

Baymax

**Makaylah Ammon, Nathan Roeder,
Jonah Fleck, Anna Tariq**



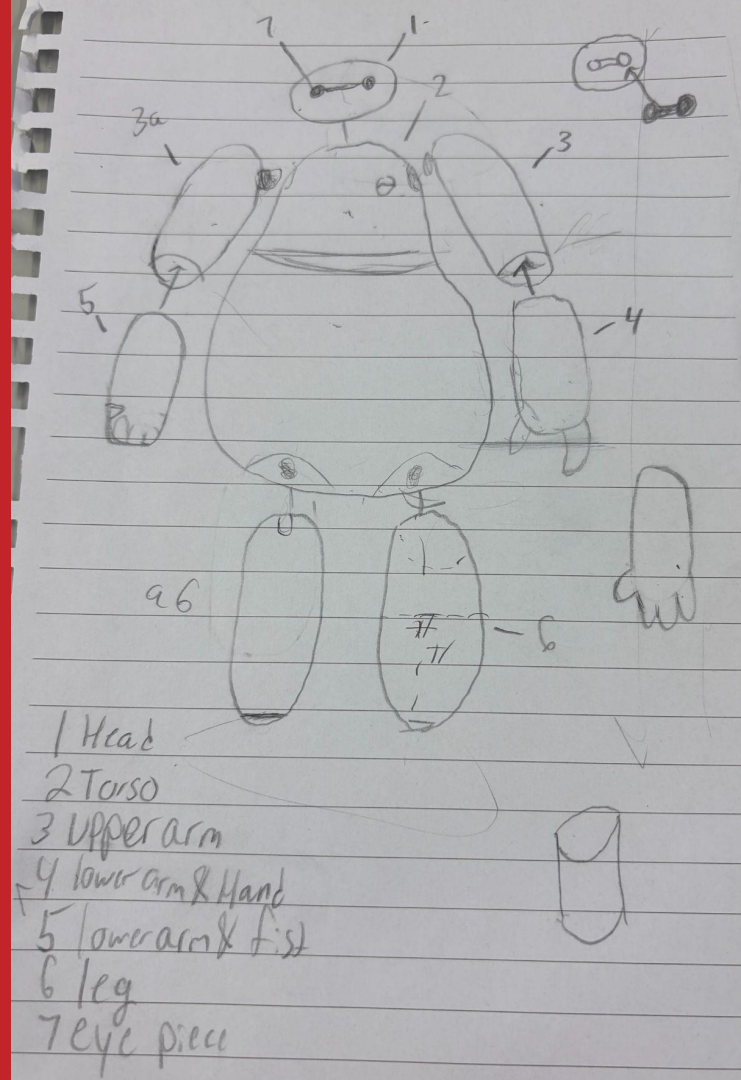
Articulated Figure -

A figure with movable joints (like hips, knees, elbows, neck, wrists) that allow its body parts to be posed and manipulated, enabling realistic or dynamic positioning

