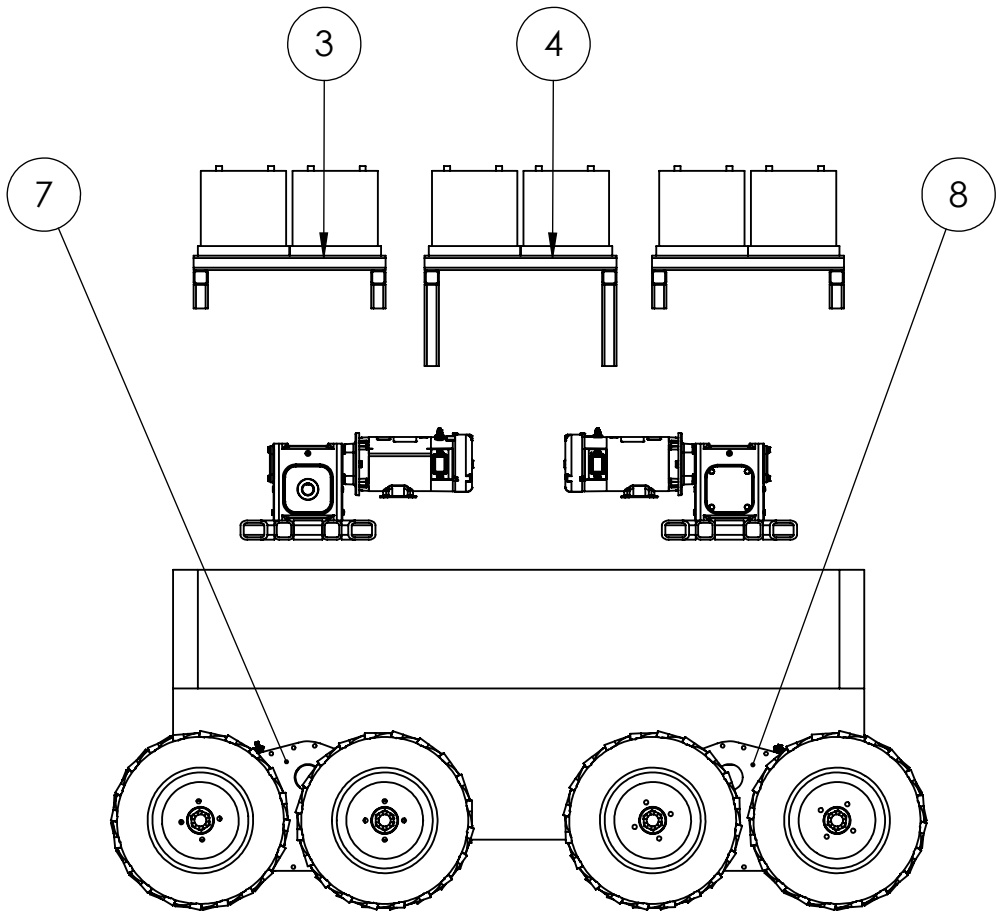
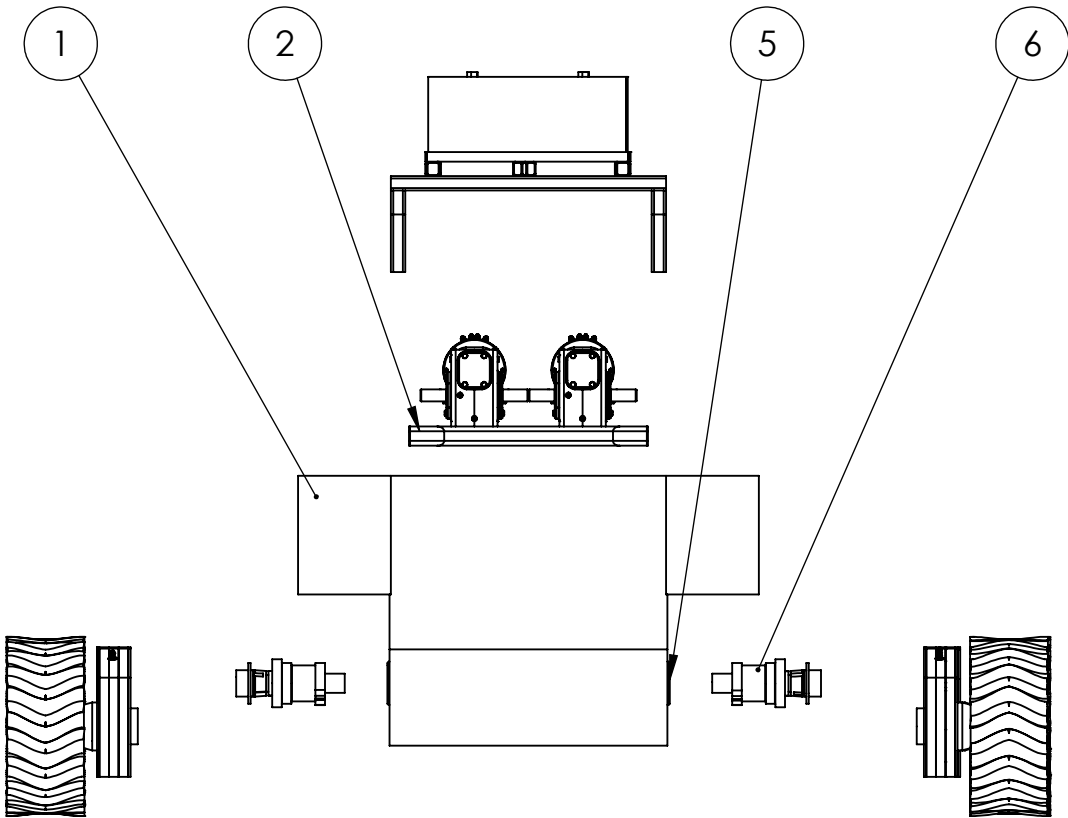
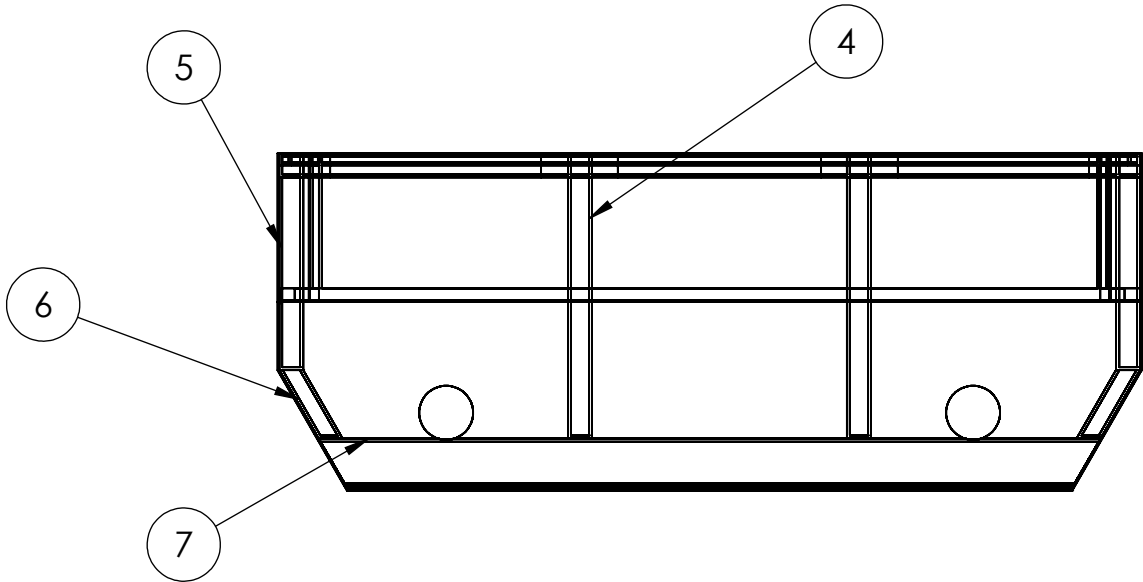
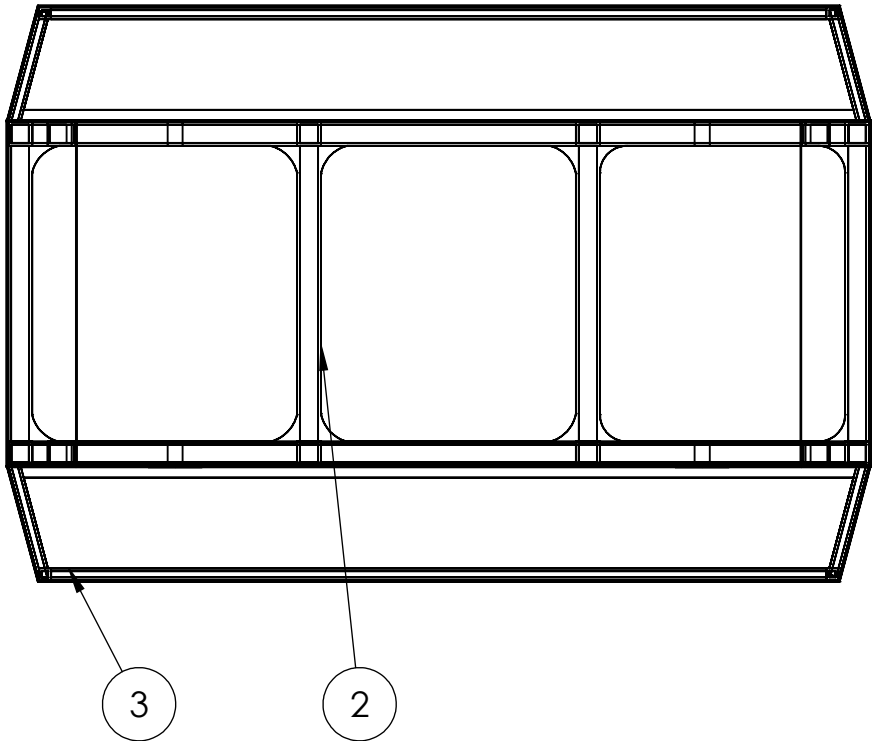
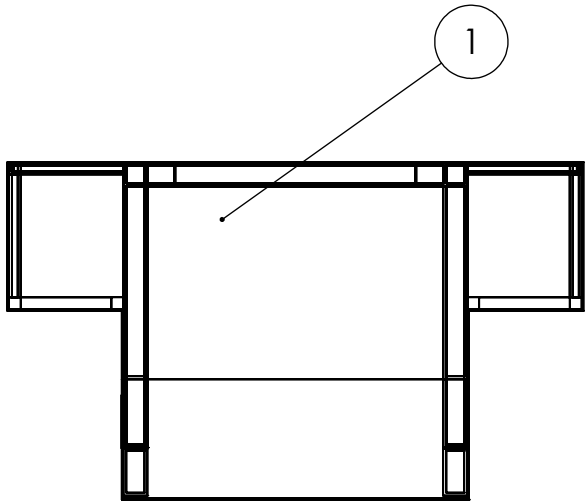


