

Team F101

ME 429

Dr. Elghandour

StableLight Drawing & Spec Package

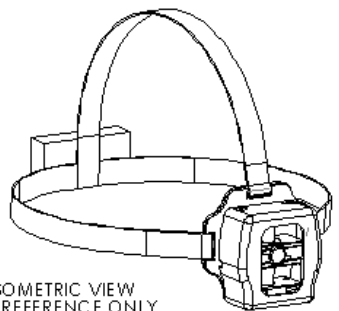
Indented Bill Of Materials

Indented Bill of Material (iBOM)									
Assy Level	Part Number	Descriptive Part Name			Qty	Part Cost	Source	URL	More Info
		<i>Lvl0</i>	<i>Lvl1</i>	<i>Lvl2</i>					
0	120000	Final Assy			----	----	----		
1	100000		Light Assy		----	----	----		
2	100006			Bar Magnet	6	\$ 1.62	Amazon	<a href="https://www.">https://www.</a>	Comes in 60pc
2	91375A717			4-40 Set Screw	1	\$ 0.19	McMaster		Comes in 50pc
2	100007			LED Bulb	1	\$ 0.10	Amazon		
2	6061K412			Linear Shaft	1	\$ 6.11	McMaster		Must be cut to length
2	91263A376			Countersunk 4-40 screw	8	\$ 0.96	McMaster		Comes in 100pc
2	100001			Assembly cover	1	\$ 0.10	3D Print		3DP PLA
2	100002			Back Plate	1	\$ 0.10	3D Print		3DP PLA
2	100003			Bottom Support	1	\$ 0.10	3D Print		3DP PLA
2	100004			Center Bulb Housing	1	\$ 0.10	3D Print		3DP PLA
2	100005			Upper Support	1	\$ 0.10	3D Print		3DP PLA
2	58068			Nylon Bearing	1	\$ 0.10	Amazon	<a href="https://www.">https://www.</a>	Comes in 30pc
1			Headband Assy		----	----	----		
2	100008			Headband	1	\$ 10.99	Amazon	<a href="https://www.">https://www.</a>	-
1	110000		Power Module Assy		----	----	----		
2	100009			Power module	1	\$ 10.00	Amazon	<a href="https://www.">https://www.</a>	Price adjusted for power system use only
2	100010			18 gauge wire	1	\$ -	Amazon	<a href="https://www.">https://www.</a>	Negligible cost
	<b>Total Parts</b>				<b>26</b>	<b>\$ 30.56</b>			

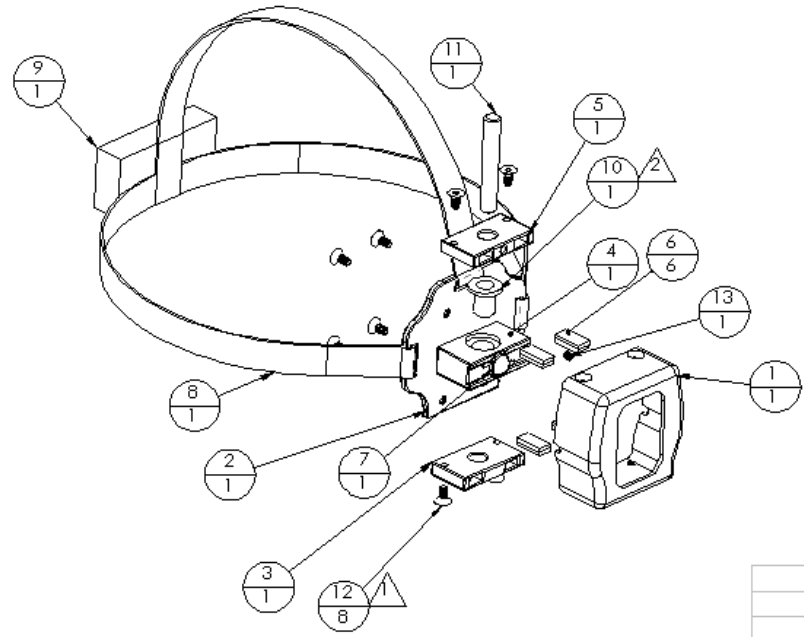
Purchased Parts List			
System	Component	Qty	Resource
Light Assy	12x6x3mm Bar Magnet	6	<a href="#">Amazon</a>
	4-40 FH Set Screw	1	
	6-7V High Power LED Chip Bulb	1	<a href="#">Amazon</a>
	1/4" Dia. Linear Shaft	1	
	FH Countersunk 4-40 screw	8	
Headband Assy	Weltool Headband	1	<a href="#">Amazon</a>
Power Assy	Power Module (from headlamp)	1	<a href="#">Amazon</a>
	18 gauge wire for soldering	-	