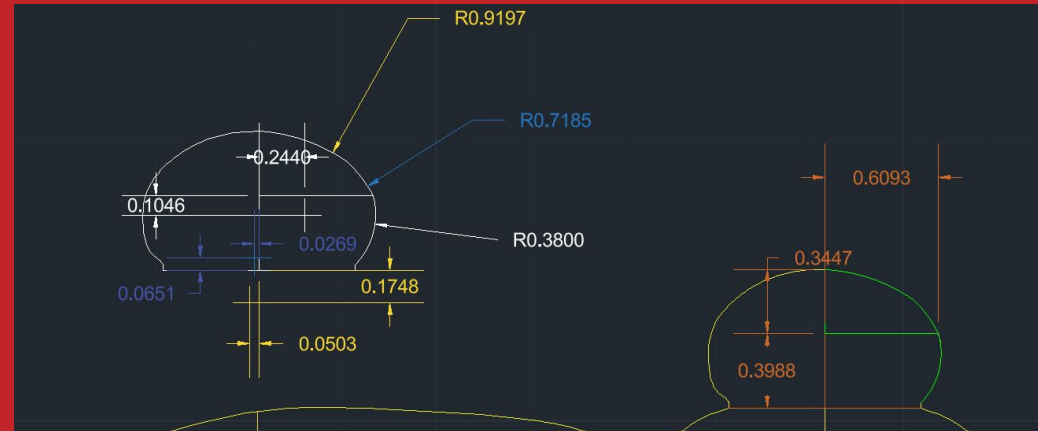
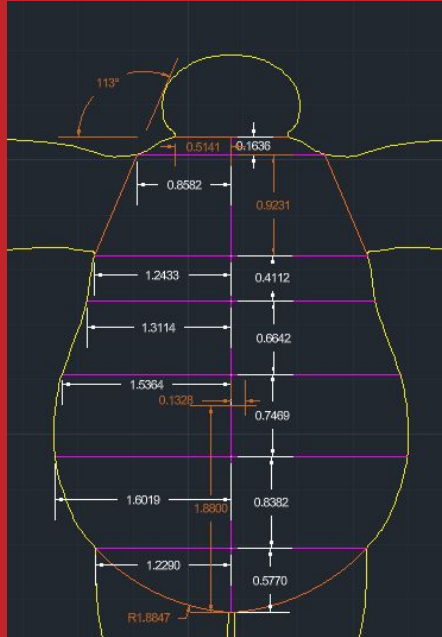
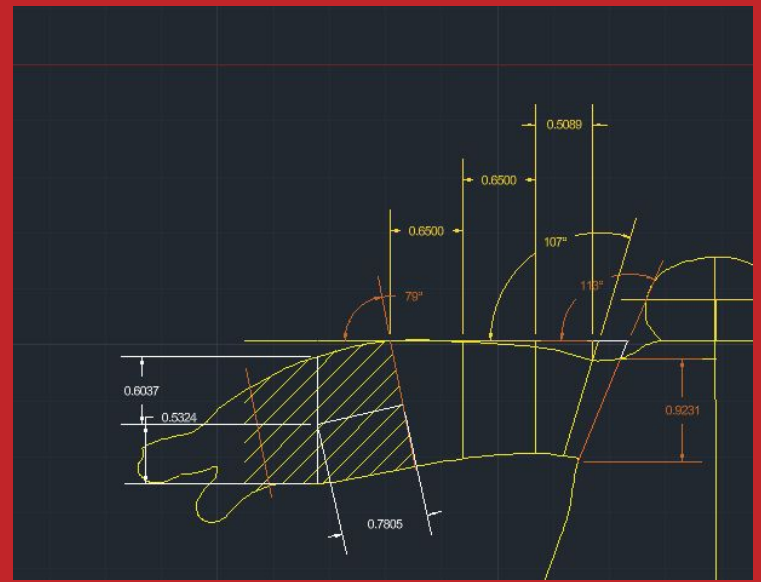
Brainstorming Phase

Considerations:

- How would we separate him into pieces
- How many joints would we need
- What are other things to consider



SEE BODYDETAIL FOR
ARC CENTER POINT
LOCATION



Responsibilities

Makaylah

- Parts - Head and Eyepiece
- Created models for assigned pieces
- Created drawings for assigned pieces
- Assisted with test printing
- Collected work for joint binder
- Set up and wrote original contract
- 1½ page essay

