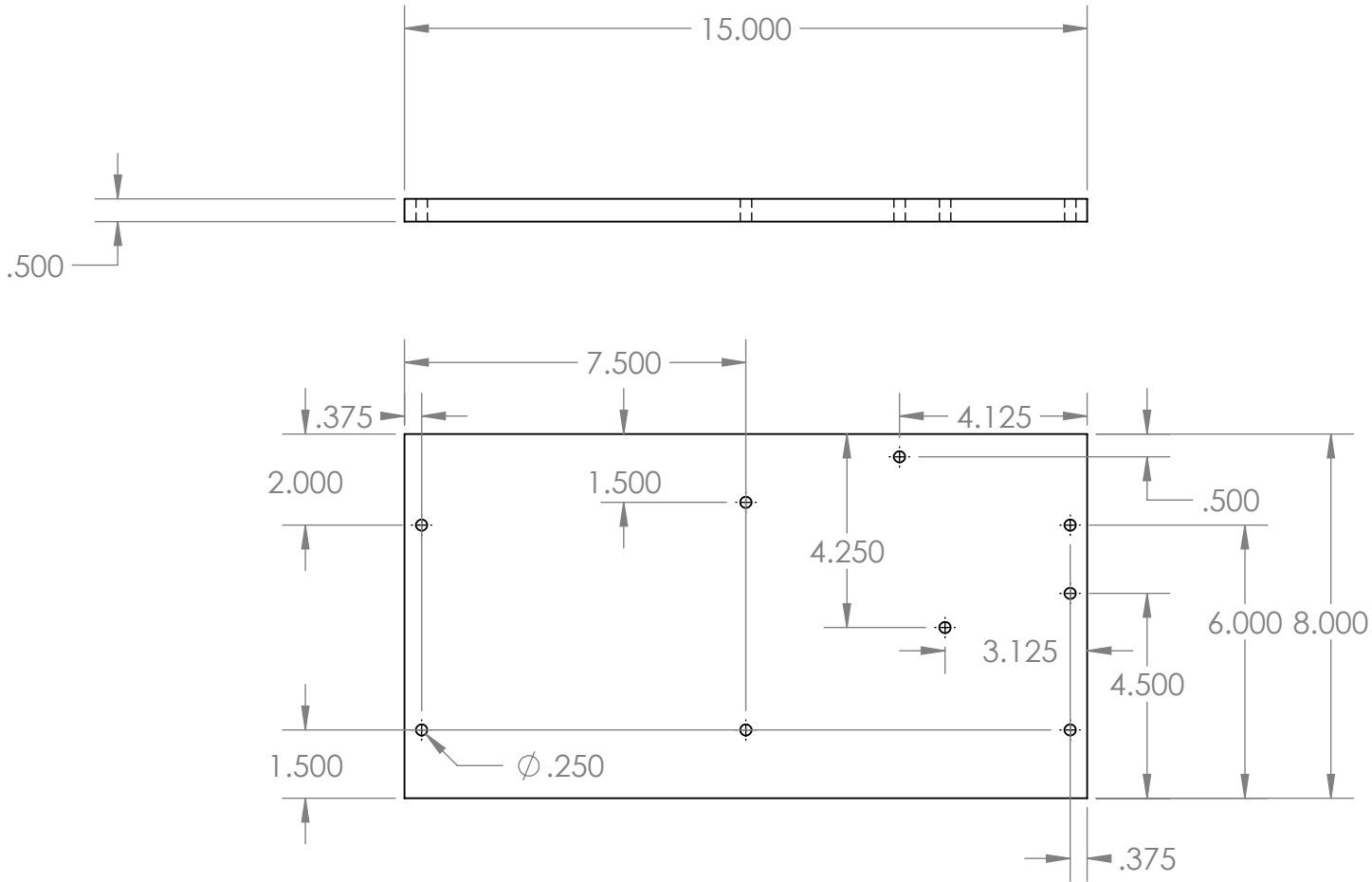


SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	OBS Plywood
1. Cut 8"x11" sheet of plywood with table saw 2. Use 1/4" drill to create all 9 holes	



DRAWN BY Jacob Martin	DATE 4/29/2025	STOCK VENDOR INFO: Auburn Makerspace - PINEPLY	
APPROVALS:		Solidworks Crashouts	
AU EMAIL	SIGNATURE	MATERIAL: OSB Plywood	
Aeh0178 AH Jmm0290 JM cmw0178 CW jtm0156 JM hrd0015 hd bod0002 bd		TITLE/DESC: Baseplate of Chassis	
		FILE NAME: P001_Baseplate	
		DWG. #: 001	REV #: 1
		SCALE: 1:4	SHEET 1 OF 1

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
ANGLES ARE IN DEGREES
3rd Angle Projection

TOLERANCES:
ANGULAR $\pm 1^\circ$
FRACTIONAL $\pm 1/8"$
ONE PLACE DECIMAL $\pm 0.1"$
TWO PLACE DECIMAL $\pm 0.05"$
THREE PLACE DECIMAL $\pm 0.005"$

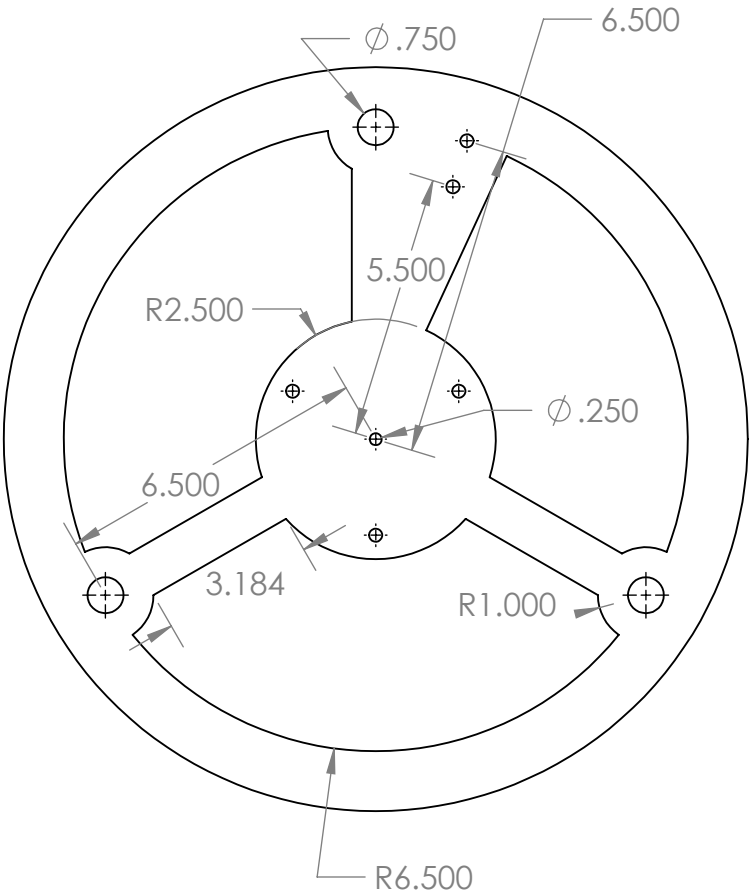
4

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1

SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	
1. Get stock piece of wood at least 16"x16"	
2. Waterjet the wood to get precise dimensions	



DRAWN BY Alec Hudson	DATE 4/29/2025	STOCK VENDOR INFO: MAKERSPACE - PINEPLY	
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection	
cmw0178	CMW	Solidworks Crashouts	
aeH0178	AEH	MATERIAL: OSB Plywood	
jtm0156	JTM	TITLE/DESC: Wheel Right	
hrd0015	HRD	FILE NAME: P003_Wheel_Right	
jmm0290	JMM	DWG. #: 003 REV #: 1	
bod0002	BOD	SCALE: 1:4 SIZE B SHEET 1 OF 1	
		TOLERANCES: ANGULAR ± 1° FRACTIONAL ± 1/8" ONE PLACE DECIMAL ± 0.1" TWO PLACE DECIMAL ± 0.05" THREE PLACE DECIMAL ± 0.005"	

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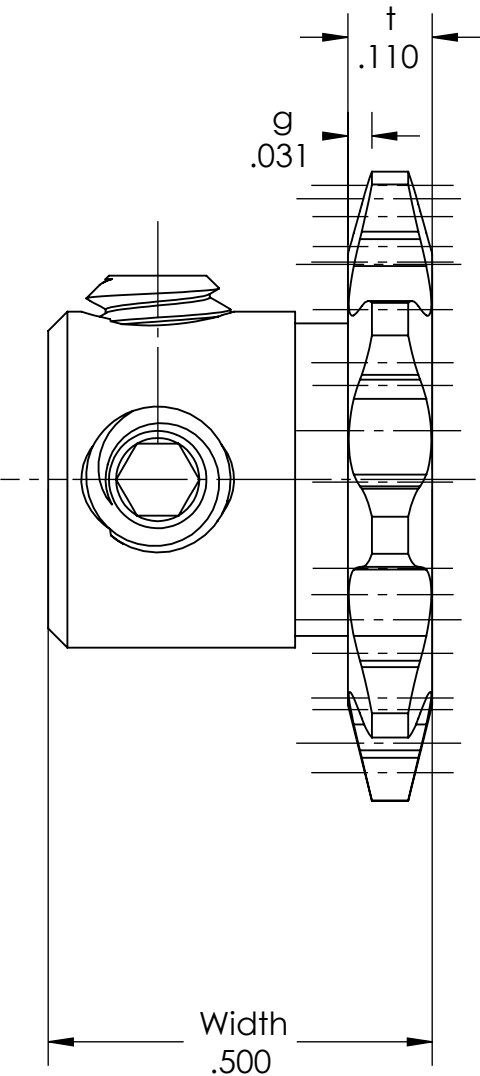
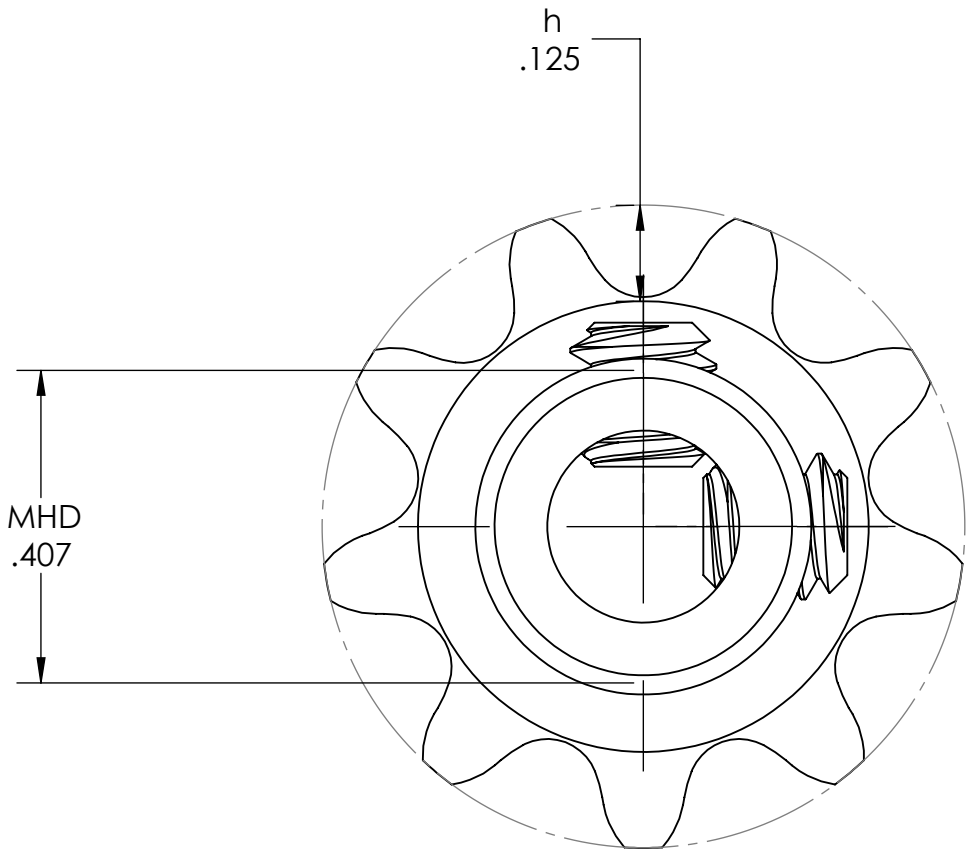
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SAMPLE FABRICATION/ASSEMBLY PROCESS

STOCK DESC/DIMS

1.) Provided by Makerspace



DRAWN BY Alec Hudson	DATE 4/29/2025	STOCK VENDOR INFO: Makerspace		
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection		
aeH0178	AEH	Solidworks Crashouts		
cmw0178	CMW	MATERIAL: Steel		
jtm0156	JTM	TITLE/DESC: Small Drive Sprocket		
hrd0015	HRD	FILE NAME: P007_Small_Drive_Sprocket		
jmm0290	JMM	DWG. #: 007 REV #: 1		
bod0002	BOD	SCALE: 4:1 SIZE B SHEET 1 OF 1		
		TOLERANCES: ANGULAR $\pm 1^\circ$ FRACTIONAL $\pm 1/8"$ ONE PLACE DECIMAL $\pm 0.1"$ TWO PLACE DECIMAL $\pm 0.05"$ THREE PLACE DECIMAL $\pm 0.005"$		

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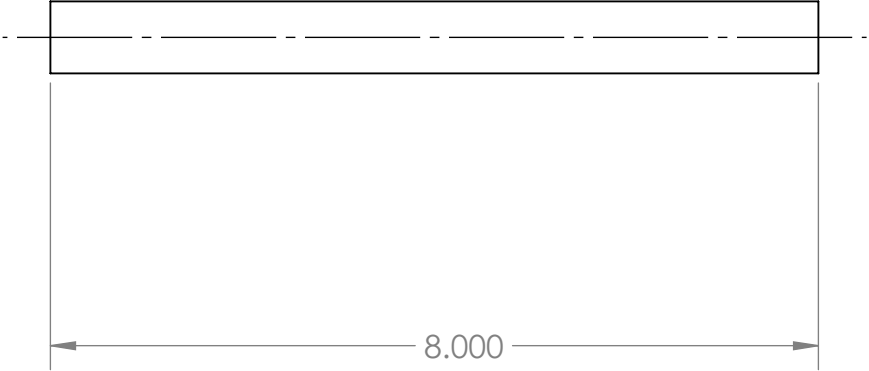
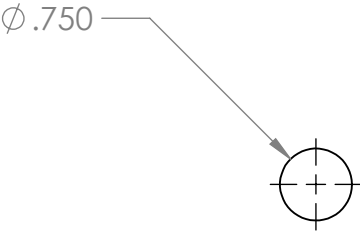
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1

SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	
1.	Buy 3/4" dowel
2.	Cut to 8.0" length using saw or similar tool



DRAWN BY Brandon Dixon	DATE 4/29/2025	STOCK VENDOR INFO: Makerspace	
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection	
bod0002	BOD	Solidworks Crashouts	
jtm0156	JTM	MATERIAL: Pine	
hrd0015	HRD	TITLE/DESC: Wheel Dowel	
aeH0178	AEH	FILE NAME: Wheel_Dowel_V1.prt	
cmw0178	CMW	DWG. #: 008	REV #: 1
jmm0290	JMM	SCALE: 1:2	SIZE B SHEET 1 OF 1
		TOLERANCES: ANGULAR ± 1° FRACTIONAL ± 1/8" ONE PLACE DECIMAL ± 0.1" TWO PLACE DECIMAL ± 0.05" THREE PLACE DECIMAL ± 0.005"	

