



CHAOTICLAB

## CNC VORON TAP BUILD GUIDE

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VERSION 2023-03-07

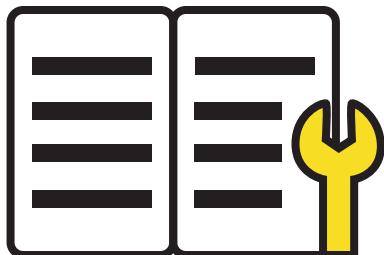


### DO NOT TAKE THE SLIDER OFF THE GUIDE RAIL

The guide rail in **CNC VORON TAP** is factory preloaded. Manually disassembling it may lead to product damage.

### DO NOT CONNECT THE SENSOR TO 24V

The circuits were designed for 5 volts, 24 volts is more than 5 volts. Connecting to 24 volts can cause the sensor to fail permanently.



- Highlighted in blue are included in this **CNC VORON TAP**.
- Highlighted in red are other accessories of the Voron printers, which are not included in this **CNC VORON TAP** and will need to be prepared by yourself.

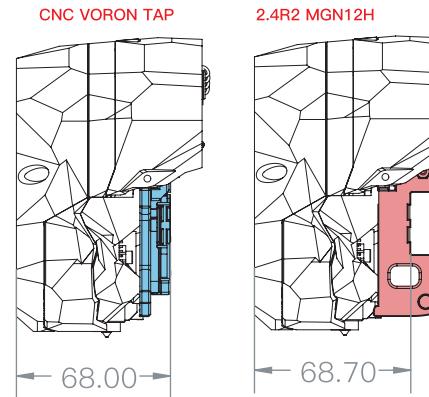
## XY STROKE INFLUENCE:

The thickness of the **CNC VORON TAP** is similar to that of the 2.4R2 X carriage, so no adjustments to the relevant settings are necessary.

## HARDWARE REQUIREMENTS:

### YOU MUST USE THE MGN12H X-AXIS

You must already be using the MGN12 based X-Axis. **CNC VORON TAP** does not fit on the older MGN9 based X-axis.



### CW2 STYLE MOUNTED EXTRUDER REQUIRED

**CNC VORON TAP** replaces the X-carriage mount, and requires that the mounting screws come in from the front of the carriage like CW2, not the back like CW1. There are mounts for LGX and Galileo available.

### BED MOUNT MUST BE SECURE

When **CNC VORON TAP** is probing, the nozzle will contact the bed with a force of approximately 500–800 grams. Your bed should not move during this. Bed motion compromises the accuracy of **CNC VORON TAP**, so it is not recommended for Voron 1.8, Legacy, or Switchwire designs.

If you want to know if **CNC VORON TAP** is right for you, tap your finger on the bed firmly. If the bed moves, **CNC VORON TAP** is not right for you.

### GOOD MECHANICAL CONDITION

**CNC VORON TAP** is far more precise than previous Z sensing systems, and we have found it can reveal previously unnoticed problems in a printer. If your printer has known mechanical issues (such as cracked components) fix them before.

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### Packing List

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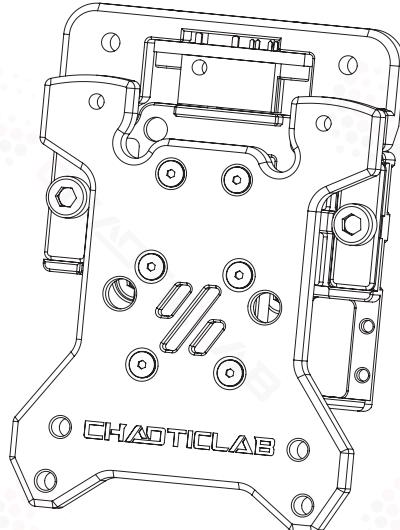
XY Belt Installation **01**

