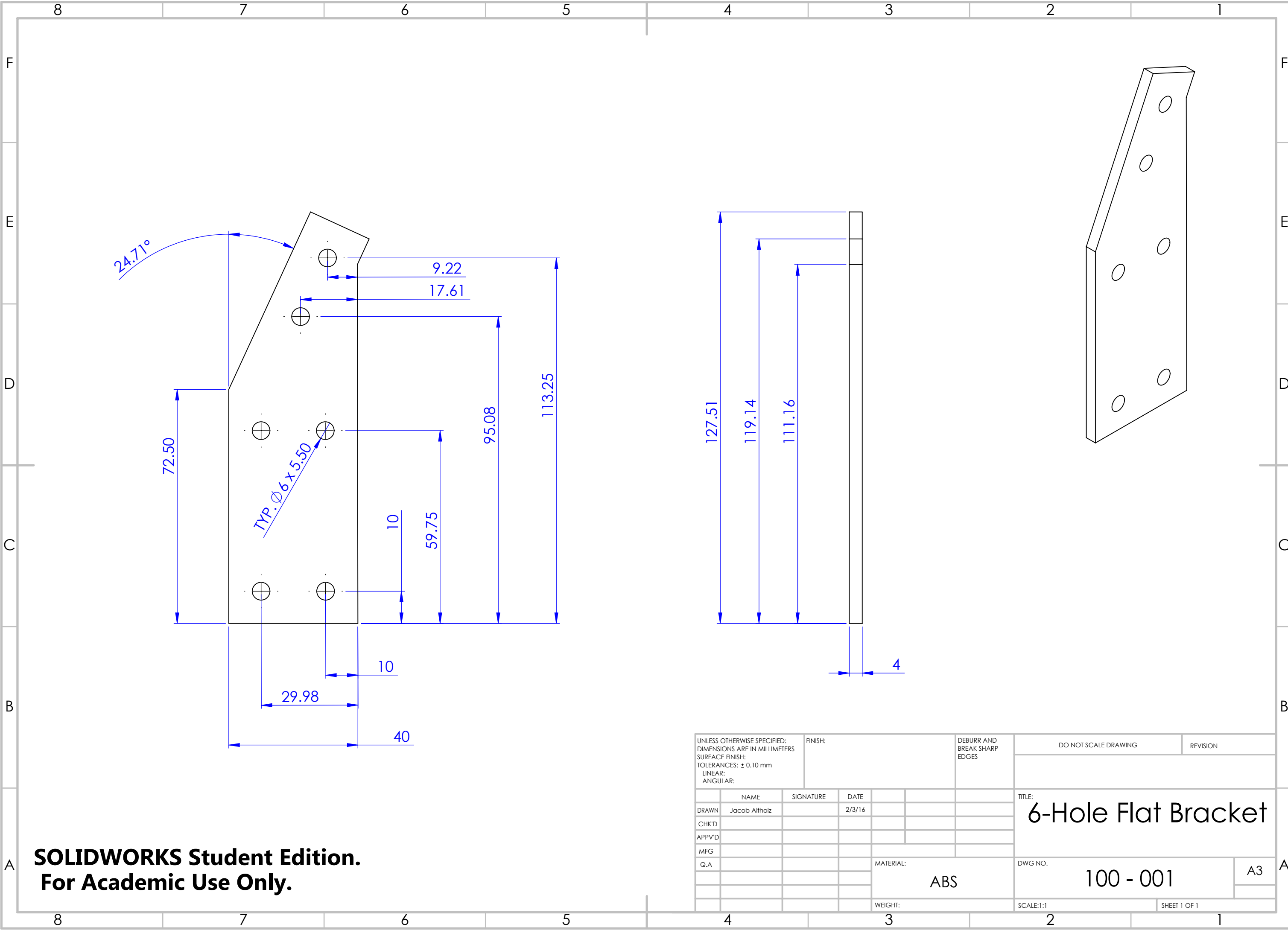


Drawing Parts Master List

100 - Printed Parts	
001	6-Hole Flat Bracket
002	L-Bracket
003	Top Bracket
004	Y Motor Mount
005	Y Rod Mount
006	Y Idler Tensioner
007	Y Idler Mount
008	Z - Clamp
009	LM8BUU Bearing Holder
010	Belt Clamp
011	Nozzle
012	Outer Clamp
013	Inner Clamp
014	A0-X End Clamp ACME
015	A0-X End Idle ACME
016	Stabilized X - carriage
017	A0-x End Motor ACME
018	Lower Z Mount Motor V2.4
019	Beefy Coupler ACME
020	Z Stop Holder V2
021	Ramp Mount

200 - Metal Parts	
001	80/20 26.5 cm
002	80/20 30 cm
003	80/20 38 cm
004	80/20 38.5 cm (with holes)
005	Aluminum Rod 38 cm
006	X Plate
007	Small Square Aluminum Plate
008	Quad Mount
009	Hub Mount
010	Large Aluminum Plate
011	Threaded Aluminum Rod 29.3 cm
012	Aluminum Rod 30.5 cm
013	Aluminum Rod 40.5 cm

A - Assemblies	
1	Frame
2	Y-axis
3	Syringe System
4	X and Z - axis

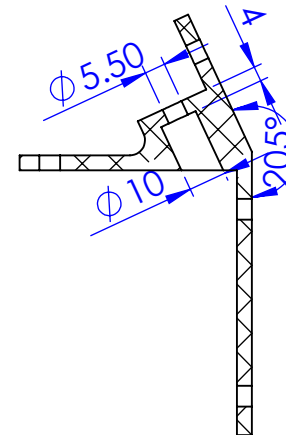
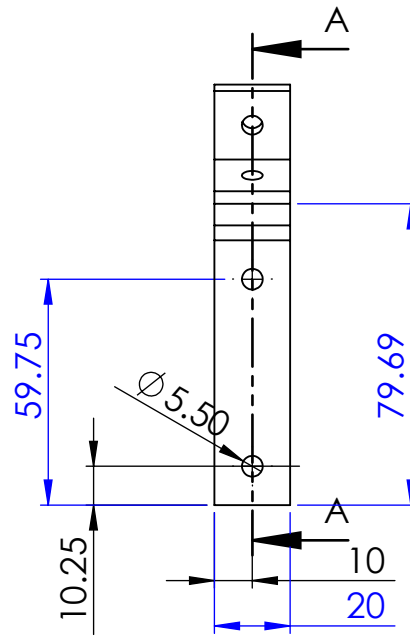
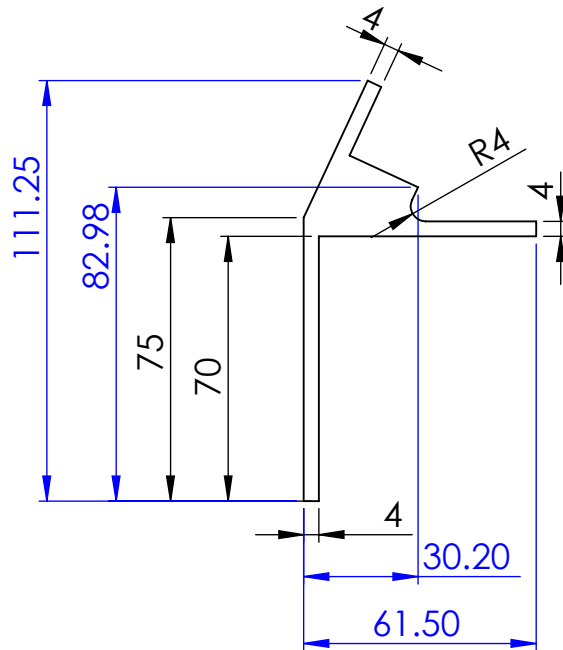
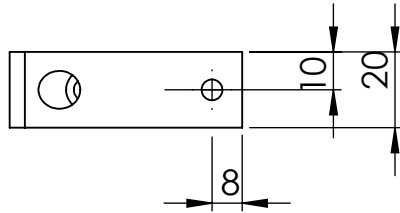


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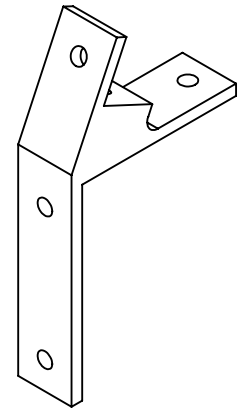
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	NAME	SIGNATURE	DATE				TITLE: 6-Hole Flat Bracket	
DRAWN	Jacob Altholz		2/3/16					
CHK'D								
APPV'D								
MFG								
Q.A							DWG NO.	A3
						MATERIAL: ABS	100 - 001	
						WEIGHT:	SCALE:1:1	SHEET 1 OF 1

B

B



SECTION A-A
SCALE 1 : 2



A

A

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ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

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DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE

Team Blue

TITLE:

SIZE

A

DWG. NO.

100-002

REV

SCALE: 1:1

WEIGHT:

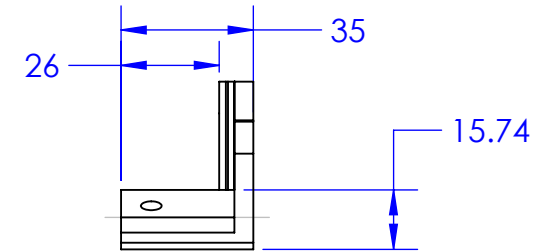
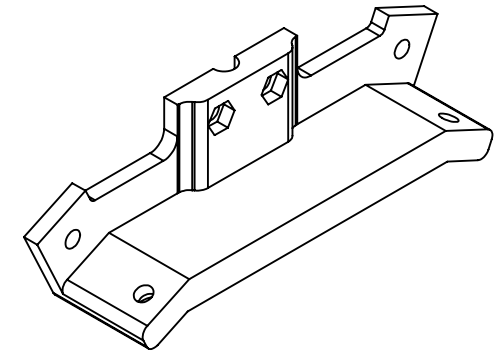
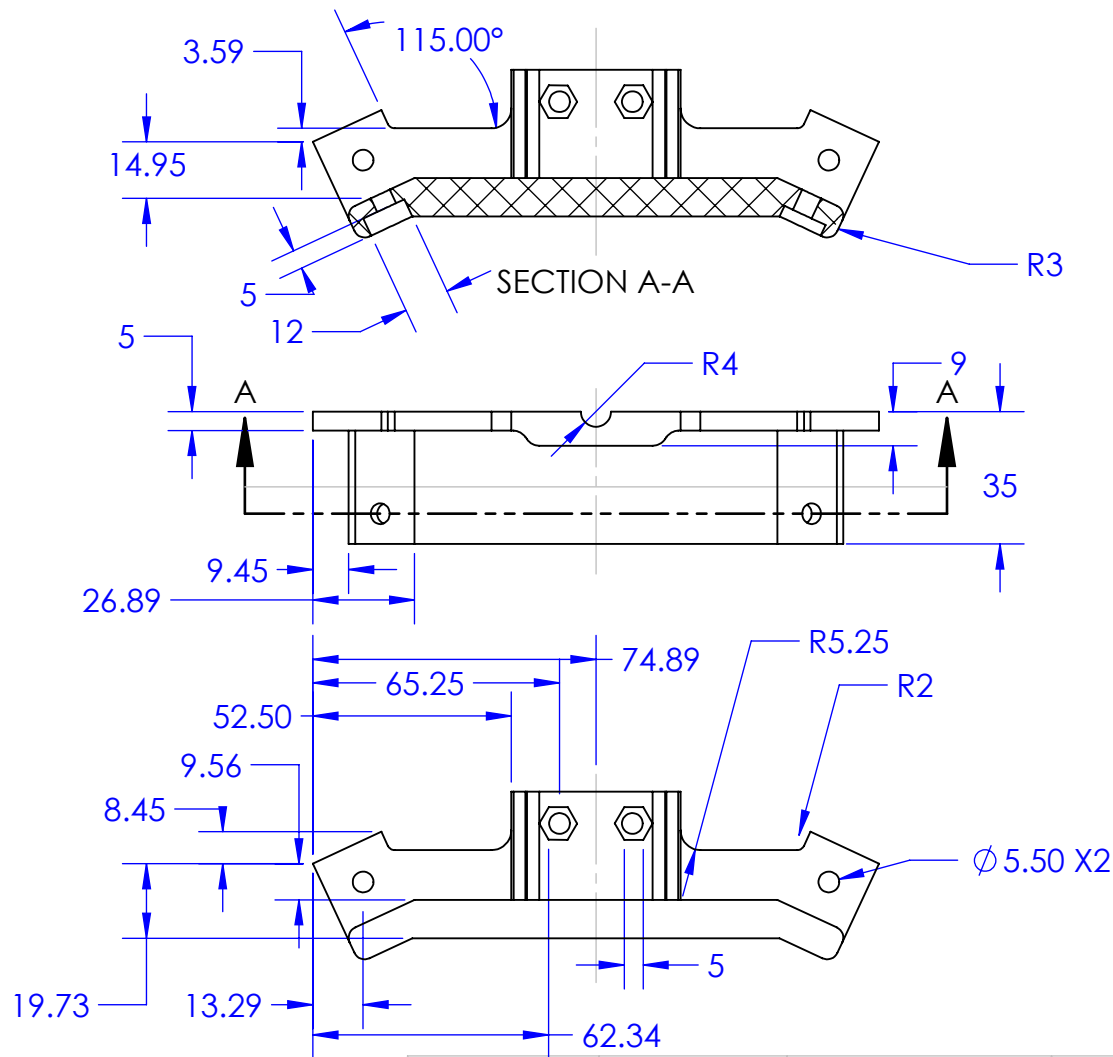
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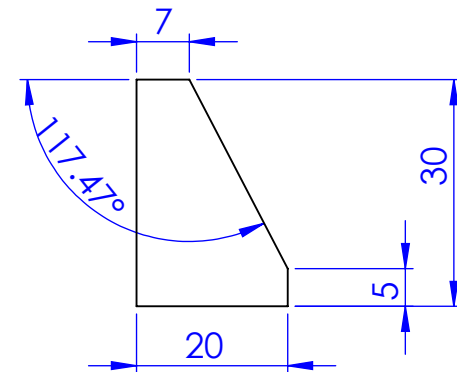
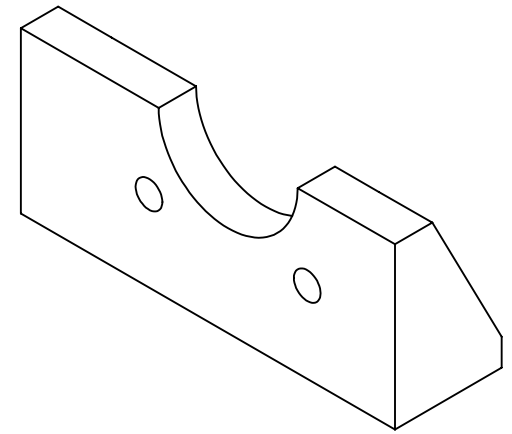
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Team Blue

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SIZE	PRICE	SALES
Small	10	100
Medium	20	200
Large	30	300

DWG. NO.	
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REV

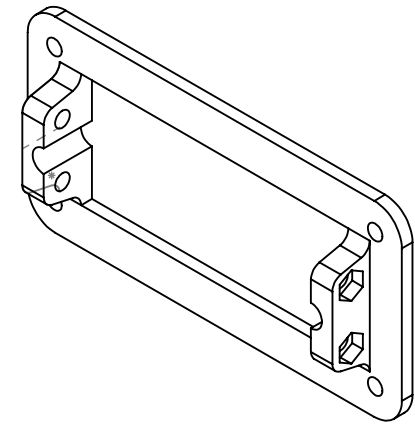
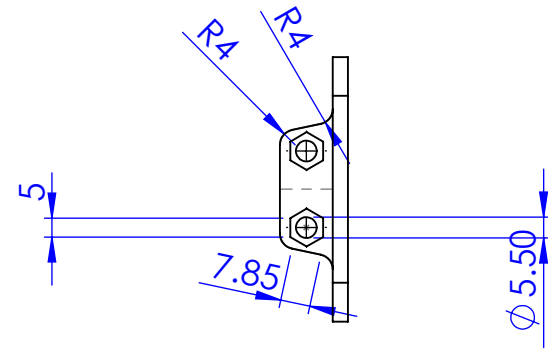
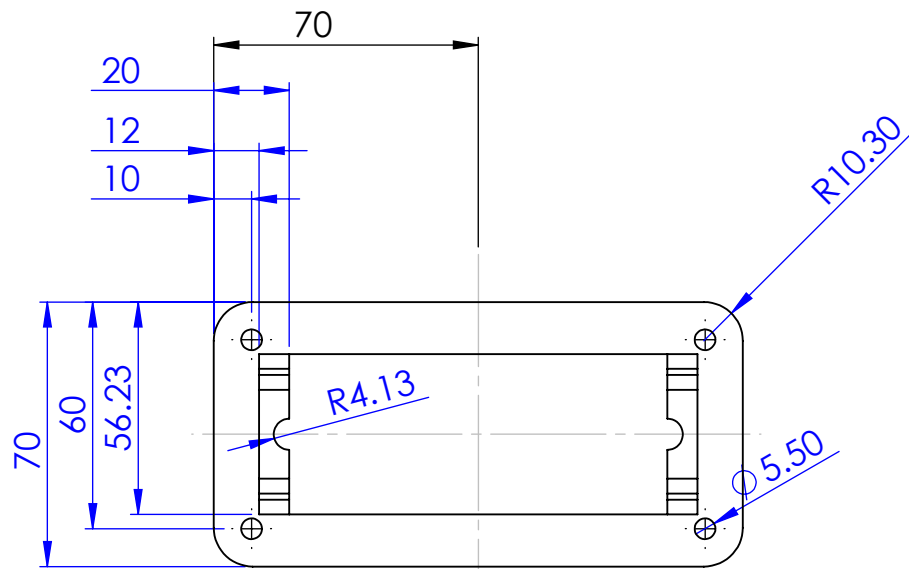
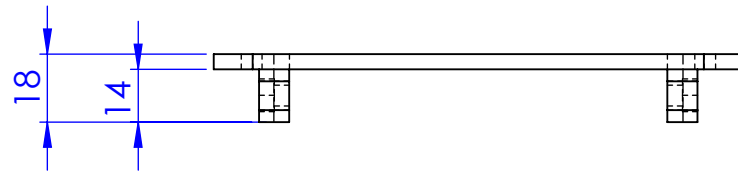
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100-004

SCALE: 2:1

WEIGHT:

