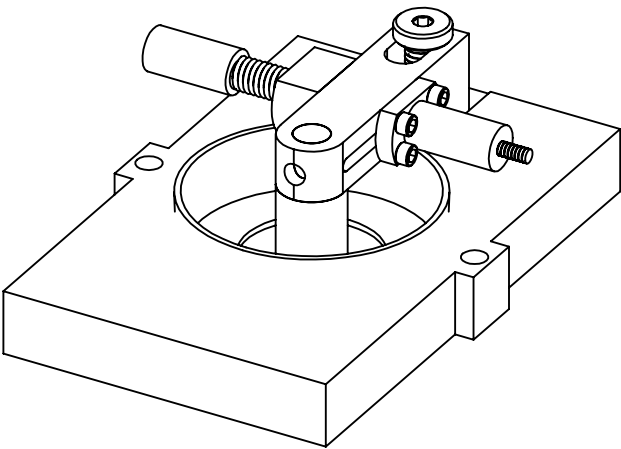
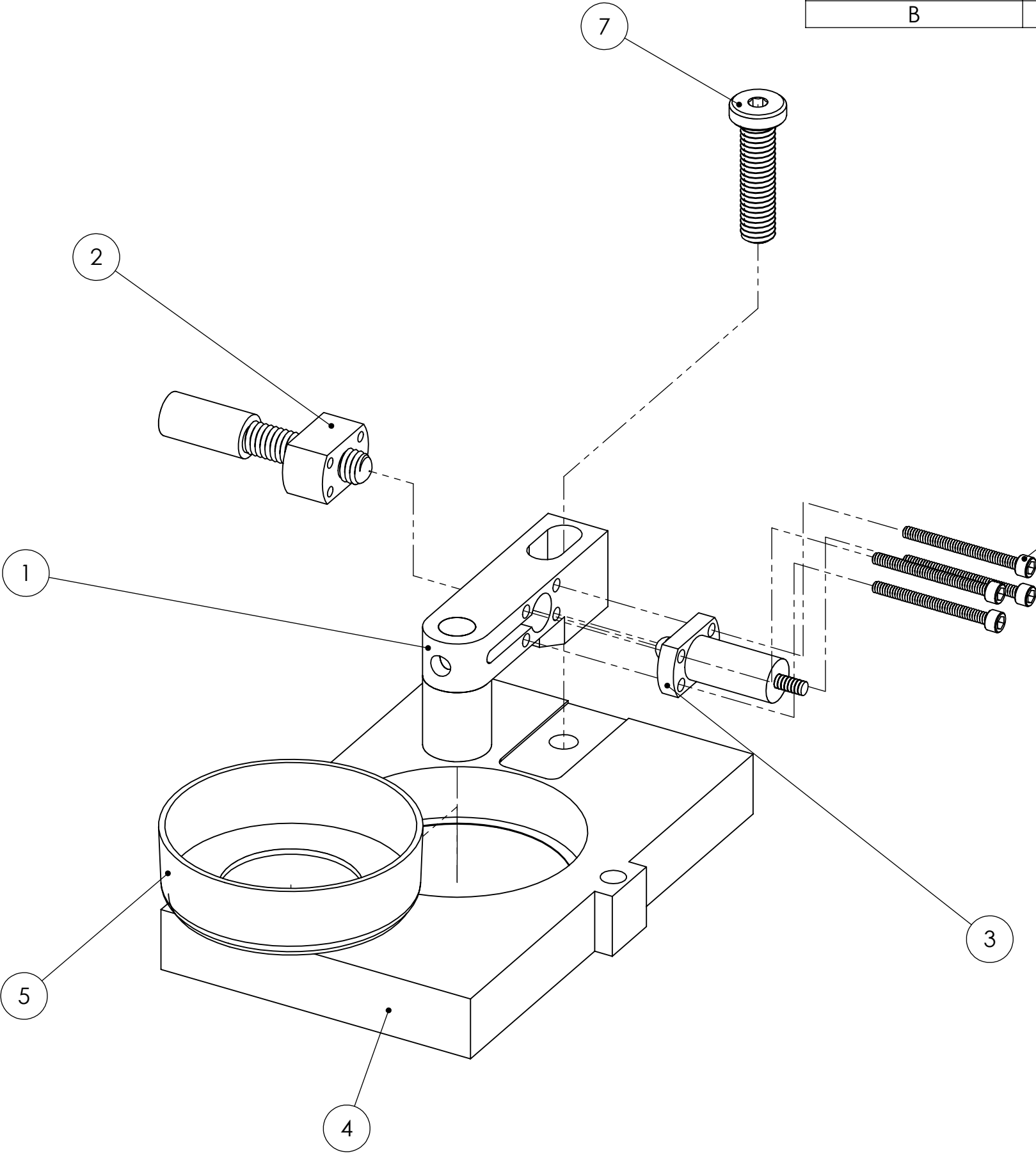


GENERAL NOTES:

REVISION	MODELED BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	5/21/2009
B	SAMIR SHREIM	SAMIR SHREIM		



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	107-001-000	CROSS ARM ASSEMBLY	1
2	107-002-000	LEADSCREW ASSEMBLY	1
3	107-003-000	SPRING PLUNGER ASSEMBLY	1
4	107-000-001	BASEPLATE	1
5	-	MATTEK P35G-1.5-20-C GLASS BOTTOM CULTURE DISH	1
6	-	1-64 X 0.725 SHCS, BRIGHTON BEST 592060	4
7	-	10-32 X 3/4 LOW PROFILE SHCS, MCMASTER CARR 93615A385	1



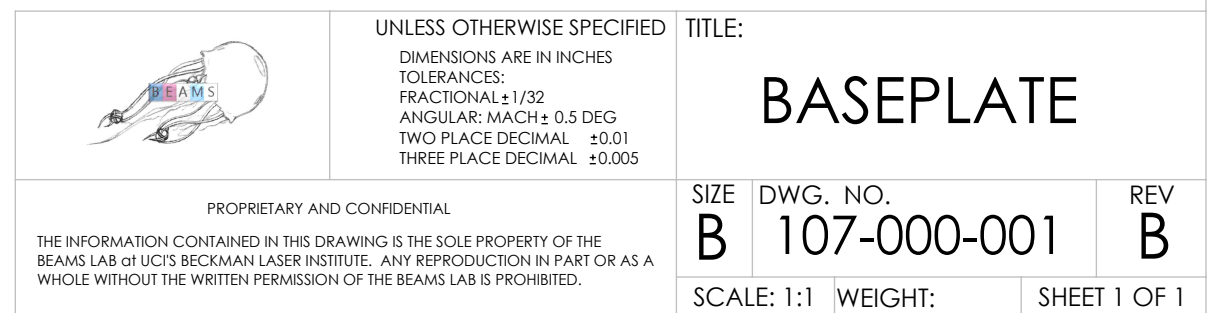
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

TITLE:
**SHEAR GRADIENT
DEVICE**

PROPRIETARY AND CONFIDENTIAL		SIZE	DWG. NO.	REV
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SCALE: 1.5:1		WEIGHT:		SHEET 1 OF 1

2. FRICTION FIT WITH MATTEK P35G-1.5-20-C (35 mm GLASS BOTTOM CULTURE DISH)
DISH SHALL NOT ROTATE UNDER FULL RANGE OF ROTATOR SHAFT ACTUATION

An isometric drawing of a mechanical component. It is a rectangular block with a large circular hole in the center. On each of the four side faces, there is a small rectangular tab protruding outwards. Each tab has a small circular hole in its center, likely for a screw or pin. The drawing is shown from an isometric perspective, giving it a 3D appearance.

