Cocoa Press 2.1 DIY Kit
Assembly Manual

COCOA PRESS

Break Free from the Mold™



Version 1.0 | September 9, 2026

BEFORE YOU BEGIN

Before you begin your journey, a word of caution.

This machine can injure you or damage itself if care is not taken to follow the steps.

Follow the manual carefully, and take your time.

Best of luck, and happy printing!

COMMUNITY SUPPORT

discord.gg/3DmPXPhbNj

NEED HELP?

The best way to get quick help is through the Cocoa Press community on Discord.

Need additional help? Contact support at hello@cocoapress.com.

Found an issue in the manual?

Send us the page number and a short description.

OFFICIAL SUPPORT

cocoapress.com/pages/contact

What's in your box?
Cocoa Press 2.1 BOM

Electronics 1/2
- Power Entry Module
- Z probe
- Case Fan
- Nozzle Heater
- Body Heater

Linear Rails
- MGN9H (5x)
- MGN7H (1x)

Build Plate
- Silicone Mat (2x)
- Build Plate
- Push rod
- Cleaning Brush Kit

Power Supply
- Power supply

Cartridge
- 0.8mm Nozzle
- 1.6mm Nozzle
- Cartridge Body
- Cartridge Housing

Frame Kit - Black
- A Extrusion (2x)
- B Extrusion (2x)
- C Extrusion (2x)
- D Extrusion (4x)
- E Extrusion (2x)
- Z Extrusion (2x)
- R Extrusion (2x)

Panels
- Left/Right Panel (2x)
- Rear Interior Panel
- Rear Exterior Panel
- Bottom Panel

Motors
- Z Axis Stepper Motor with Leadscrew and Anti-Backlash Nut
- Extruder Stepper Motor with Non-Captive Leadscrew
- A Stepper Motor
- B Stepper Motor

Wiring Kit
- SKR Pico USB-C to BTT Pi USB-A cable
- BTT Pi microHDMI to Touchscreen HDMI cable
- BTT Pi USB-A to Touchscreen USB-C cable
- Extruder Cable Bundle
- X endstop
- Y endstop
- Power supply wire SKSM
- Power supply wire SKR Pico
- BTT Pi USB-A to USB Extender
- POE Wire to Power Supply
- Plunger adapter

Electronics 2/2 Box
- Plunger 5 Pack
- SKR Pico (with a BTT duck!)
- SKSM
- BTT Pi 1.2
- Hermit Crab
- HDMI 5 Screen
- USB flash drive
- microSD Card
- Leadscrew Stabilizer
- Power Cable (US, UK, or EU)
- Printed Medallion

Fasteners & Tools
- Open Belt, 2GT, 6mm, 1.32m (2x)
- Solder Tip for M3 Brass Insert
- Rubber Feet (4x)
- Pulley (20T ID5 6mm) (2x)
- Scraper
- Bearings F695-2RS (24x)
- Zip Ties (100x)
- Tools:
    - Allen Key 1.5mm
    - Allen Key 2mm
    - Allen Key 2.5mm
    - Allen Key 3mm
    - Allen Key 4mm
    - Flathead Screwdriver 2mm
    - Flathead Screwdriver 2.5mm
    - Phillips Screwdriver 5mm

Fasteners Kit
- Machine Screw SHCS M2x6 (8x)
- Self-Tapping Screw M2x10 (17x)
- Machine Screw BHPS Black M3x8 (56x)
- Machine Screw SHCS M3x8 (87x)
- Machine Screw SHCS M3x10 (15x)
- Machine Screw SHCS M3x12 (11x)
- Machine Screw SHCS M3x16 (15x)
- Machine Screw SHCS M3x20 (14x)
- Machine Screw SHCS M3x30 (6x)
- Machine Screw SHCS M3x40 (10x)
- Machine Screw BHCS M5x10 (46x)
- Machine Screw BHCS M5x16 (22x)
- Machine Screw BHCS M5x30 (21x)
- Machine Screw SHCS M5x40 (6x)

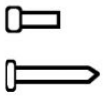
T-Nut Roll In 2020 M3 (80x)
T-Nut Roll In 2020 M5 (54x)
- Heat Set Insert Brass M3x5x4 (60x)
- Washer M5 1mm (27x)
- Thumbscrew M3x20 (2x)
- Bed Thumbscrew M4x6 (4x)
- Extruder Thumbscrew M6x12

Cocoa Press 2.1 Wires and Fasteners
- Zip Ties (100x)
- Wire Sleeve 200mm
- Jumpers (2x)
- Extruder PCB
- Wires
    - USB-A to USB-C cable
    - 40 pin BTT Pi cable
    - Sensor Cable Bundle
    - Extruder Cable Bundle
- Ground Cables
    - Z Motor Earth
    - Power Supply Earth
- Additional Fasteners
    - M3x6 SHCS (7x)
    - M3x8 SHCS (8x)
    - M3x12 SHCS (5x)
    - M3x16 SHCS (7x)
    - M3x20 SHCS (2x)
    - M3 Washer (4x)
    - M3 Locknut (3x)
    - M3 Heat Set Insert (14x)

Cocoa Core Box
- Dark Cocoa Cores (10x)
- Milk Cocoa Cores (10x)

Fastener Reference Sheet

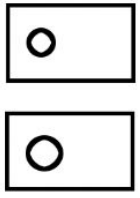
M2



M2x6 SHCS

M2x10 Self Tapping

T-Nuts



M3

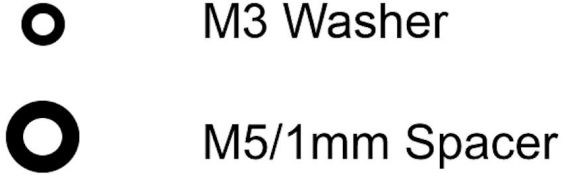
M5

Heat Set



M3

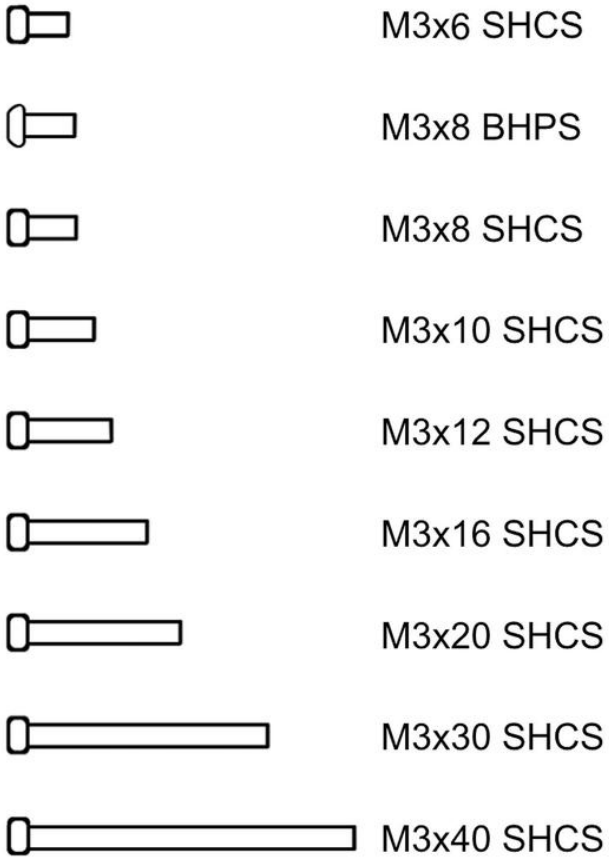
Spacer/Washer



M3 Washer

M5/1mm Spacer

M3



M3x6 SHCS

M3x8 BHPS

M3x8 SHCS

M3x10 SHCS

M3x12 SHCS

M3x16 SHCS

M3x20 SHCS

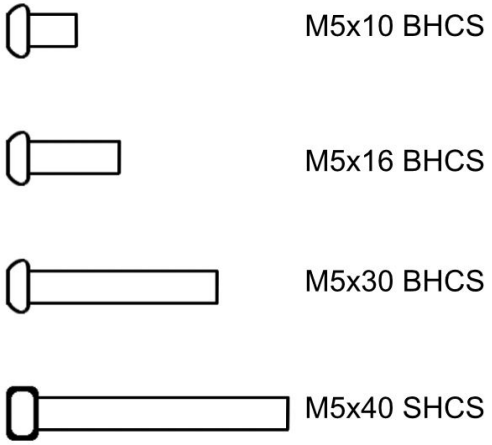
M3x30 SHCS

M3x40 SHCS

SCATTERED SCREWS

The Fastener Reference Sheet is included with your kit and printed at 1:1 scale. To identify a loose screw, hold it against the matching outline on the sheet. No measuring required.

M5



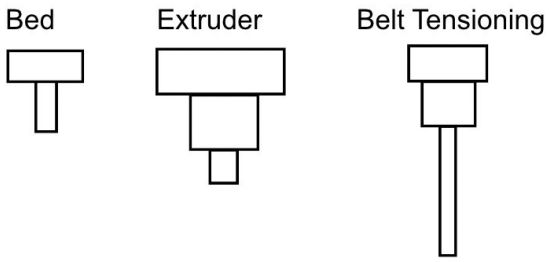
M5x10 BHCS

M5x16 BHCS

M5x30 BHCS

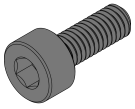
M5x40 SHCS

Thumbscrews



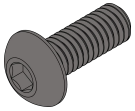
Terminology Used in This Manual

HARDWARE & TOOLS



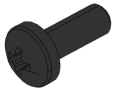
SOCKET HEAD CAP SCREW (SHCS)

Metric screw with a cylindrical head and hex drive. The most common screw in this kit.



BUTTON HEAD CAP SCREW (BHCS)

Metric screw with a domed head and hex drive.



BUTTON HEAD PHILLIPS SCREW (BHPS)

Metric screw with a rounded head and phillips drive.



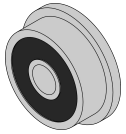
SELF TAPPING SCREW

Sharp threads screw directly into plastic.



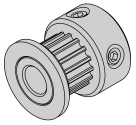
HEX KEY

Also called an allen key or allen wrench. The main tool used to install screws.



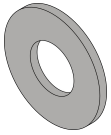
F695 BEARING

Flanged ball bearing used throughout the gantry.



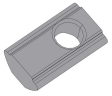
PULLEY

GT2 pulley used in the machine's motion system.



WASHERS

Used in belt path bearing stacks and other assemblies.



POST INSTALL T-NUT

Fits into an aluminium extrusion slot. Used in M3 and M5 sizes. Also called a roll-in T-nut.



HEAT SET INSERT

Heated with a soldering iron and pressed into plastic. The plastic cools around the insert to secure its threads.

SYMBOLS & CALLOUTS



ATTENTION BUBBLE

Marks steps where mistakes are common.

↻ 180°

IMPORTANT NOTE

Highlights important instructions.

4x M3x8 SHCS

PARTS LABEL CALLOUT

Shows the part or fastener and quantity needed for a step.

BEFORE YOU BEGIN

Remove the box labeled "Cartridge." Unpack and wash all four components with soap and water. The included brushes are in the Build Plate box.

This gives them time to air dry before you start printing!

