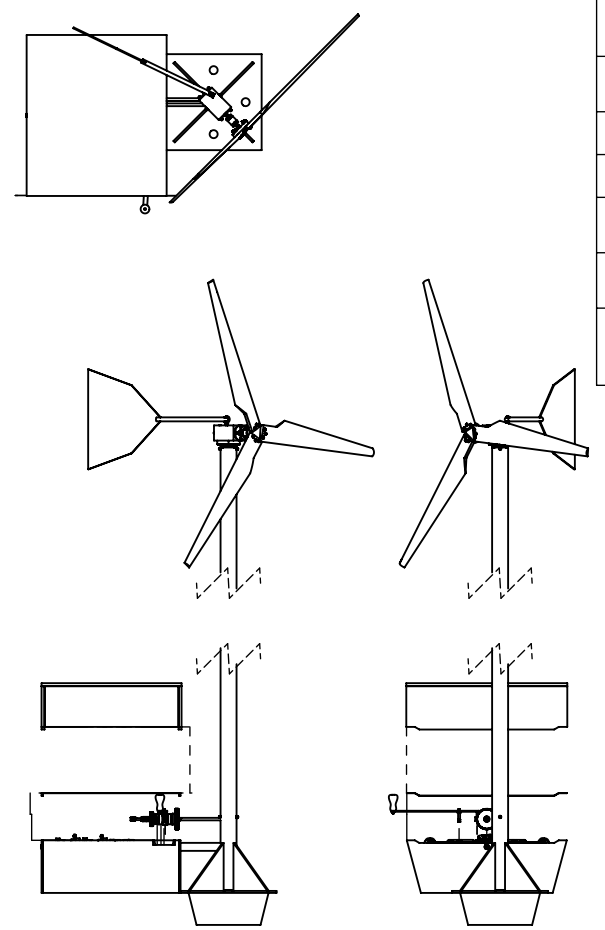


DETAIL L
SCALE 1 : 12



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-300-00	ENGINE BLOCK	1
2	ENG-400-00	GEARBOX	1
3	ENG-100-00	ENGINE INTERNALS	1
4	6383K490	0.75" BEARING	1
5	91590A128	0.75" BEARING	2
6	ENG-700-00	VALVE ASSEMBLY	12
7	ENG-500-00	LEFT VALVE CAM	1
8	ENG-600-00	RIGHT VALVE CAM	1
9	ENG-800-00	SHIFTER	1
10	ENG-000-02	SHIFTER PILLOW BLOCK	1
11	ENG-000-01	SHIFTER CAM	1
12	8124823A14	1/4"-20 SCREW WITH WASHERS	1
13	92147A029	MCMaster CARR PART 92147A029	1
14			1
15			2
16	6383K234	6383K234 McMaster Part 6383K234 McMaster Part 6383K234	1
17	98633A230	MCMaster CARR PART 98633A230 5/8 RETAINING RING	4
18	ENG-200-00	ENG-200-00	1
19	6529K240	MCMaster CARR PART 6529K240	1
20	ENG-000-03	DRIVESHAFT COVERING	1
21	90692A748	90692A748	1
22	ENG-900-00	ENG-900-00	2
23			1

UNLESS OTHERWISE SPECIFIED:
 QTY: 1 MATERIAL: SEE COMPONENTS
 DIMENSIONS ARE IN INCHES.

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

ENGINEER landrade 12/14/2015
 DRAWN C.Kissel 12/14/2015
 CHECKED 12/14/2015

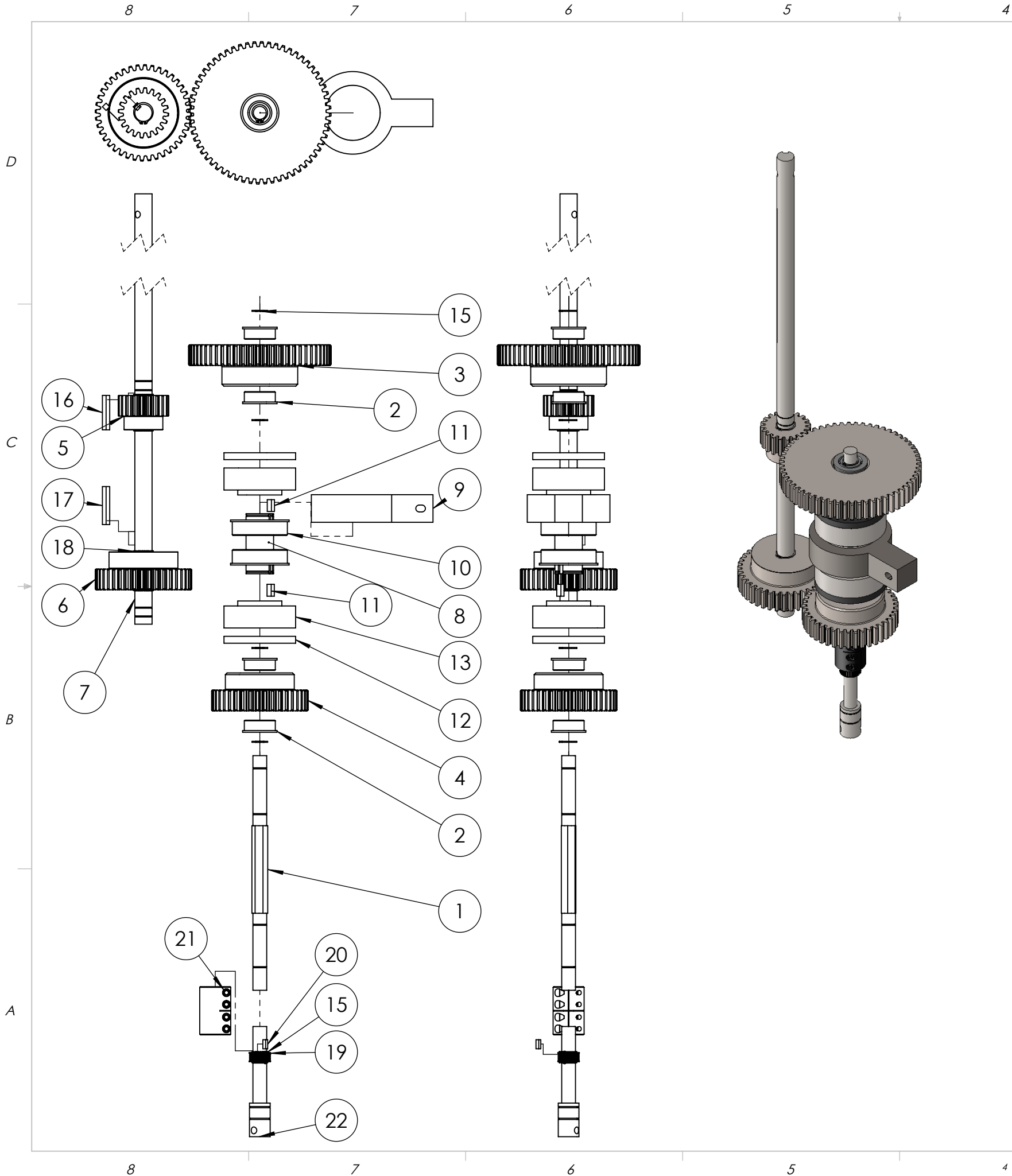
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Olin College of Engineering

TITLE
FULL ASSEMBLY

SIZE **B** PART NO. **ENG-000-00** REV **U**

SCALE 2:1 DO NOT SCALE PRINT SHEET 1 OF 1



ITEM NO.	Number	DESCRIPTION	QTY.
1	ENG-400-02	GEARBOX OUTPUT SHAFT	1
2	6383K234	McMaster Part 6383K234	4
3	6325K4	McMaster Part 6325K4	1
4	6325K2	McMaster Part 6325K2	1
5	6867K59	McMaster Part 6867K59	1
6	6867K65	McMaster Part 6867K65	1
7	ENG-400-01	GEARBOX INPUT SHAFT	1
8	ENG-400-03	SHIFTER SLIDE	1
9	ENG-400-04	SHIFTER LINK	1
10	6383KS57	MCMaster CARR PART 6383KS57	2
11	98535A130	3/16 KEY 0.43"	2
12	ENG-400-06	SHIFTER FRICTION PAD	2
13	ENG-400-05	FRICTION SHOE	2
14	91590A133	MCMaster CARR PART 91590A133 1" RETAINING RING	2
15	97633A200	97633A200	6
16	98535A140	3/16 KEY 0.43"	1
17	98535A140	3/16 KEY 0.43"	1
18	98633A230	MCMaster CARR PART 98633A230 5/8 RETAINING RING	4
19	ENG-400-07	CAM SHAFT TIMING PULLEY	1
20		.125 KEY	1
21	61005K122	MCMaster PART 61005K122 SHAFT COUPLER	1
22	ENG-400-02	GEARBOX OUTPUT SHAFT	1

UNLESS OTHERWISE SPECIFIED:
 QTY: 1 MATERIAL: SEE COMPONENTS
 DIMENSIONS ARE IN INCHES.

ENGINEER	ckissel	12/14/2015
DRAWN	C.Kissel	12/14/2015
CHECKED	jsapers	12/14/2015

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

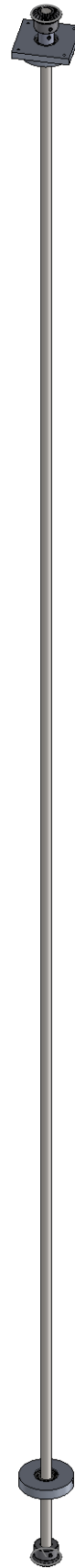
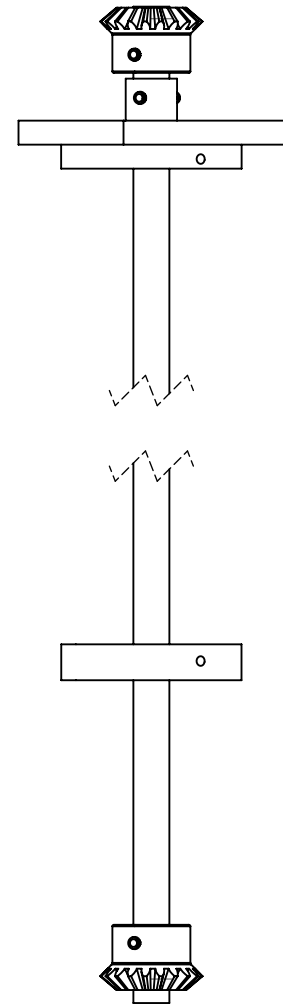
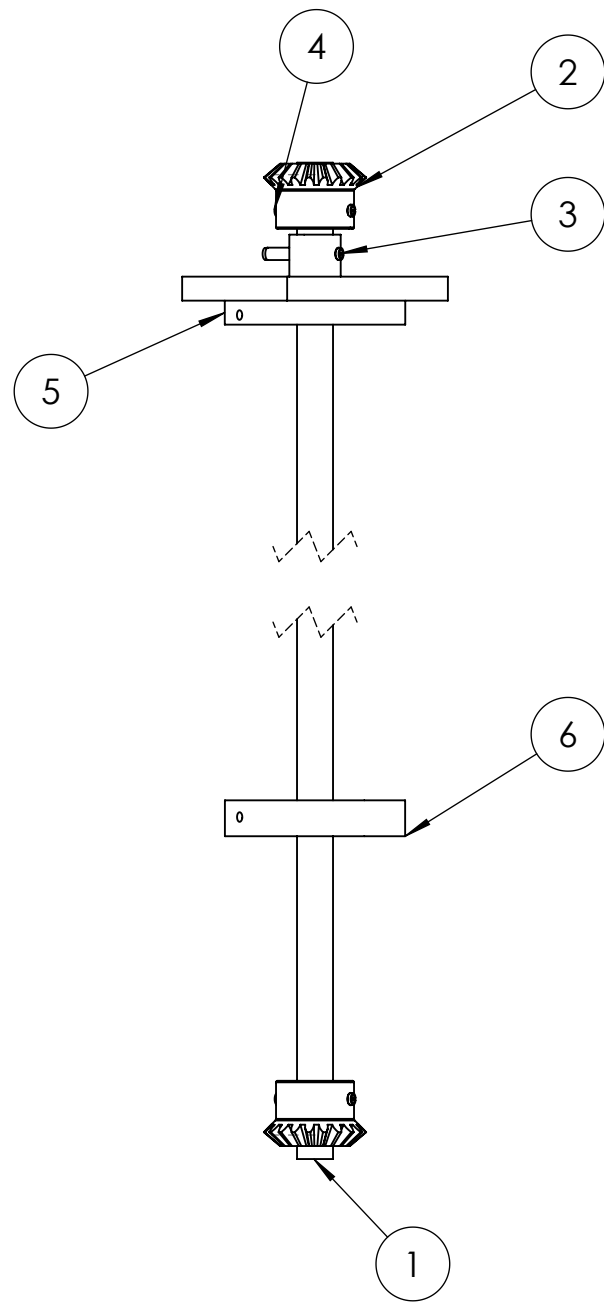
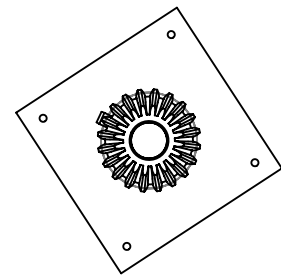
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Olin College of Engineering

TITLE: **GEARBOX**

SIZE: **B** PART NO.: **ENG-400-00** REV: **G**

SCALE: 2:1 DO NOT SCALE PRINT SHEET 1 OF 1



ITEM NO.	Description	PART NUMBER	QTY.
1	ENG-220-01	driveshaft .75in long	1
2	6529K250	miter gear 20 teeth 10 pitch .75in shaft	2
3	ENG-220-02	.75in collar for driveshaft	1
4	90692A748	90692A748	3
5	ENG-242-00	upper bearing housing assembly	1
6	ENG-241-00	lower bearing assembly	1

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY:	MATERIAL: SEE COMPONENTS	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015

Olin College of Engineering

TITLE: **OUTER SHAFT ASSEMBLY**

SIZE: **B** PART NO.: **ENG-240-00** REV: **T**

SCALE: 2:1 DO NOT SCALE PRINT SHEET 1 OF 1

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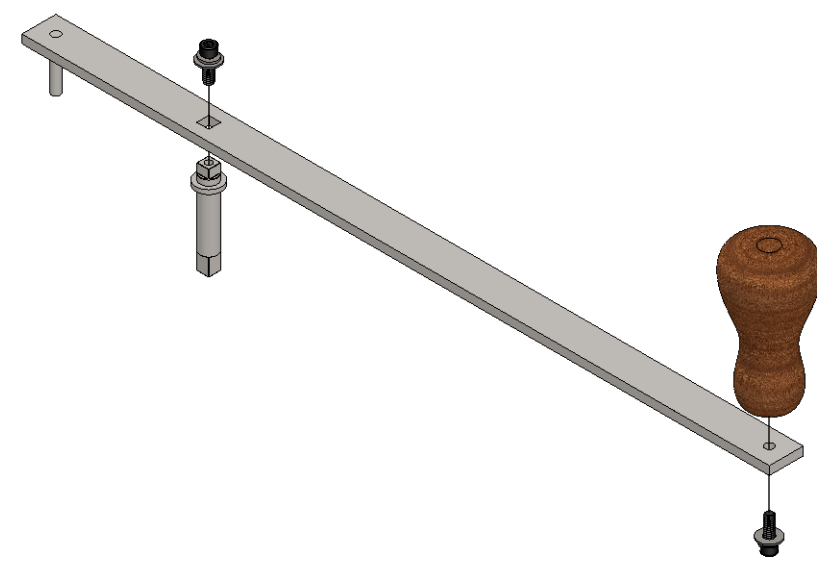
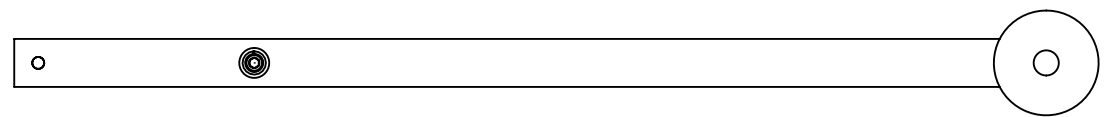
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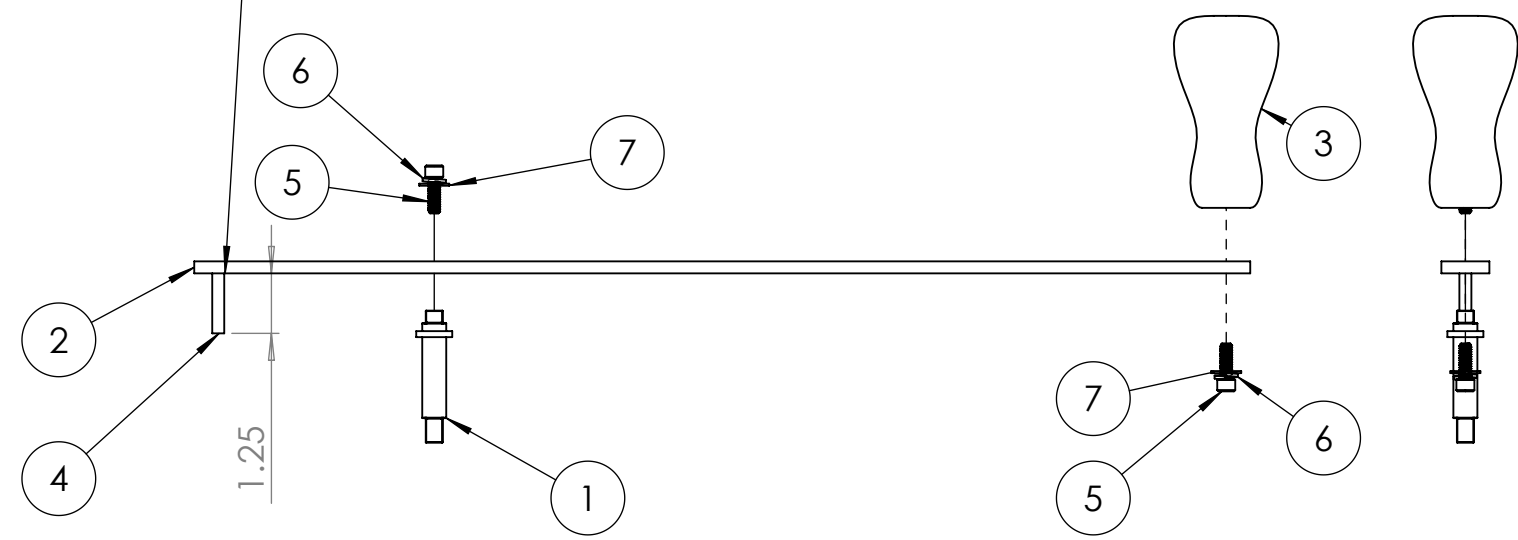
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.25 ALL AROUND PIN



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-800-04	SHIFTER PIVOT	1
2	ENG-800-01	GEARSHIFT ARM	1
3	ENG-800-02	SHIFTER HANDLE	1
4	ENG-800-03	SHIFTER PIN	1
5	91251A540	1/4-20 SCREW	2
6	92147A029	1/4" SPLIT WASHER	2
7	90107A029	1/4" WASHER	2

UNLESS OTHERWISE SPECIFIED:
 QTY: 1 MATERIAL: SEE COMPONENTS
 DIMENSIONS ARE IN INCHES.

ENGINEER: ckissel 12/14/2015
 DRAWN: C.Kissel 12/14/2015
 CHECKED: jsapers 12/14/2015

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125'
 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

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Olin College of Engineering

TITLE: **SHIFTER**

SIZE: **B** PART NO.: **ENG-800-00** REV: **C**

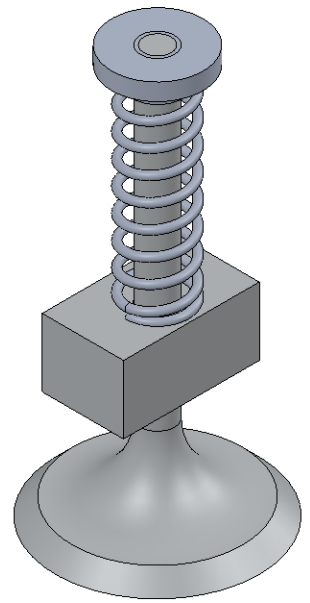
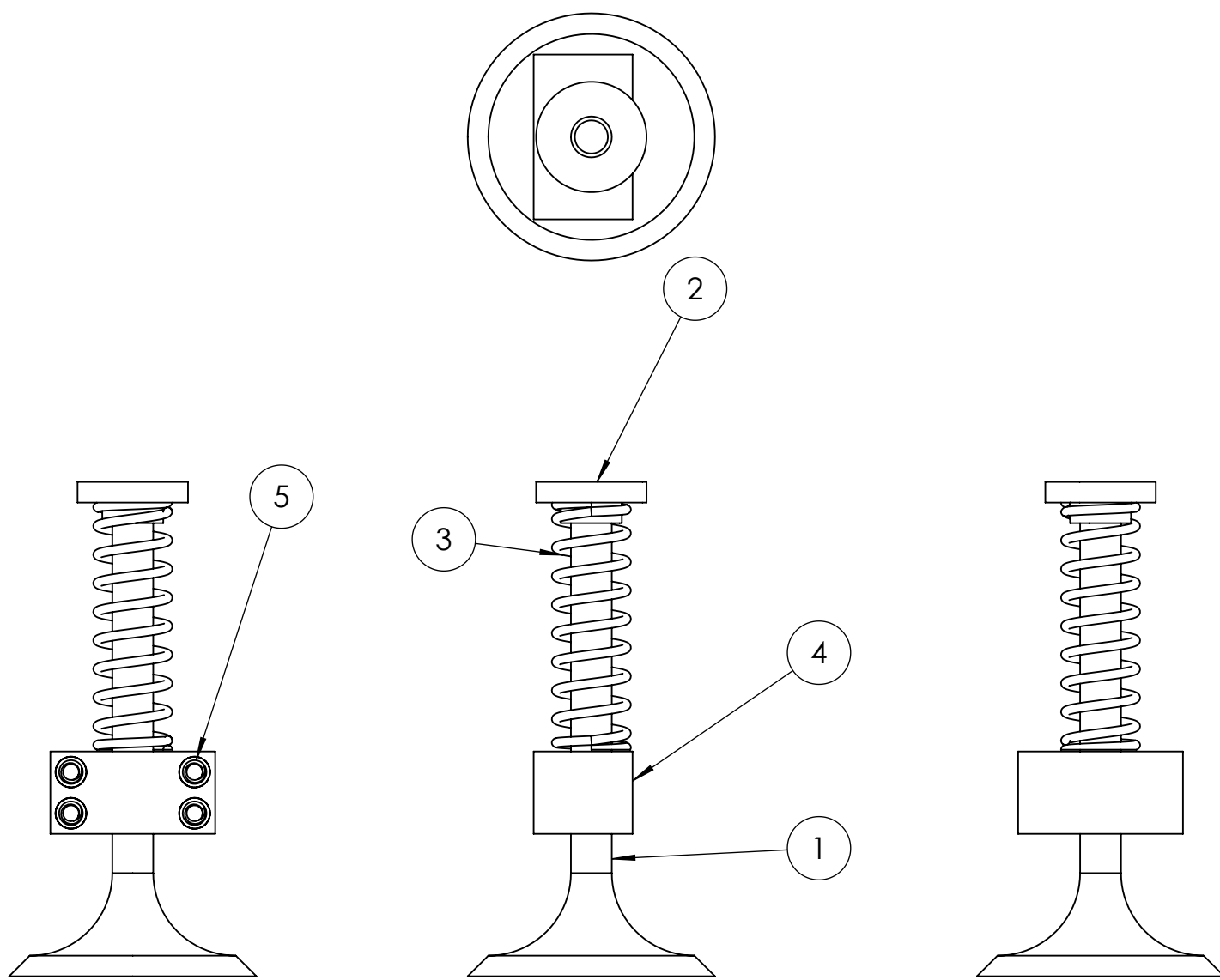
SCALE: 2:1 DO NOT SCALE PRINT SHEET 1 OF 1

8 7 6 5 4 3 2 1

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-700-03	Valve Stem	1
2	ENG-700-02	Valve Spring Cap	1
3	9434K118	9434K118 SPRING	1
4	ENG-700-01	Valve Linear Bearing	1
5	92394A113	92394A113 #6 SCREW	4

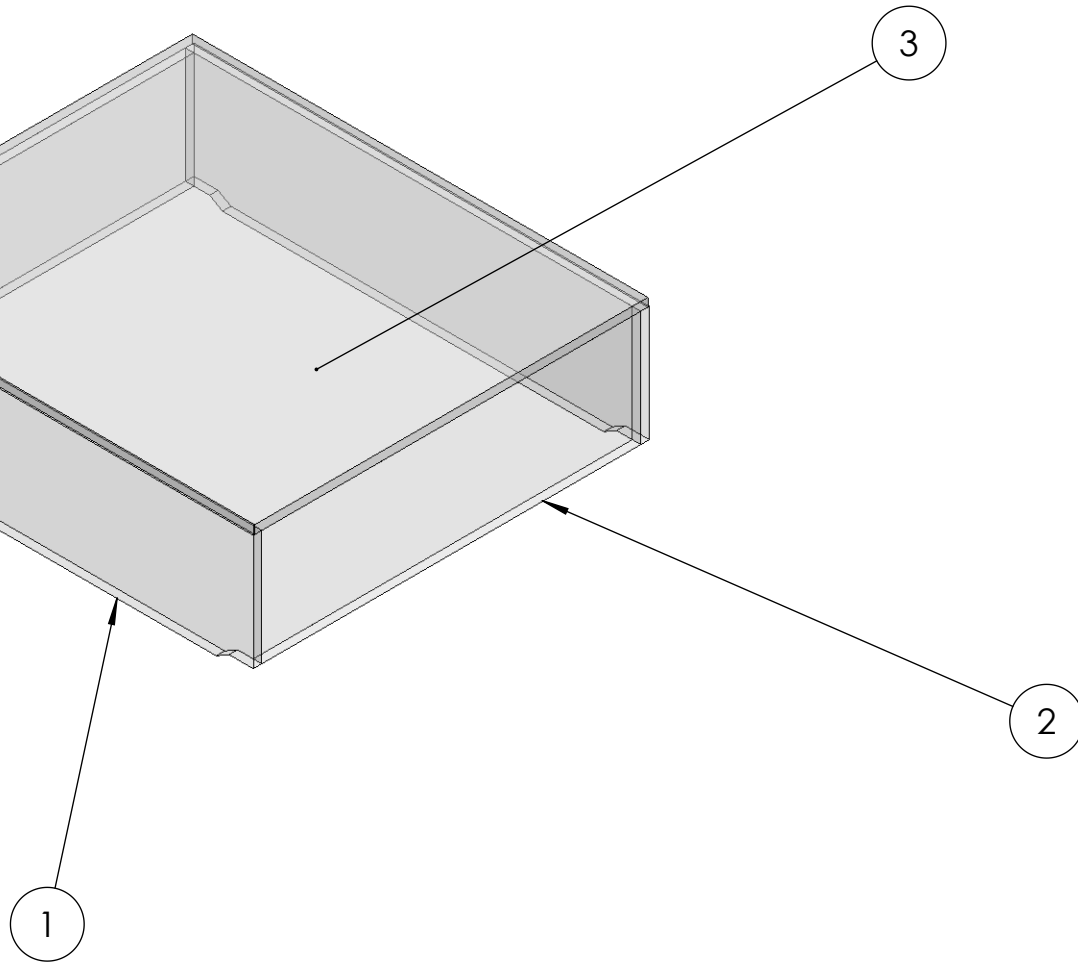
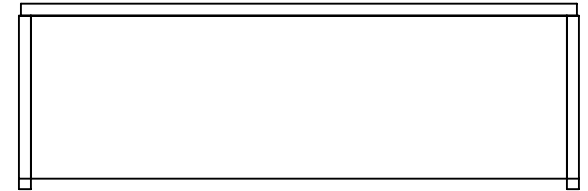
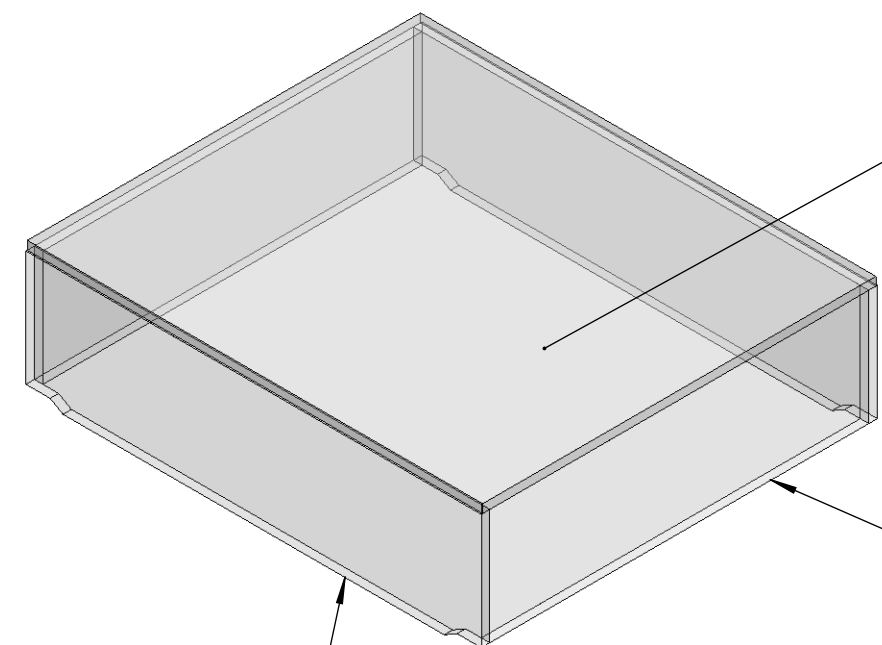
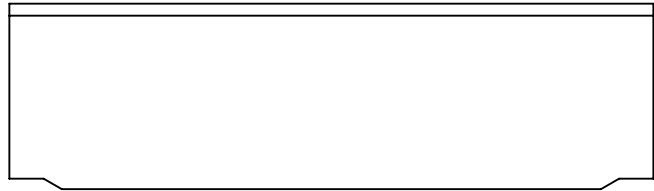
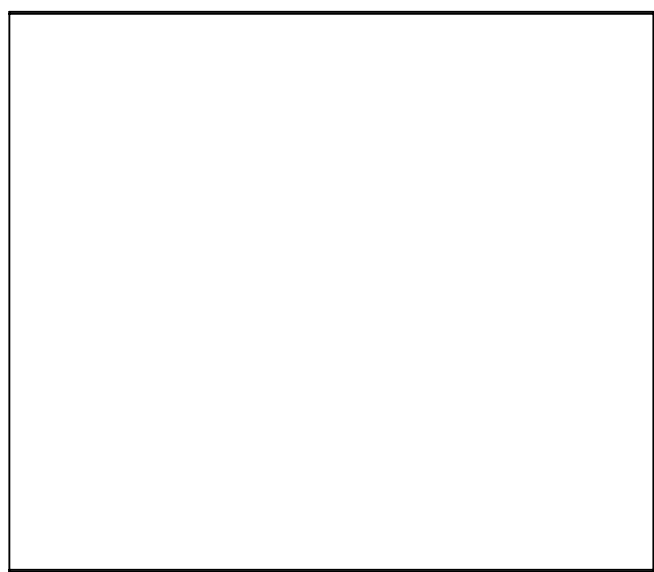
<p>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</p> <p>TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005</p> <p>±0.5° 125/</p> <p>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</p>	<p>UNLESS OTHERWISE SPECIFIED:</p>			<p>Olin College of Engineering</p>	
	<p>QTY: 12</p>	<p>MATERIAL:</p>			
	<p>DIMENSIONS ARE IN INCHES.</p>				
	<p>ENGINEER L.Andrade 12/14/2015</p>	<p>DRAWN C.Kissel 12/14/2015</p>	<p>CHECKED jsapers 12/14/2015</p>		
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<p>SIZE B</p>	<p>PART NO. ENG-700-00</p>	<p>REV E</p>	<p>SCALE 2:1</p>	<p>DO NOT SCALE PRINT</p>	<p>SHEET 1 OF 1</p>

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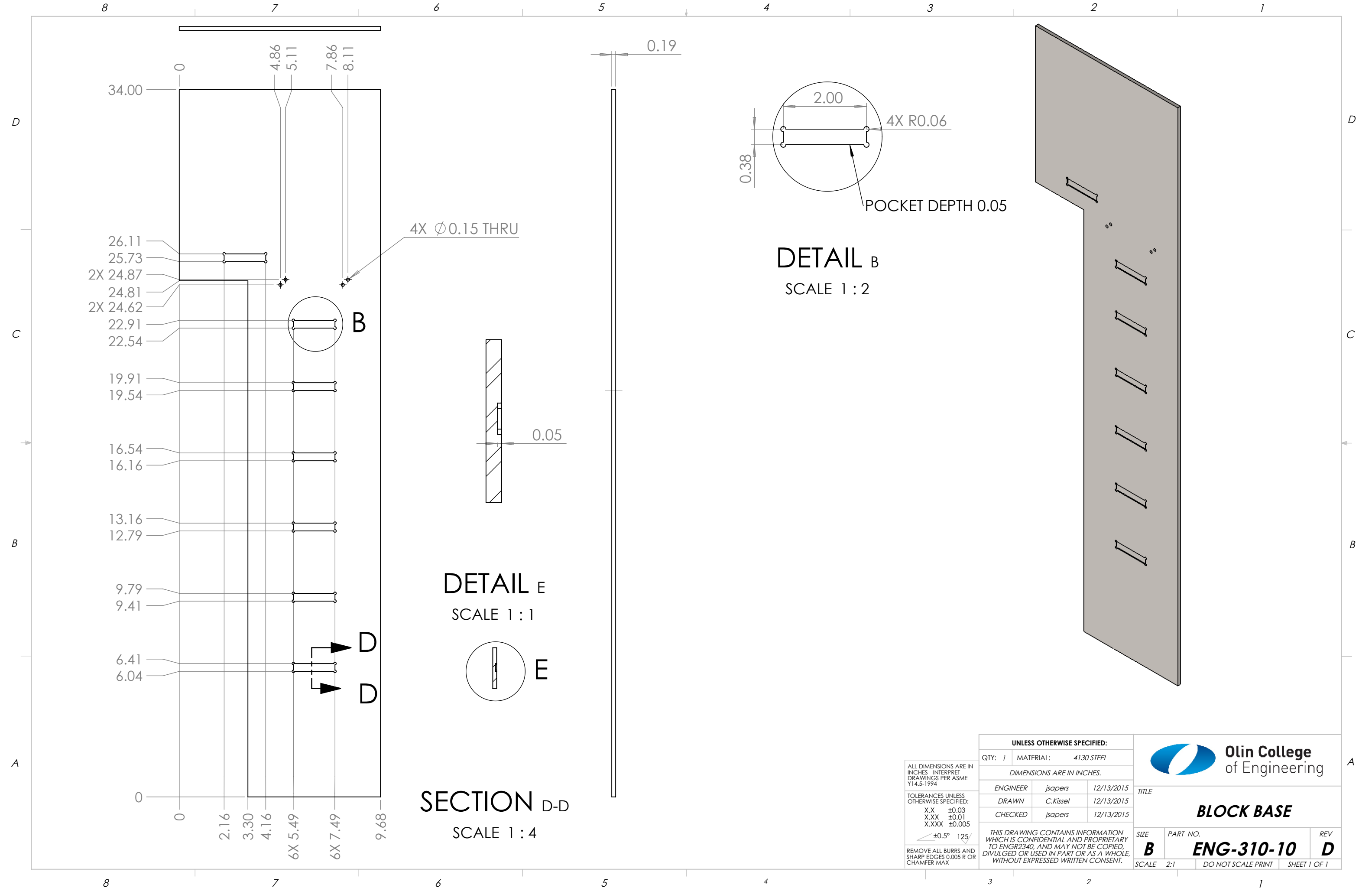


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-320-01	GLASS FRONT	2
2	ENG-320-02	GLASS SIDE	2
3	ENG-320-03	GLASS TOP	1

NOTE: EPOXY GLASS PANELS TOGETHER

<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 ±0.5° 125/	UNLESS OTHERWISE SPECIFIED:			 Olin College of Engineering
	QTY: 1 MATERIAL: SEE COMPONENTS			
	<i>DIMENSIONS ARE IN INCHES.</i>			
	ENGINEER	jsapers	12/13/2015	
DRAWN	C.Kissel	12/13/2015	TITLE	
CHECKED	jsapers	12/13/2015	GLASS FRAME	
<small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX</small>			SIZE B PART NO. ENG-320-00 REV	
<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>			SCALE 2:1 DO NOT SCALE PRINT SHEET 1 OF 1	

8 7 6 5 4 3 2 1



34.00

26.11

25.73

2X 24.87

24.81

2X 24.62

22.91

22.54

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19.54

16.54

16.16

13.16

12.79

9.79

9.41

6.41

6.04

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2.16

3.30

4.16

5.49

6X 5.49

6X 7.49

9.68

4.86

5.11

7.86

8.11

4X Ø0.15 THRU

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2.00

4X R0.06

POCKET DEPTH 0.05

0.38

DETAIL B

SCALE 1 : 2

0.05

DETAIL E

SCALE 1 : 1

SECTION D-D

SCALE 1 : 4

6X 5.49

6X 7.49

UNLESS OTHERWISE SPECIFIED:		QTY: 1		MATERIAL: 4130 STEEL	
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994					
TOLERANCES UNLESS OTHERWISE SPECIFIED:					
X.X	±0.03				
X.XX	±0.01				
X.XXX	±0.005				
±0.5°	125/				
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.					
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Olin College of Engineering		TITLE			
BLOCK BASE		SCALE 2:1			
SIZE	PART NO.	REV			
B	ENG-310-10	D			
DO NOT SCALE PRINT		SHEET 1 OF 1			

8 7 6 5 4 3 2 1

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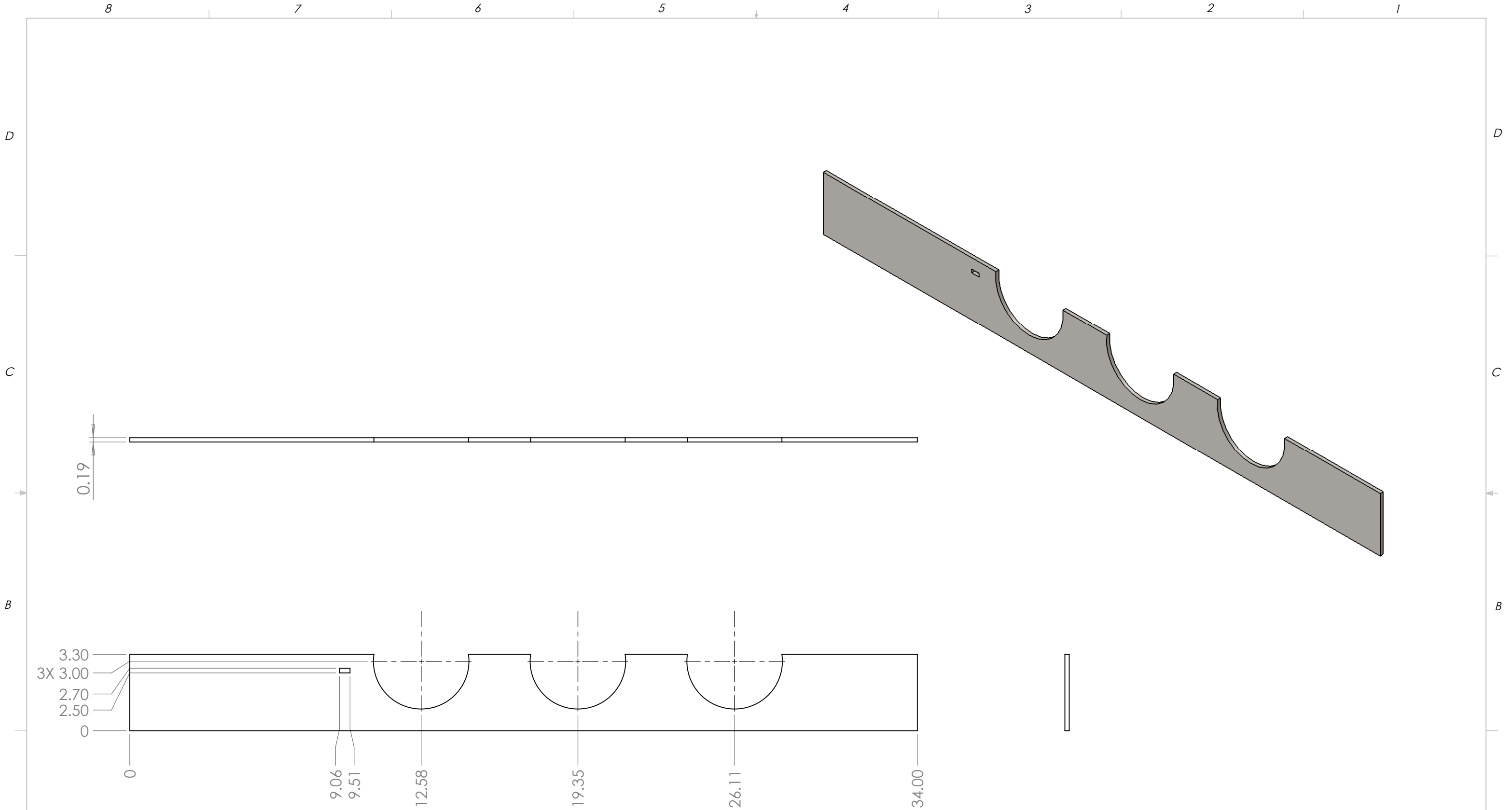
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<p>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</p> <p>TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005</p> <p>±0.5° 125/</p> <p>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</p>	<p>UNLESS OTHERWISE SPECIFIED:</p>			 <p>Olin College of Engineering</p>
	QTY: 1	MATERIAL: CARBON STEEL		
	<p>DIMENSIONS ARE IN INCHES.</p>			<p>TITLE</p> <p>BLOCK GEAR BACK</p>
	ENGINEER	jsapers	12/13/2015	
DRAWN	C.Kissel	12/13/2015		
CHECKED	jsapers	12/13/2015	<p>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</p>	
SIZE	PART NO.	REV	<p>B ENG-310-07 A</p>	
SCALE	2:1	DO NOT SCALE PRINT	SHEET 1 OF 1	

8 7 6 5 4 3 2 1

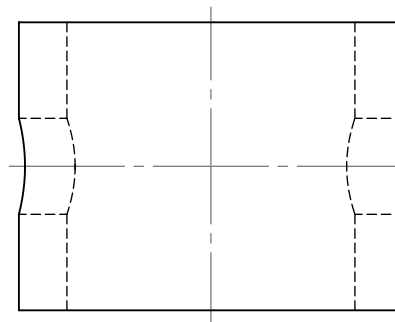
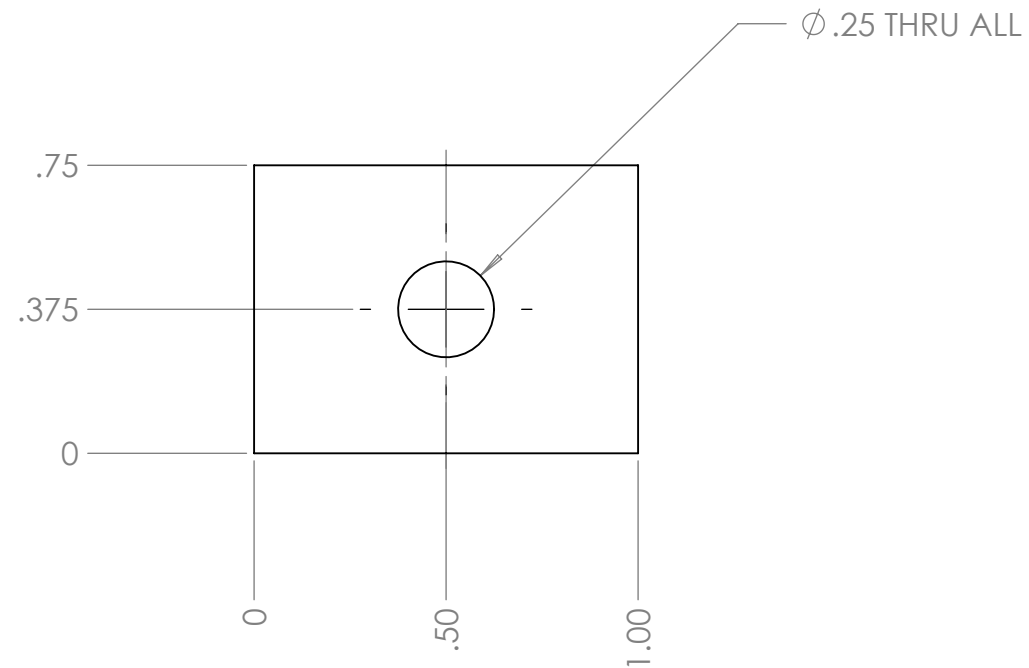
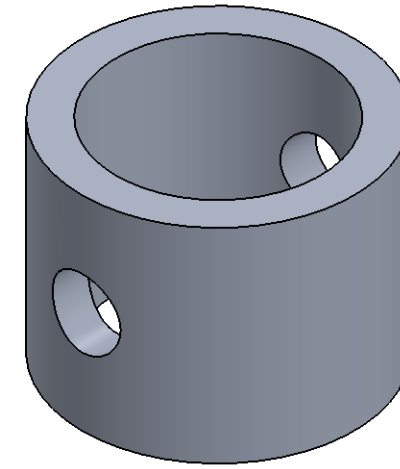
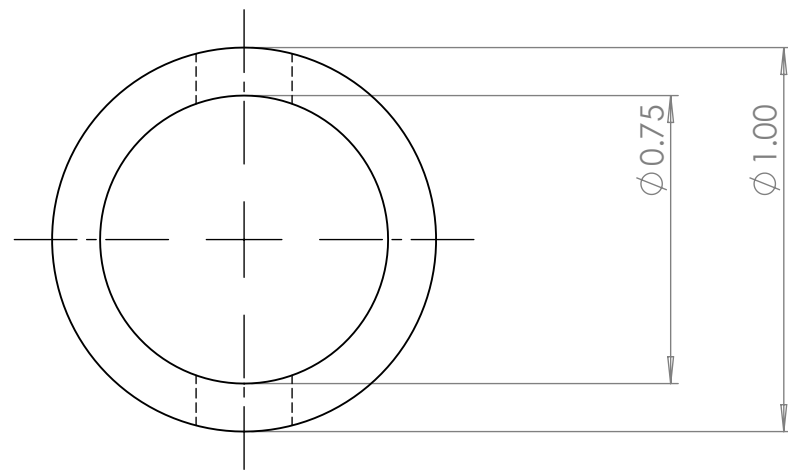


UNLESS OTHERWISE SPECIFIED:		QTY: 1		MATERIAL: CARBON STEEL	
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994					
TOLERANCES UNLESS OTHERWISE SPECIFIED:					
X.X		±0.03			
X.XX		±0.01			
X.XXX		±0.005			
±0.5°		125/			
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Olin College of Engineering			TITLE		
ENGINEER jsapers 12/13/2015			DRAWN C.Kissel 12/13/2015		
CHECKED jsapers 12/13/2015			SCALE 2:1		
DO NOT SCALE PRINT			SHEET 1 OF 1		
SIZE B		PART NO. BLOCK RIGHT SIDE		REV B	



ENG-310-11

SCALE 2:1 DO NOT SCALE PRINT SHEET 1 OF 1



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

∠ ±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 2	MATERIAL:	6061-T6 (SS)
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015



TITLE		
TURBINE SHAFT COLLAR		
SIZE	PART NO.	REV
B	ENG-2322-01	B
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

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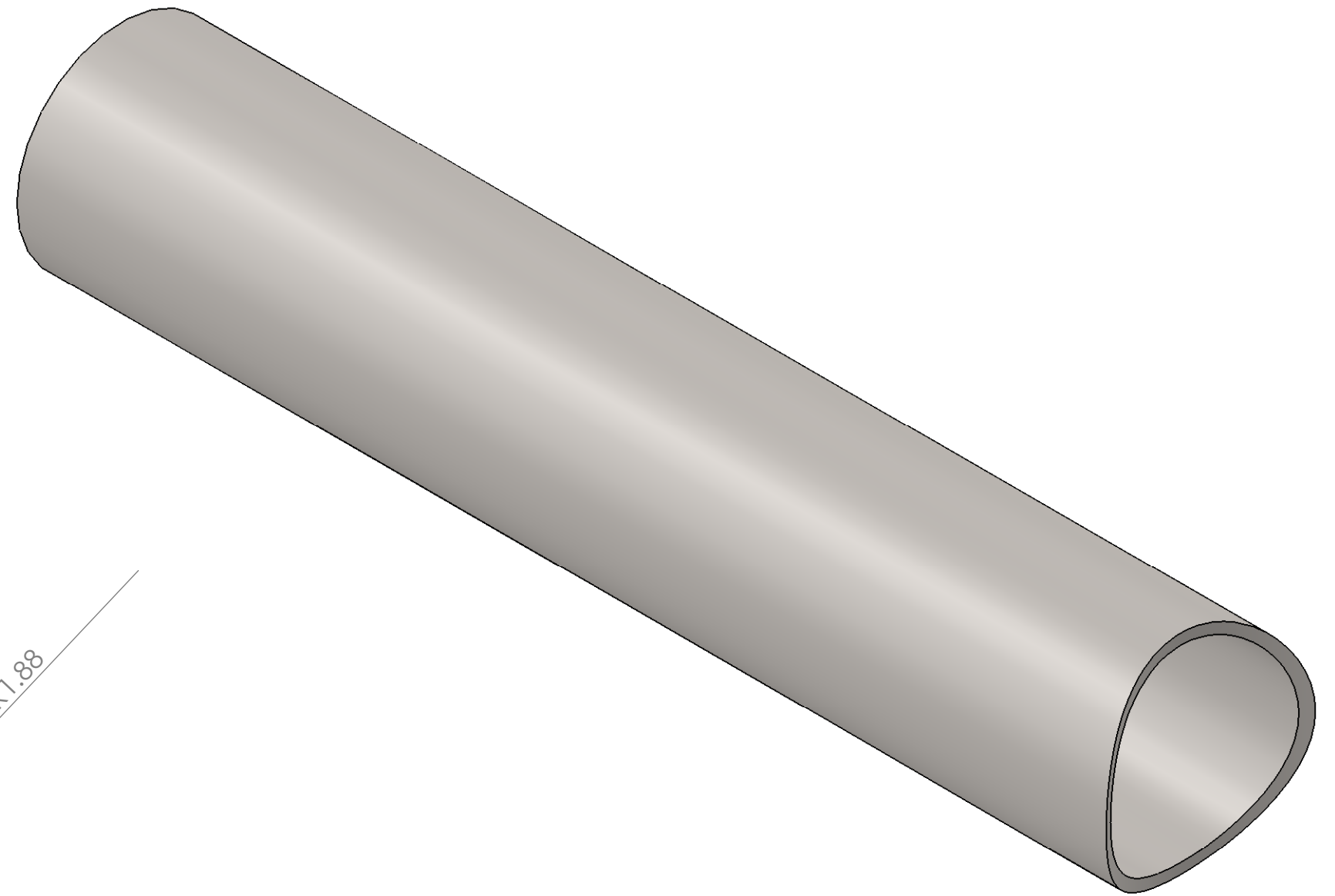
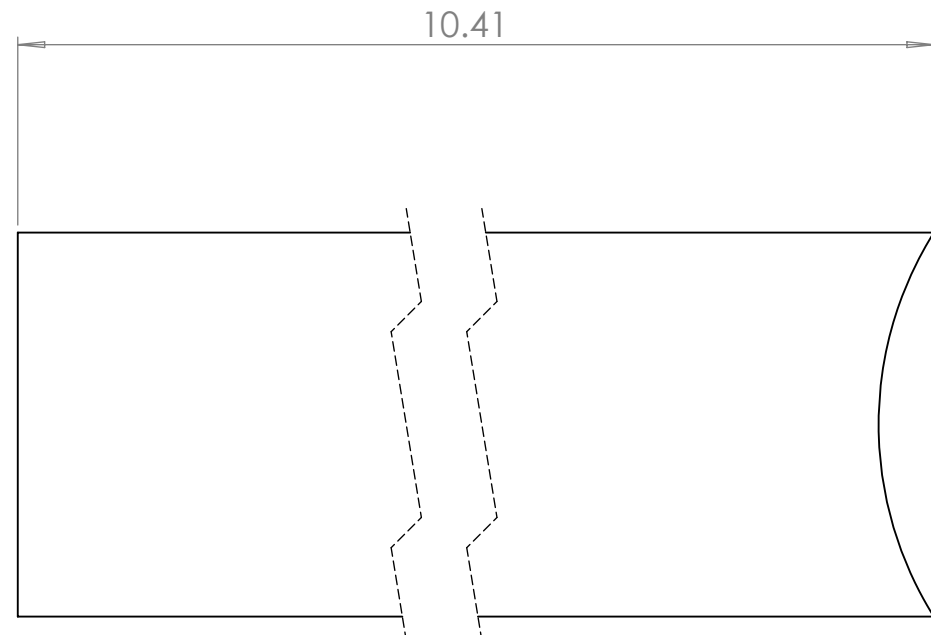
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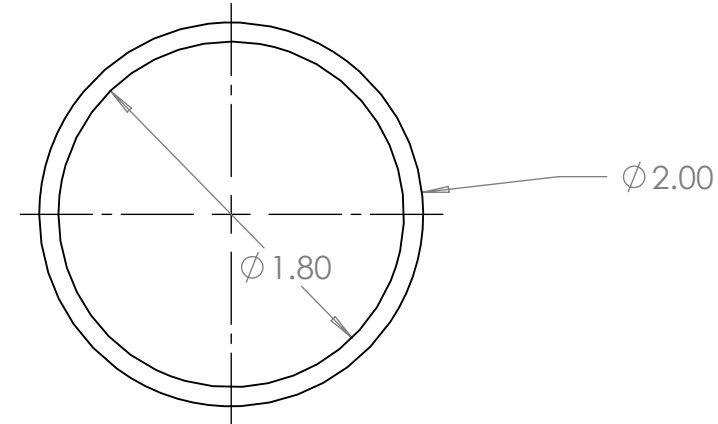
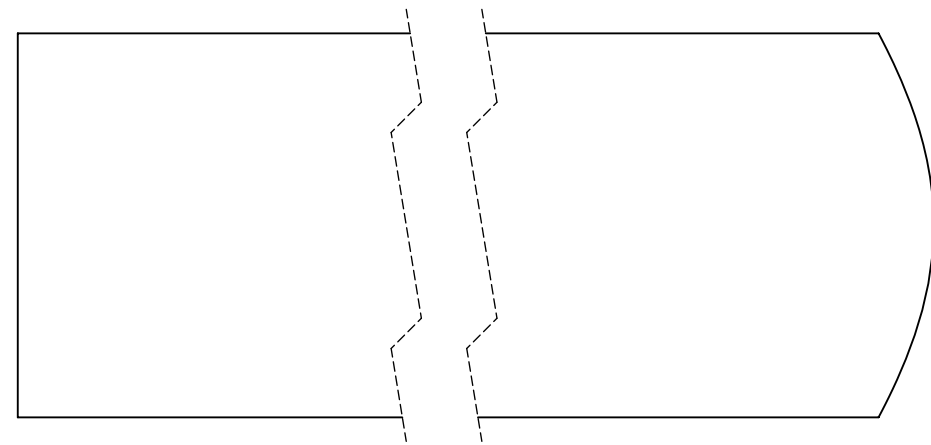
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ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

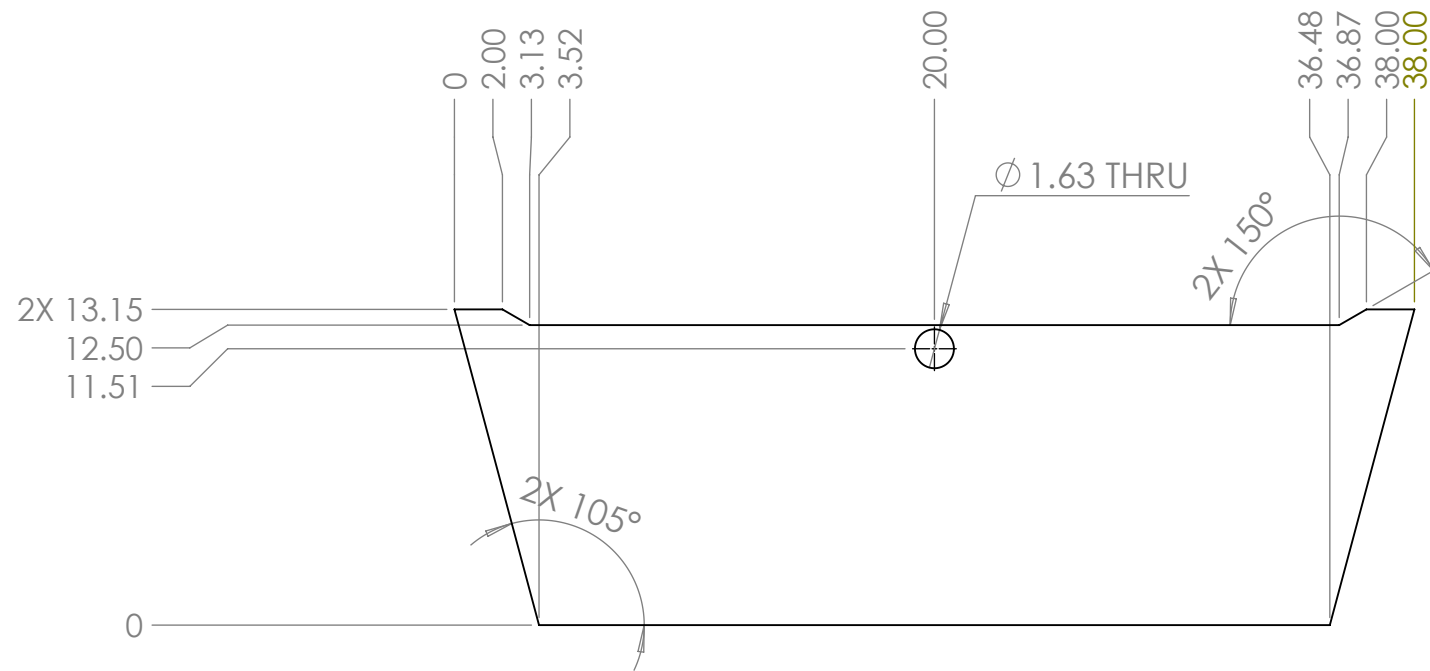
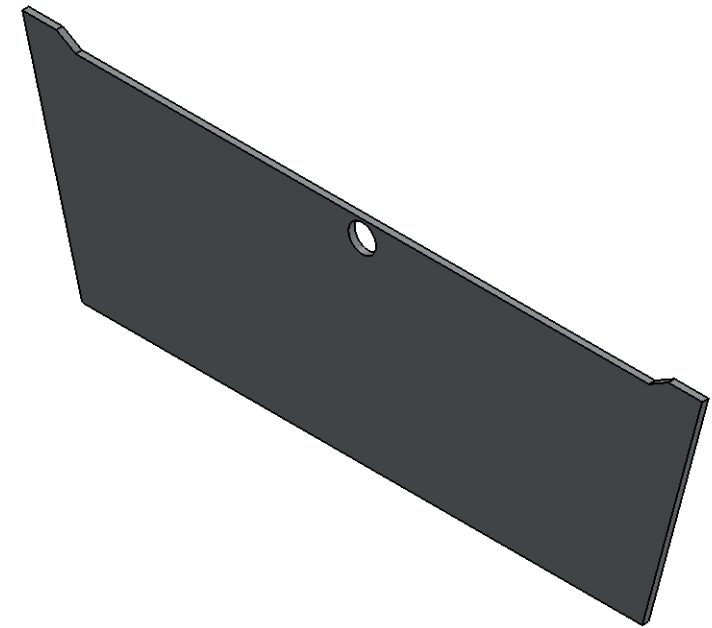
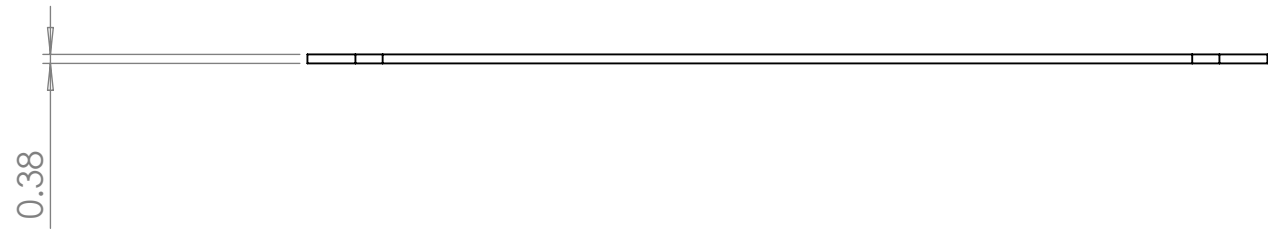
UNLESS OTHERWISE SPECIFIED:		
QTY:	MATERIAL:	4130 STEEL
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/14/2015
DRAWN	C.Kissel	12/14/2015
CHECKED	jsapers	12/14/2015



TITLE
DRIVESHAFT COVERING

SIZE B	PART NO. ENG-000-03	REV B
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1

8 7 6 5 4 3 2 1



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
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 X.XX ±0.01
 X.XXX ±0.005

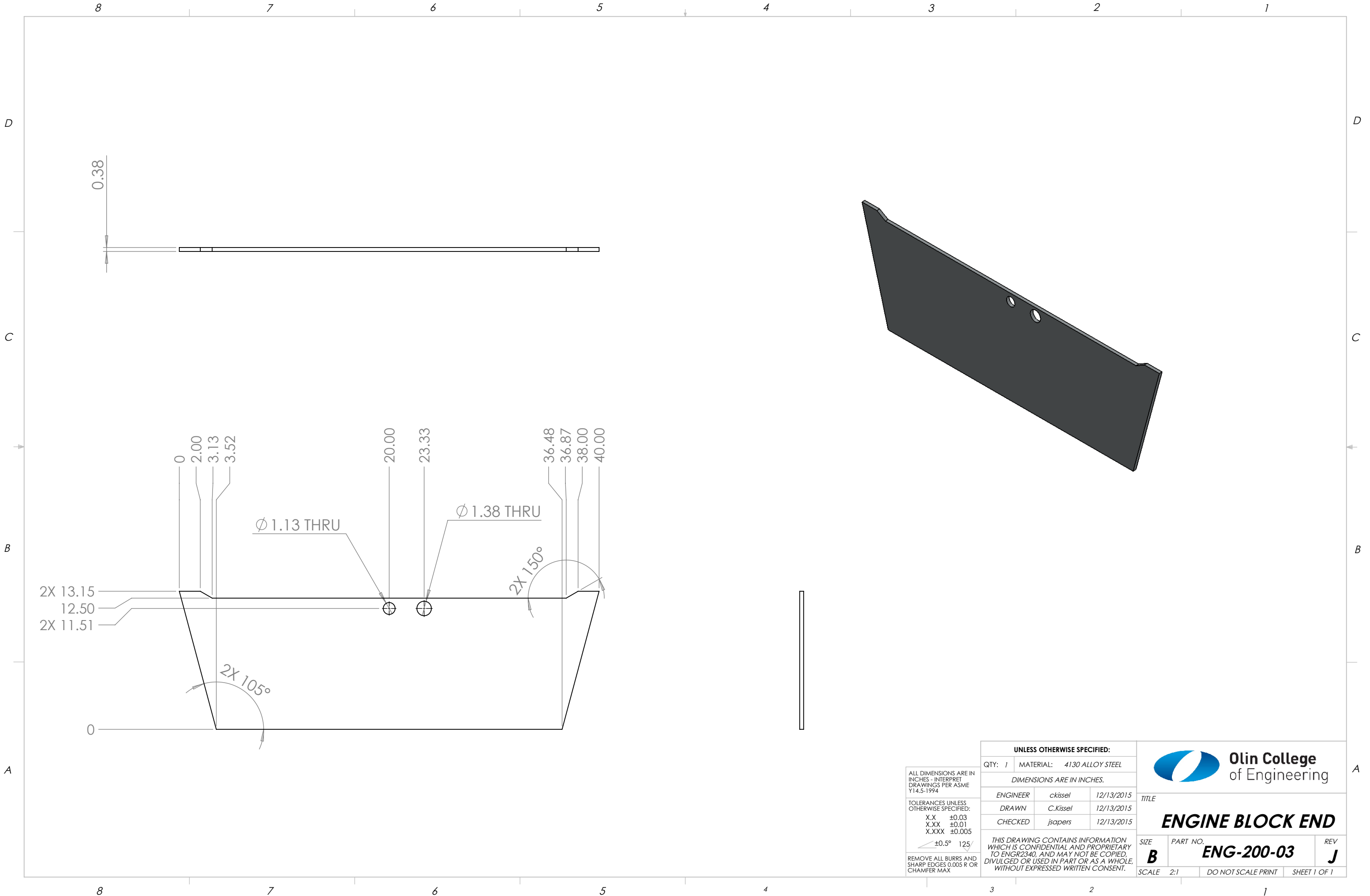
±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 4130 ALLOY STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/10/2015
DRAWN	C.Kissel	12/10/2015
CHECKED	jsapers	12/10/2015

		TITLE	
SIZE	PART NO.	REV	
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SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1	
2:1			

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0.38

2X 13.15
12.50
2X 11.51

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2.00
3.13
3.52

Ø 1.13 THRU

20.00
23.33

Ø 1.38 THRU

36.48
36.87
38.00
40.00

2X 105°

2X 150°

0

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

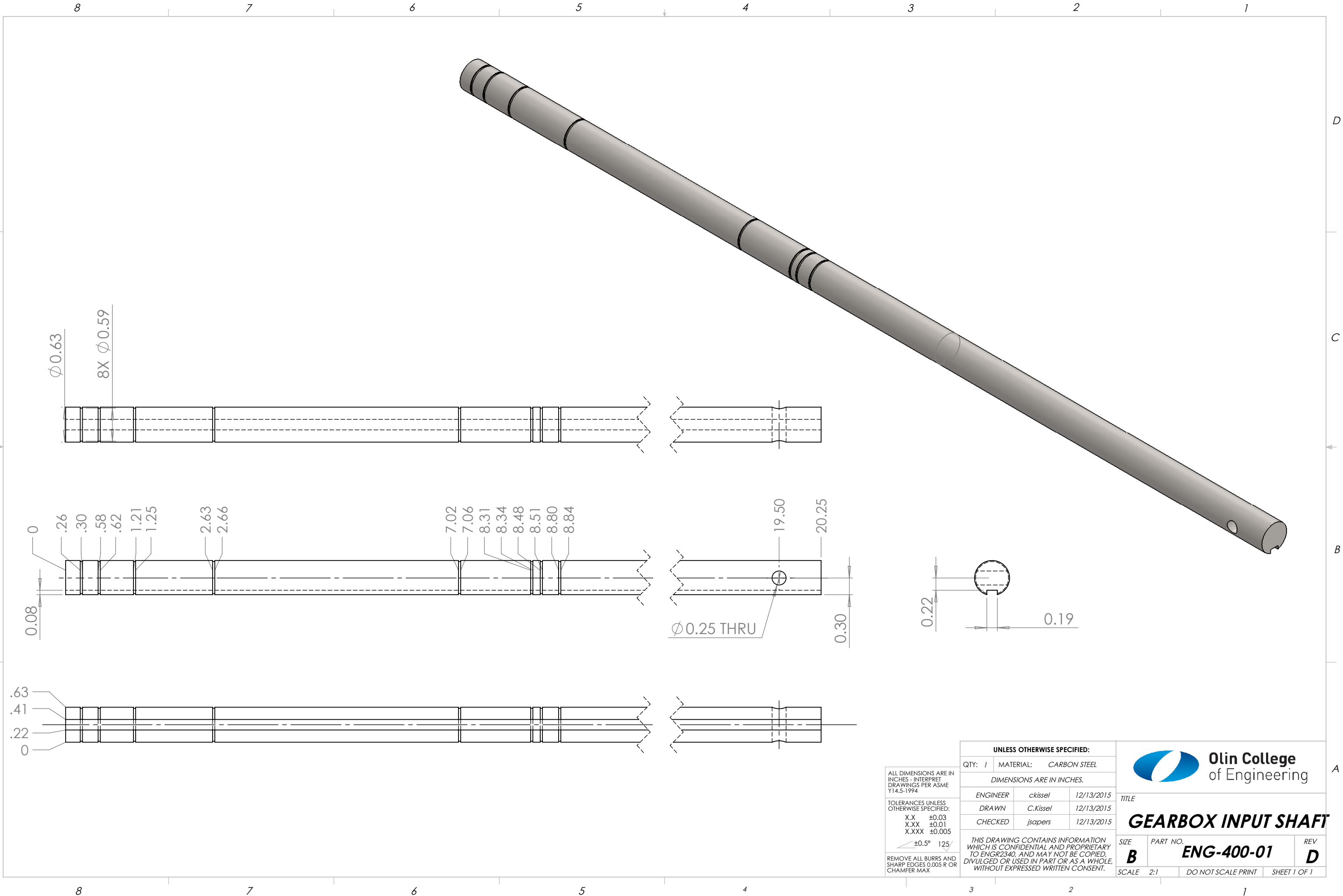
UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 4130 ALLOY STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015



TITLE
ENGINE BLOCK END

SIZE B	PART NO. ENG-200-03	REV J
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1

THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.



$\phi 0.63$
8X $\phi 0.59$

0
.26
.30
.58
.62
1.21
1.25
2.63
2.66
7.02
7.06
8.31
8.34
8.48
8.51
8.80
8.84

19.50
20.25
 $\phi 0.25$ THRU
0.30

0.22
0.19

.63
.41
.22
0

UNLESS OTHERWISE SPECIFIED:

QTY: 1 MATERIAL: CARBON STEEL

DIMENSIONS ARE IN INCHES.

ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015

TOLERANCES UNLESS OTHERWISE SPECIFIED:

X.X ±0.03
X.XX ±0.01
X.XXX ±0.005

$\angle \pm 0.5^\circ$ 125/

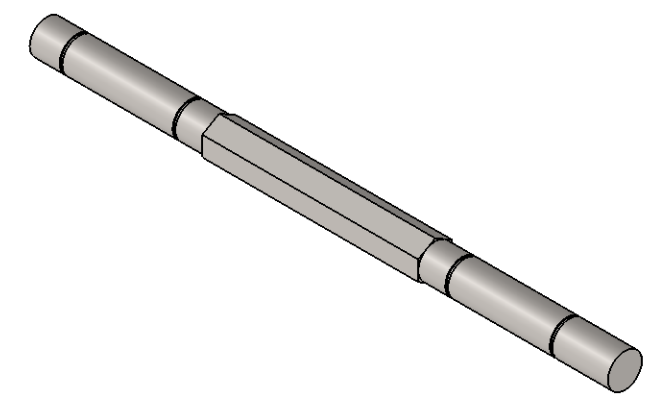
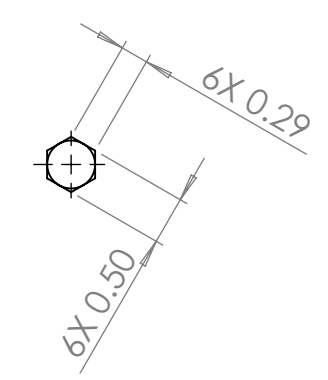
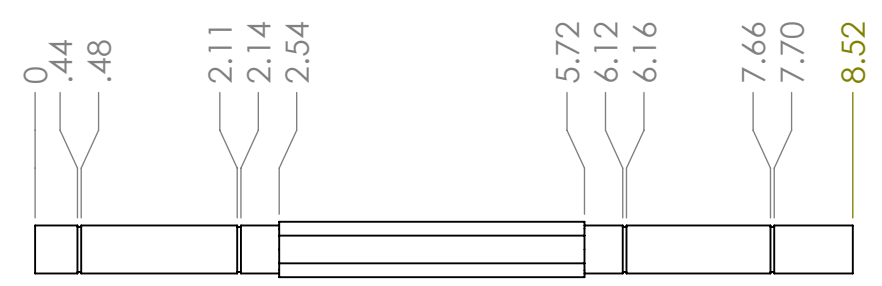
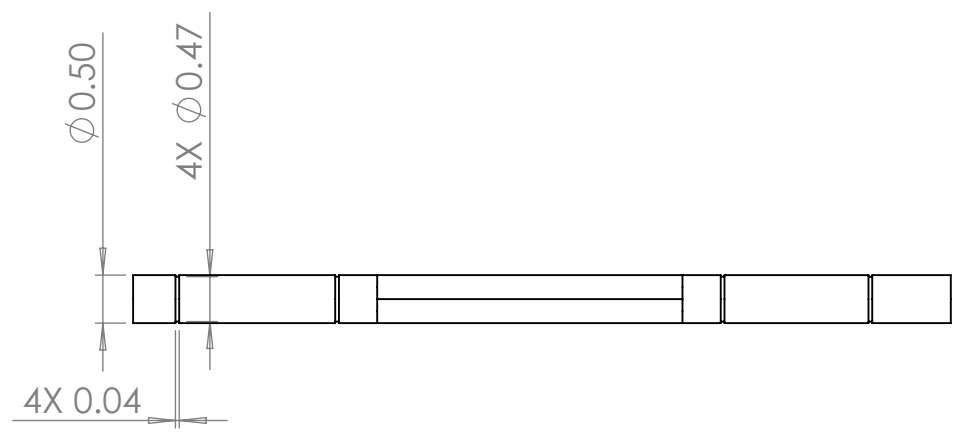
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.



