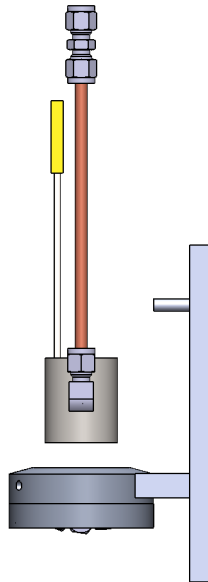
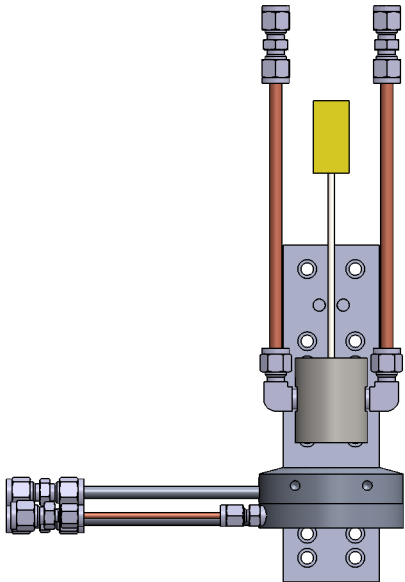
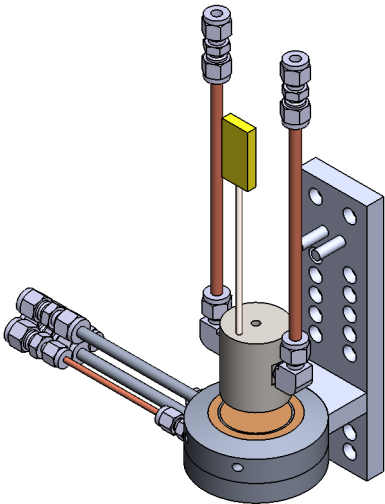
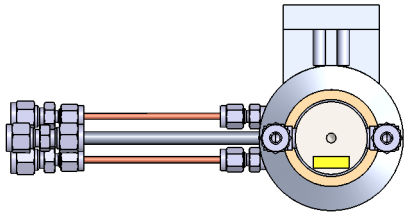


TITLE: A miniature McKenna burner for studies of combustion chemistry and soot formation
AUTHORS: M. F. Campbell, P. E. Schrader, A. L. Catalano, K. O. Johansson, A. G. Bohlin,
N. K. Richards-Henderson, C. J. Kliewer, H. A. Michelsen



UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/64$
ANGULAR: MACH $\pm 1/2$ BEND ± 2
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005
MATERIAL

