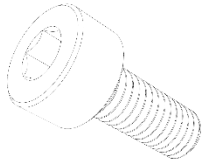# ORBITER CLOCKWORK ASSEMBLY MANUAL

MANUAL VERSION 1.0
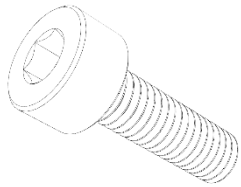
HARDWARE

SOCKET HEAD CAP SCREW (SHCS)

Metric fastener with a cylindrical head and hex drive.
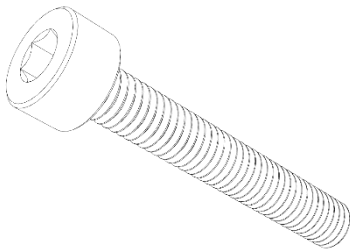
M3x8 Quantity 1

SOCKET HEAD CAP SCREW (SHCS)

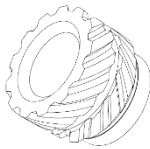Metric fastener with a cylindrical head and hex drive.

M3x16 Quantity 1

SOCKET HEAD CAP SCREW (SHCS)

Metric fastener with a cylindrical head and hex drive.

M3x20 Quantity 2

## TAPERED HEAT-SET INSERTS FOR PLASTIC

The tapered shape makes it easier to guide these inserts into a hole during installation. Use a drill bit to create a straight hole, then taper the top half. Heat inserts with a soldering tip so that they melt the plastic when installed. As the plastic cools, it solidifies around the knurls and ridges on the insert for excellent resistance to both torque and pull-out.

M3 Brass Heat-Set Insert Quantity: 9

HARDWARE CONT.

PTFE Tube

The PTFE tube is used between the Orbiter extruder and the Toolhead. Specific hot end lengths are listed below:
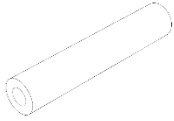
Phaetus Dragon Hotend
PTFE Tube Length 45mm

E3D V6 Hot end
PTFE Tube Length ??mm (Not Tested Yet)
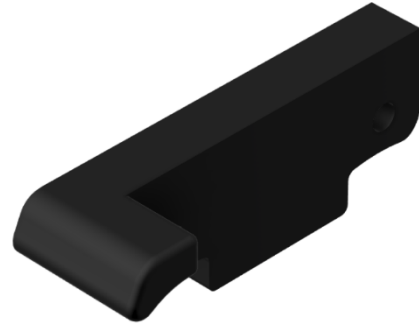
Slice Engineering Mosquito Hot end
PTFE Tube Length ??mm (Not Tested Yet)