Jonah

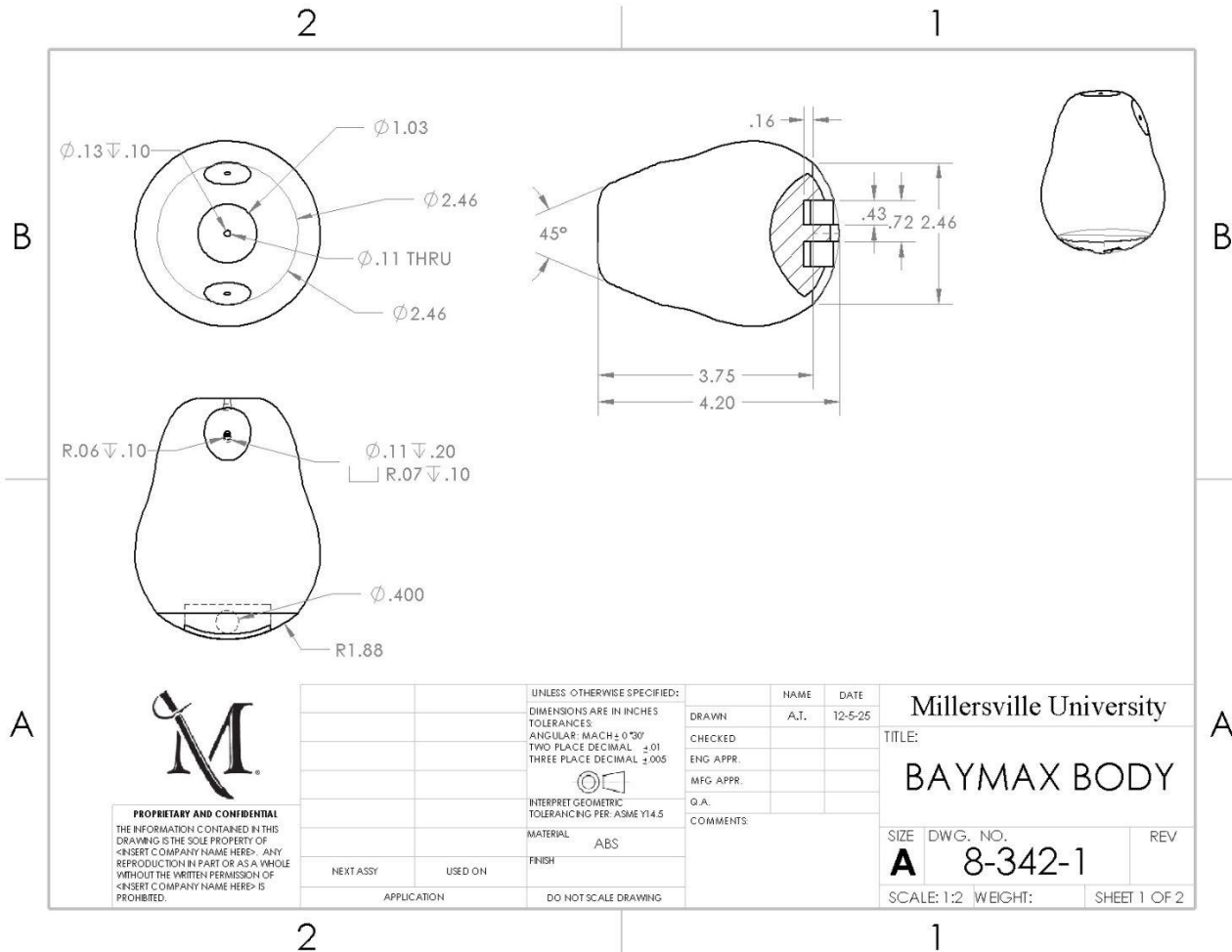
- Parts- Upper Arm and Leg
- Designed and created models for listed parts
- Modeled drawings for listed parts
- Made 3 total test prints for three joints
- Assisted with other conjoining joints
- 1½ essay