FINISH

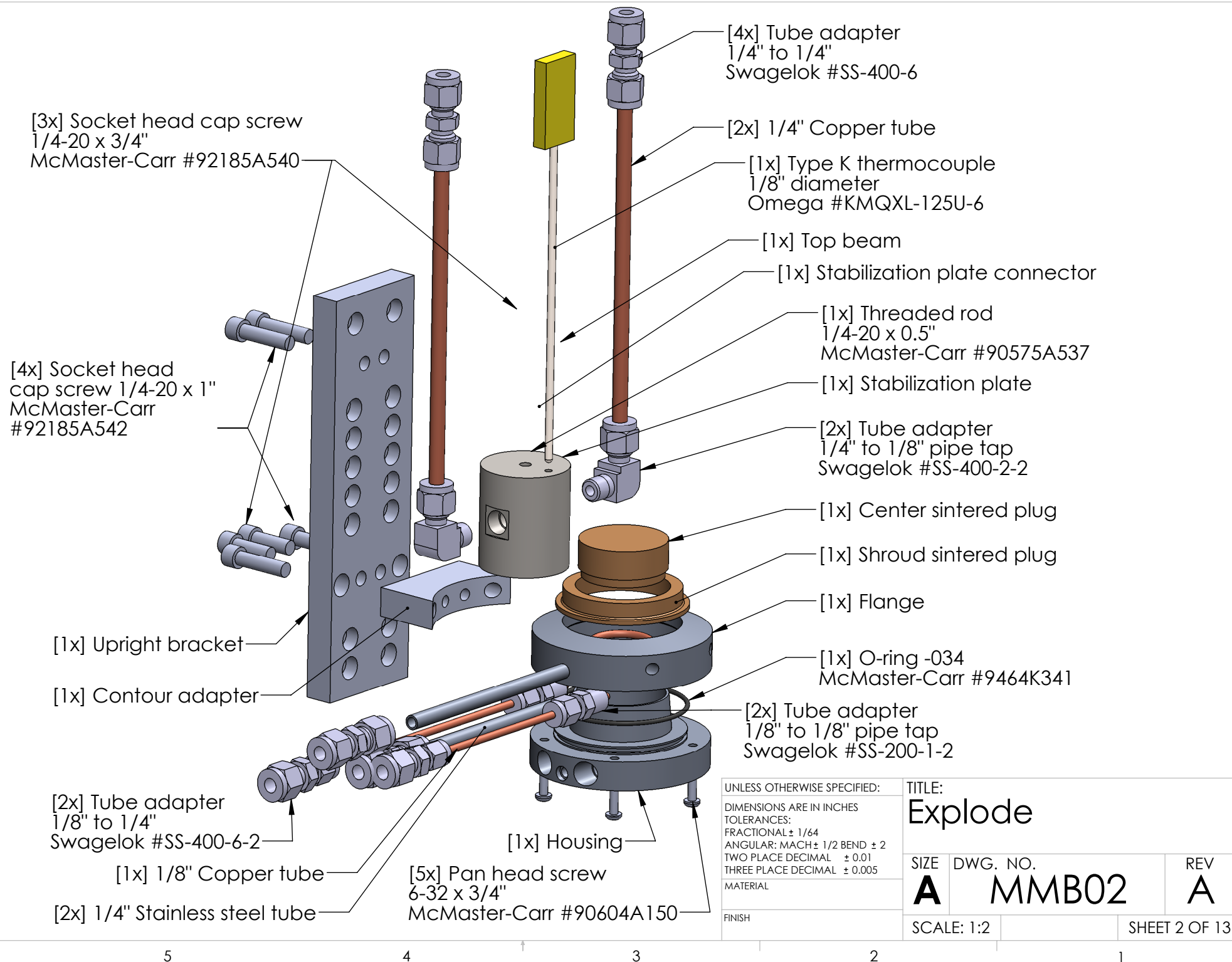
TITLE:
Overview

SIZE DWG. NO.
A MMB01

REV
A

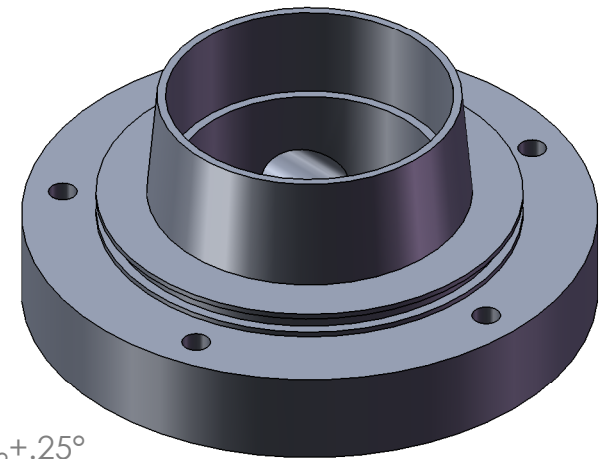
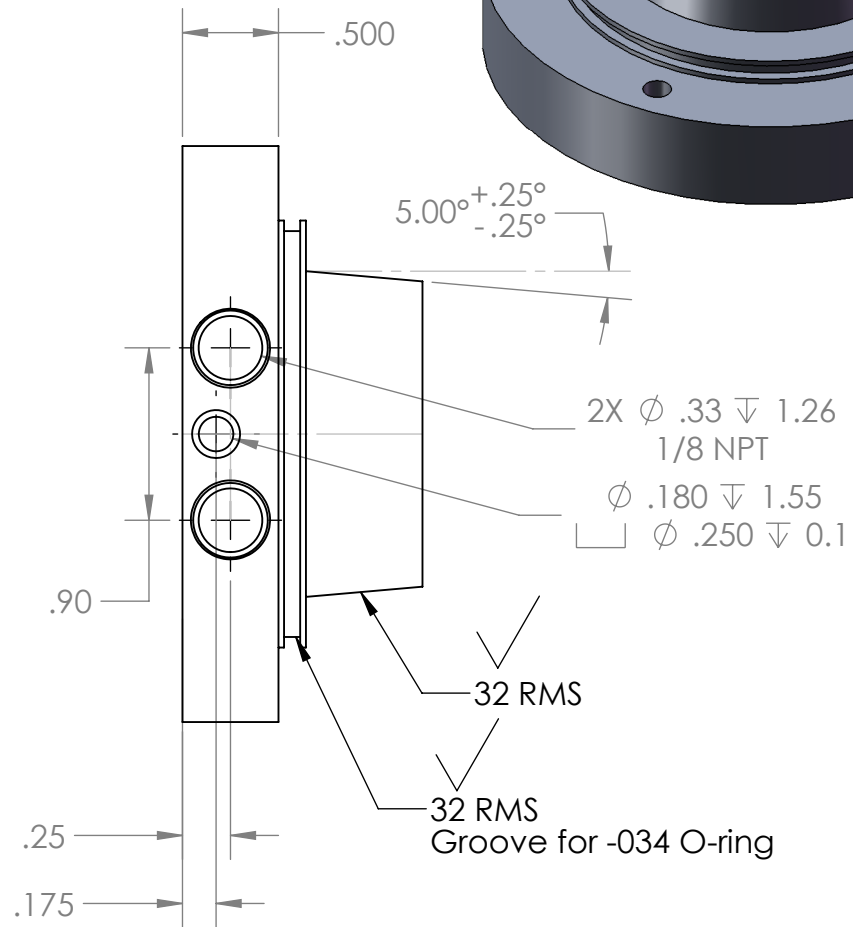
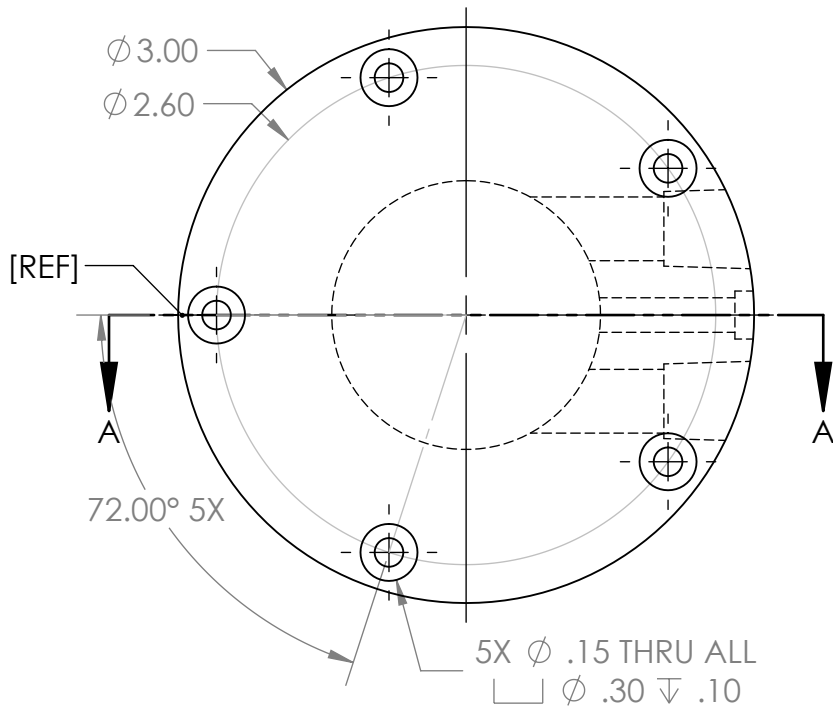
SCALE: 1:4

SHEET 1 OF 13



UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ± 1/64
ANGULAR: MACH ± 1/2 BEND ± 2
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005
MATERIAL
FINISH

TITLE: Explode		
SIZE A	DWG. NO. MMB02	REV A
SCALE: 1:2		SHEET 2 OF 13



NOTES:

1. QUANTITY = 1
2. MATERIAL = STAINLESS STEEL 304
3. DEBUR AND REMOVE ALL SHARP EDGES

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/64$
ANGULAR: MACH $\pm 1/2$ BEND ± 2
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005
MATERIAL
Stainless Steel 304
FINISH

TITLE:

Housing - A

SIZE

A

DWG. NO.