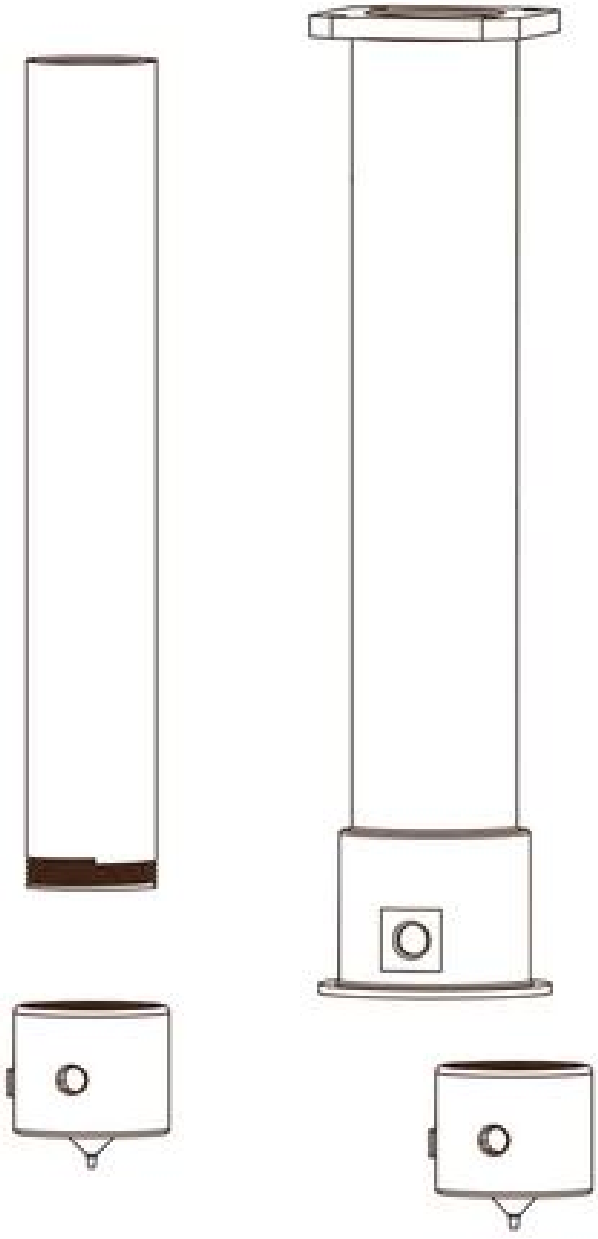


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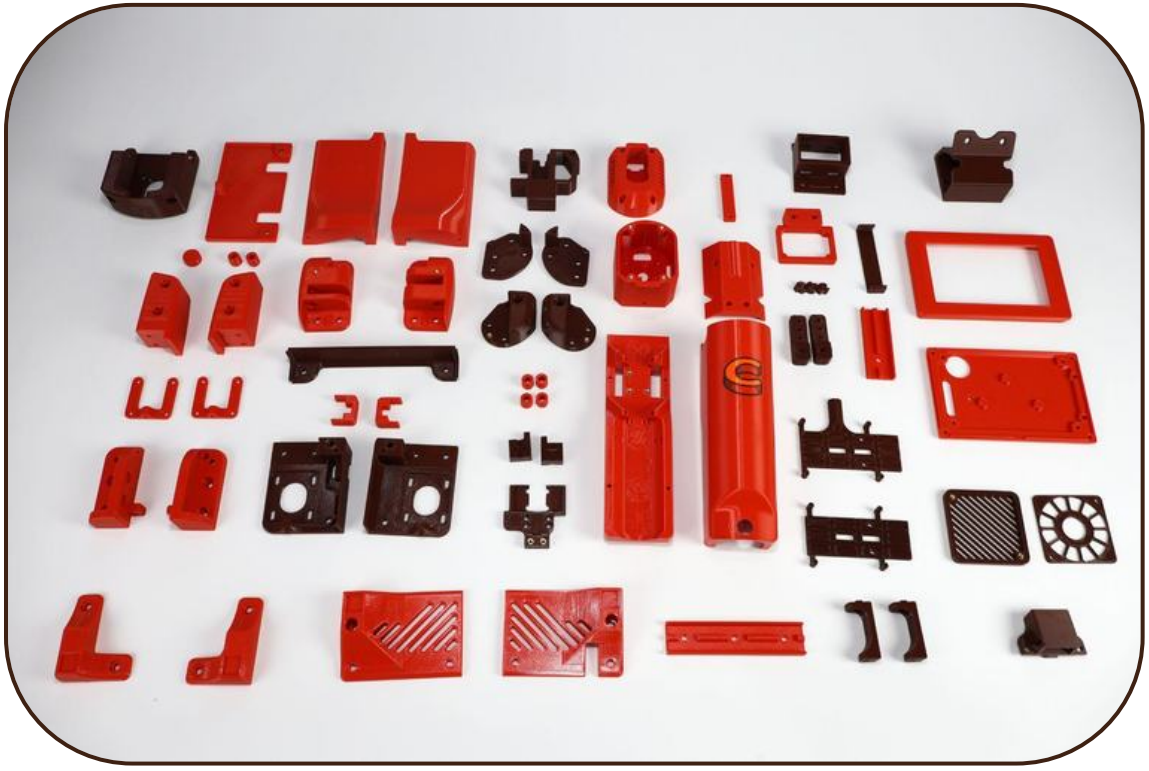
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COCOA PRESS

Chapter 1: Printed Parts



PRINTED PART FILE NAMES

File names show the first chapter, color, and total quantity to print.

<Chapter #><accent color>-<Part Name>_<Quantity>.stl

C2a-Mid_Panel_Support_x2.stl
Chapter 2 | accent color | print 2

C4-Rear_Left_Idler.stl
Chapter 4 | primary color | print 1

For parts used in multiple chapters, the chapter is the first use and the quantity covers the full build.

PRINT FILES

Download Cocoa Press 2.1 Print Files
printables.com/model/1832801

PART PRINTING GUIDELINES

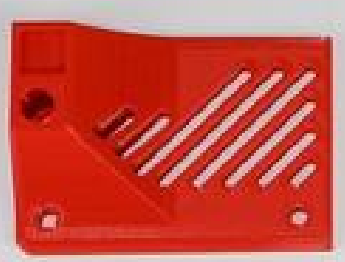
Use these settings for reliable parts. Material substitutions or different settings may reduce reliability.

Setting	Recommended value
3D printing process	Fused Filament Fabrication (FFF)
Material	PETG
Layer height	0.2mm
Nozzle size	0.4mm
Infill type	Grid
Infill percentage	25%
Wall count	3
Solid top/bottom layers	4 bottom, 5 top layers

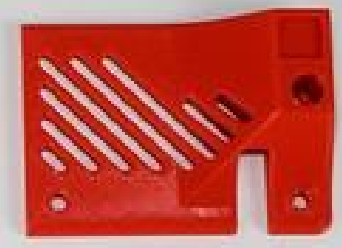
FILAMENT

Buy Cocoa Press PETG
cocoapress.com/products/cocoa-press-filament

Chapter 2 Printed Parts



C2 Rear Left Base



C2 Rear Right Base



C2a Mid Panel Support x2





C2 Z Rail Height Jig



C2 Front Left Base

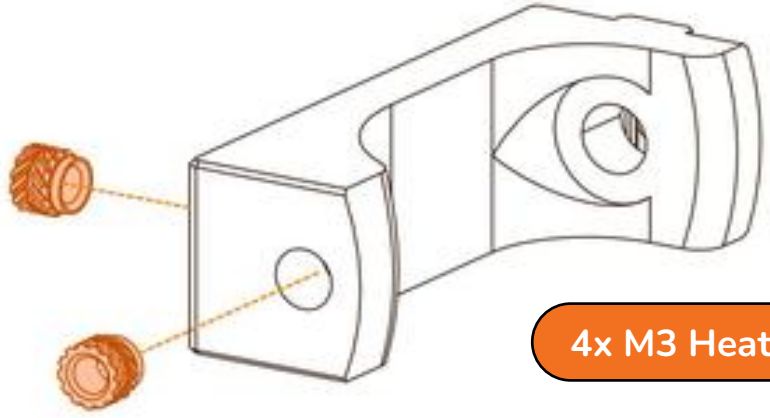
C2 Front Right Base

Chapter 2 Heat Sets

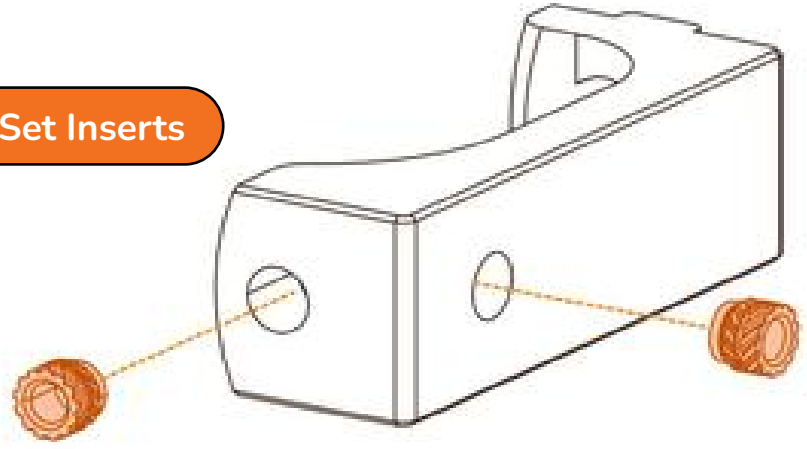
WELCOME TO HEAT SETTING!

Many of the printed parts will use heat set threaded inserts. If you have never installed these, we recommend you watch the linked video. We include an M3 heat set insert tool in the Fasteners & Tools box. Attach this to your soldering iron to make heat setting a breeze!

https://www.youtube.com/watch?v=PEimcxNGnys



4x M3 Heat Set Inserts



Chapter 3 Printed Parts



C3 Lower Center Cover



C3 Z Carriage Block Left



C3 Z Carriage Block Right

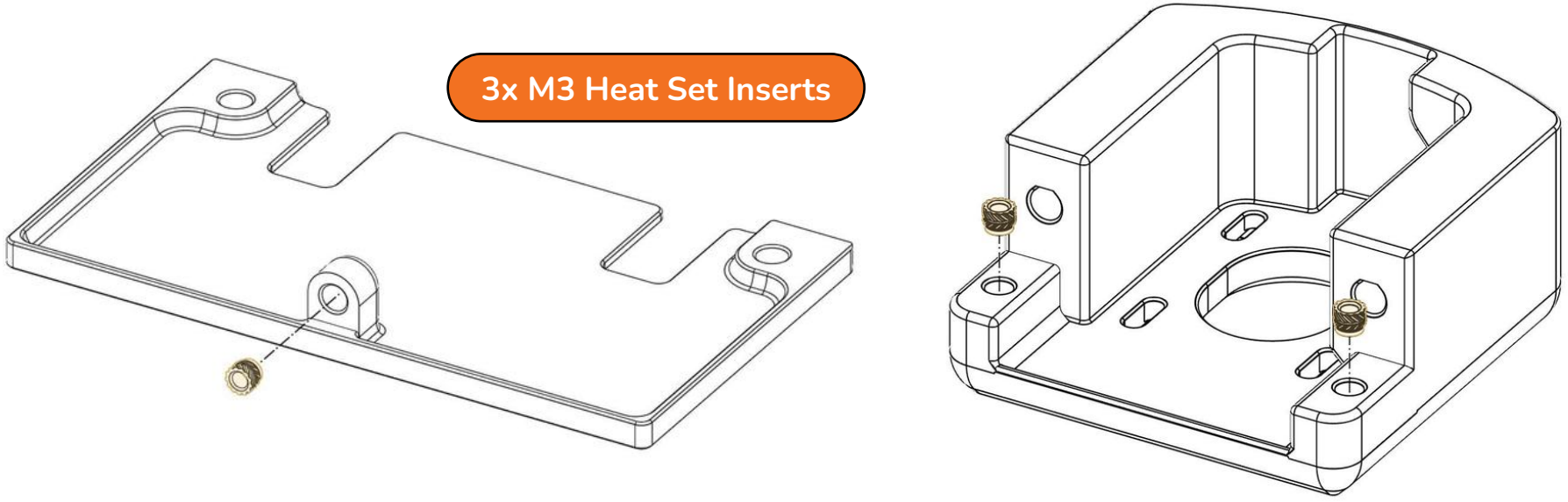


C3a Z Axis Motor Mount

Chapter 3 Heat Sets

CHAPTER 3 HEAT SET INSERT

If you purchased printed parts from us, you can skip Chapter 1. This has all been done for you.