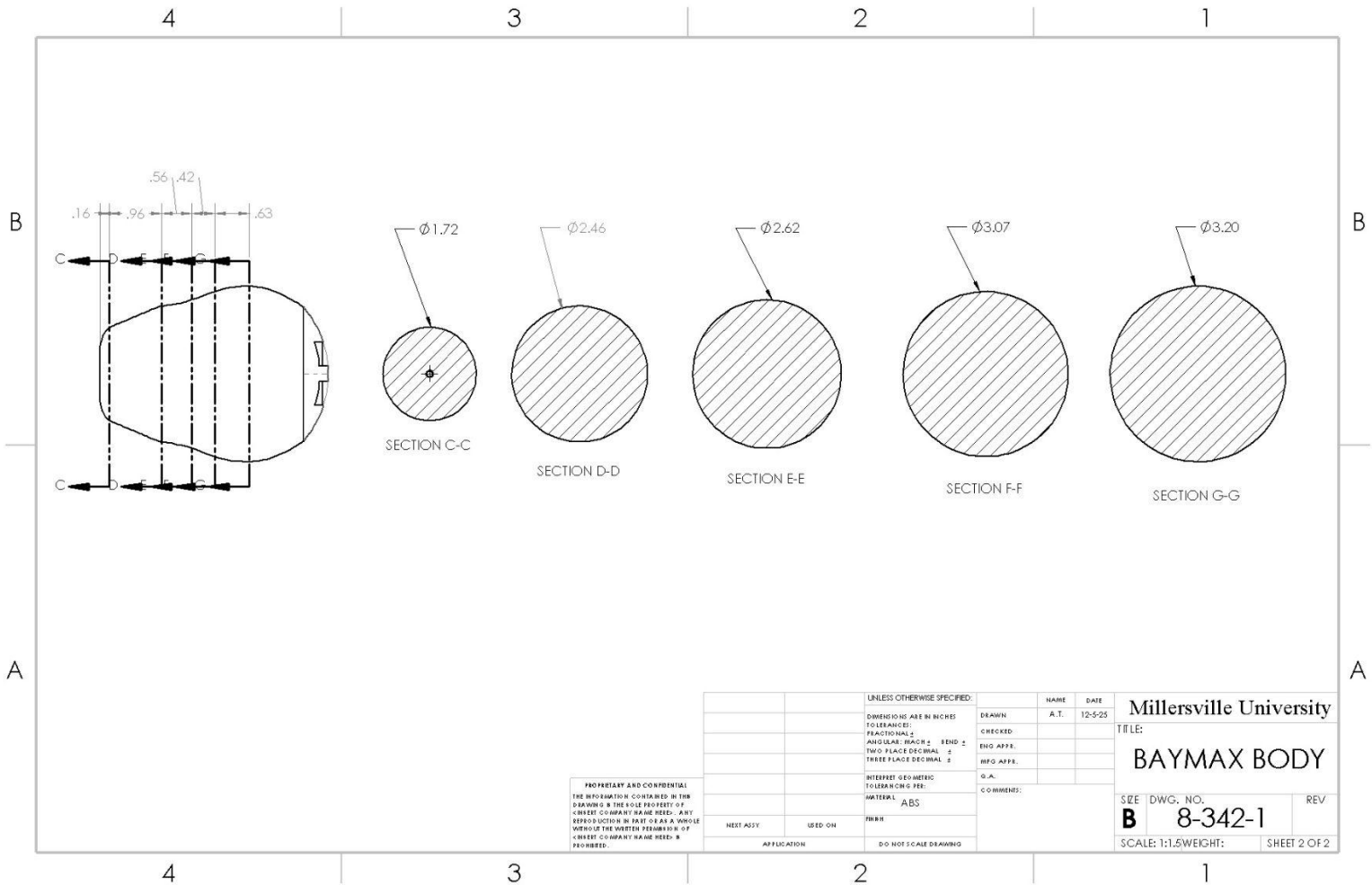
Nathan

- Parts- Lower left/right Arm
- Modeled and DWG's for listed parts
- Collaborated in making final elbow joint
- Determined dimensional guidelines
- 1½ Essay
- 2 test prints
- Model/ DWG of exploded assembly

Anna

- Part - Body/Torso
- Created model for the listed part
- Created drawings for the part
- Performed multiple test prints for arm, leg, and neck joints
- Wrote a 1½-page reflective essay

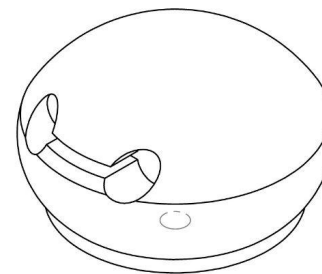
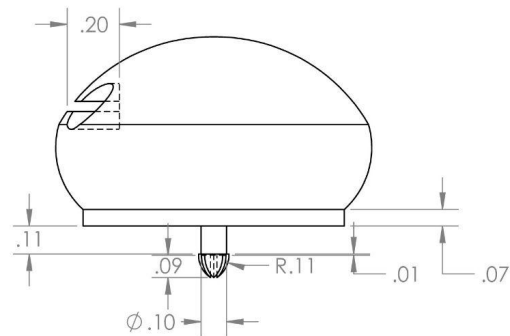
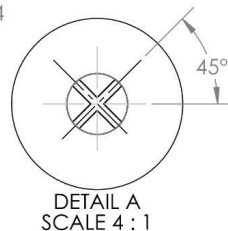
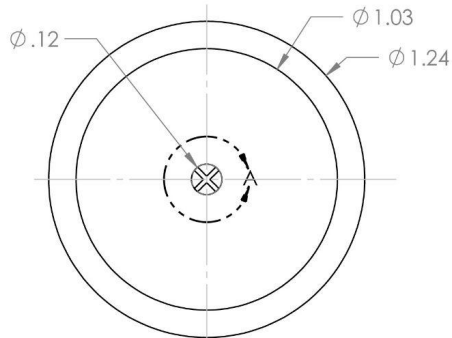
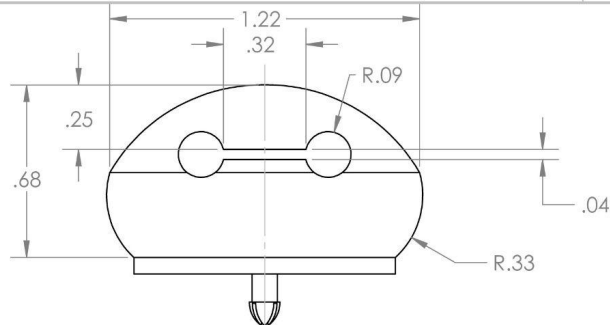




