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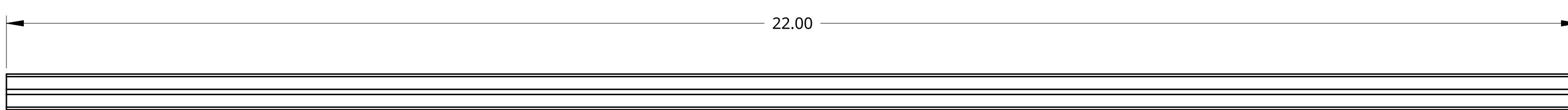
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = $\pm .01$ ANGULAR $\pm 1^\circ$ .XXX = $\pm .005$	VEND DRAWN	NAME JO	DATE 08/15/2025	 <b>ROLLER SHAFT</b> SIZE <b>C</b> DWG NO. <b>KB-26002</b> REV. SCALE 3:4 SHEET 1 of 1	
DO NOT SCALE DRAWING	MATERIAL STEEL ROUNDED 1/2" HEX SHAFT				
BREAK ALL SHARP EDGES AND REMOVE BURRS					
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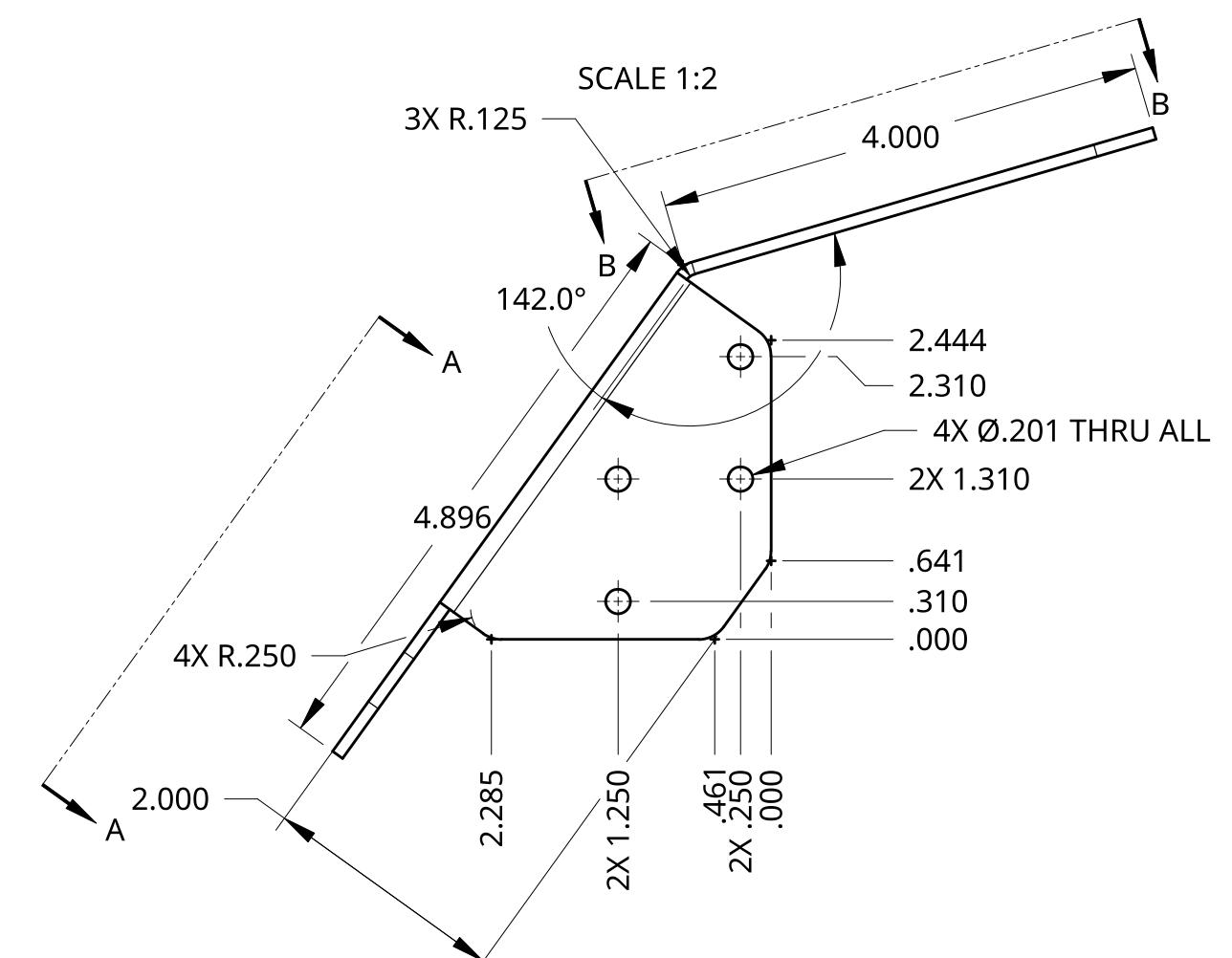
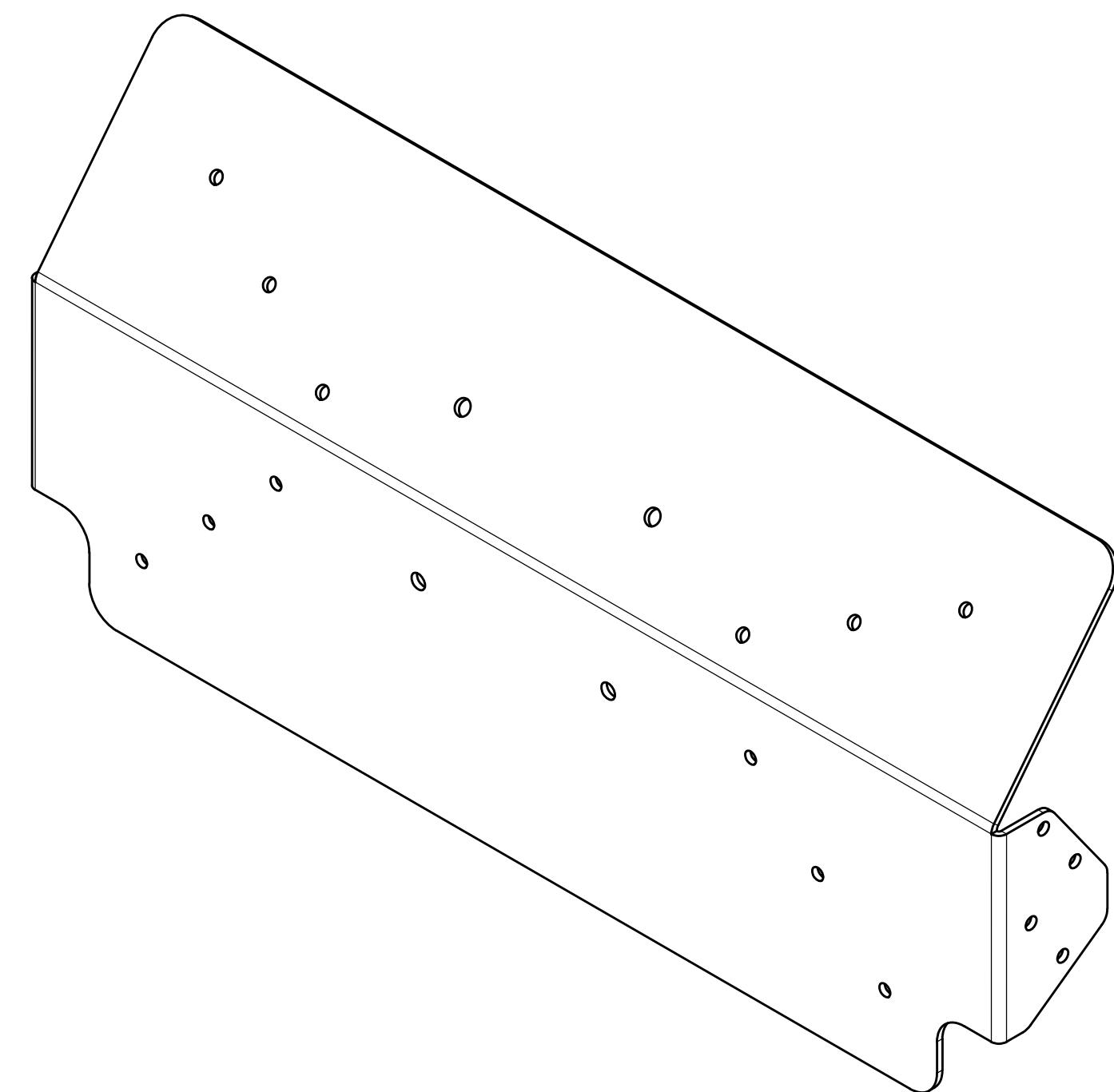
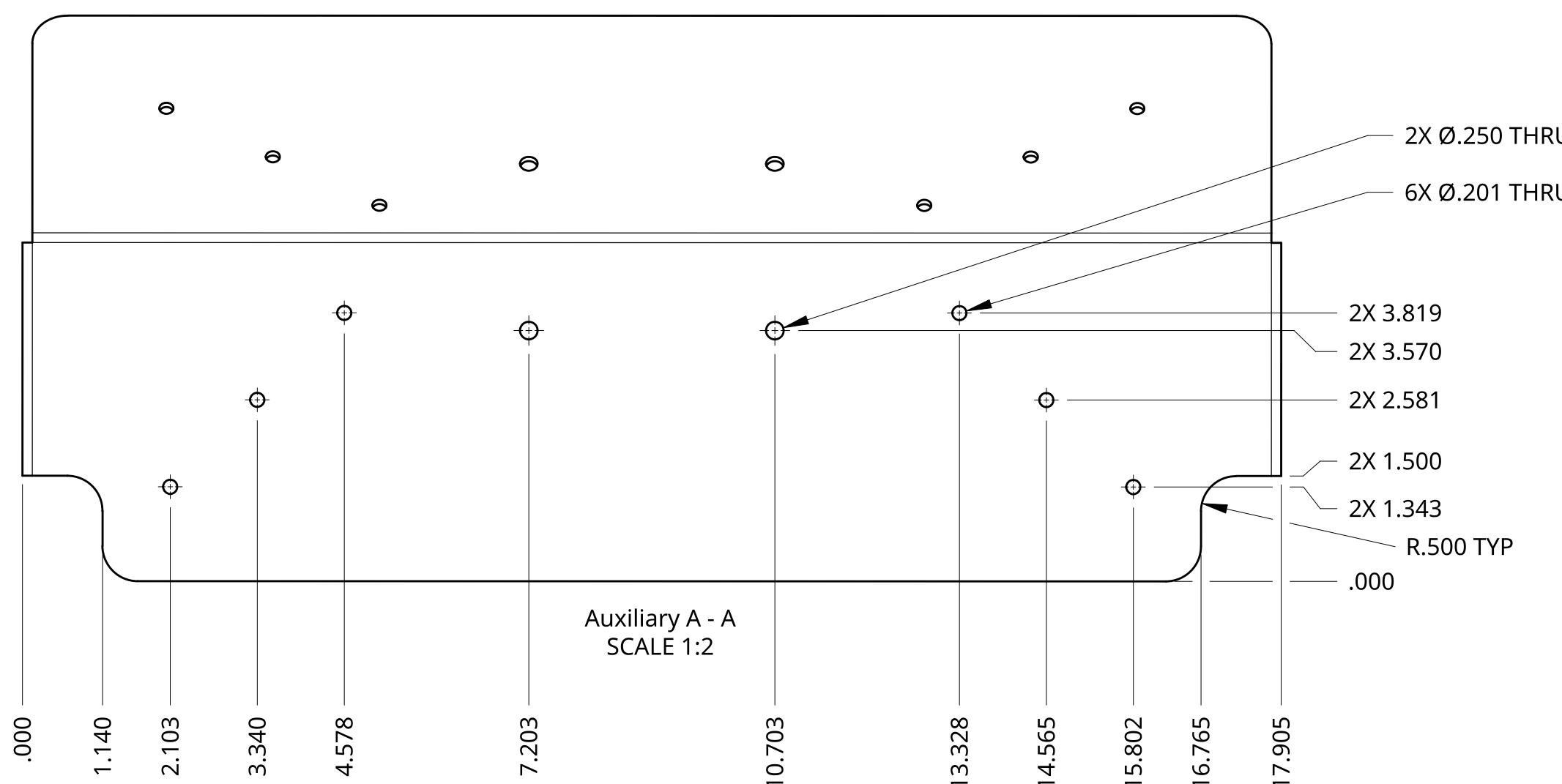
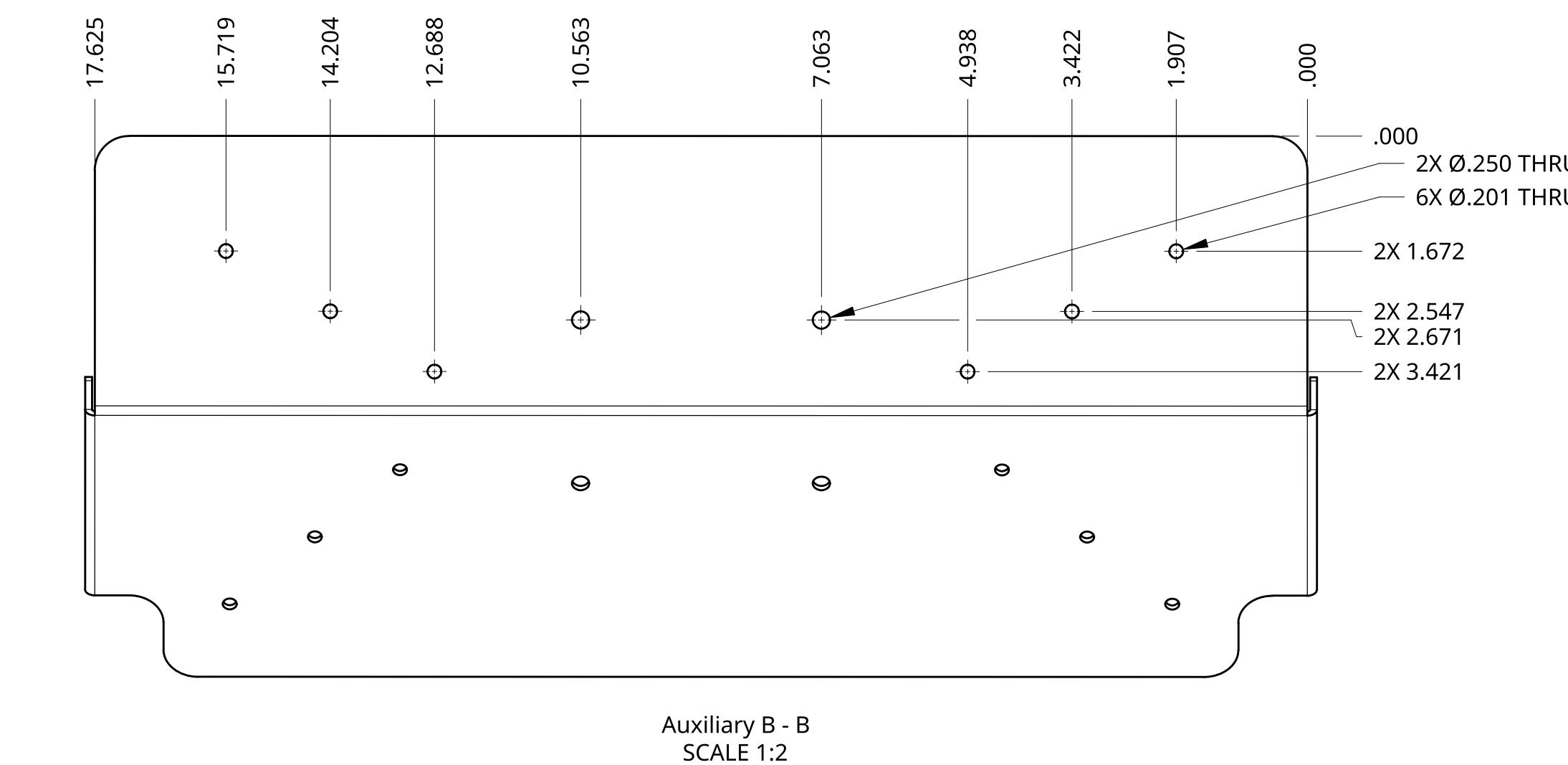
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.01 .XXX = ±.005	VEND	NAME	DATE	FIRST ROBOTICS COMPETITION	
	DRAWN	JO	09/15/2025		
DO NOT SCALE DRAWING					
BREAK ALL SHARP EDGES AND REMOVE BURRS					
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.					
MATERIAL	.100" 5052 ALUMINUM PLATE		TITLE	INTAKE BASEPLATE	
SIZE	DWG NO.	KB-26003			
SCALE	1:4	REV.			
1 of 1					