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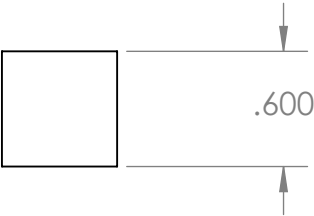
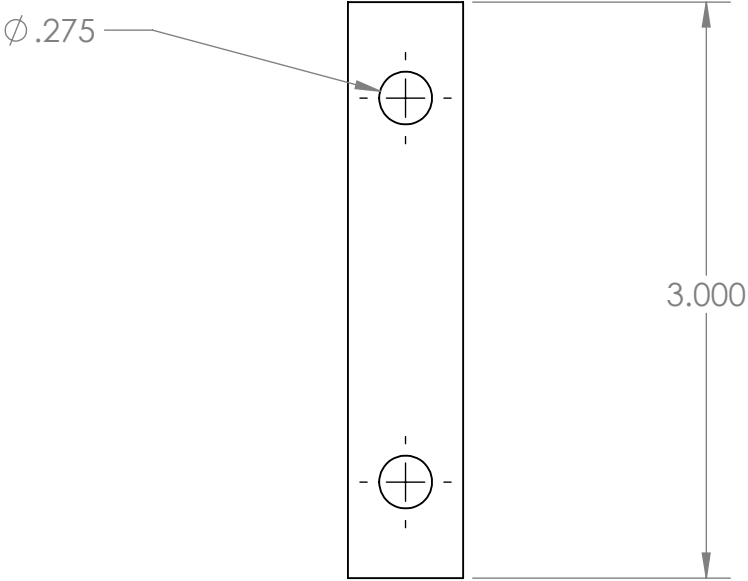
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SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	PLA
1. splice model	
2. 3d print using 30% infill	



DRAWN BY Brandon Dixon	DATE 4/29/2025	STOCK VENDOR INFO: ME3D Lab		
APPROVALS:		Solidworks Crashouts		
bod0002	BOD	MATERIAL: PLA		
cmw0178	CMW	TITLE/DESC: Aluminum Tube Adapter		
jtm0156	JTM	FILE NAME: P010_Alum__Tube_Adapter		
hrd0015	HRD	DWG. #: 010 REV #:		
aeH0178	AEH	SCALE: 1:2 SIZE B SHEET 1 OF 1		
jmm0290	JMM			

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
ANGLES ARE IN DEGREES
3rd Angle Projection

TOLERANCES:

ANGULAR $\pm 1^\circ$
FRACTIONAL $\pm 1/8"$
ONE PLACE DECIMAL $\pm 0.1"$
TWO PLACE DECIMAL $\pm 0.05"$
THREE PLACE DECIMAL $\pm 0.005"$

B

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SAMPLE FABRICATION/ASSEMBLY PROCESS

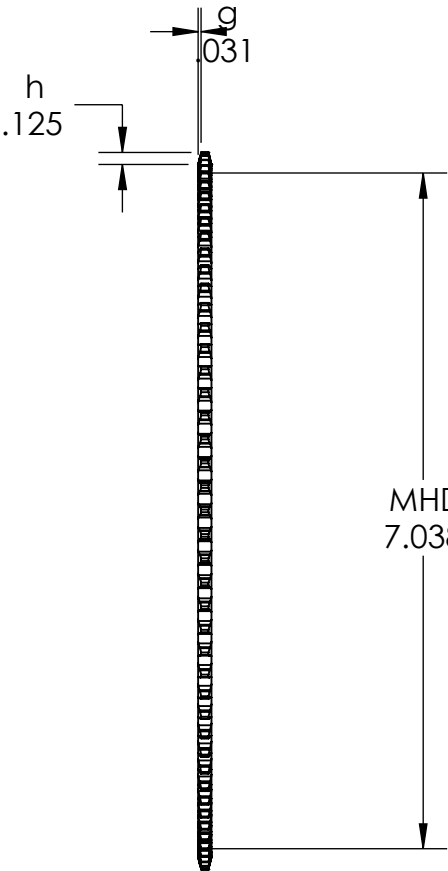
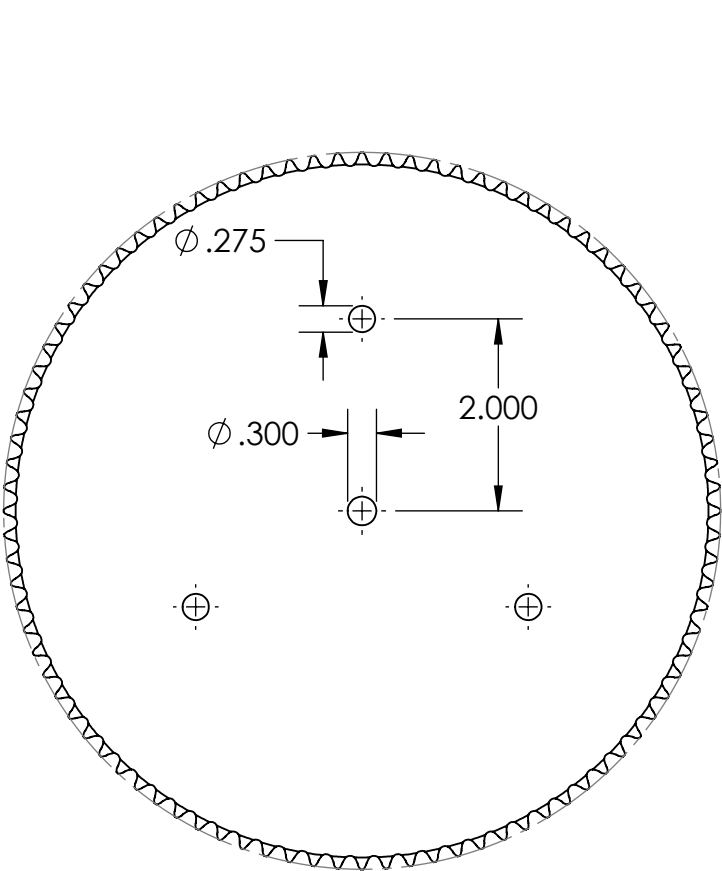
- STOCK DESC/DIMS
1.

download file to a thumb drive
2.

put thumb drive into a 3D printer
3.

enter in specifications for that 3D printer
4.

print the part and make sure the first few layers go on well

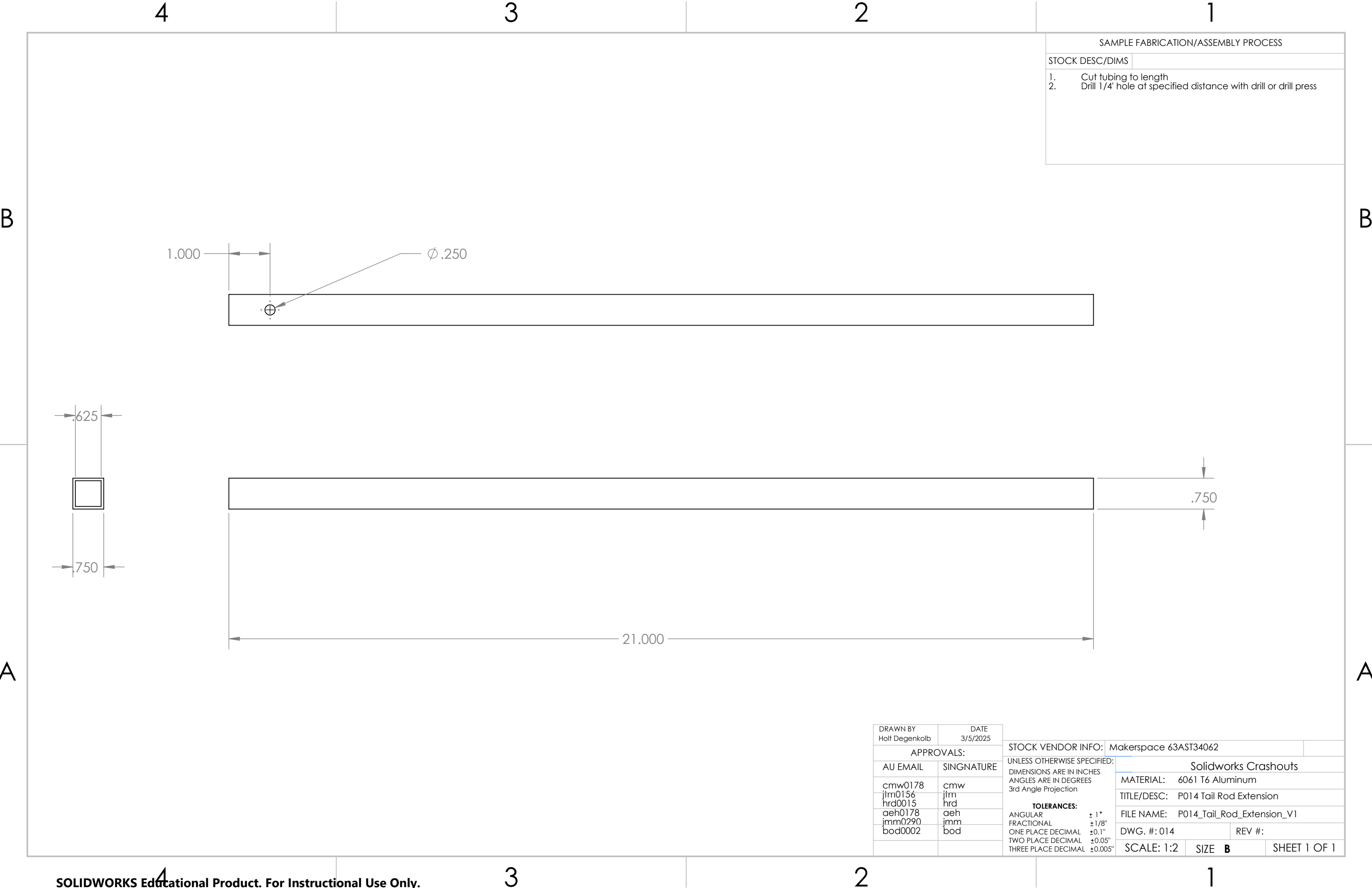


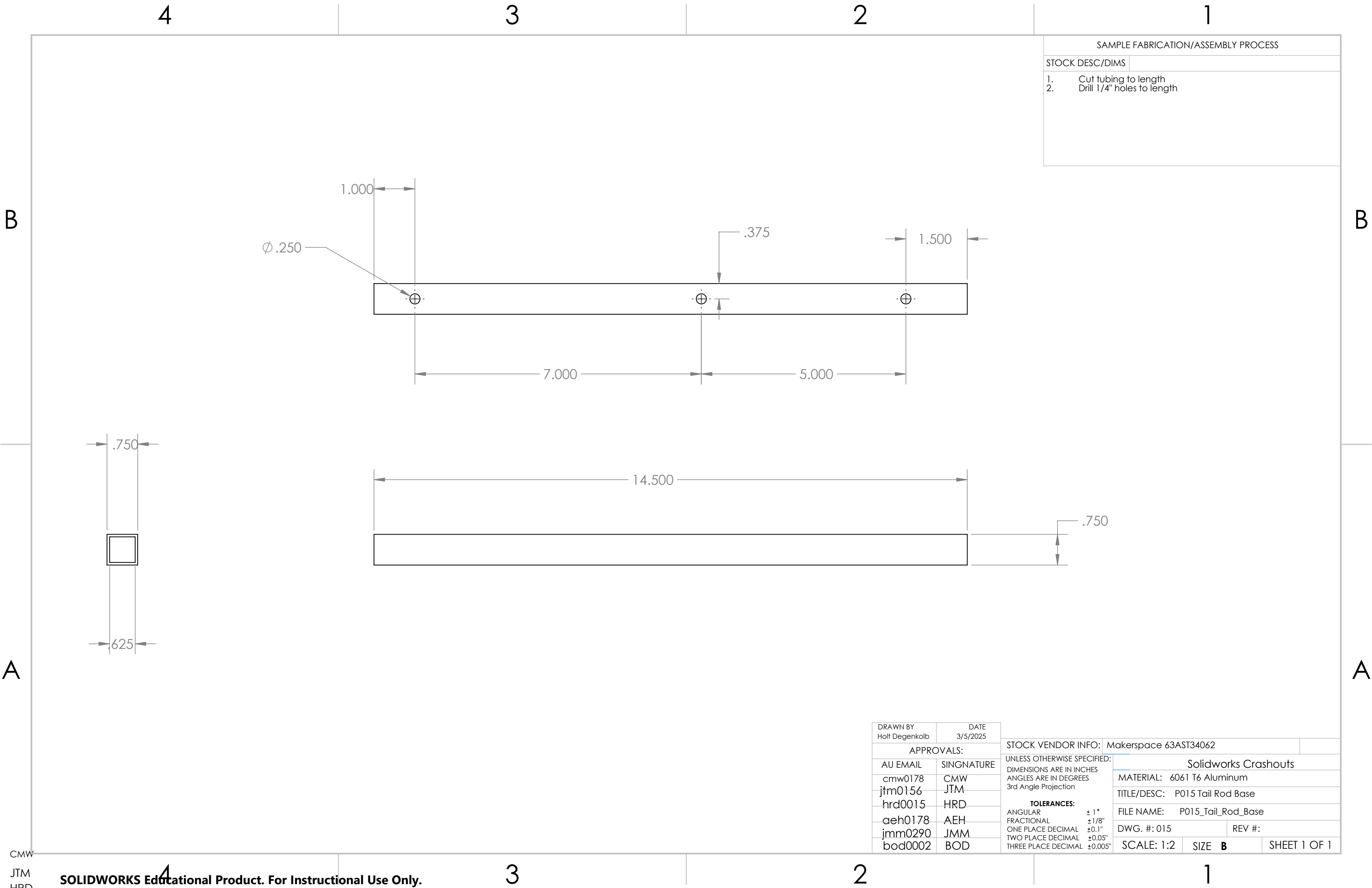
DRAWN BY Alec Hudson	DATE 02/26/25	STOCK VENDOR INFO: ME3D Lab		
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection		
aeH0178	AEH	Solidworks Crashouts		
cmw0178	CMW	MATERIAL: PLA		
jtm0156	JTM	TITLE/DESC: Driven Gear		
hrd0015	HRD	FILE NAME: P011_Driven_Gear		
jmm0002	JMM	DWG. #: 011 REV #: 001		
bod0002	BOD	SCALE: 1:2 SIZE B SHEET 1 OF 1		
		TOLERANCES: ANGULAR ± 1° FRACTIONAL ± 1/8" ONE PLACE DECIMAL ± 0.1" TWO PLACE DECIMAL ± 0.05" THREE PLACE DECIMAL ± 0.005"		

