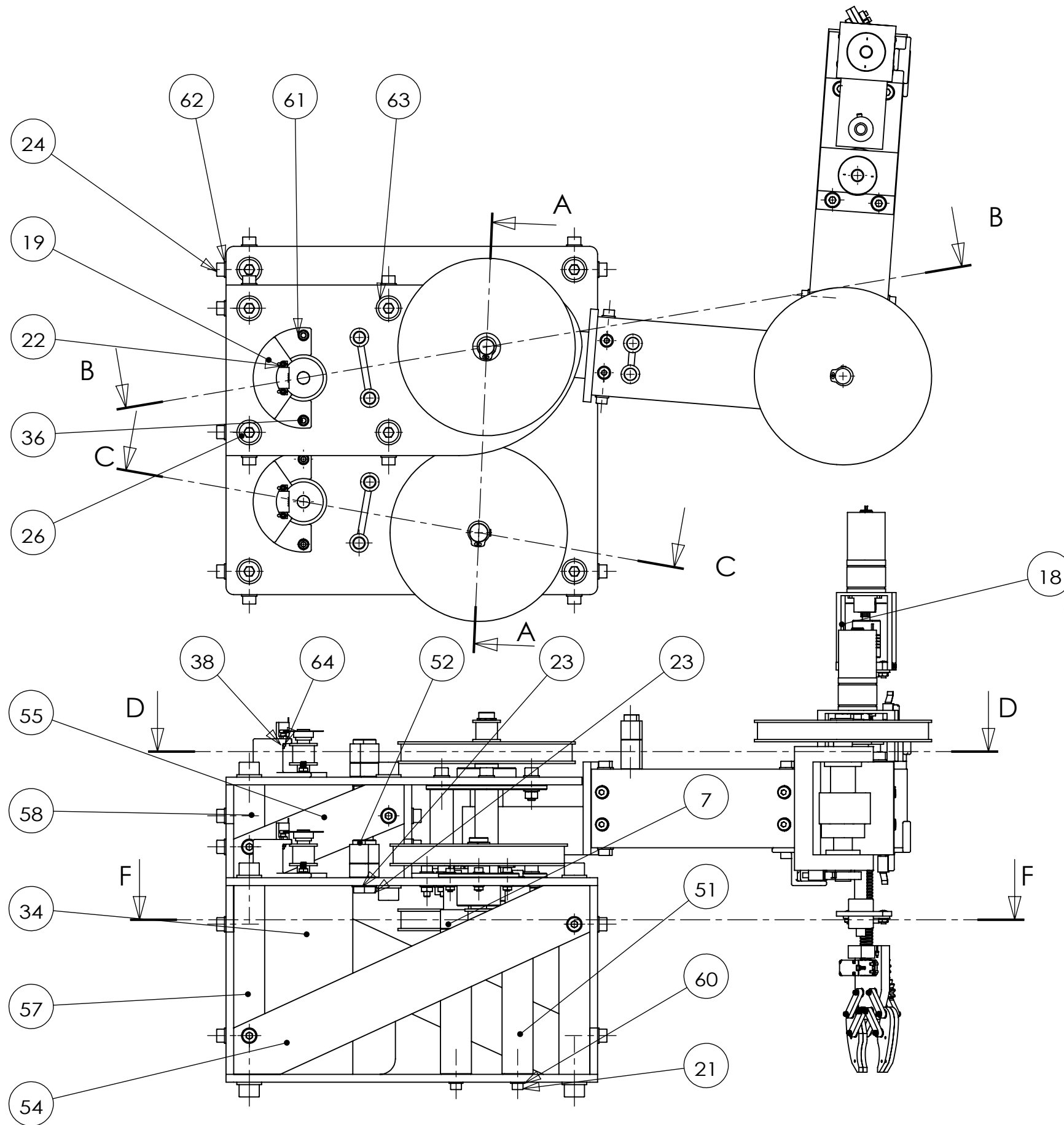
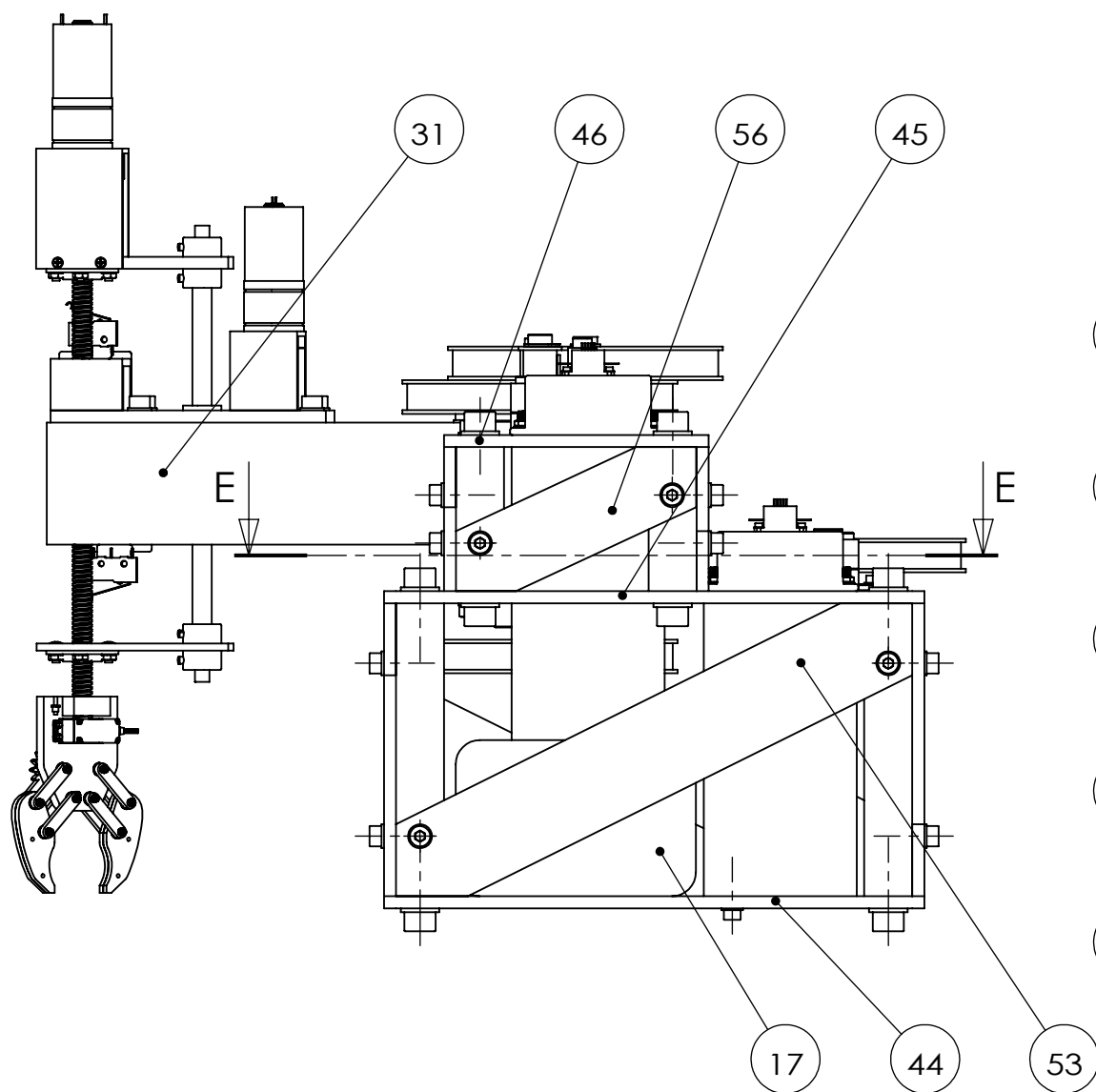