ITEM NO.	PART NUMBER	QTY.
1	FRAME	1
2	MOTOR_REDUCER_W_BRACING	2
3	ASM_MOUNT_NON_STRUCTURAL	2
4	MIDDLE_RACK_NON_STRUCTURAL	1
5	ASM MOUNTING HOLE TUBING	4
6	ASM PIVOT	4
7	Gearbox	2
8	Gearbox_mirror	2



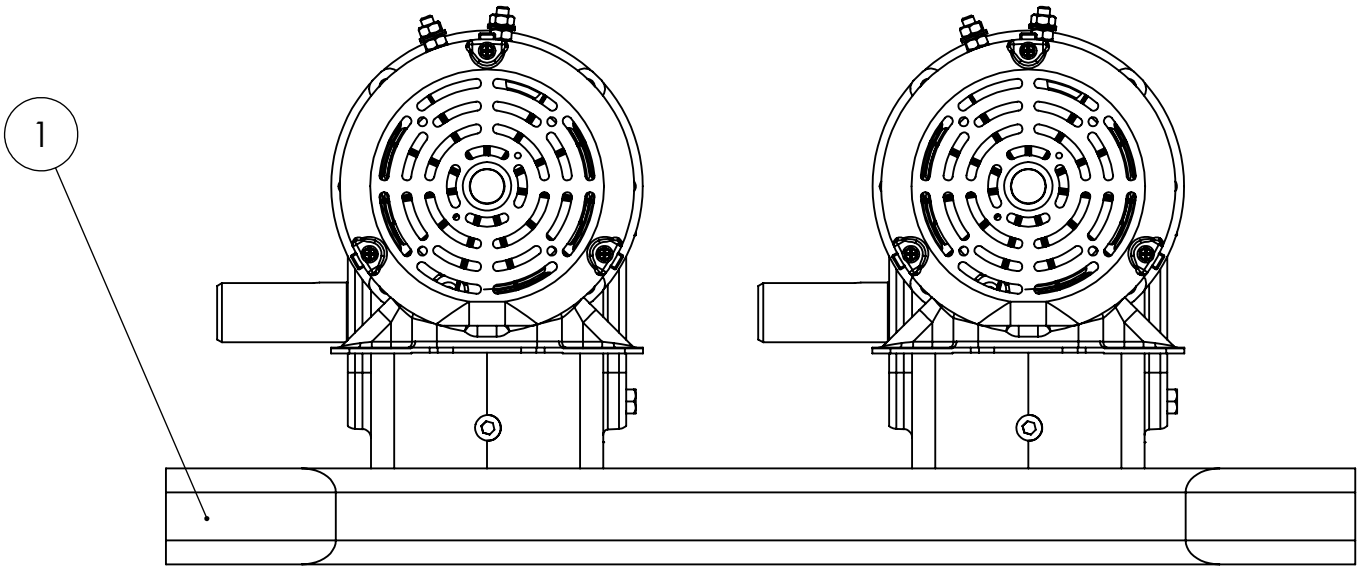
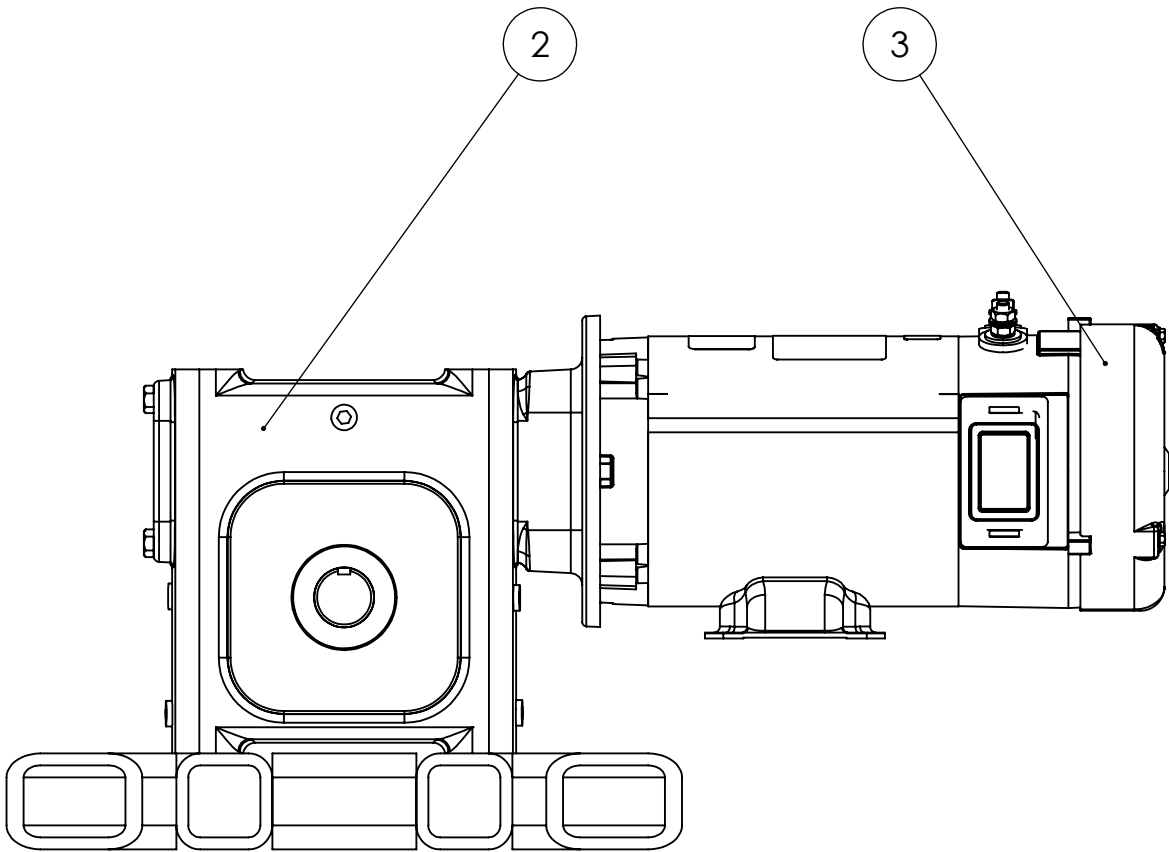
UNLESS OTHERWISE SPECIFIED:		NAME	DATE	CLIENT:	PENGUIN ASI
DIMENSIONS ARE IN INCHES	DRAWN	XXXX	XXXX	PROJECT:	CAPSTONE
	CHECKED	XXXX	XXXX		
	ENG APPR.	XXXX	XXXX		
	MFG APPR.	XXXX	XXXX		
INTERPRET GEOMETRIC TOLERANCING PER:					
MATERIAL XXXXXXXXX	COMMENTS:			DWG. NAME:	ASM MASTER
FINISH XXXX	XXXX				REV 0
DO NOT SCALE DRAWING				SIZE: B	SCALE: 1:20
					SHEET 1 OF 9

ITEM NO.	PART NUMBER	MATERIAL	QTY.
1	ROBOT_FRAME	6061 ALUMINUM	1
2	FRAME_UPPER_BRACING	6061 ALUMINUM	1
3	FRAME_UPPER_BRACING_1X1	6061 ALUMINUM	2
4	FRAME_LONG_VERTICAL_BRACING	6061 ALUMINUM	4
5	FRAME_SHORT_VERTICAL_BRACING	6061 ALUMINUM	4
6	FRAME_ANGLED_BRACING	6061 ALUMINUM	4
7	FRAME_LARGE_LOWER_MEMBER	6061 ALUMINUM	2



UNLESS OTHERWISE SPECIFIED:		NAME	DATE	CLIENT:	PENGUIN ASI
DIMENSIONS ARE IN INCHES	DRAWN	XXXX	XXXX	PROJECT:	CAPSTONE
	CHECKED	XXXX	XXXX		
	ENG APPR.	XXXX	XXXX		
	MFG APPR.	XXXX	XXXX		
INTERPRET GEOMETRIC TOLERANCING PER:					
MATERIAL XXXX	COMMENTS: XXXX			DWG. NAME:	REV
FINISH XXXX				FRAME	0
DO NOT SCALE DRAWING				SIZE: B	SHEET 2 OF 9

ITEM NO.	PART NUMBER	MATERIAL	QTY.
1	2x2x0.25_SQ_AL_BEAM	6061 ALUMINUM	2
2	RIGHT ANGLE GEAR REDUCER EL-BMQ826-L-56	-	2
3	1HP_LEESON_DC_MOTOR	-	2
4	2x2x0.25_SQ_AL_BEAM		4
5	2x2x0.25_SQ_AL_BEAM		2