SHEET 1 OF 1



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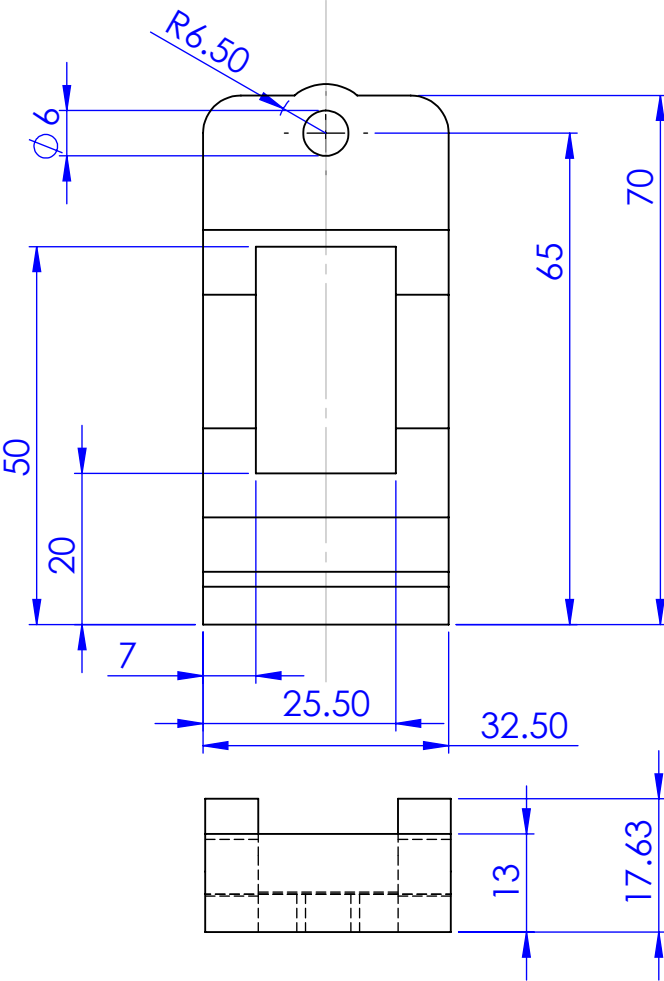
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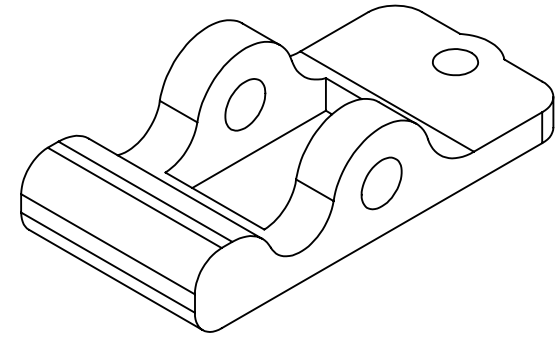
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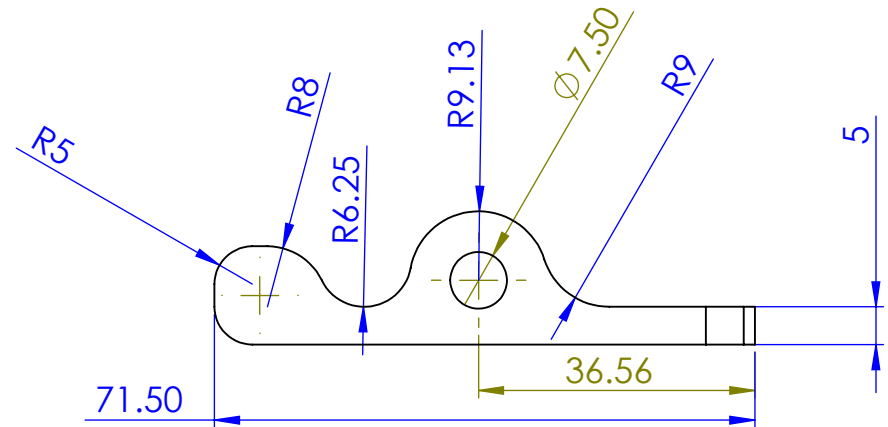
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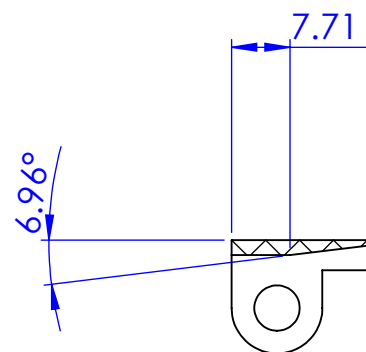
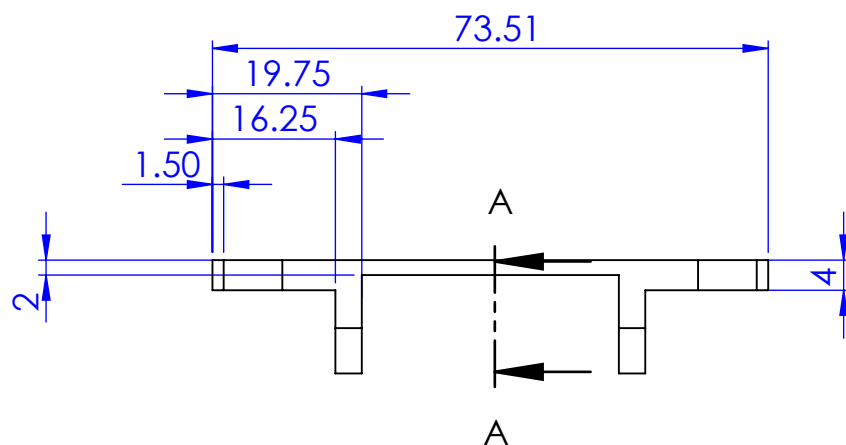
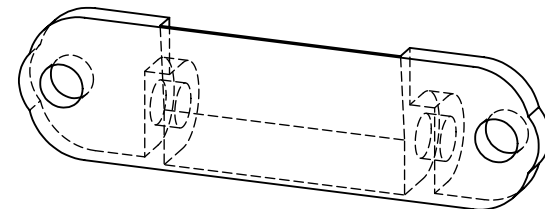
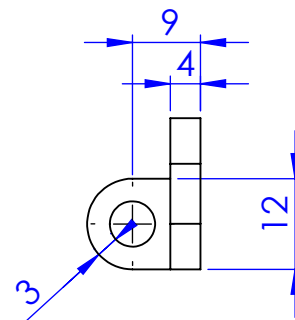
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SECTION A-A
SCALE 1 : 1

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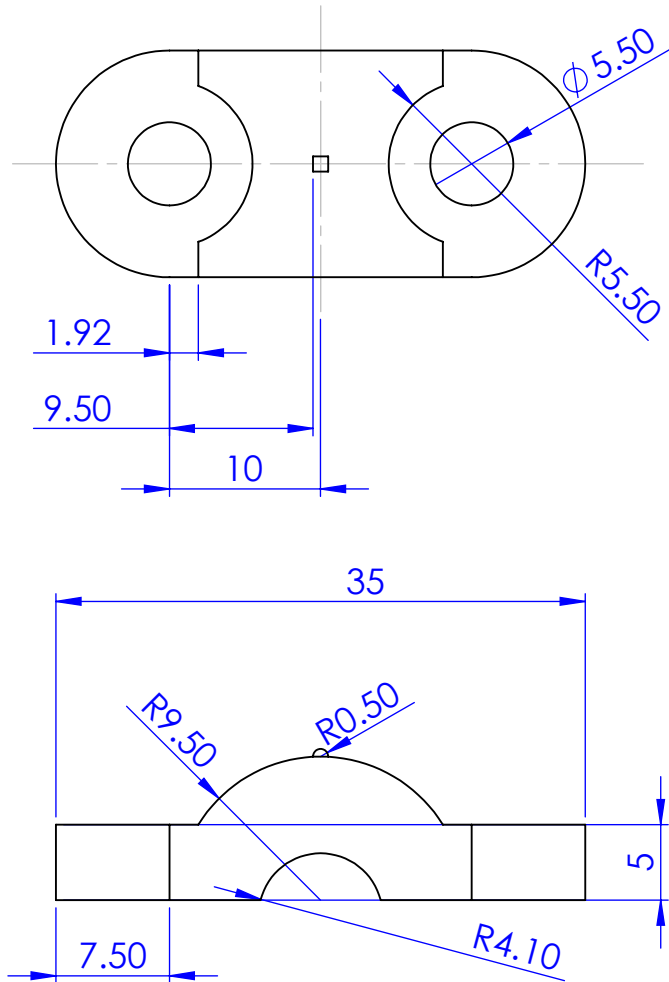
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SHEET 1 OF 1

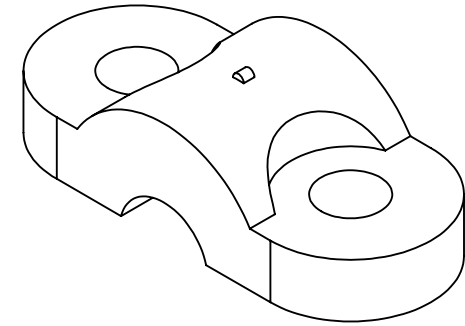
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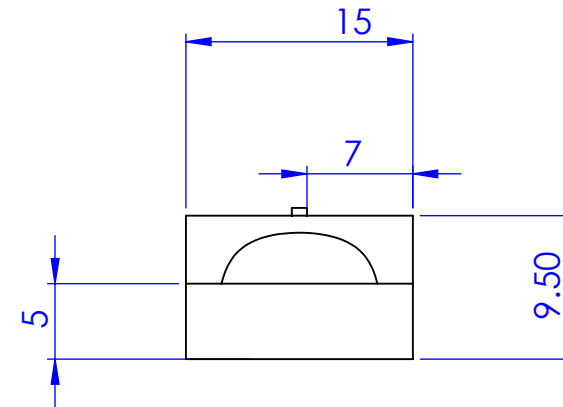
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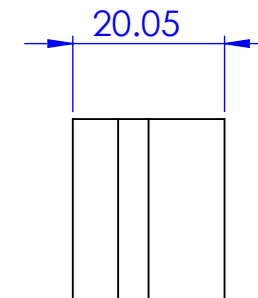
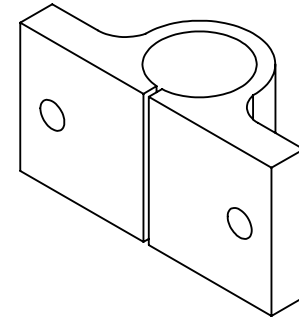
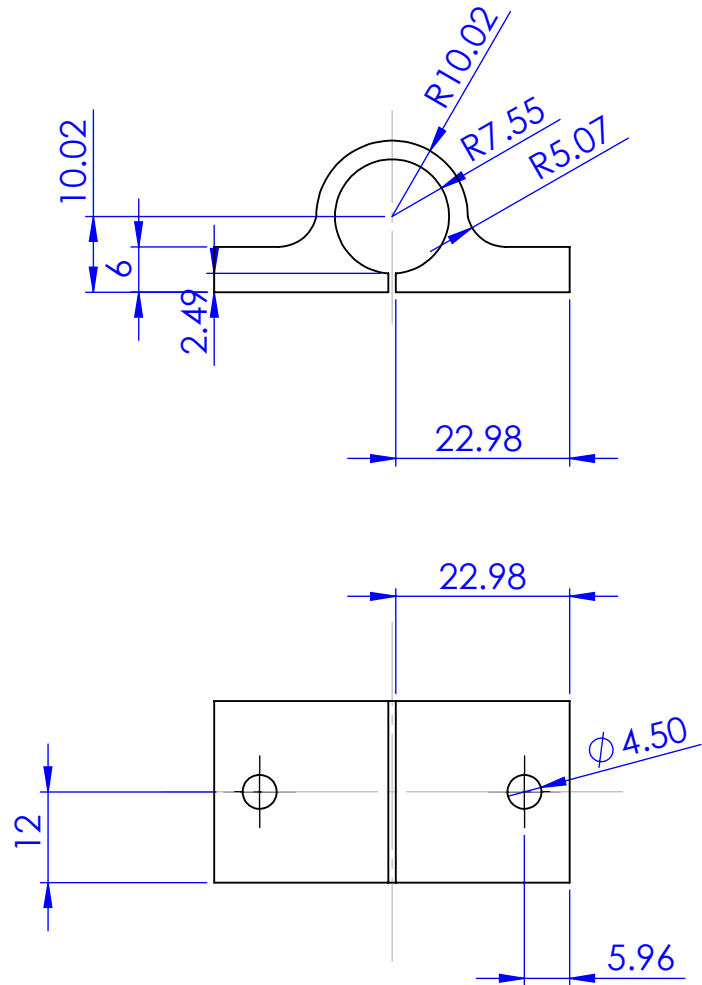
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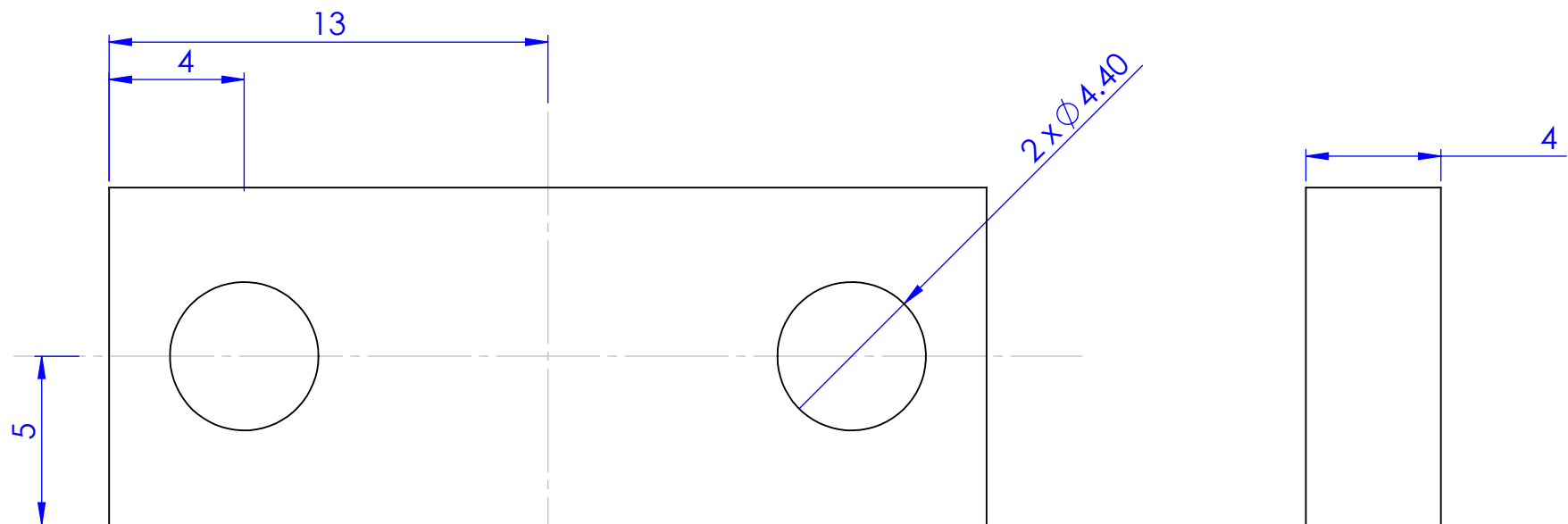
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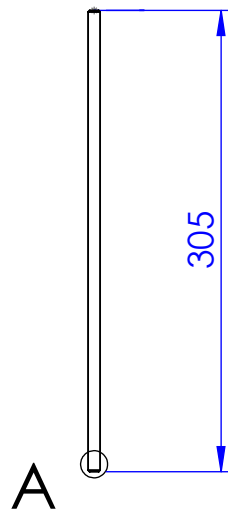
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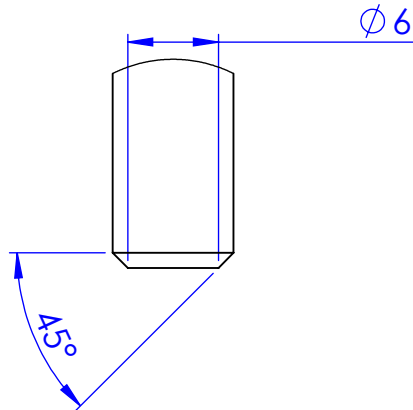
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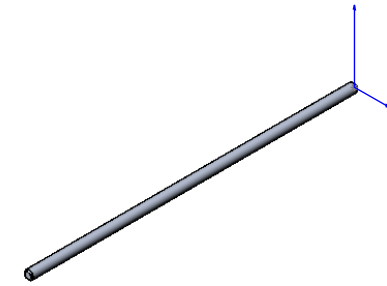


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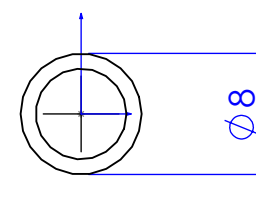
DETAIL A
SCALE 2 : 1



1



DETAIL B
SCALE 2 : 1



B

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TWO PLACE DECIMAL \pm
THREE PLACE DECIMAL \pm

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE

Team Blue

TITLE:

30.5cm ALUMINUM
ROD

SIZE

A

DWG. NO.

200-012

REV

SCALE: 1:5

SHEET 1 OF 1

2

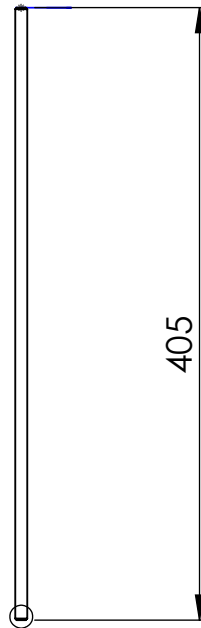
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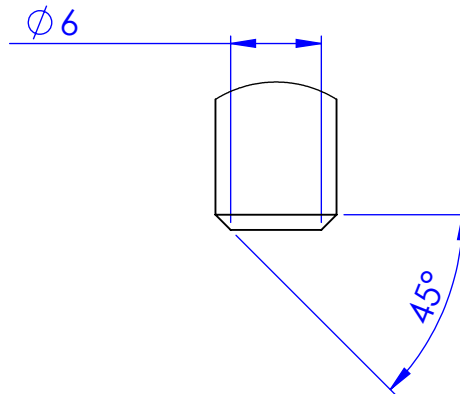
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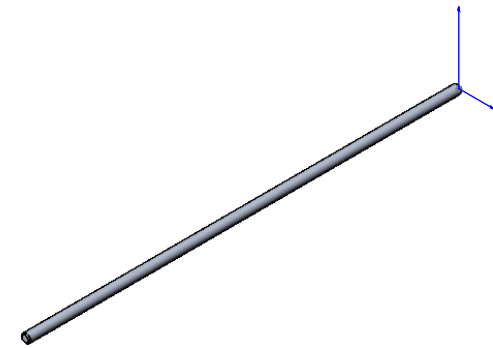
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DETAIL A
SCALE 2 : 1

