BugBu 300 BOM (215x200x200 build volume)

<u>Please note</u>: The items listed don't include any extra wiring or a Pi and as with any BOM, there are going to be small miscellaneous parts needed along the way. The scew assortments will hopefully cover a lot of the miscellaneous. For a more rigid gantry, 4 - 45mm Linear Bearings are better, but the shorter ones in the BOM will work fine. This list is only a guide, better pricing may be found elsewhere. While every effort has been made to make this a complete list, and the design easy to assemble, please know this is still a self sourced ground up 3D printer build and will require printed parts, time, and attention to details. All work is done so at your own risk and without any liability to the designer of the project.

The STL file parts are pre orientated for best printing. Print with no less than 6 walls and 20% infill. The STL file name will tell you quantity of each item and if it needs supports, only two parts should need supports. I use Polymaker PLA Pro for the parts unless I enclose the printer, I go to Polymaker ASA or ABS.

MOTION:	Quantity	Price Each	Total	Amazon or Ali Link to Suggested Part
GT2 6mm Belt, 5 meter minimum length	1	$9.00	$9.00	https://www.amazon.com/dp/B097T212B9/ref=twister_B09877BH12?_encoding=UTF8&psc=1
GT2 20 Toothless 5mm bore idler	10	$1.20	$12.00	Printer/dp/B07RV2T54M/ref=sr_1_3?crid=OFZKSAD0WYW1&keywords=g
GT2 20 Tooth 5mm bore timing pulley	2	$4.50	$9.00	https://www.amazon.com/WINSINN-Aluminum-Timing-Pulley-Printer/dp/B07BPGYX3G/ref=sr_1_6?crid=OFZKSAD0WYW1&keywords=gt2+idler&qid=1676580494&sprefix=gt2+idler%2Caps%2C244&sr=8-6
GT2 20 Tooth 5mm bore stepper timing pulley	3	$2.50	$7.50	https://www.amazon.com/WINSINN-Aluminum-Synchronous-Timing-Printer/dp/B077GNZK3J/ref=sr_1_3?crid=34KC9XQCOHDJ4&keywords=gt2+5mm+pulley&qid=1676580569&sprefix=gt2+5mm+pul%2Caps%2C136&sr=8-3
GT2 20 Tooth 8mm bore pulley	3	$2.50	$7.50	https://www.amazon.com/WINSINN-Aluminum-Synchronous-Timing-Printer/dp/B077GMKW1C/ref=sr_1_3?crid=34KC9XQCOHDJ4&keywords=gt2%2B5mm%2Bpulley&qid=1676580569&sprefix=gt2%2B5mm%2Bpul%2Caps%2C136&sr=8-3&th=1
8mm linear rod 300mm	7	$5.25	$36.75	https://www.amazon.com/300mm-Linear-Motion-Printer-Machine/dp/B09P87MSY7/ref=sr_1_4?crid=IF1RABLTL091&keywords=8mm+linear+rod+300mm&qid=1676581300&sprefix=8mm+linear+rod%2Caps%2C161&sr=8-4