UNLESS OTHERWISE SPECIFIED:		NAME	DATE	CLIENT: PENGUIN ASI		
DIMENSIONS ARE IN INCHES	DRAWN	XXXX	XXXX	PROJECT: CAPSTONE		
	CHECKED	XXXX	XXXX			
	ENG APPR.	XXXX	XXXX			
	MFG APPR.	XXXX	XXXX			
INTERPRET GEOMETRIC TOLERANCING PER:				DWG. NAME: MOTOR_REDUCER_W_BRACING REV 0		
MATERIAL XXXX	COMMENTS: XXXX					
FINISH XXXX						
DO NOT SCALE DRAWING						
		SIZE: B		SCALE: 1:4	SHEET 3 OF 9	

				8	7	6	5	4	3	2	1
ITEM NO.		PART NUMBER				MATERIAL				QTY.	
1		TUBING_NON_STRUCTURAL				6061 ALUMINUM				4	
2		TUBING_NON_STRUCTURAL				6061 ALUMINUM				2	
3		TUBING_NON_STRUCTURAL				6061 ALUMINUM				3	
4		BATTERY HOLDER				6061 ALUMINUM				2	
5		BATTERY_MODEL				-				2	

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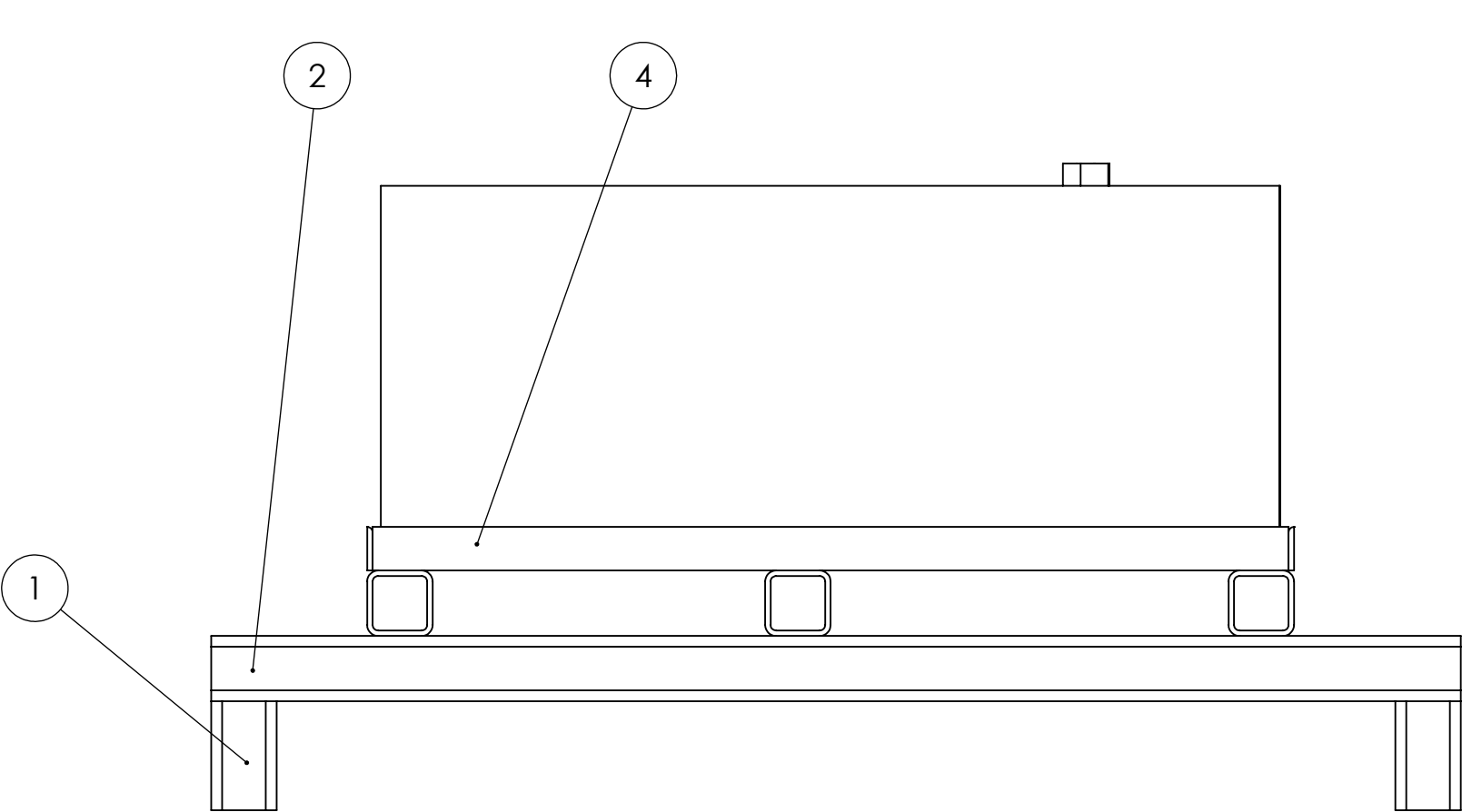
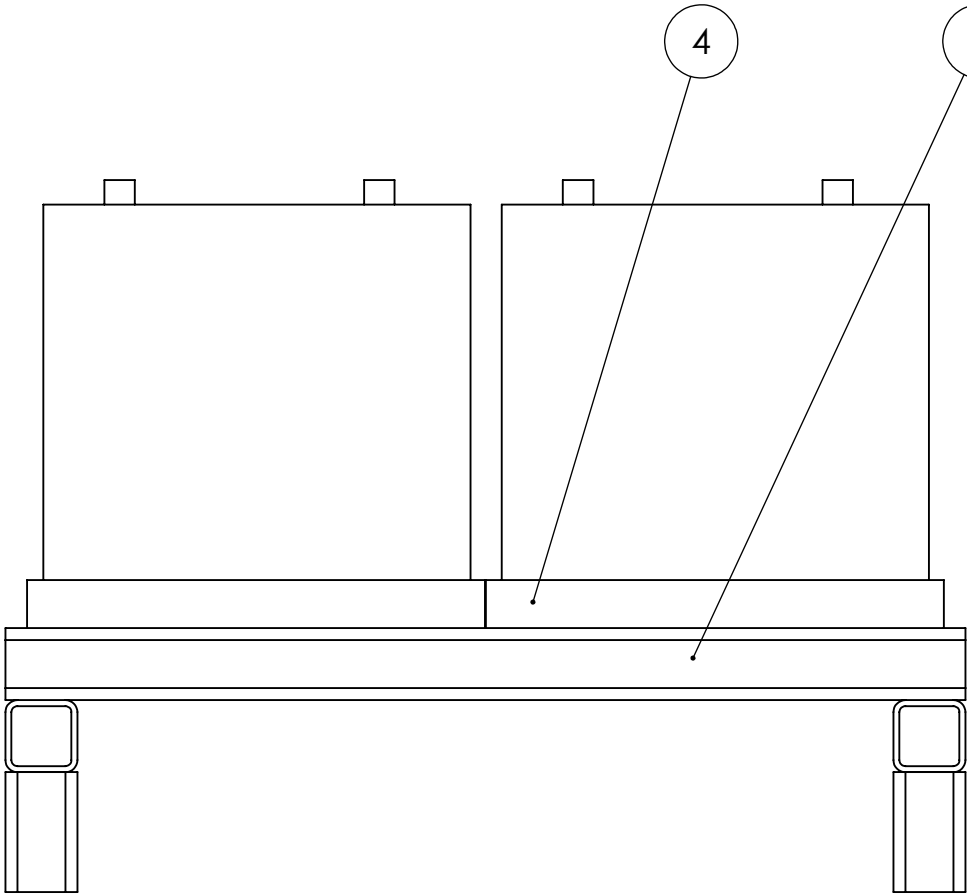
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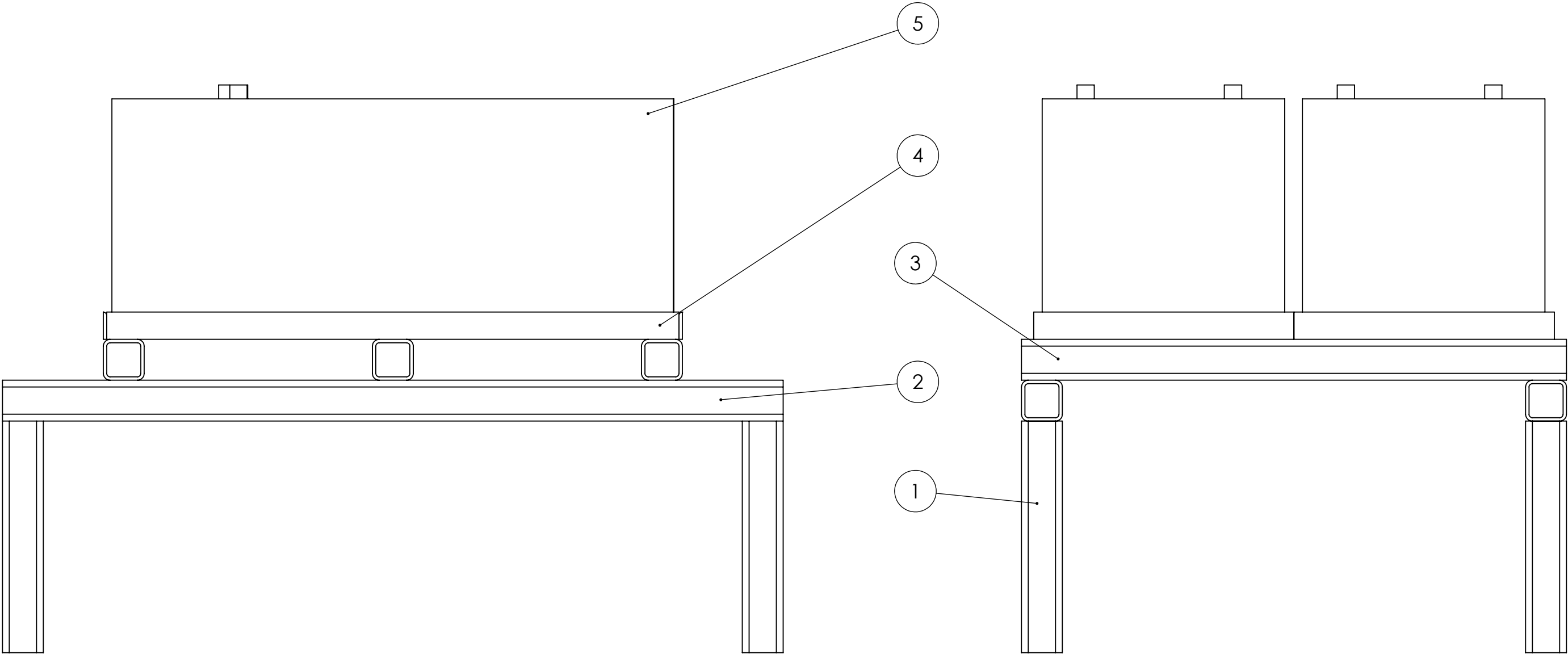
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UNLESS OTHERWISE SPECIFIED:		NAME	DATE	CLIENT: PENGUIN ASI		
DIMENSIONS ARE IN INCHES	DRAWN	XXXX	XXXX	PROJECT: CAPSTONE		
	CHECKED	XXXX	XXXX			
	ENG APPR.	XXXX	XXXX			
	MFG APPR.	XXXX	XXXX			
INTERPRET GEOMETRIC TOLERANCING PER:				DWG. NAME: ASM_MOUNT_NON_STRUCTURAL REV 0		
MATERIAL	COMMENTS: XXXX					
FINISH						
DO NOT SCALE DRAWING						

