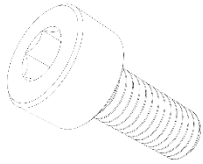


# ORBITER CLOCKWORK ASSEMBLY MANUAL

We build space shuttles with gardening tools  
so anyone can have a space shuttle of their own.

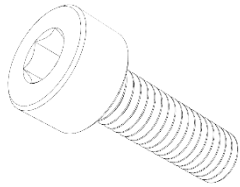
## HARDWARE



### SOCKET HEAD CAP SCREW (SHCS)

Metric fastener with a cylindrical head and hex drive.

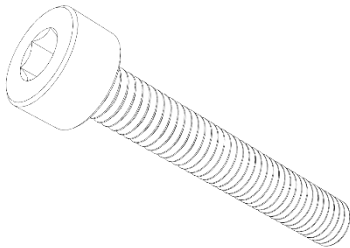
M3x8 Quantity 1



### SOCKET HEAD CAP SCREW (SHCS)

Metric fastener with a cylindrical head and hex drive.

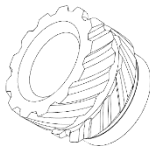
M3x10 Quantity 1



### SOCKET HEAD CAP SCREW (SHCS)

Metric fastener with a cylindrical head and hex drive.

M3x20 Quantity 2



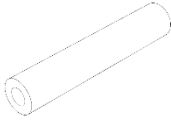
### TAPERED HEAT-SET INSERTS FOR PLASTIC

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

## PTFE Tube

The PTFE tube is used between the Orbiter extruder and the Toolhead. Specific hot end lengths are listed below:



### **Pheatius Dragon Hot end**

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.stl**



**Clockwork\_Adaptor\_Back.stl**

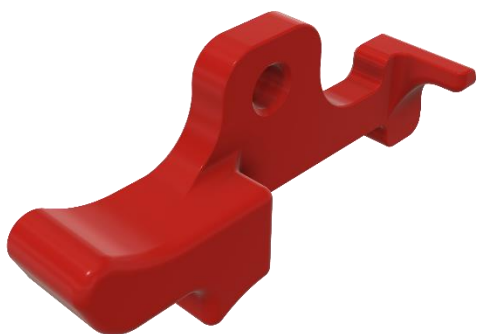


**Chain\_Anchor\_SwitchWire.stl**

**Chain\_Anchor\_Voron\_2.4.stl**



[a]\_Connector\_Cover.stl

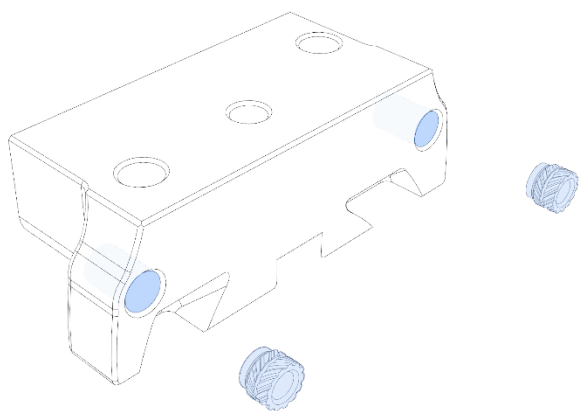


[a]\_Filament\_release\_lever.stl

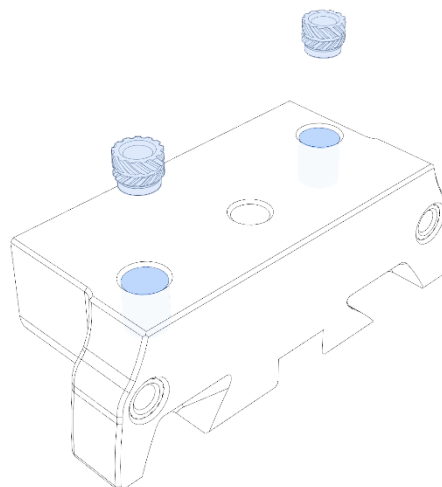