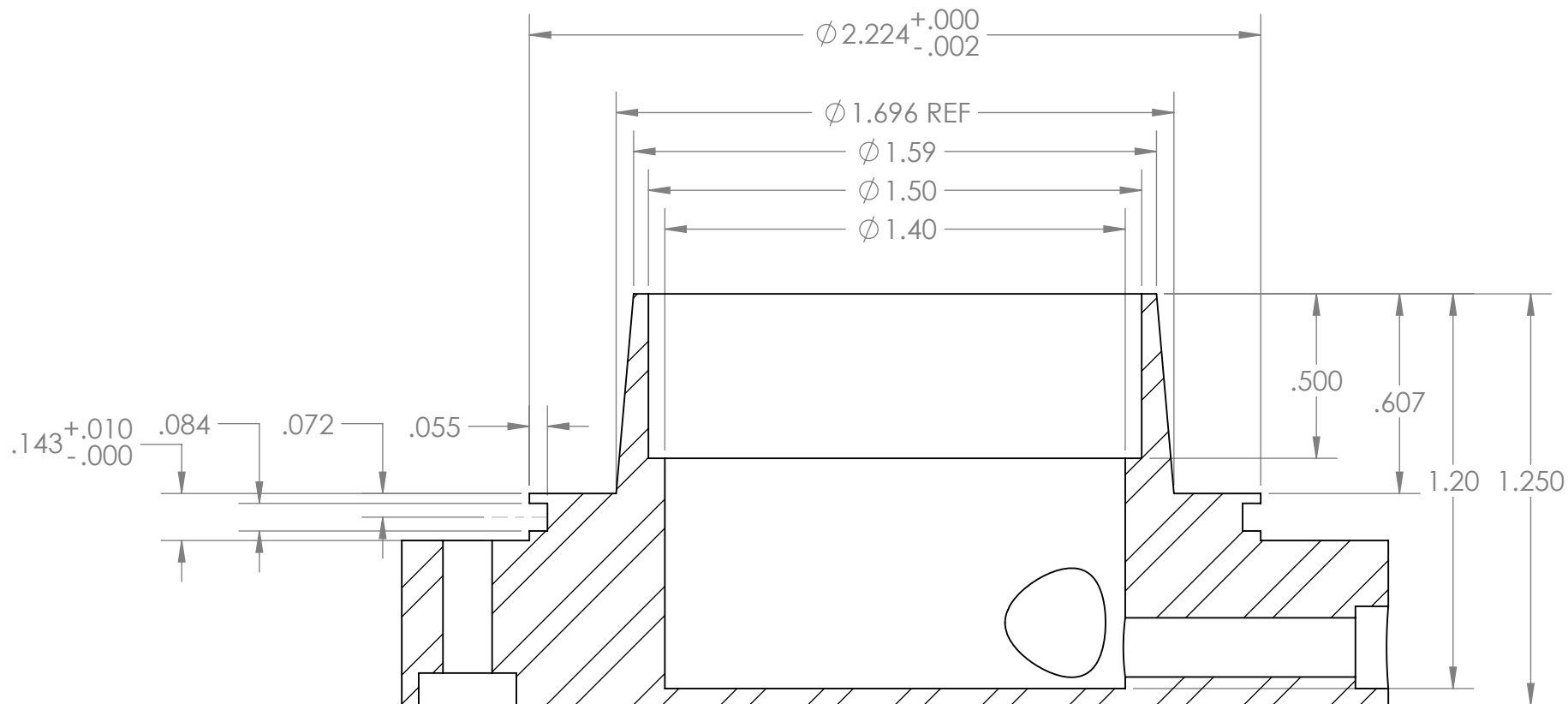
MMB03a

REV

A

SCALE: 1:1

SHEET 3 OF 13



SECTION A-A

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

TOLERANCES:

FRACTIONAL $\pm 1/64$

ANGULAR: MACH $\pm 1/2$ BEND ± 2

TWO PLACE DECIMAL ± 0.01

THREE PLACE DECIMAL ± 0.005

MATERIAL

Stainless Steel 304

FINISH

TITLE:

Housing - B

SIZE

A

DWG. NO.

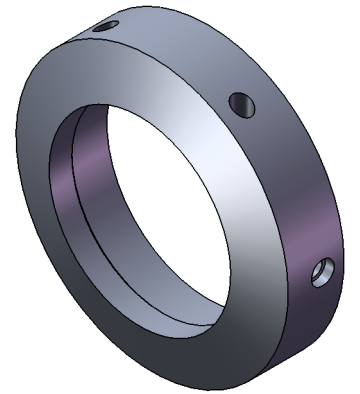
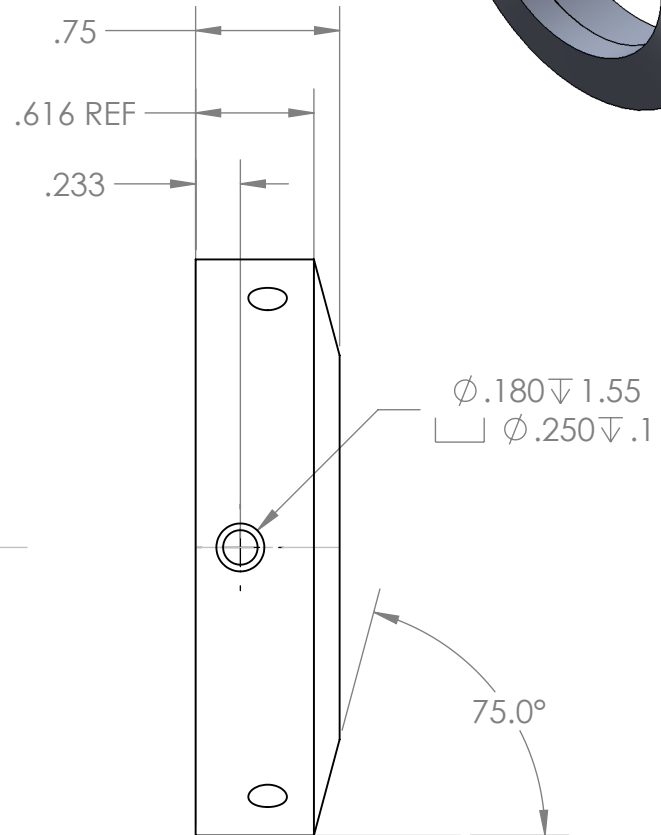
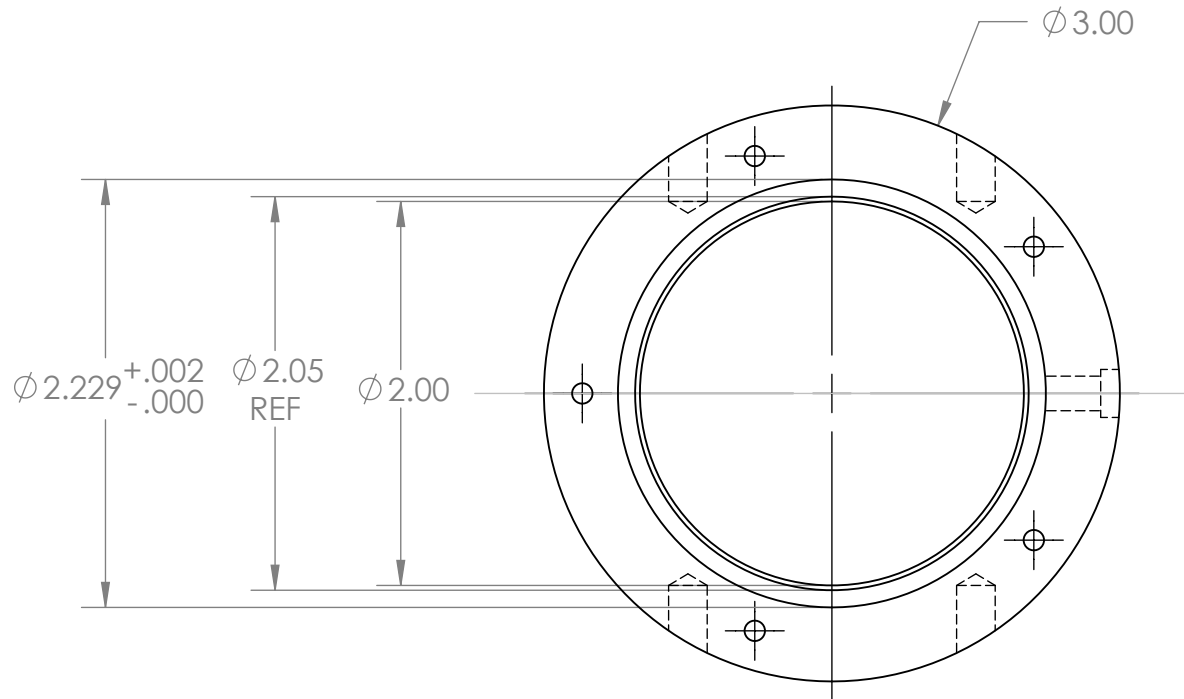
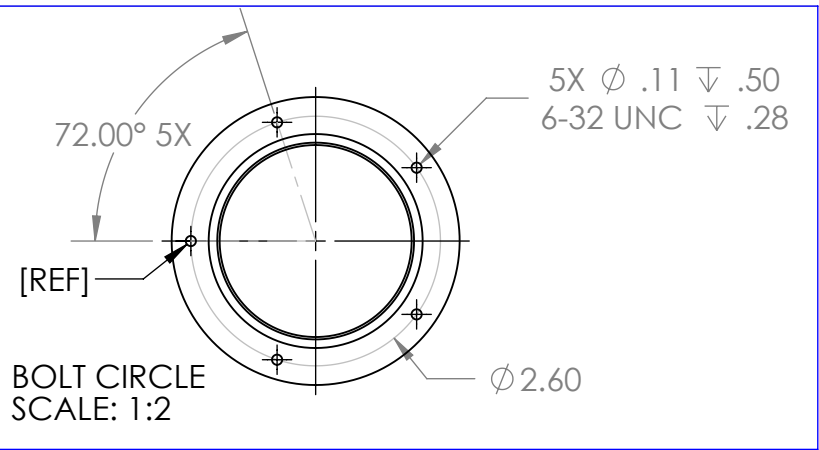
MMB03b