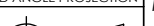
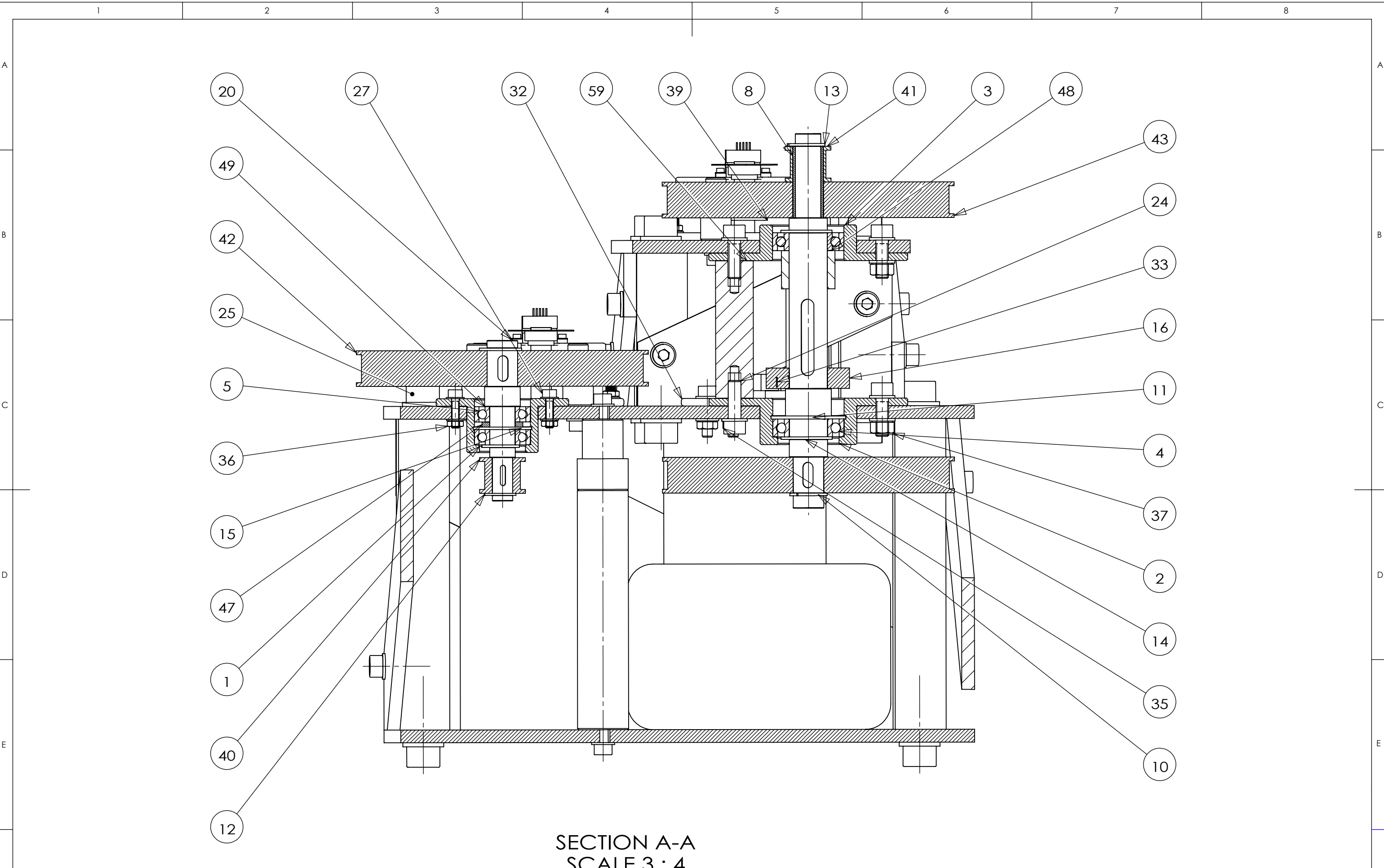