PRINTED PARTS

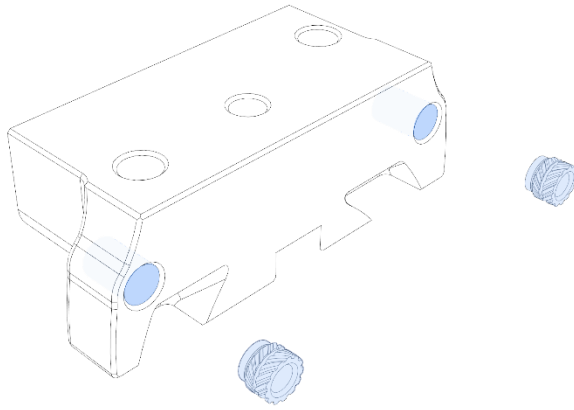**Clockwork Adaptor Front**

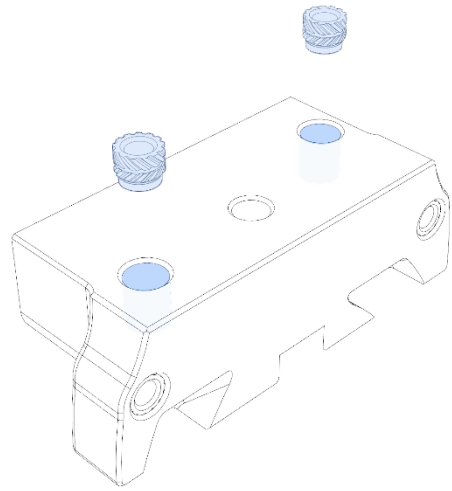**Clockwork Adaptor Back**

Chain Anchor

Connector Cover

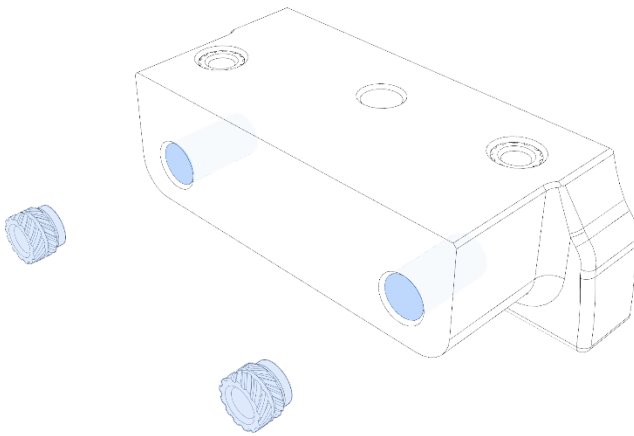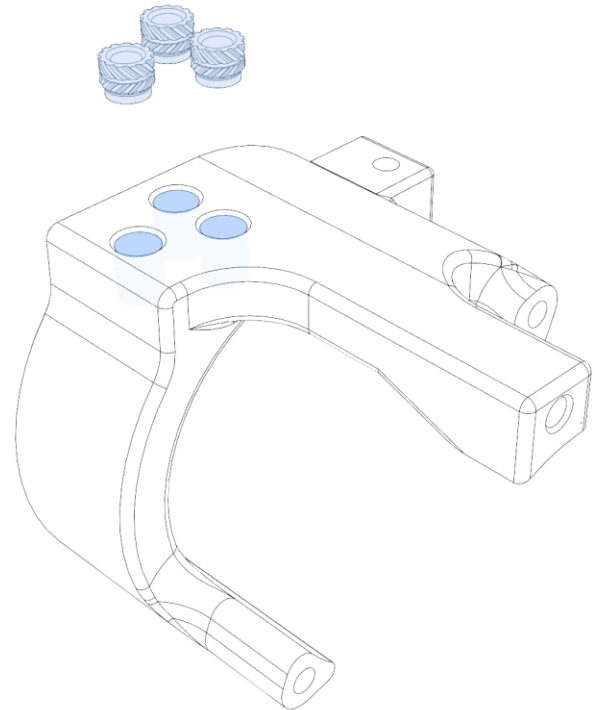**Filament Release Lever**
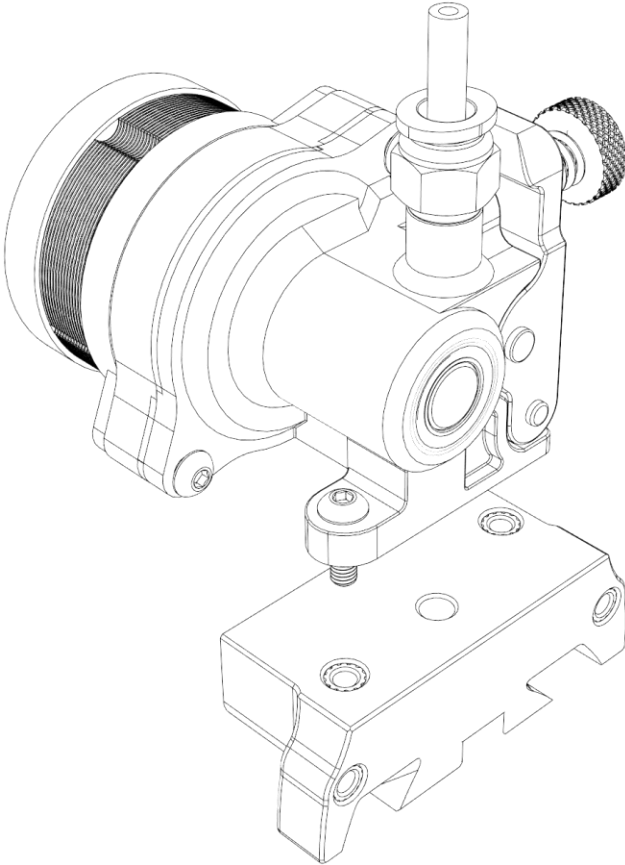
ASSEMBLY GUIDE

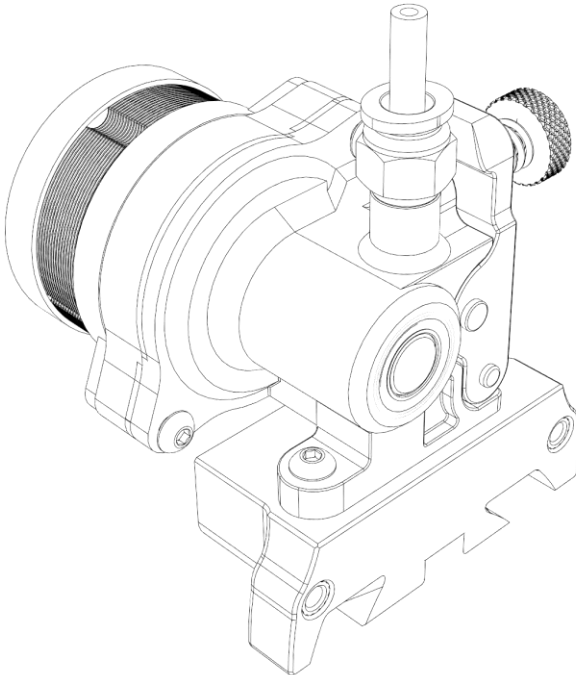## Assembly A. Heat-Set Inserts
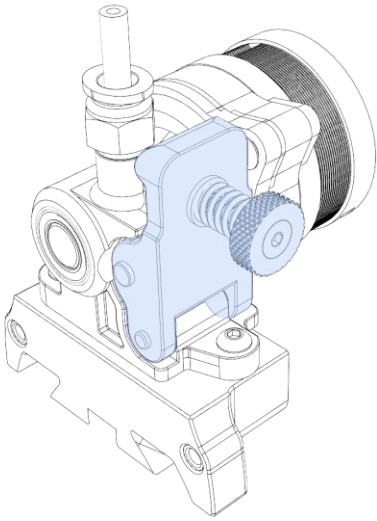
1

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Assembly B. Orbiter Clockwork Adapter

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6

Assembly C. Connecter Cover and Chain Anchor

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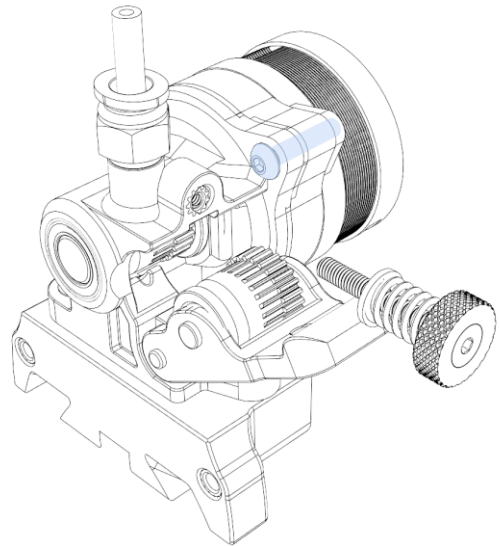
9

