Title Trident 1-9 complementary 3dPartsBuild doco (Proposed future filename)

File name Voron_1.9_3dprinting_guide.pdf (You put . In a filename?)

Date 2021-12-15 AM drop 2 (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 url below and check the date.

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 maybe to enable "ironing" in your slicer.

NB: I used a Prusa mini to print the parts in ABS. I had to use a brim to prevent warping. While the brim 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 a 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 \Box tick box, under the picture, allows you to print out this pdf 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.

Picture	Details	Page	Comment
Printed?	Directory STLs/Gantry/AB_Drive_Units Filename a_drive_frame_upper Manual name A drive	26	And so it begins
Printed?	Directory STLs/Gantry/ Front_Idlers Filename [a]_tensioner_left Manual name none found	27	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]
Printed?	Directory STLs/Gantry/ Front_Idlers Filename [a]_tensioner_right Manual name none found	27	Joke alert Don't print part rm * If you have no idea what I am talking about please ignore this note

Printed?	Directory STLs/Gantry/ Front_Idlers Filename front_idler_a_x2 Manual name A idler	28	x2
Printed?	Directory STLs/Gantry/ Front_Idlers Filename front_idler_b_x2 Manual name none found	28	x2
Printed?	Directory STLs/Gantry/AB_Drive_Units Filename a_drive_frame_lower Manual name A drive	34	
Printed?	Directory STLs/Tools Filename AB_pulley_jig Manual name none found	35	tool

Printed?	Directory STLs/Gantry/AB_Drive_Units Filename b_drive_frame_lower Manual name B drive	37	
Printed?	Directory STLs/Gantry/AB_Drive_Units Filename b_drive_frame_upper Manual name B drive	38	
	T-Nuts M5 AKA "Roll in" T nuts	44	They don't have to go into the end. They can be "rolled in". No need to disassemble frame.
M3T-Nut	Warning Lone M3 on page. Pretending to be M5	44	Beware Of of the lone lone M3 T-nut. Which I read as an M5 and had to get it back out.
Printed?	Directory STLs/Gantry/AB_Drive_Units Filename [a]_y_endstop_bumper Manual name End stop	50	

Printed?	Directory STLs/Z_Assembly Filename z_rear_extrusionbracket_left Manual name Rear brace	53	
Printed?	Directory STLs/Z_Assembly Filename z_rear_extrusionbracket_right Manual name Rear brace	55	
Printed?	Directory STLs/Tools Filename MGN9_rail_guide_x2 Manual name Guide	58	x2
Printed?	Directory STLs/Z_Assembly Filename z_carriage_rear_3hole Manual name Generic Cable Chain	64	Check directory for 2 hole version if required on cable chain

Printed?	Directory STLs/Z_Assembly Filename z_stepper_rear Manual name none found	65	
Printed?	Directory STLs/Z_Assembly Filename [a]_z_rail_stop_x3 Manual name none found	68	x3
Printed?	Directory STLs/Z_Assembly Filename z_stepper_left Manual name none found	69	
Printed?	Directory STLs/Z_Assembly Filename z_stepper_right Manual name none found	73	

Printed?	Directory STLs/Z_Assembly Filename z_carriage_left Manual name Left Z joint	77	
Printed?	Directory STLs/Z_Assembly Filename [a]_z_carriage_left Manual name none found	77	
Printed?	Directory STLs/Z_Assembly Filename [a]_z_carriage_right Manual name none found	79	
Printed?	Directory STLs/Z_Assembly Filename z_carriage_right Manual name none found	79	

Printed?	Directory STLs/Skirt Filename corner_a_x2 Manual name Feet	90	x2
Printed?	Directory STLs/Skirt Filename corner_b_x2 Manual name Feet	90	x2
Printed?	Directory STLs/Skirt Filename [a]_corner_baseplate_a_x2 Manual name none found	90	x2
Printed?	Directory STLs/Skirt Filename [a]_corner_baseplate_b_x2 Manual name none found	90	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
Printed?	Directory STLs/Gantry/ X_Axis/X_Carriage Filename probe_retainer_bracket Manual name none found	100	Note: There are two similar shapes. The one displayed and the 9mm one. probe_retainer_brack et_9mm.st But which one? See below
Ind	Which probe_retainer_bracket? 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 Seem to work fine.	Info	My probe from the formbot kit was a Omron TL-Q5MMC2-Z It was flush with the X carriage. when it was assembled
Printed?	Directory STLs/Gantry/ X_Axis/X_Carriage Filename x_carriage_frame_left Manual name X Carriage	100	I had to gently sand the top of this part so it would mate properly