8		7		6		5		4		3		2		1	
ITEM NO.	PART NUMBER			MATERIAL			QTY.								
1	TUBING_NON_STRUCTURAL			6061 ALUMINUM			4								
2	TUBING_NON_STRUCTURAL			6061 ALUMINUM			2								
3	TUBING_NON_STRUCTURAL			6061 ALUMINUM			3								
4	BATTERY HOLDER			6061 ALUMINUM			2								
5	BATTERY_MODEL			-			2								



UNLESS OTHERWISE SPECIFIED:		NAME		DATE		CLIENT: PENGUIN ASI	
DIMENSIONS ARE IN INCHES		DRAWN	XXXX	XXXX	PROJECT: CAPSTONE		
		CHECKED	XXXX	XXXX			
		ENG APPR.	XXXX	XXXX			
		MFG APPR.	XXXX	XXXX			
INTERPRET GEOMETRIC TOLERANCING PER:					DWG. NAME: MIDDLE_RACK_NON_STRUCTURAL REV 0		
MATERIAL XXXX		COMMENTS: XXXX					
FINISH XXXX							
DO NOT SCALE DRAWING							

ITEM NO.	PART NUMBER		QTY.
1	FRAME_OUTPUT_HOLE_MOUNT	6061 ALUMINUM	1
2	FRAME TUBING ALUMINUM INSERT	6061 ALUMINUM	1
3	BRASS BUSHINGS	SAE 660 BRONZE	2
4	FRAME ATTACHED BUMPER STOP OUTS	6061 ALUMINUM	2

