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 2021-12-14 PM (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.

<u>Print parameters</u> (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.

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 deburing 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, 250×250 , Direct feed, Dragon High Flow, 3 hole cable chain.

<u>Keeping track</u>

The Printed $\ \square$ tick box in the page number box is for your use.

It 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

Source files

https://github.com/LesserSpottedAustralianSquirel/voron_trident_pic
This include this .pdf and the source files

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?	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.
M3 T-Nut	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.st l Manual name Rear brace	53 Done?	

Directory STLs/Z_Assembly Filename z_rear_extrusionbracket_right.s tl 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?	
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?	
Directory STLs/Z_Assembly Filename z_carriage_right.stl Manual name none found	79 Done?	
Directory STLs/Skirt Filename corner_a_x2.stl Manual name Feet	90 Done?	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?	x2
TO THE STATE OF TH	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_br acket_9mm.st But which one? See below

Ind	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?	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? Pes	NB if you are using a brim to prevent ABS warping you may have to remove it round the crevice outlined below
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	Notes
Directory STLs/Gantry/X_Axis/XY_Joints Filename xy_joint_right_lower_MGN12.stl Manual name Right XY Joint	102 Done?	
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?	
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/T oolheads/Dragon Filename printhead_rear_dragon.stl Manual name none found	149 Done?	DRAGON mount DO YOU HAVE A DRAGON hot end?
Directory STLs/Gantry/X_Axis/X_Carriage/D irect Feed Filename [a]_latch.stl Manual name none found	161 Done? □ Yes	

Directory STLs/Gantry/X_Axis/X_Carriage/D irect 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?	
Directory STLs/Gantry/X_Axis/X_Carriage Filename blower_housing_rear.stl Manual name none found	166 Done?	
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?	Check directory for 2 hole version if required
Directory STLs/Panels Filename wire_corner_left.stl Manual name cable cover	175 Done?	
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? O Yes	x2
3	Directory STLs/ElectronicsBay Filename DIN_frame_mount_x4.stl Manual name none found	181 Done? O 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?	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?	
Directory STLs/ElectronicsBay/ Controller_Mounds Filename Octopus_bracket_2pc.stl Manual name Controller Boar	193 Done?	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?	
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?	
Directory STLs/Gantry/AB_Drive_Units Filename [a]_y_endstop_housing.stl Manual name Not mentioned	Page not found Done?	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_m icroswitch.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	x 2
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?	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?	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?	×4

Directory STLs/Panels Filename bottom_panel_hinge_x2.stl Manual name none found	250 Done?	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	x 6
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	x 2
Directory STLs/Exhaust_Filter Filename exhaust_filter_grill.stl Manual name none found	272 Done?	
Directory STLs/Exhaust_Filter Filename bowen_retainer.stl Manual name none found	275 Done?	

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?

 $\ \square$ Yes, because it's cool

 $\hfill \square$ 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.