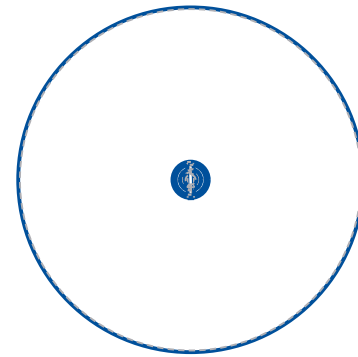
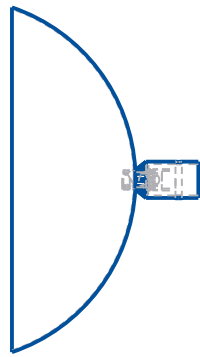
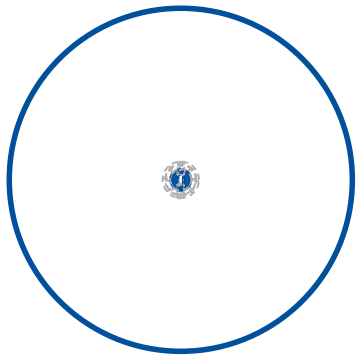
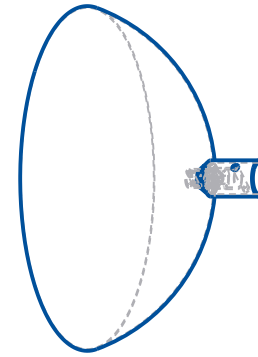
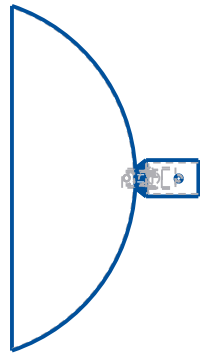


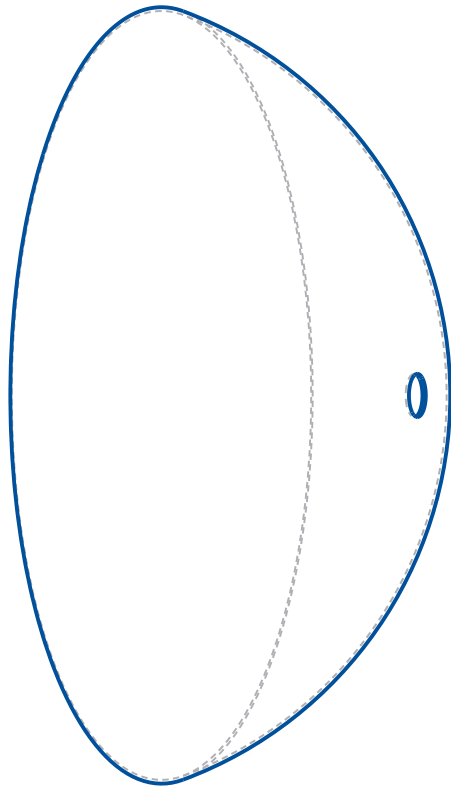
NOTE: The circular mask used was simplified. This part can be installed into any mask so the mask is used to demonstrate



Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270	Part Name: maskassembly
4/25/2020	Material:
Size: A	Drawn By: Justin Miner
Scale: 0.333	Part Number: maskassembly
Team	
ABA_1	
Sheet	
1 of 3	

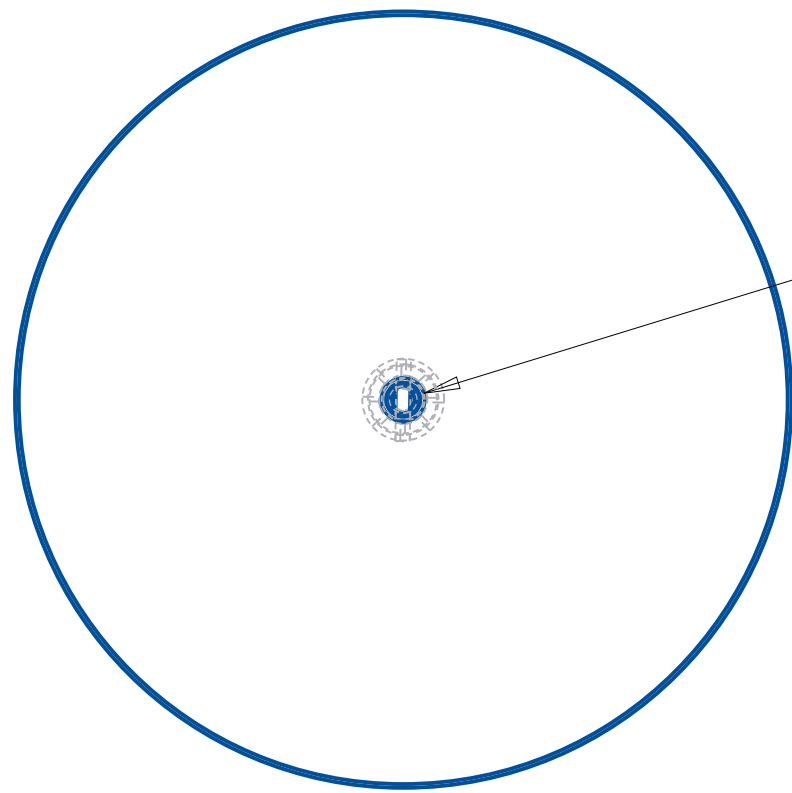
Units: inch
 .X = ±.02 .XX = ±.01
 .XXX = ±.005 .XXXX = ±.0005
 Angles: ±30'
 UNLESS OTHERWISE STATED

ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	N95MASK	1	n95mask.prt	
2	VALVEASSEMBLY	1	valveassembly.asm	



Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270	Part Name: maskassembly
4/25/2020	Material:
Size: A	Drawn By:
Scale: 0.750	Part Number: maskassembly
Team	
ABA_1	
Sheet	
2 of 3	

Units: inch
.X = ±.02 .XX = ±.01
.XXX = ±.005 .XXXX = ±.0005
Angles: ±30'
UNLESS OTHERWISE STATED



Ø .30

Assembly instructions:
 drill hole as per dimension
 into mask. Fit valve to be
 flush to mask as shown in
 drawing. Seal both sides with
 an epoxy or equiv. Leak test
 as per spec (to be determined)

Units: inch
 .X = ±.02 .XX = ±.01
 .XXX = ±.005 .XXXX = ±.0005
 Angles: ±30'
 UNLESS OTHERWISE STATED

Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270 4/25/2020	Part Name: maskassembly
Size: A Scale: 0.750	Material:
Team ABA_1	Drawn By: Justin Miner
Sheet 3 of 3	Part Number: maskassembly

1 2 3 4 5 6

A

A

B

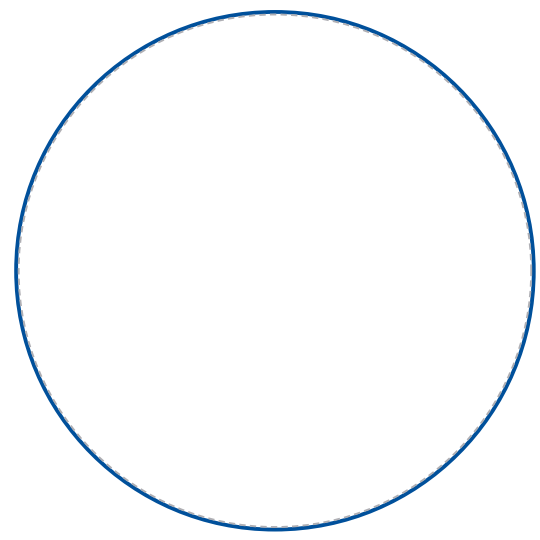
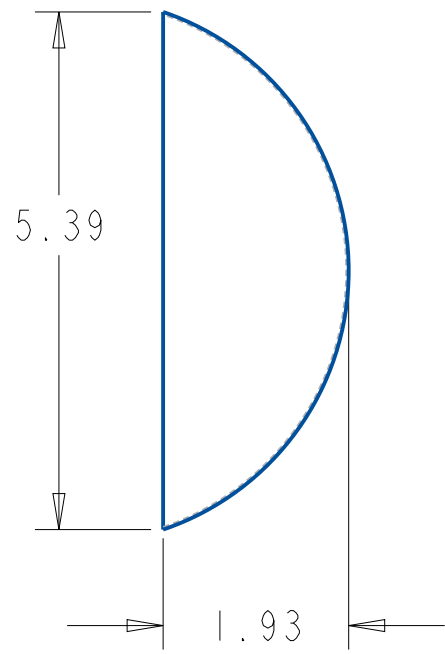
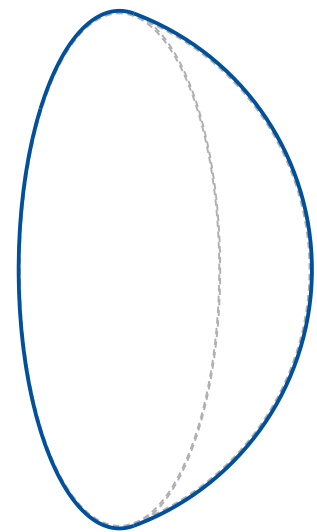
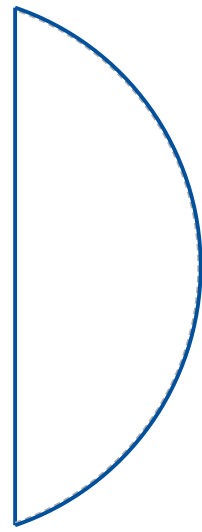
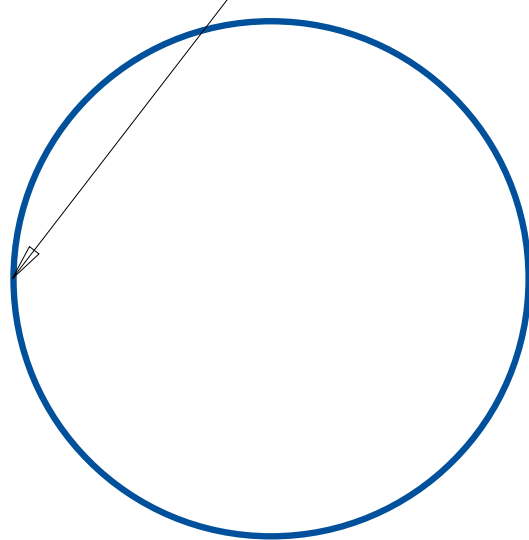
B

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Units: inch		Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
.X = ±.02	.XX = ±.01	ME270	Part Name: N95Mask
.XXX = ±.005	.XXXX = ±.0005	4/25/2020	Material: Cotton
Angles: ±30'		Scale: 0.500	Team: Justin Miner
UNLESS OTHERWISE STATED		Team: ABA_1	Part Number: N95Mask
		Sheet: 1 of 1	