Chapter 4 Printed Parts



C4a Motor Mount Left



C4a Motor Mount Right



C4 Belt Tension Sled x2



C4 Rear Left Idler



C4 Idler Spacer x2

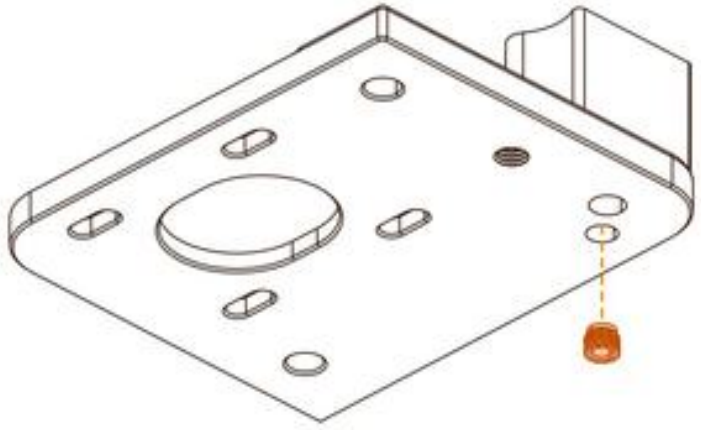


C4 Rear Right Idler



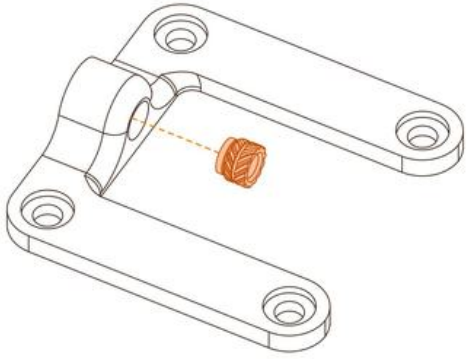
C4 Pulley Height Jig

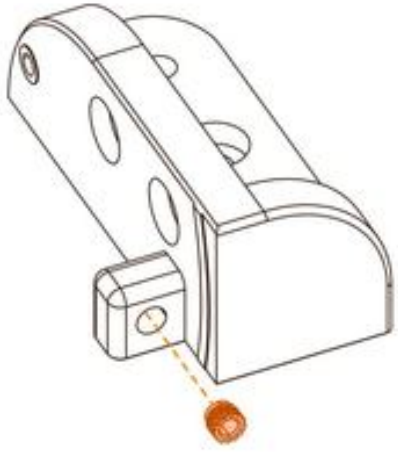
Chapter 4 Heat Sets





6x M3 Heat Set Inserts







♫ UNDER THE SURFACE ♫

The Belt Tension Sled heat set insert sits below the surface of the printed part. Be sure it is installed a few millimeters below the surface.

You printed two of these - heat set both!

