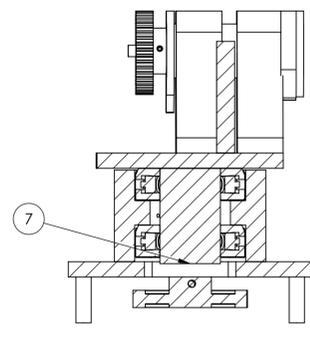
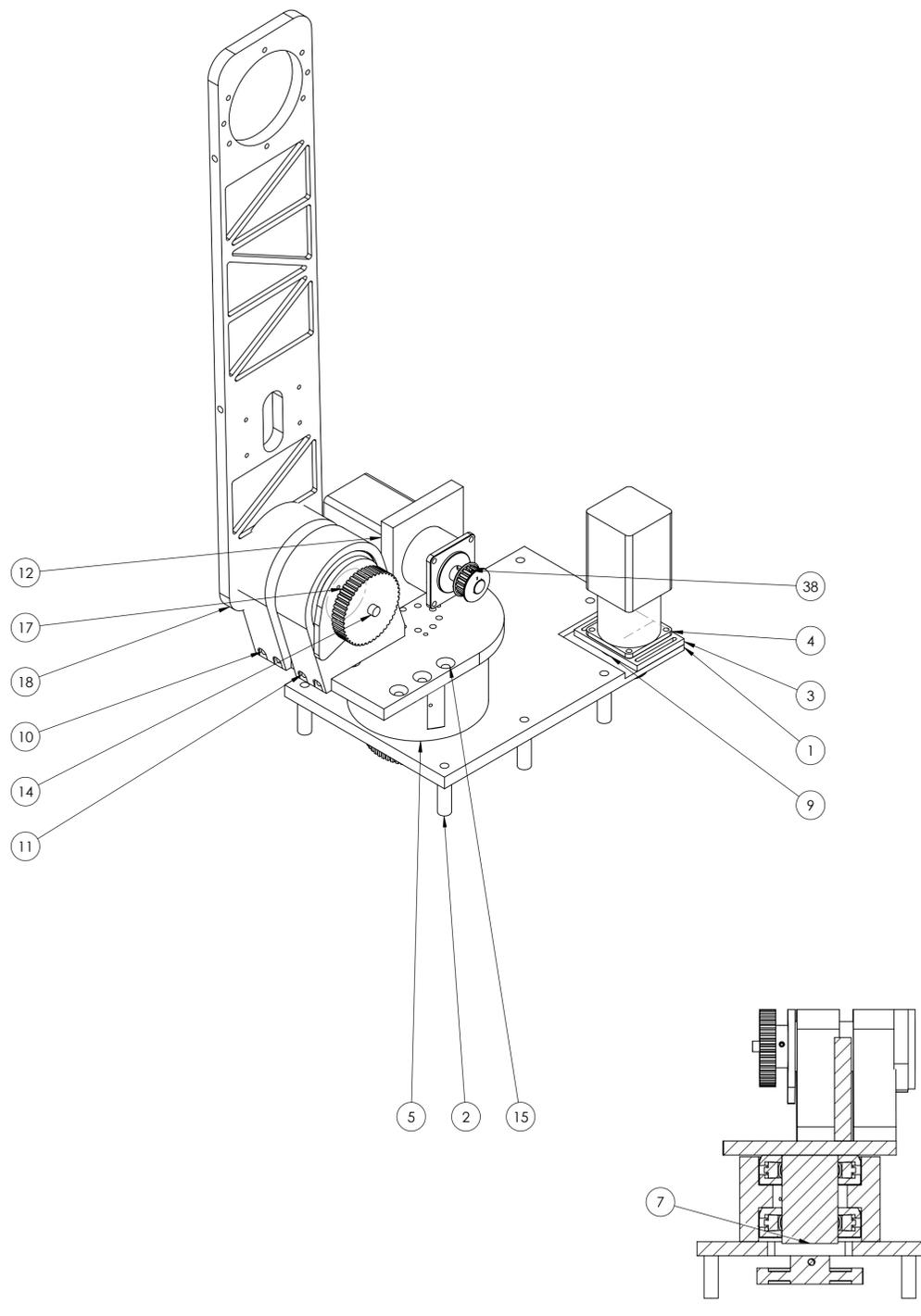


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	J1 V3 Base Plate BK		1
2	J1 Support Pins BK		8
4	J1 Name 23 BK		3
5	J1 2V Turret BK		1
6	2291N116	Tapered-Roller Thrust Bearing	2
7	J1 Spindle BK		1
8	1277N61	Corrosion-Resistant Timing Belt Pulley	1
9	1277N752	Corrosion-Resistant Timing Belt Pulley	1

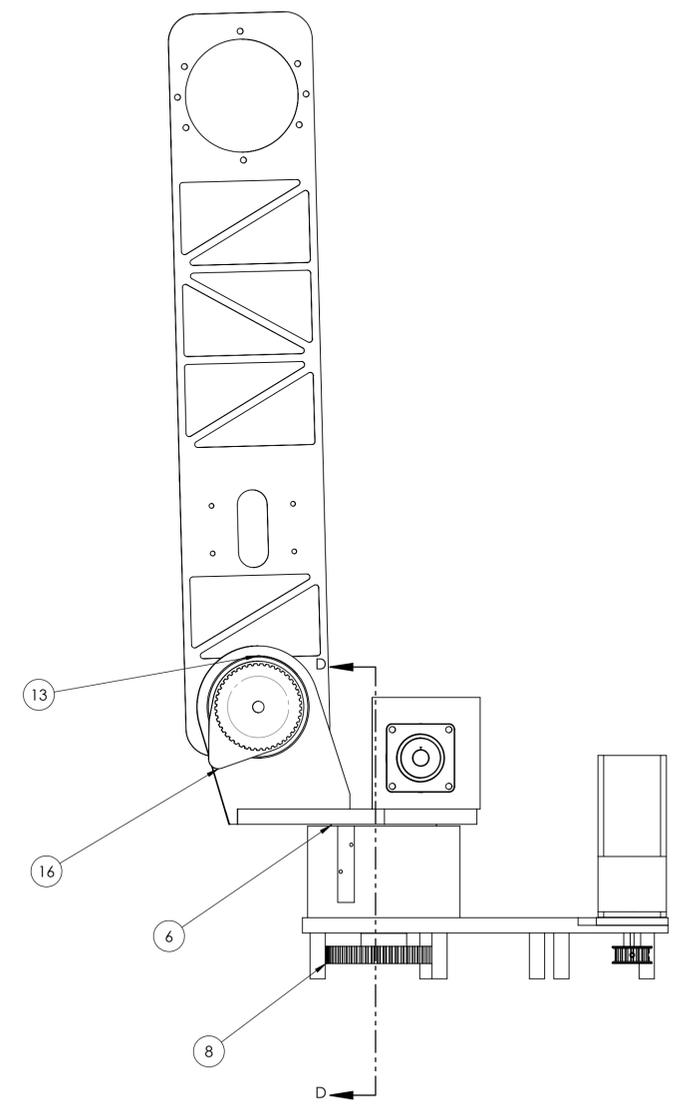
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DIMENSIONS ARE IN INCHES		CHECKED		
TOLERANCES:		ENG APPR.		
FRACTIONAL ±		MFG APPR.		
ANGULAR: MACH ± BEND ±		Q.A.		
TWO PLACE DECIMAL ±		COMMENTS:		
THREE PLACE DECIMAL ±				
INTERPRET GEOMETRIC TOLERANCING PER:				
MATERIAL				
FINISH				
NEXT ASSY	USED ON			
APPLICATION	DO NOT SCALE DRAWING			