SCALE 1 : 5



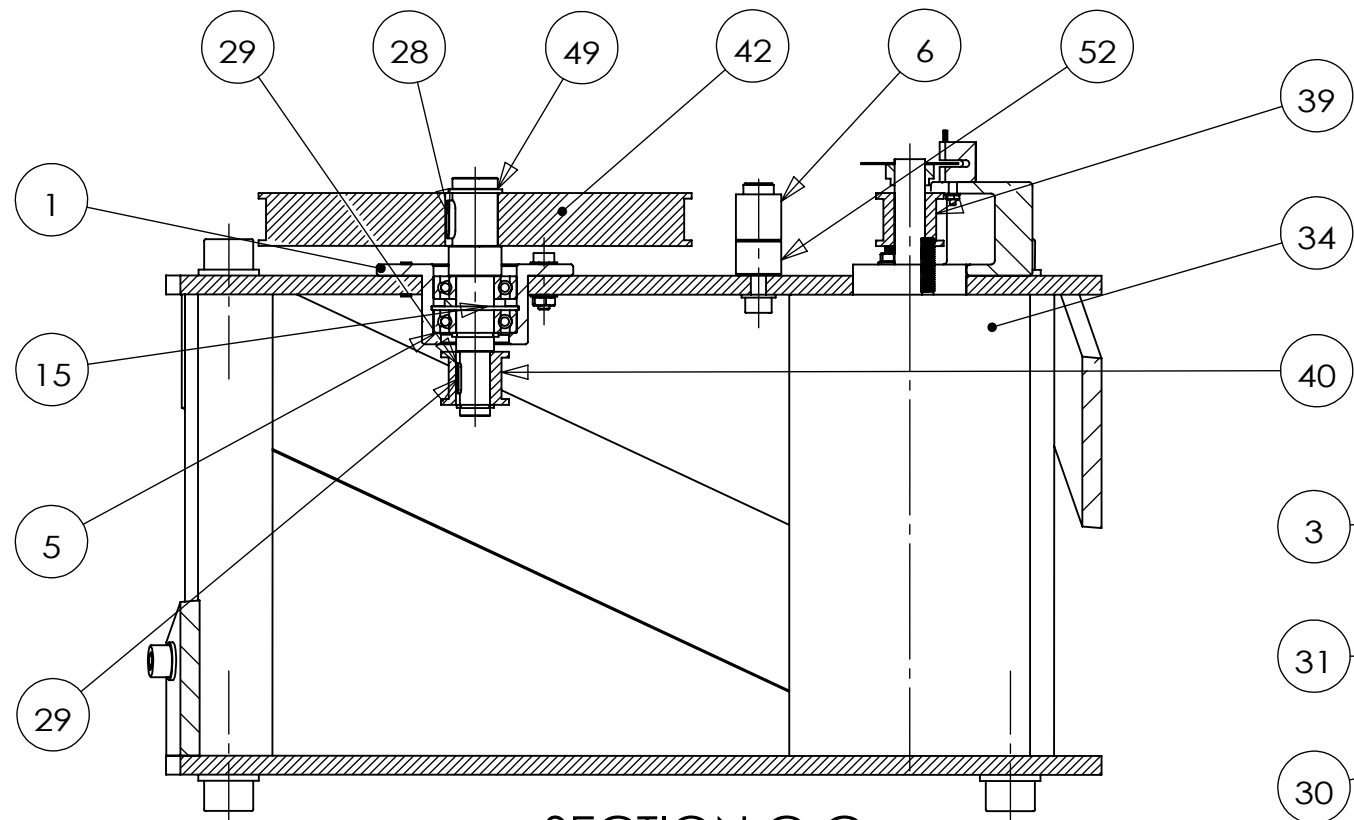
TOLERANCES		THIRD ANGLE PROJECTION		MATERIAL:		TITLE:  Main Assembly		Imperial College London Department of Mechanical Engineering	
X     =± 0.5 X.X   =± 0.1 X.XX =± 0.02	ANGULAR   ±1°  SURFACE FINISH MACHINED FACES     Ra 6.3								
		NAME		DATE		ALL DIMENSIONS ARE IN MILLIMETRES			
DRAWN		J. WANG		19/01/2020		DO NOT SCALE DRAWING			
CHECKED		K. THEOCHARIDES		21/01/2020		DWG No. MA-01		SHEET 1 OF 5    REVISION   3	
APPROVED		K. THEOCHARIDES		21/01/2020					
				A3		SCALE 1:3			