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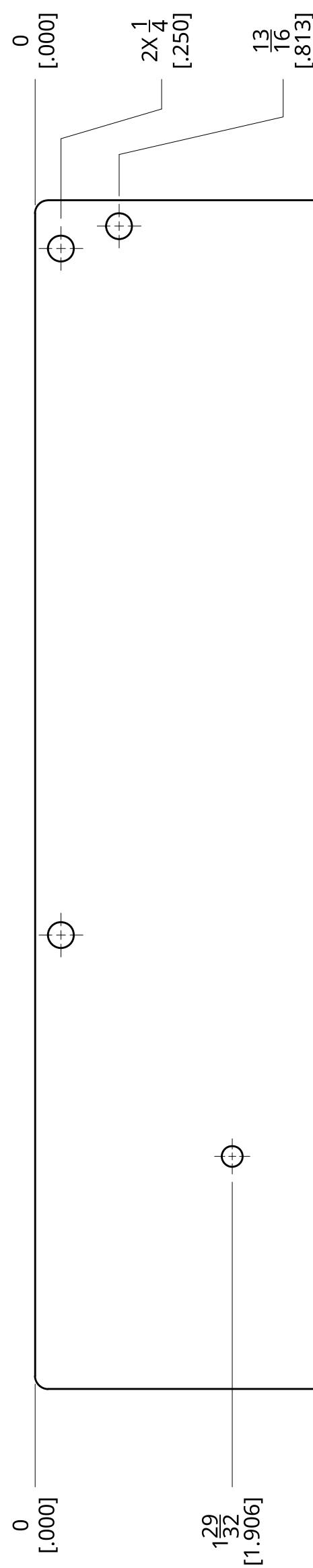
C

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UNLESS OTHERWISE SPECIFIED,  
DIMENSIONS ARE IN INCHES  
.XX = ±.01 ANGULAR ± 1°  
.XXX = ±.005

DO NOT SCALE DRAWING

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REMOVE BURRS

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VEND  
DRAWN

NAME  
JO

DATE  
09/15/2025

MATERIAL

.118"

POLYCARBONATE

SHEET

SIZE

C

DWG NO.

KB-26004

REV.

4:5

SHEET

1 of 1



BOTTOM HOPPER PANEL

KB-26004

1

4

3

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D

0 [0.000]  
 $\frac{1}{2}$  [.500]

$\frac{3}{8}$  [3.125]

$\frac{5}{4}$  [5.750]

$\frac{8}{8}$  [8.375]

$\frac{8}{64}$  [8.736]

15 [15.000]

4X  $\frac{13}{4}$  [14.750]

$\frac{3}{8}$  [8.375]

$\frac{1}{4}$  [.250]

$\frac{1}{4}$  [.250]

$\frac{1}{4}$  [.250]

2 [2.000]

4X  $\frac{1}{4}$  [.250]

0 [0.000]

4x  $R\frac{1}{8}$  [.125]  
 (optional)

0 [0.000]

$\frac{1}{2}$  [.500]

3 [3.000]

$\frac{9}{2}$  [9.500]

10X Ø1/4 THRU  
 [Ø.250 THRU]

12 [12.000]

$13\frac{1}{8}$  [13.119]

$\frac{1}{8}$  [.118]

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UNLESS OTHERWISE SPECIFIED,  
 DIMENSIONS ARE IN INCHES  
 $.XX = \pm .01$  ANGULAR  $\pm 1^\circ$   
 $.XXX = \pm .005$

DO NOT SCALE DRAWING

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 REMOVE BURRS

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VEND NAME DATE  
 DRAWN JO 09/15/2025

MATERIAL

.118"  
 POLYCARBONATE  
 SHEET

FIRST  
 ROBOTICS  
 COMPETITION

SIDE HOPPER PANEL

KB-26005

REV.

SIZE C DWG NO.

SCALE 3:4 SHEET 1 of 1

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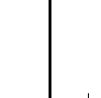
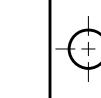
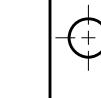
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8X Ø1/4 THRU  
[Ø.250 THRU]



0  
[.000]

4X 1/4  
[.250]

4x R<sup>1</sup><sub>8</sub>  
[.125]  
(optional)

0  
[.000]

2X 1/2  
[.500]

2X 3 1/8  
[3.125]

2X 5 3/4  
[5.750]

2X 8 3/8  
[8.375]

2X 8 3/4  
[8.750]

4X 1 7/8  
[17.375]

17/8  
[17.625]

UNLESS OTHERWISE SPECIFIED,  
DIMENSIONS ARE IN INCHES  
.XX = ±.01 ANGULAR ± 1°  
.XXX = ±.005

DO NOT SCALE DRAWING

BREAK ALL SHARP EDGES AND  
REMOVE BURRS

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PROHIBITED.

VEND  
DRAWN

NAME  
JO

DATE  
09/15/2025

118"

MATERIAL

BACK HOPPER PANEL

SHEET

C

SIZE

4:5

SCALE

1 of 1

REV.

1



BACK HOPPER PANEL

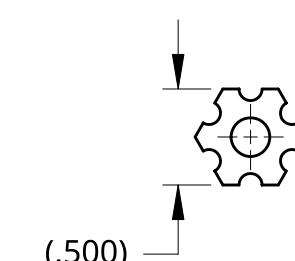
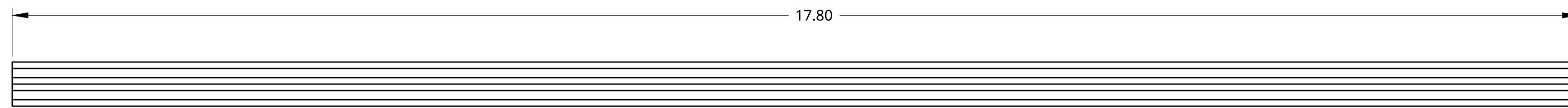
KB-26006

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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = $\pm .01$ ANGULAR $\pm 1^\circ$ .XXX = $\pm .005$	VEND DRAWN	NAME JAY O'DONNELL	DATE 08/11/2025	 FIRST ROBOTICS COMPETITION
DO NOT SCALE DRAWING BREAK ALL SHARP EDGES AND REMOVE BURRS	MATERIAL ANDYMARK 1/2" CHURRO EXTRUSION			
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.	TITLE BRACE SHAFT	SIZE C	DWG NO. KB-26007	REV.
	SCALE 1:1	SHEET 1 of 1		

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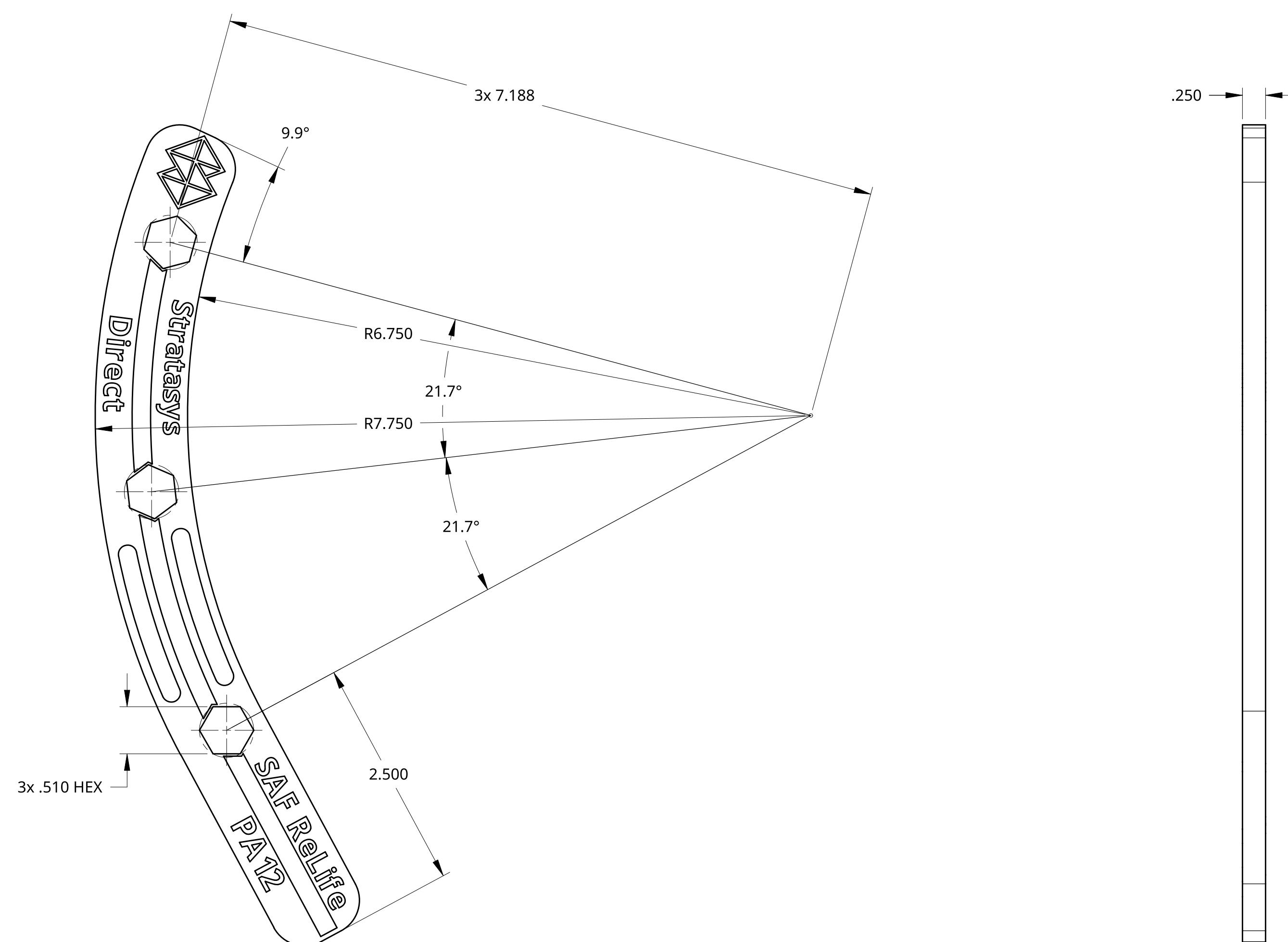
C