TITLE:		Joint 1 Section View	
SIZE	DWG. NO.	REV	
D			
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1	



SECTION D-D
SCALE 1 : 3



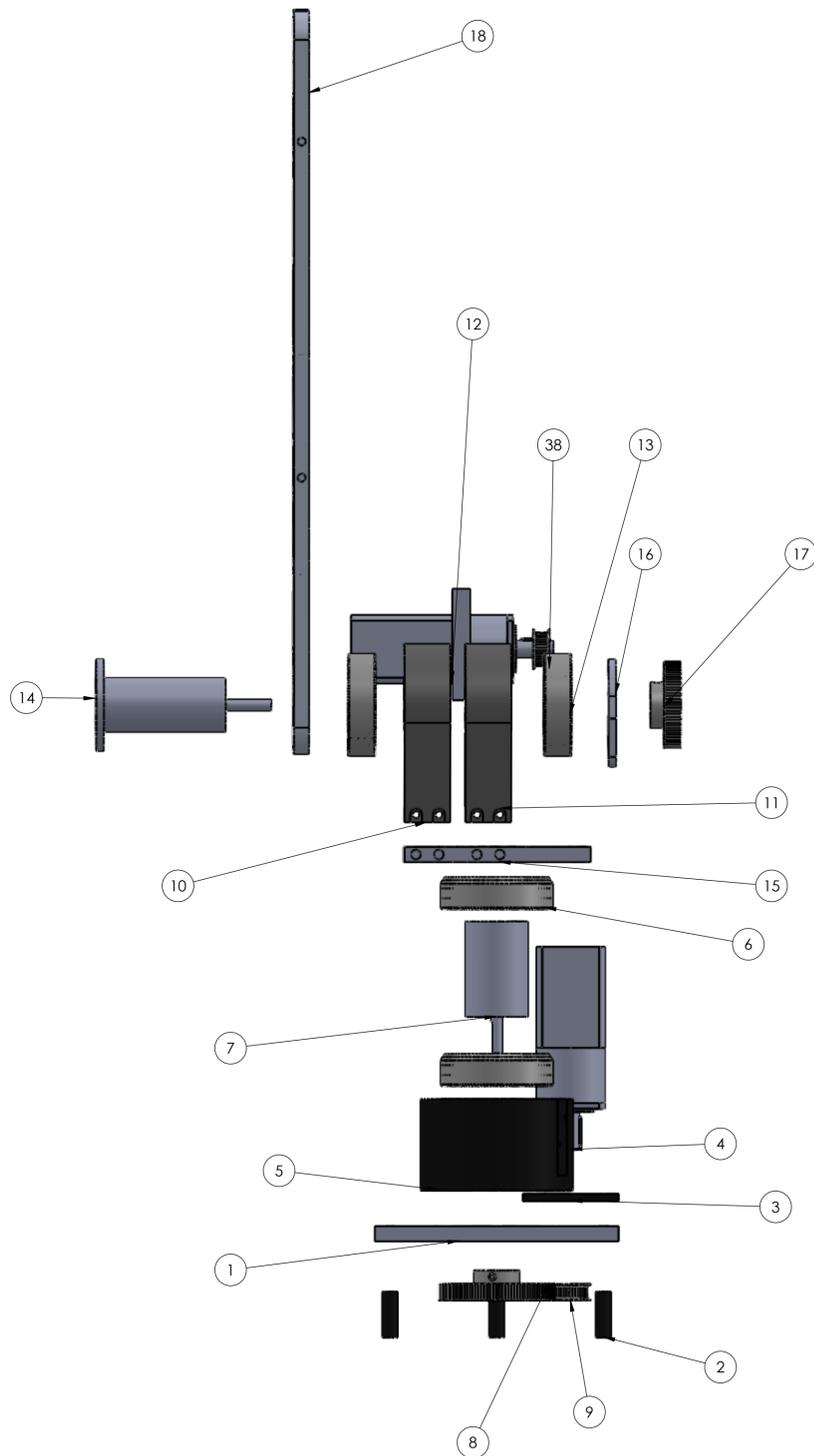
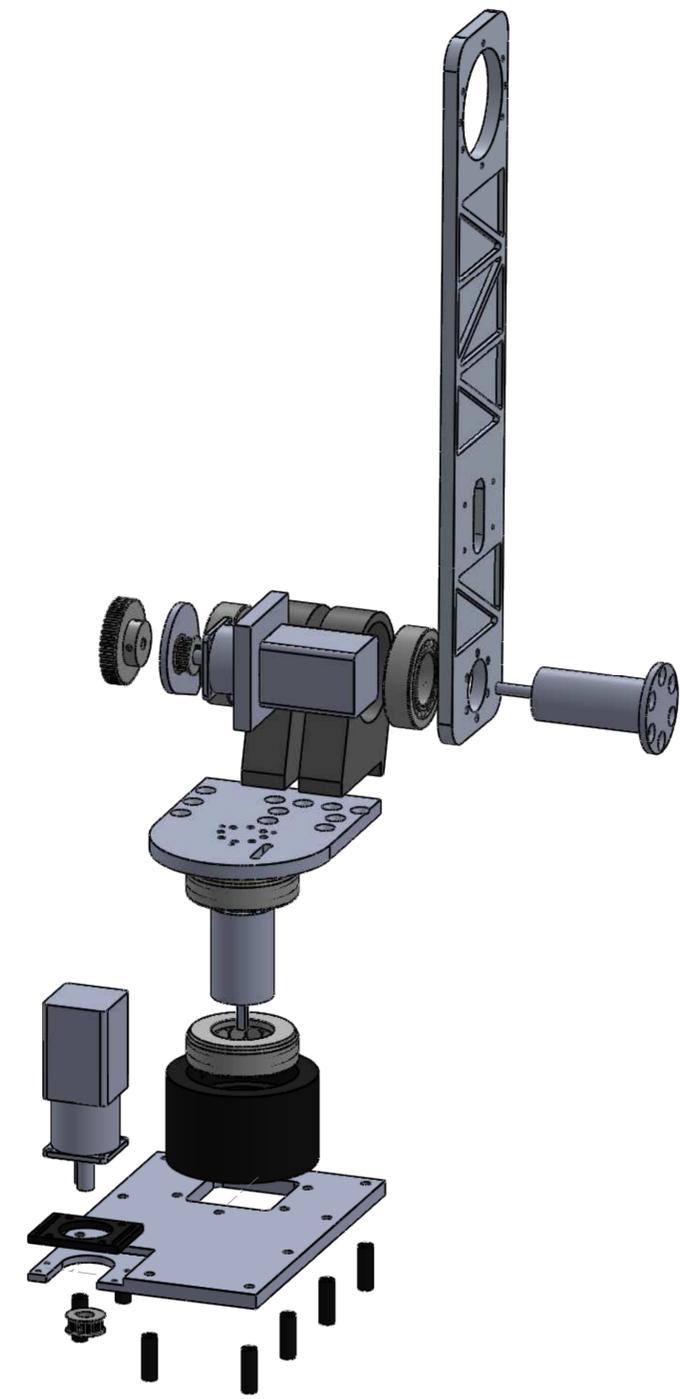
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	J1 V3 BASE PLATE BK		1
2	J1 SUPPORT PINS BK		8
3	J1 MOTOR MOUNT(NEMA23) BK		1
4	J1 NAME 23 BK		3
5	J1 2V TURRET BK		1
6	2291N116	TAPERED-ROLLER THRUST BEARING	2
7	J1 SPINDLE BK		1
8	1277N61	CORROSION-RESISTANT TIMING BELT PULLEY	1
9	1277N752	CORROSION-RESISTANT TIMING BELT PULLEY	1
10	J2_TURRETHOUSING		1
11	J2_TURRETHOUSINGLEFT		1
12	J2_MOTORSUPPORT		1
13	7755N34	TAPERED BORE SELF-ALIGNING BALL BEARING	2
14	J2_DRIVESPINDELE		1
15	J1 TURRENT BASE CORRECT		1
16	J2_TENSIONRING		1
17	1277N29	CORROSION-RESISTANT TIMING BELT PULLEY	1
18	J2_ARM		1
38	1277N752	CORROSION-RESISTANT TIMING BELT PULLEY	1