Chapter 5 Printed Parts



C5 Motor Cover Left



C5 Motor Cover Right



C5a Upper Center Cover



C5 Rail Centering Jig x2



C5a Rear Center Support

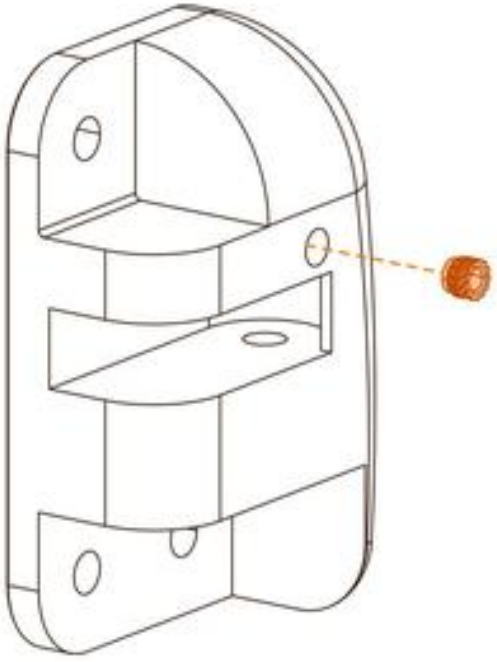


C5 Front Left Idler

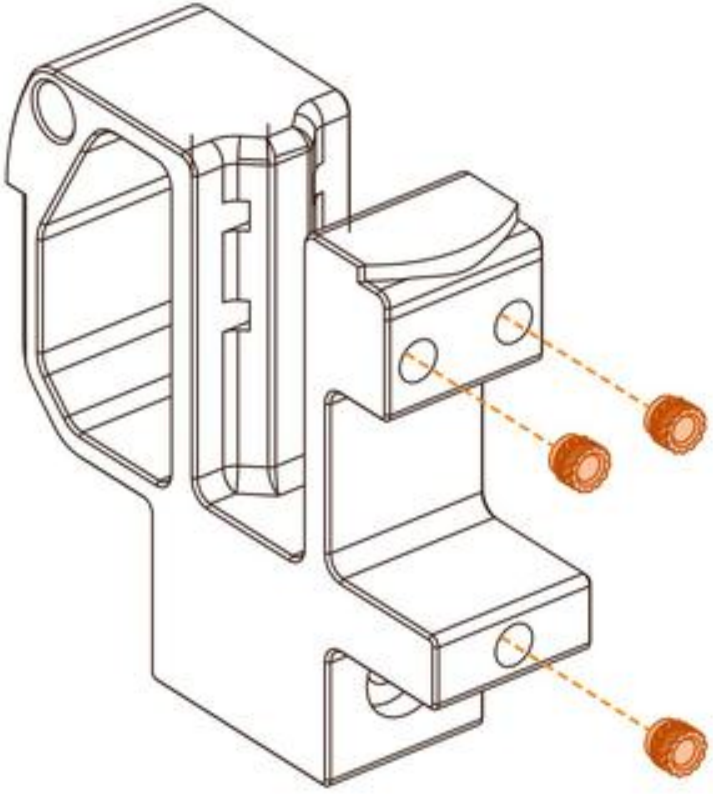


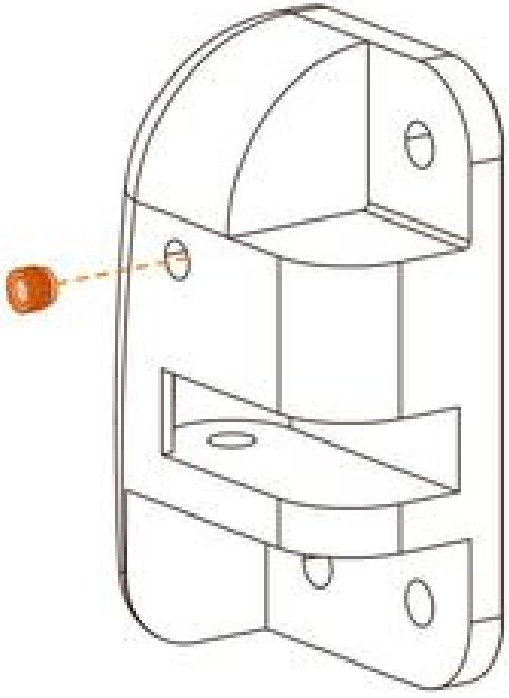
C5 Front Right Idler

Chapter 5 Heat Sets



5x M3 Heat Set Inserts





Chapter 6 Printed Parts



C6a XY Joint Upper Left



C6a XY Joint Upper Right



C4 Idler Spacer x4

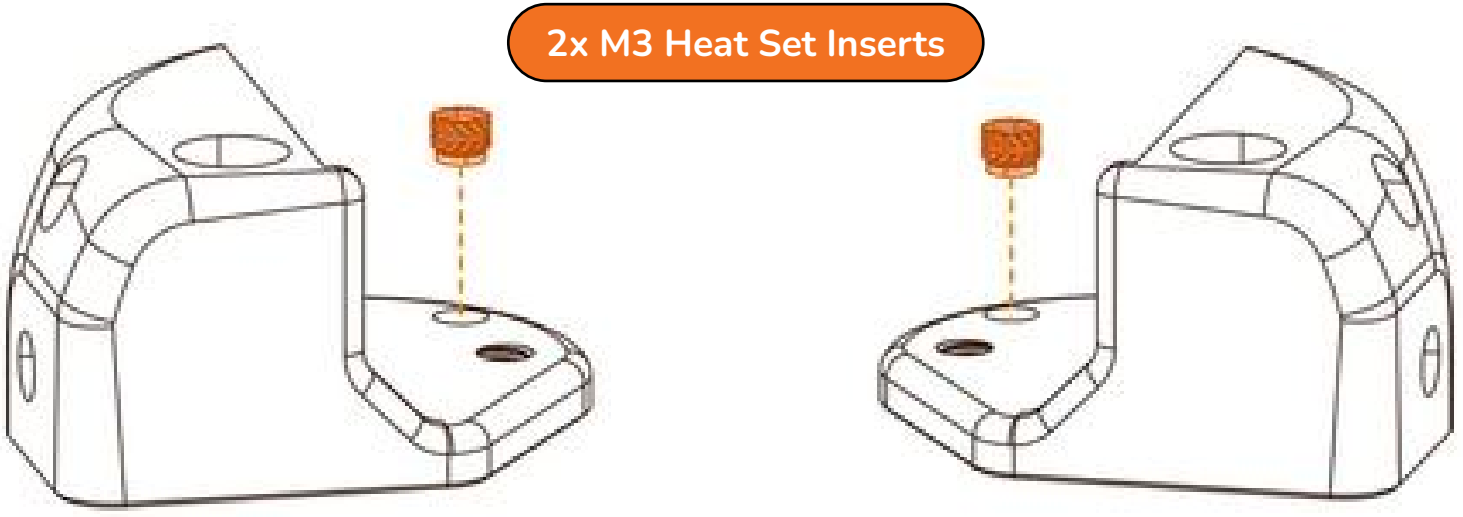


C6a XY Joint Lower Left



C6a XY Joint Lower Right

Chapter 6 Heat Sets



Chapter 7 Printed Parts

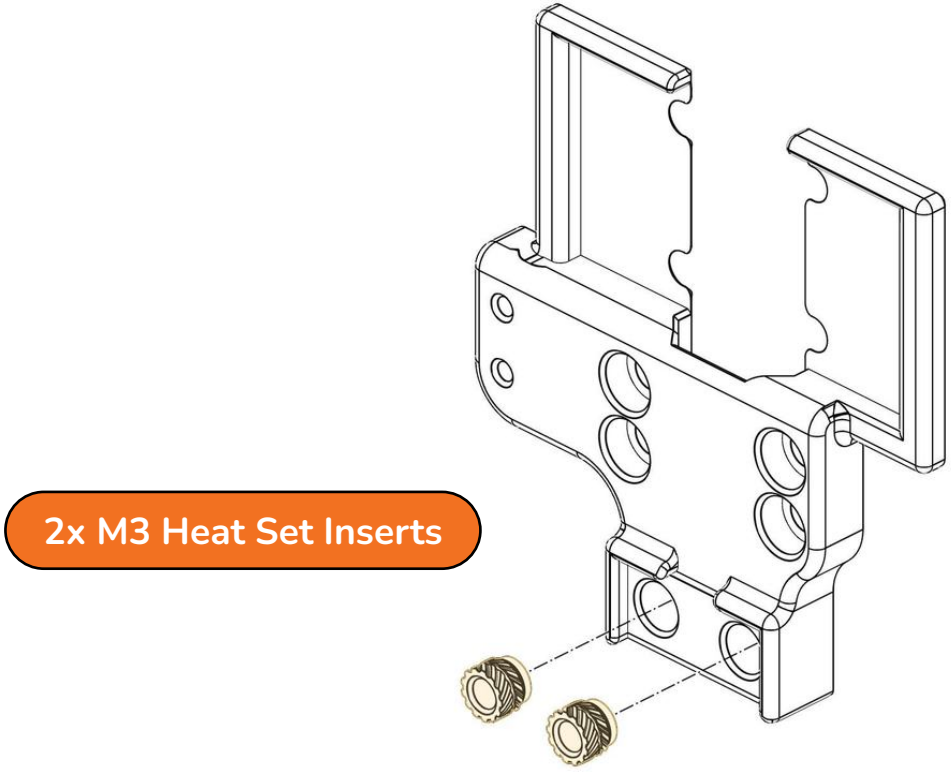


C7a Belt Clip x2



C7a Gantry Sensor Mount

Chapter 7 Heat Sets



2x M3 Heat Set Inserts

Chapter 8 Printed Parts



C8 Extruder Motor Case



C8 Extruder Motor Lid



C8 Heater Jig



C8 Extruder Front

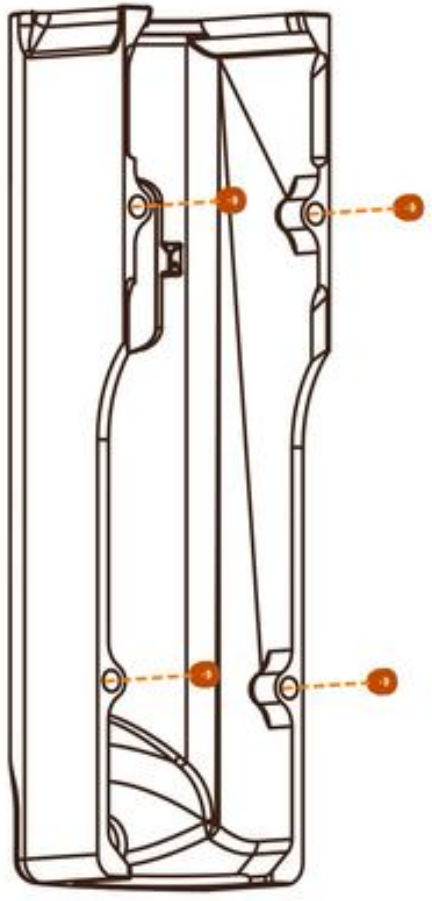


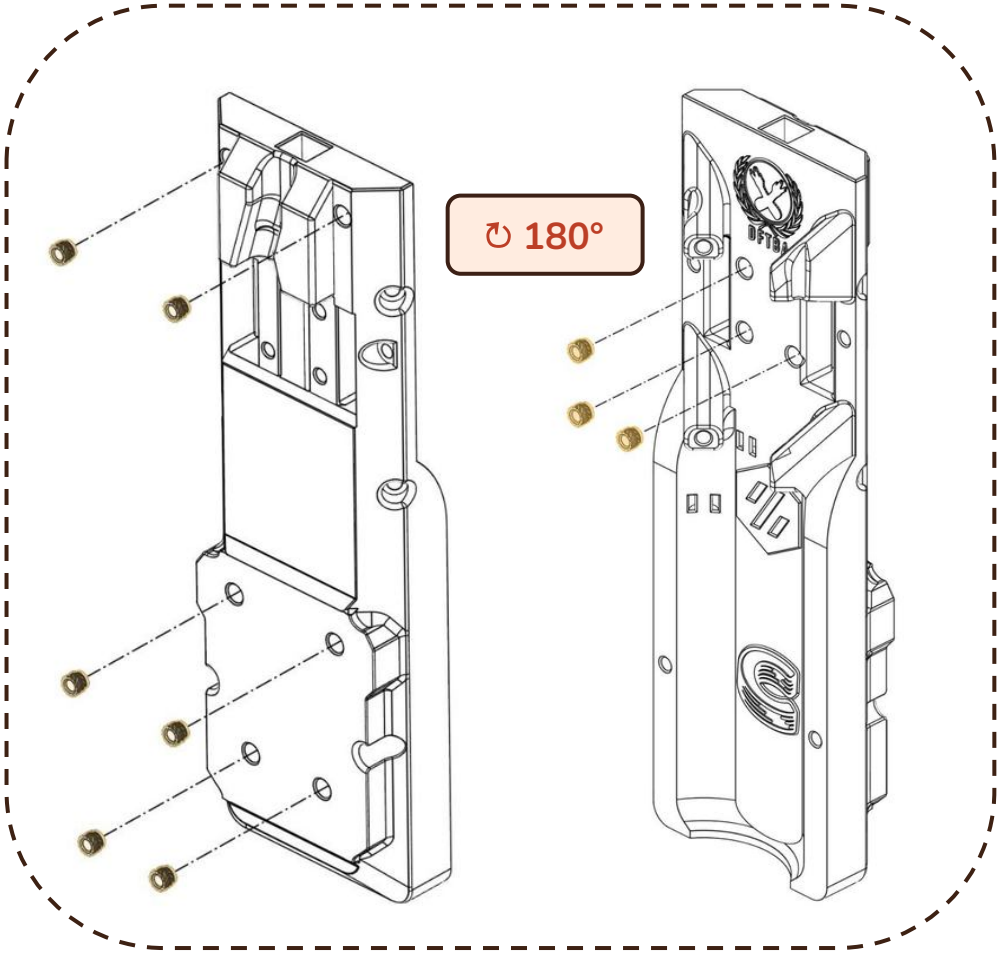
C8 Extruder Rear

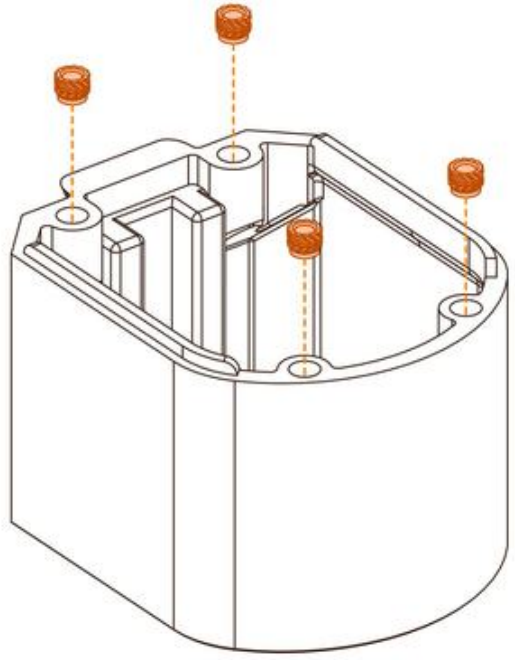


C8 Extruder Rear Cover

Chapter 8 Heat Sets







SUPPORT? AS-IF!

The Extruder Front uses print-in-place supports. These are intended to be removed prior to installation.