4 3 2 1

NOTES: UNLESS OTHERWISE SPECIFIED  
 ▲ USE ITEM 6 TO TAP INTO CORRESPONDING PARTS  
 ▲ TRIM ITEM 13 FLUSH WITH BOTTOM OF ITEM 11



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 FOR REFERENCE ONLY  
 SCALE = NONE



100000  
 EXPLODED VIEW

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	100001	ASSEMBLY COVER
2	1	100002	BACK PLATE
3	1	100003	BOTTOM SUPPORT
4	1	100004	CENTER SUPPORT
5	1	100005	TOP SUPPORT
6	6	100006	BAR MAGNET
7	1	100007	LED BULB
8	1	100008	HEADBAND
9	1	100009	POWER MODULE BLOCK
10	1	58068	THE HILLMAN GROUP 58068 0.312 O.D. NYLON FLANGED BUSHING, NUMER- 1/4.
11	1	6061K412	LINEAR MOTION SHAFT
12	8	91263A376	ZINC-PLATED ALLOY STEEL HEX DRIVE FLAT HEAD SCREW
13	1	91375A717	ALLOY STEEL CUP-POINT SET SCREW

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UNLESS OTHERWISE SPECIFIED:	DRAWN	DATE
COMPRESSOR: SA 100 B 1000	EC	2/16/2003
COILS: SA 100 B 1000		
FRIGERANT: SA 100 B 1000		
APPLICATOR: SA 100 B 1000		
FINISH: SA 100 B 1000		
WARRANTY: SA 100 B 1000		
APPLICATION: SA 100 B 1000		

TITLE:  
**HEADLAMP ASSY**

SIZE DWG. NO. REV  
**B 100000**

SCALE: 1:1. WEIGHT: SHEET 1 OF 1

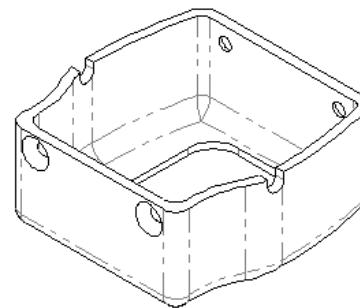
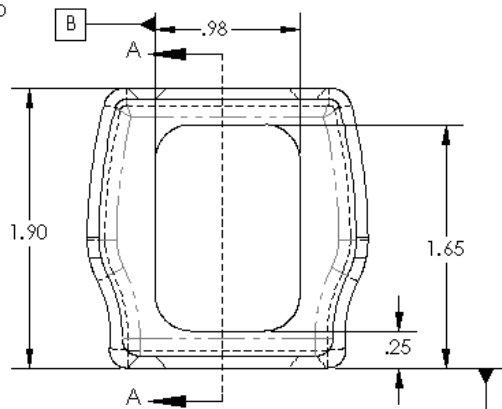
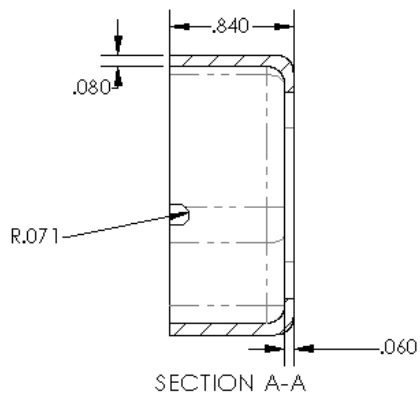
4 3 2 1