TITLE		
GEARBOX INPUT SHAFT		
SIZE	PART NO.	REV
B	ENG-400-01	D
SCALE	DO NOT SCALE PRINT SHEET 1 OF 1	
2:1		




ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

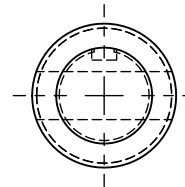
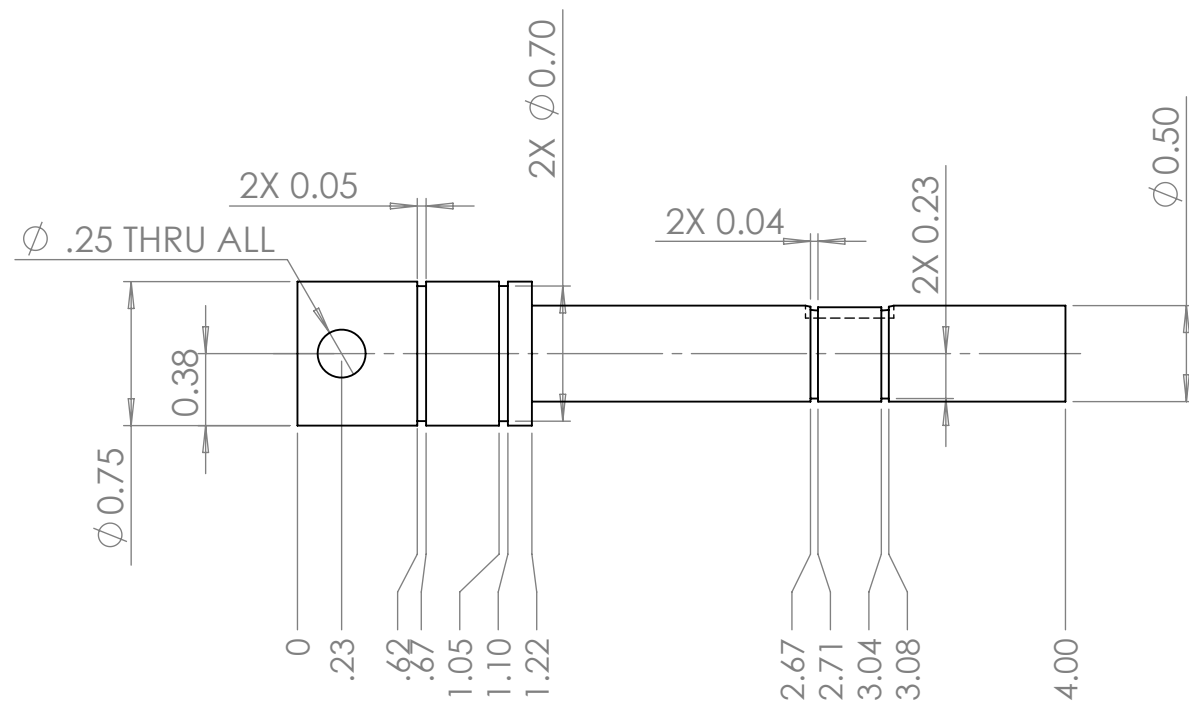
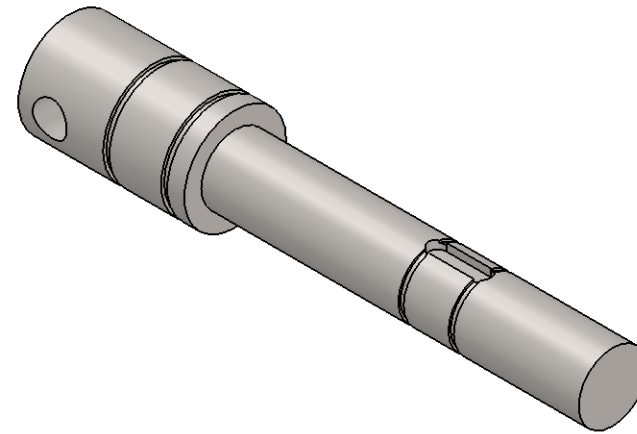
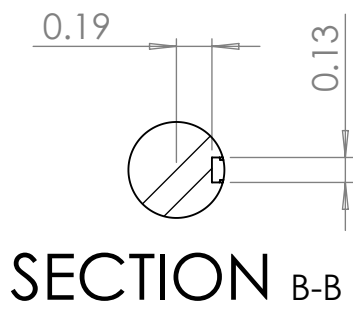
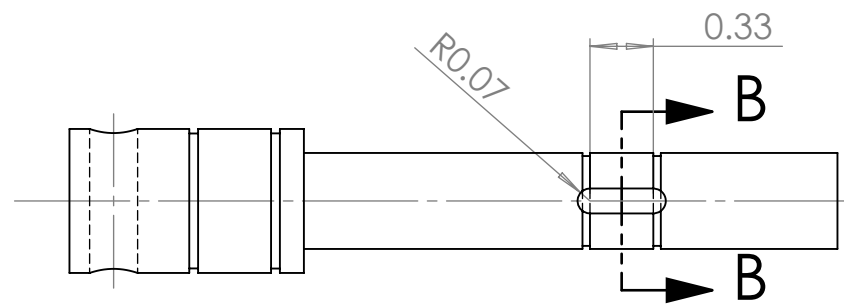
UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL:	CARBON STEEL
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015

 **Olin College of Engineering**

TITLE
GEARBOX OUTPUT SHAFT

SIZE B	PART NO. ENG-400-02	REV E
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SCALE 2:1 DO NOT SCALE PRINT SHEET 1 OF 1



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

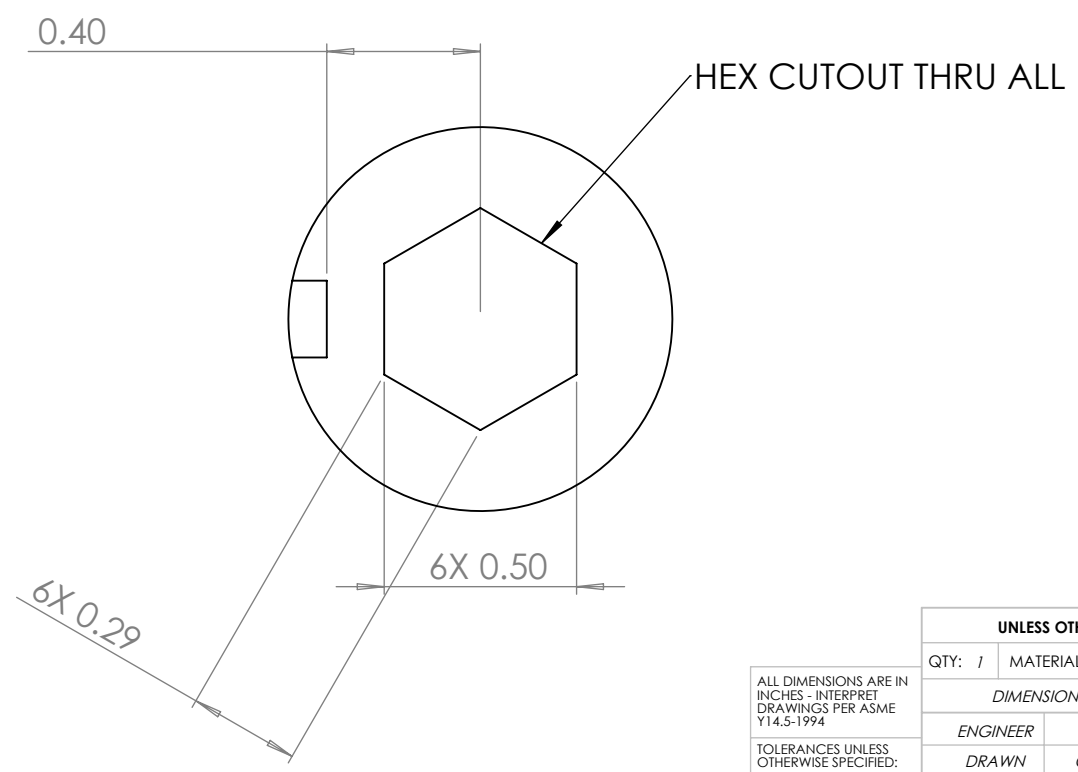
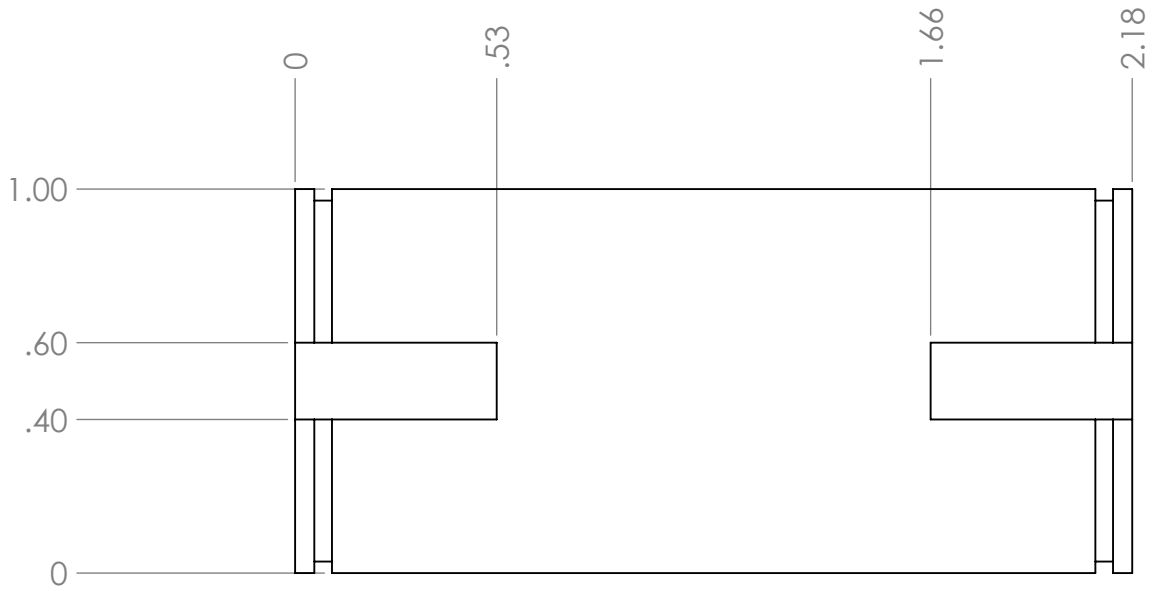
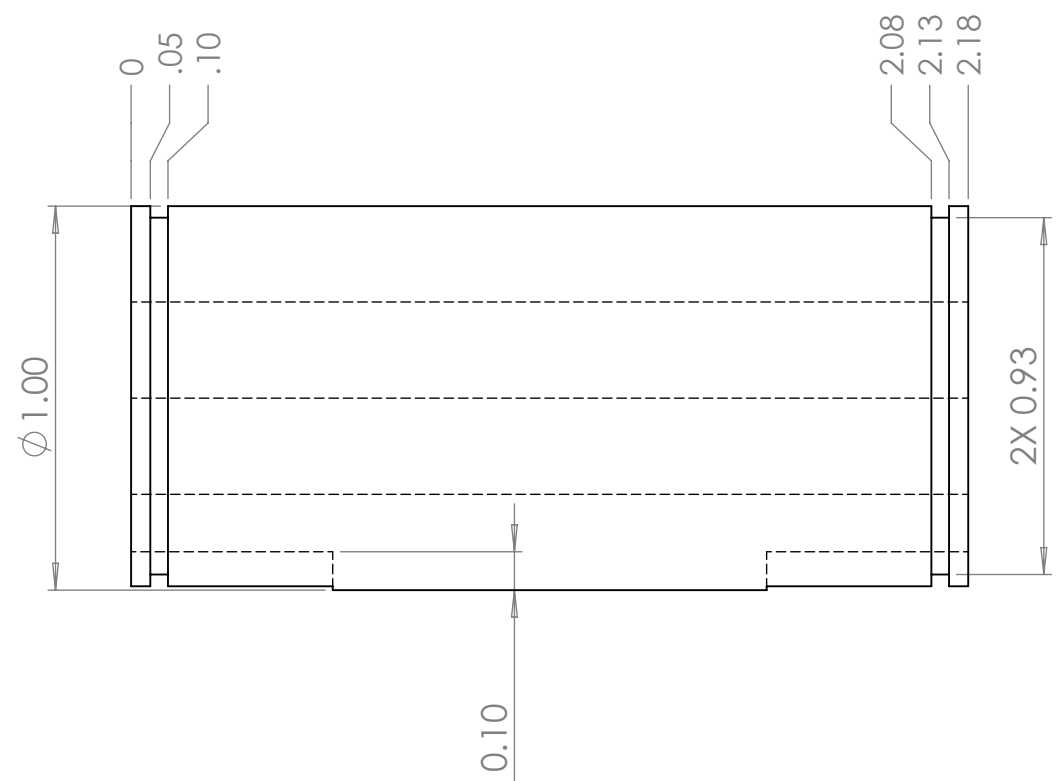
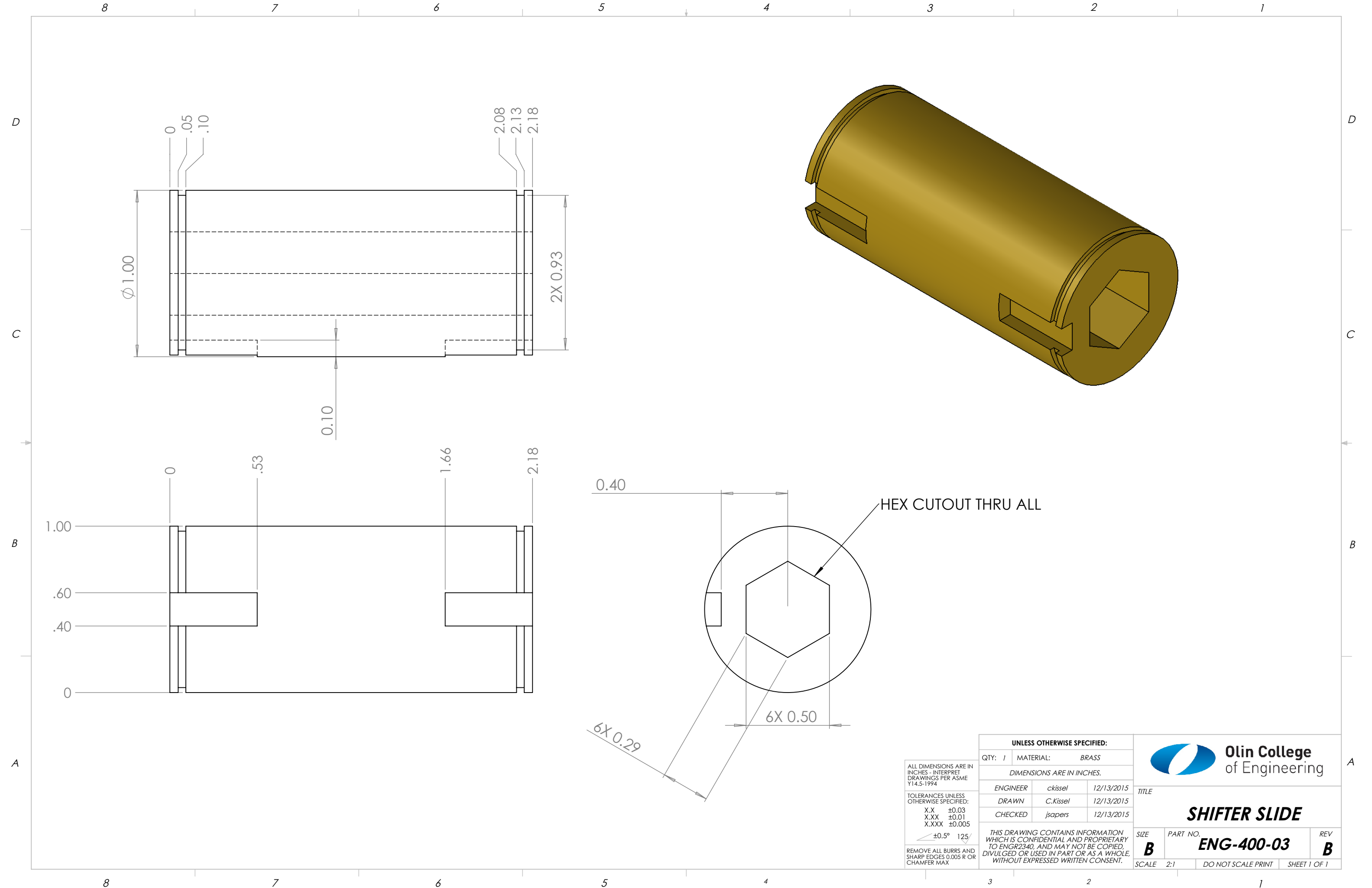
TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL:	CARBON STEEL
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/14/2015
DRAWN	C.Kissel	12/14/2015
CHECKED	jsapers	12/14/2015

TITLE		
GEARBOX OUTPUT SHAFT		
SIZE	PART NO.	REV
B	ENG-400-02	E
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		




ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

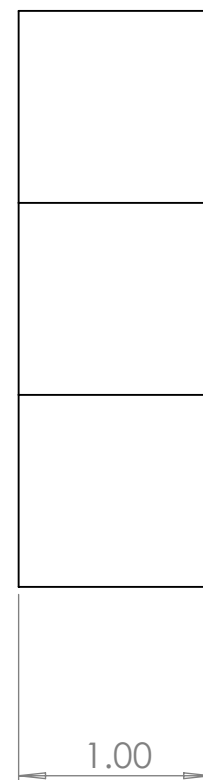
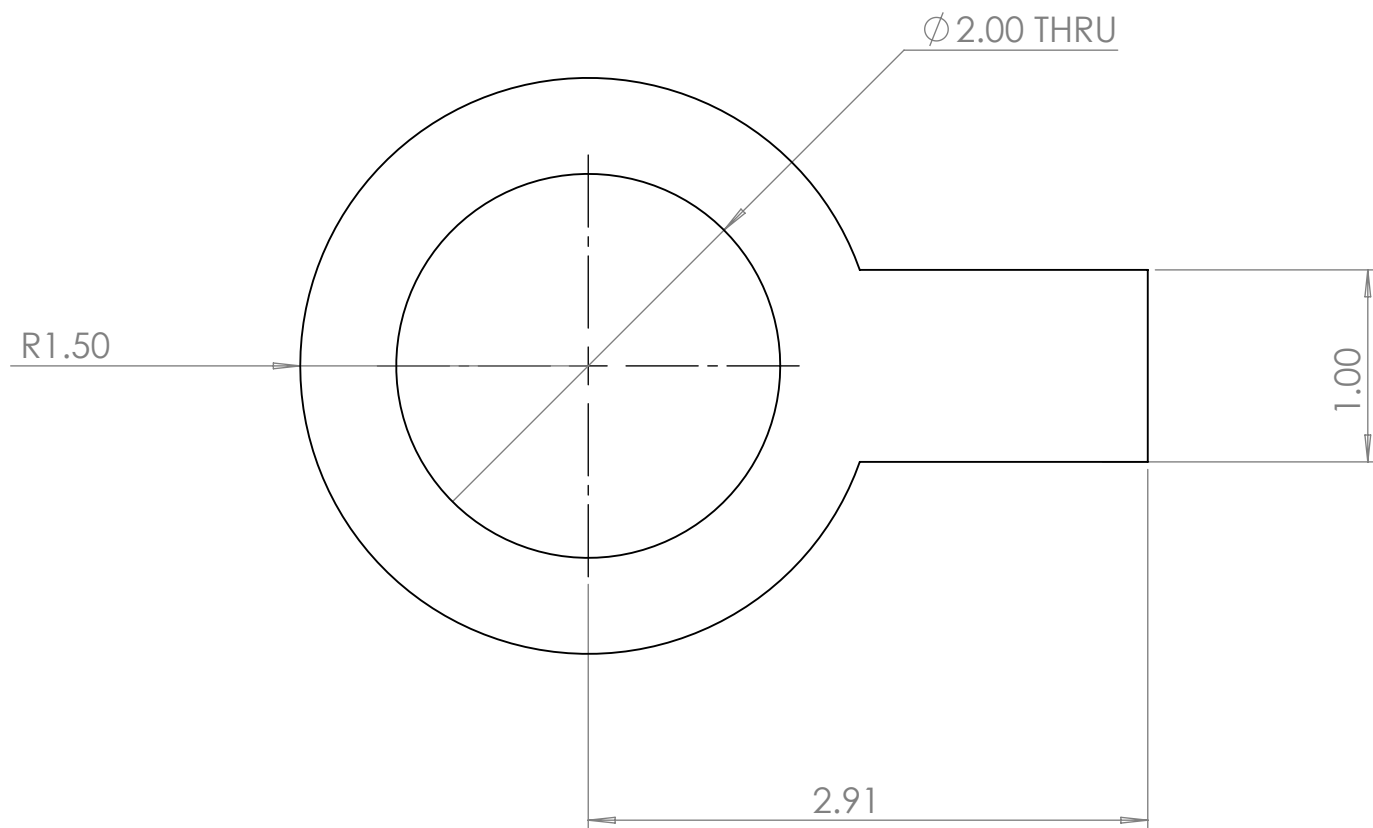
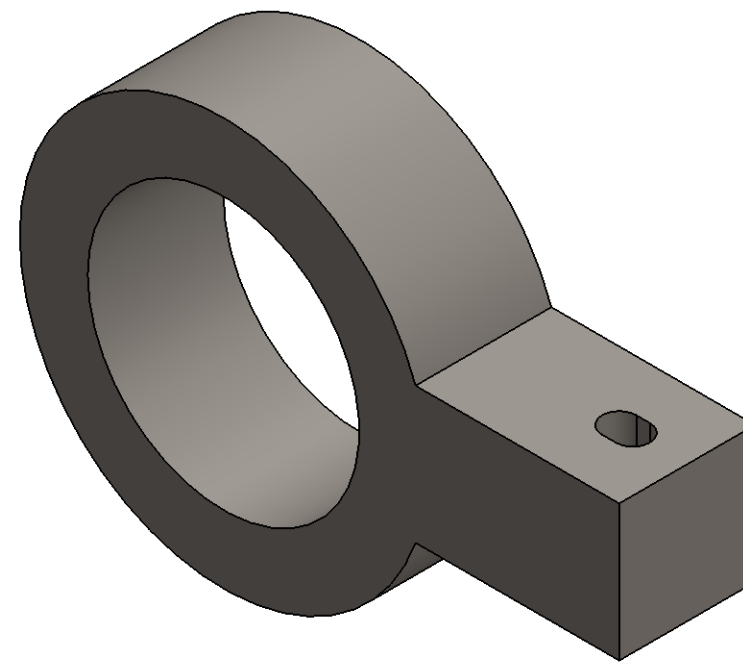
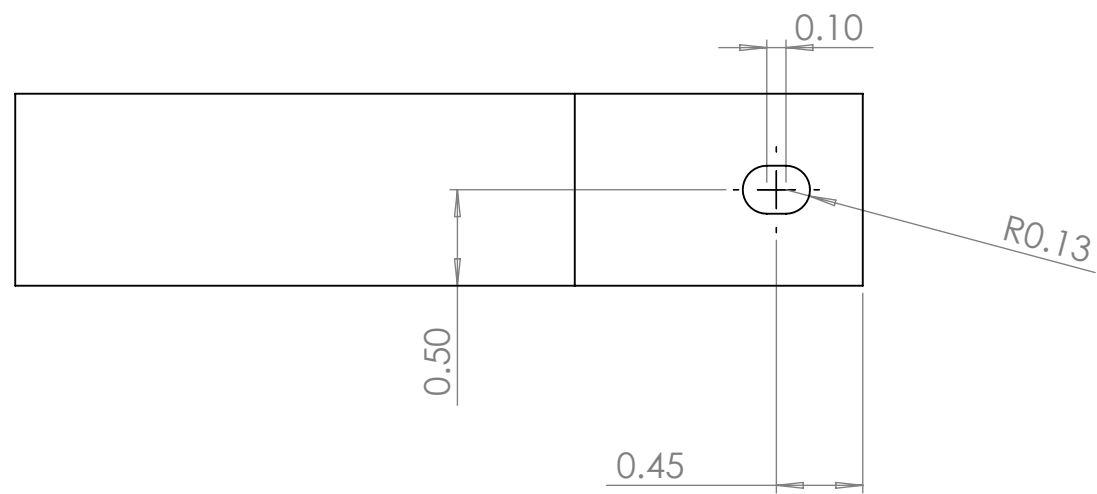
TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL:	BRASS
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015

 Olin College of Engineering		
TITLE		
SHIFTER SLIDE		
SIZE	PART NO.	REV
B	ENG-400-03	B
SCALE	DO NOT SCALE PRINT	
2:1	SHEET 1 OF 1	



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

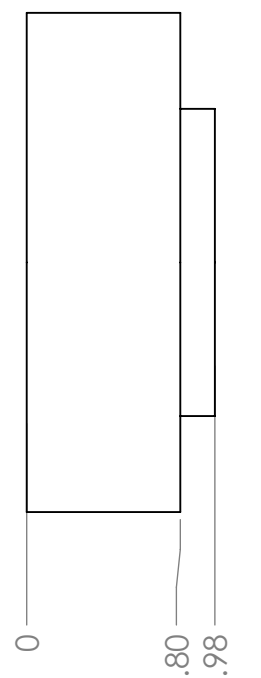
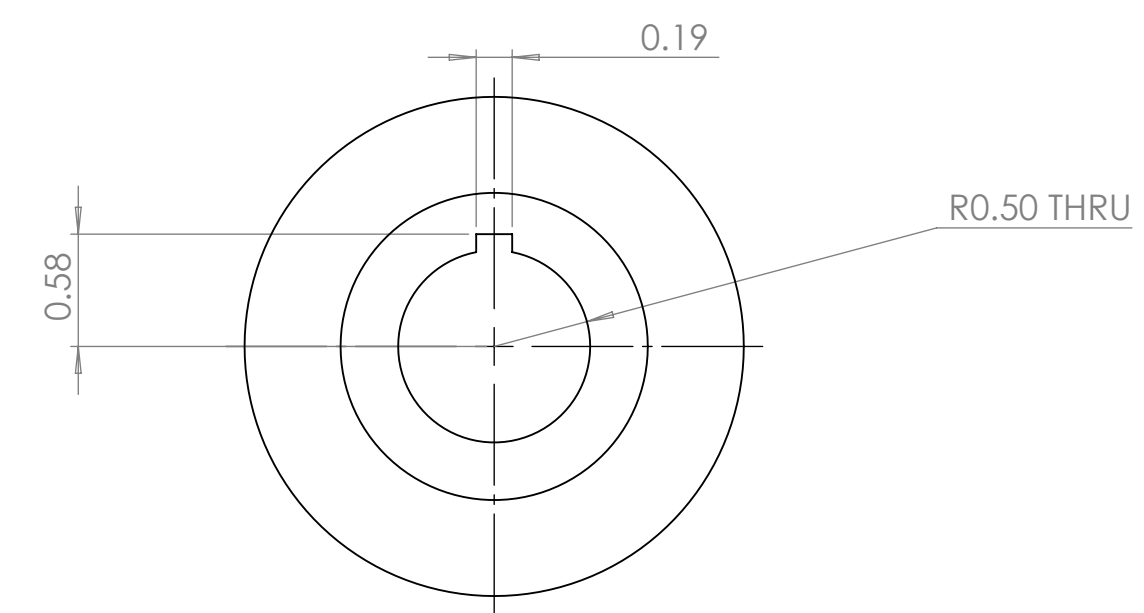
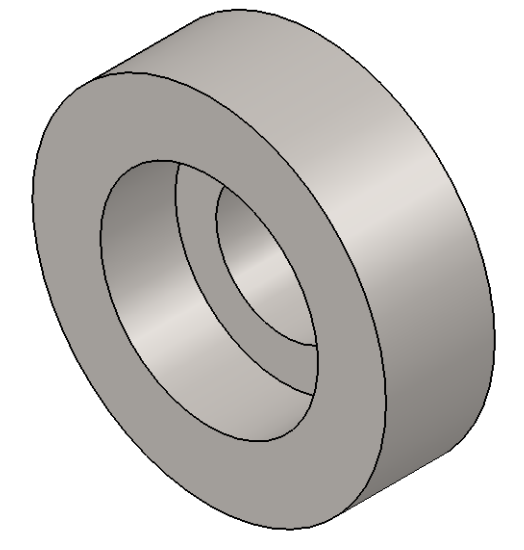
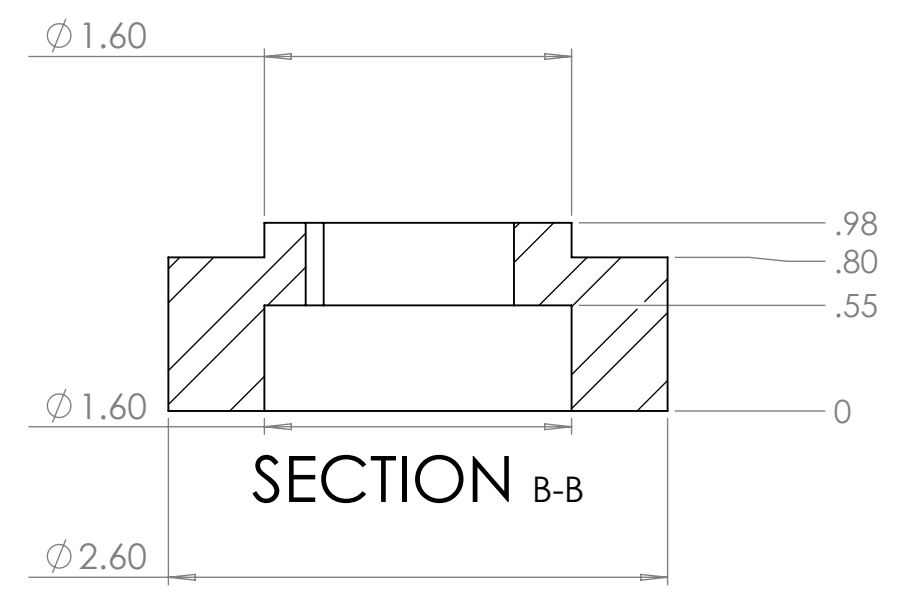
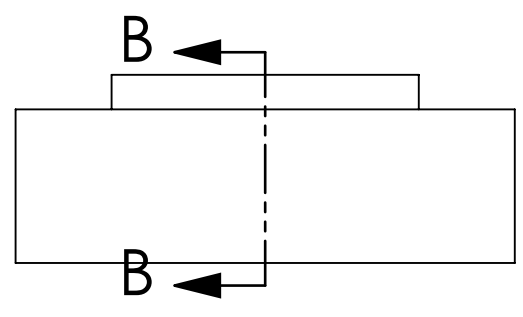
±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL:	6061 STEEL
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015

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 Olin College of Engineering		
TITLE		
SHIFTER LINK		
SIZE	PART NO.	REV
B	ENG-400-04	C
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

∠ ±0.5° 125°

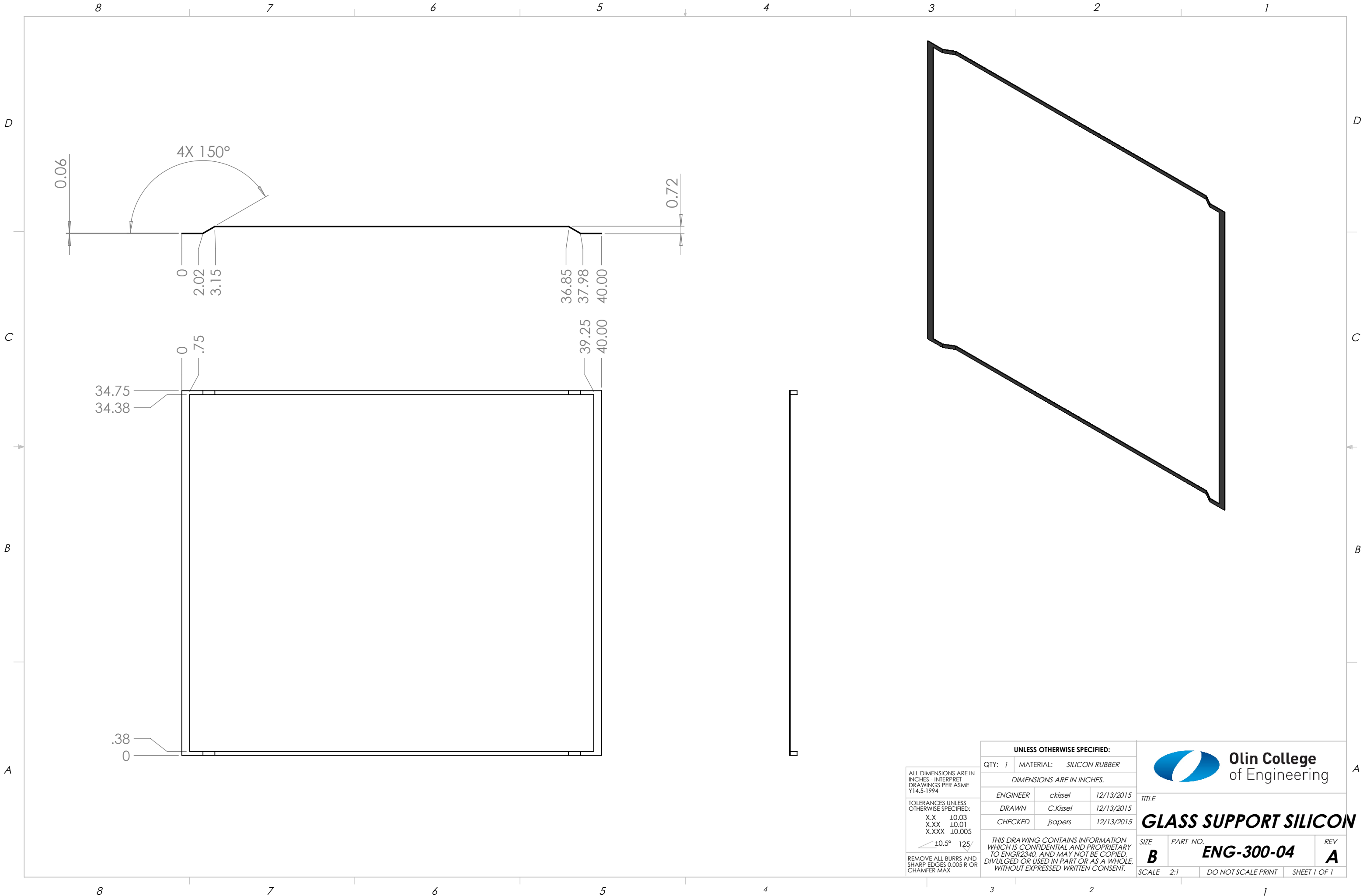
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 2	MATERIAL:	CARBON STEEL
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015



TITLE		
FRICITION SHOE		
SIZE	PART NO.	REV
B	ENG-400-05	B
SCALE	DO NOT SCALE PRINT	
2:1	SHEET 1 OF 1	

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ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL:	SILICON RUBBER
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015

		
TITLE		
GLASS SUPPORT SILICON		
SIZE	PART NO.	REV
B	ENG-300-04	A
SCALE	DO NOT SCALE PRINT	
2:1	SHEET 1 OF 1	

8 7 6 5 4 3 2 1

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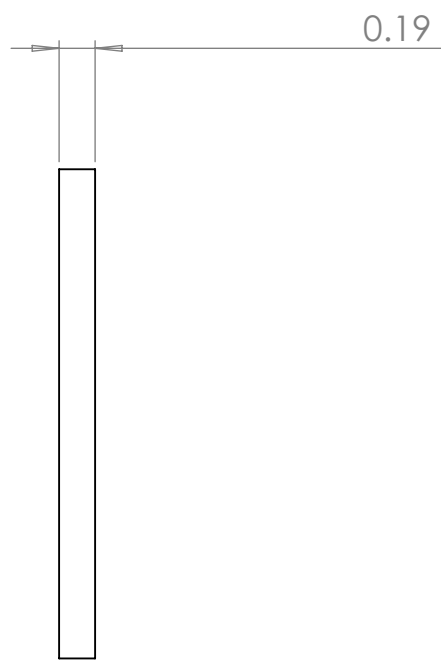
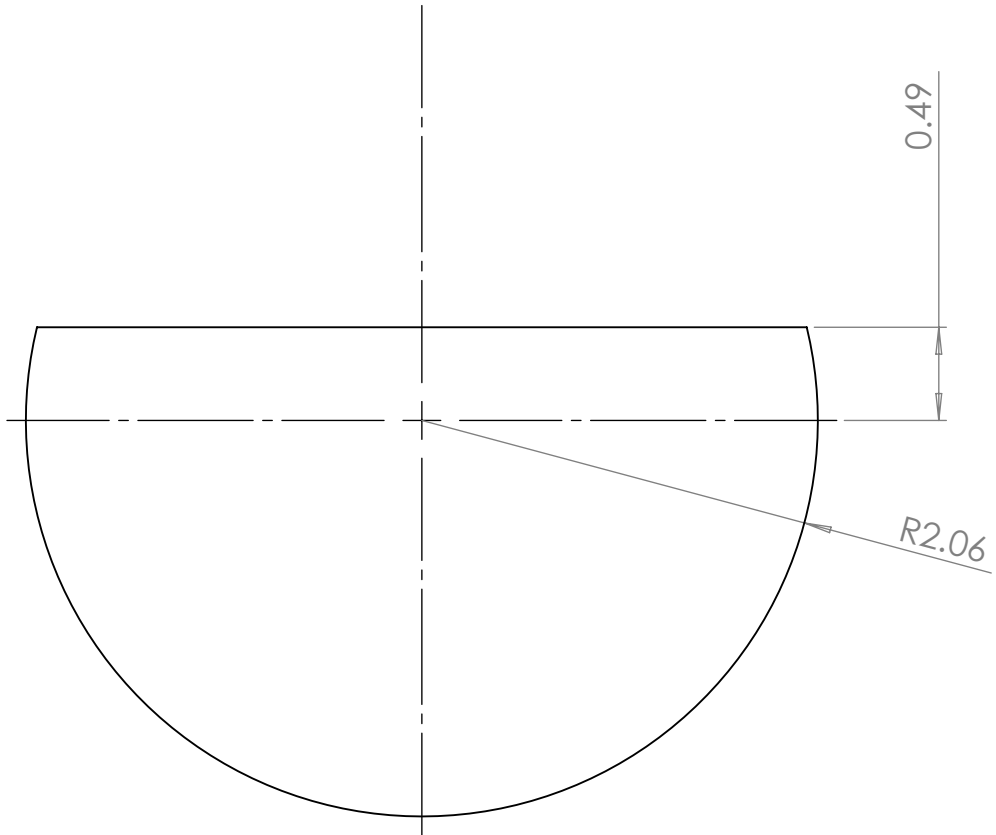
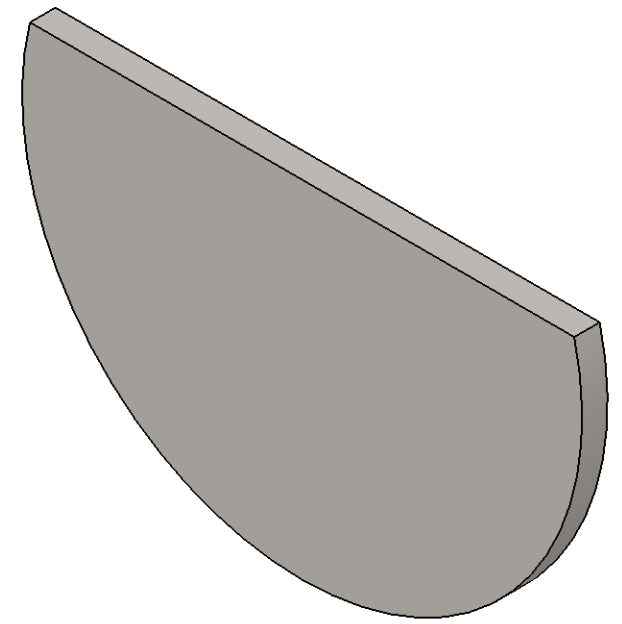
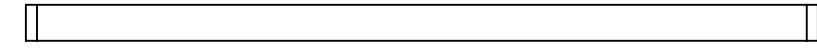
C

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ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 6	MATERIAL:	4130 STEEL
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015



TITLE		
ENG-310-09		
SIZE	PART NO.	REV
B	PISTON CYLINDER CAP	C
SCALE	2:1	DO NOT SCALE PRINT
		SHEET 1 OF 1

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

D

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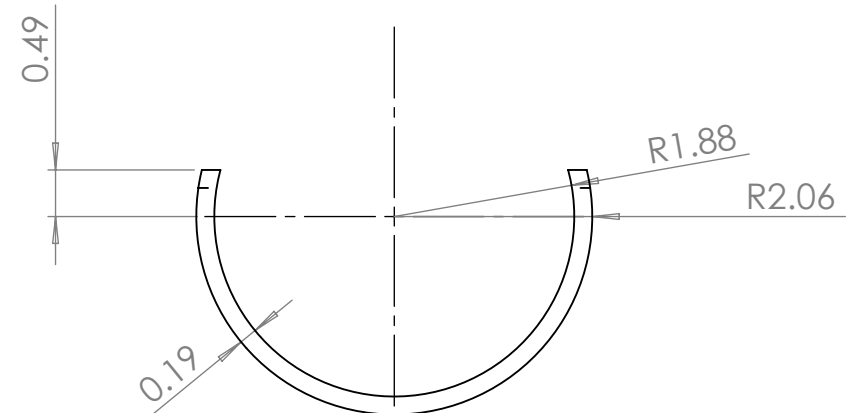
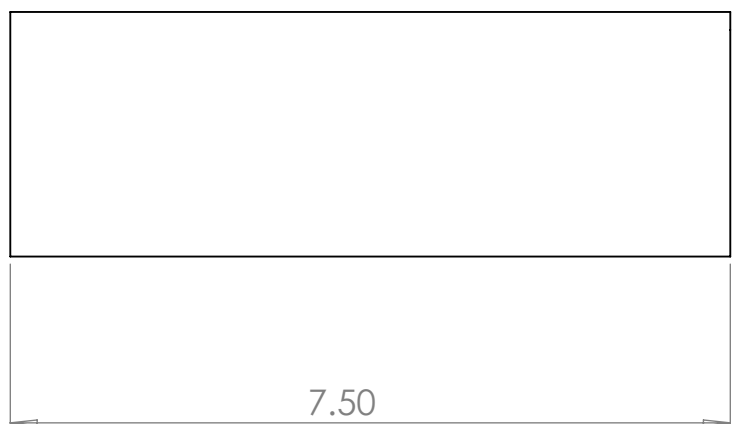
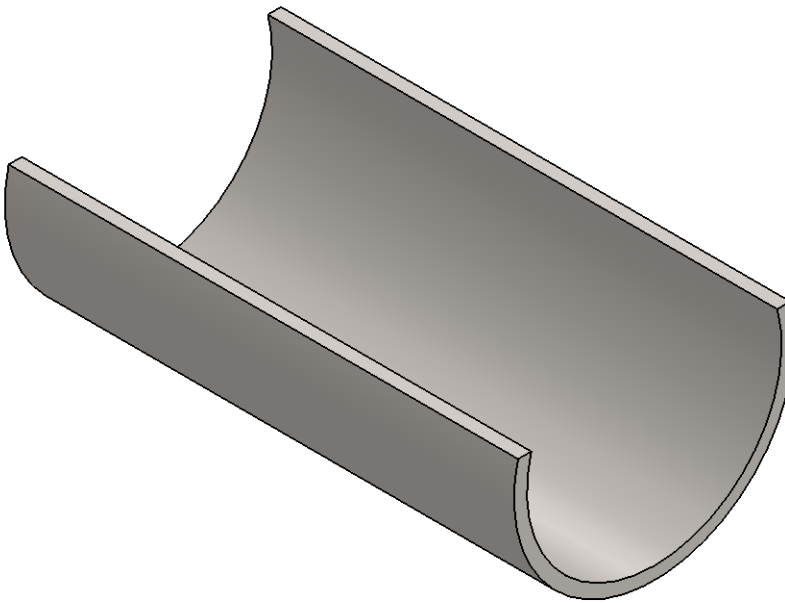
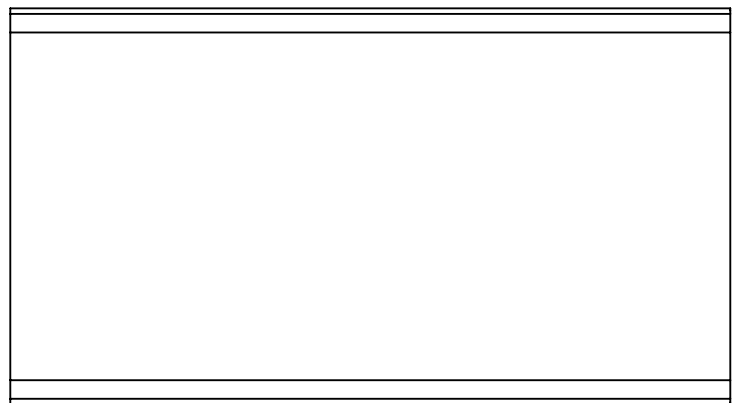
C

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A



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 6	MATERIAL:	4130 STEEL
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015



TITLE		
ENG-310-08		
SIZE	PART NO.	REV
B	PISTON CYLINDER	C
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

D

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C

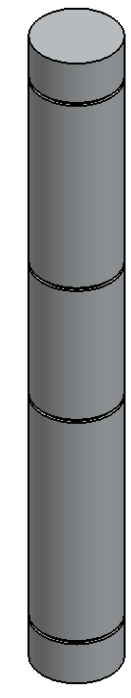
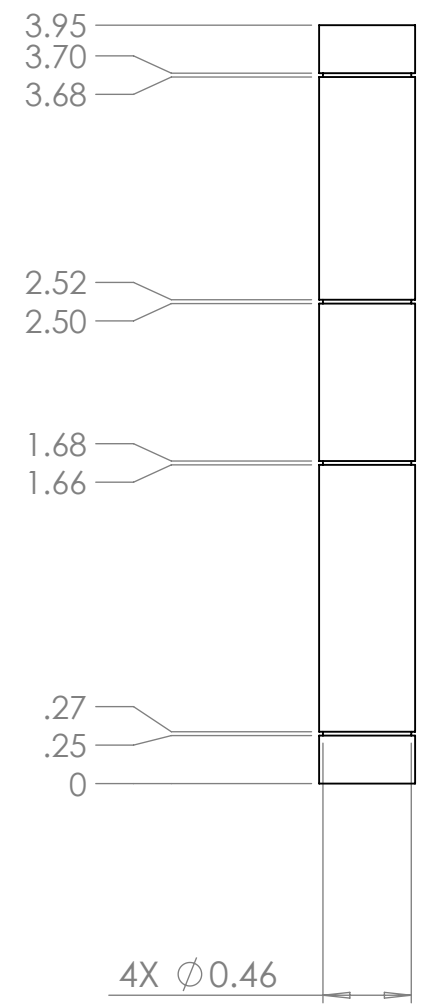
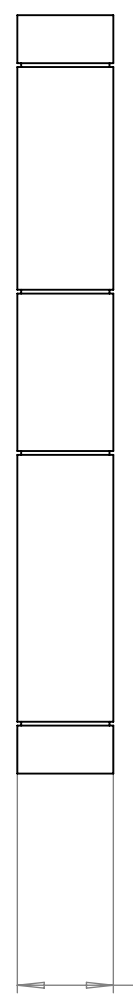
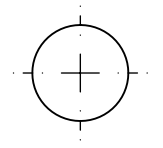
C

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ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

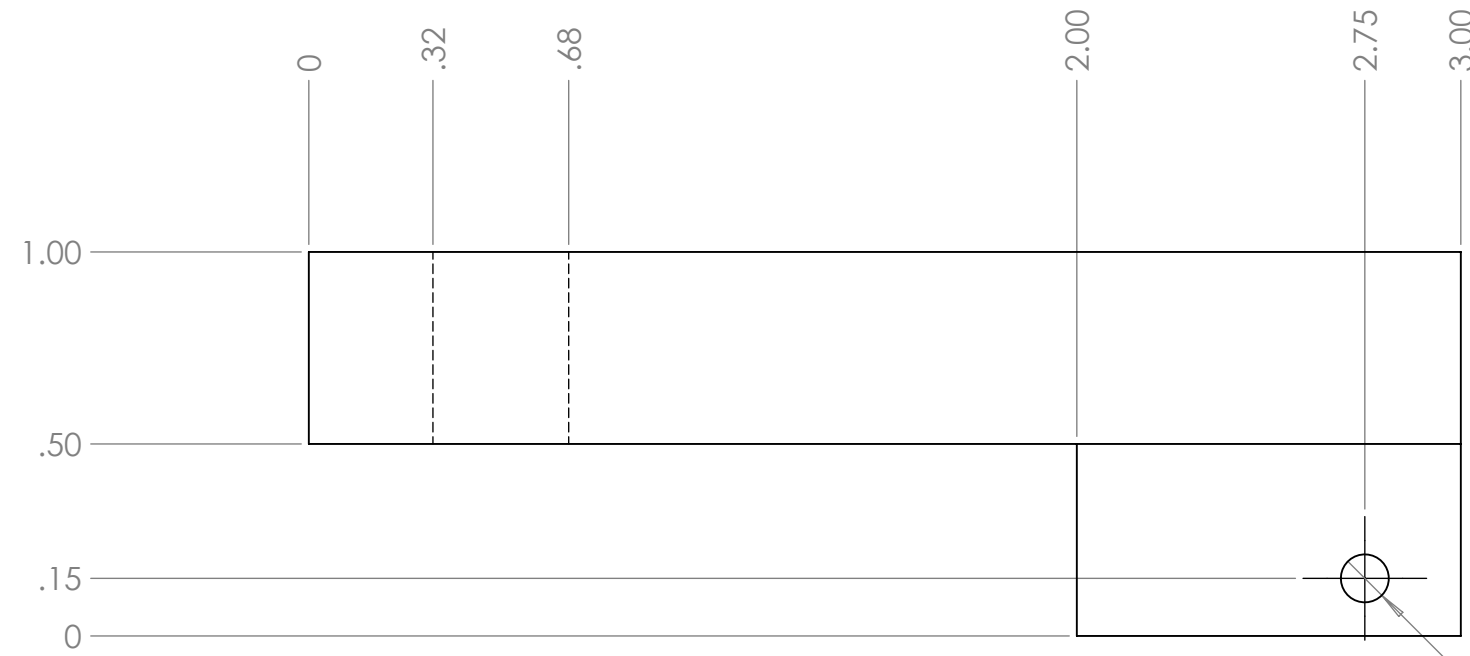
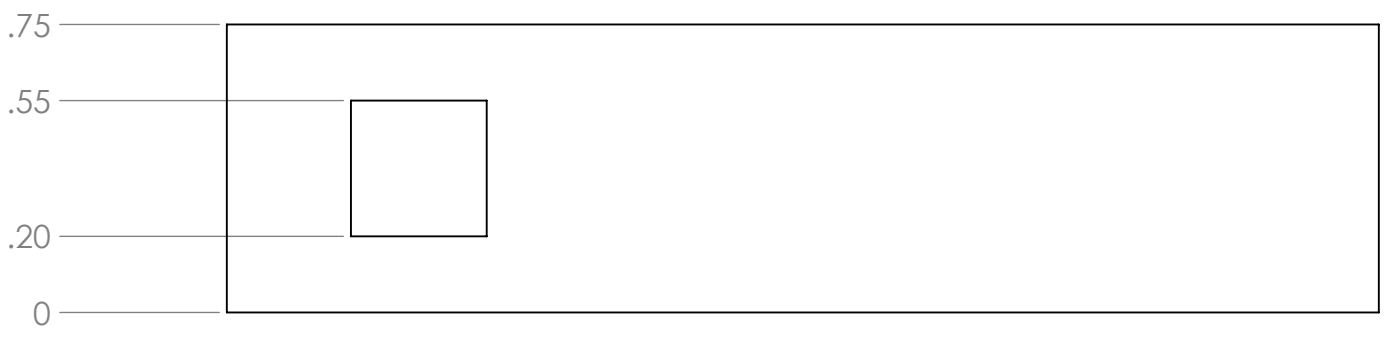
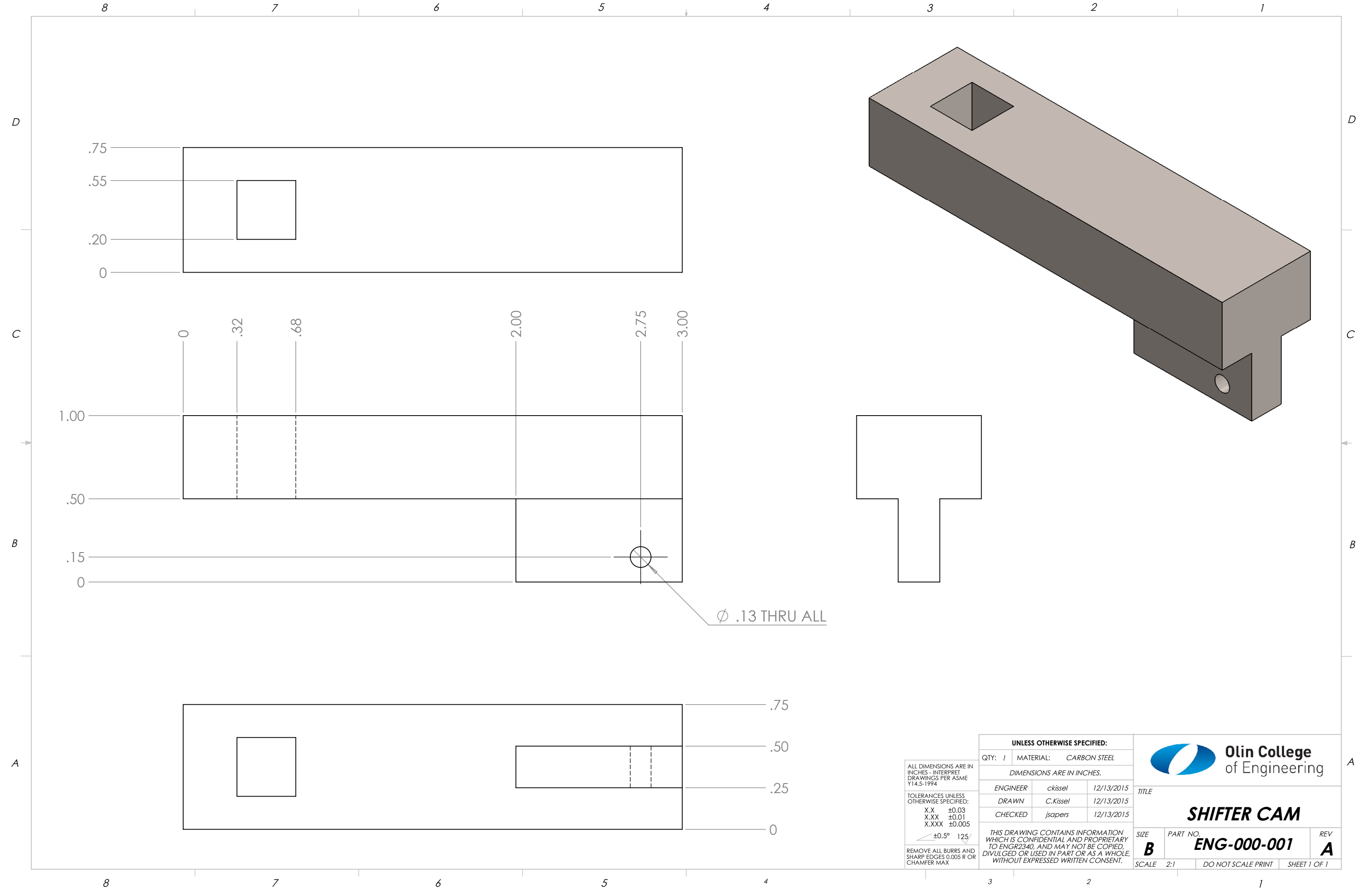
UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL:	4130 STEEL
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015



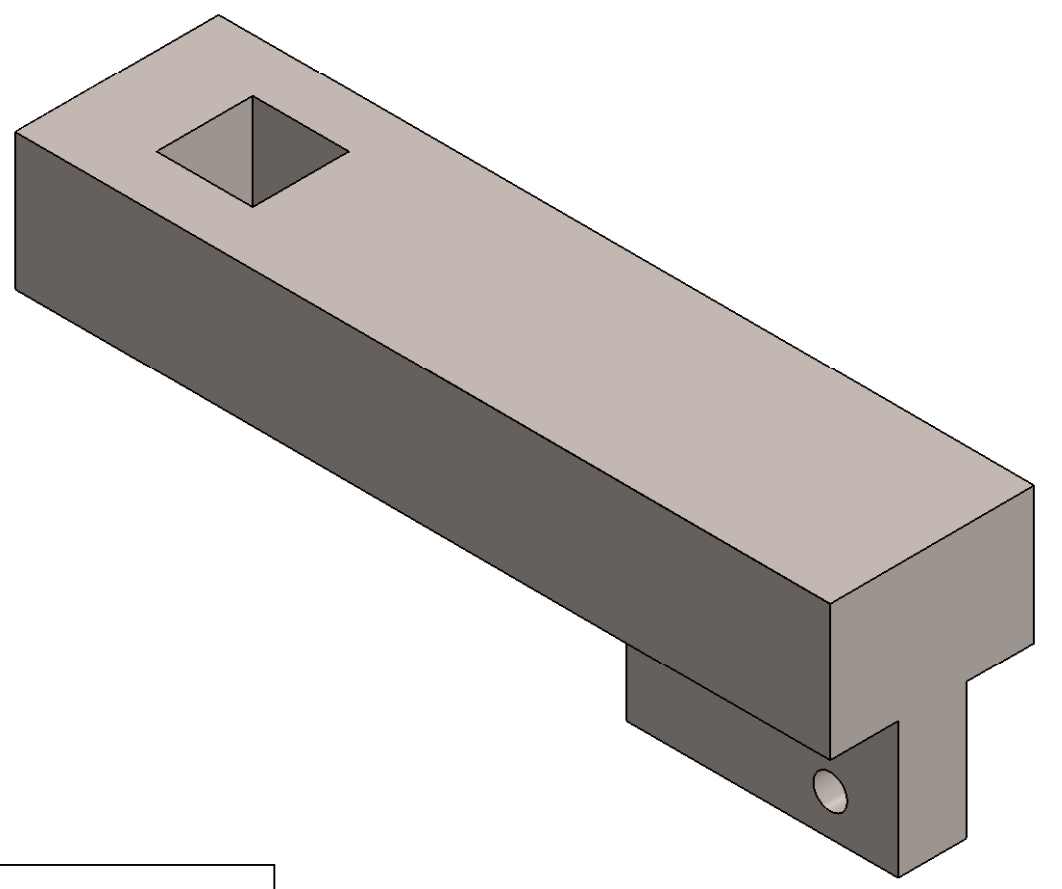
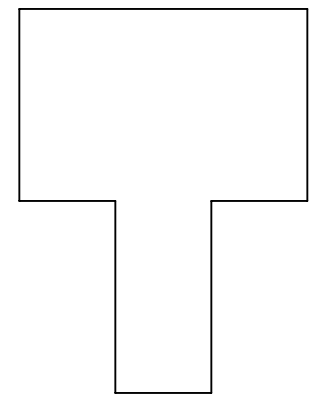
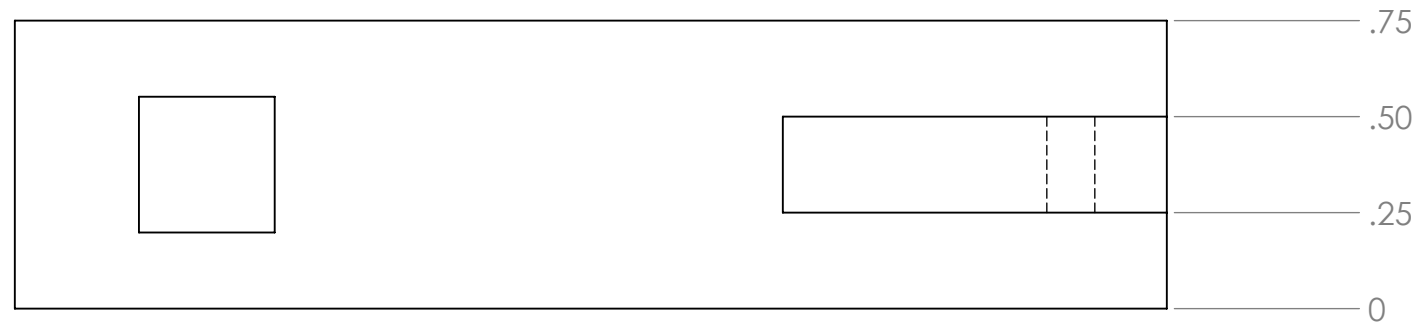
TITLE
FURLING ROD SUPPORT

SIZE	PART NO.	REV
B	ENG 231-01	C
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

8 7 6 5 4 3 2 1



ϕ .13 THRU ALL



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL:	CARBON STEEL
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015

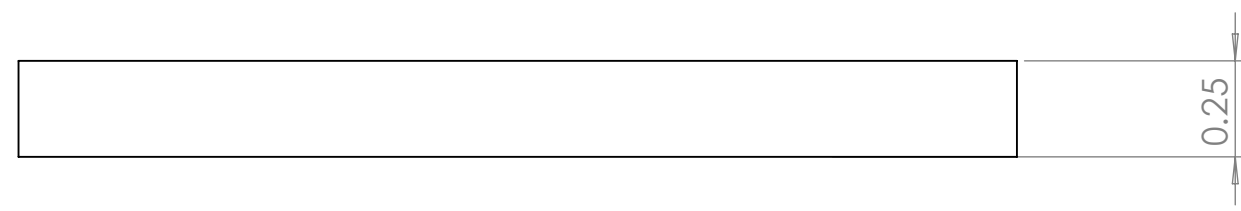


TITLE		
SHIFTER CAM		
SIZE	PART NO.	REV
B	ENG-000-001	A
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

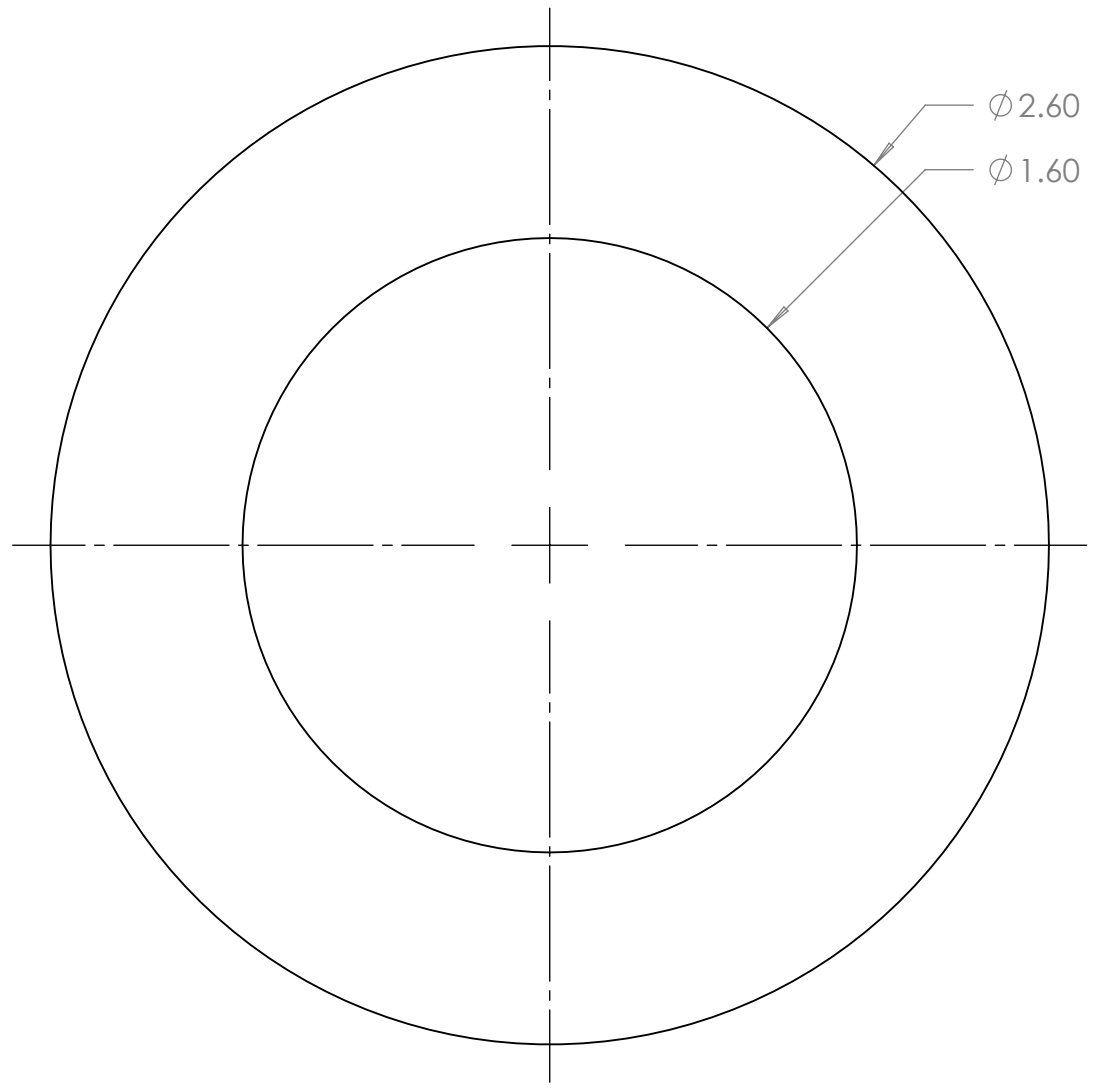
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8 7 6 5 4 3 2 1

D



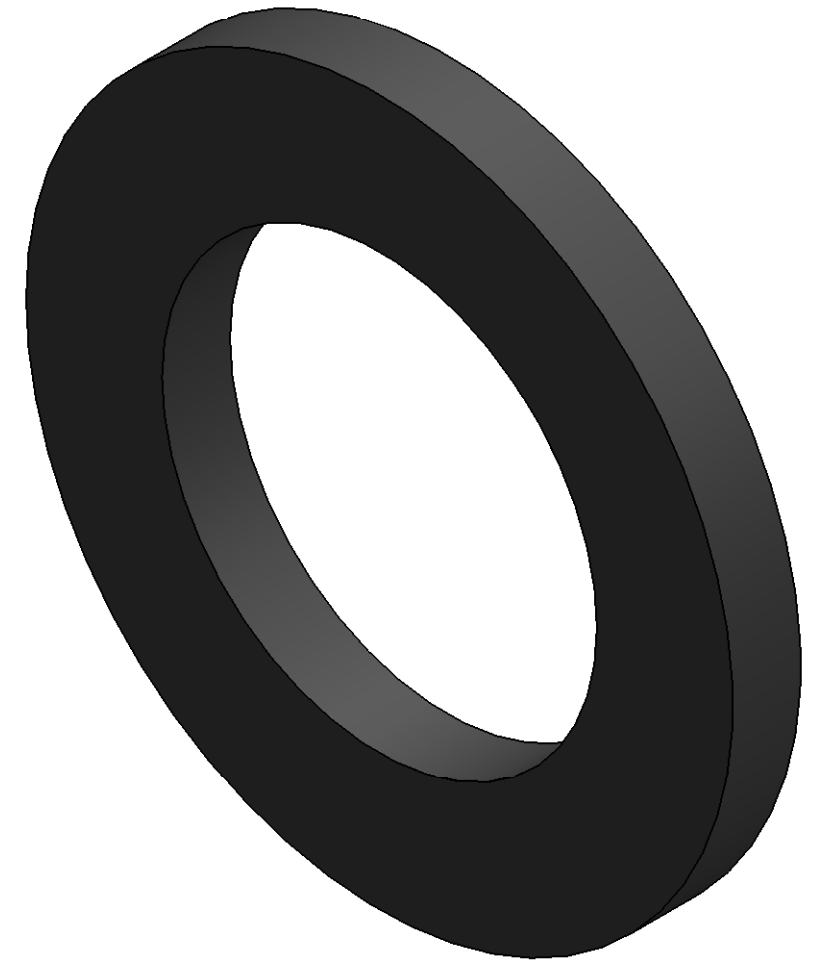
C



B

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8 7 6 5 4 3 2 1



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C

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A

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 2	MATERIAL:	CLUTCH LINING
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015



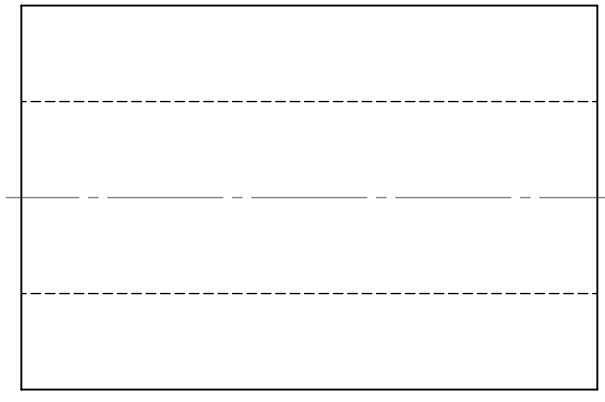
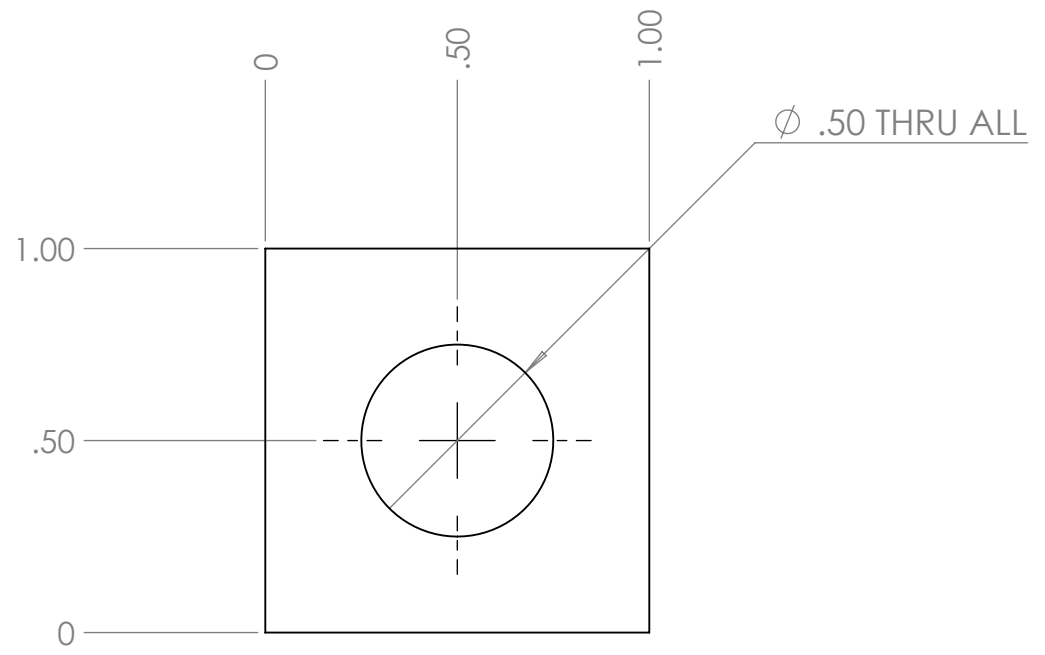
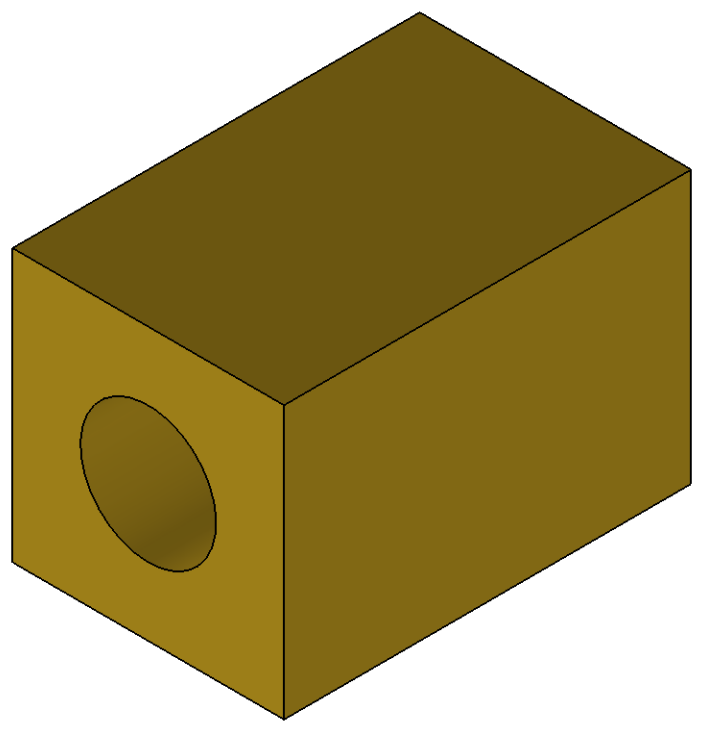
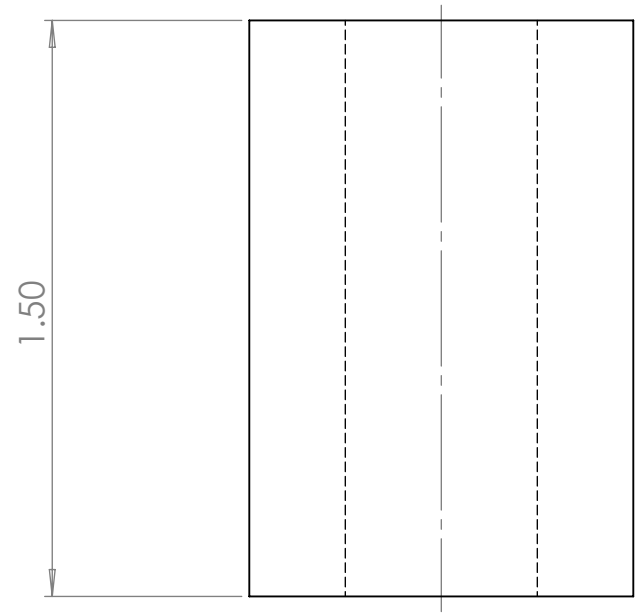
TITLE
SHIFTER FRICTION PAD

SIZE	PART NO.	REV
B	ENG-400-06	A
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

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8 7 6 5 4 3 2 1

D
C
B
A



D
C
B
A

8 7 6 5 4 3 2 1

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY:	MATERIAL:	BRASS
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015

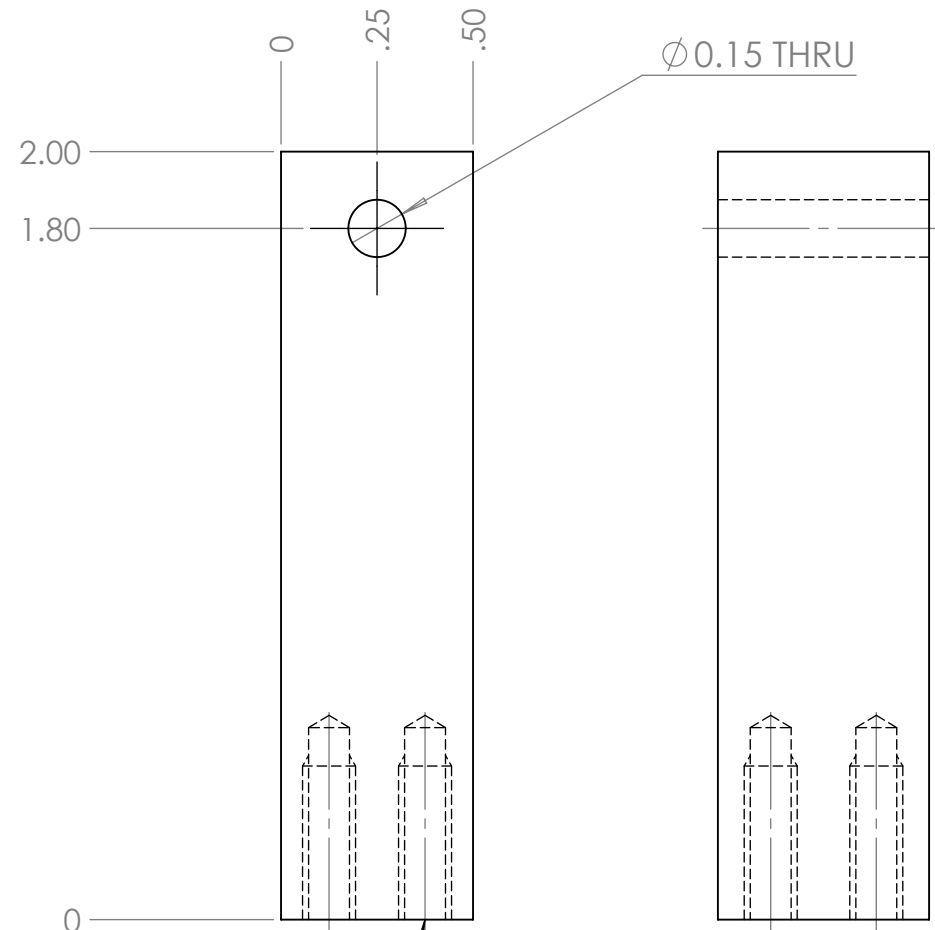
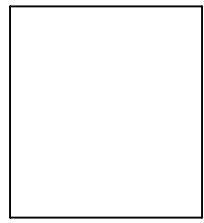


TITLE
SHIFTER PILLOW BLOCK

THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.

SIZE B	PART NO. ENG-000-002	REV -
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1

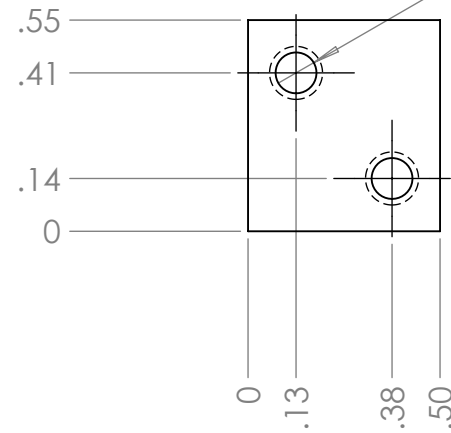
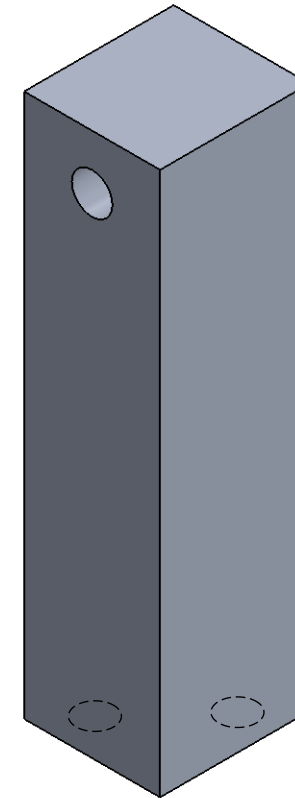
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.



