

Stencil Printer BOM									
Item Description	CAD Subassembly(ies)	CAD Part Name(s)	Part No.	Supplier	Quantity	Cost	Total Cost	Notes	
Extrusions									
2020 x 270mm Aluminum Extrusion	Stencil Clamp Frame	HF55-2020 Frame Horizontal Span	HF55-2020-270	Misumi	2	\$ 3.03	\$ 6.06		
2020 x 220mm Aluminum Extrusion	Base Assembly, Stencil Clamp Frame	HF55-2020 Cross Span, HF55-2020 Stencil Tension Extrusion	HF55-2020-220	Misumi	6	\$ 3.03	\$ 18.18		
2020 x 370mm Aluminum Extrusion	Stencil Clamp Frame	HF55-2020 Frame Cant Bar	HF55-2020-370	Misumi	2	\$ 2.33	\$ 4.66		
2040 x 475mm Aluminum Extrusion	Base Assembly	HF55-2040 Base Span	HF55-2040-475	Misumi	2	\$ 5.65	\$ 11.30		
2080 x 340mm Aluminum Extrusion	Bed Assembly	HF55-2080 Bed Extrusions	HF55-2080-340	Misumi	2	\$ 7.82	\$ 15.64	Both ends need to be tapped M5 (order HF55-2080-340-TPW if you want Misumi to tap them for you, \$44.44)	
2060 x 340mm Aluminum Extrusion	Bed Assembly	HF55-2060 Bed Extrusions	HF55-2060-340	Misumi	1	\$ 4.82	\$ 4.82	Both ends need to be tapped M5 (order HF55-2060-340-TPW if you want Misumi to tap them for you, \$15.64)	
Openrail 500mm Section	Stencil Clamp Frame	Stencil Clamp Rail	30-LP	OpenBuilds	1	\$ 3.89	\$ 3.89	500mm segment needs to be cut into two 220mm +/-5mm segments	
Non-Extrusion Hardware									
3-Hole Joining Strip Plate	Stencil Clamp Frame	3-hole Joining Plate	646	OpenBuilds	8	\$ 1.99	\$ 15.92	Can use 2-hole plates as well (3 will be more rigid)	
8mm Pillow Block Bearing (2-pack)	Base Assembly	KP08 (assembly of 2 parts)	KP08	Amazon (Uxcell)	1	\$ 9.29	\$ 9.29		
8mm x 300mm Shaft	Axis Shaft	Hardened Axis	RDS58-300	Misumi	1	\$ 5.26	\$ 5.26	Just needs to be longer than 295mm; Not necessarily hardened; Amazon Link	
2020 Extrusion Blind Corner Brackets (20-pack)	Base Assembly, Stencil Clamp Frame	HBLB55 (assembly of 3 parts)	HBLB55 (Misumi P/N)	Amazon (TOHUA)	1	\$ 13.99	\$ 13.99	Multiple sources exist; need 18	
Rubber Bumper (4-pack)	Base Assembly	Rubber Bumper		Amazon (Uxcell)	1	\$ 4.99	\$ 4.99	Multiple sources exist; need 5mm thru hole; similar height	
8mm Shaft Clamps (2-pack)	Axis Shaft	SHF8	SHF8	Amazon (Uxcell)	1	\$ 8.49	\$ 8.49	Multiple sources exist	
Long-travel Tension Springs (3-pack)	NOT IN CAD	NOT IN CAD	9044K321	McMaster Carr	1	\$ 5.60	\$ 5.60	Tension spring between Bed and Base; mount underneath between printed X/Y spring mounts	
Stencil Frame Compression Springs	NOT IN CAD	NOT IN CAD	9657K304	McMaster Carr	1	\$ 11.09	\$ 11.09	OPTIONAL; Pushes stencil tension bar away from frame; had these on hand, similar length/rate should work	
Fasteners									
M5 Hex (Lock)Nuts (25-pack)	All except Base Assembly	ANSI B18.2.4 2M - M5 x 0.8	NYLK-M5	Trimcraft Aviation RC	1	\$ 0.69	\$ 0.69	Need 17 for Stencil Printer	
M5 x 8mm Button Head Cap Screw (12-pack)	All except Axis Shaft	ANSI B18.3.4M - M5 x 0.8 x 8, BHSBHCSM	BSC-M5-8	Trimcraft Aviation RC	3	\$ 0.56	\$ 1.68	Need 26 for Stencil Printer	