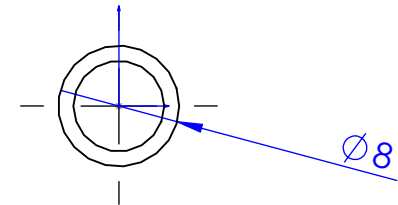


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DETAIL B
SCALE 2 : 1



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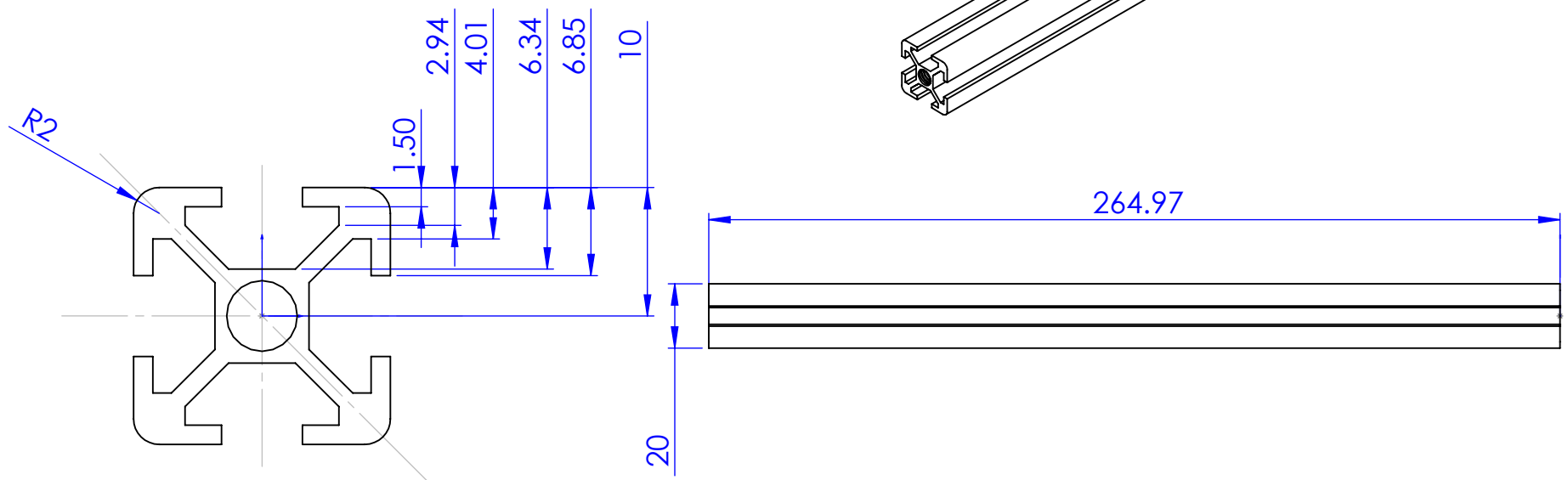
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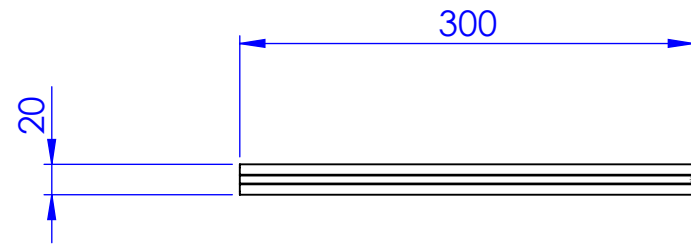
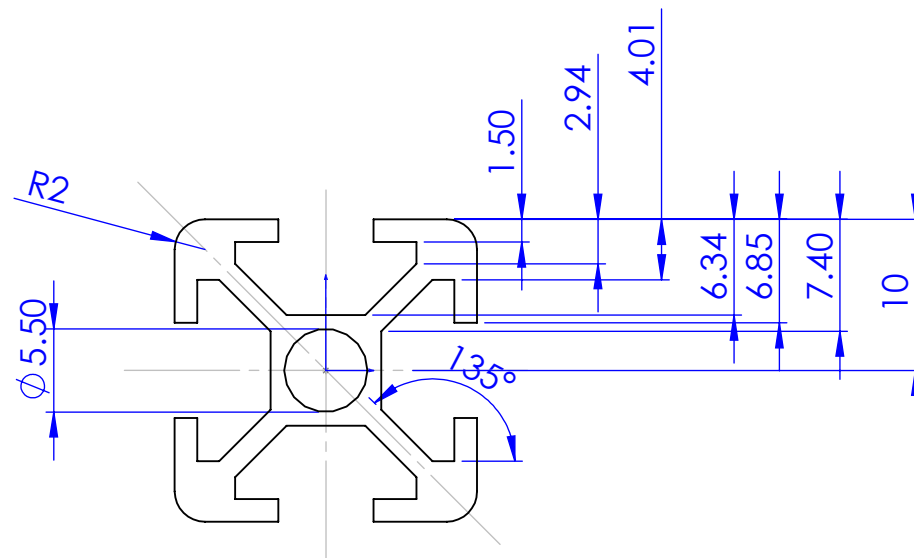
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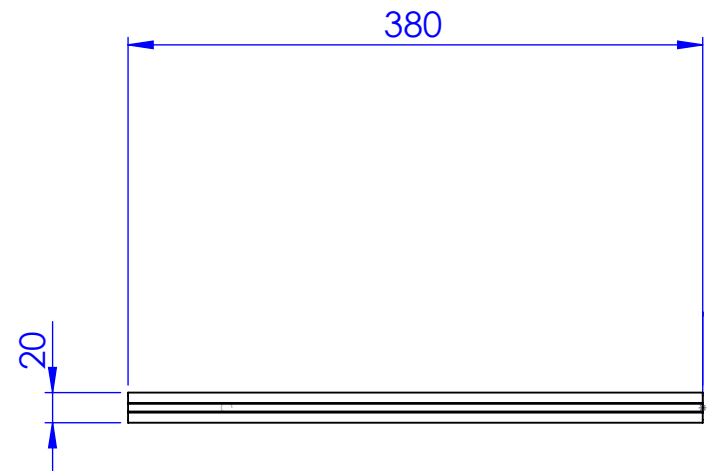
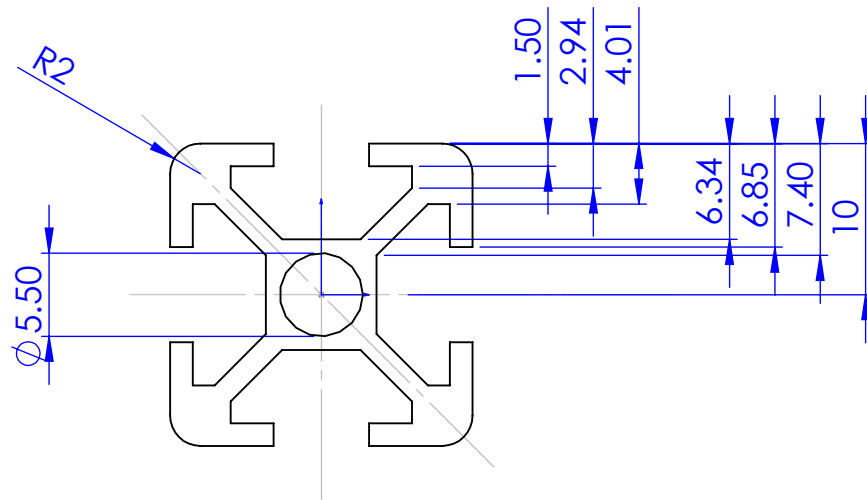
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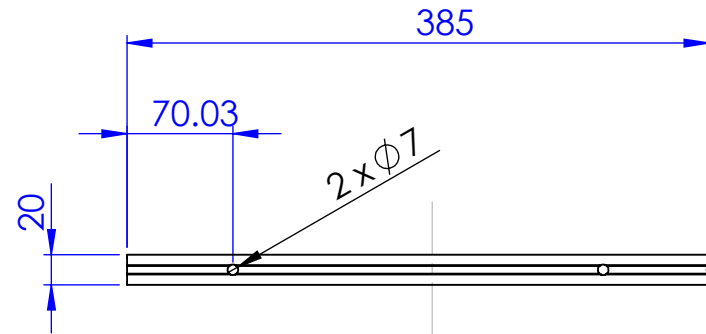
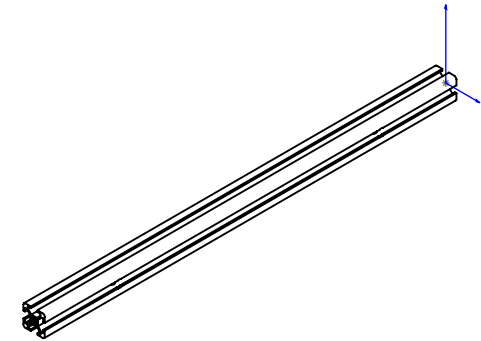
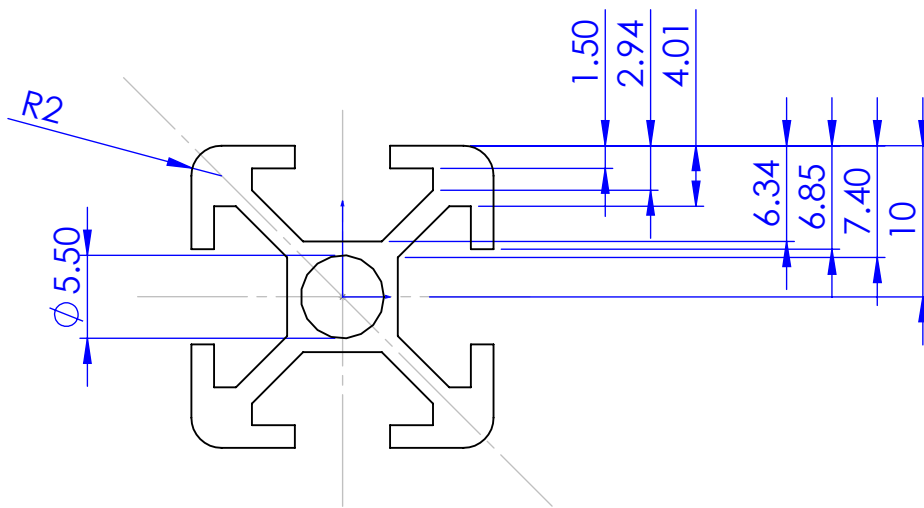
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ANGULAR: MACH ± BEND ±		MFG APPR.					
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INTERPRET GEOMETRIC						REV	
TOLERANCING PER:						200-003	
MATERIAL						SCALE: 1:2	
FINISH						WEIGHT:	
APPLICATION						SHEET 1 OF 1	
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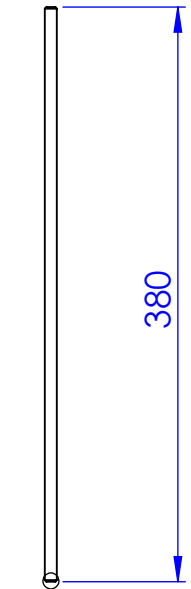
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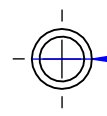
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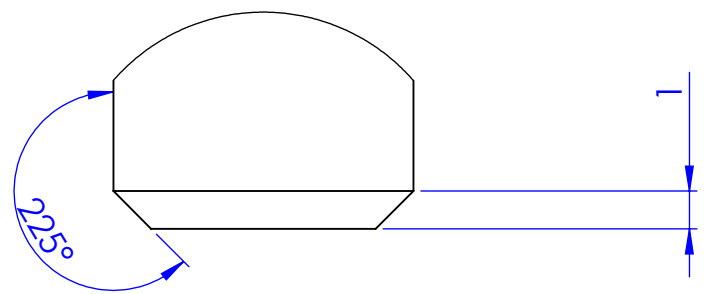
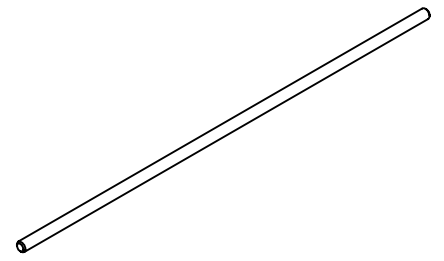


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DETAIL A
SCALE 5 : 1

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DATE: 11/11/2019
NEXT ASSY: 200-005
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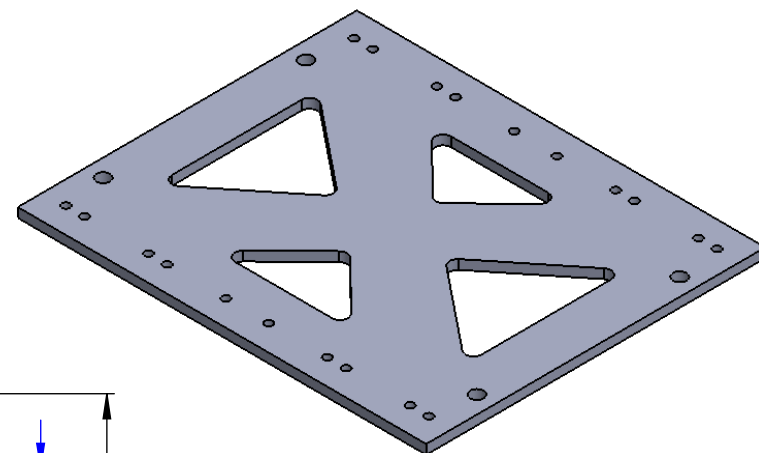
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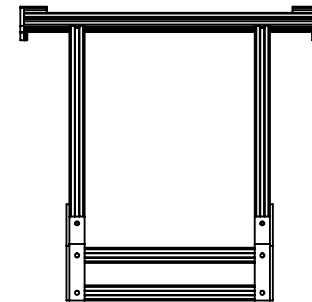
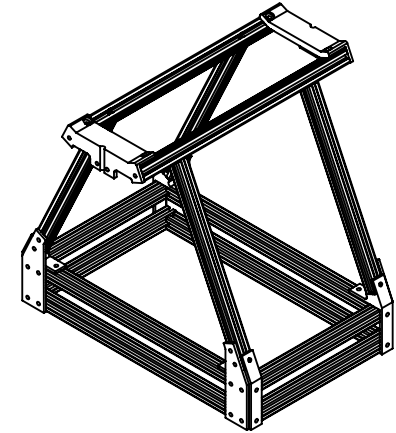
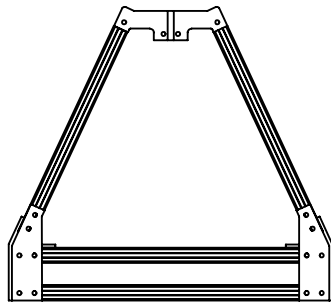
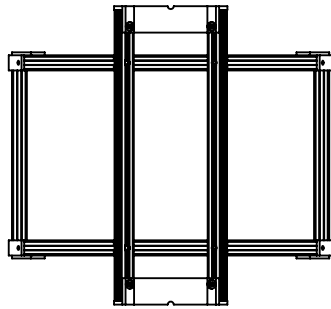


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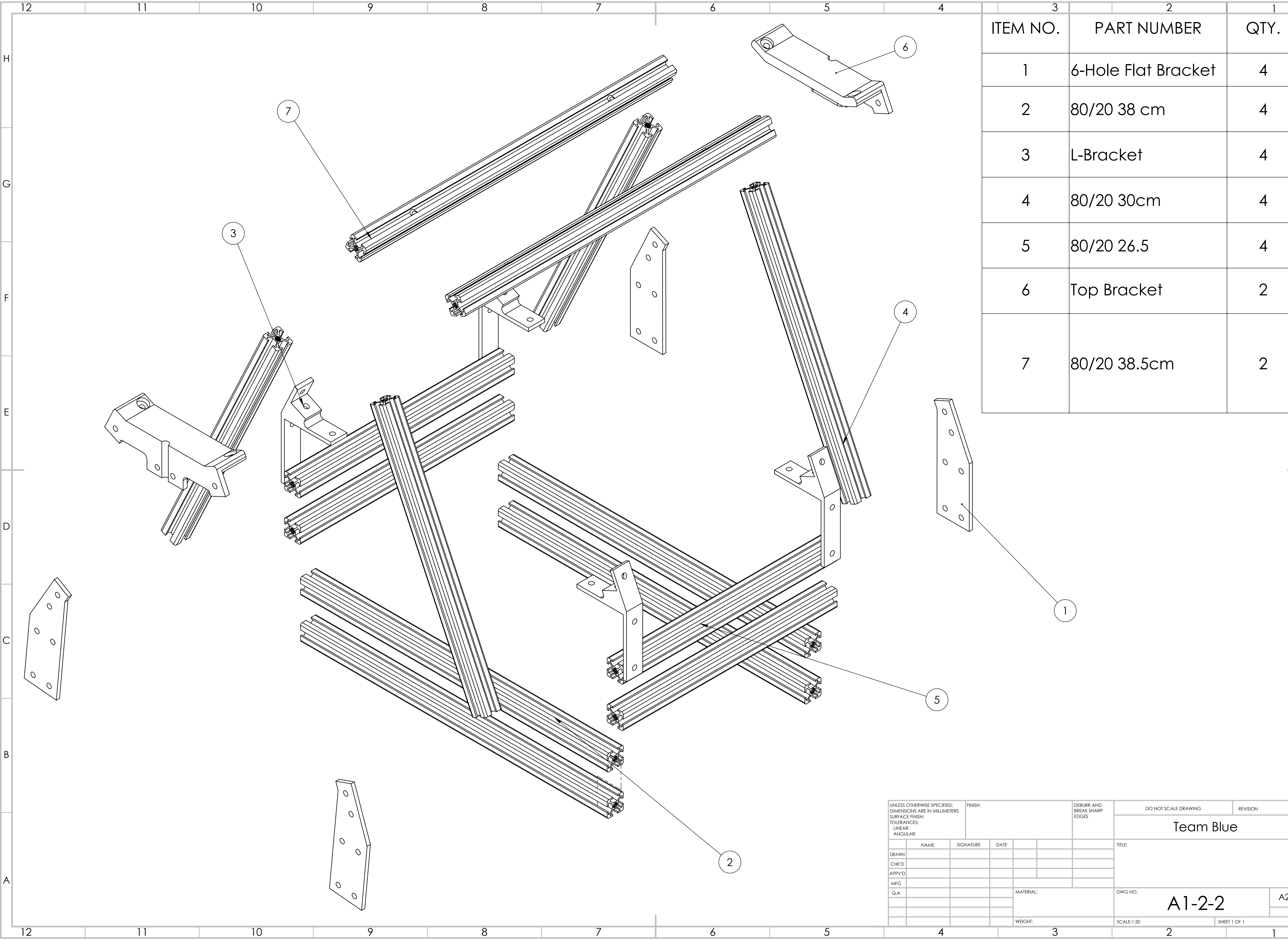
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NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

	NAME	DATE
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CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