1 2 3 4 5 6

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A

A

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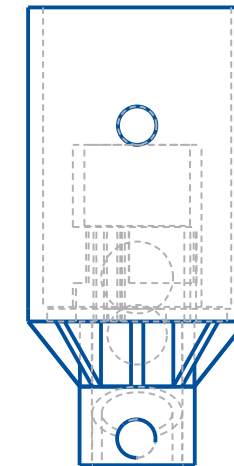
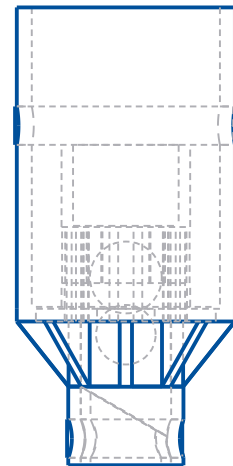
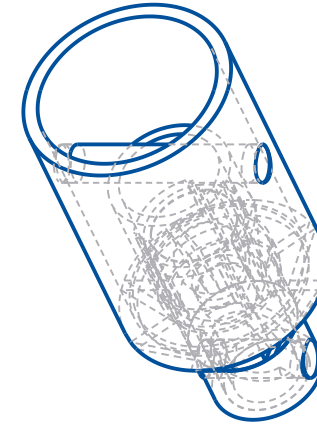
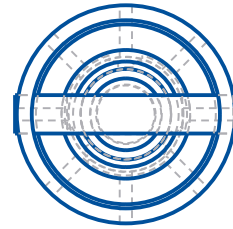
B

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D



Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270	Part Name: valveassembly
4/25/2020	Material:
Size: A	Drawn By: Justin Miner
Scale: 2.000	Part Number: valveassembly
Team	
ABA_1	
Sheet	
1 of 3	

Units: inch
 .X = ±.02 .XX = ±.01
 .XXX = ±.005 .XXXX = ±.0005
 Angles: ±30'
 UNLESS OTHERWISE STATED

