Title	Trident_1-9_complementary_3dPartsBuild_doco (proposed future file)
File name	Voron_1.9_3dprinting_guide.pdf (1.9 – really? You put . in a file?)
Date	2021-12-15 AM (Unofficial version number)
Copy-rite	None. Free domain. Be free. Fly my pretties. FLY!
Warranty	None. Use at own risk. For entertainment purposes only.
Author(s)	Stephen George (Original idea and creation) Claudermilk (Major proof read and error checking)

Introduction
Use this guide to print the parts as you need them, possibly the night before.

Latest version?
I tend to rush the first draft out and let everyone complain. To get the latest version of this document please goto (*1) and check the date.
(*1) https://github.com/LesserSpottedAustralianSquirel/voron_trident_pics/blob/main/Voron_1.9_trident_3dprinting_guide.pdf

Print parameters (More details on page 4 of official Trident manual)
Material ABS, Infill gyroid, Infill 40% Layer_height 0.2mm, Wall_count 4, Top/bottom layers 5, Nossle/Nozzle 0.4mm

NB: Many of the Voron parts “mate” together. Therefore the top needs to be quite smooth. I found that a light sand papering helped allow these parts to mate. Another idea was to enable “ironing” in your slicer. However this adds to the print time and has not been tested by me.

NB: I used a Prusa mini to print the parts in ABS. I had to use a brim to prevent warping. While this came off easily I had to use a plumbers deburring tool (from the hardware shop) and sometimes a craft knife to remove the elephants foot like effect.

The Rules
The first time a picture of the part is shown in the official instructions it should be added to the list below, along with the page number. After that it’s ignored as you should have already printed it.

The Machine the parts are for
Building Formbot kit, 250 x 250, Direct feed, Dragon High Flow, 3 hole cable chain.

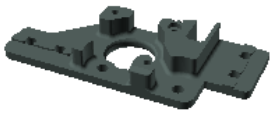
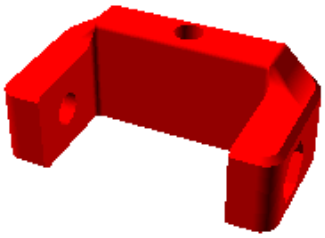
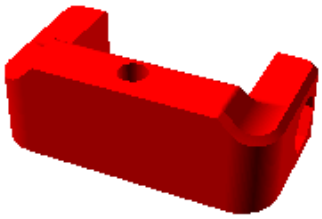
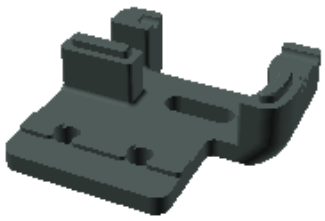
Keeping track
The Printed ▢ tick box in the page number box allows you to print out this pdf (without this header page) and tick off the parts as they come off the printer. Hopefully you won’t double print when you don’t want to.

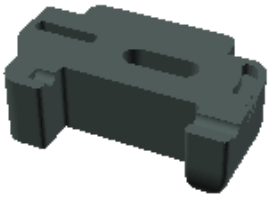
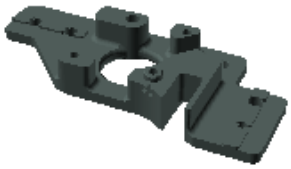
Future Improvements to this doc
3) Add time of print using a Prusa mini as a guide.
4) Add AA (anti-aliasing) to images using gimp and scripts

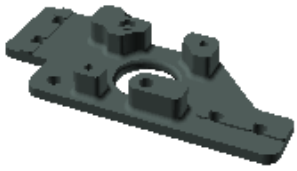
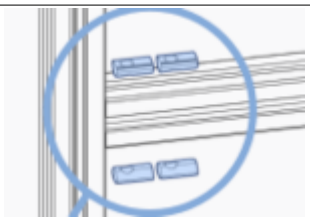
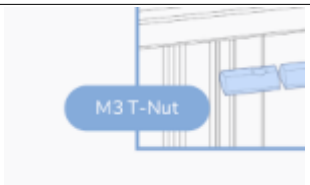
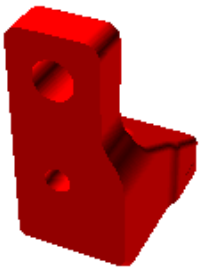
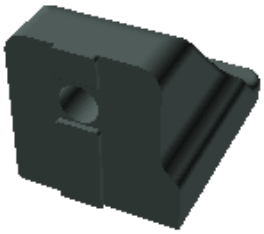
NB thanks for all the great ideas. Even if I have not had time (yet) to implement them all. They are much appreciated. Any other ideas or comments please visit old.reddit.com/r/VORONDesign

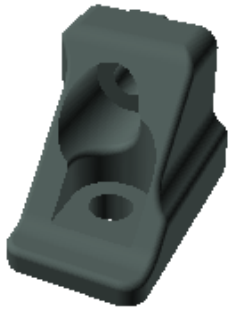
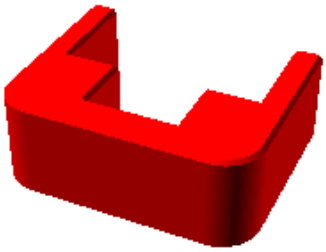
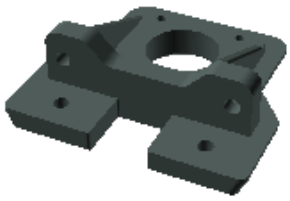
Notes
This is fan base documentation. The official document take precedence in any conflict of information or technical detail.