Team Blue		
TITLE:		
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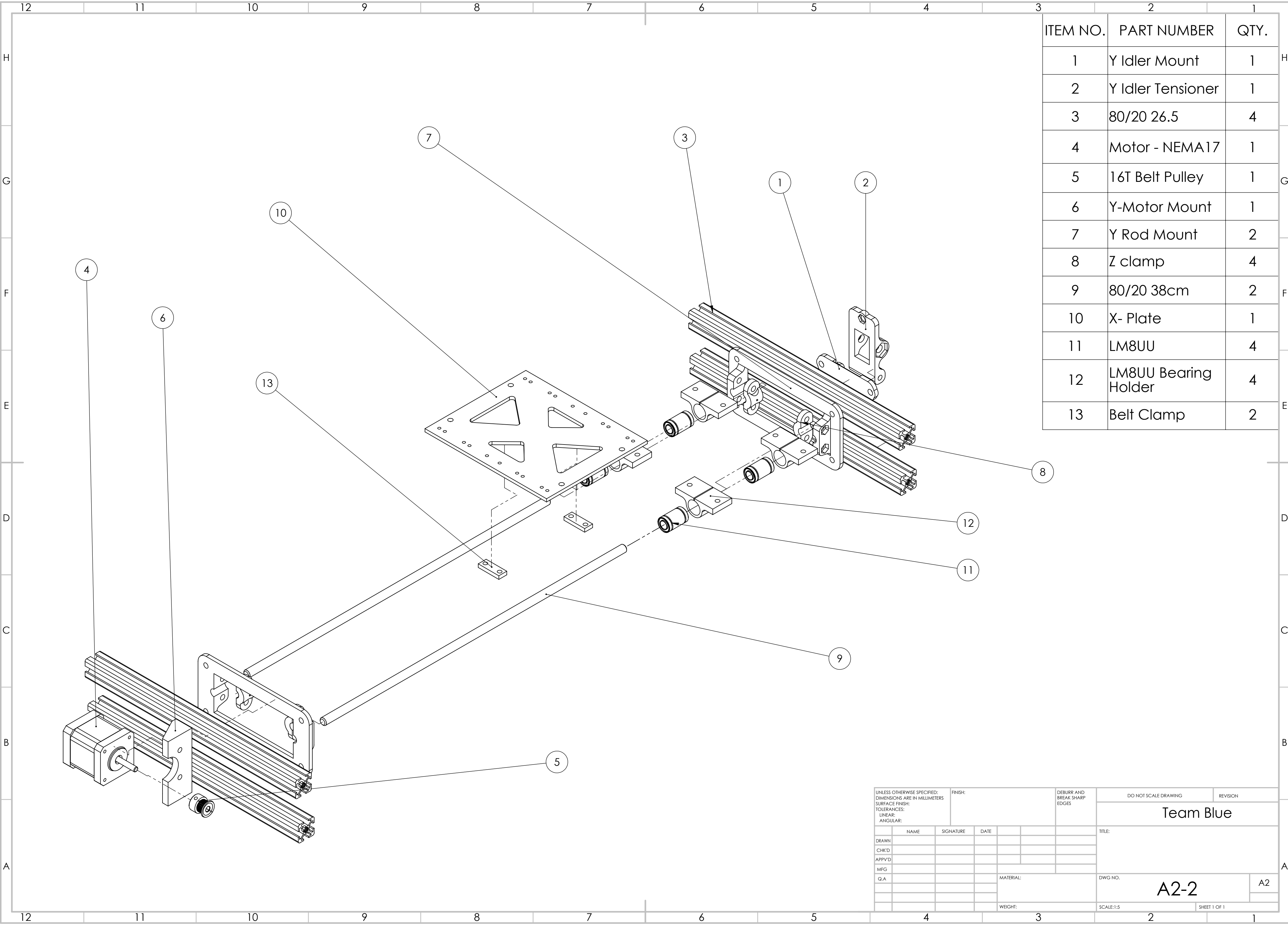
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ITEM NO.	PART NUMBER	QTY.
1	6-Hole Flat Bracket	4
2	80/20 38 cm	4
3	L-Bracket	4
4	80/20 30cm	4
5	80/20 26.5	4
6	Top Bracket	2
7	80/20 38.5cm	2

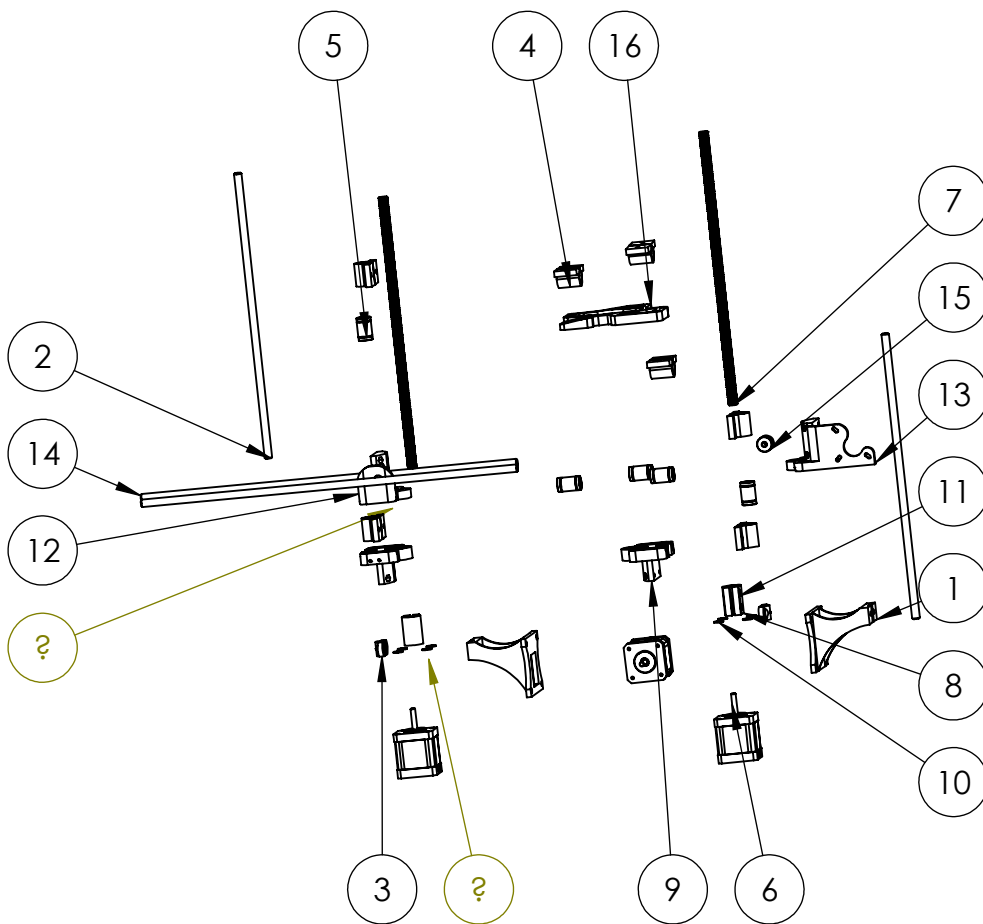
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DRAWN				NAME				SIGNATURE				DATE				TITLE:			
CHK'D																			
APPV'D																			
MFG																			
Q.A																			
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																A2			
																SCALE:1:20			
																SHEET 1 OF 1			



ITEM NO.	PART NUMBER	QTY.
1	Y Idler Mount	1
2	Y Idler Tensioner	1
3	80/20 26.5	4
4	Motor - NEMA17	1
5	16T Belt Pulley	1
6	Y-Motor Mount	1
7	Y Rod Mount	2
8	Z clamp	4
9	80/20 38cm	2
10	X- Plate	1
11	LM8UU	4
12	LM8UU Bearing Holder	4
13	Belt Clamp	2

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:				FINISH:		DEBURR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION	
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APP'VD											
MFG											
Q.A							MATERIAL:		DWG NO.		A2
							WEIGHT:		SCALE:1:5		SHEET 1 OF 1

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ITEM NO.	PART NUMBER	QTY.
1	Lower_Z_Mount_Motor	2
2	30.5cm Aluminum rod	2
3	z_clampNoChange	2
4	100-009	7
5	LM8UU	7
6	Motor - NEMA17 (1)	3
7	98940A303	2
8	Beefey_Coupler_Acme Part	2
9	Ao-X end clamp acme (2_25_2016) (1)	2
10	4.0 washer	8
11	thin 4.0 washers	4
12	AO-X end_idle_acme	1
13	AO-x-end-motor_acme	1
14	40.5cm Aluminum rod	2
15	16T Belt Pulley	1
16	Stablized x - carriage	1