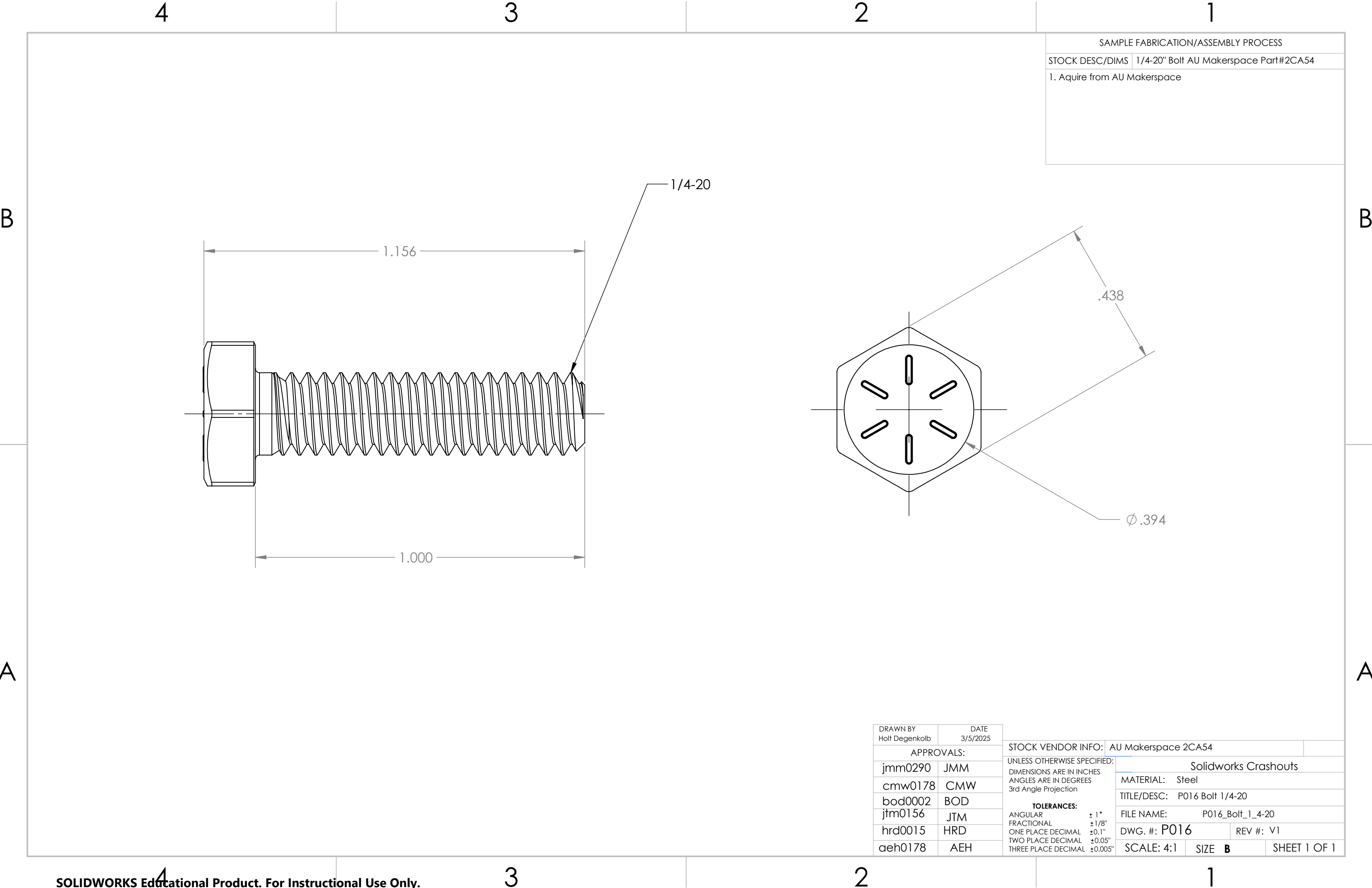
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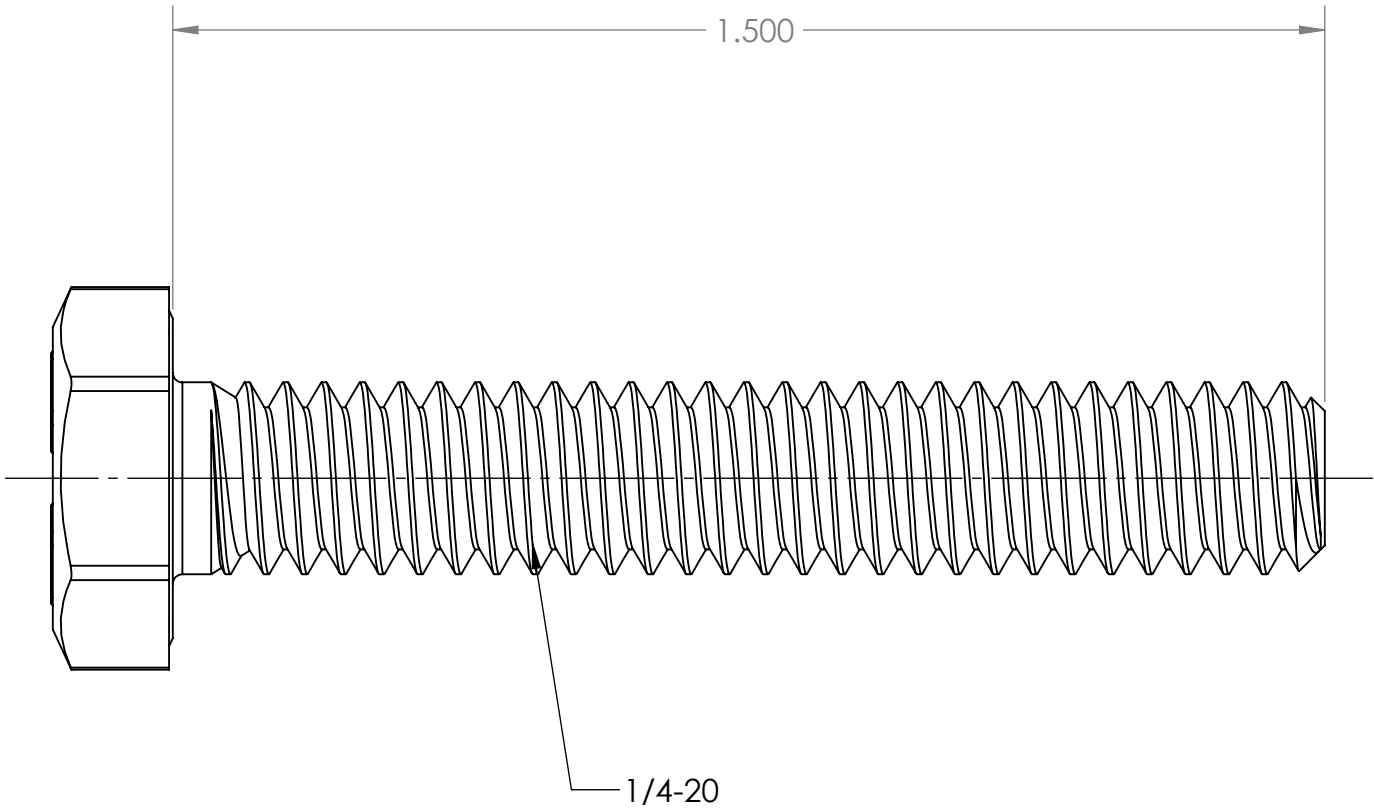
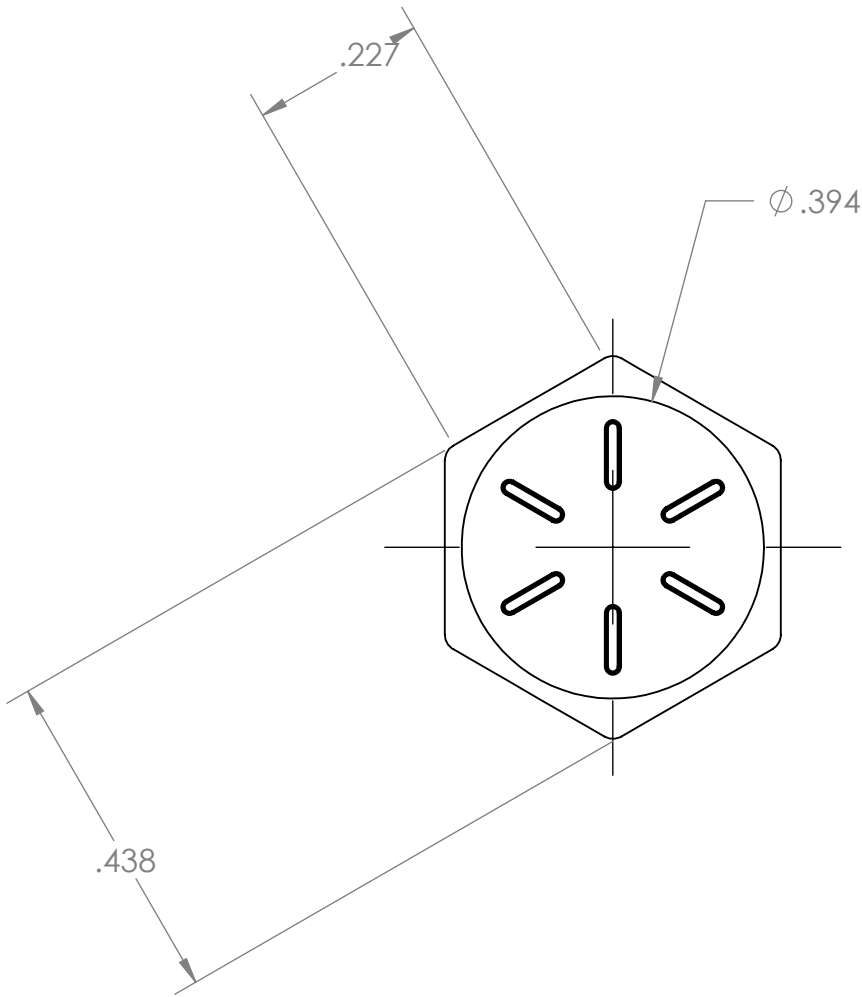




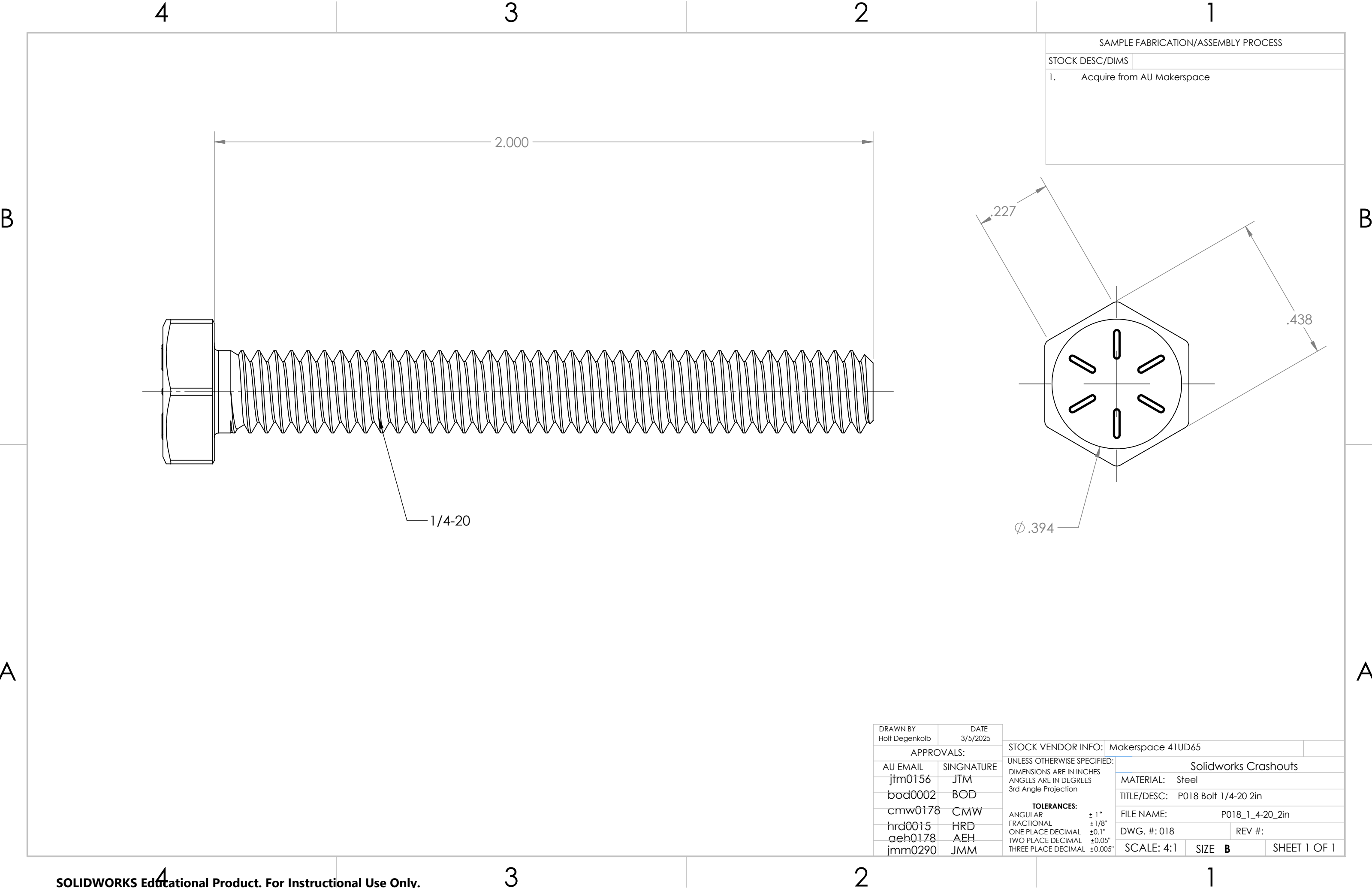
SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	1/4-20" Bolt AU Makerspace Part#2CA54
1. Aquire from AU Makerspace	

DRAWN BY Holt Degenkolb	DATE 3/5/2025	STOCK VENDOR INFO: AU Makerspace 2CA54		
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection		
jmm0290	JMM	Solidworks Crashouts		
cmw0178	CMW	MATERIAL: Steel		
bod0002	BOD	TITLE/DESC: P016 Bolt 1/4-20		
jtm0156	JTM	FILE NAME: P016_Bolt_1_4-20		
hrd0015	HRD	DWG. #: P016		REV #: V1
ae0178	AEH	SCALE: 4:1	SIZE B	SHEET 1 OF 1
TOLERANCES:		ANGULAR ± 1° FRACTIONAL ± 1/8" ONE PLACE DECIMAL ± 0.1" TWO PLACE DECIMAL ± 0.05" THREE PLACE DECIMAL ± 0.005"		

SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	AU Makerspace Part #41UD63
1. Aquire from AU Makerspace	

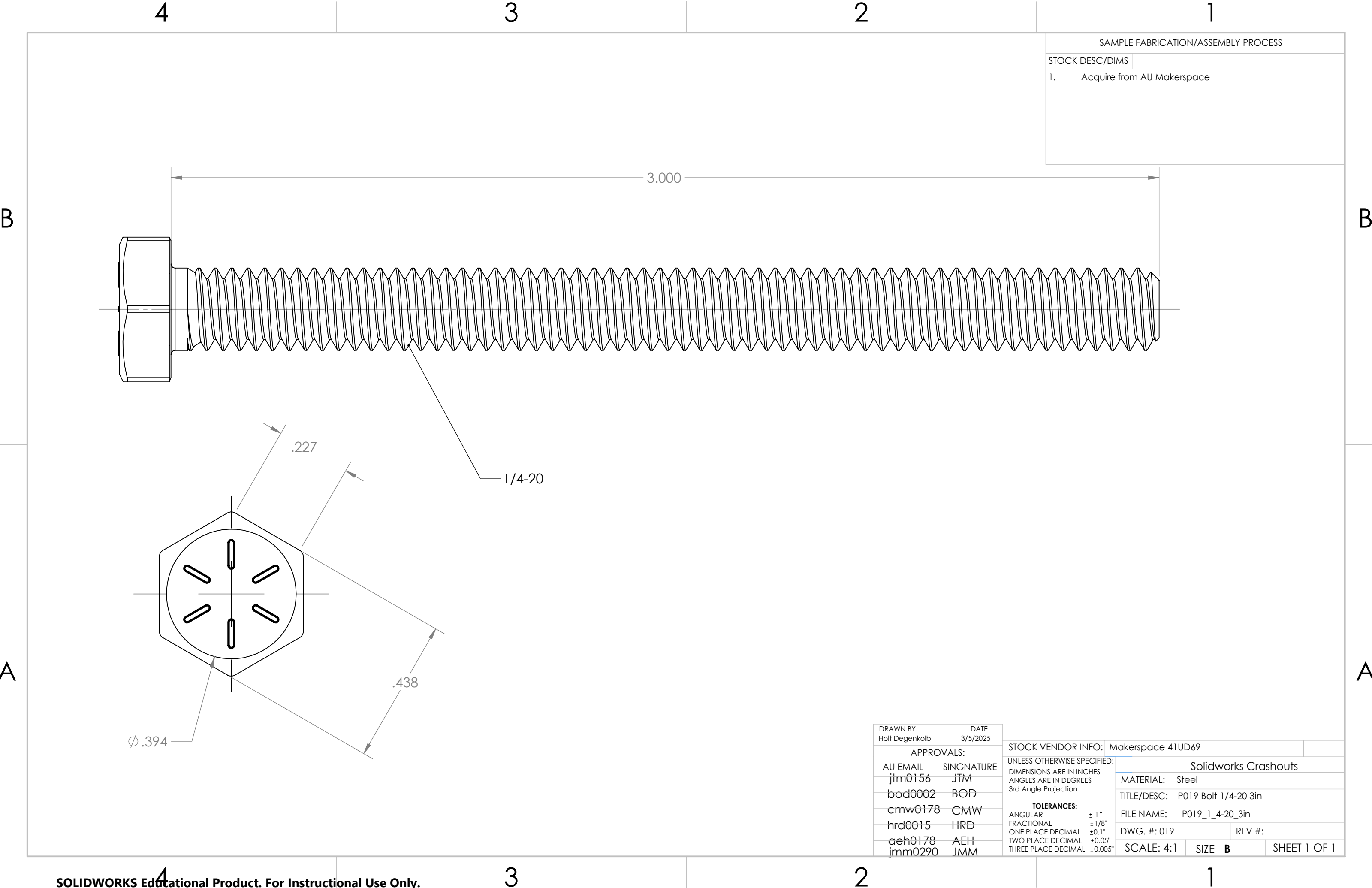


DRAWN BY Holt Degenkolb	DATE 3/5/2025	STOCK VENDOR INFO: AU Makerspace 41UD63		
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection		
cmw0178	CMW	Solidworks Crashouts		
jtm0156	JTM	MATERIAL: Steel		
hrd0015	HRD	TITLE/DESC: P017 Bolt 1/4-20 1.5in		
ae0178	AEH	FILE NAME: P017_Bolt_1_4-20_1.5in		
jmm0290	JMM	DWG. #: P017 REV #: V1		
bod0002	BOD	SCALE: 4:1 SIZE B SHEET 1 OF 1		
		TOLERANCES: ANGULAR $\pm 1^\circ$ FRACTIONAL $\pm 1/8"$ ONE PLACE DECIMAL $\pm 0.1"$ TWO PLACE DECIMAL $\pm 0.05"$ THREE PLACE DECIMAL $\pm 0.005"$		



SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	
1.	Acquire from AU Makerspace

DRAWN BY Holt Degenkolb	DATE 3/5/2025	STOCK VENDOR INFO: Makerspace 41UD65	
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection	
AU EMAIL jtm0156	SIGNATURE JTM	Solidworks Crashouts	
bod0002	BOD	MATERIAL: Steel	
cmw0178	CMW	TITLE/DESC: P018 Bolt 1/4-20 2in	
hrd0015	HRD	FILE NAME: P018_1_4-20_2in	
aeh0178	AEH	DWG. #: 018 REV #:	
jmm0290	JMM	TOLERANCES: ANGULAR ± 1° FRACTIONAL ± 1/8" ONE PLACE DECIMAL ± 0.1" TWO PLACE DECIMAL ± 0.05" THREE PLACE DECIMAL ± 0.005"	
		SCALE: 4:1	SIZE B SHEET 1 OF 1



SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	
1. Acquire from AU Makerspace	

DRAWN BY Holt Degenkolb		DATE 3/5/2025		STOCK VENDOR INFO: Makerspace 41UD69	
APPROVALS:				UNLESS OTHERWISE SPECIFIED:	
AU EMAIL jtm0156		SIGNATURE JTM		Solidworks Crashouts	
bod0002		BOD		MATERIAL: Steel	
cmw0178		CMW		TITLE/DESC: P019 Bolt 1/4-20 3in	
hrd0015		HRD		FILE NAME: P019_1_4-20_3in	
aeh0178		AEH		DWG. #: 019	
jmm0290		JMM		REV #:	
TOLERANCES: ANGULAR ± 1° FRACTIONAL ± 1/8" ONE PLACE DECIMAL ±0.1" TWO PLACE DECIMAL ±0.05" THREE PLACE DECIMAL ±0.005"				SCALE: 4:1	
				SIZE B	
				SHEET 1 OF 1	

4

3

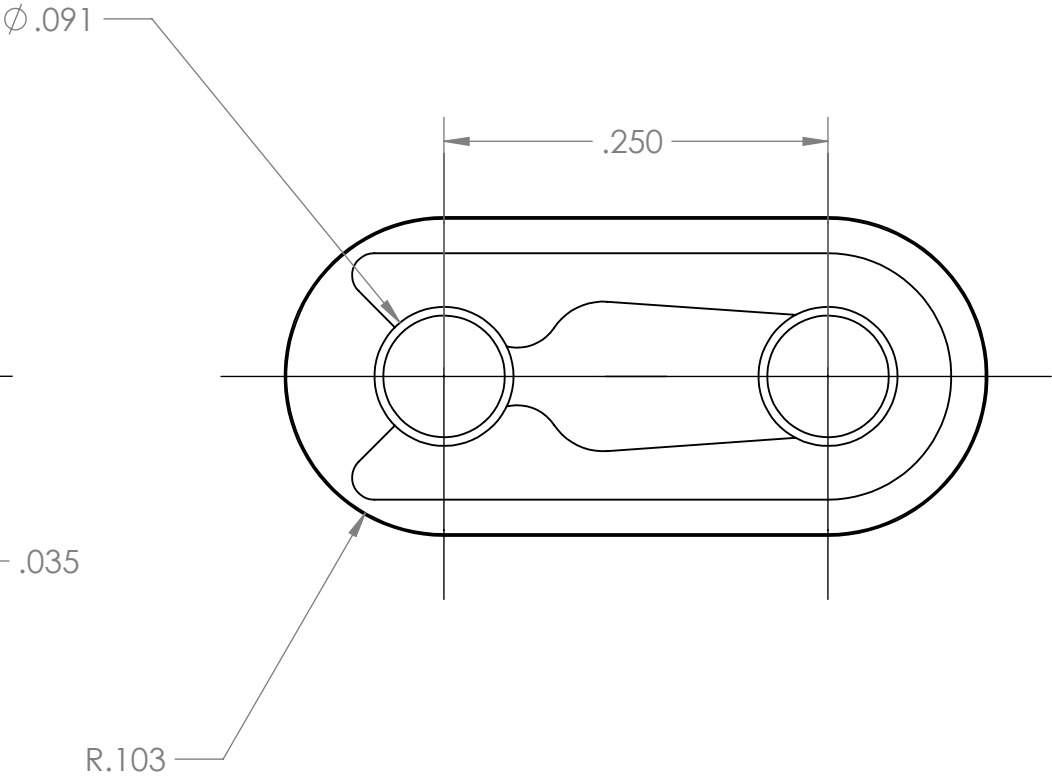
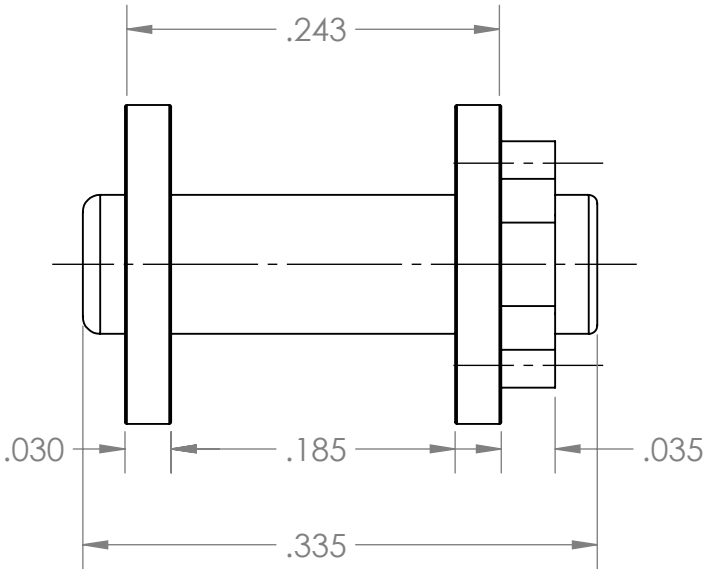
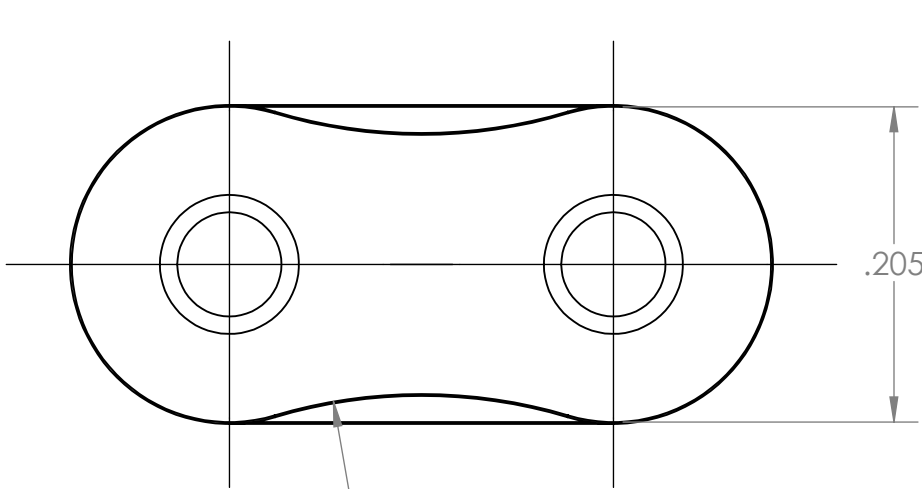
2

1

SAMPLE FABRICATION/ASSEMBLY PROCESS

STOCK DESC/DIMS #25 Roller Chain

1. From Granger



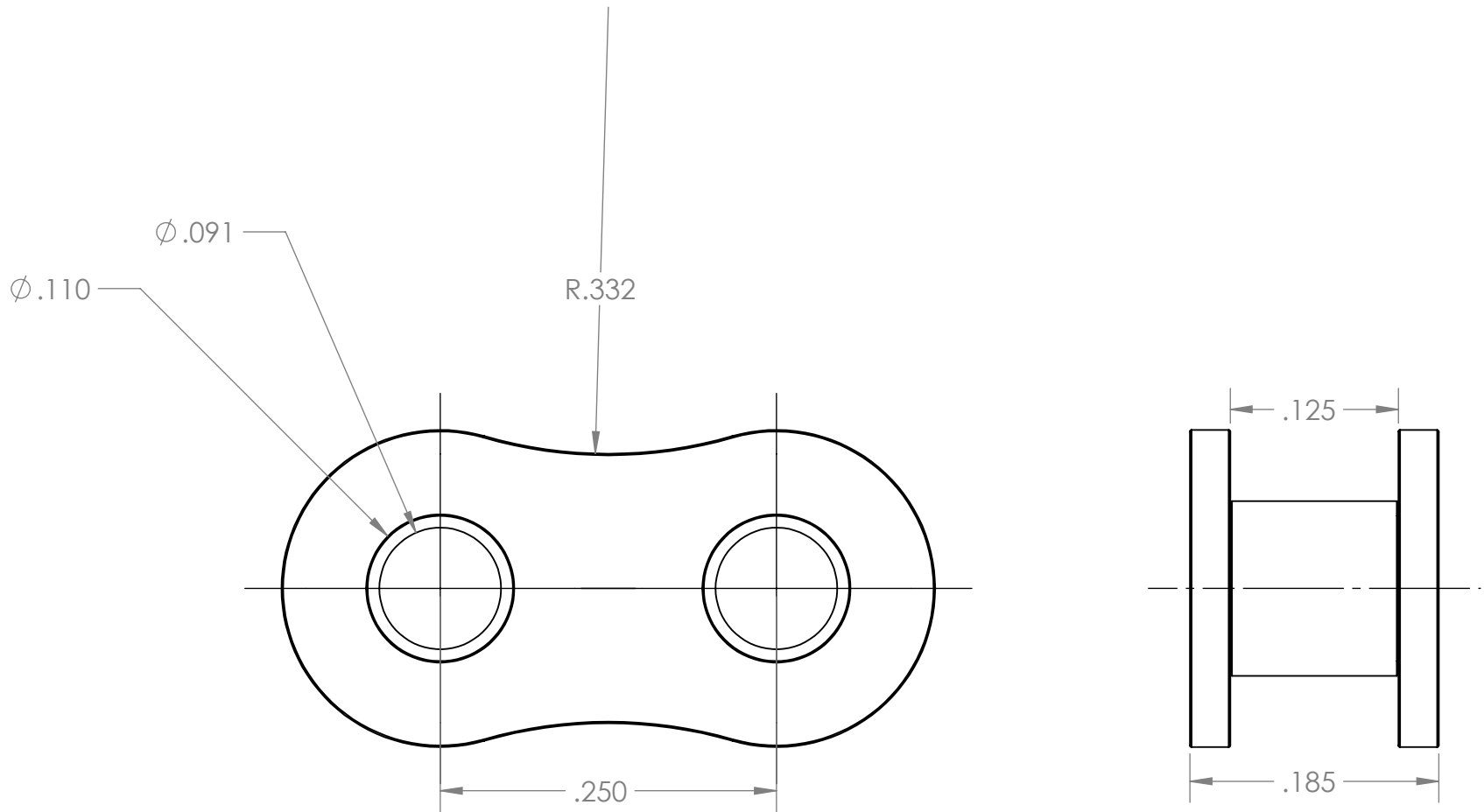
DRAWN BY Brandon Dixon	DATE 4/29/2025	STOCK VENDOR INFO: Grainger 42ML14		
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection		
jtm0156	JTM	Solidworks Crashouts		
bod0002	BOD	MATERIAL: Steel		
cmw0178	CMW	TITLE/DESC: Roller Chain Connecting Link		
hrd0015	HRD	FILE NAME:P020_#25_Roller_Chain_Connecting_Link		
aeh0178	AEH	DWG. #: P020 REV #: 1		
jmm0290	JMM	SCALE: 8:1 SIZE B SHEET 1 OF 1		
TOLERANCES:		ANGULAR ± 1° FRACTIONAL ± 1/8" ONE PLACE DECIMAL ± 0.1" TWO PLACE DECIMAL ± 0.05" THREE PLACE DECIMAL ± 0.005"		

3

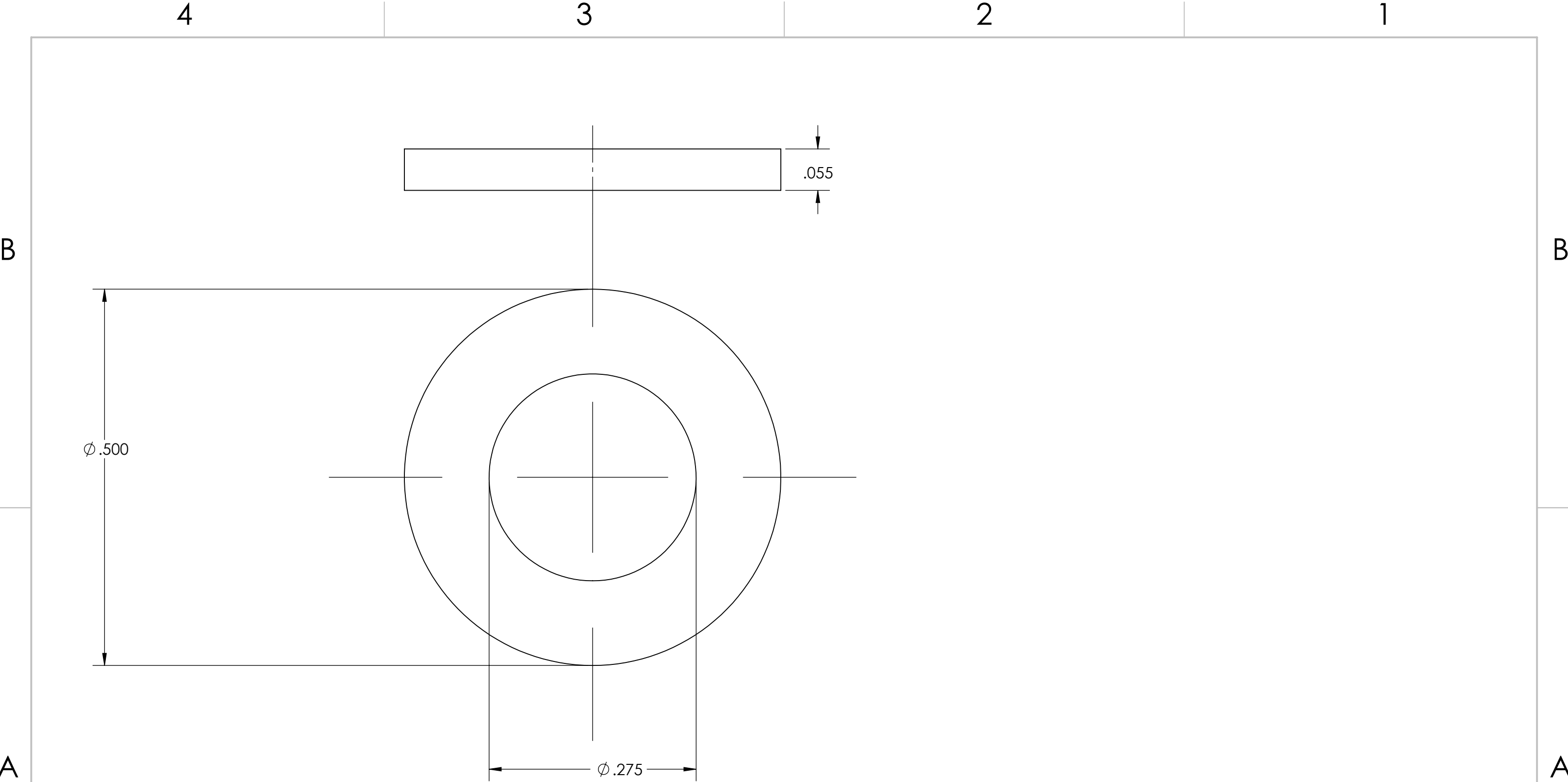
2

1

SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	#25 Steel Roller Chain Adding Link
1. From Grainger	