Printed?	Directory STLs/Gantry/ X_Axis/X_Carriage Filename x_carriage_frame_right Manual name X Carriage	100	I had to gently sand the top of this part so it would mate properly
Printed?	Directory STLs/Gantry/ X_Axis/XY_Joints Filename [a]_xy_joint_cable_bridge_3hole e Manual name none found	100	Note: Check directory for 2 hole version if required for cable chain Mine's a 3 hole
Printed?	Directory STLs/Gantry/ X_Axis/XY_Joints Filename xy_joint_right_upper_MGN12 Manual name Right XY Joint	101	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	

Printed?	Directory STLs/Gantry/ X_Axis/XY_Joints Filename xy_joint_right_lower_MGN12 Manual name Right XY Joint	102	
Printed?	Directory STLs/Gantry/ X_Axis/XY_Joints Filename xy_joint_left_upper_MGN12 Manual name Left XY Joint	105	
Printed?	Directory STLs/Gantry/ X_Axis/XY_Joints Filename xy_joint_left_lower_MGN12 Manual name Left XY Joint	106	
Printed?	Directory STLs/Tools Filename MGN12_rail_guide_x2 Manual name none found	113	x2

	Non printable part. Thermal fuse	129	Please skip. Non printable part.
Printed?	Directory STLs/Z_Assembly Filename nozzle_probe Manual name none found	130	
Printed?	Directory STLs/Z_Assembly Filename z_bed_left Manual name none found	134	
Printed?	Directory STLs/Z_Assembly Filename z_bed_rear Manual name none found	136	

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

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

Printed?	Directory STLs/Gantry/ X_Axis/X_Carriage/Direct Feed Filename [a]_guidler Manual name none found	161	
Printed?	Directory STLs/Gantry/ X_Axis/X_Carriage/Direct Feed Filename [a]_connector_cover Manual name none found	163	
Printed?	Directory STLs/Gantry/ X_Axis/X_Carriage Filename blower_housing_rear Manual name none found	166	
Printed?	Directory STLs/Gantry/ X_Axis/X_Carriage Filename hotend_fan_mount Manual name none found	166	

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

Printed?	Directory STLs/Panels Filename deck_support_4mm_x8 Manual name Deck support	178	X 8 NB there are two variants 4mm and 3mm deck_support_3mm_x8
Printed?	Directory STLs/ElectronicsBay Filename DIN_center_support_x2 Manual name none found	181	x2
Printed?	Directory STLs/ElectronicsBay Filename DIN_frame_mount_x4 Manual name none found	181	x4
Printed?	Directory STLs/ElectronicsBay Filename cable_frame_anchor_x6 Manual name none found	185	X6

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

Printed?	Directory STLs/Skirt Filename power_inlet_filtered Manual name none found	195	
Printed?	Directory STLs/ElectronicsBay Filename PSU_stabilizer_50mm Manual name none found	198	
	Not a printed part. Skip	199	Not printed part. Skip
	Directory STLs/Gantry/ X_Axis/XY_Joints Filename [a]_endstop_pod_microswitch	203	
Printed?	Manual name none found		

	Directory		Warning
	STLs/Gantry/	Page	We could not find this
	AB_Drive_Units	not foun	part in the official manual but it's in the
	Filename	d	STLs.
	[a]_y_endstop_housing		Additionally, the Y
			endstop is held within the
Printed?	Manual name		[a]_endstop_pod_mic
	Not mentioned		roswitch part
	Directory		
	STLs/Gantry/		
	AB_Drive_Units	225	
		223	
	Filename		
	[a]_wire_cover		
21.1.10	Manual name		
Printed?	none found		
	Directory		
	STLs/Skirt		
	 1	233	
- 17	Filename side_fan_support_x2		x2
	side_iaii_suppoit_xz		
•	Manual name		
Printed?	none found		
	Divo atom -		
	Directory STLs/Skirt		
	JI L3/JKII (233	
	Filename		
	keystone_panel		
	Manualmana		
Printed?	Manual name none found		
	Hone lound		
J			