# ASSEMBLY GUIDE

## Assembly A. Heat-Set Inserts

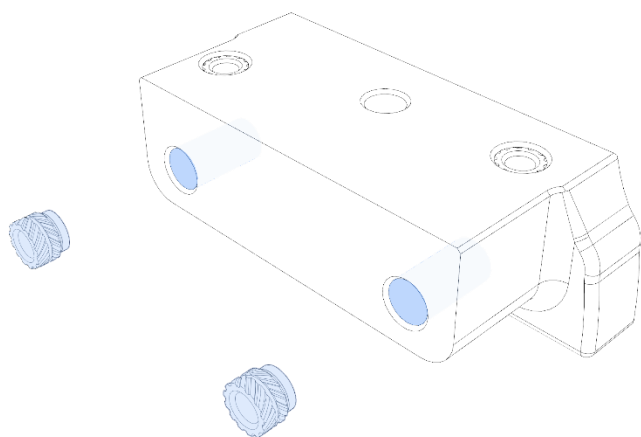
1



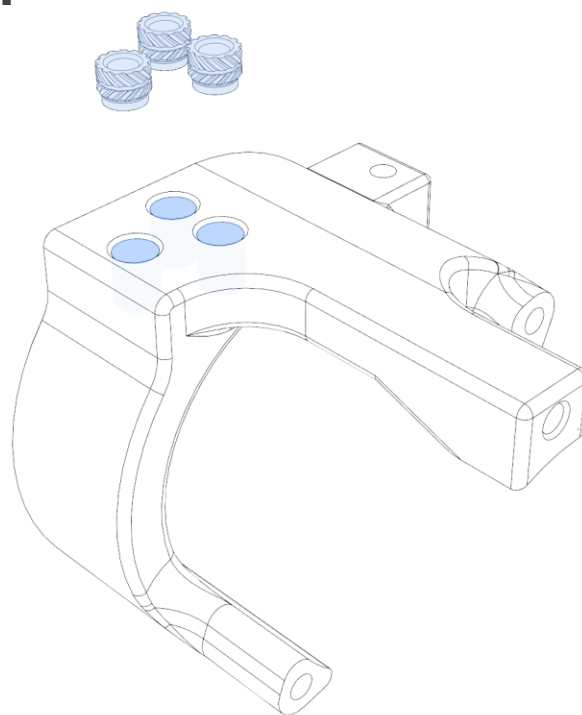
2



3

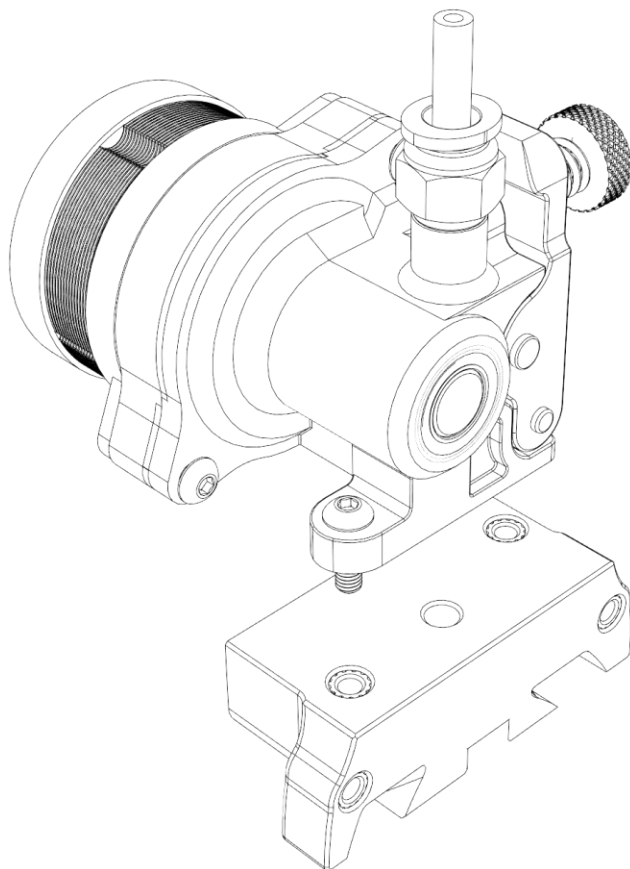


4

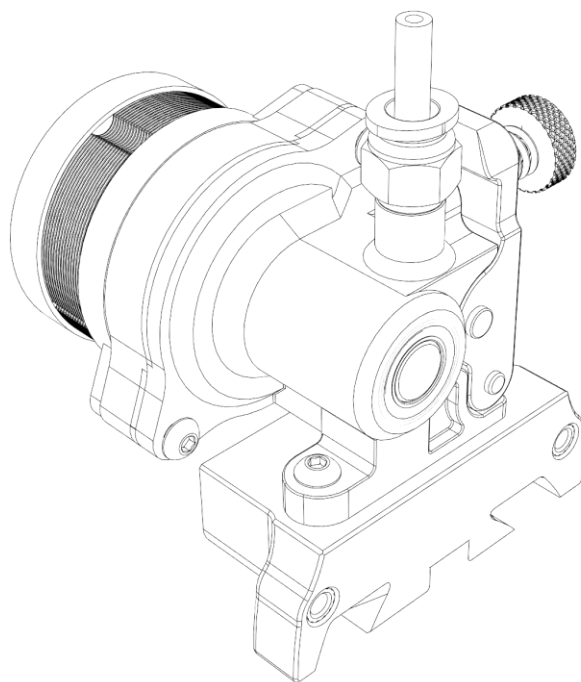


## Assembly B. Orbiter Clockwork Adapter

5

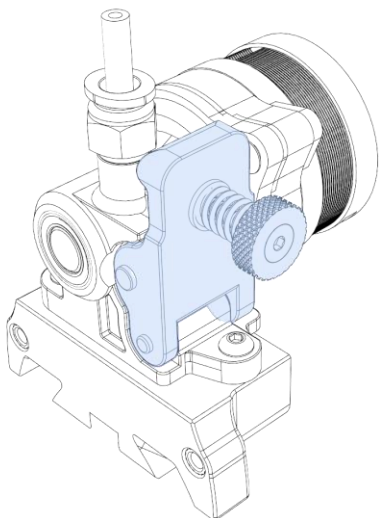


6

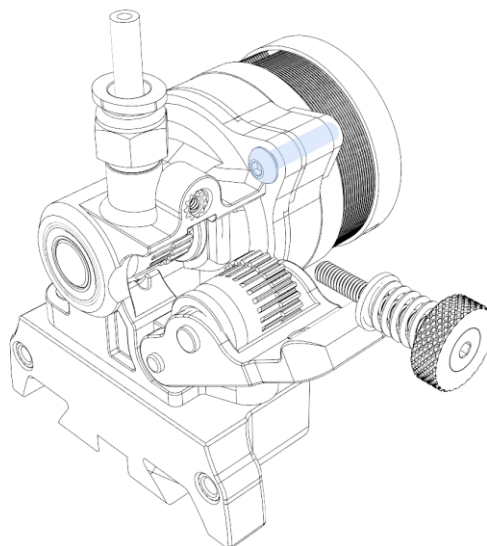


## Assembly C. Connector Cover and Chain Anchor

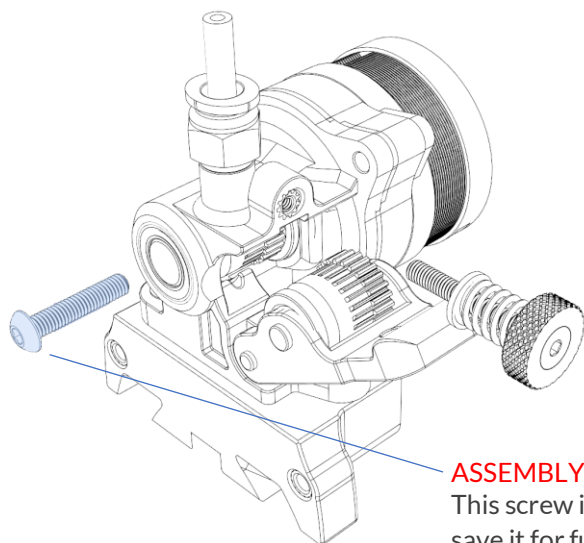