X Limit Switch **03**

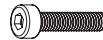
Install to MGN12H **04**

Install CW2 & StealthBurner **06**

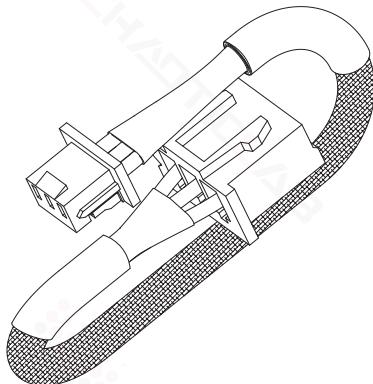
Wiring **09**



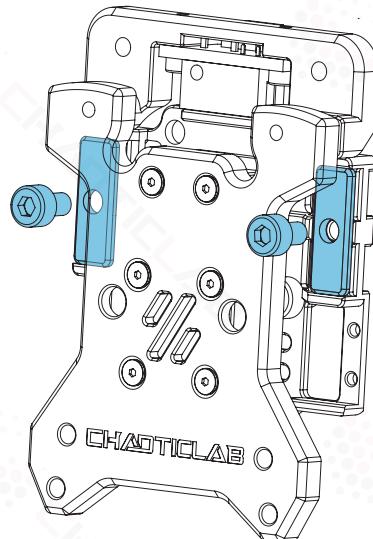
**CNC Voron Tap**  
1pc



**Socket Head Cap Screw (SHCS)**  
M3x5 2pcs  
M3x12 2pcs  
M2x8 2pcs

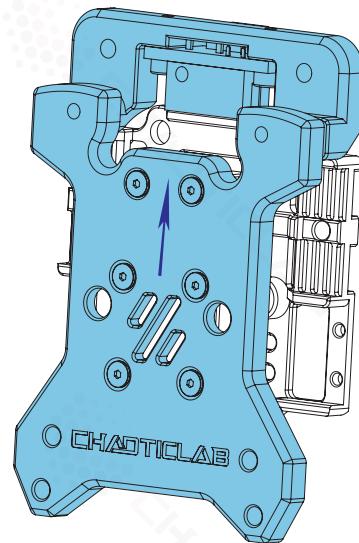


**ZH1.5-3Pin to XH2.54-3Pin Cable (150 mm)**  
1pc



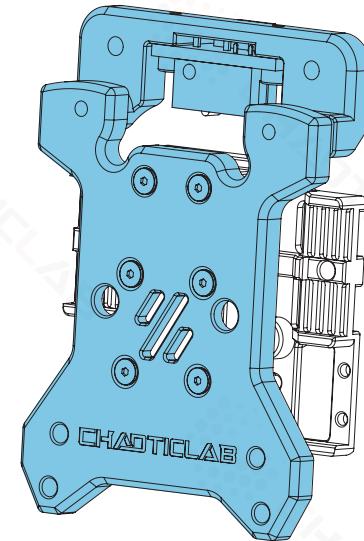
### BELT CLAMP

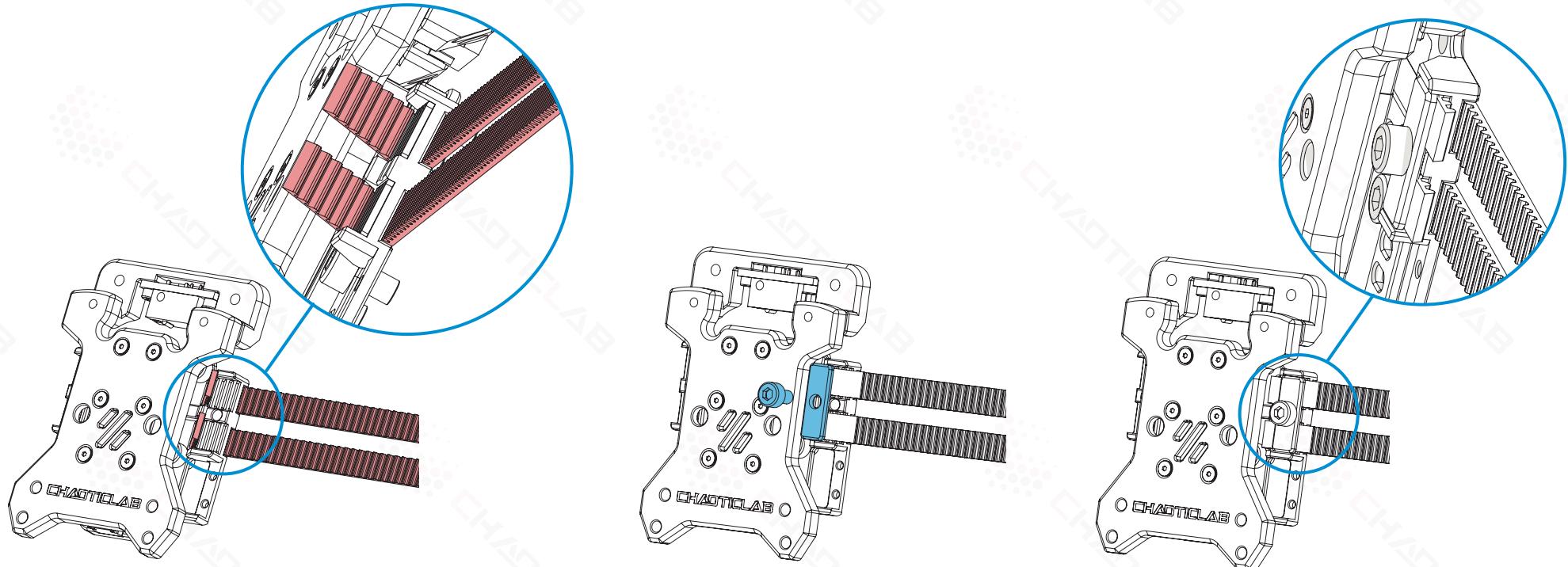
Before installing the belt, remove the M3x6 screws and the belt clamp as shown in the figure.