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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.01      ANGULAR ± 1° .XXX = ±.005		VEND	NAME	DATE	FIRST ROBOTICS COMPETITION	
DRAWN	JO	09/16/2025				
MATERIAL						TITLE
PA12 NYLON						HOOD
SIZE	DWG NO.					
C	KB-26008					REV.
SCALE	1:1					SHEET
						1 of 1

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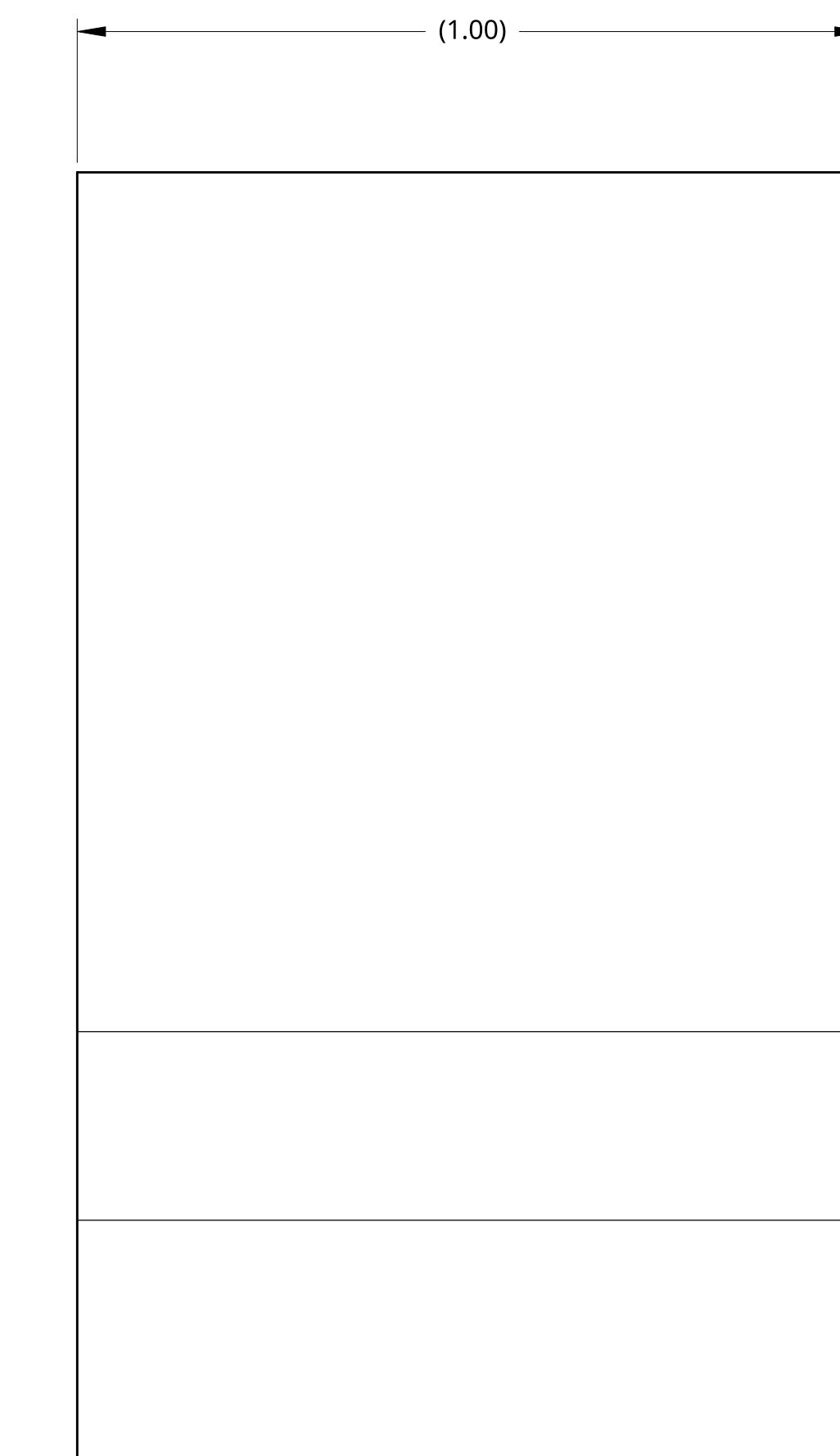
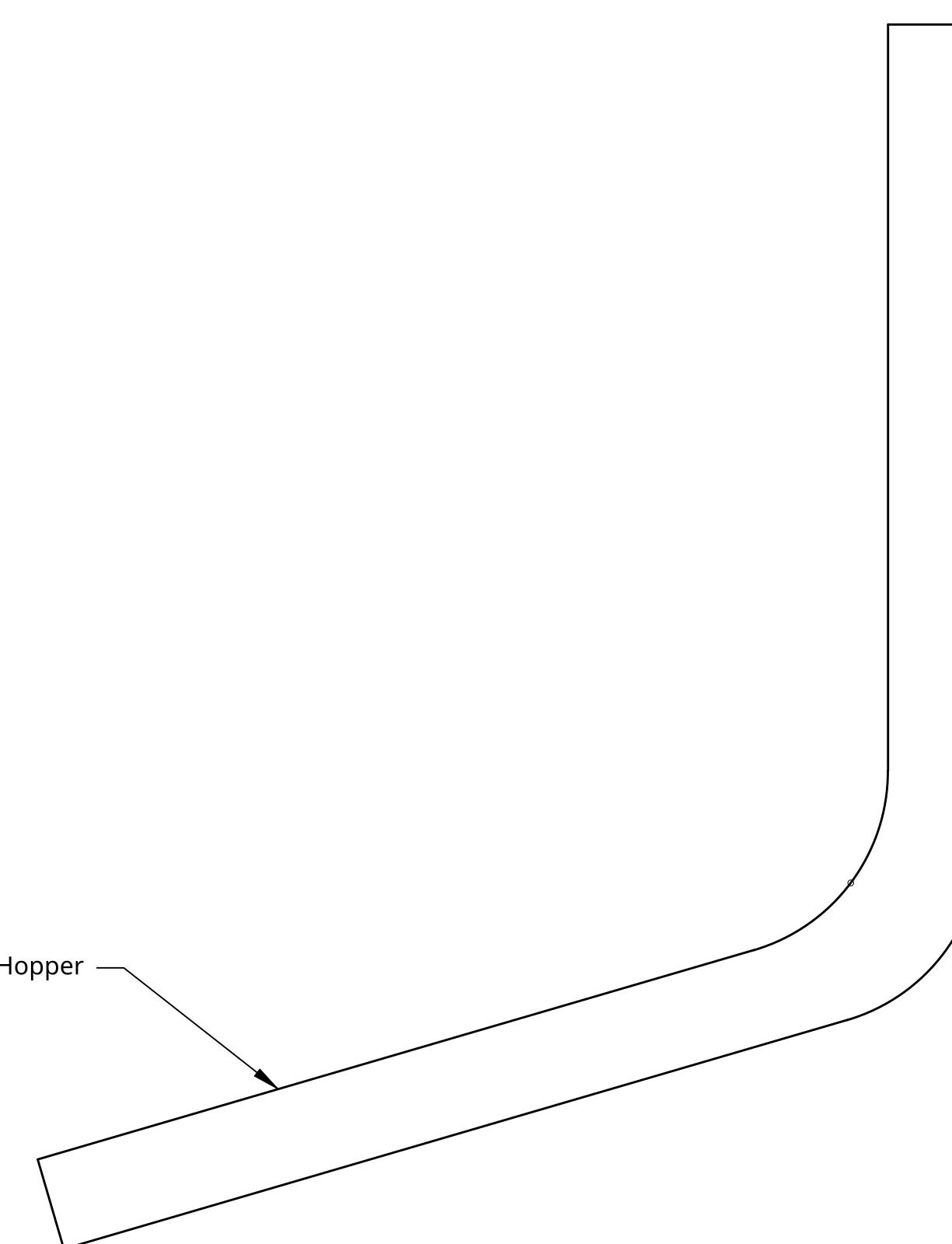
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At least 2" of Dual Lock per strip wrapped around the corner of the Hopper



UNLESS OTHERWISE SPECIFIED,  
DIMENSIONS ARE IN INCHES  
ANGULAR =  $\pm 1^\circ$   
FRACTIONAL =  $\pm 1/16$

DO NOT SCALE DRAWING

BREAK ALL SHARP EDGES AND  
REMOVE BURRS

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TEAM NAME DATE

DRAWN JO 09/16/2025

MATERIAL

DUAL LOCK



PANEL LOCK

SIZE C DWG NO. KB-26009 REV.