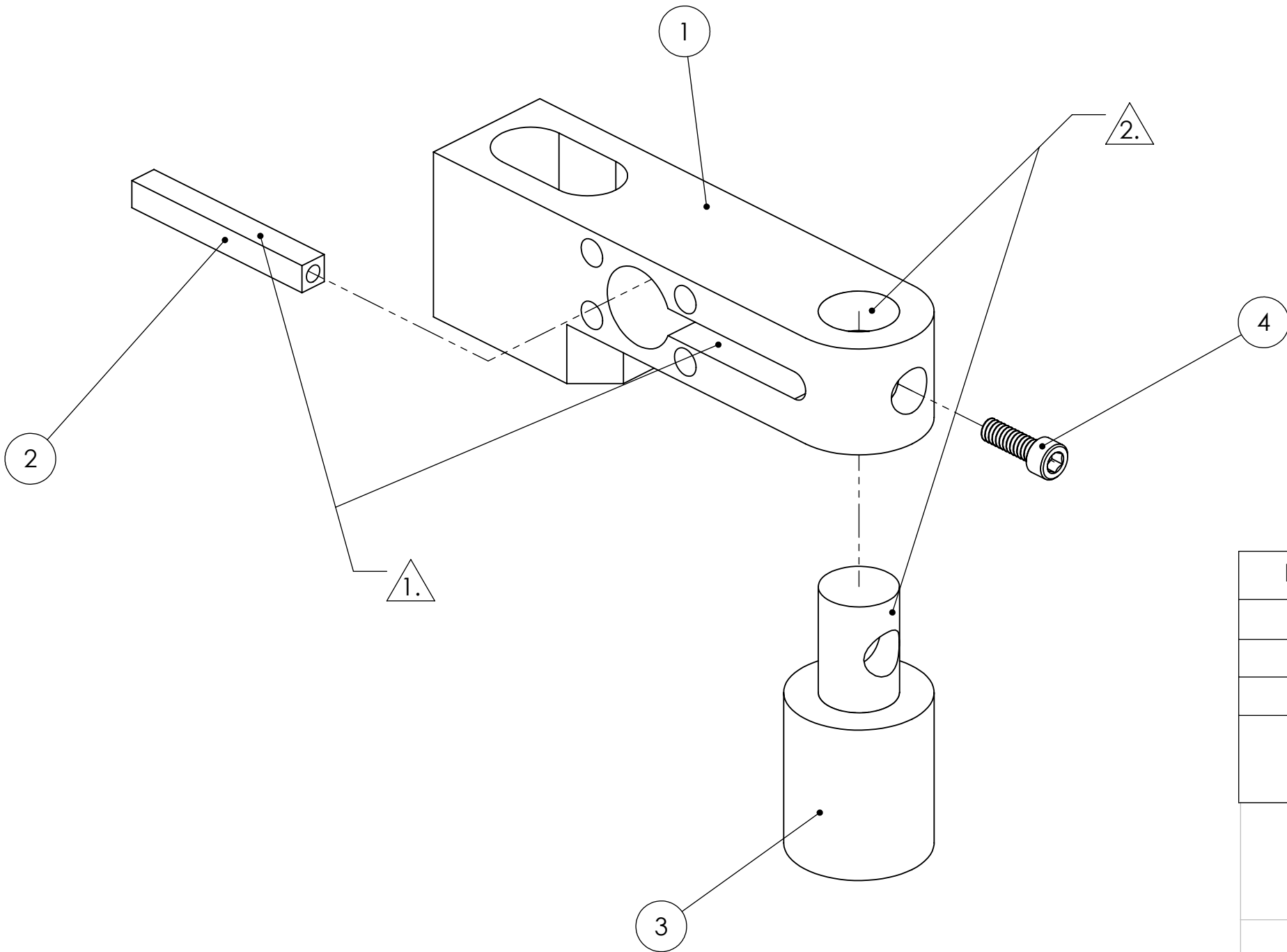
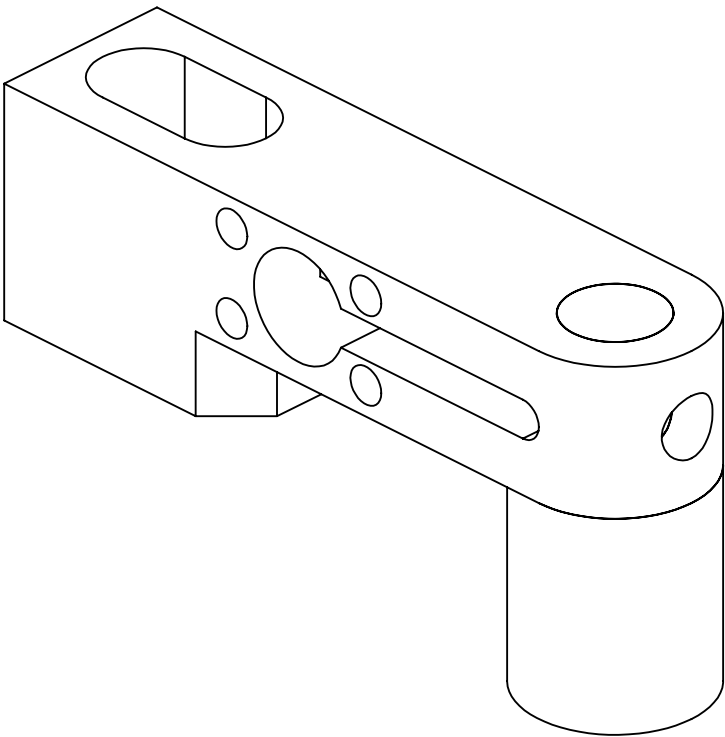


GENERAL NOTES:

1. BUSHING FIT AT 37°C 100% HUMIDITY

2. BUSHING FIT AT 37°C 100% HUMIDITY

REVISION	MODELED BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	5/21/2009
B	SAMIR SHREIM	SAMIR SHREIM		



ITEM NO.	PART NUMBER	DESCRIPTION	Exploded View/QTY.
1	107-001-001	CROSS ARM	1
2	107-001-002	LEVER ARM	1
3	107-001-003	ROTATOR SHAFT	1
4	-	0-80 X 3/16 SHCS STAINLESS, MCMASTER CARR P/N: 92196A054	1