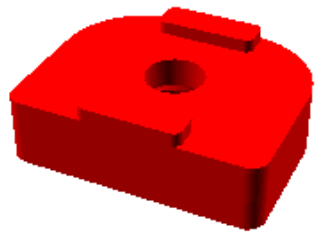
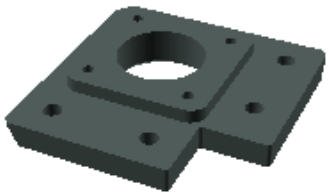
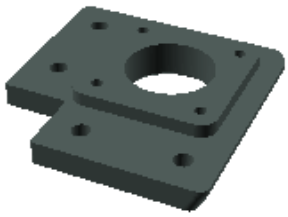
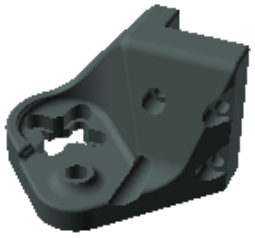
Silly quote
May your Voron print head always fly “straight and true”, never tire and crash the bed for a sleep.

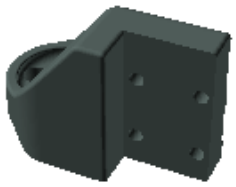
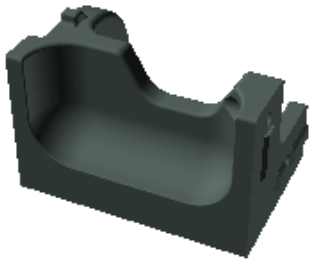
Picture	Details	Page	Comment
	**Directory** STLs/Gantry/AB_Drive_Units **Filename** a_drive_frame_upper.stl **Manual name** A drive	26 Done? ▢ Yes	And so it begins
	**Directory** STLs/Gantry/Front_Idlers **Filename** [a]_tensioner_left.stl **Manual name** none found	27 Done? ▢ Yes	NB Page 27 “Look for asterix next to the part. It indicates that this is an accent part.” Except * is not a good character in a file name, so they changed it to Files starting with [a]
	**Directory** STLs/Gantry/Front_Idlers **Filename** [a]_tensioner_right.stl **Manual name** none found	27 Done? ▢ Yes	Joke alert Don’t print part rm * If you have no idea what I am talking about please ignore this note
	**Directory** STLs/Gantry/Front_Idlers **Filename** front_idler_a_x2.stl **Manual name** A idler	28 Done? ▢ Yes	x2

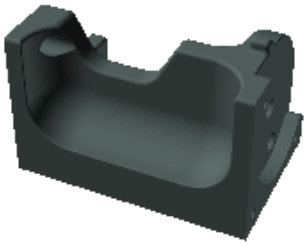
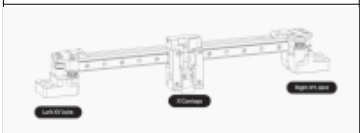
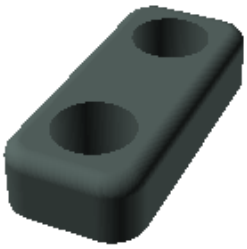
	**Directory** STLs/Gantry/Front_Idlers **Filename** front_idler_b_x2.stl **Manual name** none found	28 Done? ▢ Yes	x2
	**Directory** STLs/Gantry/AB_Drive_Units **Filename** a_drive_frame_lower.stl **Manual name** A drive	34 Done? ▢ Yes	
	**Directory** STLs/Tools **Filename** AB_pulley_jig.stl **Manual name** none found	35 Done? ▢ Yes	tool
	**Directory** STLs/Gantry/AB_Drive_Units **Filename** b_drive_frame_lower.stl **Manual name** B drive	37 Done? ▢ Yes	

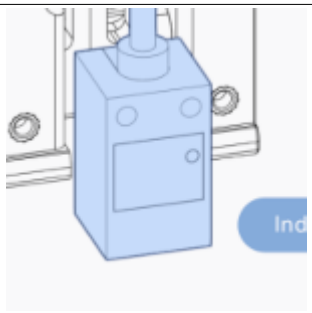
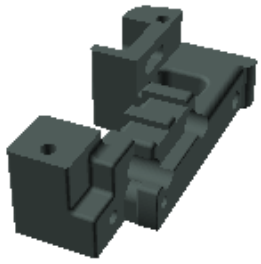
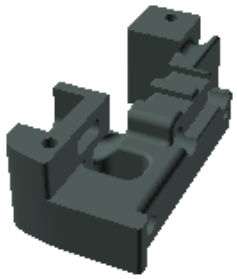
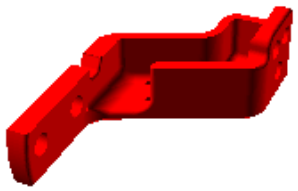
	**Directory** STLs/Gantry/AB_Drive_Units **Filename** b_drive_frame_upper.stl **Manual name** B drive	38 Done? ▢ Yes	
	T-Nuts M5 AKA “Roll in” T nuts	44 Done? ▢ Yes	They don’t have to go into the end. They can be “rolled in”. No need to disassemble frame.
	Warning Lone M3 on page. Pretending to be M5	44 Done? ▢ Yes	Beware Of of the lone lone M3 T-nut. Which I read as an M5 and had to get it back out.
	**Directory** STLs/Gantry/AB_Drive_Units **Filename** [a]_y_endstop_bumper.stl **Manual name** End stop	50 Done? ▢ Yes	
	**Directory** STLs/Z_Assembly **Filename** z_rear_extrusionbracket_left.stl **Manual name** Rear brace	53 Done? ▢ Yes	