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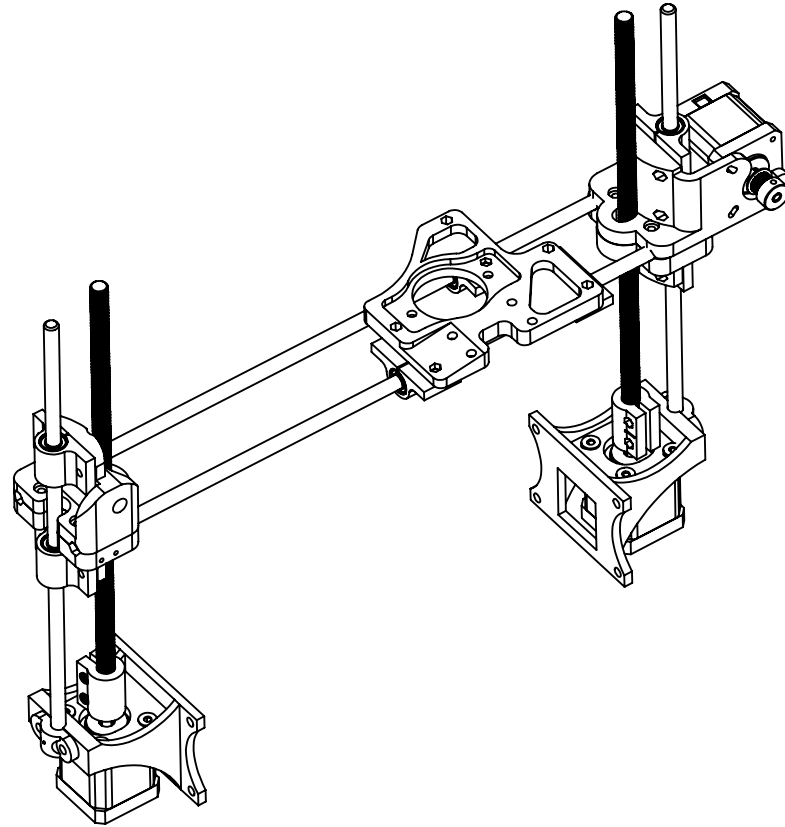
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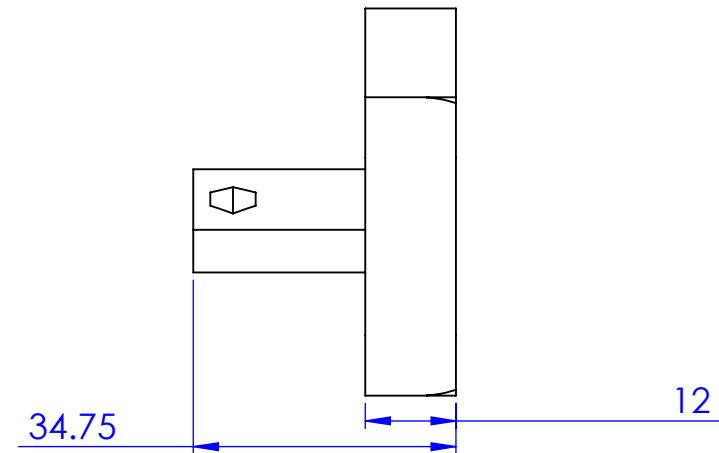
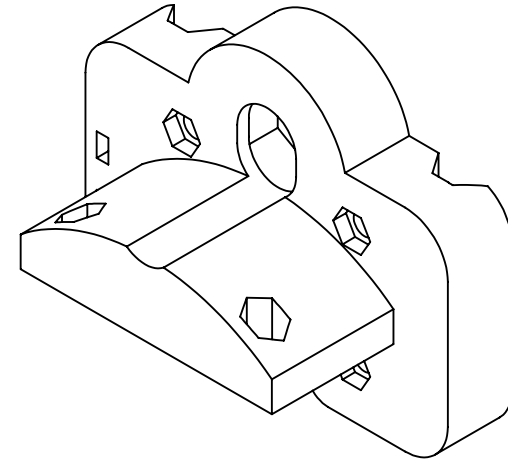
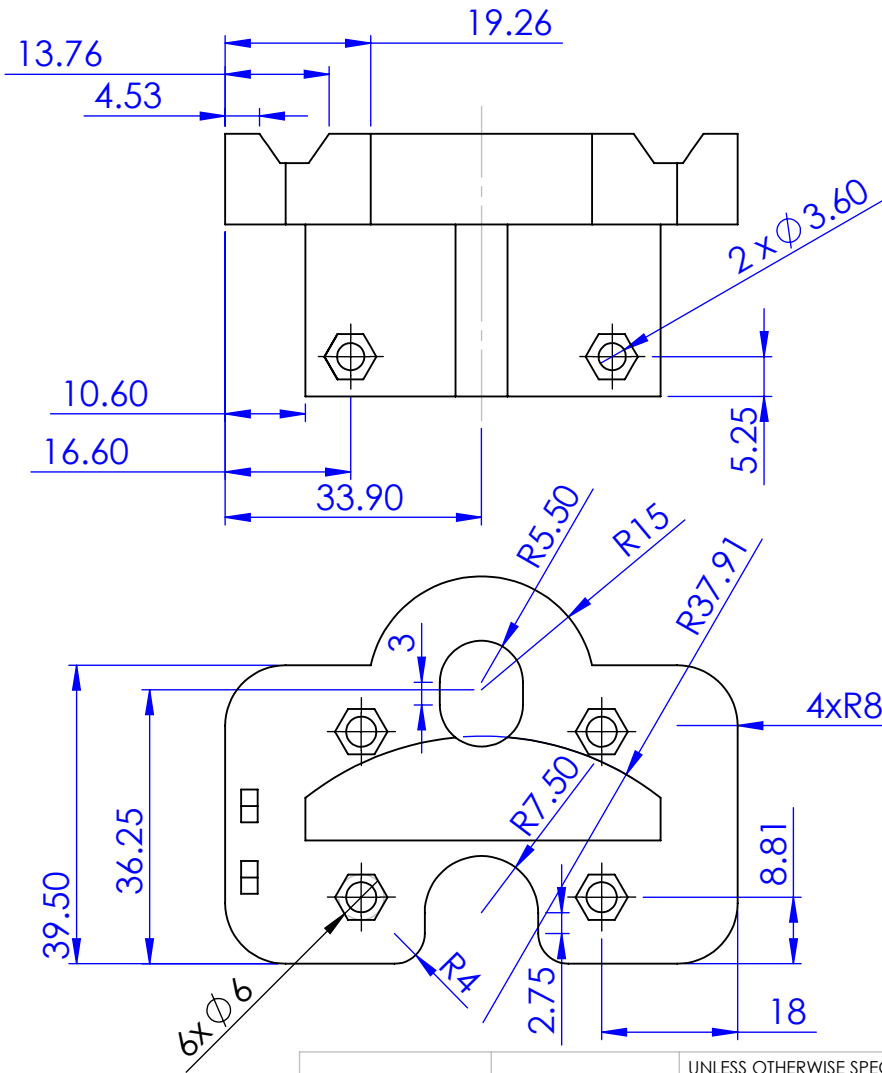
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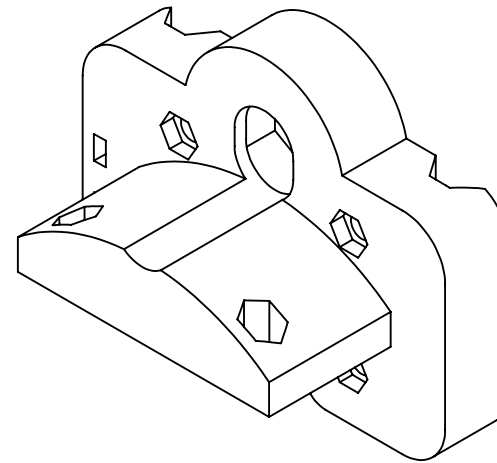
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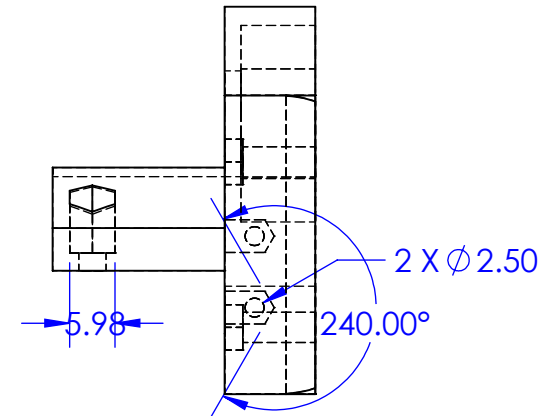
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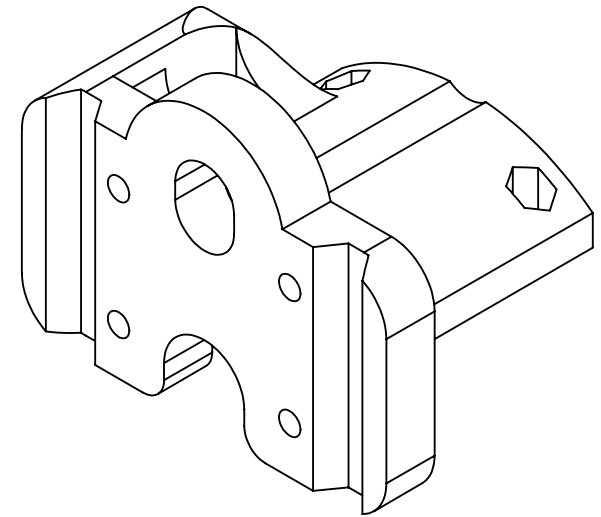
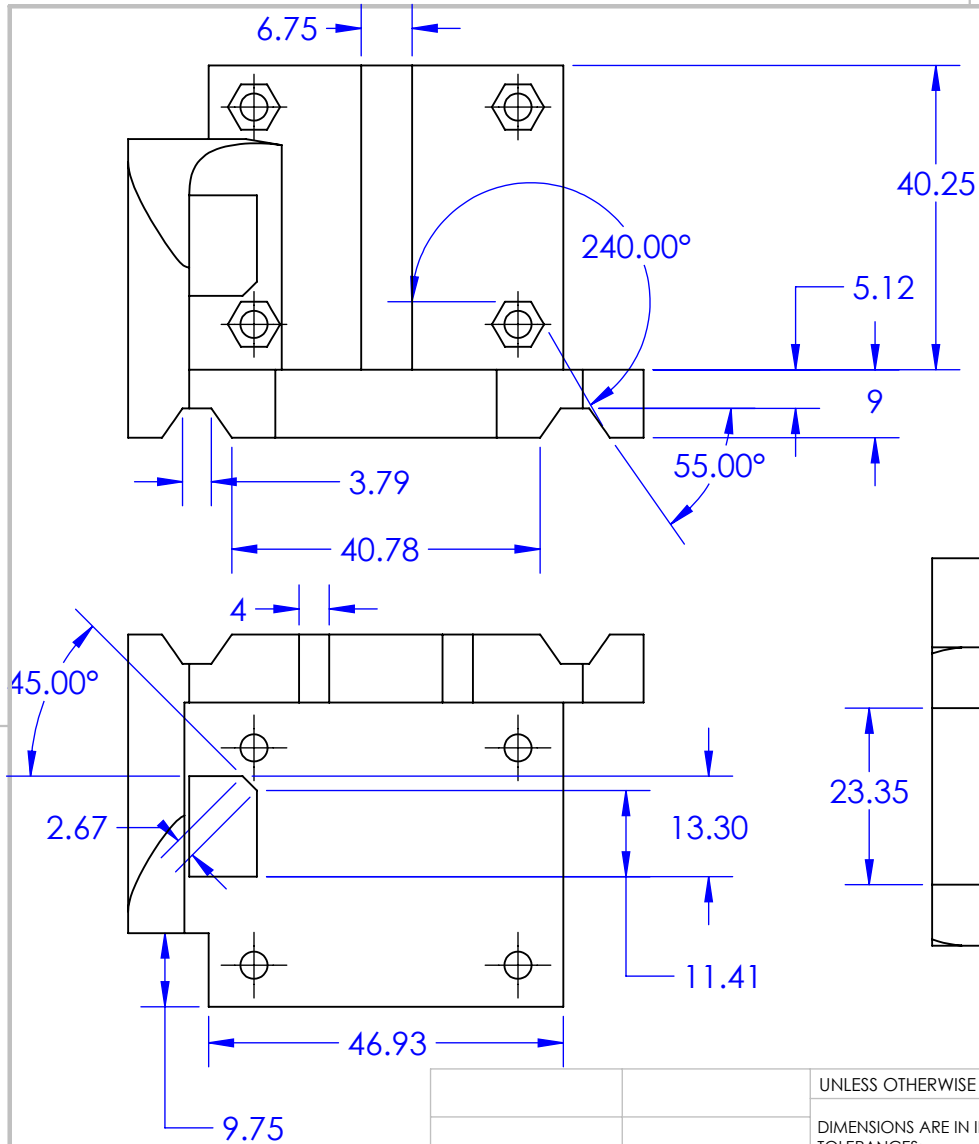
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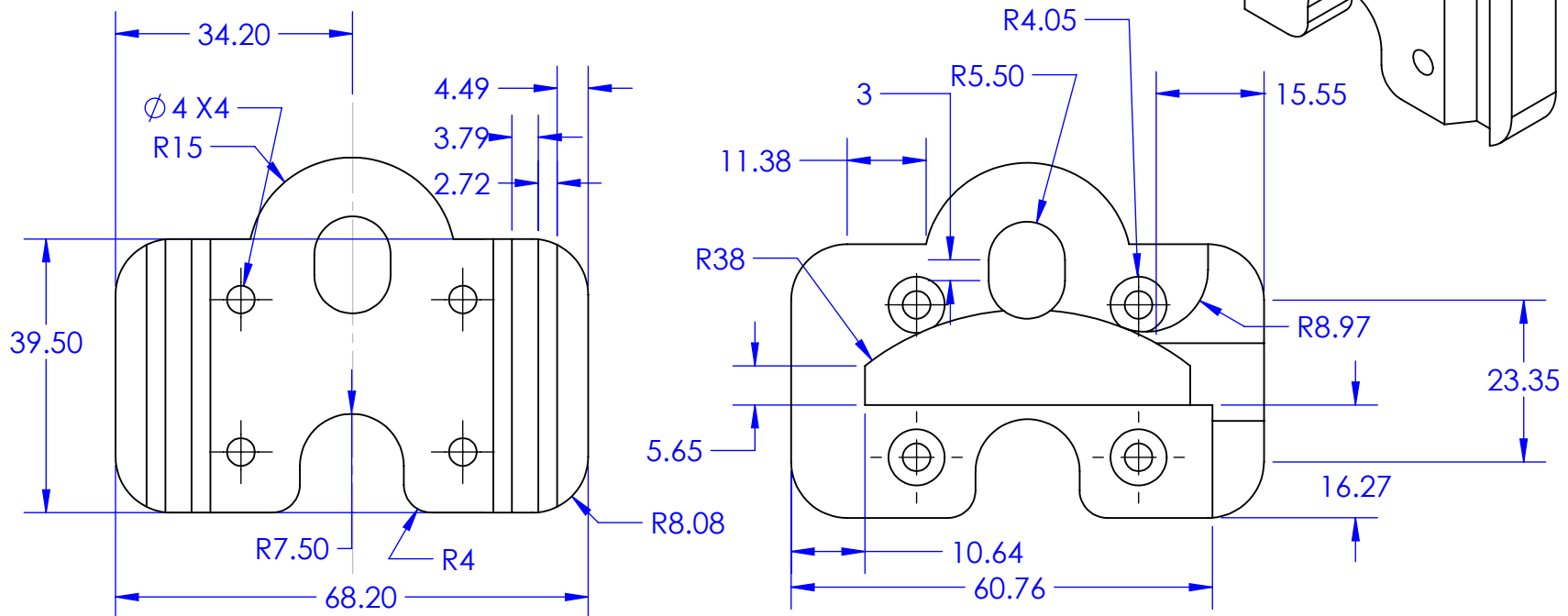
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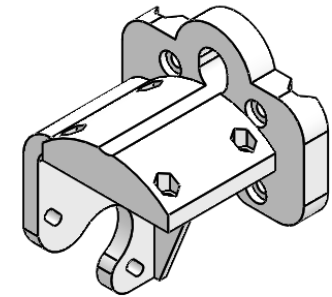
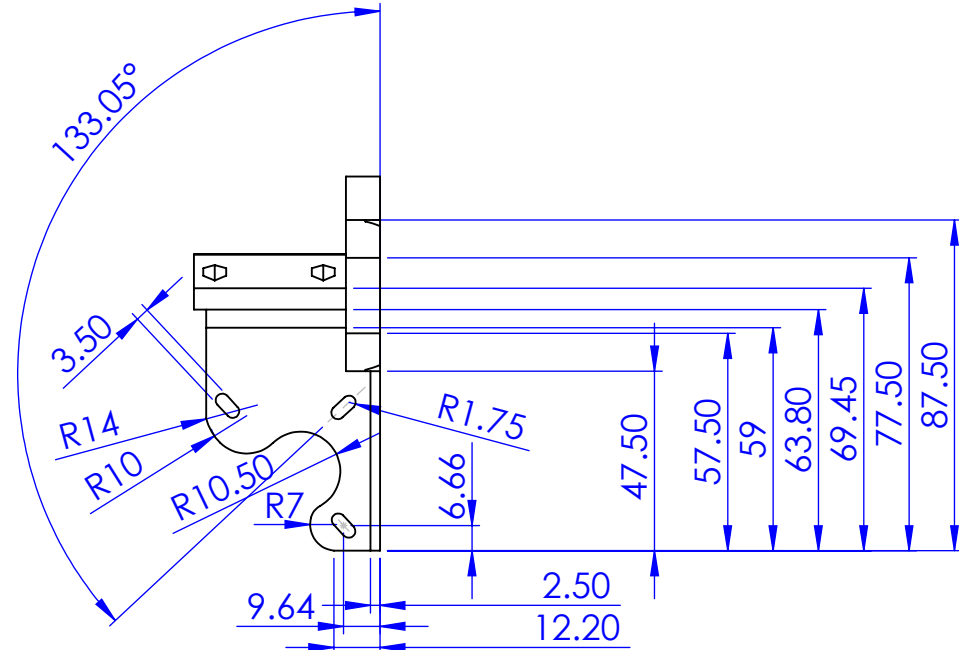
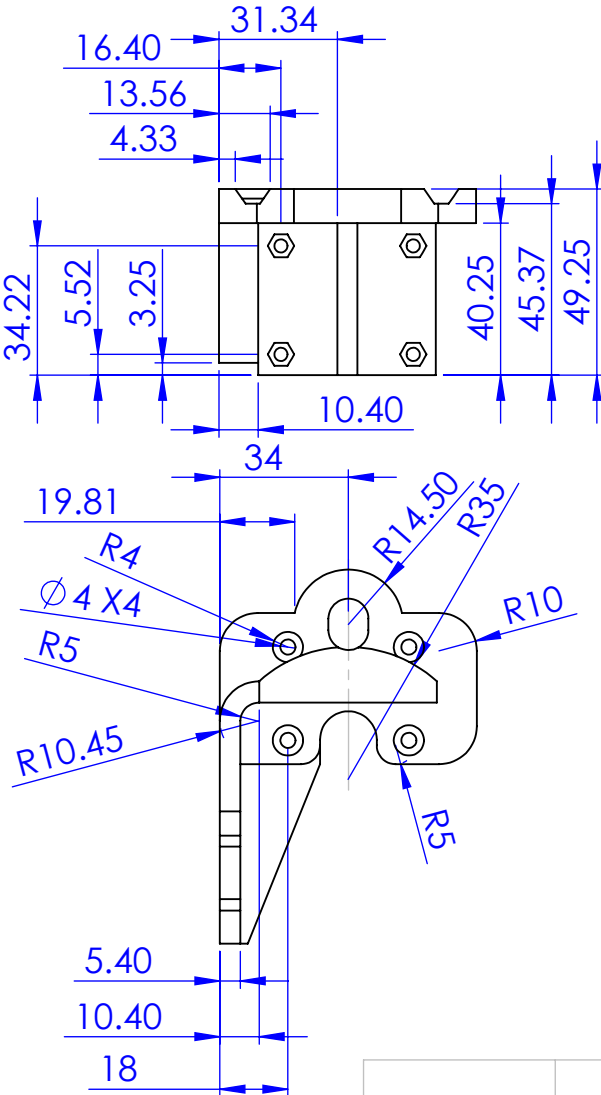
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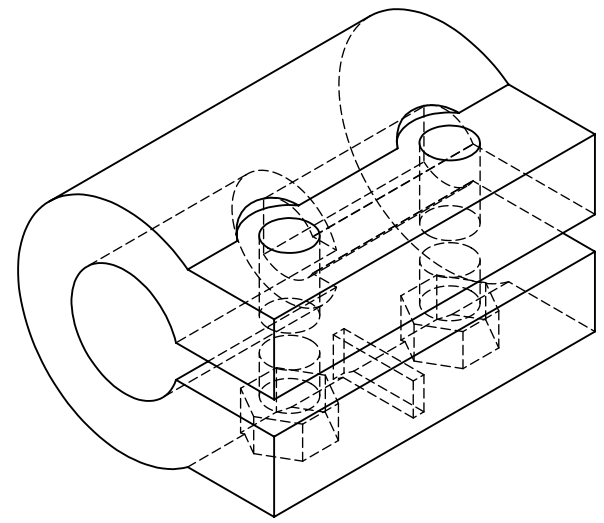
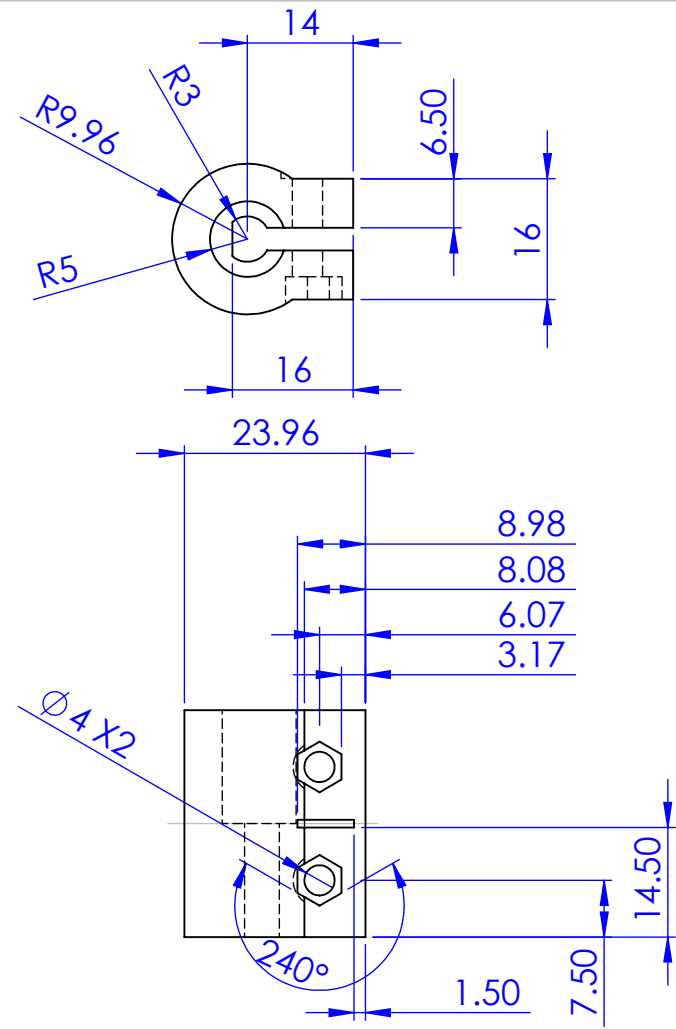
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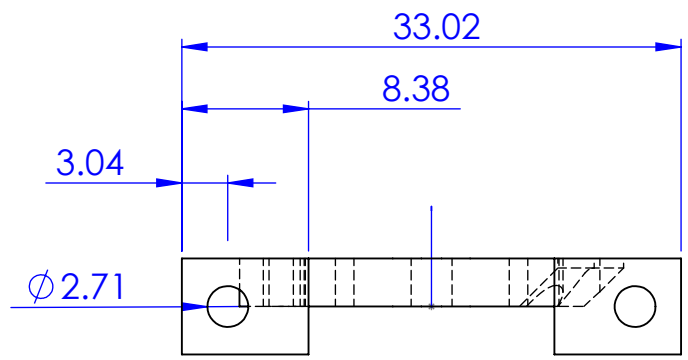
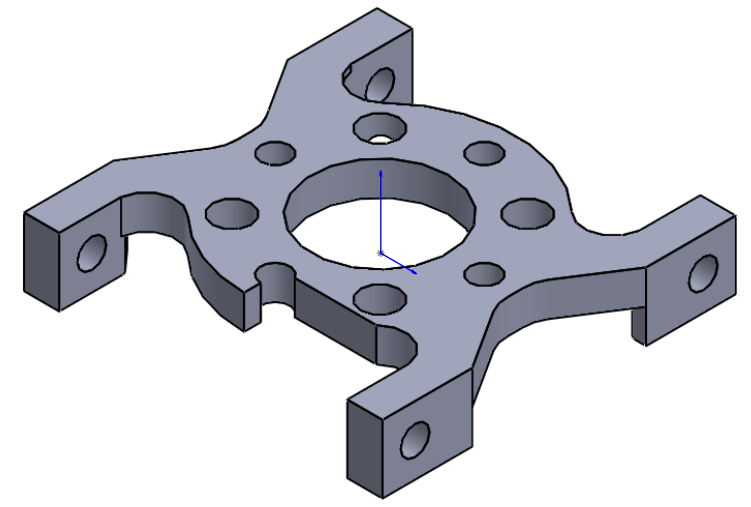
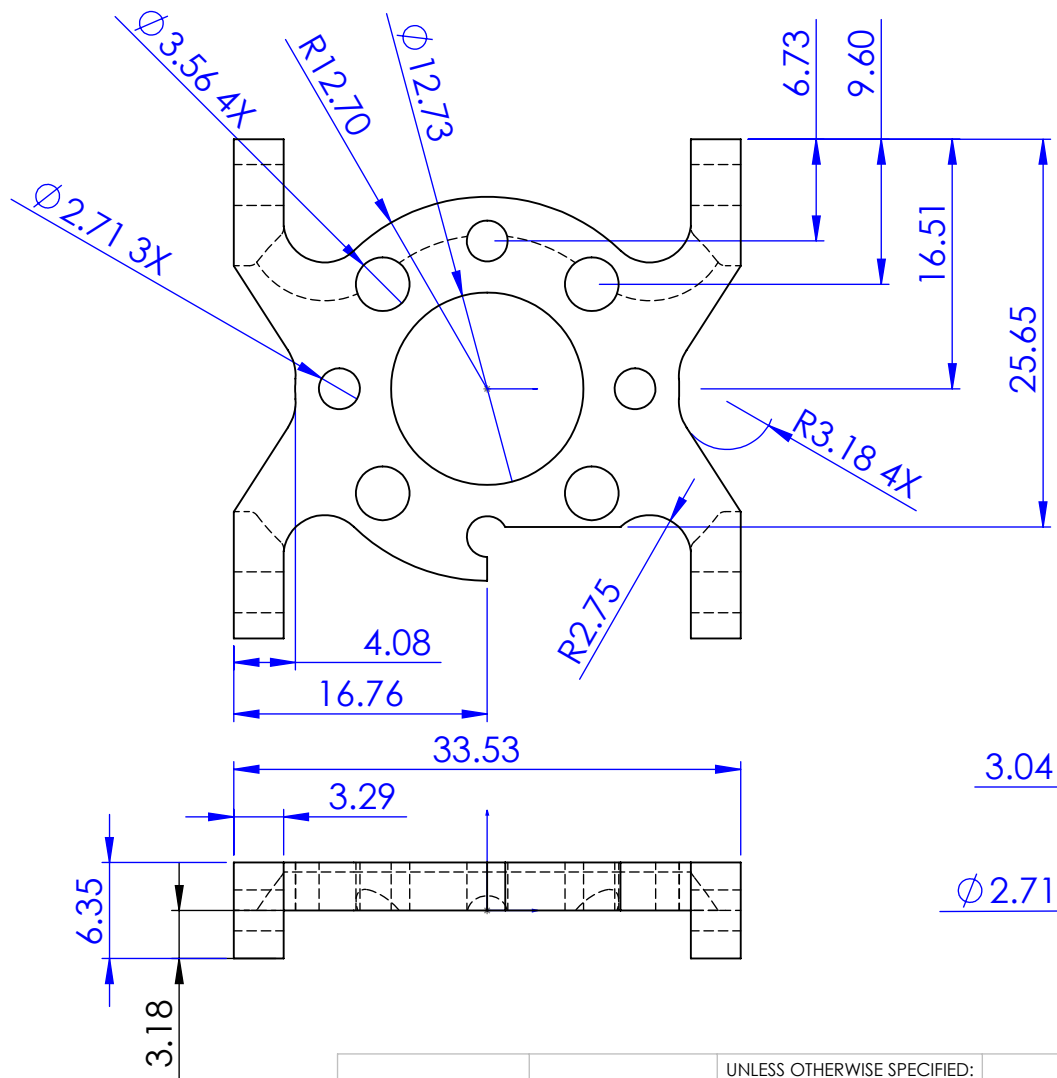
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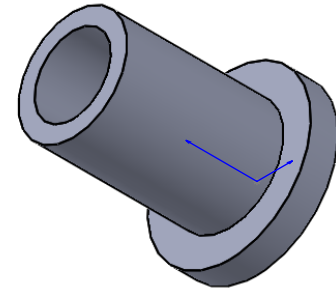
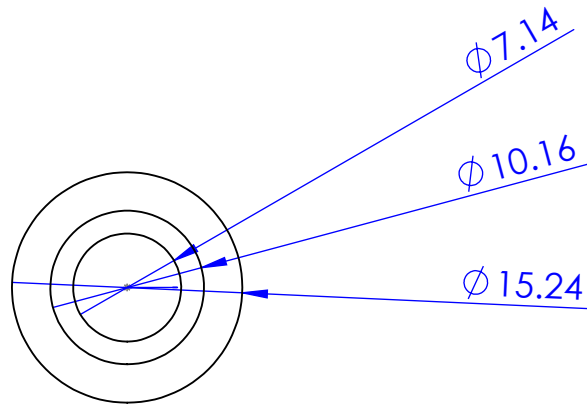
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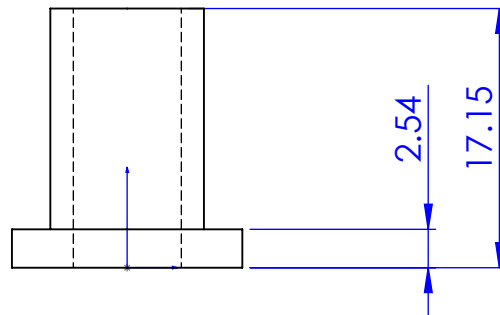
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	TEAM BLUE		
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		ANGULAR: MACH \pm BEND \pm	MFG APPR.					
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		THREE PLACE DECIMAL \pm	COMMENTS:			DWG. NO.		
		INTERPRET GEOMETRIC TOLERANCING PER:				100-013		REV
		MATERIAL						
		FINISH						
APPLICATION		DO NOT SCALE DRAWING	SCALE: 2:1					
			SHEET 1 OF 1					