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DIMENSIONS ARE IN INCHES		CHECKED					
TOLERANCES:		ENG APPR.					
FRACTIONAL: ±		MFG APPR.					
ANGULAR: MAACH ±		Q.A.					
TWO PLACE DECIMAL ±		COMMENTS:					
THREE PLACE DECIMAL ±							
INTERPRET GEOMETRIC TOLERANCING PER:							
MATERIAL:							
FINISH:							
NEXT ASSY		USED ON					
APPLICATION		DO NOT SCALE DRAWING					

TITLE:
Joint 1 - Joint 2 Assembly

SIZE DWG. NO. REV
D 1 OF 1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	J1_V3 Base Plate BK		1
2	J1 Support Pins BK		8
3	J1 Motor Mount(Nema23) BK		1
4	J1 Name 23 BK		3
5	J1 2V Turret BK		1
6	2291N116	Tapered-Roller Thrust Bearing	2
7	J1 Spindle BK		1
8	1277N61	Corrosion-Resistant Timing Belt Pulley	1
9	1277N752	Corrosion-Resistant Timing Belt Pulley	1
10	J2_TurretHousing		1
11	J2_TurretHousingLeft		1
12	J2_MotorSupport		1
13	7755N34	Tapered Bore Self-Aligning Ball Bearing	2
14	J2_DriveSpindle		1
15	J1 Turret Base Correct		1
16	J2_TensionRing		1
17	1277N29	Corrosion-Resistant Timing Belt Pulley	1
18	J2_Arm		1

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DIMENSIONS ARE IN INCHES		CHECKED		
FRACTIONAL: ±		ENG APPR.		
ANGULAR: MACH ± BEND ±		MFG APPR.		
TWO PLACE DECIMAL ±		Q.A.		
THREE PLACE DECIMAL ±		COMMENTS:		
INTERPRET GEOMETRIC TOLERANCING PER:				
MATERIAL				
FINISH				
NEXT ASSY	USED ON			
APPLICATION	DO NOT SCALE DRAWING			

TITLE: Joint 1- Joint2 Exploded View

SIZE DWG. NO. REV
D SCALE: 1:3WEIGHT: SHEET 1 OF 1

4

3

2

1

D

D

C

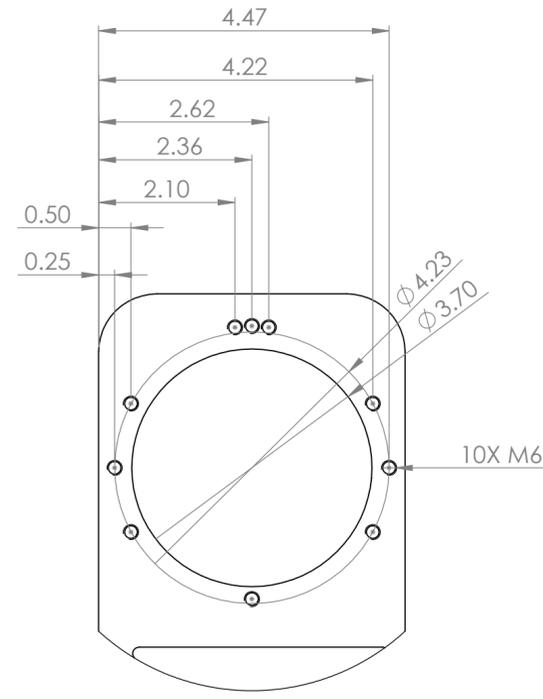
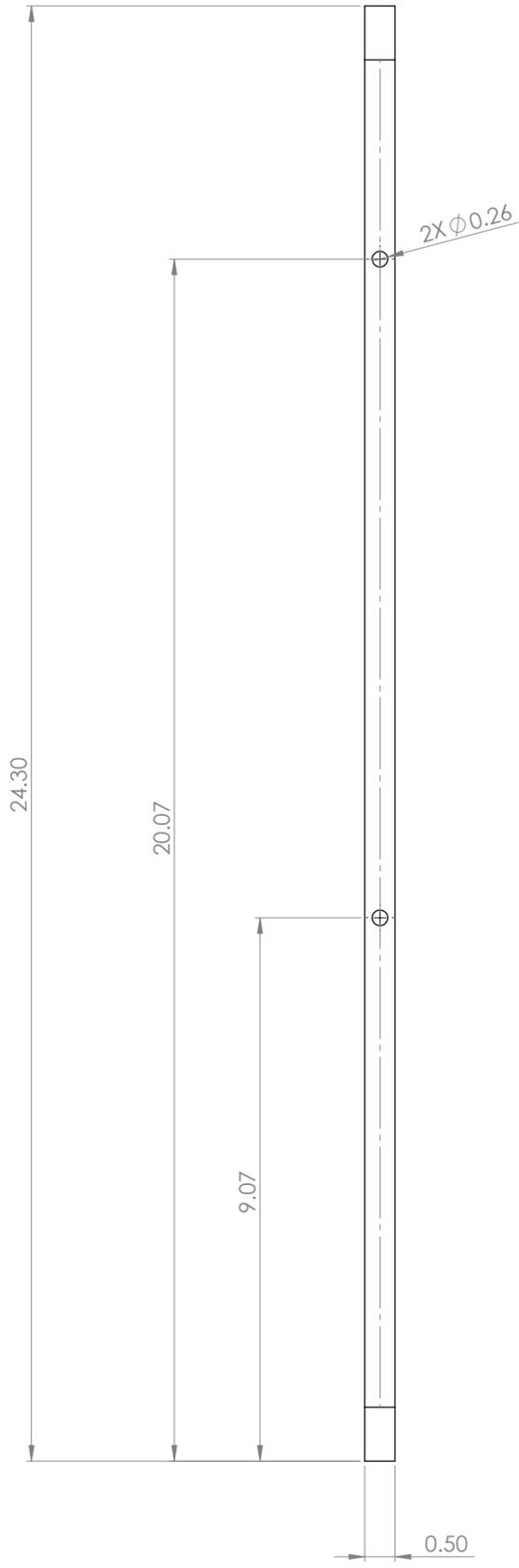
C