Assembly Tip
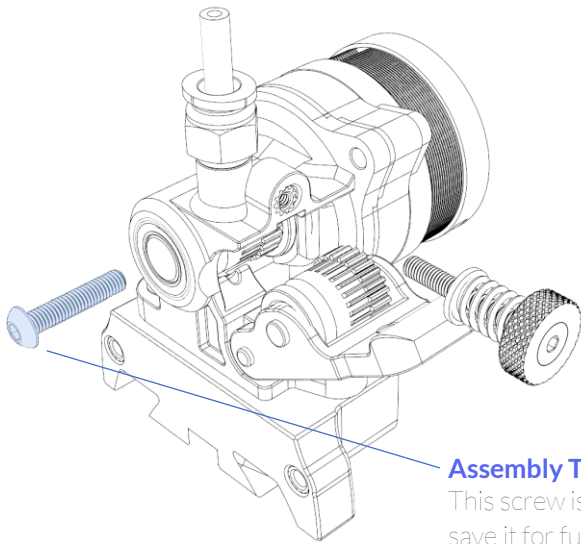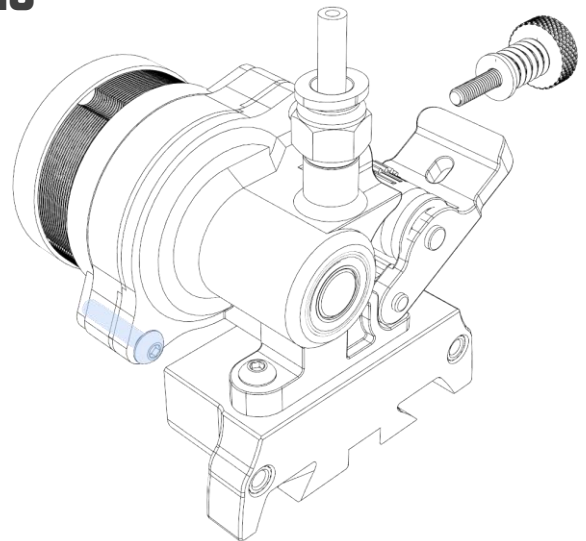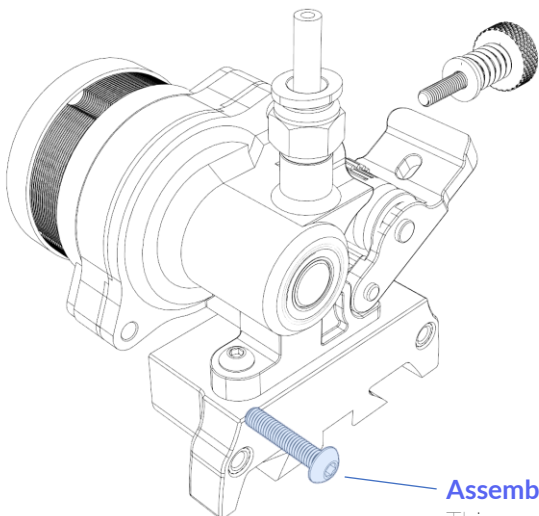This screw isn't necessary, so save it for future projects.

10

11

Assembly Tip
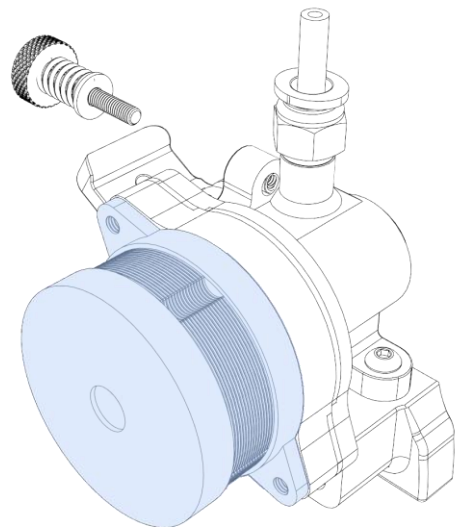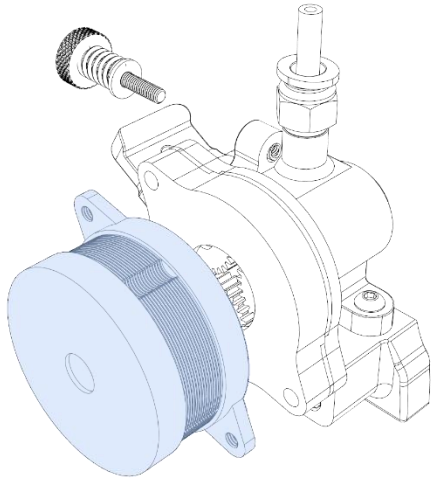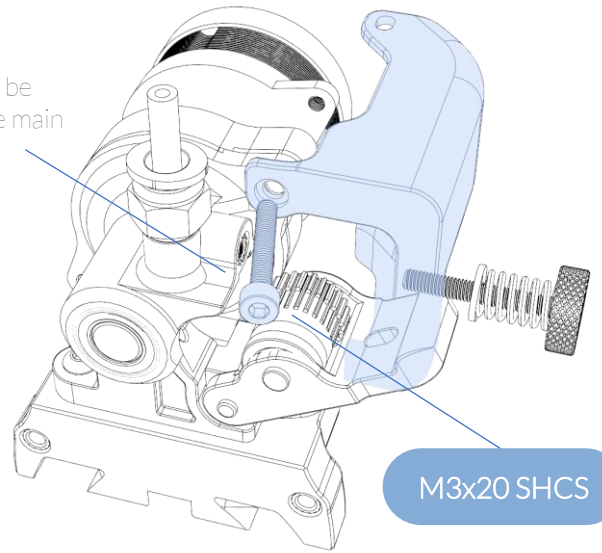This screw isn't necessary, so save it for future projects.