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2

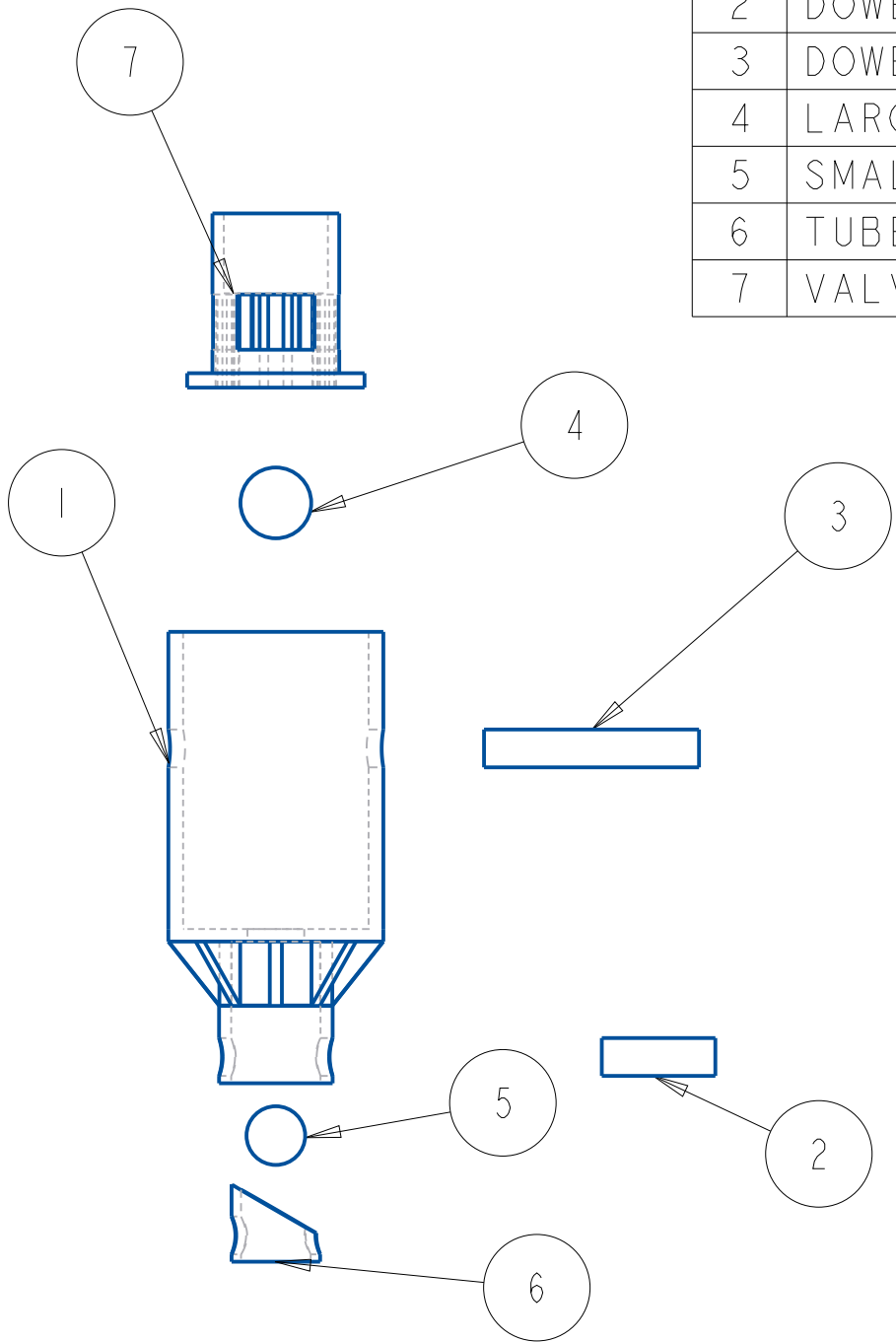
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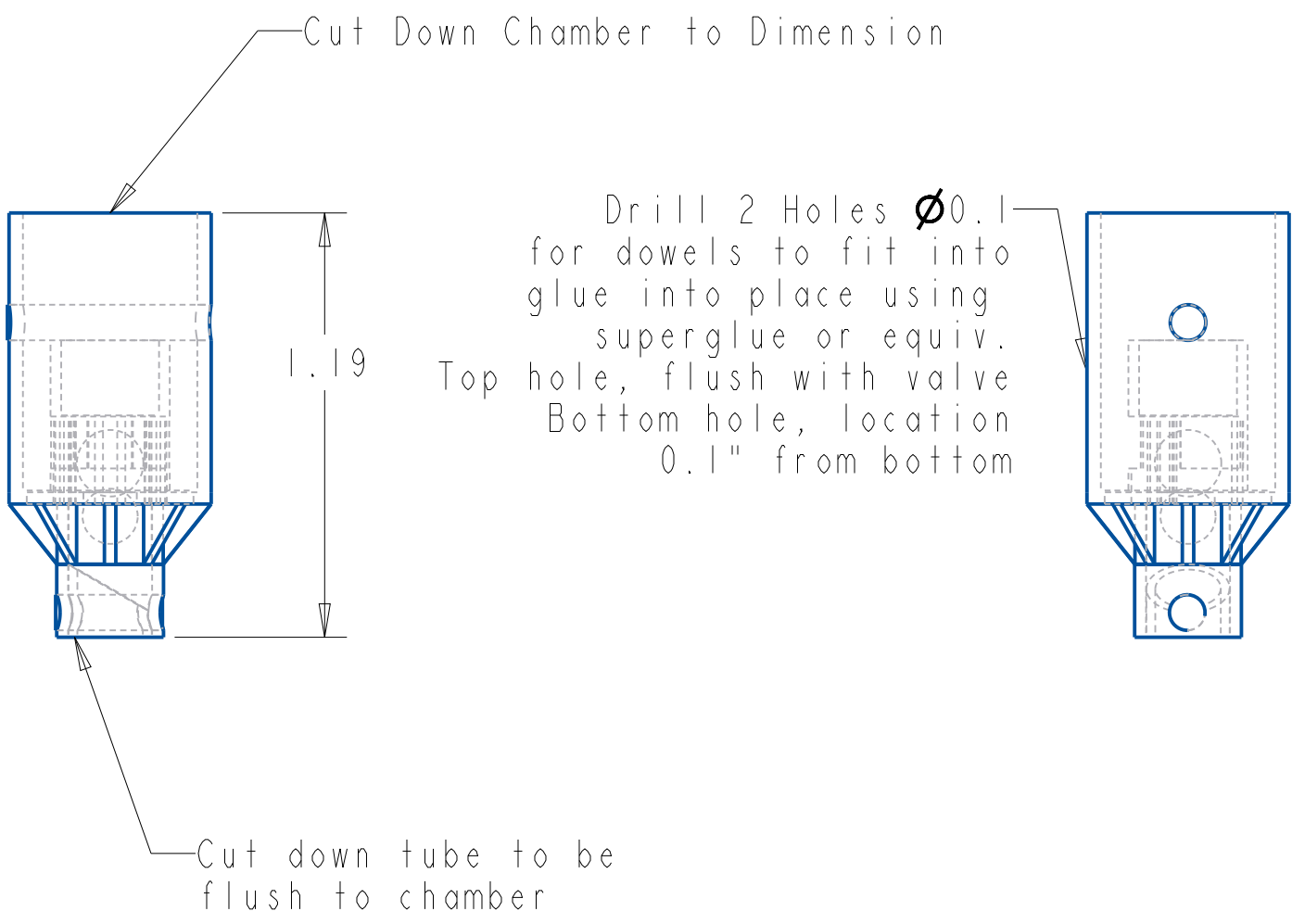
6

ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	CHAMBER	1	chamber.prt	
2	DOWEL 1	1	dowell.prt	
3	DOWEL 2	1	dowel2.prt	
4	LARGERBALL	1	largerball.prt	
5	SMALLERBALL	1	smallerball.prt	
6	TUBE	1	tube.prt	
7	VALVE	1	valve.prt	