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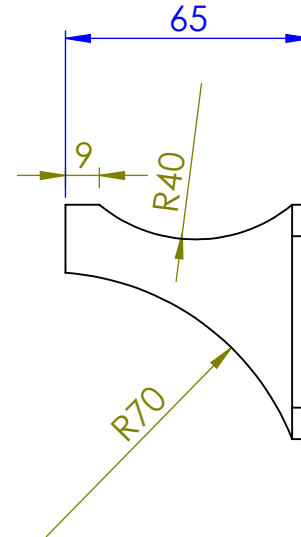
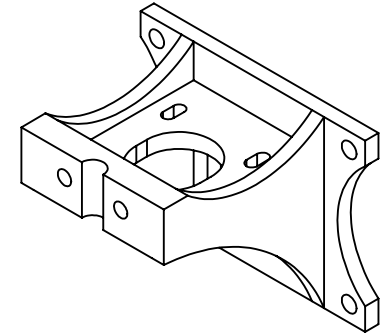
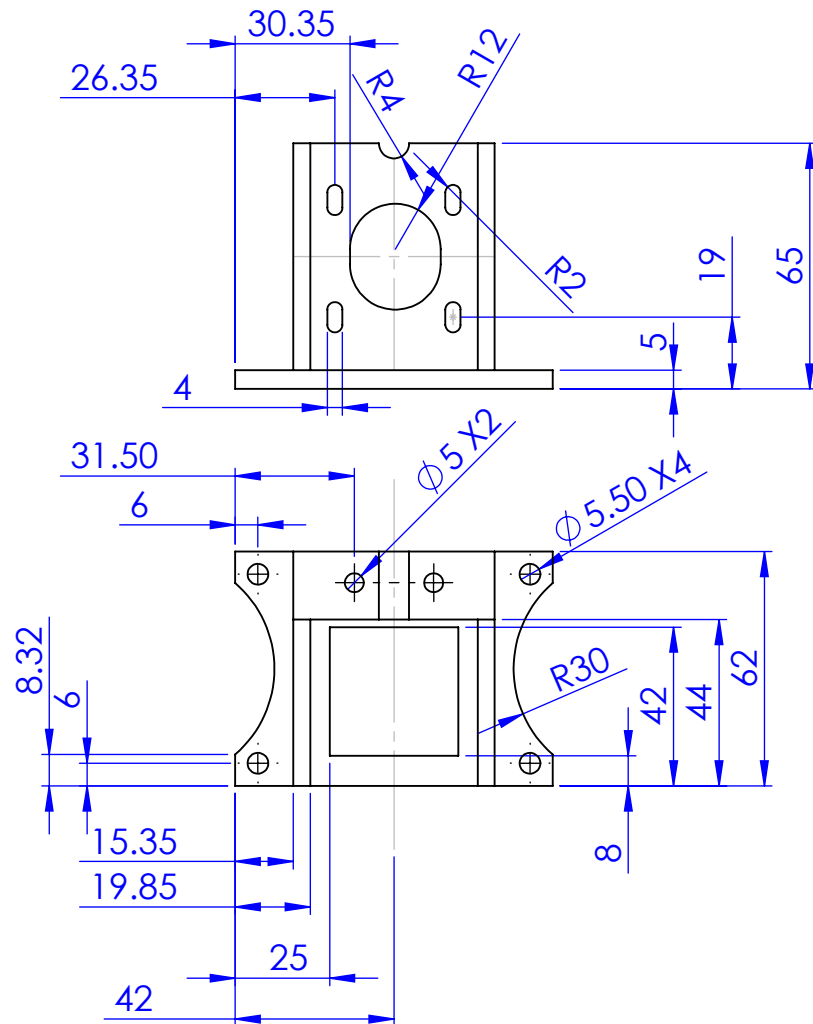
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 ANGULAR: MACH \pm BEND \pm
 TWO PLACE DECIMAL \pm
 THREE PLACE DECIMAL \pm

INTERPRET GEOMETRIC
 TOLERANCING PER:

MATERIAL

FINISH

NAME

DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

Team Blue

TITLE:

Lower Z Mount
 Motor V2.4

SIZE

A

DWG. NO.

100-018

REV

SCALE: 1:1

WEIGHT:

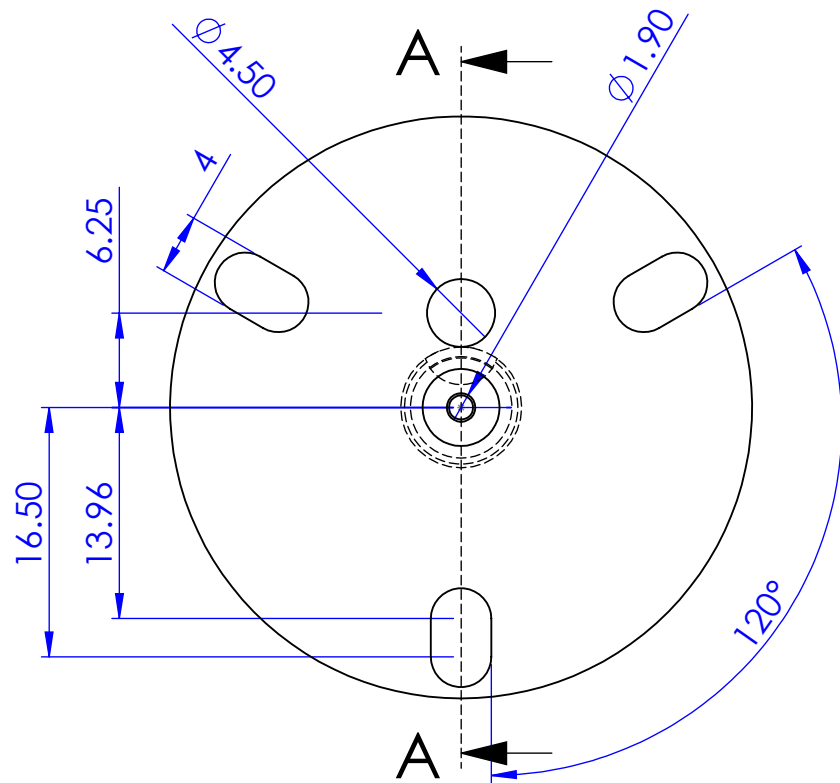
SHEET 1 OF 1

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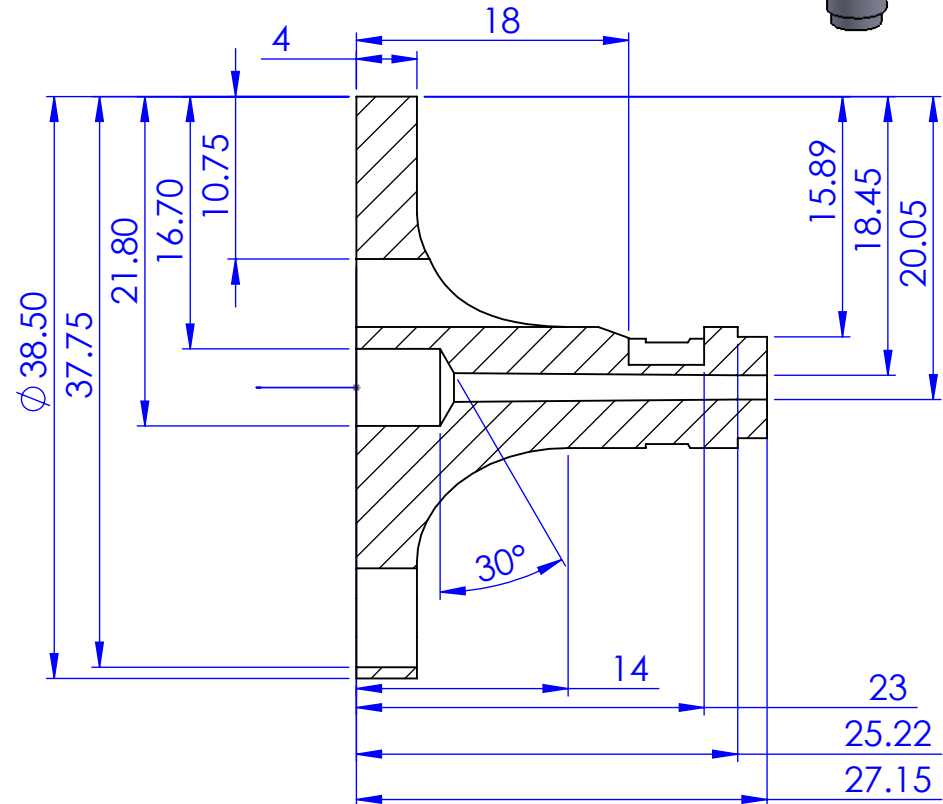
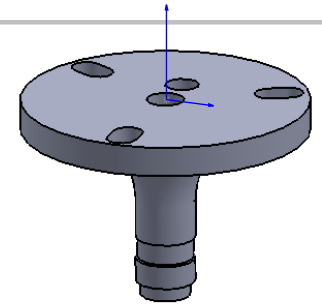
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SECTION A-A

SCALE 2 : 1



B

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ANGULAR: MACH \pm BEND \pm
TWO PLACE DECIMAL \pm
THREE PLACE DECIMAL \pm

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

NAME

DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

Team Blue

TITLE:

SIZE

DWG. NO.

REV

A

100-011

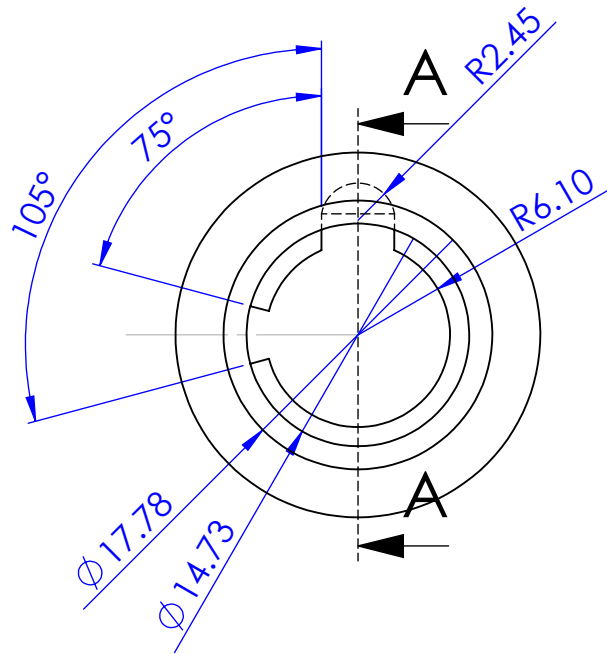
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SHEET 1 OF 1

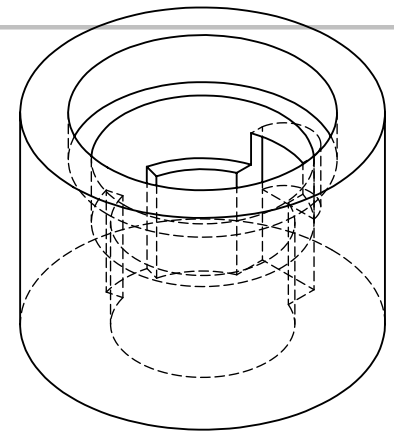
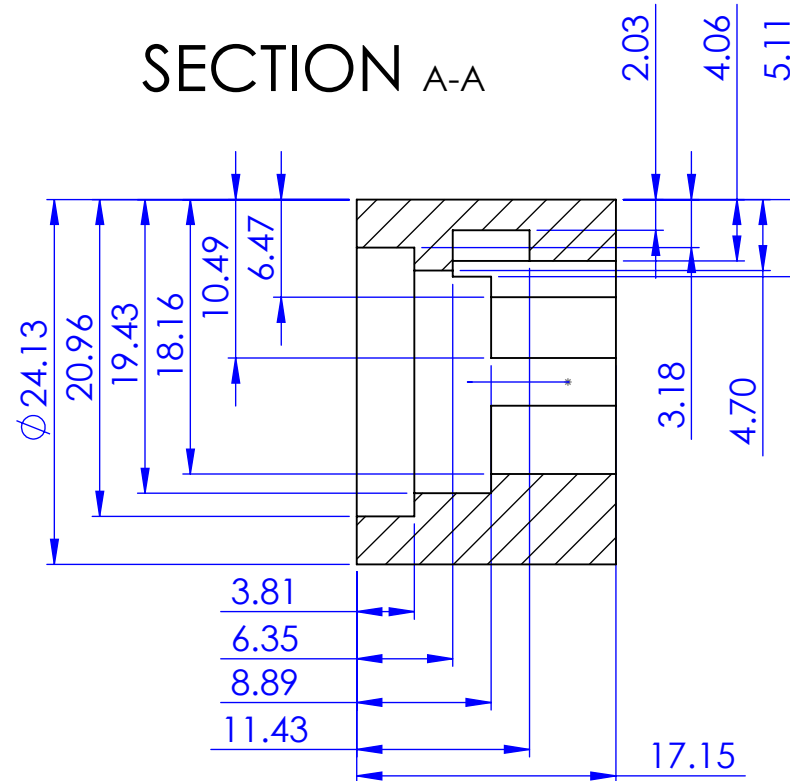
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B



SECTION A-A



B

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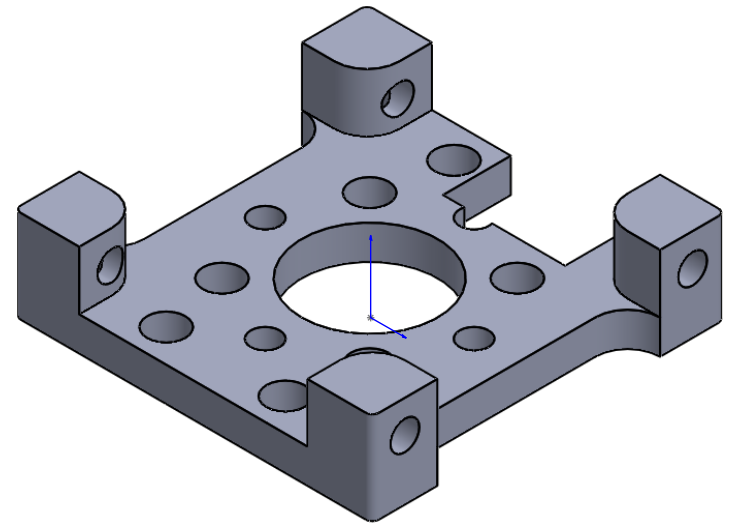
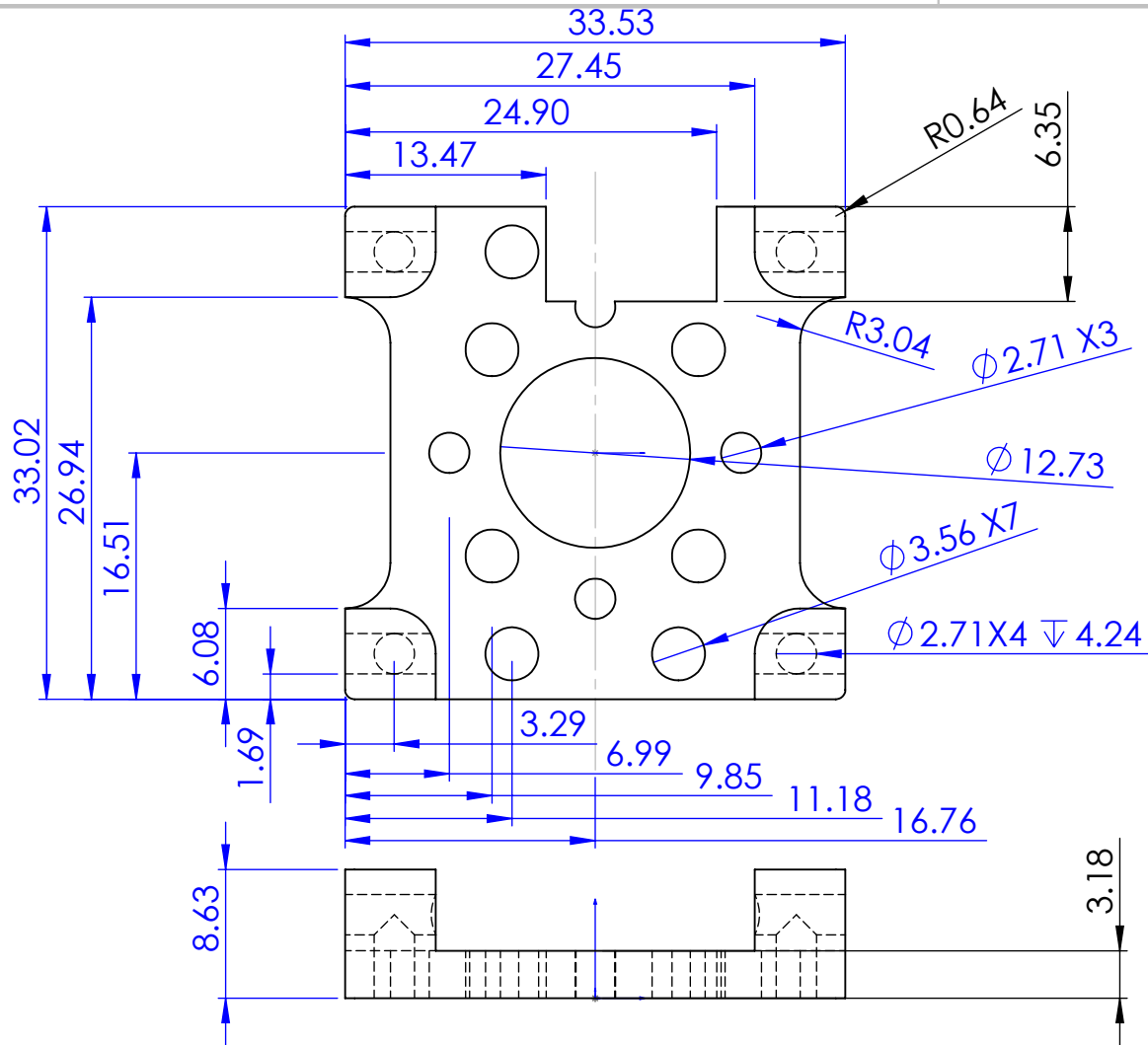
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		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
		USED ON						
		APPLICATION						
		DO NOT SCALE DRAWING						

A

2

1

B



B

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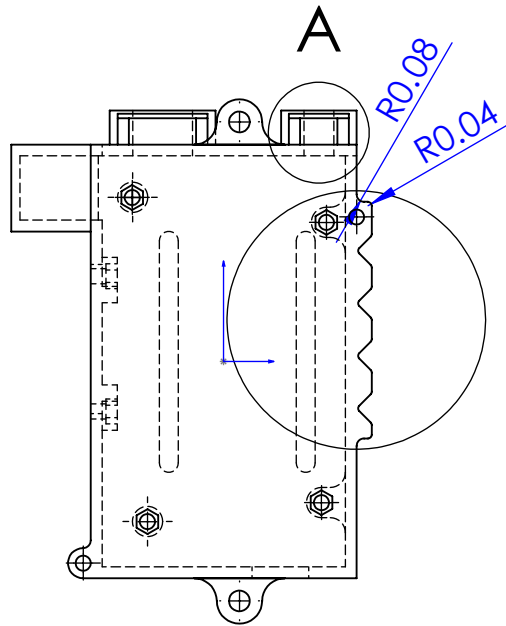
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		MATERIAL						SHEET 1 OF 1	
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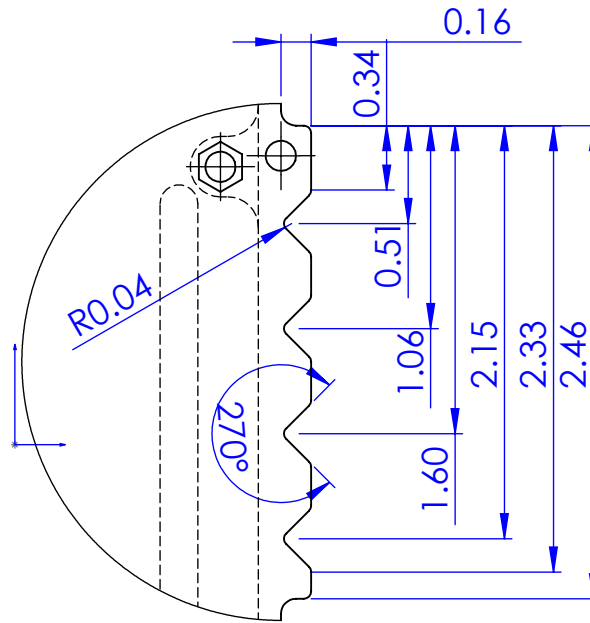
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B

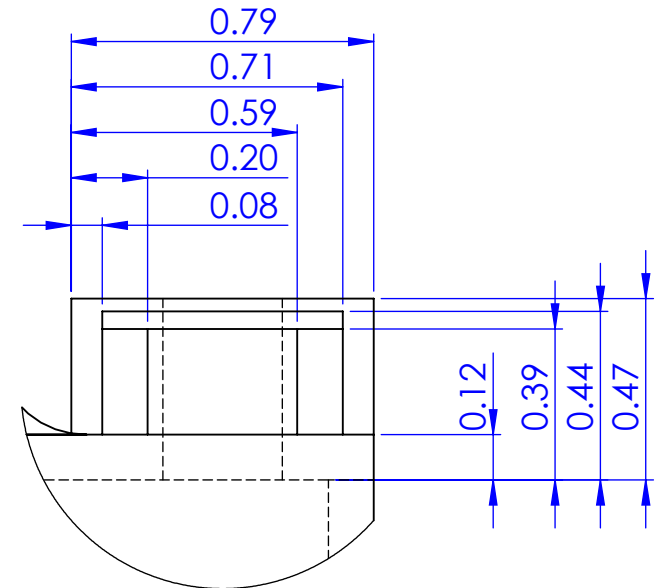


B



DETAIL B
SCALE 1 : 1

1



DETAIL A
SCALE 2 : 1

B

A

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THREE PLACE DECIMAL \pm

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE

Team Blue

TITLE:

RAMP MOUNT

SIZE

A

DWG. NO.

