Instruction on how to make the customized parts

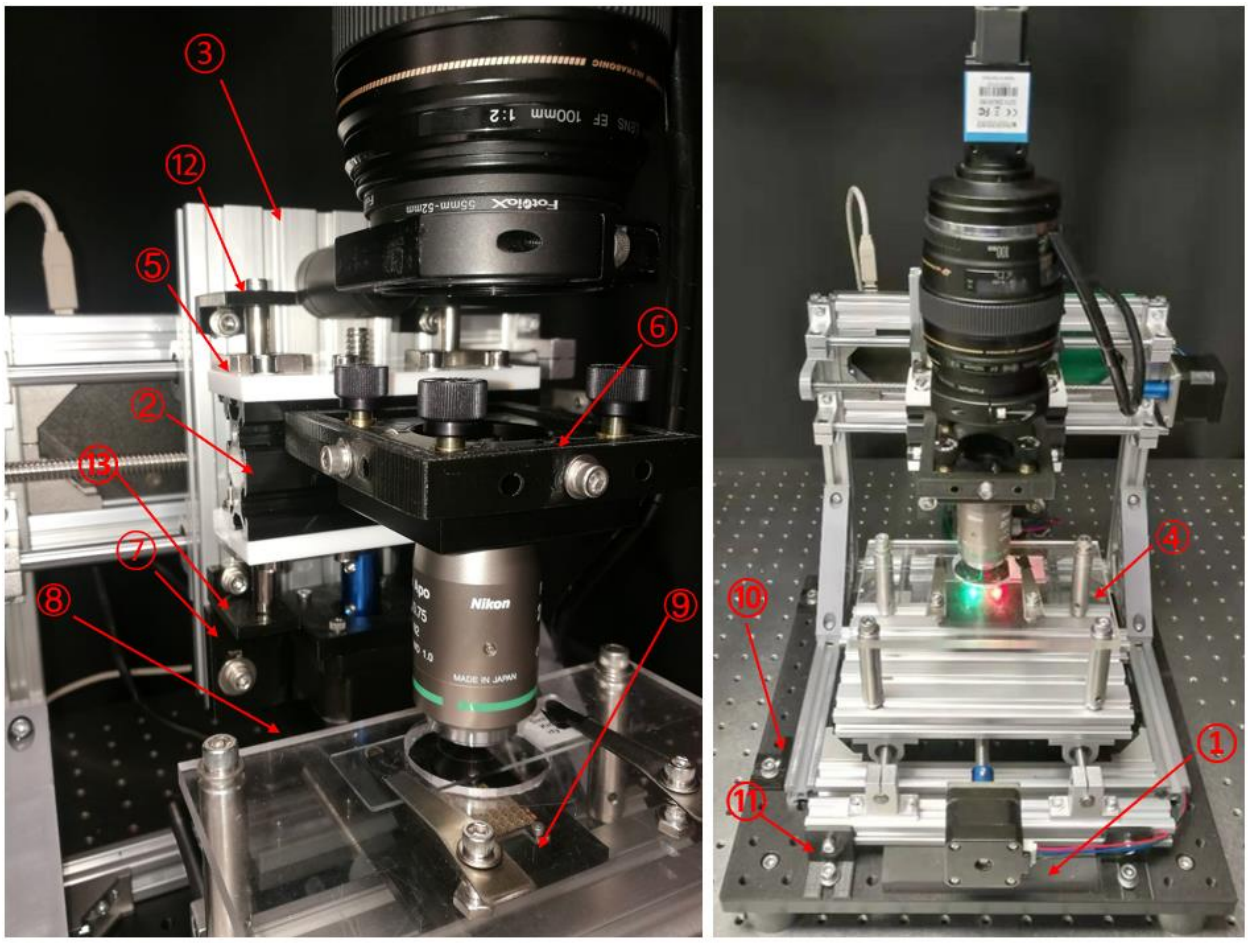

Figure 1 The custom parts in our prototype

Table 1 List of custom parts

①	Sorbothane Sheet	SB12C 5" x 2" x 1/2"	2	$8.0	Thorlabs
②	Aluminum Extrusion 20 x 40mm	20 x 40 x 100 mm	1	$14.4	Amazon
③	Aluminum Extrusion 20 x 100mm	20 x 100 x 180 mm	1	$3.0	Amazon
④	Slide Holder	Acrylic sheet, 1/4", 152 x 94.6 mm	1	$2.5	Amazon
⑤	Z-Stage Board	Acrylic sheet, 1/4", 100 x 46 mm	2	$0.75	Amazon
⑥	Objective Lens Holder	80 x 75 x 12 mm	1	$0.4	3D Printed
⑦	Z-Stage Motor Holder	100 x 42 x 7 mm	1	$0.4	3D Printed