12

13

14

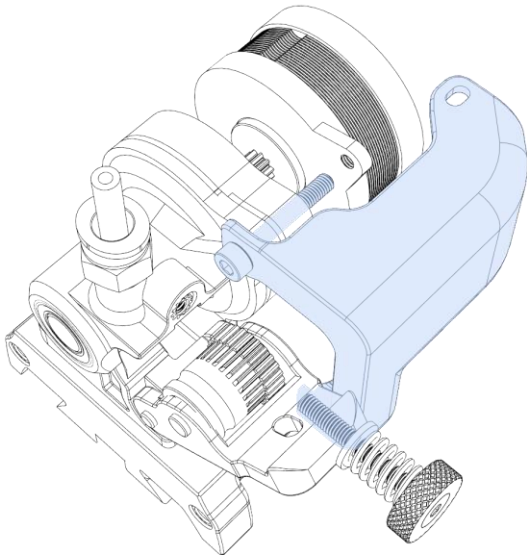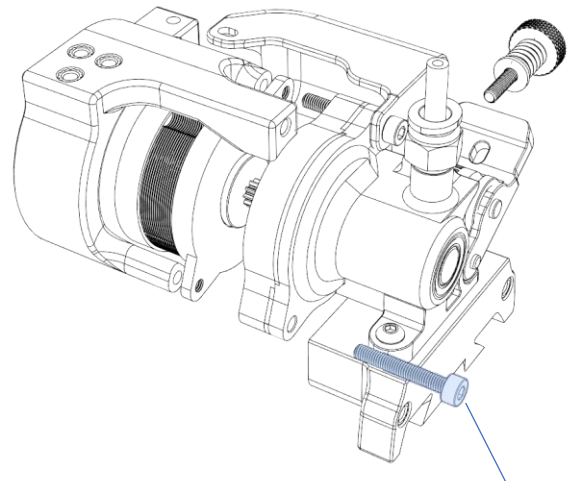**Assembly Tip**
This screw needs to be angled to bypass the main body of the orbiter.
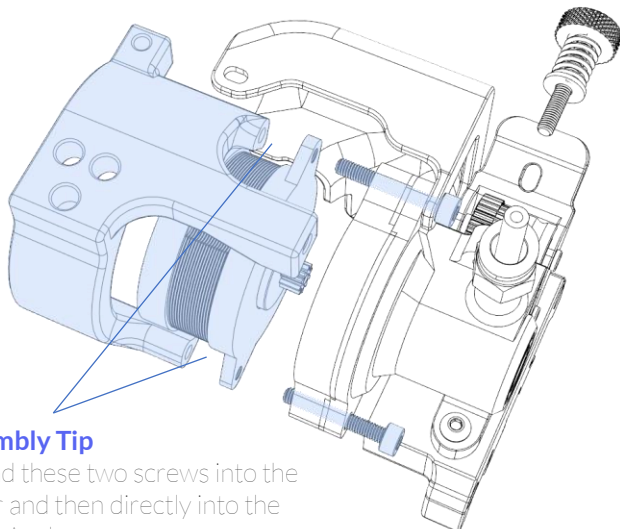

M3x20 SHCS
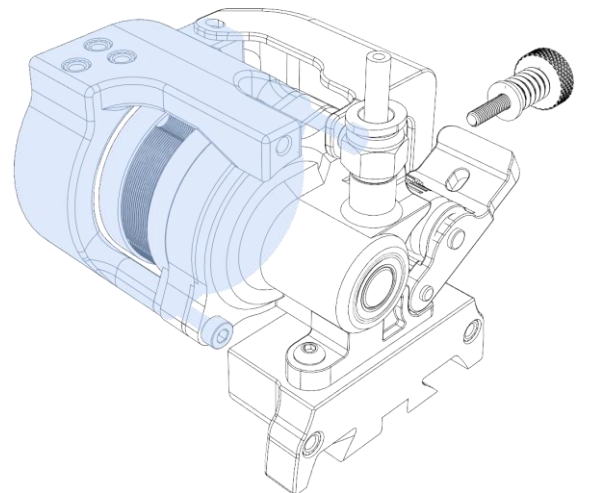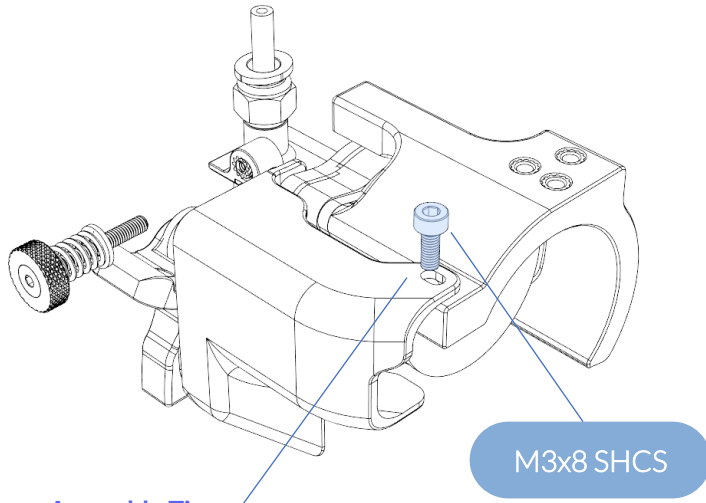
15

16

M3x20 SHCS

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Assembly Tip
Thread these two screws into the motor and then directly into the Chain Anchor.

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M3x8 SHCS

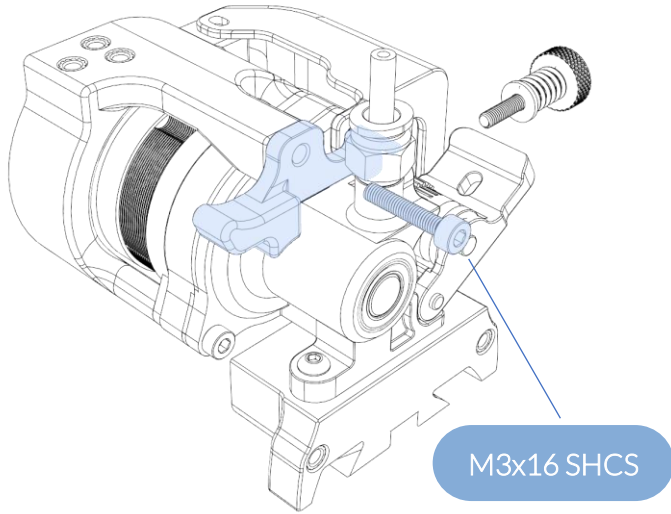**Assembly Tip**
Thread this screw directly into the
Chain Anchor.