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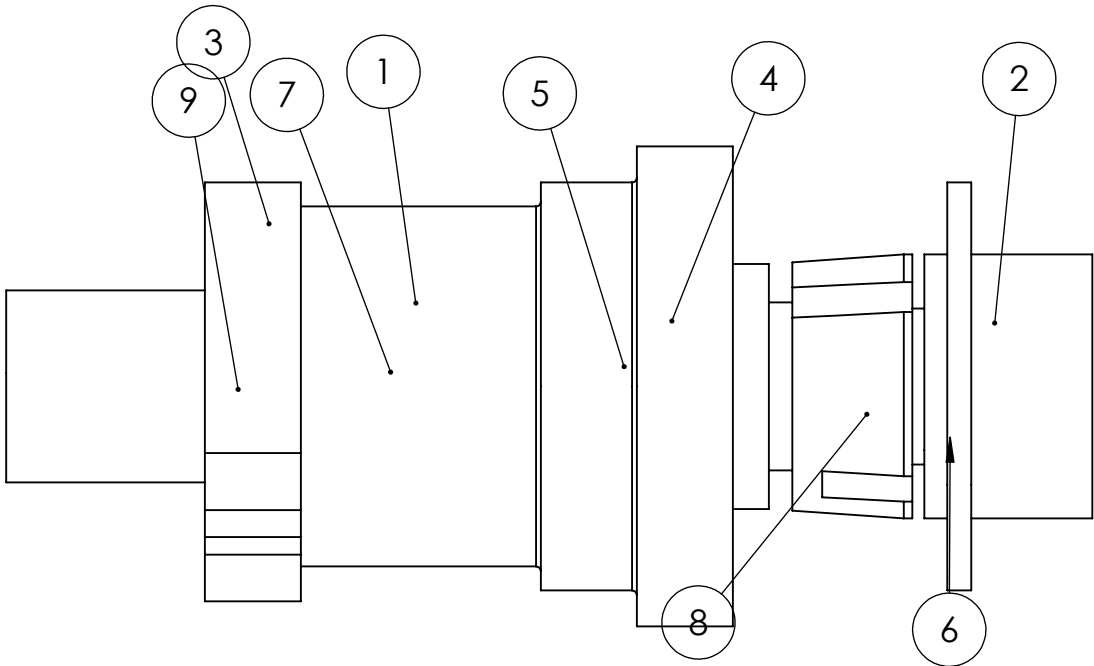
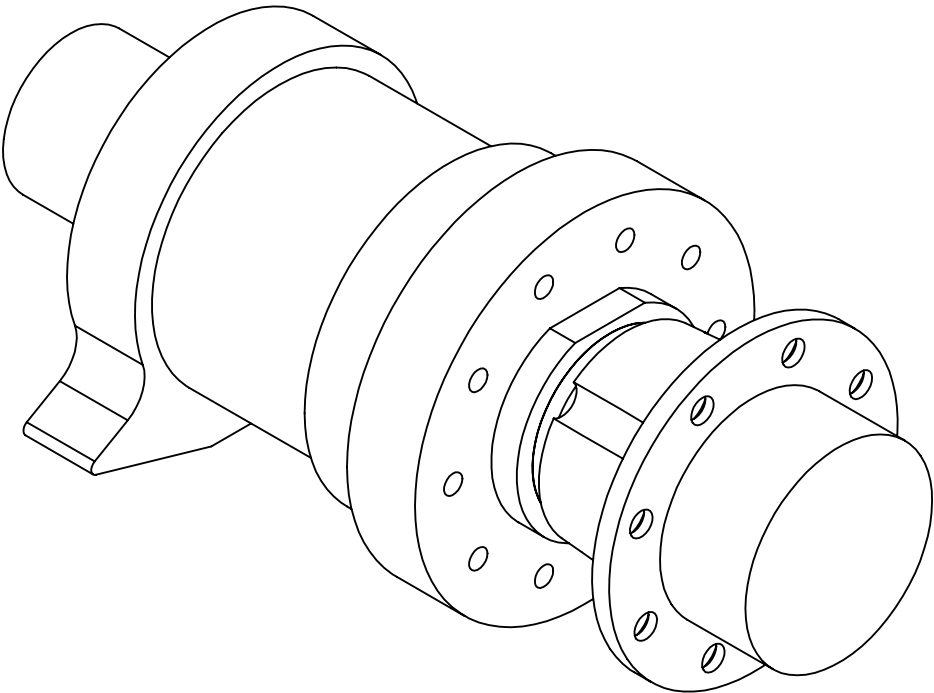
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UNLESS OTHERWISE SPECIFIED:		NAME	DATE	CLIENT: PENGUIN ASI		
DIMENSIONS ARE IN INCHES	DRAWN	XXXX	XXXX	PROJECT: CAPSTONE		
	CHECKED	XXXX	XXXX			
	ENG APPR.	XXXX	XXXX			
	MFG APPR.	XXXX	XXXX			
INTERPRET GEOMETRIC TOLERANCING PER:				DWG. NAME: ASM MOUNTING HOLE TUBING		
MATERIAL XXXX	COMMENTS: XXXX					
FINISH XXXX						
DO NOT SCALE DRAWING						
				SIZE: B	SCALE: 1:2	REV 0
				SHEET 6 OF 9		