DRAWN BY Brandon Dixon	DATE 4/29/2025	STOCK VENDOR INFO: 6261K106	
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection	
bod0002	BOD	Solidworks Crashouts	
cmw0178	CMW	MATERIAL: Steel	
hrd0015	HRD	TITLE/DESC: #25 Roller Chain Adding Chain	
ae0178	AEH	FILE NAME: P021_#25_Roller_Chain_Adding_Link	
jmm0290	JMM	DWG. #: P021	REV #: 1
jtm0156	JTM	SCALE: 8:1	SIZE B SHEET 1 OF 1
TOLERANCES:		ANGULAR $\pm 1^\circ$ FRACTIONAL $\pm 1/8"$ ONE PLACE DECIMAL $\pm 0.1"$ TWO PLACE DECIMAL $\pm 0.05"$ THREE PLACE DECIMAL $\pm 0.005"$	



DRAWN BY Alec Hudson		DATE 4/29/2025		<div>STOCK VENDOR INFO: Auburn Makerspace 19NR63</div> <div>UNLESS OTHERWISE SPECIFIED:</div> <div>DIMENSIONS ARE IN INCHES</div> <div>ANGLES ARE IN DEGREES</div> <div>3rd Angle Projection</div> <div>TOLERANCES:</div> <div>ANGULAR ± 1°</div> <div>FRACTIONAL ± 1/8"</div> <div>ONE PLACE DECIMAL ±0.1"</div> <div>TWO PLACE DECIMAL ±0.05"</div> <div>THREE PLACE DECIMAL ±0.005"</div>			
APPROVALS:							
Aeh0178	AH						
Jmm0290	JM						
cmw0178	CW						
jtm0156	JM						
hrd0015	hd						
bod0002	bd						
				SolidWorks Crashouts			
				MATERIAL: 6061-T6 Aluminum			
				TITLE/DESC: Washer			
				FILE NAME: P022_Washer			
				DWG. #: 022		REV #: 1	
				SCALE: 8:1		SIZE B	SHEET 1 OF 1

4

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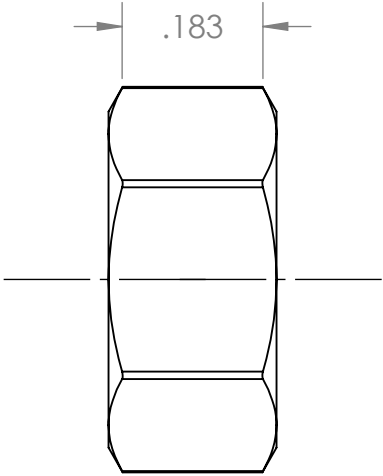
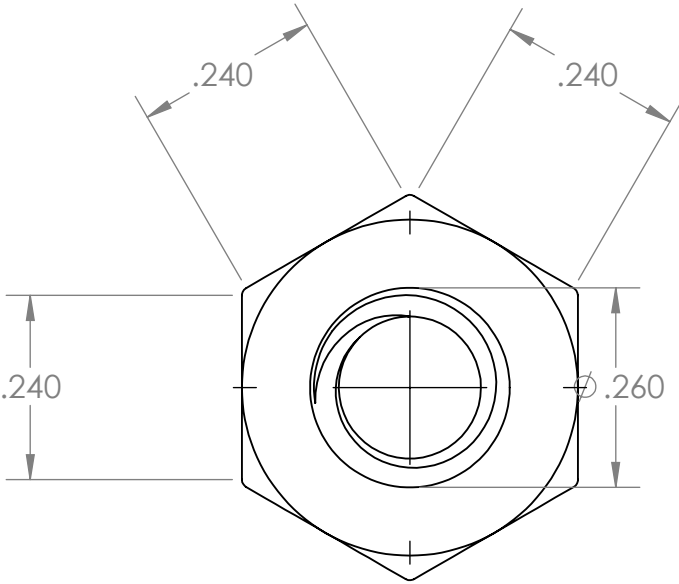
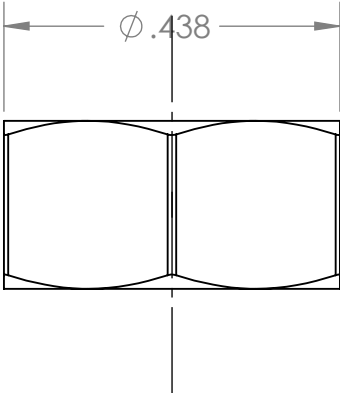
2

1

SAMPLE FABRICATION/ASSEMBLY PROCESS

STOCK DESC/DIMS1-4" 20 Nut

1. Auburn Makerspace Part # 4FCA9



DRAWN BY Marshall Wellborn	DATE 3/5/2025	STOCK VENDOR INFO: Auburn Makerspace 4FCA9		
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection		
jtm0156	JTM	Solidworks Crashouts		
cmw0178	CMW	MATERIAL: Steel		
hrd0015	HRD	TITLE/DESC: 1/4"-20 Nut		
ae0178	AEH	FILE NAME: P023_Nut_1_4-20		
jmm0290	JMM	DWG. #: 023 REV #: V1		
bod0002	BOD	SCALE: 4:1 SIZE B SHEET 1 OF 1		
		TOLERANCES: ANGULAR ± 1° FRACTIONAL ± 1/8" ONE PLACE DECIMAL ± 0.1" TWO PLACE DECIMAL ± 0.05" THREE PLACE DECIMAL ± 0.005"		

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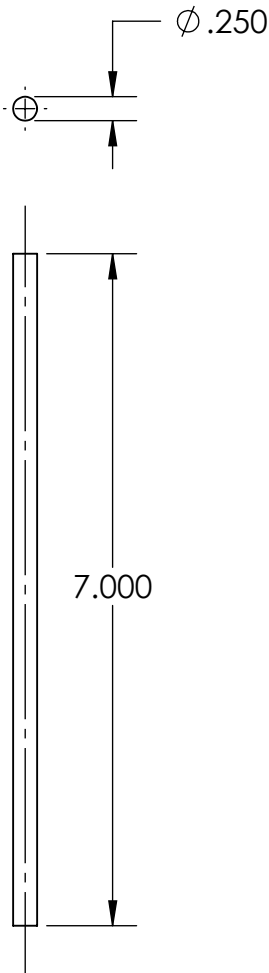
4

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1

Manufacturing Instructions:
1) Purchase from distributor (Lowe's)
2) Cut to length using vertical or horizontal bandsaw

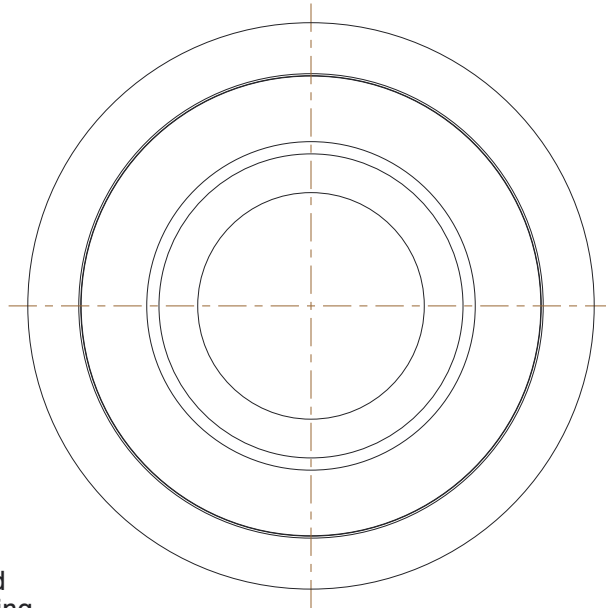
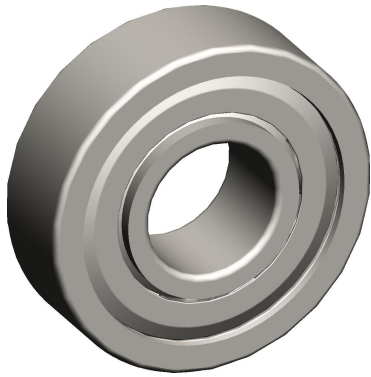


DRAWN BY Alec Hudson	DATE 4/30/2025	STOCK VENDOR INFO: Lowe's Item #69857		
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection		
Aeh0178 AH Jmm0290 JM cmw0178 CW jtm0156 JM hrd0015 hd bod0002 bd		Solidworks Crashouts		
		MATERIAL: 4031 Steel		
		TITLE/DESC: Axle		
		FILE NAME: P024_Drill_Axle		
		DWG. #: 024	REV #: 1	
		SCALE: 1:2	SIZE B	SHEET 1 OF 1

3

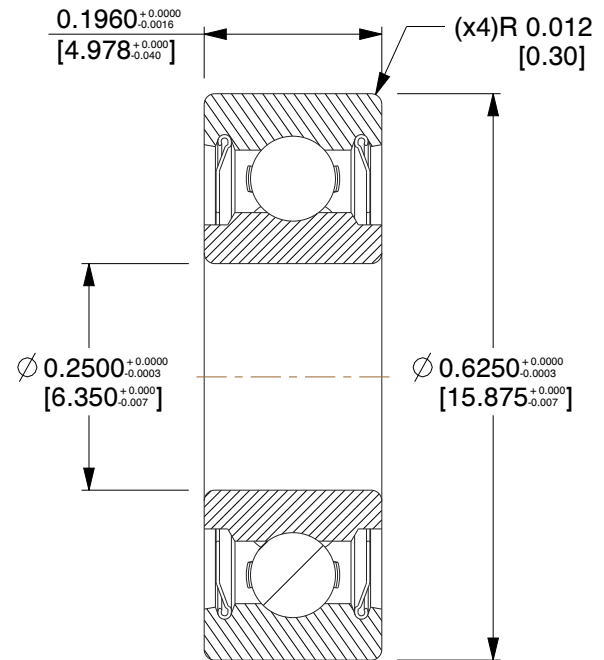
2

1



NOTES:

1. MAX. RPM: 54000
2. TYPE: Double Shielded
3. ITEM: Radial Ball Bearing
4. SHIELD MATERIAL: Steel
5. BEARING MATERIAL: Steel
6. CAGE MATERIAL: Pressed Steel
7. LUBRICATION: Polyrex EM Grease
8. TEMP. RANGE: -40°F to 350°F
9. STATIC LOAD CAPACITY: 139Lb.
10. DYNAMIC LOAD CAPACITY: 335Lb.



COMPONENT		Radial Ball Bearing	
<div>35JC63</div> <div>Min Ball Bearing, PS, 0.25In Bore Dia</div>		UNIT	INCH
		SHEET	1 of 1

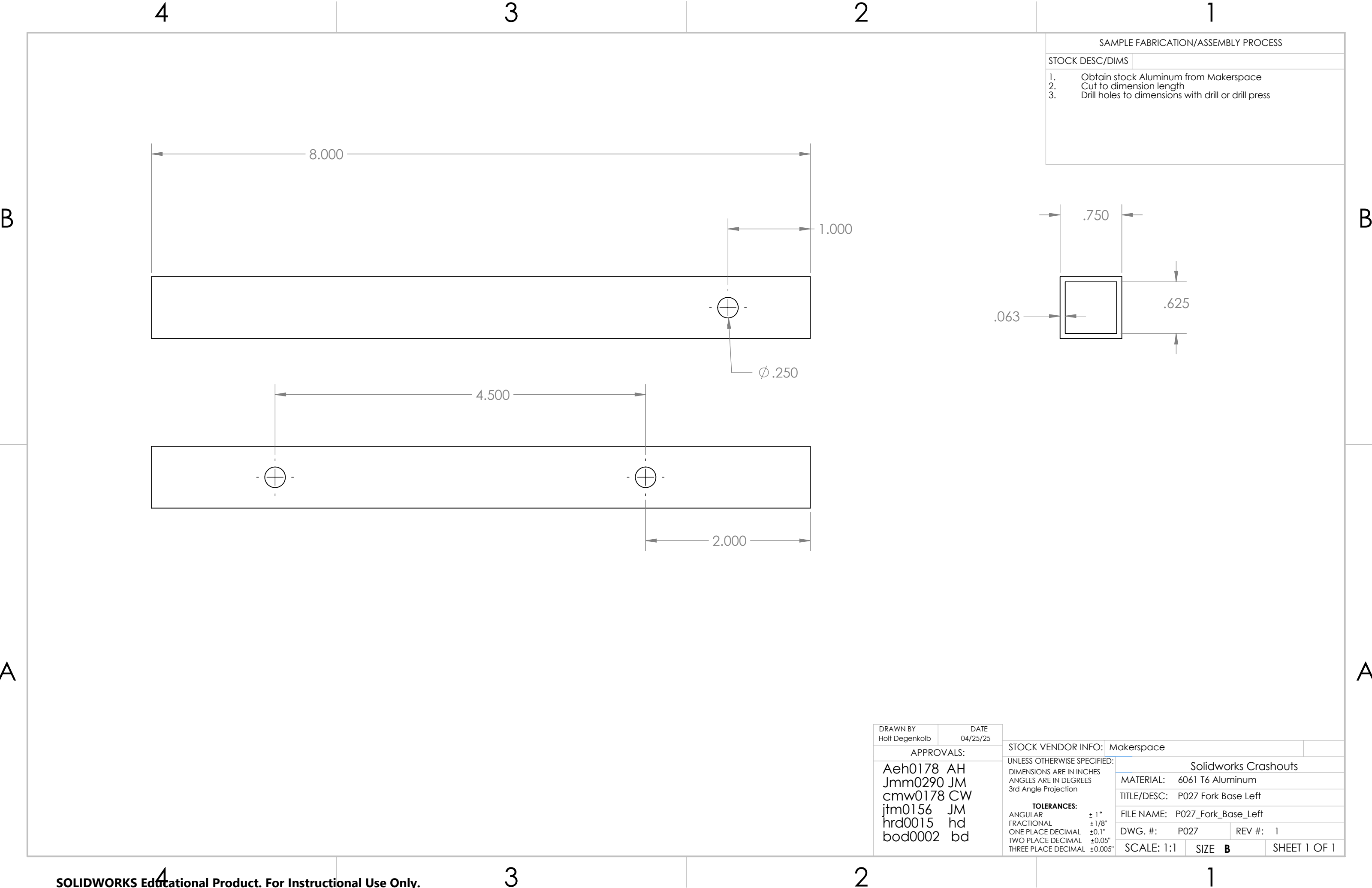
GRAINGER

100 Grainger Parkway, Lake Forest, Illinois 60045-5201
1-(800) GRAINGER, 1-(800) 472-4643, (847) 535-1000
www.grainger.com