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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	Millersville University	
		DIMENSIONS ARE IN INCHES		DRAWN	A.T.	12-5-25	TITLE: BAYMAX BODY
		TOLERANCES:		CHECKED			
		FRACTIONAL ±		ENG APPR.			
		ANGULAR (BACH) ±		INFO APPR.			
		TWO PLACE DECIMAL					
		THREE PLACE DECIMAL ±					
		INTERPRET GEO METRIC		COMMENTS:		SIZE	DWG. NO.
		TOLERANCING PER:				B	8-342-1
		MATERIAL:				SCALE: 1:1.5	WEIGHT:
		FINISH				SHEET 2 OF 2	
		DO NOT SCALE DRAWING					

B




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		INTERPRET GEOMETRIC TOLERANCING PER: ASME 14.5
		MATERIAL PLA
		FINISH
NEXT ASSY	USED ON	
APPLICATION	DO NOT SCALE DRAWING	

Millersville University

TITLE:
BAYMAX HEAD

SIZE	DWG. NO.	REV
A	B-342-2	
SCALE: 2:1	WEIGHT:	SHEET 1 OF 1

A

2

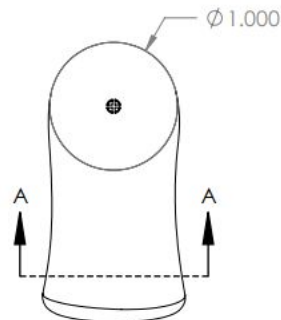
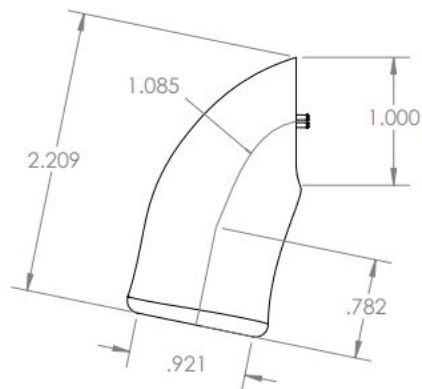
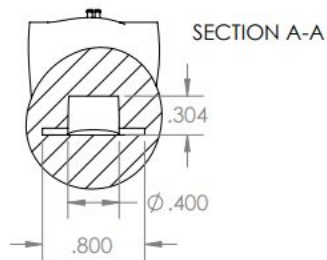
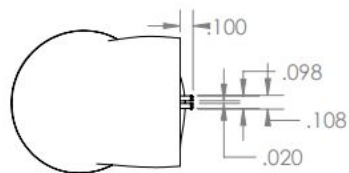
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		FINISH
NEXT ASSY	USED ON	
APPLICATION		DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	JRF	12/9/2025
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

Millersville University

TITLE:

Baymax
UpperArm

SIZE

DWG. NO.