$\varnothing 0.15$ THRU

#6-32 Tapped Hole

2X $\varnothing .11$ $\nabla .50$
6-32 UNC $\nabla .40$




ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

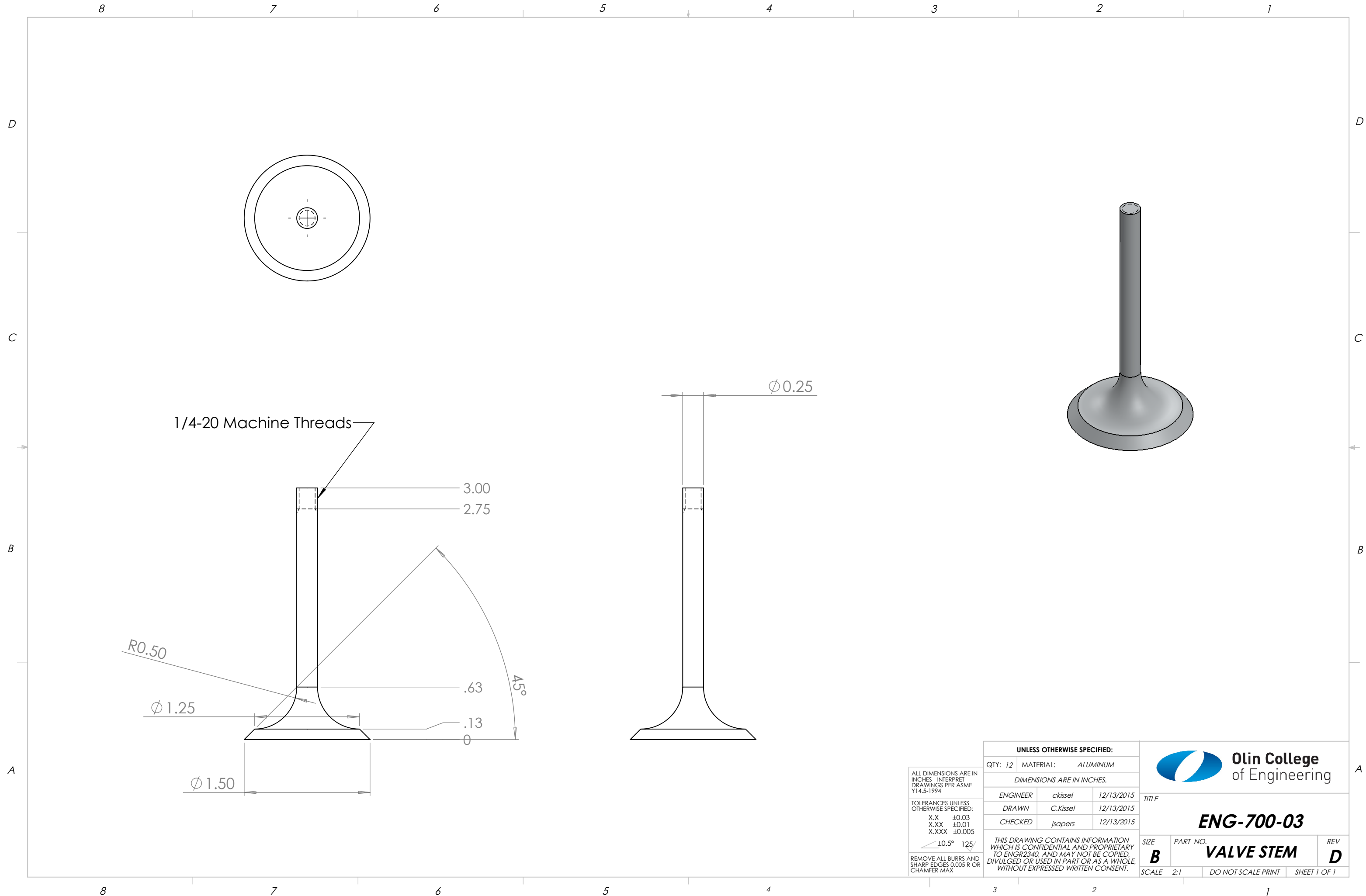
±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY:	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015

		
TITLE		
TENSIONER STAND		
SIZE	PART NO.	REV
B	ENG-900-04	A
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

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ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

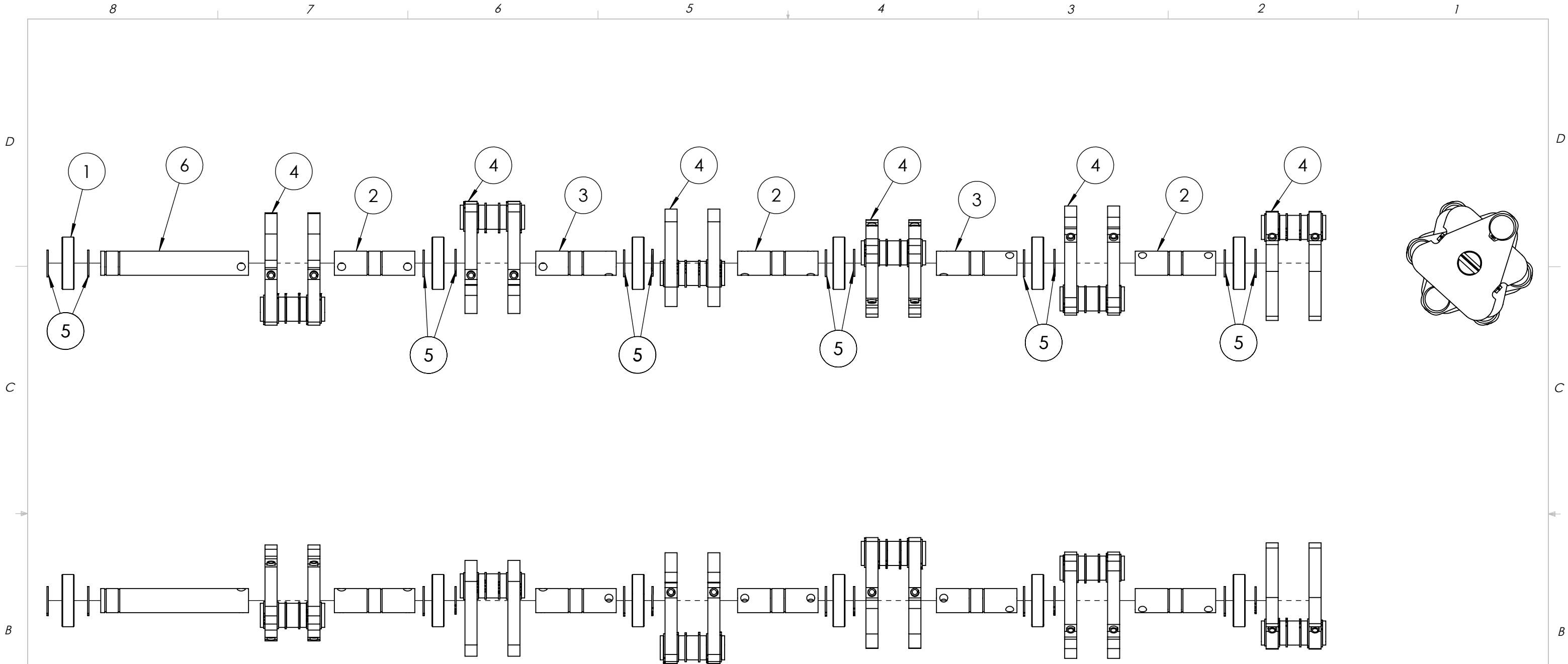
TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 12	MATERIAL:	ALUMINUM
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	C.Kissel	12/13/2015
CHECKED	jsapers	12/13/2015

		
TITLE		
ENG-700-03		
SIZE	PART NO.	REV
B	VALVE STEM	D
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1



ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
1	0.75in Bearing	McMaster 6383K490	6
2	Intermediate Journal	ENG-120-01	3
3	Main Journal	ENG-120-02	2
4	Counterweight Assembly	ENG-121-00	6
5	0.75in Retaining Ring	McMaster 91590A128	12
6	Final End Shaft Engine	ENG-120-03	1


ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

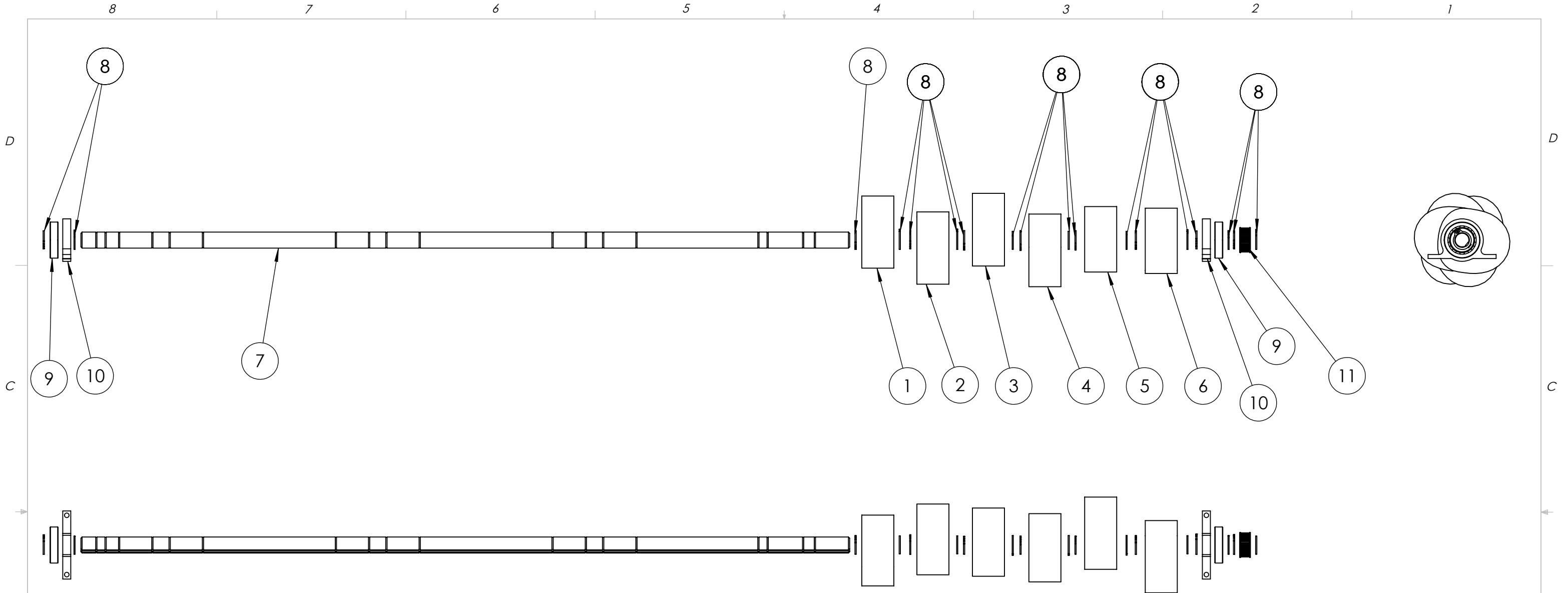
UNLESS OTHERWISE SPECIFIED:		
QTY:	1	MATERIAL: Assorted
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/14/2015
DRAWN	landrade	12/14/2015
CHECKED	hmskin	12/14/2015

 **Olin College**
of Engineering

TITLE
Crank Shaft Assembly

SIZE **B** PART NO. **ENG-120-00** REV **N**

SCALE 2:1 DO NOT SCALE PRINT SHEET 1 OF 1



ITEM NO.	DESCRIPTION	PART NUMBER	SW-Configuration Name(Configuration Name)	QTY.
1	Valve Cam	ENG-500-03	First Valve Cam	1
2	Valve Cam	ENG-500-04	Second Valve Cam	1
3	Valve Cam	ENG-500-05	Third Valve Cam	1
4	Valve Cam	ENG-500-06	Forth Valve Cam	1
5	Valve Cam	ENG-500-07	Fifth Valve Cam	1
6	Valve Cam	ENG-500-08	Sixth Valve Cam	1
7	Left Keyed Cam Shaft	ENG-500-02	Default	1
8	0.5in Retaining Ring	McMaster 97633A200	Default	18
9	0.5in Bearing	McMaster 60355K505	Default	2
10	Cam Shaft Bearing Housing	ENG-510-01	Default	2
11	Cam Shaft Timing Pulley	ENG-400-07	Default	1

UNLESS OTHERWISE SPECIFIED:
 QTY: 1 MATERIAL: Assorted
 DIMENSIONS ARE IN INCHES.

ENGINEER	landrade	12/13/2015
DRAWN	landrade	12/13/2015
CHECKED	hmskin	12/13/2015

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

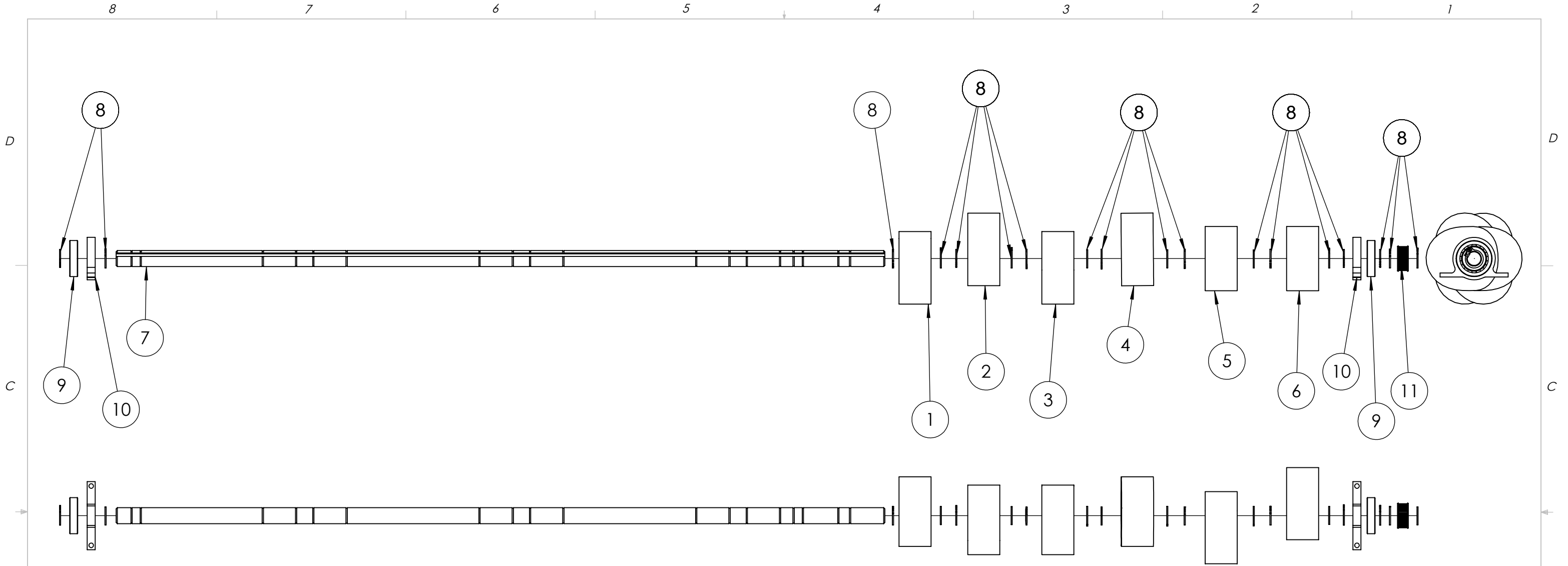
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Olin College of Engineering

TITLE: **Left Cam Valve Assembly**

SIZE: **B** PART NO.: **ENG-500-00** REV: **D**

SCALE: 2:1 DO NOT SCALE PRINT SHEET 1 OF 1



ITEM NO.	DESCRIPTION	PART NUMBER	SW-Configuration Name(Configuration Name)	QTY.
1	Valve Cam	ENG-500-03	First Valve Cam	1
2	Valve Cam	ENG-500-04	Second Valve Cam	1
3	Valve Cam	ENG-500-05	Third Valve Cam	1
4	Valve Cam	ENG-500-06	Forth Valve Cam	1
5	Valve Cam	ENG-500-07	Fifth Valve Cam	1
6	Valve Cam	ENG-500-08	Sixth Valve Cam	1
7	Right Keyed Cam Shaft	McMaster 1497K310	Default	1
8	0.5in Retaining Ring	McMaster 97633A200	Default	18
9	0.5in Bearing	McMaster 6383K340	Default	2
10	Cam Shaft Bearing Housing	ENG-510-01	Default	2
11	Cam Shaft Timing Pulley	ENG-500-01	Default	1

UNLESS OTHERWISE SPECIFIED:
 QTY: 1 MATERIAL: Assorted

DIMENSIONS ARE IN INCHES.

ENGINEER	landrade	12/13/2015
DRAWN	landrade	12/13/2015
CHECKED	hmskin	12/13/2015

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

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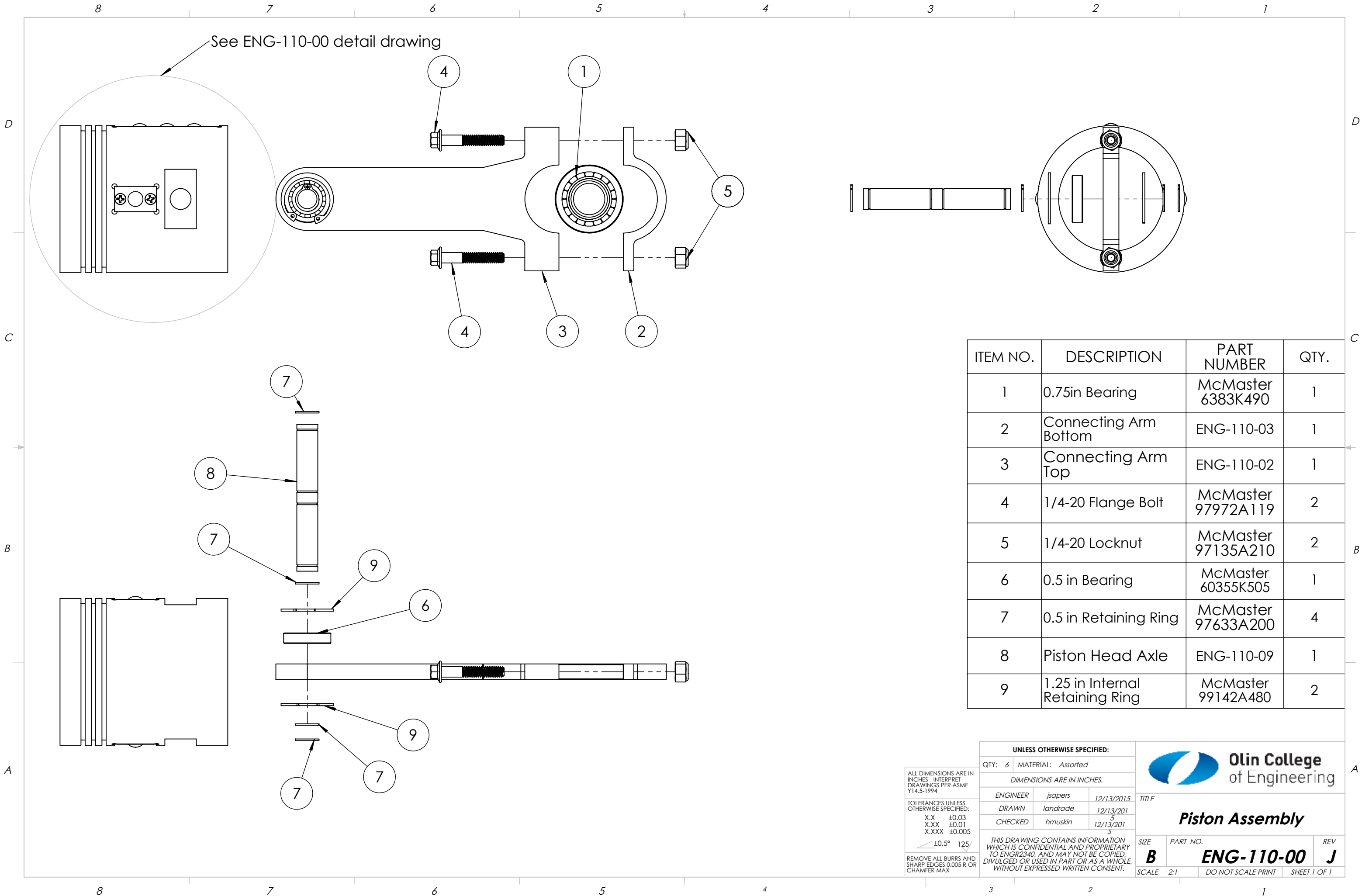
Olin College of Engineering

TITLE: **Right Valve Cam Assembly**

SIZE	PART NO.	REV
B	ENG-600-00	C

SCALE: 2:1 DO NOT SCALE PRINT SHEET 1 OF 1

See ENG-110-00 detail drawing



ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
1	0.75in Bearing	McMaster 6383K490	1
2	Connecting Arm Bottom	ENG-110-03	1
3	Connecting Arm Top	ENG-110-02	1
4	1/4-20 Flange Bolt	McMaster 97972A119	2
5	1/4-20 Locknut	McMaster 97135A210	2
6	0.5 in Bearing	McMaster 60355K505	1
7	0.5 in Retaining Ring	McMaster 97633A200	4
8	Piston Head Axle	ENG-110-09	1
9	1.25 in Internal Retaining Ring	McMaster 99142A480	2

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:
 QTY: 6 MATERIAL: Assorted

DIMENSIONS ARE IN INCHES.

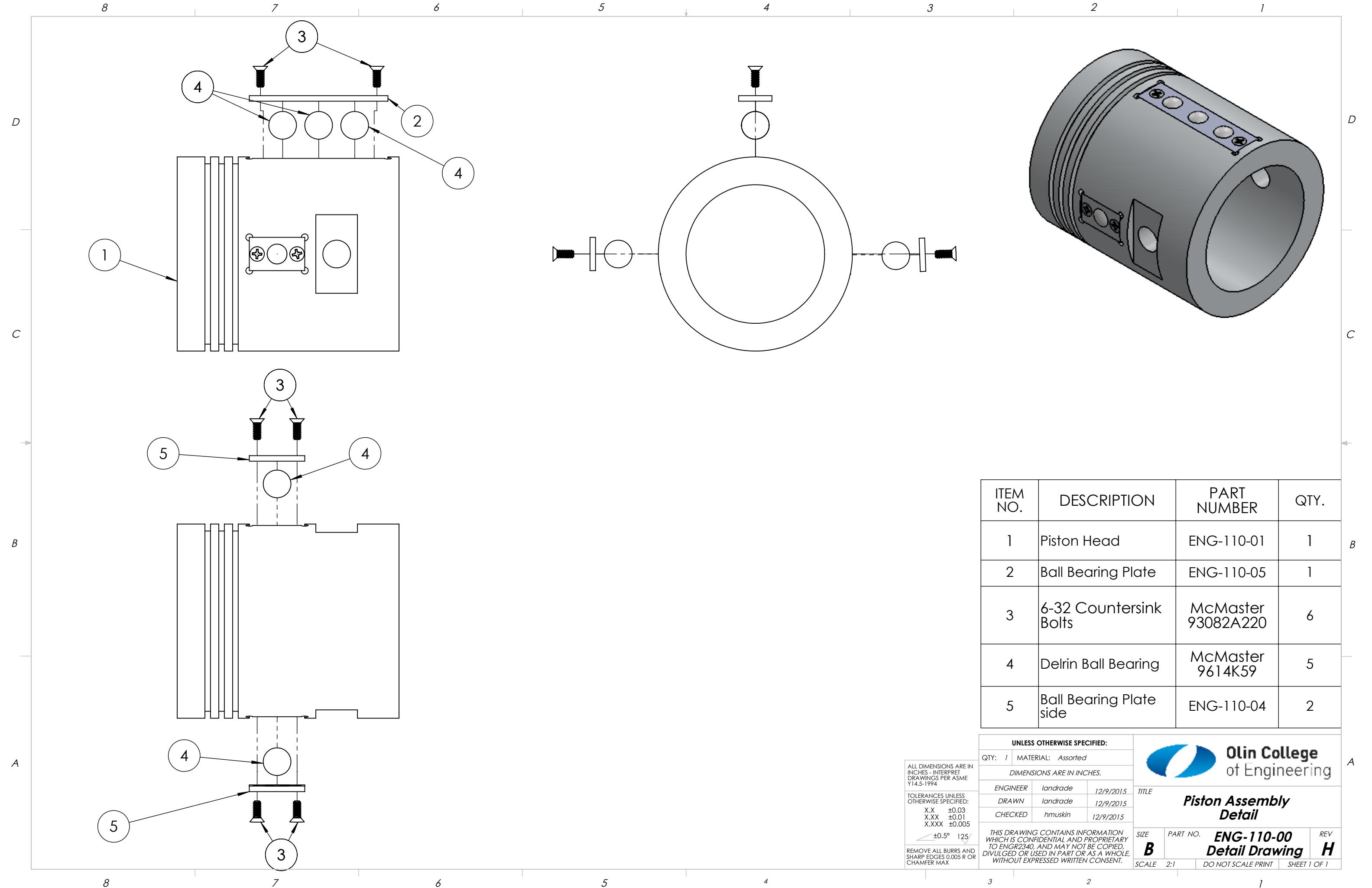
ENGINEER	jsapers	12/13/2015
DRAWN	landrade	12/13/201
CHECKED	hmskin	12/13/201

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Olin College of Engineering

TITLE: **Piston Assembly**

SIZE: B	PART NO.: ENG-110-00	REV: J
SCALE: 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1



ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
1	Piston Head	ENG-110-01	1
2	Ball Bearing Plate	ENG-110-05	1
3	6-32 Countersink Bolts	McMaster 93082A220	6
4	Delrin Ball Bearing	McMaster 9614K59	5
5	Ball Bearing Plate side	ENG-110-04	2

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:

QTY: 1 MATERIAL: Assorted

DIMENSIONS ARE IN INCHES.

ENGINEER	landrade	12/9/2015
DRAWN	landrade	12/9/2015
CHECKED	hmskin	12/9/2015

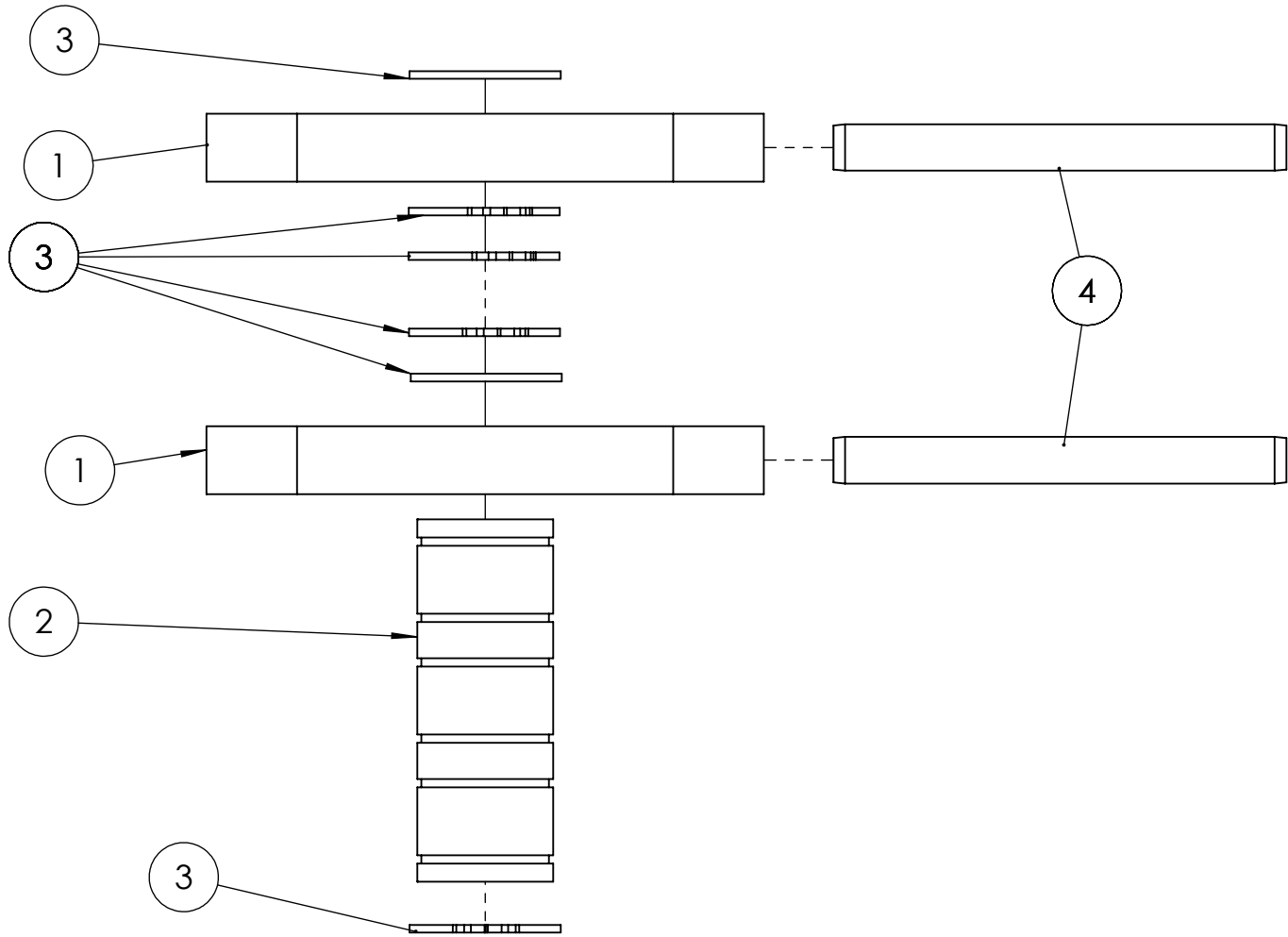
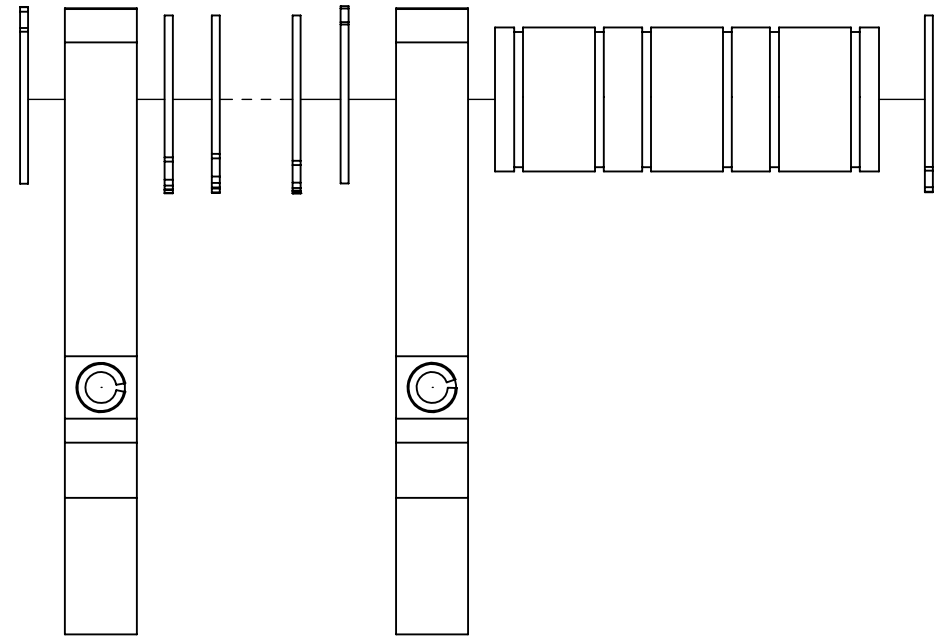
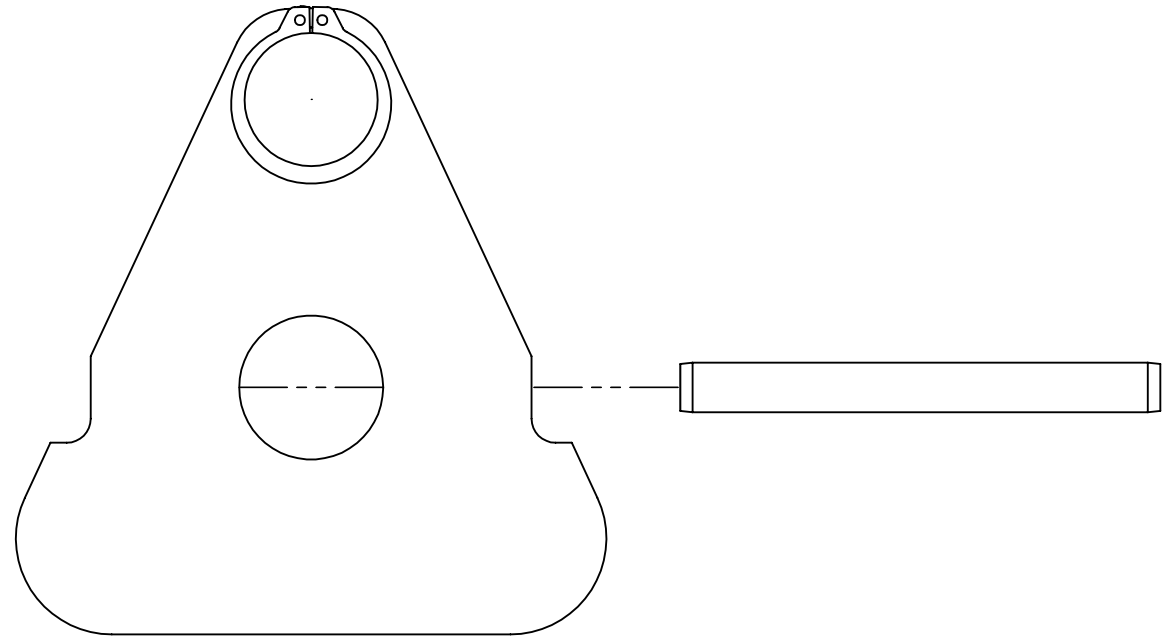
Olin College of Engineering

TITLE: **Piston Assembly Detail**

SIZE: **B** PART NO.: **ENG-110-00** REV: **H**

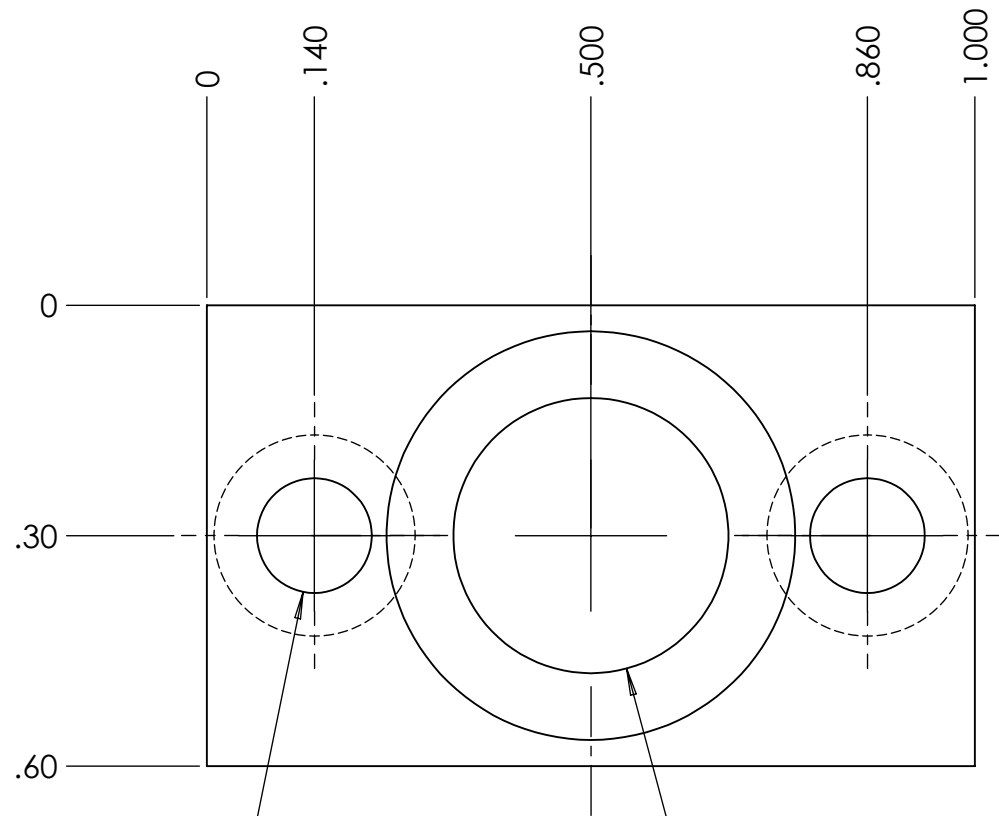
SCALE: 2:1 DO NOT SCALE PRINT SHEET 1 OF 1

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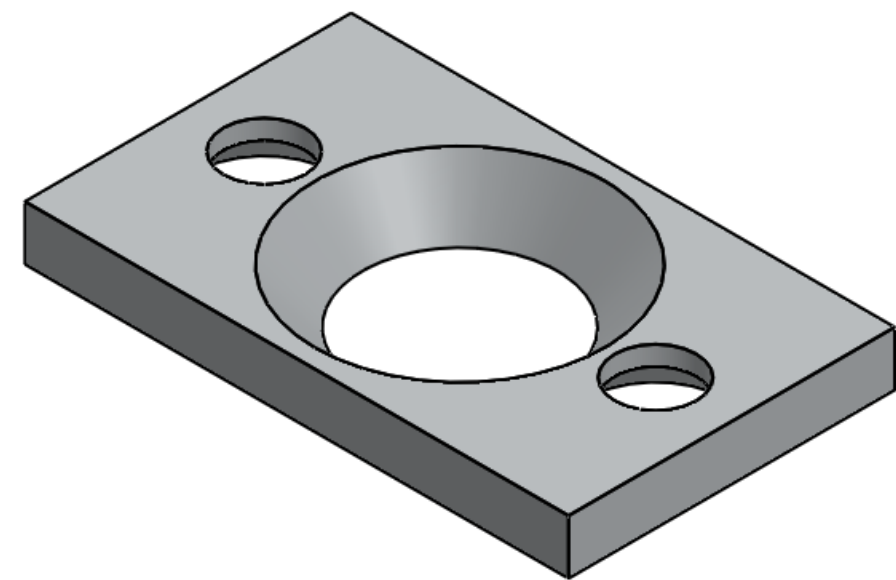
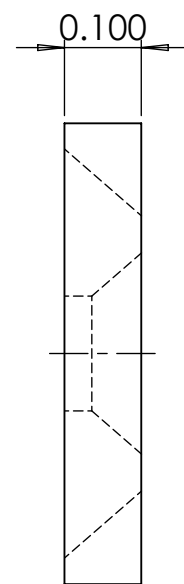
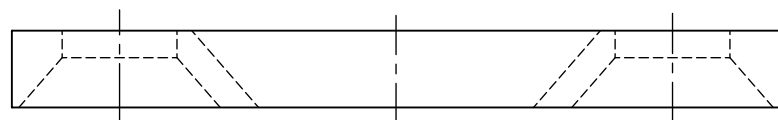
ITEM NO.	DESCRIPTION	PART NUMBER	QTY.
1	Counterweight Plate	ENG-121-01	2
2	Connecting Rod Journal	ENG-121-02	1
3	0.75in Retaining Ring	McMaster 91590A128	6
4	.25 Spring Pin	McMaster 92373A385	2

<p>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</p> <p>TOLERANCES UNLESS OTHERWISE SPECIFIED:</p> <p>X.X ±0.03</p> <p>X.XX ±0.01</p> <p>X.XXX ±0.005</p> <p>±0.5° 125/</p> <p>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</p>	<p>UNLESS OTHERWISE SPECIFIED:</p> <p>QTY: 6 MATERIAL: Assorted</p> <p>DIMENSIONS ARE IN INCHES.</p>			<p>Olin College of Engineering</p>	
	ENGINEER	landrade	12/13/2015		TITLE
	DRAWN	landrade	12/13/2015		Counterweight Assembly
	CHECKED	hmskin	12/13/2015		SIZE PART NO. REV
<p>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</p>			<p>SCALE 2:1 DO NOT SCALE PRINT SHEET 1 OF 1</p>		



2X ϕ .15 THRU ALL
 \sphericalangle .262 x 82°

ϕ .344 THRU ALL
 \sphericalangle .532 x 82°



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
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 X.XX ±0.01
 X.XXX ±0.005

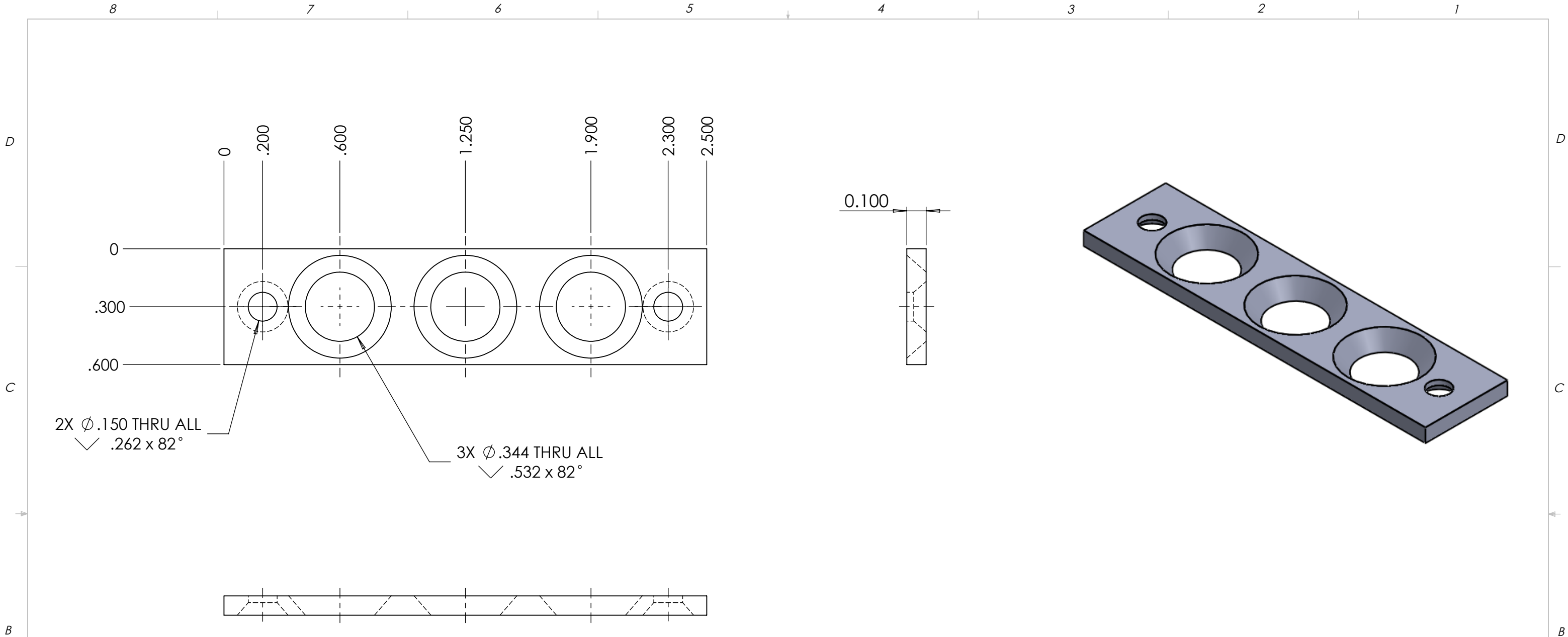
\sphericalangle ±0.5° 125°

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 12	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	landrade	12/10/2015
CHECKED	hmskin	12/10/2015
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TITLE		
Ball Bearing Plate Side		
SIZE	PART NO.	REV
B	ENG-110-04	B
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
4:1		



UNLESS OTHERWISE SPECIFIED:			Olin College of Engineering		
QTY: 6 MATERIAL: 6061 ALUMINUM			TITLE		
DIMENSIONS ARE IN INCHES.			Ball Bearing Plate		
ENGINEER	landrade	12/6/2015	SIZE	PART NO.	REV
DRAWN	landrade	12/6/2015	B	ENG-110-05	A
CHECKED	hmskin	12/6/2015	SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 $\sphericalangle \pm 0.5^\circ$ 125/			THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.		
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.					

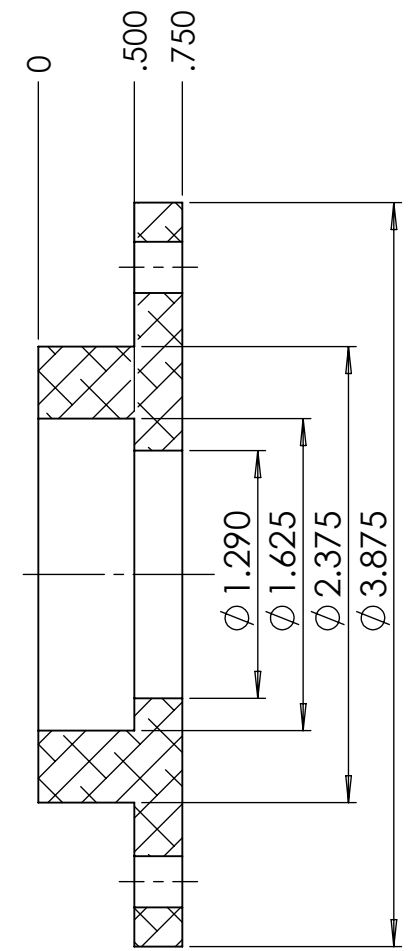
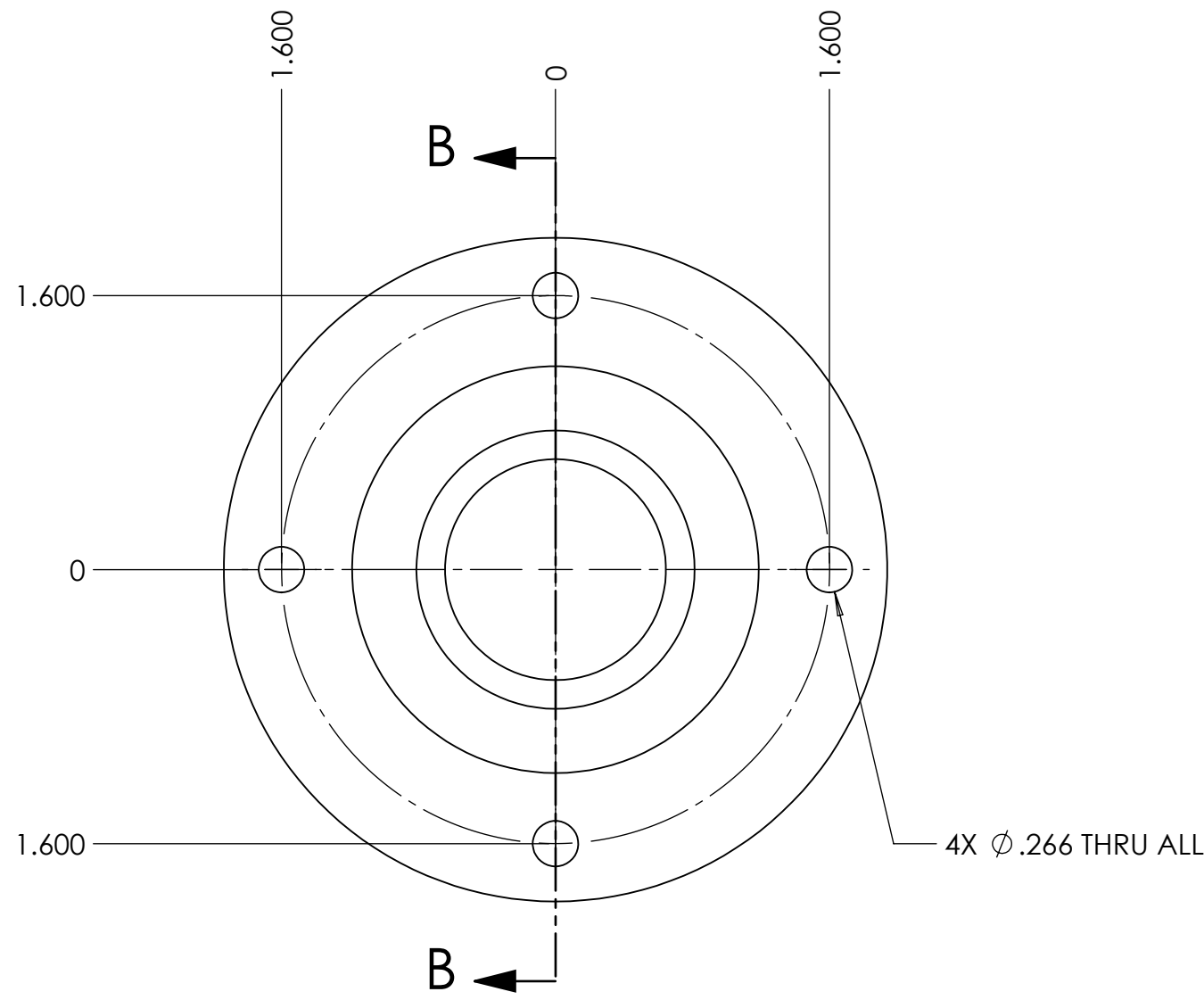
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D

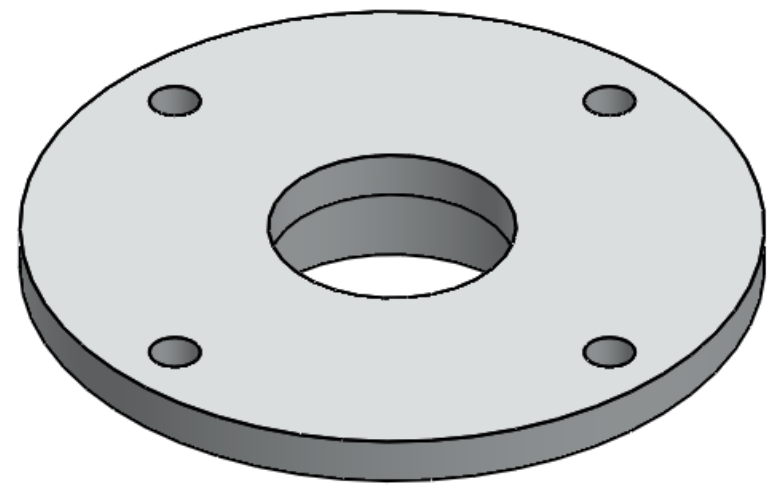
C

B

A



SECTION B-B

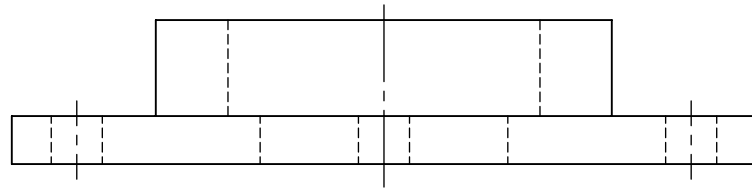


D

C

B

A



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X \pm 0.03
 X.XX \pm 0.01
 X.XXX \pm 0.005

\angle \pm 0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY:	1	MATERIAL: 6061 ALUMINUM
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/12/2015
DRAWN	landrade	12/12/2015
CHECKED	hmskin	12/12/2015



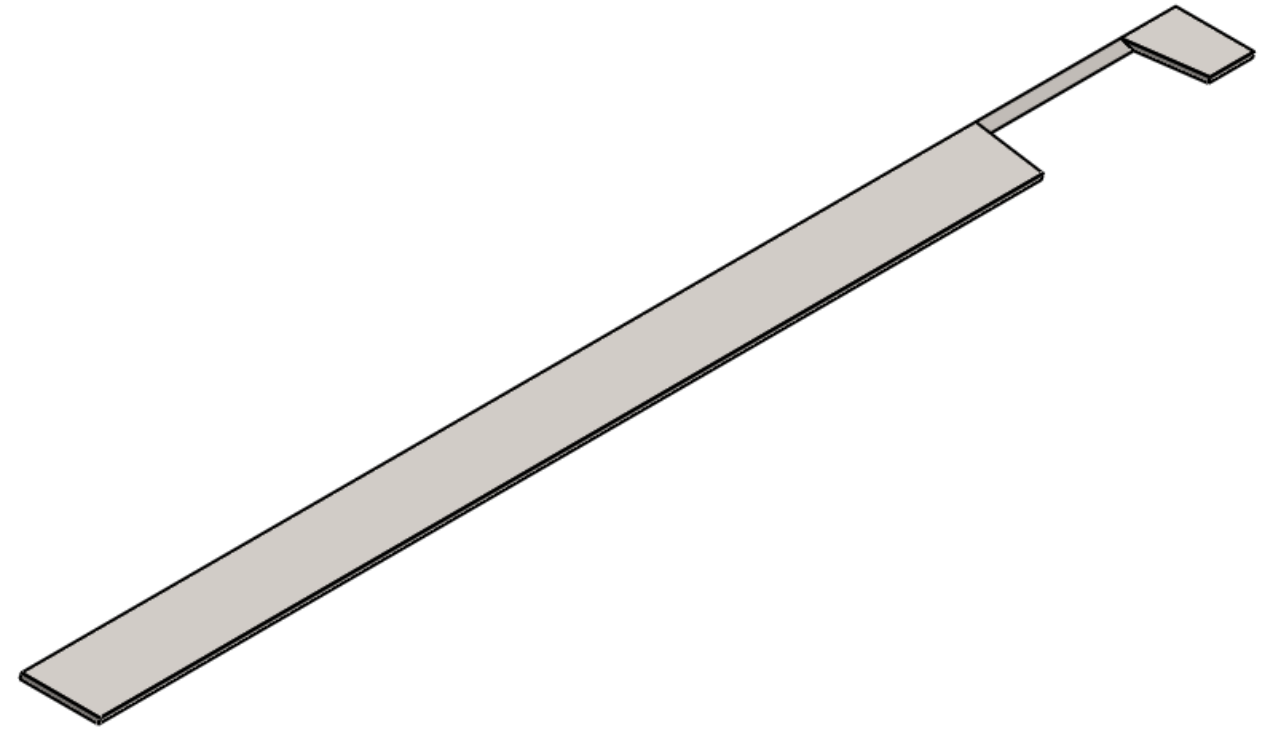
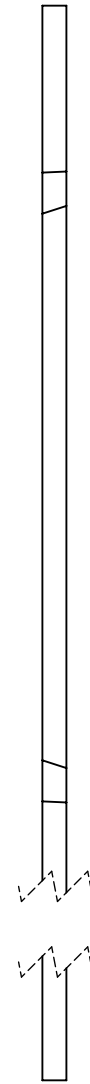
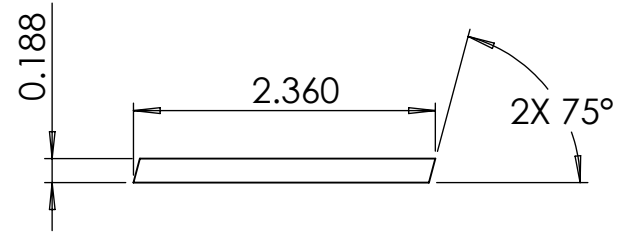
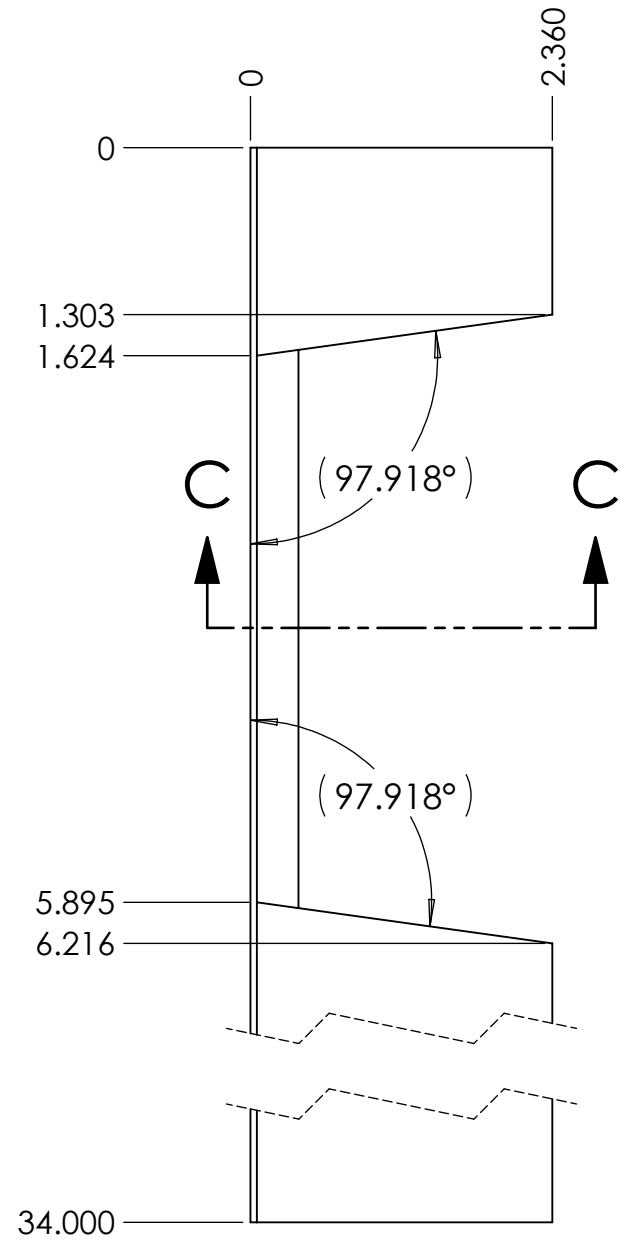
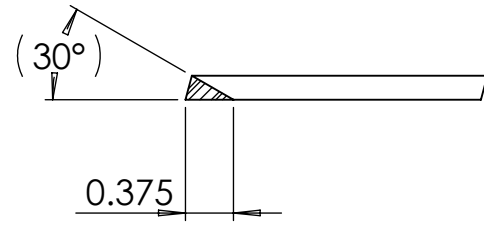
TITLE **Bearing Housing Turbine Shaft**

SIZE B	PART NO. ENG-233-01	REV B
SCALE 1:1	DO NOT SCALE PRINT	SHEET 1 OF 1

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

SECTION C-C
SCALE 1:1.5



D
C
B
A

D
C
B
A

8 7 6 5 4 3 2 1

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005
±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 4130 STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	jsapers	12/13/2015
DRAWN	landrade	12/13/2015
CHECKED	hmskin	12/13/2015

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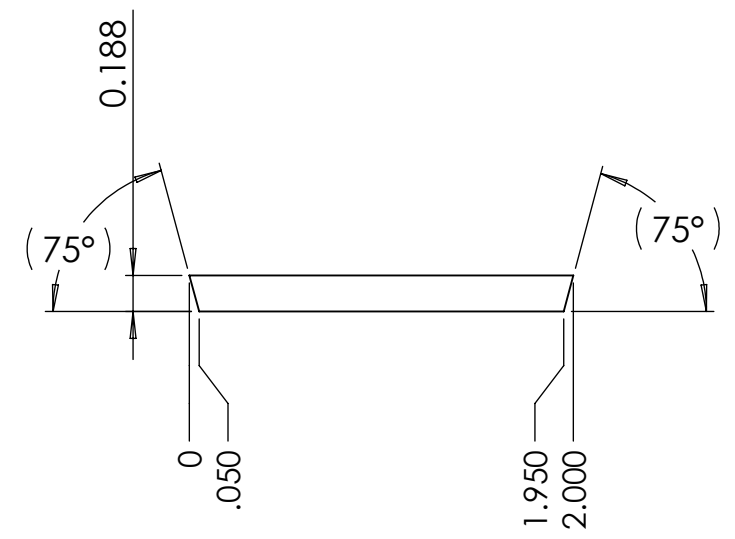
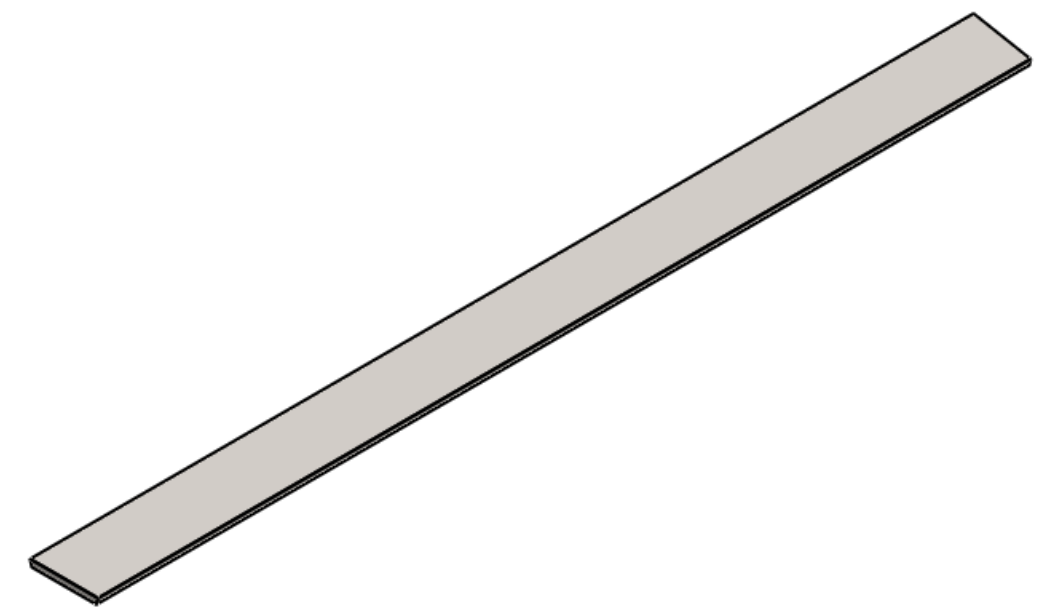
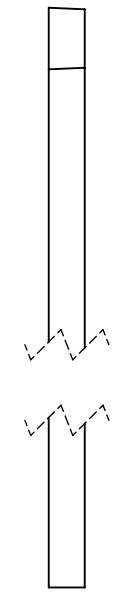
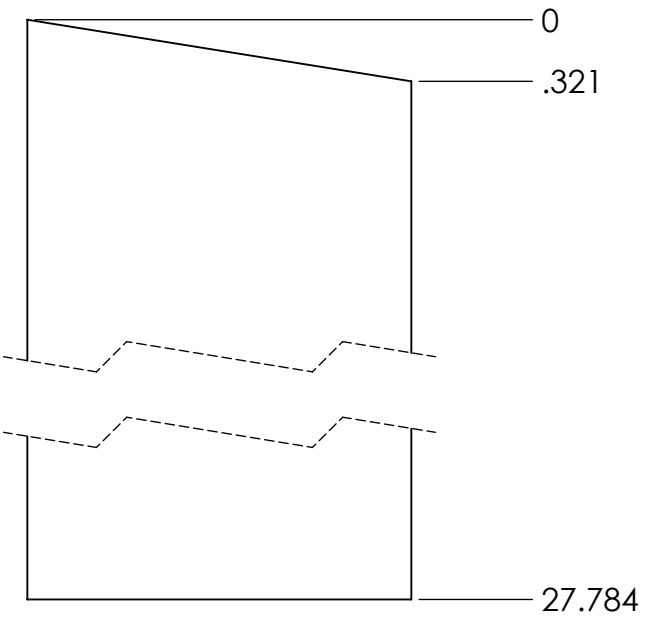
TITLE		
<p align="center">Block Right Angle</p>		
SIZE	PART NO.	REV
B	ENG-310-13	A
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

8 7 6 5 4 3 2 1

D
C
B
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D
C
B
A



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 4130 STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	jsapers	12/10/2015
DRAWN	landrade	12/10/2015
CHECKED	hmskin	12/10/2015

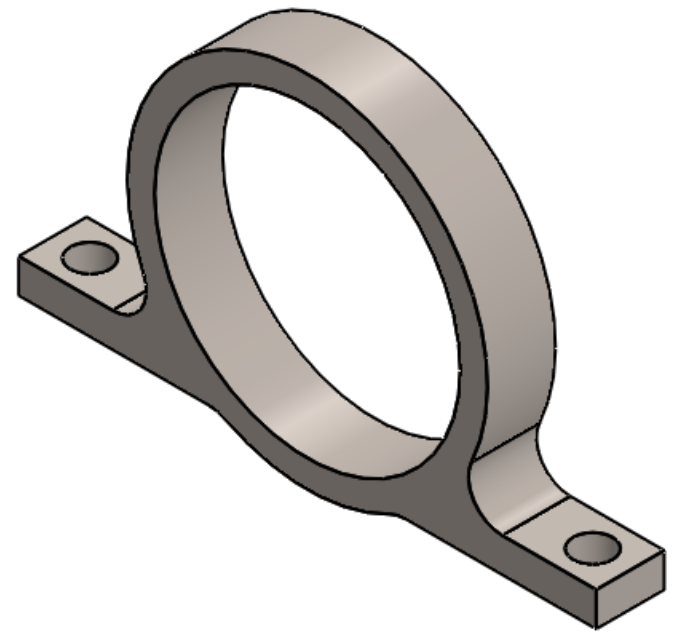
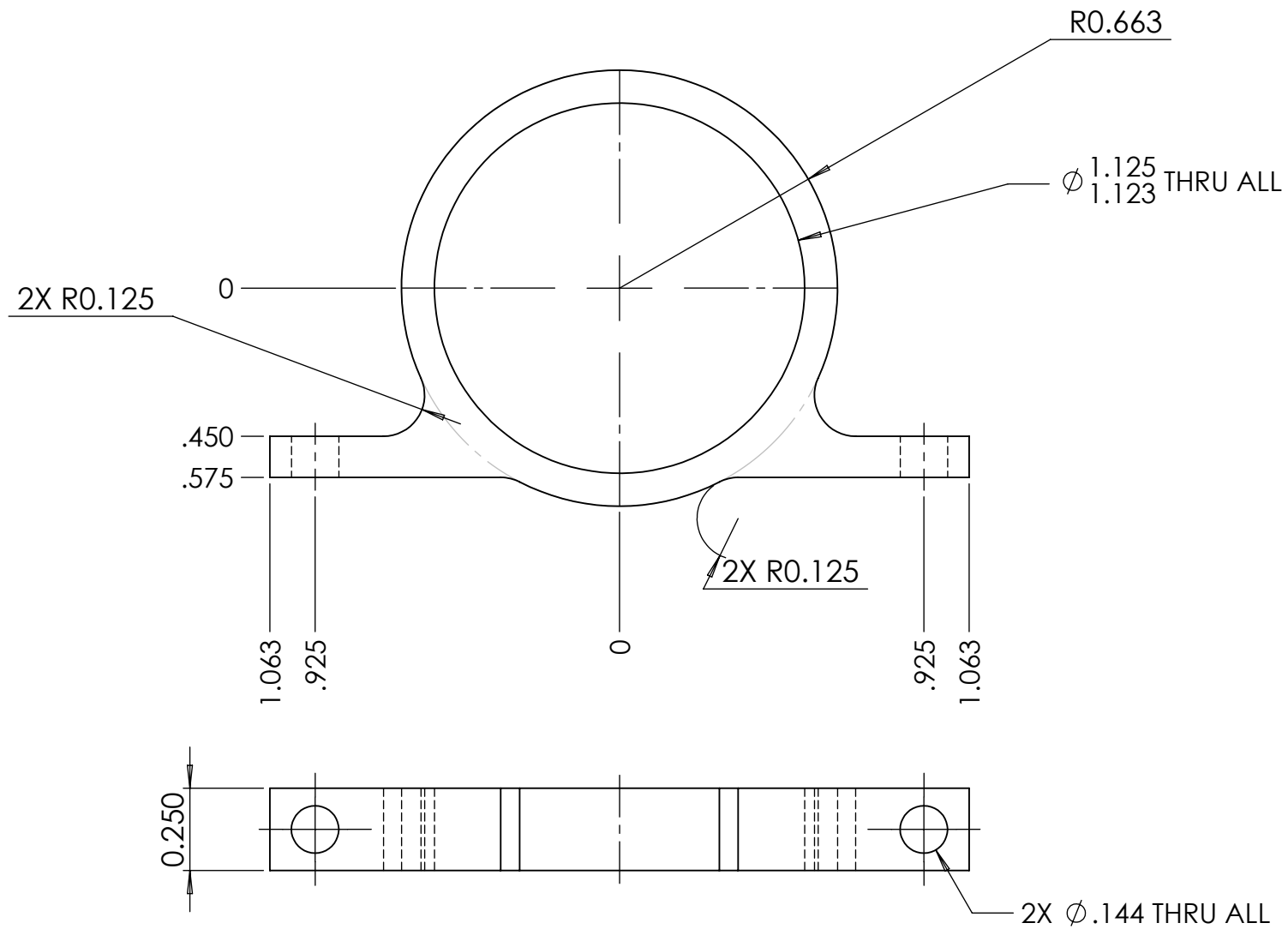


TITLE
Block Right Top 1

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SIZE B	PART NO. ENG-310-14	REV B
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1

8 7 6 5 4 3 2 1



NOTE:
1. SEE 'CAM SHAFT BEARING HOUSING.SLDPRT' FOR PROFILE.

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

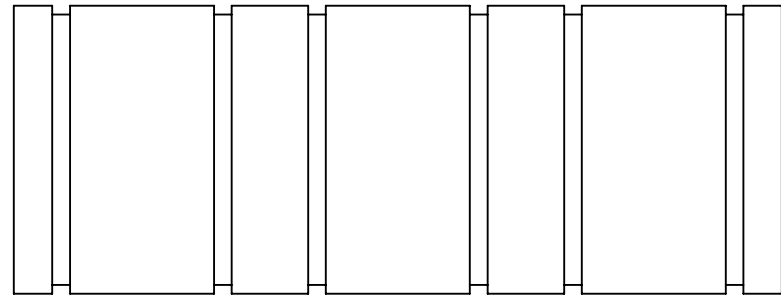
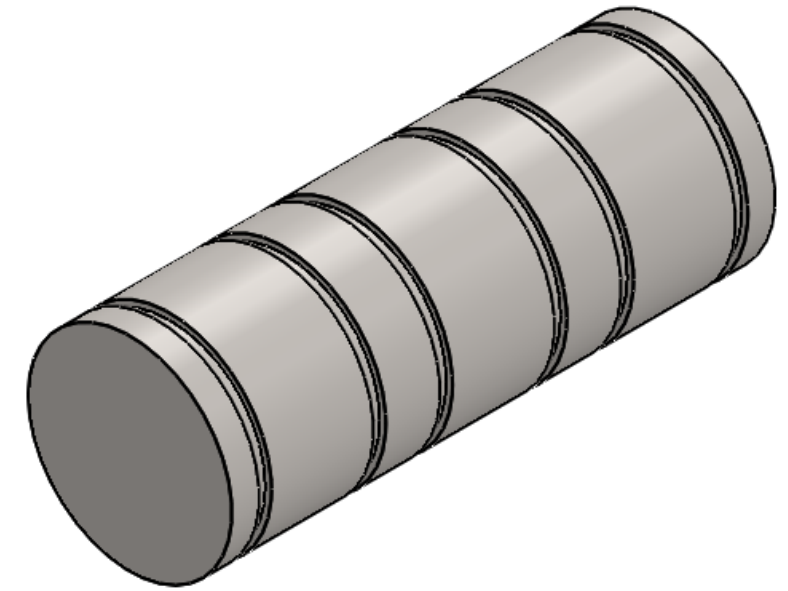
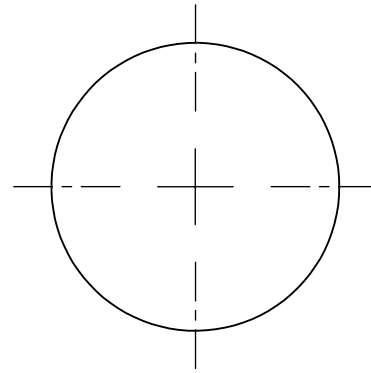
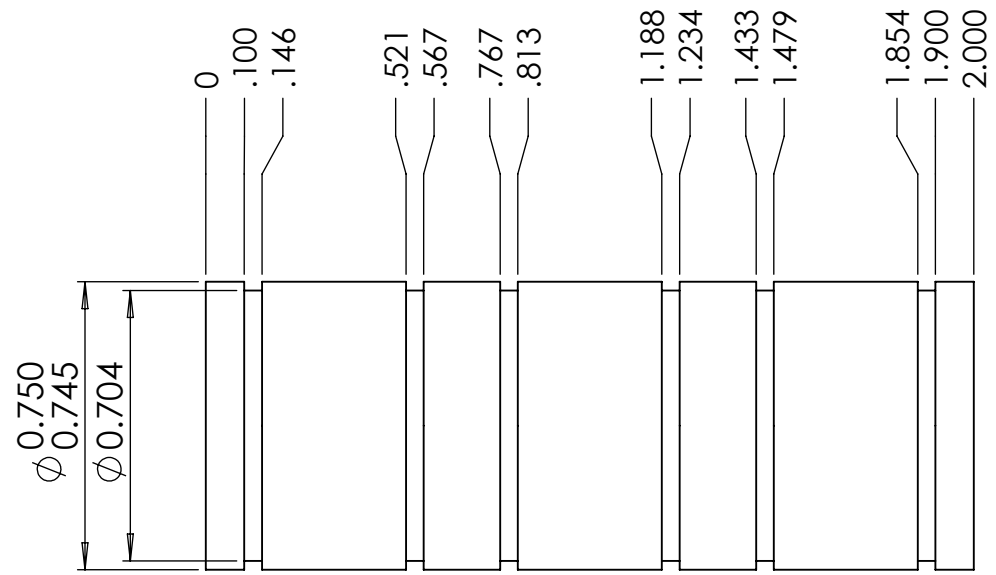
±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 2	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	landrade	12/10/201
CHECKED	hmskin	12/10/201

THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.

Cam Shaft Bearing Housing		
SIZE	PART NO.	REV
B	ENG-510-01	A
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

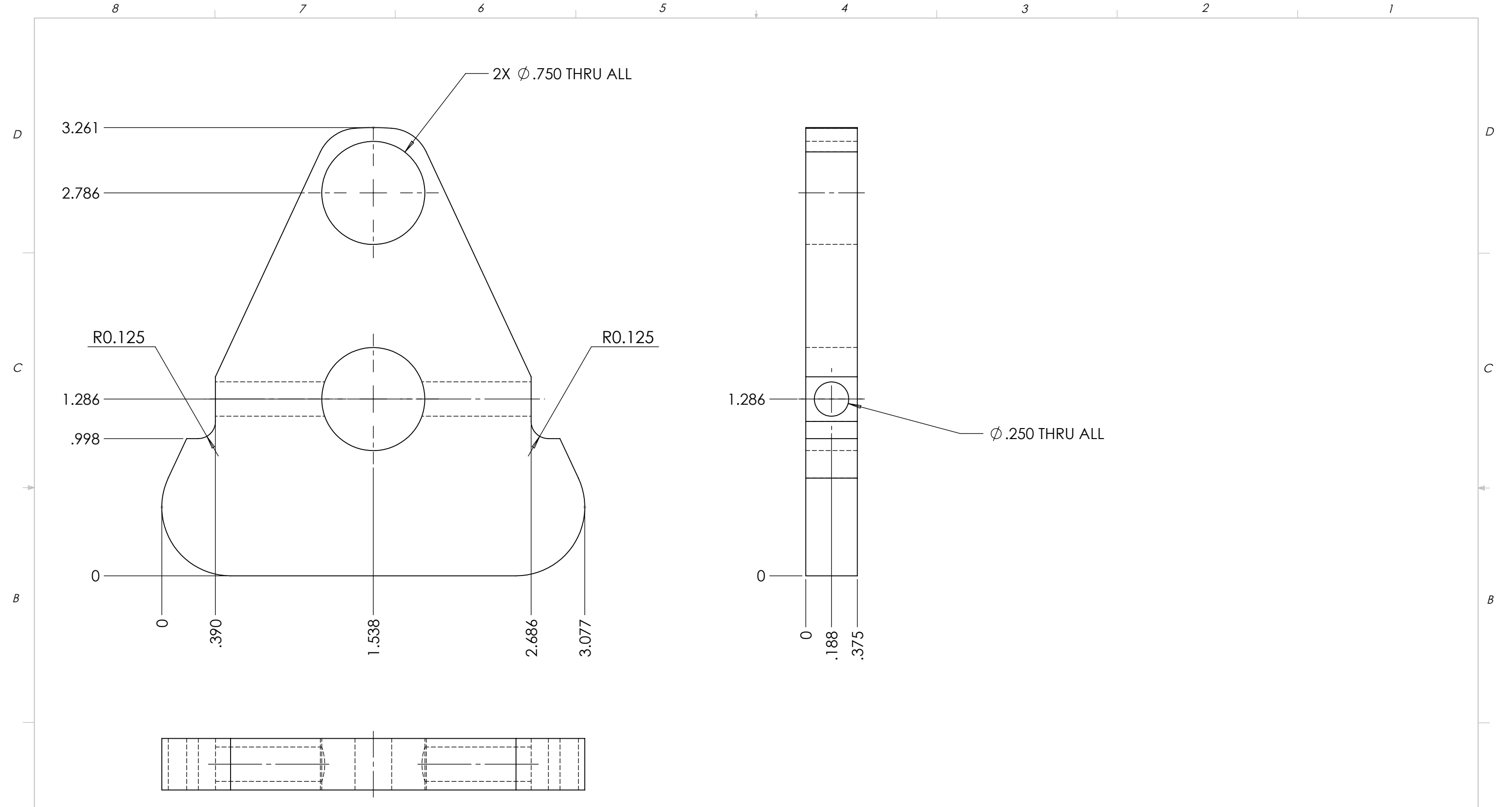
∠±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY:	6	MATERIAL: 6061 ALUMINUM
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/6/2015
DRAWN	landrade	12/6/2015
CHECKED	hmskin	12/6/2015
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.		