⑧	LED Holder_1	100 x 152 x 4 mm	1	$0.4	3D Printed
⑨	LED Holder_2	34.4 x 36 x 5 mm	1	$0.2	3D Printed
⑩	Right-Angle Bracket 1	28 x 28 x 3 mm	4	$0.2	3D Printed
⑪	Right-Angle Bracket 2	33 x 28 x 3 mm	4	$0.2	3D Printed
⑫	Right-Angle Bracket 3	40 x 21.7 x 4 mm	2	$0.2	3D Printed
⑬	Right-Angle Bracket 4	40 x 21.7 x 4 mm	2	$0.2	3D Printed

Comments:

①: This one can be bought from the online store of Thorlabs. The part number is SB12C. The original size is 12" x 12" x 1/2", and we need to cut it to the size of 5" x 2" x 1/2" for our use.

②-③: The two elements can be bought from Amazon. We need to cut them to the size of 20 x 40 x 100mm and 20 x 100 x 180mm.

④-⑤: The two elements can be bought from Amazon. We need to drill some holes for screws. We design the sketches in solidworks and create a 3D model. We then use a milling machine (Roland, SRM-20) to make the holes. The 2D sketches are listed below.

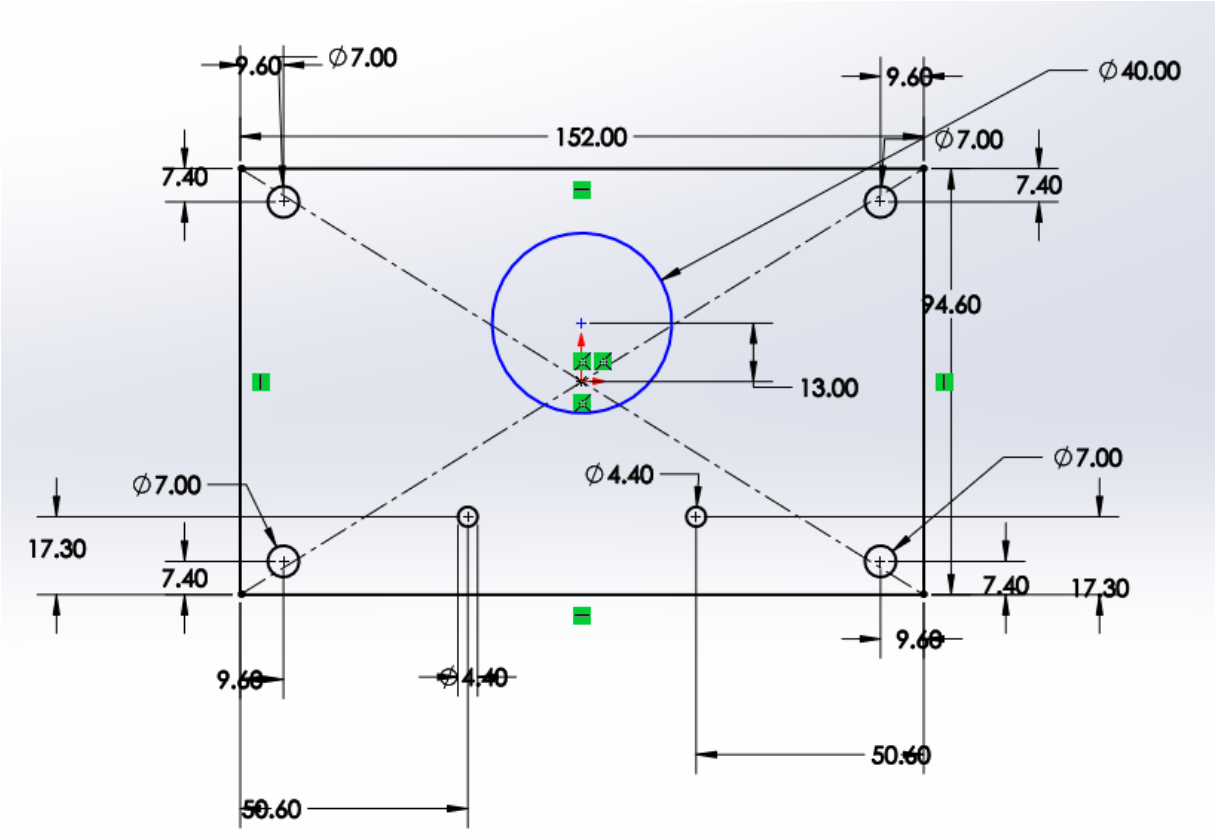

Figure 2: The sketch of the slide holder. Unit: mm

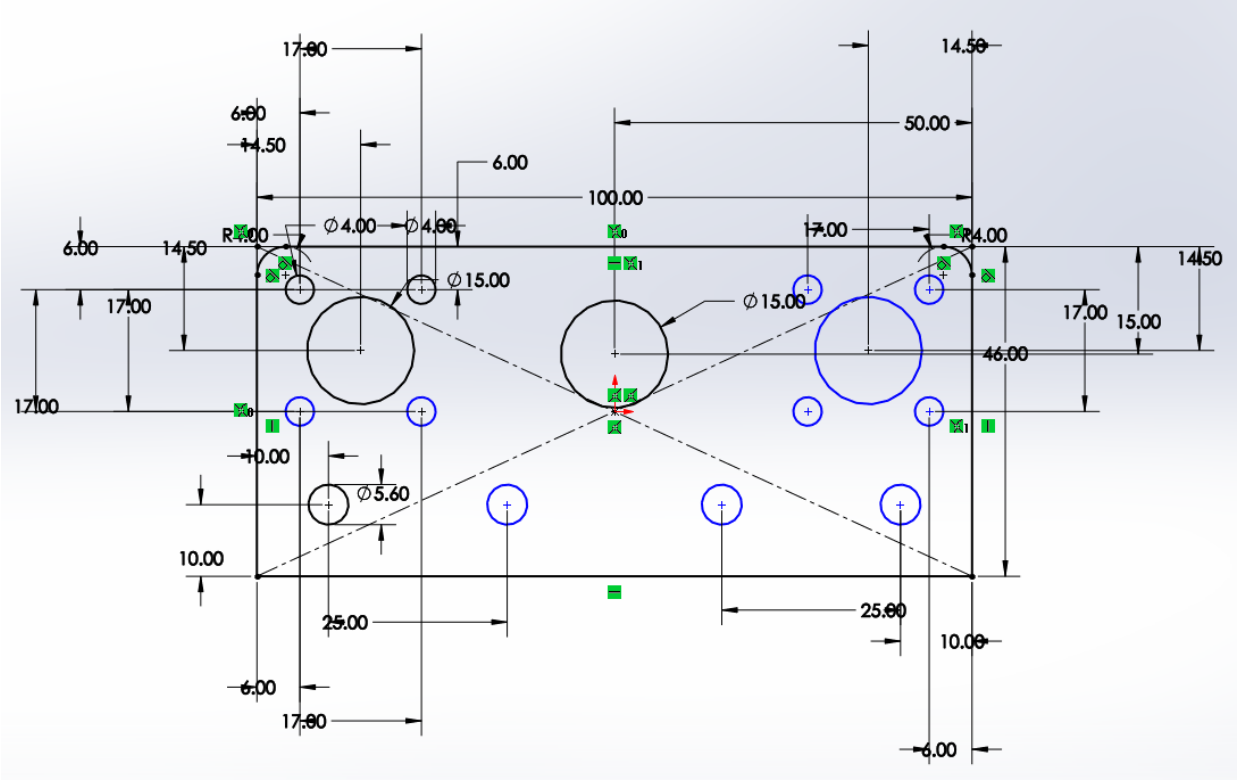

Figure 3: The sketch of the z-stage holder. Unit: mm

⑥-⑬: These elements are 3-D printed. The machine we used is MakerBot Replicator 2 Desktop 3D Printer. We also provide the Solidworks model in '3D design files'.