SCALE 5:1 SHEET 1 of 1

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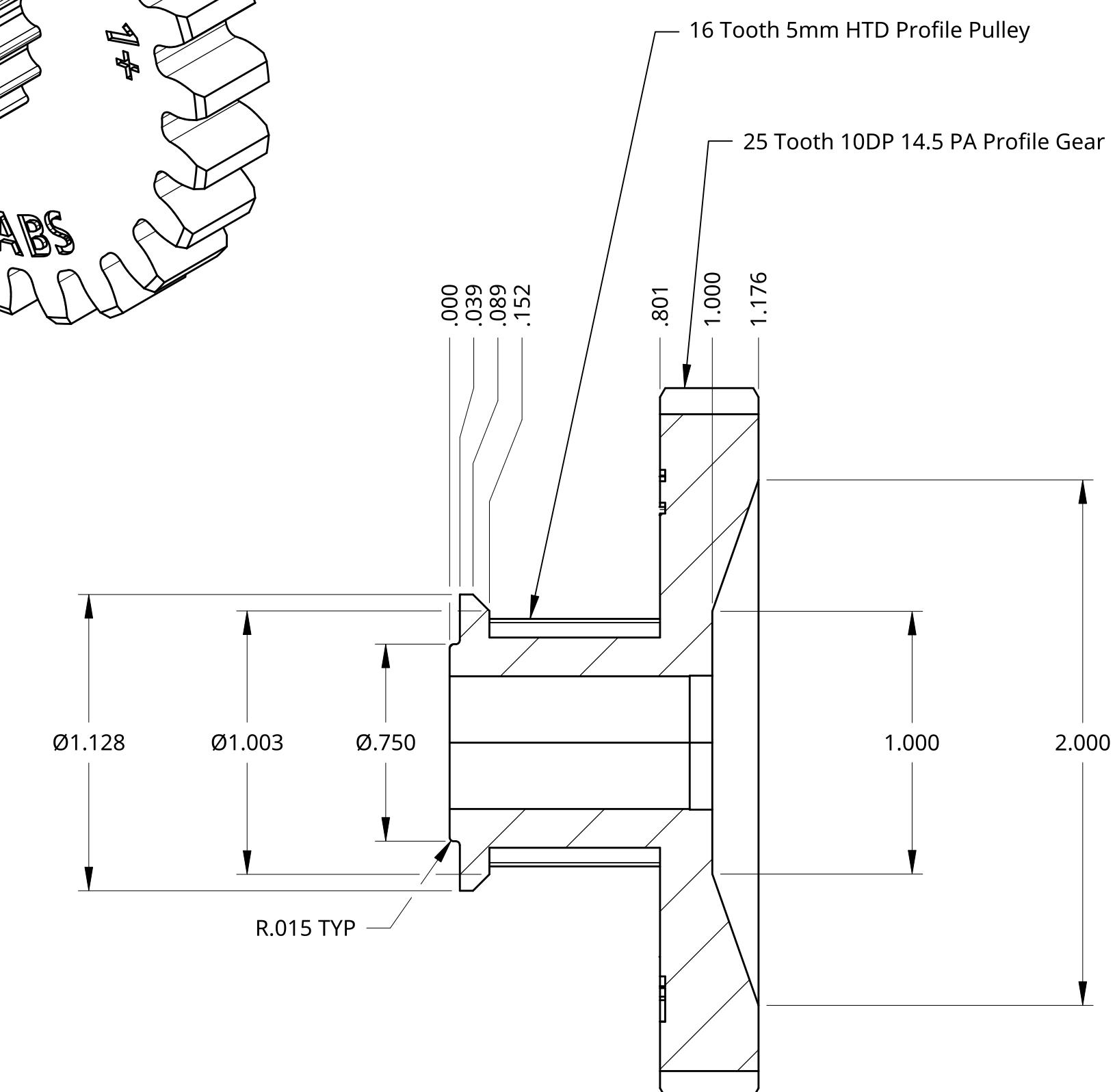
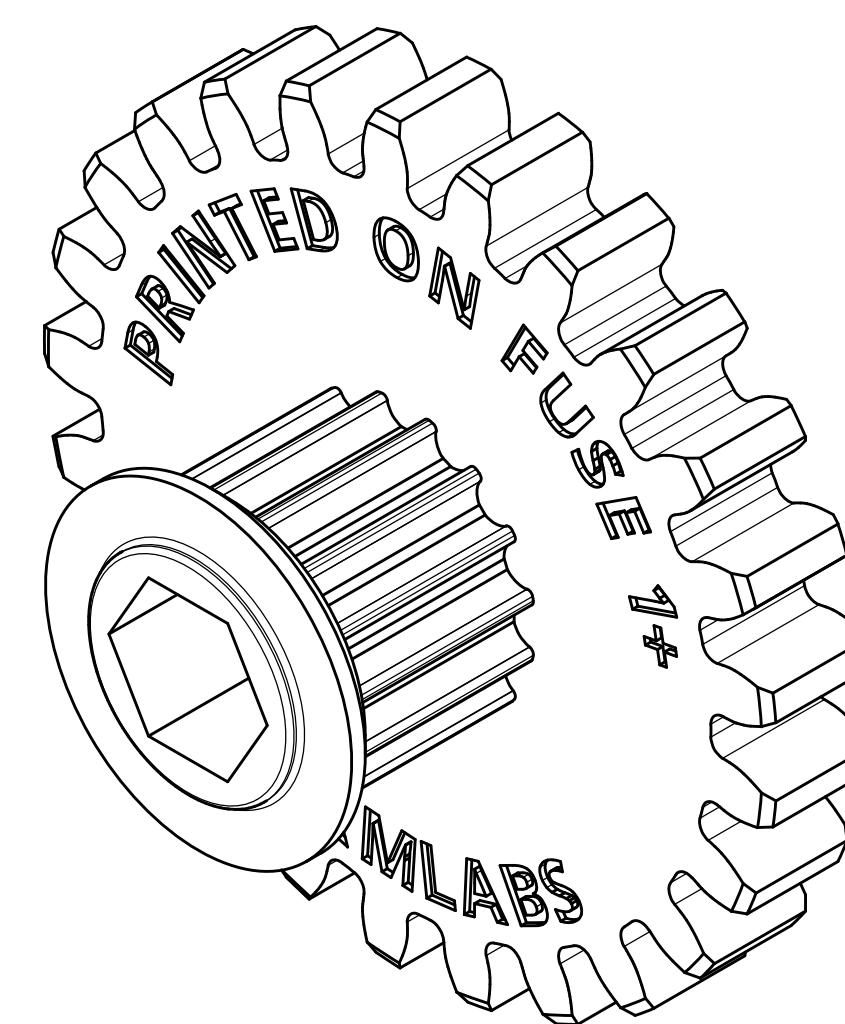
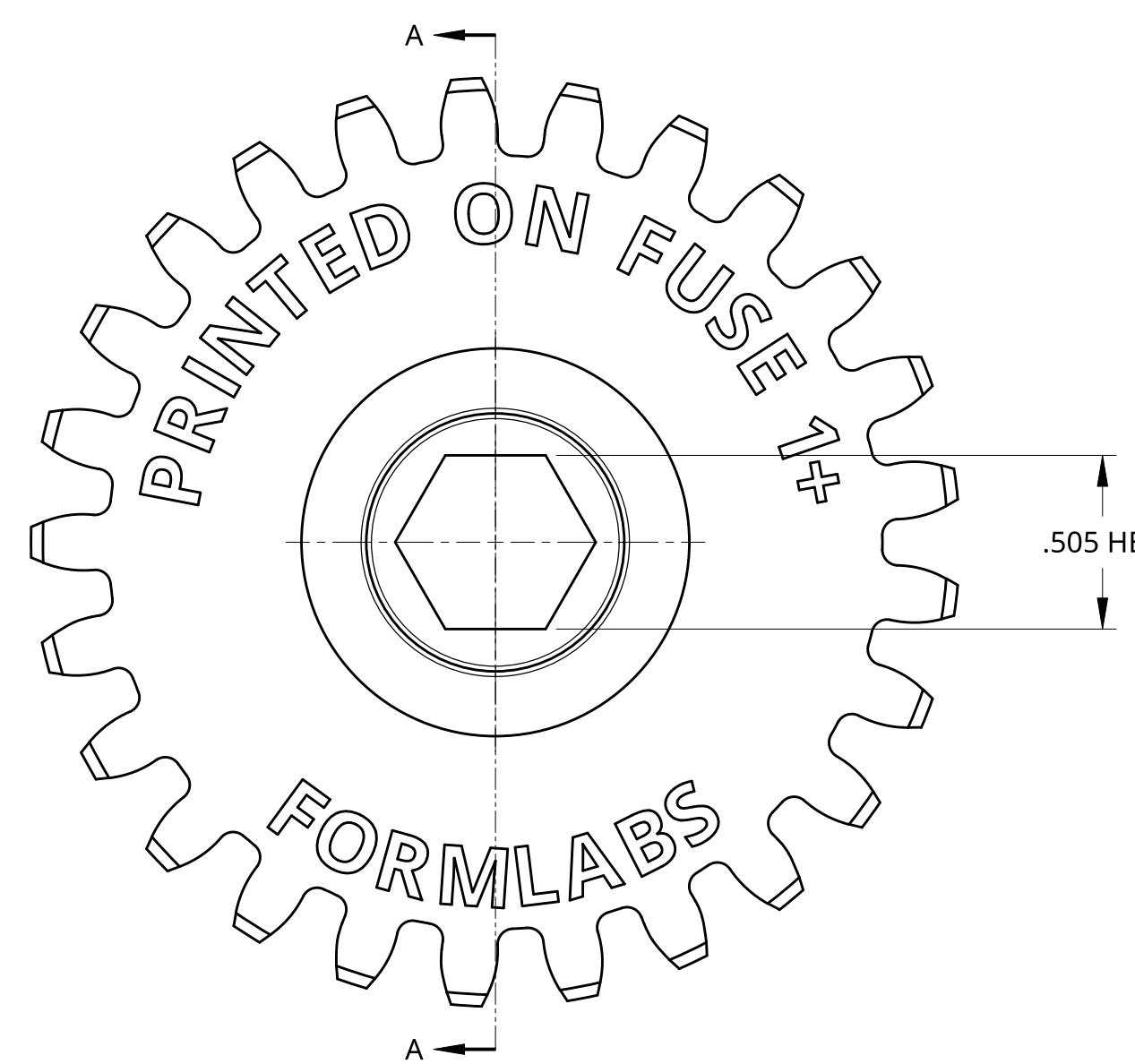
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SECTION A - A

UNLESS OTHERWISE SPECIFIED,  
DIMENSIONS ARE IN INCHES  
.XX =  $\pm .01$    ANGULAR  $\pm 1^\circ$   
.XXX =  $\pm .005$

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VEND	NAME	DATE
DRAWN	JO	09/16/2025

MATERIAL  
NYLON 3D PRINT

FIRST<sup>®</sup> ROBOTICS  
COMPETITION

LAUNCHER GEARPULLEY

SIZE C DWG NO. KB-26010 REV.

SCALE 2:1 SHEET 1 of 1

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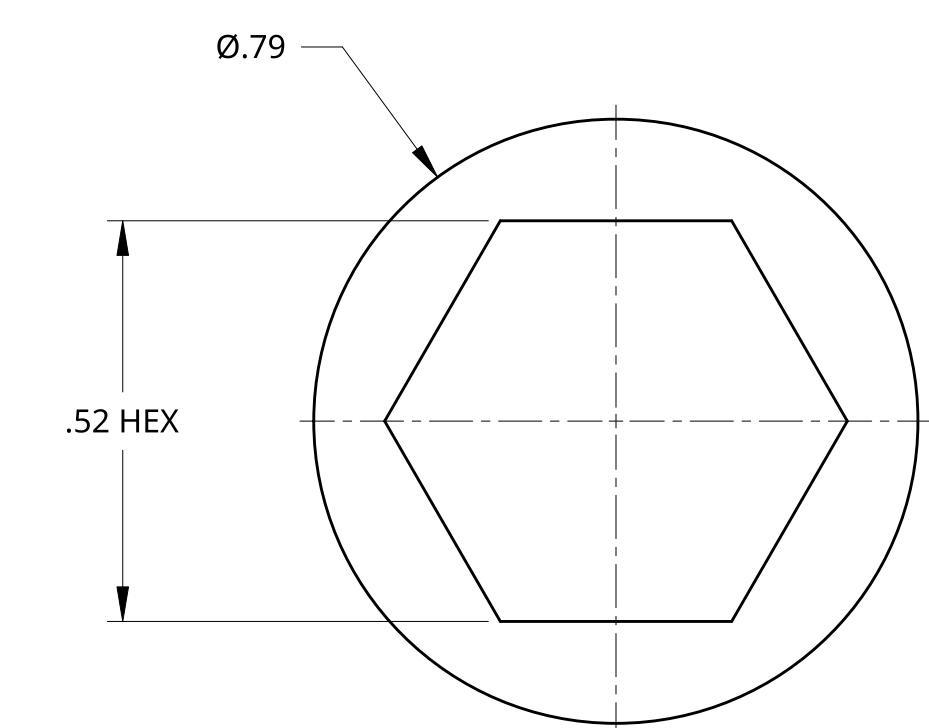
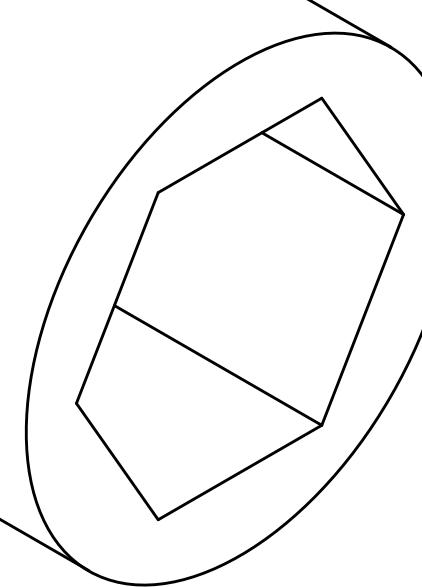
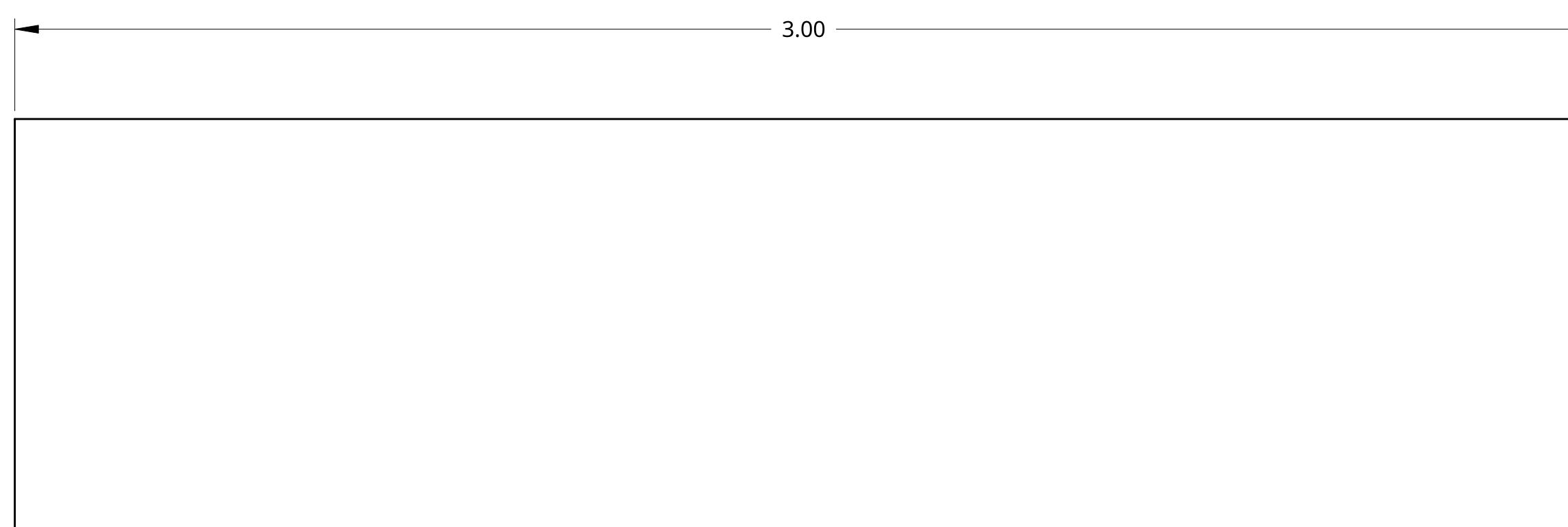
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UNLESS OTHERWISE SPECIFIED,  
DIMENSIONS ARE IN INCHES  
.XX =  $\pm .01$    ANGULAR  $\pm 1^\circ$   
.XXX =  $\pm .005$

DO NOT SCALE DRAWING

BREAK ALL SHARP EDGES AND  
REMOVE BURRS

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PROHIBITED.

VEND

DRAWN

NAME

JO

DATE

09/16/2025

MATERIAL

PLA 3D PRINTED,  
PVC, OR MADE  
FROM COTS  
SPACERS



INTAKE SHAFT LONG SPACER

SIZE

C

DWG NO.

KB-26011

REV.