B

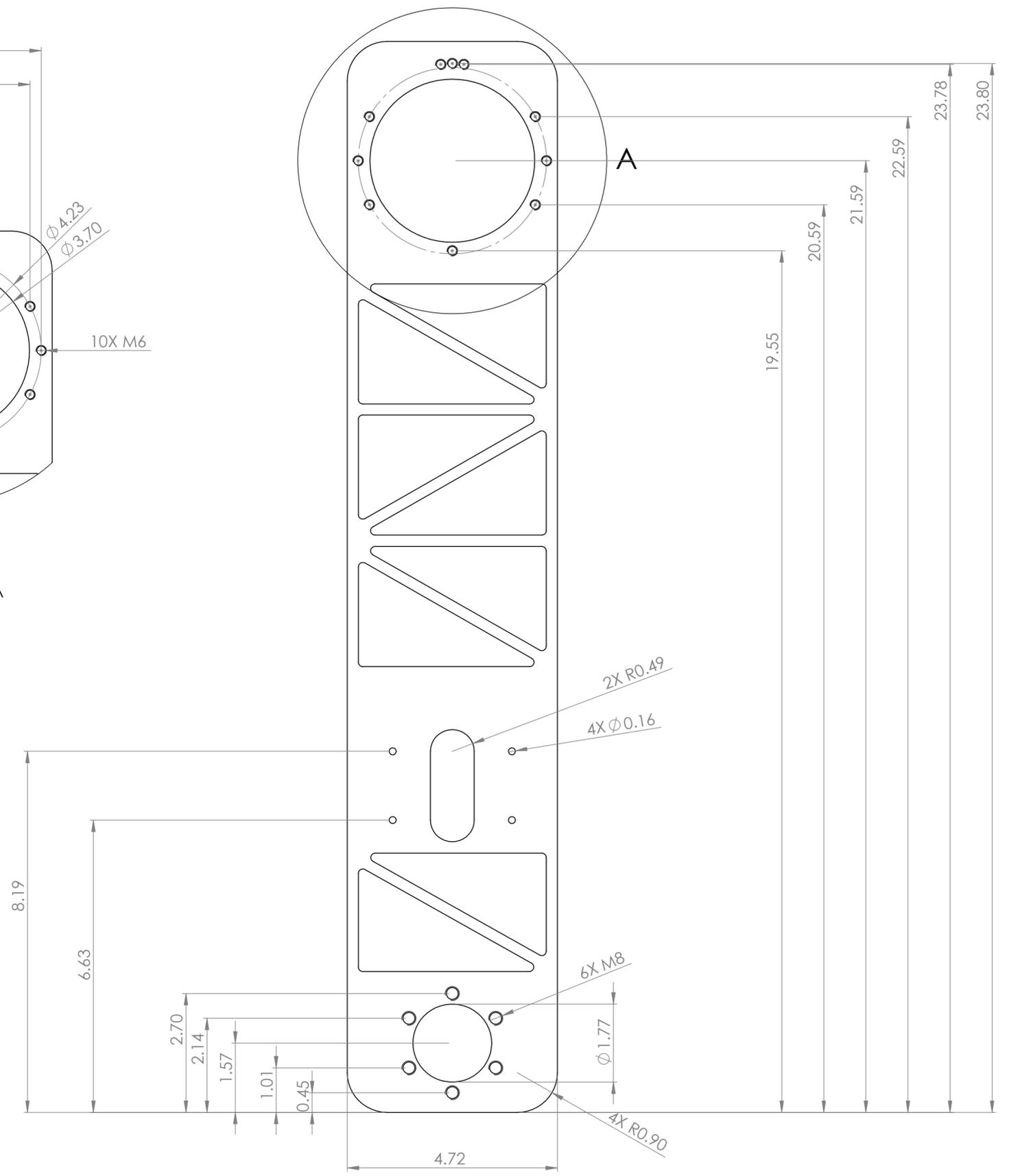
B

A

A



DETAIL A
SCALE 1 : 2

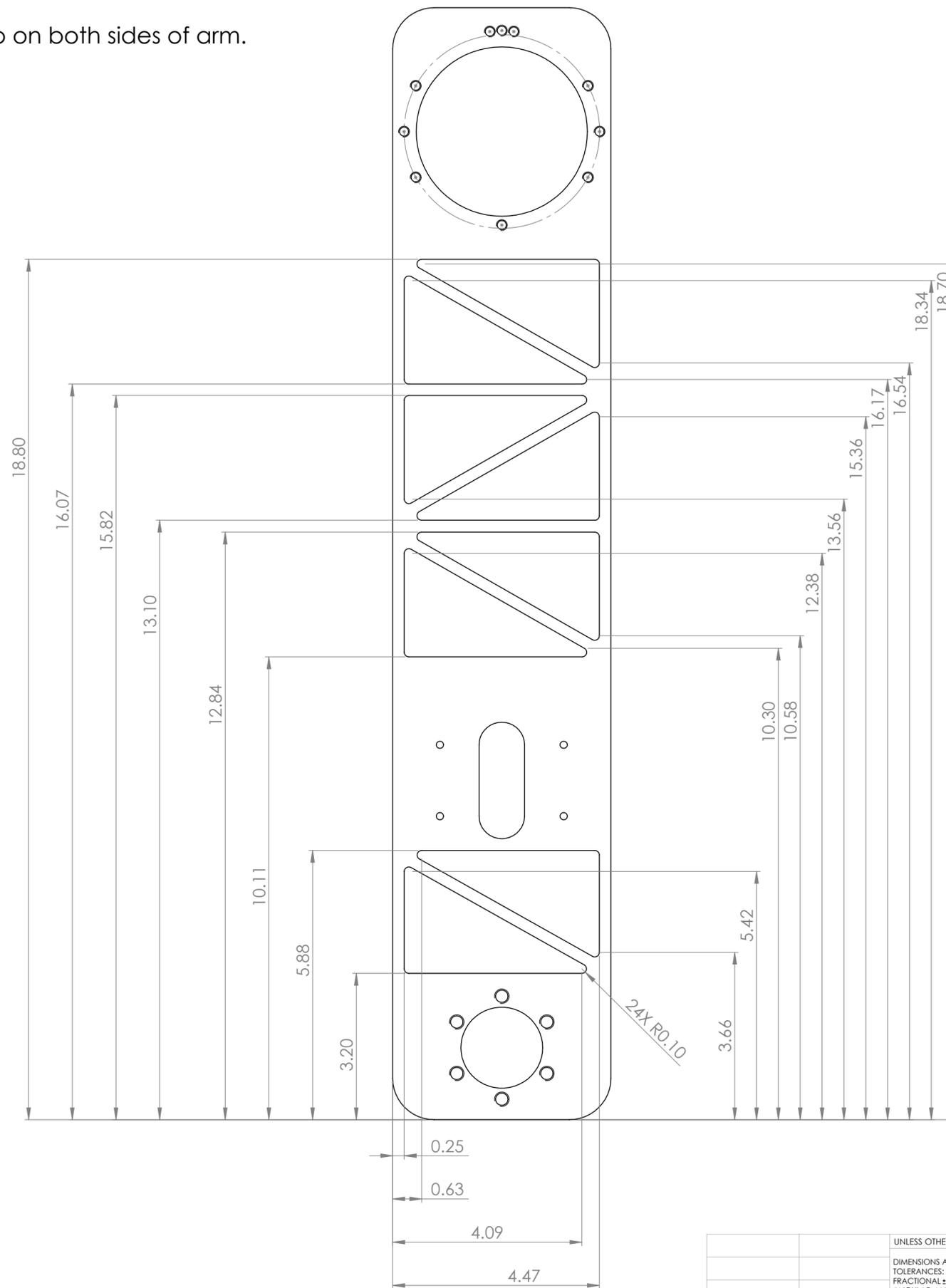


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		DIMENSIONS ARE IN INCHES		DRAWN	
		TOLERANCES: ± 0.0025		CHECKED	
		FRACTIONAL ±		ENG APPR.	
		ANGULAR: MACH ± BEND ±		MFG APPR.	
		TWO PLACE DECIMAL ±		Q.A.	
		THREE PLACE DECIMAL ±		COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON	DO NOT SCALE DRAWING		TITLE:	
APPLICATION				SIZE DWG. NO. REV	
				C J2_Arm	
				SCALE: 1:5 WEIGHT: SHEET 1 OF 2	

Notes:

① Machine out triangles 0.200 inches deep on both sides of arm.



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		DIMENSIONS ARE IN INCHES		DRAWN	
		TOLERANCES: ± 0.0025		CHECKED	
		FRACTIONAL ±		ENG APPR.	
		ANGULAR: MACH ± BEND ±		MFG APPR.	
		TWO PLACE DECIMAL ±		Q.A.	
		THREE PLACE DECIMAL ±		COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			