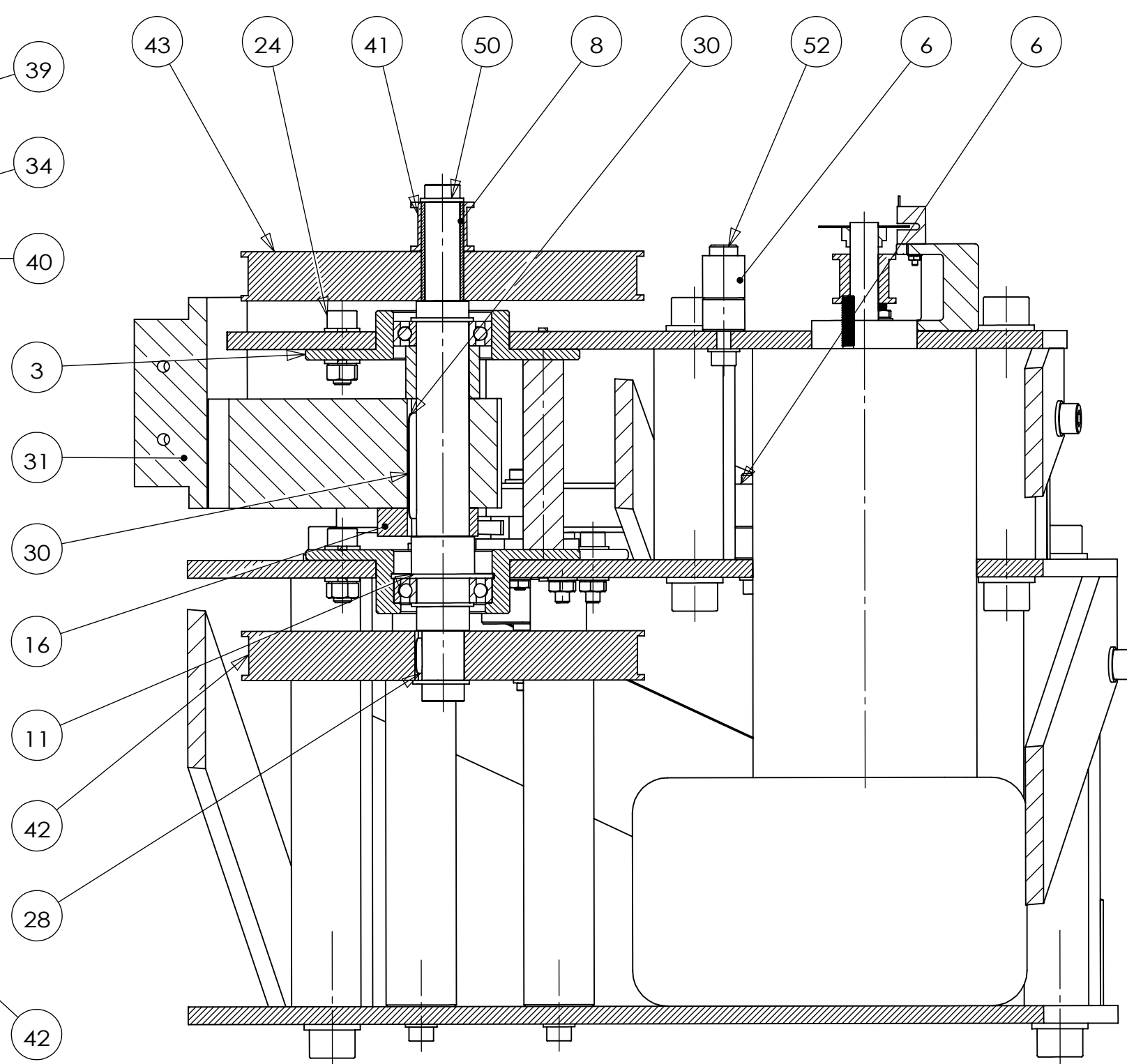
SECTION A-A  
SCALE 3 : 4

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X	± 0.5	ANGULAR ±1°							
X.X	± 0.1								
X.XX	± 0.02								
		SURFACE FINISH MACHINED FACES Ra 6.3		ALL DIMENSIONS ARE IN MILLIMETRES		MAIN ASSEMBLY			
		NAME		DATE		DO NOT SCALE DRAWING		DWG No. MA-01	