### BELT GROOVE

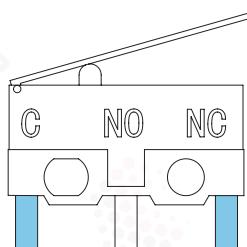
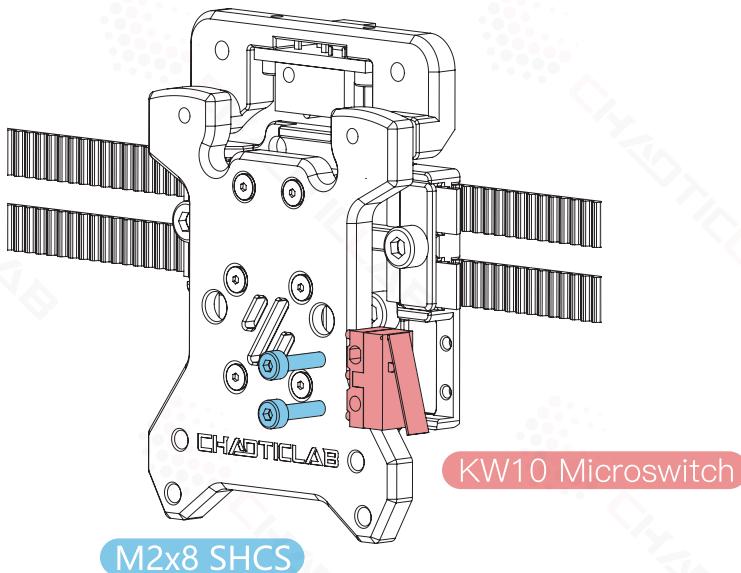
As shown in the figure, push the tool head mounting seat upwards until the belt groove is completely exposed.





### BELT GROOVE

The belt groove on the back is designed to be very close to 6mm in width to ensure the belt is accurately positioned. Therefore, it is important to ensure that the belt is in the groove before fully locking the M3x6 screw of the belt clamp.