SCALE

4:1

SHEET 1 of 1

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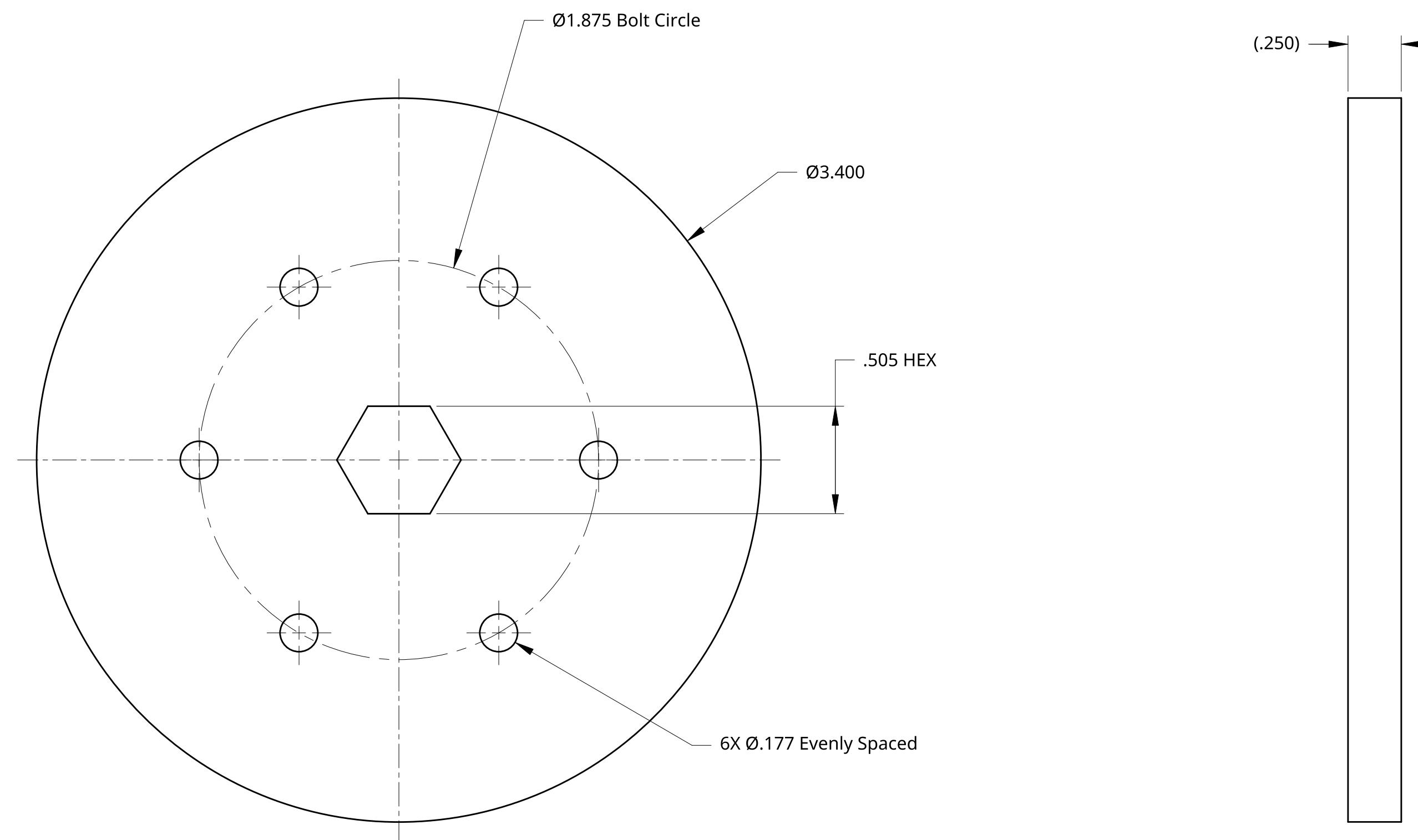
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UNLESS OTHERWISE SPECIFIED,  
DIMENSIONS ARE IN INCHES  
.XX = ±.01    ANGULAR = ± 1°  
.XXX = ±.005

DO NOT SCALE DRAWING

BREAK ALL SHARP EDGES AND  
REMOVE BURRS

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VEND	NAME	DATE
DRAWN	JO	09/15/2025

MATERIAL

1/4" STEEL PLATE

 FIRST  
ROBOTICS  
COMPETITION

LAUNCHER FLYWHEEL

SIZE C DWG NO.

KB-26012

REV.

SCALE 1:1 SHEET

1 of 1

4

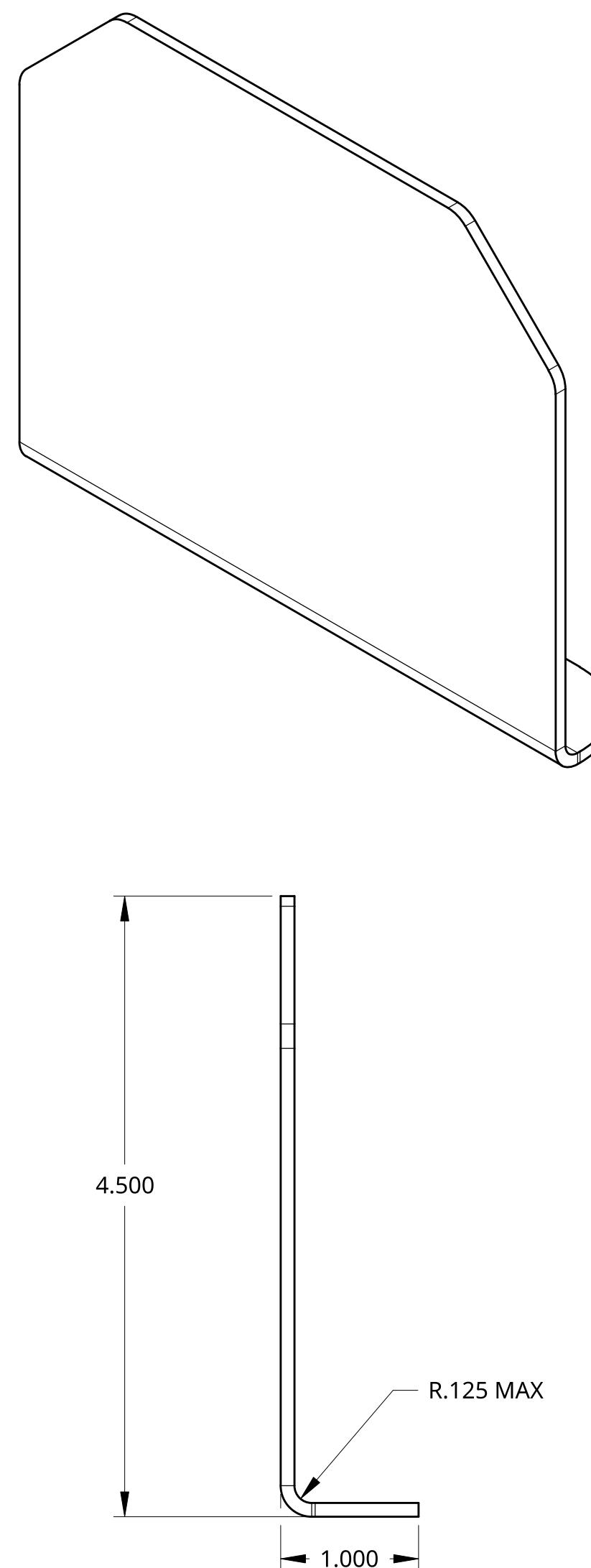
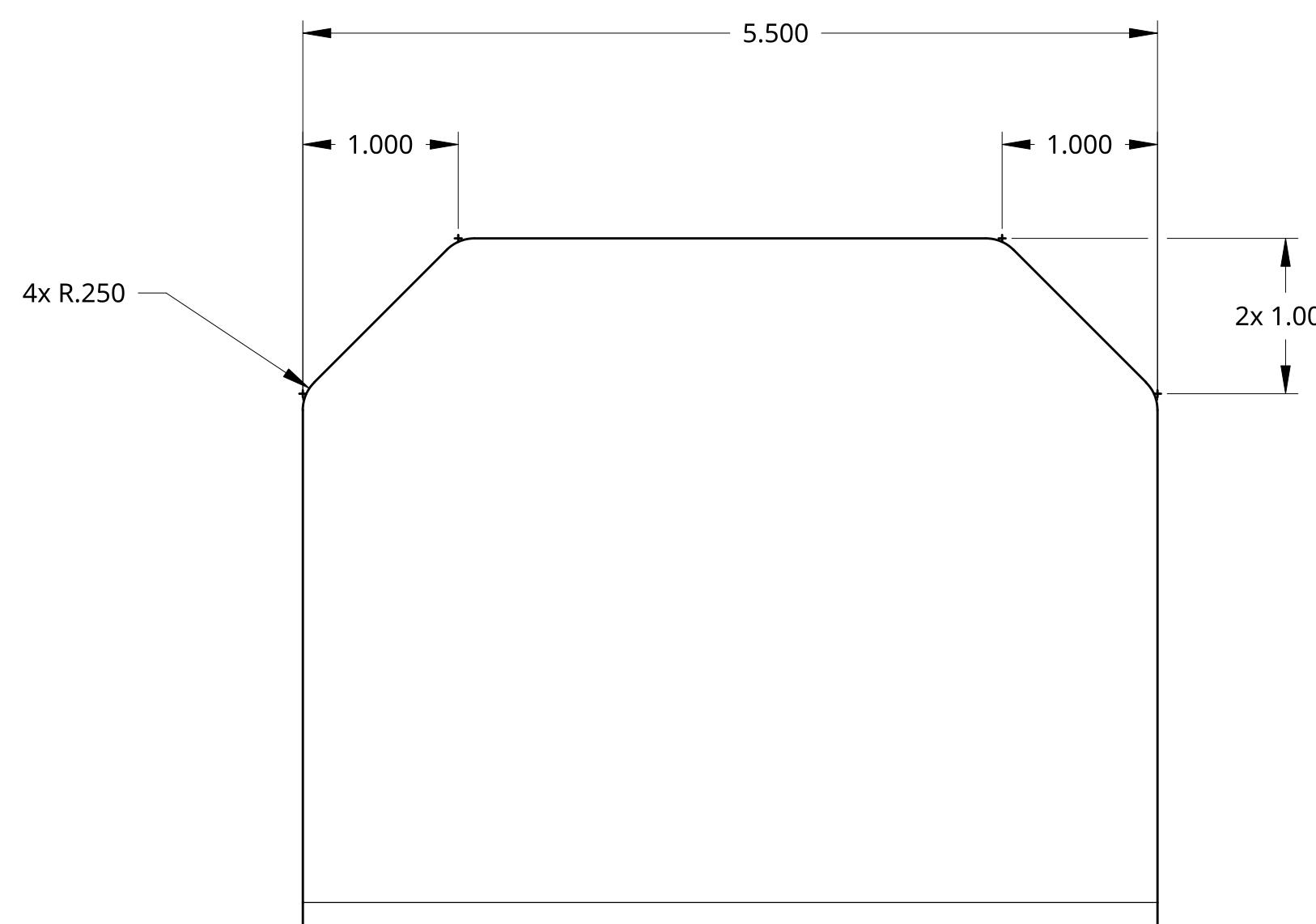
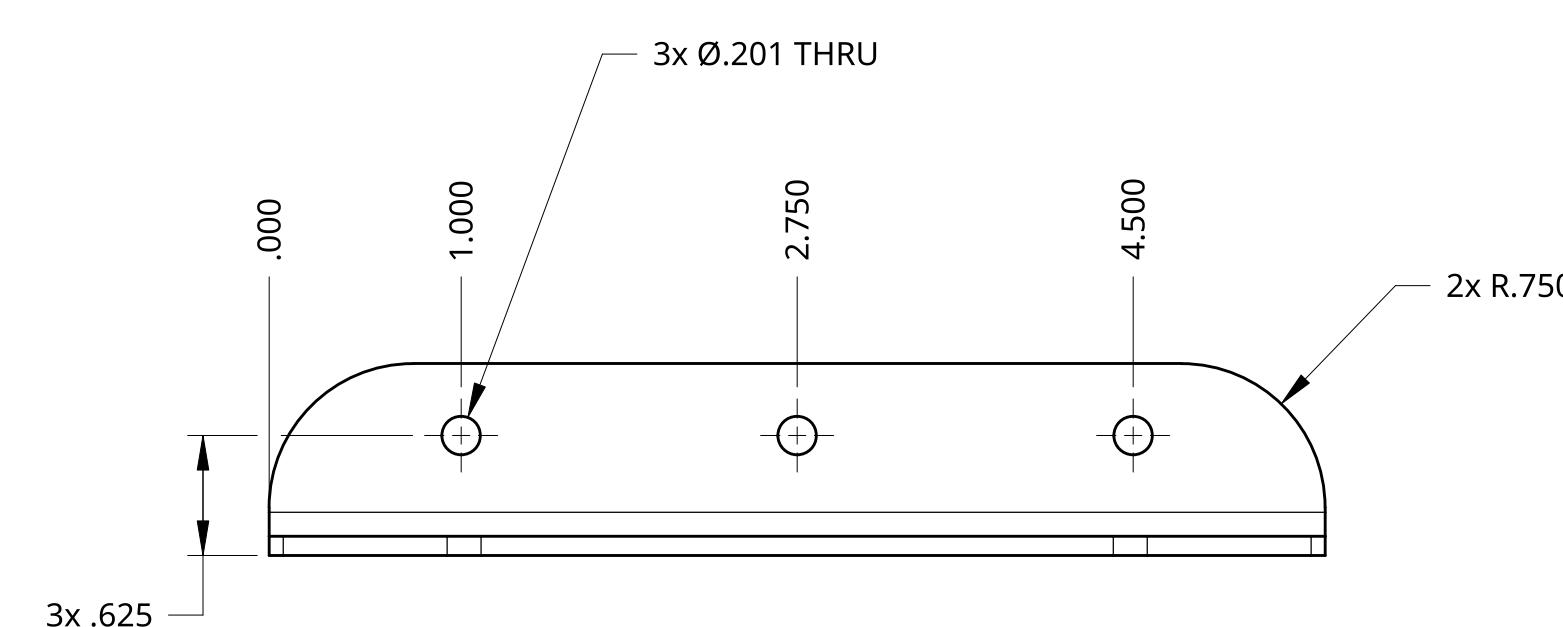
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UNLESS OTHERWISE SPECIFIED,  
DIMENSIONS ARE IN INCHES  
 $.XX = \pm .01$    ANGULAR  $\pm 1^\circ$   
 $.XXX = \pm .005$

DO NOT SCALE DRAWING

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REMOVE BURRS

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VEND   NAME   DATE  
DRAWN   JO   09/15/2025  
MATERIAL   .100" 5052  
ALUMINUM PLATE

FIRST<sup>®</sup>  
ROBOTICS  
COMPETITION

INTAKE GUIDE

SIZE C DWG NO.