17x M3 Heat Set Inserts

Chapter 9 Printed Parts



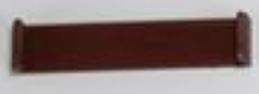
C9a Power Inlet Bracket



C9 Electronics Height Jig



C9 SKSM Mount



C9a Power Supply Cover



C9a Zip Tie Anchor x3



C9a Power Supply Bracket x2



C9a USB Mount

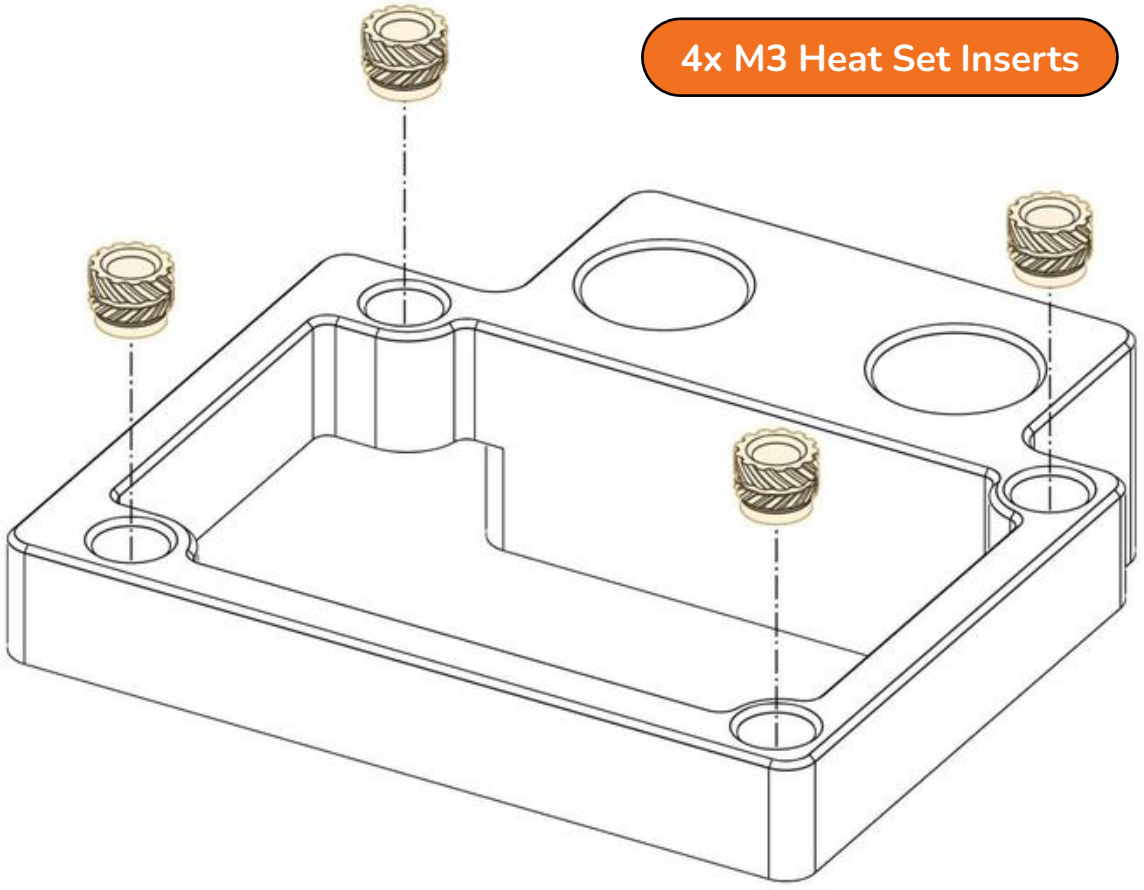


C9a SKR Pico Mount



C9a BTT Pi Mount

Chapter 9 Heat Sets



Chapter 10 Printed Parts



C10a Fan Outer Guard



C10a Fan Inner Guard



C10a Screen Mount

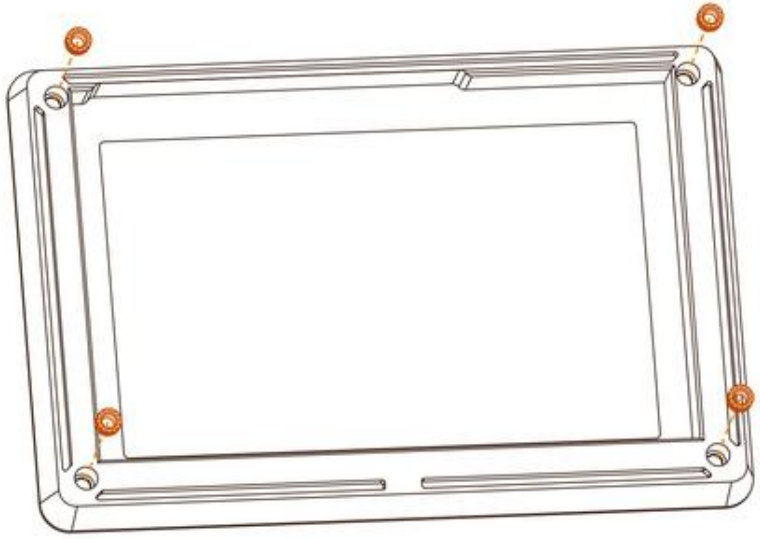


C10 Screen Case Front



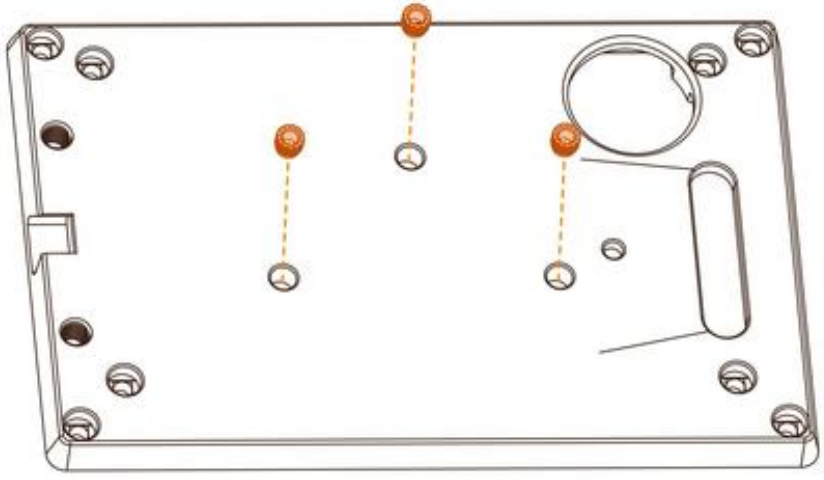
C10 Screen Case Rear

Chapter 10 Heat Sets



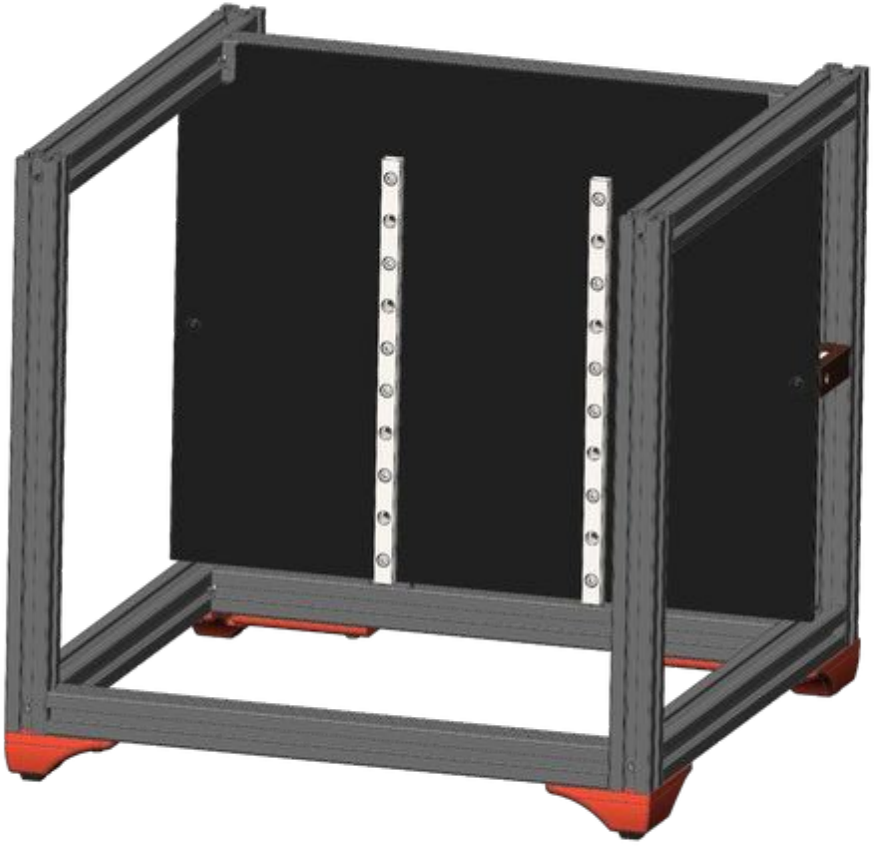
9x M3 Heat Set Inserts





COCOA PRESS

Chapter 2: Frame

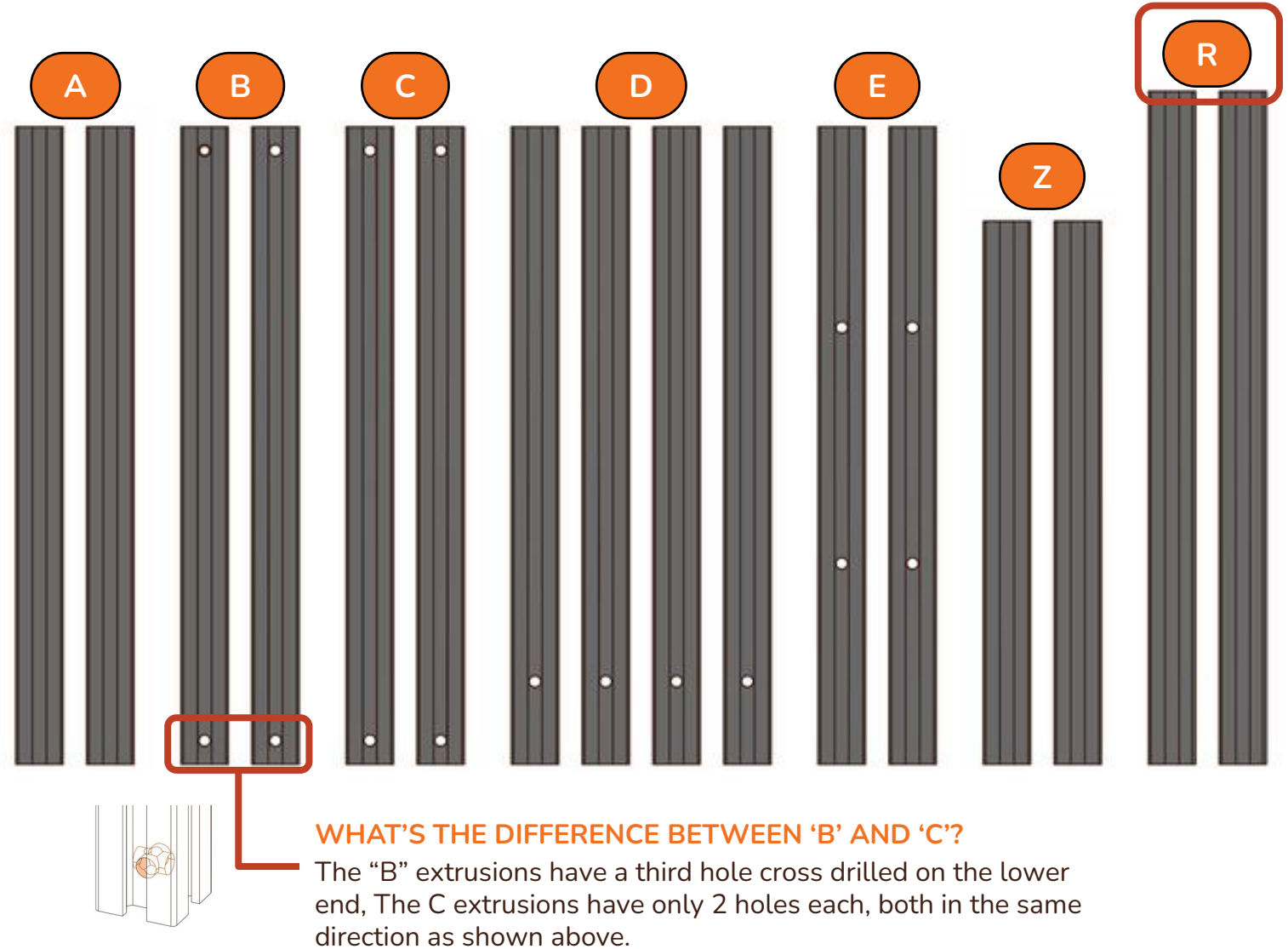


LET'S GO!

Collect your extrusions and sort them by length. We will highlight the extrusions used in each step and label them as shown on this page.

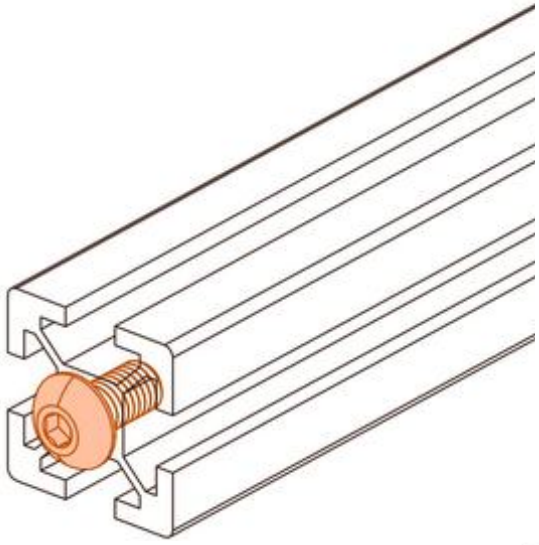
"R" U Sure?

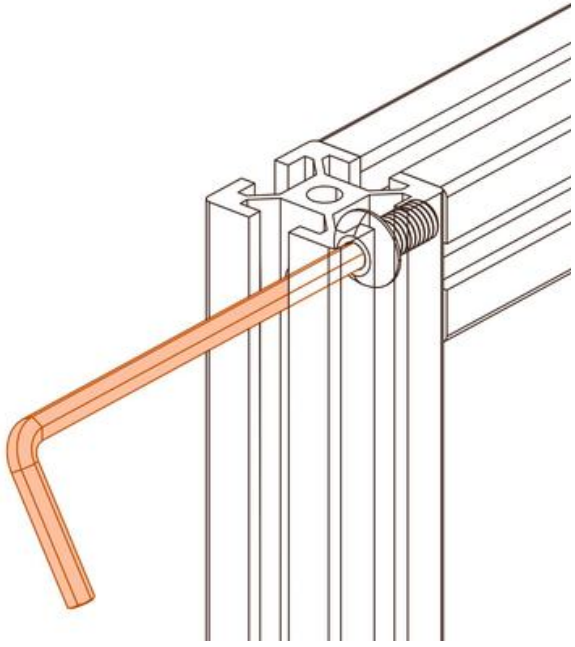
R Profile extrusion is a curved shape, used for the topmost frame rails. They look similar to A and Z otherwise.



WHAT'S THE DIFFERENCE BETWEEN 'B' AND 'C'?

The "B" extrusions have a third hole cross drilled on the lower end, The C extrusions have only 2 holes each, both in the same direction as shown above.





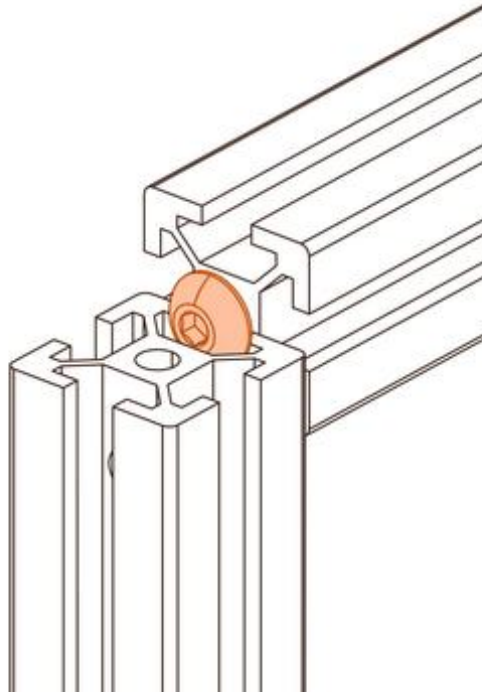
BLIND JOINT BASICS

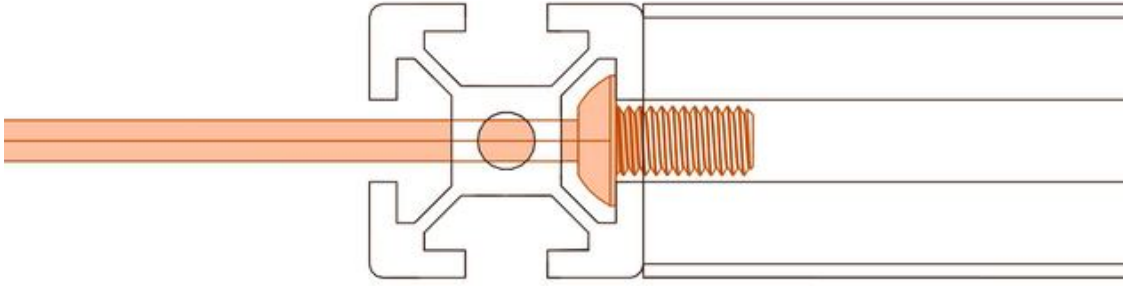
Blind Joints provide a cost-effective and rigid assembly method for joining extrusions. They will be used throughout the frame assembly.