7



8

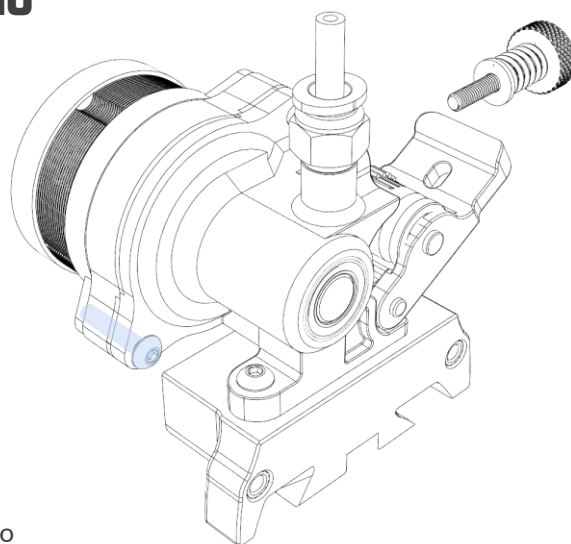


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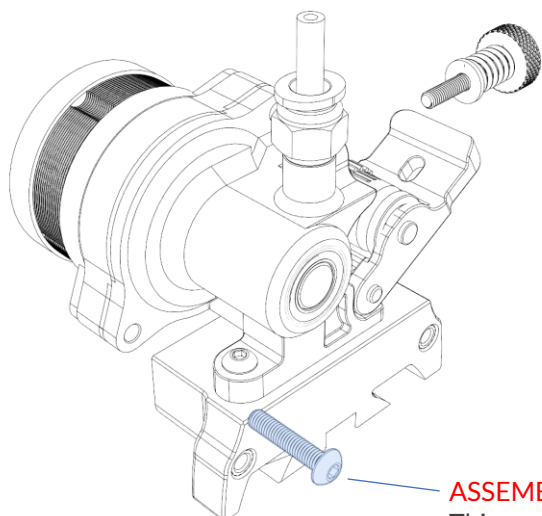


**ASSEMBLY TIP**  
This screw isn't necessary, so  
save it for future projects.

10

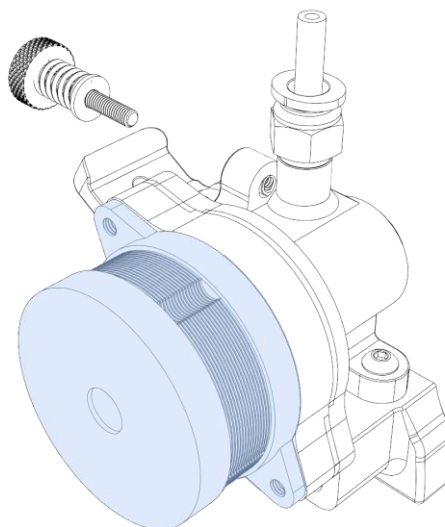


11



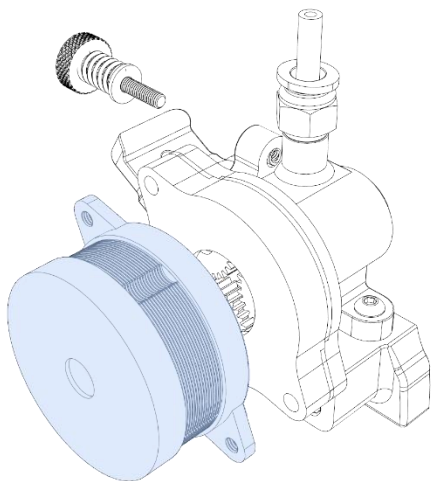
**ASSEMBLY TIP**  
This screw isn't necessary, so  
save it for future projects.