Assembly D. Filament Quick Release Lever
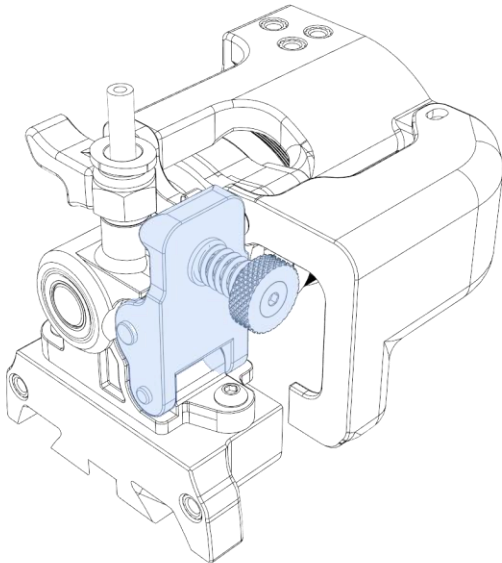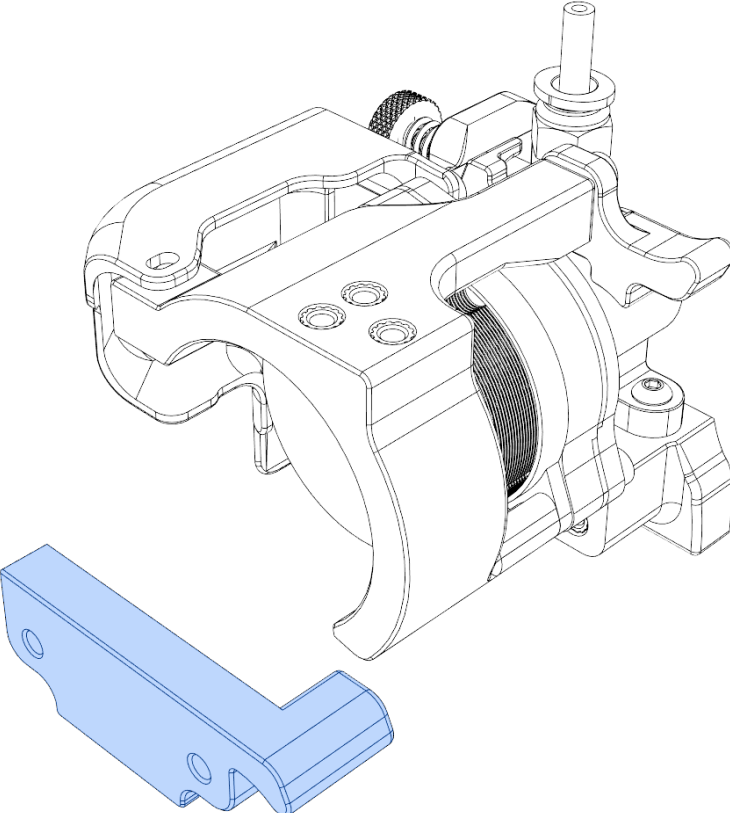
20

M3x16 SHCS

21
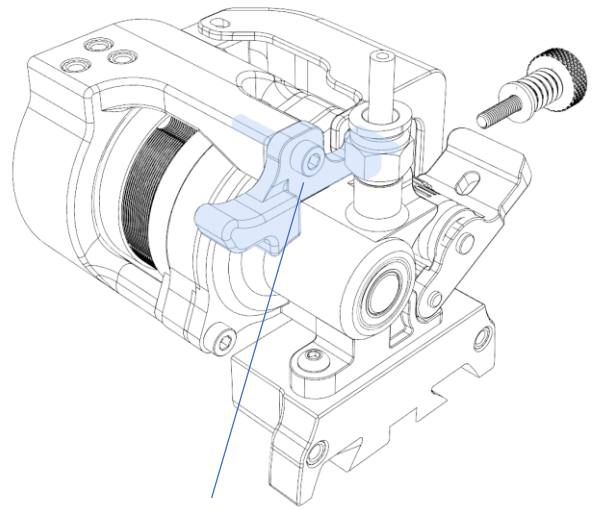
Assembly Tip
Thread this screw into the slot on
the Chain Anchor until its tight then
loosen by a half-turn.