TITLE		
Connecting Rod Journal		
SIZE	PART NO.	REV
B	ENG-121-02	B
SCALE	2:1	DO NOT SCALE PRINT SHEET 1 OF 1



NOTE:
 1. SEE SOLIDWORKS PART "COUNTERWEIGHT PLATE.SLDPRT" FOR OUTER CONTOUR

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

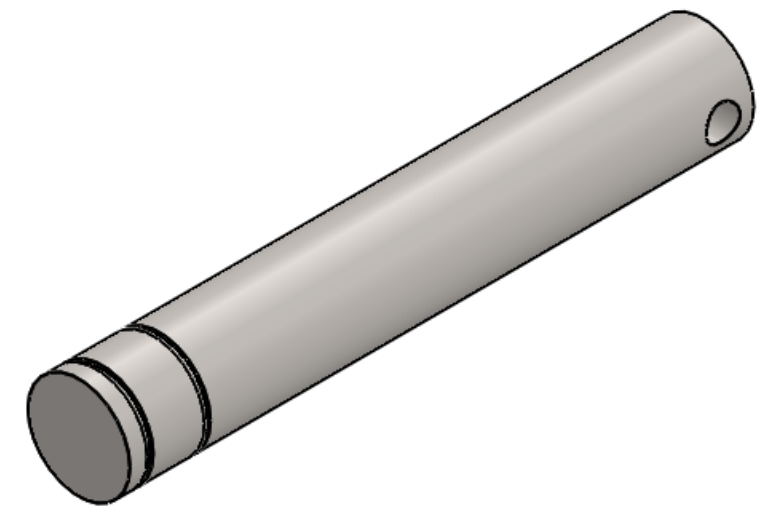
UNLESS OTHERWISE SPECIFIED:		
QTY: 12	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/10/2015
DRAWN	ckissel	12/10/2015
CHECKED	hmskin	12/10/2015

Counterweight Plate		
SIZE	PART NO.	REV
B	ENG-121-01	F
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
3:2		

8 7 6 5 4 3 2 1

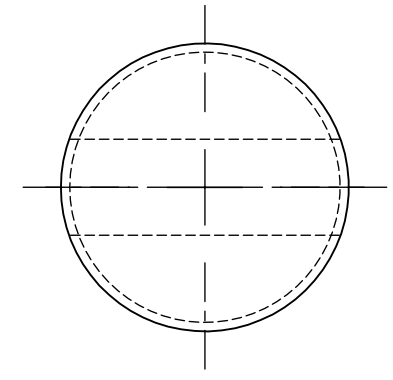
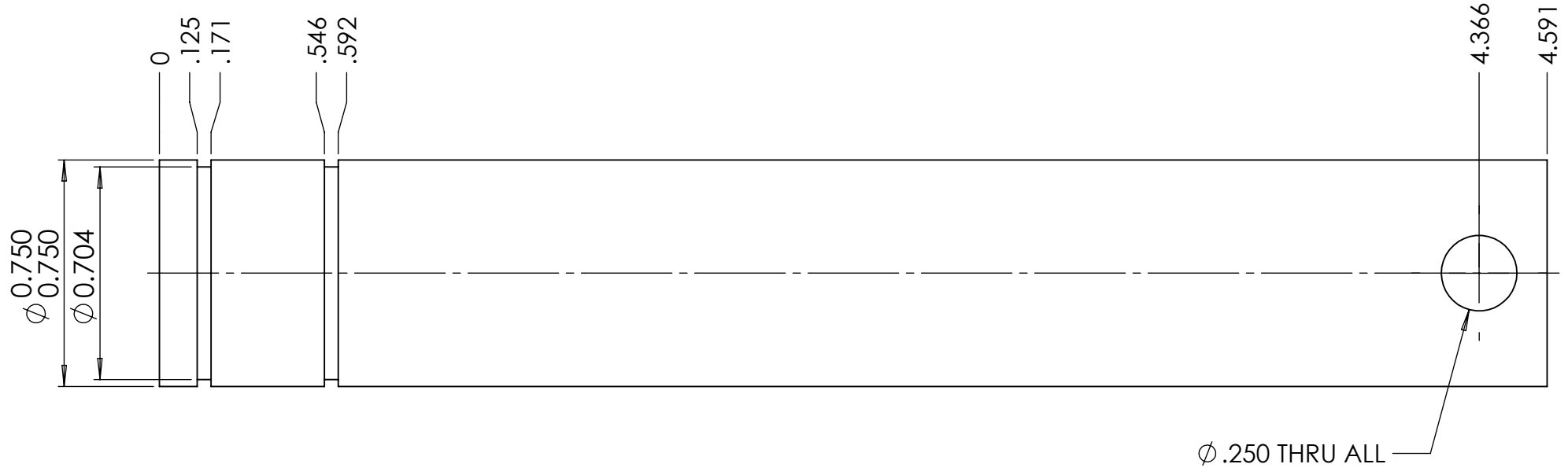
D

D



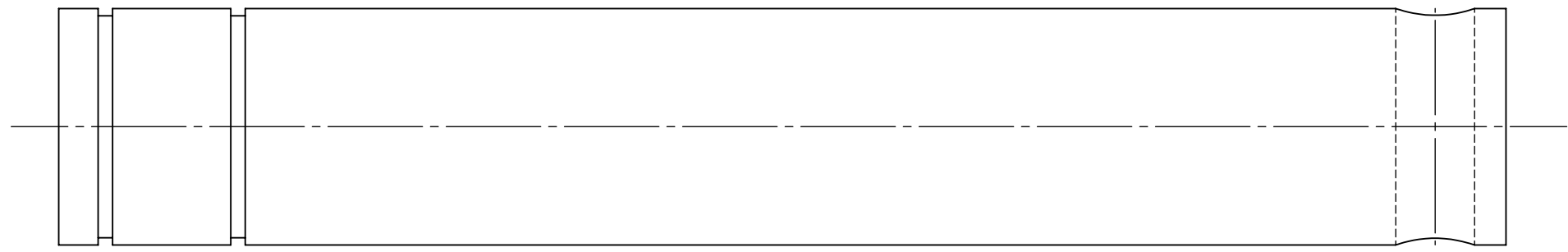
C

C



B

B



A

A

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

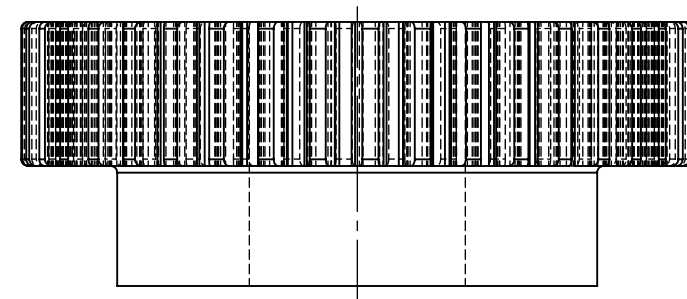
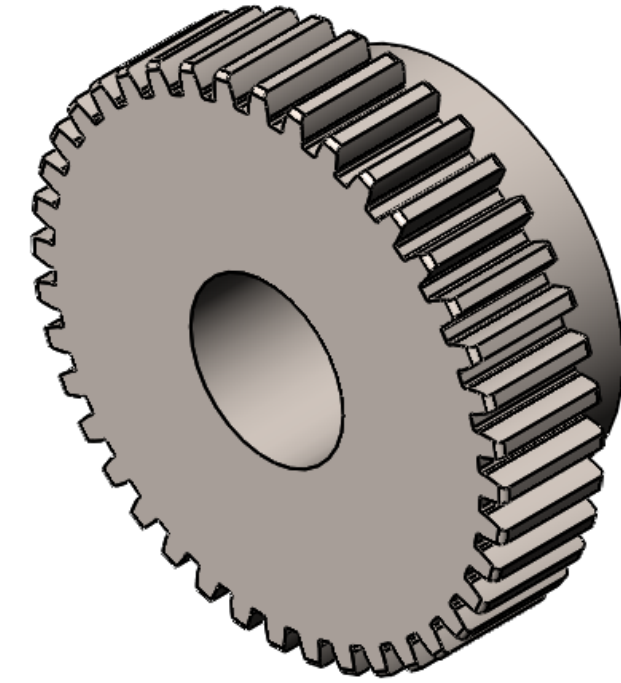
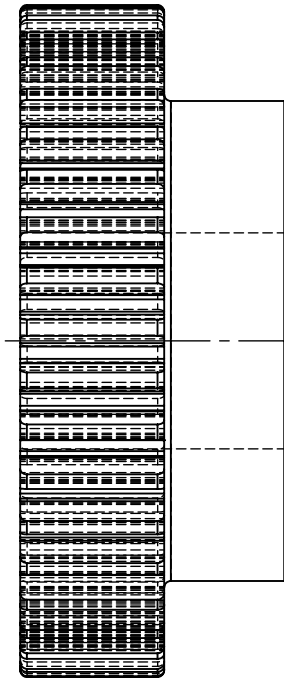
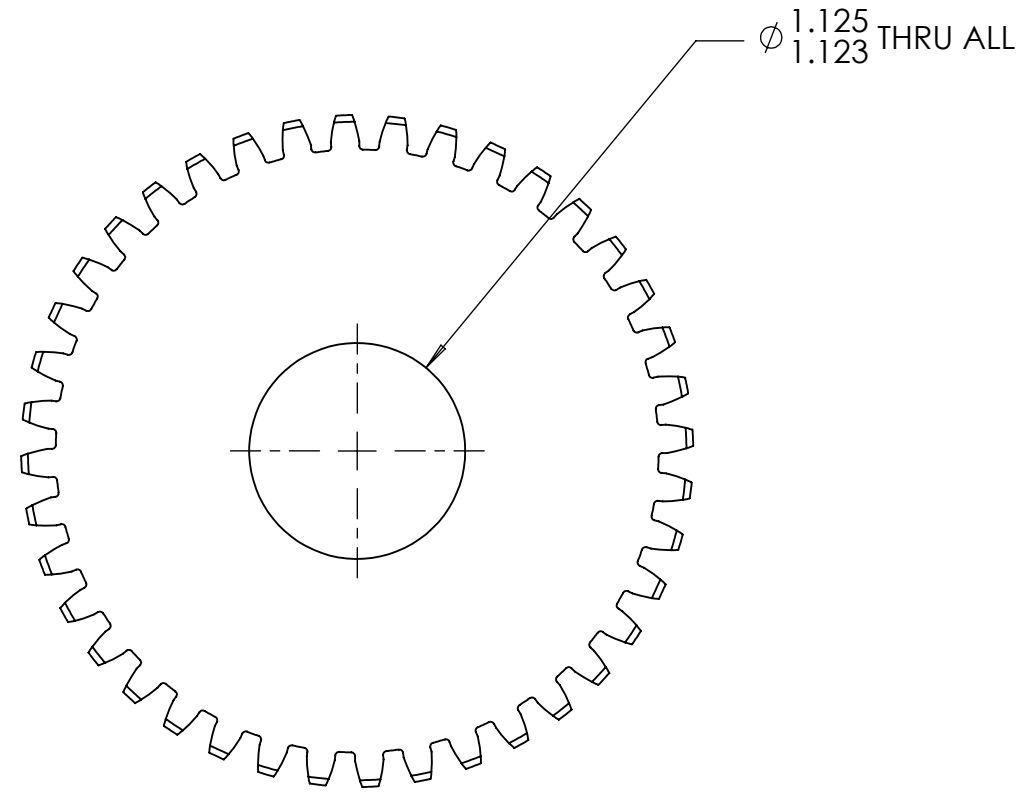
UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/9/2015
DRAWN	landrade	12/9/2015
CHECKED	hmskin	12/9/2015



TITLE
Final End Shaft Engine

SIZE B	PART NO. ENG-120-03	REV C
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1

8 7 6 5 4 3 2 1



NOTE:
1. THIS PART IS MODIFIED FROM MCMASTER PART 6325K2

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:

QTY: 1 MATERIAL: STEEL

DIMENSIONS ARE IN INCHES.

ENGINEER	ckissel	12/13/2015
DRAWN	landrade	12/13/2015
CHECKED	hmskin	12/13/2015

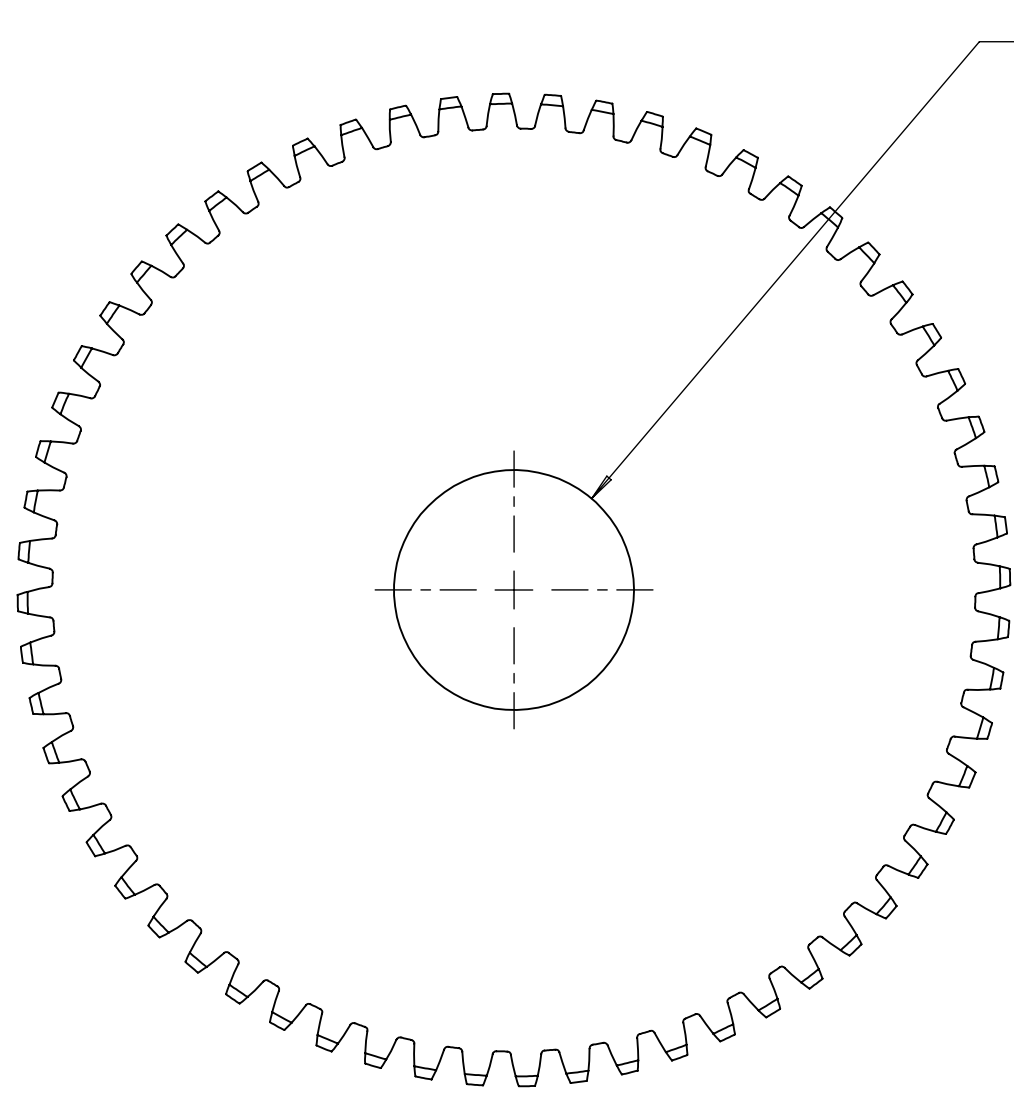
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.



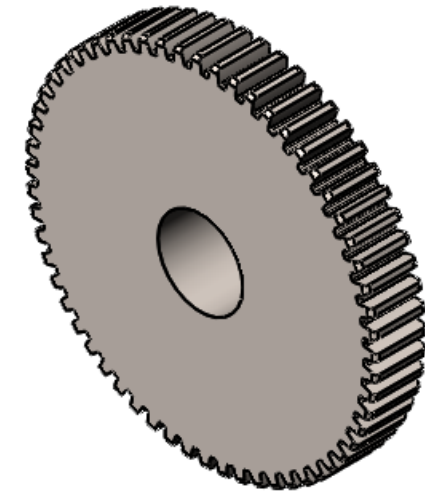
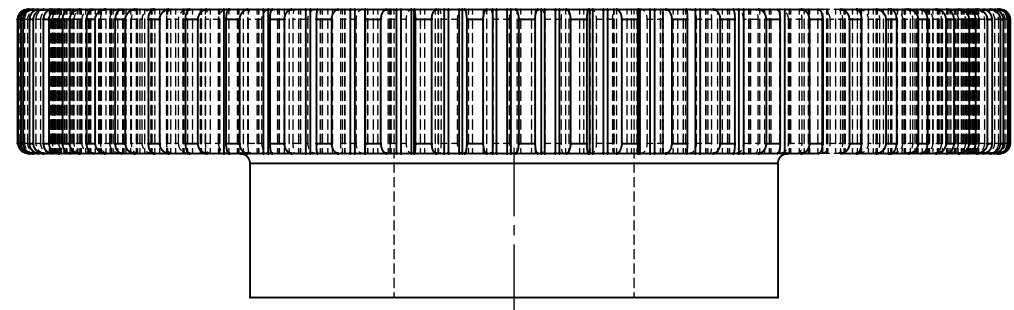
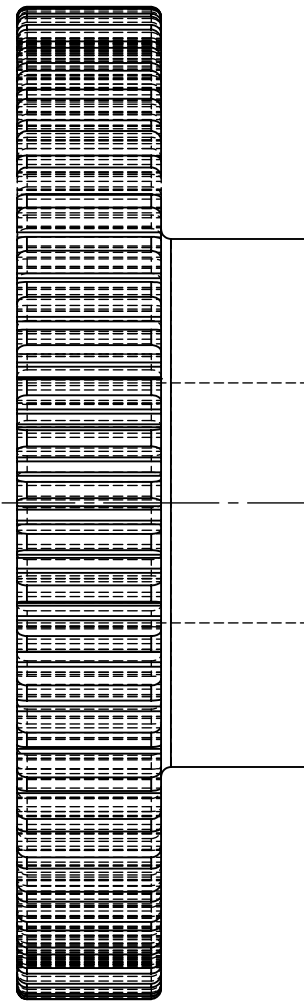
TITLE
40 tooth

SIZE B	PART NO. 6325K2	REV A
------------------	---------------------------	-----------------

SCALE 2:1 DO NOT SCALE PRINT SHEET 1 OF 1



Ø 1.250
1.248 THRU ALL



NOTE:
1. THIS PART IS MODIFIED FROM MCMASTER PART 6325K4

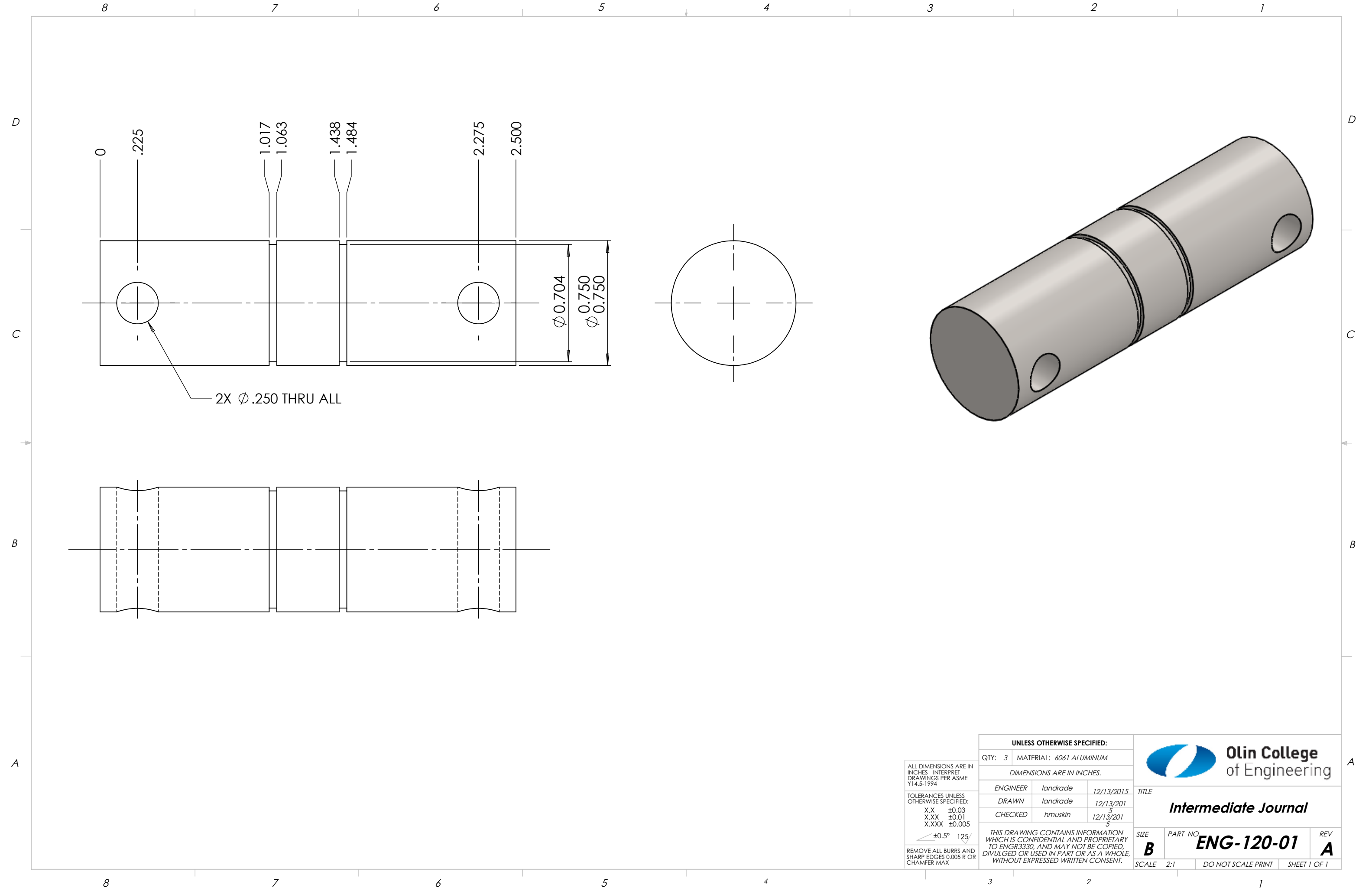
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005
±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	landrade	12/13/2015
CHECKED	hmskin	12/13/2015
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TITLE 60 Tooth		
SIZE B	PART NO. 6325K4	REV A
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1



2X Ø.250 THRU ALL

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

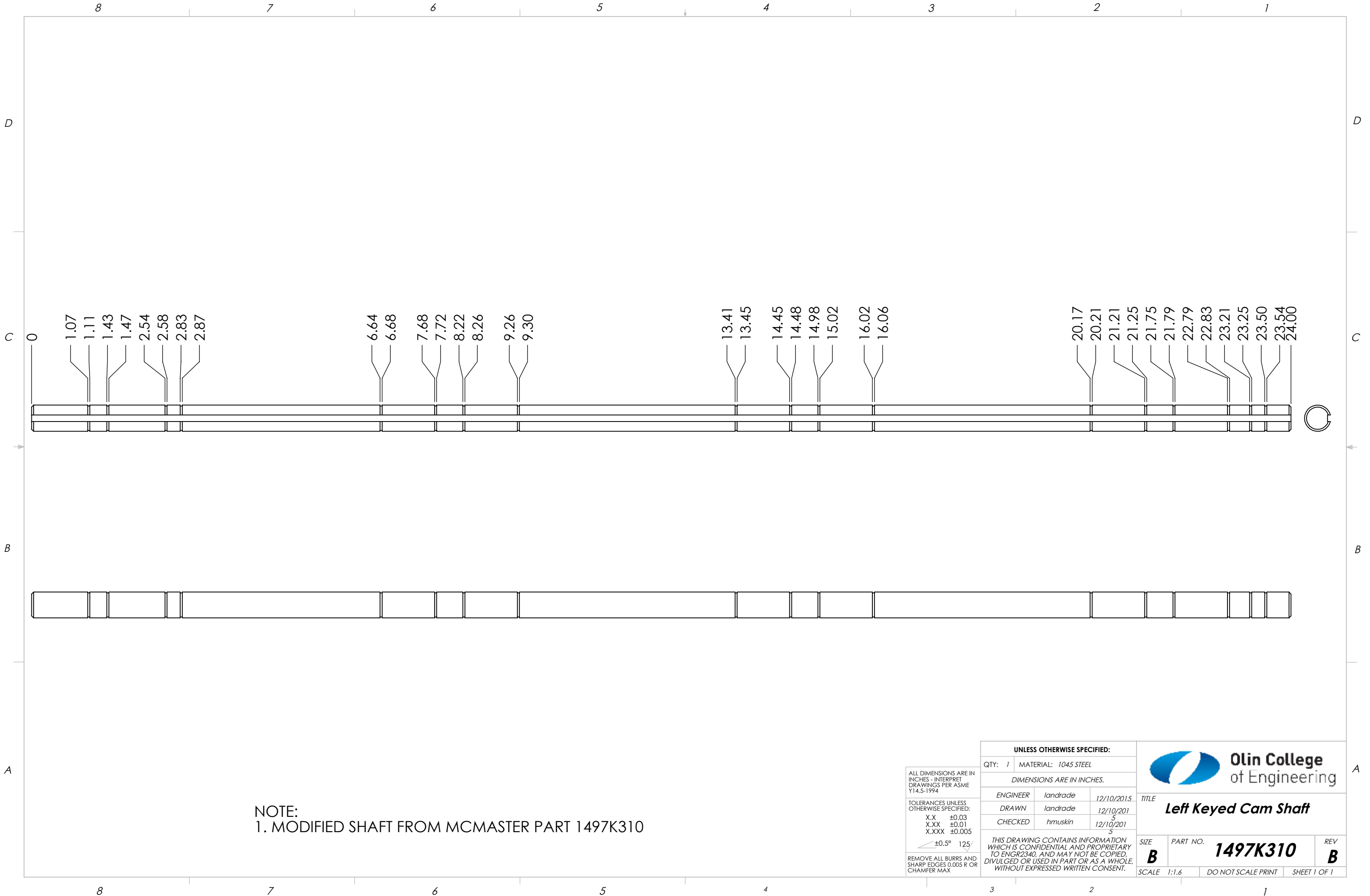
±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 3	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/13/2015
DRAWN	landrade	12/13/2015
CHECKED	hmskin	12/13/2015

		
TITLE		
<p>Intermediate Journal</p>		
SIZE	PART NO.	REV
B	ENG-120-01	A
SCALE	DO NOT SCALE PRINT SHEET 1 OF 1	
2:1		

THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.



NOTE:
1. MODIFIED SHAFT FROM MCMASTER PART 1497K310


ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

∠±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY:	1	MATERIAL: 1045 STEEL
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	landrade	12/10/2015
CHECKED	hmskin	12/10/2015
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.		



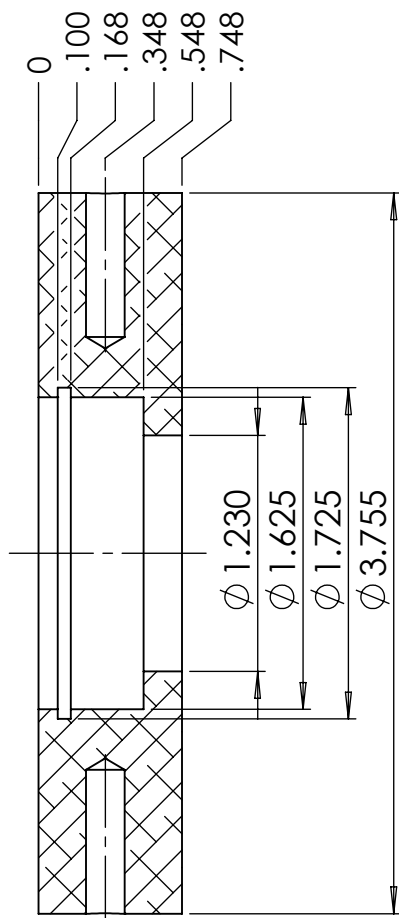
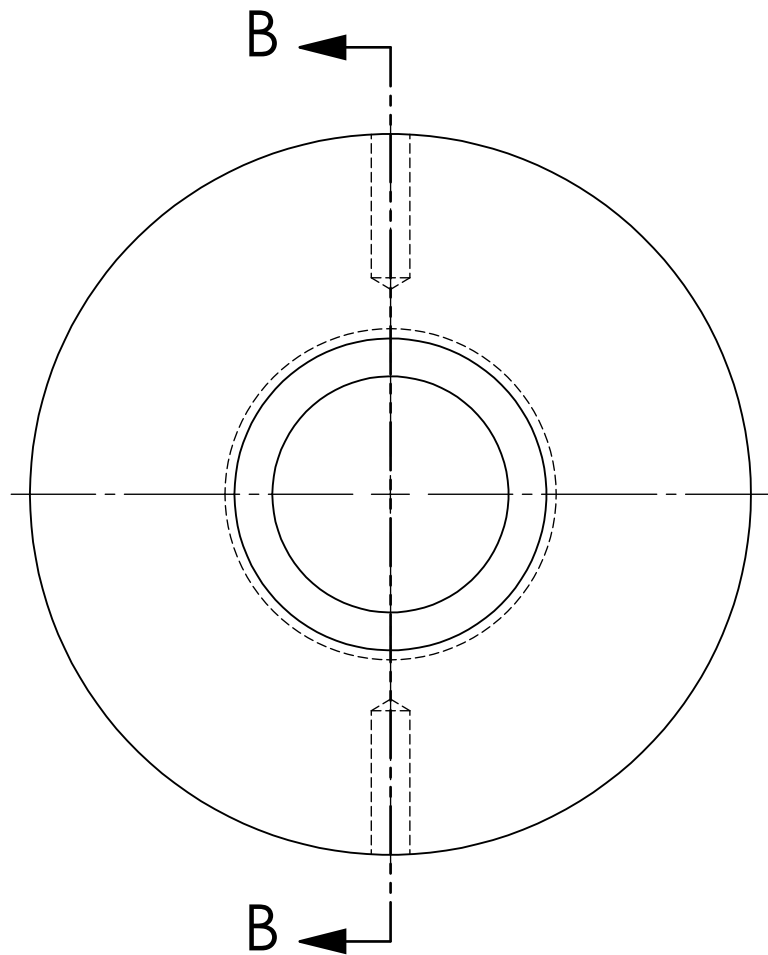
Olin College
of Engineering

TITLE
Left Keyed Cam Shaft

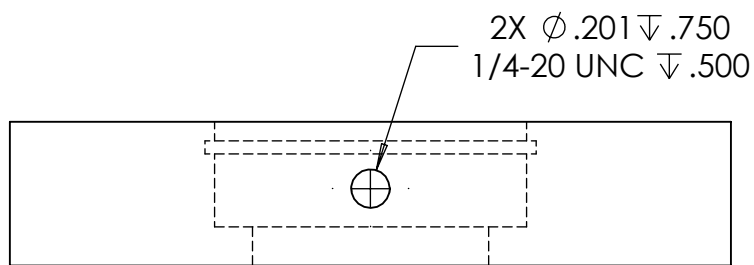
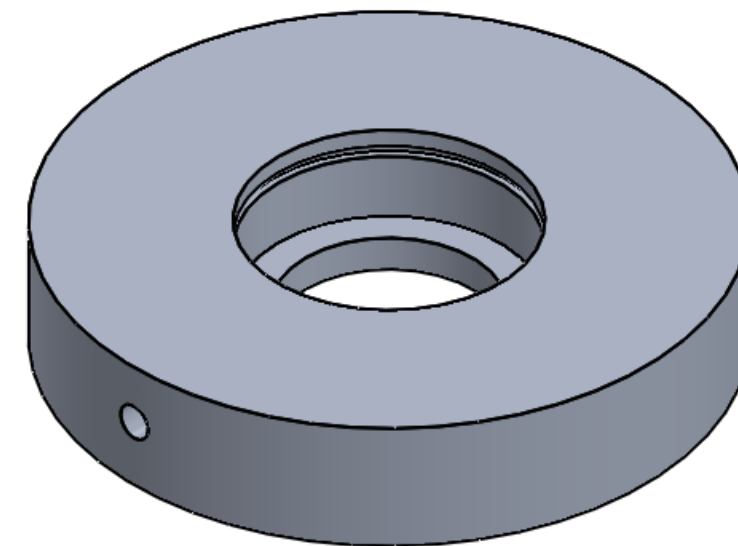
SIZE B	PART NO. 1497K310	REV B
------------------	-----------------------------	-----------------

SCALE 1:1.6 DO NOT SCALE PRINT SHEET 1 OF 1

8 7 6 5 4 3 2 1



SECTION B-B



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

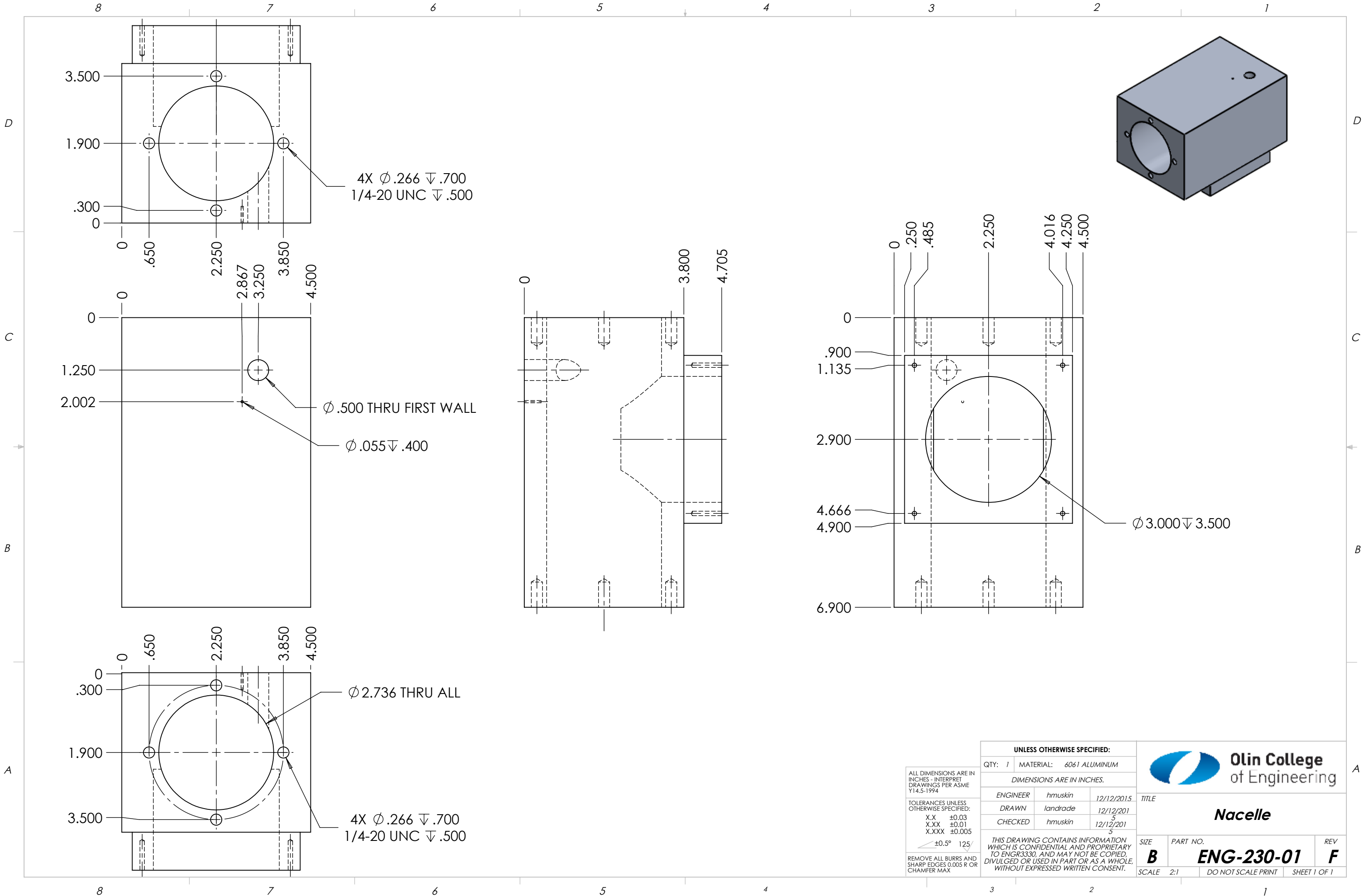
±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/12/2015
DRAWN	landrade	12/12/2015
CHECKED	hmskin	12/12/2015

Lower Driveshaft Bearing Holder		
SIZE	PART NO.	REV
B	ENG-221-01	B
SCALE	SHEET 1 OF 1	
2:1	DO NOT SCALE PRINT	

8 7 6 5 4 3 2 1




ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.


UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/12/2015
DRAWN	landrade	12/12/2015
CHECKED	hmskin	12/12/2015
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 Olin College of Engineering		
TITLE		
Nacelle		
SIZE	PART NO.	REV
B	ENG-230-01	F
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1

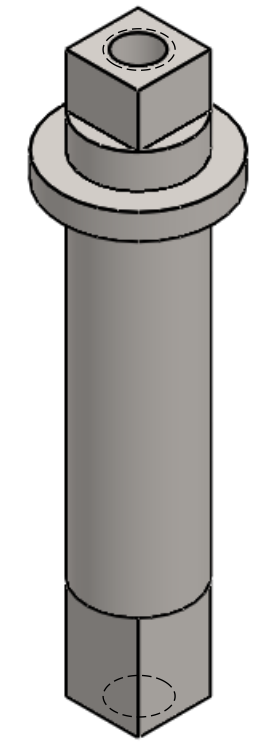
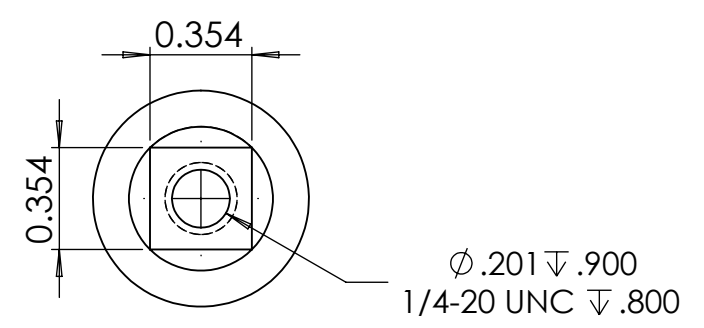
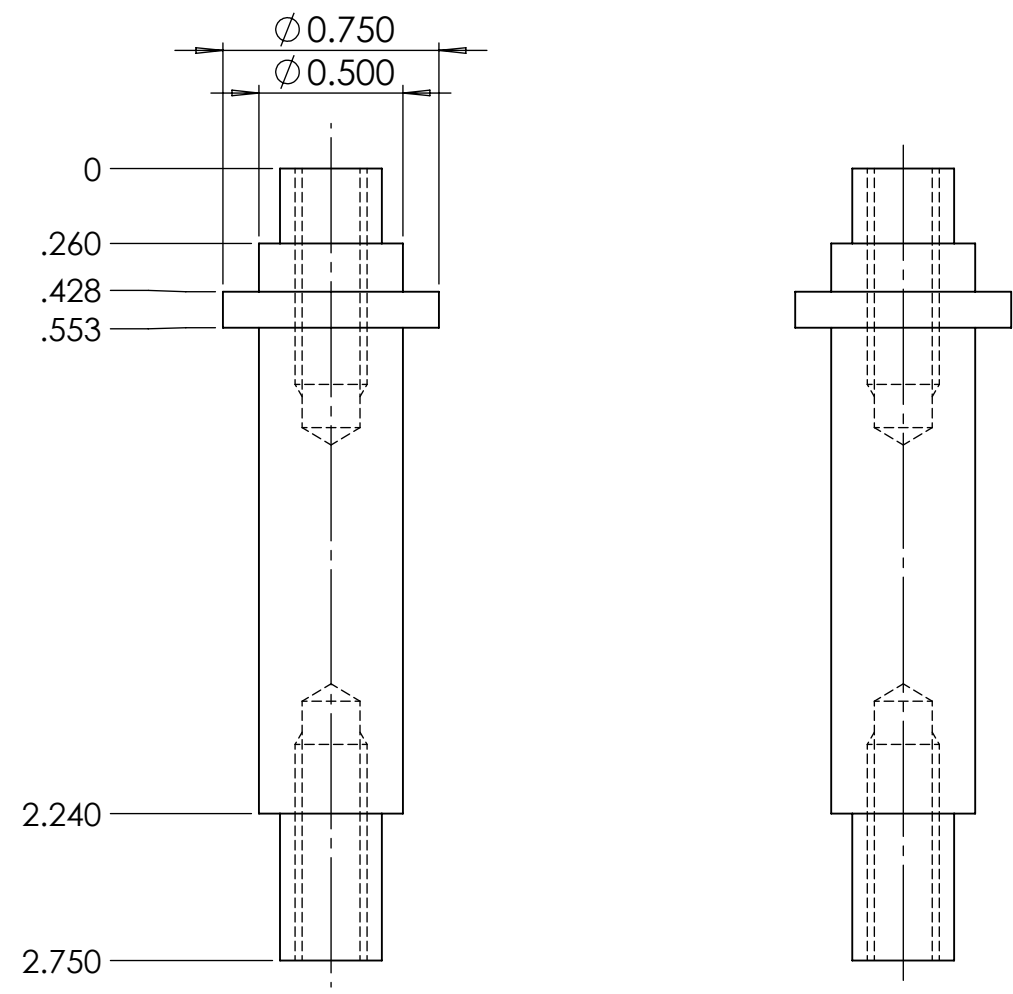
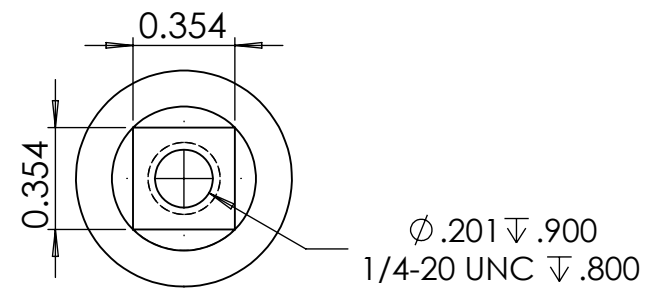


- 0
- 1.069
- 1.108
- 1.434
- 1.473
- 2.542
- 2.581
- 2.831
- 2.870
- 3.253
- 3.292
- 4.292
- 4.331
- 4.831
- 4.870
- 5.870
- 5.909
- 10.019
- 10.058
- 11.058
- 11.097
- 11.597
- 11.636
- 12.636
- 12.675
- 16.785
- 16.824
- 17.824
- 17.863
- 18.363
- 18.402
- 19.402
- 19.441
- 23.211
- 23.250
- 23.500
- 23.539
- 24.000

NOTE:
1. MODIFIED SHAFT FROM MCMASTER PART 1497K310

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 ±0.5° 125' REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.	UNLESS OTHERWISE SPECIFIED:		
	QTY: 1	MATERIAL: 1045 STEEL	
	DIMENSIONS ARE IN INCHES.		SIZE B PART NO. 1497K310 REV B
	ENGINEER landrade 12/10/2015	DRAWN landrade 12/10/2015	CHECKED hmuskin 12/10/2015

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ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

125°
 ±0.5°

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/13/2015
DRAWN	landrade	12/13/2015
CHECKED	hmskin	12/13/2015
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.		

		
TITLE Shifter pivot		
SIZE B	PART NO. ENG-800-04	REV B
SCALE 1.5:1	DO NOT SCALE PRINT	SHEET 1 OF 1

8 7 6 5 4 3 2 1

Ø 1.000
Ø .144 THRU ALL

0.500

D

C

B

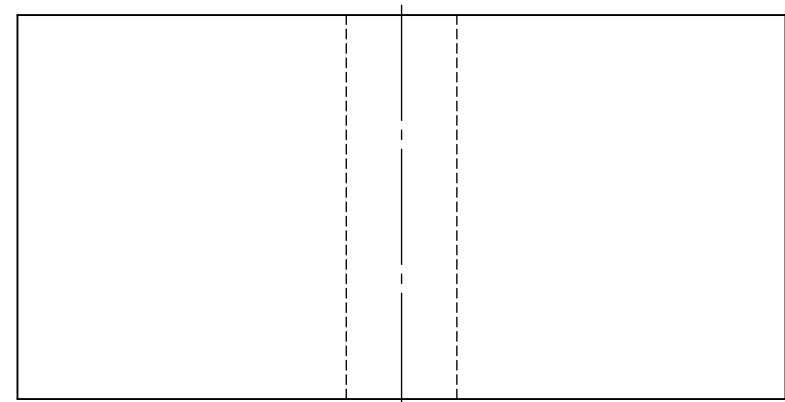
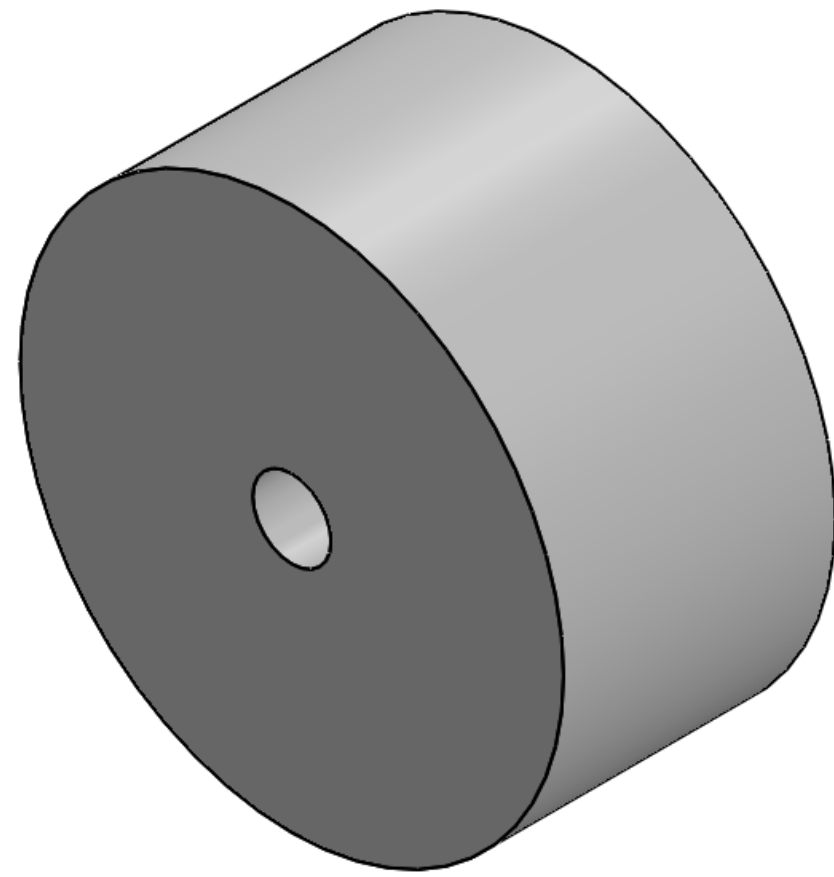
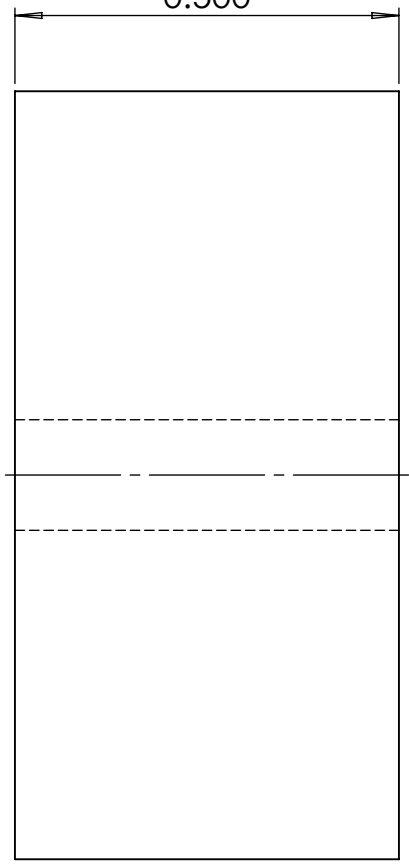
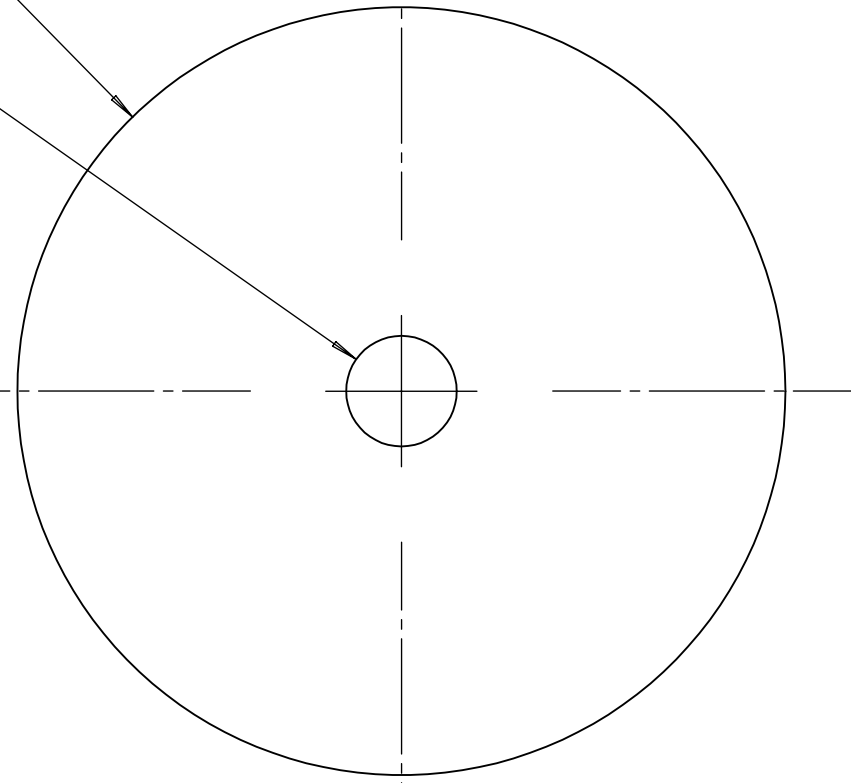
A

D

C

B

A



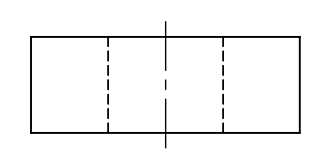
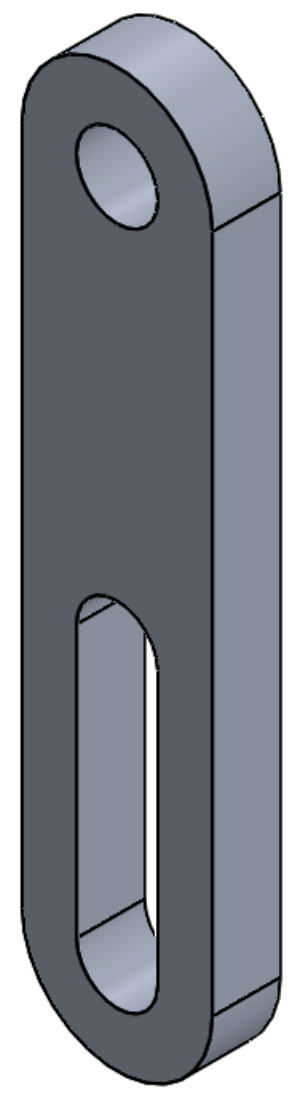
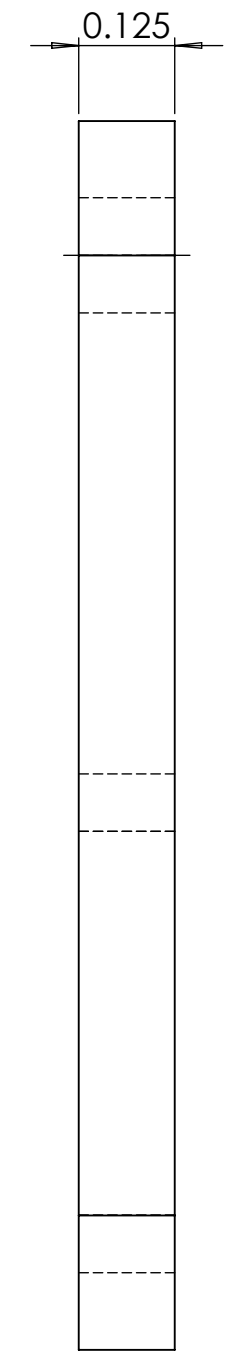
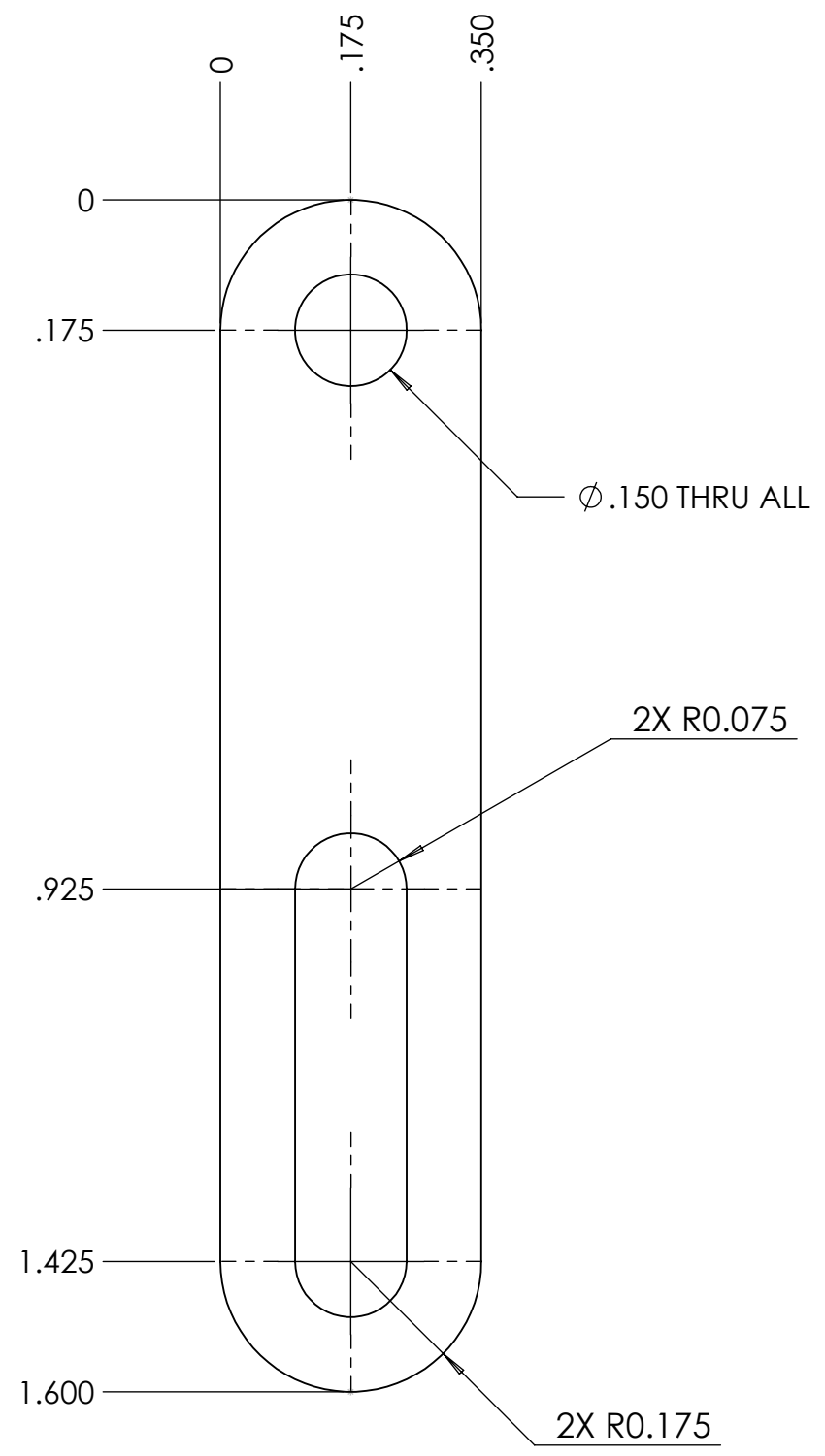
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005
±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 2	MATERIAL: DELRIN	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/13/2015
DRAWN	landrade	12/13/2015
CHECKED	hmskin	12/13/2015
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TITLE		
Tensioner Roller		
SIZE	PART NO.	REV
B	ENG-900-02	A
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

8 7 6 5 4 3 2 1



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

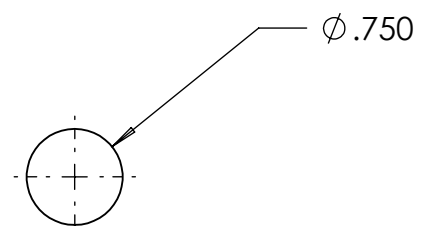
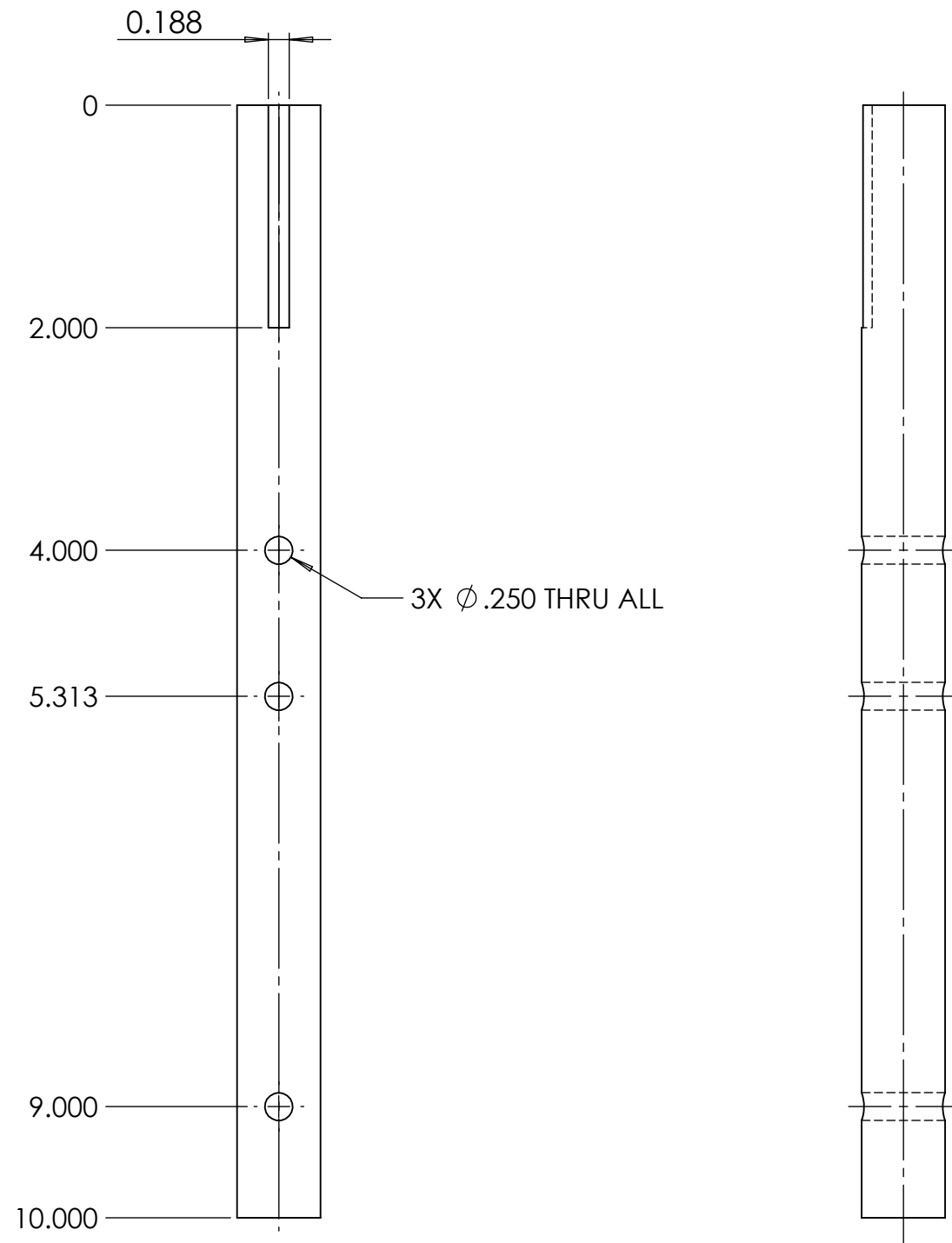
TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 4	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/13/2015
DRAWN	landrade	12/13/2015
CHECKED	hmskin	12/13/2015
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TITLE		
Tensioner Slide		
SIZE	PART NO.	REV
B	ENG-900-03	A
SCALE 4:1	DO NOT SCALE PRINT	SHEET 1 OF 1




ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

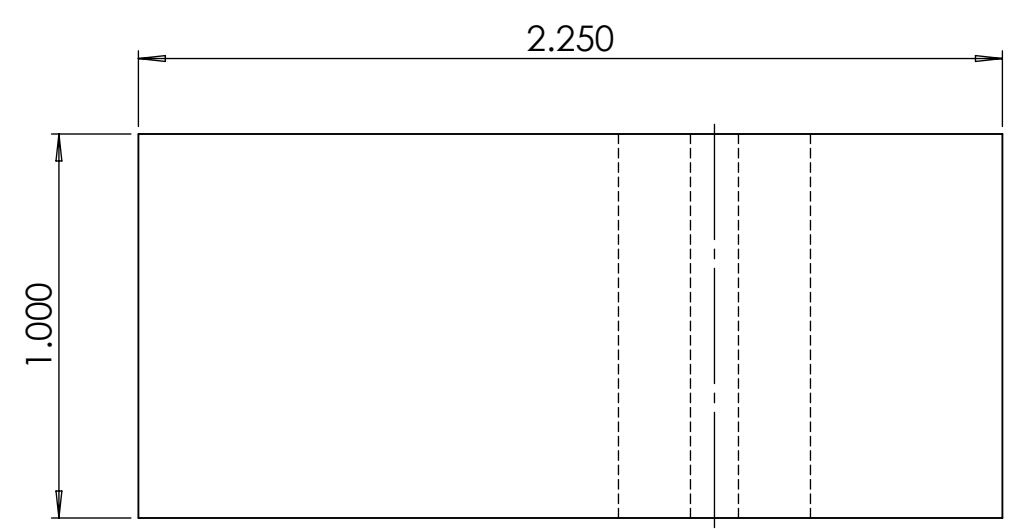
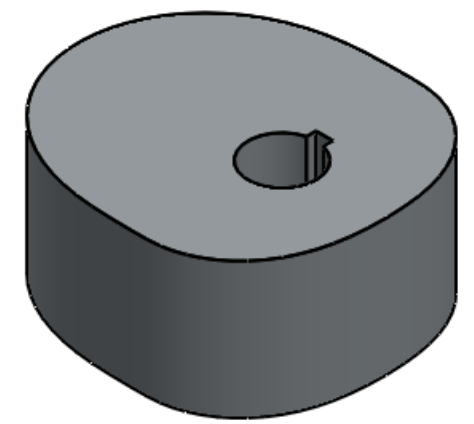
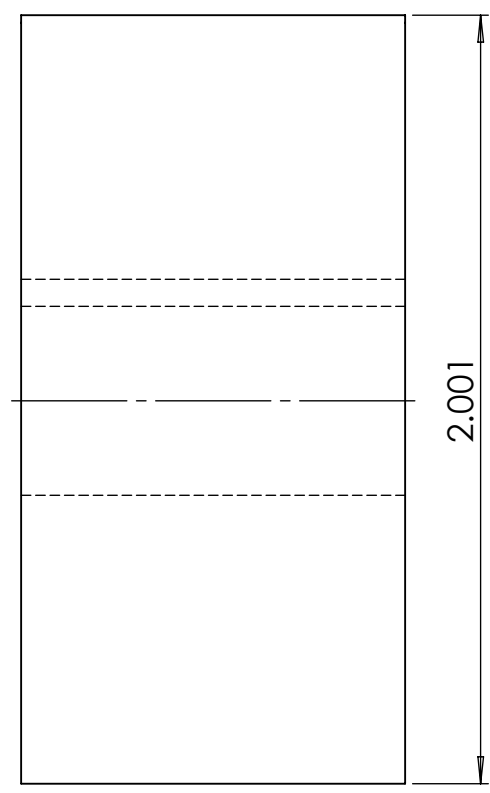
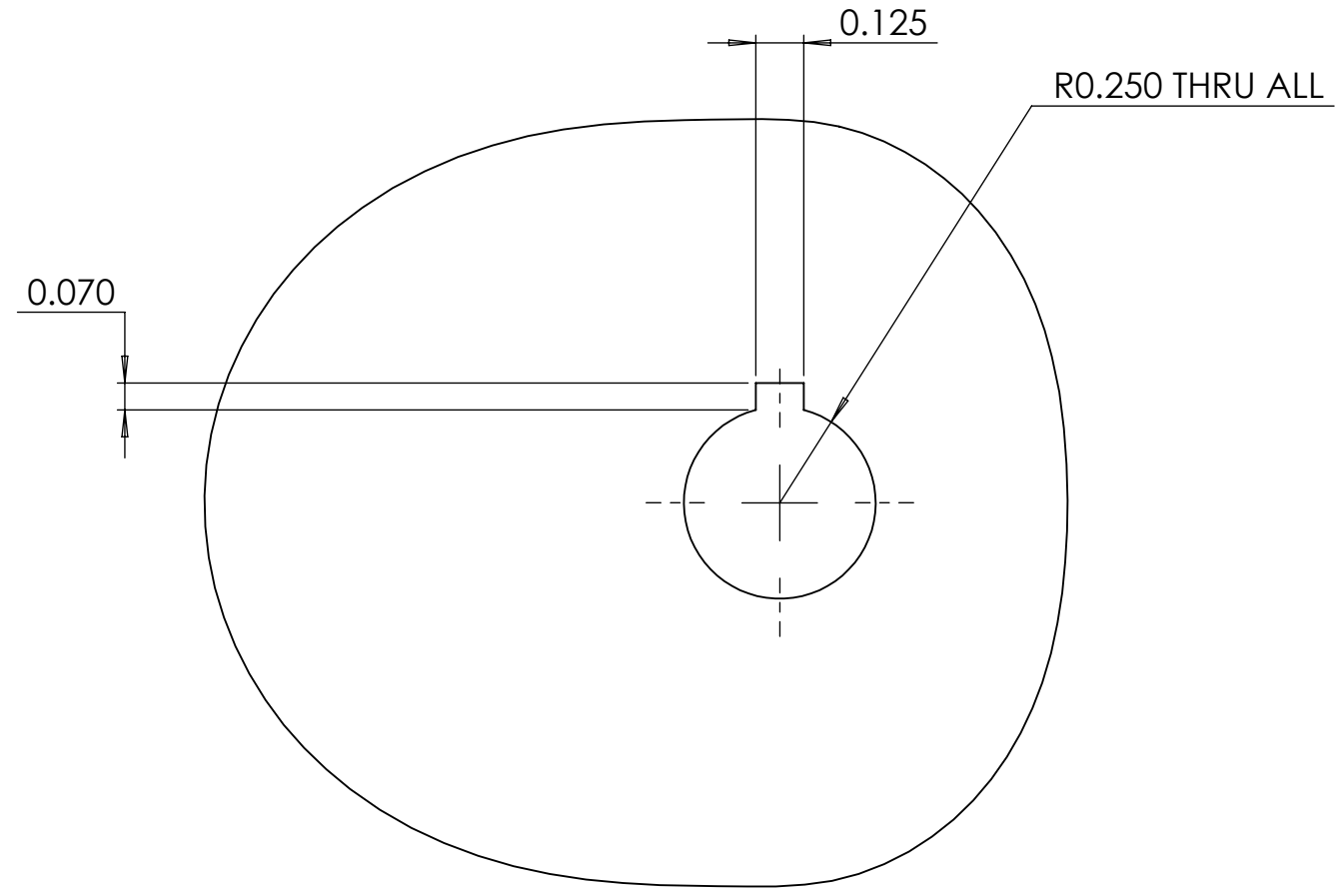
±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 6061 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/13/2015
DRAWN	landrade	12/13/2015
CHECKED	hmskin	12/13/2015

 Olin College of Engineering		
TITLE		
Turbine Shaft		
SIZE	PART NO.	REV
B	ENG-2322-02	B
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:3		

THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.



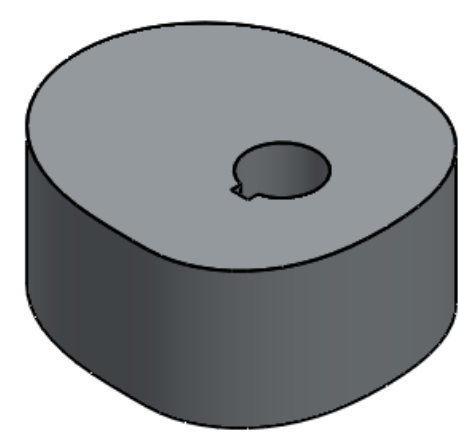
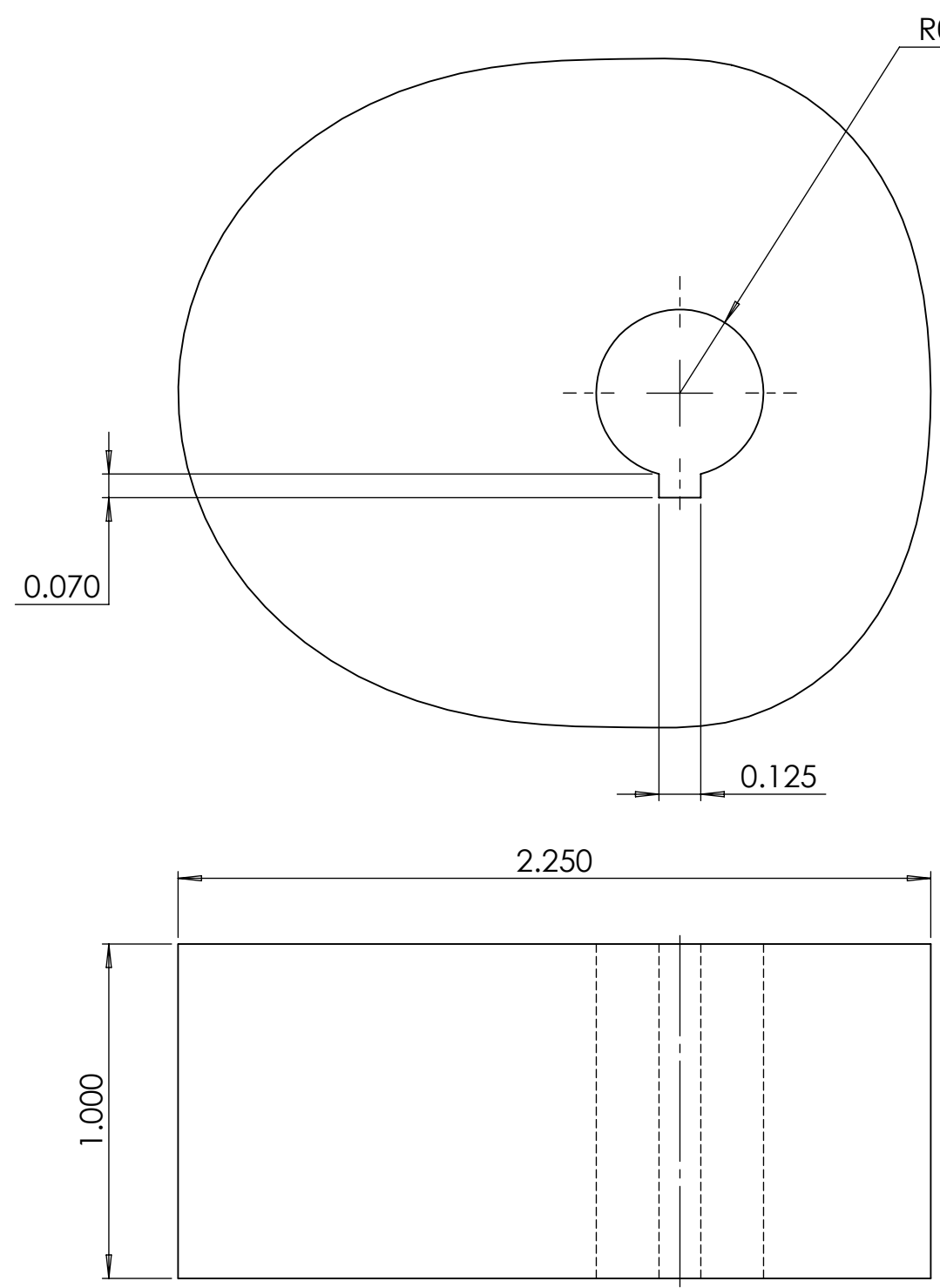
NOTE:
 1. SEE SOLIDWORKS PART "VALVE CAM.SLDPRT", CONFIGURATION "FIRST VALVE CAM" FOR PROFILE.
 2. PART SHOULD BE 3D PRINTED

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 2	MATERIAL: ABS	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	landrade	12/10/2015
CHECKED	hmskin	12/10/2015

THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.

TITLE		
Valve Cam 1		
SIZE	PART NO.	REV
B	ENG-500-03	B
SCALE	DO NOT SCALE PRINT	
2:1	SHEET 1 OF 1	

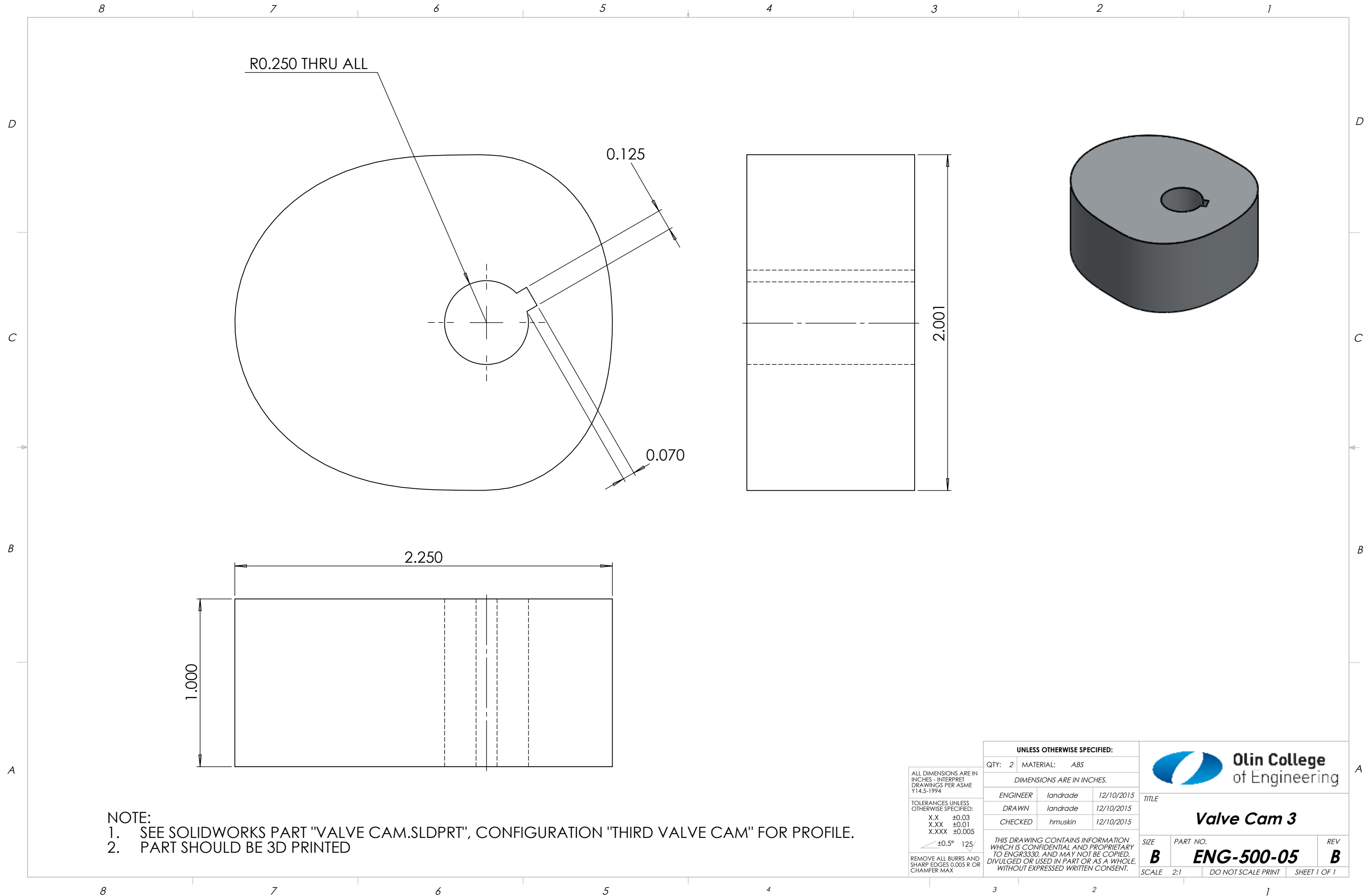


- NOTE:
 1. SEE SOLIDWORKS PART "VALVE CAM.SLDPRT", CONFIGURATION "SECOND VALVE CAM" FOR PROFILE.
 2. PART SHOULD BE 3D PRINTED

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/
 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX

UNLESS OTHERWISE SPECIFIED:		
QTY: 2	MATERIAL: ABS	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	landrade	12/10/2015
CHECKED	hmskin	12/10/2015

Valve Cam 2		
SIZE	PART NO.	REV
B	ENG-500-04	B
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		



NOTE:
 1. SEE SOLIDWORKS PART "VALVE CAM.SLDPRT", CONFIGURATION "THIRD VALVE CAM" FOR PROFILE.
 2. PART SHOULD BE 3D PRINTED

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 2	MATERIAL:	ABS
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	landrade	12/10/2015
CHECKED	hmskin	12/10/2015

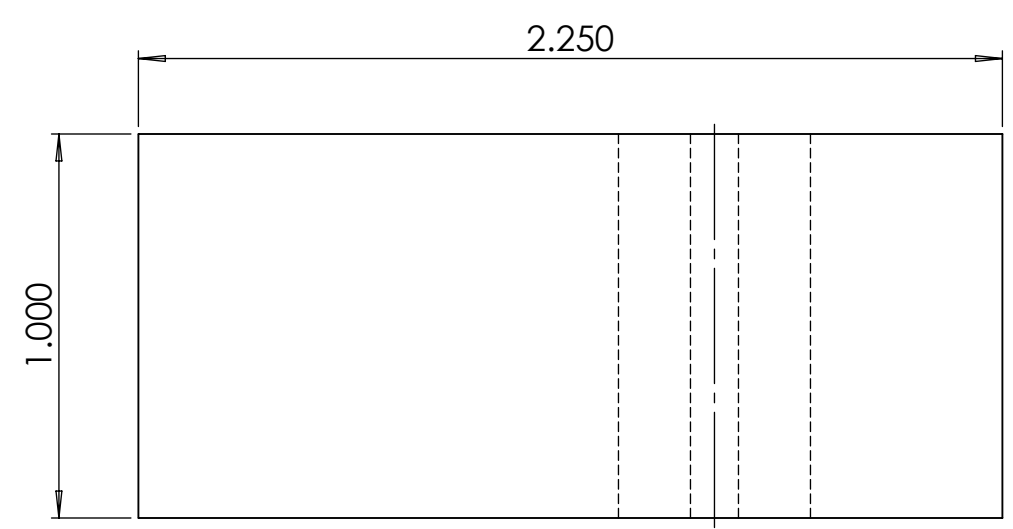
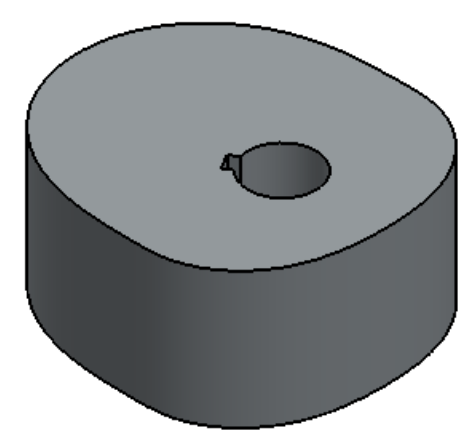
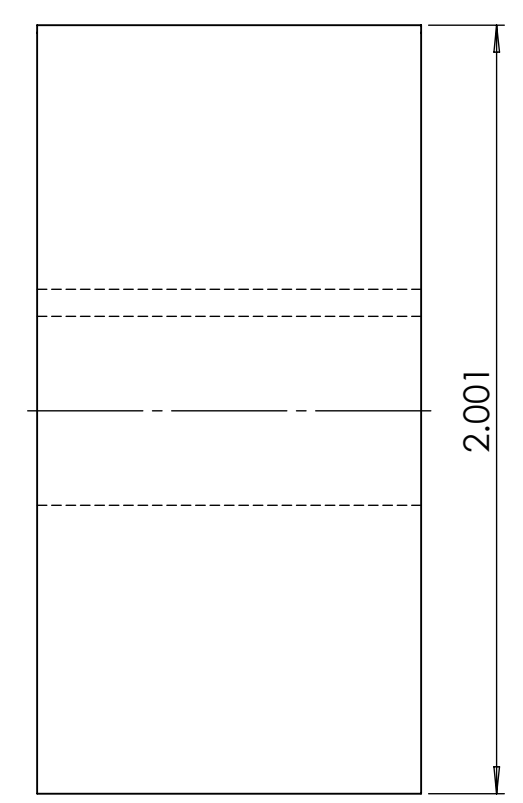
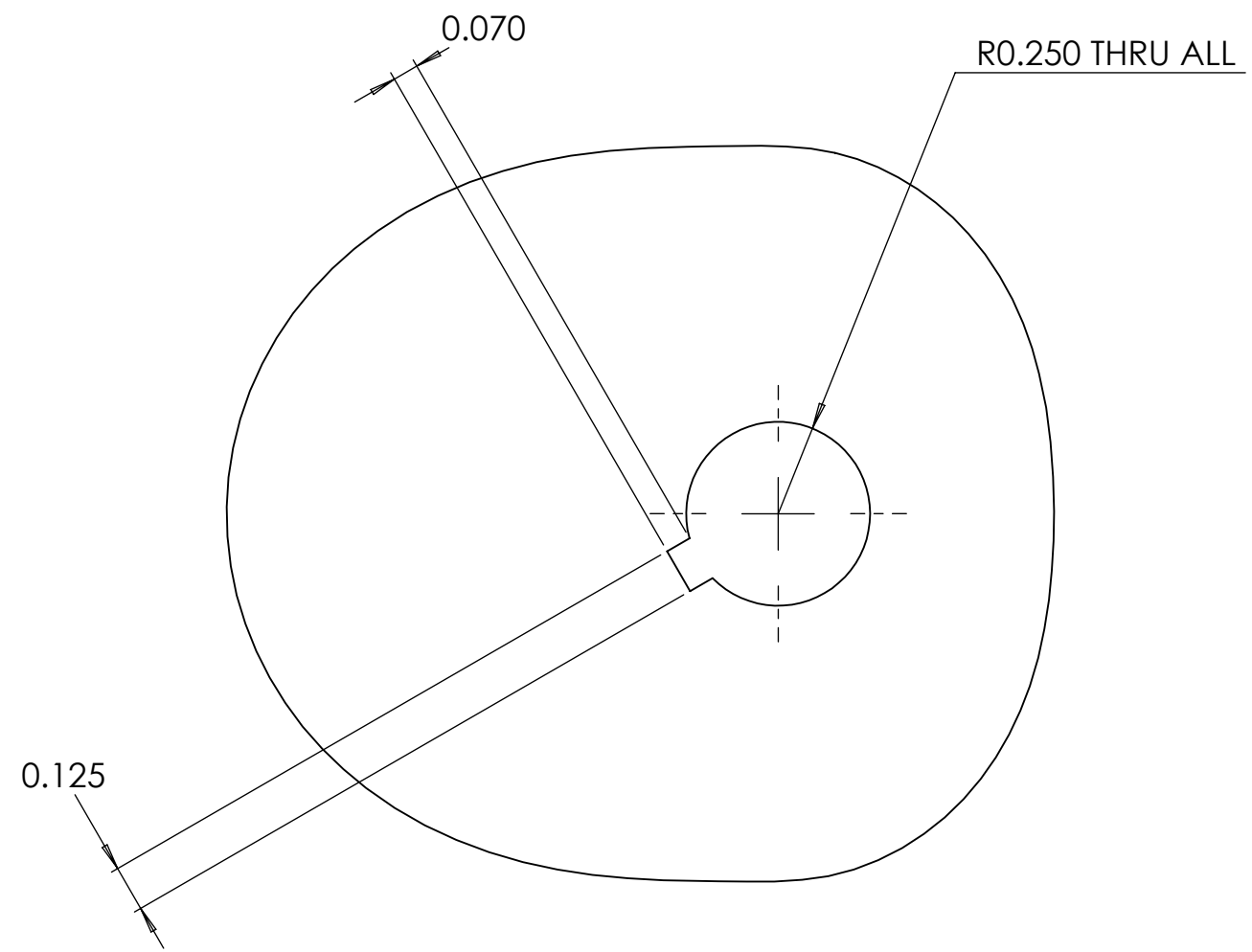
Olin College of Engineering

TITLE
Valve Cam 3

SIZE PART NO. REV
B ENG-500-05 B

SCALE 2:1 DO NOT SCALE PRINT SHEET 1 OF 1

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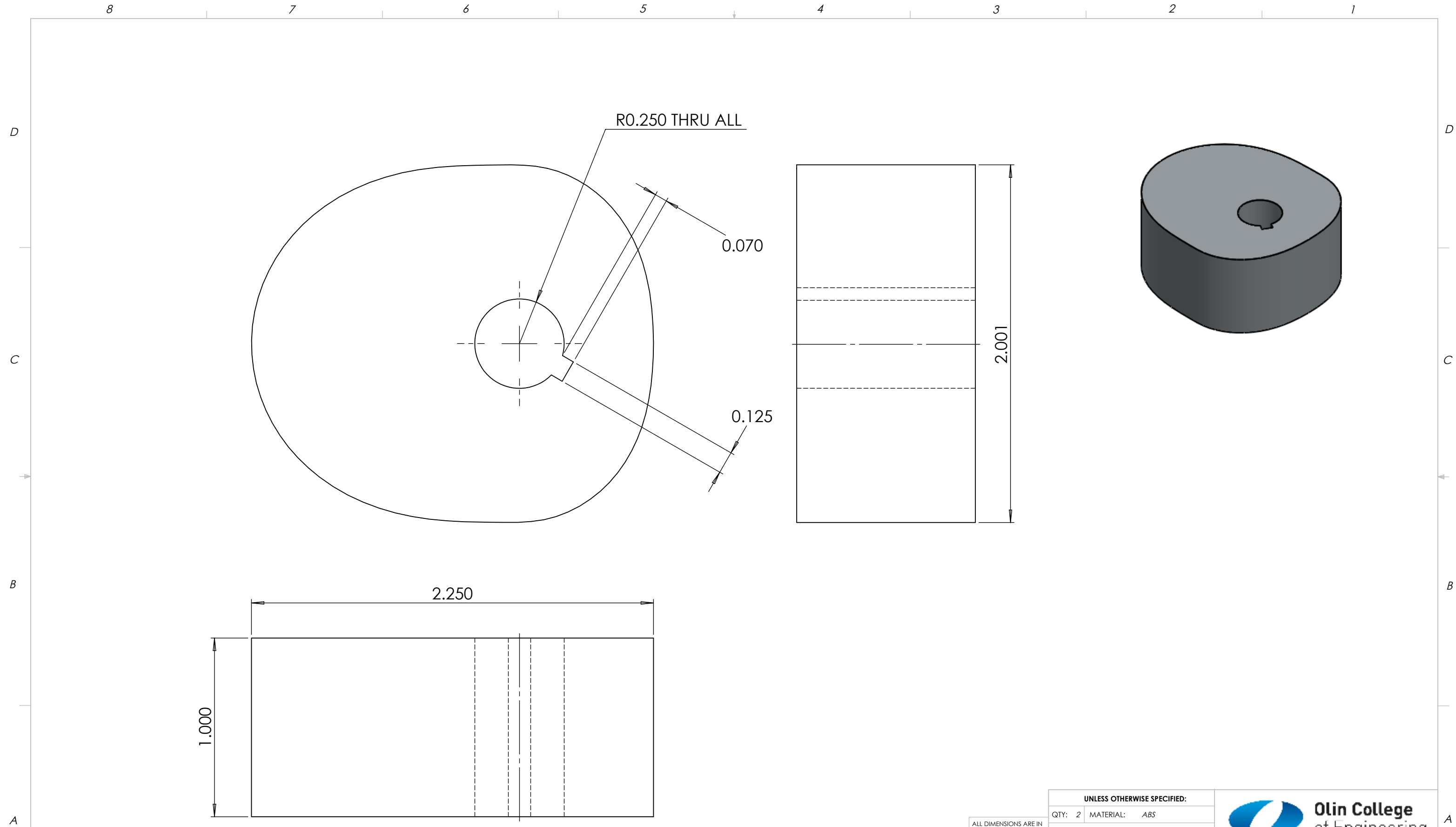
NOTE:
 1. SEE SOLIDWORKS PART "VALVE CAM.SLDPRT", CONFIGURATION "FORTH VALVE CAM" FOR PROFILE.
 2. PART SHOULD BE 3D PRINTED

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY:	2	MATERIAL: ABS
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	landrade	12/10/2015
CHECKED	hmskin	12/10/2015

THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.