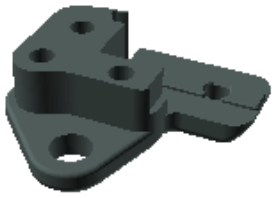
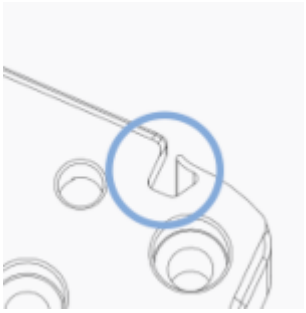
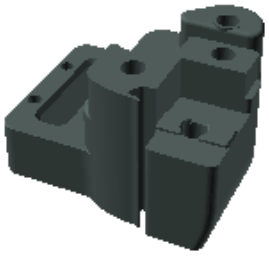
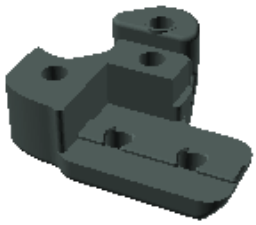
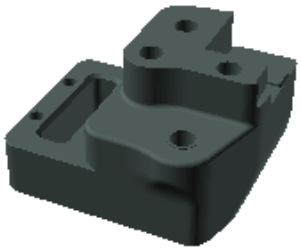
	**Directory** STLs/Z_Assembly **Filename** z_rear_extrusionbracket_right.stl **Manual name** Rear brace	55 Done? ▢ Yes	
	**Directory** STLs/Tools **Filename** MGN9_rail_guide_x2.stl **Manual name** Guide	58 Done? ▢ Yes	x2
	**Directory** STLs/Z_Assembly **Filename** z_carriage_rear_3hole.stl **Manual name** Generic Cable Chain	64 Done? ▢ Yes	Check directory for 2 hole version if required on cable chain
	**Directory** STLs/Z_Assembly **Filename** z_stepper_rear.stl **Manual name** none found	65 Done? ▢ Yes	

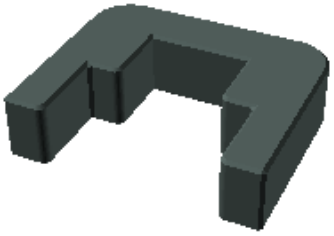
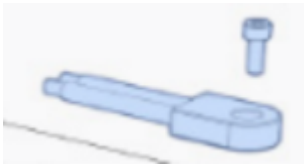
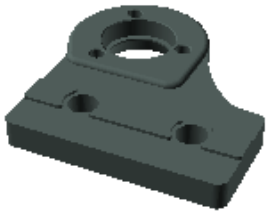
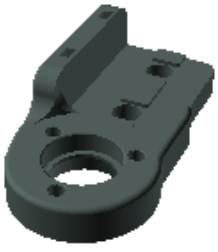
	**Directory** STLs/Z_Assembly **Filename** [a]_z_rail_stop_x3.stl **Manual name** none found	68 Done? ▢ Yes	x3
	**Directory** STLs/Z_Assembly **Filename** z_stepper_left.stl **Manual name** none found	69 Done? ▢ Yes	
	**Directory** STLs/Z_Assembly **Filename** z_stepper_right.stl **Manual name** none found	73 Done? ▢ Yes	
	**Directory** STLs/Z_Assembly **Filename** z_carriage_left.stl **Manual name** Left Z joint	77 Done? ▢ Yes	

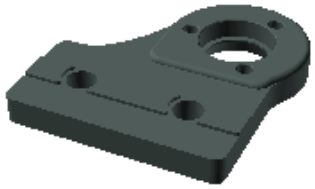
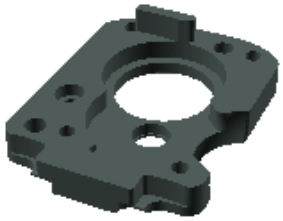
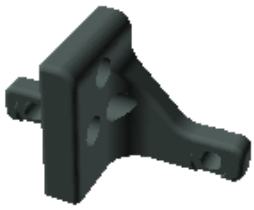
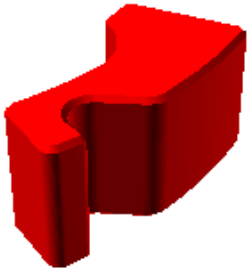
	**Directory** STLs/Z_Assembly **Filename** [a]_z_carriage_left.stl **Manual name** none found	77 Done? ▢ Yes	
	**Directory** STLs/Z_Assembly **Filename** [a]_z_carriage_right.stl **Manual name** none found	79 Done? ▢ Yes	
	**Directory** STLs/Z_Assembly **Filename** z_carriage_right.stl **Manual name** none found	79 Done? ▢ Yes	
	**Directory** STLs/Skirt **Filename** corner_a_x2.stl **Manual name** Feet	90 Done? ▢ Yes	x2