12





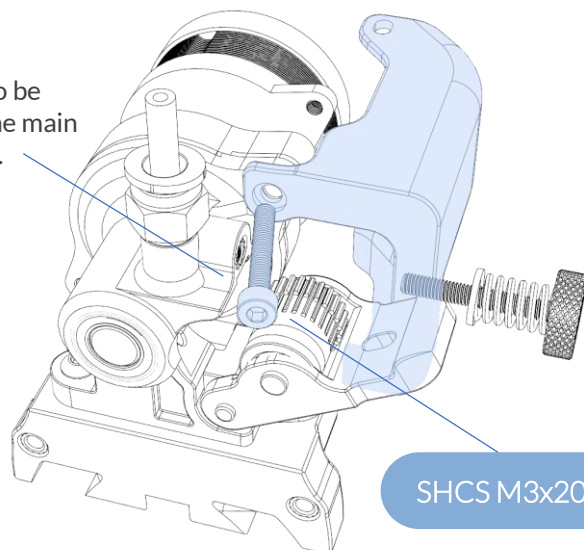
13



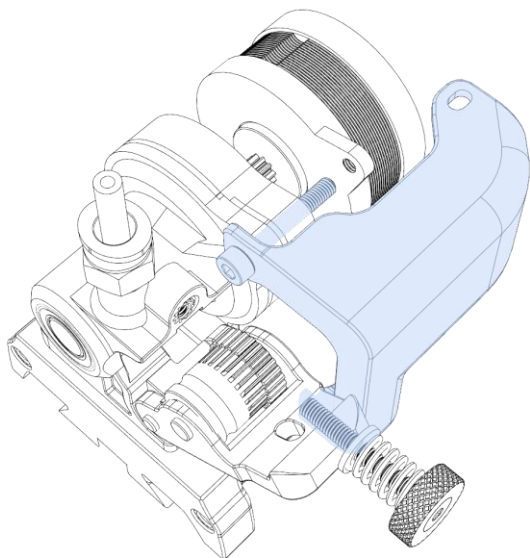
14

**ASSEMBLY TIP**

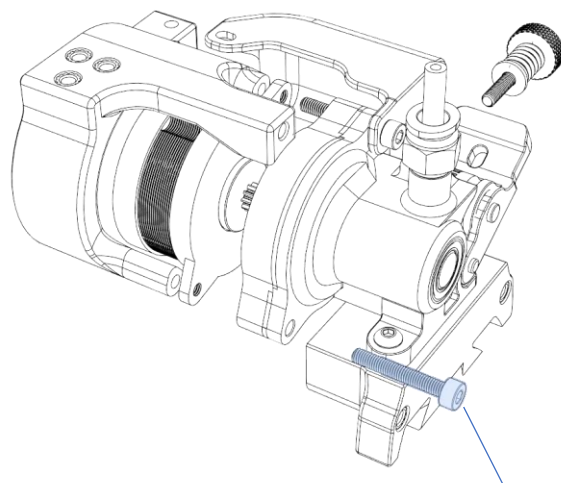
This screw needs to be angled to bypass the main body of the orbiter.