TITLE		
<p align="center">Valve Cam 4</p>		
SIZE	PART NO.	REV
B	ENG-500-06	B
SCALE	DO NOT SCALE PRINT	
2:1	SHEET 1 OF 1	




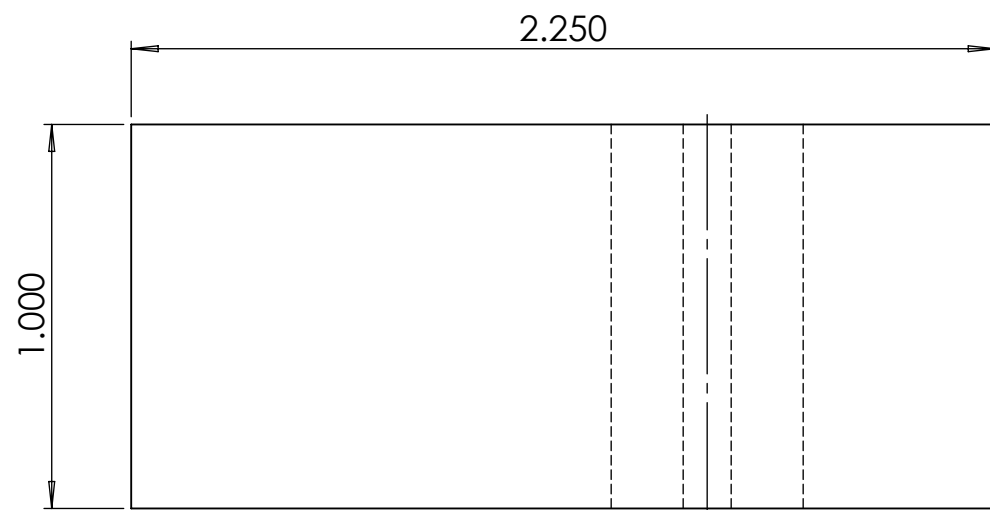
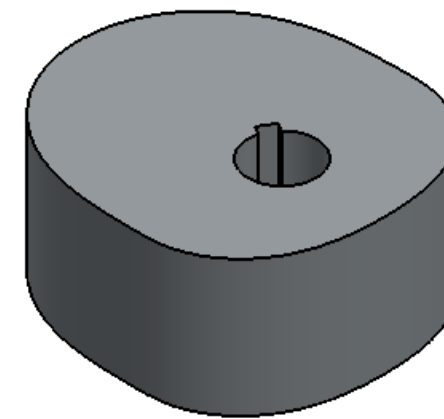
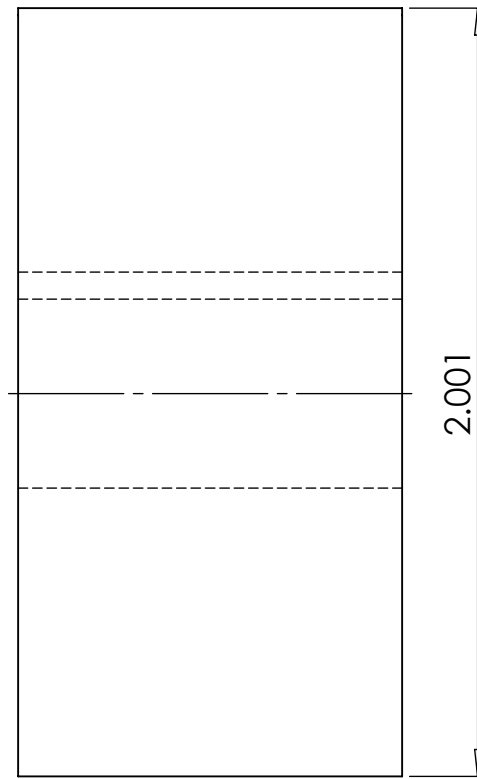
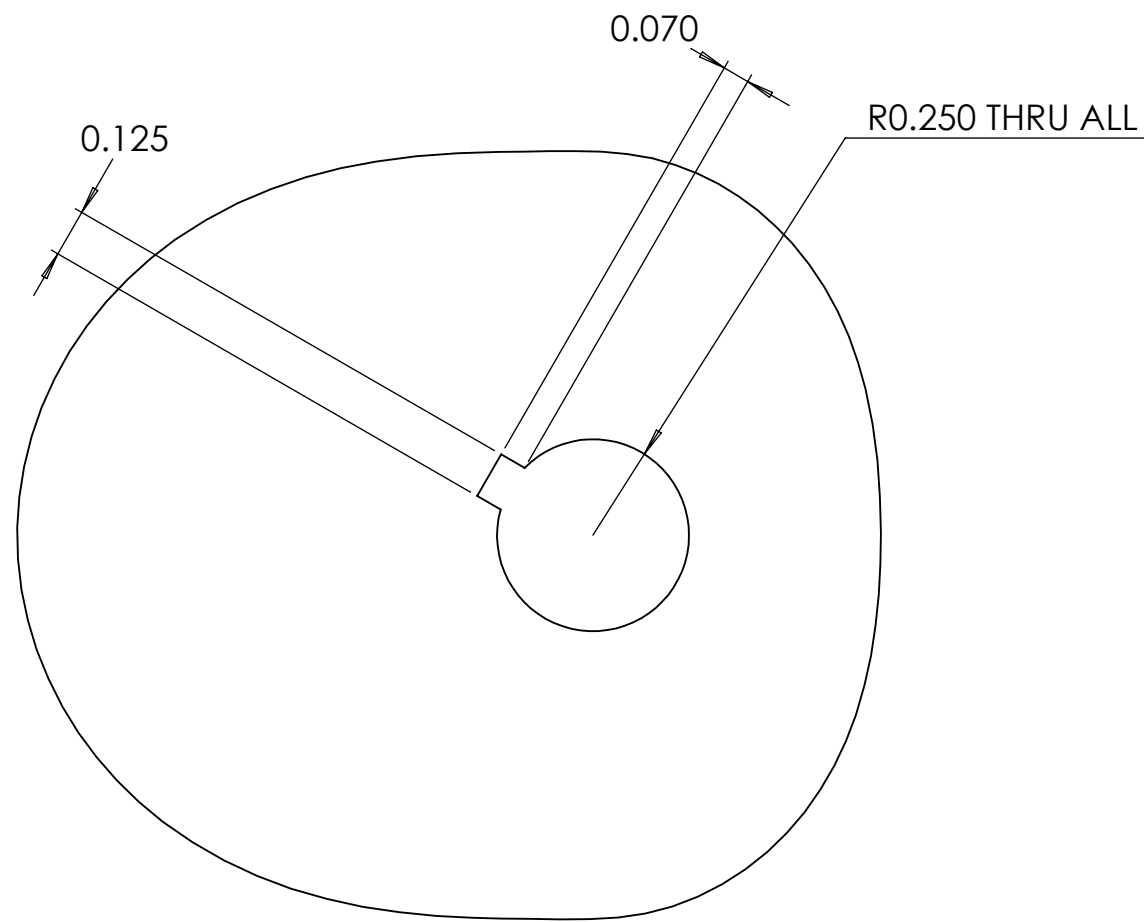
NOTE:
 1. SEE SOLIDWORKS PART "VALVE CAM.SLDPRT", CONFIGURATION "FIFTH VALVE CAM" FOR PROFILE.
 2. PART SHOULD BE 3D PRINTED

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 2	MATERIAL: ABS	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	landrade	12/10/2015
CHECKED	hmskin	12/10/2015

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TITLE		
Valve Cam 5		
SIZE	PART NO.	REV
B	ENG-500-07	B
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		



- NOTE:
1. SEE SOLIDWORKS PART "VALVE CAM.SLDPRT", CONFIGURATION "SIXTH VALVE CAM" FOR PROFILE.
 2. PART SHOULD BE 3D PRINTED

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994


TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

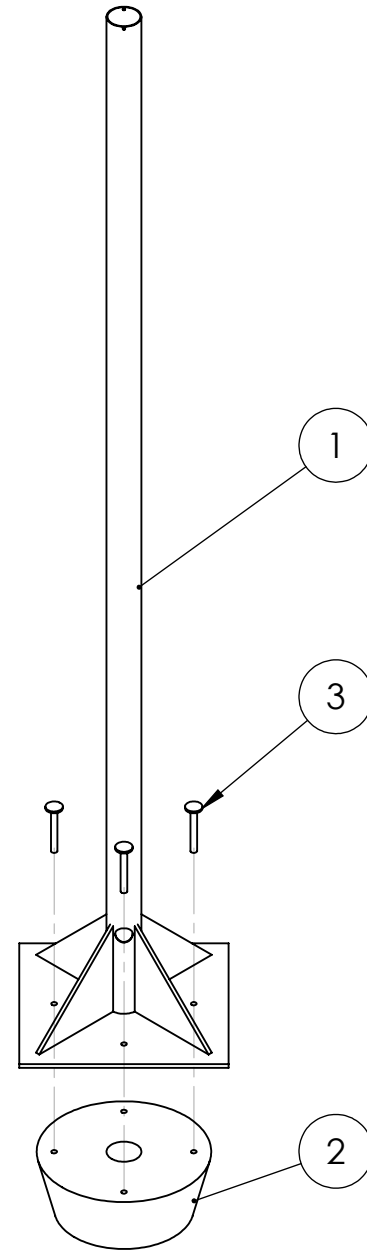
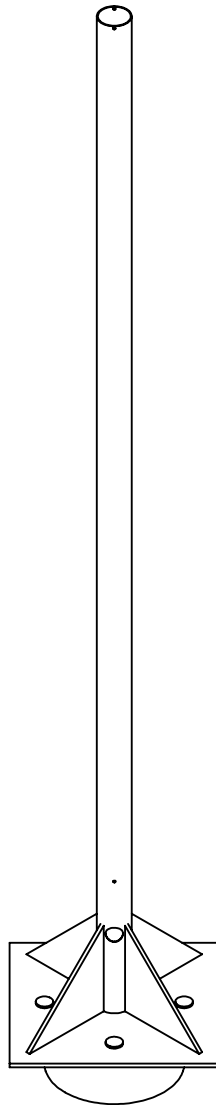
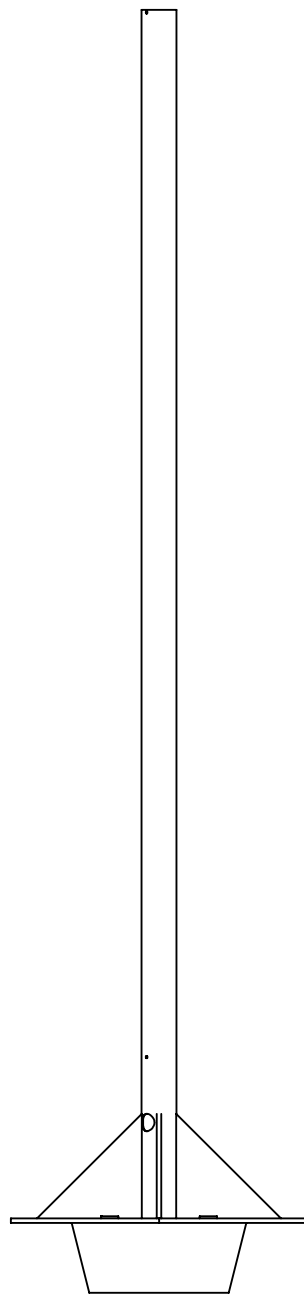
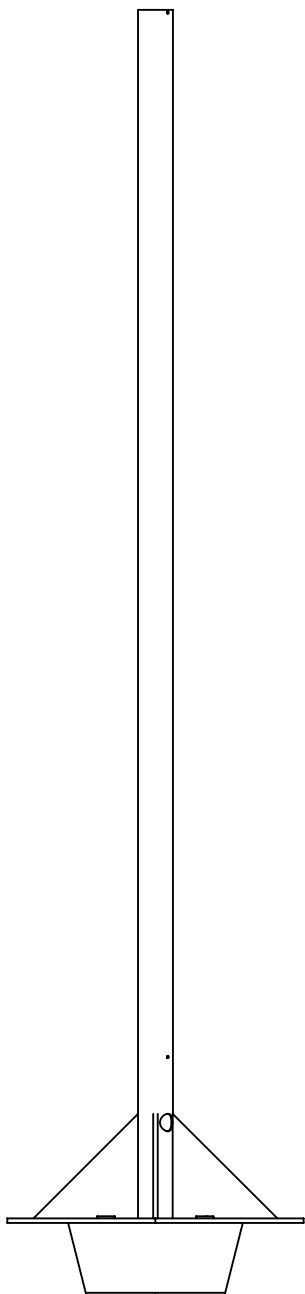
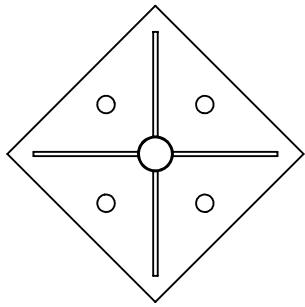
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 2	MATERIAL: ABS	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	landrade	12/10/2015
CHECKED	hmskin	12/10/2015

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TITLE		
<p align="center">Valve Cam 6</p>		
SIZE	PART NO.	REV
B	ENG-500-08	B
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-211-00	Gusset Assembly	1
2	ENG-210-01	CONCRETE BASE	1
3	92188A555	Concrete Screw	4



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: N/A	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/14/2015
DRAWN	hmskin	12/14/2015
CHECKED	landrade	12/14/2015

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base assembly		
SIZE	PART NO.	REV
B	ENG-210-00	J
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-211-01	BASEPLATE TURBINE	1
2	ENG-211-02	GUSSET TURBINE	4
3	ENG-211-03	OUTER SHAFT FOR DRIVETRAIN	1

- NOTES:
 1. FIRST WELD FOUR GUSSETS TO BASEPLATE
 2. NEXT WELD OUTER SHAFT TO BASEPLATE
 3. FINALLY WELD OUTERSHAFT TO FOUR GUSSETS
 4. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

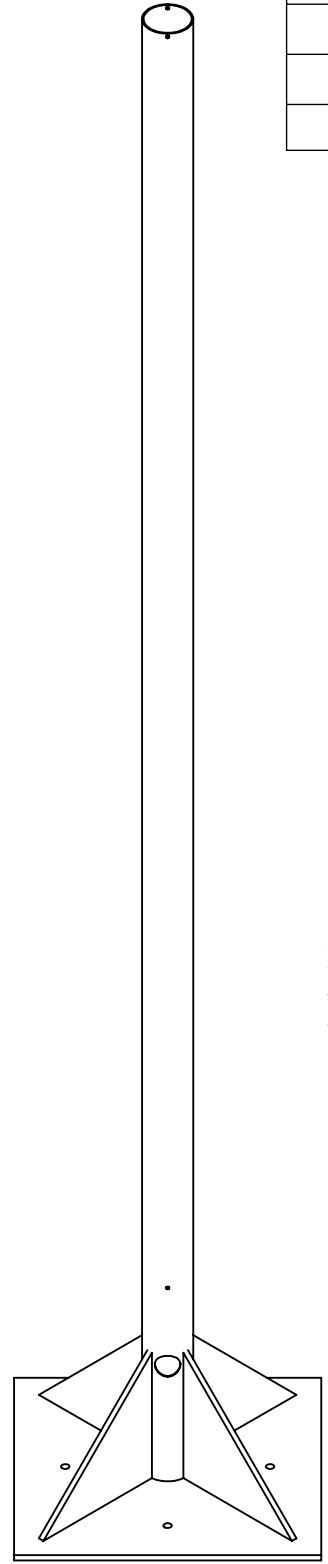
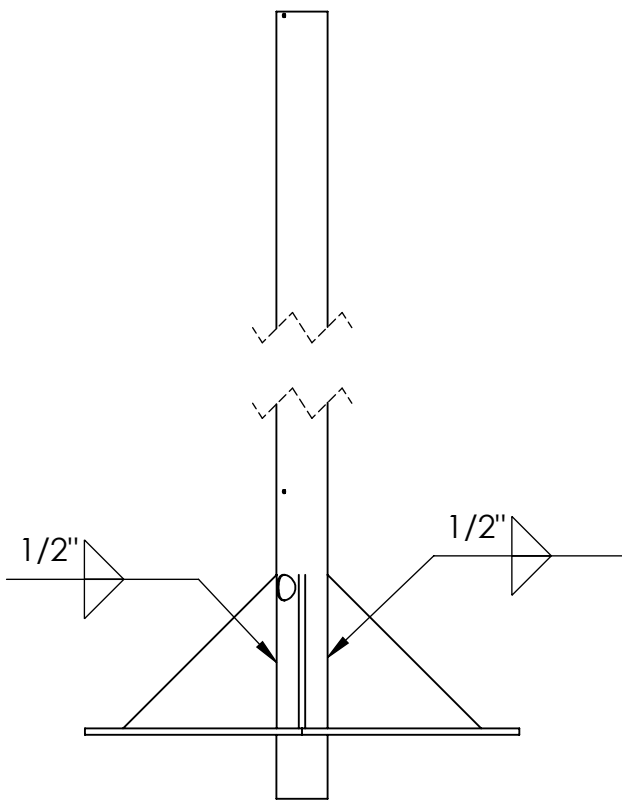
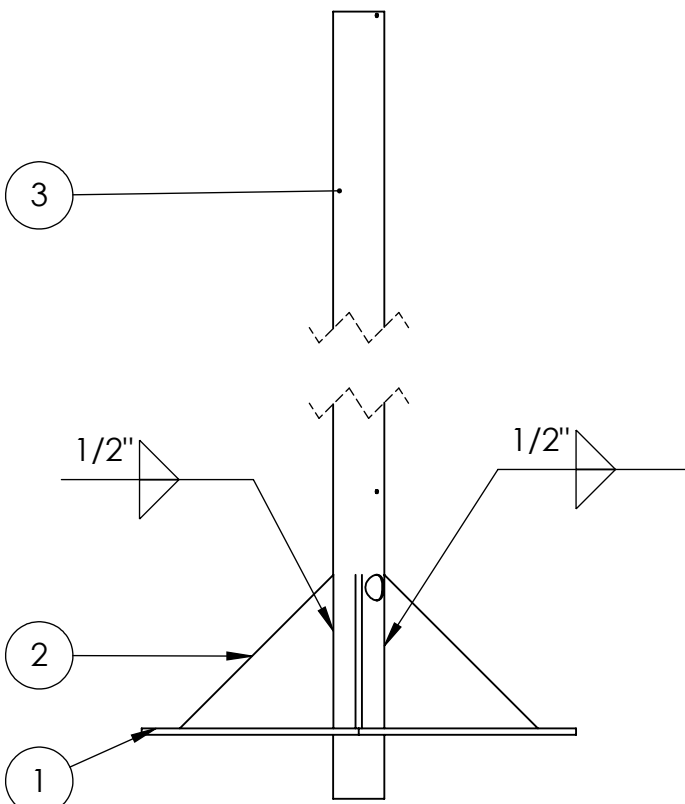
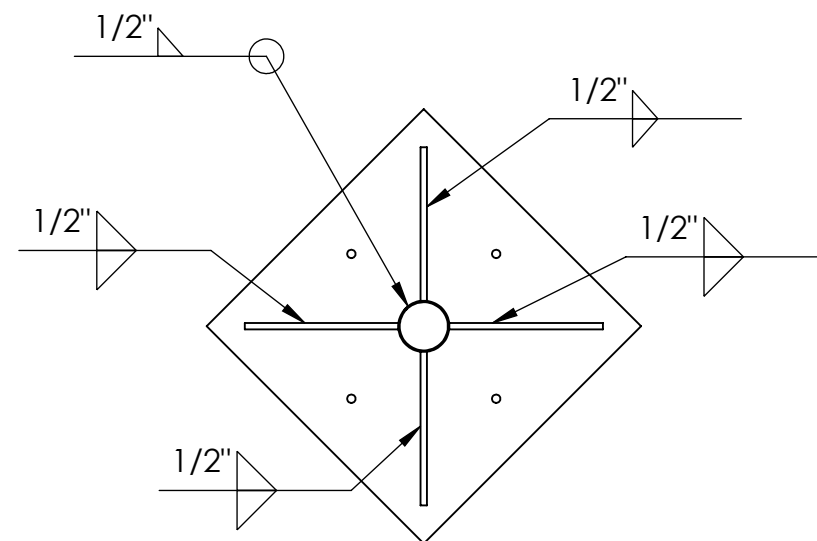
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125'
 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: PLAIN CARBON STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/13/2015
DRAWN	hmskin	12/13/2015
CHECKED	landrade	12/13/2015

 **Olin College of Engineering**

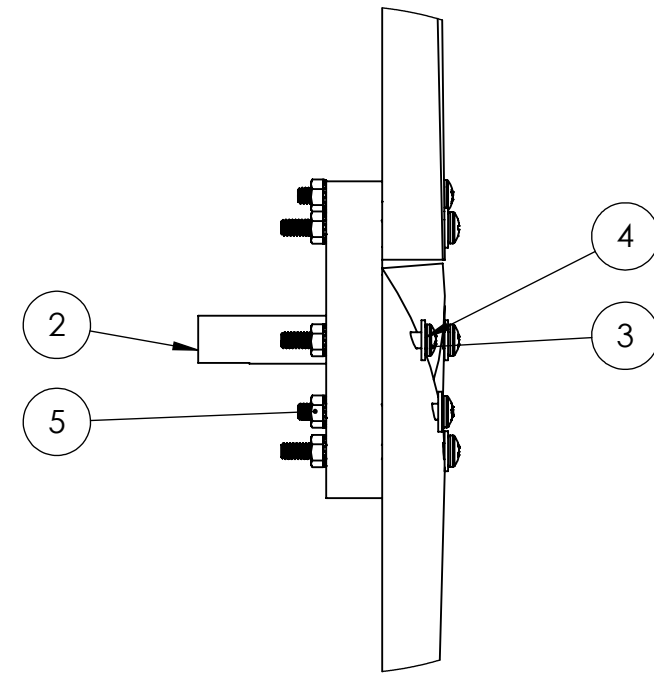
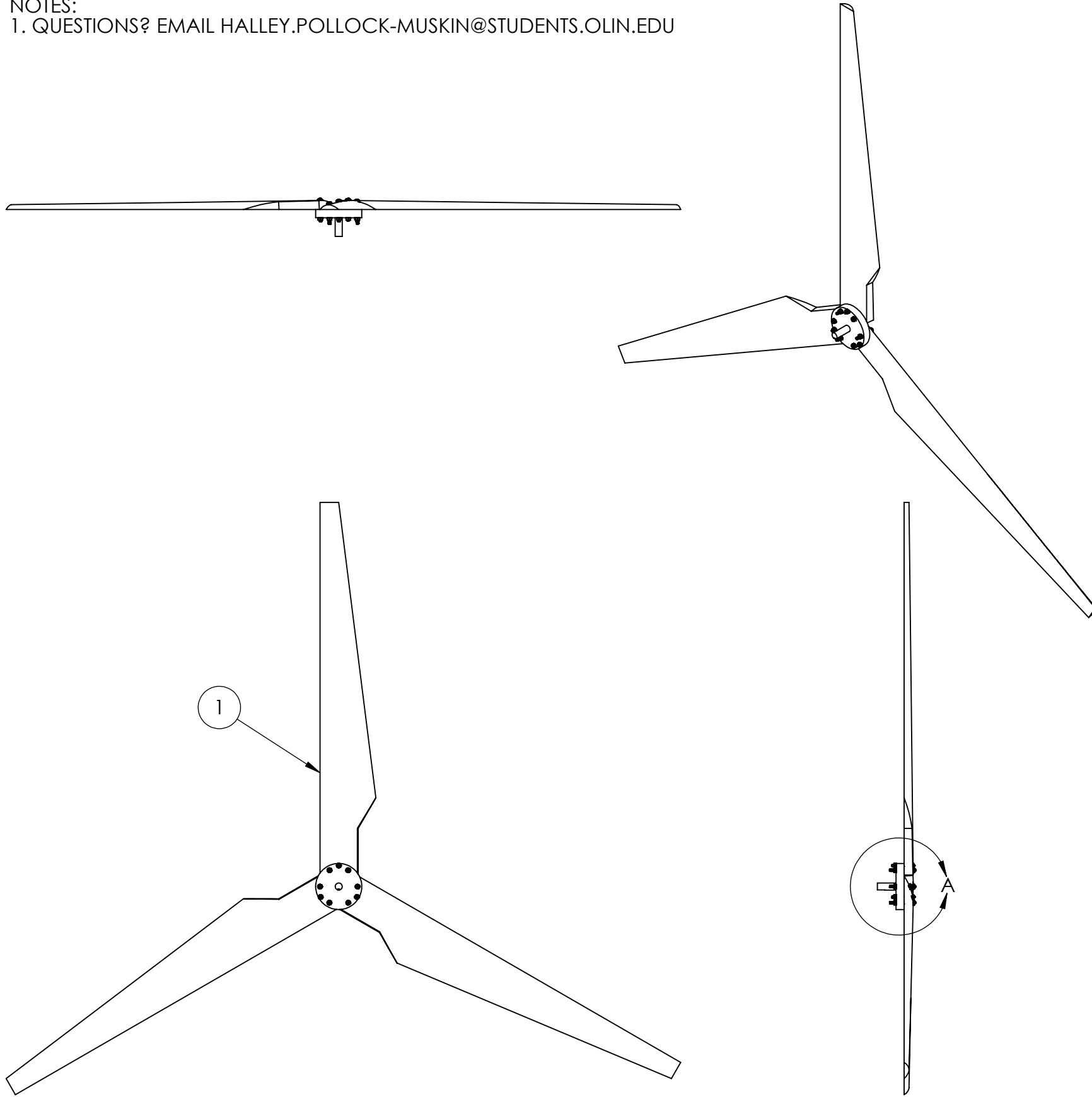
TITLE: **BASEPLATE GUSSET ASSEMBLY**

SIZE: B	PART NO.: ENG-211-00	REV: J
SCALE: 1:15	DO NOT SCALE PRINT	SHEET 1 OF 1



NOTES:
 1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-2321-01	ENGINE TURBINE BLADE	3
2	ENG-2321-02	ENGINE TURBINE CENTER	1
3	91772A551	1/4-20 SCREW	9
4	92141A029	1/4 WASHER	9
5	90675A029	1/4-2 LOCKNUT	9



DETAIL A
 SCALE 1 : 3

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994


TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

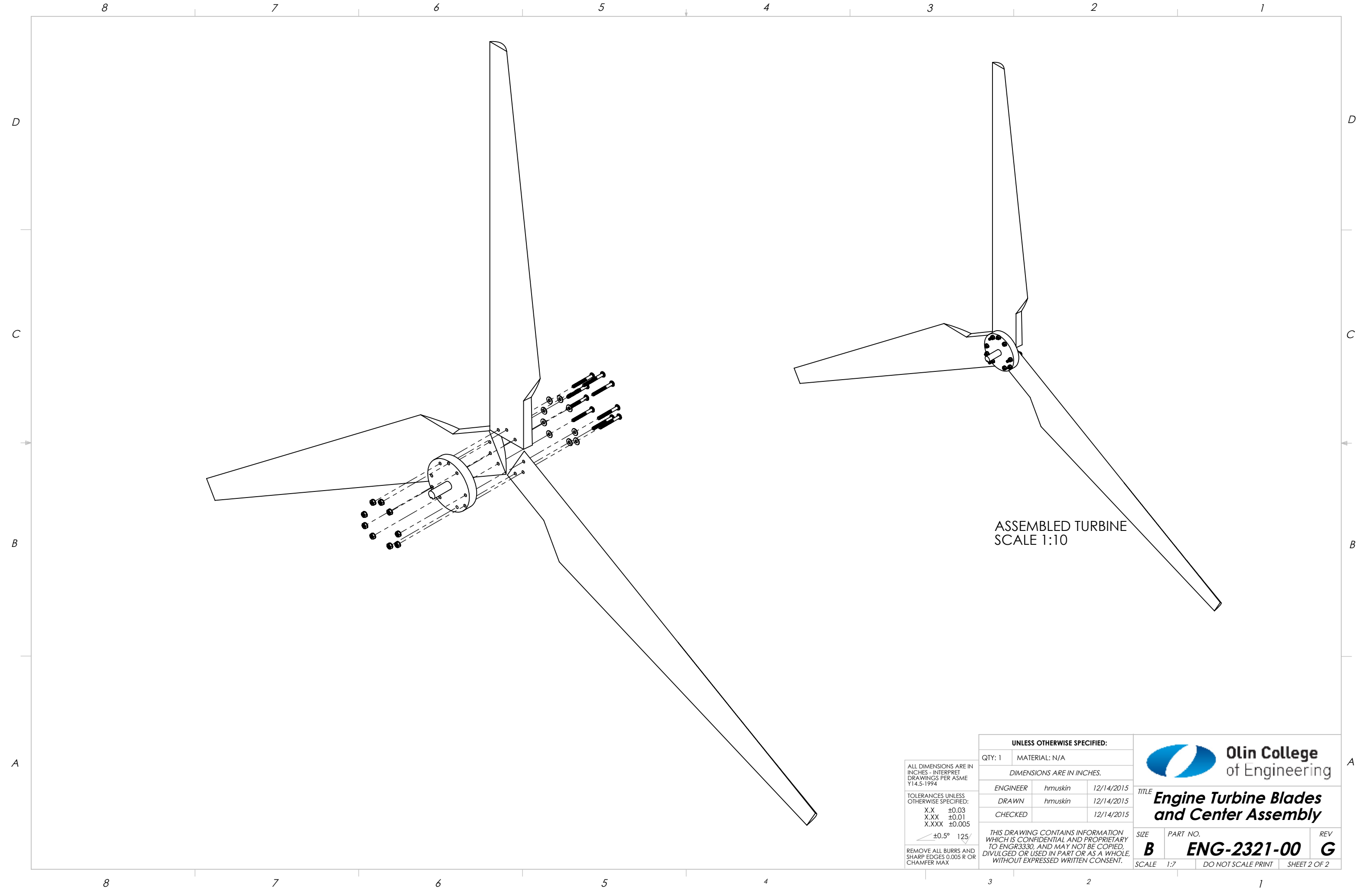
UNLESS OTHERWISE SPECIFIED:		
QTY:	1	
MATERIAL:	N/A	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/14/2015
DRAWN	hmskin	12/14/2015
CHECKED	landrade	12/14/2015

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 **Olin College of Engineering**

TITLE: **Engine Turbine Blades and Center Assembly**

SIZE: B	PART NO.: ENG-2321-00	REV: G
SCALE: 1:13	DO NOT SCALE PRINT	SHEET 1 OF 2




ASSEMBLED TURBINE
SCALE 1:10

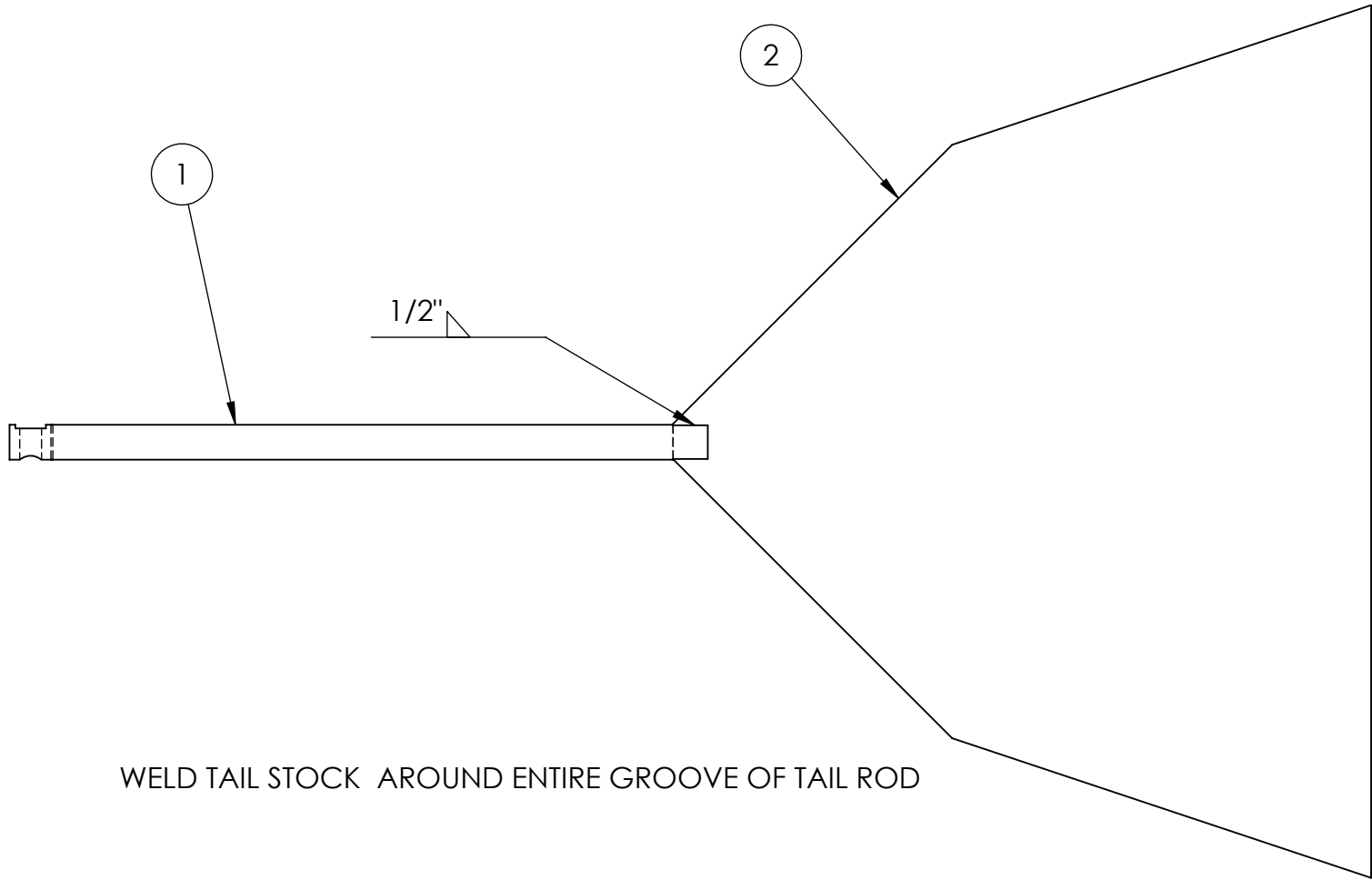
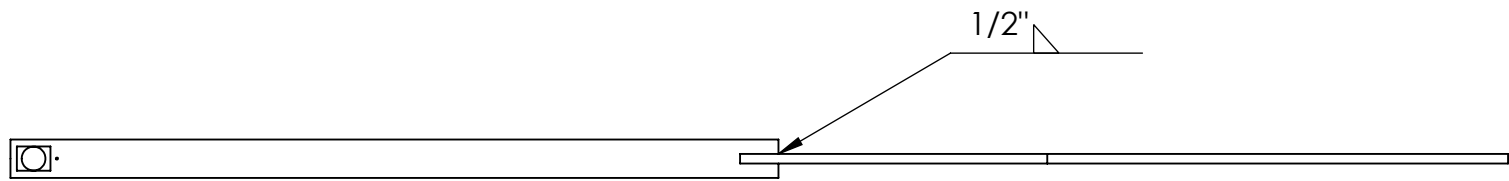
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005
±0.5° 125'
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: N/A	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/14/2015
DRAWN	hmskin	12/14/2015
CHECKED		12/14/2015

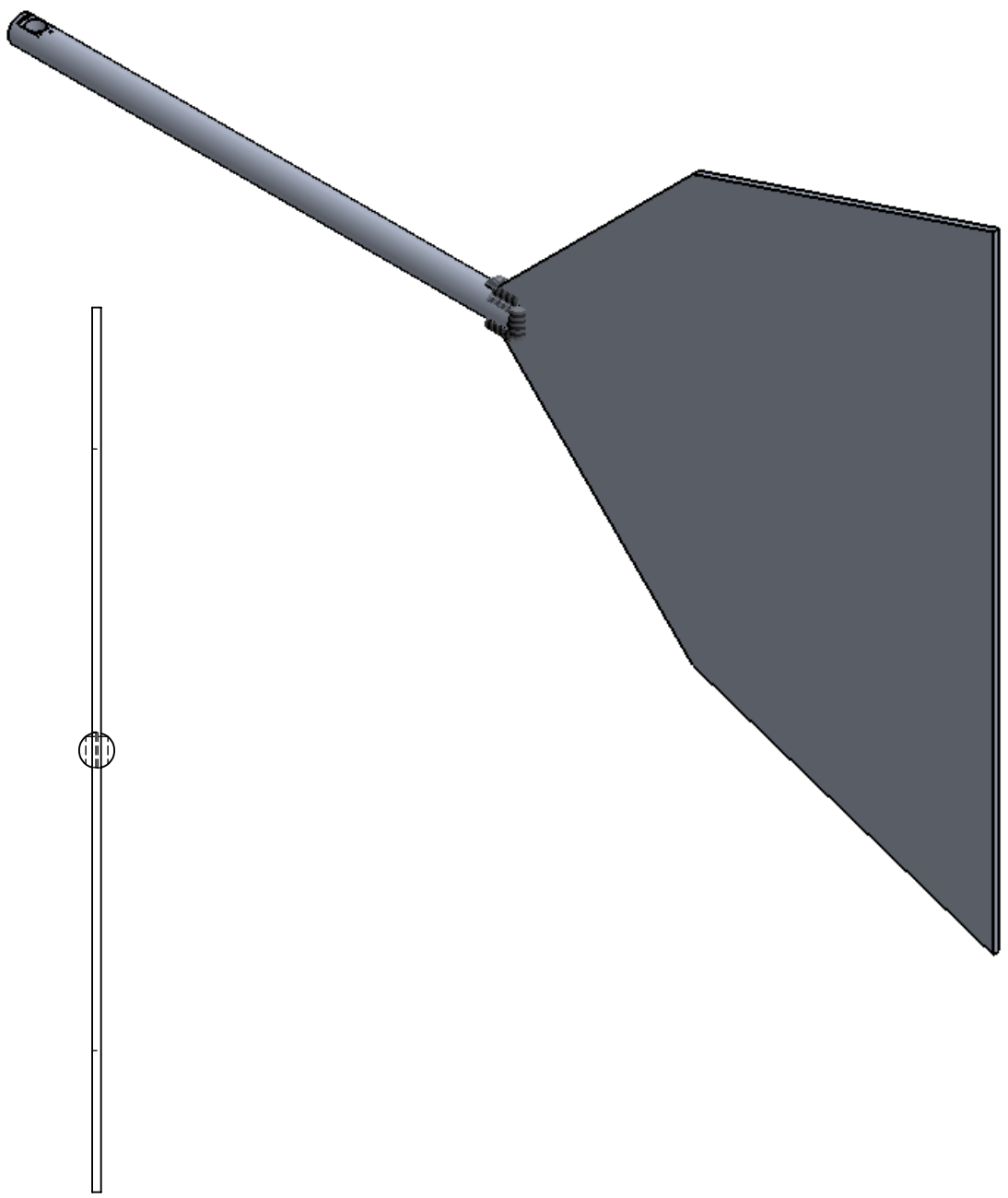
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.

		
TITLE Engine Turbine Blades and Center Assembly		
SIZE	PART NO.	REV
B	ENG-2321-00	G
SCALE 1:7	DO NOT SCALE PRINT	SHEET 2 OF 2

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-2311-01	TAIL ROD	1
2	ENG-2311-02	TAIL STOCK	1



WELD TAIL STOCK AROUND ENTIRE GROOVE OF TAIL ROD



NOTES:
1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005
±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY:	1	
MATERIAL:	3003 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/14/2015
DRAWN	hmskin	12/14/2015
CHECKED	landrade	12/14/2015

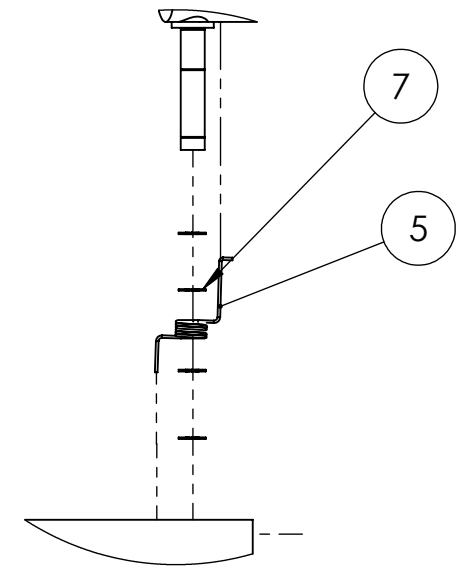
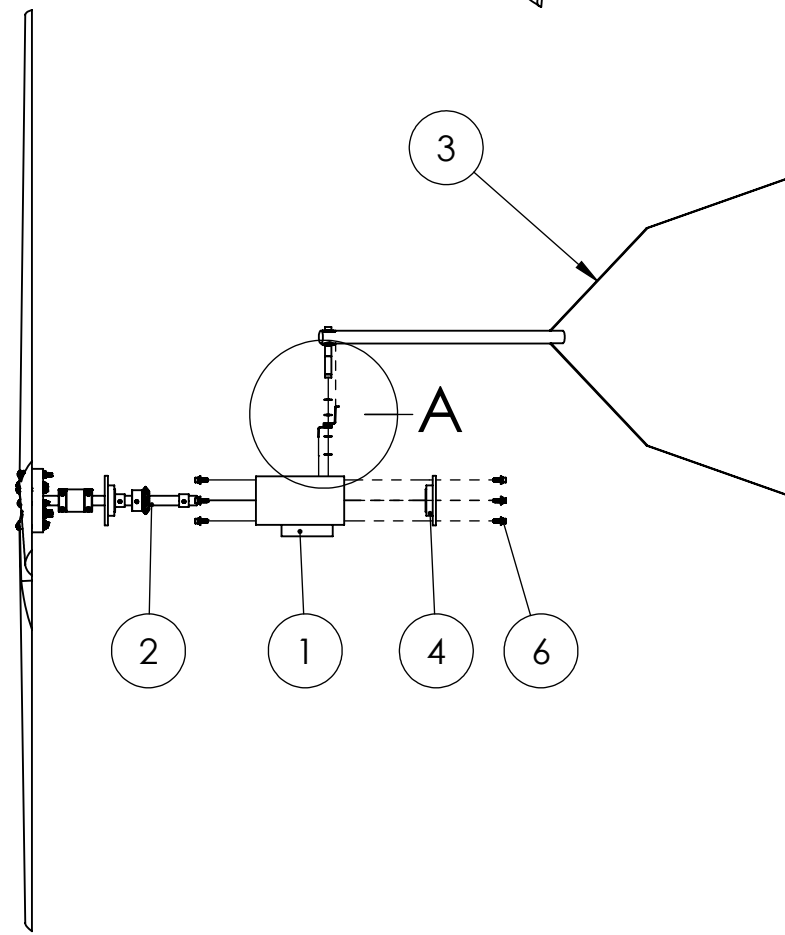
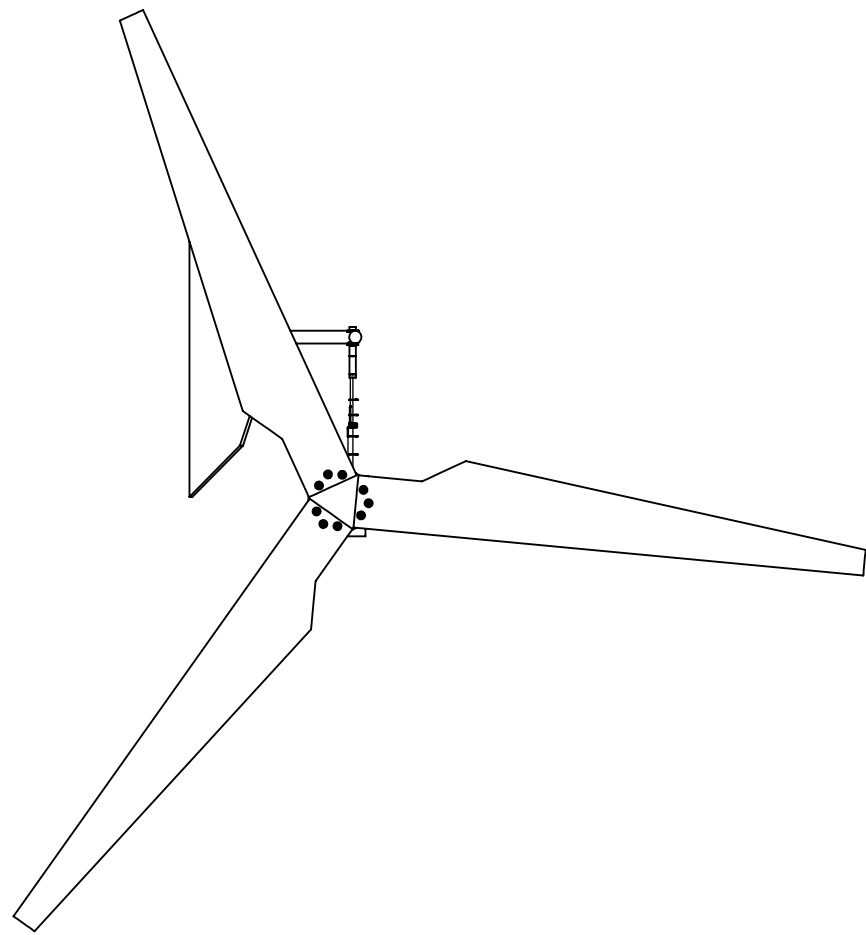
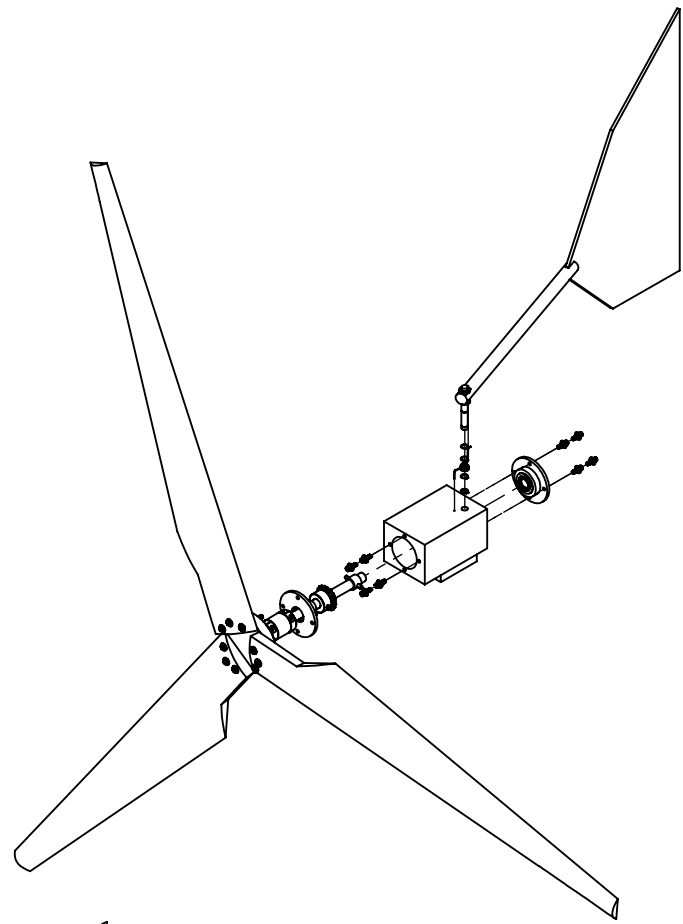
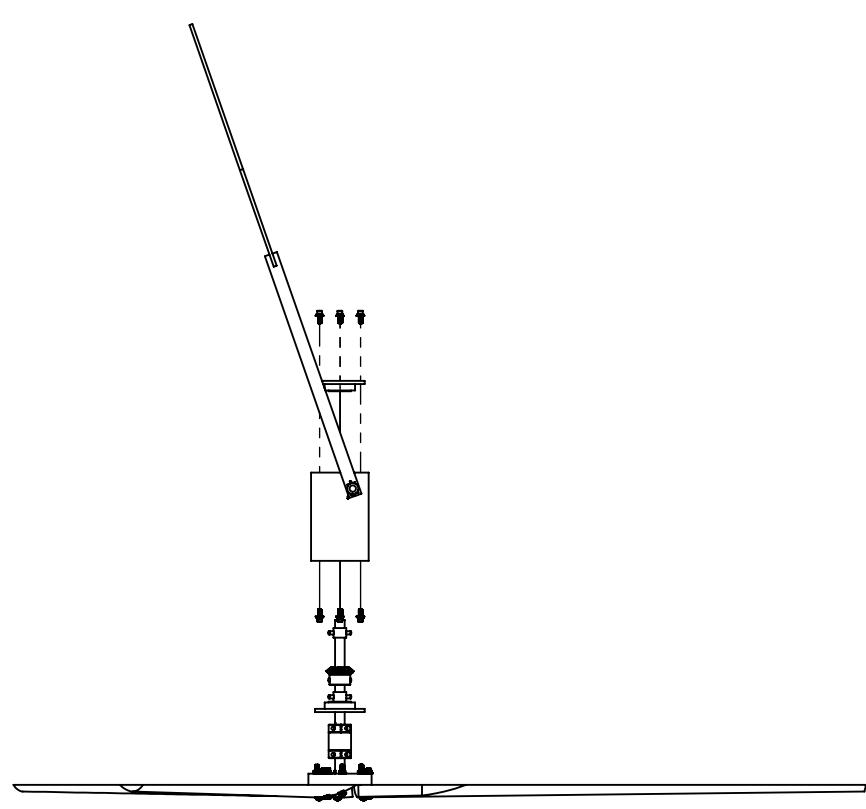


TITLE
Tail Weld

SIZE	PART NO.	REV
B	ENG-2311-00	C

SCALE 1:5 DO NOT SCALE PRINT SHEET 1 OF 1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-230-01	Nacelle	1
2	ENG-230-00	Turbine blades and shaft assembly	1
3	ENG-231-00	Tailstock Furling Assembly	1
4	ENG-232-00	Turbine Bearing Assembly	1
5	9271K617	Torsion Spring	1
6	ENG-240-00	0.25 screw assembly	8
7	97633A200	0.5 retaining ring	4



DETAIL A
SCALE 1:4

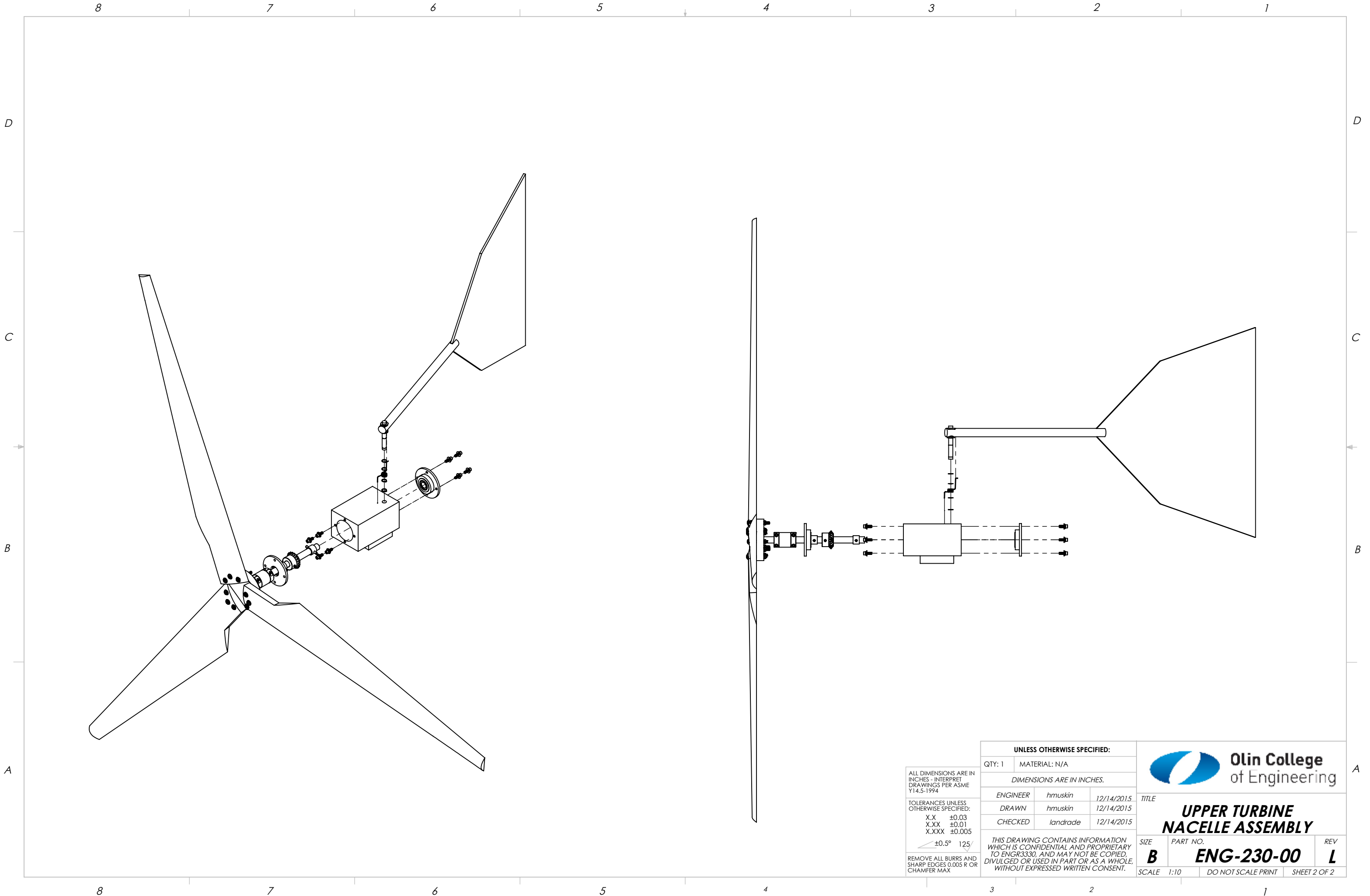
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: N/A	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/14/2015
DRAWN	hmskin	12/14/2015
CHECKED	landrade	12/14/2015

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TITLE		
UPPER TURBINE NACELLE ASSEMBLY		
SIZE	PART NO.	REV
B	ENG-230-00	L
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 2
1:15		



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994


TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

∠ ±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: N/A	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/14/2015
DRAWN	hmskin	12/14/2015
CHECKED	landrade	12/14/2015

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TITLE		
UPPER TURBINE NACELLE ASSEMBLY		
SIZE	PART NO.	REV
B	ENG-230-00	L
SCALE 1:10	DO NOT SCALE PRINT	SHEET 2 OF 2

8 7 6 5 4 3 2 1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-2322-02	TURBINE SHAFT	1
2	ENG-230-02	BEARING HOUSING TURBINE SHAFT	1
3	6384K367	MITER GEAR	1
4	ENG-220-03	MODIFIED MCMMASTER 6529K250	1
5	ENG-2322-01	COLLAR FOR TURBINE SHAFT	2

D

D

C

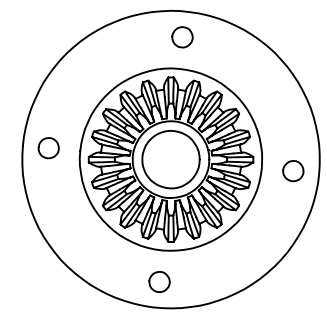
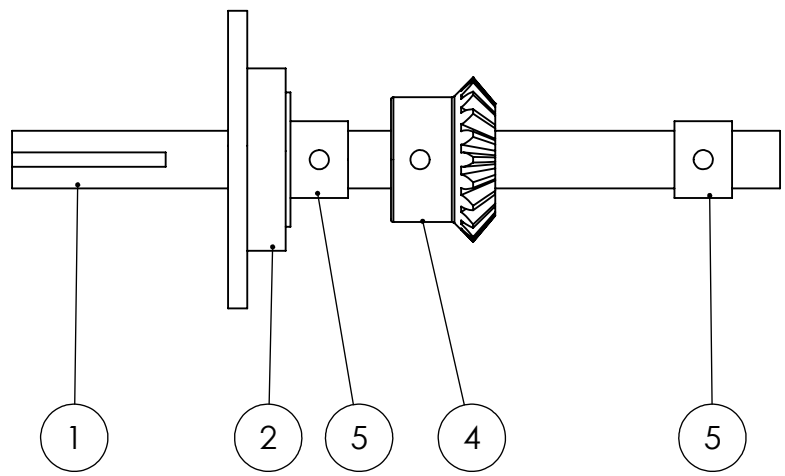
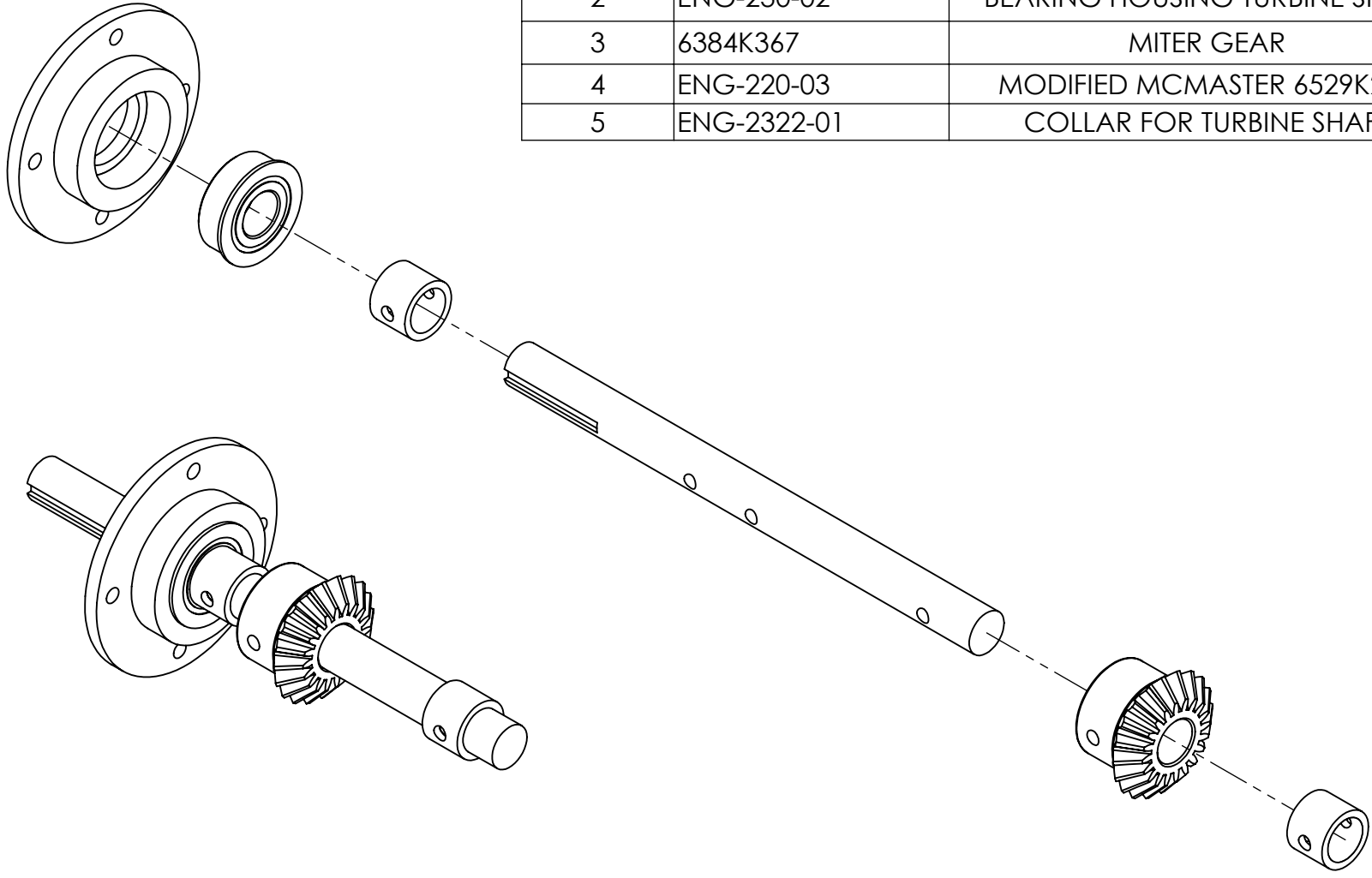
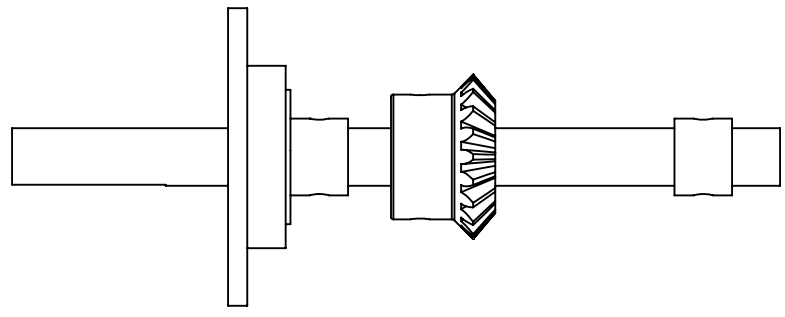
C

B

B

A

A



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY:	1	
MATERIAL:	N/A	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/14/2015
DRAWN	hmskin	12/14/2015
CHECKED	landrade	12/14/2015

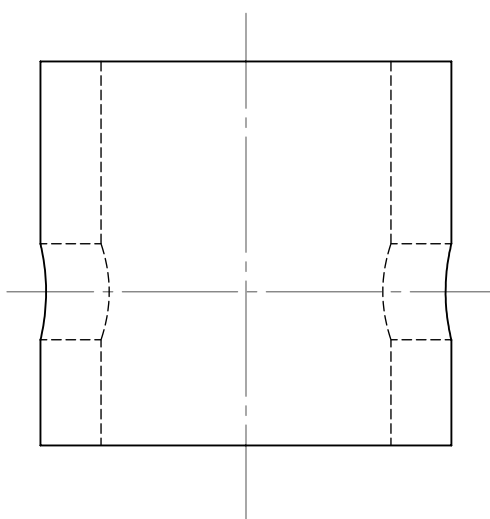
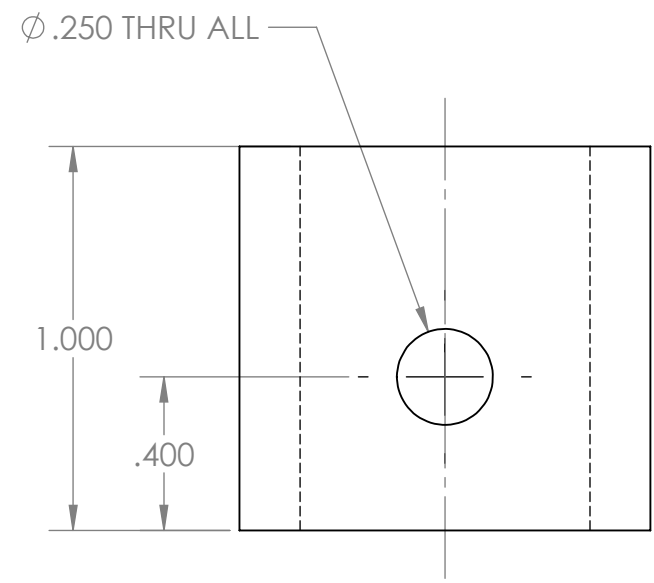
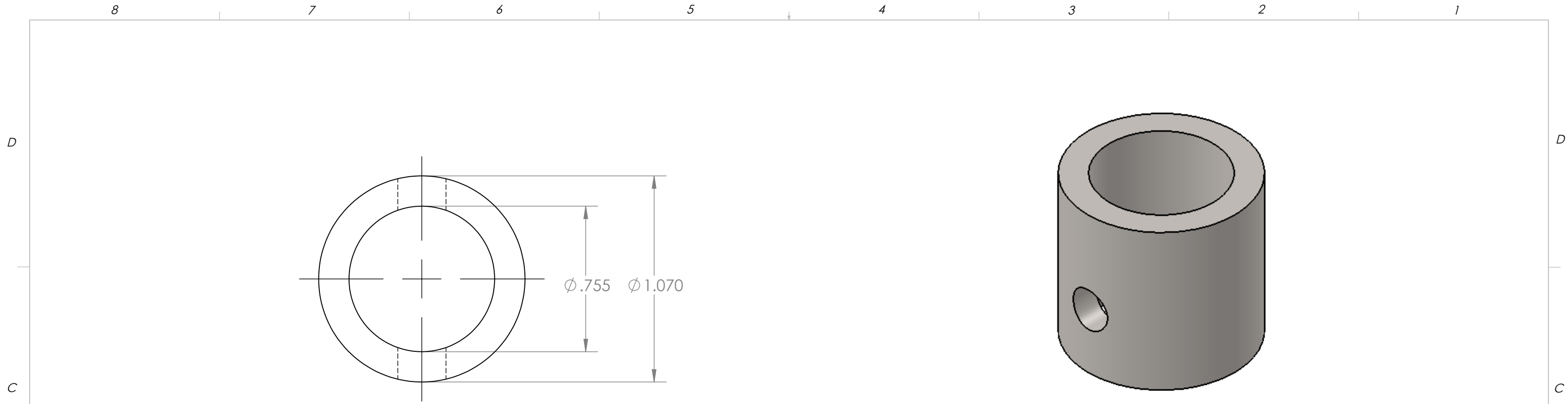


TITLE **Turbine Power Shaft Assembly**

SIZE	PART NO.	REV
B	ENG-2322-00	F

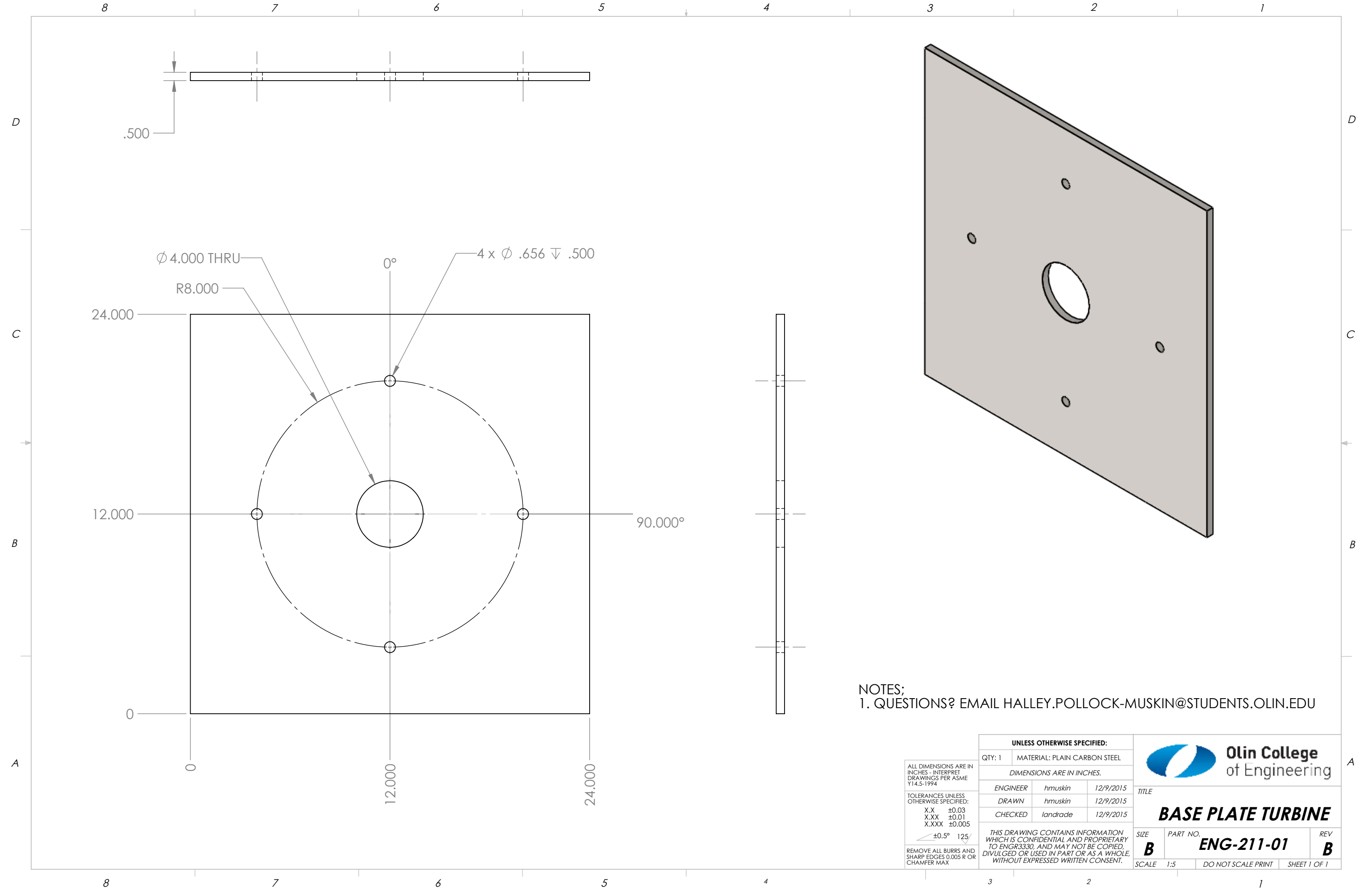
SCALE 2:5 DO NOT SCALE PRINT SHEET 1 OF 1

8 7 6 5 4 3 2 1



NOTES:
 1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 ±0.5° 125/	UNLESS OTHERWISE SPECIFIED:			
	QTY: 1	MATERIAL: DELRIN		
	DIMENSIONS ARE IN INCHES.			
	ENGINEER	hmskin	12/13/2015	
	DRAWN	hmskin	12/13/2015	
	CHECKED	landrade	12/13/2015	
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.				TITLE COLLAR FOR DRIVESHAFT
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.				SIZE B
				PART NO. ENG-220-01
				REV A
SCALE 2:1		DO NOT SCALE PRINT		SHEET 1 OF 1



.500

Ø 4.000 THRU

R8.000

0°

4 x Ø .656 ∇ .500

24.000

12.000

0

12.000

24.000

90.000°

NOTES;

1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

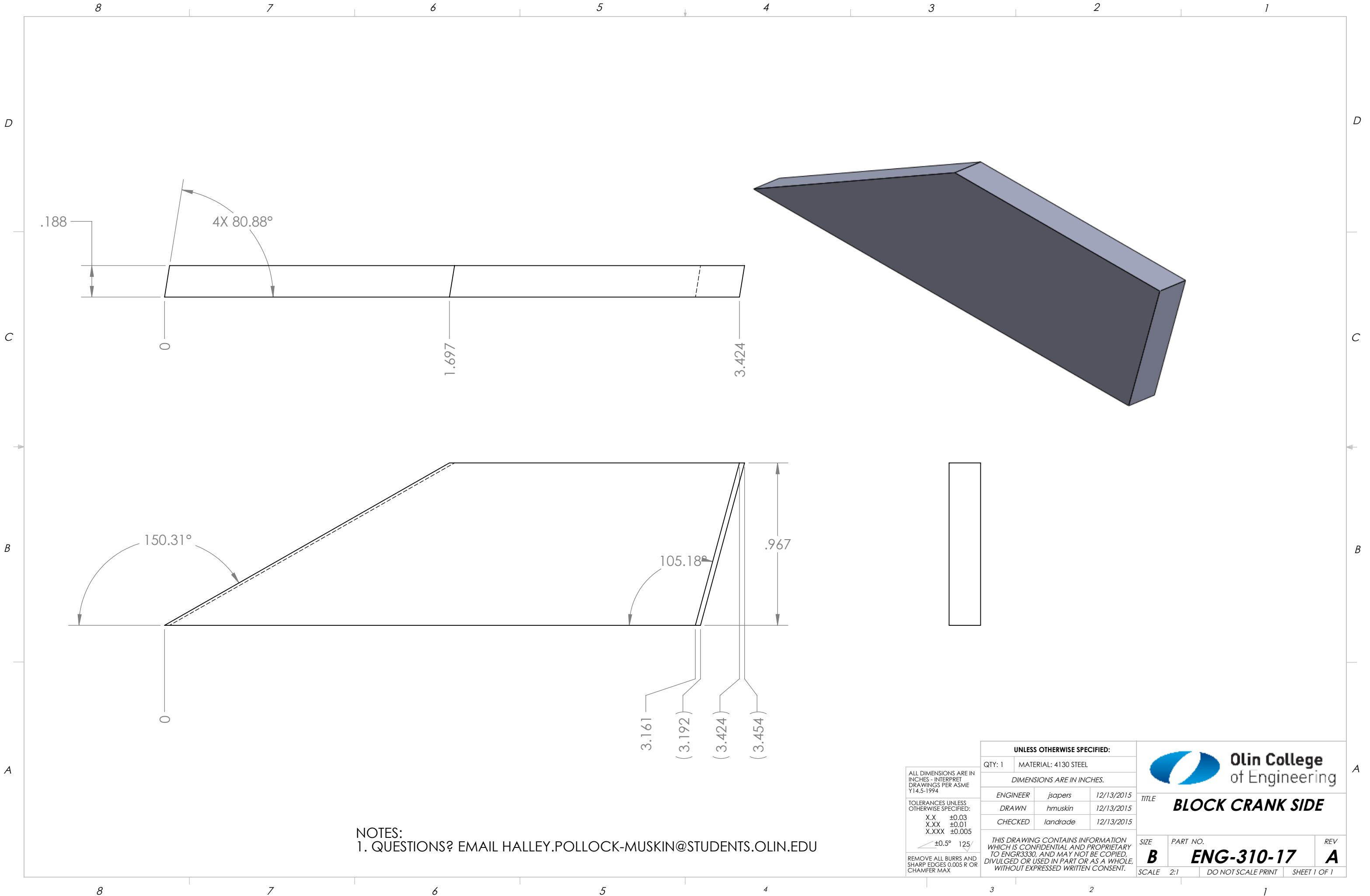
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125'
 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: PLAIN CARBON STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/9/2015
DRAWN	hmskin	12/9/2015
CHECKED	landrade	12/9/2015