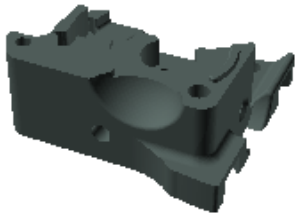
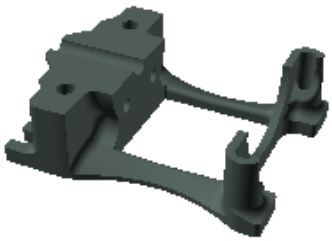
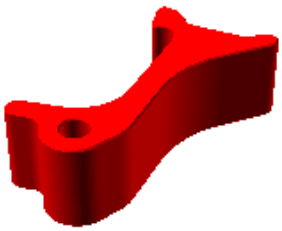
	**Directory** STLs/Skirt **Filename** corner_b_x2.stl **Manual name** Feet	90 Done? ▢ Yes	x2
	**Directory** STLs/Skirt **Filename** [a]_corner_baseplate_a_x2.stl **Manual name** none found	90 Done? ▢ Yes	x2
	**Directory** STLs/Skirt **Filename** [a]_corner_baseplate_b_x2.stl **Manual name** none found	90 Done? ▢ Yes	x2
	Page 99 has been ignored for the purposes of this doco . It is an overview or copy of the pic on 98. Also it has way too many parts on it. Normal service to resume		Page ignored
	**Directory** STLs/Gantry/X_Axis/X_Carriage **Filename** probe_retainer_bracket.stl **Manual name** none found	100 Done? ▢ Yes	Note: There are two similar shapes. The one displayed and the 9mm one. probe_retainer_bracket_9mm.st But which one? See below

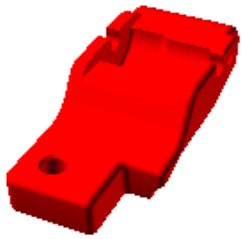
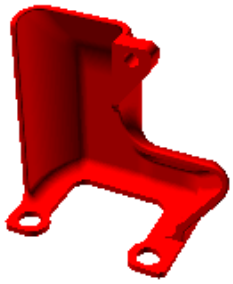
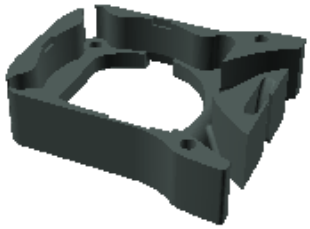
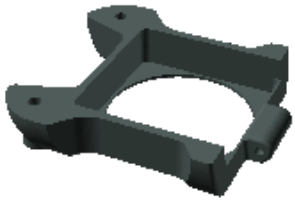
	**Which probe_retainer_bracket.stl?** This all depends on your probe see page 111 After putting my X carriage together on page 110, my probe was flush with the X carriage. I decided to go with the standard probe_retainer_bracket.stl Seem to work fine.	Info only	My probe from the formbot kit was a Omron TL-Q5MMC2-Z It was flush with the X carriage. when it was assembled
	**Directory** STLs/Gantry/X_Axis/X_Carriage **Filename** x_carriage_frame_left.stl **Manual name** X Carriage	100 Done? ▢ Yes	I had to gently sand the top of this part so it would mate properly
	**Directory** STLs/Gantry/X_Axis/X_Carriage **Filename** x_carriage_frame_right.stl **Manual name** X Carriage	100 Done? ▢ Yes	I had to gently sand the top of this part so it would mate properly
	**Directory** STLs/Gantry/X_Axis/XY_Joints **Filename** [a]_xy_joint_cable_bridge_3hole.stl **Manual name** none found	100 Done? ▢ Yes	Note: Check directory for 2 hole version if required for cable chain Mine’s a 3 hole

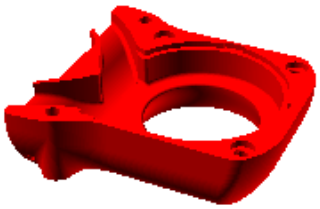
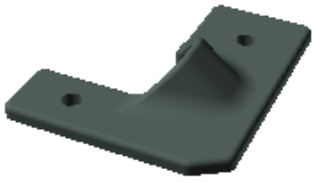
	**Directory** STLs/Gantry/X_Axis/XY_Joints **Filename** xy_joint_right_upper_MGN12.stl **Manual name** Right XY Joint	101 Done? ▢ Yes	NB if you are using a brim to prevent ABS warping you may have to remove it round the crevice outlined below
	Notes Crevice outlined in blue on Right XY Joint. May need to be “cleaned out” with a craft knife if you have printed with a brim.	Info only	
	**Directory** STLs/Gantry/X_Axis/XY_Joints **Filename** xy_joint_right_lower_MGN12.stl **Manual name** Right XY Joint	102 Done? ▢ Yes	
	**Directory** STLs/Gantry/X_Axis/XY_Joints **Filename** xy_joint_left_upper_MGN12.stl **Manual name** Left XY Joint	105 Done? ▢ Yes	
	**Directory** STLs/Gantry/X_Axis/XY_Joints **Filename** xy_joint_left_lower_MGN12.stl **Manual name** Left XY Joint	106 Done? ▢ Yes	

