 1

 Tip

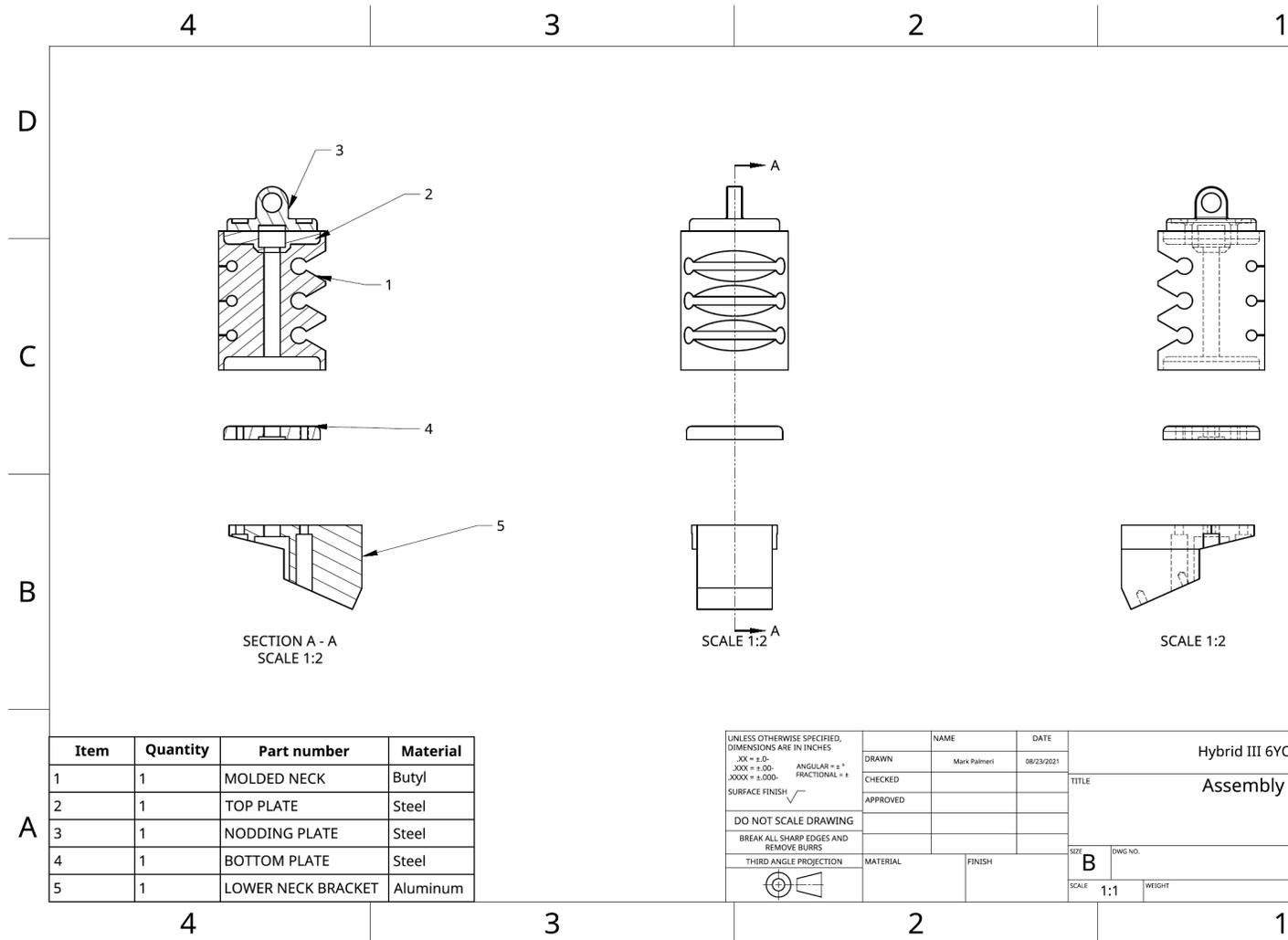
Note that the this part has features that are dependent on the top and bottom plates. To reduce the overhead of manually entering these dimensions from the other parts, you can use the **Derived** tool in Onshape to bring in the relevant faces from the other parts.

<https://cad.onshape.com/help/Content/derived.htm#StepsDesktop>

Lower Neck Bracket



Assembly



Item	Quantity	Part number	Material
1	1	MOLDED NECK	Butyl
2	1	TOP PLATE	Steel
3	1	NODDING PLATE	Steel
4	1	BOTTOM PLATE	Steel
5	1	LOWER NECK BRACKET	Aluminum

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		NAME	DATE	Hybrid III 6YC
.XX = ±.0- .XXX = ±.00- .XXXX = ±.000- SURFACE FINISH	ANGLUAR = ± ° FRACTIONAL = ±	DRAWN Mark Palmeri	98/23/2021	
DO NOT SCALE DRAWING		CHECKED		TITLE
BREAK ALL SHARP EDGES AND REMOVE BURRS		APPROVED		
THIRD ANGLE PROJECTION	MATERIAL	FINISH		SIZE B DWG. NO.
				SCALE 1:1 WEIGHT