SIZE	DWG. NO.	REV
C	J2_Arm	
SCALE: 1:5	WEIGHT:	SHEET 2 OF 2

D

D

C

C

B

B

A

A

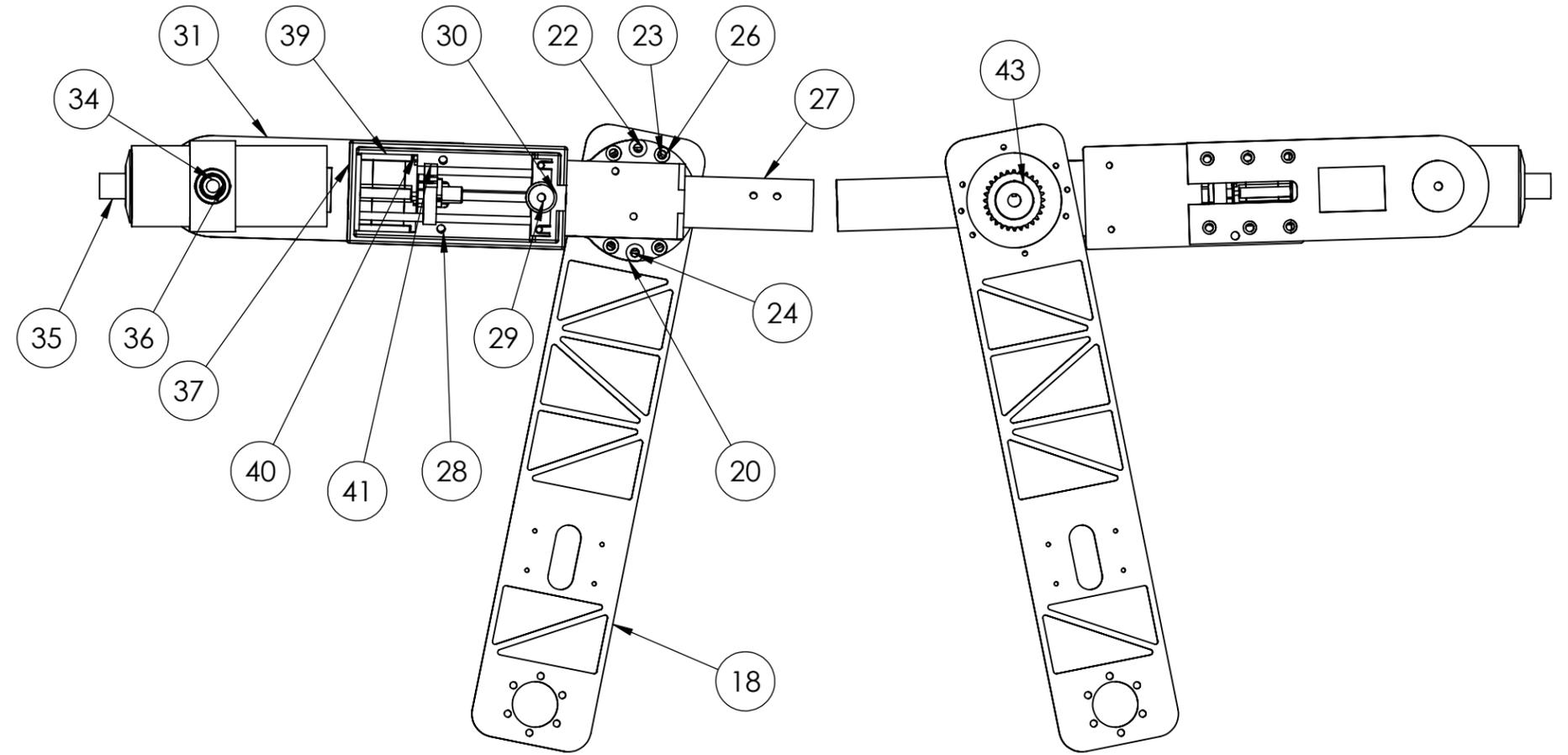
4

3

2

1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
18	J2_Arm		1
19	J3 Motor Mount(Nema23)		1
20	J3 Bearing Cup		1
21	60715K31	One-Piece Steel Thrust Ball Bearing	1
22	J3 Spindle		1
23	5909K955	Needle-Roller Thrust Bearing	1
24	5909K975	1/32" Thick Washer for 3-1/4" Shaft Diameter Needle-Roller Thrust Bearing	1
25	J3 Key Shaft		1
26	J4 Turret Housing		1
27	J4 Main Shaft		1
28	J5 Housing Box		1
29	J5 Idler Tension BK		1
30	J5 Bearing Post		1
31	J6 Main Bearing Arm BK		1
32	J6 Bearing Cap BK		1
33	J6 Taper Roller Bearing Filler 5709K431		1
34	J6 Housing Piece BK		1
35	Spindle		1
36	1277N47	Corrosion-Resistant Timing Belt Pulley	1
37	J5 Guide Rod		2
39	J4 motor support		1
40	J5_Nema23		1
41	J5 Guide Piece BK		1
43	2737T212	Roller Chain Sprocket	1