TITLE
BASE PLATE TURBINE

SIZE B	PART NO. ENG-211-01	REV B
SCALE 1:5	DO NOT SCALE PRINT	SHEET 1 OF 1



.188

4X 80.88°

0

1.697

3.424

150.31°

105.18°

.967

0

3.161

(3.192)

(3.424)

(3.454)

NOTES:
1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005
±0.5° 125/

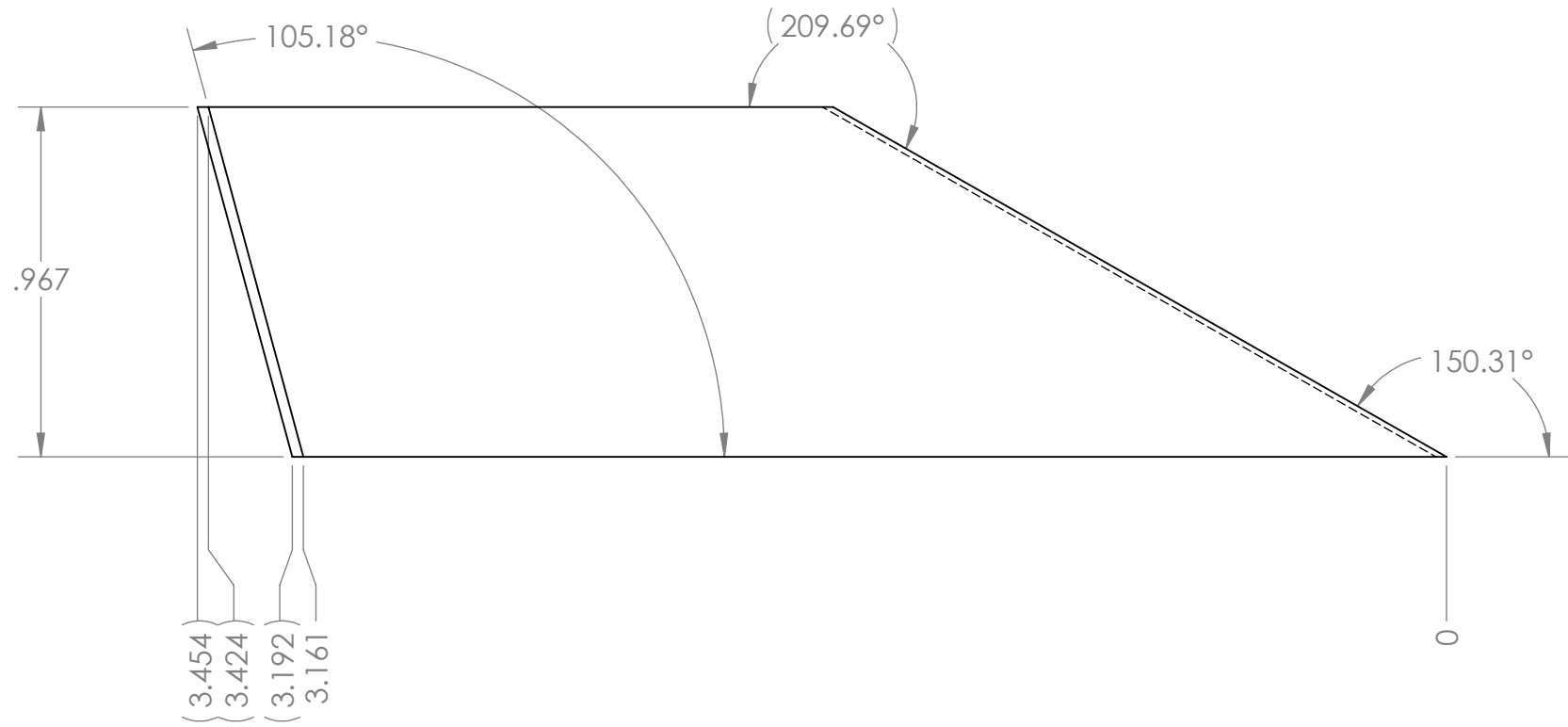
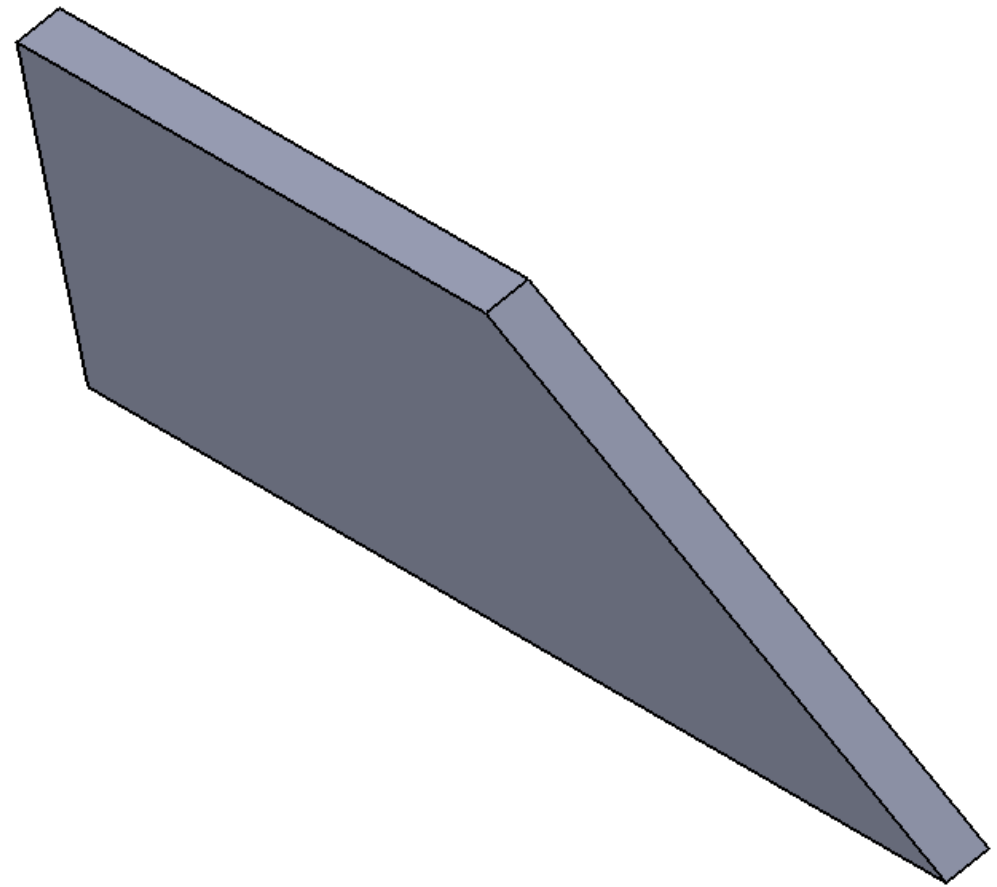
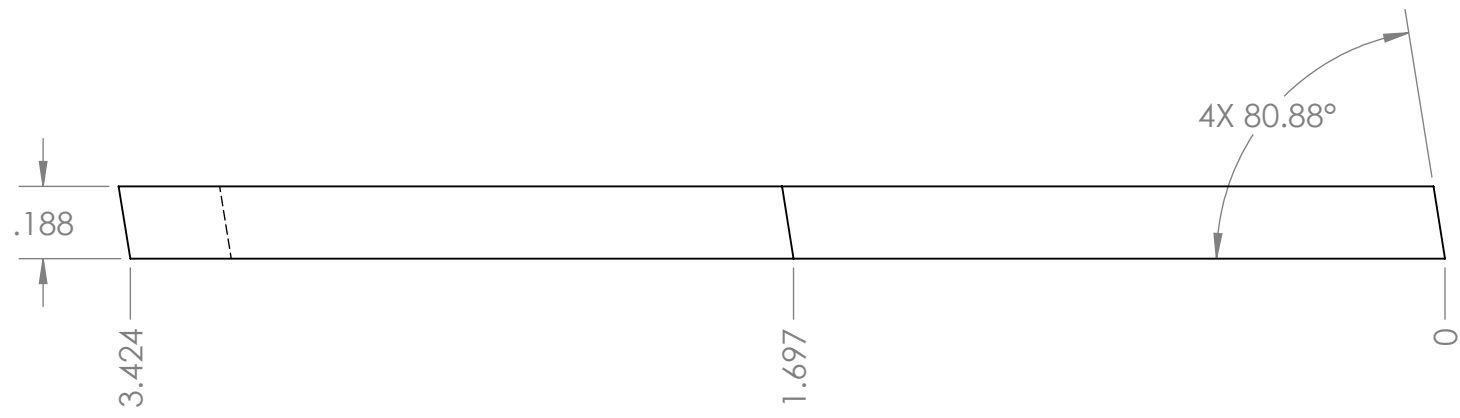
UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 4130 STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	jsapers	12/13/2015
DRAWN	hmskin	12/13/2015
CHECKED	landrade	12/13/2015



TITLE **BLOCK CRANK SIDE**

SIZE B	PART NO. ENG-310-17	REV A
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1

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NOTES:
1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

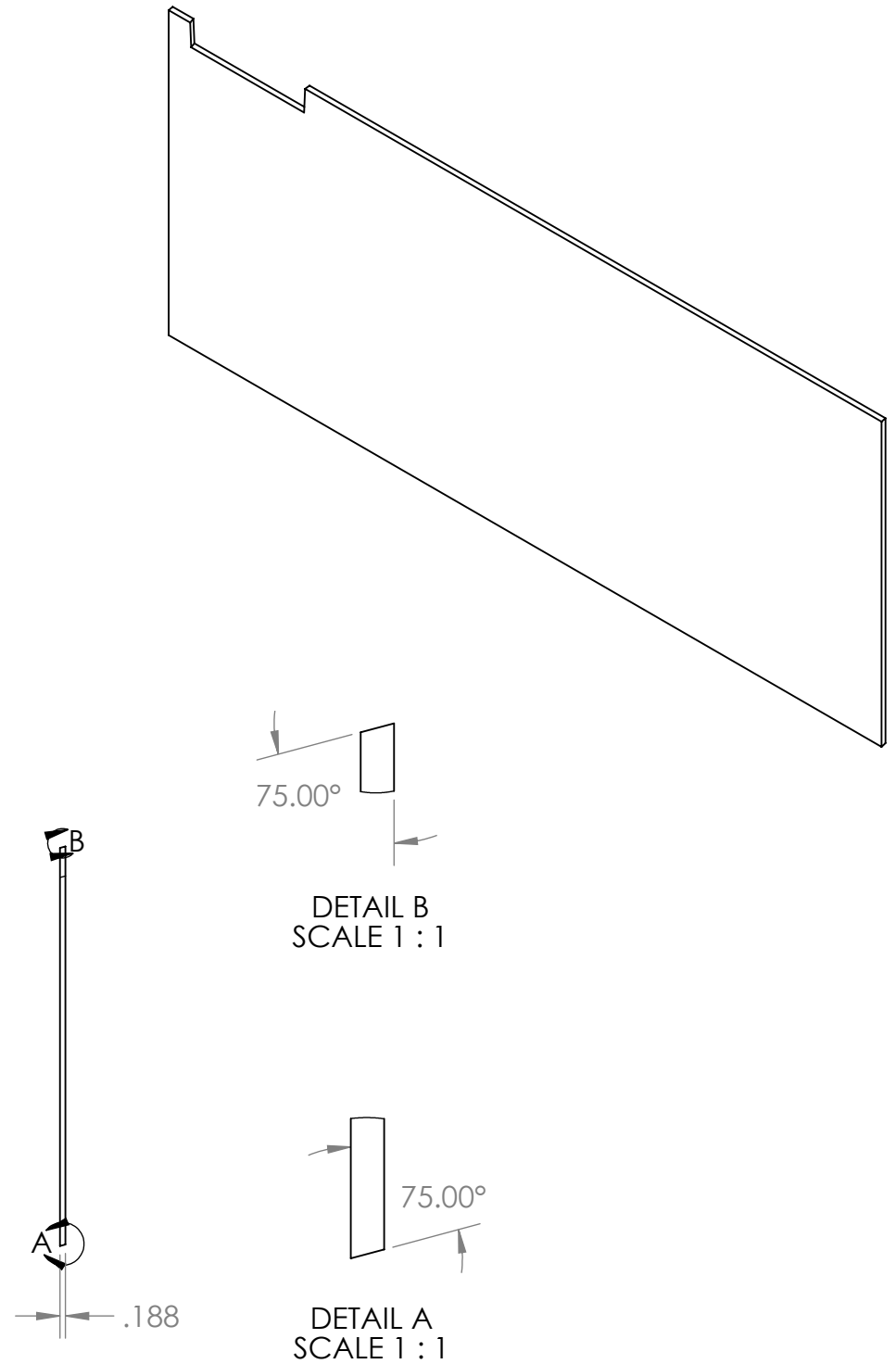
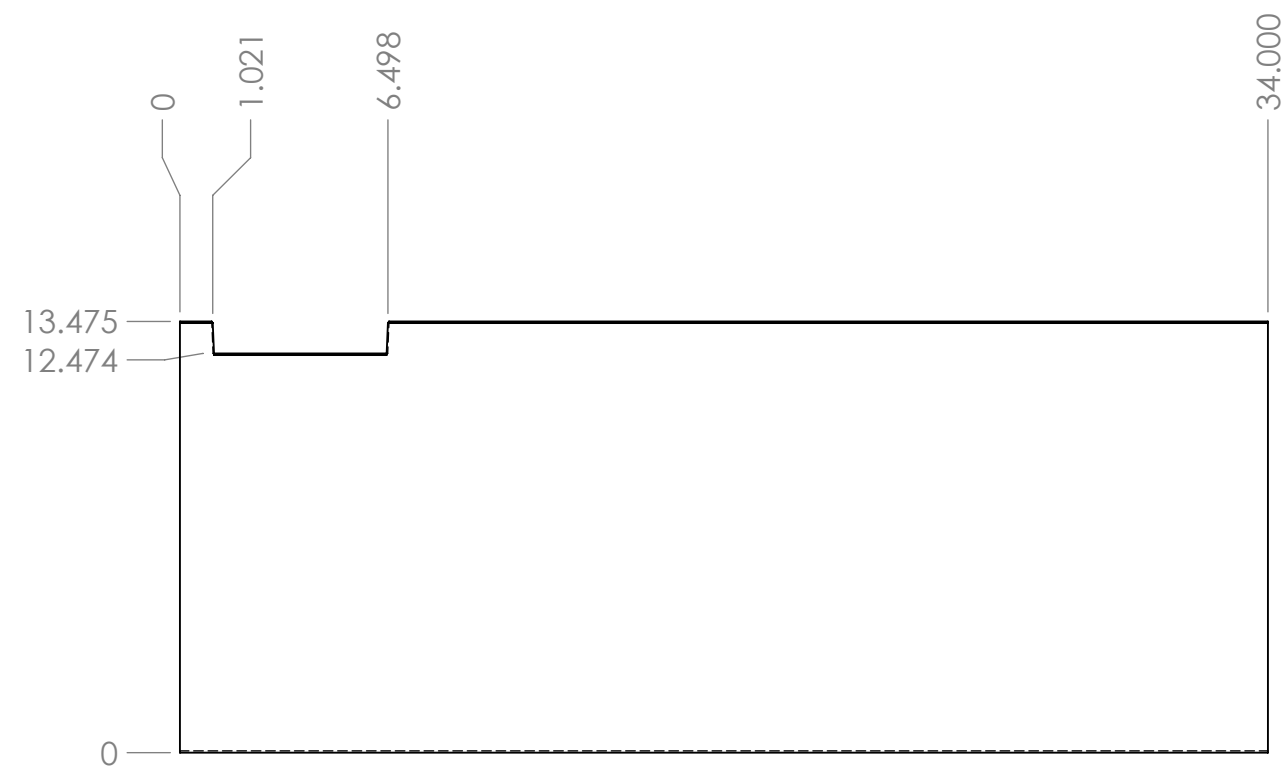
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005
±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 4130 STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	jsapers	12/13/2015
DRAWN	hmskin	12/13/2015
CHECKED	landrade	12/13/2015

THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.



TITLE		BLOCK CRANK SIDE 2	
SIZE	PART NO.	REV	
B	ENG-310-18	A	
SCALE	2:1	DO NOT SCALE PRINT	SHEET 1 OF 1



- NOTES:
 1. MILL OR WATERJET
 2. USE Block Right End 2.SLDPRT FOR CONTOUR
 3. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

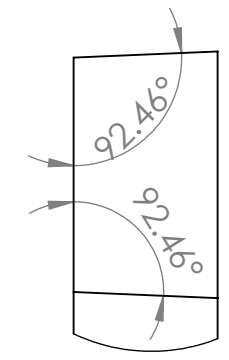
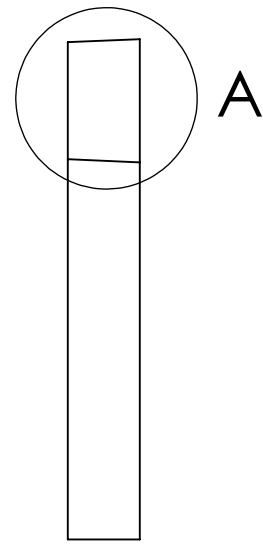
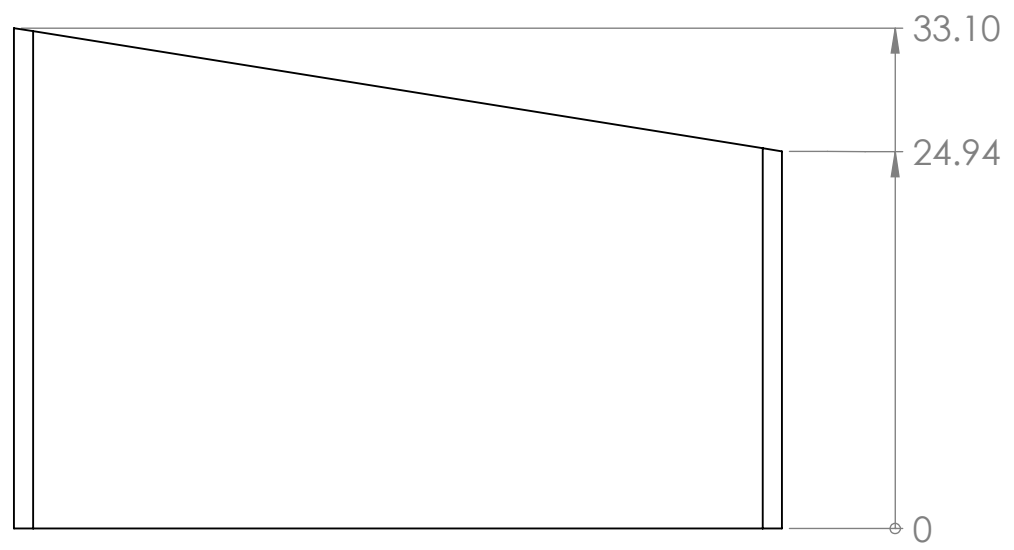
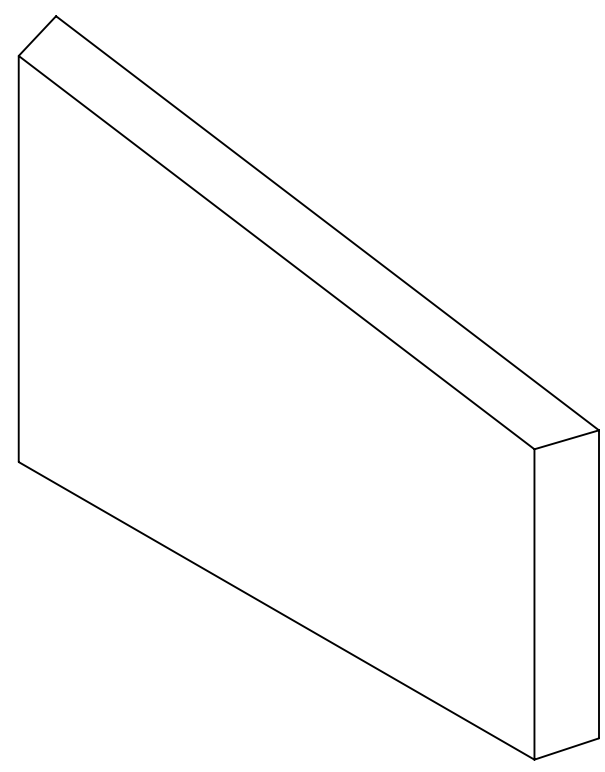
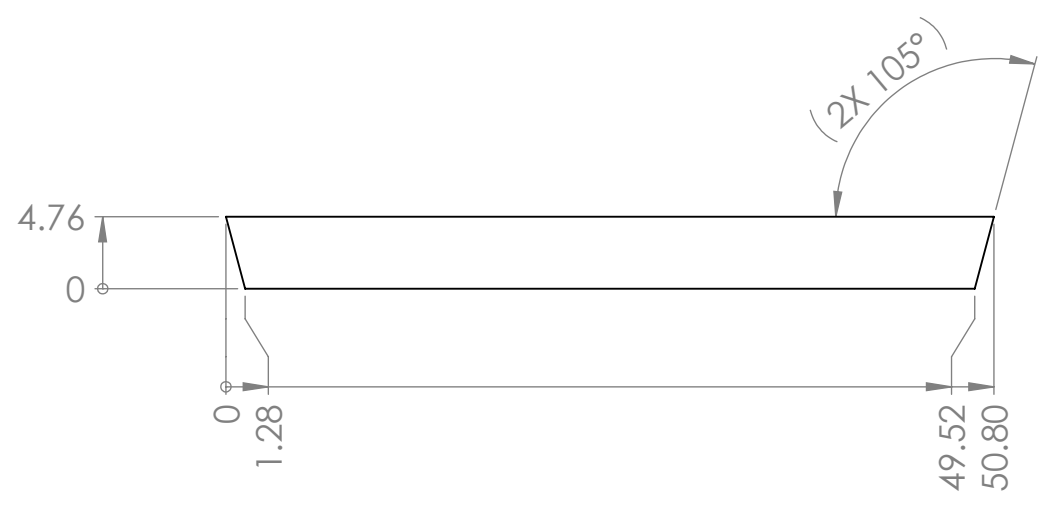
UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 4130 STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	jsapers	12/13/2015
DRAWN	hmskin	12/13/2015
CHECKED	landrade	12/13/2015

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TITLE **BLOCK RIGHT END**

SIZE	PART NO.	REV
B	ENG-310-16	A
SCALE 1:6	DO NOT SCALE PRINT	SHEET 1 OF 1

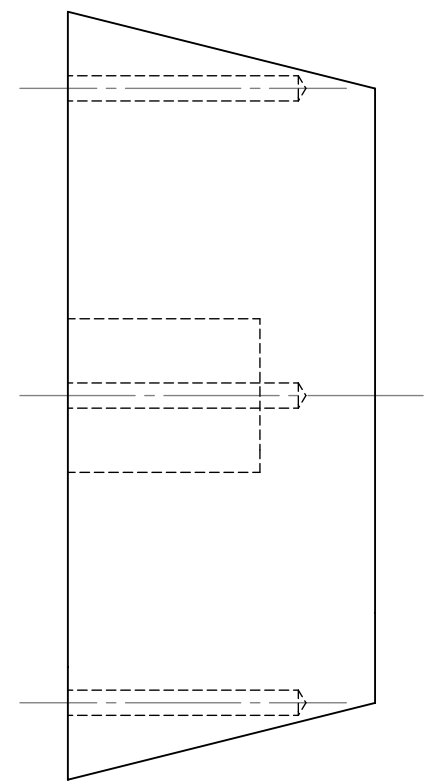
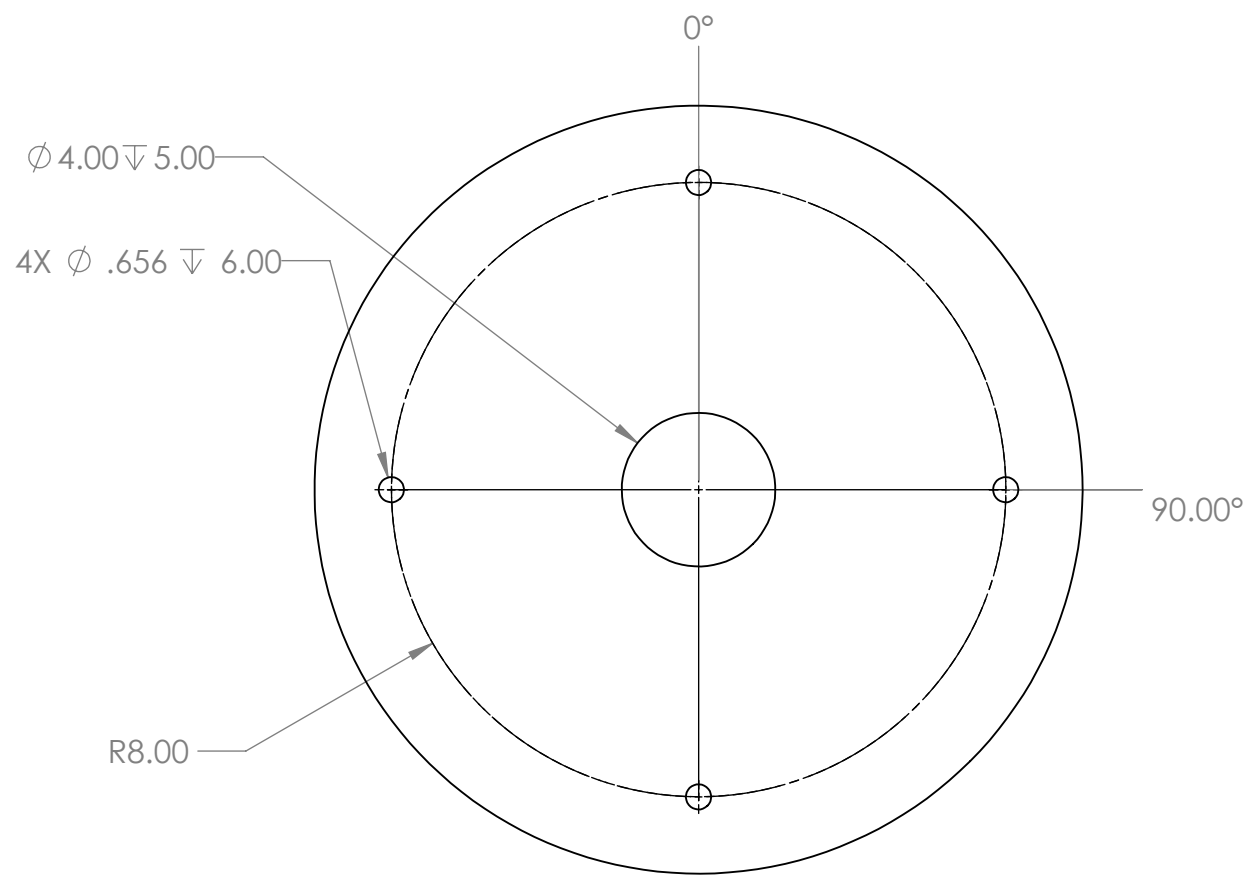
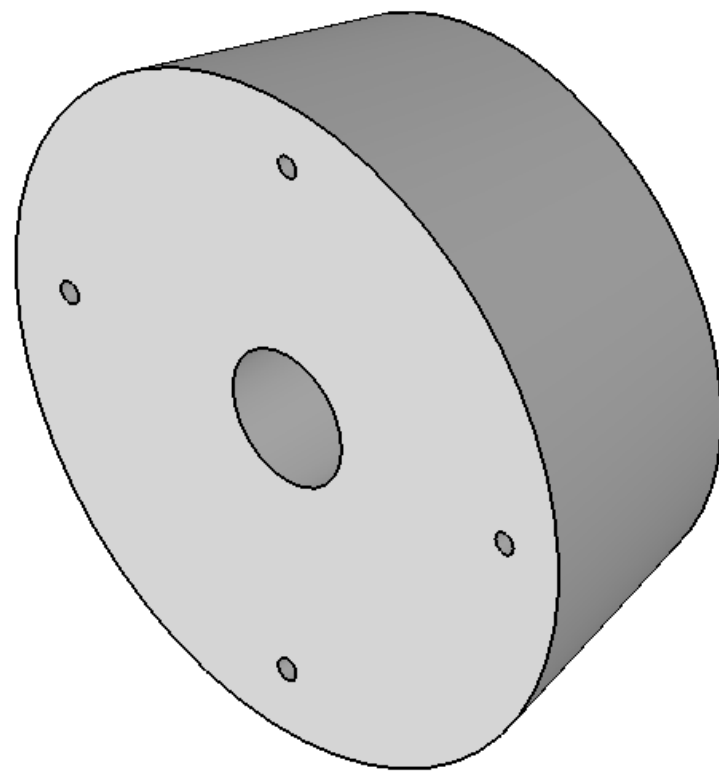
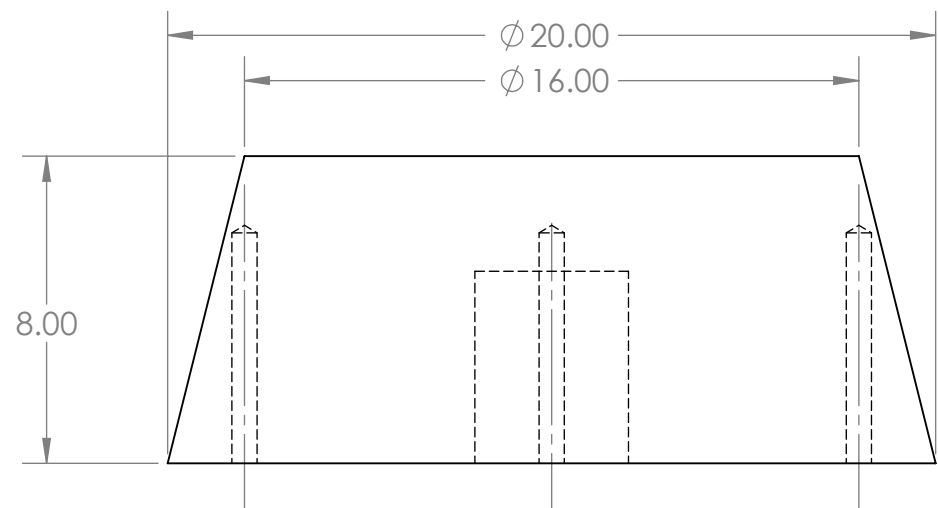


DETAIL A
SCALE 4 : 1

NOTES;
1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 ±0.5° 125/	UNLESS OTHERWISE SPECIFIED: QTY: 1 MATERIAL: 4130 STEEL			
	DIMENSIONS ARE IN INCHES.			
	ENGINEER <i>jsapers</i> 12/9/2015	DRAWN <i>hmskin</i> 12/9/2015		TITLE BLOCK RIGHT TOP 2
	CHECKED <i>landrade</i> 12/9/2015	THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.		SIZE B PART NO. ENG-310-15 REV A
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.	SCALE 2:1 DO NOT SCALE PRINT	SHEET 1 OF 1		

8 7 6 5 4 3 2 1



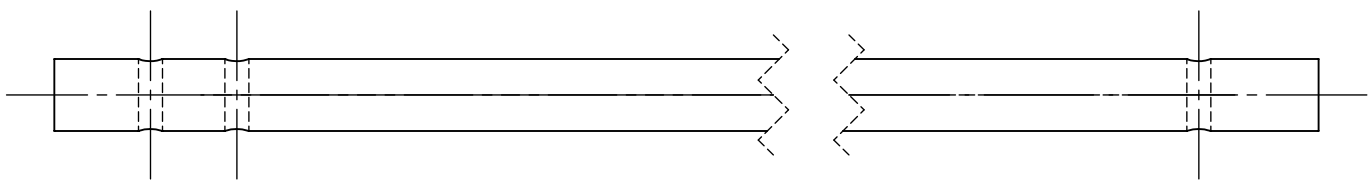
NOTES
1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

<p>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</p> <p>TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005</p> <p>±0.5° 125/</p> <p>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</p>	<p>UNLESS OTHERWISE SPECIFIED:</p>			<p>Olin College of Engineering</p>	
	QTY: 1	MATERIAL: CONCRETE			
	DIMENSIONS ARE IN INCHES.				
	ENGINEER	hmskin	12/7/2015		
DRAWN	hmskin	12/7/2015	TITLE		
CHECKED	landrade	12/7/2015	CONCRETE BASE		
<p>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</p>			SIZE	PART NO.	REV
			B	ENG-210-01	-
SCALE 2:1			DO NOT SCALE PRINT	SHEET 1 OF 1	

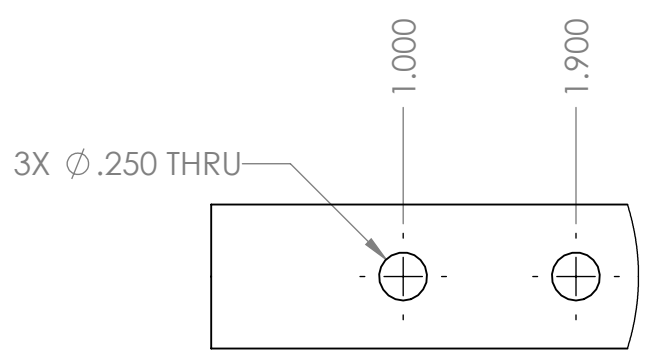
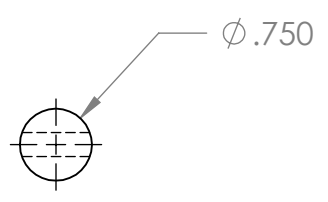
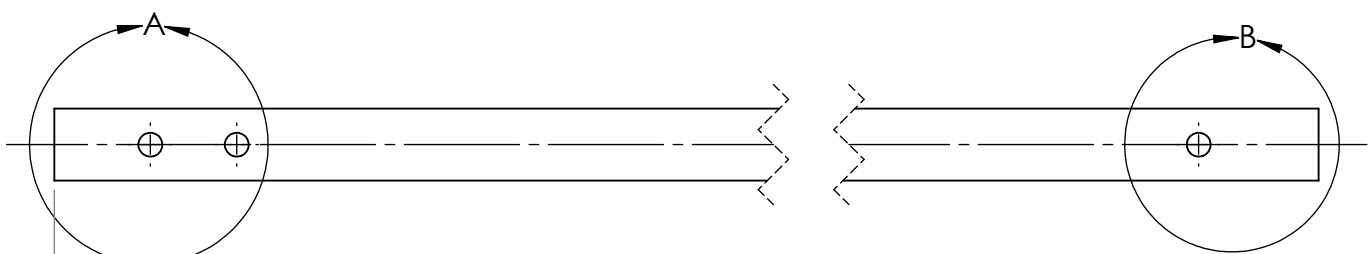
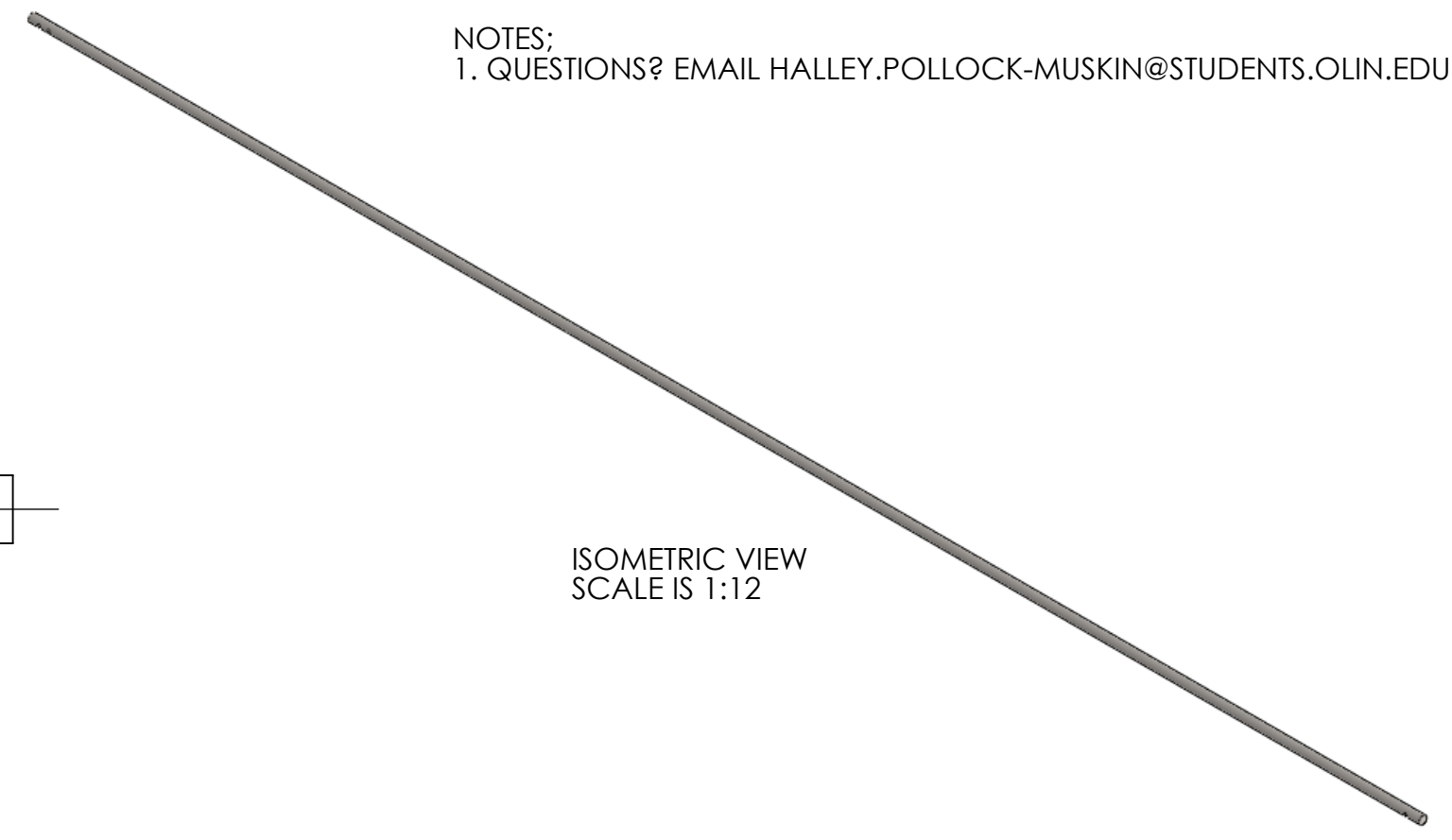
8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

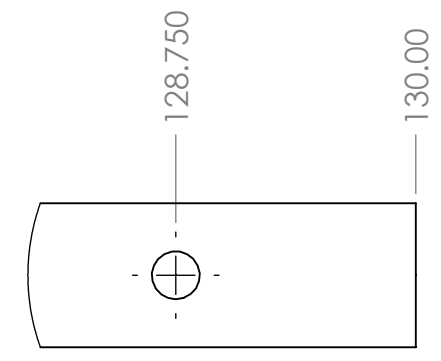
NOTES;
1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU



ISOMETRIC VIEW
SCALE IS 1:12



DETAIL A
SCALE 1:1



DETAIL B
SCALE 1:1

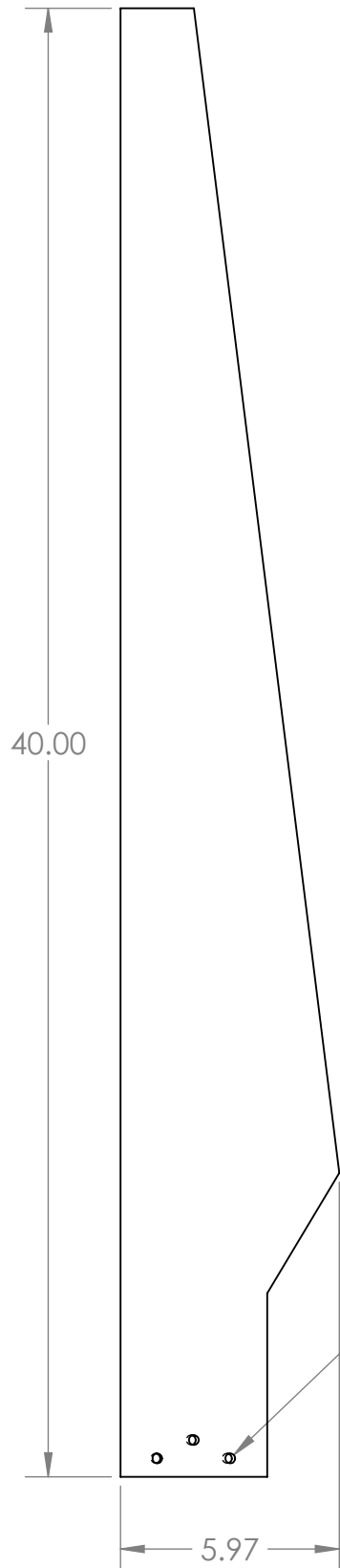
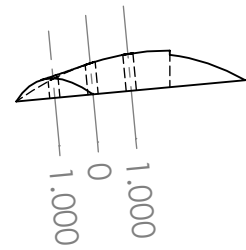
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005
±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: PLAIN CARBON STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/10/2015
DRAWN	hmskin	12/10/2015
CHECKED	landrade	12/10/2015

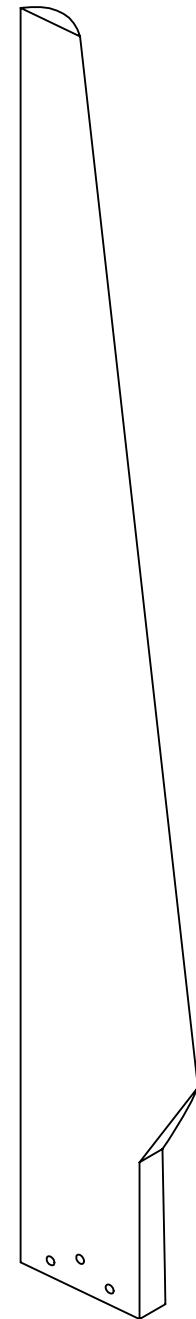
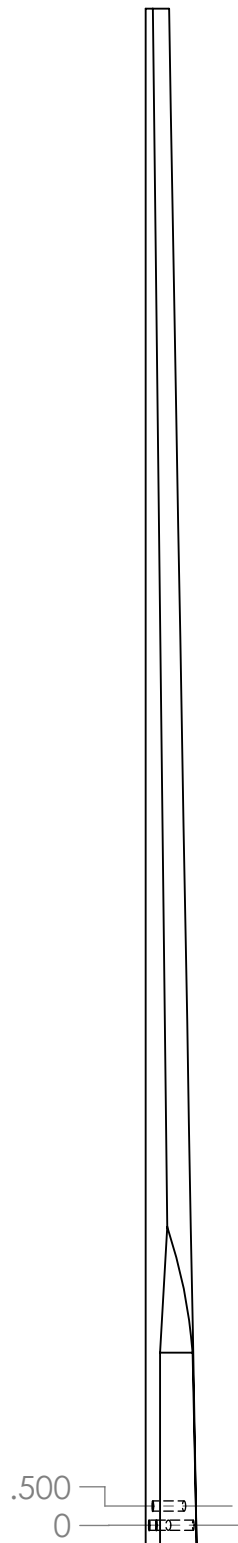


TITLE		
DRIVESHAFT		
SIZE	PART NO.	REV
B	ENG-220-02	E
SCALE 1:2	DO NOT SCALE PRINT	SHEET 1 OF 1

8 7 6 5 4 3 2 1



3X R.133



- NOTES:
 1. SEE Engine Turbine Blade.SLDPT FOR CONTOUR AND HOLE POSITIONS
 3. MACHINE CONTOUR WITH CHAINSAW OR ON 3-AXIS CNC ROUTER
 3. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 3	MATERIAL: OAK WOOD	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/13/2015
DRAWN	hmskin	12/13/2015
CHECKED	landrade	12/13/2015



TITLE
ENGINE TURBINE BLADE

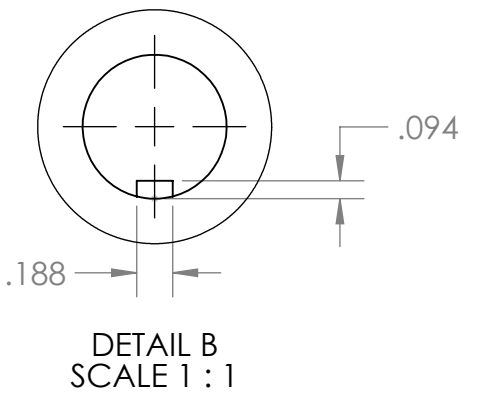
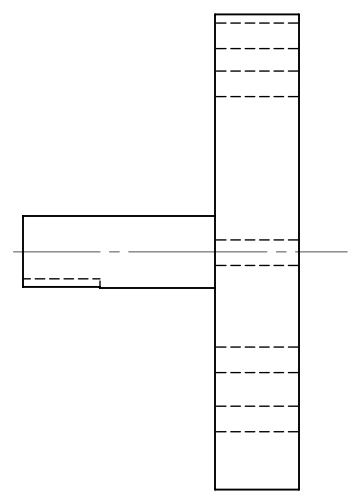
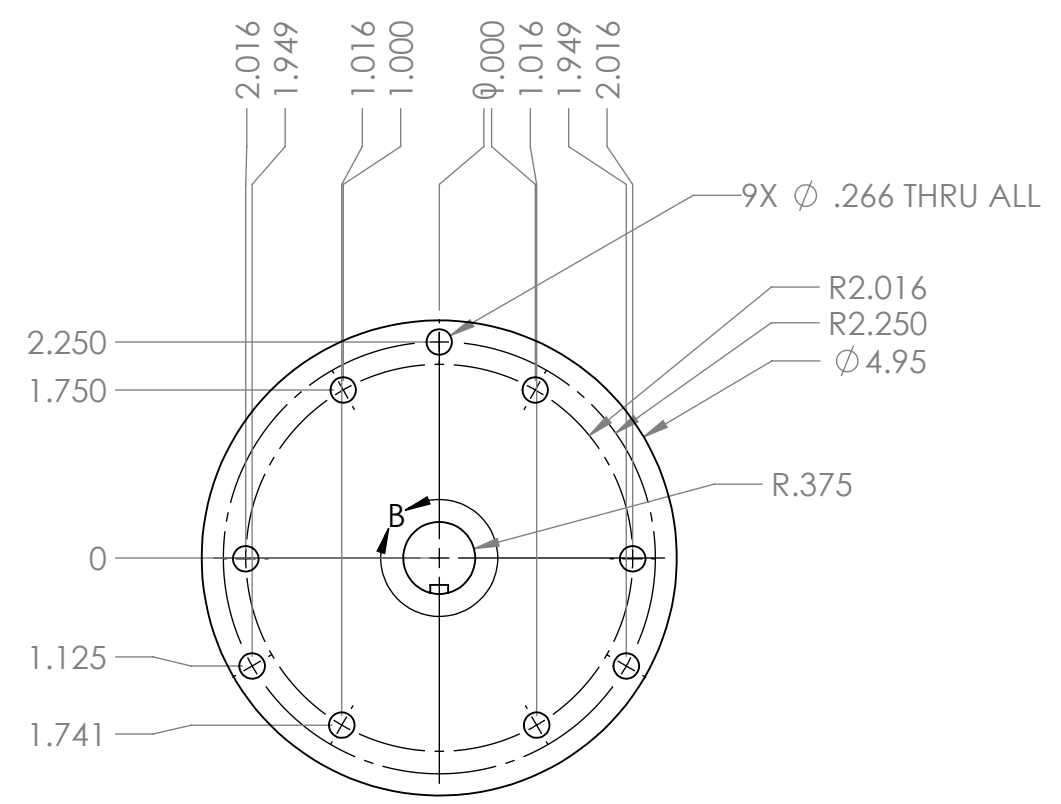
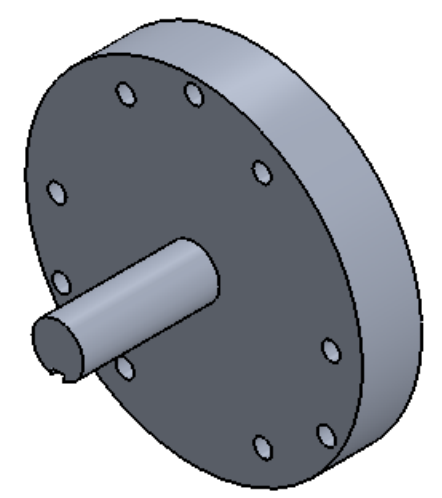
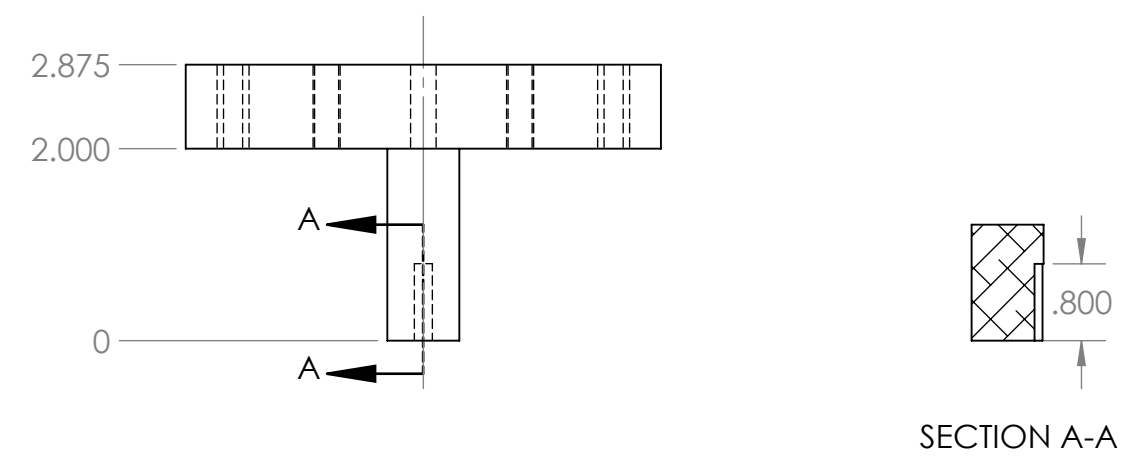
SIZE B	PART NO. ENG-2321-01	REV E
SCALE 1:5	DO NOT SCALE PRINT	SHEET 1 OF 1

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX

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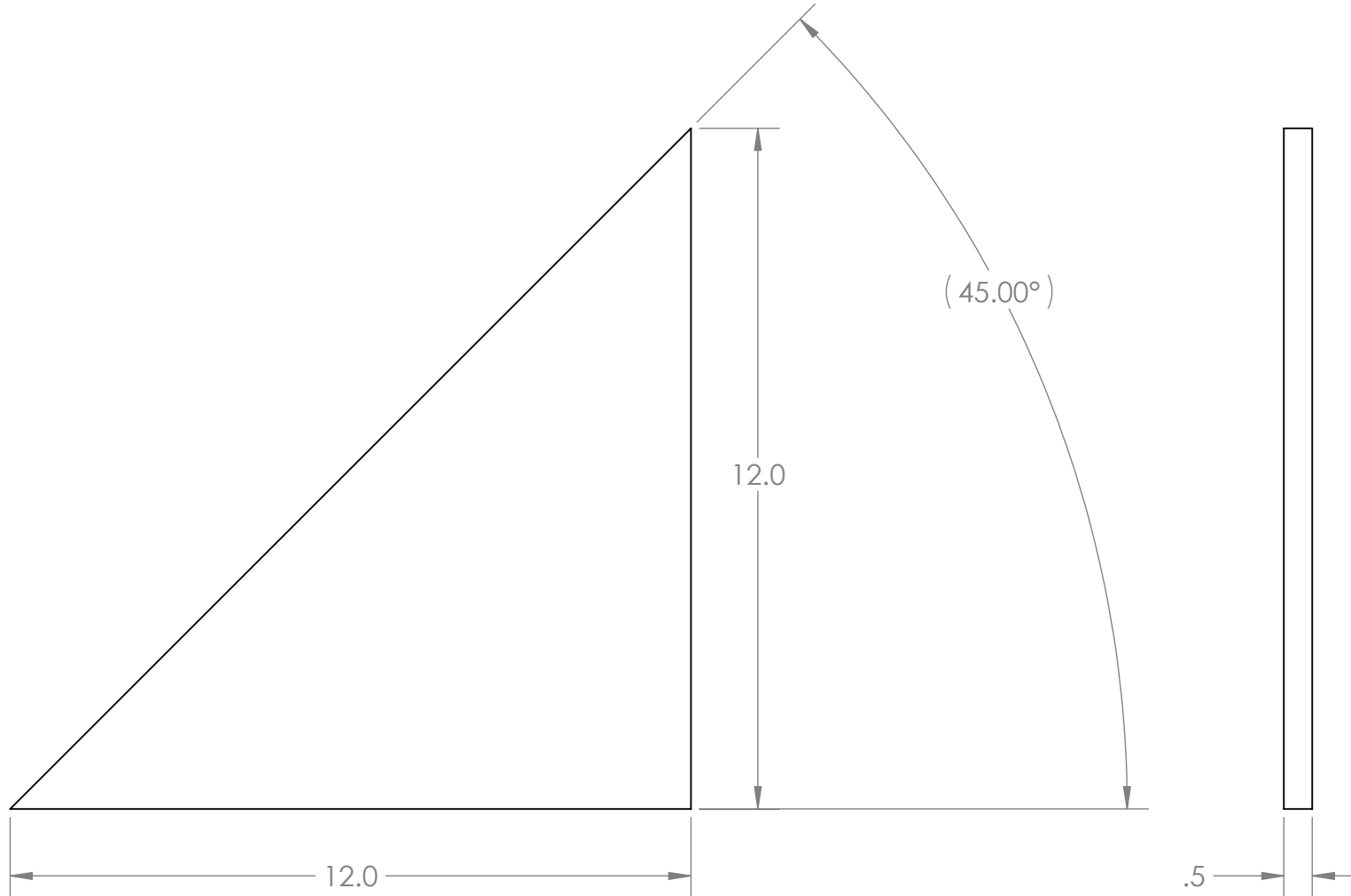
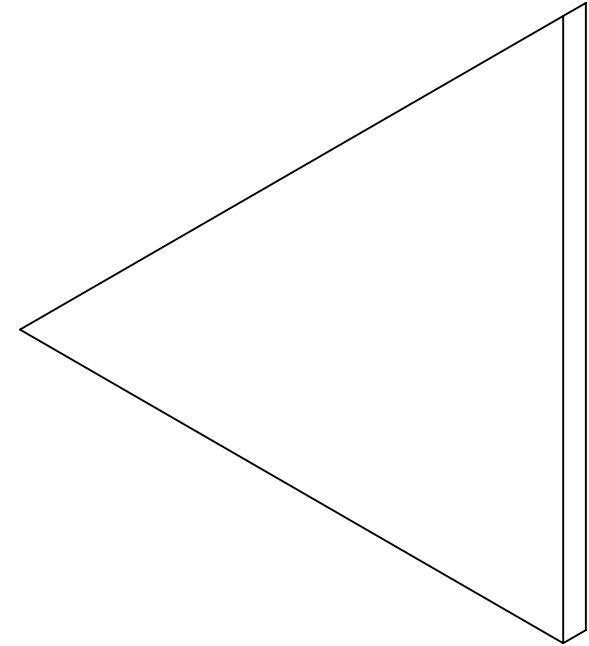
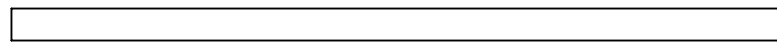
8 7 6 5 4 3 2 1

NOTES:
 1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 ±0.5° 125/160 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.	UNLESS OTHERWISE SPECIFIED: QTY: 1 MATERIAL: 6061-T6 ALUMINUM			
	DIMENSIONS ARE IN INCHES.			
	ENGINEER	hmuskin		12/14/2015
	DRAWN	hmuskin		12/14/2015
		CHECKED	landrade	12/14/2015
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.			TITLE ENGINE TURBINE CENTER	
SIZE B	PART NO. ENG-2321-02	REV C	SCALE 1:2 DO NOT SCALE PRINT SHEET 1 OF 1	

8 7 6 5 4 3 2 1



NOTES;
1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU


ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

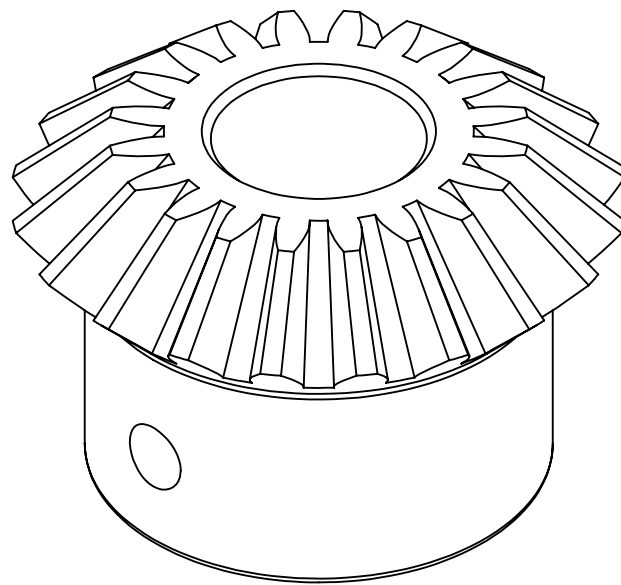
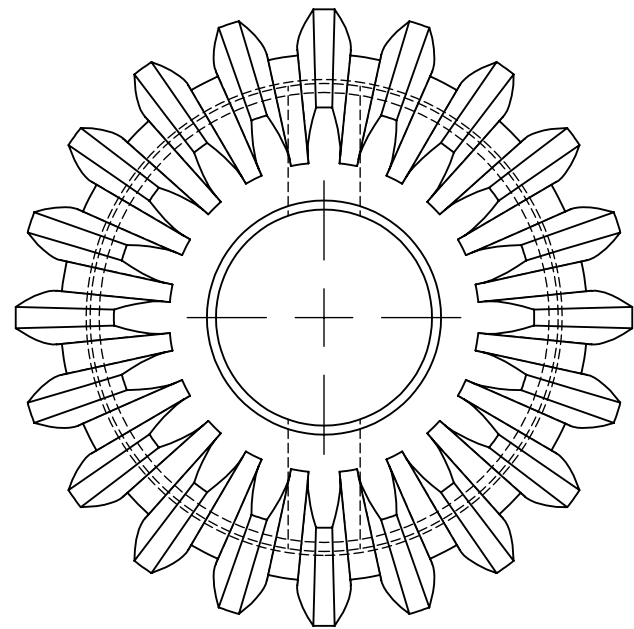
TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ±0.03
X.XX ±0.01
X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

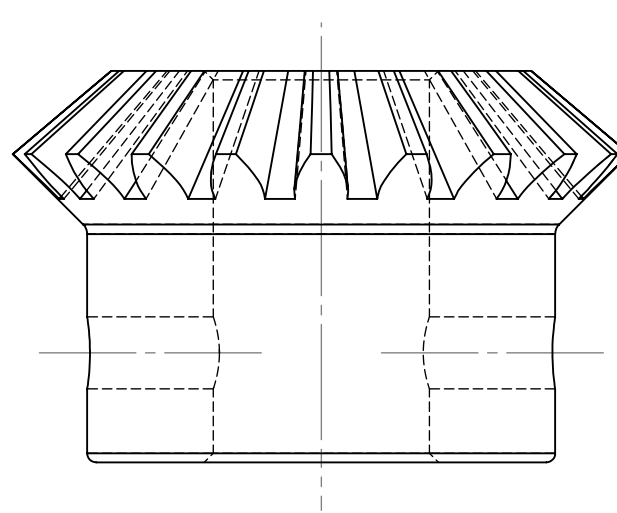
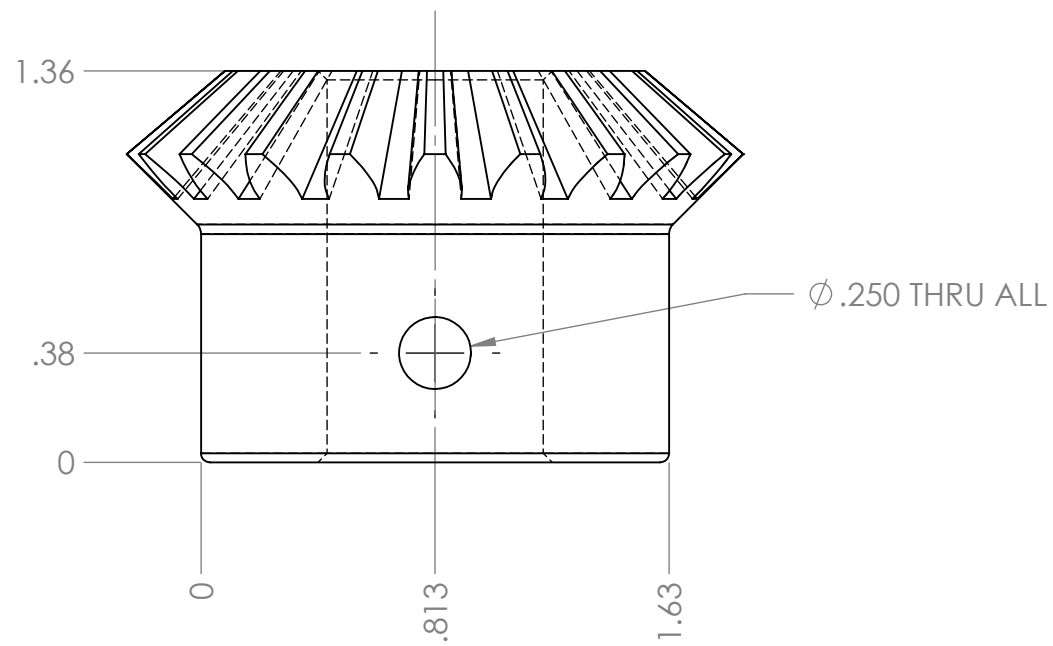
UNLESS OTHERWISE SPECIFIED:		
QTY: 4	MATERIAL: PLAIN CARBON STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/9/2015
DRAWN	hmskin	12/9/2015
CHECKED	landrade	12/9/2015
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TITLE		
GUSSET TURBINE		
SIZE	PART NO.	REV
B	ENG-211-02	A
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
1:3		



NOTES:

1. MODIFIED MCMASTER STOCK - PART 6529K250
2. IF NECESSARY, FACE PART BEFORE DRILLING HOLE
3. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

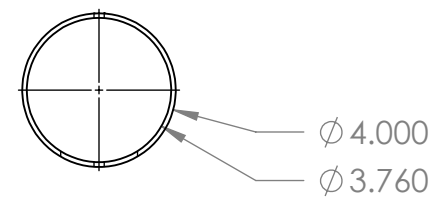
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 4	MATERIAL: ALLOY STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/13/2015
DRAWN	hmskin	12/13/2015
CHECKED	landrade	12/13/2015



TITLE		
MITER GEAR		
SIZE	PART NO.	REV
B	6529K250	D
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
3:2		

8 7 6 5 4 3 2 1

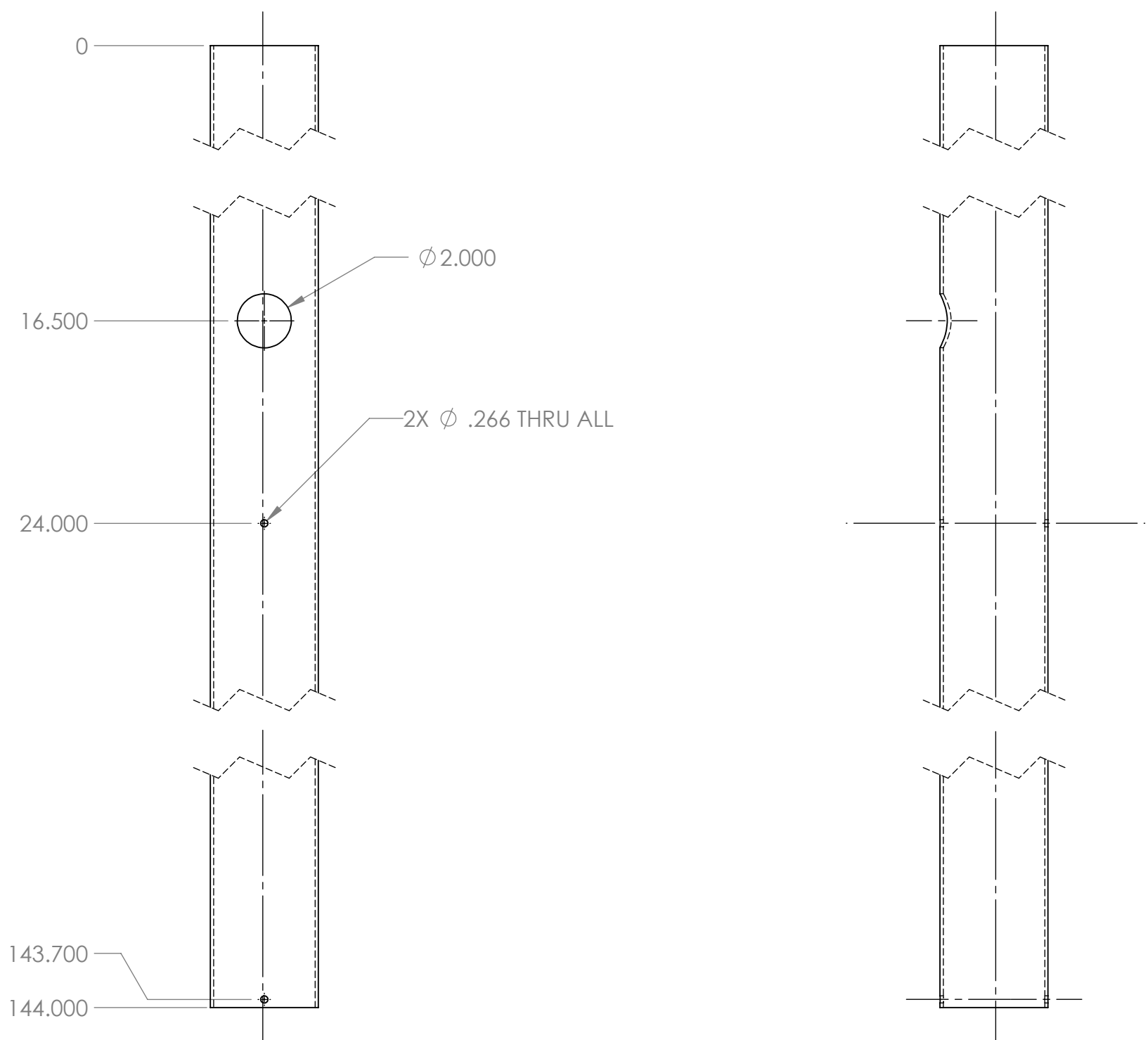


NOTES;
1. USE HOLE SAW WITH CENTER DRILL TO MACHINE LARGE HOLE
2. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU



D
C
B
A

D
C
B
A




ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
X.X ± 0.03
X.XX ± 0.01
X.XXX ± 0.005

$\angle \pm 0.5^\circ$ 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: PLAIN CARBON STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/13/2015
DRAWN	hmskin	12/13/2015
CHECKED	landrade	12/13/2015

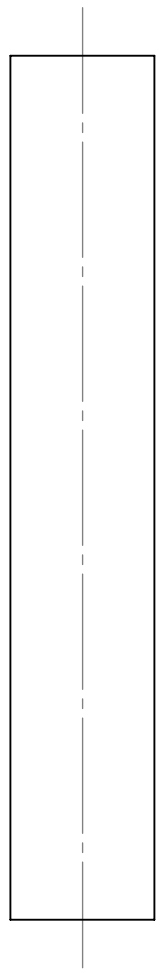
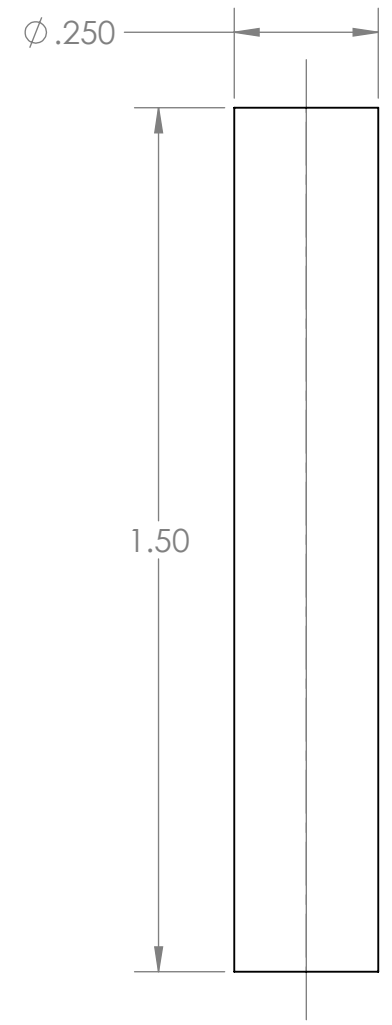
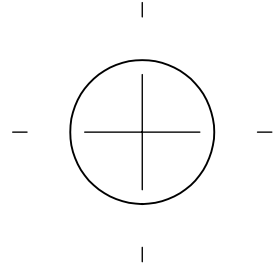
		
TITLE OUTER SHAFT FOR DRIVETRAIN		
SIZE B	PART NO. ENG-211-03	REV H
SCALE 1:5	DO NOT SCALE PRINT	SHEET 1 OF 1

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

D
C
B
A

D
C
B
A



NOTES;
 1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125

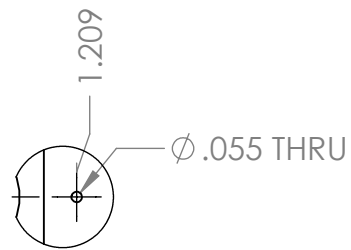
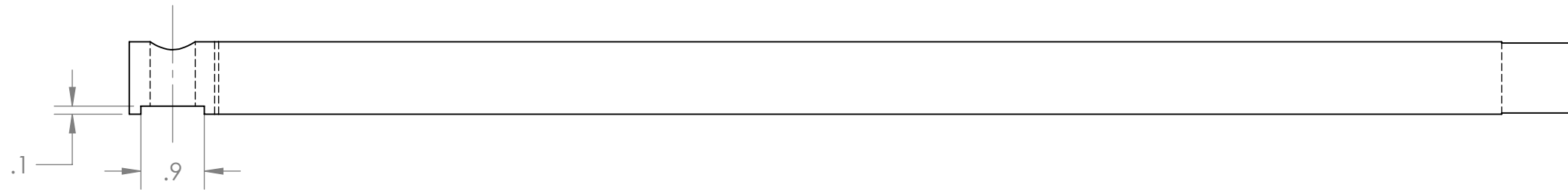
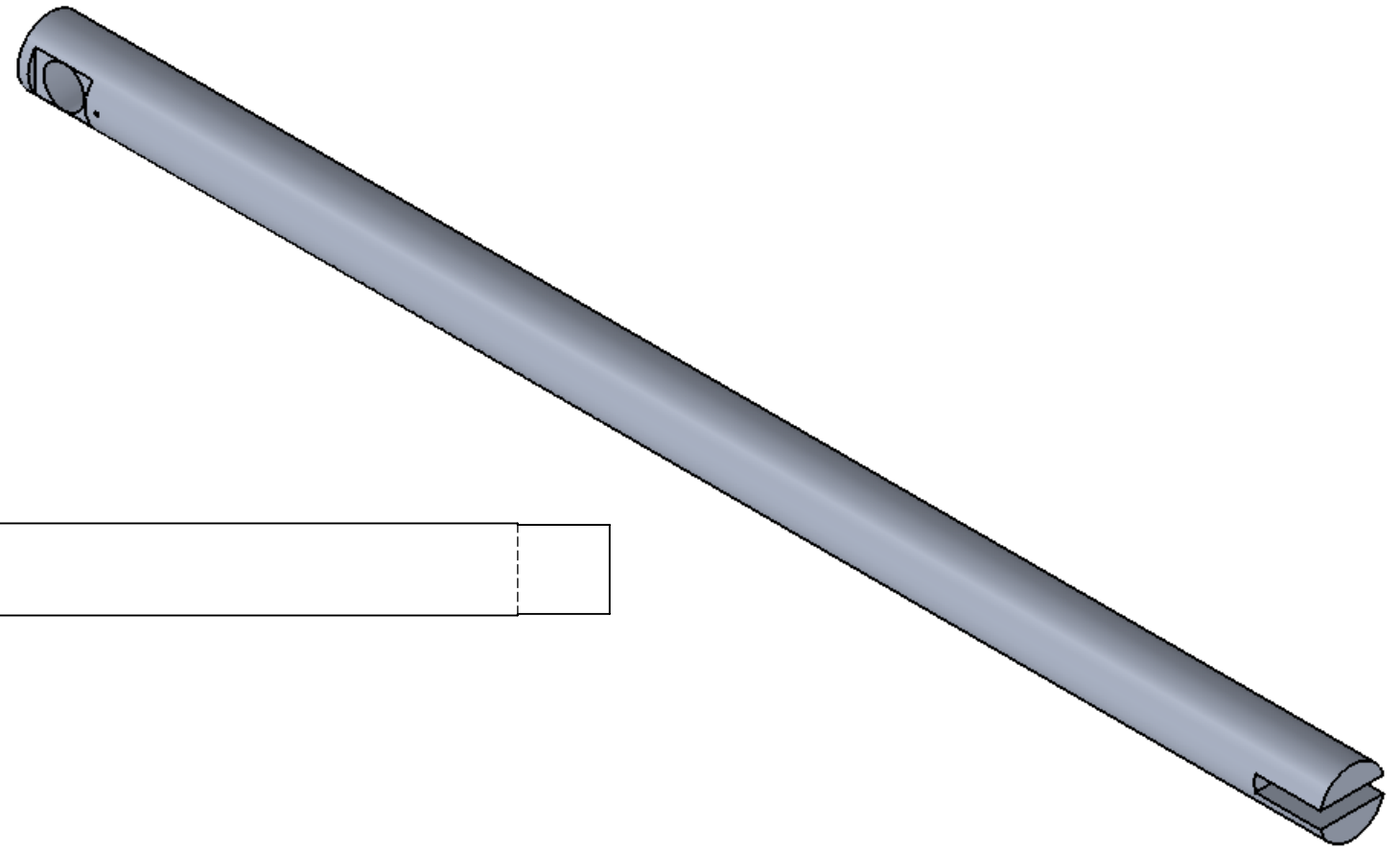
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: PLAIN CARBON STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/10/2015
DRAWN	hmskin	12/10/2015
CHECKED	landrade	12/10/2015

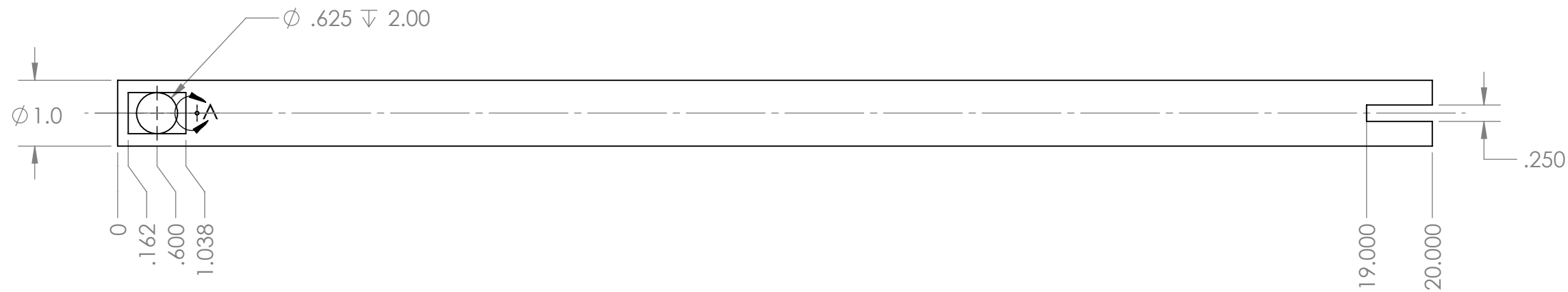
TITLE		
SHIFTER PIN		
SIZE	PART NO.	REV
B	ENG-800-03	D
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
3:1		

8 7 6 5 4 3 2 1

NOTES:
 1. FACING CUT IS FOR EASE OF MANUFACTURE
 2. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU



DETAIL A
 SCALE 1 : 1



ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: 3003 ALUMINUM	
DIMENSIONS ARE IN INCHES.		
ENGINEER	hmskin	12/10/2015
DRAWN	hmskin	12/10/2015
CHECKED	landrade	12/10/2015



TITLE		
TAIL ROD		
SIZE	PART NO.	REV
B	ENG-2311-01	C
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