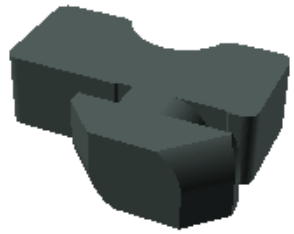
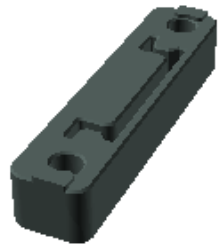
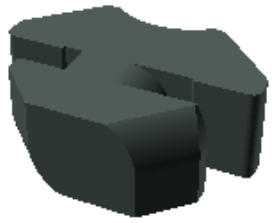
	**Directory** STLs/Tools **Filename** MGN12_rail_guide_x2.stl **Manual name** none found	113 Done? ▢ Yes	x2
	Non printable part. Thermal fuse	129	Please skip. Non printable part.
	**Directory** STLs/Z_Assembly **Filename** nozzle_probe.stl **Manual name** none found	130 Done? ▢ Yes	
	**Directory** STLs/Z_Assembly **Filename** z_bed_left.stl **Manual name** none found	134 Done? ▢ Yes	
	**Directory** STLs/Z_Assembly **Filename** z_bed_rear.stl **Manual name** none found	136 Done? ▢ Yes	

	**Directory** STLs/Z_Assembly **Filename** z_bed_right.stl **Manual name**	138 Done? ▢ Yes	
	**Directory** STLs/Gantry/X_Axis/X_Carriage/ Direct Feed **Filename** extruder_motor_plate.stl **Manual name** none found	146 Done? ▢ Yes	
	**Directory** STLs/Gantry/X_Axis/X_Carriage/ Direct Feed **Filename** chain_anchor_3hole.stl **Manual name** none found	146 Done? ▢ Yes	Check directory for 2 hole version if required
	**Directory** STLs/Gantry/X_Axis/X_Carriage/ Direct Feed **Filename** [a]_latch_shuttle.stl **Manual name** none found	146 Done? ▢ Yes	

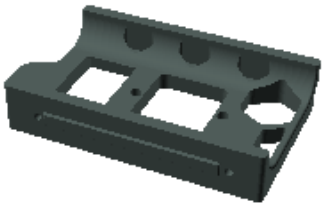
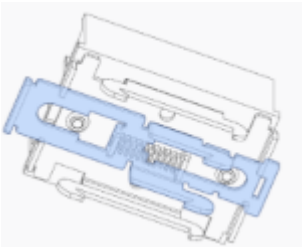
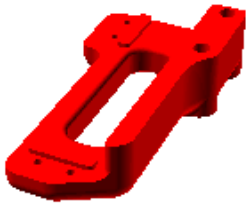
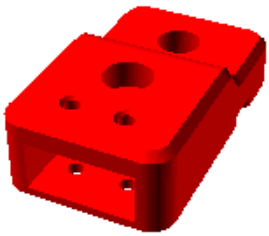
	**Directory** STLs/Gantry/X_Axis/X_Carriage/Direct Feed **Filename** extruder_body.stl **Manual name** none found	147 Done? ▢ Yes	
	**Directory** STLs/Gantry/X_Axis/X_Carriage/Toolheads/Dragon **Filename** printhead_front_dragon.stl **Manual name** none found	148 Done? ▢ Yes	DRAGON mount DO YOU HAVE A DRAGON hot end?
	**Directory** STLs/Gantry/X_Axis/X_Carriage/Toolheads/Dragon **Filename** printhead_rear_dragon.stl **Manual name** none found	149 Done? ▢ Yes	DRAGON mount DO YOU HAVE A DRAGON hot end?
	**Directory** STLs/Gantry/X_Axis/X_Carriage/Direct Feed **Filename** [a]_latch.stl **Manual name** none found	161 Done? ▢ Yes	

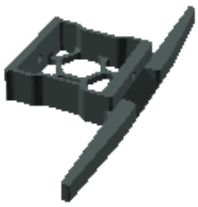
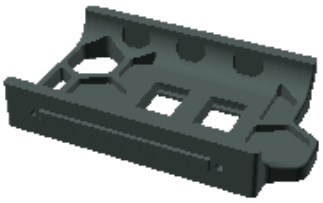
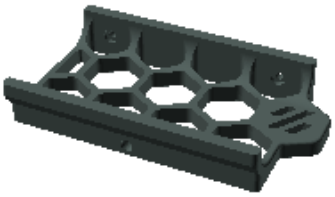
	**Directory** STLs/Gantry/X_Axis/X_Carriage/Direct Feed **Filename** [a]_guidler.stl **Manual name** none found	161 Done? ▢ Yes	
	**Directory** STLs/Gantry/X_Axis/X_Carriage/Direct Feed **Filename** [a]_connector_cover.stl **Manual name** none found	163 Done? ▢ Yes	
	**Directory** STLs/Gantry/X_Axis/X_Carriage **Filename** blower_housing_rear.stl **Manual name** none found	166 Done? ▢ Yes	
	**Directory** STLs/Gantry/X_Axis/X_Carriage **Filename** hotend_fan_mount.stl **Manual name** none found	166 Done? ▢ Yes	