Printed?	Directory STLs/Skirt/250 Filename front_skirt_a_250 Manual name none found	233	WARNING 250mm x 250mm do you have this bed size?
Printed?	Directory STLs/Skirt/250 Filename front_skirt_b_250 Manual name none found	233	WARNING 250mm x 250mm do you have this bed size?
Printed?	Directory STLs/Skirt Filename [a]_mini12864_case_front_inse rt Manual name none found	234	
Printed?	Directory STLs/Skirt Filename mini12864_case_front Manual name none found	234	

Printed?	Directory STLs/Skirt Filename mini12864_case_rear Manual name none found	235	
	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.
Printed?	Directory STLs/Skirt Filename [a]_mini12864_case_hinge Manual name none found	236	
Printed?	Directory STLs/Skirt Filename [a]_keystone_blank_insert_x2 Manual name none found	237	x2

Printed?	Directory STLs/Skirt Filename [a]_skirt_logo_x2 Manual name none found	237	X2
Printed?	Directory STLs/Skirt Filename rear_center_skirt_250 Manual name none found	241	WARNING 250mm x 250mm do you have this bed size?
Printed?	Directory STLs/Skirt/250 Filename side_skirt_a_250_x2 Manual name none found	242	WARNING 250mm x 250mm do you have this bed size? x2
Printed?	Directory STLs/Skirt/250 Filename side_skirt_b_250_x2 Manual name none found	242	WARNING 250mm x 250mm do you have this bed size? x2

Printed?	Directory STLs/Skirt Filename [a]_60mm_fan_blank_insert_x2 Manual name none found	244	x2
Printed?	Directory STLs/Panels Filename bottom_panel_clip_x4 Manual name none found	250	x4
Printed?	Directory STLs/Panels Filename bottom_panel_hinge_x2 Manual name none found	250	x2
Printed?	Directory STLs/Panels Filename corner_panel_clip_4mm_x8 Manual name none found	254	Warning 4mm or 6mm part? x8

Printed?	Directory STLs/Panels Filename midspan_panel_clip_4mm_x7 Manual name none found	254	Warning 4mm or 6mm part? x7
Printed?	Directory STLs/Panels/ Front_Doors Filename latch_x2 Manual name none found	263	x2
Printed?	Directory STLs/Panels/ Front_Doors Filename handle_a_x2 Manual name none found	263	x2
Printed?	Directory STLs/Panels/ Front_Doors Filename handle_b_x2 Manual name none found	263	x2

Printed?	Directory STLs/Panels/ Front_Doors Filename door_hinge_x6 Manual name none found	265	x6
Printed?	Directory STLs/Exhaust_Filter Filename exhaust_filter_housing Manual name none found	268	
Printed?	Directory STLs/Exhaust_Filter Filename [a]_filter_access_cover Manual name none found	270	
Printed?	Directory STLs/Exhaust_Filter Filename [a]_exhaust_filter_mount_x2 Manual name none found	272	x2

Printed?	Directory STLs/Exhaust_Filter Filename exhaust_filter_grill Manual name none found	272	
Printed?	Directory STLs/Exhaust_Filter Filename bowen_retainer Manual name none found	275	
Printed?	Directory STLs/Exhaust_Filter Filename spool_holder Manual name none found	276	
Printed?	Steve (Team member and person who "drove the bus home on Trident project")	280	Man in the red shirt. Well reddish. It's in that spectrum

Printed?	Eddie (Team member)	280	This is not a red shirt.
Printed?	Dunar (Team member)	280	Support structure may be required for the beard.
Printed?	[a]_Russiancatfood Manual name Maks Zolin	280	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

☐ 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.