100-021

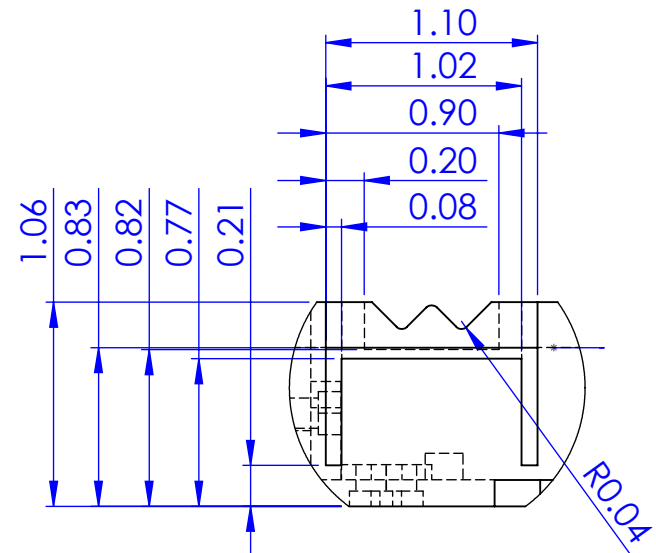
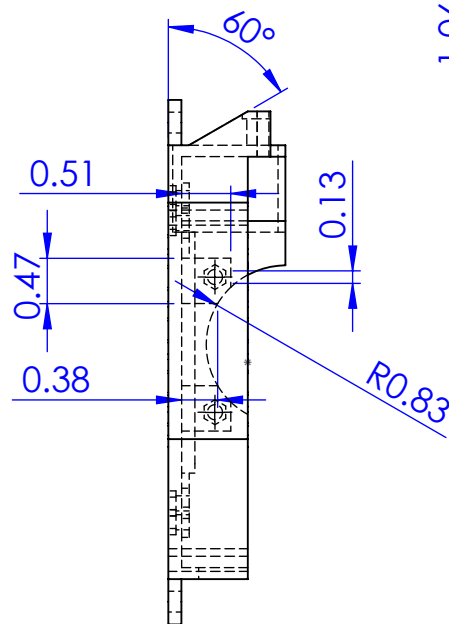
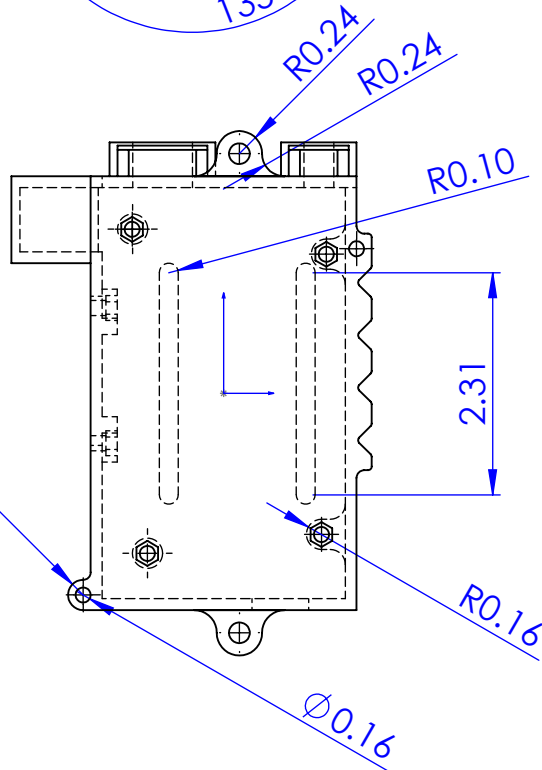
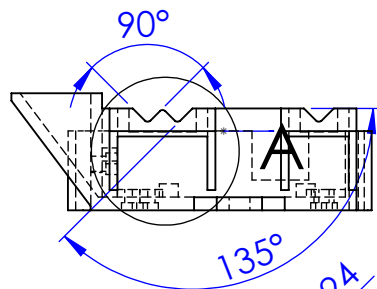
REV

SCALE: 1:2

SHEET 1 OF 1

2

1



DETAIL A
SCALE 1 : 1

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ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE

Team Blue

TITLE:

RAMP MOUNT

SIZE

A

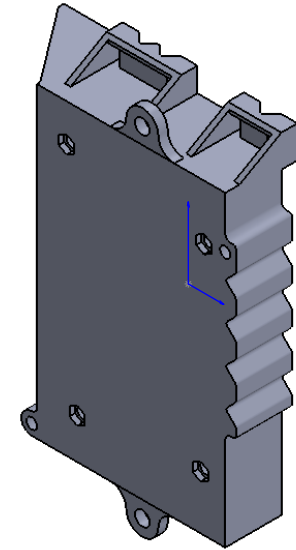
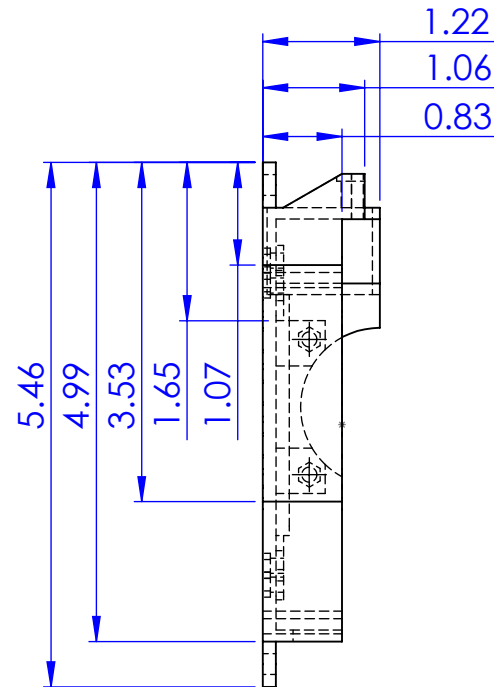
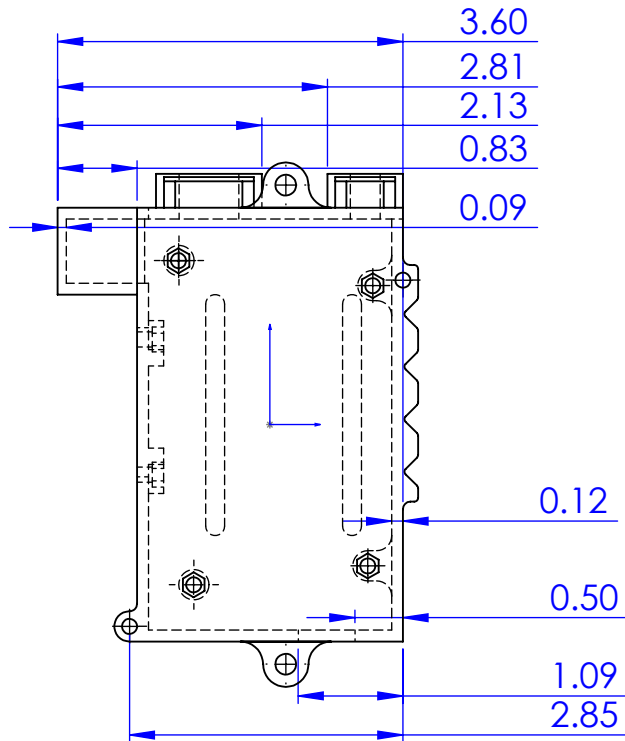
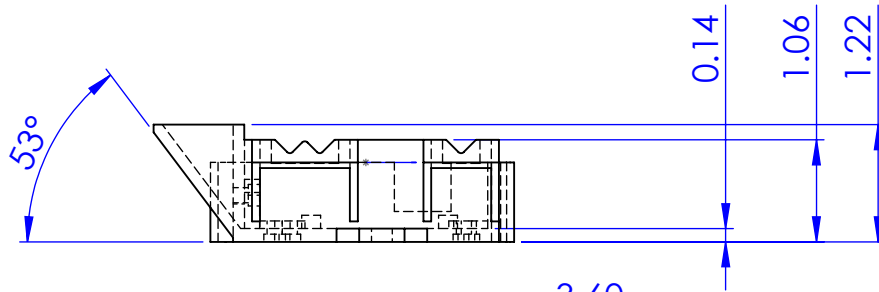
DWG. NO.

100-021 (2)

REV

SCALE: 1:2

SHEET 1 OF 1



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						A	100-021 (3)	
		FINISH						

NEXT ASSY
 USED ON

B

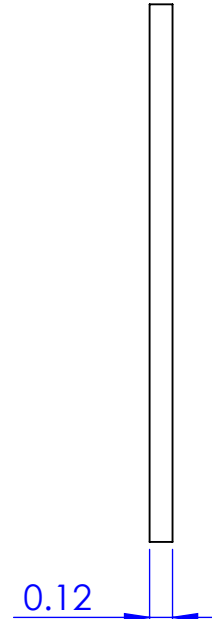
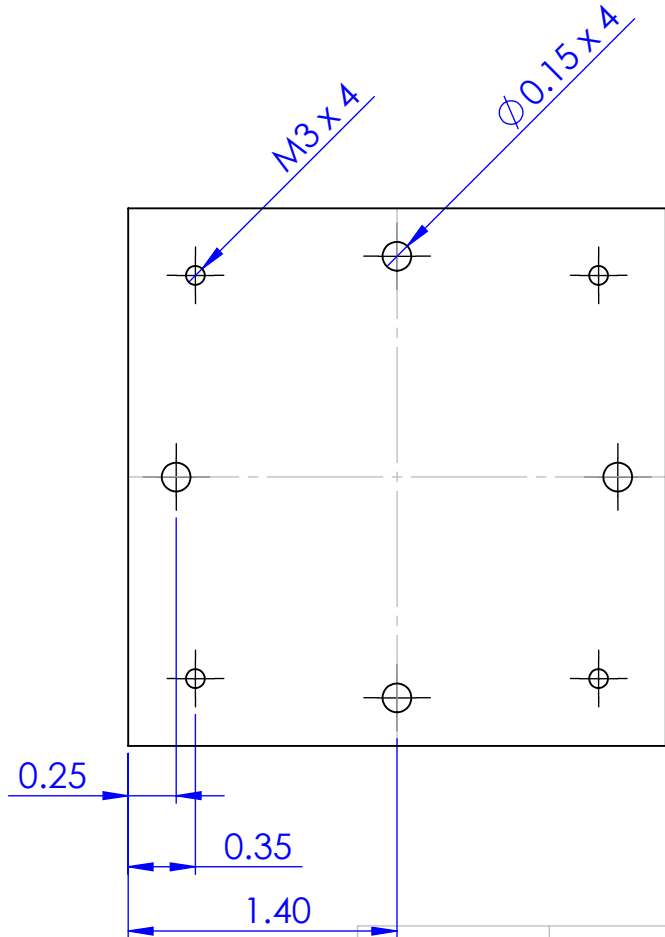
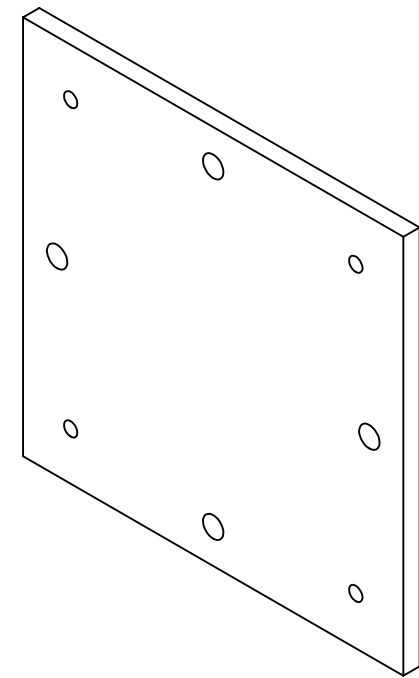
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ANGULAR: MACH \pm BEND \pm
TWO PLACE DECIMAL \pm
THREE PLACE DECIMAL \pm

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE

Team Blue

TITLE:

Small Square
Aluminum Plate

SIZE

A

DWG. NO.

200-007

REV

SCALE: 1:1

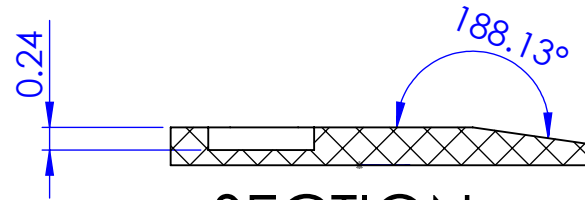
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SHEET 1 OF 1

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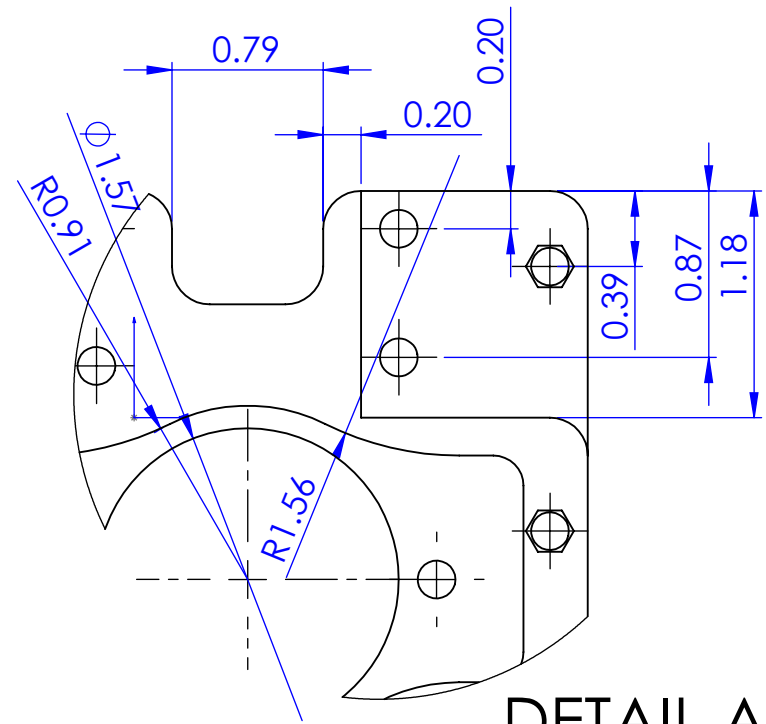
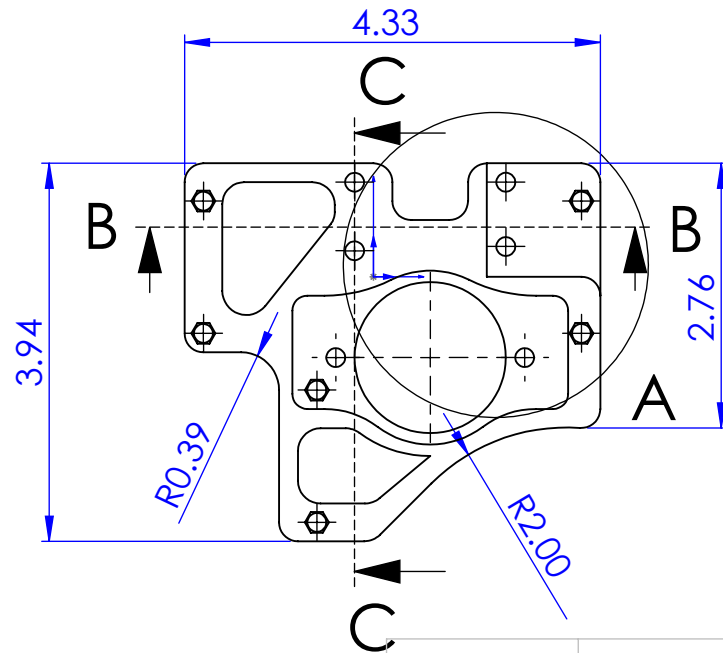
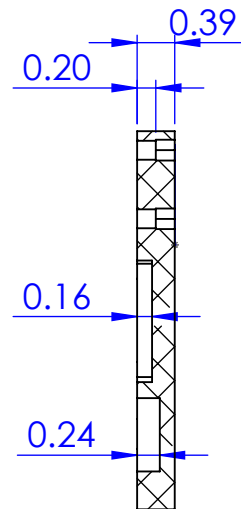


SECTION B-B

SCALE 1 : 2

SECTION C-C

SCALE 1 : 2



DETAIL A

A

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 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

INTERPRET GEOMETRIC
TOLERANCING PER:

ABS

FINISH

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DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

ADAM

DATE

20/25

Team Blue

STABLIZED X -
CARRIAGE

SIZE

DWG. NO.