2

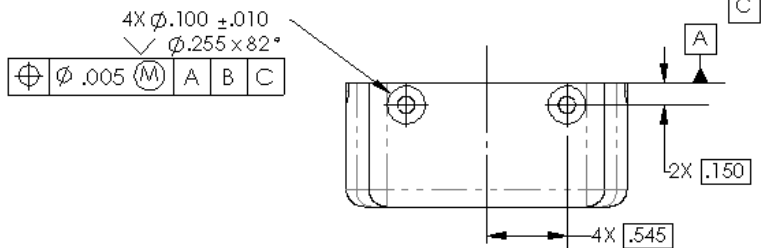
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NOTES: UNLESS OTHERWISE SPECIFIED

1. 100001 MATERIAL: 3D PRINTED PLA
2. 100001 SURFACE FINISH: NONE
3. APPLY SURFACE PROFILE TOLERANCE BELOW IF UNSPECIFIED



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$\phi .005$	(M)	A	B	C
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B

B

A

A

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DIMENSIONS ARE IN INCHES		DRAWN	EC 2/16/2023
TOLERANCES:		CHECKED	
X.X	$\pm .100$	ENG APPR.	
X.XX	$\pm .050$	MFG APPR.	
X.XXX	$\pm .005$	Q.A.	
INTERPRET GEOMETRIC TOLERANCING PER:		COMMENTS:	
MATERIAL			
FINISH			
NEXT ASSY	USED ON		
APPLICATION		DO NOT SCALE DRAWING	

TITLE:  
**Assembly Cover**

SIZE DWG. NO. REV  
**A** 100001

SCALE: 1:1 WEIGHT: SHEET 1 OF 1

2

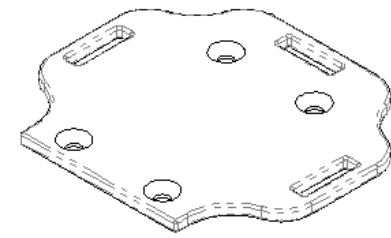
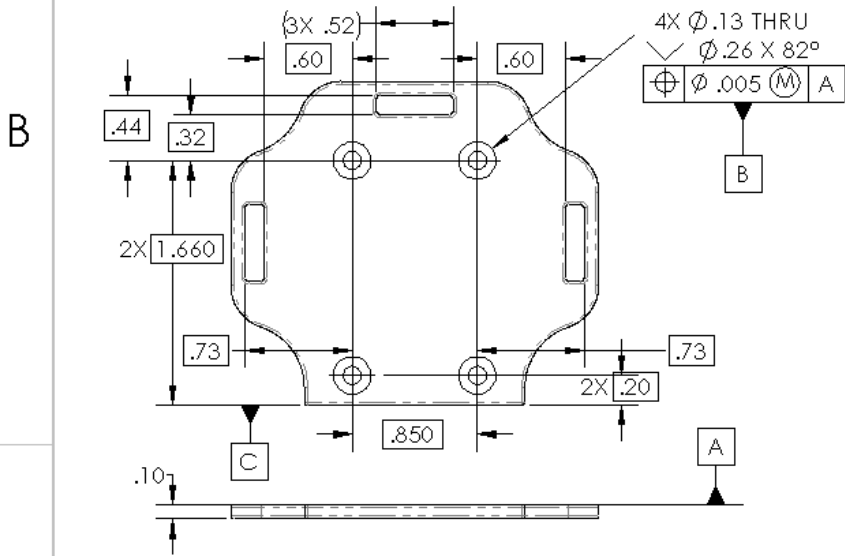
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2

1

NOTES: UNLESS OTHERWISE SPECIFIED

1. 100002 MATERIAL: 3D PRINTED PLA
2. 100002 SURFACE FINISH: NONE



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		DIMENSIONS ARE IN INCHES	DRAWN	EC	2/16/2023
		TOLERANCES:	CHECKED		
		X.X ± .100	ENG APPR.		
		X.XX ± .050	MFG APPR.		
		X.XXX ± .005	Q.A.		
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:		
		MATERIAL			
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

TITLE: <b>Back plate</b>		
SIZE <b>A</b>	DWG. NO. <b>100002</b>	REV
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

