

OLSK Small 3D Printer V2 Workbook				
Step Number	Step Title	Parts list		Remarks
		Quantity	Part name	
1	Prepare Side Frames	2	Side Frame	The side frames and window stoppers are not symetrical
		2	Top Side Window Stopper	
		2	Bottom Side Window Stopper	
		4	B-screw M3-6	
		16	C-screw M6-12	
		8	Shaft Holder	
		6	C-screw M4-16	
2	Prepare the Bed Frame	1	Bed Frame	Separate the parts of the coupler and fix one of the sides on the Bed Frame
		2	Oldham Coupler	
		4	C-screw M3-10	
		4	Linear Bearing Z	
		8	B-screw M5-12	
3	Assemble the Sides and Floor Frame	1	Floor Frame	
		1	Rubber Grommet	
		1	Prepared Right Frame	
		1	Prepared Left Frame	
4.1	Insert the Bed Frame	1	Prepared Bed Frame	
		4	Z Linear Shaft	
4.2	Prepare the Z Motors	2	Z Motor	
		2	Leadscrew Nut	
		4	C-screw M3-10	
		4	Lock Nut M3	
4.3	Attach the coupler parts			Position the screw nut of the motor screw in the end of the screw
				Assemble the parts of the coupler by sliding the them: top (fixed at the Bed Frame), middle part (loose) and bottom (fixed at the Screw Nut)

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4.4	Fix the Z motors	8	B-screw M3-6	
5	Prepare the Tensioner	2	Tensioner Frame	
		2	Tensioner	
		2	C-screw M4-16	
		4	Flange Bearing	
		4	Nylon Washer M3	
		1	Tensioner Top	
		2	B-screw M3-20	
		2	Nut M3	
6.1	Prepare the Top Frame 1	1	Top Frame	Pay attention to the position of the flanges of the bearings.
		1	Sub-top Frame	
		6	B-screw M3-25	
		2	Spacer M3-10	
		2	Spacer M3-20	
		12	Flange Bearing	
		12	Nylon Washer M3	
6.2	Prepare the Top Frame 2	8	B-screw M3-30	
		8	Spacer M3-20	
		2	X Motor	
		2	Pulley	
		4	Setscrew M3-6	
		1	Top Frame Wire Holder	
		2	C-screw M4-6	
6.3	Prepare the Top Frame 3	2	Prepared Tensioners	

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		8	B-screw M3-20	
		4	Spacer M3-8	
6.4	Prepare the Top Frame 4	1	Camera Holder	
		1	Camera Module	
		2	C-screw M2-6	
		2	C-screw M3-8	
6.5	Prepare the Top Frame 5	2	Belt	Pass the belts through the bearing and pulleys, leaving the ends loose in the center
7	Install Top Frame	4	B-screw M6-12	
		1	Prepared Top Frame	
8.1	Attach Electronics 1	1	Power Supply	Carefully lay the machine on its side to make sure the side frames won't open.
		4	B-screw M4-8	
		1	DC-DC Converter	
		2	C-screw M5-8	
		1	CPU	
		4	B-screw M3-6	
		4	Standoff M-F M3-6+6	
		4	Nylon Nut M3	
8.2	Attach Electronics 2	1	Buck Converter	Fix the spacers and nuts on the boards before fixing them on the frame.
		1	Main Board Octopus Pro	Attach the stepper drivers on the Main Board
		3	Stepper driver tmc2130	Fix the heat sink in their respective stepper drivers
		2	Stepper driver tmc5160 pro	
		6	B-screw M3-6	
		6	Standoff M-F M3-6+6	
		6	Nylon Nut M3	

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8.3	Attach Electronics 3	2	Driver Fan	Fix the fans and USB Hub with double-sided tape
		1	USB Hub	
9	Install Bottom Frame	1	Bottom Frame	
		4	Feet	
		4	B-screw M6-12	
		3	Bottom Bracket	
		1	Bottom Bracket Power Supply	
		8	B-screw M3-6	
10	Fix Fillet Profiles	4	Fillet Profile	Insert 2x T-nuts in the front slot of each back fillet profile
		8	T-nut M3	
		4	Uniblock w/ Nut	
		8	B-screw M6-12	
11.1	Prepare X-axis 1	1	Gantry Bridge	Tighten the screws of the linear guide while pushing it front wall of the slot in the gantry bridge to align it.
		1	Linear Guide w/ Carriage	
		2	C-screw M3-12	
		7	C-screw M3-8	
11.2	Prepare X-axis 2	1	Gantry Bracket Right	Align well the Linear Bearing, Gantry Brackets and Gantry bridge
		1	Gantry Bracket Left	
		2	Linear Bearing Y	
		4	C-screw M5-16	
11.3	Prepare X-axis 3	1	Top Extruder Plate	The flange bearings should be inserted mirrored in each screw
		4	Counter Sunk Screw M3-6	
		1	Belt Bracket Right	
		1	Belt Bracket Left	