REV

A

SCALE: 2:1

SHEET 4 OF 13



- NOTES:
1. QUANTITY = 1
 2. MATERIAL = STAINLESS STEEL 304
 3. DEBUR AND REMOVE ALL SHARP EDGES

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/64$
ANGULAR: MACH $\pm 1/2$ BEND ± 2
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

MATERIAL
Stainless Steel 304

FINISH

TITLE:

Flange - A

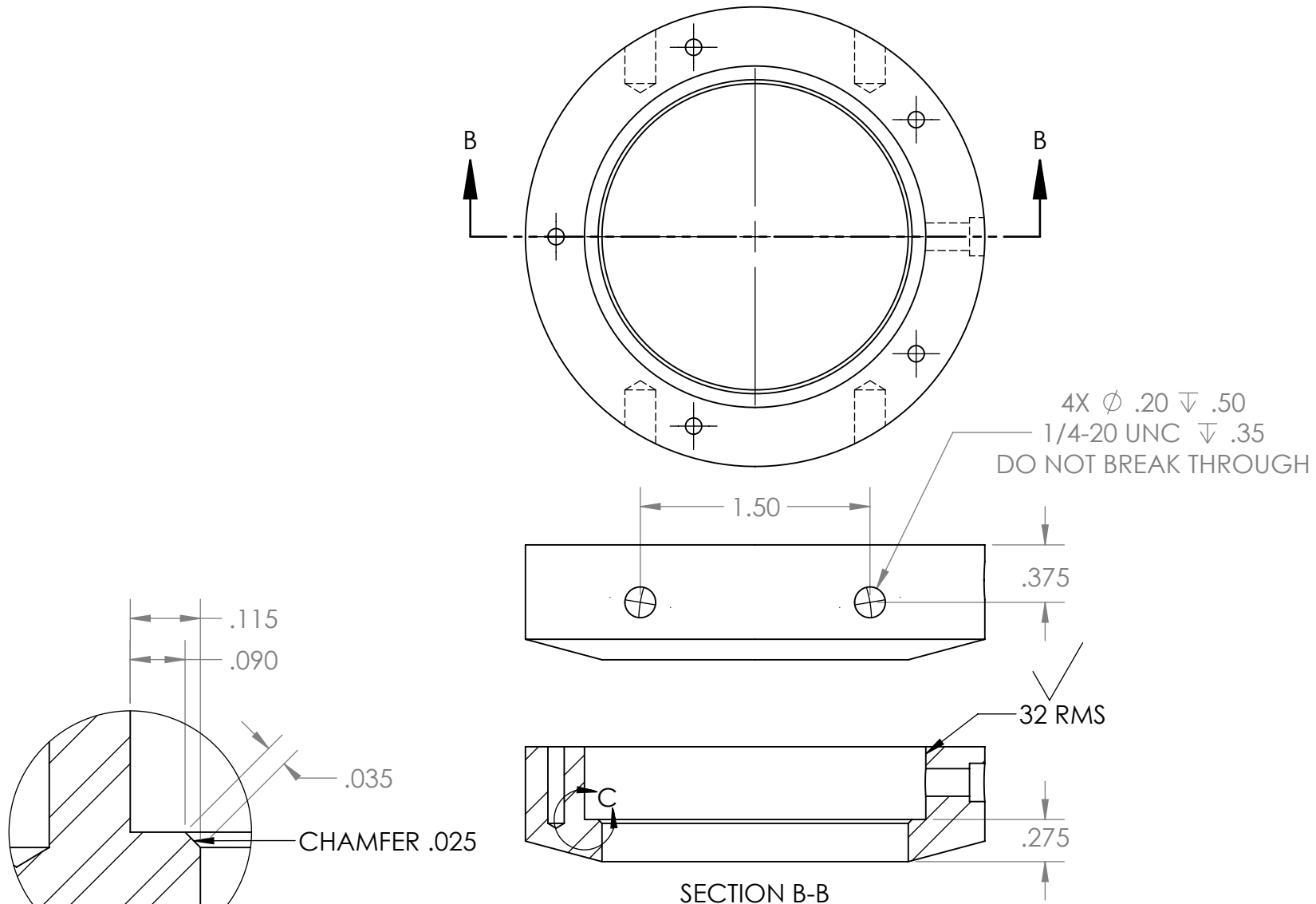
SIZE
A

DWG. NO.
MMB04a

REV
A

SCALE: 1:1

SHEET 5 OF 13



DETAIL C
SCALE 4 : 1

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

TOLERANCES:

FRACTIONAL $\pm 1/64$

ANGULAR: MACH $\pm 1/2$ BEND ± 2

TWO PLACE DECIMAL ± 0.01

THREE PLACE DECIMAL ± 0.005

MATERIAL

Stainless Steel 304

FINISH

TITLE:

Flange - B

SIZE

A

DWG. NO.

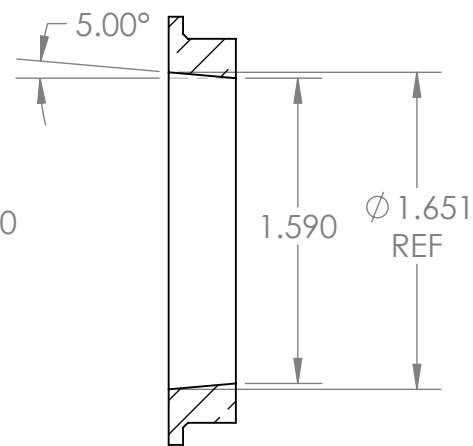
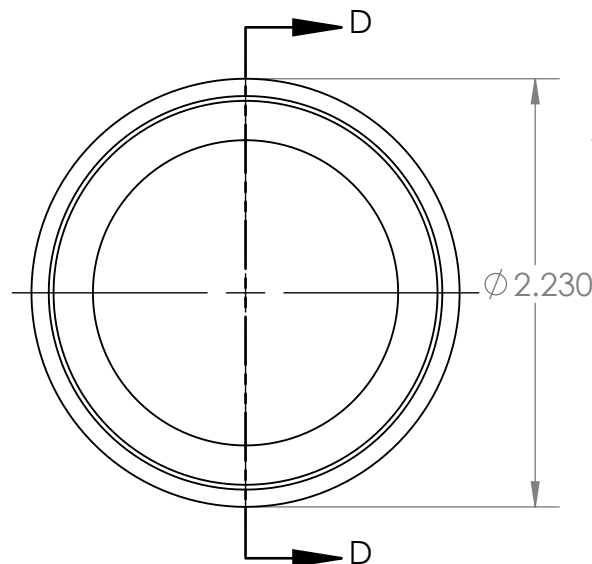
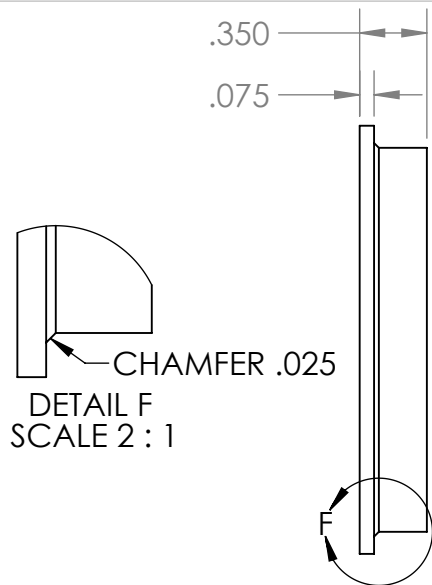
MMB04b

REV

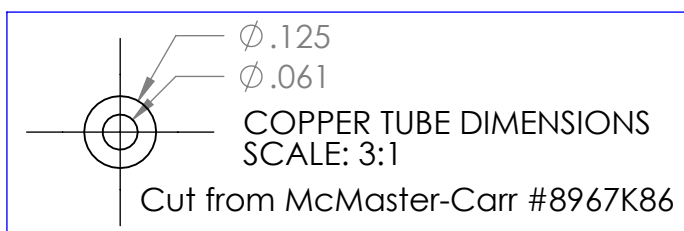
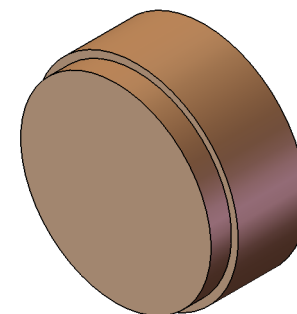
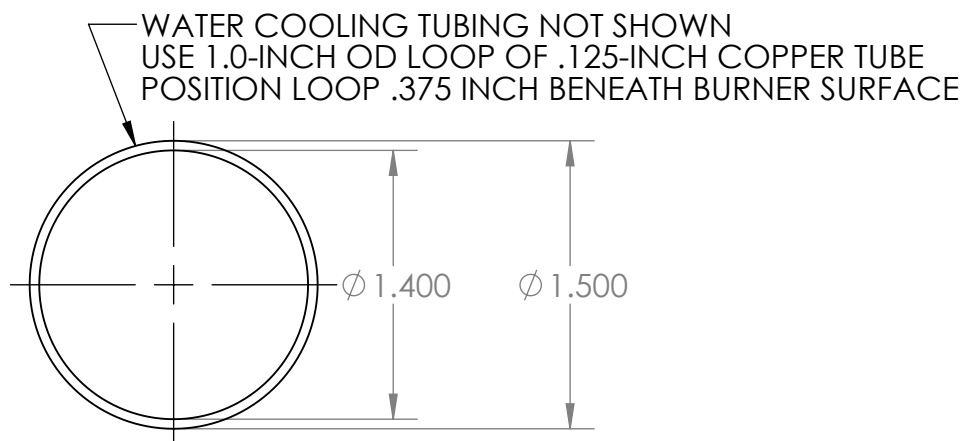
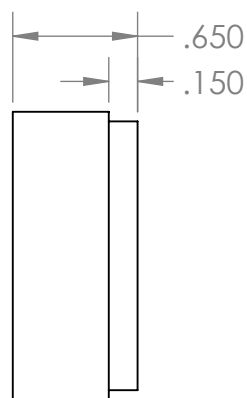
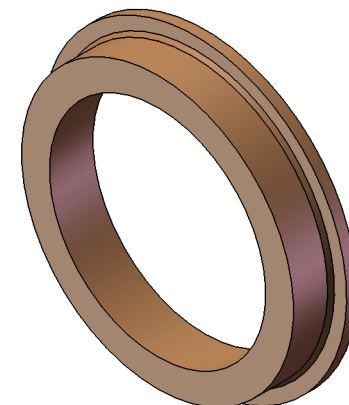
A

SCALE: 1:1

SHEET 6 OF 13



SECTION D-D



NOTES:

1. QUANTITY = 1 EACH
2. DIMENSIONS FOR MATERIAL AFTER SINTERING PROCESS
3. USE 150 MICRON BRONZE BEADS

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/64$
ANGULAR: MACH $\pm 1/2$ BEND ± 2
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

MATERIAL
Bronze

FINISH

TITLE:

Sintered plugs

SIZE

A

DWG. NO.