REV

A

B-342-3

SCALE: 1:1

WEIGHT: .05lbs

SHEET 1 OF 1

2

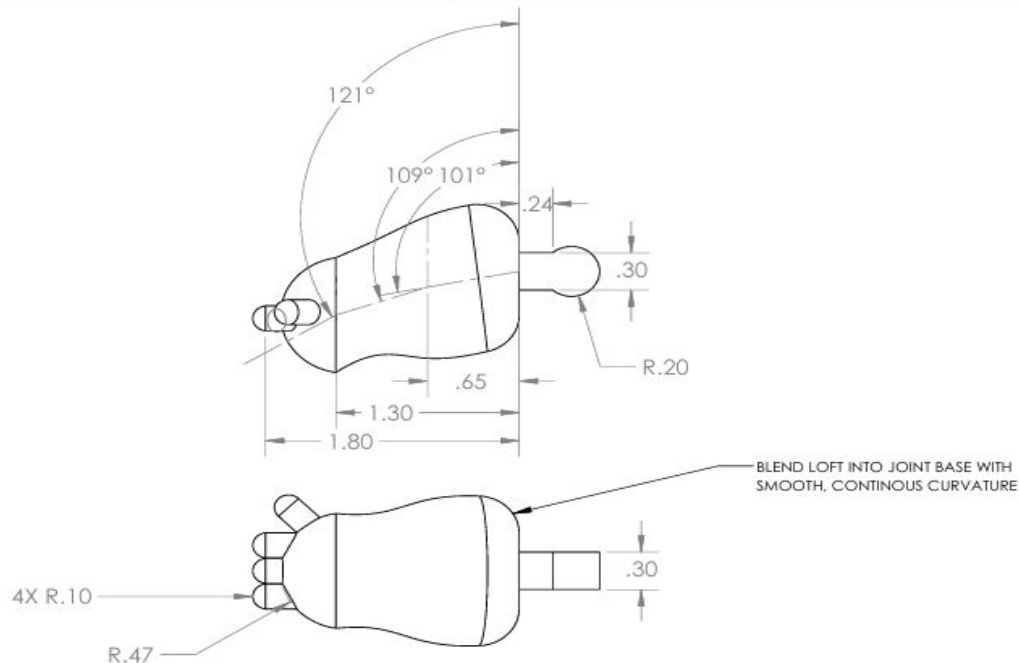
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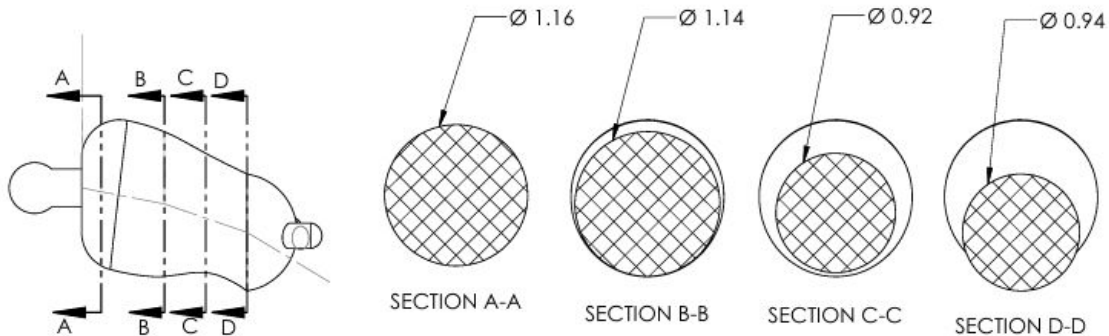
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		DIMENSIONS ARE IN INCHES		DRAWN	NGR	12-08-25	TITLE: BAYMAX LOWER RIGHT ARM
		TOLERANCES:		CHECKED			
		ANGULAR: MACH $\pm 0^\circ 30'$		ENG APPR.			
		TWO PLACE DECIMAL $\pm .01$		MFG APPR.			
		THREE PLACE DECIMAL $\pm .005$		Q.A.			
		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5		COMMENTS:			
		MATERIAL: PLA					
		FINISH					
NEXT ASSY	USED ON	APPLICATION		DO NOT SCALE DRAWING			

SIZE	DWG. NO.	REV
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SCALE: 1:1	WEIGHT:	SHEET 1 OF 2

2

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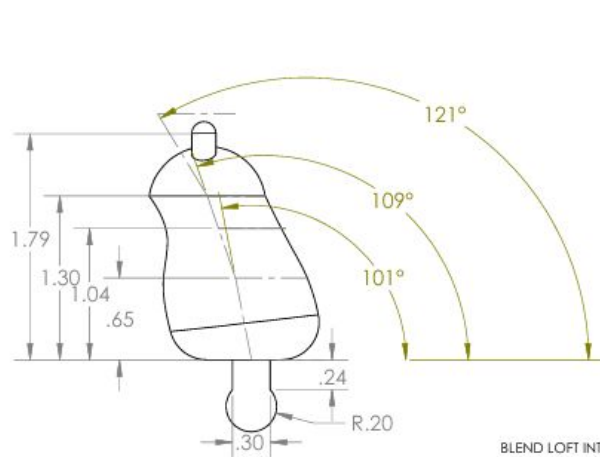