22

Assembly E. Final Assembly

23

24
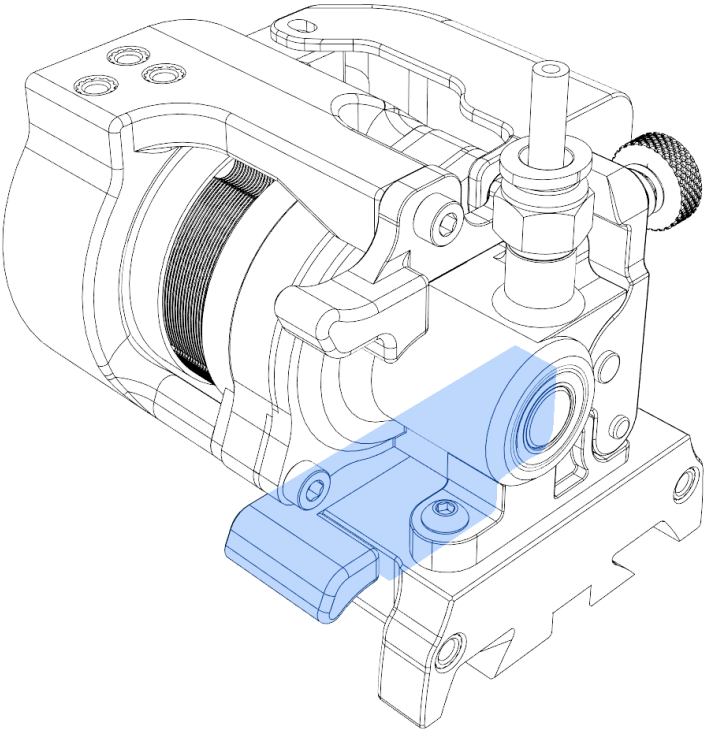
25

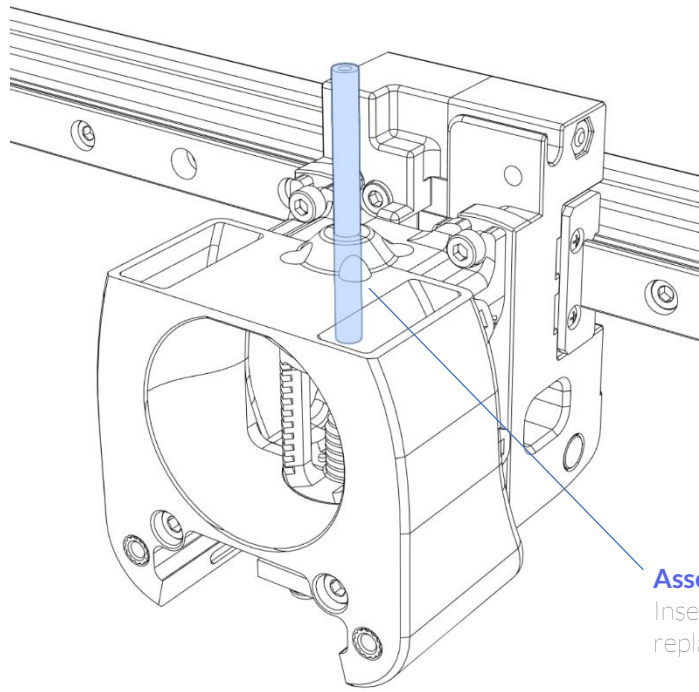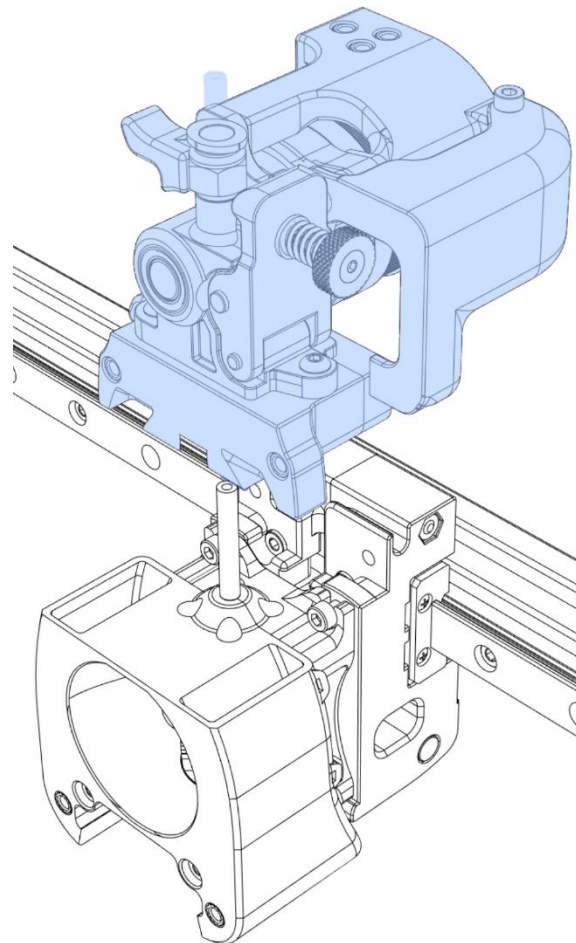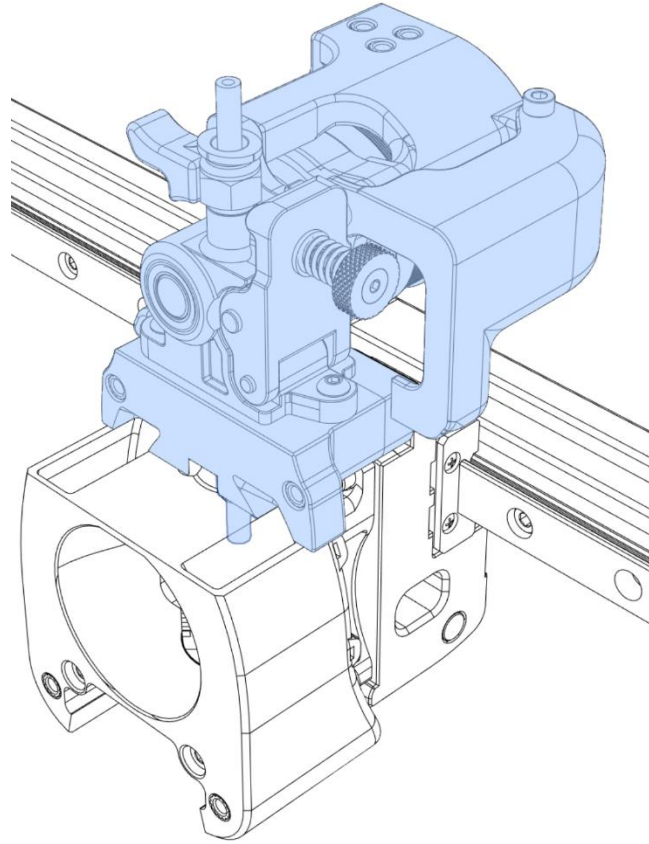**Assembly Tip**
Insert the new PTFE tube and
replace the original if applicable.