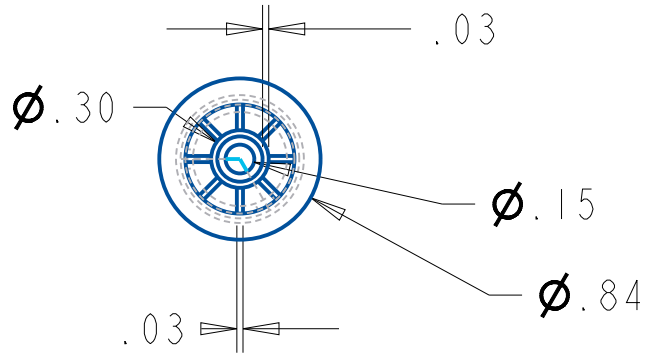
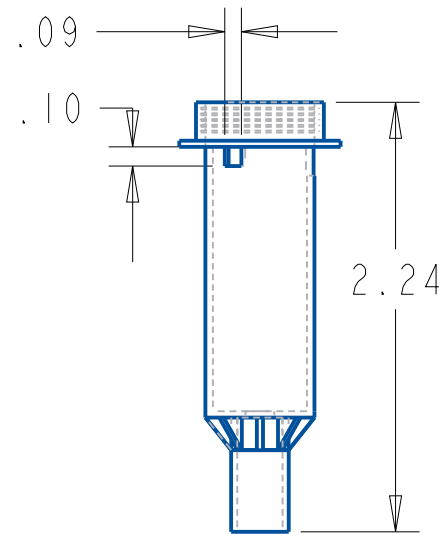
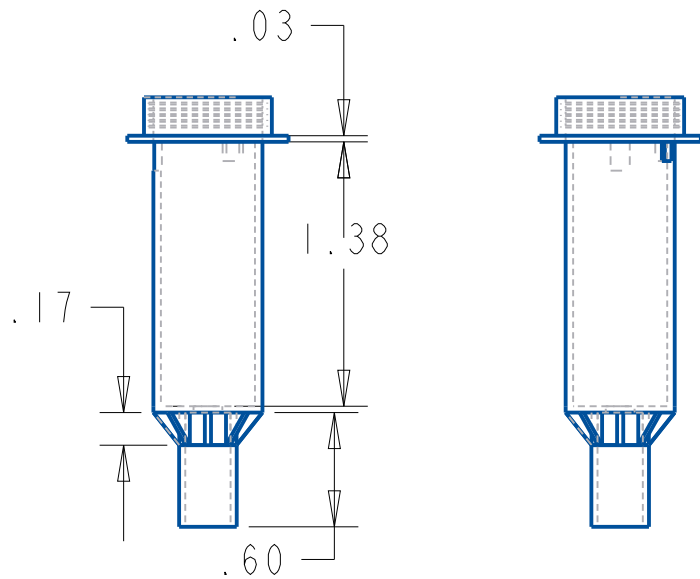
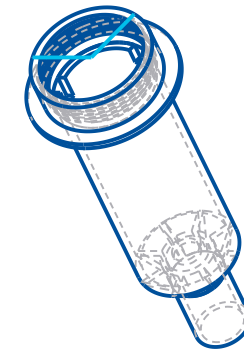
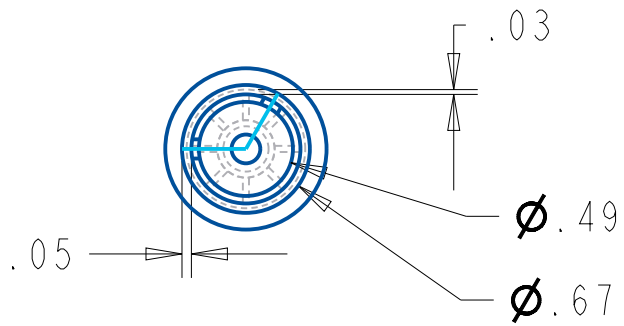
Units: inch
.X = ±.02 .XX = ±.01
.XXX = ±.005 .XXXX = ±.0005
Angles: ±30'
UNLESS OTHERWISE STATED

Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270 4/25/2020	Part Name: valveassembly
Size: A Scale: 2.000	Material:
Team ABA_1	Drawn By: Justin Miner
Sheet 2 of 3	Part Number: valveassembly



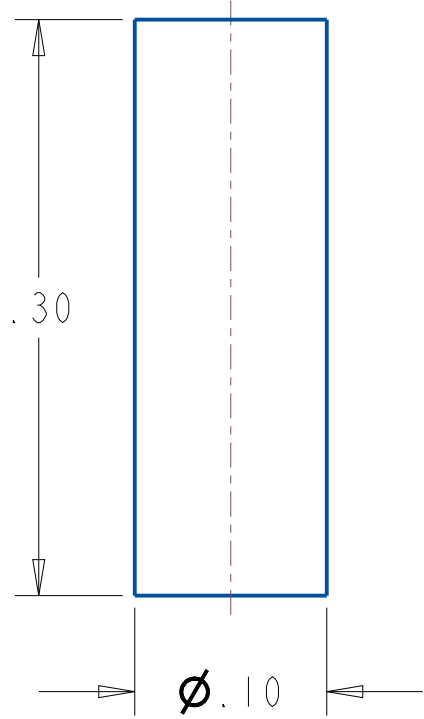
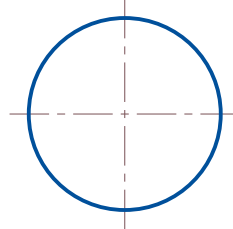
Units: inch
 .X = ±.02 .XX = ±.01
 .XXX = ±.005 .XXXX = ±.0005
 Angles: ±30'
 UNLESS OTHERWISE STATED

Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270 4/25/2020	Part Name: valveassembly
Size: A Scale: 2.000	Material:
Team ABA_1	Drawn By: Justin Miner
Sheet 3 of 3	Part Number: valveassembly



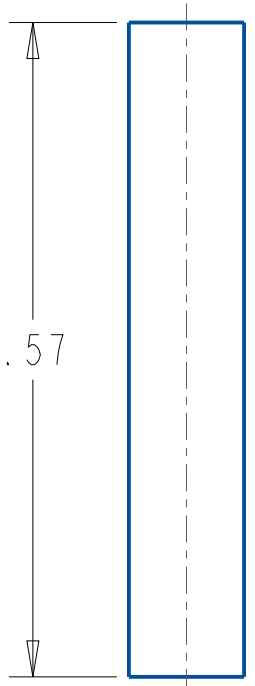
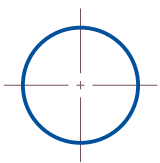
Units: inch
 .X = $\pm .02$.XX = $\pm .01$
 .XXX = $\pm .005$.XXXX = $\pm .0005$
 Angles: $\pm 30'$
 UNLESS OTHERWISE STATED

Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270 4/24/2020	Part Name: chamber
Size: A	Material: LDPE
Scale: 1.000	Drawn By: Justin Miner
Team ABA_1	Part Number: chamber
Sheet 1 of 1	

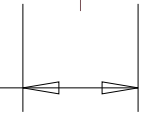


Units: inch
 .X = ±.02 .XX = ±.01
 .XXX = ±.005 .XXXX = ±.0005
 Angles: ±30'
 UNLESS OTHERWISE STATED

Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270 4/25/2020	Part Name: dowel1
Size: A	Material: steel
Scale: 10.000	Drawn By: Justin Miner
Team ABA_1	Part Number: dowel1
Sheet 1 of 1	



\varnothing .10



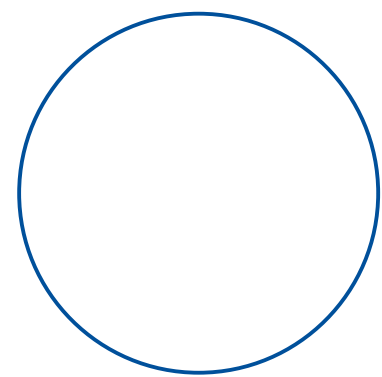
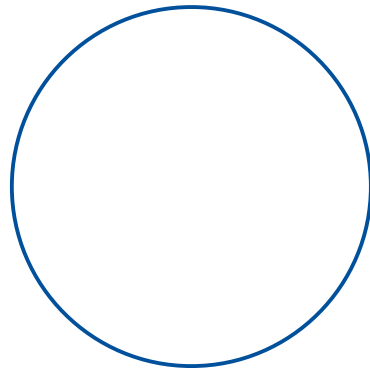
Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270 4/25/2020	Part Name: dowel2
Size: A	Material: steel
Scale: 6.000	Drawn By: Justin Miner
Team ABA_1	Part Number: dowel2
Sheet 1 of 1	

Units: inch
 .X = ±.02 .XX = ±.01
 .XXX = ±.005 .XXXX = ±.0005
 Angles: ±30'
 UNLESS OTHERWISE STATED

1 2 3 4 5 6

A

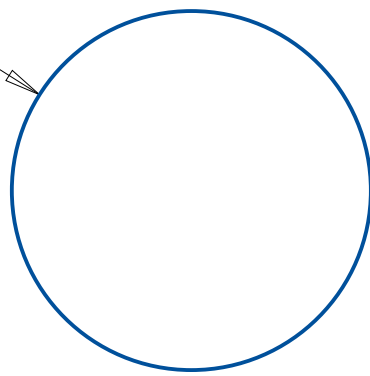
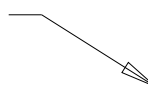
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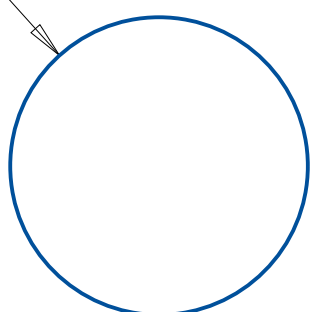
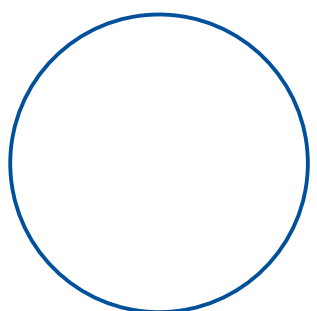
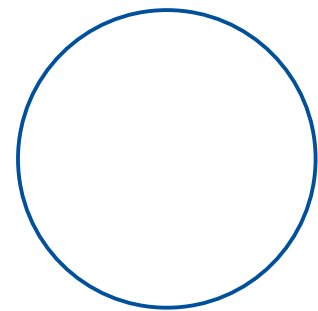
D

D

Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270 4/25/2020	Part Name: largerball
Size: A	Material: steel
Scale: 10.000	Drawn By: Justin Miner
Team ABA_1	Part Number: largerball
Sheet 1 of 1	

Units: inch
.X = ±.02 .XX = ±.01
.XXX = ±.005 .XXXX = ±.0005
Angles: ±30'
UNLESS OTHERWISE STATED