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

TITLE:
**CROSS ARM
ASSEMBLY**

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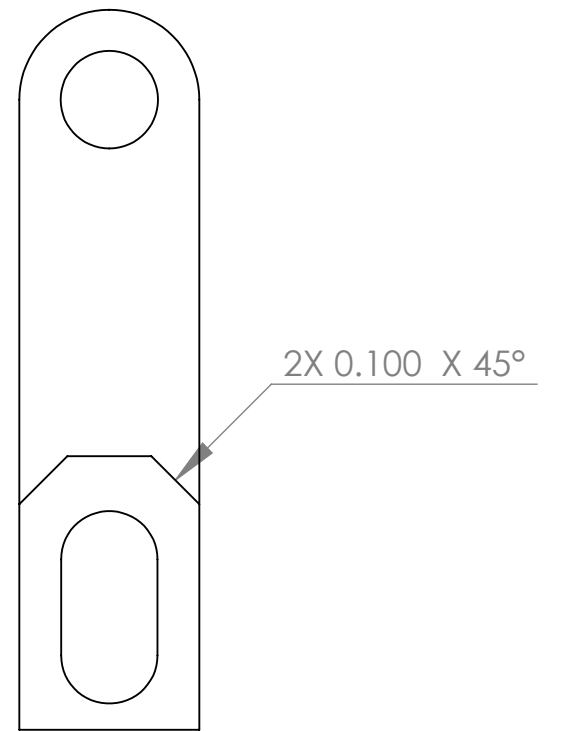
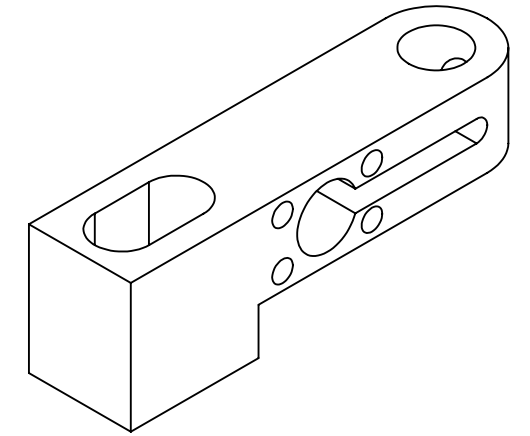
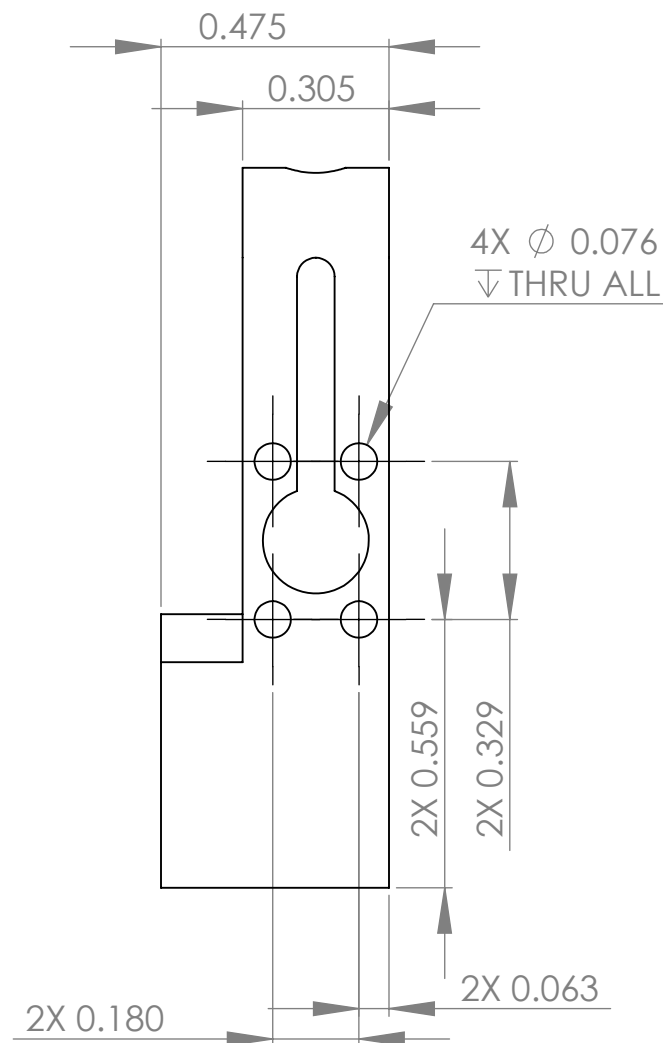
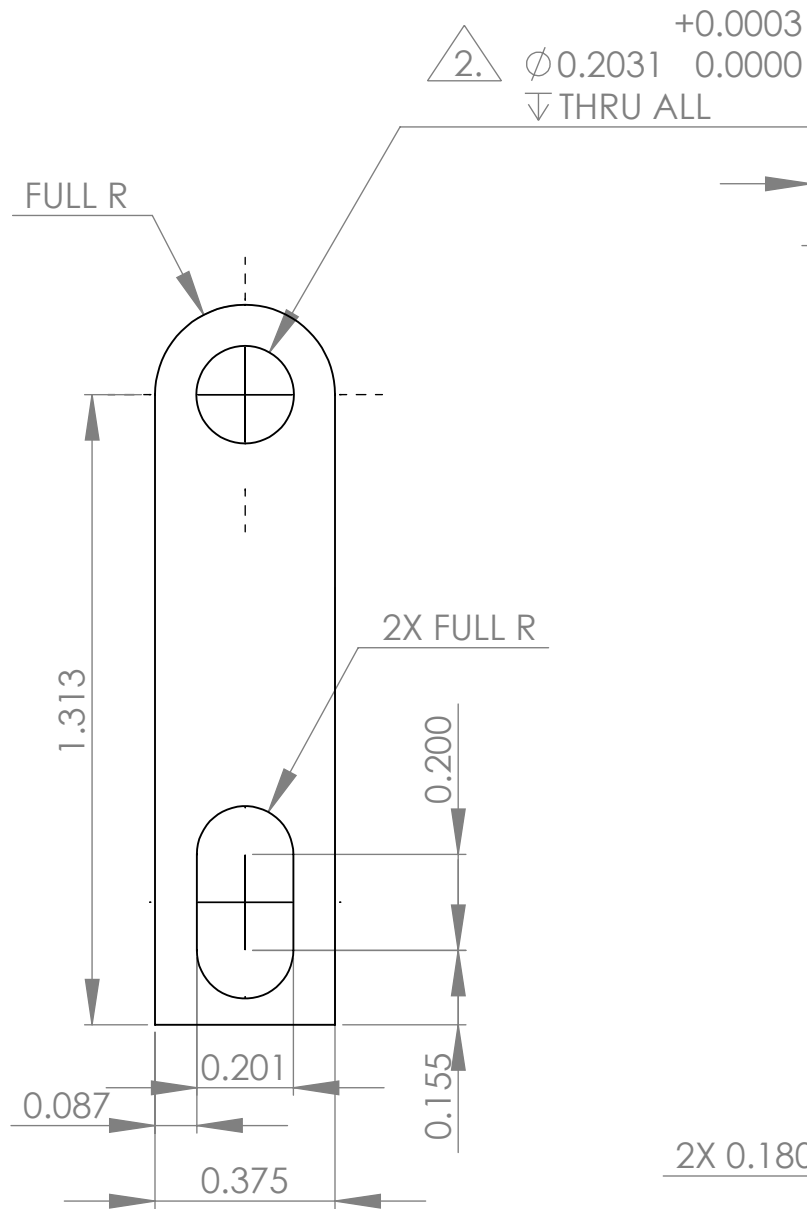
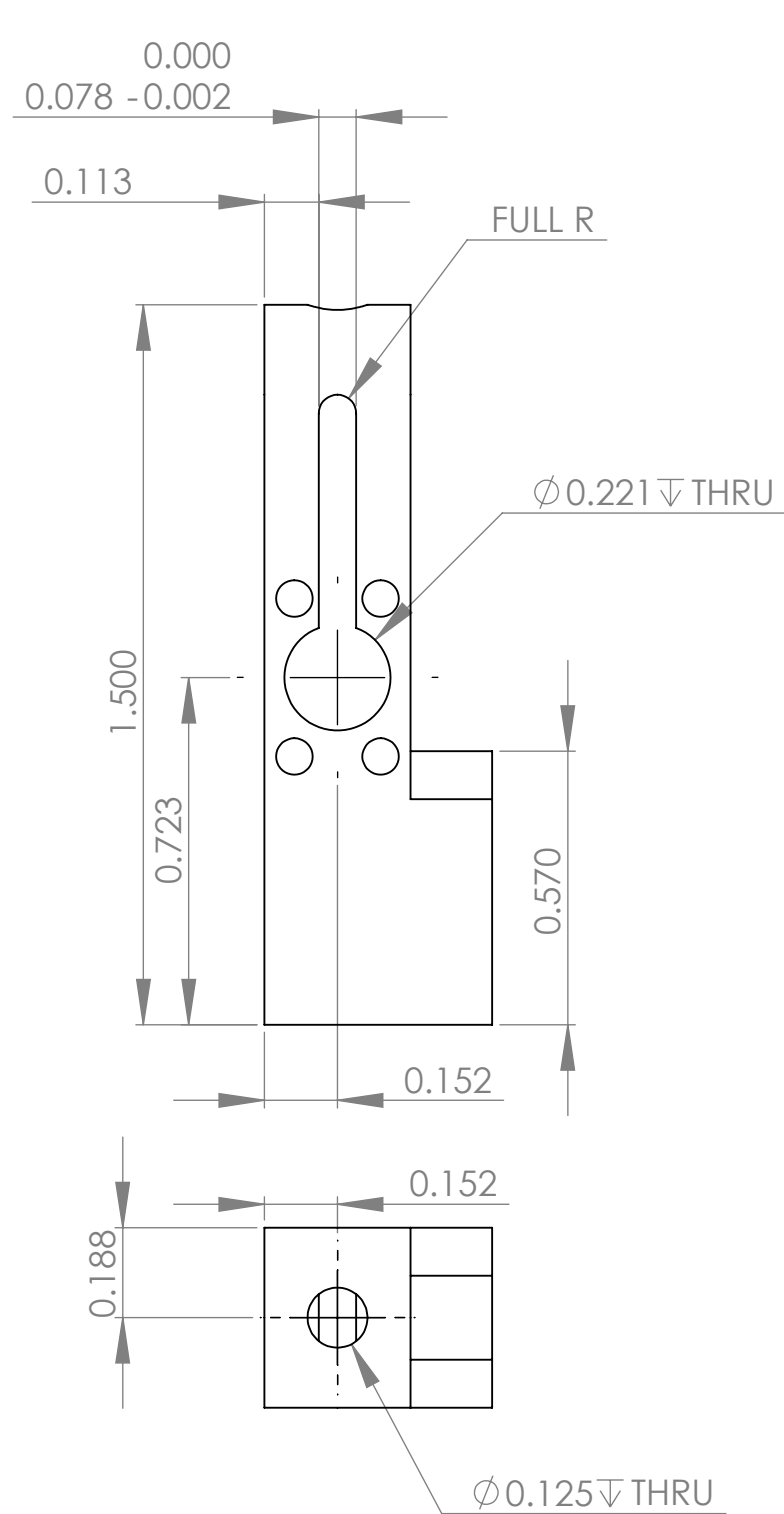
SIZE	DWG. NO.	REV
B	107-001-000	B
SCALE: 3:1	WEIGHT:	SHEET 1 OF 1