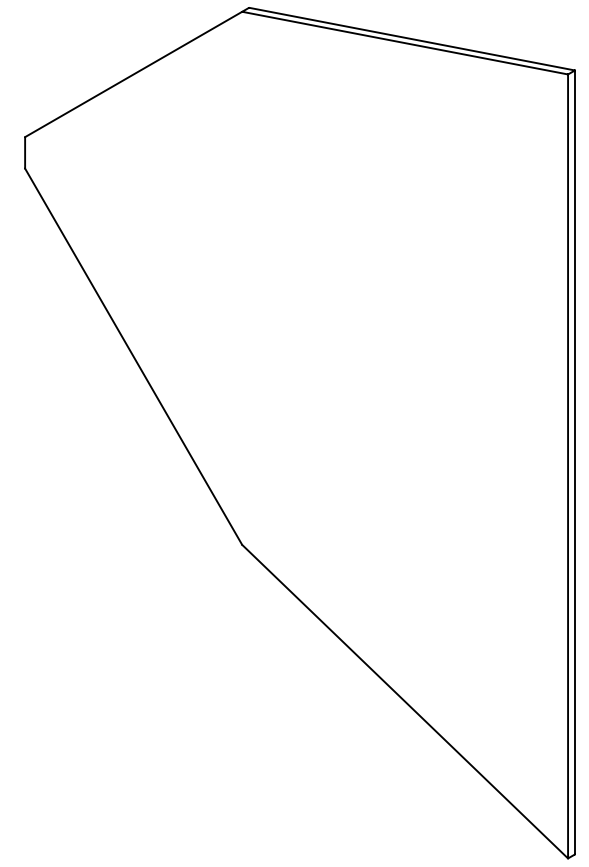
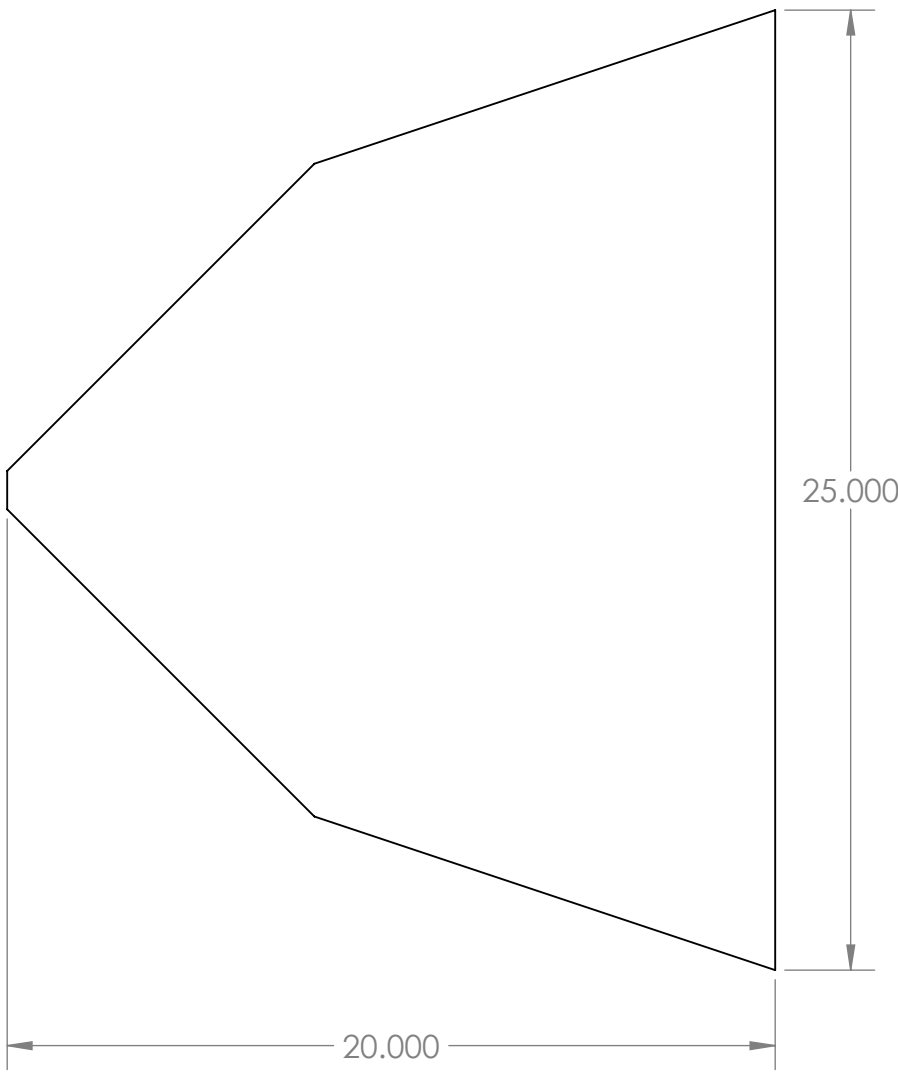
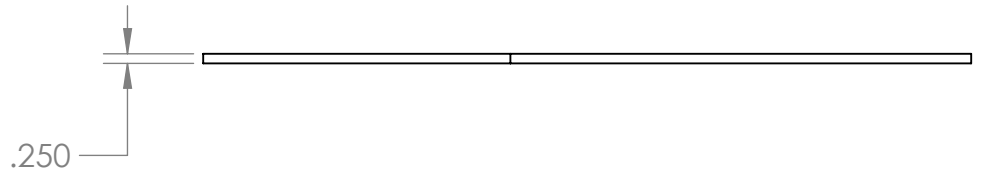
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

8 7 6 5 4 3 2 1

D
C
B
A

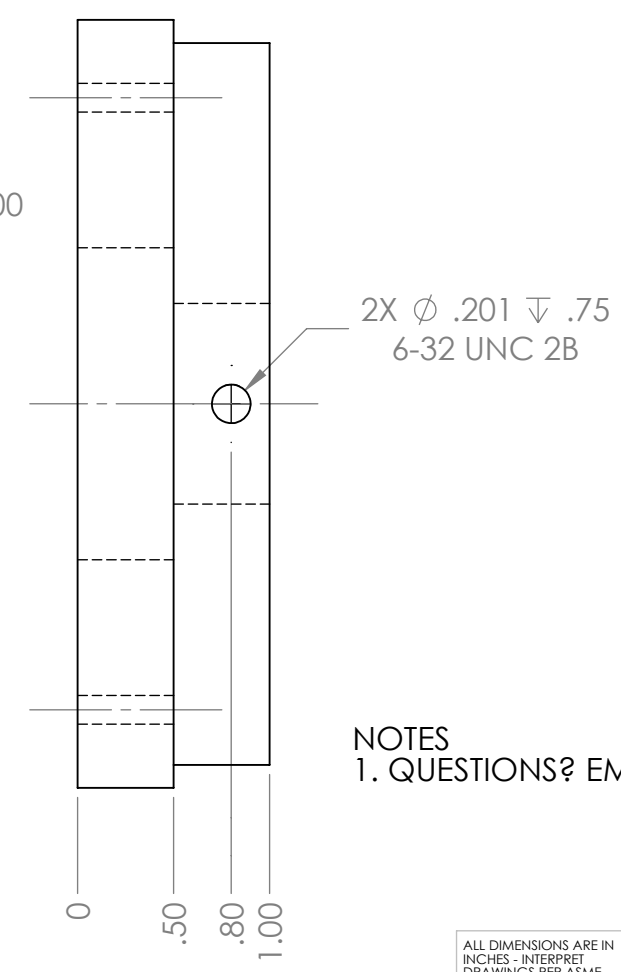
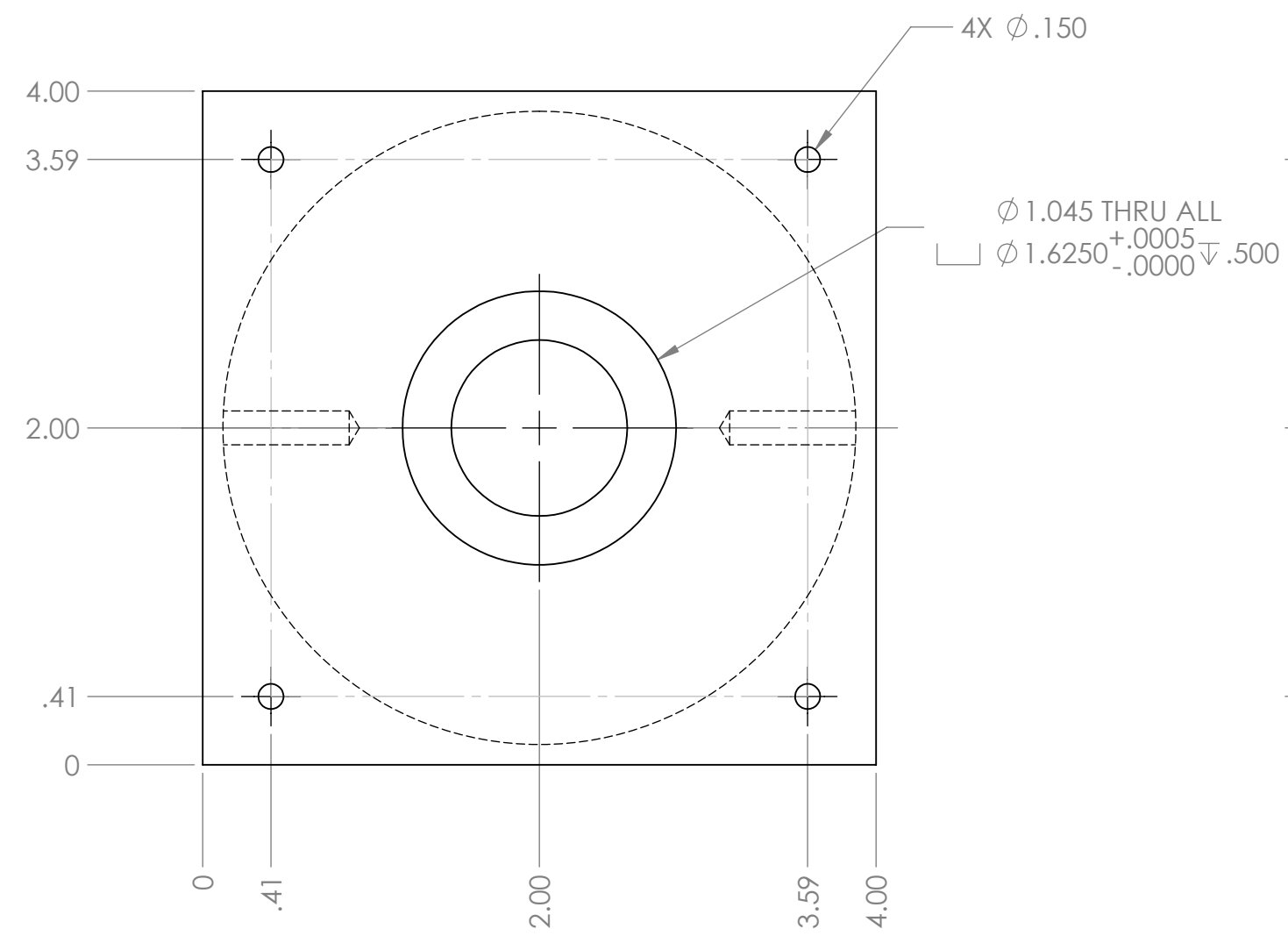
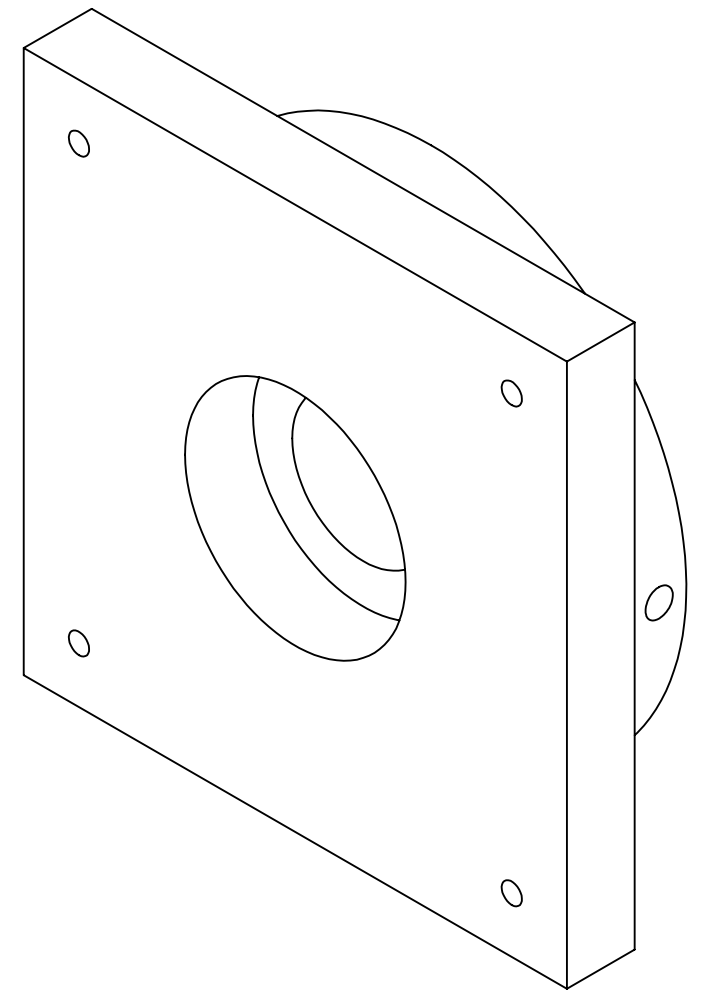
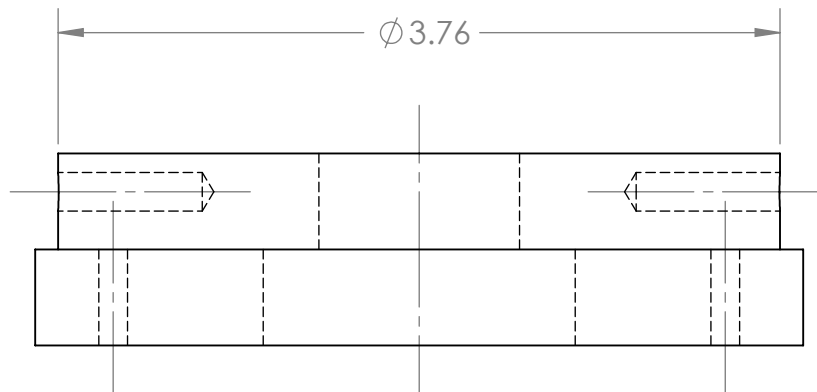
D
C
B
A



NOTES;
 1. WATERJET PART
 2. SEE Tail Stock.SLDPT FOR CONTOUR
 3. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

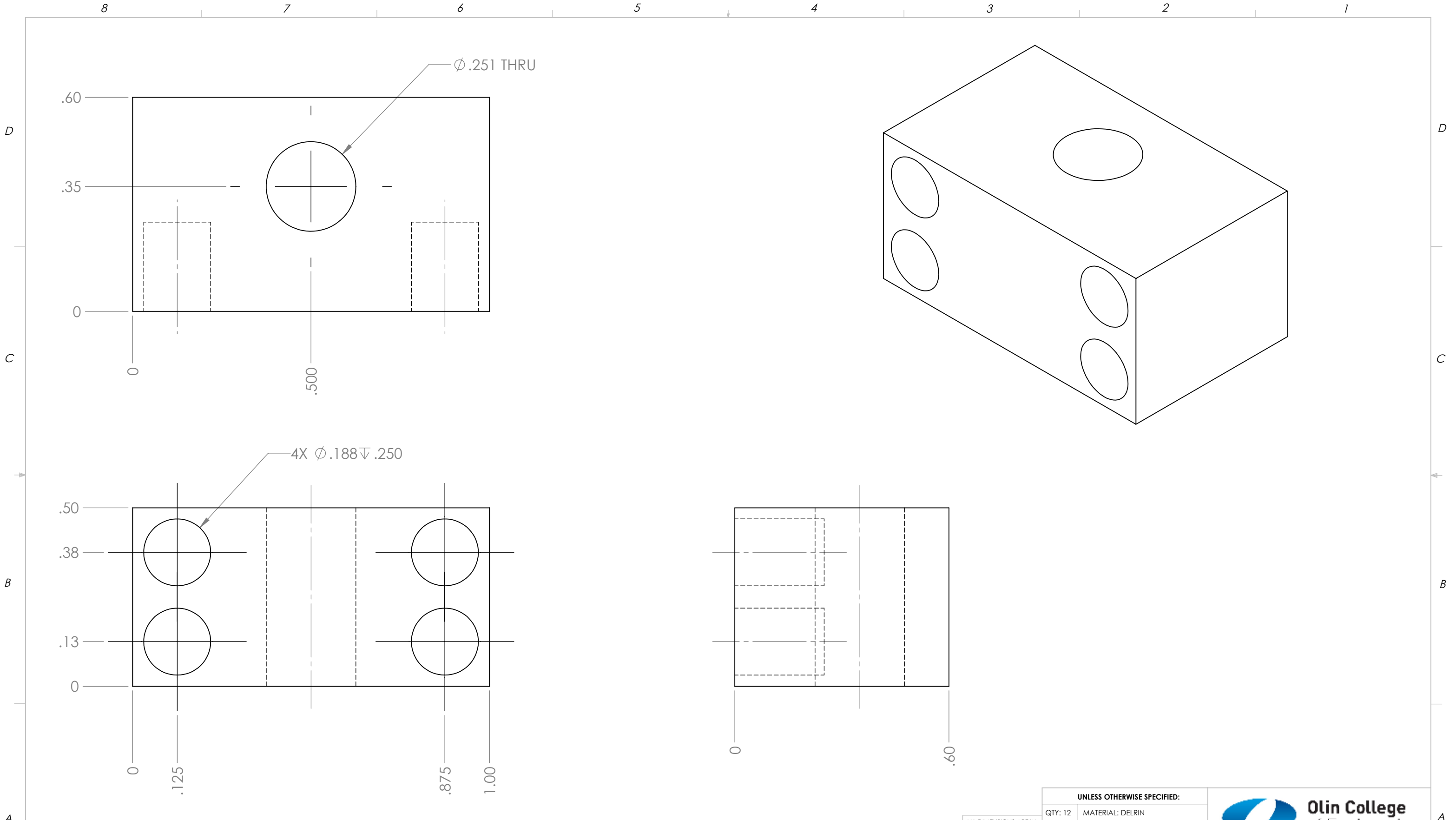
UNLESS OTHERWISE SPECIFIED:		QTY: 1		MATERIAL: 3003 ALUMINUM	
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994					
DIMENSIONS ARE IN INCHES.					
TOLERANCES UNLESS OTHERWISE SPECIFIED:		ENGINEER	hmskin	12/9/2015	TITLE
X.X ±0.03		DRAWN	hmskin	12/9/2015	
X.XX ±0.01		CHECKED	landrade	12/9/2015	
X.XXX ±0.005		THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.			
±0.5° 125/		SIZE	PART NO.	REV	
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX		B	ENG-2311-02	A	
		SCALE	2:1	DO NOT SCALE PRINT	SHEET 1 OF 1

8 7 6 5 4 3 2 1



NOTES
1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

UNLESS OTHERWISE SPECIFIED:		QTY: 1		MATERIAL: 6061-T6 ALUMINUM	
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994					
DIMENSIONS ARE IN INCHES.					
TOLERANCES UNLESS OTHERWISE SPECIFIED:		ENGINEER	hmskin	12/13/2015	
X.X ±0.03		DRAWN	hmskin	12/13/2015	
X.XX ±0.01		CHECKED	landrade	12/13/2015	
X.XXX ±0.005		THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.			
±0.5° 125/		REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.	SCALE	1:1	DO NOT SCALE PRINT
TITLE		Olin College of Engineering		REV	
UPPER BEARING HOUSING AND CLAMP PLATE		PART NO. ENG-222-01		C	
SIZE B		SCALE 1:1		SHEET 1 OF 1	



NOTES:
 1. USE CNC MILL
 2. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

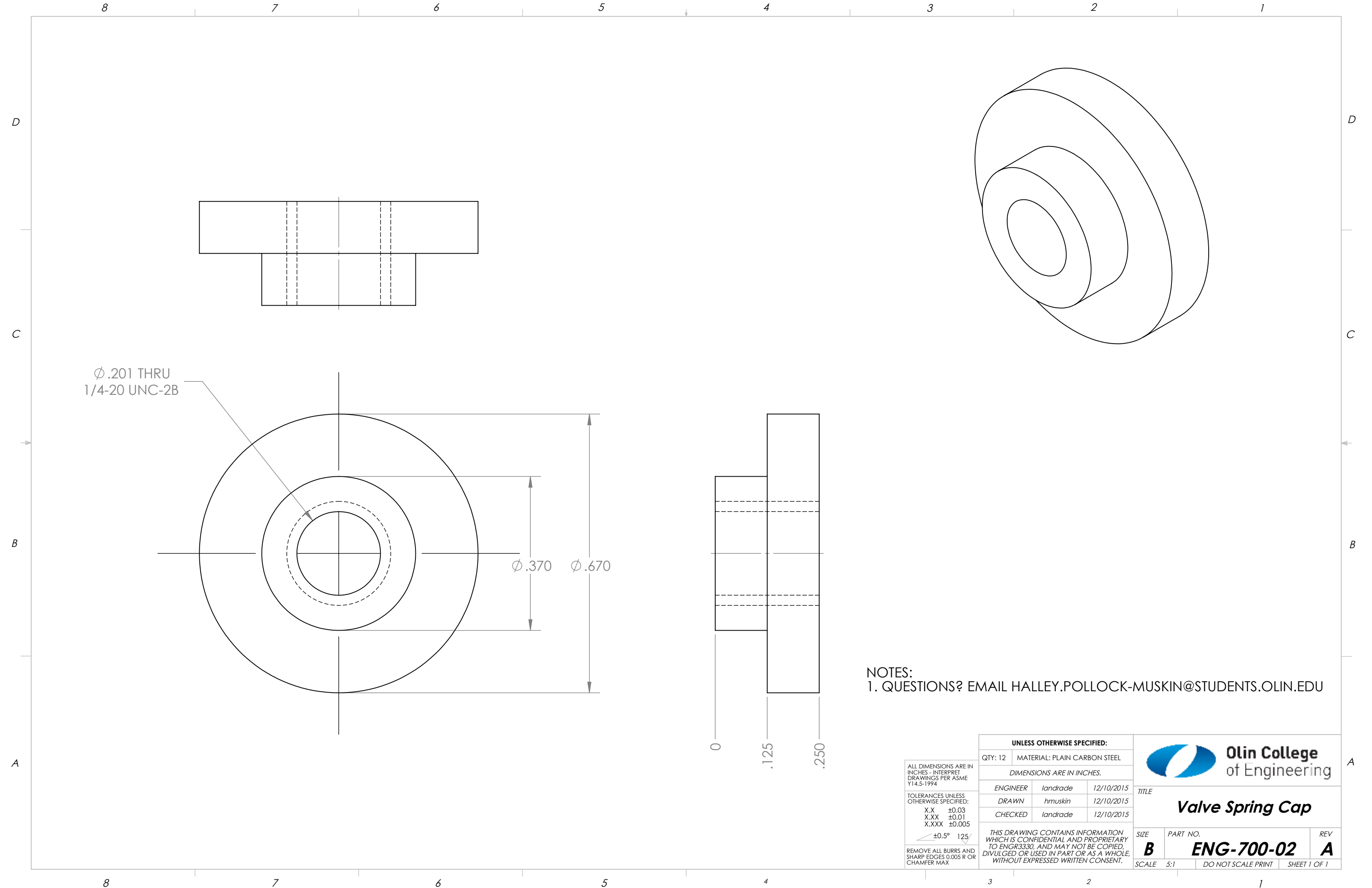
TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

125°
 ±0.5°


REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

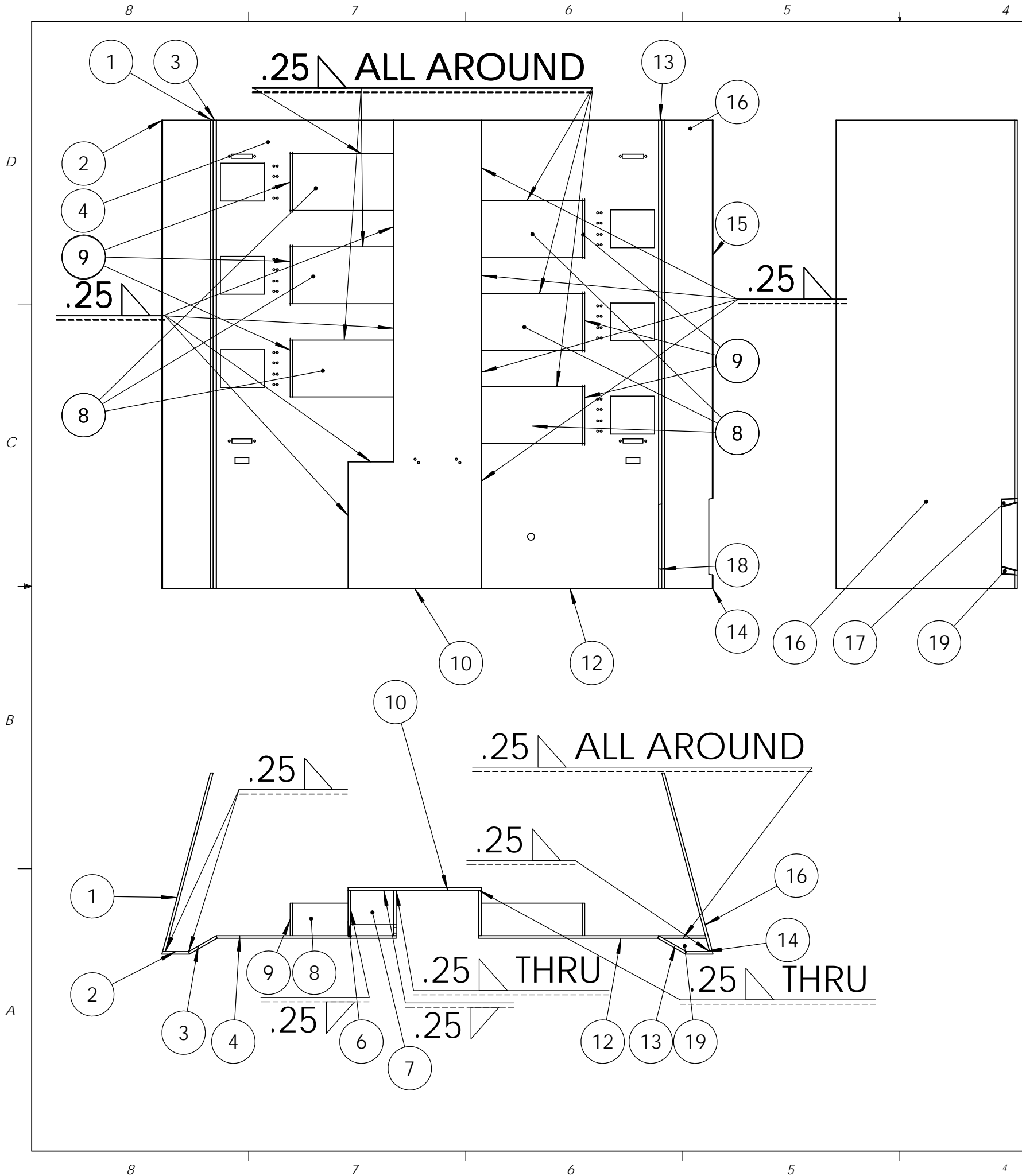
UNLESS OTHERWISE SPECIFIED:		
QTY: 12	MATERIAL: DELRIN	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	hmskin	12/10/2015
CHECKED	landrade	12/10/2015

 Olin College of Engineering		
TITLE Valve Linear Bearing		
SIZE	PART NO.	REV
B	ENG-700-01	A
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		



NOTES:
 1. QUESTIONS? EMAIL HALLEY.POLLOCK-MUSKIN@STUDENTS.OLIN.EDU

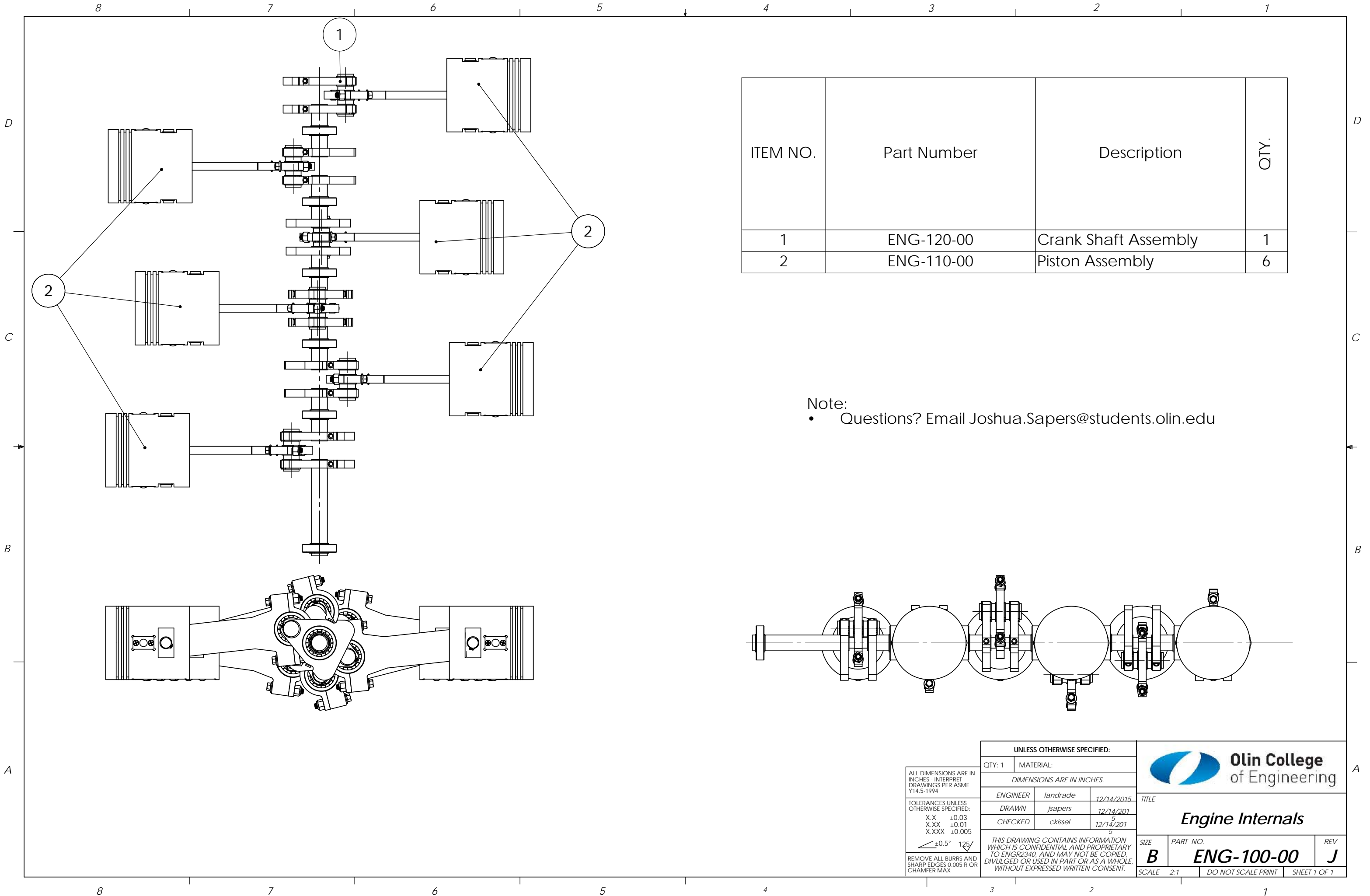
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 ±0.5° 125/	UNLESS OTHERWISE SPECIFIED:			 Olin College of Engineering TITLE Valve Spring Cap SIZE PART NO. REV B ENG-700-02 A SCALE 5:1 DO NOT SCALE PRINT SHEET 1 OF 1
	QTY: 12	MATERIAL: PLAIN CARBON STEEL		
	DIMENSIONS ARE IN INCHES.			
	ENGINEER	landrade	12/10/2015	
DRAWN	hmskin	12/10/2015		
CHECKED	landrade	12/10/2015		
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX. THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR3330, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.				



ITEM NO.	Description	PART NUMBER	QTY.
1	ENG-310-01	Block Left End	1
2	ENG-310-02	Block Left Top	1
3	ENG-310-03	Block Left Angle	1
4	ENG-310-04	Block Left Piston Top	1
5	ENG-310-05	Block left Side	1
6	ENG-310-06	Block Gear Side	1
7	ENG-310-07	Block Gear Back	1
8	ENG-310-08	Pyston Cylinder	6
9	ENG-310-09	Piston Cylinder Cap	6
10	ENG-310-10	Block Base	1
11	ENG-310-11	Block Right Side	1
12	ENG-310-12	Block Right Piston Top	1
13	ENG-310-13	Block Right Angle	1
14	ENG-310-014	Block Right Top 2	1
15	ENG-310-15	Block Right Top 1	1
16	ENG-310-16	Block Right End 2	1
17	ENG-310-17	Block Crank Side 2	1
18	ENG-310-18	Block Crank Bottom	1
19	ENG-310-19	Block Crank Side	1

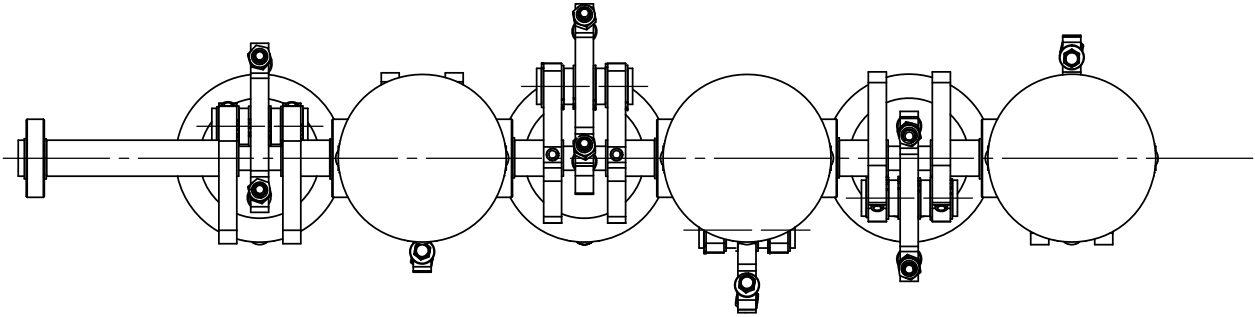
Note:
 • Questions? Email Joshua.Sapers@students.olin.edu

<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 ±0.5° 125/	UNLESS OTHERWISE SPECIFIED:			
	QTY: 1	DIMENSIONS ARE IN INCHES.		
	ENGINEER	jsapers	12/14/2015	TITLE
	DRAWN	jsapers	12/14/201	Block Weld Assem
CHECKED	ckissel	12/14/201	SIZE	
<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>			PART NO.	
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.			B	
			REV	
			A	
			SCALE 2:1 DO NOT SCALE PRINT SHEET 1 OF 1	



ITEM NO.	Part Number	Description	QTY.
1	ENG-120-00	Crank Shaft Assembly	1
2	ENG-110-00	Piston Assembly	6

Note:
 • Questions? Email Joshua.Sapers@students.olin.edu

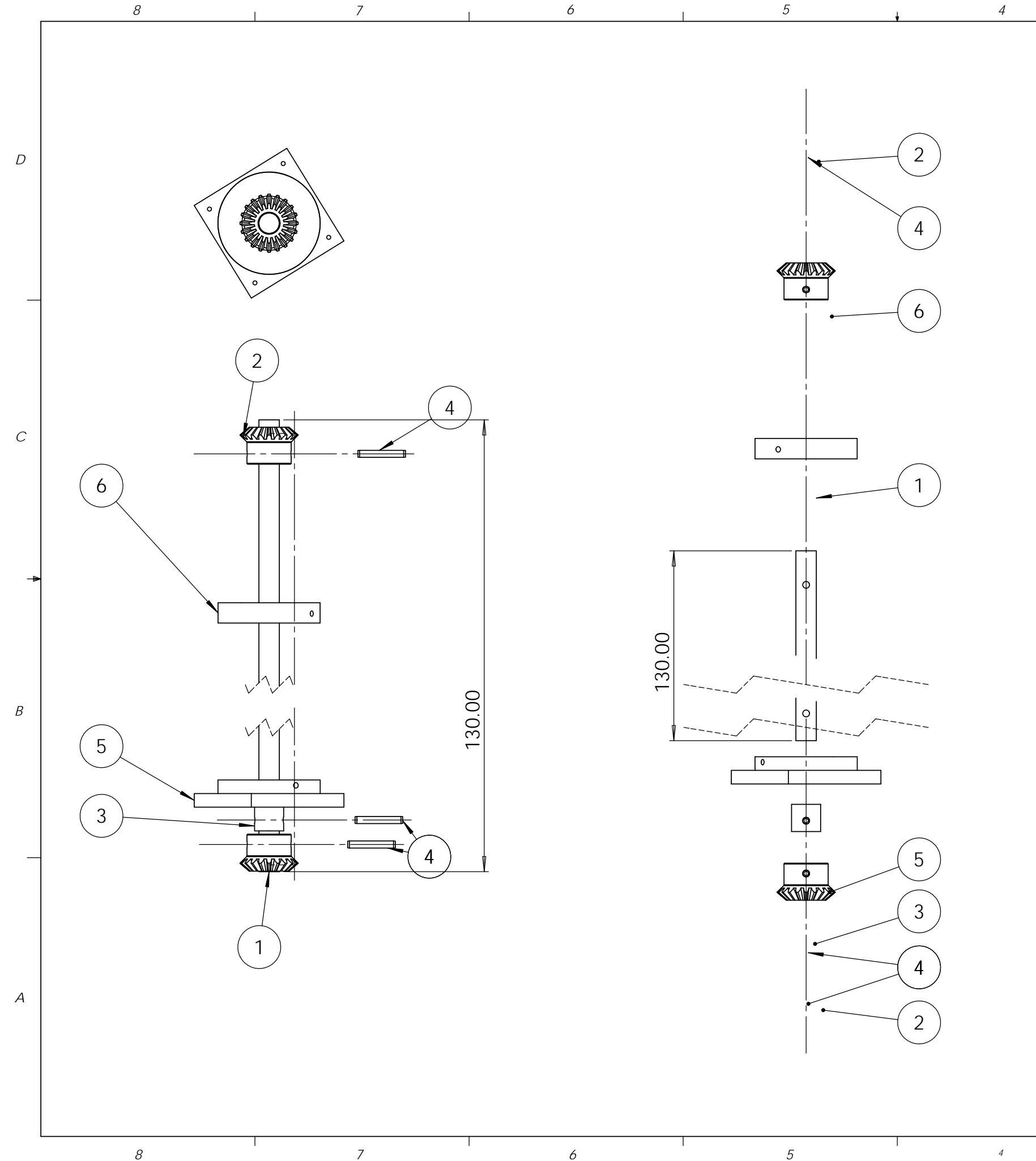


ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/
 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL:	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/14/2015
DRAWN	jsapers	12/14/201
CHECKED	ckissel	12/14/201
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.		



TITLE		
Engine Internals		
SIZE	PART NO.	REV
B	ENG-100-00	J
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

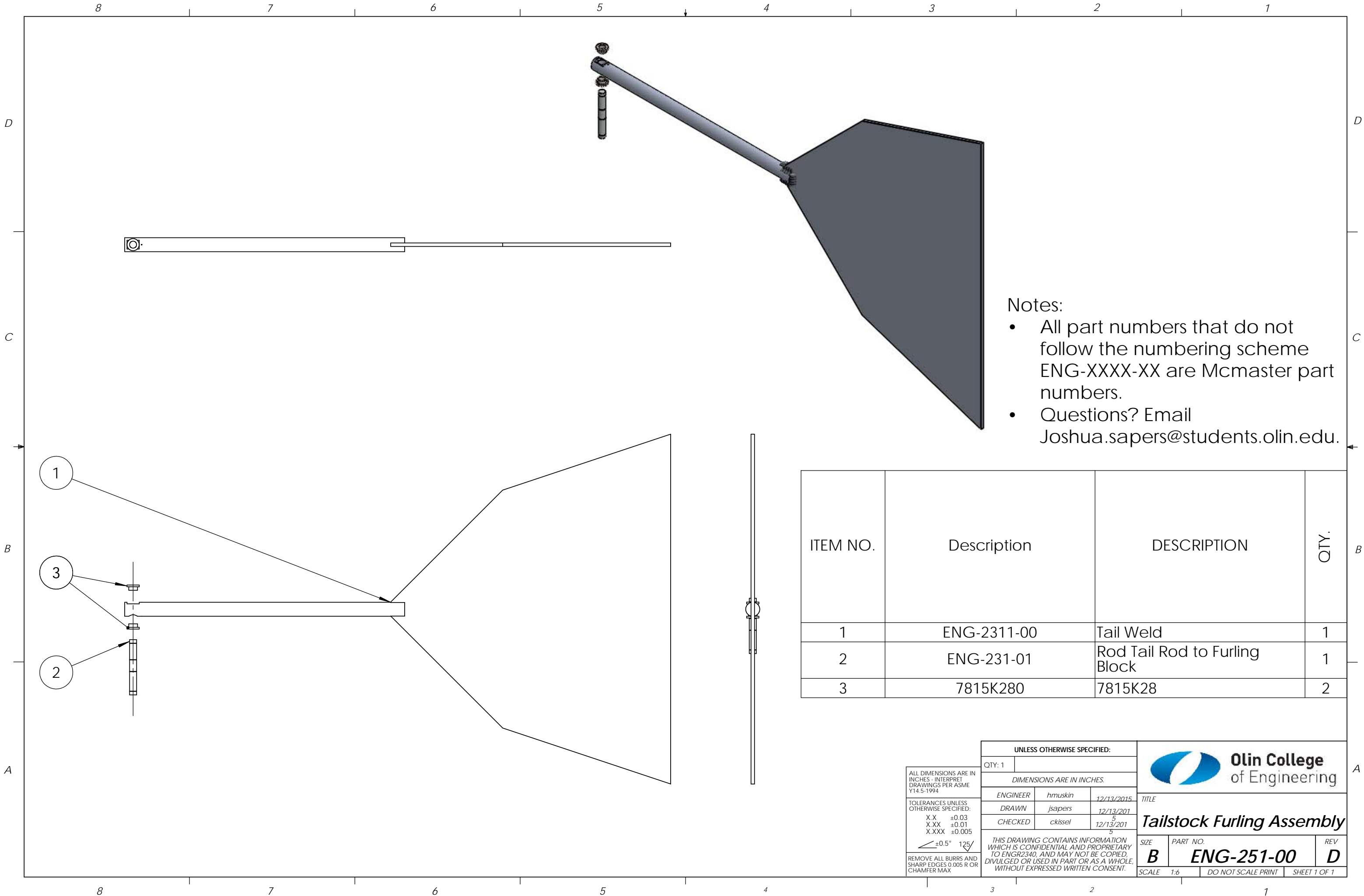


ITEM NO.	Description	PART NUMBER	QTY.
1	ENG-220-02	driveshaft .75in long	1
2	6529K250	miter gear 20 teeth 10 pitch .75in shaft	2
3	ENG-220-01	.75in collar for driveshaft	1
4	90692A748	90692A748	3
5	ENG-222-00	upper bearing housing assembly	1
6	ENG-221-00	lower bearing assembly	1

Notes:

- All part numbers that do not follow the numbering scheme ENG-XXXX-XX are McMaster part numbers.
- Questions? Email Joshua.sapers@students.olin.edu.

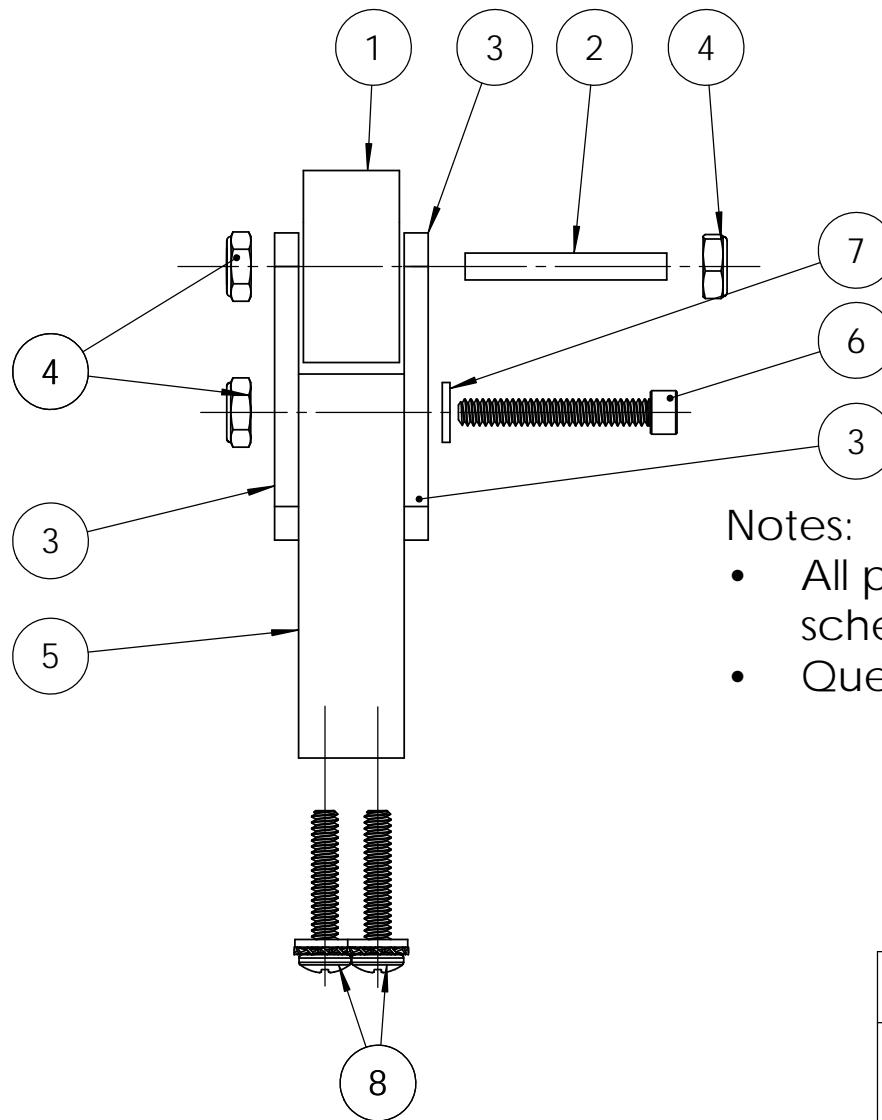
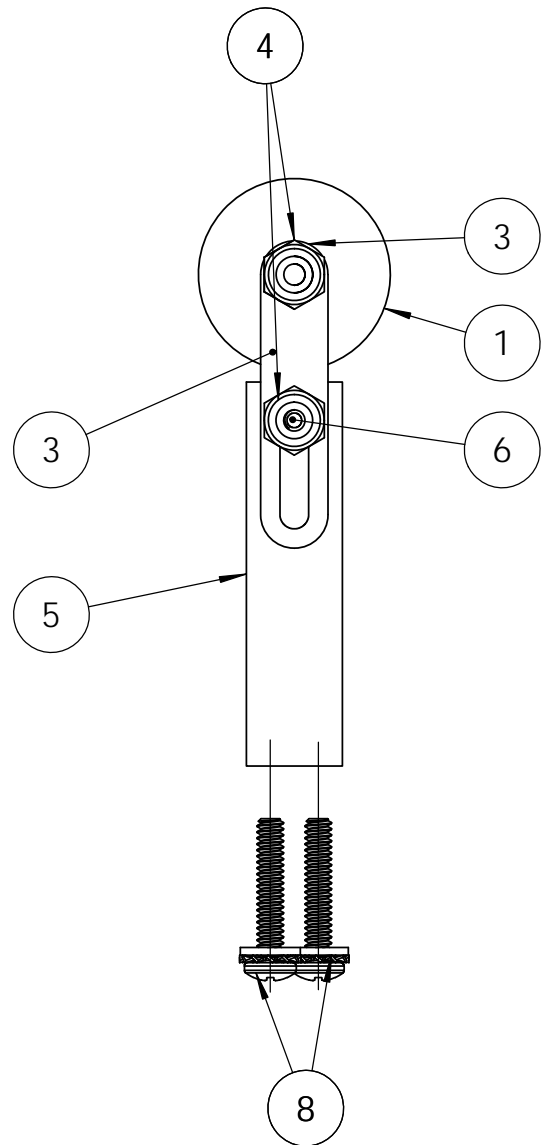
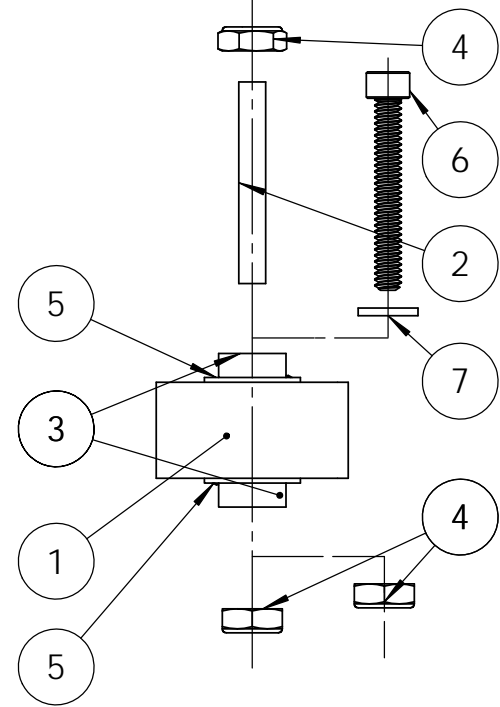
<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 <small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</small>	<small>UNLESS OTHERWISE SPECIFIED:</small> QTY: 1		
	<small>DIMENSIONS ARE IN INCHES.</small>		
	<small>ENGINEER</small> hmskin 12/13/2015 <small>DRAWN</small> jsapers 12/13/2015 <small>CHECKED</small> ckissel 12/13/2015	<small>TITLE</small> Outer Shaft Assembly	
	<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>	<small>SIZE</small> B	<small>PART NO.</small> ENG-240-00
<small>SCALE</small> 2:1		<small>DO NOT SCALE PRINT</small>	<small>SHEET 1 OF 1</small>



- Notes:
- All part numbers that do not follow the numbering scheme ENG-XXXX-XX are McMaster part numbers.
 - Questions? Email Joshua.sapers@students.olin.edu.

ITEM NO.	Description	DESCRIPTION	QTY.
1	ENG-2311-00	Tail Weld	1
2	ENG-231-01	Rod Tail Rod to Furling Block	1
3	7815K280	7815K28	2

<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 <small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</small>	UNLESS OTHERWISE SPECIFIED:			
	QTY: 1			
	<i>DIMENSIONS ARE IN INCHES.</i>			
	<i>ENGINEER</i>	<i>hmskin</i>	<i>12/13/2015</i>	
<i>DRAWN</i>	<i>jsapers</i>	<i>12/13/201</i>	<small>TITLE</small> Tailstock Furling Assembly	
<i>CHECKED</i>	<i>ckissel</i>	<i>12/13/201</i>		
<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>			<small>SIZE</small> B	
			<small>PART NO.</small> ENG-251-00	
			<small>REV</small> D	
<small>SCALE</small> 1:6		<small>DO NOT SCALE PRINT</small>	<small>SHEET 1 OF 1</small>	



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-900-02	Tensioner Roller	1
2	ENG-900-01	Tensioner Pivot	1
3	ENG-900-03	Tensioner Slide	2
4	90633A007	90633A007	3
5	ENG-900-04	Tensioner Stand	1
6	91274A028	91274A028	1
7	92141A008	92141A008	1
8	ENG-220-00	6-32 screw assembly	2

Notes:

- All part numbers that do not follow the numbering scheme ENG-XXXX-XX are McMaster part numbers.
- Questions? Email Joshua.sapers@students.olin.edu.

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

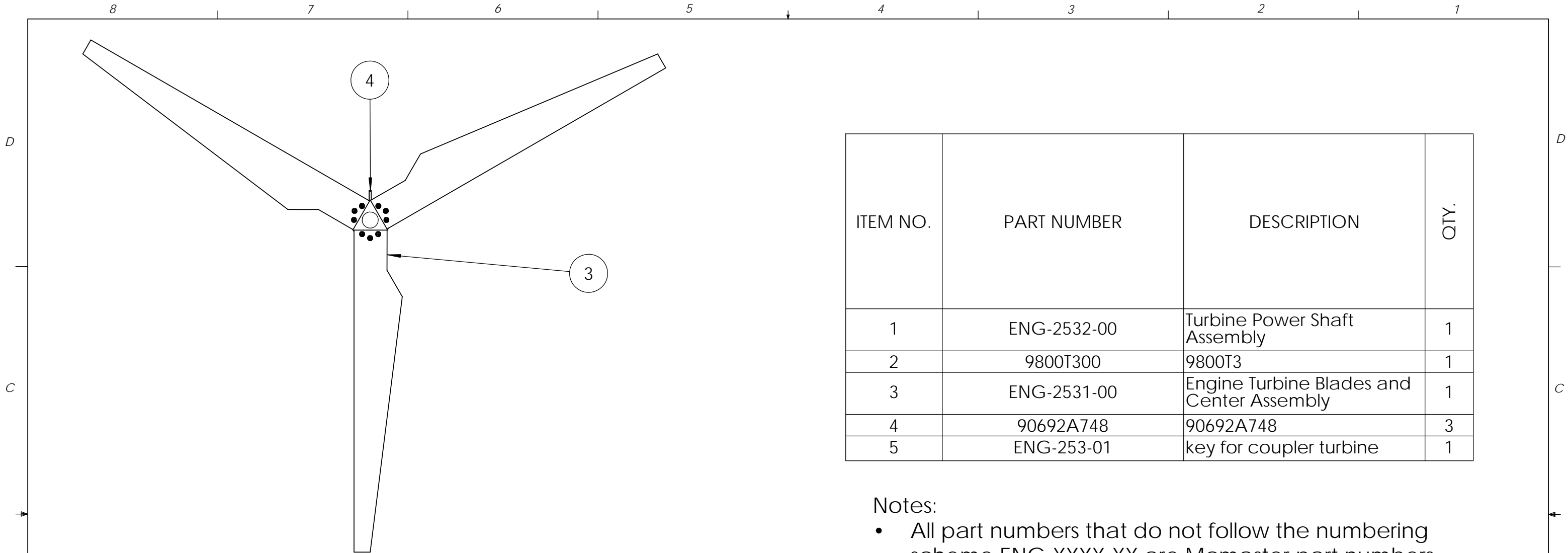
TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125/

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

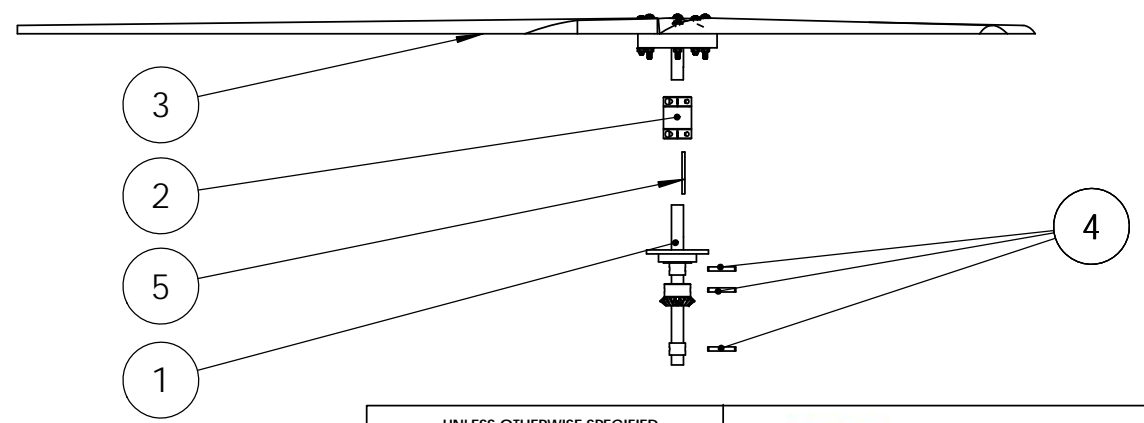
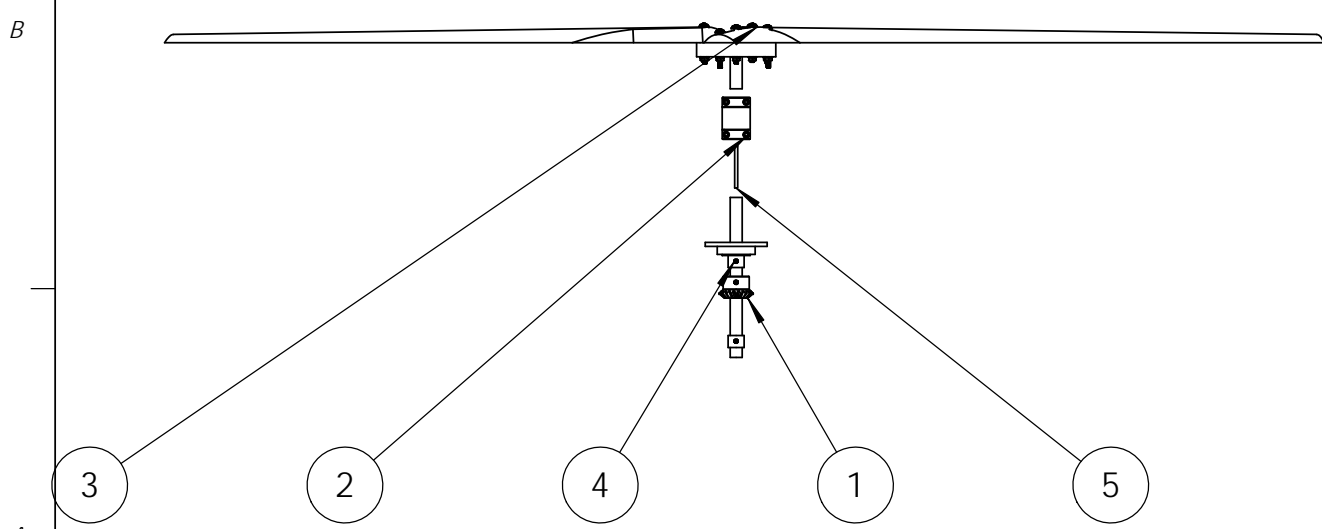
UNLESS OTHERWISE SPECIFIED:		
QTY:	1	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/13/2015
DRAWN	jsapers	12/13/201
CHECKED	ckissel	12/13/201

TITLE		
<h3>Timing Belt Tensioner</h3>		
SIZE	PART NO.	REV
B	ENG-900-00	A
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

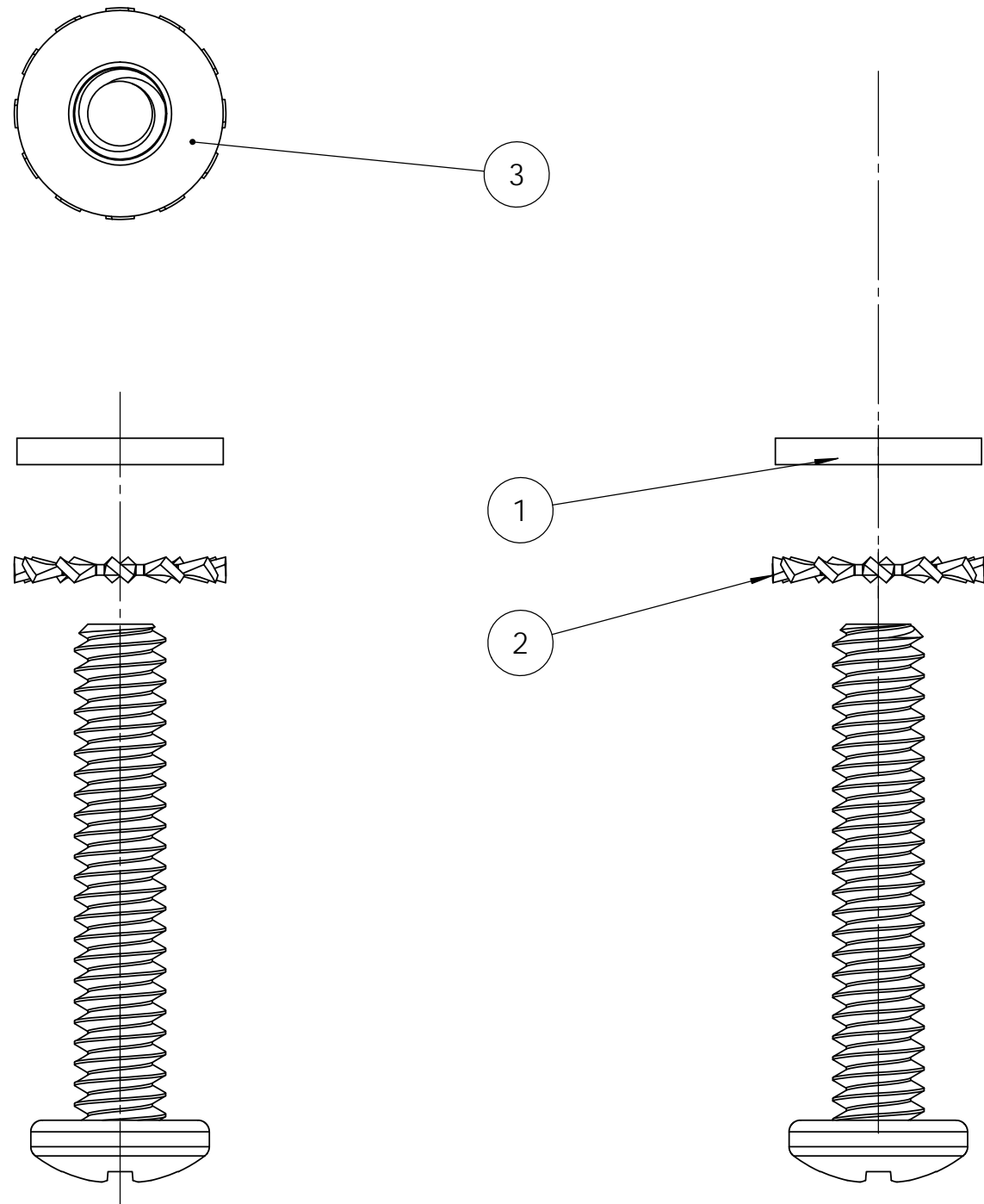


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ENG-2532-00	Turbine Power Shaft Assembly	1
2	9800T300	9800T3	1
3	ENG-2531-00	Engine Turbine Blades and Center Assembly	1
4	90692A748	90692A748	3
5	ENG-253-01	key for coupler turbine	1

- Notes:
- All part numbers that do not follow the numbering scheme ENG-XXXX-XX are McMaster part numbers.
 - Questions? Email Joshua.sapers@students.olin.edu.



<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 <small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</small>	<small>UNLESS OTHERWISE SPECIFIED:</small> QTY: 1		 <small>TITLE:</small> Turbine blades and shaft assembly <small>SIZE</small> B <small>PART NO.</small> ENG-253-00 <small>REV</small> H <small>SCALE</small> 1:12 <small>DO NOT SCALE PRINT</small> <small>SHEET 1 OF 1</small>
	<small>DIMENSIONS ARE IN INCHES.</small>		
	<small>ENGINEER</small> hmskin <small>12/13/2015</small>	<small>DRAWN</small> jsapers <small>12/13/201</small>	
	<small>CHECKED</small> ckissel <small>12/13/201</small>	<small>5</small>	
<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>			

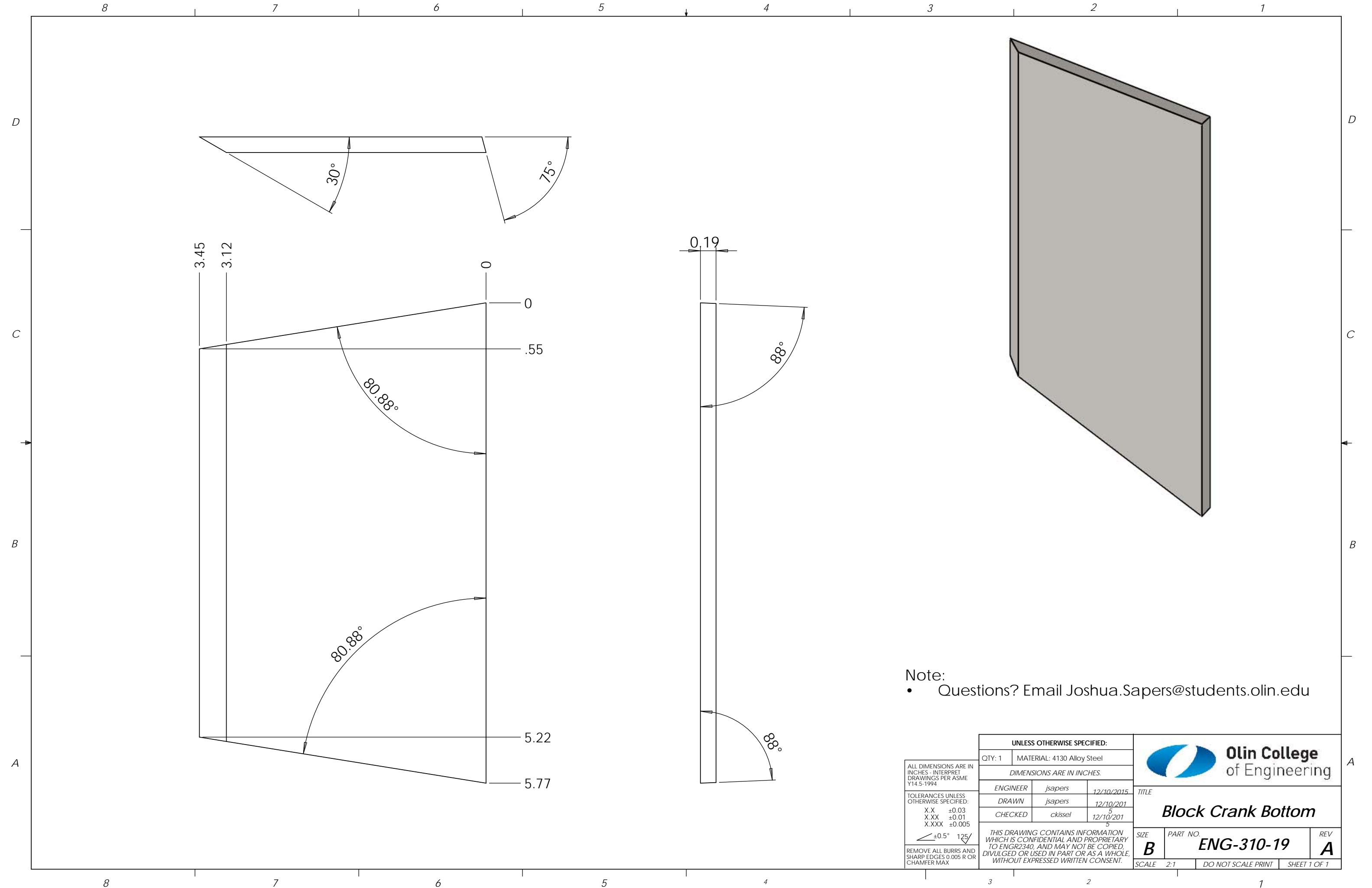


ITEM NO.	PART NUMBER	QTY.
1	94836A259	1
2	95584A201	1
3	92141A008	1


Notes:

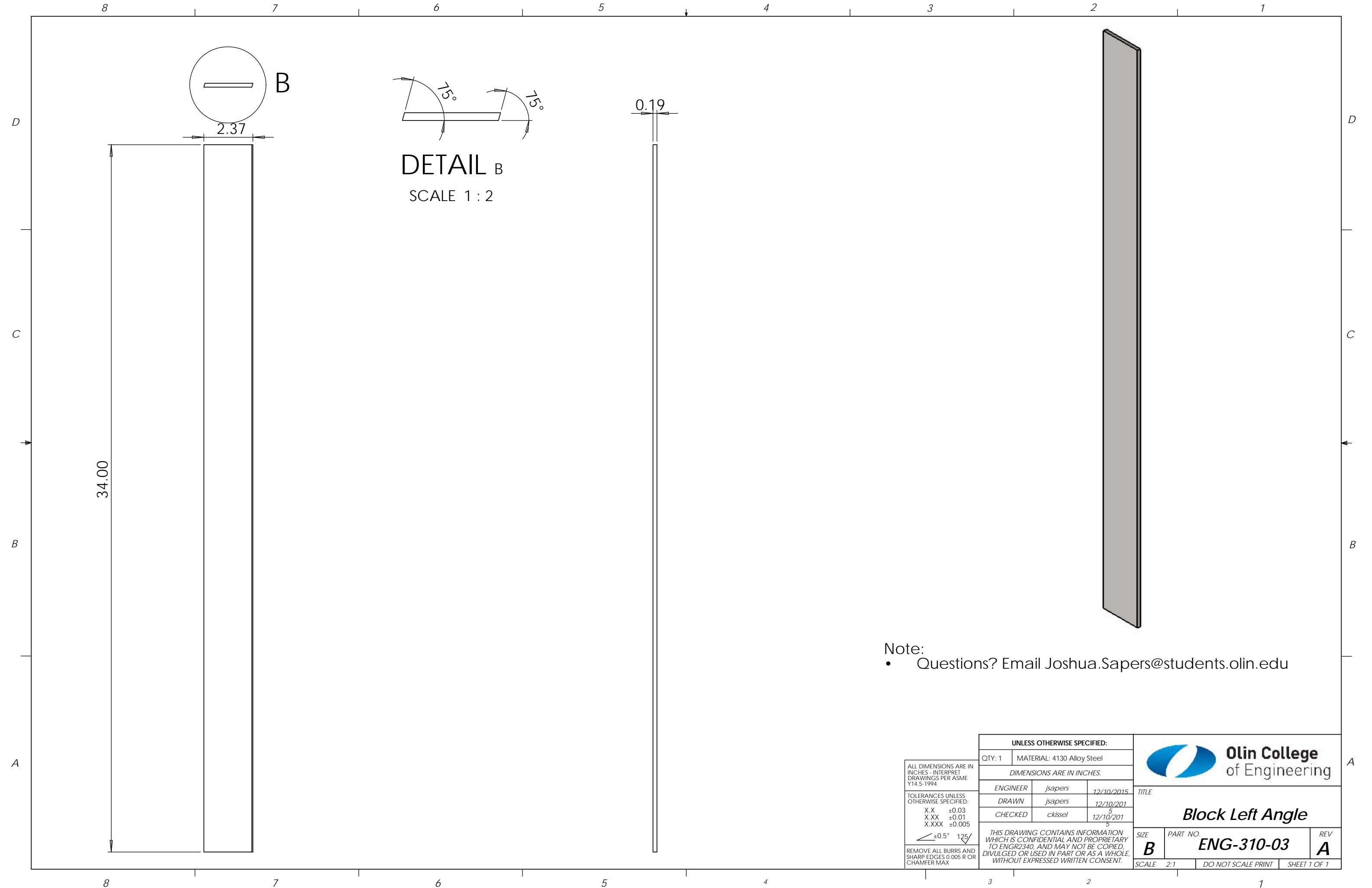
- All part numbers that do not follow the numbering scheme ENG-XXXX-XX are McMaster part numbers.
- Questions? Email Joshua.sapers@students.olin.edu.

<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 <small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</small>	UNLESS OTHERWISE SPECIFIED:			 Olin College of Engineering
	QTY:	MATERIAL:		
	<i>DIMENSIONS ARE IN INCHES.</i>			
	ENGINEER	hmskin	12/13/2015	
DRAWN	jsapers	12/13/2015	<small>TITLE</small> 6-32 screw assembly	
CHECKED	ckissel	12/13/2015		
<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>			<small>SIZE</small> B	
			<small>PART NO.</small> ENG-220-00	
			<small>REV</small> B	
SCALE 2:1		DO NOT SCALE PRINT		SHEET 1 OF 1



Note:
 • Questions? Email Joshua.Sapers@students.olin.edu

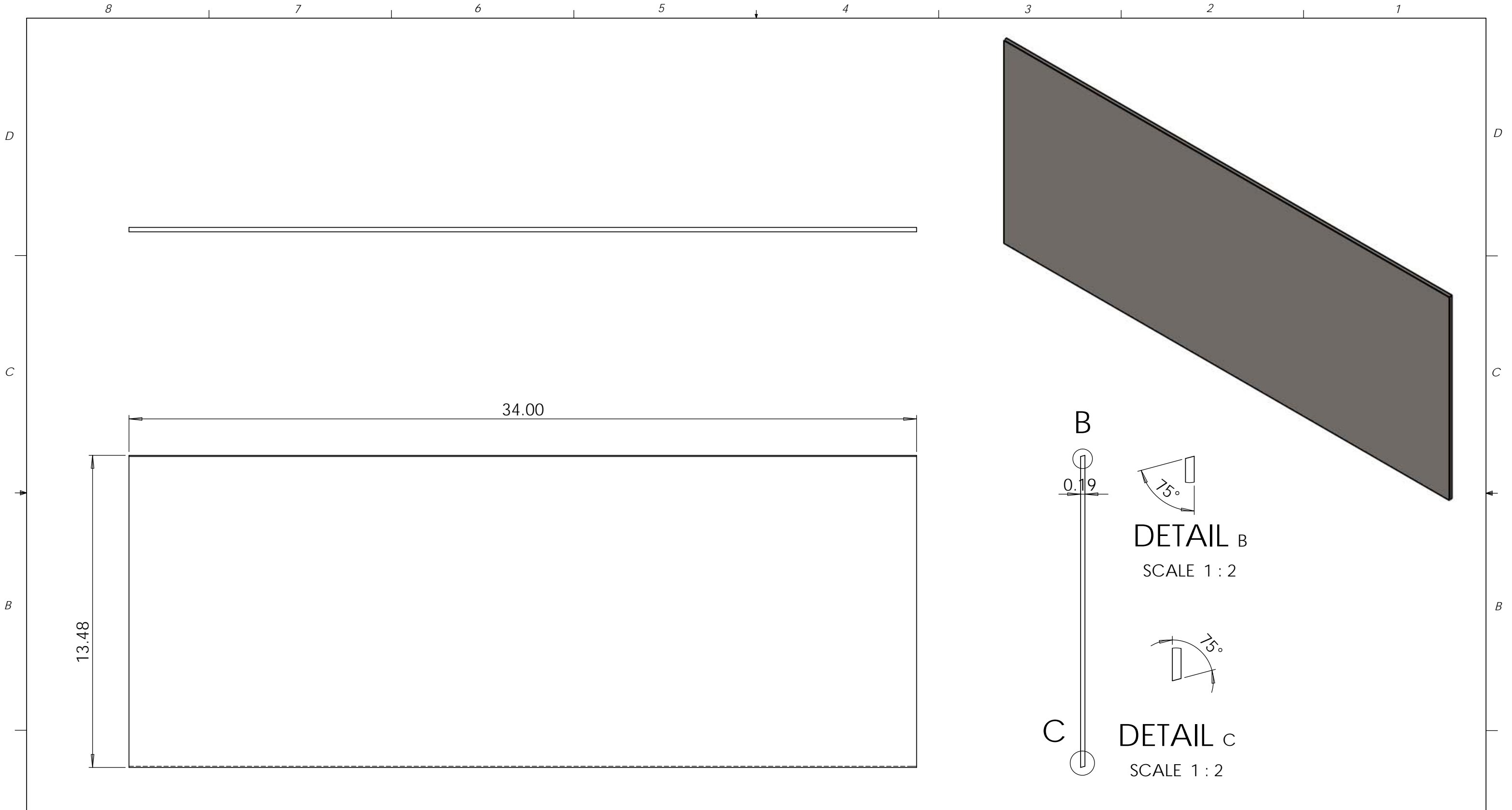
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 $\angle \pm 0.5^\circ$ 125 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.	UNLESS OTHERWISE SPECIFIED:				
	QTY: 1	MATERIAL: 4130 Alloy Steel			
	DIMENSIONS ARE IN INCHES.				
	ENGINEER	jsapers	12/10/2015		
TITLE			Block Crank Bottom		
DRAWN	jsapers	12/10/201			
CHECKED	ckissel	12/10/201			
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.			SIZE B	PART NO. ENG-310-19	REV A
SCALE 2:1			DO NOT SCALE PRINT	SHEET 1 OF 1	



DETAIL B
SCALE 1 : 2

Note:
 • Questions? Email Joshua.Sapers@students.olin.edu

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.	UNLESS OTHERWISE SPECIFIED:				
	QTY: 1	MATERIAL: 4130 Alloy Steel			
	DIMENSIONS ARE IN INCHES.			TITLE Block Left Angle	
	ENGINEER	jsapers	12/10/2015		
DRAWN	jsapers	12/10/2015			
CHECKED	ckissel	12/10/2015	SIZE B PART NO. ENG-310-03 REV A		
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.			SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1



Notes:

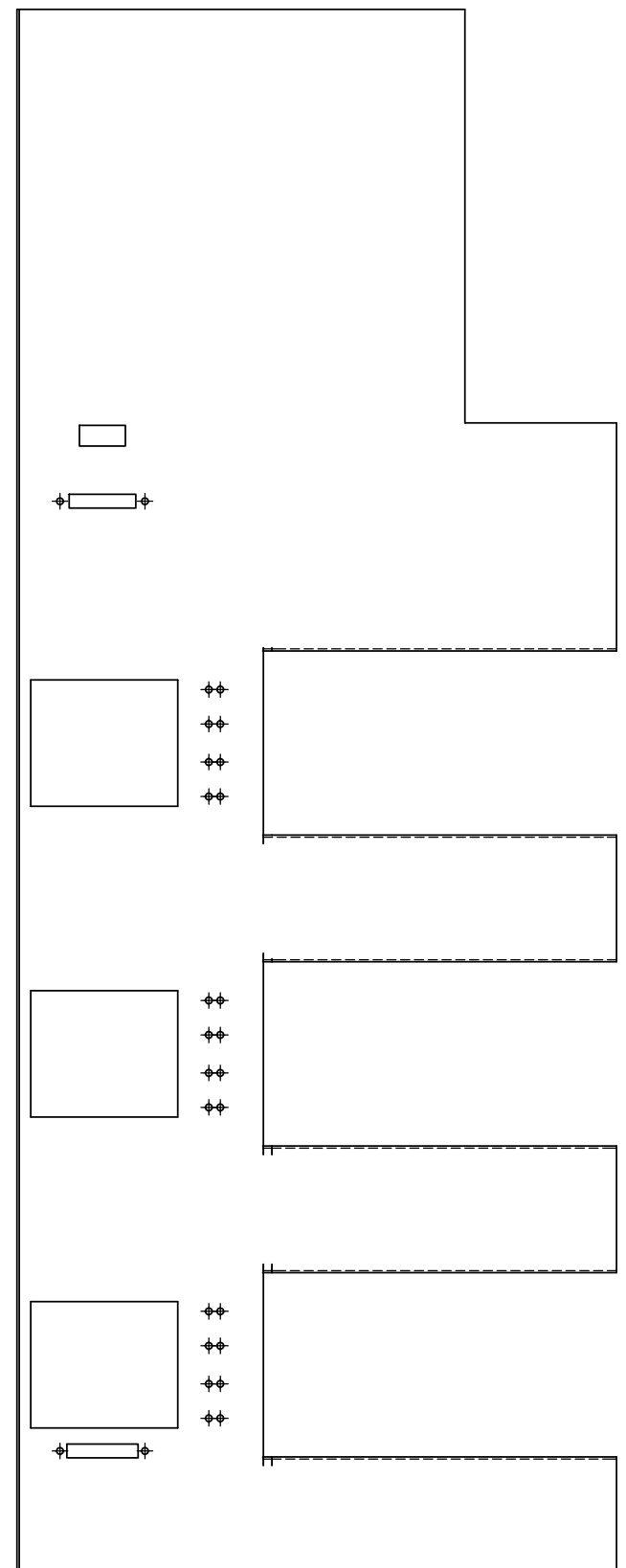
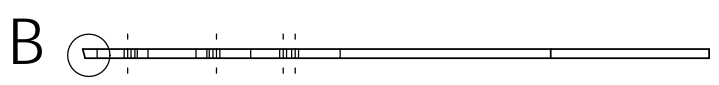
- Email Joshua.sapers@students.olin.edu with any questions.