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SCALE 4.72



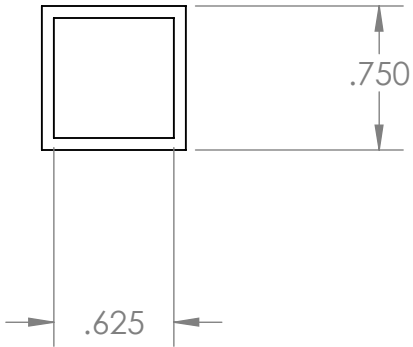
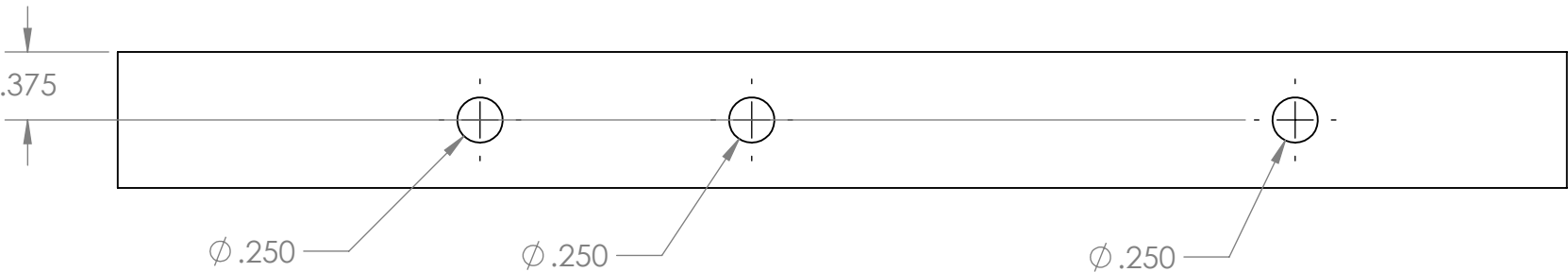
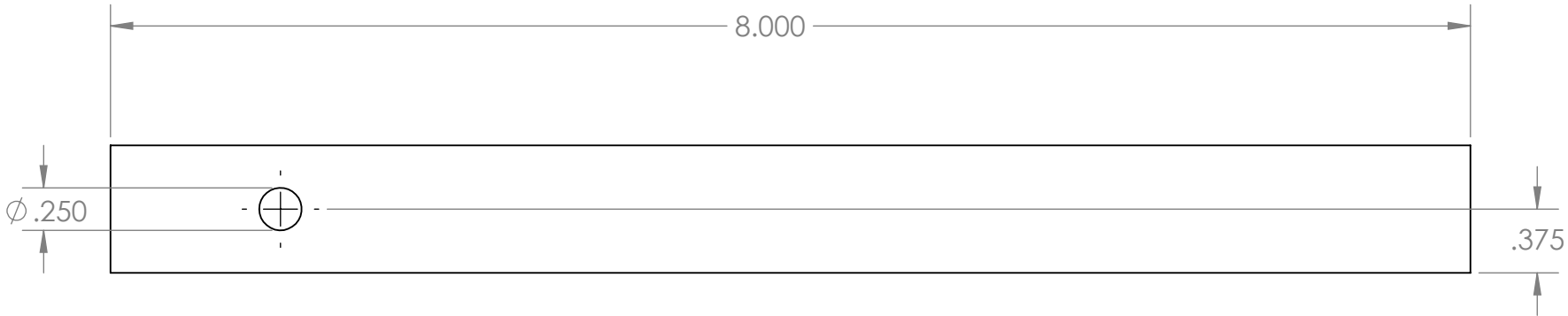
B

B

A

A

SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	Aluminum Tubing
1. Cut tubing to 8"	
2. Use drill to create holes	



DRAWN BY Jacob Martin	DATE 4/29/2025	STOCK VENDOR INFO: Auburn Makerspace 63AST34062	
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection	
AU EMAIL	SIGNATURE	Solidworks Crashouts	
Aeh0178 AH	Jmm0290 JM	MATERIAL: 6061 T6 Aluminum	
cmw0178 CW	jtm0156 JM	TITLE/DESC: Right Baseplate Fork	
hrd0015 hd	bod0002 bd	FILE NAME: P028_Fork_Base_Right	
TOLERANCES:		ANGULAR ± 1°	
		FRACTIONAL ± 1/8"	
		ONE PLACE DECIMAL ± 0.1"	
		TWO PLACE DECIMAL ± 0.05"	
		THREE PLACE DECIMAL ± 0.005"	
		DWG. #: 028	REV #: 1
		SCALE: 1:1	SIZE B
		SHEET 1 OF 1	

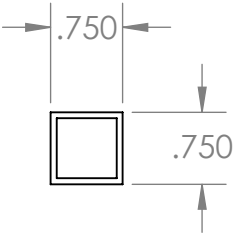
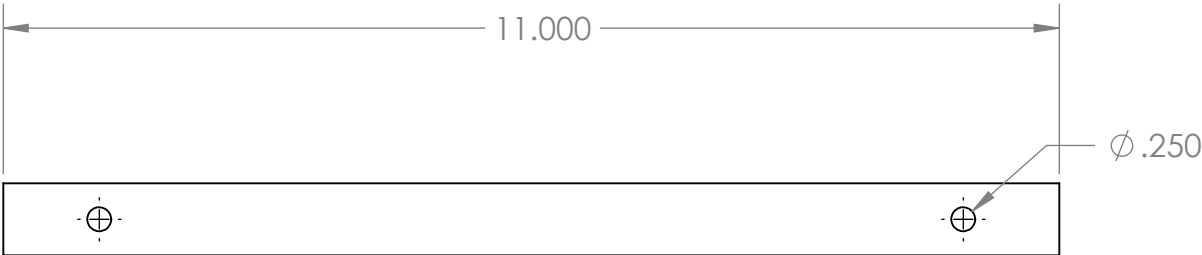
4

3

2

1

SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	.75 x .75 6061 Aluminum
1. Obtain stock tubing 2. Cut tubing to length 3. Drill holes through ends	



DRAWN BY Brandon Dixon	DATE 4/25/25	STOCK VENDOR INFO: Makerspace 63AST34062		
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection		
jtm0156	JTM	Solidworks Crashouts		
bod0002	BOD	MATERIAL: Aluminum		
jmm0290	JMM	TITLE/DESC: Fork Left Drawing		
ae0178	AEH	FILE NAME: P029_Fork_Left		
hrd0015	HRD	DWG. #: P029		REV #: 1
cmw0178	CMW	SCALE: 1:1	SIZE B	SHEET 1 OF 1
TOLERANCES:		ANGULAR ± 1° FRACTIONAL ± 1/8" ONE PLACE DECIMAL ± 0.1" TWO PLACE DECIMAL ± 0.05" THREE PLACE DECIMAL ± 0.005"		

3

2

1

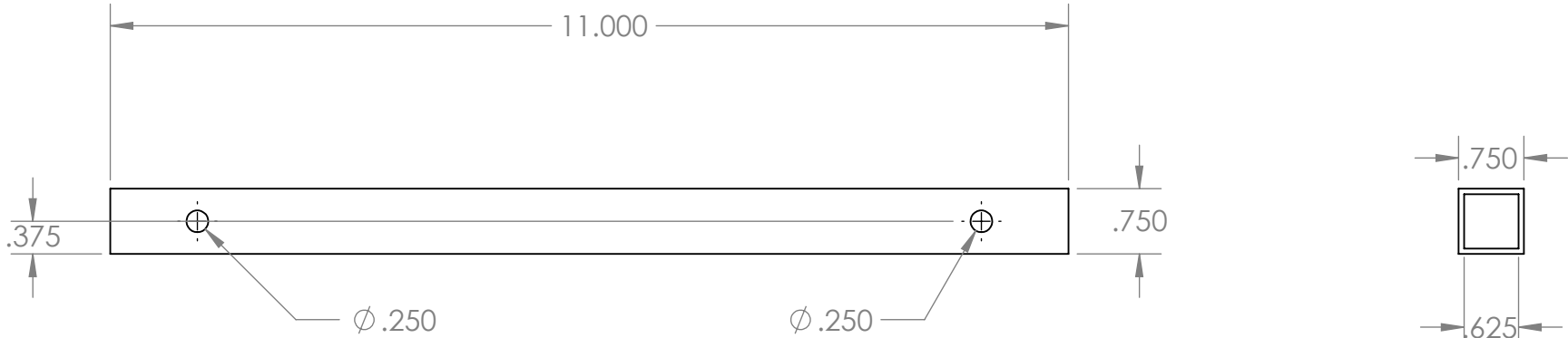
4

3

2

1

SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	3/4"x3/4" Aluminum Tubing
1. Cut tubing to 11" 2. Use drill to create holes	



DRAWN BY Jacob Martin	DATE 4/29/2025	STOCK VENDOR INFO: Auburn Makerspace 63AST34062	
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection	
AU EMAIL	SINGNATURE	Solidworks Crashouts	
Aeh0178	AH	MATERIAL: 6061 T6 Aluminum	
Jmm0290	JM	TITLE/DESC: Right Base Fork	
cmw0178	CW	FILE NAME: P030_Fork_Right	
jtm0156	JM	DWG. #: 030	
hrd0015	hd	REV #: 1	
bod0002	bd	SCALE: 1:2	SIZE B
		SHEET 1 OF 1	

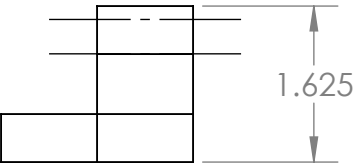
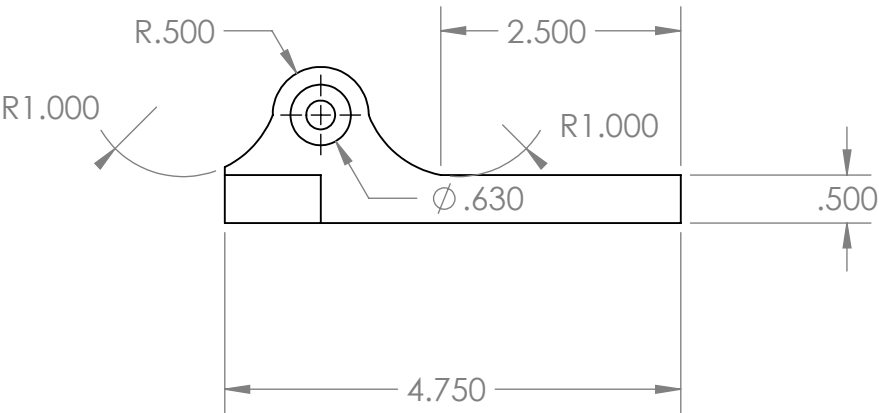
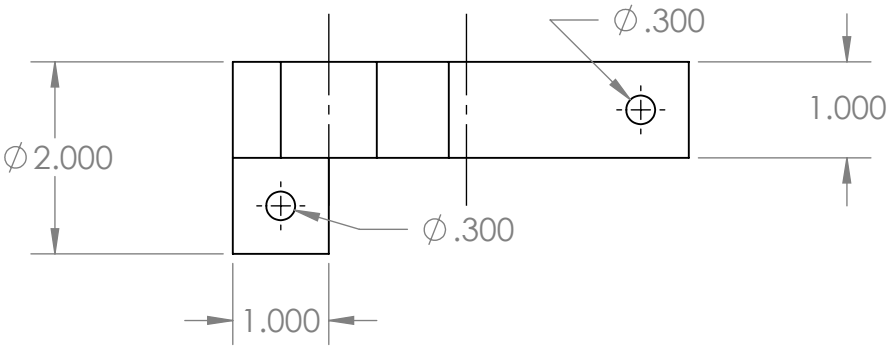
TOLERANCES:	
ANGULAR	± 1°
FRACTIONAL	± 1/8"
ONE PLACE DECIMAL	± 0.1"
TWO PLACE DECIMAL	± 0.05"
THREE PLACE DECIMAL	± 0.005"