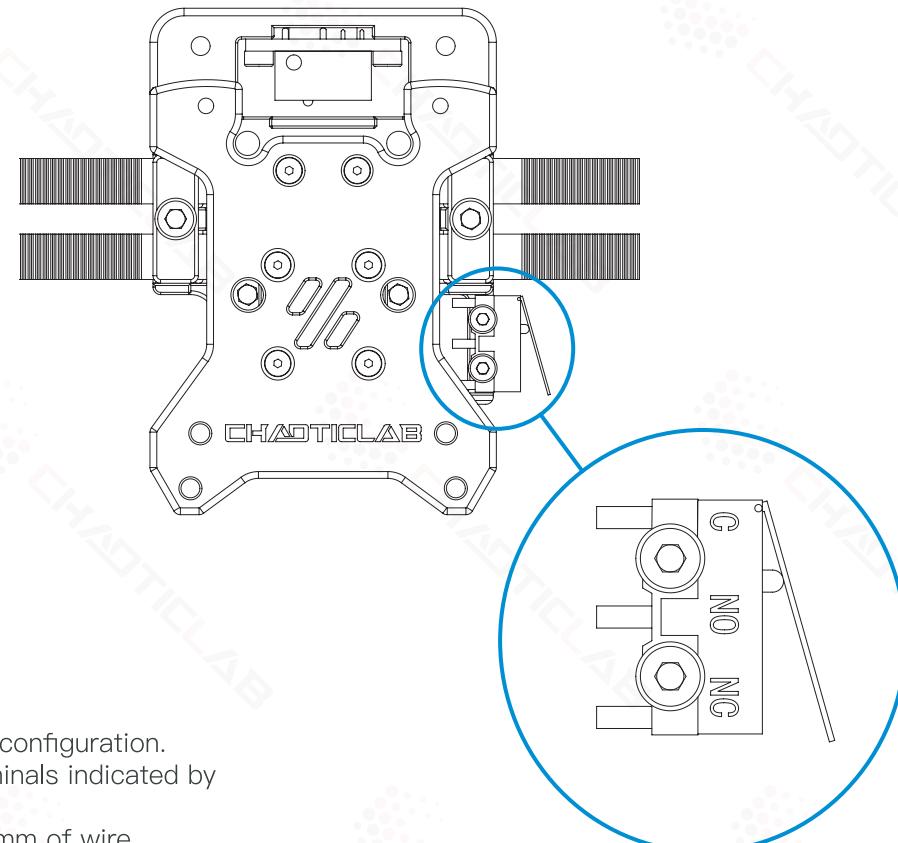


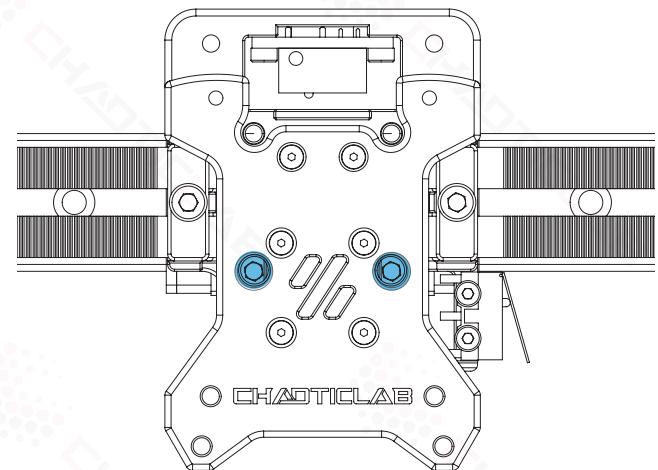
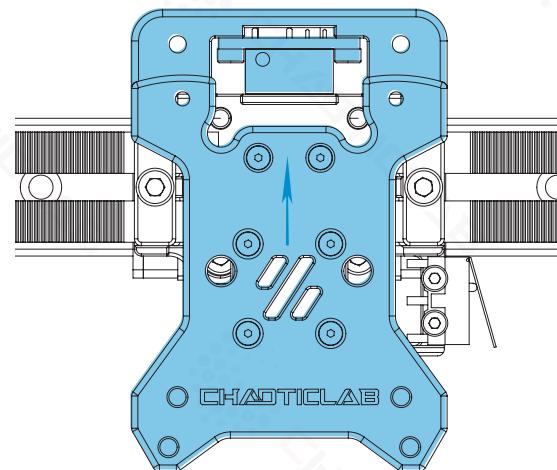
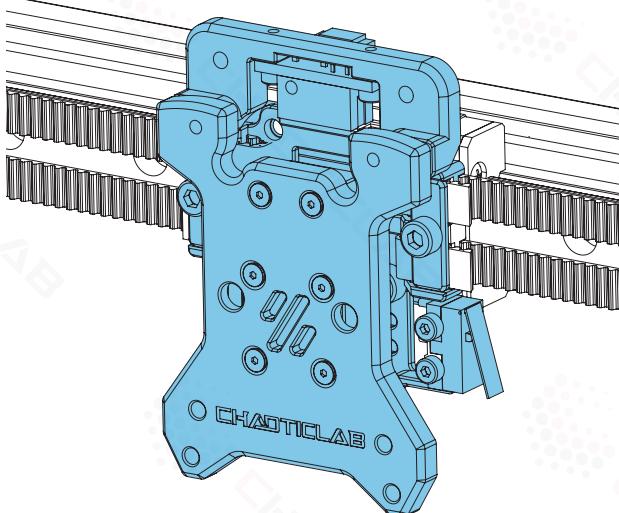
### END-STOP SWITCHES FOR X

End-stops are wired in a “Normally Closed” configuration. On microswitches those are the 2 outer terminals indicated by C and NC. Prepare the switches for X by soldering 150mm of wire to each of the outer terminals.

### END-STOP SWITCH

The limit switch should be installed with a specific directionality, and it should be installed with the handle facing downward, as depicted





### PUSH

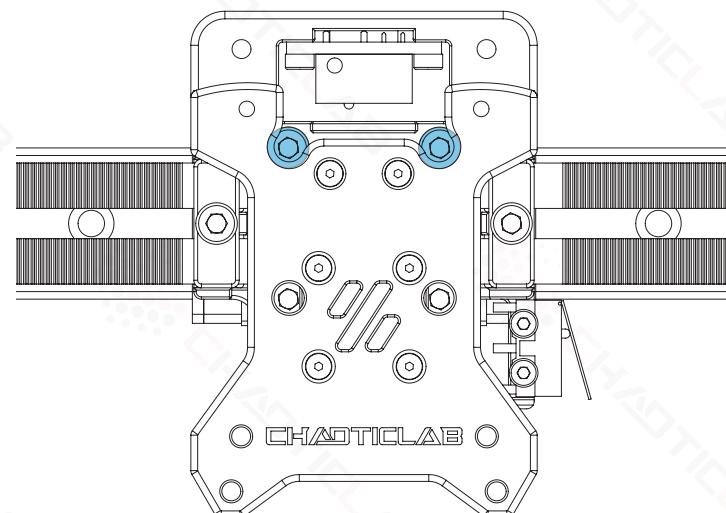
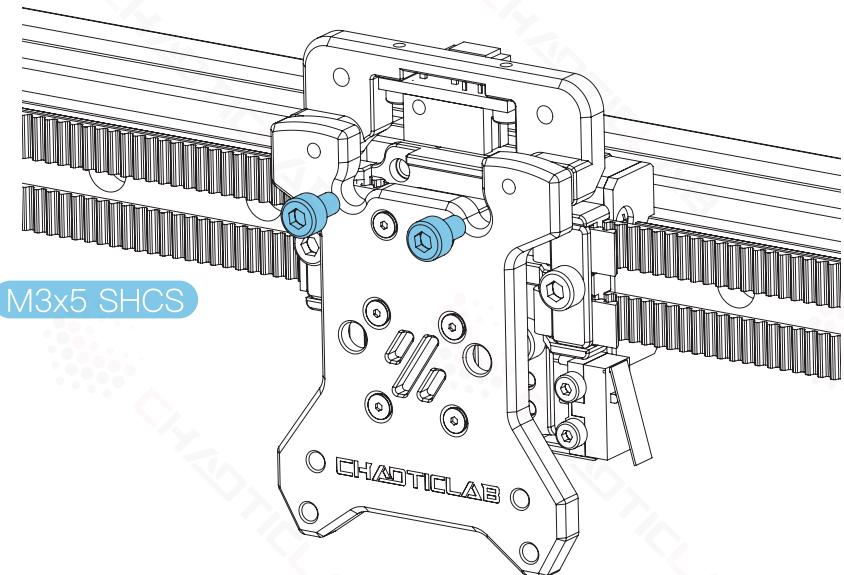
To expose the MGN12H fixing screws and make them easier to tighten, push the tool head mounting seat upwards slightly, as shown in the figure.