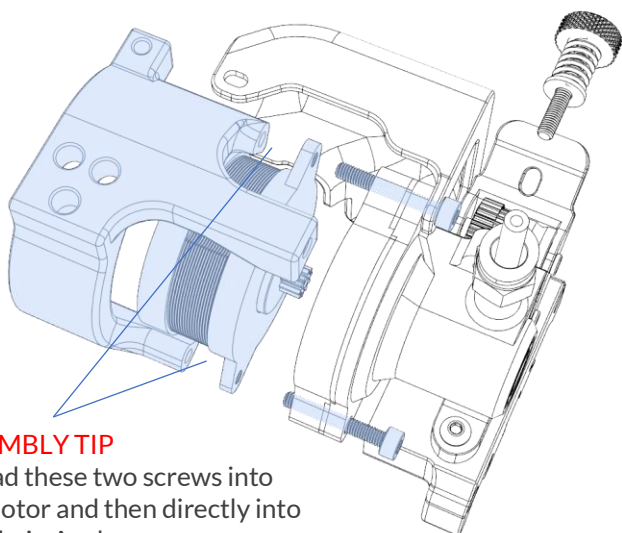
15



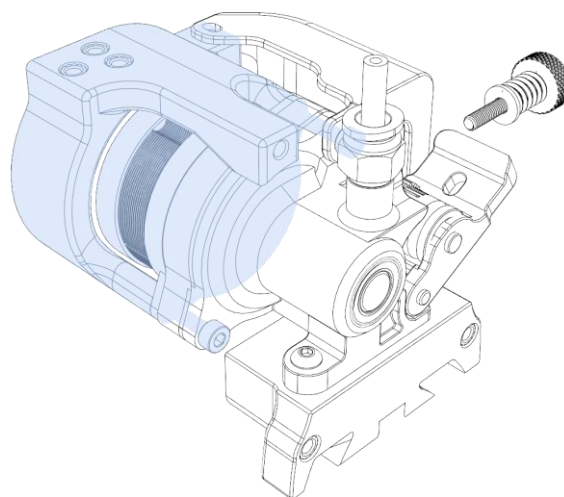
16



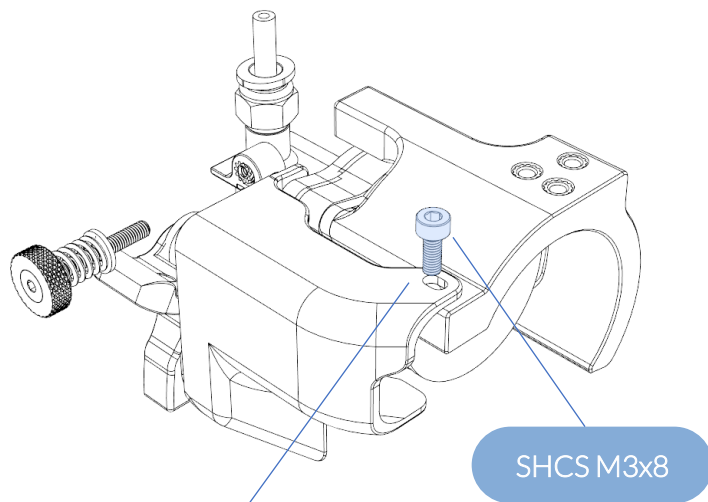
17



18

**ASSEMBLY TIP**

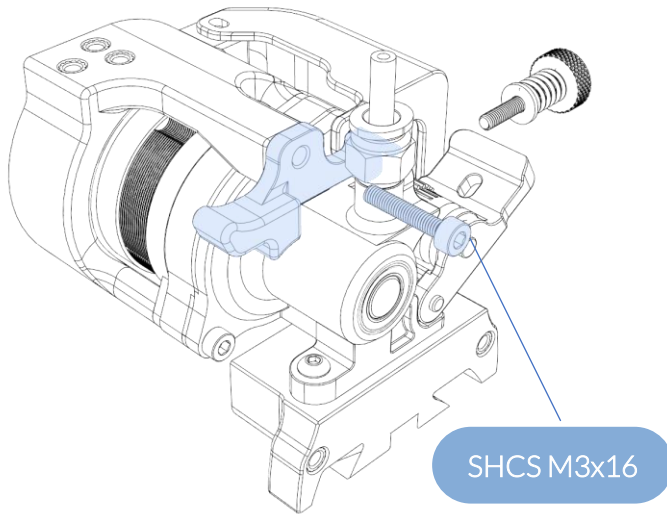
Thread these two screws into the motor and then directly into the Chain Anchor.