DRAWN		J. WANG		19/01/2020					
CHECKED		K. THEOCHARIDES		21/01/2020		A3		SCALE 1:5	
APPROVED		K. THEOCHARIDES		21/01/2020					
								SHEET 2 OF 5	
								REVISION 3	

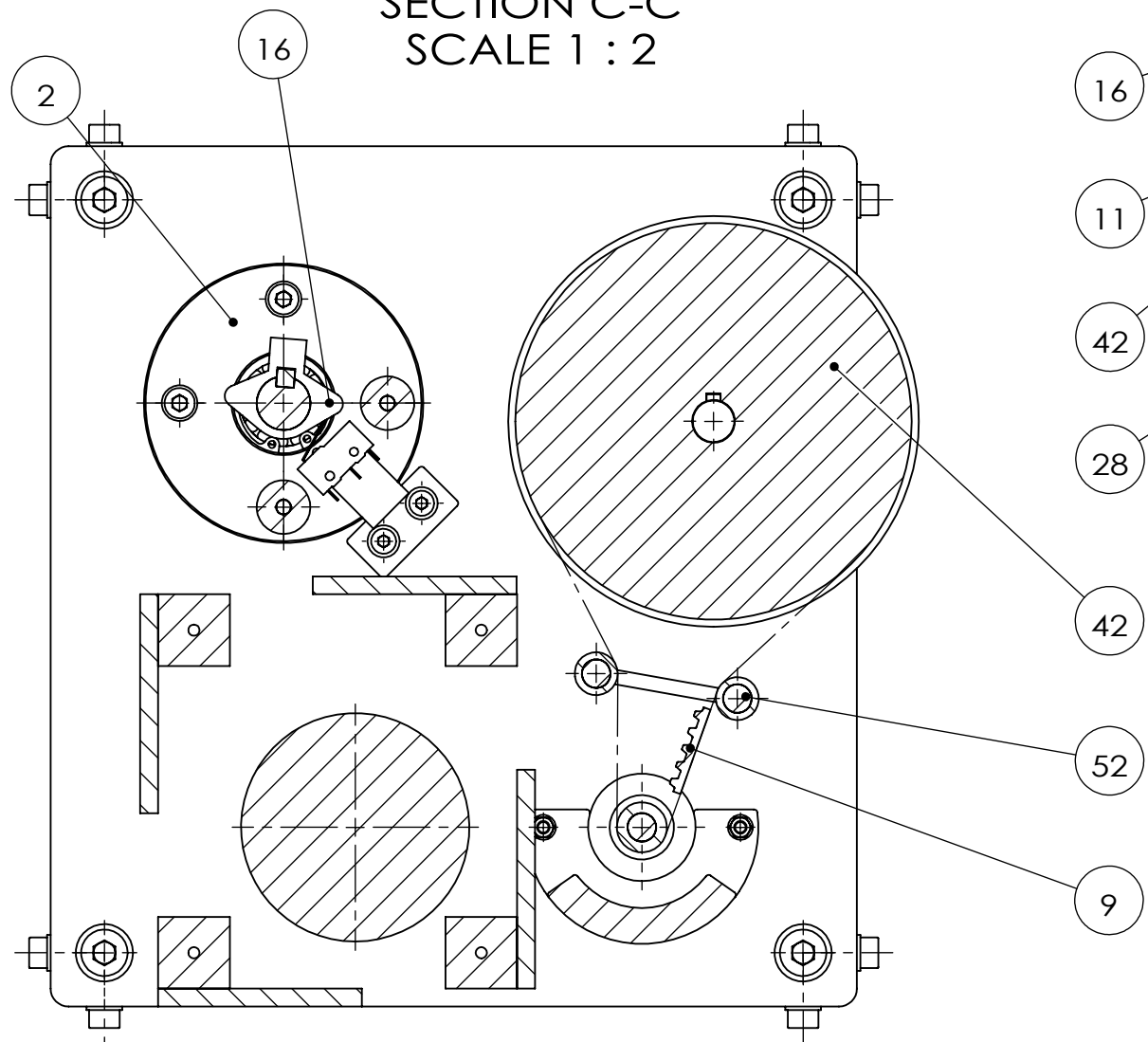
**Imperial College**  
**London**  
Department of  
Mechanical Engineering