B

B

A

A

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE	TITLE:
		DIMENSIONS ARE IN INCHES	DRAWN		
		TOLERANCES:	CHECKED		
		FRACTIONAL ±	ENG APPR.		
		ANGULAR: MACH ± BEND ±	MFG APPR.		SIZE DWG. NO. REV B7 Full Assembly
		TWO PLACE DECIMAL ±	Q.A.		
		THREE PLACE DECIMAL ±	COMMENTS:		SCALE: 1:10 WEIGHT:
NEXT ASSY	USED ON	MATERIAL			SHEET 1 OF 1
APPLICATION		FINISH			
		DO NOT SCALE DRAWING			

3

2

1

D

D

C

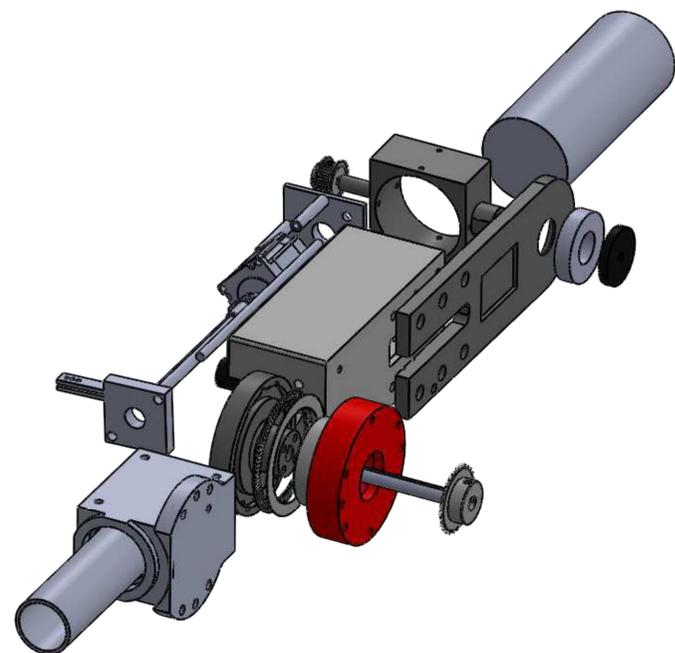
C

B

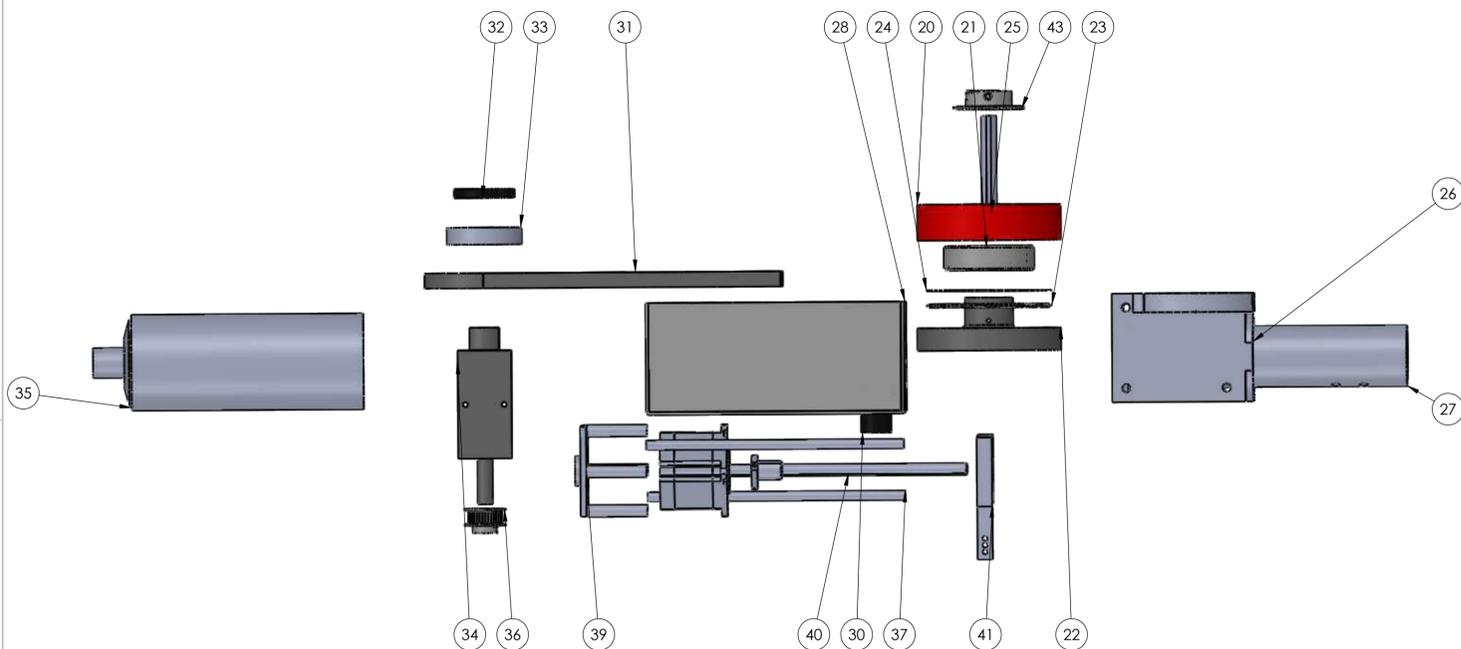
B

A

A



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
19	J3 Motor Mount(Nema23)		1
20	J3 Bearing Cup		1
21	60715K31	One-Piece Steel Thrust Ball Bearing	1
22	J3 Spindle		1
23	5909K955	Needle-Roller Thrust Bearing	1
24	5909K975	1/32" Thick Washer for 3-1/4" Shaft Diameter Needle-Roller Thrust Bearing	1
25	J3 Key Shaft		1
26	J4 Turret Housing		1
27	J4 Main Shaft		1
28	J5 Housing Box		1
29	J5 Idler Tension BK		1
30	J5 Bearing Post		1
31	J6 Main Bearing Arm BK		1
32	J6 Bearing Cap BK		1
33	J6 Taper Roller Bearing Filler 5709K431		1
34	J6 Housing Piece BK		1
35	Spindle		1
36	1277N47	Corrosion-Resistant Timing Belt Pulley	1
37	J5 Guide Rod		2
38	1277N752	Corrosion-Resistant Timing Belt Pulley	1
39	J4 motor support		1
40	J5_Nema23		1
41	J5 Guide Piece BK		1
42	2737T107	Roller Chain Sprocket	1
43	2737T212	Roller Chain Sprocket	1