MMB05

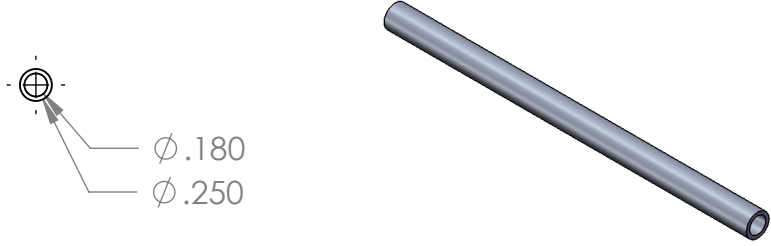
REV

A

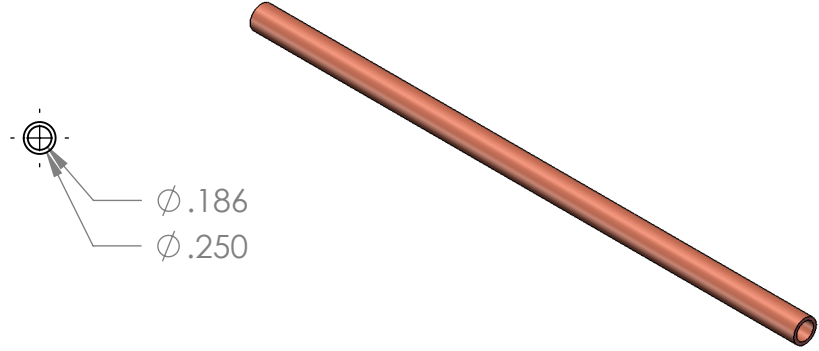
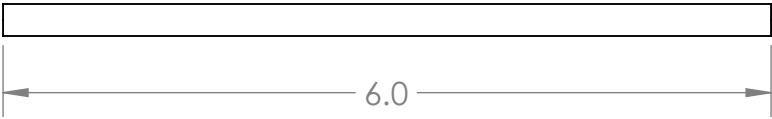
SCALE: 1:1

SHEET 7 OF 13

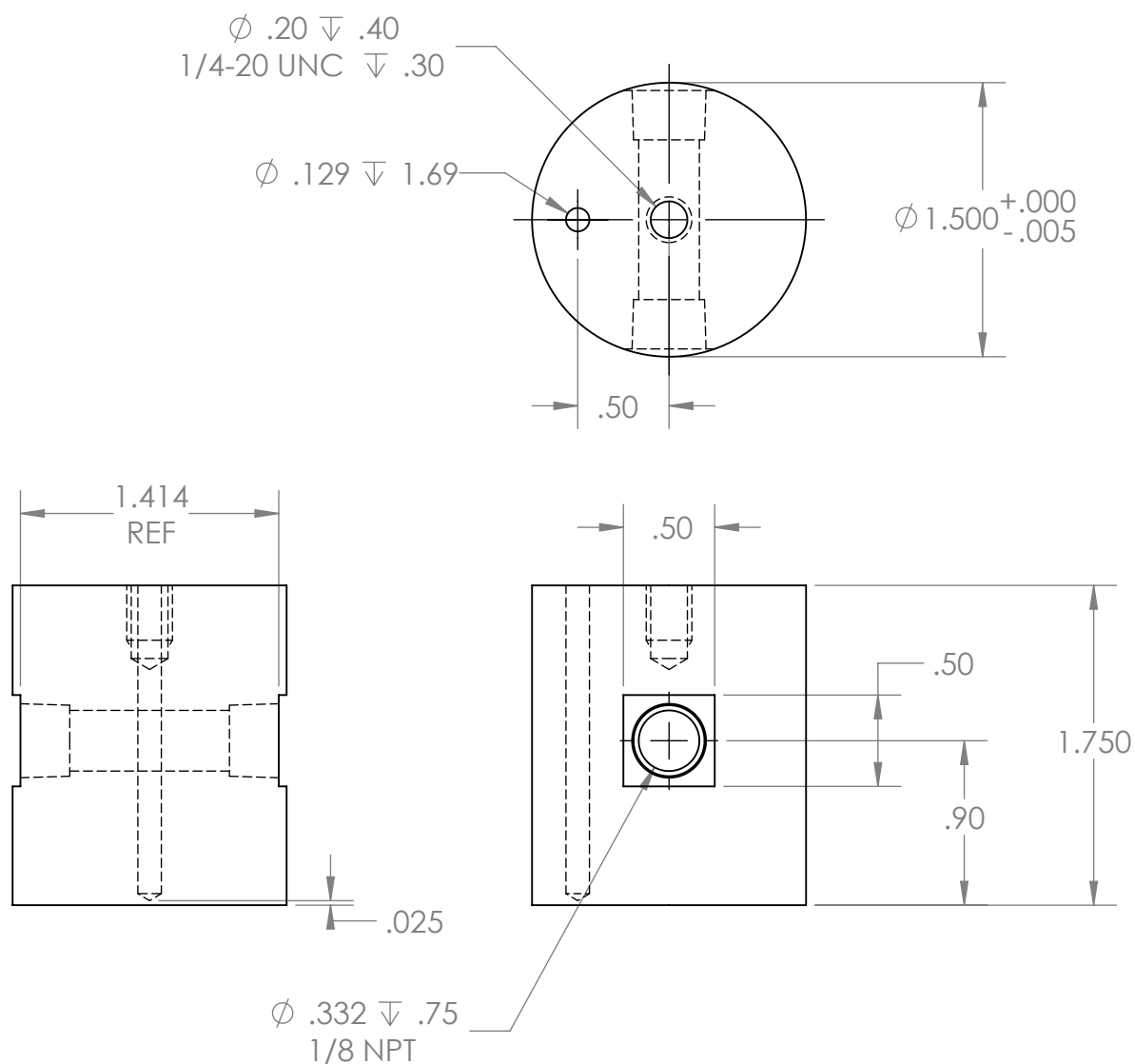
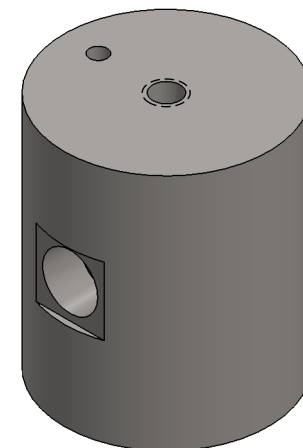
QUANTITY = 2
Stainless Steel 316
Cut from McMaster-Carr #89495K275