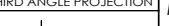
SECTION C-C  
SCALE 1 : 2

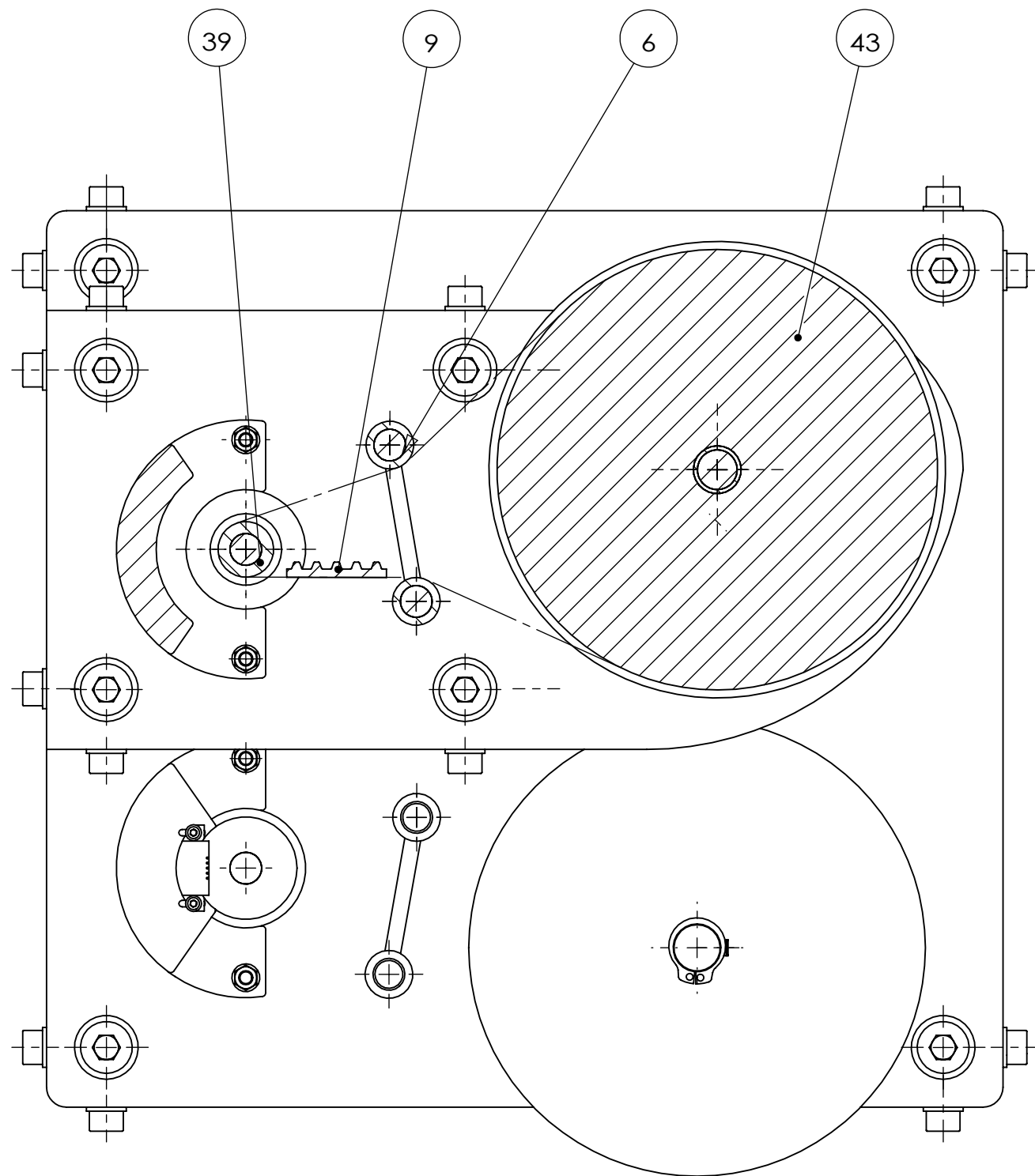


SECTION B-B  
SCALE 2 : 3

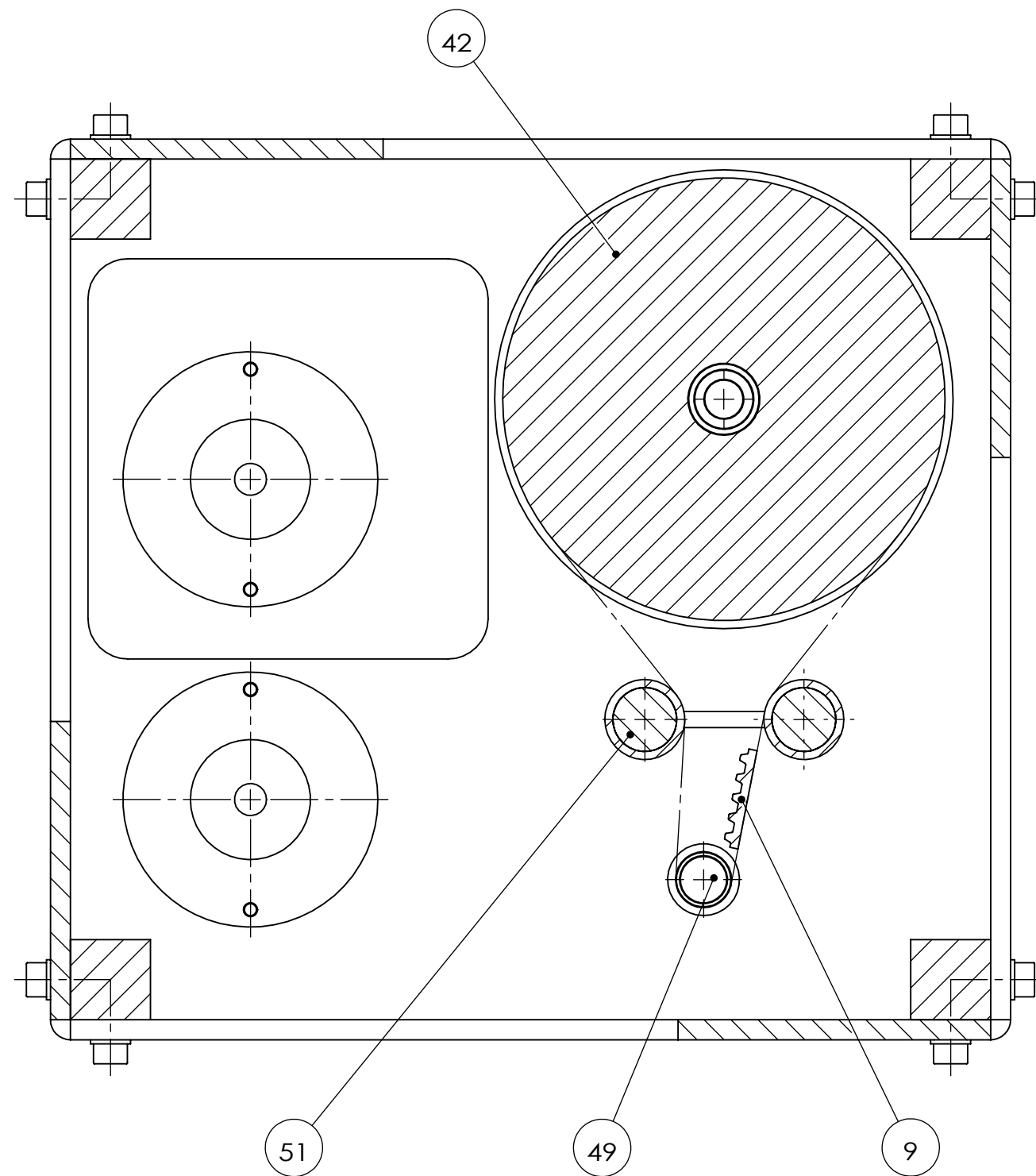


SECTION E-E  
SCALE 1 : 2

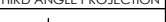
TOLERANCES		THIRD ANGLE PROJECTION		MATERIAL:		TITLE:  Main Assembly		Imperial College London Department of Mechanical Engineering	
X    = ± 0.5 X.X   = ± 0.1 X.XX = ± 0.02	ANGULAR   ±1° SURFACE FINISH MACHINED FACES       Ra 6.3								
NAME		DATE		ALL DIMENSIONS ARE IN MILLIMETRES					
DRAWN    J. WANG		19/01/2020							
CHECKED   K. THEOCHARIDES		21/01/2020		DO NOT SCALE DRAWING		DWG No. MA-01		SHEET 3 OF 5    REVISION   3	
APPROVED   K. THEOCHARIDES		21/01/2020		A3       SCALE 1:3					



SECTION D-D  
SCALE 2 : 3



SECTION F-F  
SCALE 2 : 3

TOLERANCES		THIRD ANGLE PROJECTION		MATERIAL:		TITLE:		<div>Imperial College London Department of Mechanical Engineering</div>			
X	= ± 0.5	ANGULAR	± 1°								
X.X	= ± 0.1	SURFACE FINISH									
X.XX	= ± 0.02	MACHINED FACES Ra 6.3									
											