M5 x 10mm Button Head Cap Screw (12-pack)	All except Axis Shaft	ANSI B18.3.4M - M5 x 0.8 x 10, BHSBHCSM	BSC-M5-10	Trimcraft Aviation RC	10	\$ 0.56	\$ 5.60	Adding extra pack; need 105 for Stencil Printer	
M5 x 16mm Button Head Cap Screw (12-pack)	Base Assembly	ANSI B18.3.4M - M5 x 0.8 x 16, BHSBHCSM	BSC-M5-16	Trimcraft Aviation RC	1	\$ 0.67	\$ 0.67	Need 4 for Stencil Printer (for mounting rubber feet)	
M5 x 40mm Button Head Cap Screw (12-pack)	Base Assembly	ANSI B18.3.4M - M5 x 0.8 x 40, BHSBHCSM	BSC_M5_40	Trimcraft Aviation RC	1	\$ 1.35	\$ 1.35	OPTIONAL; Need 4 to bolt down KP08's (but can use the 40mm Hex Heads, but will not look good)	
M5 x 12mm Hex Head Bolt (20 pack)	Top Level, Stencil Clamp Frame	Hex Bolt - Metric M5 x 0.8 x 12	-	Amazon (Uxcell)	1	\$ 6.29	\$ 6.29	Need 18, used for clamping purposes (in conjunction with "thumbscrew adapter")	
M5 x 40mm Hex Head Bolt (50 pack)	Top Level, Axis Shaft	Hex Bolt - Metric M5 x 0.8 x 40	91287A329	McMaster Carr	1	\$ 11.09	\$ 11.09	Fully Threaded; Need 11 max (7 if buying 40mm BSC_M5_40), used for Z-trim and clamping on axis shaft (and KP08's)	
M5 x 55mm Hex Head Bolt (25 pack)	Bed Assembly, Stencil Clamp Frame	Hex Bolt - Metric M5 x 0.8 x 55	91287A334	McMaster Carr	1	\$ 12.70	\$ 12.70	Fully Threaded; Need 5, used for trimming on bed and tensioning stencil	
M5 Wingnut (4-pack)	All except Base Assembly	94545A225_18-8 SS WING NUTS	WNG-M5	Trimcraft Aviation RC	2	\$ 0.44	\$ 0.88	Need 7 for Stencil Printer	
M5 2020 T-slot nuts (100-pack)	All except Axis Shaft	NOT IN CAD	HNKKS-5	Misumi	2	\$ 16.79	\$ 33.58	~150 T-nuts required, but more required for PCB fixturing; GET SLIM VERSIONS (thick ones may not fit)	
						Total Cost	\$ 213.71		
Printed Parts									
Front Jackscrew Cap	Top Level	Height Adjust Screw Adapter	-	-	1	-	-		
Z-adjust Thumbscrew Converters	Top Level	Thumbscrew Adapter Z	-	-	2	-	-		
Thumbscrew Converters	Top Level	Wing Screw Adapter Tall	-	-	4	-	-		
Low Profile Wide Thumbscrew Converters	Top Level	Wing Screw Adapter Wide	-	-	14	-	-		
XY-adjust Clamping Straight Slot Washers	Top Level	Straight Slot Washer	-	-	3	-	-		
Z-adjust Clamping Arc Slot Washers	Top Level	Arc Slot Washer	-	-	2	-	-		
Base Span Front Endcaps	Base Assembly	Front Endcap	-	-	2	-	-		
Slotted Base Trim Nut Reference	Base Assembly	Trim Nut Reference	-	-	3	-	-		
Rubber Foot Mounting Bracket to Base	Base Assembly	Foot Mount	-	-	4	-	-		
Tension Spring Mounts to Base (Left Handed)	Base Assembly	Base Spring Mount Left Side	-	-	2	-	-	Mount one end of one x spring/y spring to this	
Tension Spring Mounts to Base (Right Handed)	Base Assembly	Base Spring Mount Right Side	-	-	1	-	-	Mount one end of the other x spring on this	
Front Jackscrew Receiver	Base Assembly	Height Adjust Bracket	-	-	1	-	-		
Pillow Block Spacer and Endcap - Left	Base Assembly	Pillow Block Standoff Left	-	-	1	-	-		
Pillow Block Spacer and Endcap - Right	Base Assembly	Pillow Block Standoff Right	-	-	1	-	-		