Item	Qty	Unit	Total	Link
Linear Bearings	10	$1.00	$10.00	https://www.amazon.com/LM8UU-Linear-Bearings-Length-Printer/dp/B087WPGQ8T/ref=sr_1_1_sspa?crid=ORDL87RDH8EQ&keywords=8mm+linear+bearings&qid=1676581514&sprefix=8mm+linear+bearings%2Caps%2C136&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEyTjRCSDI0RUNWUjZRJmVuY3J5cHRlZElkPUEwODkyMjYwM0ZZOFVJNkFKUVhLOSZlbmNyeXB0ZWRBZElkPUEwMDMxNjg1MVQxUFVBMTRGRVFaTCZ3aWRnZXROYW1lPXNwX2F0ZiZhY3Rpb249Y2xpY2tSZWRpcmVjdCZkb05vdExvZ0NsaWNrPXRydWU=
Nema17 42mm stepper motor	3	$8.25	$24.75	https://www.amazon.com/POLISI3D-Printer-Stepper-Stepping-Connector/dp/B08HWGYY9D/ref=sr_1_20?crid=16ZTNIBQWH1GK&keywords=nema+stepper+motor+42&qid=1676581694&sprefix=Nema+stepper+moto%2Caps%2C141&sr=8-20
8mm 4-start lead screw 300mm	3	$7.00	$21.00	https://www.amazon.com/ReliaBot-300mm-Thread-Starts-Printer/dp/B0829J9YJ1/ref=sr_1_4?keywords=8mm%2Blead%2Bscrew%2B300mm&qid=1677709742&sr=8-4&th=1
Closed Loop GT2 6mm belt, 1080mm - 1100mm	1	$6.50	$6.50	https://www.aliexpress.us/item/2251832113069399.html?spm=a2g0o.productlist.main.53.3694S3j7S3j75k&algo_pvid=ce75d9de-6b64-46a1-b338-9b8c2b0f787a&algo_exp_id=ce75d9de-6b64-46a1-b338-9b8c2b0f787a-26&pdp_ext_f=%7B%22sku_id%22%3A%2210000003969762805%22%7D&pdp_npi=3%40dis%21USD%211.99%211.99%21%21%21%21%21%40211bd8be16777098448855150d06df%2110000003969762805%21sea%21US%210&curPageLogUid=Sgd0cwKojbJx
608 Bearings 8x22x7 skateboard bearings	9	$0.56	$5.04	https://www.amazon.com/%EF%BC%BB10-Pack%EF%BC%BD-608-Ball-Bearings/dp/B08XVFSZTF/ref=sr_1_4?crid=1QS8OGIPNR2RK&keywords=608+bearing&qid=1677779566&s=industrial&sprefix=608+bearing%2Cindustrial%2C174&sr=1-4
			$0.00	
HARDWARE			$0.00	
M5x12 (M5x10 works too) button head	100	$0.10	$10.00	https://www.amazon.com/M5-0-8-Button-Socket-Stainless-Quantity/dp/B07NVJT9VB/ref=sr_1_1_sspa?crid=2ESZ8FANAWB42&keywords=m5x12&qid=1676582167&sprefix=m5x12%2Caps%2C153&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEyNEtPTlNGRFhQR0tNJmVuY3J5cHRlZElkPUEwNjE3MjQyNFBaWERJNkJaNFZCJmVuY3J5cHRlZEFkSWQ9QTAxMTk0NzMxTjlKKWDg1SDVHN1NaJndpZGdldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWN0JmRvTm90TG9nQ2xpY2s9dHJ1ZQ==

Item	Qty	Unit Price	Total	Link
M5 T-slot/T-nut	100	$0.06	$6.00	https://www.amazon.com/Hulless-Sliding-Fastener-Aluminum-Accessories/dp/B08NZMVP6N/ref=sr_1_14?keywords=m5+t+nut&qid=1676582188&sprefix=m5+t%2Caps%2C237&sr=8-14
Assorted M3 Kit	1	$12.00	$12.00	https://www.amazon.com/Kadrick-Bolts%EF%BC%8CFlat-Washers-Assortment-Stainless/dp/B0BPFWBBF9/ref=sr_1_1_sspa?keywords=m3+screw+assortment&qid=1676582234&sprefix=m3%2Caps%2C229&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUE3T1dHOFRKREFNN00mZW5jcnlwdGVkSWQ9QTA0MzU1MDgzSVdTUdRRlQ2NVBOJmVuY3J5cHRlZFkSWQ9QTAwMjM5ODcxT0pGTURMRUdQSUZXJndpZGdldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWN0JmRvTm90TG9nQ2xpY2s9dHJ1ZQ==
M4x50 countersunk flat head	4	$2.00	$8.00	https://www.amazon.com/METALLIXITY-Countersunk-Machine-M4x30mm-Stainless/dp/B09Y5P7X75/ref=sr_1_35?crid=6ITT1GZQTJ20&keywords=m4%2Bx40%2Bcountersunk%2Bscrew&qid=1676582605&sprefix=m4%2Bx40%2Bcountersunk%2Bscrew%2Caps%2C131&sr=8-35&th=1
2020 aluminum extrusion 300mm (t or v slot)	12	$3.50	$42.00	https://www.amazon.com/Aluminum-Extrusion-European-Standard-Industrial/dp/B0B2PBF6YB/ref=sr_1_8?crid=2H8WDJUWS4H8K&keywords=2020+aluminum+extrusion+300mm&qid=1676582392&sprefix=2020+aluminum+extrusion+300mm%2Caps%2C154&sr=8-8
2020 aluminum extrusion 200mm (t or v slot)	1	$5.00	$5.00	https://www.amazon.com/Aluminum-Extrusion-European-Standard-Anodized/dp/B08Y8M383Q/ref=sr_1_4?crid=2H8WDJUWS4H8K&keywords=2020+aluminum+extrusion+300mm&qid=1676582463&sprefix=2020+aluminum+extrusion+300mm%2Caps%2C154&sr=8-4