**ASSEMBLY TIP**

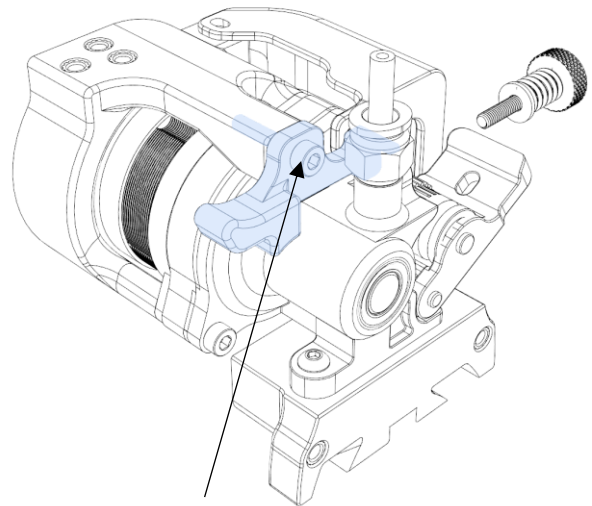
Thread this screw directly into the Chain Anchor.

## Assembly D. Filament Quick Release Lever

20



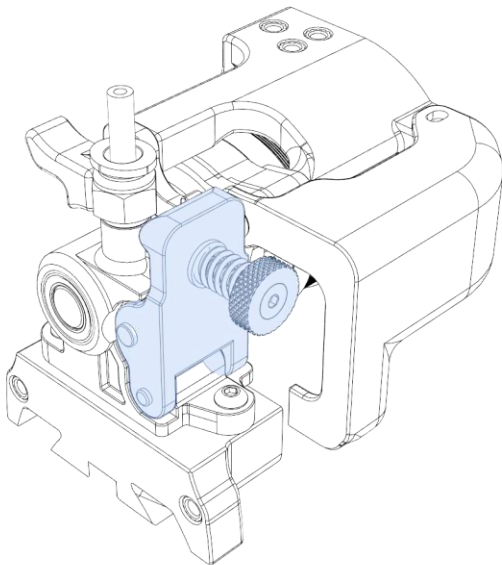
21



### ASSEMBLY TIP

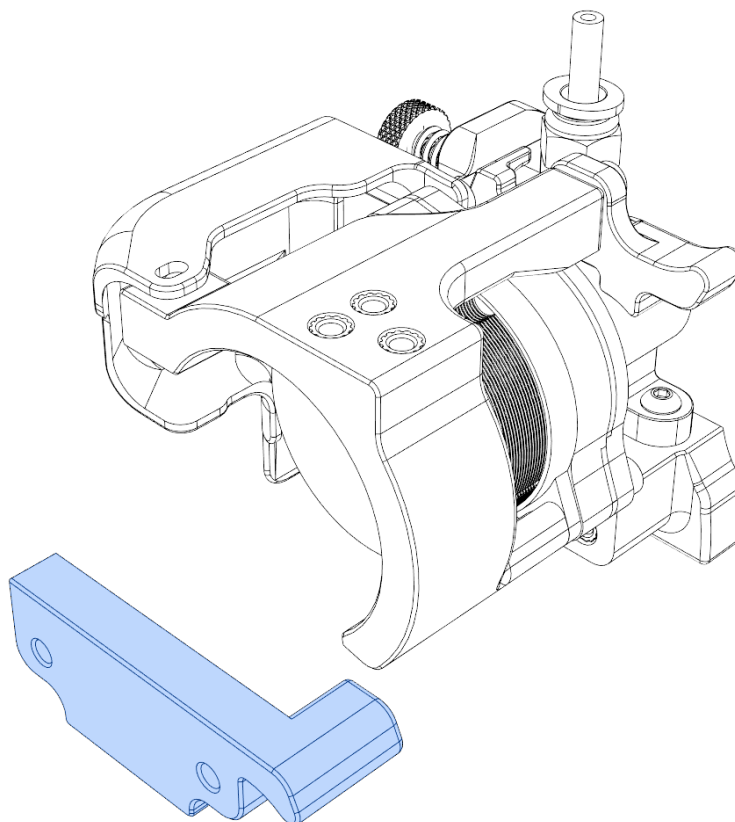
Thread this screw into the slot on the Chain Anchor until its tight then loosen by

22



## Assembly E. Clockwork Adapter

**23**



**24**