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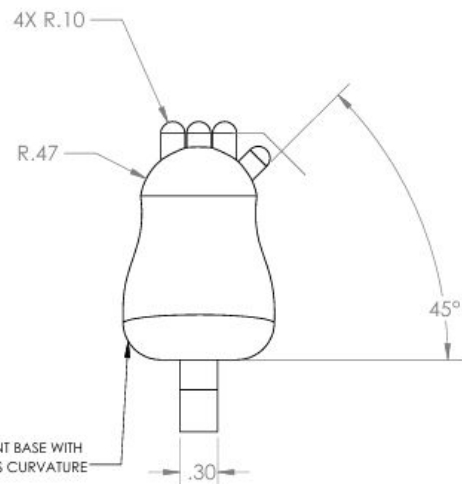
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	MILLERSVILLE UNIVERSITY	
		DIMENSIONS ARE IN INCHES		DRAWN	NGR	12-08-25	TITLE: BAYMAX LOWER RIGHT ARM
		TOLERANCES:		CHECKED			
		ANGULAR: MACH ± 0° 30'		ENG APPR.			
		TWO PLACE DECIMAL ± .01		MFG APPR.			
		THREE PLACE DECIMAL ± .005		Q.A.			
		 INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5		COMMENTS:			SIZE DWG. NO. A B-342-4 REV
		MATERIAL: PLA					
		FINISH					
NEXT ASSY	USED ON	APPLICATION		DO NOT SCALE DRAWING		SCALE: 1:1 WEIGHT: SHEET 2 OF 2	

B



BLEND LOFT INTO JOINT BASE WITH
SMOOTH, CONTINUOUS CURVATURE



B

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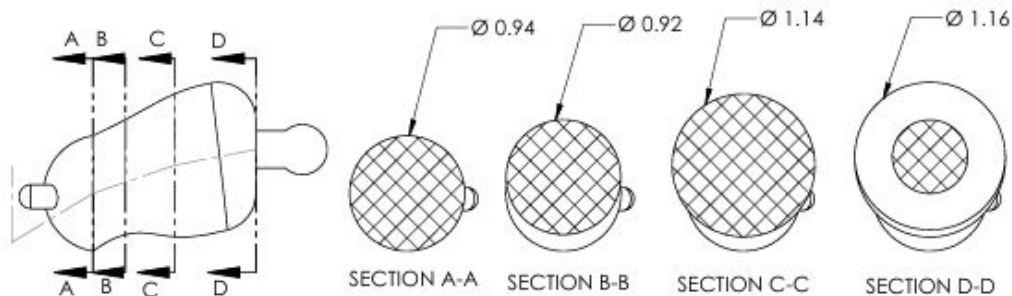
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		THREE PLACE DECIMAL ± .005	Q.A.			
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		FINISH				
NEXT ASSY	USED ON					SIZE DWG. NO. REV
						A B-342-5
APPLICATION		DO NOT SCALE DRAWING	SCALE: 1:1 WEIGHT:			SHEET 1 OF 1

A

2

1



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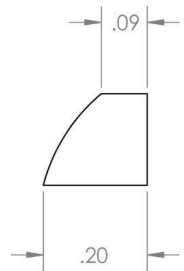
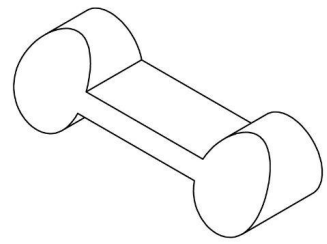
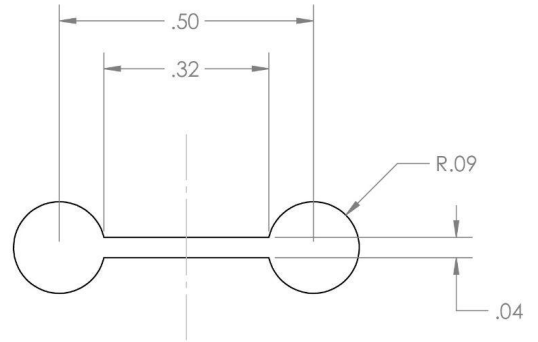
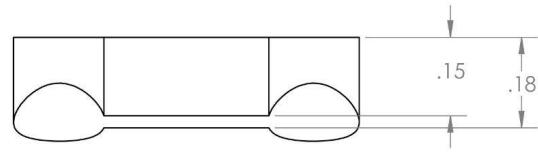
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		TOLERANCES			
		ANGULAR: MACH: 0° 30'			
		TWO PLACE DECIMAL ± .01			
		THREE PLACE DECIMAL ± .005			
		INTERPRET GEOMETRIC			
		TOLERANCING PER: ASME Y14.5			
		MATERIAL: PLA			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			