<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 <small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</small>	UNLESS OTHERWISE SPECIFIED:			
	QTY: 1	MATERIAL: 4130 Chrome Plated Steel		
	<small>DIMENSIONS ARE IN INCHES.</small>			
	ENGINEER	jsapers	12/10/2015	
TITLE				Block Left End
DRAWN	jsapers	12/10/201		
CHECKED	ckissel	12/10/201		
<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>				SIZE B
				PART NO. ENG-310-01
				REV A
				SCALE 1:4 DO NOT SCALE PRINT SHEET 1 OF 1

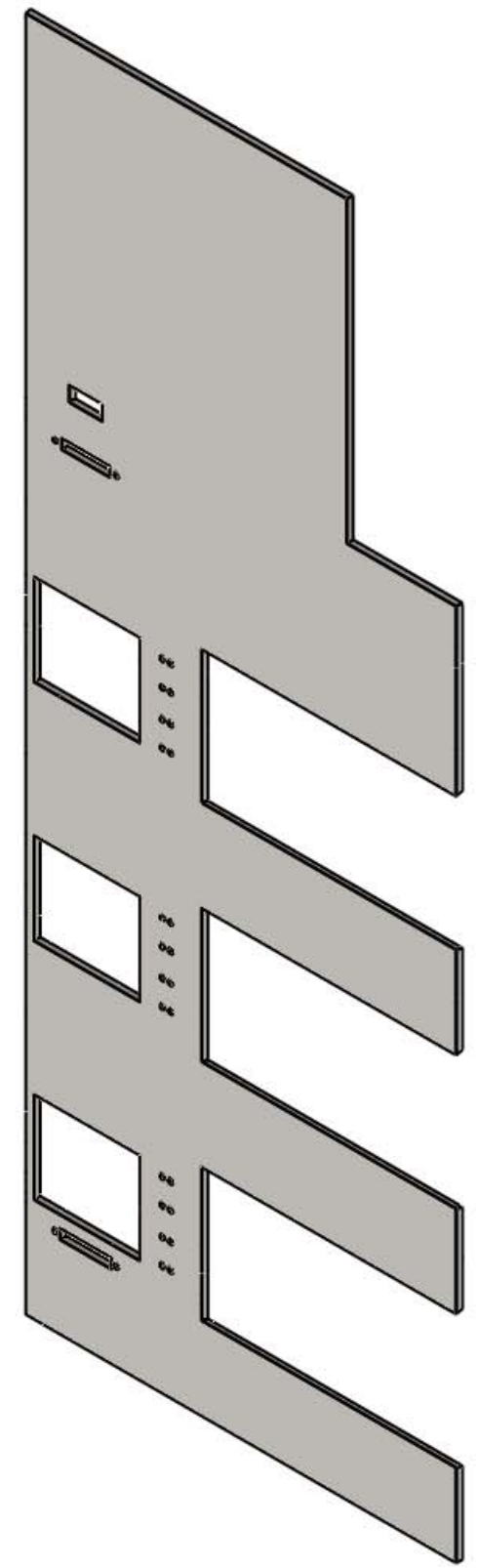
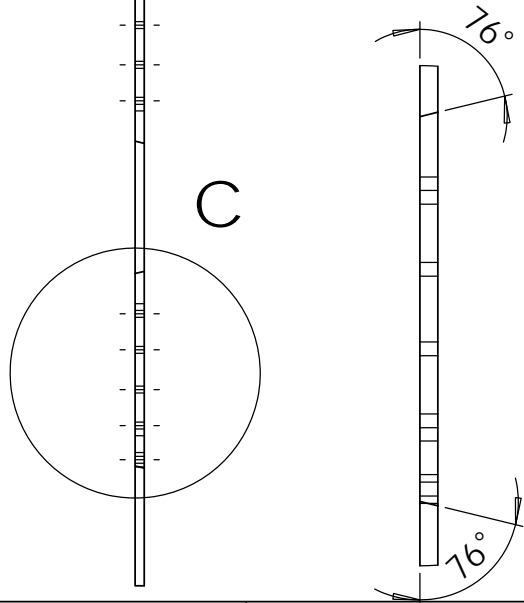
8 7 6 5 4 3 2 1

- Note:
- See Block Right Piston Top.sldpt for hole locations and profiles for waterjey
 - Questions? Email Joshua.Sapers@students.olin.edu

DETAIL B
SCALE 1 : 2

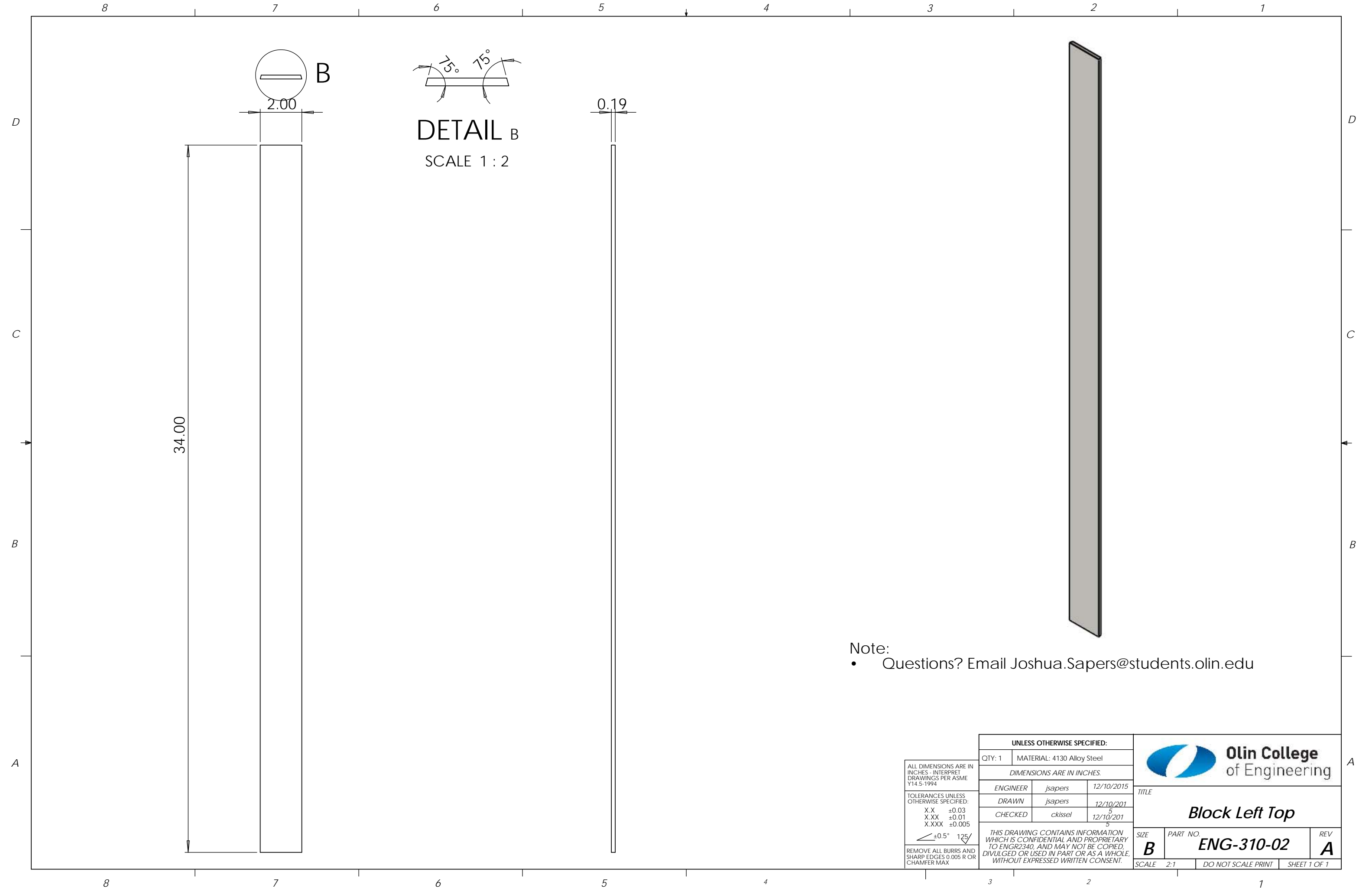


DETAIL C
SCALE 1 : 2



<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 ±0.5° 125/	<small>UNLESS OTHERWISE SPECIFIED:</small> QTY: 1 MATERIAL: 4130 Alloy Steel			
	<small>DIMENSIONS ARE IN INCHES.</small>			
	<small>ENGINEER</small> jsapers 12/10/2015 <small>DRAWN</small> jsapers 12/10/2015 <small>CHECKED</small> ckissel 12/10/2015	<small>TITLE</small> Block Left Piston Top		
	<small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</small>	<small>SIZE</small> B	<small>PART NO.</small> ENG-310-02	<small>REV</small> A
<small>SCALE</small> 2:1		<small>DO NOT SCALE PRINT</small>		<small>SHEET 1 OF 1</small>

8 7 6 5 4 3 2 1



34.00

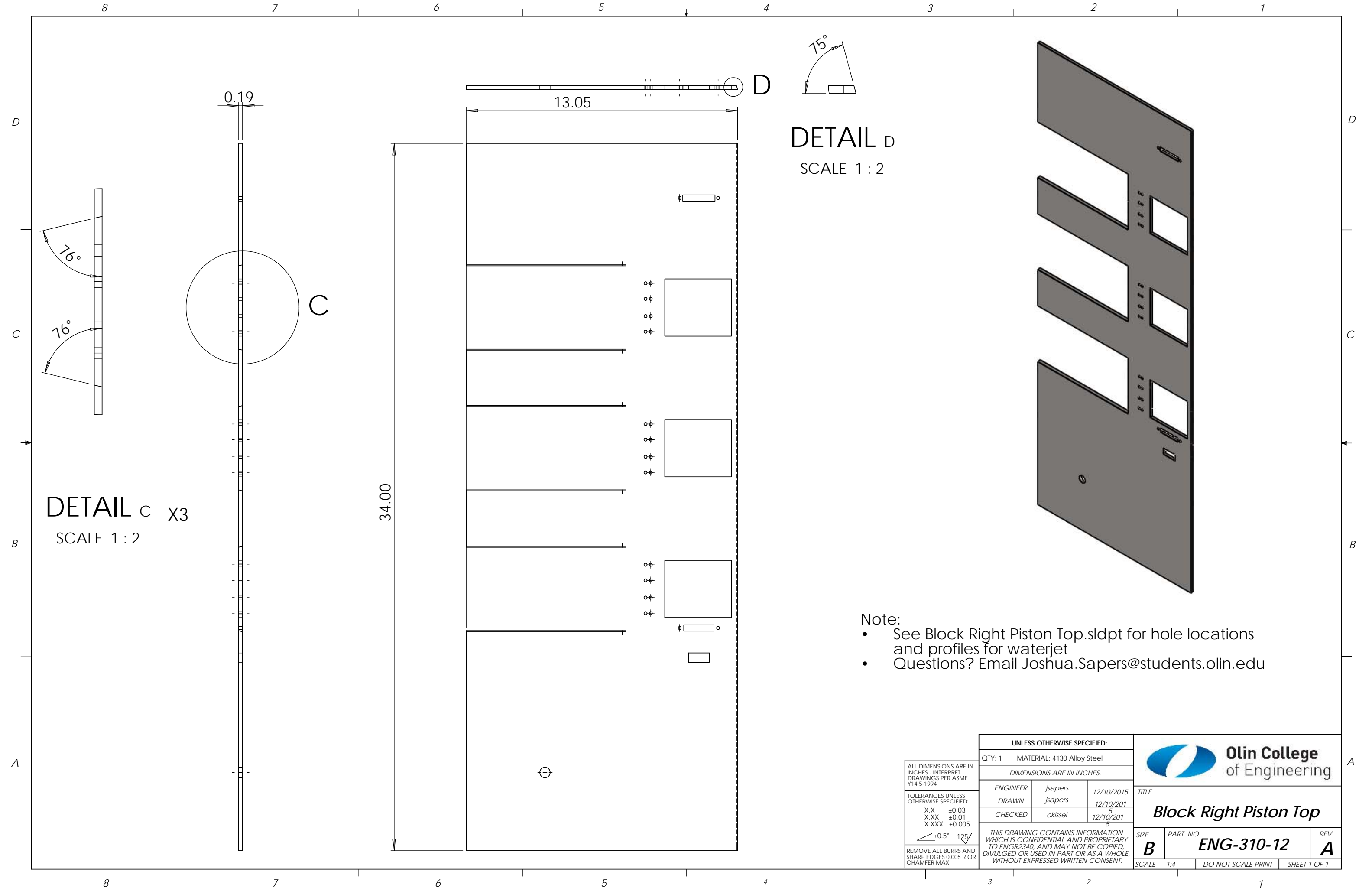
2.00

0.19

DETAIL B
SCALE 1 : 2

Note:
• Questions? Email Joshua.Sapers@students.olin.edu

<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 <small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</small>	<small>UNLESS OTHERWISE SPECIFIED:</small> QTY: 1 MATERIAL: 4130 Alloy Steel			
	<small>DIMENSIONS ARE IN INCHES.</small>			
	<small>ENGINEER</small> jsapers 12/10/2015	<small>TITLE</small> Block Left Top		
	<small>DRAWN</small> jsapers 12/10/2015 <small>CHECKED</small> ckissel 12/10/2015	<small>SIZE</small> B	<small>PART NO.</small> ENG-310-02	<small>REV</small> A
<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>			<small>SCALE</small> 2:1 <small>DO NOT SCALE PRINT</small> <small>SHEET 1 OF 1</small>	

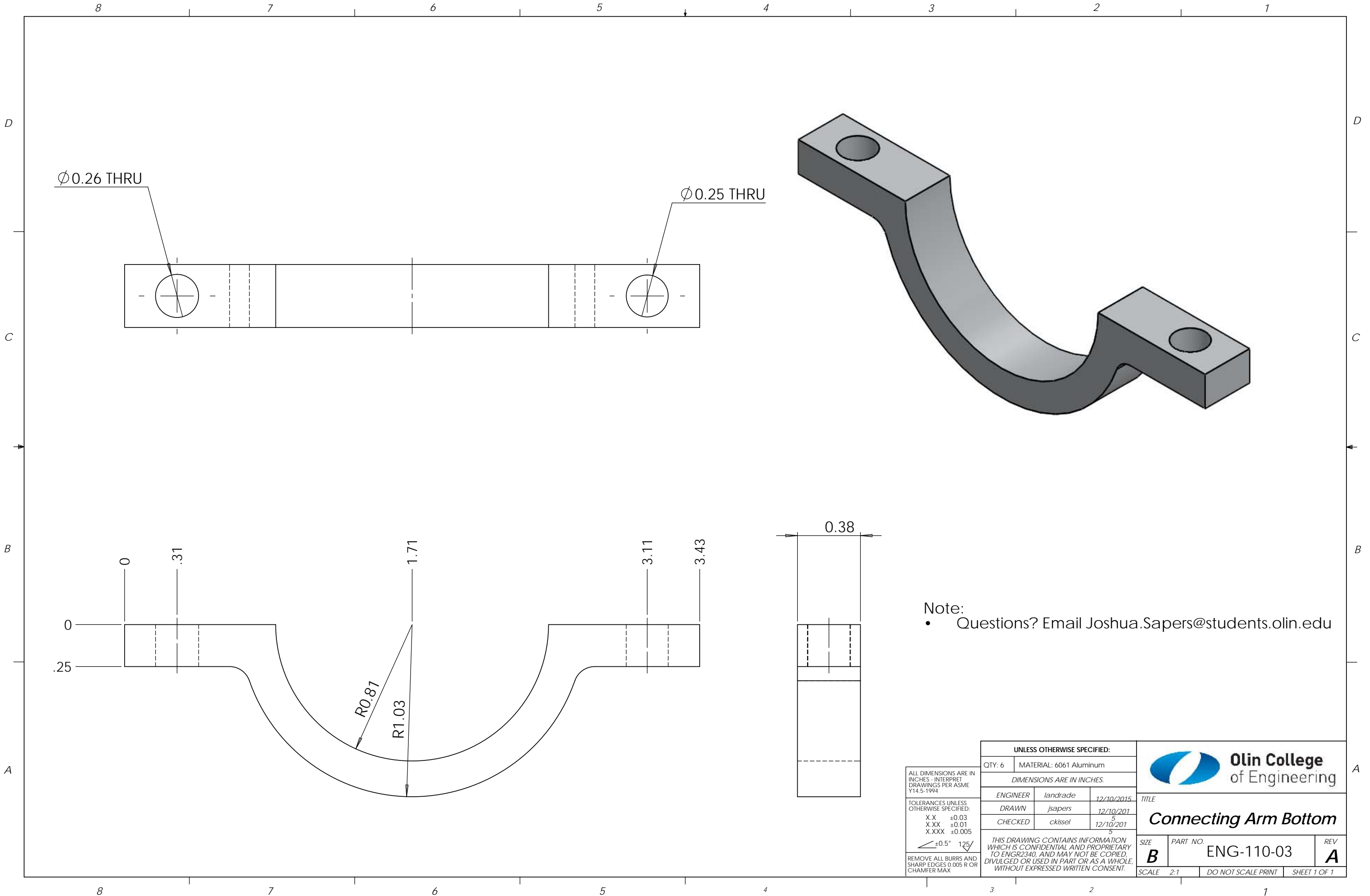


DETAIL C X3
SCALE 1 : 2

DETAIL D
SCALE 1 : 2

- Note:
- See Block Right Piston Top.sldpt for hole locations and profiles for waterjet
 - Questions? Email Joshua.Sapers@students.olin.edu

<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 <small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</small>	<small>UNLESS OTHERWISE SPECIFIED:</small> QTY: 1 MATERIAL: 4130 Alloy Steel <small>DIMENSIONS ARE IN INCHES.</small>			
	ENGINEER	jsapers	12/10/2015	
	DRAWN	jsapers	12/10/201	Block Right Piston Top
	CHECKED	ckissel	12/10/201	
<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>			SCALE 1:4 DO NOT SCALE PRINT SHEET 1 OF 1	



Ø0.26 THRU

Ø0.25 THRU

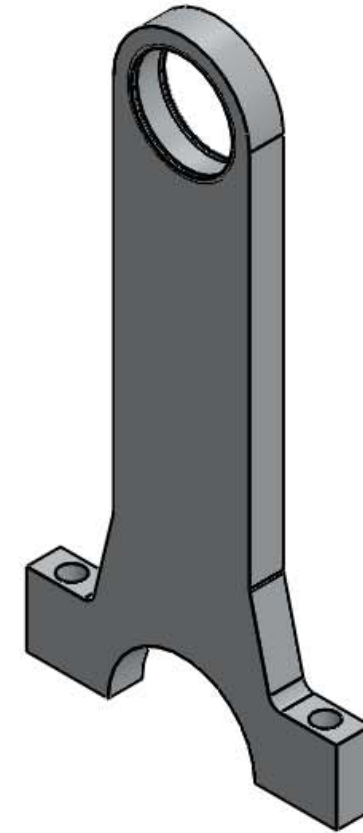
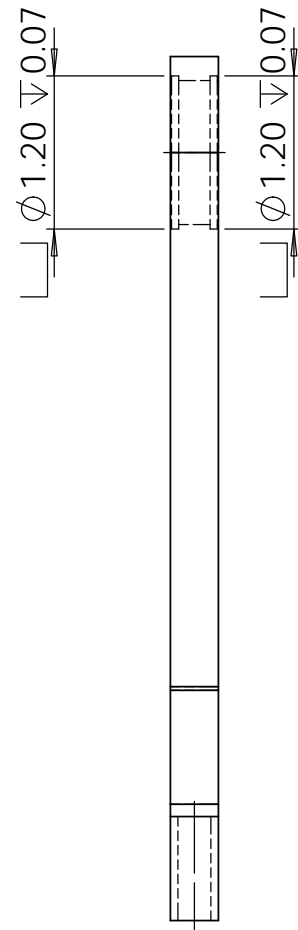
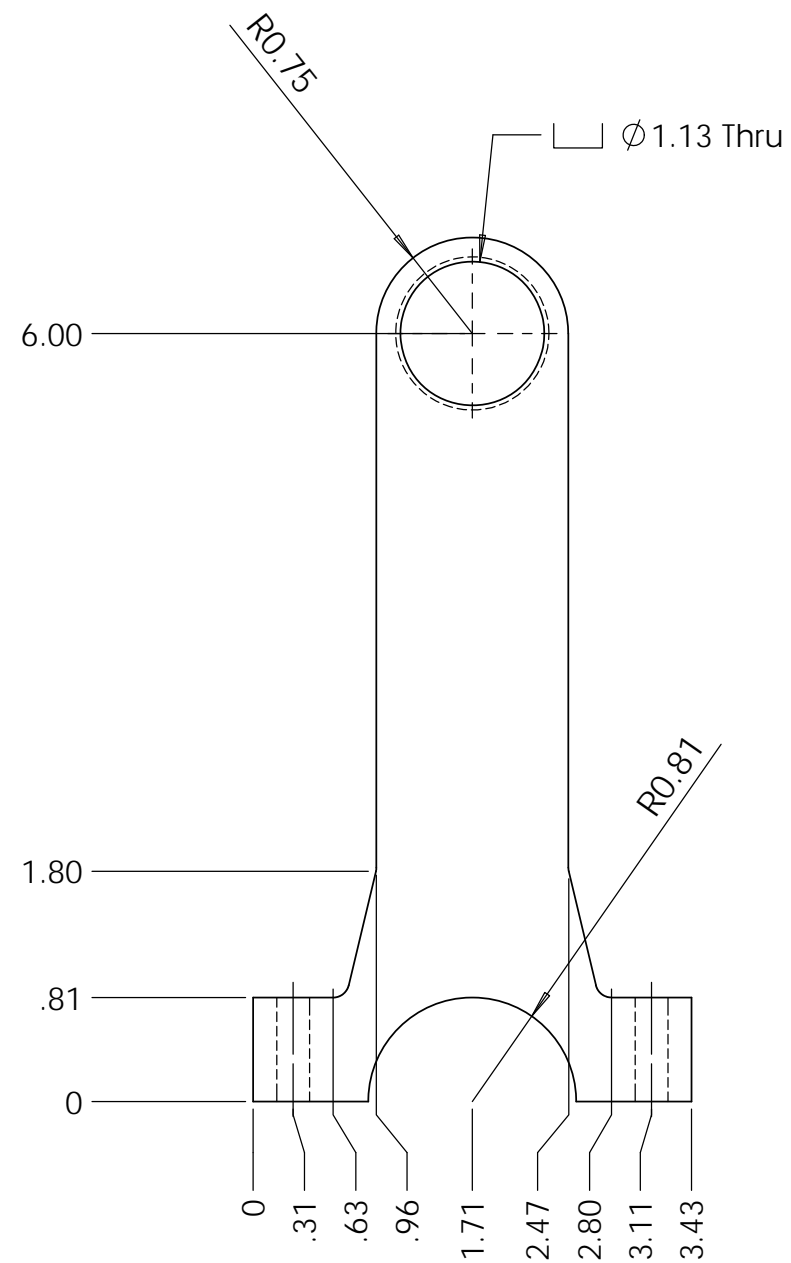
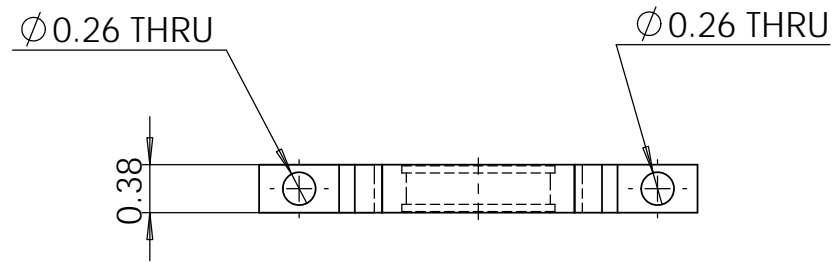
Note:
 • Questions? Email Joshua.Sapers@students.olin.edu

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 6	MATERIAL: 6061 Aluminum	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	jsapers	12/10/201
CHECKED	ckissel	12/10/201

Connecting Arm Bottom		
SIZE B	PART NO. ENG-110-03	REV A
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1

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Note:

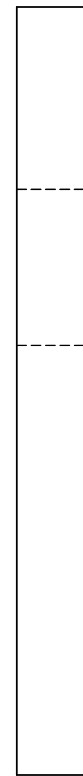
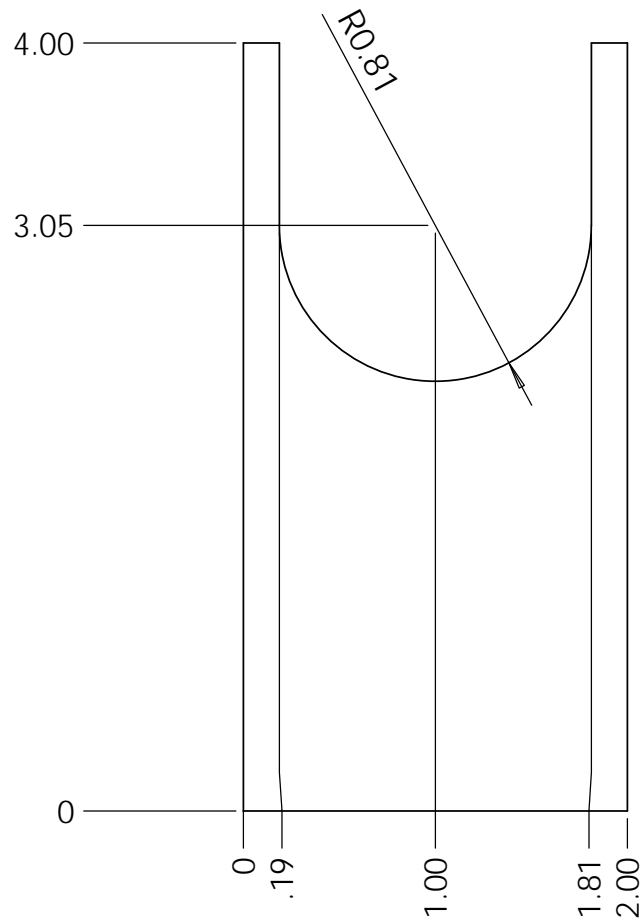
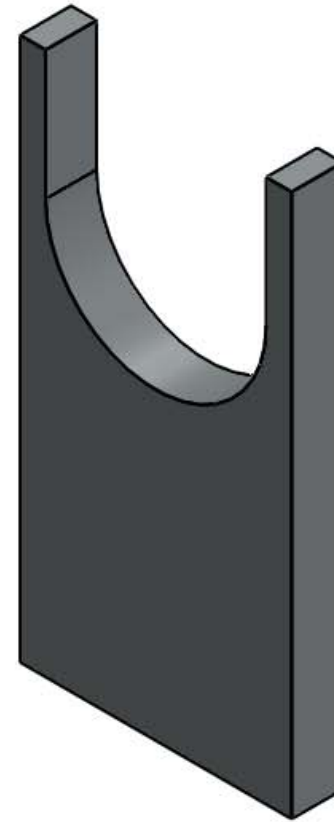
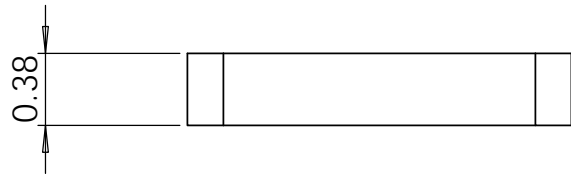
- Questions? Email Joshua.Sapers@students.olin.edu

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 $\angle \pm 0.5^\circ$ $\nabla 125$
 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 6	MATERIAL: 6061 Aluminum	
DIMENSIONS ARE IN INCHES.		
ENGINEER	landrade	12/10/2015
DRAWN	Jsapers	12/10/201
CHECKED	ckissel	12/10/201
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.		




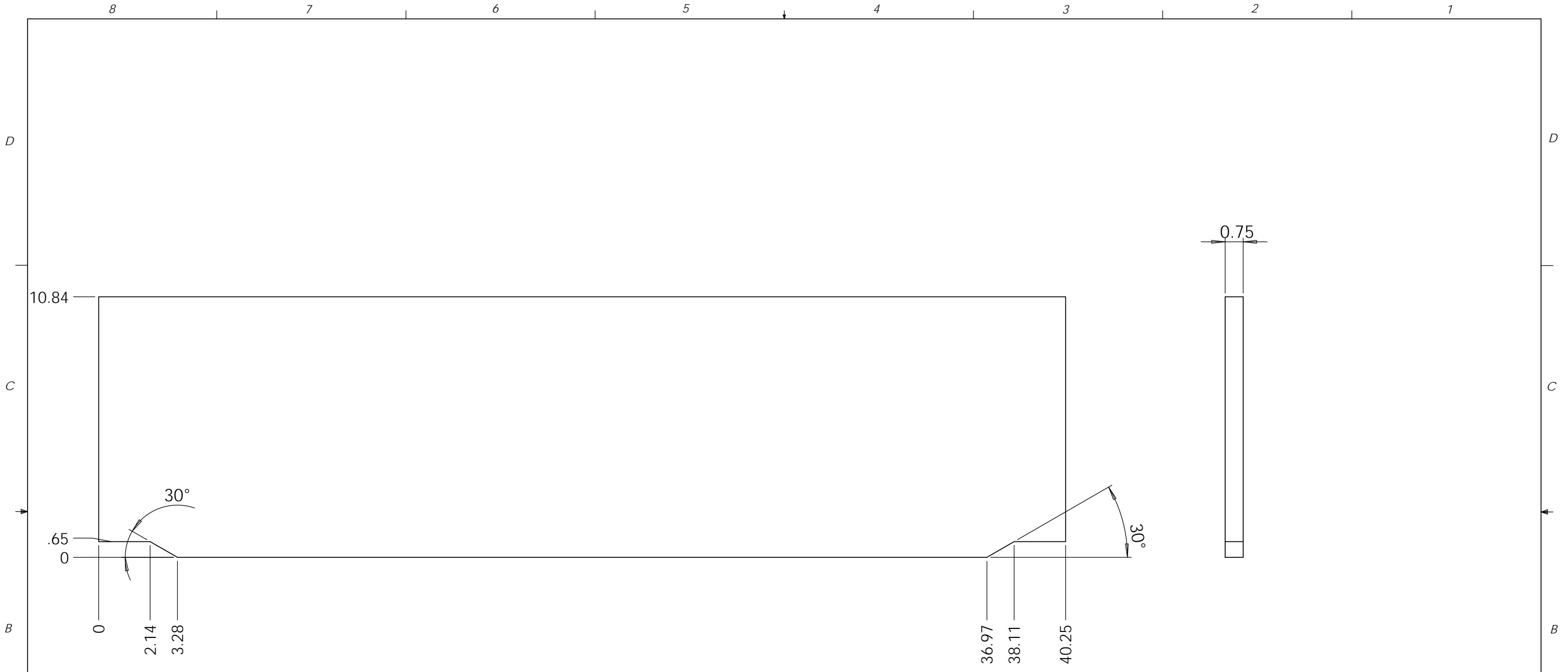
TITLE		
ENG-110-07		
SIZE	PART NO.	REV
B	Connecting Arm Top	E
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:3		



Note:

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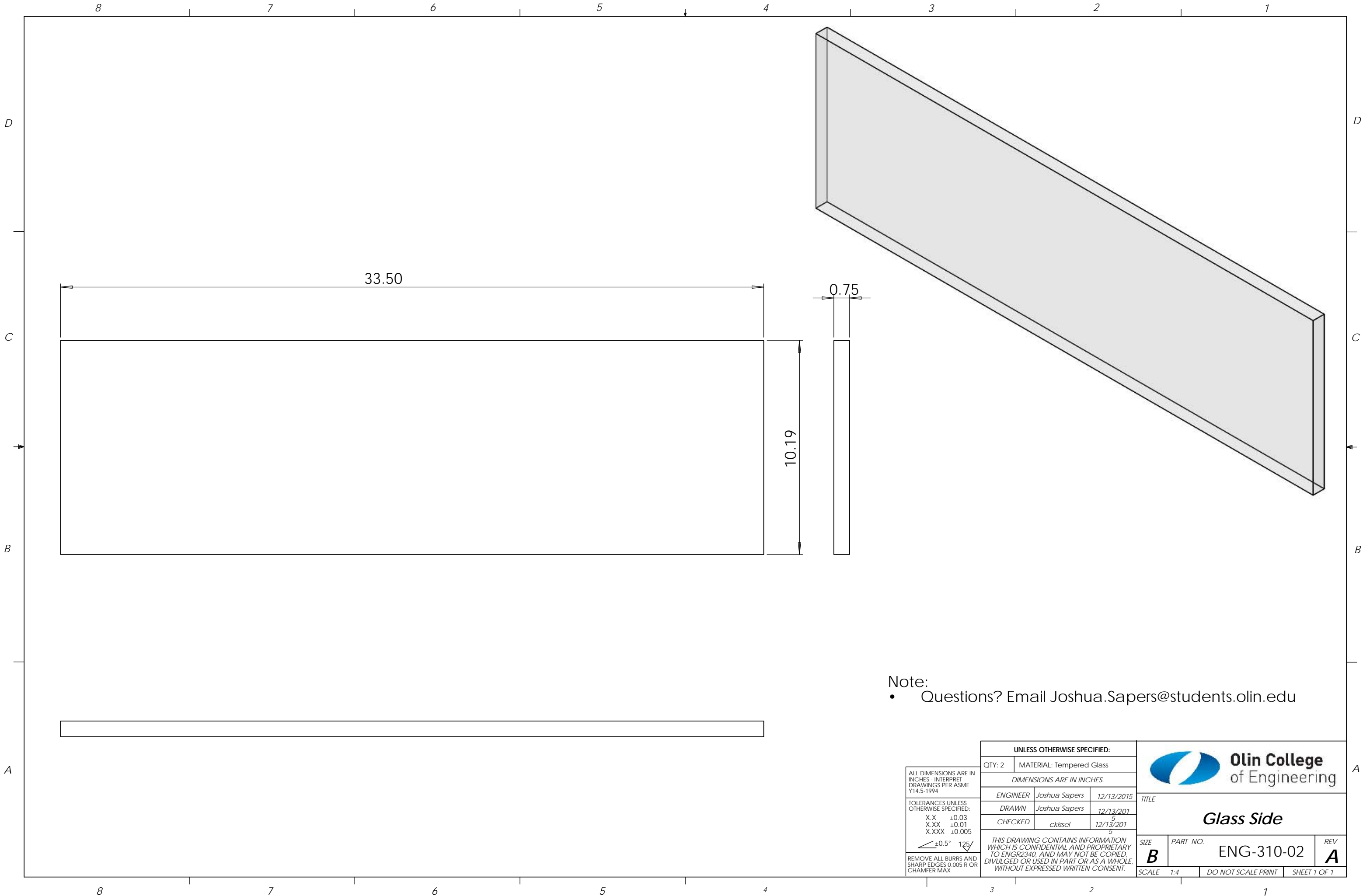
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 $\angle \pm 0.5^\circ$ 125 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.	UNLESS OTHERWISE SPECIFIED:				
	QTY: 7	MATERIAL: Chrome Plated Steel			
	DIMENSIONS ARE IN INCHES.				
	ENGINEER	jsapers	12/10/2015	TITLE	
DRAWN	jsapers	12/10/2015	Crankshaft Bearing Holder		
CHECKED	ckissel	12/10/2015			
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.			SIZE	PART NO.	REV
			B	ENG-300-01	B
			SCALE 1:1	DO NOT SCALE PRINT	SHEET 1 OF 1



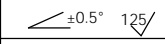

Note:
 • Questions? Email Joshua.Sapers@students.olin.edu



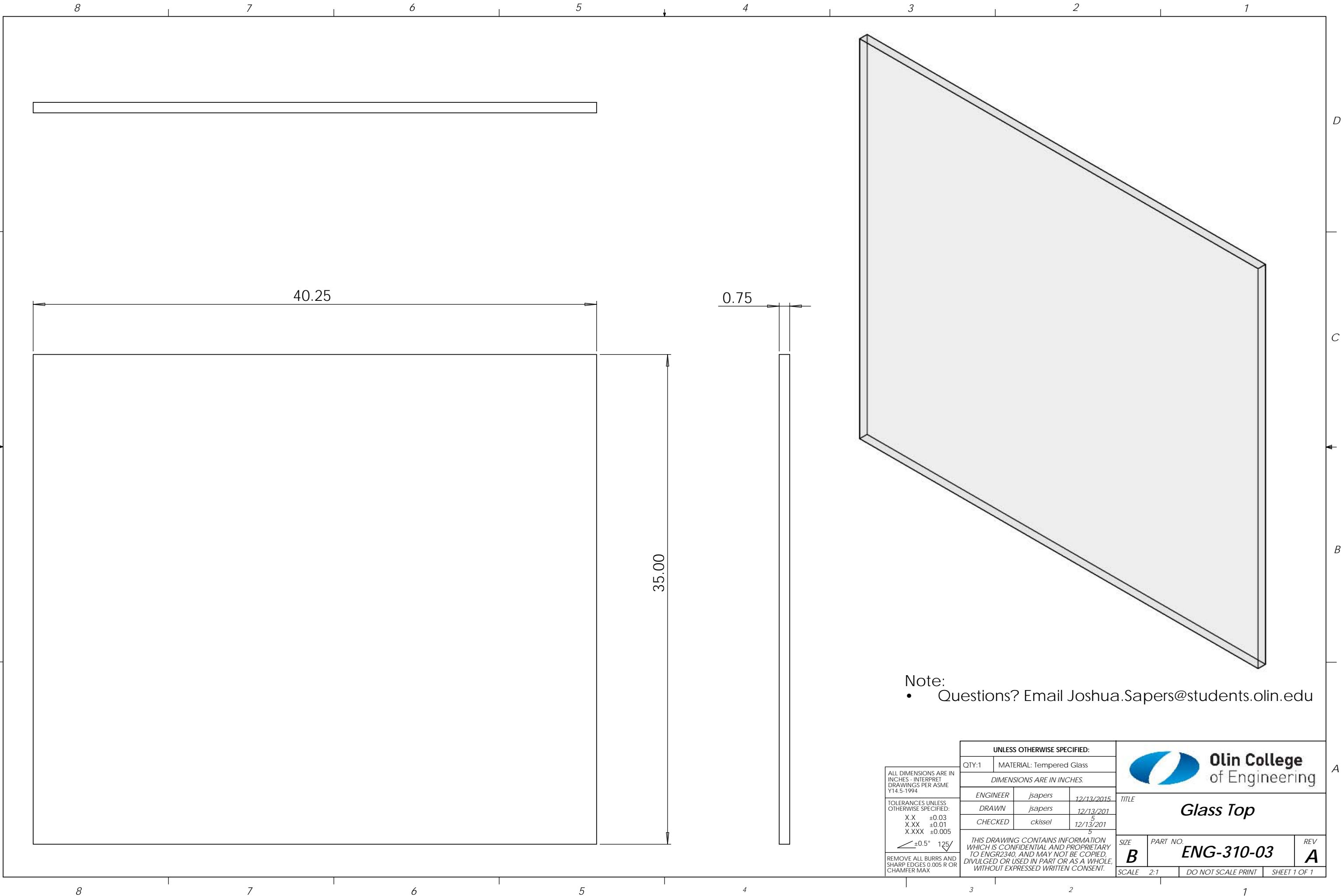
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.	UNLESS OTHERWISE SPECIFIED: QTY: 2 MATERIAL: Tempered Glass			
	DIMENSIONS ARE IN INCHES.			
	ENGINEER <i>Joshua Sapers</i> 12/13/2015 DRAWN <i>Joshua Sapers</i> 12/13/2015 CHECKED <i>ckissel</i> 12/13/2015	TITLE Glass Front		SIZE B PART NO. ENG-310-01 REV A
	THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.		SCALE 1:4 DO NOT SCALE PRINT SHEET 1 OF 1	



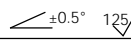

Note:
 • Questions? Email Joshua.Sapers@students.olin.edu

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005  ±0.5° 125/	UNLESS OTHERWISE SPECIFIED:			 Olin College of Engineering TITLE Glass Side
	QTY: 2	MATERIAL: Tempered Glass		
	DIMENSIONS ARE IN INCHES.			
	ENGINEER	Joshua Sapers	12/13/2015	
DRAWN	Joshua Sapers	12/13/2015	SIZE B PART NO. ENG-310-02 REV A	
CHECKED	ckissel	12/13/2015		
REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.			SCALE 1:4 DO NOT SCALE PRINT SHEET 1 OF 1	

THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.



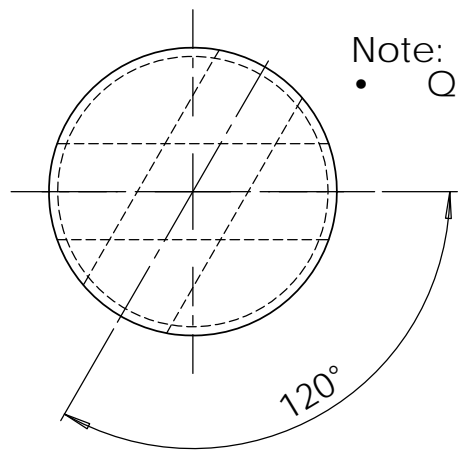
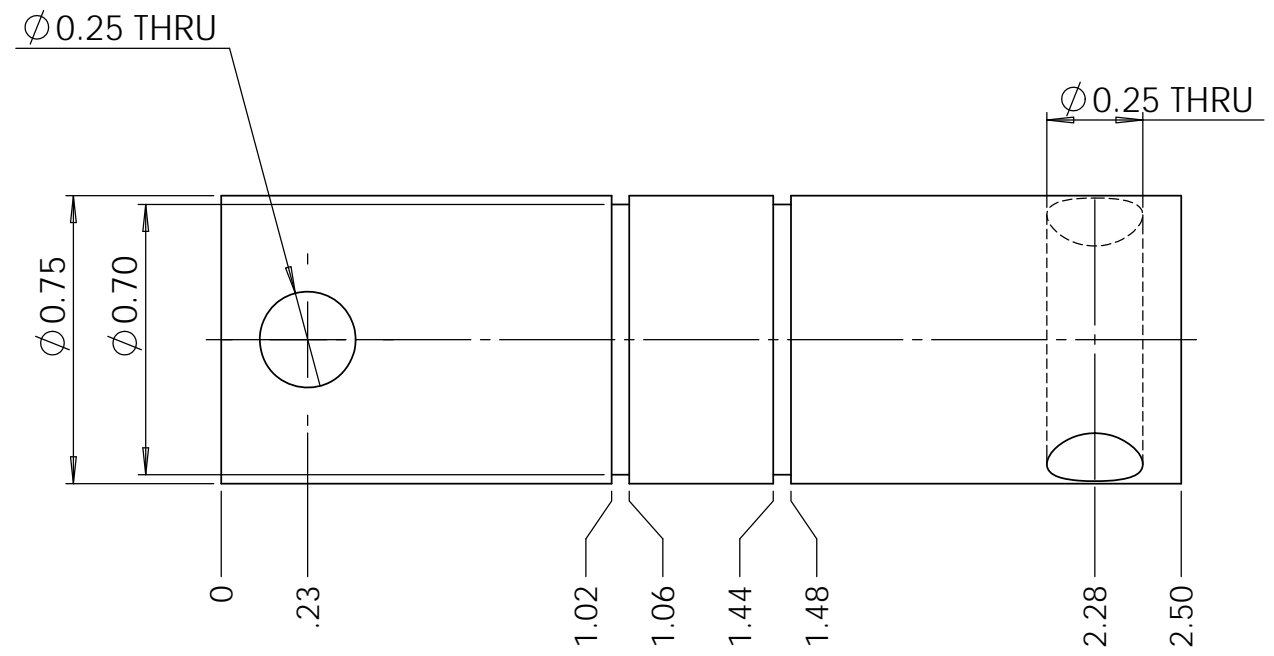
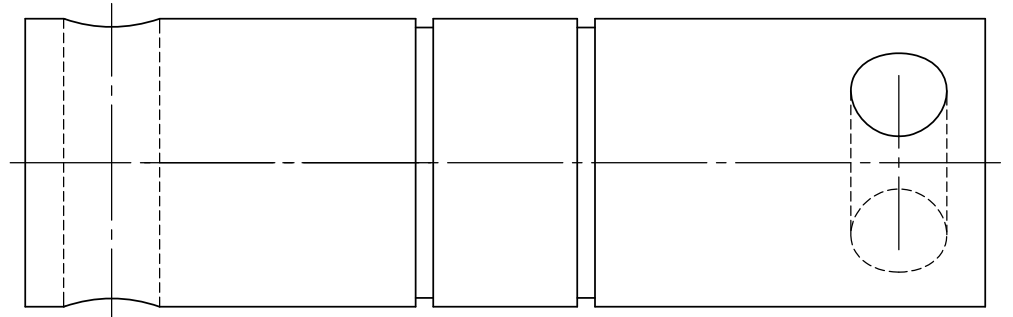
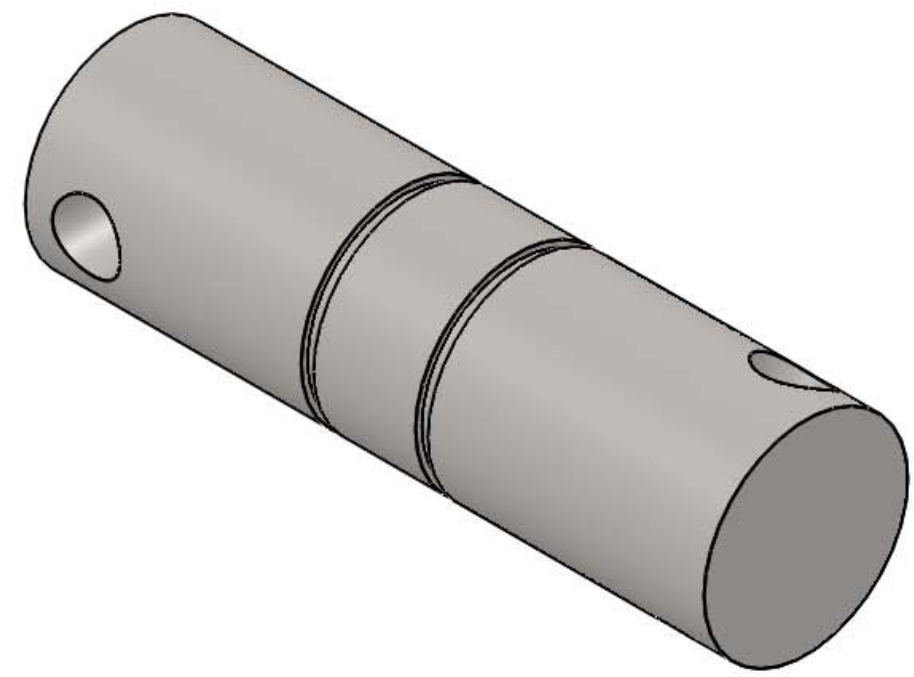
Note:
 • Questions? Email Joshua.Sapers@students.olin.edu

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005  ±0.5° 125° REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.	UNLESS OTHERWISE SPECIFIED:			 Olin College of Engineering
	QTY:1	MATERIAL: Tempered Glass		
	DIMENSIONS ARE IN INCHES.			TITLE
	ENGINEER	jsapers	12/13/2015	Glass Top
DRAWN	jsapers	12/13/2015	SIZE B PART NO. ENG-310-03 REV A	
CHECKED	ckissel	12/13/2015		
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.			SCALE 2:1 DO NOT SCALE PRINT SHEET 1 OF 1	

8 7 6 5 4 3 2 1

D
C
B
A

D
C
B
A



Note:
• Questions? Email Joshua.Sapers@students.olin.edu

UNLESS OTHERWISE SPECIFIED:		QTY: 2		MATERIAL: Plain Carbon Steel	
DIMENSIONS ARE IN INCHES.					
ENGINEER	landrade	12/9/2015	TITLE		
DRAWN	jsapers	12/9/2015	Main Journal		
CHECKED	ckissel	12/9/2015	SIZE	PART NO.	REV
<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 <small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</small>			B	ENG-120-02	A
<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>			SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
			2:1		

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

D

D

C

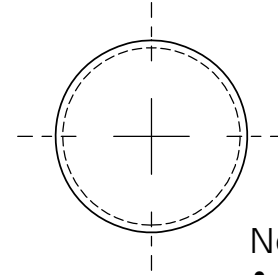
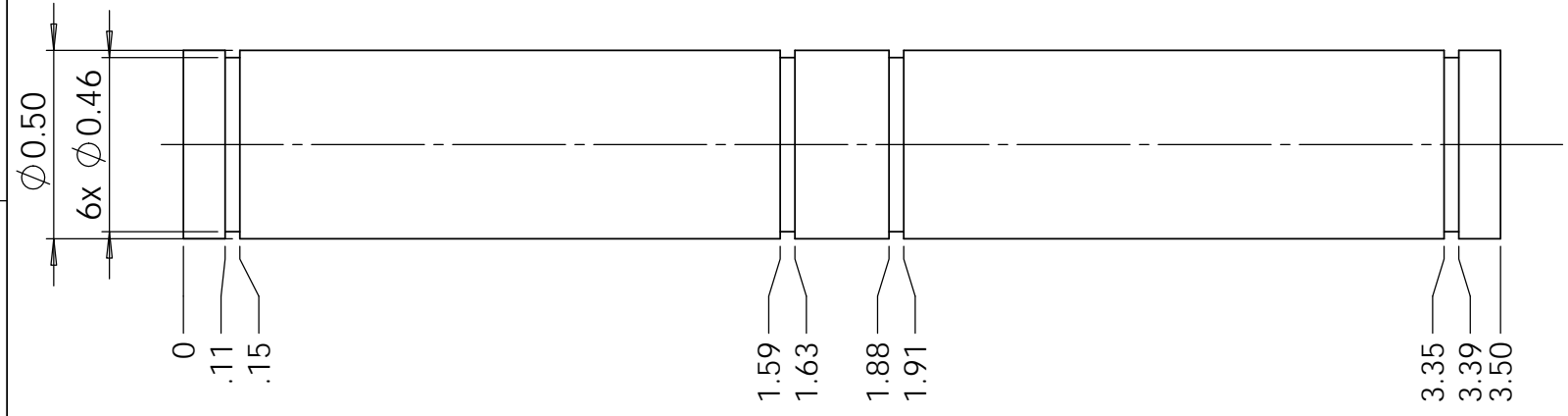
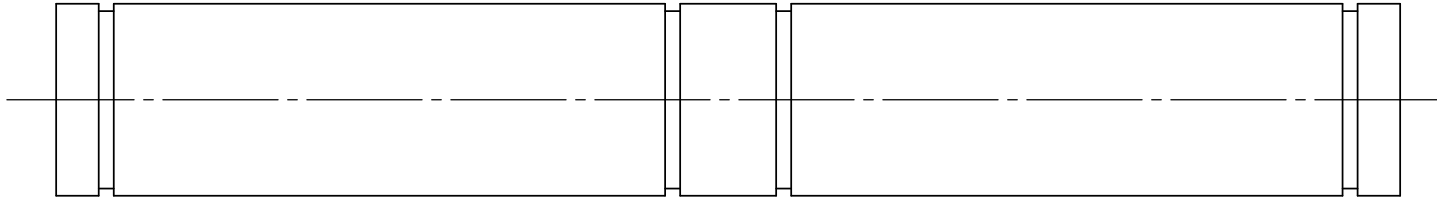
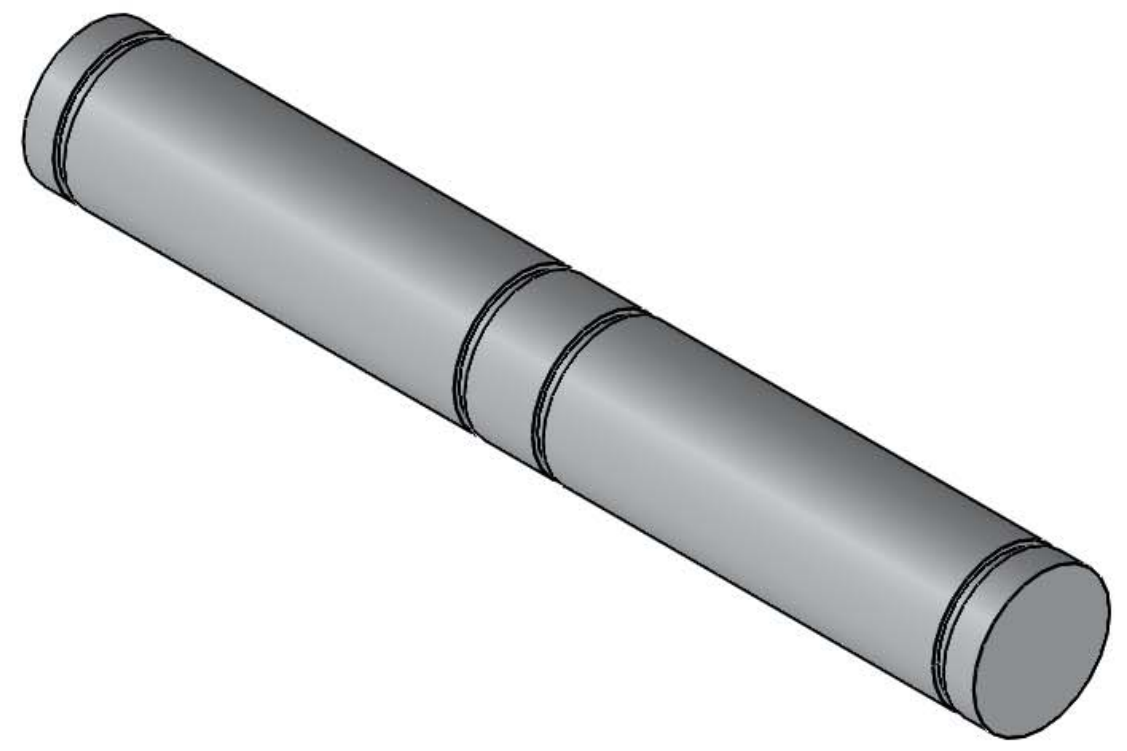
C

B

B

A

A



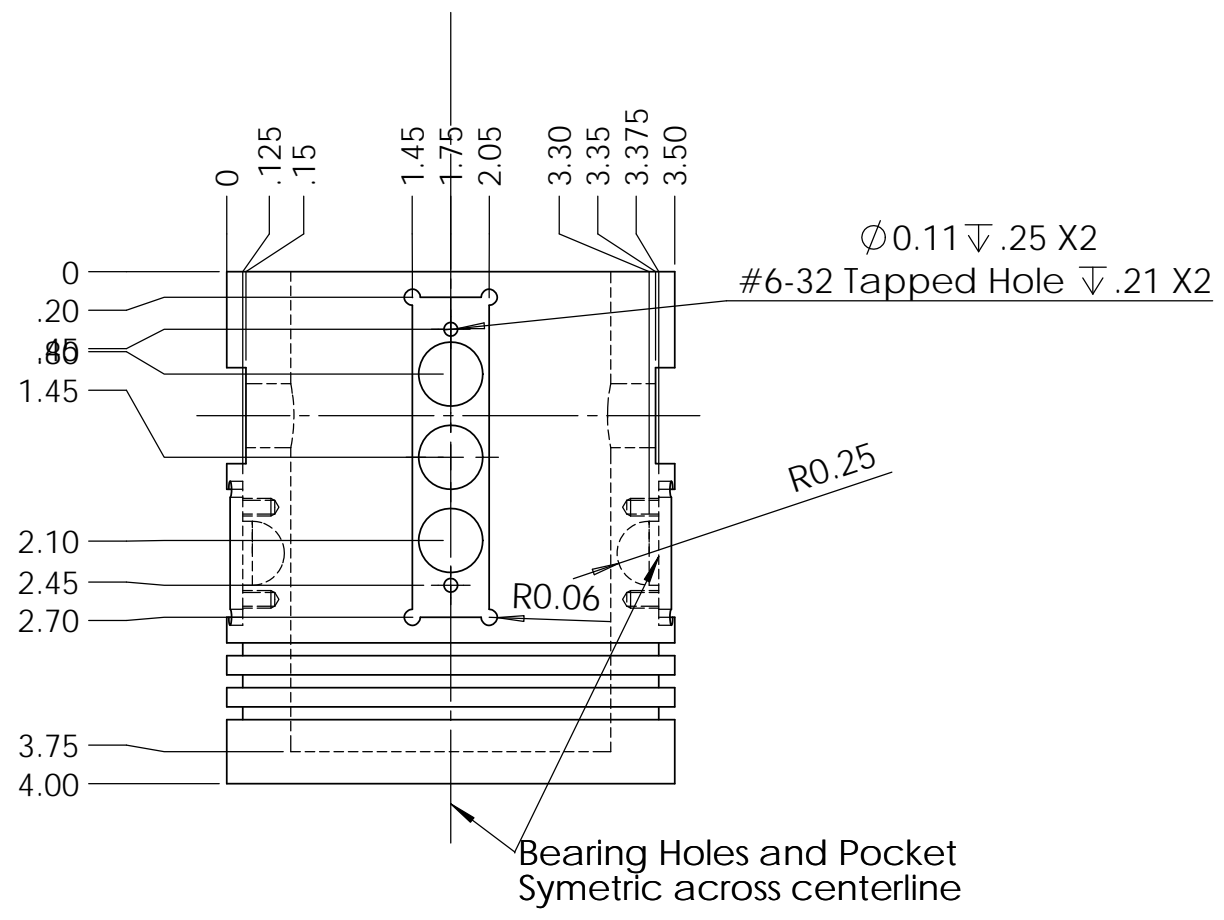
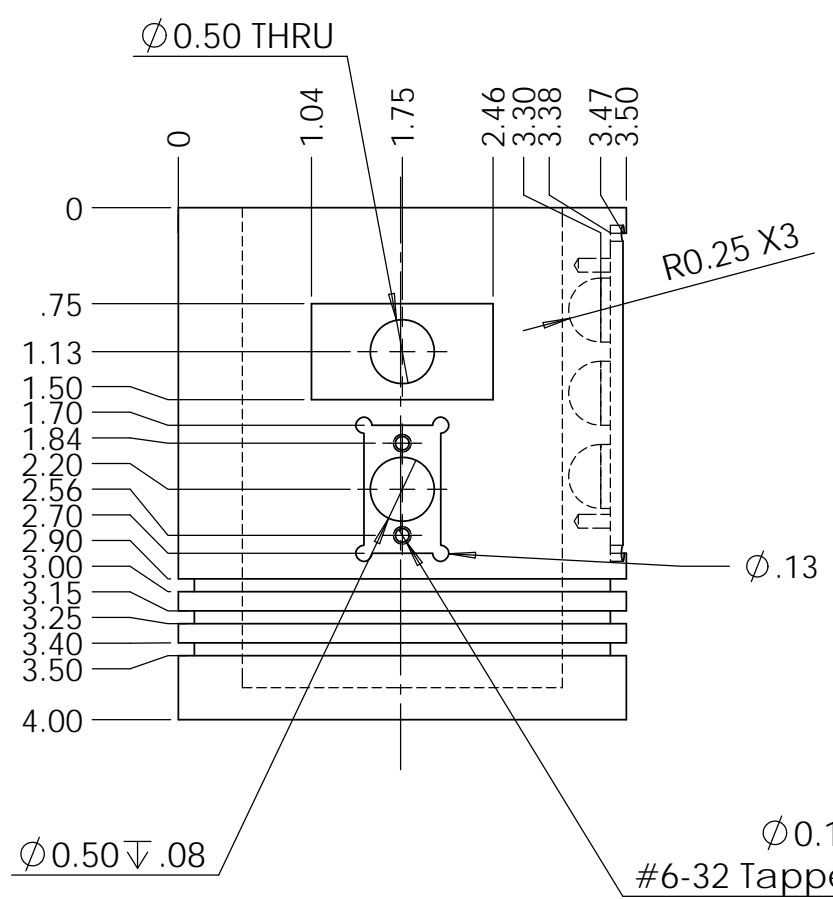
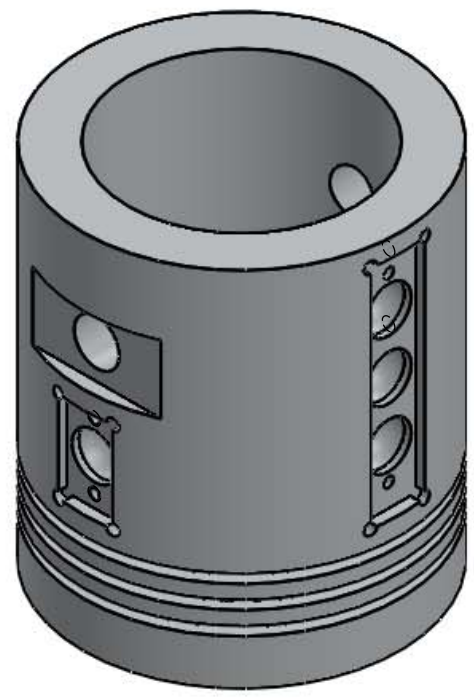
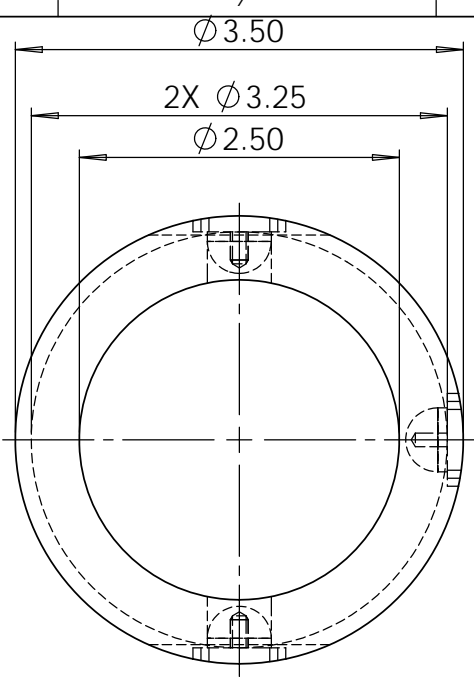
Note:
 • Questions? Email Joshua.Sapers@students.olin.edu

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125
 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

UNLESS OTHERWISE SPECIFIED:		
QTY: 6	MATERIAL: 1060 Alloy Steel	
DIMENSIONS ARE IN INCHES.		
ENGINEER	jsapers	12/10/2015
DRAWN	jsapers	12/10/2015
CHECKED	ckissel	12/10/2015
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TITLE Piston Head Axle		
SIZE B	PART NO. ENG-110-09	REV C
SCALE 2:1	DO NOT SCALE PRINT	SHEET 1 OF 1

8 7 6 5 4 3 2 1



Note:
 • Questions? Email Joshua.Sapers@students.olin.edu

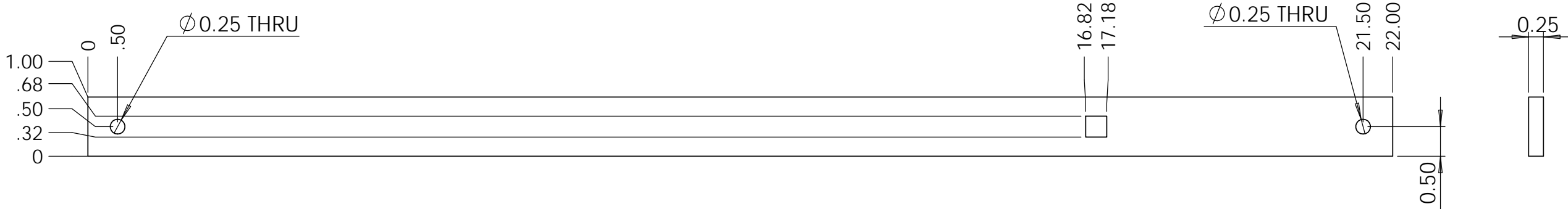
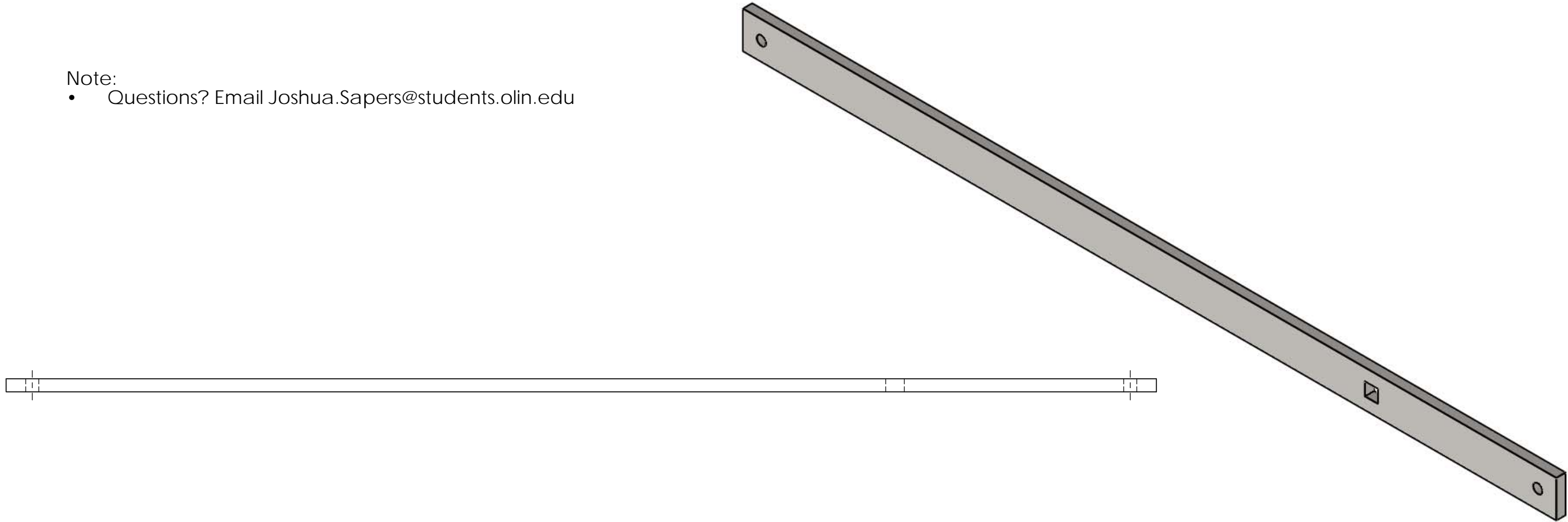
ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994
 TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005
 ±0.5° 125/

UNLESS OTHERWISE SPECIFIED:		
QTY: 6	MATERIAL: 6061 Aluminum	
DIMENSIONS ARE IN INCHES.		
ENGINEER	jsapers	12/13/2015
DRAWN	jsapers	12/13/2015
CHECKED	ckissel	12/13/2015
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.		

TITLE		
ENG-110-01		
SIZE	PART NO.	REV
B	Piston Head	H
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

Note:

- Questions? Email Joshua.Sapers@students.olin.edu




ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 X.X ±0.03
 X.XX ±0.01
 X.XXX ±0.005

±0.5° 125°

REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.

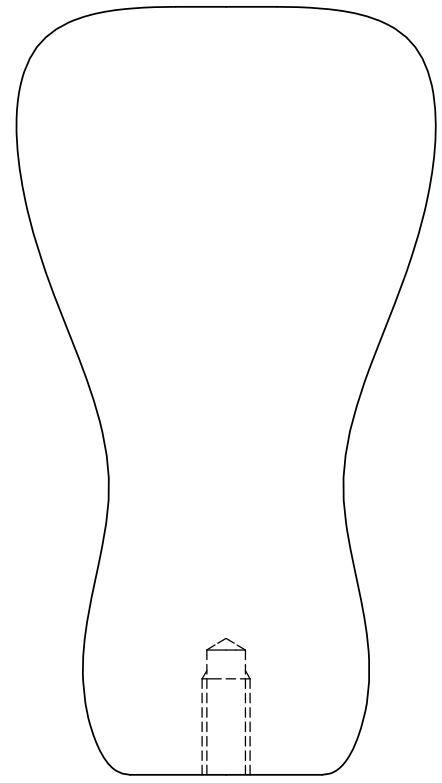
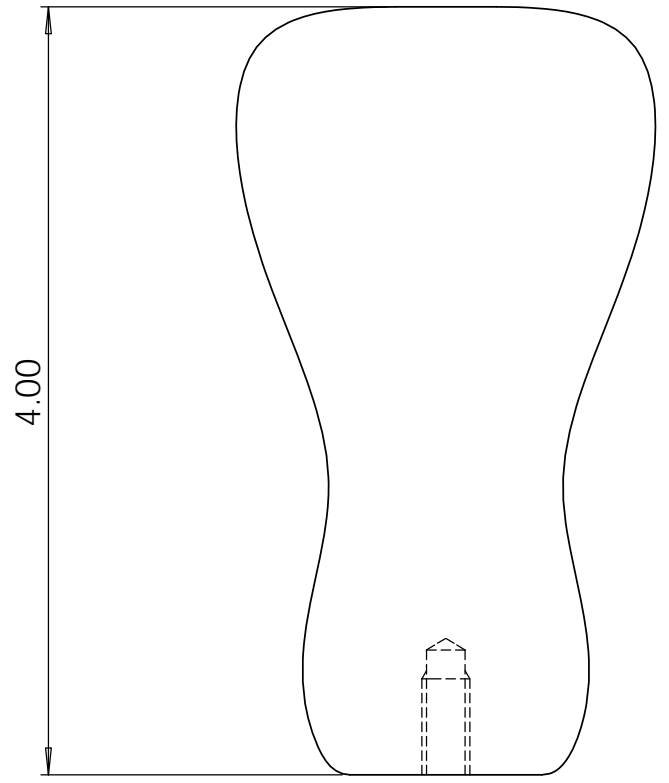
UNLESS OTHERWISE SPECIFIED:		
QTY: 1	MATERIAL: STEEL	
DIMENSIONS ARE IN INCHES.		
ENGINEER	ckissel	12/12/2015
DRAWN	jsapers	12/12/201
CHECKED	ckissel	12/12/201
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TITLE		
ENG-800-01		
SIZE	PART NO.	REV
B	ENG-800-01	A
SCALE	DO NOT SCALE PRINT	SHEET 1 OF 1
2:1		

8 7 6 5 4 3 2 1

D

D

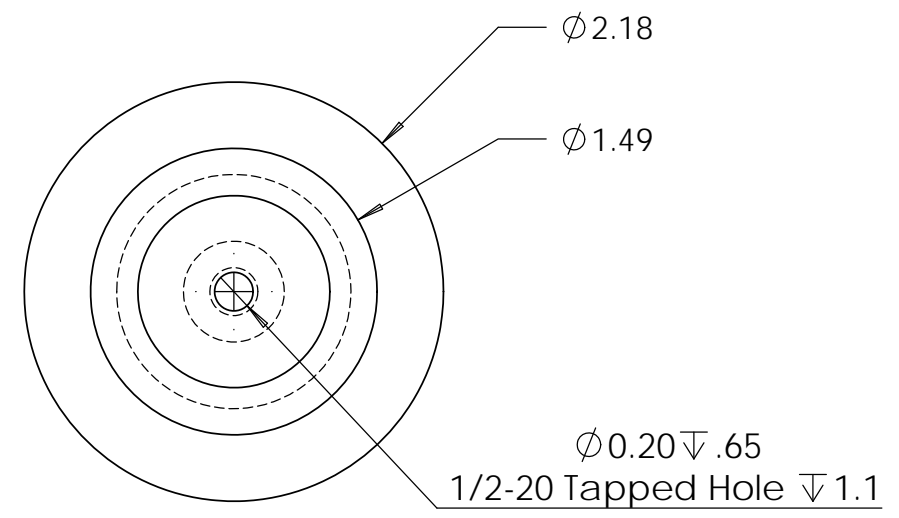


C

C

B

B



Notes:

- See Shifter Handle.sldprt for curvature
- Use wood lathe
- Questions? Email Joshus.sapers@students.olin.edu

A

A

<small>ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994</small> <small>TOLERANCES UNLESS OTHERWISE SPECIFIED:</small> X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 <small>REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.</small>	<small>UNLESS OTHERWISE SPECIFIED:</small> QTY: 1 MATERIAL: MAHOGANY <small>DIMENSIONS ARE IN INCHES.</small>			 <small>TITLE</small> ENG-800-02 <small>SIZE</small> B <small>PART NO.</small> ENG-800-02 <small>REV</small> A <small>SCALE</small> 2:1 <small>DO NOT SCALE PRINT</small> <small>SHEET 1 OF 1</small>
	ENGINEER	ckissel	12/12/2015	
	DRAWN	jsapers	12/12/2015	
	CHECKED	ckissel	12/12/2015	
<small>THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.</small>				

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

D

D

C

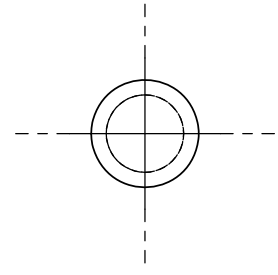
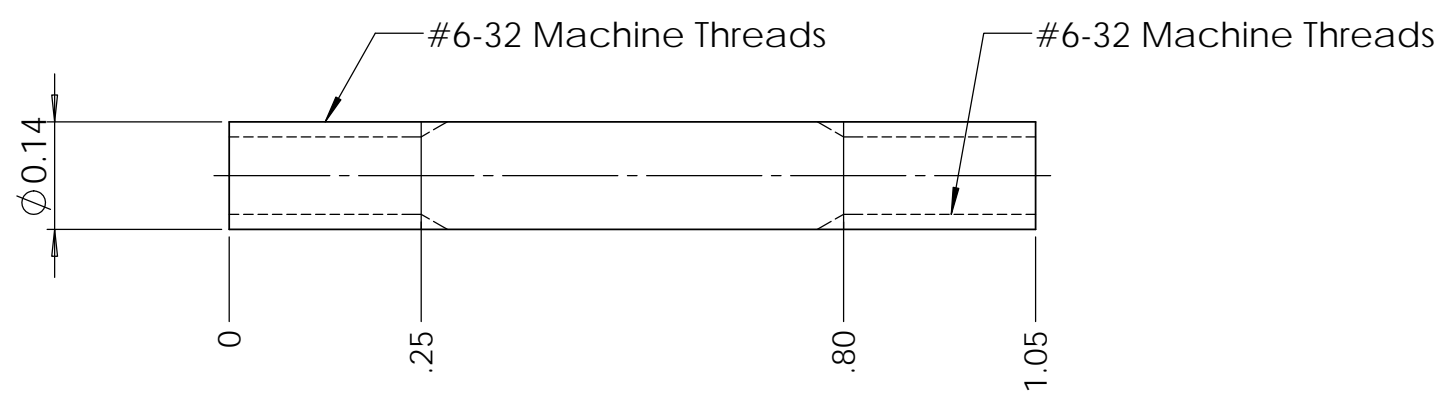
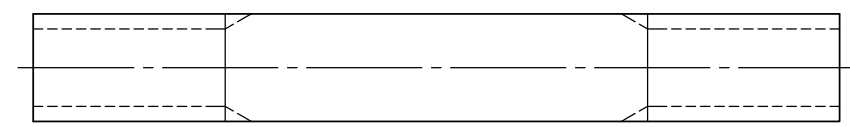
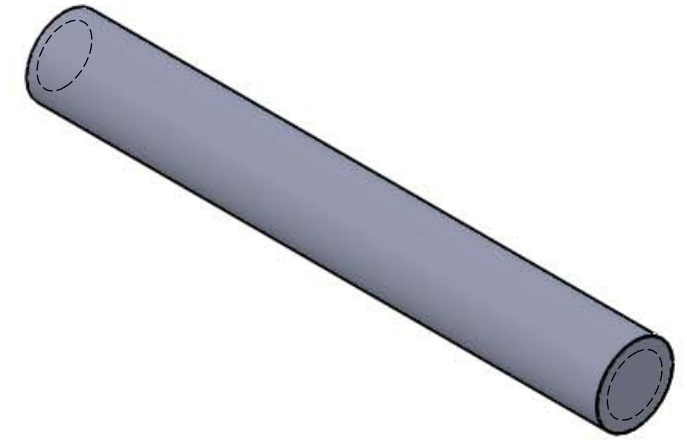
C

B

B

A

A



Notes:

- Questions? Email Joshua.sapers@students.olin.edu.

ALL DIMENSIONS ARE IN INCHES - INTERPRET DRAWINGS PER ASME Y14.5-1994 TOLERANCES UNLESS OTHERWISE SPECIFIED: X.X ±0.03 X.XX ±0.01 X.XXX ±0.005 $\angle \pm 0.5^\circ$ 125 REMOVE ALL BURRS AND SHARP EDGES 0.005 R OR CHAMFER MAX.	UNLESS OTHERWISE SPECIFIED: QTY: 2 MATERIAL: 6160 Aluminum DIMENSIONS ARE IN INCHES.				
	ENGINEER	landrade	12/13/2015		TITLE
	DRAWN	jsapers	12/13/201	Tensioner Pivot	
	CHECKED	ckissel	12/13/201		SIZE PART NO. REV
THIS DRAWING CONTAINS INFORMATION WHICH IS CONFIDENTIAL AND PROPRIETARY TO ENGR2340, AND MAY NOT BE COPIED, DIVULGED OR USED IN PART OR AS A WHOLE, WITHOUT EXPRESSED WRITTEN CONSENT.			B	ENG-900-01	-
SCALE 2:1		DO NOT SCALE PRINT		SHEET 1 OF 1	

8 7 6 5 4 3 2 1