KB-26013

SCALE 1:1 SHEET 1 of 1

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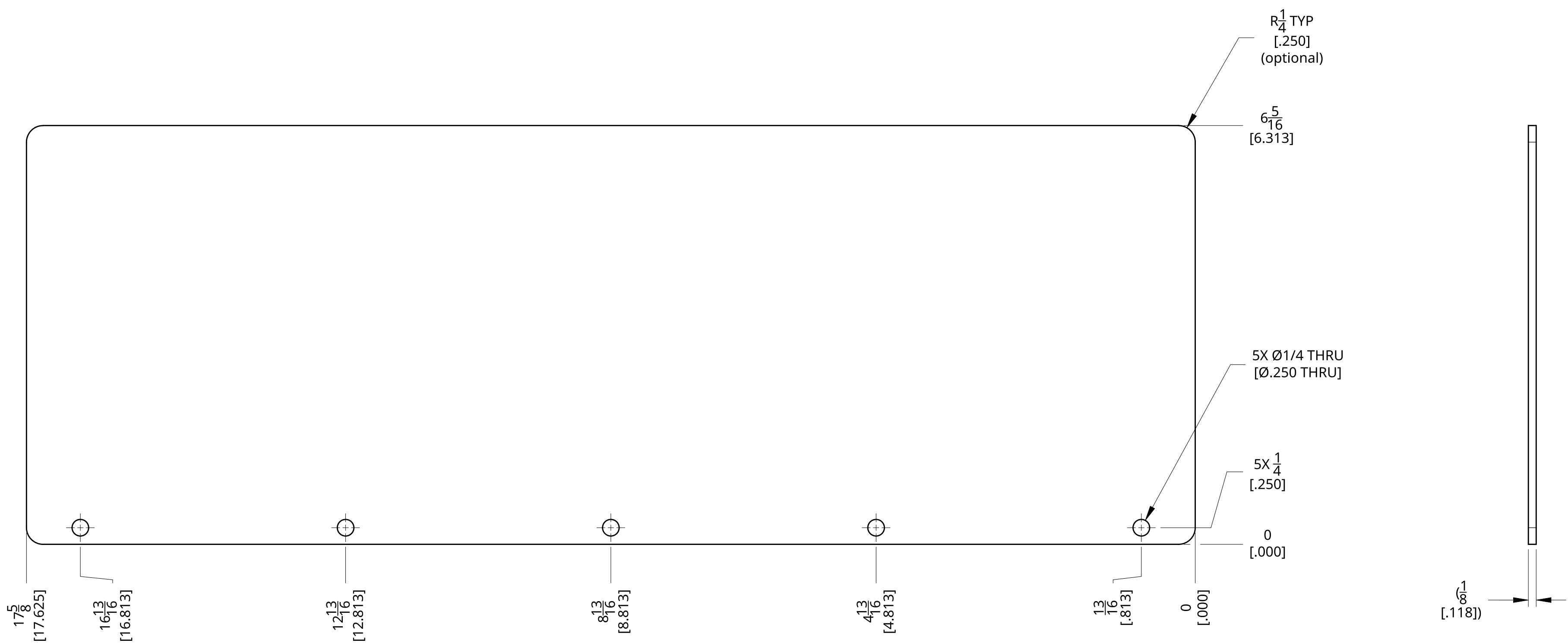
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = $\pm .01$ ANGULAR $\pm 1^\circ$ .XXX = $\pm .005$		VEND	NAME	DATE	 FIRST ROBOTICS COMPETITION					
		DRAWN	JO	09/15/2025						
DO NOT SCALE DRAWING		MATERIAL $.118"$ POLYCARBONATE SHEET		TITLE BATTERY ACCESS PANEL						
BREAK ALL SHARP EDGES AND REMOVE BURRS										
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				SIZE	DWG NO.					
				C	KB-26014	REV.				
				SCALE	4:5	SHEET 1 of 1				

4

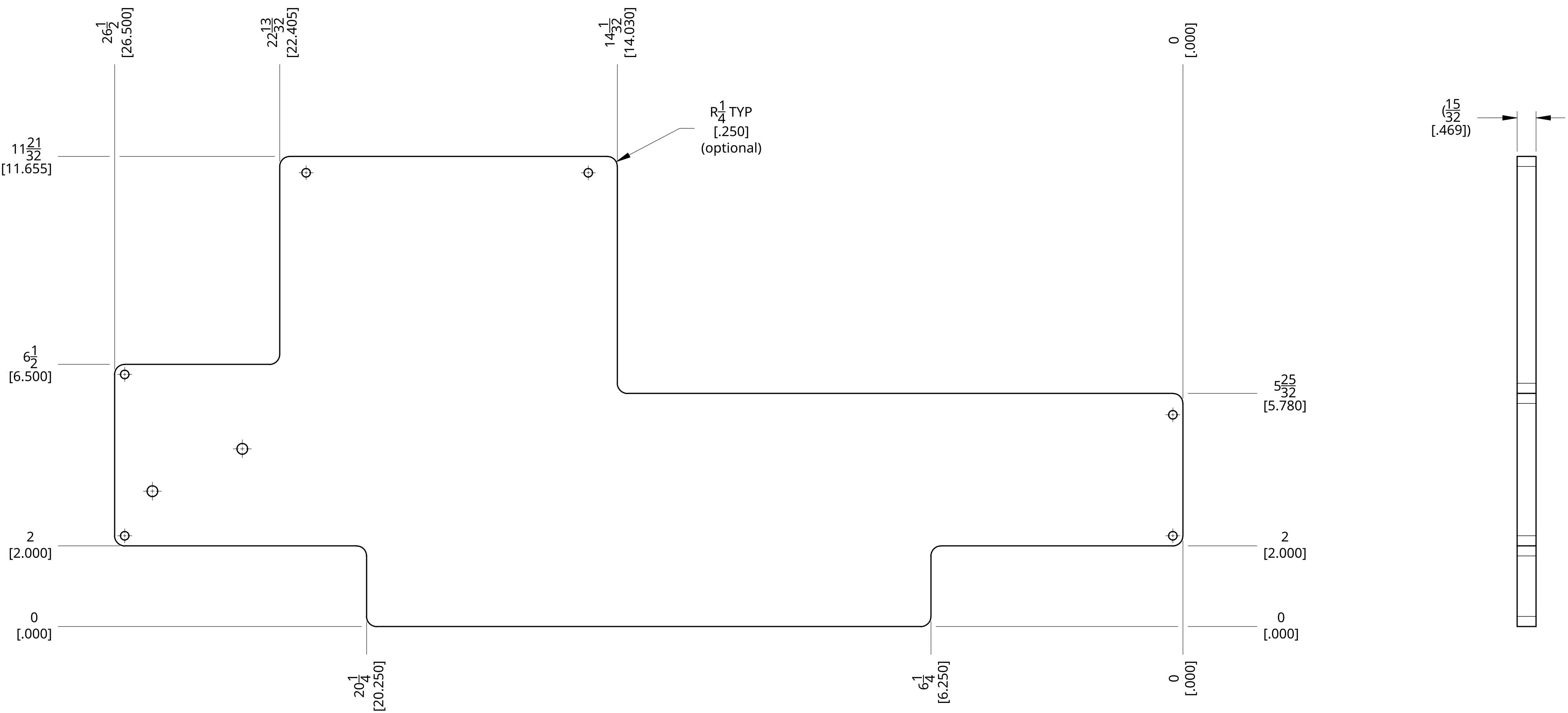
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UNLESS OTHERWISE SPECIFIED,  
DIMENSIONS ARE IN INCHES  
 $.XX = \pm .01$    ANGULAR  $\pm 1^\circ$   
 $XXX = \pm .005$

DO NOT SCALE DRAWING

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REMOVE BURRS

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VEND      NAME      DATE  
DRAWN      JO      09/16/2025

MATERIAL

1/2" PLYWOOD

**FIRST**  
ROBOTICS  
COMPETITION

ELECTRONICS PANEL

SIZE      DWG NO.  
C      KB-26015

REV.

SCALE      1:2

SHEET      1 of 2

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NOTE: All Holes can be marked for drilling by using the robot frame and electronics rather than measuring exact positions

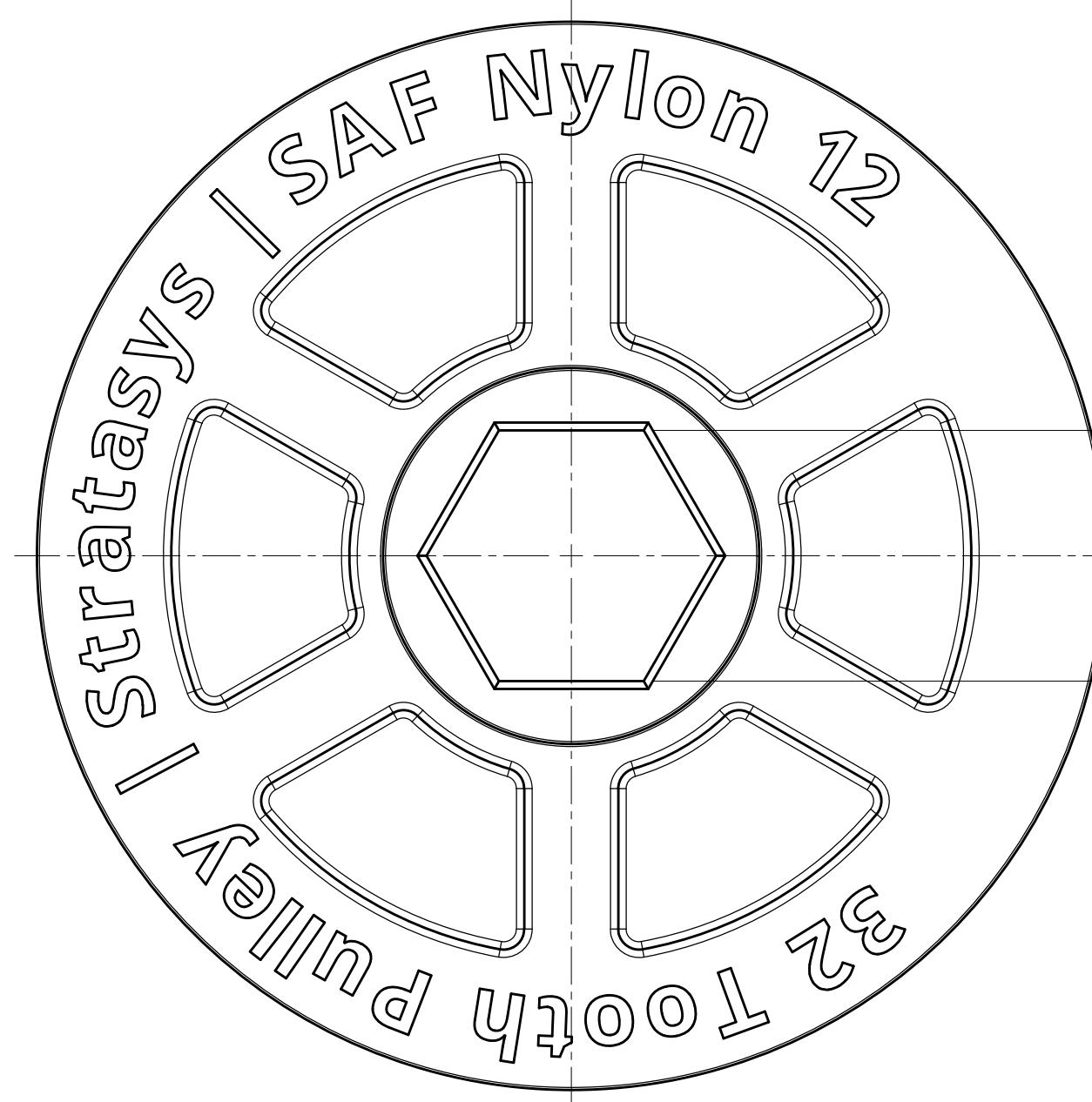
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES  $.XX = \pm .01$ ANGULAR = $\pm 1^\circ$ $.XXX = \pm .005$	VEND	NAME	DATE		
	DRAWN	JO	09/16/2025		
DO NOT SCALE DRAWING	MATERIAL	TITLE			
BREAK ALL SHARP EDGES AND REMOVE BURRS		ELECTRONICS PANEL			
<b>PROPRIETARY AND CONFIDENTIAL</b>  THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> ®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> ® IS PROHIBITED	1/2" PLYWOOD	SIZE	DWG NO.	REV.	
		C	KB-26015		
		SCALE	2:3	SHEET	2 of 2