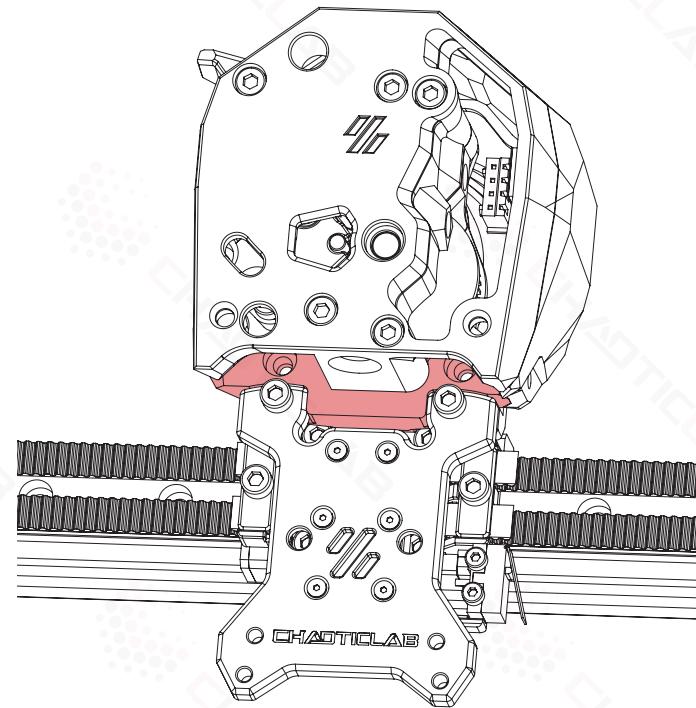
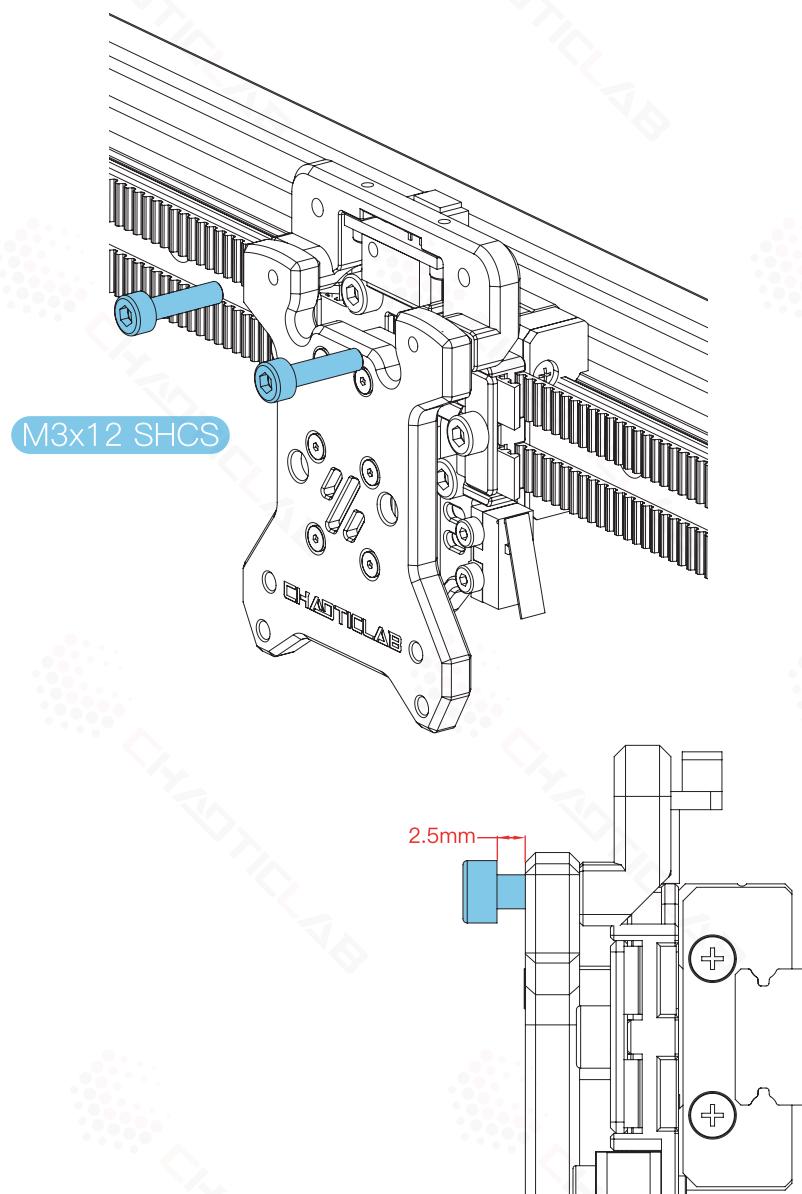
### SCREWS FOR MGN12H