REV

A

100-016 (2)

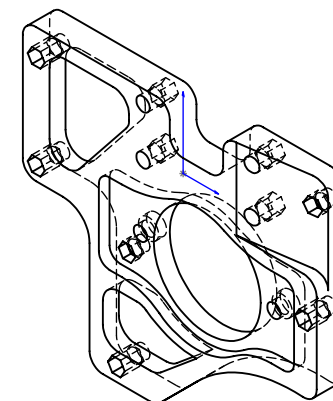
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SHEET 1 OF 1

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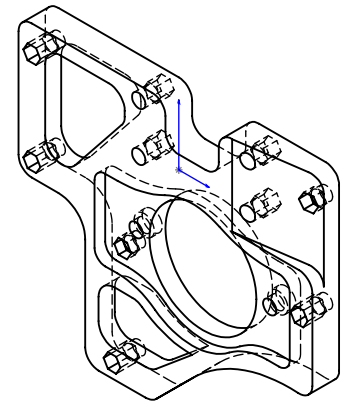
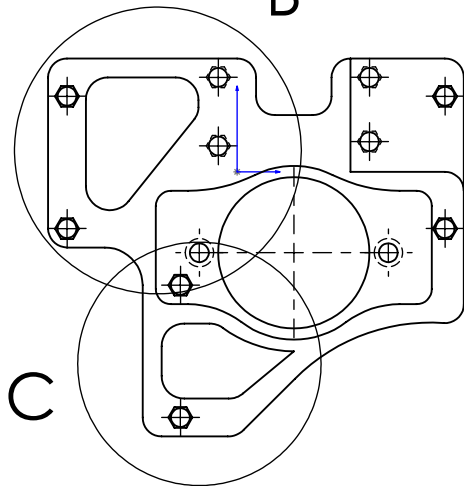
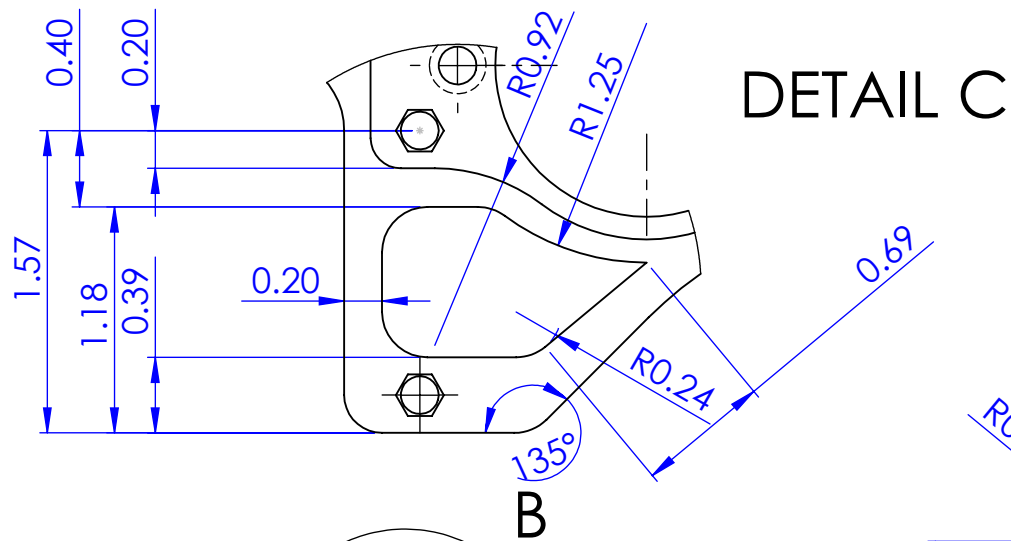
B

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	Team Blue STABLIZED X - CARRIAGE		
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			CHECKED					
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		ABS	COMMENTS:					
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APPLICATION		DO NOT SCALE DRAWING						

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		FRACTIONAL ±		ENG APPR.			
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		TWO PLACE DECIMAL ±		Q.A.		Stabilized X- Carriage	
		THREE PLACE DECIMAL ±		COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE	DWG. NO.
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A

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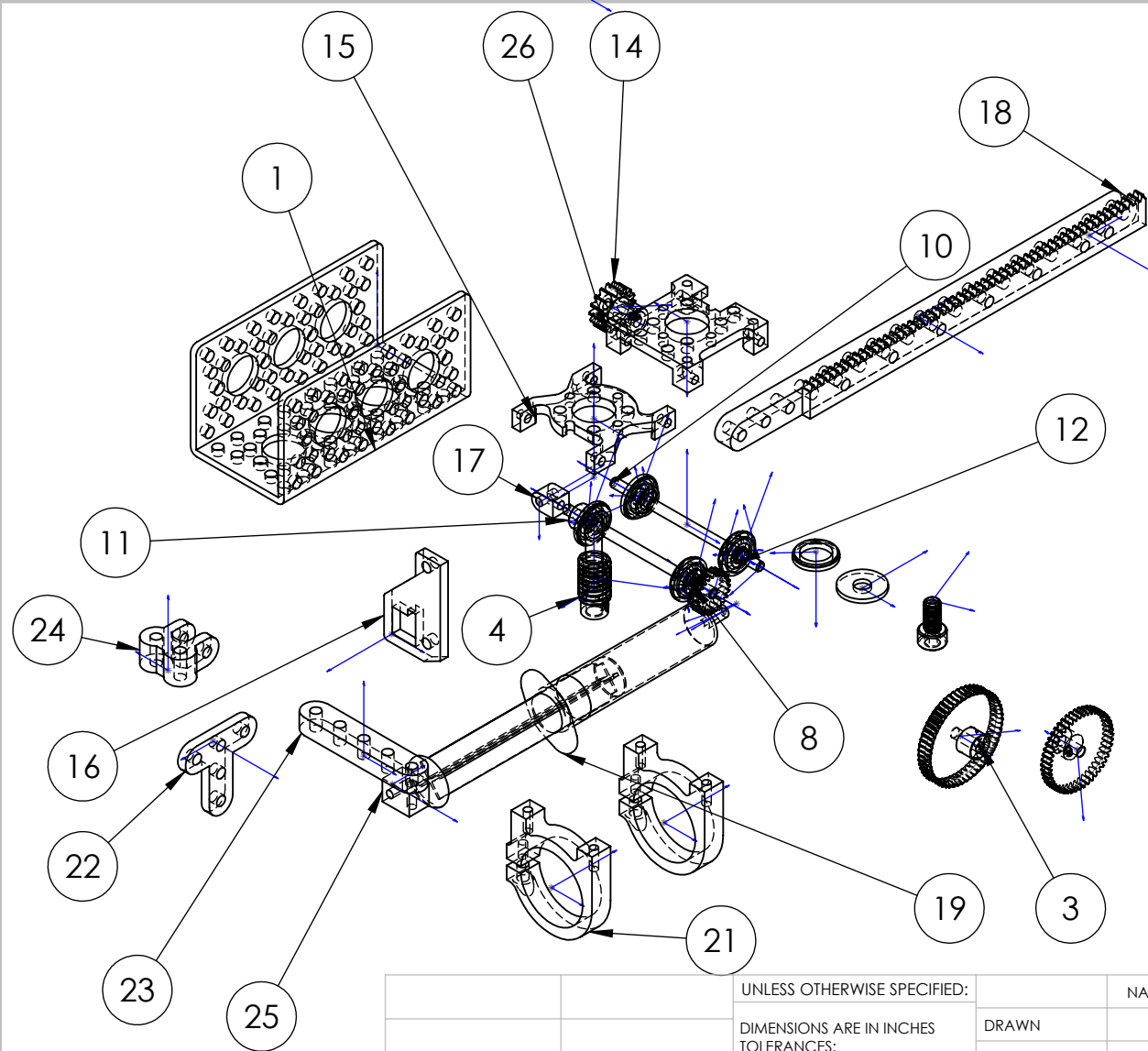
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B

B

A

A



ITEM NO.	PART NUMBER	QTY.
1	Channel_3in_585442_a	1
3	s1c83z-p048b055s_a	1
4	s1d94z-p048ss_a	1
5	6-32_Aluminum_Standoff	4
8	s1063z-048s024_a	1
10	a_7x_1_04023_a	2
11	s5000y-12510_a	1
12	a_7x_8-c04016_a	3
13	a_7x_8-c04031_a	1
14	a_1t_2-y32016	1
15	Hub_Mount_545424_a	1
16	Beam_Bracket_585656_a	2
17	Beam_Blocks_585600_a	4
18	Gear_Rack	1
19	5mL_Syringe	1
21	Tube_Clamp_1in_585434_a	2
22	Beam_Bracket_F_585612_a	2
23	1p5_Beam_585404_a	2
24	Beam_90_Bracket_585490_a	1
26	Quad_Mount_C_545360_a	1
29	5537T104	1

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TOLERANCES:		CHECKED	
FRACTIONAL ±		ENG APPR.	
ANGULAR: MACH ± BEND ±		MFG APPR.	
TWO PLACE DECIMAL ±		Q.A.	
THREE PLACE DECIMAL ±		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL			
FINISH			
APPLICATION			
DO NOT SCALE DRAWING			

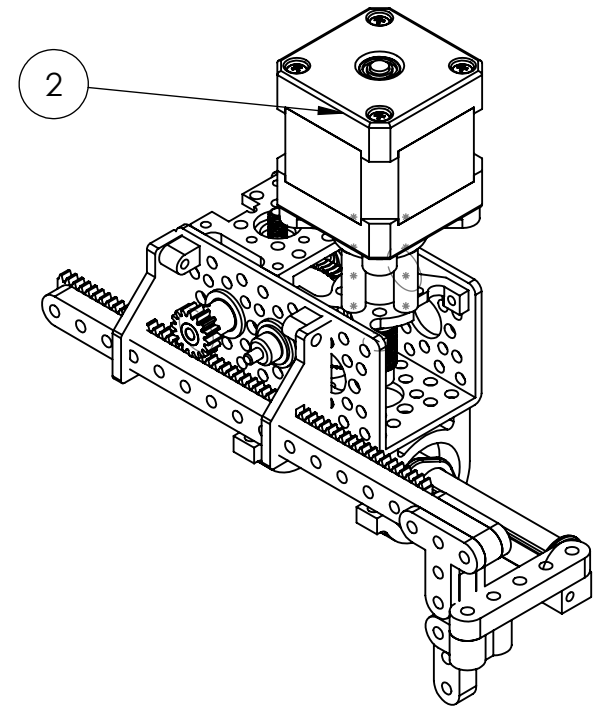
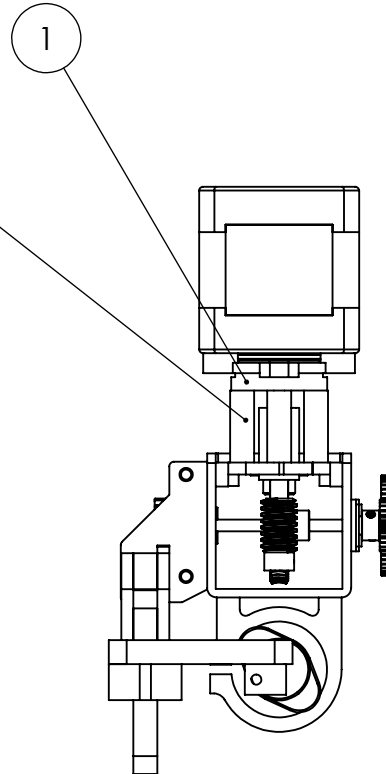
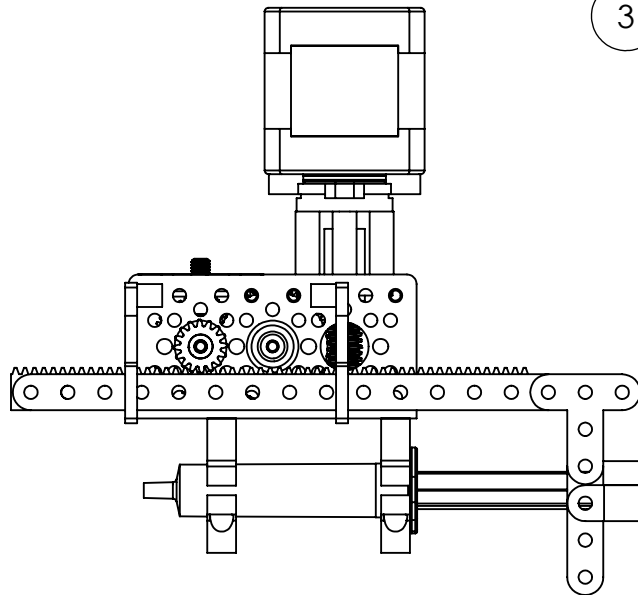
Team Blue		
TITLE:		
SYRINGE GEARBOX		
SIZE	DWG. NO.	REV
A	A3 - 01	
SCALE: 1:5		SHEET 1 OF 1

2

1

B

A



B

A

ITEM NO.	PART NUMBER	QTY.
1	Motor Mount	1
2	NEMA17 Motor	1
3	Aluminum Standoff	4

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ANGULAR: MACH \pm BEND \pm
TWO PLACE DECIMAL \pm
THREE PLACE DECIMAL \pm

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME DATE

Team Blue

TITLE:

Syringe Gearbox

SIZE

A

DWG. NO.

A3-02

REV

SCALE: 1:8

WEIGHT:

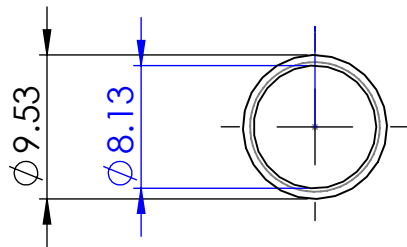
SHEET 1 OF 1

2

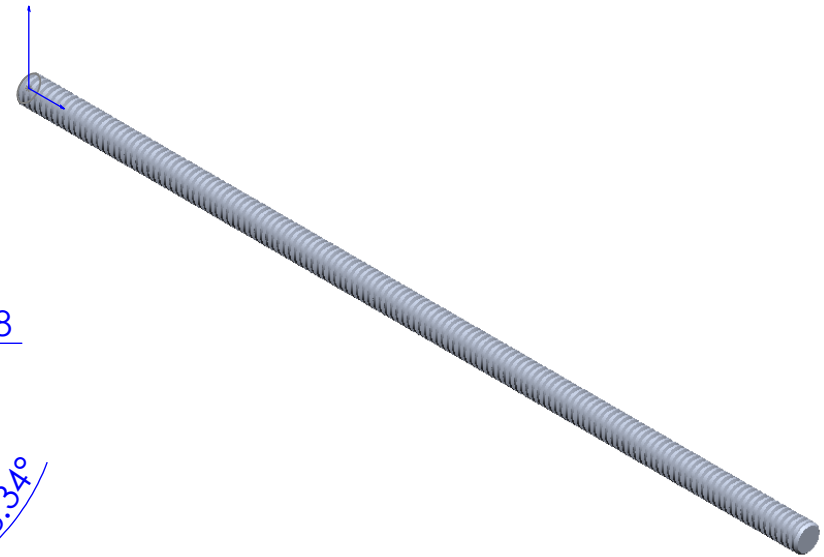
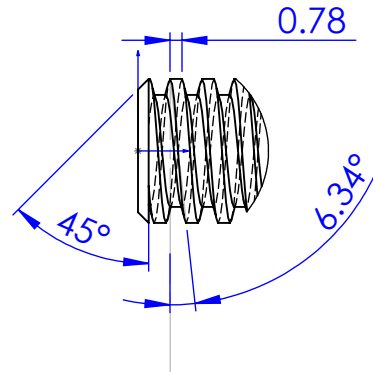
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B

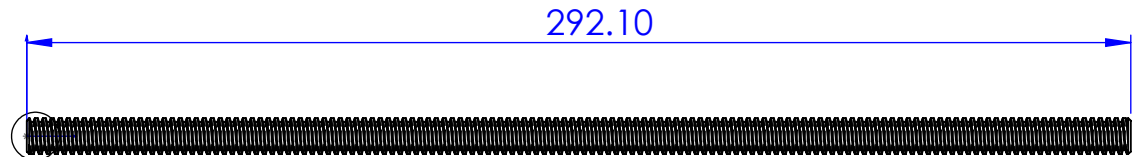
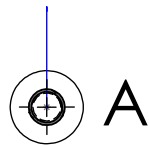
DETAIL A
SCALE 2 : 1



DETAIL B
SCALE 2 : 1



B



B

A

A

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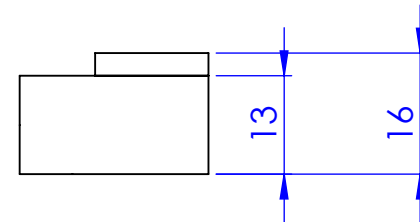
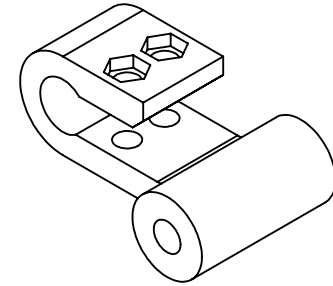
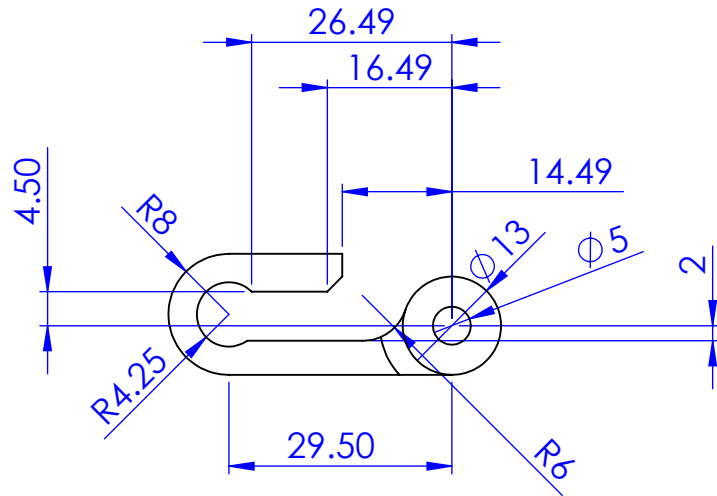
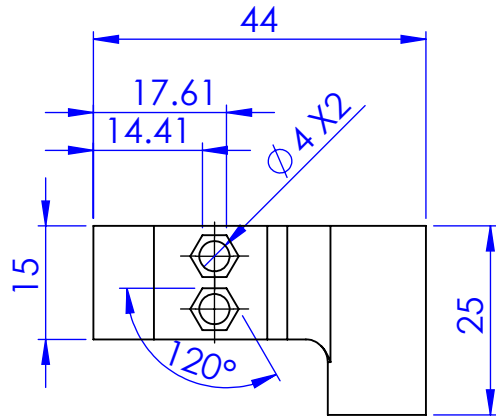
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	Team Blue		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: THREADED ALUMINUM ROD ACME		
		TOLERANCES:						
		FRACTIONAL ±		CHECKED				
		ANGULAR: MACH ± BEND ±		ENG APPR.				
		TWO PLACE DECIMAL ±		MFG APPR.				
		THREE PLACE DECIMAL ±		Q.A.				
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE	DWG. NO.	REV
		MATERIAL				A	200-011	
		FINISH				SCALE: 1:2		SHEET 1 OF 1
		DO NOT SCALE DRAWING						

2

1

B

B



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2

1

UNLESS OTHERWISE SPECIFIED:

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TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

NAME

DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

Team Blue

TITLE:

Z Stop
Holder V2

SIZE

A

DWG. NO.

100-020

REV

SCALE: 2:1

WEIGHT:

SHEET 1 OF 1