4

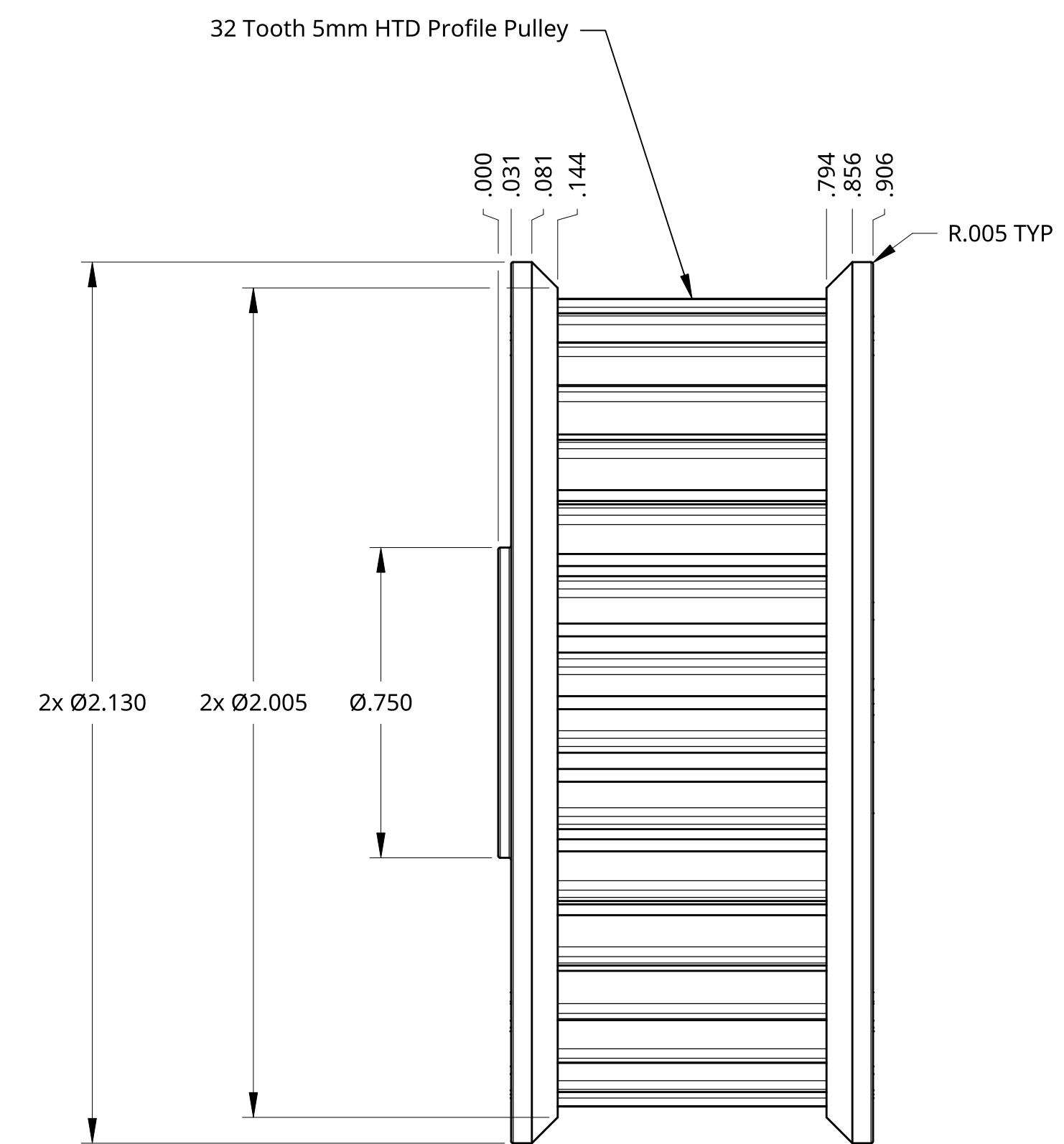
3)

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.500 HEX with lead in Chamfer



UNLESS OTHERWISE SPECIFIED,  
DIMENSIONS ARE IN INCHES  
.XX =  $\pm .01$    ANGULAR  $\pm 1^\circ$   
.XXX =  $\pm .005$

DO NOT SCALE DRAWING

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PROHIBITED.

VEND NAME DATE  
DRAWN JO 09/16/2025

MATERIAL

SAF-PA12

**FIRST**  
ROBOTICS  
COMPETITION

TRANSITION PULLEY

KB-26016

1 of 1

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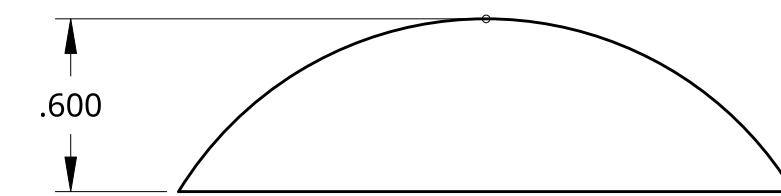
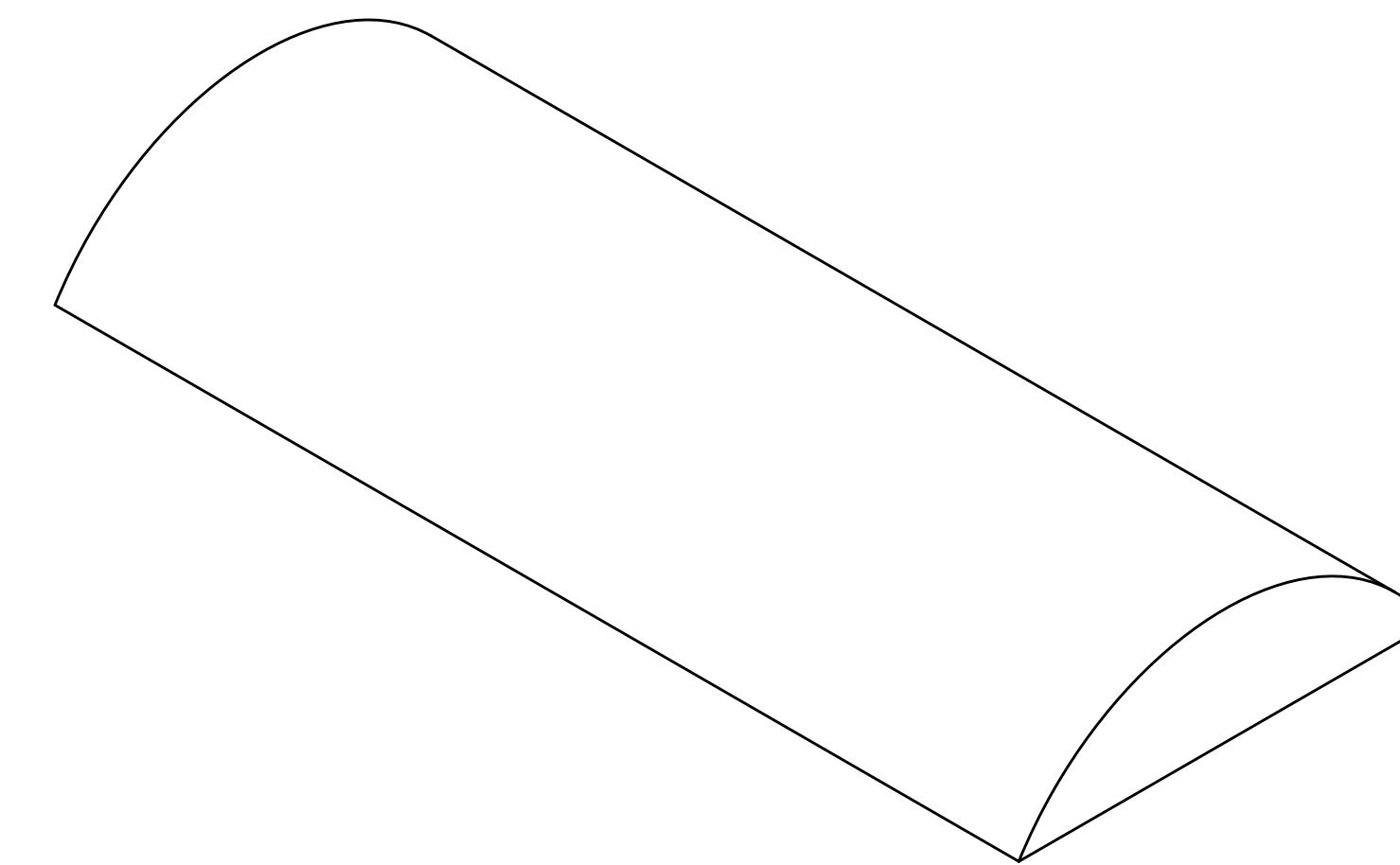
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Note: This dimension may need to be altered based on testing.

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = $\pm .01$ ANGULAR $\pm 1^\circ$ .XXX = $\pm .005$			VEND	NAME	DATE	FIRST ROBOTICS COMPETITION					
			DRAWN	JO	09/16/2025						
DO NOT SCALE DRAWING			MATERIAL								
BREAK ALL SHARP EDGES AND REMOVE BURRS			TITLE								
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			KIT OF PARTS 2.5" POOL NOODLE								
SIZE	DWG NO.	REV.	C	KB-26017							
SCALE	1.5:1	SHEET	1 of 1								

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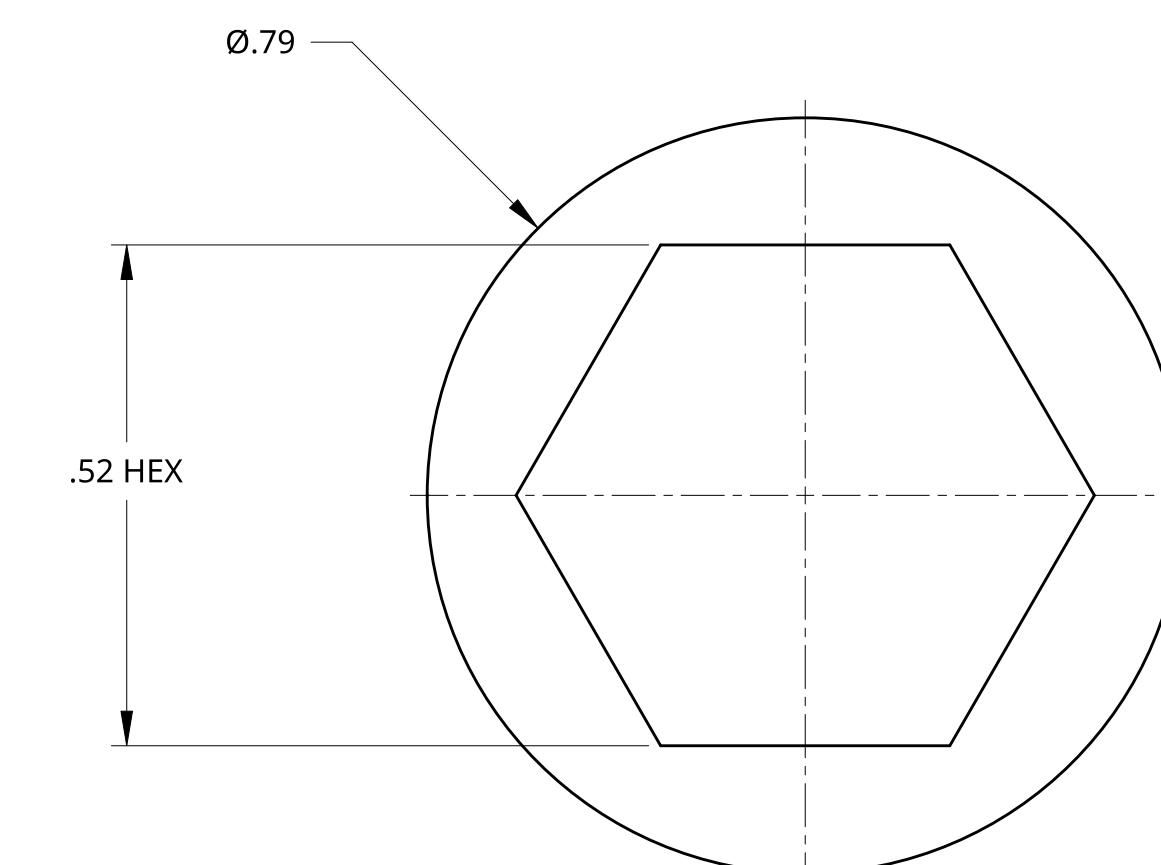
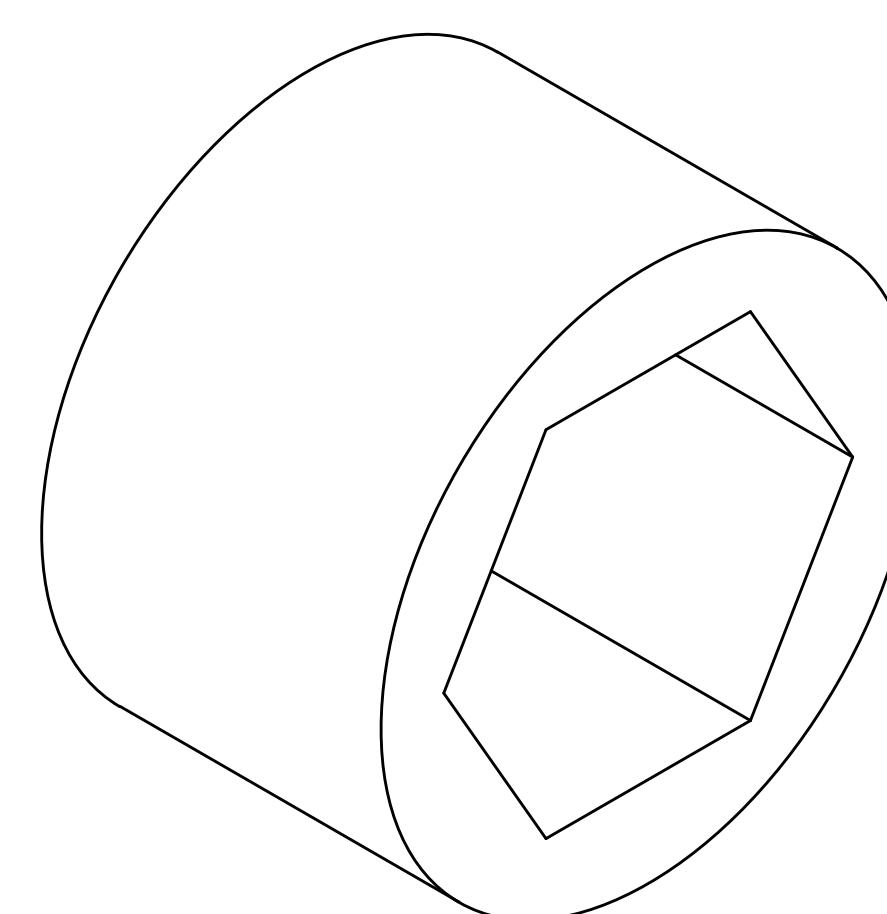
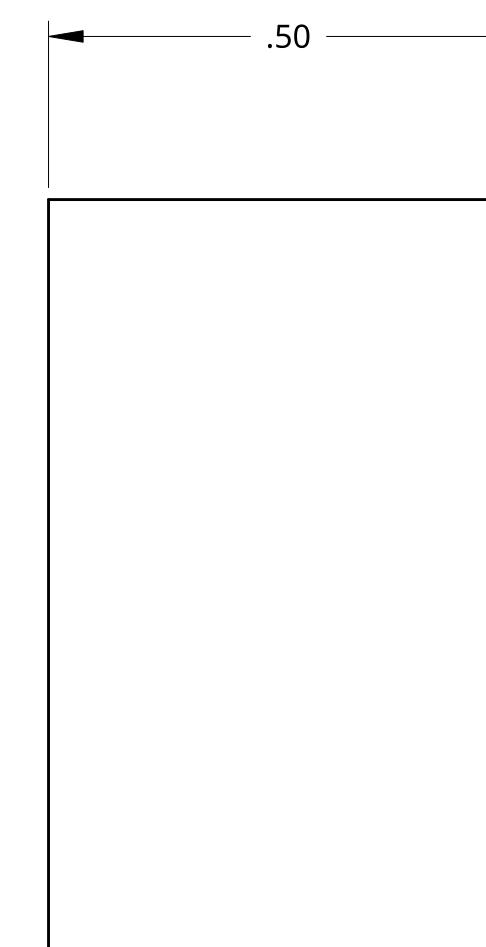
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = $\pm .01$ ANGULAR $\pm 1^\circ$ .XXX = $\pm .005$	VEND DRAWN	NAME JO	DATE 09/16/2025	FIRST ROBOTICS COMPETITION	
DO NOT SCALE DRAWING	MATERIAL PLA 3D PRINTED, PVC, OR COTS		TITLE INTAKE SHAFT SMALL SPACER		
BREAK ALL SHARP EDGES AND REMOVE BURRS			SIZE C	DWG NO. KB-26018	REV.
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			SCALE 5:1	SHEET 1 of 1	