The CNC VORON TAP comes with two pre-installed screws for the MGN12H. When tightening these screws, it's important to keep them synchronized and locked at the same time. If you tighten one of them first, you may find that the other screw cannot be tightened.

INSTALL TO MGN12H

WWW.CHAOTICLAB.XYZ



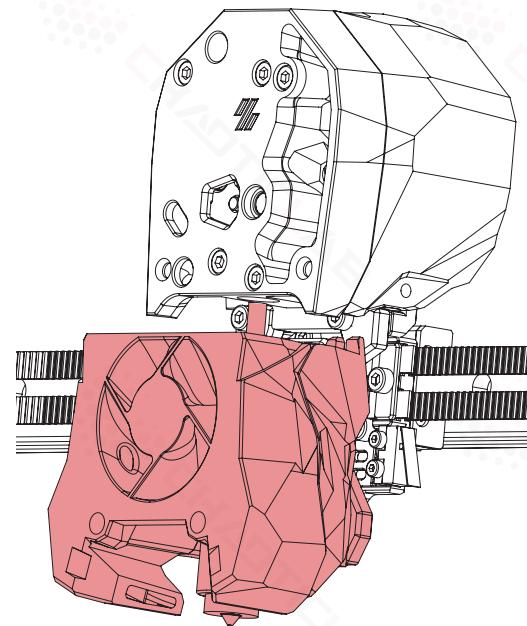
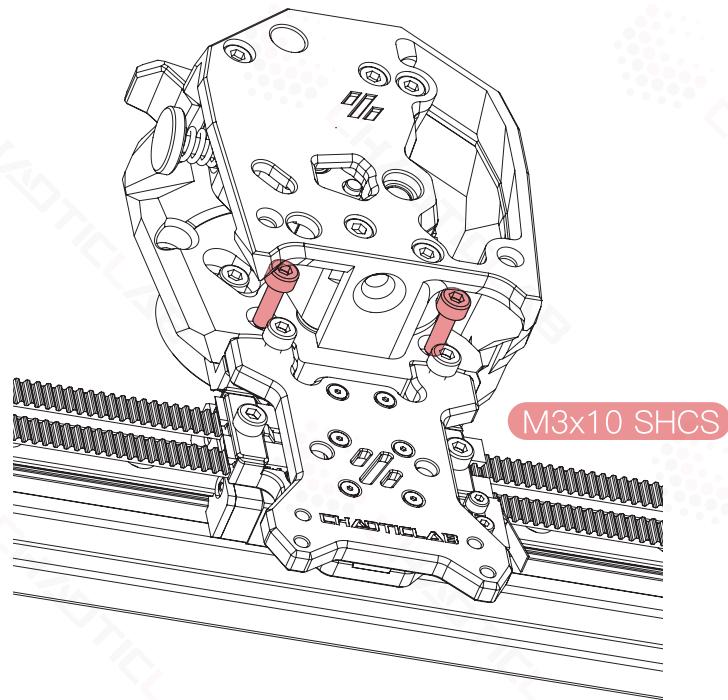