Item	Qty	Price	Total	Link
M3, M4, M5 Nut and Screw Kit	1	$15.00	$15.00	https://www.amazon.com/Hilitchi-510-Pcs-Socket-Screws-Assortment/dp/B073SWXPYR/ref=sxin_17_ac_d_bv?ac_md=0-0-QnVkZ2V0IFBpY2s%3D-ac_d_bv_bv_bv&content-id=amzn1.sym.8f2bf95d-b9c2-4e6d-96a9-5fdf77a1951d%3Aamzn1.sym.8f2bf95d-b9c2-4e6d-96a9-5fdf77a1951d&cv_ct_cx=m3+m4+m5+screw+assortment&keywords=m3+m4+m5+screw+assortment&pd_rd_i=B073SWXPYR&pd_rd_r=8e8cc7e2-48b9-4a51-b752-0186dd22447b&pd_rd_w=jmPHz&pd_rd_wg=kQ31h&pf_rd_p=8f2bf95d-b9c2-4e6d-96a9-5fdf77a1951d&pf_rd_r=RBMRTG4MGTVCWFG3QMHH&qid=1677710013&sprefix=M3+M4+M%2Caps%2C158&sr=1-1-270ce31b-afa8-499f-878b-3bb461a9a5a6
			$0.00	
EXTRUDER: Note that my design can accommodate a few designs, select which one you want to use, just note you will need a different gear kit for the Hummbingbird Extruder			$0.00	
BMG dual drive extruder kit	1	$18.00	$18.00	https://www.amazon.com/Precision-Printer-Plating-Hardened-Extruder/dp/B097YL3C6J/ref=sr_1_14?keywords=bmg+clone+dual+gear+extruder&qid=1676582650&sprefix=BMG+clone%2Caps%2C151&sr=8-14
3D Printed Sherpa Mini (Print parts and assemble) Use the STL's and build instructions from the GitHub	1			https://github.com/Annex-Engineering/Sherpa_Mini-Extruder
3D Printed Vorxtrudort (Print parts and assemble) Use the STL's and build instructions from the GitHub				https://github.com/nhchiu/VoronMods/tree/main/Extruders/Vorxtrudort
3D Printed Hummingbird (Print parts and assemble. Order big gear kit from Github link) Use the STL's and build instructions from the GitHub				https://github.com/nhchiu/VoronMods/tree/main/Extruders/Hummingbird
			$0.00	
HEATED BED			$0.00	