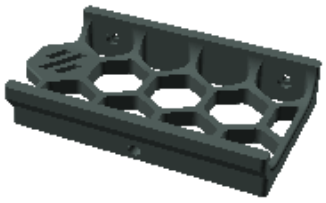
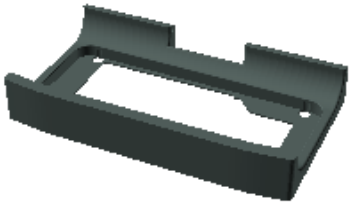
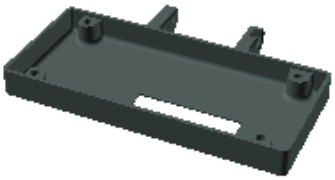
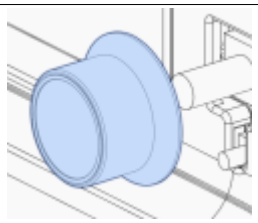
	**Directory** STLs/Gantry/X_Axis/X_Carriage **Filename** [a]_blower_housing_front.stl **Manual name** none found	167 Done? ▢ Yes	
	**Directory** STLs/Z_Assembly **Filename** z_cable_chain_mount_3hole.stl **Manual name** Z chain Anchor	173 Done? ▢ Yes	Check directory for 2 hole version if required
	**Directory** STLs/Panels **Filename** wire_corner_left.stl **Manual name** cable cover	175 Done? ▢ Yes	
	**Directory** STLs/Panels **Filename** wire_corner_right.stl **Manual name** none found	176 Done? ▢ Yes	

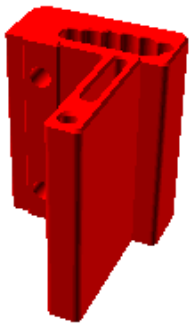
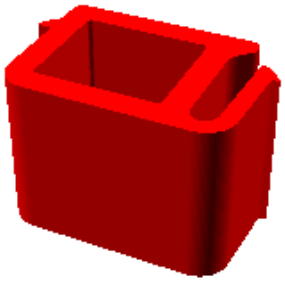
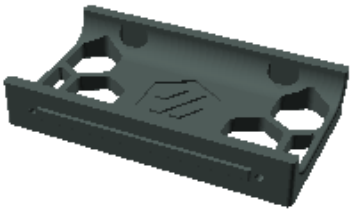
	**Directory** STLs/Panels **Filename** deck_support_4mm_x8.stl **Manual name** Deck support	178 Done? ▢ Yes	X 8 NB there are two variants 4mm and 3mm deck_support_**3mm**_x8.stl
	**Directory** **STLs/ElectronicsBay** **Filename** DIN_center_support_x2.stl **Manual name** none found	181 Done? ▢ Yes	x2
	**Directory** **STLs/ElectronicsBay** **Filename** DIN_frame_mount_x4.stl **Manual name** none found	181 Done? ▢ Yes	x4
	**Directory** STLs/ElectronicsBay **Filename** cable_frame_anchor_x6.stl **Manual name** none found	185 Done? ▢ Yes	X6

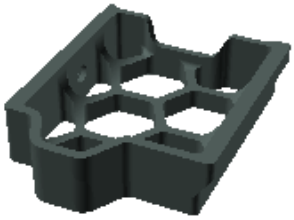
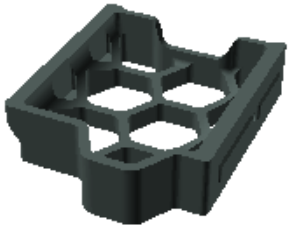
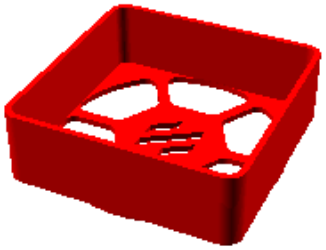
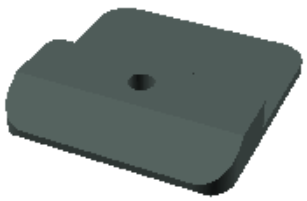
	**Directory** **STLs/ElectronicsBay** **Filename** pcb_din_clip_v2_x5.stl **Manual name** none foundy	189 Done? ▢ Yes	x5
	**Directory** **STLs/ElectronicsBay** **Filename** raspberrypi_bracket.stl **Manual name** none found	189 Done? ▢ Yes	
	**Directory** **STLs/ElectronicsBay** **Filename** rs25_psu_bracket.stl **Manual name** RS25-5 PSU	191 Done? ▢ Yes	
	**Directory** **STLs/ElectronicsBay/** **Controller_Mounds** **Filename** Octopus_bracket_2pc.stl **Manual name** Controller Boar	193 Done? ▢ Yes	Note: do you have a Octopus? Other mounts in this directory include Duet, GTR,SKR,Spider etc

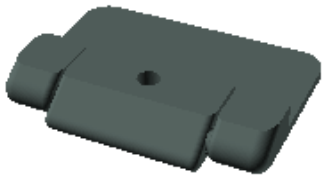
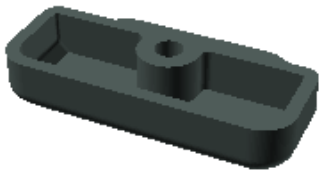
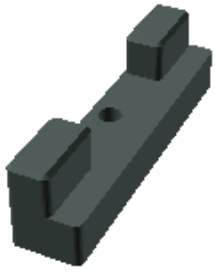
	**Directory** STLs/Skirt **Filename** power_inlet_filtered.stl **Manual name** none found	195 Done? ▢ Yes	
	**Directory** STLs/ElectronicsBay **Filename** PSU_stabilizer_50mm.stl **Manual name** none found	198 Done? ▢ Yes	
	Not a printed part. Skip	199	Not printed part. Skip
	**Directory** STLs/Gantry/X_Axis/XY_Joints **Filename** [a]_endstop_pod_microswitch.stl **Manual name** none found	203 Done? ▢ Yes	
	**Directory** STLs/Gantry/AB_Drive_Units **Filename** [a]_y_endstop_housing.stl **Manual name** Not mentioned	Page not found Done? ▢ Yes	Warning We could not find this part in the official manual but it’s in the STLs. Additionally, the Y endstop is held within the [a]_endstop_pod_microswitch.stl part