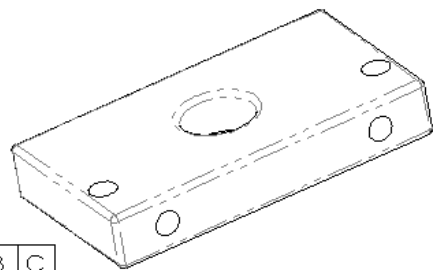
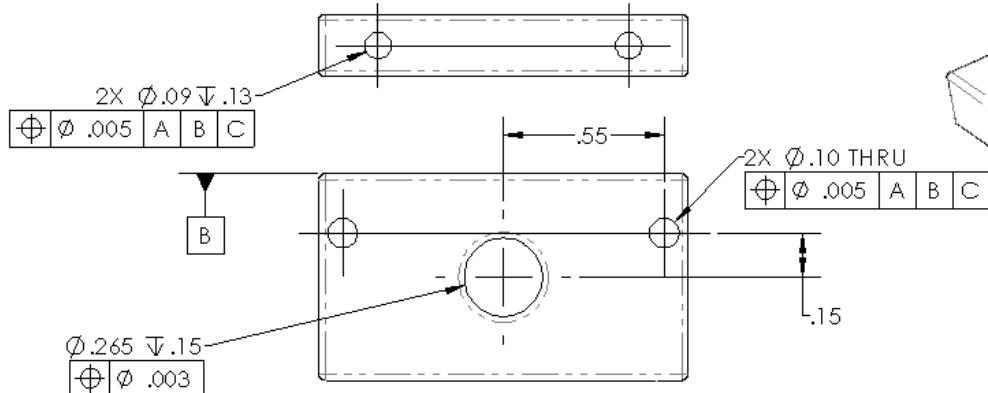
2

1

NOTES: UNLESS OTHERWISE SPECIFIED

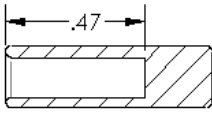
1. 100003 MATERIAL: 3D PRINTED PLA
2. 100003 SURFACE FINISH: NONE

B

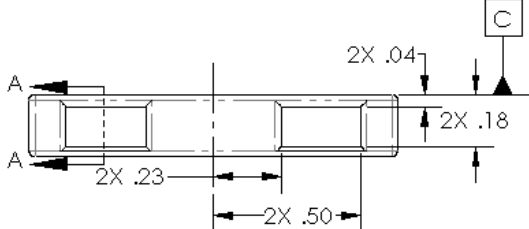


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SCALE = NONE

B



SECTION A-A



A

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE		
		DIMENSIONS ARE IN INCHES	DRAWN	2/16/2023	TITLE:	
		TOLERANCES:	CHECKED		Bottom Support	
		X.X ± .100	ENG APPR.			
		X.XX ± .050	MFG APPR.			
		X.XXX ± .005	G.A.			
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			
		MATERIAL			SIZE DWG. NO.	
NEXT ASSY	USED ON	FINISH			A	100003
APPLICATION		DO NOT SCALE DRAWING			REV	
					SCALE: 2:1	WEIGHT:
						SHEET 1 OF 1

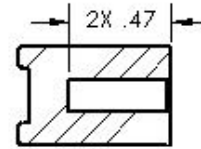
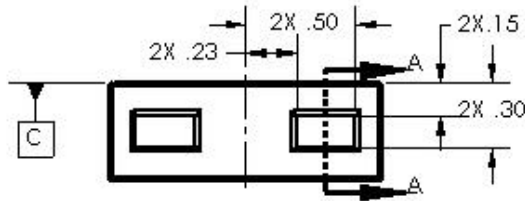
A

2

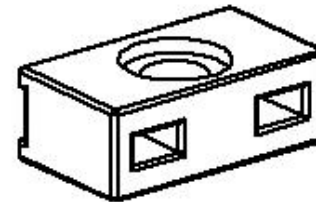
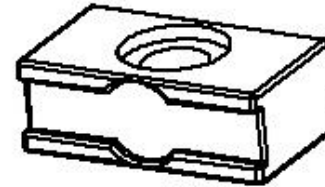
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NOTES: UNLESS OTHERWISE SPECIFIED