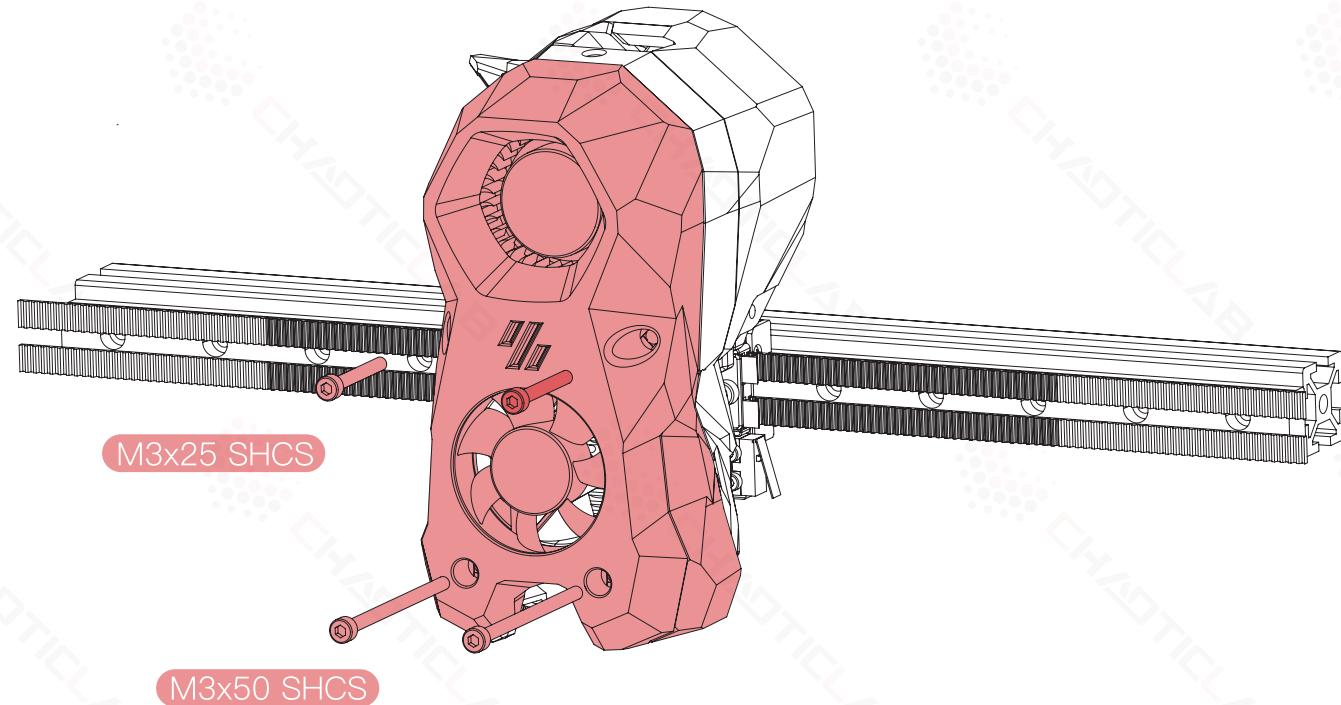
### EXTRUDER INSTALL

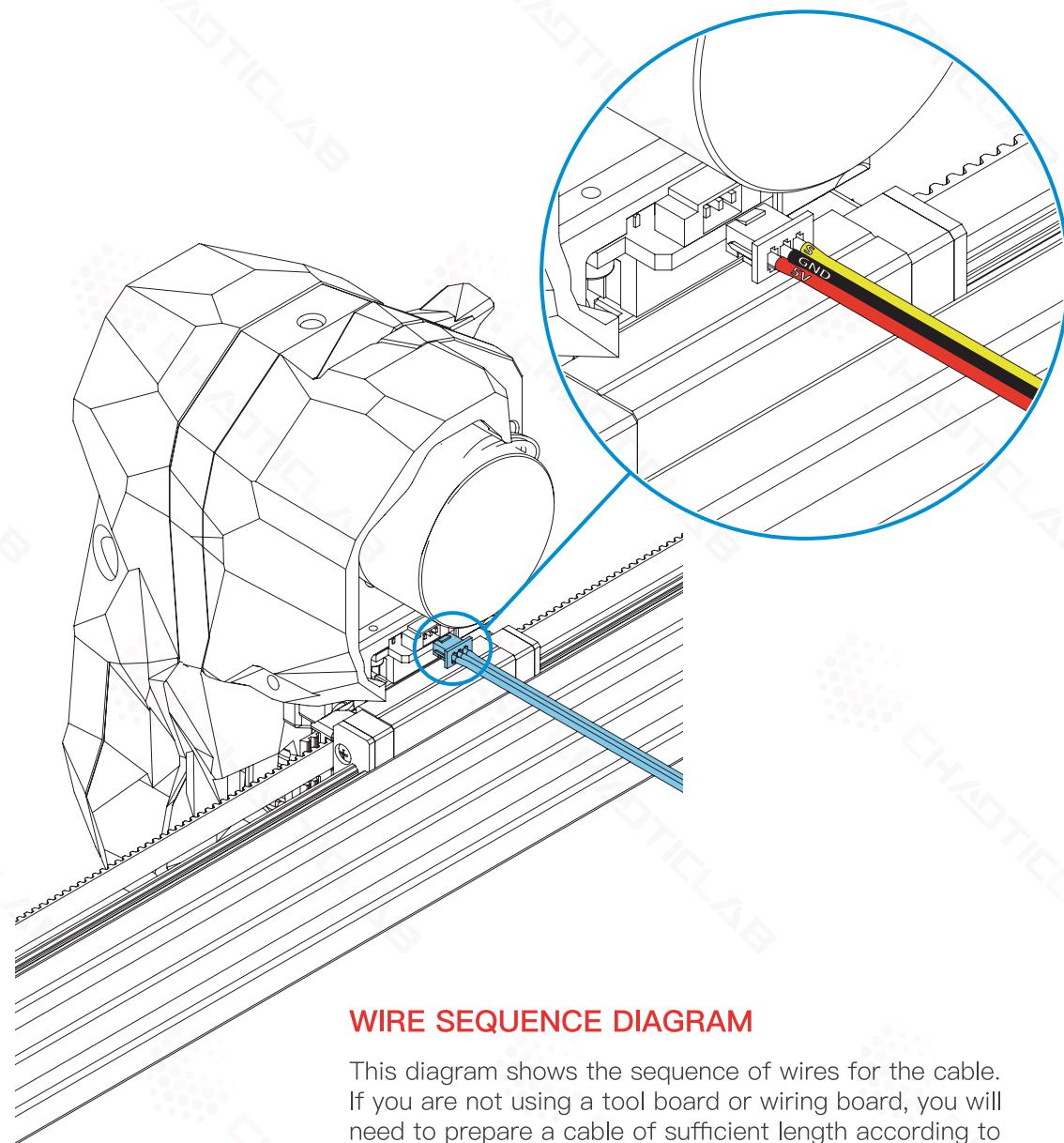
The extruder motor plate should fit tightly on top of the CNC VORON TAP.