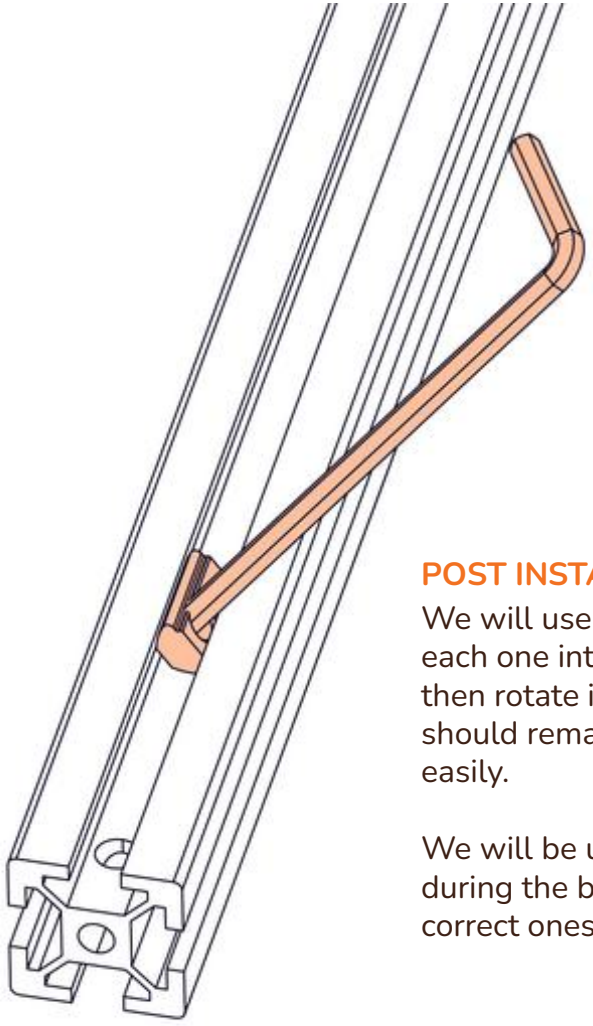
The head of the BHCS is slid into the channel of another extrusion and securely fastened through a small access hole in the extrusion.

If you've never assembled one before, we recommend you watch the linked guide.

https://youtu.be/2dvbn0rWA60?t=466



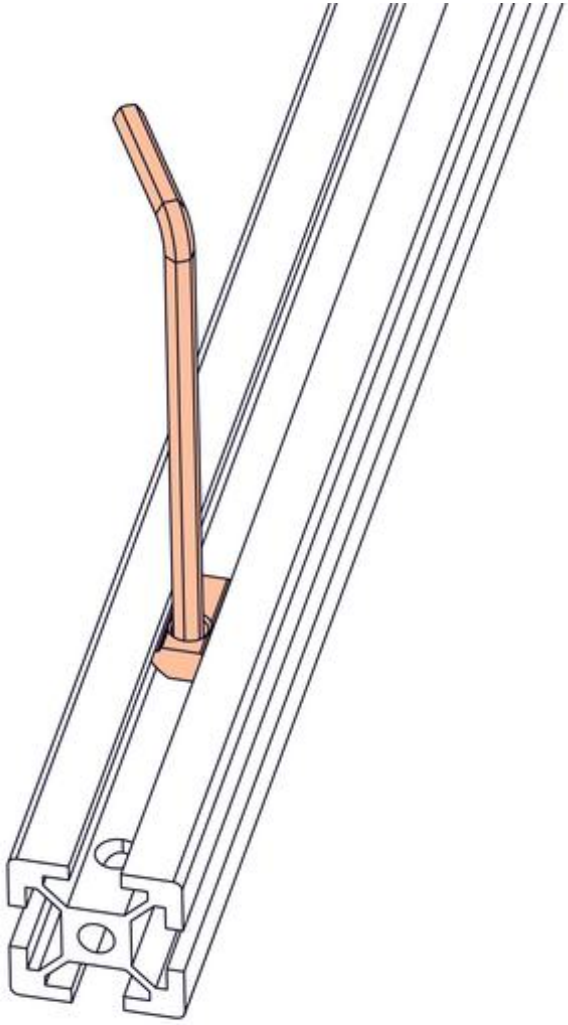




POST INSTALL T-NUTS

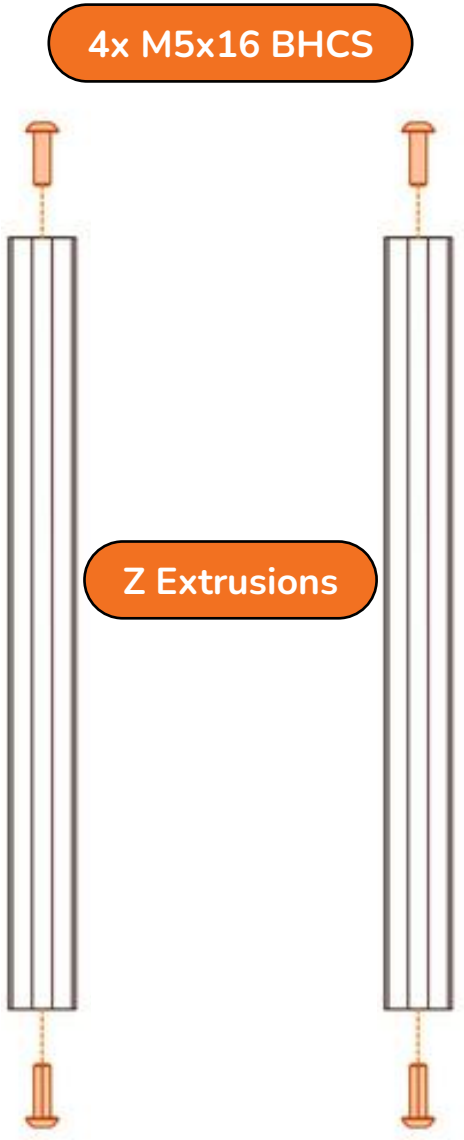
We will use many post install T-nuts. Insert each one into the extrusion slot at an angle, then rotate it until it clips into place. It should remain in position without sliding easily.

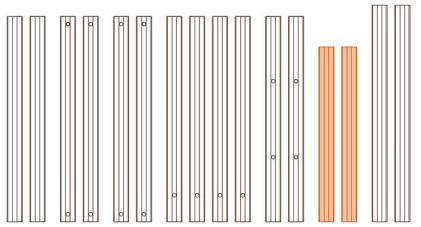
We will be using both M5 and M3 variants during the build, so be sure to install the correct ones at each step.

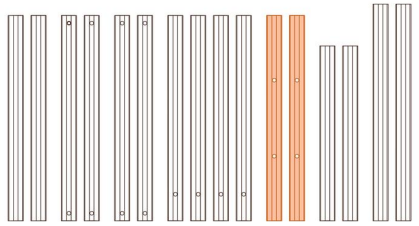


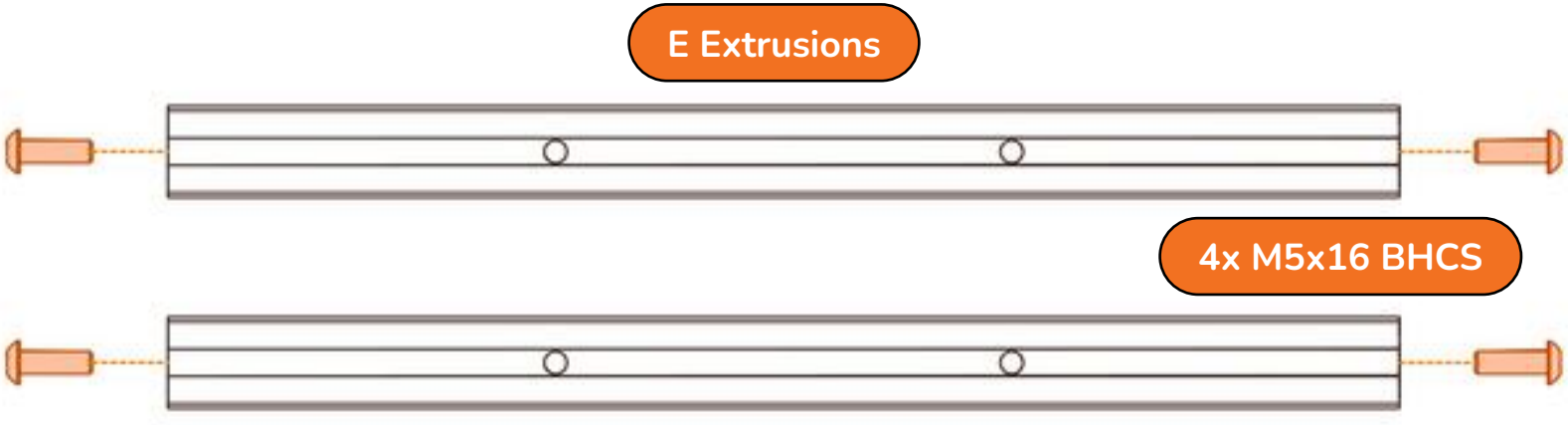
START ASSEMBLING

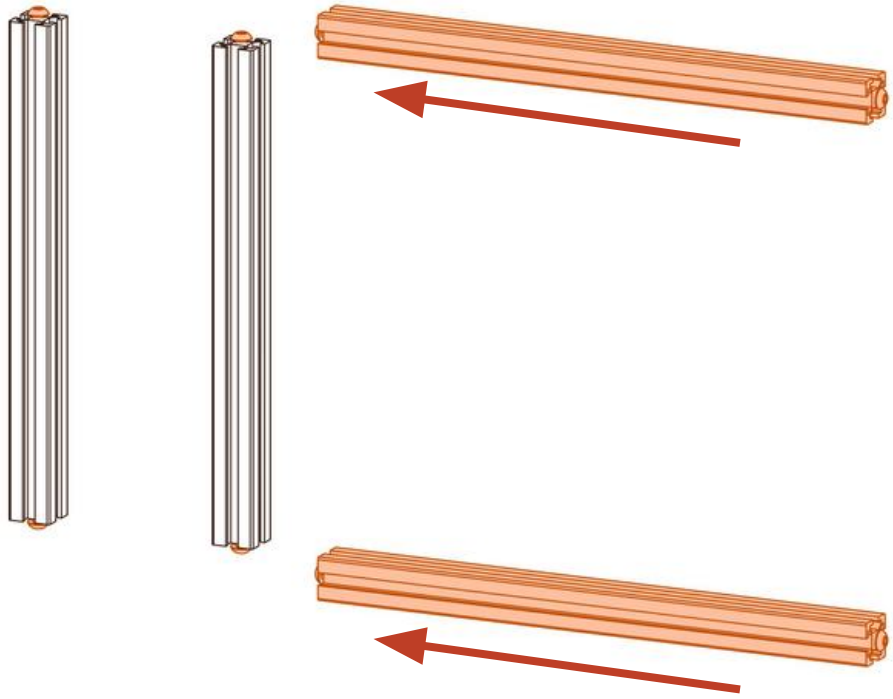
Slow and steady wins the race. Good luck and have fun!