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DIMENSIONS ARE IN INCHES		CHECKED		
TOLERANCES:		ENG APPR.		
FRACTIONAL ±		MFG APPR.		
ANGULAR ± MACH ± BEND ±		Q.A.		
TWO PLACE DECIMAL ±		COMMENTS:		
THREE PLACE DECIMAL ±				
INTERPRET GEOMETRIC TOLERANCING PER:				
MATERIAL				
FINISH				
NEXT ASSY	USED ON			
APPLICATION	DO NOT SCALE DRAWING			

TITLE:
Joint 3 - Joint 5 Exploded View

SIZE DWG. NO. REV
D

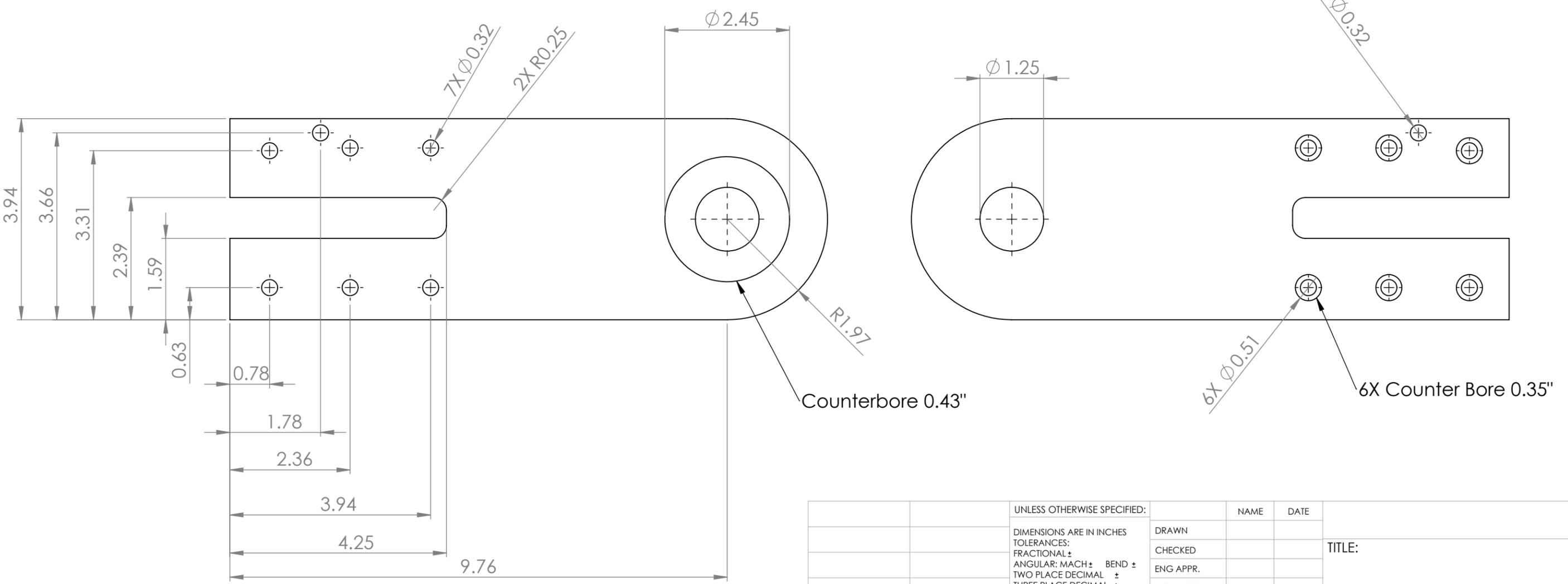
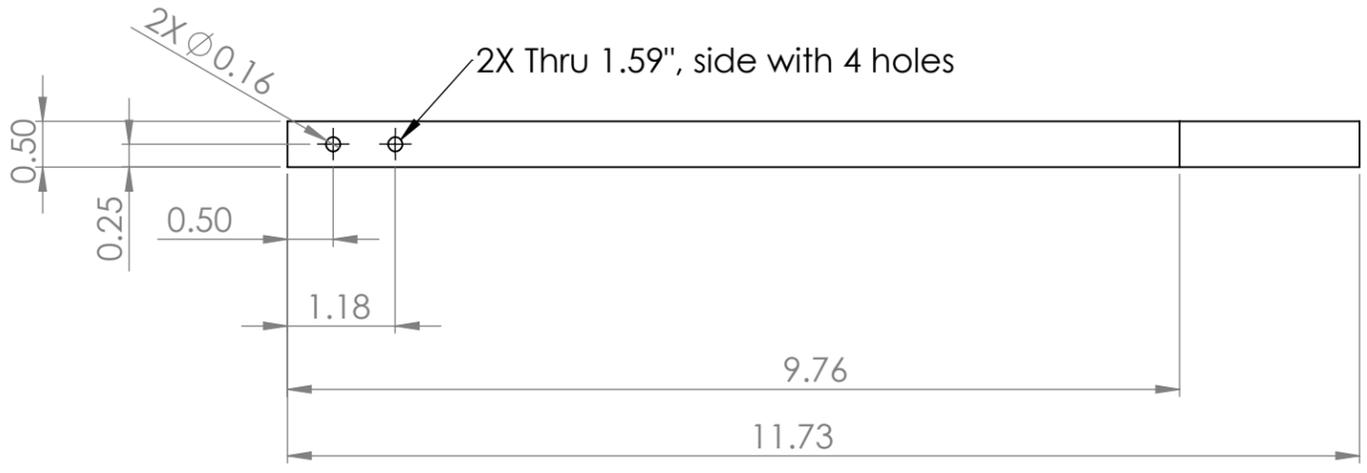
SCALE: 1:3 WEIGHT: SHEET 1 OF 1