### LEAVE ROOM FOR THE TOOLHEAD

Thread the M3 x 12 directly into the CNC part. Don't tighten fully, leave approximately 2.5 mm for the toolhead to mate with them.

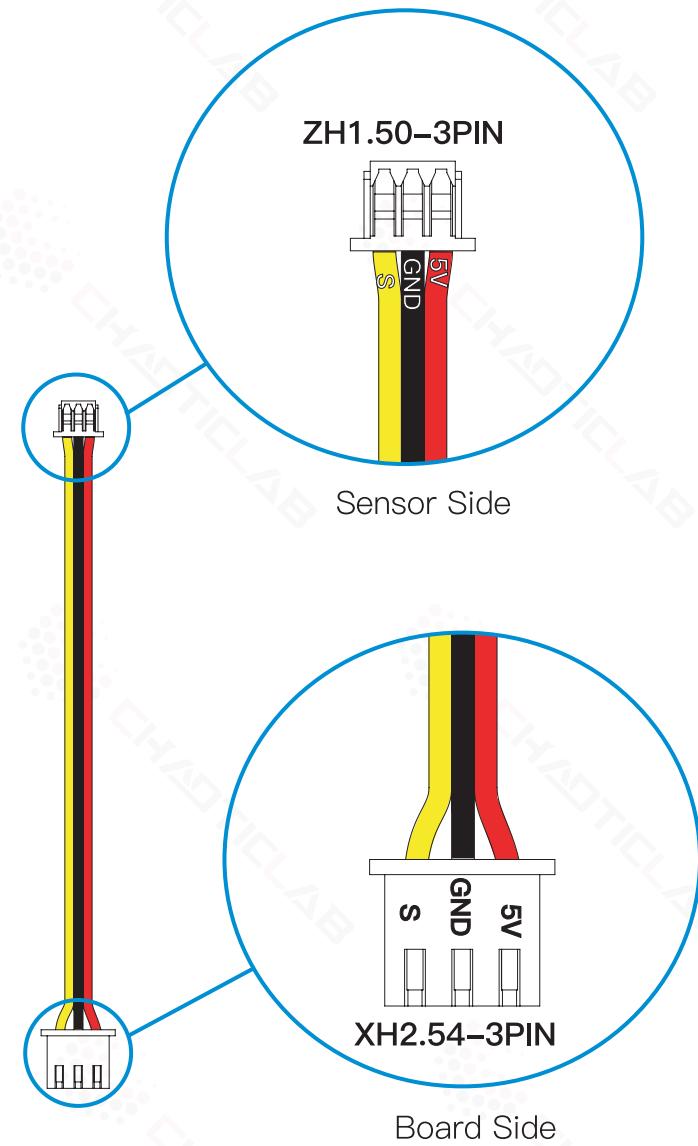






### WIRE SEQUENCE DIAGRAM

This diagram shows the sequence of wires for the cable. If you are not using a tool board or wiring board, you will need to prepare a cable of sufficient length according to this wire sequence.





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**Website**

[www.chaoticlab.xyz](http://www.chaoticlab.xyz)

**GitHub**

[github.com/chaoticlab](https://github.com/chaoticlab)

**Discord**

[discord.gg/uUCX666tk2](https://discord.gg/uUCX666tk2)

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