GENERAL NOTES:

1. MATERIAL: TEFLON (PTFE)

2. BUSHING FIT WITH ROTATOR SHAFT AT 37°C 100% HUMIDITY

REVISION	MODELED BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	5/21/2009
B	SAMIR SHREIM	SAMIR SHREIM		



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

TITLE:
CROSS ARM

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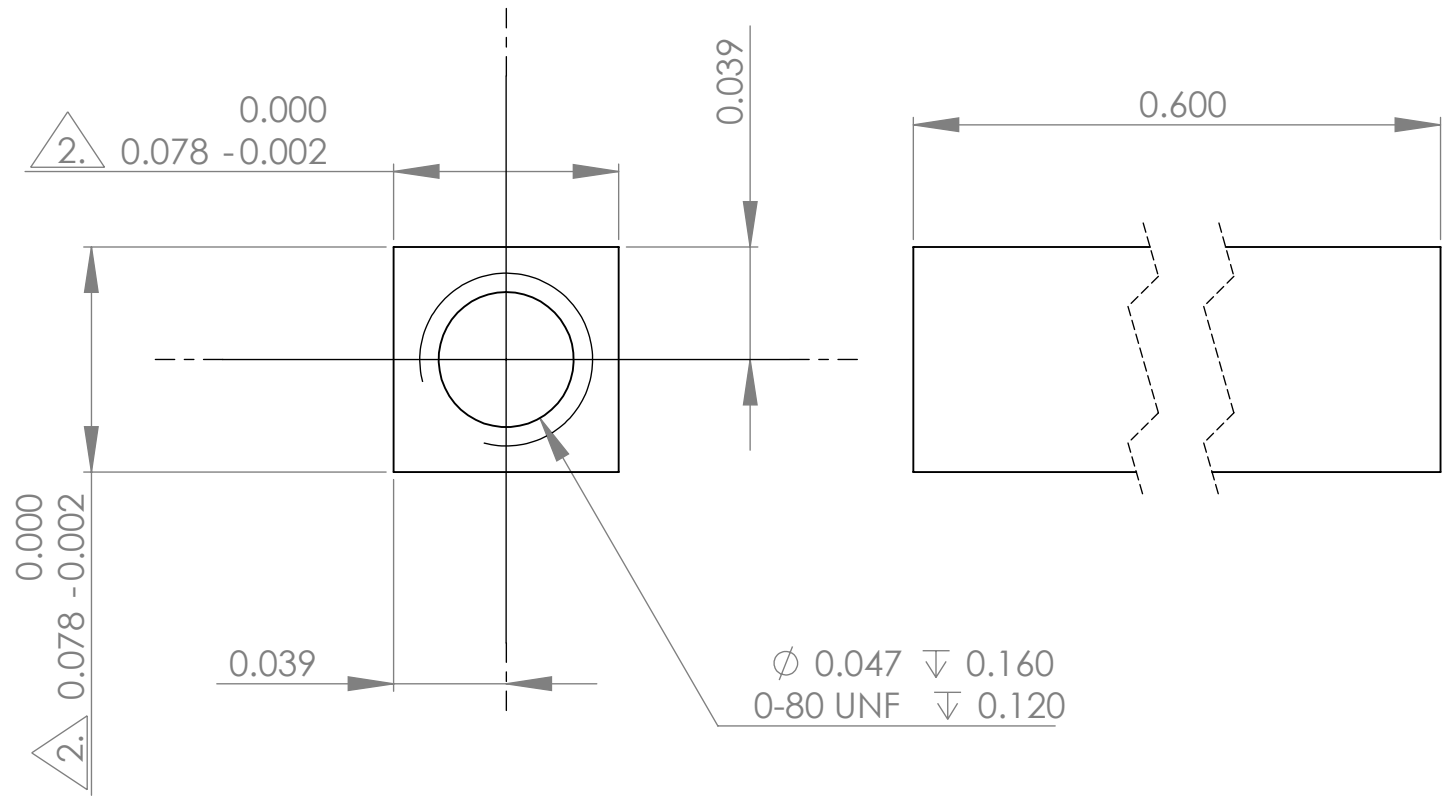
SIZE B	DWG. NO. 107-001-001	REV B
SCALE: 2.5:1		WEIGHT: SHEET 1 OF 1

GENERAL NOTES:

1. MATERIAL: 303 STAINLESS STEEL

REV	MODEL BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	5/21/2009
B	SAMIR SHREIM	SAMIR SHREIM		

2. BUSHING FIT WITH CROSS ARM AT 37°C 100% HUMIDITY



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

TITLE:

LEVER ARM

PROPRIETARY AND CONFIDENTIAL
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SIZE	DWG. NO.	REV
A	107-001-002	B

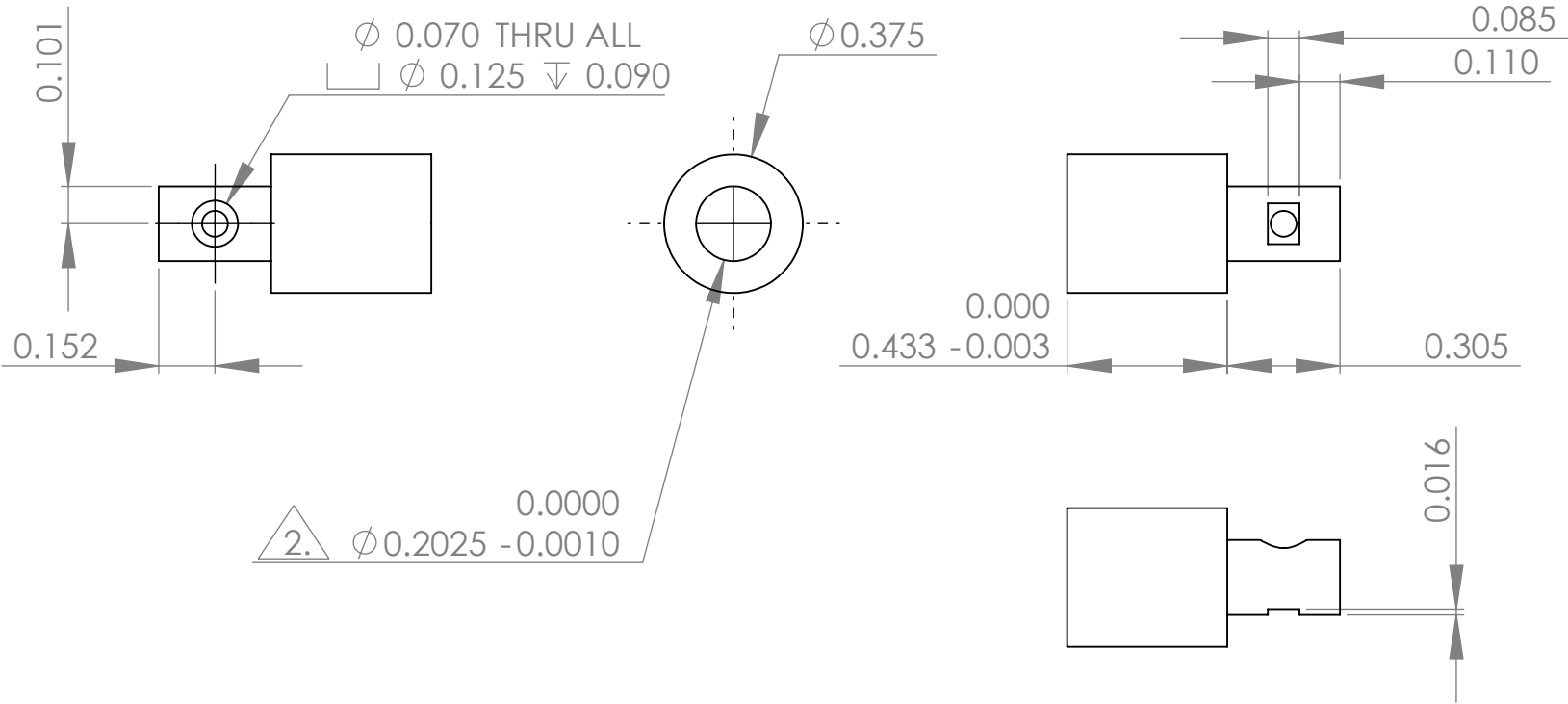
SCALE: 15:1	WEIGHT:	SHEET 1 OF 1
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GENERAL NOTES:

1. MATERIAL: IMPLANT GRADE UHMWPE

REV	MODEL BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	5/21/2009
B	SAMIR SHREIM	SAMIR SHREIM		

2. BUSHING FIT WITH CROSS ARM AT 37°C 100% HUMIDITY



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

TITLE:
ROTATOR SHAFT

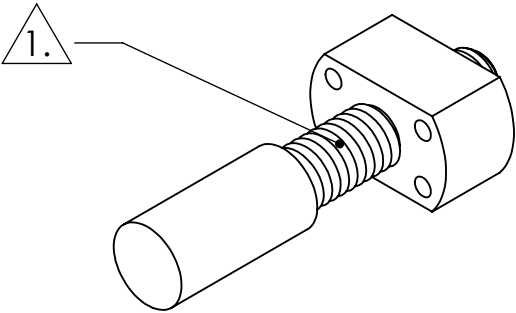
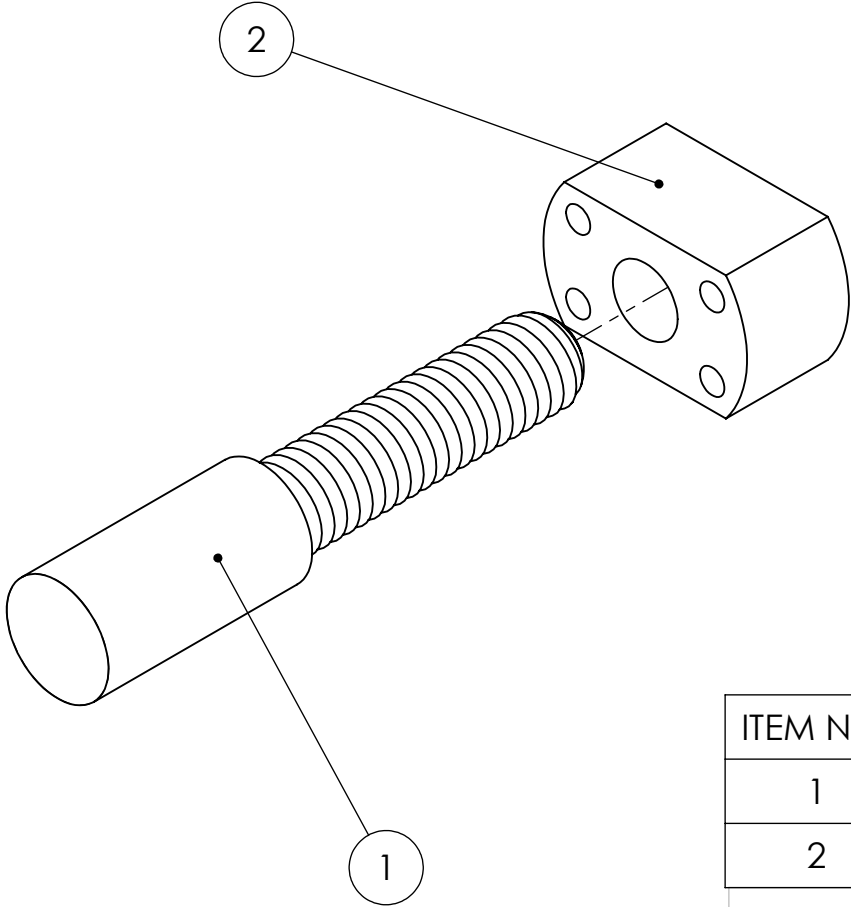
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SIZE	DWG. NO.	REV
A	107-001-003	B
SCALE: 3:1	WEIGHT:	SHEET 1 OF 1

GENERAL NOTES:

1. LUBRICATE THREADS WITH DOW CORNING 360 MEDICAL FLUID 1000 CST (POLYDIMETHYLSILOXANE)

REV	MODEL BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	5/21/2009
B	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	3/24/2010
C	SAMIR SHREIM	SAMIR SHREIM		



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	107-002-001	LEADSCREW	1
2	107-002-002	LEADSCREW BLOCK	1



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

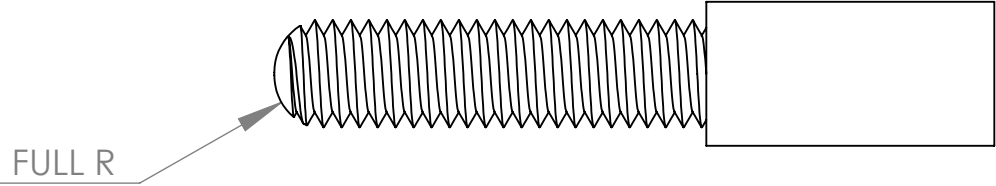
TITLE: LEADSCREW ASSEMBLY		
SIZE A	DWG. NO. 107-002-000	REV C
SCALE: 3:1	WEIGHT:	SHEET 1 OF 1

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GENERAL NOTES:

1. MATERIAL: MORTON MACHINE WORKS
P/N 4360 (303 STAINLESS STEEL)

REV	MODEL BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM		



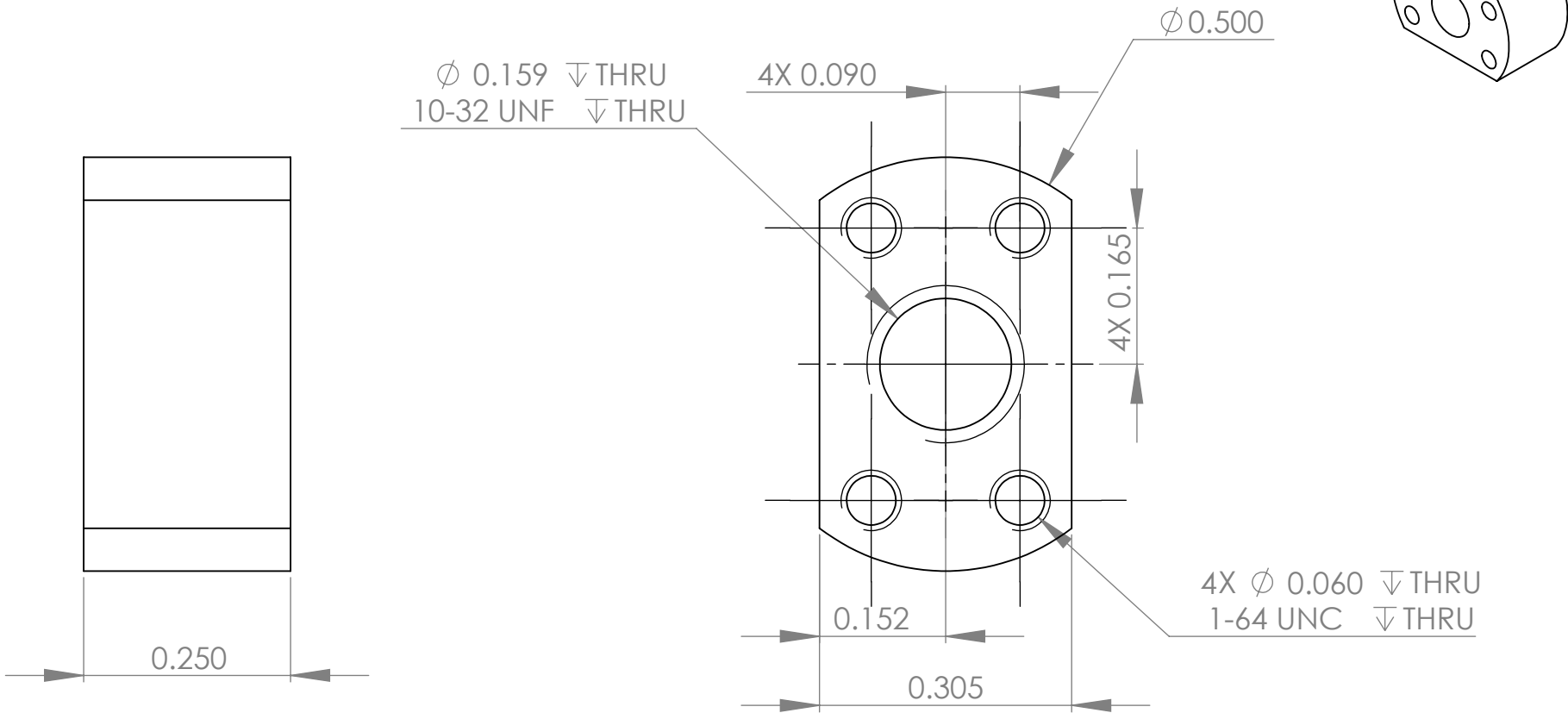
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

TITLE: LEADSCREW		
SIZE A	DWG. NO. 107-002-001	REV A
SCALE: 3:1	WEIGHT:	SHEET 1 OF 1

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A WHOLE WITHOUT THE WRITTEN PERMISSION OF THE BEAMS LAB IS PROHIBITED.

GENERAL NOTES:
1. MATERIAL: 6061 ALUMINIUM

REV	MODEL BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	5/21/2009
B	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	3/24/2010
C	SAMIR SHREIM	SAMIR SHREIM		



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

TITLE:
LEADSCREW BLOCK

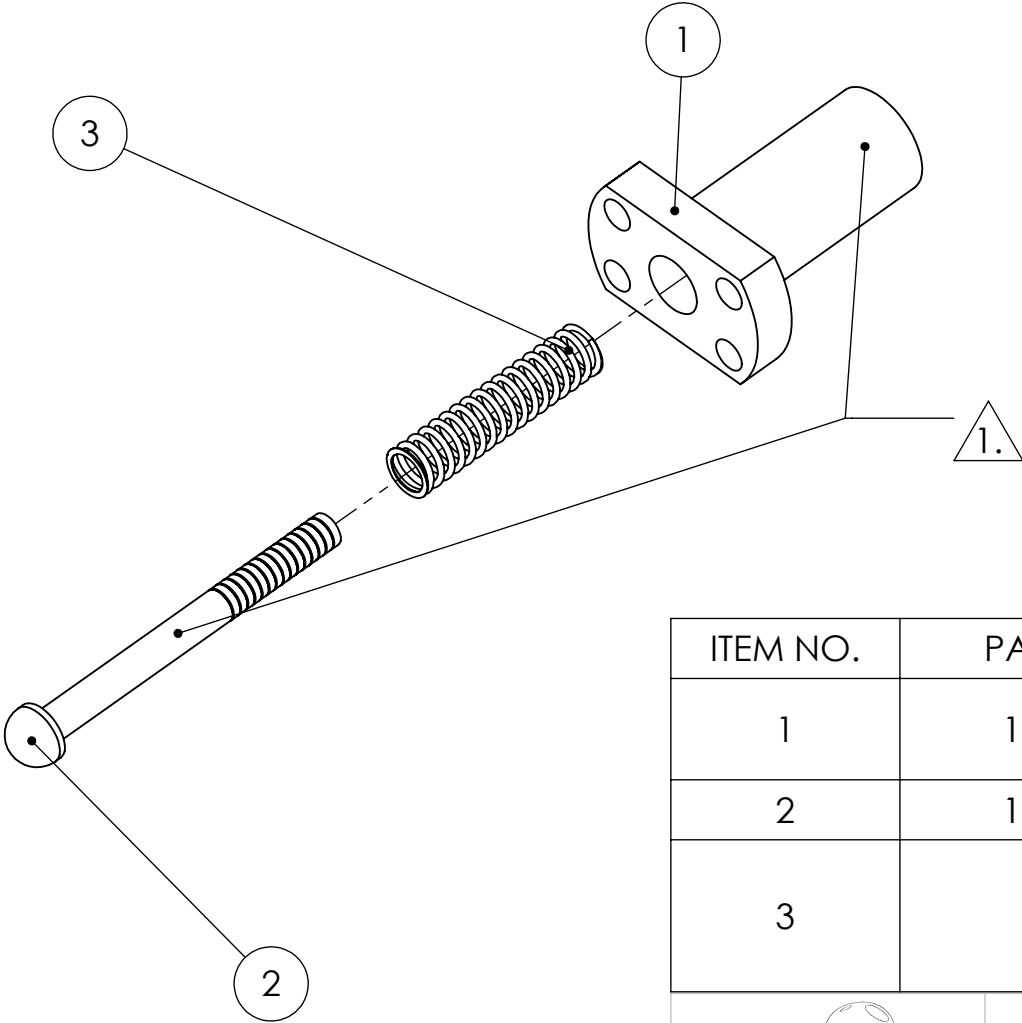
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SIZE	DWG. NO.	REV
A	107-002-002	C
SCALE: 5:1	WEIGHT:	SHEET 1 OF 1

GENERAL NOTES:

1. BUSHING FIT AT 37°C 100% HUMIDITY

REV	MODEL BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	5/21/2009
B	SAMIR SHREIM	SAMIR SHREIM		



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	107-003-001	SPRING PLUNGER BLOCK	1
2	107-003-002	SPRING PLUNGER	1
3	-	SPRING, CENTURY SPRING CORP. P/N 70100S	1



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

TITLE:
**SPRING PLUNGER
ASSEMBLY**

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SIZE **A** DWG. NO. **107-003-000** REV **B**