4

3

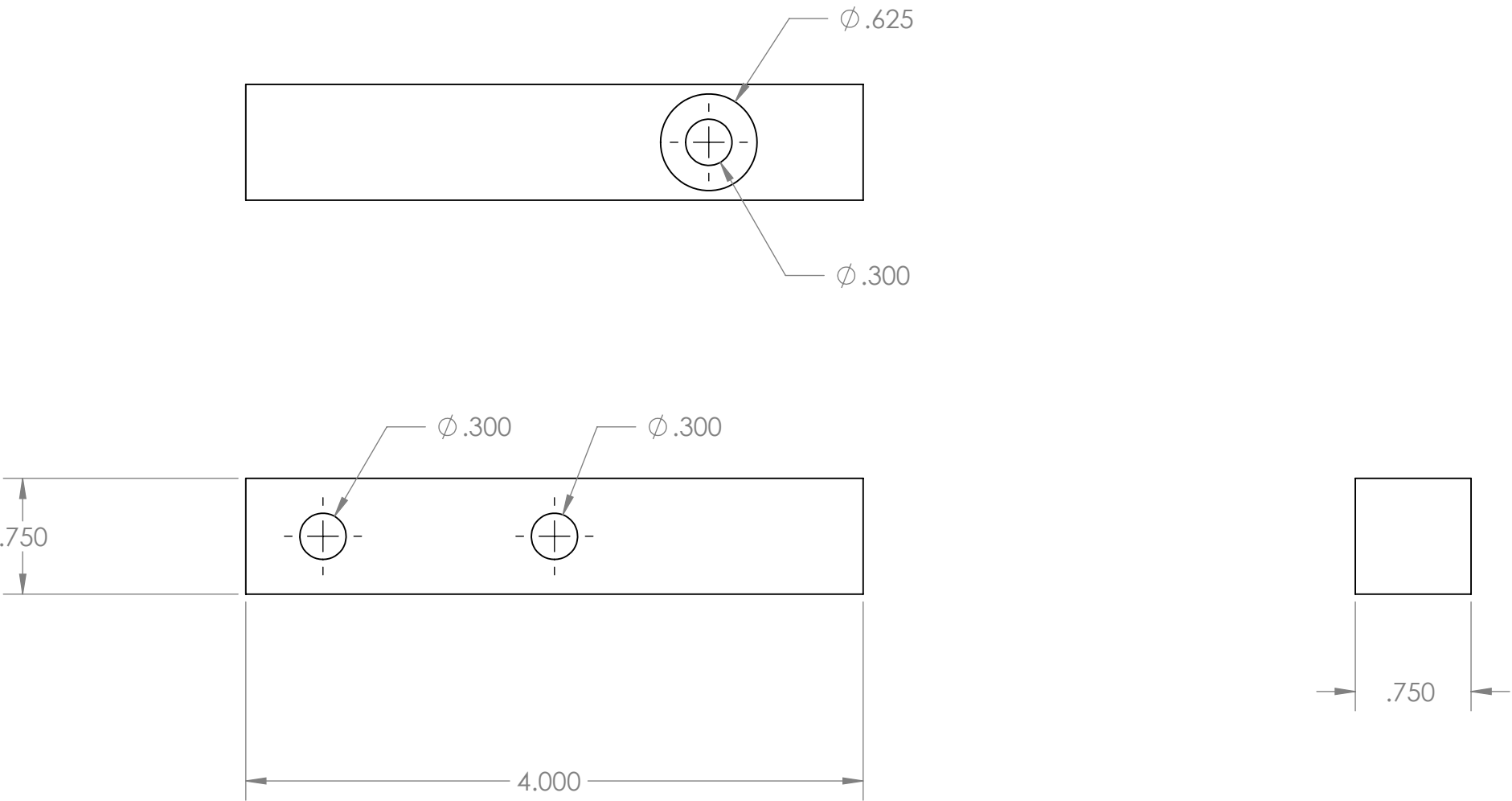
2

1



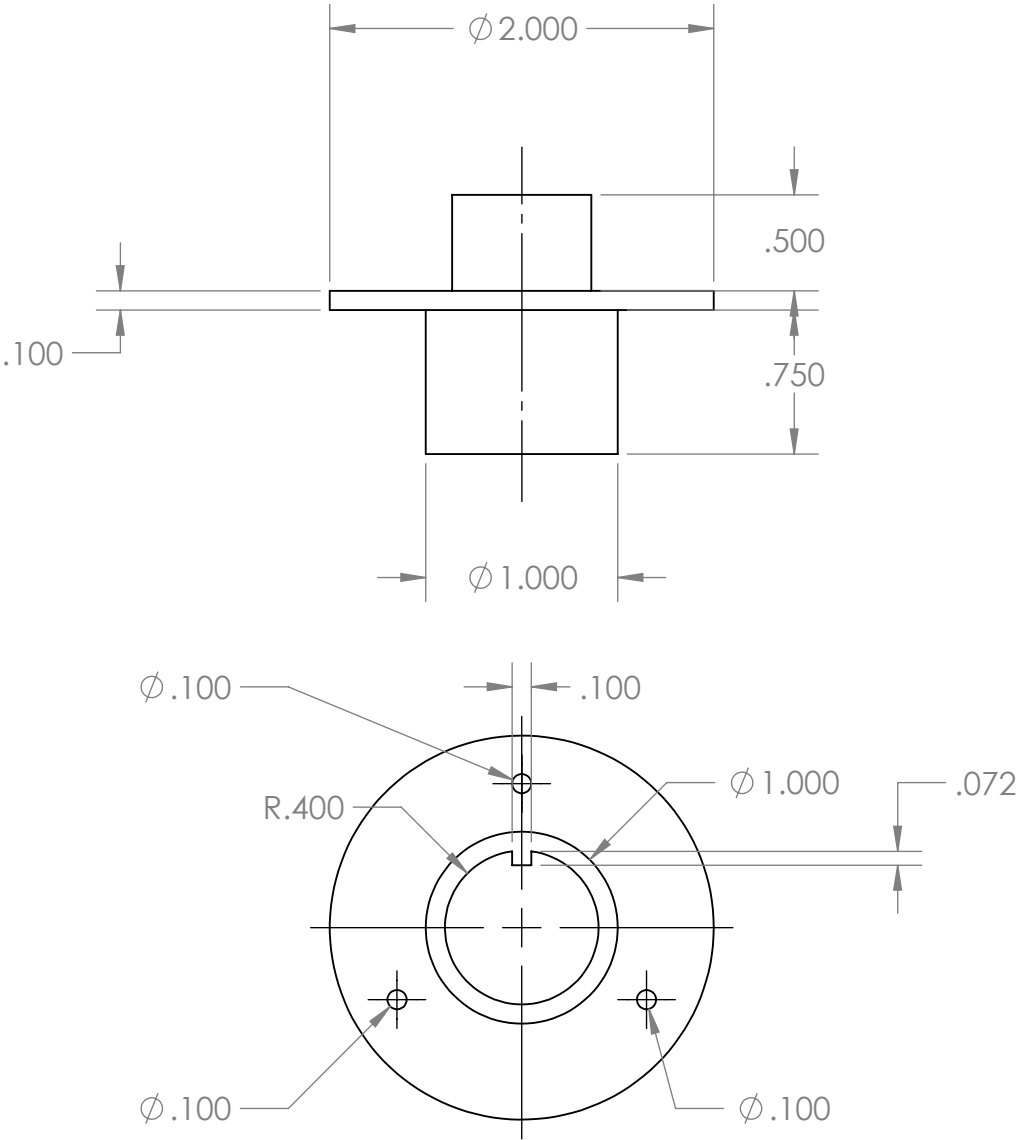
DRAWN BY Joe Ragan		DATE 4/29/2025		STOCK VENDOR INFO: ME3D Lab	
APPROVALS:				Solidworks Crashouts	
AU EMAIL		SINGNATURE		MATERIAL: PLA	
Aeh0178 AH		Jmm0290 JM		TITLE/DESC: Inner Axle Bracket	
cmw0178 CW		jtm0156 JM		FILE NAME: P031_Inner_Axle_Bracket	
hrd0015 hd		bod0002 bd		DWG. #: 031	
				REV #: 1	
				SCALE: 1:2	
				SIZE B	
				SHEET 1 OF 1	

Manufacturing Instructions:
1) Printed by ME3D Lab



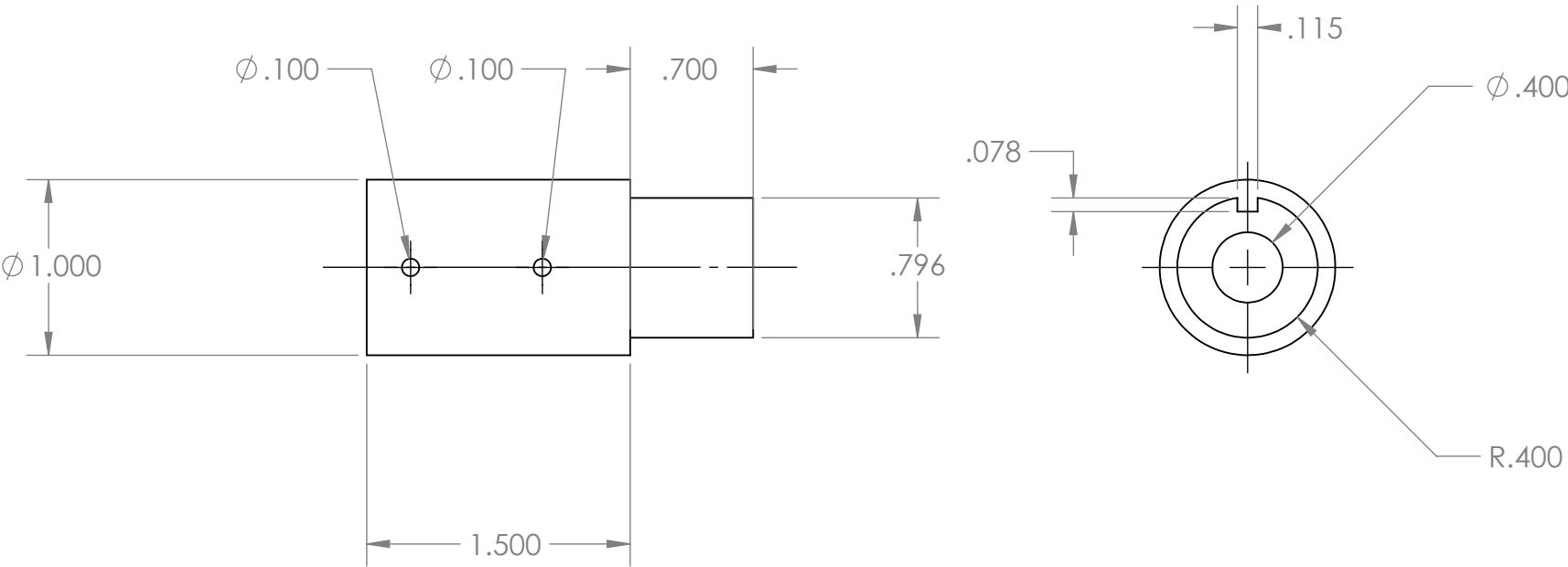
DRAWN BY Jacob Martin		DATE 4/29/2025		STOCK VENDOR INFO: ME3D Lab	
APPROVALS:				UNLESS OTHERWISE SPECIFIED:	
AU EMAIL		SIGNATURE		Solidworks Crashouts	
Aeh0178 AH		Jmm0290 JM		MATERIAL: PLA	
cmw0178 CW		jtm0156 JM		TITLE/DESC: Outer Axle Bracket	
hrd0015 hd		bod0002 bd		FILE NAME: P032_Outer_Axle_Bracket	
				DWG. #: 032	
				REV #: 1	
				SCALE: 1:1	
				SIZE B	
				SHEET 1 OF 1	

Manufacturing Instructions:
1) Printed through ME3D Lab



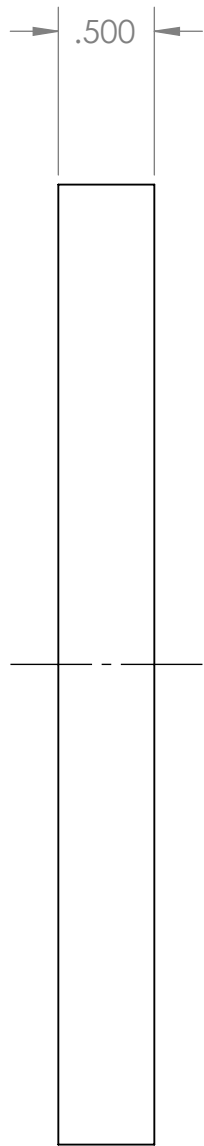
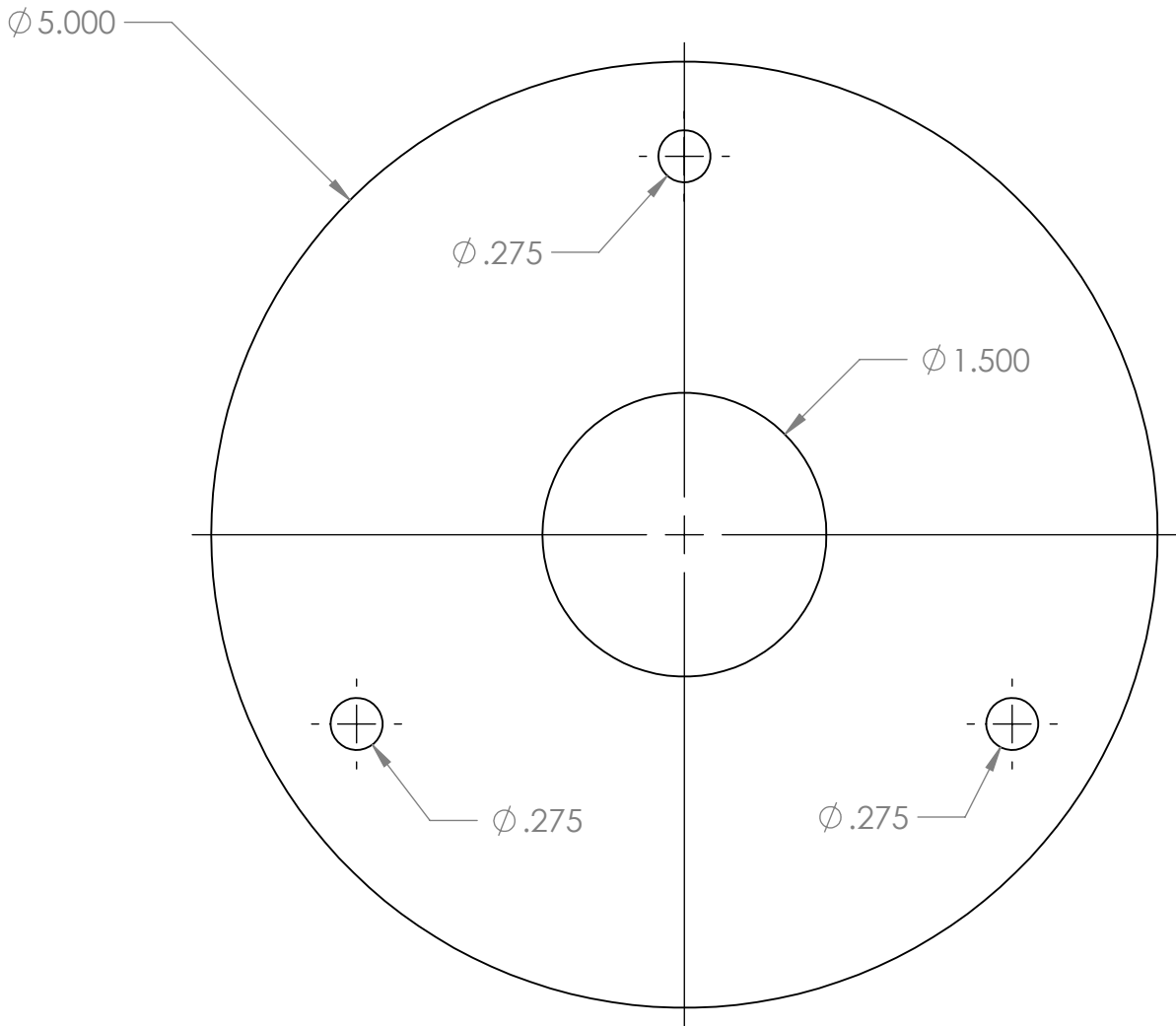
DRAWN BY Jacob Martin		DATE 4/30/2025		STOCK VENDOR INFO: ME3D Lab	
APPROVALS:				Solidworks Crashouts	
AU EMAIL		SINGNATURE		MATERIAL: PLA	
Aeh0178 AH		Jmm0290 JM		TITLE/DESC: Wheel Adapter	
Jmm0290 JM		cmw0178 CW		FILE NAME: P033_Wheel_Adapter_V2	
cmw0178 CW		jtm0156 JM		DWG. #: 033	
jtm0156 JM		hrd0015 hd		REV #: 1	
hrd0015 hd		bod0002 bd		SCALE: 1:1	
bod0002 bd				SIZE B	
				SHEET 1 OF 1	

Manufacturing Instructions:
1) Printed through ME3D Lab



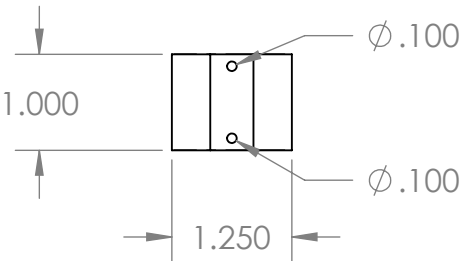
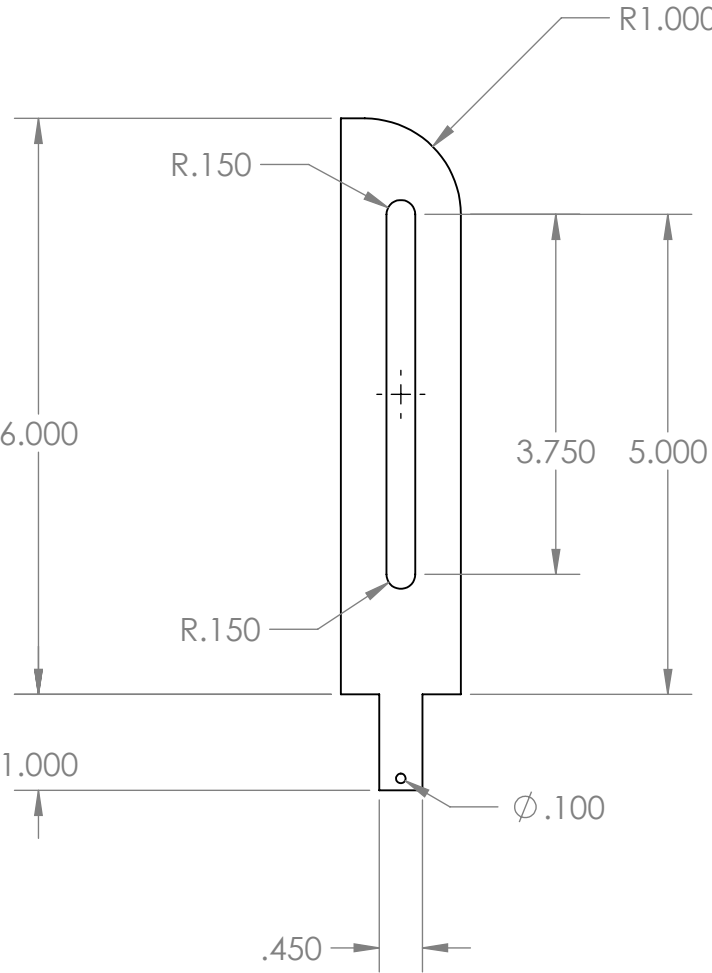
DRAWN BY Jacob Martin	DATE 4/30/2025	STOCK VENDOR INFO: ME3D Lab	
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection	
AU EMAIL	SINGNATURE	Solidworks Crashouts	
Aeh0178 AH	Jmm0290 JM	MATERIAL: PLA	
cmw0178 CW	jtm0156 JM	TITLE/DESC: Dowel Adapter	
hrd0015 hd	bod0002 bd	FILE NAME: P034_Dowel_Adapter_V2	
TOLERANCES:		DWG. #: 034	
ANGULAR $\pm 1^\circ$		REV #: 1	
FRACTIONAL $\pm 1/8"$		SCALE: 1:1	
ONE PLACE DECIMAL $\pm 0.1"$		SIZE B	
TWO PLACE DECIMAL $\pm 0.05"$		SHEET 1 OF 1	
THREE PLACE DECIMAL $\pm 0.005"$			