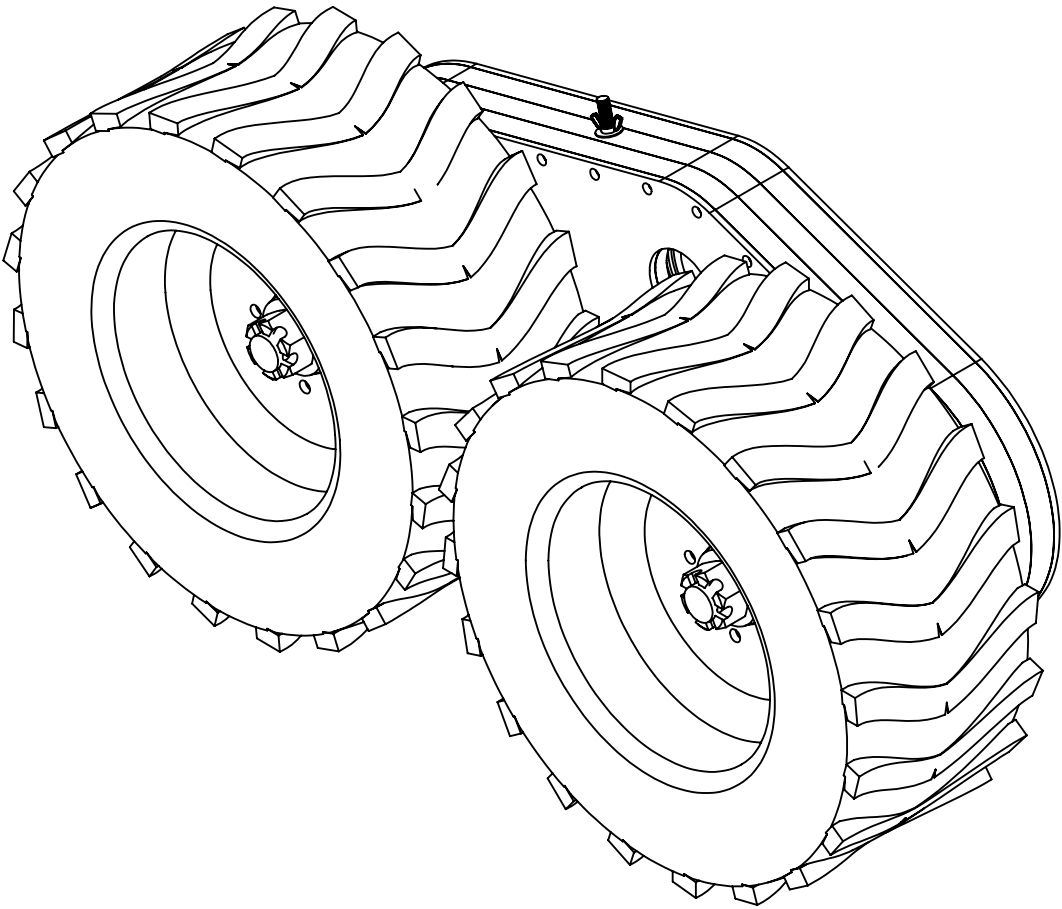
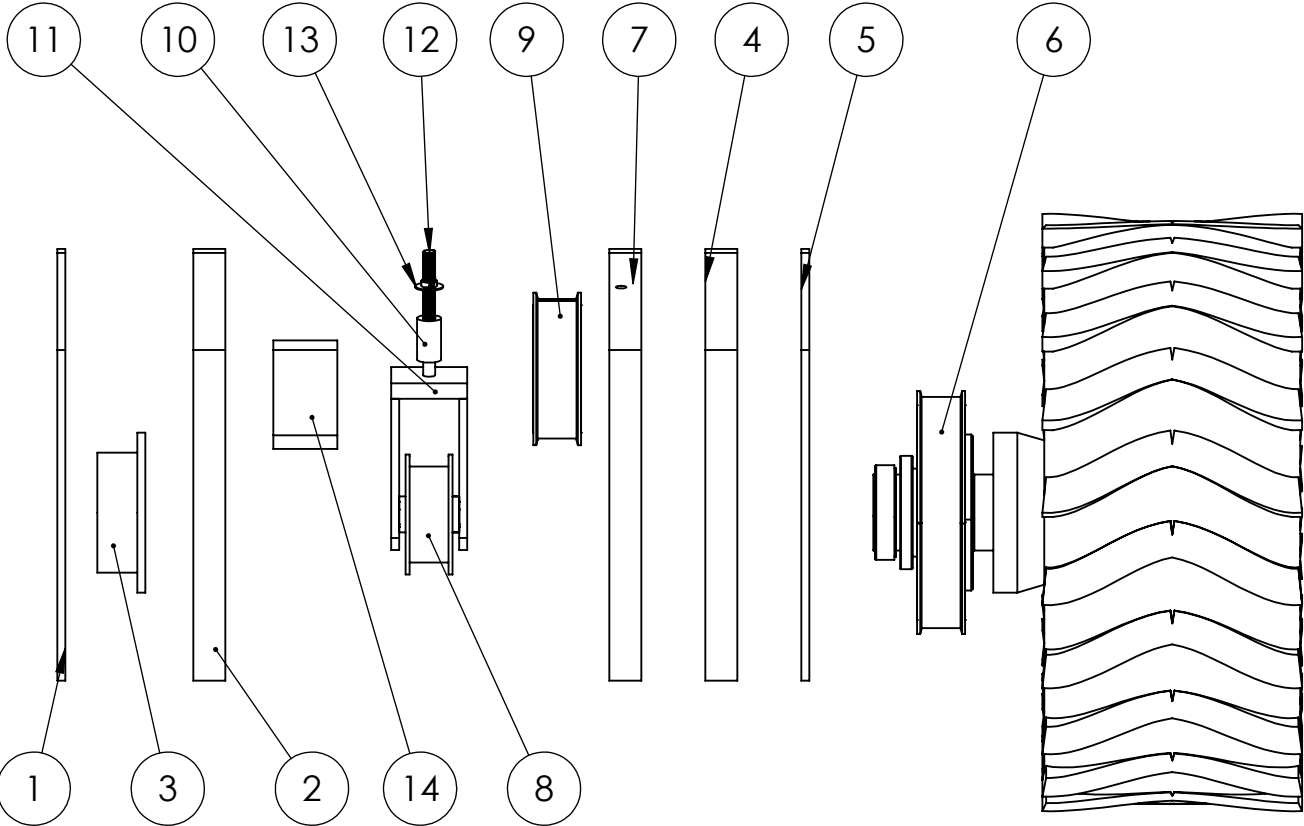
8	7	6	5	4	3	2	1
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ITEM NO.	PART NUMBER	MATERIAL	QTY.
1	SHAFT SLEEVE	AISI 1045 STEEL	1
2	GEARBOX_END_CAP	AISI 1045 STEEL	1
3	StopperSection	AISI 1045 STEEL	1
4	32005 X_Q	-	2
5	25x35x7 hmsa10 rg	-	1
6	14970	-	2
7	DRIVE SHAFT	AISI 4340 STEEL	1
8	2012_1_5_8 Bushing	-	1
9	SHAFT COUPLING	AISI 4340 STEEL	1