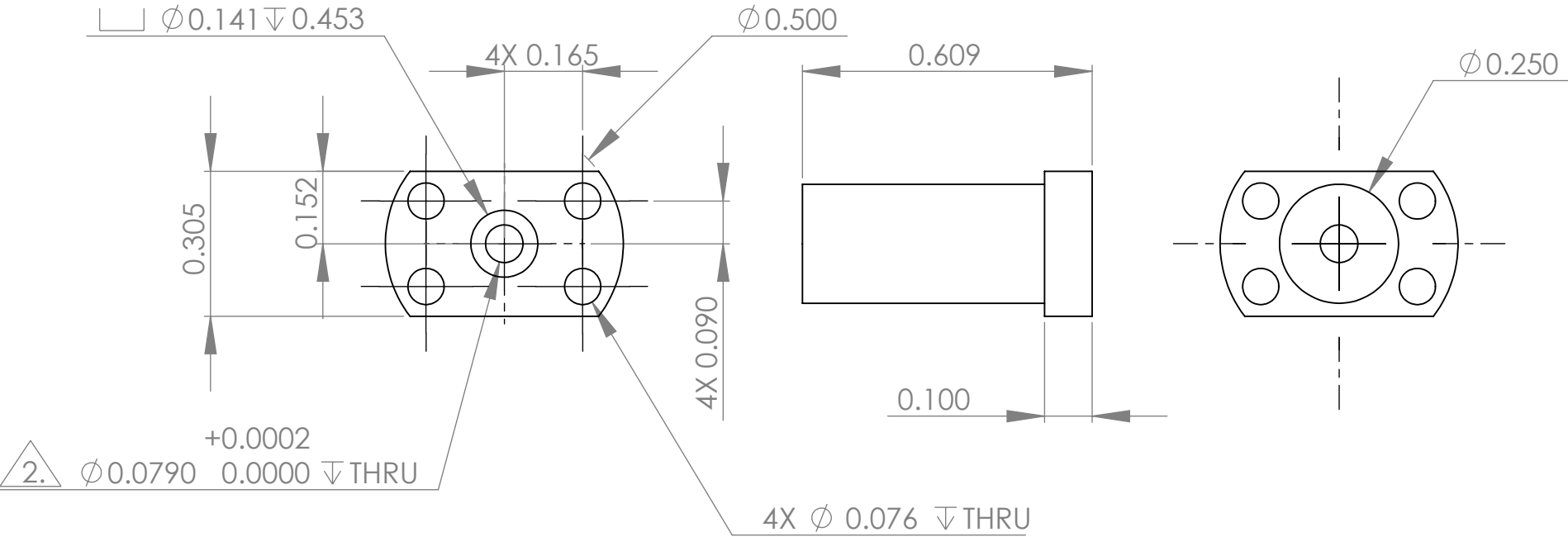
SCALE: 2.5:1 WEIGHT: SHEET 1 OF 1

GENERAL NOTES:

1. MATERIAL: ACETAL COPOLYMER BLACK

REV	MODEL BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	5/21/2009
B	SAMIR SHREIM	SAMIR SHREIM		

2. BUSHING FIT WITH SPRING PLUNGER AT 37°C 100% HUMIDITY



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

TITLE:
**SPRING PLUNGER
BLOCK**

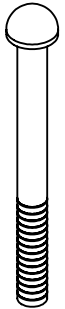
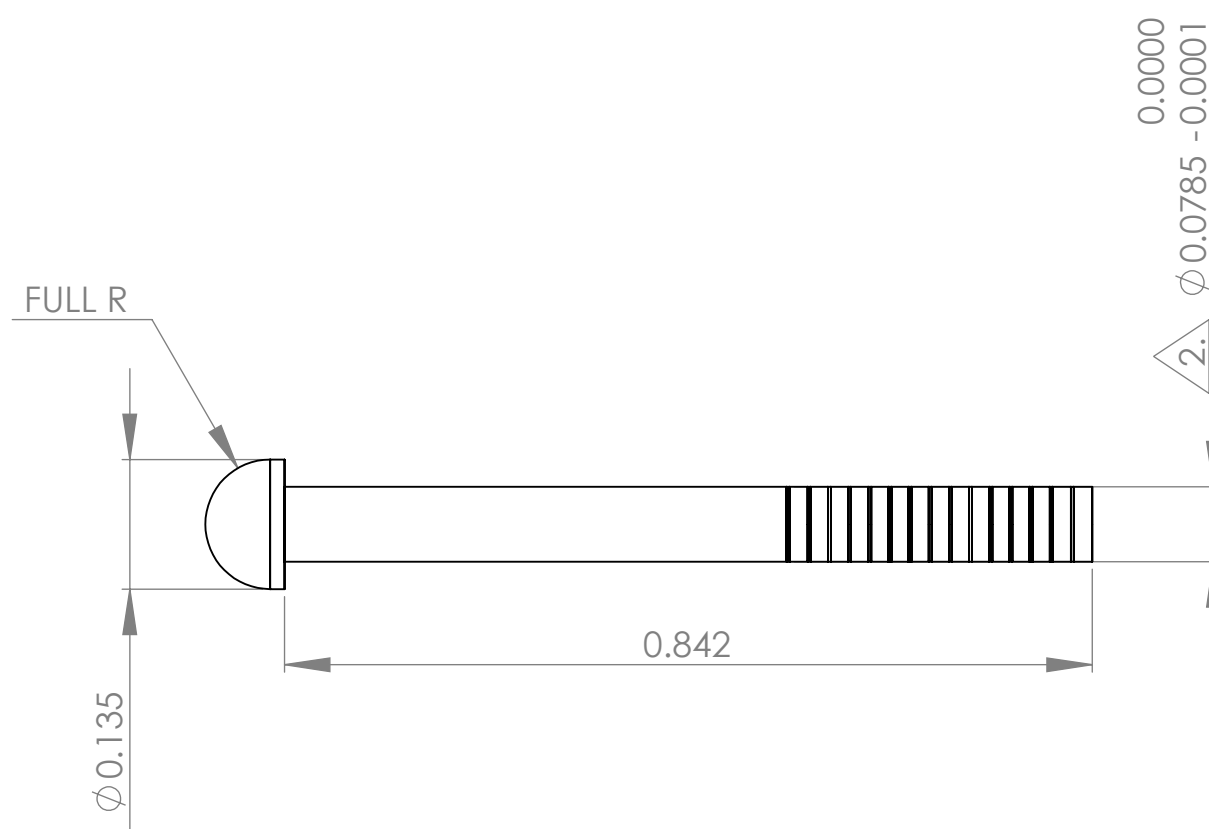
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A WHOLE WITHOUT THE WRITTEN PERMISSION OF THE BEAMS LAB IS PROHIBITED.

SIZE	DWG. NO.	REV
A	107-003-001	B
SCALE: 3:1	WEIGHT:	SHEET 1 OF 1

1. MATERIAL: 303 STAINLESS STEEL

REV	MODEL BY	DRAWN BY	CHECKED BY	DATE
A	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	5/21/2009
B	SAMIR SHREIM	SAMIR SHREIM	SAMIR SHREIM	