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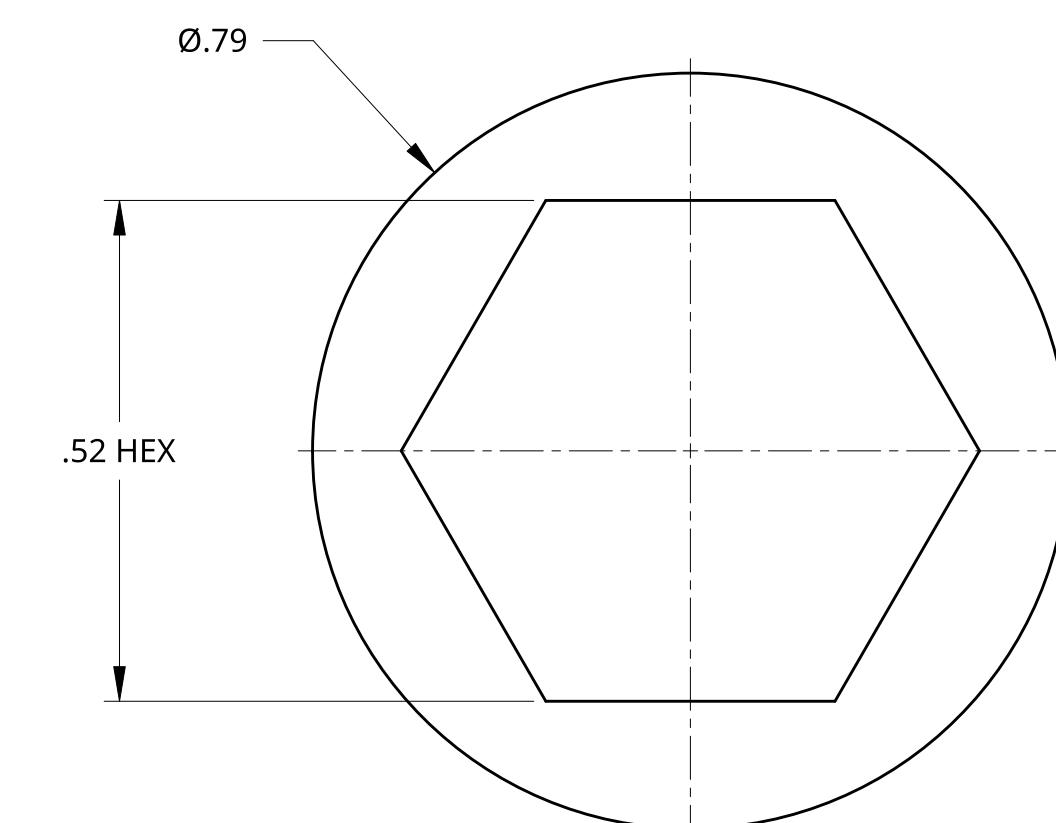
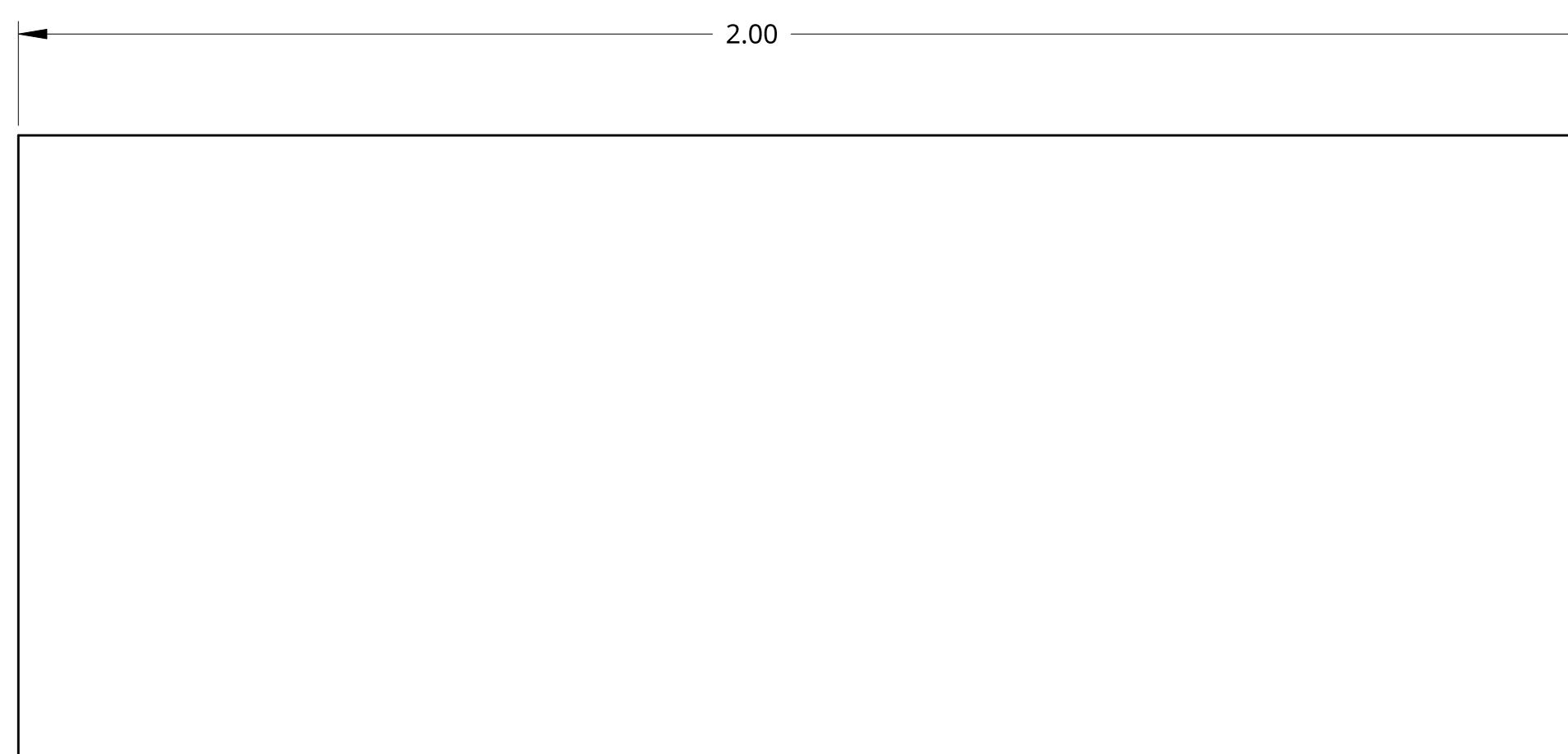
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = ±.01      ANGULAR ± 1° .XXX = ±.005	VEND DRAWN	NAME JO	DATE 09/16/2025	FIRST ROBOTICS COMPETITION	
DO NOT SCALE DRAWING	MATERIAL PLA 3D PRINTED, PVC, OR MADE FROM COTS SPACERS		TITLE HOOD PLATE SPACER		
BREAK ALL SHARP EDGES AND REMOVE BURRS			SIZE C	DWG NO. KB-26019	REV.
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			SCALE 5:1	SHEET 1 of 1	

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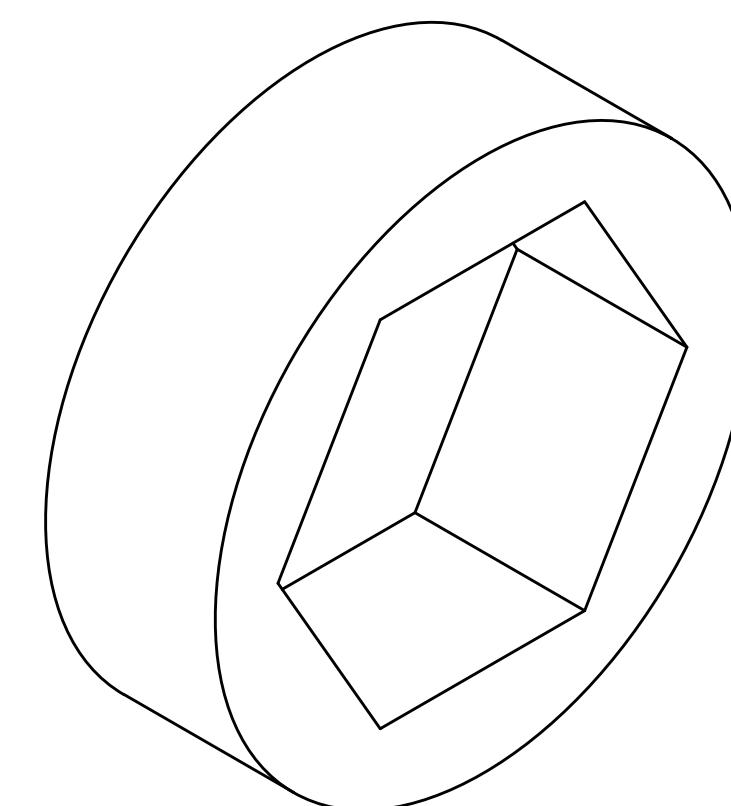
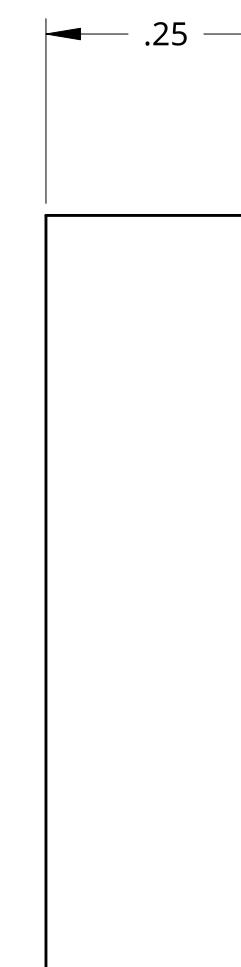
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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES .XX = $\pm .01$ ANGULAR $\pm 1^\circ$ .XXX = $\pm .005$	VEND DRAWN	NAME JO	DATE 09/16/2025	FIRST ROBOTICS COMPETITION	
DO NOT SCALE DRAWING	MATERIAL PLA 3D PRINTED, PVC, OR COTS		TITLE 1/4" LONG HEX SPACER		
BREAK ALL SHARP EDGES AND REMOVE BURRS			SIZE C	DWG NO. KB-26020	REV.
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