Standard ender 3 235x235 24v bed	1	$25.00	$25.00	https://www.amazon.com/Ender-V2-Heated-Bed-Replacement/dp/B08VHTW8CQ/ref=sr_1_1_sspa?keywords=ender+3+24v+heated+bed&qid=1676582719&sprefix=ender+3+24v+hea%2Caps%2C149&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUExQjRXTFBEVzlON0ZIJmVuY3J5cHRlZElkPUEwODY2MjI3MjhIVkxxDODZEUUk4UyZlbmNyeXB0ZWRBZElkPUEwMzMxNDM0M1RBNkM2UDRIV01IWCZ3aWRnZXROYW1lPXNwX2F0ZiZhY3Rpb249Y2xpY2tSZWRpcmVjdCZkb05vdExvZ0NsaWNrPXRydWU=
235x235 build sheet	1	$12.00	$12.00	https://www.amazon.com/dp/B0856VT5XT?pd_rd_i=B0856VT5XT&pf_rd_p=b000e0a0-9e93-480f-bf78-a83c8136dfcb&pf_rd_r=CQBSE277ST4E0VEGNKTN&pd_rd_wg=zhEJn&pd_rd_w=gKyDr&pd_rd_r=8b2b8744-7140-4013-a04d-4a382d215ea4
ELECTRONICS			$0.00	
			$0.00	
3D Touch	1	$16.00	$16.00	https://www.amazon.com/3Dman-Upgrade-Leveling-Sensor-Printers/dp/B08SK62RMR/ref=sr_1_3?crid=22IW0RUW9WRAY&keywords=3dtouch&qid=1677710973&sprefix=3dtouch%2Caps%2C178&sr=8-3
24v Power Supply	1	$24.00	$24.00	https://www.amazon.com/ALITOVE-Universal-Regulated-Switching-Transformer/dp/B06XK2ZNKC/ref=sxts_rp_s_a_1_0?content-id=amzn1.sym.eff26b9b-e255-411b-a40d-eccb21f93fe4%3Aamzn1.sym.eff26b9b-e255-411b-a40d-eccb21f93fe4&cv_ct_cx=24v+power+supply&keywords=24v+power+supply&pd_rd_i=B06XK2ZNKC&pd_rd_r=82e418c1-9755-4243-a4ff-468e2e00e2d1&pd_rd_w=yv5NL&pd_rd_wg=3OEbB&pf_rd_p=eff26b9b-e255-411b-a40d-eccb21f93fe4&pf_rd_r=FP42ARP0ASMB46W1HM9X&qid=1676582807&sprefix=24v+%2Caps%2C461&sr=1-1-5985efba-8948-4f09-9122-d605505c9d1e

BTT E3 V2/V3 or MKS Robin E3 v1.1	1	$40.00	$40.00	https://www.amazon.com/BIGTREETECH-Upgrade-Control-TMC2209-Creality/dp/B0882QGFZR/ref=sr_1_1_sspa?crid=WGO9880SJLPG&keywords=bbt+skr+mini+e3&qid=1676582979&sprefix=bbt+skr+mini+e3%2Caps%2C132&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUFQWDA4RVRFNFhGR00mZW5jcnlwdGVkSWQ9QTAwMTk0OTROOFdVWVhEWDdBRjcmZW5jcnlwdGVkQWRJZD1BMDA2MjM2MTFLUVE1UzUwVU5GUlMmd2lkZ2V0TmFtZT1zcF9hdGYmYWN0aW9uPWNsaWNrUmVkaXJlY3QmZG9Ob3RMb2dDbGljaz10cnVl
Triangle-lab CHC hotend	1	$31.00	$31.00	https://www.aliexpress.us/item/3256803662839179.html?spm=a2g0o.productlist.main.11.77d4So3xSo3xa0&algo_pvid=6e6eb8ef-3d42-4c23-bf20-14358976ad9d&algo_exp_id=6e6eb8ef-3d42-4c23-bf20-14358976ad9d-5&pdp_ext_f=%7B%22sku_id%22%3A%2212000027332429742%22%7D&pdp_npi=3%40dis%21USD%2131.93%2130.97%21%21%21%21%21%402100bb6416777106954414139d0729%2112000027332429742%21sea%21US%210&curPageLogUid=cpJxAMdvL2Ar
Nema 14 Pancake Stepper	1	$22.00	$22.00	https://www.amazon.com/FYSETC-Printer-Extruder-47-2inch-Accessories/dp/B099JMJNH2/ref=sr_1_14?keywords=nema+14+stepper&qid=1676583366&sprefix=nema+14+%2Caps%2C156&sr=8-14
3010 24v Fan	1	$9.00	$9.00	https://www.amazon.com/HKWANTAT-Bearings-Brushless-Cooling-30x30x10mm/dp/B09MCJ2XSP/ref=sr_1_11?keywords=3010%2Bfan%2B24v&qid=1676583429&sprefix=3010%2Caps%2C192&sr=8-11&th=1
5015 24v Fan	1	$9.00	$9.00	https://www.amazon.com/Brushless-Hydraulic-50mmx50mmx15mm-Appliances-Replacement/dp/B0BBZPB4DM/ref=sr_1_5?crid=1QIVTONGU4CGO&keywords=5015+24v&qid=1676583496&sprefix=5015+24v%2Caps%2C133&sr=8-5
			$0.00	
			$453.04	