26

27
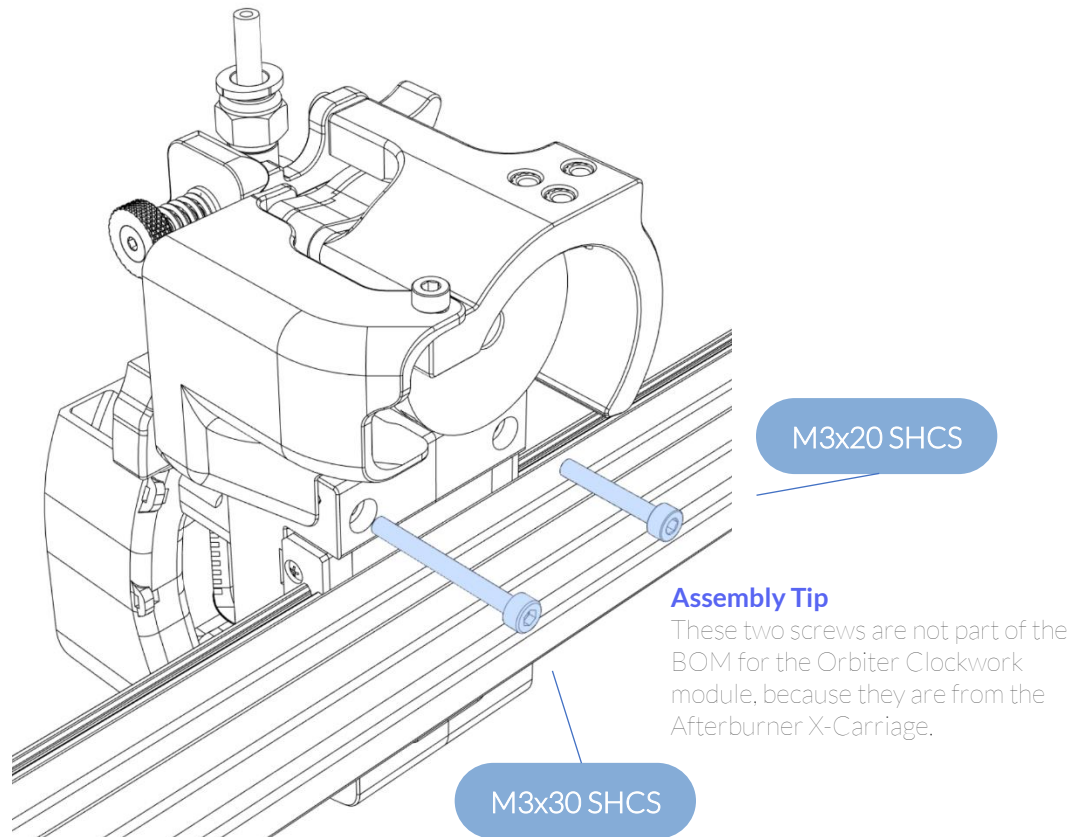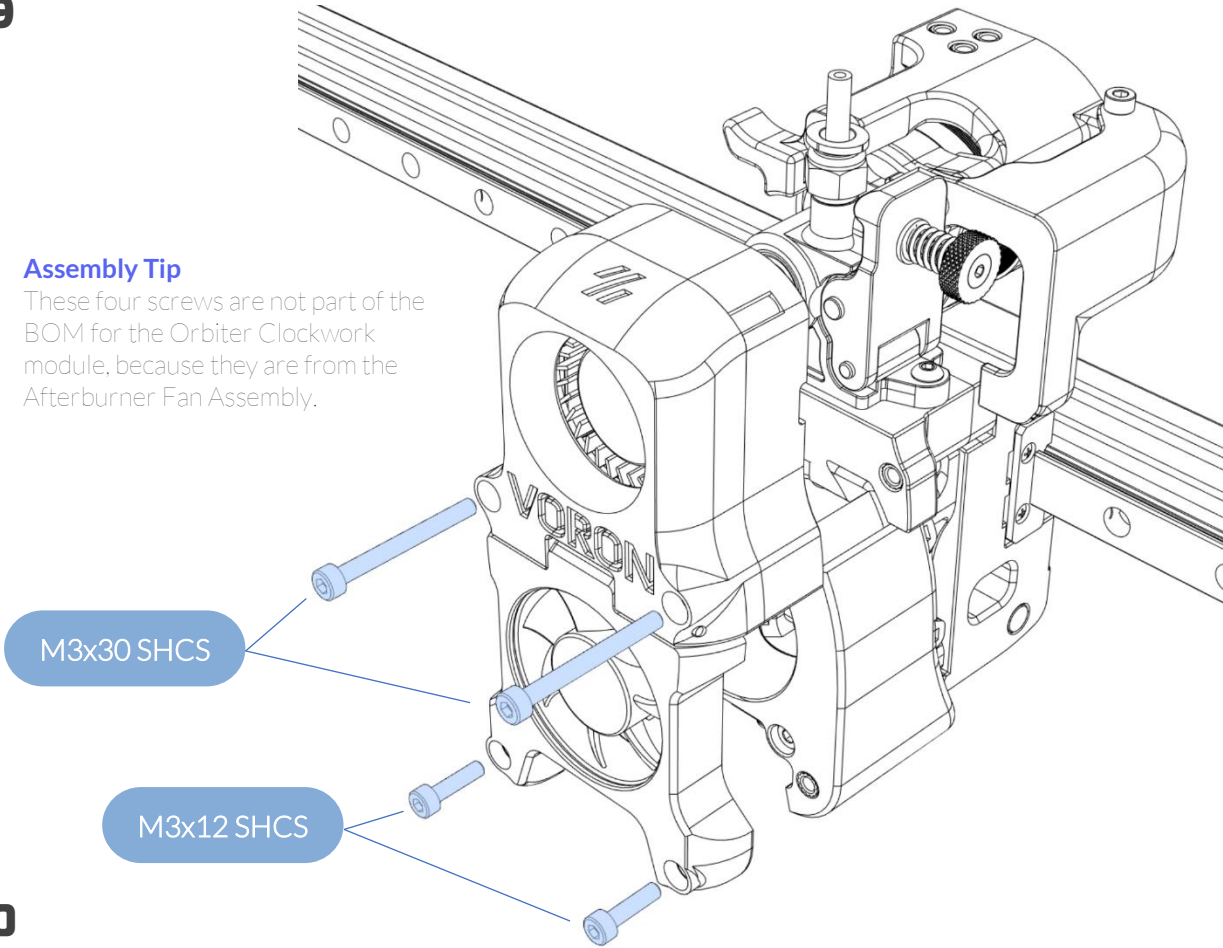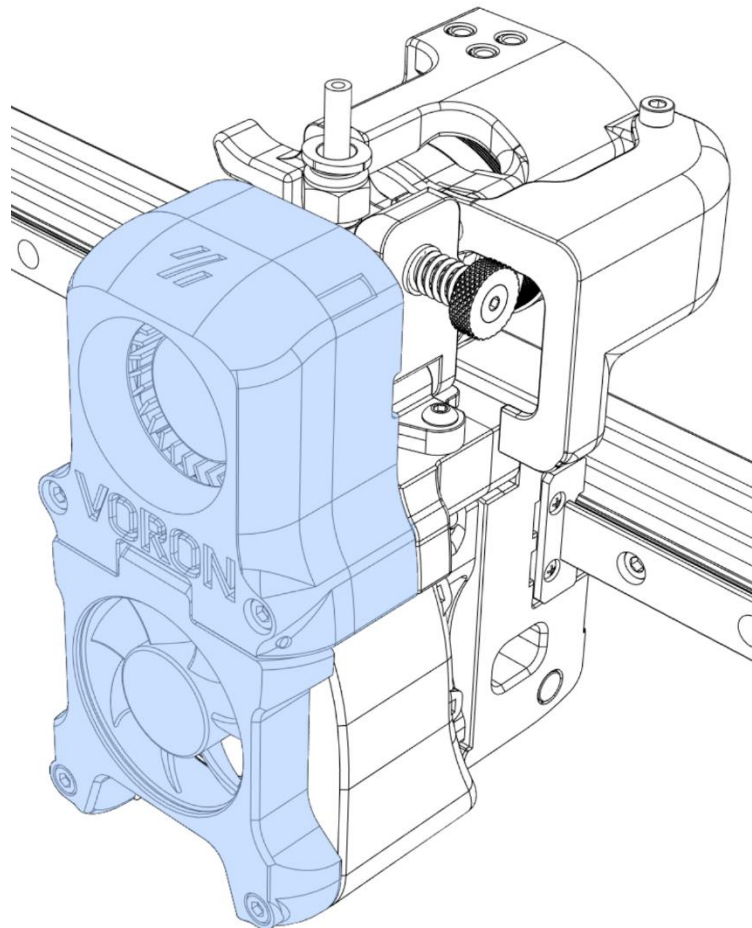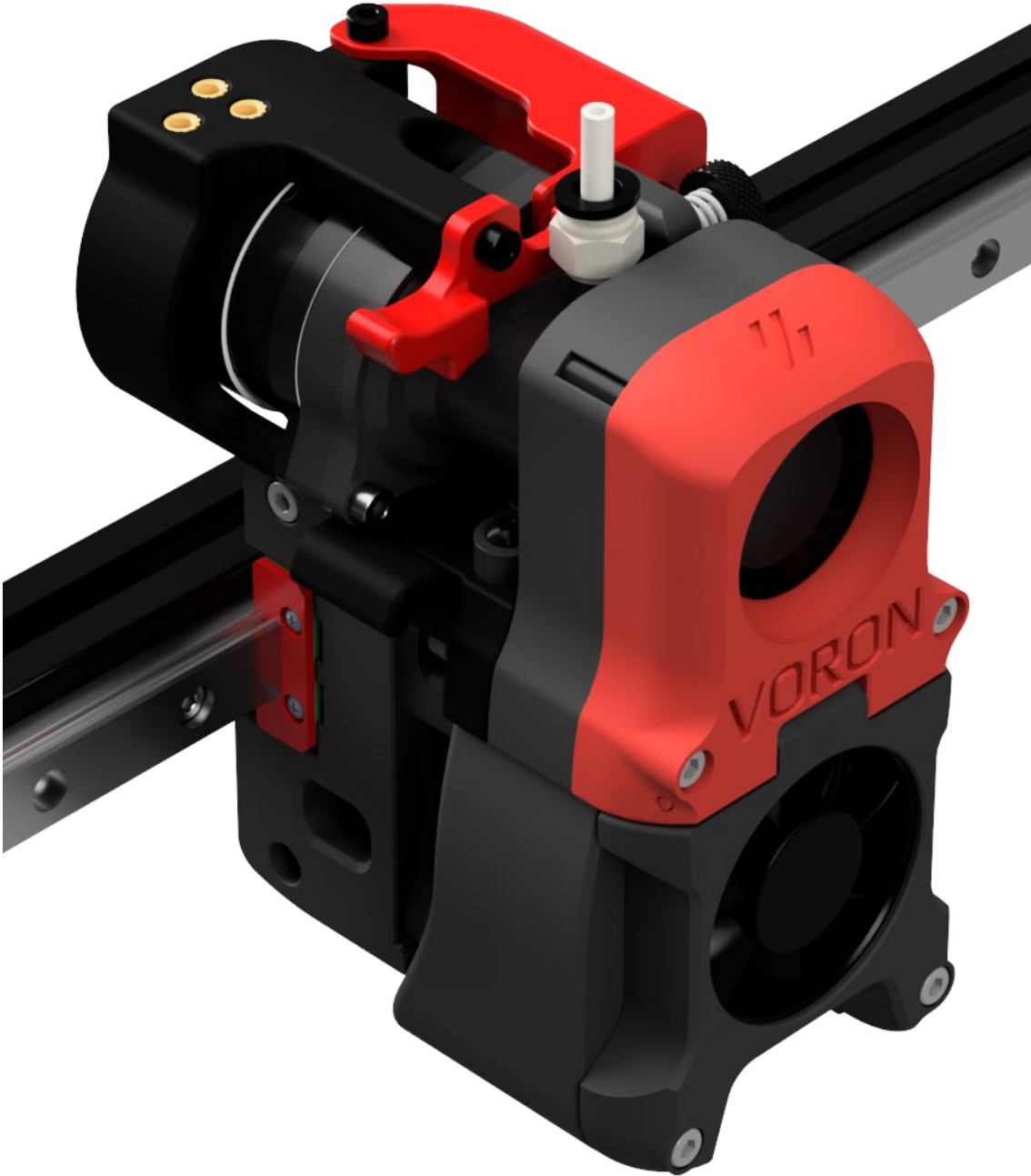
28

M3x20 SHCS

Assembly Tip
These two screws are not part of the BOM for the Orbiter Clockwork module, because they are from the Afterburner X-Carriage.

M3x30 SHCS

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M3x30 SHCS

M3x12 SHCS

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Assembly Complete

Next Steps

NEXT STEP: SETUP & CALIBRATION

This manual was designed to be a simple reference manual for the assembly process.
For further details on the setup of the electronics and other initial steps of your new printer please visit the VORON
documentation available on github and docs.vorondesign.com.

HOW TO GET HELP

If you need assistance with your build, we're here to help. Head on over to the VORON Discord group and post your questions.
This is the primary medium to help VORON Users and we have a great community that can help you out if you get stuck.

ADDITIONAL RESOURCES

GitHub

https://github.com/VoronDesign/
https://github.com/spacelab2021/Orbiter-Clockwork-Module

Get the Latest Version of this document:
https://github.com/spacelab2021/Orbiter-Clockwork-Module/blob/main/docs/Orbiter_Cockwork_Manual.pdf

Discord

https://discord.gg/voron