
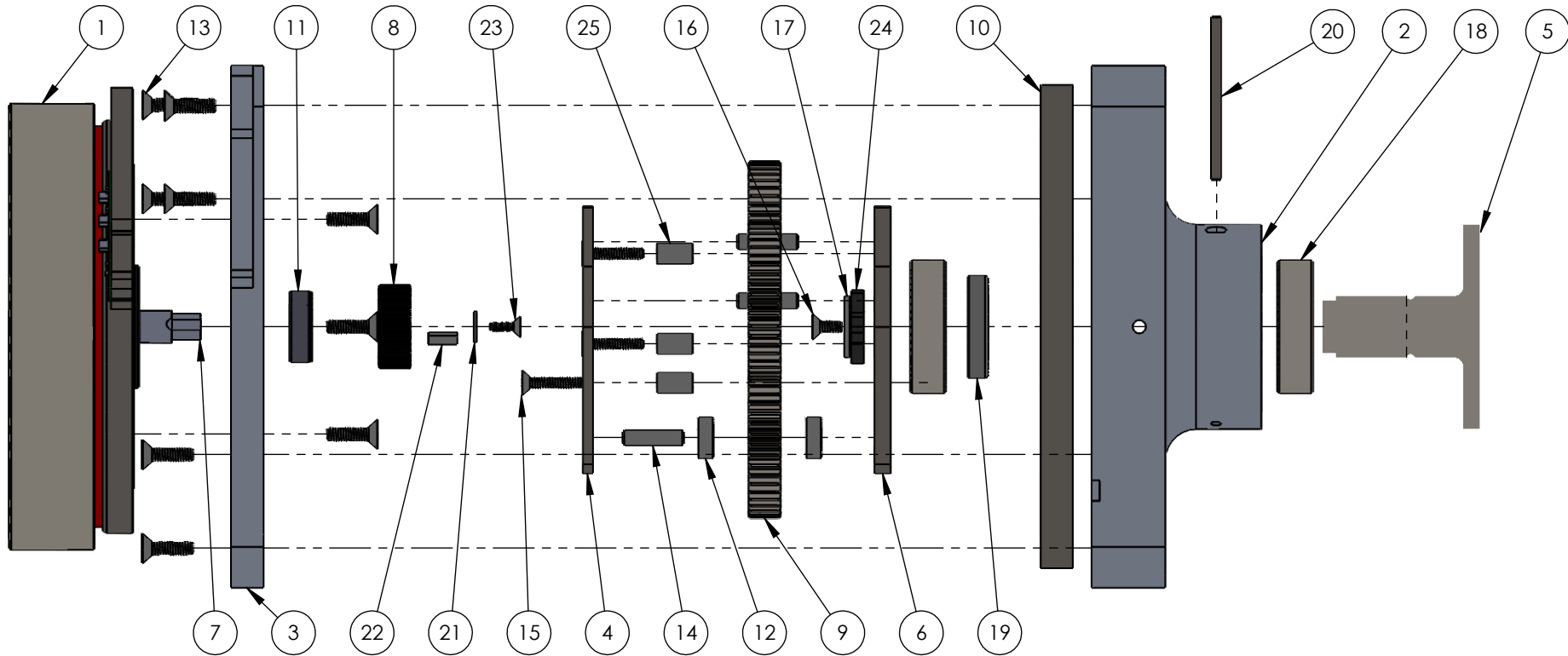


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LINEAR:	ANGULAR:														
X. ± .25	X. ± 2														
X.X ± .1	X.X ± 1														
X.XX ± .01	X.XX ± 0.30°														
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<p>DRAWN BY: Basti-Boys</p>		<p>DATE: 5/4/2018</p>		<p>PART #:</p>											
<p>CHECKED BY:</p>		<p>DATE:</p>		<p>QTY:</p>											
<p>FILE NAME: Proto 1 Motor and Gearbox</p>		<p>SCALE: 2:3</p>		<p>SHEET: 1 OF 7</p>											