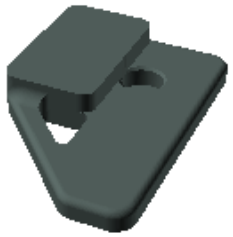
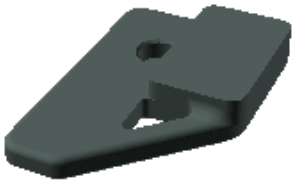
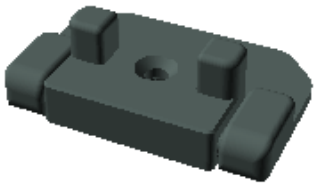
	**Directory** STLs/Gantry/AB_Drive_Units **Filename** [a]_wire_cover.stl **Manual name** none found	225 Done? ▢ Yes	
	**Directory** STLs/Skirt **Filename** side_fan_support_x2.stl **Manual name** none found	233 Done? ▢ Yes	x2
	**Directory** STLs/Skirt **Filename** keystone_panel.stl **Manual name** none found	233 Done? ▢ Yes	
	**Directory** STLs/Skirt/250 **Filename** front_skirt_a_250.stl **Manual name** none found	233 Done? ▢ Yes	WARNING 250mm x 250mm do you have this bed size?

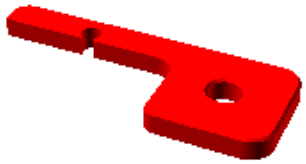
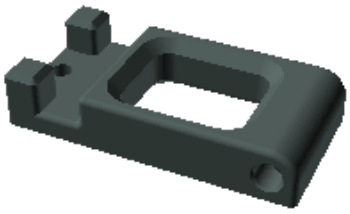
	**Directory** STLs/Skirt/250 **Filename** front_skirt_b_250.stl **Manual name** none found	233 Done? ▢ Yes	WARNING 250mm x 250mm do you have this bed size?
	**Directory** STLs/Skirt **Filename** [a]_mini12864_case_front_insert.stl **Manual name** none found	234	
	**Directory** STLs/Skirt **Filename** mini12864_case_front.stl **Manual name** none found	234 Done? ▢ Yes	
	**Directory** STLs/Skirt **Filename** mini12864_case_rear.stl **Manual name** none found	235 Done? ▢ Yes	
	**Warning: Joke detected** Can’t find the round thing, You make my heart sing, Wild thing. You make everything groovie. ABS mainly.	235	Not stl part Please skip.

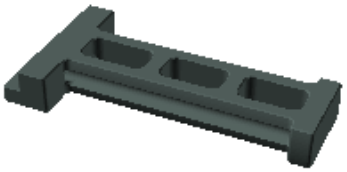
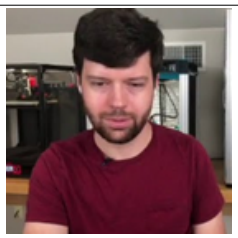
	**Directory** STLs/Skirt **Filename** [a]_mini12864_case_hinge.stl **Manual name** none found	236 Done? ▢ Yes	
	**Directory** STLs/Skirt **Filename** [a]_keystone_blank_insert_x2.stl **Manual name** none found	237 Done? ▢ Yes	x2
	**Directory** STLs/Skirt **Filename** [a]_skirt_logo_x2.stl **Manual name** none found	237 Done? ▢ Yes	X2
	**Directory** STLs/Skirt **Filename** rear_center_skirt_250.stl **Manual name** none found	241 Done? ▢ Yes	WARNING 250mm x 250mm do you have this bed size?