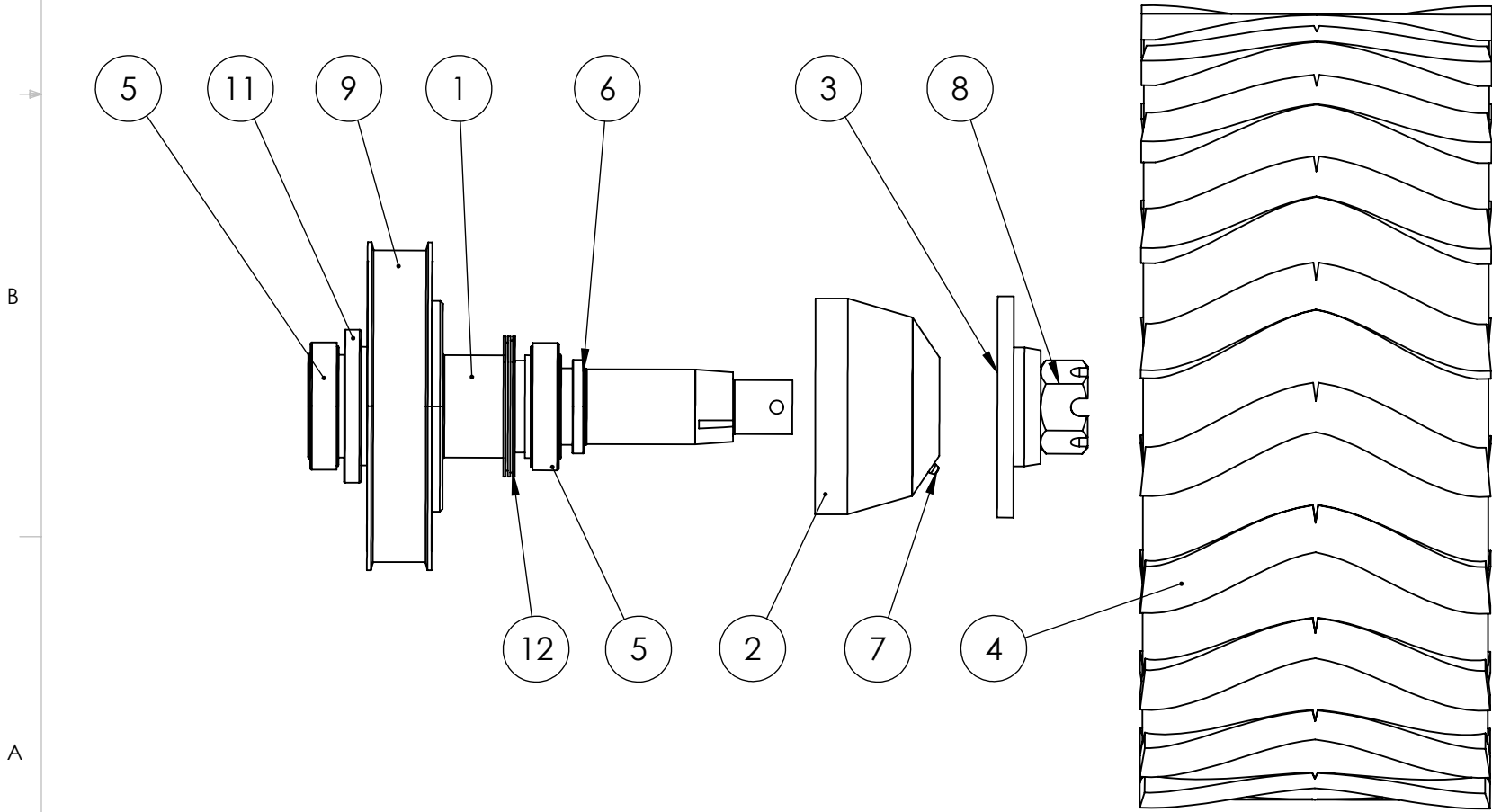
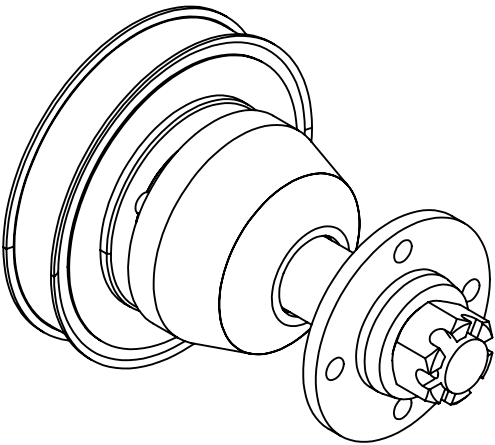
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES		NAME	DATE	CLIENT: PENGUIN ASI	
	DRAWN	XXXX	XXXX	PROJECT: CAPSTONE	
	CHECKED	XXXX	XXXX		
	ENG APPR.	XXXX	XXXX		
	MFG APPR.	XXXX	XXXX		
INTERPRET GEOMETRIC TOLERANCING PER:					
MATERIAL XXXX	COMMENTS: XXXX			DWG. NAME: ASM PIVOT	REV 0
FINISH XXXX					
DO NOT SCALE DRAWING					
SIZE: B		SCALE: 1:2		SHEET 7 OF 9	

ITEM NO.	PART NUMBER	Material	QTY.
1	BackPlateSlot	6061 ALUMINUM	1
2	FrameBackSlot	6061 ALUMINUM	1
3	BearingSlot	6061 ALUMINUM	2
4	FrameFrontSlot	6061 ALUMINUM	1
5	FrontPlate	6061 ALUMINUM	1
6	wheel_shaft_assembly	-	2
7	FrameShell	6061 ALUMINUM	1
8	idler_assembly	-	1
9	p44_8mgt_30	-	1
10	SealedTube	-	1
11	guide_plate_top	6061 ALUMINUM	1
12	ThreadedRod	-	1
13	92239A250	-	1
14	StructuralSpacer	6061 ALUMINUM	1



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES		NAME	DATE	CLIENT: PENGUIN ASI	
	DRAWN	XXXX	XXXX	PROJECT: CAPSTONE	
	CHECKED	XXXX	XXXX		
	ENG APPR.	XXXX	XXXX		
INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL XXXX FINISH XXXX DO NOT SCALE DRAWING	MFG APPR.	XXXX	XXXX		
	COMMENTS: XXXX				
				DWG. NAME: Gearbox	REV 0
				SIZE: B	SCALE: 1:6 SHEET 8 OF 9

ITEM NO.	PART NUMBER	Material	QTY.
1	wheel_shaft	AISI 4340	1
2	hub	6061 ALUMINUM	1
3	rim_mount	AISI 1045	1
4	carlisle_trac_chief_18x85r10	-	1
5	32009 x_q	-	2
6	45x55x7 hmsa10 rg	-	1
7	HG 1350-010 01	-	1
8	HSNUT 1.2500-12-D-N	-	1
9	p72_8mgt_30	-	1
10	2517_2_1_2	-	1
11	68x90x10 hmsa10 rg	-	1
12	21298	-	1



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES		NAME	DATE	CLIENT: PENGUIN ASI	
	DRAWN	XXXX	XXXX	PROJECT: CAPSTONE	
	CHECKED	XXXX	XXXX		
	ENG APPR.	XXXX	XXXX		
INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL XXXX FINISH XXXX	MFG APPR.	XXXX	XXXX		
	COMMENTS: XXXX			DWG. NAME: wheel_shaft_assembly	
				REV	0
	DO NOT SCALE DRAWING			SIZE: B	SHEET 9 OF 9