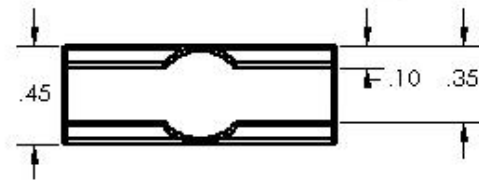
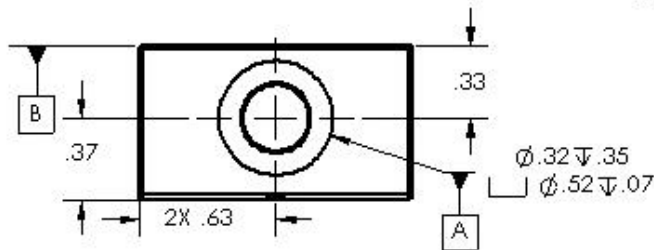
1. 100004 MATERIAL: 3D PRINTED PLA
2. 100004 SURFACE FINISH: NONE



SECTION A-A



ISOMETRIC VIEW  
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B

B

A

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DIMENSIONS ARE IN INCHES		DRAWN	2/6/2023
TOLERANCES:		CHECKED	
X.X ± .00		ENG APPR.	
X.XX ± .00		MFG APPR.	
X.XXX ± .00		QA	
PROPERTY GEOMETRIC TOLERANCING PER ASME Y14.5		COMMENTS:	
DATE ASSY	DATE ON		
APPROVED		DO NOT SCALE DRAWING	

TITLE:  
**Center Support**

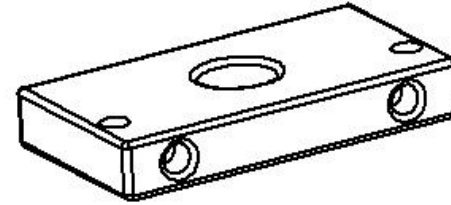
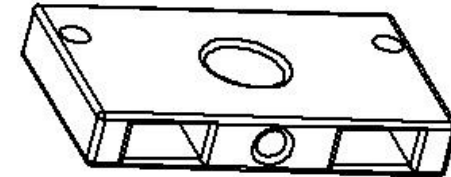
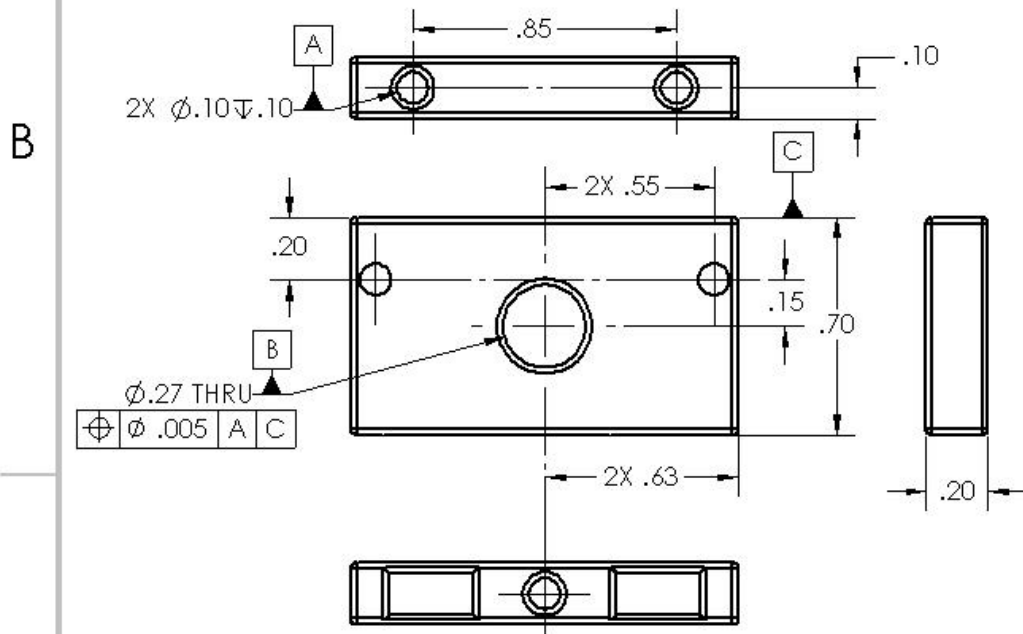
SIZE	DWG. NO.	REV
<b>A</b>	<b>100004</b>	
SCALE: 1.5:1 WEIGHT:		SHEET 1 OF 1