Manufacturing Instructions:
1) Cut plywood (obtained through Makerspace) to 5"x5" using table saw
2) Round off corners with scroll saw
3) Drill holes using hand drill or similar tool



DRAWN BY Jacob Martin	DATE 4/30/2025	STOCK VENDOR INFO: Makerspace - PINEPLY		
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection		
AU EMAIL	SIGNATURE	Solidworks Crashouts		
Aeh0178 AH	Jmm0290 JM	MATERIAL: Plywood		
cmw0178 CW	jtm0156 JM	TITLE/DESC: Gear Spacer		
hrd0015 hd	bod0002 bd	FILE NAME: P035_Gear_Spacer		
TOLERANCES:		DWG. #: 035		
ANGULAR	$\pm 1^\circ$	REV #: 1		
FRACTIONAL	$\pm 1/8"$	SCALE: 1:1		
ONE PLACE DECIMAL	$\pm 0.1"$	SIZE B		
TWO PLACE DECIMAL	$\pm 0.05"$	SHEET 1 OF 1		
THREE PLACE DECIMAL	$\pm 0.005"$			

Manufacturing Instructions:
1) Printed through ME3D Lab

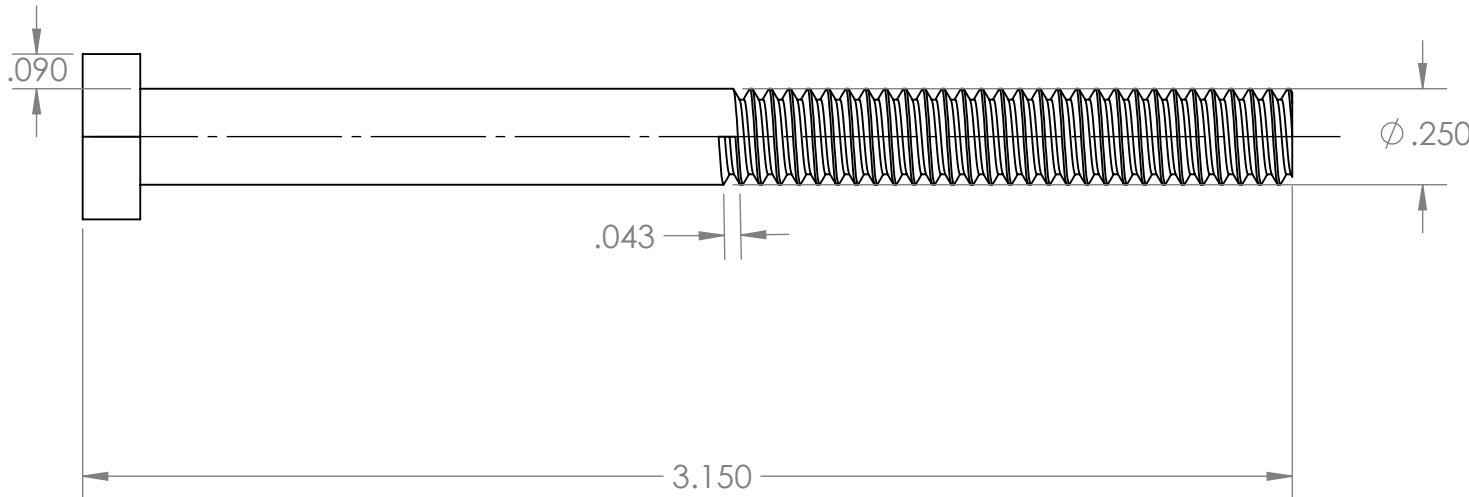
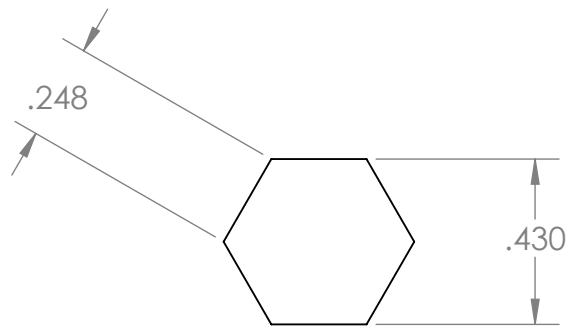


DRAWN BY Jacob Martin		DATE 4/25/2025		STOCK VENDOR INFO: ME3D Lab	
APPROVALS:				UNLESS OTHERWISE SPECIFIED:	
AU EMAIL		SINGNATURE		Solidworks Crashouts	
Aeh0178 AH		Jmm0290 JM		MATERIAL: PLA	
Jmm0290 JM		cmw0178 CW		TITLE/DESC: Foot	
cmw0178 CW		jtm0156 JM		FILE NAME: P036_Foot	
jtm0156 JM		hrd0015 hd		DWG. #: 036	
hrd0015 hd		bod0002 bd		REV #: 1	
bod0002 bd				SCALE: 1:2	
				SIZE B	
				SHEET 1 OF 1	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
ANGLES ARE IN DEGREES
3rd Angle Projection

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± 1/8"
ONE PLACE DECIMAL ±0.1"
TWO PLACE DECIMAL ±0.05"
THREE PLACE DECIMAL ±0.005"

Manufacturing Instructions:
1) Obtained through Makerspace



DRAWN BY Jacob Martin		DATE 4/30/2025		STOCK VENDOR INFO: Auburn Makerspace - 41UD69	
APPROVALS:				UNLESS OTHERWISE SPECIFIED:	
AU EMAIL		SINGNATURE		Solidworks Crashouts	
Aeh0178 AH		Jmm0290 JM		MATERIAL: AISI 4130 Steel	
Jmm0290 JM		cmw0178 CW		TITLE/DESC: Half Threaded 1/4-20 Bolt	
cmw0178 CW		jtm0156 JM		FILE NAME: P037_Bolt_1_4-20_Half_Threated	
jtm0156 JM		hrd0015 hd		DWG. #: 037	
hrd0015 hd		bod0002 bd		REV #: 1	
bod0002 bd				SCALE: 2:1	
				SIZE B	
				SHEET 1 OF 1	

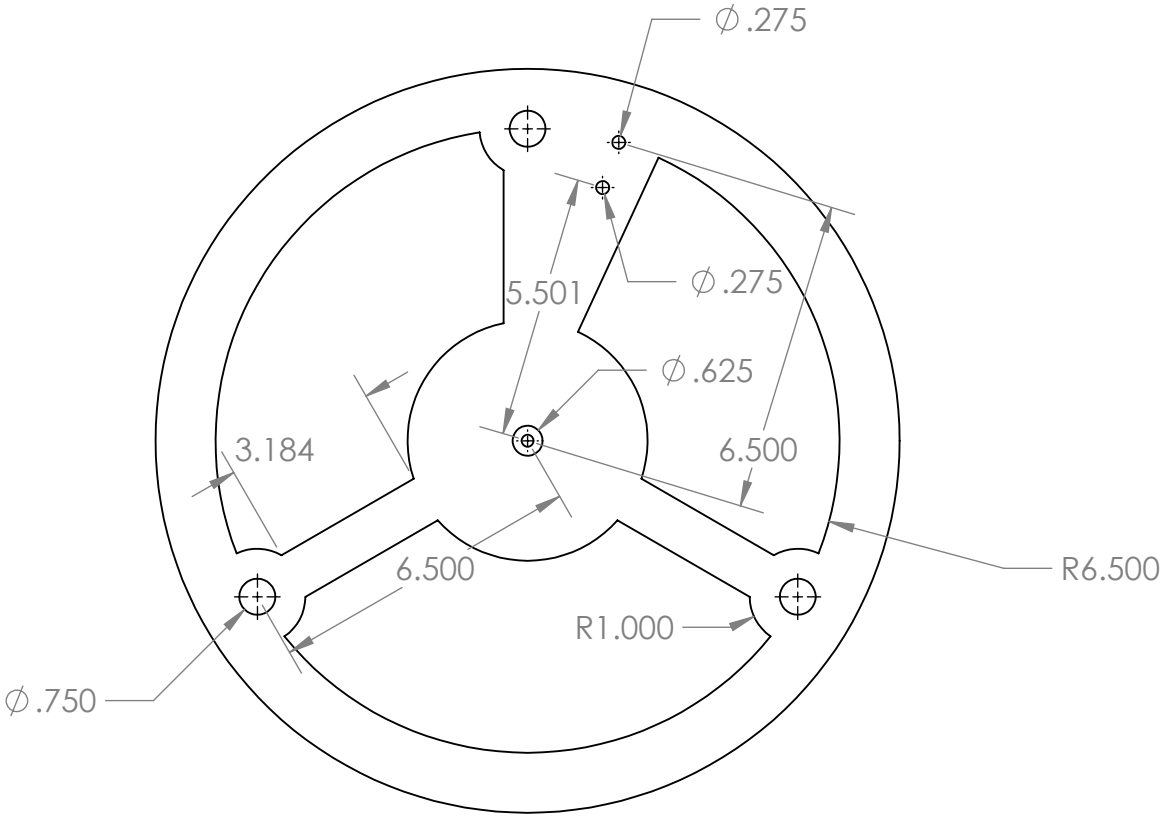
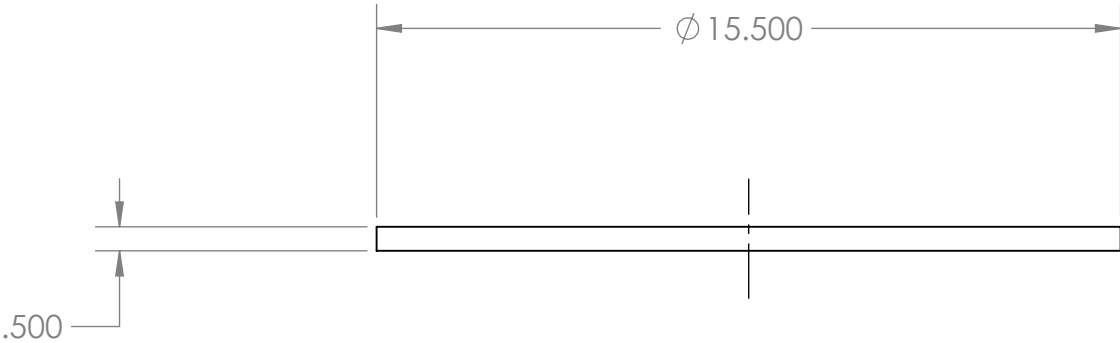
4

3

2

1

SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	OSB
1. Get a stock piece of OSB plywood	
2. waterjet the wood to get precise dimensions	



DRAWN BY Jacob Martin	DATE 4/26/2025	STOCK VENDOR INFO: Auburn Makerspace - PINEPLY	
APPROVALS:		Solidworks Crashouts	
AU EMAIL	SINGNATURE	MATERIAL: OSB Plywood	
Aeh0178 AH		TITLE/DESC: Left Wheel	
Jmm0290 JM		FILE NAME: P038_Wheel_Left	
cmw0178 CW		DWG. #: 038	
jtm0156 JM		REV #: 1	
hrd0015 hd		SCALE: 1:4	
bod0002 bd		SIZE B	SHEET 1 OF 1

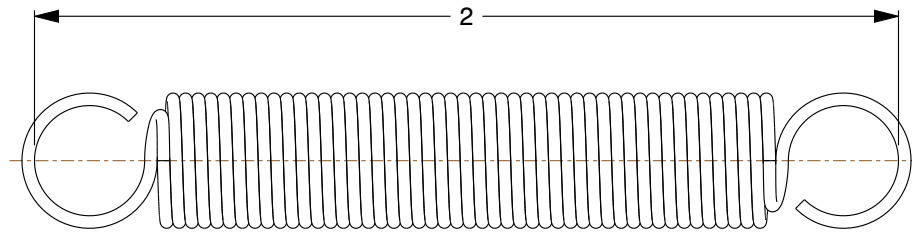
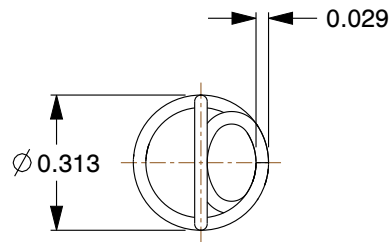
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
ANGLES ARE IN DEGREES
3rd Angle Projection

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± 1/8"
ONE PLACE DECIMAL ± 0.1"
TWO PLACE DECIMAL ± 0.05"
THREE PLACE DECIMAL ± 0.005"

3

2

1



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www.grainger.com

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SCALE

2.25

COMPONENT

Extension Spring

1NAA1

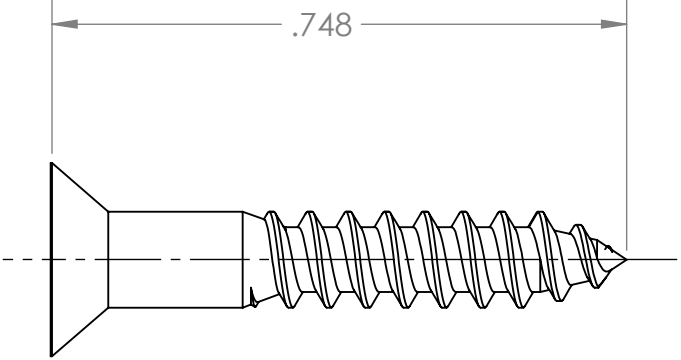
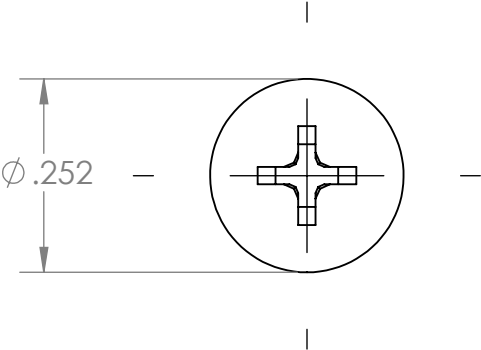
Extension Spring: Utility,
High Carbon Steel, 2 in Overall Lg,
Zinc Plated, 12 PK

UNIT

INCH

SHEET

1 of 1



SAMPLE FABRICATION/ASSEMBLY PROCESS	
STOCK DESC/DIMS	Wood Screw
1. Order from Makerspace	

DRAWN BY Marshall Wellborn	DATE 4/29/2025	STOCK VENDOR INFO: AU Makerspace 31JJ06		
APPROVALS:		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES 3rd Angle Projection		
cmw0178	CMW	Solidworks Crashouts		
jtm0156	JTM	MATERIAL: Steel		
hrd0015	HRD	TITLE/DESC: Wood Screw		
aeH0178	AEH	FILE NAME: P040_Wood_Screw		
jmm0290	JMM	DWG. #: 040 REV #: V1		
bod0002	BOD	SCALE: 4:1 SIZE B SHEET 1 OF 1		
		TOLERANCES: ANGULAR ± 1° FRACTIONAL ± 1/8" ONE PLACE DECIMAL ±0.1" TWO PLACE DECIMAL ±0.05" THREE PLACE DECIMAL ±0.005"		