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		6	Spacer M3-10	
		2	Spacer M3-18	
		8	Flange Bearing	
		8	B-screw M3-25	
12	Prepare Back Frame	1	Back Frame	
		1	Power Plug	
		2	B-screw M3-6	
		1	Fuse	
		2	Nylon Screw M3-12	
		1	USB Cable Inside	
13	Install Back Frame	1	Prepared Back Frame	
		2	B-screw M6-12	
		2	B-screw M5-16	
14	Prepare the Hinges	4	Hinge Part A	
		4	Hinge Part B	
		4	B-screw M3-16	
		4	Lock Nut M3	
15	Prepare Front Frame	1	Front Frame	
		1	Top Door Stopper	
		1	B-screw M3-6	
		1	Neopixel strip	
		4	Prepared Hinge	
		4	C-screw M3-10	
16	Install Front Frame & Gantry	1	Prepared Front Frame	Fix the camera holder attached to the top frame on the front frame.
		4	B-screw M6-12	
		2	Y Linear Shaft	
		1	Prepared X-axis	

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		2	B-screw M5-16	
		2	C-screw M3-8	
17	Attach the Fillament Fan	1	Filament Fan	
		1	Fillament Fan Adapter	
		2	C-screw M4-40	
		1	Fan Cover	
		4	O-ring	
		2	Washer M4	
		1	Fit Connector	
		1	Filament Sensor	
		2	C-screw M3-16	
18	Attach 3D Touch Sensor	1	3D Touch Sensor	
		1	3D Touch Sensor Spacer	
		2	C-screw M3-35	
19	Attach Extruder Heat Sink	1	Extruder Heat Sink	
		1	Extruder Fan	
		2	B-screw M3-14	
		2	Counter Sunk Screw M3-6	
		1	Heat Break	
20	Prepare the Extruder			Substitute the screws of the motor for the B-screw M3-20 to attach the extruder motor wire holder
		1	Extruder	
		1	Extruder Wire Holder	
		2	B-screw M3-20	
21	Attach the Extruder	1	Prepared Extruder	
		1	Bottom Extruder Plate	
		1	Accelerometer	
		2	B-screw M3-6	
		2	C-screw M4-25	
		2	Spacer M3-20	

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		2	C-screw M3-35	
		2	Nut M4	
22	Tighten the Belts			Insert one Belt Clip in each end of the belt before passing it around the head screw. Slide the Belt Clip closing the end of the belt, when its teeth are gripping. Pull the other end of the belt slightly tightening it and close it with the clip. Repeat with the other belt.
		4	Belt Clip	
				To tighten the belt, screw the belt tightener
				Tighen both belts while checking the alignment of the X-axis against the front of the machine.
23	Attach the Heat Block	1	Heat Block	Screw the Heat Block in the Heat Break and align it to the Heat Sink.
		1	Nozzle	Nozzle needs to be tightened again once the heat block is heated.
		1	B-screw M3-14	
		1	Thermistor	
		1	Heating cartridge	
		1	Setscrew M3-6	
24	Attach the Cooling Duct	1	Cooling Duct	
		2	B-screw M3-6	
25	Prepare the Bed			Tape the magnetic bad to the bed with double-sided tape
		1	Flexible Sheet	
		1	Magnetic Bed	
		1	Bed	
		1	Heat Pad	
		4	M8 to M5 Insert	
		4	Flat Nut M8	
26	Attach the Bed	4	Thumb Screw	
		4	Silicon Spacer	

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27	Cable Management 1	2	Cable Mesh	Cover the Extruder Fan wire with a small shrinking tube.
		4	Shrinking Tube Big	Pass the Thermistor and Heating Cartridge wires through the Extruder Wire Holder and pass them through a cable mesh, closing both ends with a big shrinking tube and a cable tie
		2	Shrinking Tube Small	Cover the Bed wires also with a mesh.
		2	Cable Tie	Insert the Camera and the Neopixel strip cables in the fillet profiles and pass them through the holes in the floor frame
28	Attach Screen Holder	1	Screen	Connect the USB cable that is included with the screen
		1	HDMI Cable	
		1	Screen Holder	
		4	C-screw	
		2	Magnet	
		2	B-screw M3-8	
29	Wiring 1	1	Power Cable 48V	
		1	Power Cable 24V	
		1	Power Cable 19V	
		1	24V Jumper Cable	
		1	Earth Cable	
		1	Camera USB	
		1	Wifi adapter	
		1	HDMI to DP adapter	
30	Cable Management 2		Cable Tie	
		2	Wire Holder Profile	
		4	B-screw M3-6	

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31	Fix Bottom Cover	1	Bottom Cap	
		4	B-screw M3-6	
32	Fix Air and Filament Tubes	1	Air Tube	
		1	Filament Tube	
		3	Velcro Cable Tie	
33	Install Spool Holder	4	B-screw M4-6	
		1	Spool Holder	
		1	Spool Stopper	
34	Install Windows	4	Window	
		16	B-screw M3-6	
35	Prepare the Doors	2	Door	
		2	Handle	
		4	B-screw M4-10	
		2	B-screw M3-6	
		2	Nut M3	
		2	Nylon Washer M3	
36	Install the Doors	2	Prepared Door	
		4	B-screw M3-12	
		4	Lock Nut M3	
37	Calibrating the machine			