2

1

NOTES: UNLESS OTHERWISE SPECIFIED

1. 100005 MATERIAL: 3D PRINTED PLA
2. 100005 SURFACE FINISH: NONE



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A

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DIMENSIONS ARE IN INCHES		DRAWN	EC 2/6/2023
TOLERANCES:		CHECKED	
X.X ± .100		ENG APPR.	
X.XX ± .050		MFG APPR.	
X.XXX ± .005		QA.	
INTERPRET GEOMETRIC TOLERANCING PER:		COMMENTS:	
MATERIAL:			
FINISH:			
NEXT ASSY	USED ON		
APPLICATION	DO NOT SCALE DRAWING		

TITLE:		
Top Support		
SIZE	DWG. NO.	REV
A	100005	
SCALE: 2:1	WEIGHT:	SHEET 1 OF 1

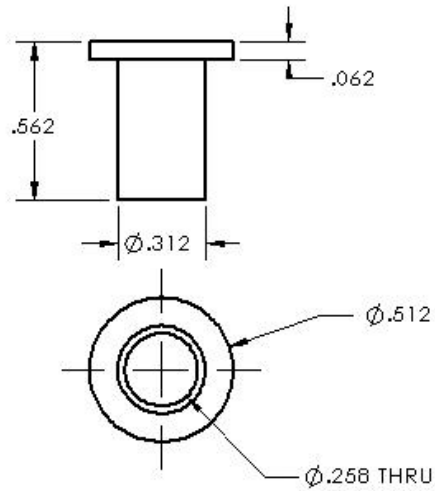
2

1



NOTES: UNLESS OTHERWISE SPECIFIED

1. 58068 MATERIAL: 3D PRINTED PLA
2. 58068 SURFACE FINISH: NONE



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		DIMENSIONS ARE IN INCHES		DRAWN	2/6/2023
		TOLERANCES:		CHECKED	
		XX ± .100		ENG APPR.	
		XXX ± .050		MFG APPR.	
		XXXX ± .005		Q.A.	
		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5		COMMENTS:	
		FINISH			
NEXT ASSY	USED ON	APPLICATION		DO NOT SCALE DRAWING	

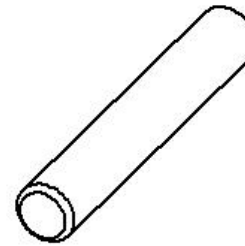
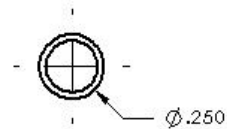
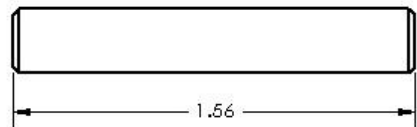
TITLE:  
The Hillman Group 58068 0.312  
O.D. Nylon Flanged Bushing,  
Numer- 1/4,

SIZE DWG. NO. REV  
**A** 58068

SCALE: 2:1 WEIGHT: SHEET 1 OF 1

NOTES: UNLESS OTHERWISE SPECIFIED

1. 6061K412 MATERIAL: 3D PRINTED PLA
2. 6061K412 SURFACE FINISH: NONE



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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	
		DIMENSIONS ARE IN INCHES		DRAWN	2/6/2023	
		TOLERANCES:		CHECKED		
		XX ± .100		ENG APPR.		
		XXX ± .050		MTC APPR.		
		XXXX ± .005		Q.A.		
		INTERPRET GEOMETRIC TOLERANCING PER:		COMMENTS:		
		MATERIAL:				
		1566 Carbon Steel				
		FINISH:				
		DO NOT SCALE DRAWING				
		NEXT ASSY.	USED ON	TITLE:		
				Linear Motion Shaft		
		APPLICATION		SIZE	DWG. NO.	REV
				<b>A</b>	<b>6061K412</b>	
				SCALE: 2:1	WEIGHT:	SHEET 1 OF 1