1 2 3 4 5 6

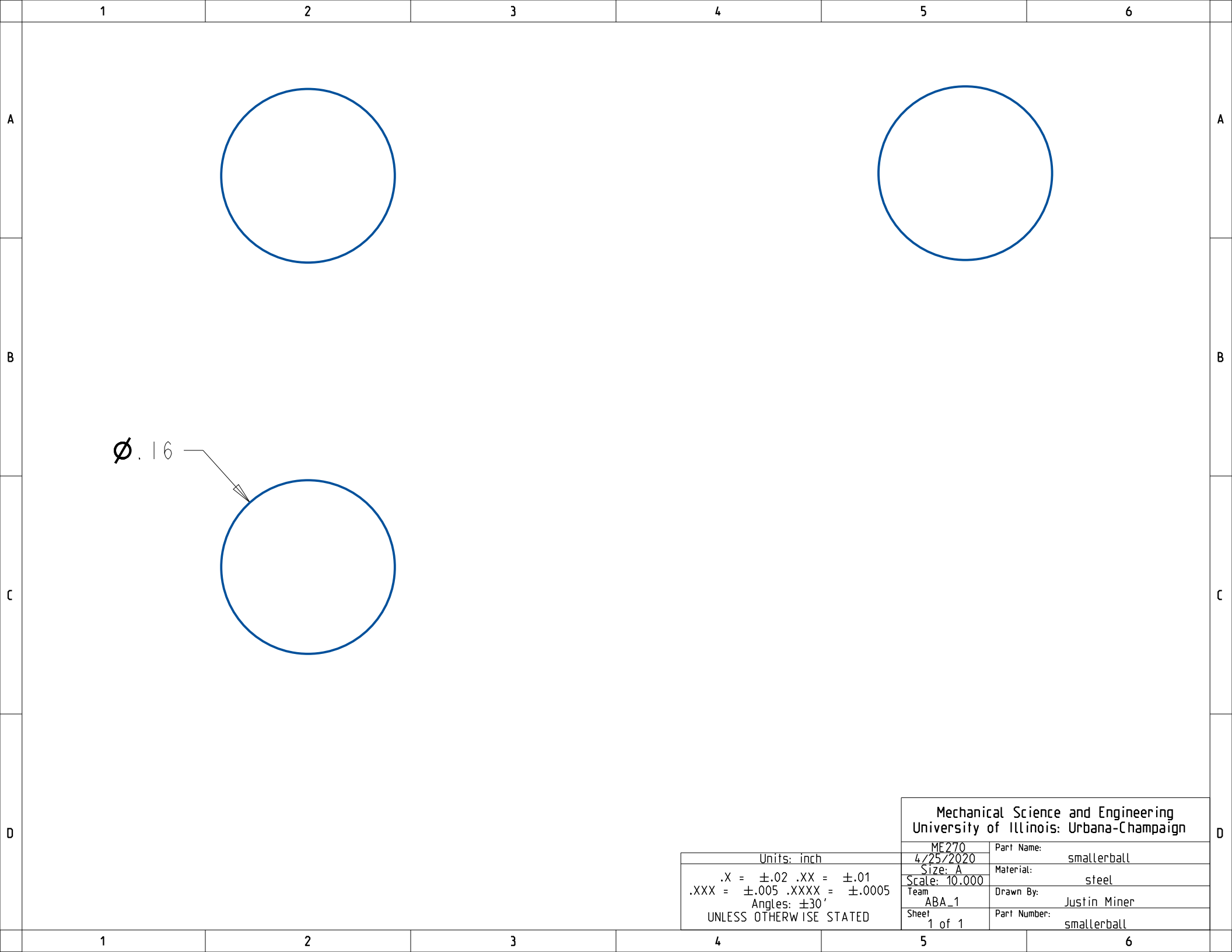


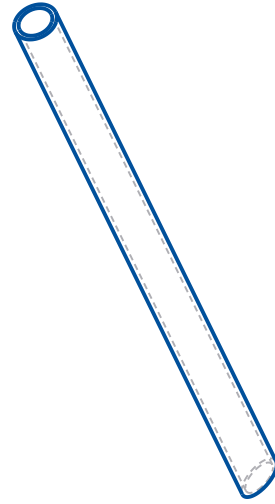
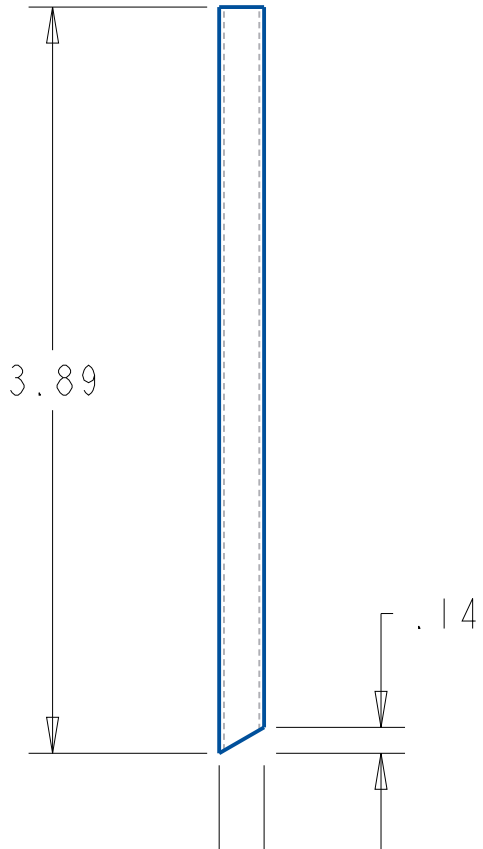
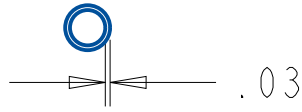
Ø .16

Mechanical Science and Engineering
University of Illinois: Urbana-Champaign

ME270	Part Name:	smallerball
4/25/2020	Material:	steel
Size: A	Drawn By:	Justin Miner
Scale: 10.000	Part Number:	smallerball
Team		
ABA_1		
Sheet		
1 of 1		