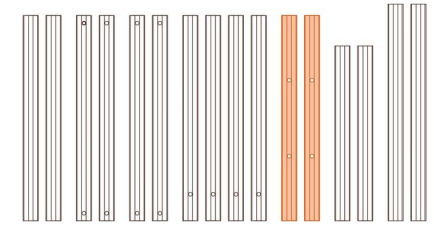


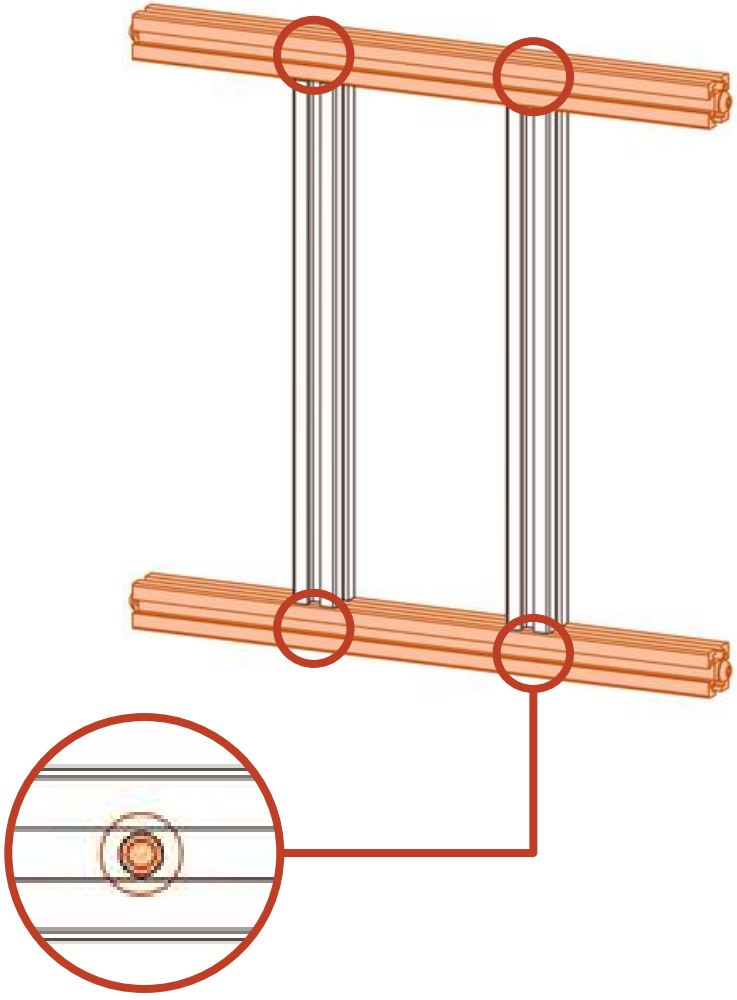





E Extrusions
4x M5x16 BHCS





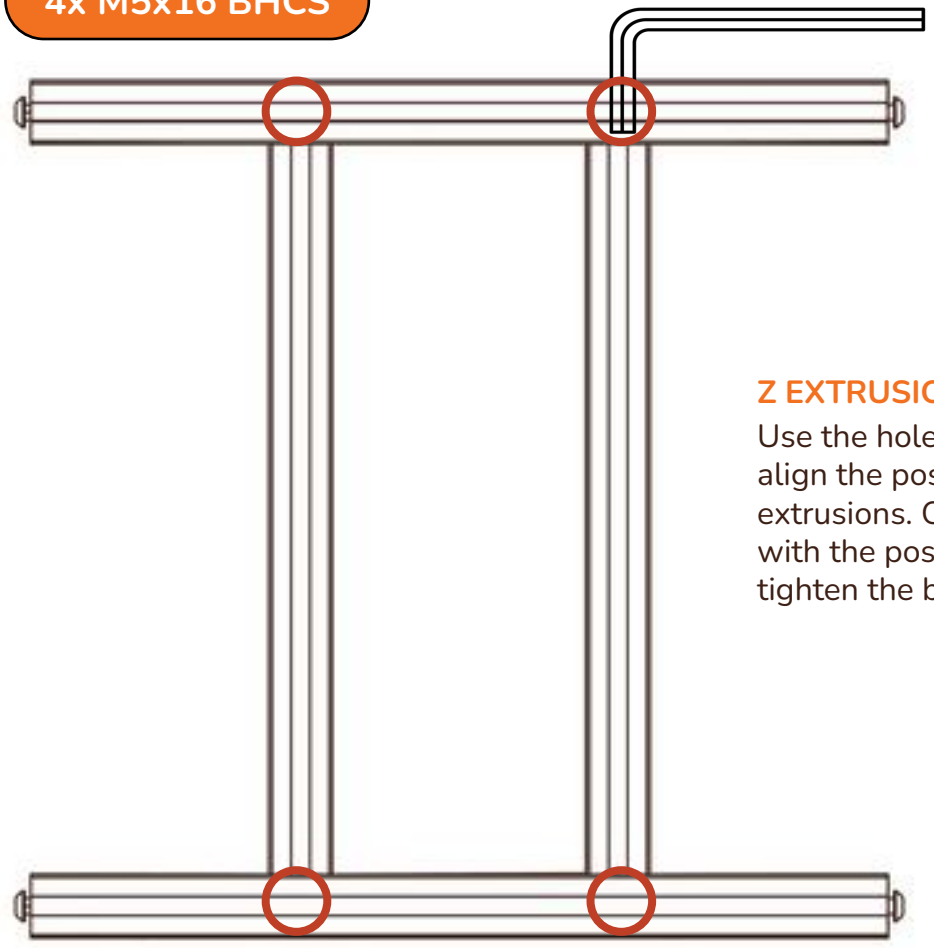


BLIND JOINTS

Align the Z extrusion to the holes in the side of the E extrusion. Then, secure the M5 screws by inserting an allen key through the access holes.

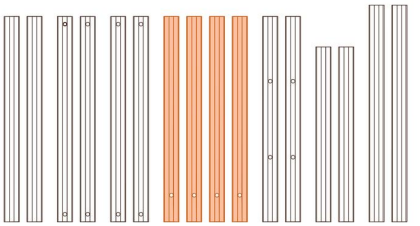
We will adjust the position of the Z extrusions on the next page.

4x M5x16 BHCS



Z EXTRUSION POSITIONING

Use the holes in the E extrusion to align the position of the Z extrusions. Once you are happy with the positions, be sure to tighten the blind joints fully.