QUANTITY = 2
Copper
Cut from McMaster-Carr #8967K88



UNLESS OTHERWISE SPECIFIED:		TITLE:				
DIMENSIONS ARE IN INCHES		Tubing				
TOLERANCES:						
FRACTIONAL ± 1/64		SIZE	DWG. NO.	REV		
ANGULAR: MACH ± 1/2 BEND ± 2						
TWO PLACE DECIMAL ± 0.01		A	MMB06	A		
THREE PLACE DECIMAL ± 0.005						
MATERIAL						
FINISH						
		SCALE: 2:3		SHEET 8 OF 13		



NOTES:

1. QUANTITY = 1
2. MATERIAL = STAINLESS STEEL
3. DEBUR AND REMOVE ALL SHARP EDGES

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL $\pm 1/64$
 ANGULAR: MACH $\pm 1/2$ BEND ± 2
 TWO PLACE DECIMAL ± 0.01
 THREE PLACE DECIMAL ± 0.005

MATERIAL
 Stainless steel

FINISH

TITLE:

Stabilization plate

SIZE

A

DWG. NO.

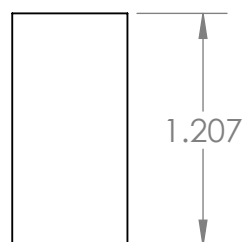
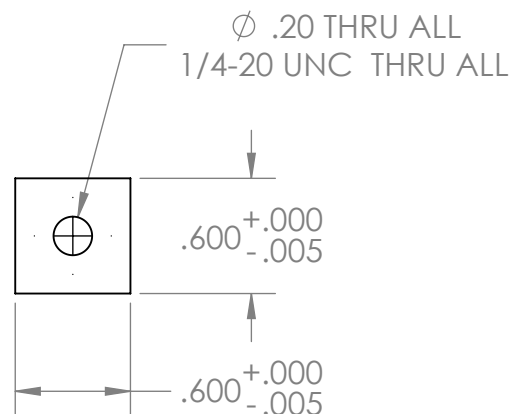
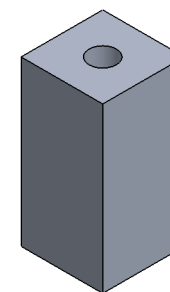
MMB07

REV

A

SCALE: 1:1

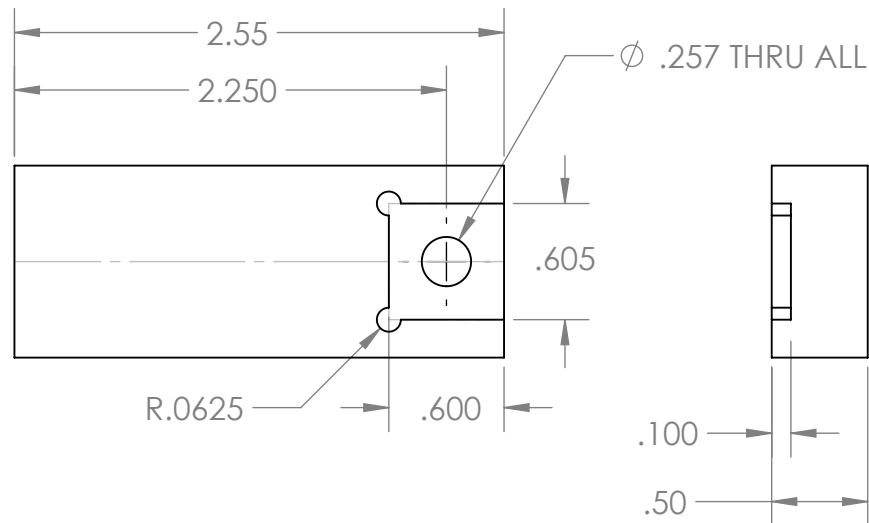
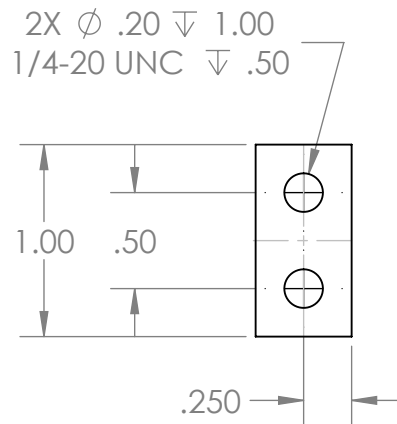
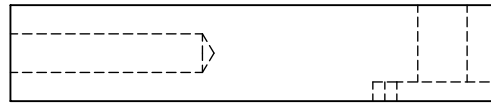
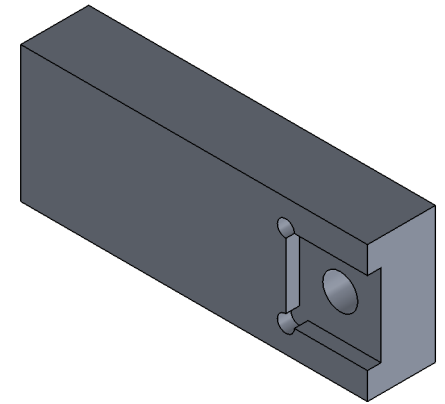
SHEET 9 OF 13



NOTES:

1. QUANTITY = 1
2. MATERIAL = ALUMINUM
3. DEBUR AND REMOVE ALL SHARP EDGES

UNLESS OTHERWISE SPECIFIED:		TITLE:	
DIMENSIONS ARE IN INCHES		Stabilization plate connector	
TOLERANCES:			
FRACTIONAL ± 1/64			
ANGULAR: MACH ± 1/2 BEND ± 2			
TWO PLACE DECIMAL ± 0.01		SIZE	DWG. NO.
THREE PLACE DECIMAL ± 0.005		A	MMB08
MATERIAL		REV	
Aluminum		A	
FINISH		SCALE: 1:1	SHEET 10 OF 13



- NOTES:
1. QUANTITY = 1
 2. MATERIAL = ALUMINUM
 3. DEBUR AND REMOVE ALL SHARP EDGES

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/64$
ANGULAR: MACH $\pm 1/2$ BEND ± 2
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005

MATERIAL
Aluminum

FINISH

TITLE:

Top beam

SIZE

A

DWG. NO.