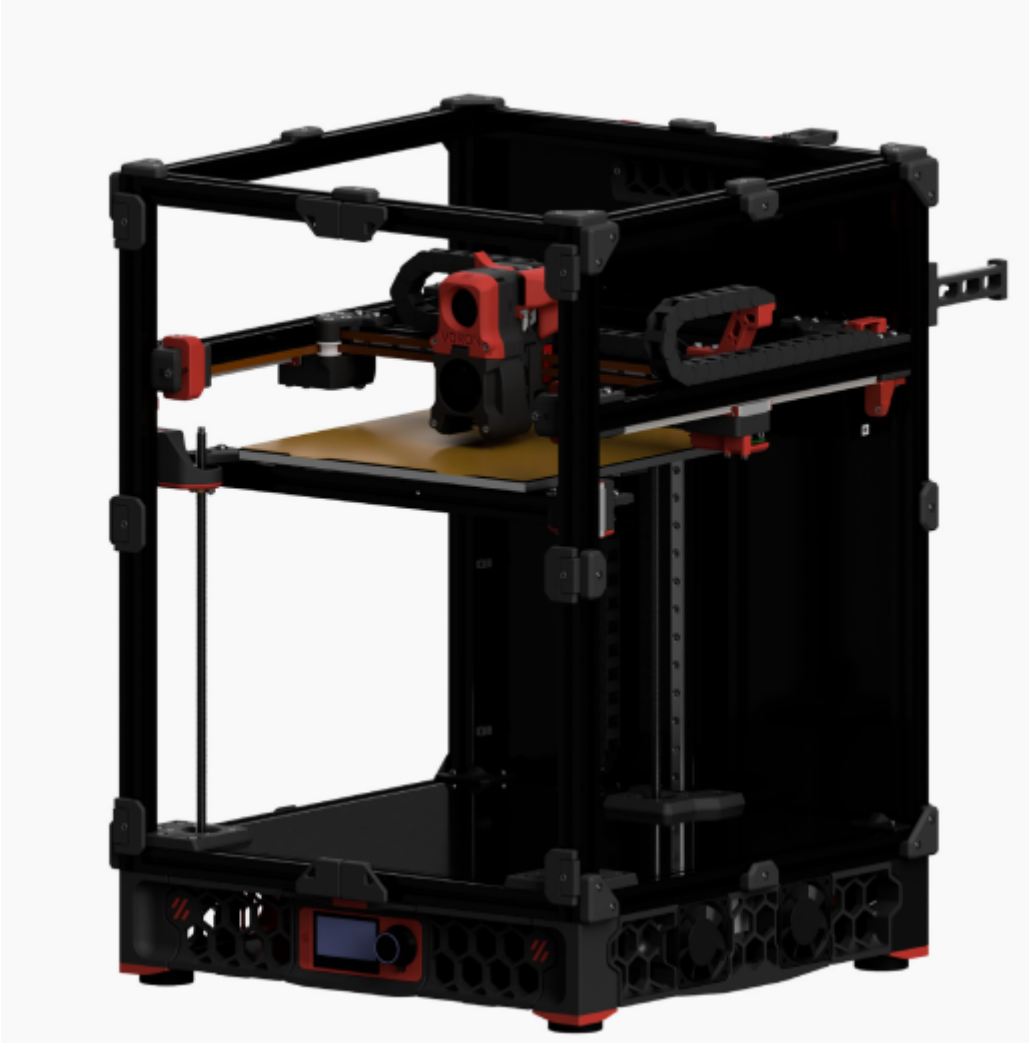
	**Directory** STLs/Skirt/250 **Filename** side_skirt_a_250_x2.stl **Manual name** none found	242 Done? ▢ Yes	WARNING 250mm x 250mm do you have this bed size? x2
	**Directory** STLs/Skirt/250 **Filename** side_skirt_b_250_x2.stl **Manual name** none found	242 Done? ▢ Yes	WARNING 250mm x 250mm do you have this bed size? x2
	**Directory** STLs/Skirt **Filename** [a]_60mm_fan_blank_insert_x2.stl **Manual name** none found	244 Done? ▢ Yes	x2
	**Directory** STLs/Panels **Filename** bottom_panel_clip_x4.stl **Manual name** none found	250 Done? ▢ Yes	x4

	**Directory** STLs/Panels **Filename** bottom_panel_hinge_x2.stl **Manual name** none found	250 Done? ▢ Yes	x2
	**Directory** STLs/Panels **Filename** corner_panel_clip_4mm_x8.stl **Manual name** none found	254 Done? ▢ Yes	Warning 4mm or 6mm part? x8
	**Directory** STLs/Panels **Filename** midspan_panel_clip_4mm_x7.stl **Manual name** none found	254 Done? ▢ Yes	Warning 4mm or 6mm part? x7
	**Directory** STLs/Panels/Front_Doors **Filename** latch_x2.stl **Manual name** none found	263 Done? ▢ Yes	x2

	**Directory** STLs/Panels/Front_Doors **Filename** handle_a_x2.stl **Manual name** none found	263 Done? ▢ Yes	x2
	**Directory** STLs/Panels/Front_Doors **Filename** handle_b_x2.stl **Manual name** none found	263 Done? ▢ Yes	x2
	**Directory** STLs/Panels/Front_Doors **Filename** door_hinge_x6.stl **Manual name** none found	265 Done? ▢ Yes	x6
	**Directory** STLs/Exhaust_Filter **Filename** exhaust_filter_housing.stl **Manual name** none found	268 Done? ▢ Yes	

	**Directory** STLs/Exhaust_Filter **Filename** [a]_filter_access_cover.stl **Manual name** none found	270 Done? ▢ Yes	
	**Directory** STLs/Exhaust_Filter **Filename** [a]_exhaust_filter_mount_x2.stl **Manual name** none found	272 Done? ▢ Yes	x2
	**Directory** STLs/Exhaust_Filter **Filename** exhaust_filter_grill.stl **Manual name** none found	272 Done? ▢ Yes	
	**Directory** STLs/Exhaust_Filter **Filename** bowen_retainer.stl **Manual name** none found	275 Done? ▢ Yes	

	**Directory** STLs/Exhaust_Filter **Filename** spool_holder.stl **Manual name** none found	276 Done? ▢ Yes	
	Steve (Team member and person who “drove the bus home on Trident project”)	280 Done? ▢ Yes	Man in the red shirt. Well reddish. It’s in that spectrum
	Eddie (Team member)	280 Done? ▢ Yes	This is not a red shirt.
	Dunar (Team member)	280 Done? ▢ Yes	Support structure may be required for the beard.
	[a]_Russiancatfood.stl **Manual name** Maks Zolin	280 Done? ▢ Yes	May require multiple materials Fearless leader



Done!

I have one question for you.

Did you print the tool on page 58 in the accent colour?

▢ Yes, because it’s cool

▢ No, Mr George, Because I am on to you

Place ✓ above

Note: I spent far too much time on this doco. I can only imagine the hard work that the Voron team has put into actually making the printer itself. So from a personal point of view I would like to say thanks to the official team here.