NO.	PART NUMBER	DESCRIPTION	VENDOR	QTY.
1	TG5153 Motor	TG5153 Brushless DC Motor	ThinGap LLC	1
2	Gearbox Casing Front	Gearbox Casing Front	NA	1
3	Gearbox Casing Back	Gearbox Casing Back	NA	1
4	Carrier Guide	Carrier Guide	NA	1
5	Output Shaft	Output Shaft	NA	1
6	Output Carrier	Output Carrier Plate	NA	1
7	TG5153 Shaft	MODIFIED INPUT SHAFT -KEYED	ThinGap LLC	2
8	KSSA1-24J8	KEYED SUN GEAR - 24T	SDP	1
9	QTC_ksa1_48	PLANET GEAR - 48T	SDP	3
10	SI_s1e10zm10s120	Ring Gear - 120T	SDP	1
11	TREA00100-4N011	INPUT SHAFT SEAL 18X10X7MM	AVXSEALS	1
12	60355K861	BALL BEARING - 3/16 X 3/16 X 1/2	McMaster Carr	6
13	91253A196	FHCS, 8-32 X 3/4	McMaster Carr	13
14	98381A508	DOWEL PIN - 3/16 x 3/4	McMaster Carr	3
15	91253A151	FHCS, 6-32 X 3/4	McMaster Carr	3
16	91263A514	FHCS, 6-32 X 3/8	McMaster Carr	1
17	91525A105	WASHER, #6 X 3/4	McMaster Carr	1
18	60355K706	SEALED BEARING, R12-2RS, 3/4 X 1/2 X 1 5/8	McMaster Carr	2
19	5154T35	SHAFT SEAL, 3/4 X 1/4 X 1 1/4	McMaster Carr	1
20	98381A480	DOWEL PIN, 1/8 X 2	McMaster Carr	1
21	90107A010	WASHER, #8 x 3/8	McMaster Carr	1
22	92288A715	KEY, 3MM X 3MM X 8MM	McMaster Carr	1
23	91253A108	FHCS, 4-40 X 3/8	McMaster Carr	1
24	98510A100	KEY, 1/8 X 1/8 X 1/2	McMaster Carr	4
25	92320A051	SHCS, 4-40 X 5/16	McMaster Carr	3

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DIMENSIONS ARE IN INCHES
 THIRD ANGLE PROJECTION

**Basti-Boys
 Gearbox**

DEFAULT TOLERANCES:
 LINEAR: X. ± .25
 X.X ± .1
 X.XX ± .01
 X.XXX ± .002

DESCRIPTION: Isometric View

DRAWN BY: Basti-Boys

DATE: 5/4/2018

CHECKED BY:

DATE:

FILE NAME: Proto 1 Motor and Gearbox

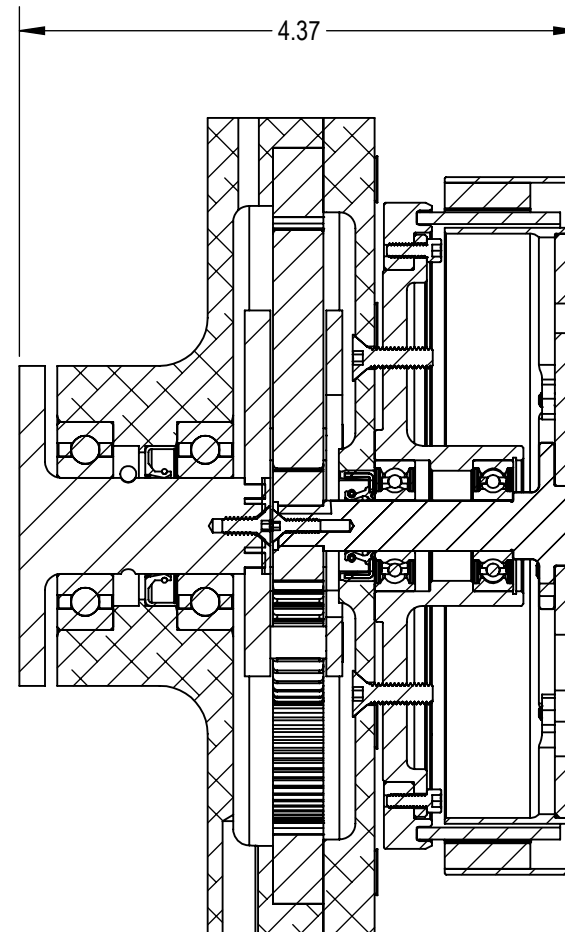
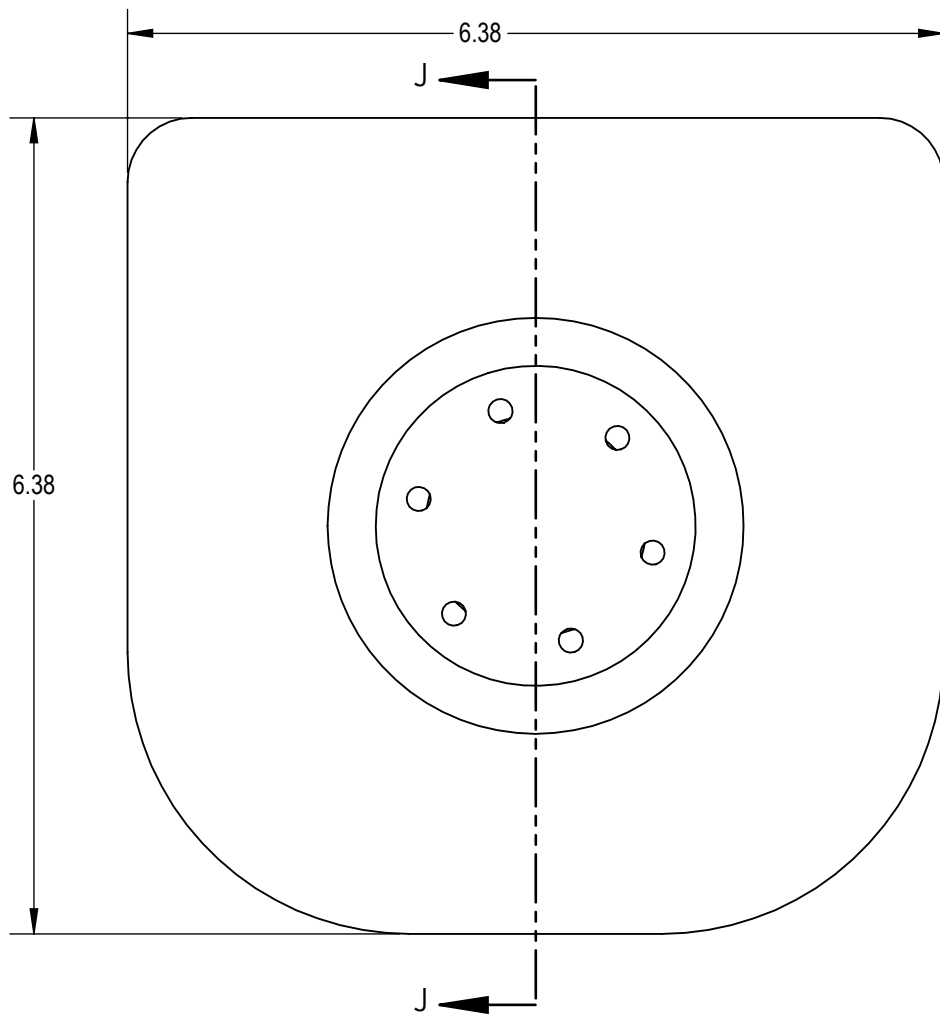
**UNIVERSITY OF IDAHO
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PART #:


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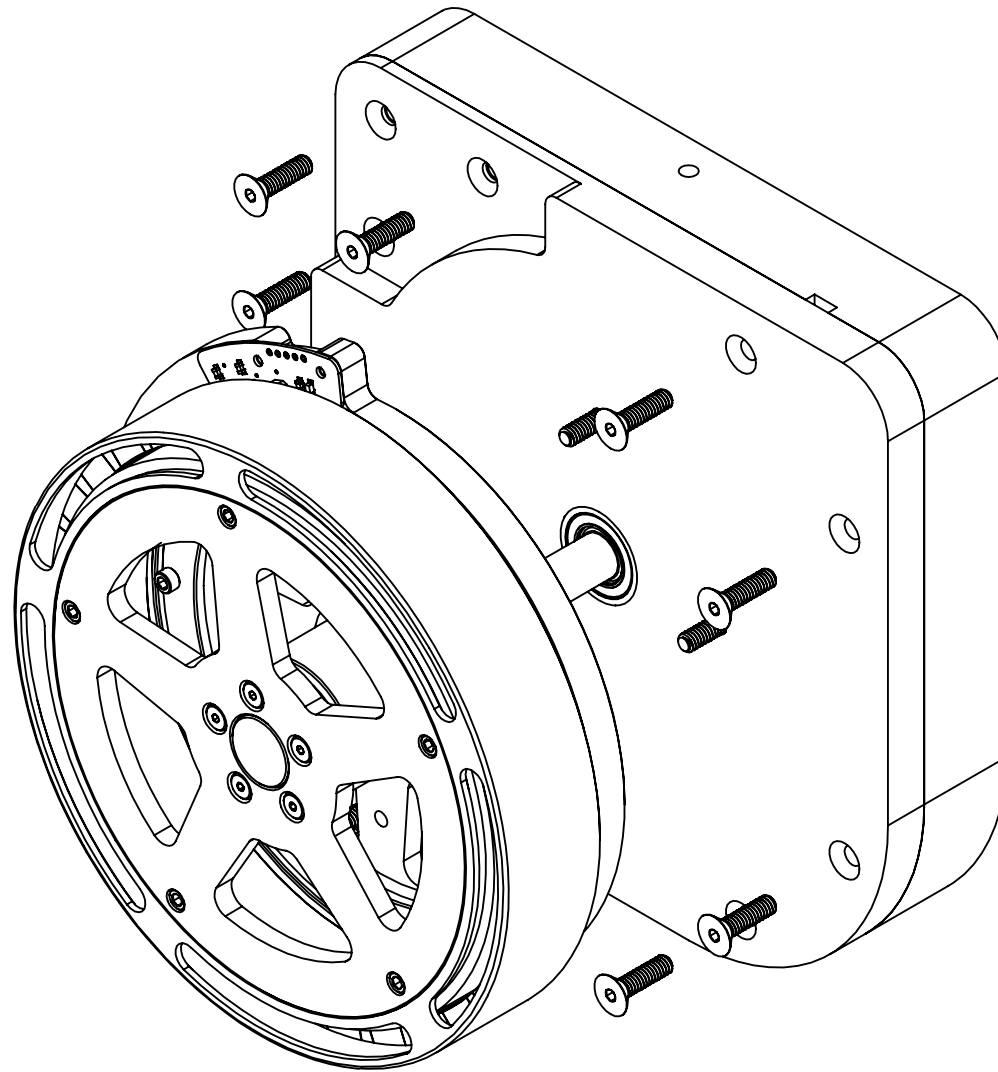
SCALE: 2:3