Bed Extrusion Strapping Front Tie Beam	Bed Assembly	Front Tie Bar	-	-	1	-	-		
Bed Extrusion Strapping Rear Tie Beam	Bed Assembly	Rear Tie Bar	-	-	1	-	-		
Slotted Flange for Bed Clamping	Bed Assembly	Rail Clamping Flange	-	-	2	-	-		
Mount for Bed Trim Screws	Bed Assembly	Trim Screw Brace	-	-	2	-	-		
Bed X-axis Tension Spring Mount	Bed Assembly	X Spring Mount	-	-	2	-	-	Mount other end of x-axis tension springs on this	
Bed Y-axis Tension Spring Mount	Bed Assembly	Wide Y Spring Mount	-	-	1	-	-	Mount other end of y-axis tension spring on this	
Spacer/Stud "Converter" for Axis	Axis Shaft	Shaft Stud Base	-	-	2	-	-		
Mounting Bracket for Frame onto Axis Shaft (one side)	Stencil Clamp Frame	Side A Trim Mount	-	-	1	-	-		
Mounting Bracket for Frame onto Axis Shaft (other side)	Stencil Clamp Frame	Side B Trim Mount	-	-	1	-	-		
Endcaps for Frame Horizontal Spans (one opposite corner set)	Stencil Clamp Frame	Side A Leveling Endcap	-	-	2	-	-		
Endcaps for Frame Horizontal Spans (other opposite corner set)	Stencil Clamp Frame	Side B Leveling Endcap	-	-	2	-	-		
Sliding Endcaps for the Stencil Clamps	Stencil Clamp Frame	Clamp Tension Slider	-	-	4	-	-		
Back Support Pieces for Stencil Clamp Rails	Stencil Clamp Frame	Clamp Rail Back Support	-	-	10	-	-	Need between 8-10 depending how openrail extrusion is cut	
Stud "Converter" for Tension Side of Stencil Clamp	Stencil Clamp Frame	Frame Tension Screw Bracket	-	-	2	-	-		
Stud "Receiver" for Tension Side of Stencil Clamp	Stencil Clamp Frame	Frame Tension Screw Receiver	-	-	2	-	-		
Stencil Clamp Frame Lifting Handle	Stencil Clamp Frame	Handle	-	-	1	-	-		
0.8mm Levelling Shim	Accessories	Shim_08	-	-	4	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
1.0mm Levelling Shim	Accessories	Shim_10	-	-	4	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
1.2mm Levelling Shim	Accessories	Shim_12	-	-	4	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
1.4mm Levelling Shim	Accessories	Shim_14	-	-	4	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
1.6mm Levelling Shim	Accessories	Shim_16	-	-	4	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
1.8mm Levelling Shim	Accessories	Shim_18	-	-	4	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
2.0mm Levelling Shim	Accessories	Shim_20	-	-	4	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
2.2mm Levelling Shim	Accessories	Shim_22	-	-	4	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
2.4mm Levelling Shim	Accessories	Shim_24	-	-	4	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
PCB Support Fixture	Accessories	Support Clamp	-	-	~6	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
PCB Locating Fixture with 0.6mm Locating Pin	Accessories	Locating Clamp Short Peg	-	-	~6	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	
PCB Locating Fixture with 1.2mm Locating Pin	Accessories	Locating Clamp Long Peg	-	-	~10	-	-	Fixturing/Leveling Accessories, PRINT AT 0.2mm LAYER HEIGHT	