MILLERSVILLE UNIVERSITY

TITLE:
**BAYMAX LOWER
LEFT ARM**

SIZE DWG. NO. REV
A B-342-5
SCALE: 1:1 WEIGHT: SHEET 2 OF 2

B




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			CHECKED		
			ENG APPR.		
			MFG APPR.		
			Q.A.		
			COMMENTS:		
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			

Millersville University		
TITLE:		
BAYMAX EYEPiece		
SIZE	DWG. NO.	REV
A	B-342-6	
SCALE: 4:1		WEIGHT:
		SHEET 1 OF 1

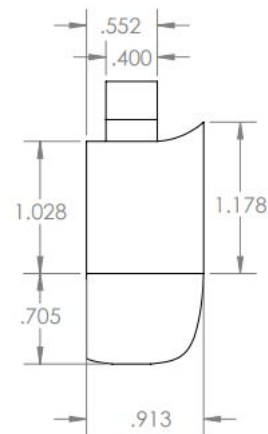
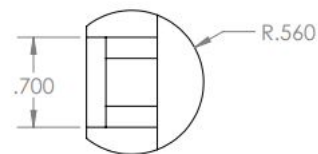
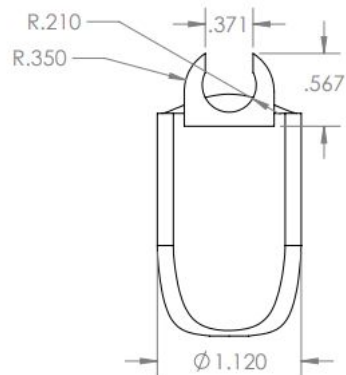
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			DRAWN	JRF	12/9/2025
			CHECKED		
			ENG APPR.		
			MFG APPR.		
			Q.A.		
		COMMENTS:			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			

Millersville University

TITLE:
Baymax Leg

SIZE	DWG. NO.	REV
A	B-342-7	
SCALE: 1:1	WEIGHT: .05lbs	SHEET 1 OF 1

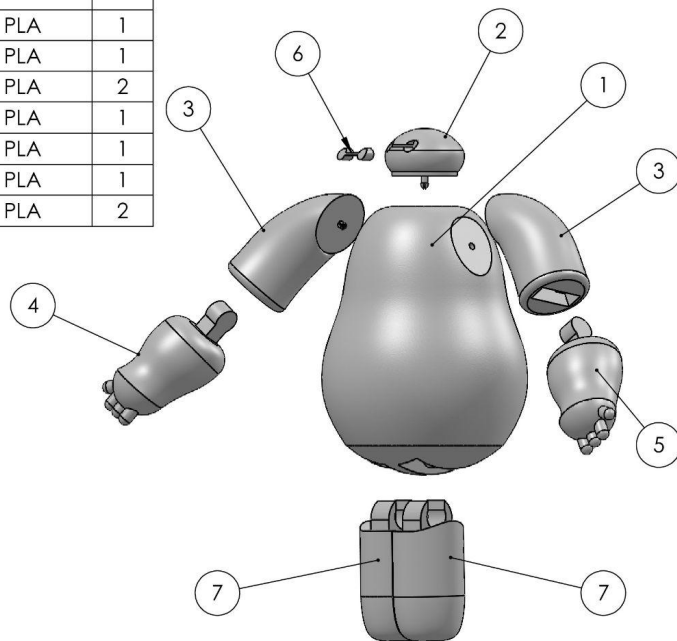
2

1

Assembly

B

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	B-342-1	BAYMAX BODY	PLA	1
2	B-342-2	BAYMAX HEAD	PLA	1
3	B-342-3	BAYMAX UPPER ARM	PLA	2
4	B-342-4	BAYMAX LOWER RIGHT ARM	PLA	1
5	B-342-5	BAYMAX LOWER LEFT ARM	PLA	1
6	B-342-6	BAYMAX EYES	PLA	1
7	B-342-7	BAYMAX LEG	PLA	2



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		TWO PLACE DECIMAL ± .01	MFG APPR.			
		THREE PLACE DECIMAL ± .005	Q.A.			
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NEXT ASSY	USED ON	FINISH				
APPLICATION		DO NOT SCALE DRAWING				
			SIZE		DWG. NO.	REV
			A		342-ASSM	
			SCALE: 1:8		WEIGHT:	SHEET 1 OF 1

A

2

1

3D Printing Baymax