SHEET: 2 OF 7

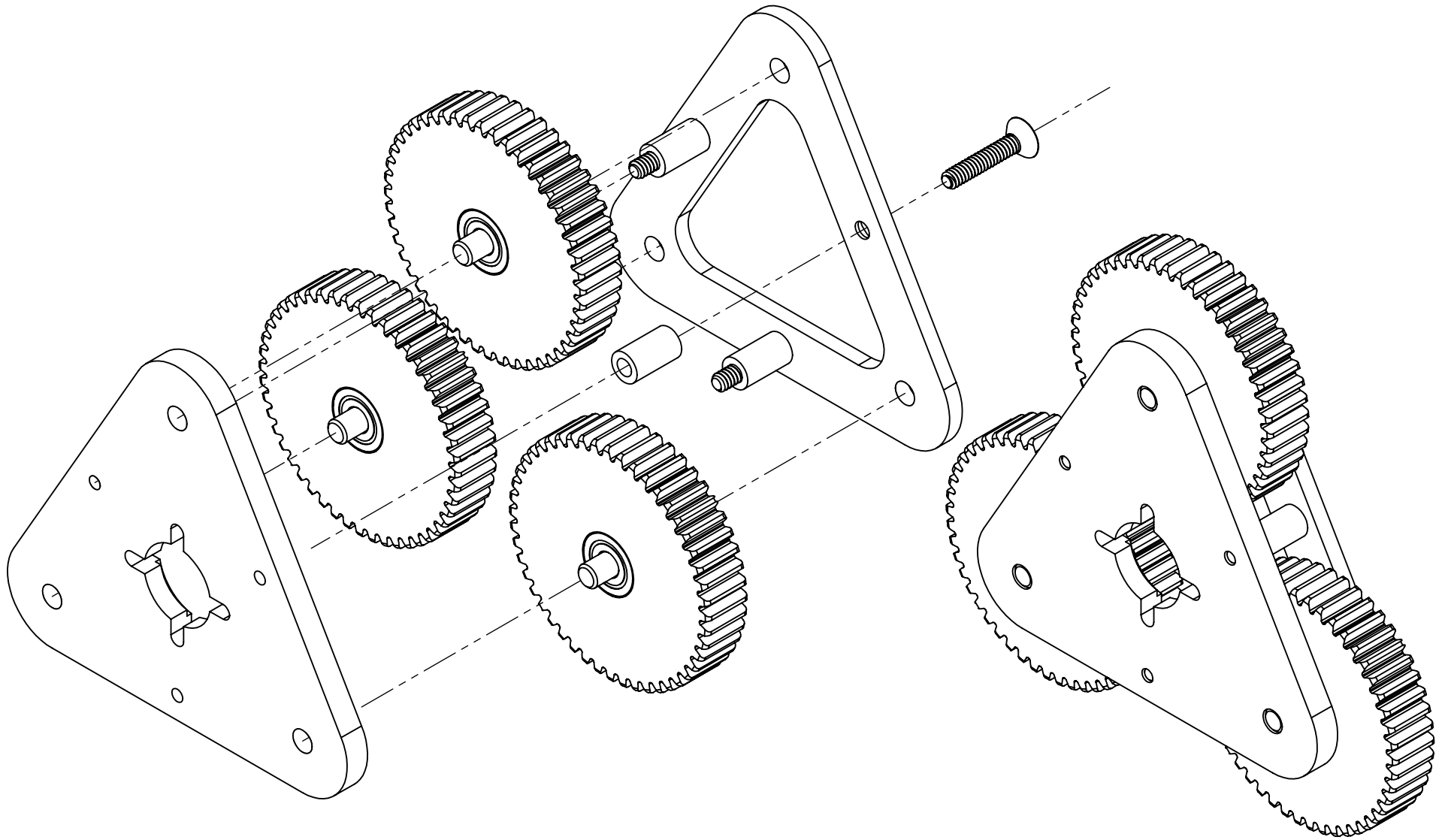



SECTION J-J

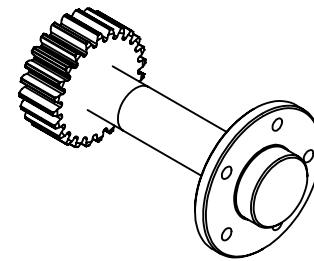
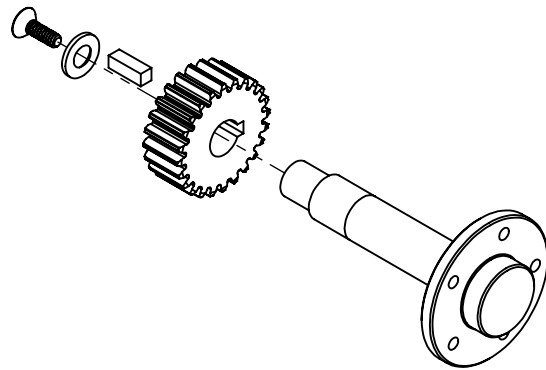
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LINEAR:	ANGULAR:														
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<p>DRAWN BY: Basti-boys</p>		<p>DATE: 5/4/2018</p>		<p>PART #:</p>											
<p>CHECKED BY:</p>		<p>DATE:</p>		<p>QTY:</p>											
<p>FILE NAME: Proto 1 Motor and Gearbox</p>		<p>SCALE: 2:3</p>		<p>SHEET: 3 OF 7</p>											




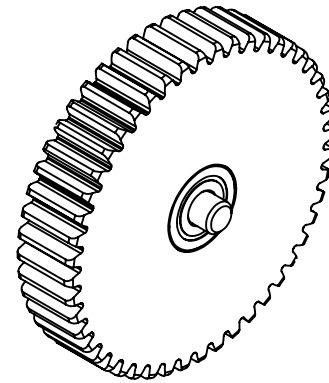
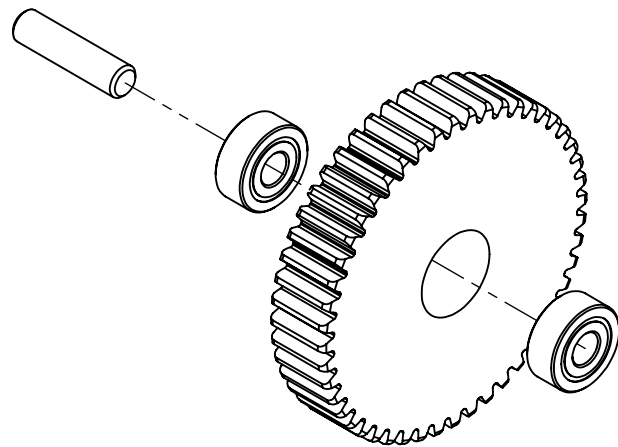
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<p>CHECKED BY:</p>		<p>DATE:</p>		<p>QTY:</p>											
<p>FILE NAME: Proto 1 Motor and Gearbox</p>		<p>SCALE: 2:3</p>		<p>SHEET: 4 OF 7</p>											




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<p>DRAWN BY: XXXX</p>		<p>DATE: 5/4/2018</p>		<p>PART #:</p>											
<p>CHECKED BY:</p>		<p>DATE:</p>		<p>QTY:</p>											
<p>FILE NAME: Proto 1 Motor and Gearbox</p>		<p>SCALE: 2:3</p>		<p>SHEET: 5 OF 7</p>											



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		<p>MATERIAL:</p>													
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		<p>FILE NAME: Proto 1 Motor and Gearbox</p>		<p>SCALE: 2:3</p>	<p>SHEET: 6 OF 7</p>										



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DEFAULT TOLERANCES:		MATERIAL:			
LINEAR: X. ± .25 X.X ± .1 X.XX ± .01 X.XXX ± .002	ANGULAR: X. ± 2 X.X ± 1 X.XX ± 0 30'	DESCRIPTION:		UNIVERSITY OF IDAHO ME DEPARTMENT	
		DRAWN BY: XXXX	DATE: 5/4/2018		
		CHECKED BY:	DATE:		
		FILE NAME: Proto 1 Motor and Gearbox	SCALE: 2:3	SHEET: 7 OF 7	