2. BUSHING FIT WITH SPRIN PLUNGER BLOCK AT 37°C 100% HUMIDITY



DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

SPRING PLUNGER

PROPRIETARY AND CONFIDENTIAL

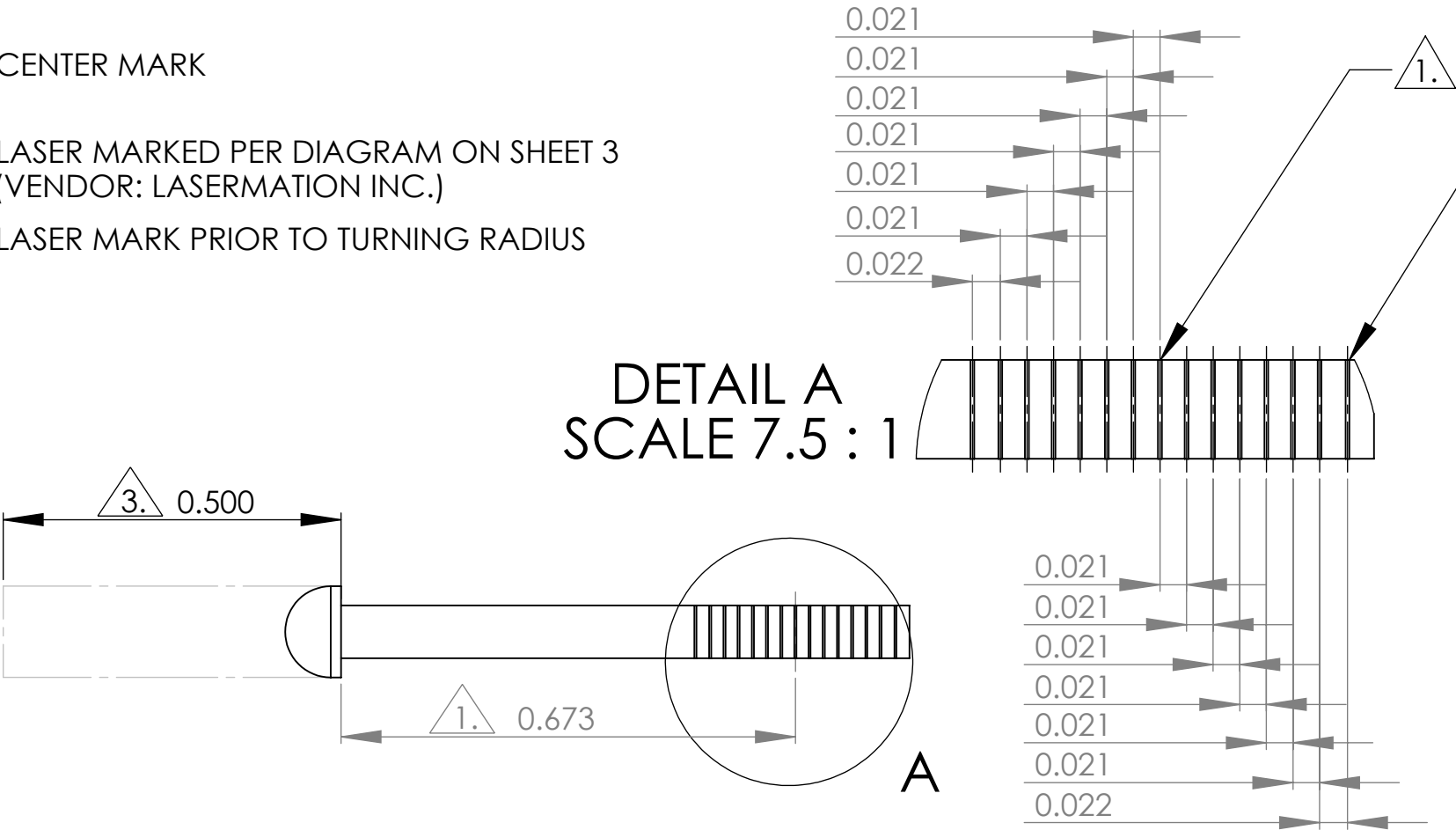
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SIZE A	DWG. NO. 107-003-002	REV B
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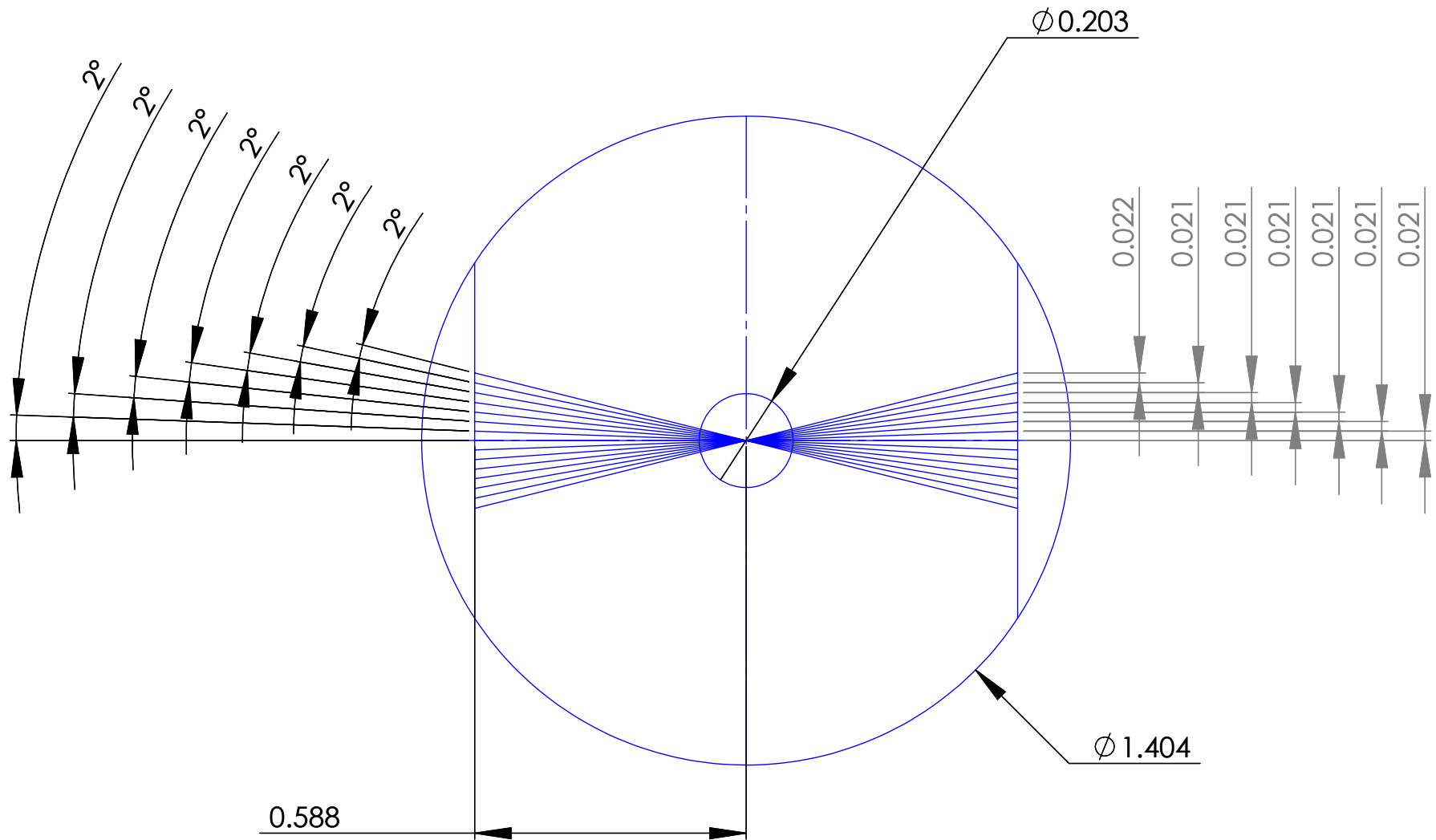
SCALE: 5:1	WEIGHT:	SHEET 1 OF 3
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GENERAL NOTES:

- 1. CENTER MARK
- 2. LASER MARKED PER DIAGRAM ON SHEET 3 (VENDOR: LASERMATION INC.)
- 3. LASER MARK PRIOR TO TURNING RADIUS



	UNLESS OTHERWISE SPECIFIED		TITLE:	
	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/32$ ANGULAR: MACH ± 0.5 DEG TWO PLACE DECIMAL ± 0.01 THREE PLACE DECIMAL ± 0.005		SPRING PLUNGER	
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	A	107-003-002	B	
SCALE: 4:1		WEIGHT:	SHEET 2 OF 3	



UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/32$
ANGULAR: MACH ± 0.5 DEG
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

TITLE:

SPRING PLUNGER

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SIZE	DWG. NO.	REV
A	107-003-002	B
SCALE: 3:1	WEIGHT:	SHEET 3 OF 3