MMB09

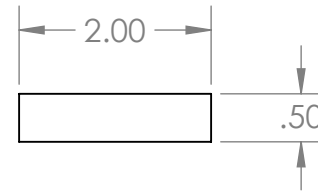
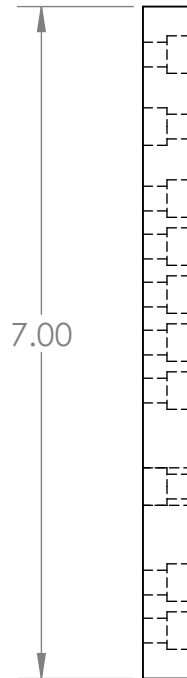
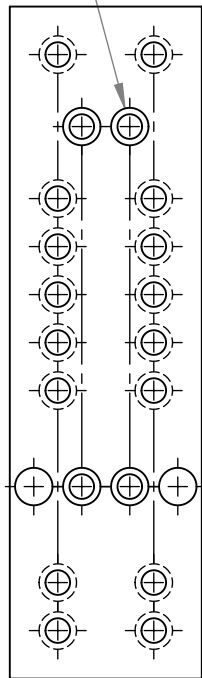
REV

A

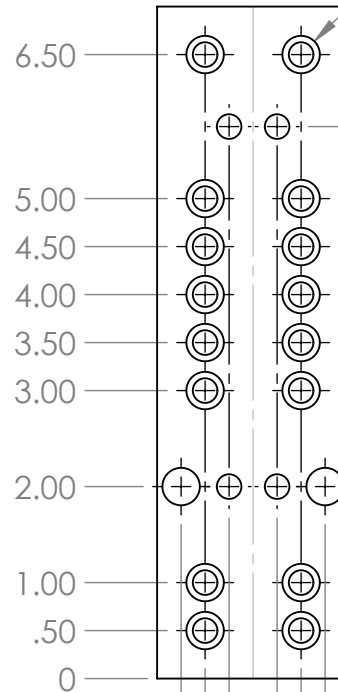
SCALE: 1:1

SHEET 11 OF 13

4X ϕ .26 THRU ALL
 $\square$ ϕ .39 ∇ .25

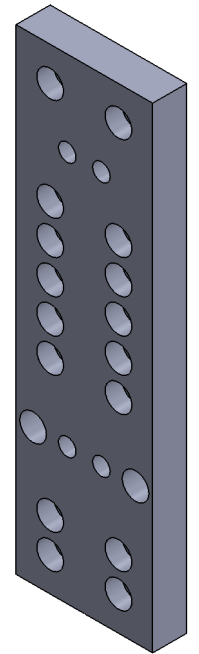
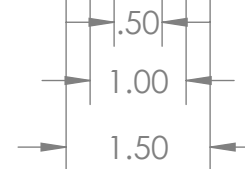


16X ϕ .26 THRU ALL
 $\square$ ϕ .39 ∇ .25



3.750

2X ϕ .391 THRU ALL



NOTES:

1. QUANTITY = 1
2. MATERIAL = ALUMINUM
3. DEBUR AND REMOVE ALL SHARP EDGES

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/64$
ANGULAR: MACH $\pm 1/2$ BEND ± 2
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005
MATERIAL
Aluminum
FINISH

TITLE:

Upright bracket

SIZE
A

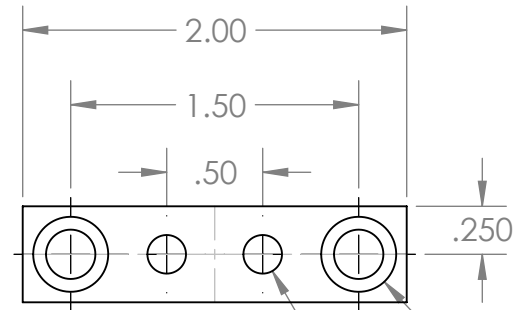
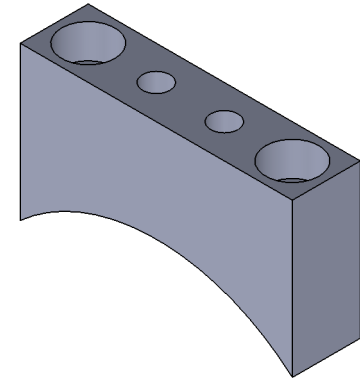
DWG. NO.

MMB10

REV
A

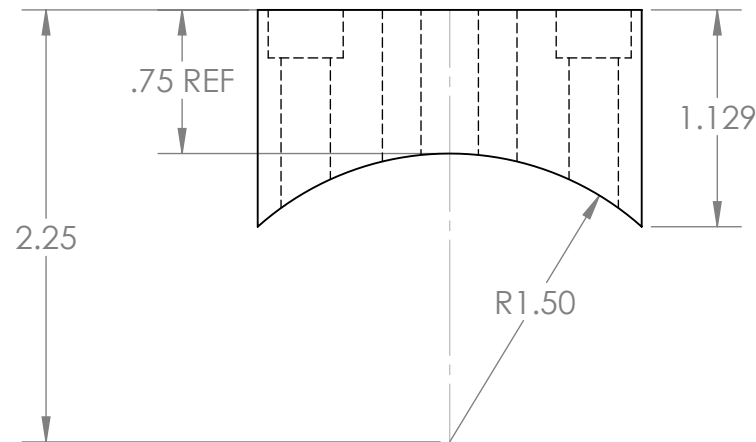
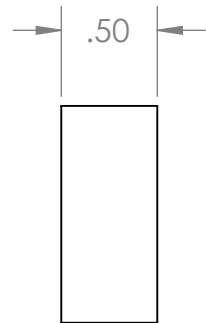
SCALE: 1:2

SHEET 12 OF 13



2X $\varnothing$.257 THRU ALL
 $\square$ $\varnothing$.39 ∇ .25

2X $\varnothing$.20 THRU ALL
 1/4-20 UNC THRU ALL



NOTES:

1. QUANTITY = 1
2. MATERIAL = ALUMINUM
3. DEBUR AND REMOVE ALL SHARP EDGES

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL $\pm$ 1/64
 ANGULAR: MACH $\pm$ 1/2 BEND $\pm$ 2
 TWO PLACE DECIMAL $\pm$ 0.01
 THREE PLACE DECIMAL $\pm$ 0.005

MATERIAL
 Aluminum

FINISH

TITLE:

Contour adapter

SIZE

A

DWG. NO.

MMB11

REV

A

SCALE: 1:1

SHEET 13 OF 13