4

3

2

1



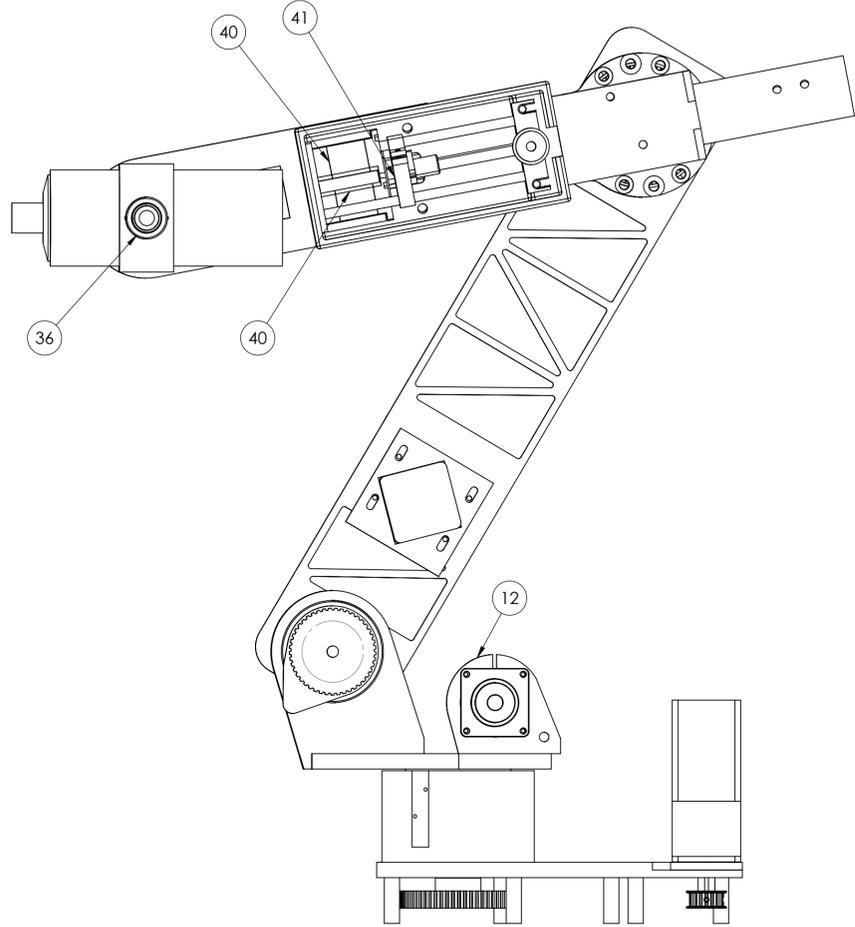
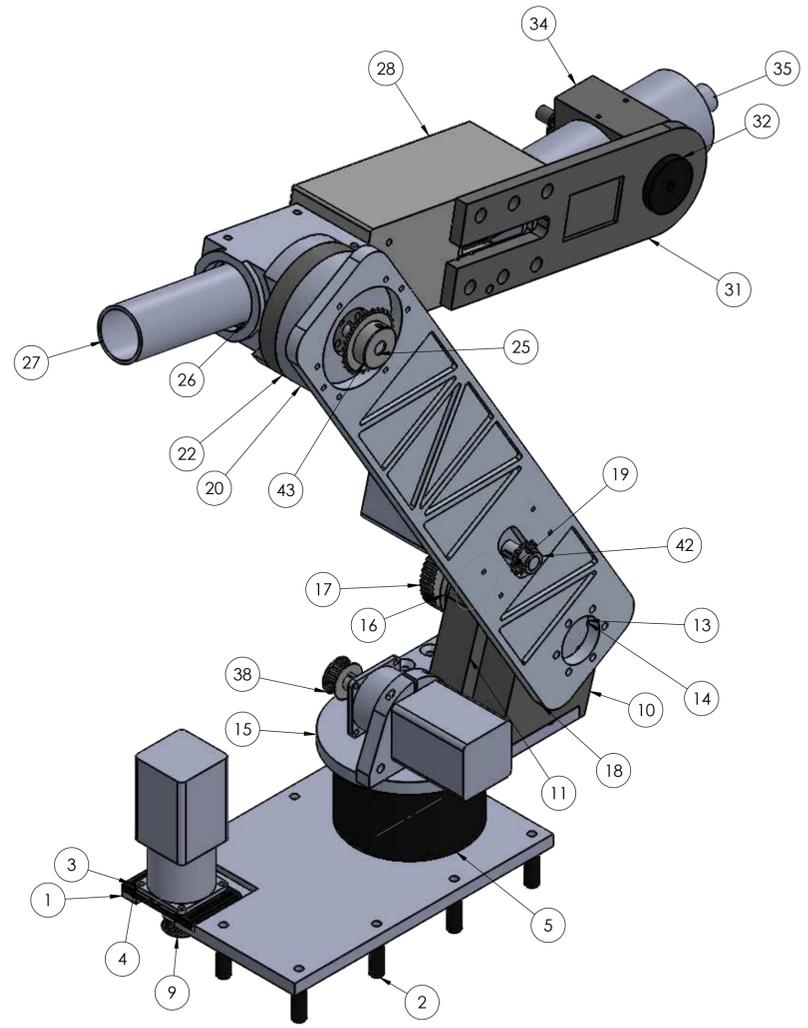
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		DIMENSIONS ARE IN INCHES		DRAWN	
		TOLERANCES:		CHECKED	
		FRACTIONAL \pm		ENG APPR.	
		ANGULAR: MACH \pm BEND \pm		MFG APPR.	
		TWO PLACE DECIMAL \pm		Q.A.	
		THREE PLACE DECIMAL \pm		COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			
			TITLE:		
			SIZE	DWG. NO.	REV
			J6 Main Bearing Arm BK		
			SCALE: 1:2	WEIGHT:	SHEET 1 OF 1

3

2

1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	J1 V3 Base Plate BK		1
2	J1 Support Pins BK		8
3	J1 Motor Mount(Nema23) BK		1
4	J1 Name 23 BK		3
5	J1 2V Turret BK		1
6	2291N116	Tapered-Roller Thrust Bearing	2
7	J1 Spindle BK		1
8	1277N61	Corrosion-Resistant Timing Belt Pulley	1
9	1277N752	Corrosion-Resistant Timing Belt Pulley	1
10	J2_TurretHousing		1
11	J2_TurretHousingLeft		1
12	J2_MotorSupport		1
13	7755N34	Tapered Bore Self-Aligning Ball Bearing	2
14	J2_DriveSpindle		1
15	J1 Turrent Base Correct		1
16	J2_TensionRing		1
17	1277N29	Corrosion-Resistant Timing Belt Pulley	1
18	J2_Arm		1
19	J3 Motor Mount(Nema23)		1
20	J3 Bearing Cup		1
21	60715K31	One-Piece Steel Thrust Ball Bearing	1
22	J3 Spindle		1
23	5909K955	Needle-Roller Thrust Bearing	1
24	5909K975	1/32" Thick Washer for 3-1/4" Shaft Diameter Needle-Roller Thrust Bearing	1
25	J3 Key Shaft		1
26	J4 Turret Housing		1
27	J4 Main Shaft		1
28	J5 Housing Box		1
29	J5 Idler Tension BK		1
30	J5 Bearing Post		1
31	J6 Main Bearing Arm BK		1
32	J6 Bearing Cap BK		1
33	J6 Taper Roller Bearing Filler 5709K431		1
34	J6 Housing Piece BK		1
35	Spindle		1
36	1277N47	Corrosion-Resistant Timing Belt Pulley	1
37	J5 Guide Rod		2
38	1277N752	Corrosion-Resistant Timing Belt Pulley	1
39	J4 motor support		1
40	J5_Nema23		1
41	J5 Guide Piece BK		1
42	2737T107	Roller Chain Sprocket	1
43	2737T212	Roller Chain Sprocket	1

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

INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL FINISH

APPLICATION DO NOT SCALE DRAWING

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

TITLE:

SIZE DWG. NO. REV
Full Assembly
 SCALE: 1:5 WEIGHT: SHEET 1 OF 1