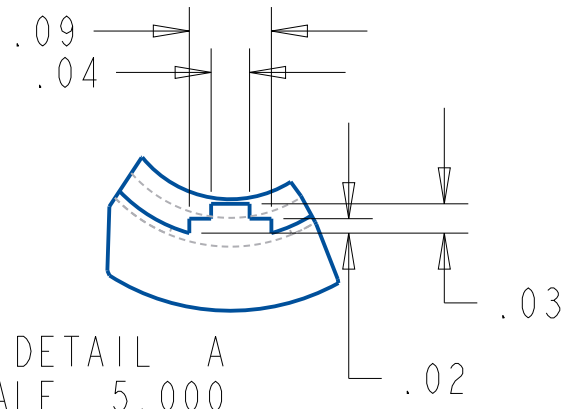
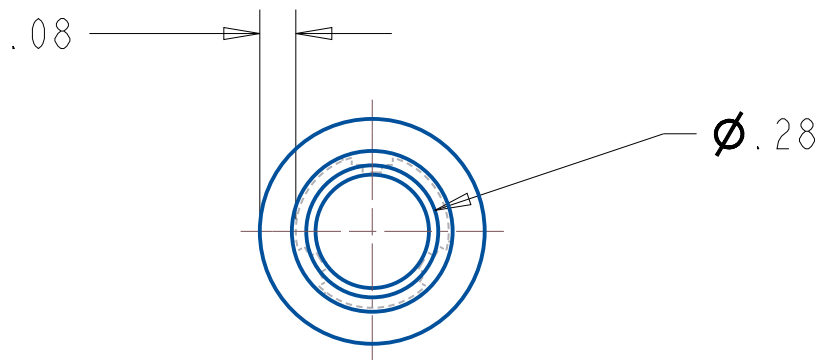
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.XXX = ±.005 .XXXX = ±.0005
Angles: ±30'
UNLESS OTHERWISE STATED



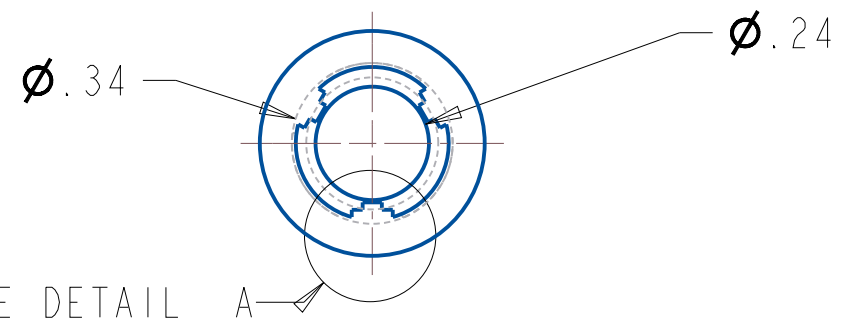
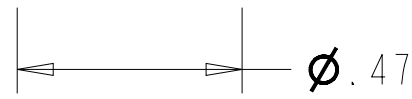
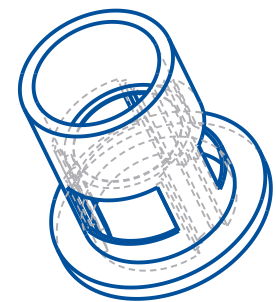
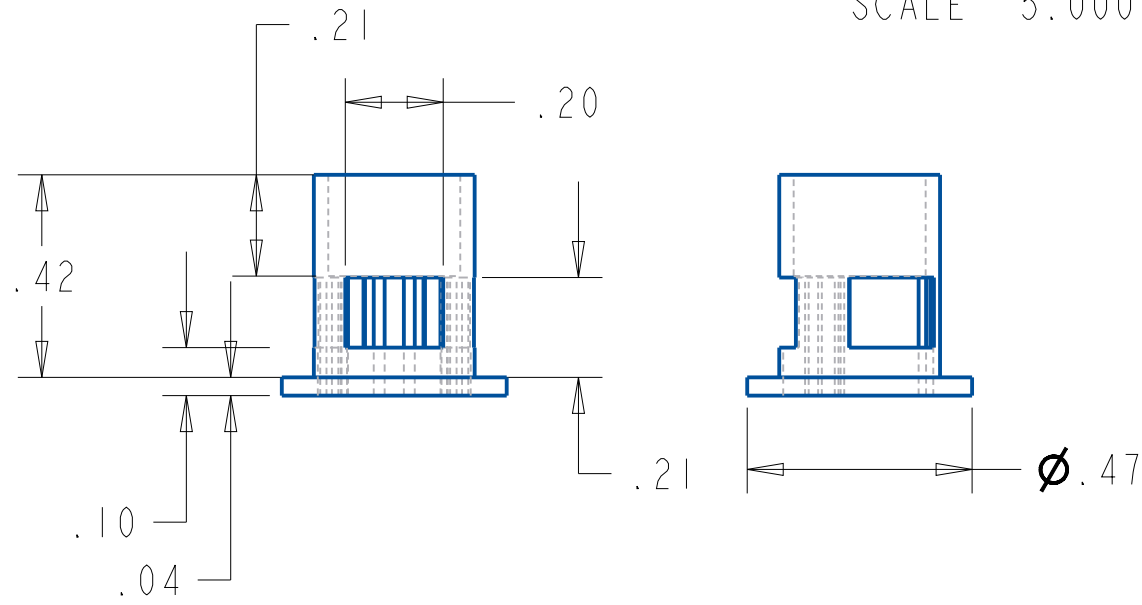


Units: inch
 .X = ±.02 .XX = ±.01
 .XXX = ±.005 .XXXX = ±.0005
 Angles: ±30'
 UNLESS OTHERWISE STATED

Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270 4/25/2020	Part Name: tube
Size: A	Material: LDPE
Scale: 1.000	Drawn By: Justin Miner
Team ABA_1	Part Number: tube
Sheet 1 of 1	



DETAIL A
SCALE 5.000



SEE DETAIL A

Mechanical Science and Engineering University of Illinois: Urbana-Champaign	
ME270	Part Name: valve
4/25/2020	Material: LDPE
Size: A	Drawn By: Justin Miner
Scale: 2.500	Part Number: valve
Team	
ABA_1	
Sheet	
1 of 1	

Units: inch
.X = $\pm .02$.XX = $\pm .01$
.XXX = $\pm .005$.XXXX = $\pm .0005$
Angles: $\pm 30'$
UNLESS OTHERWISE STATED