		NAME		DATE		ALL DIMENSIONS ARE IN MILLIMETRES		MAIN ASSEMBLY			
DRAWN		J. WANG		19/01/2020		DO NOT SCALE DRAWING					
CHECKED		K. THEOCHARIDES		21/01/2020		A3		SCALE 1:5		DWG No. MA-01	
APPROVED		K. THEOCHARIDES		21/01/2020							
										SHEET 4 OF 5	
										REVISION 3	



1		2		3		4		5		6		7		8	
A	ITEM NO.	PART NO.	DESCRIPTION			QTY.		ITEM NO.	PART NO.	DESCRIPTION			QTY.		
	1	BH-01	BEARING HOUSING FOR INTERMEDIATE SHAFT			1			36	NT-02	M3 NUTS			8	
	2	BH-02	BEARING HOUSING LOWER SHOULDER			1			37	NT-03	M5 NUTS			8	
	3	BH-03	BEARING HOUSING UPPUR SHOULDER			1			38	NT-04	M1.6 NUTS			4	
	4	BR-01	SKF DEEP GROOVE BALL BEARING 61902			2		39	PL-01	12 HTD5-14 PULLEY (MOTOR)			2		
	5	BR-02	SKF 61900 DEEP GROOVE BALL BEARING			2		40	PL-01	12 HTD5-14 PULLEY 8 MM BORE			1		
	6	BR-03	IDLER BUSH BEARING			4		41	PL-01	12 HTD5-14 PULLEY FREE SLIDING			1		
	7	BR-04	IDLER BUSH BEARING LARGE			2		42	PL-02	72 HTD5-14 PULLEY 12 MM BORE			2		
B	8	BR-09	REDUCTION PULLEY BUSH BEARING			1		43	PL-02	72 HTD5-14 PULLEY FREE SLIDING			1		
	9	BT-01	HTD5 9MM WIDTH BELT			4		44	PT-01	BOTTOM PLATE			1		
	10	CC-01	S012M EXTERNAL CIRCLIP			2		45	PT-02	MID PLATE			1		
	11	CC-02	B028M INTERNAL CIRCLIP			1		46	PT-03	TOP PLATE			1		
	12	CC-03	S008M EXTERNAL CIRCLIP			1		47	SC-01	SPACER ON INTERMEDIATE SHAFT			1		
	13	CC-04	S010M EXTERNAL CIRCLIP			2		48	SC-02	SPACER ON SHOULDER SHAFT			1		
	14	CC-05	S015M EXTERNAL CIRCLIP			2		49	SH-01	INTERMEDIATE SHAFT			1		
	15	CC-06	B022M INTERNAL CIRCLIP			1		50	SH-02	SHOULDER SHAFT			1		
	16	CM-01	CAM FOR LIMIT SWITCH			1		51	SH-03	IDLER SHAFT LONG			2		
	17	EB-01	ELECTRONICS BOX			1		52	SH-04	IDLER SHAFT SHORT			4		
	18	EE-01	END EFFECTOR ASSEMBLY			1		53	SP-01	LOWER SIDE SUPPORT 1			2		
	19	EM-01	ENCODER MOUNTING			2		54	SP-02	LOWER SIDE SUPPORT 2			2		
	20	EN-01	ENCODER ASSEMBLY			2		55	SP-03	UPPER SIDE SUPPORT 1			2		
	21	HS-01	M4 X 16 HEX SCREW			6		56	SP-04	UPPER SIDE SUPPORT 2			2		
	22	HS-03	M1.6 X 8 HEX SCREW			4		57	ST-01	LOWER SUPPORT			4		
	23	HS-04	M4 X 10 HEX SCREW			4		58	ST-02	UPPER SUPPORT			4		
	24	HS-05	M5 X 16 HEX SCREW			28		59	ST-03	UPPER SUPPORT PILLAR			2		
	25	HS-06	M8 X 25 HEX SCREW			8		60	WA-01	M4 WASHER			12		
	26	HS-07	M8 X 12 HEX SCREW			8		61	WA-02	M3 WASHER			12		
	27	HS-08	M3 X 12 HEX SCREW			4		62	WA-03	M5 WASHER			36		
E	28	KY-01	10 MM 4X4 SQUARE KEY			2		63	WA-04	M8 WASHER			16		
	29	KY-02	8 MM 2X2 SQUARE KEY			1		64	WA-05	M1.6 WASHER			8		
	30	KY-03	30 MM 5X5 SQUARE KEY			1									
	31	LAE-01	FLANGE ASSEMBLY			1									
	32	LH-02	LIMIT SWITCH HOLDER 2			1									
	33	LS-01	SS_5GL13 LIMIT SWITCH			1									
	34	MT-01	80 W MOTOR			2									
	35	NT-01	M4 NUTS			2									
1		2		3		4		5		6		7		8	
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