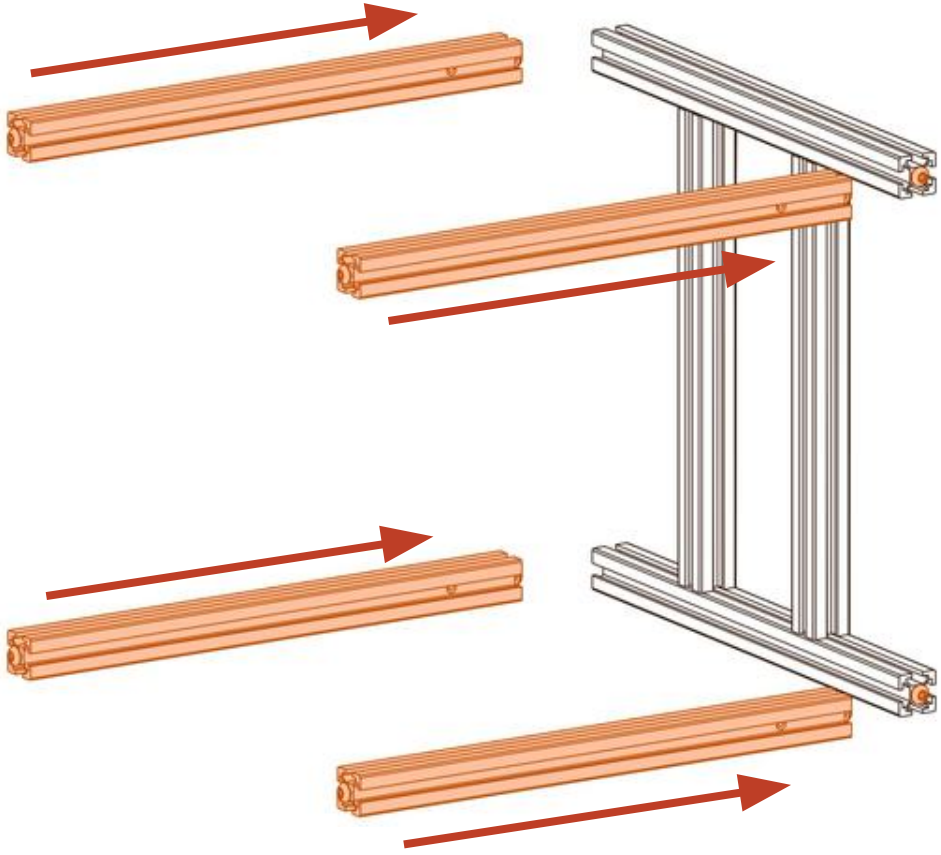


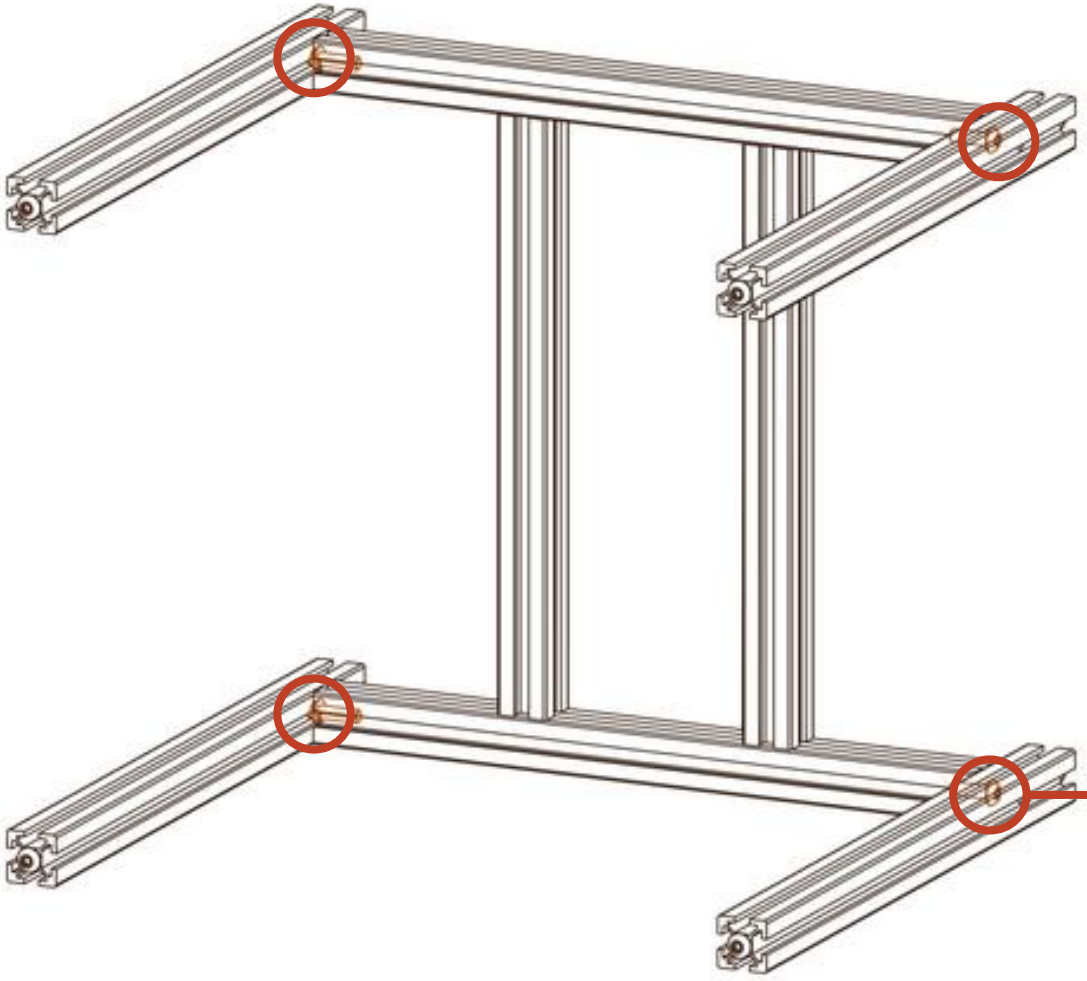
8x M5x16 BHCS

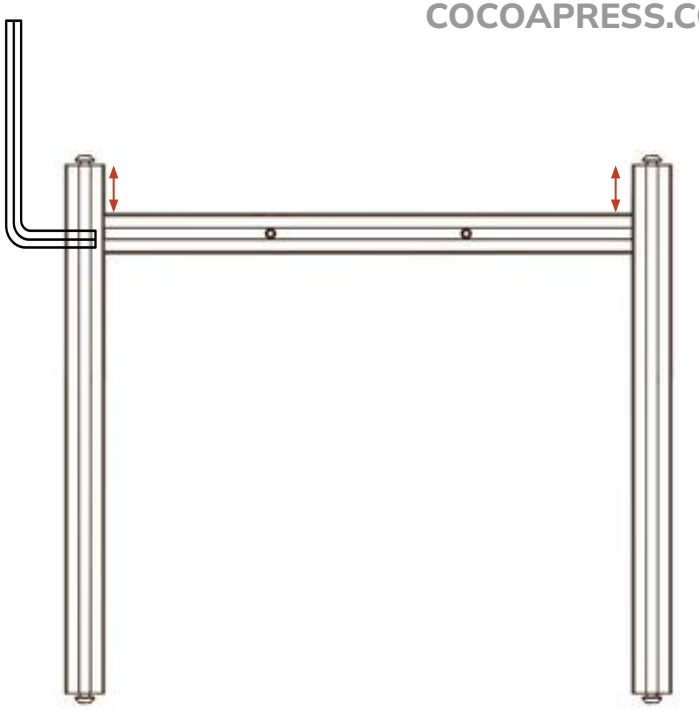


D Extrusions



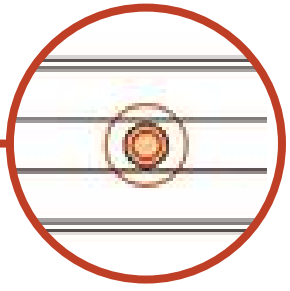


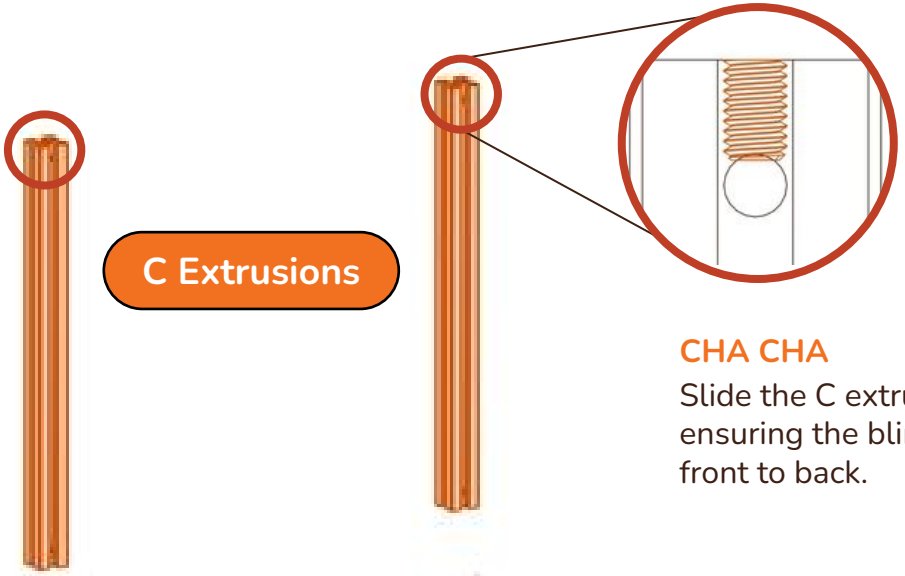


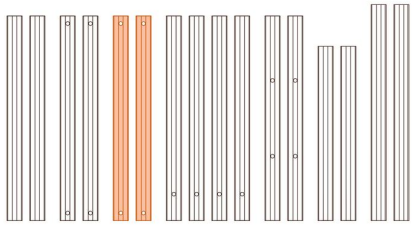


BLIND JOINTS

Secure the M5 screws by inserting an allen key through the access holes. Adjust the position of the D extrusions so the screws align with the access holes on extrusion D.

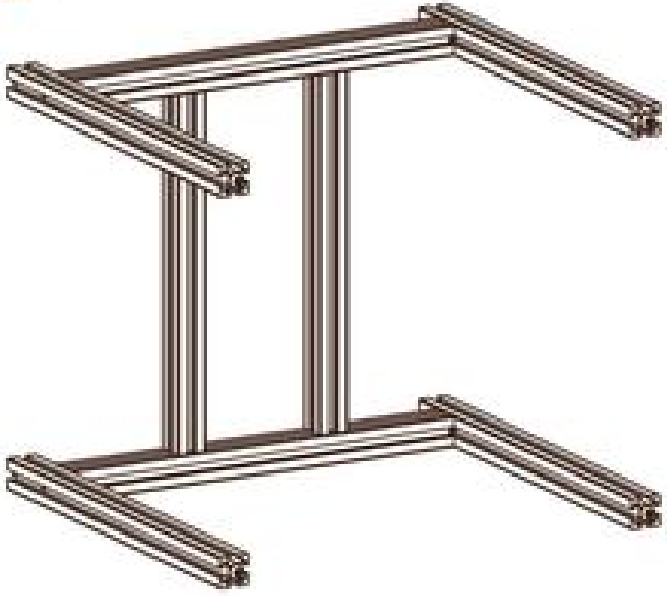


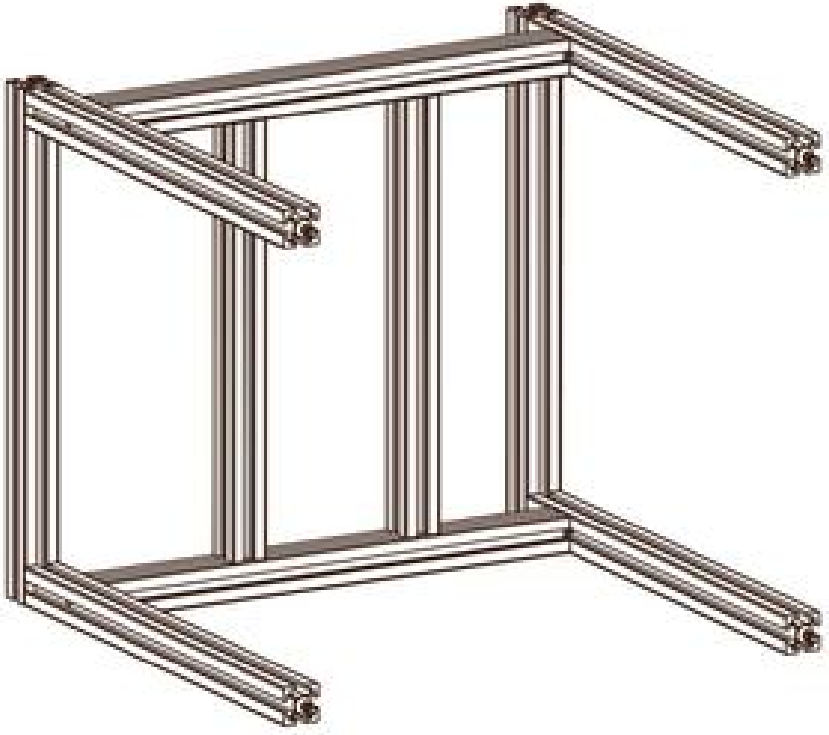




CHA CHA

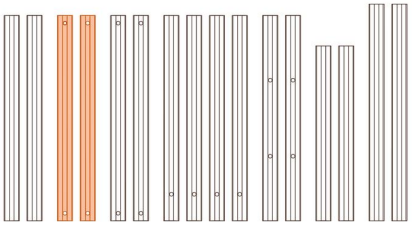
Slide the C extrusions onto the frame, ensuring the blind joint holes are oriented front to back.

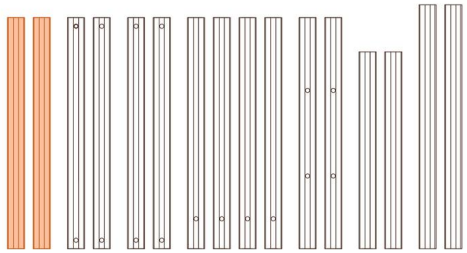


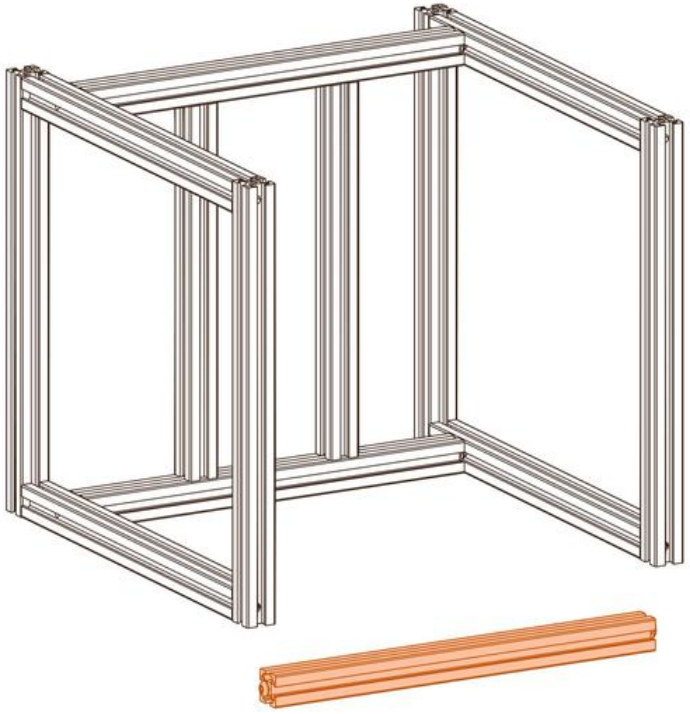


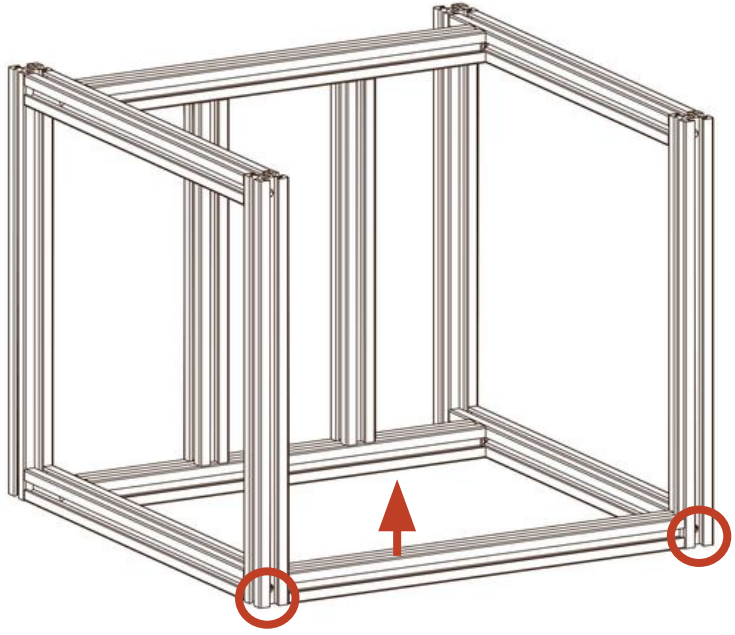
ORIENTATION MATTERS

The B extrusions have cross drilled holes on one end. Make sure these cross drilled holes are to the bottom. Tighten screws.









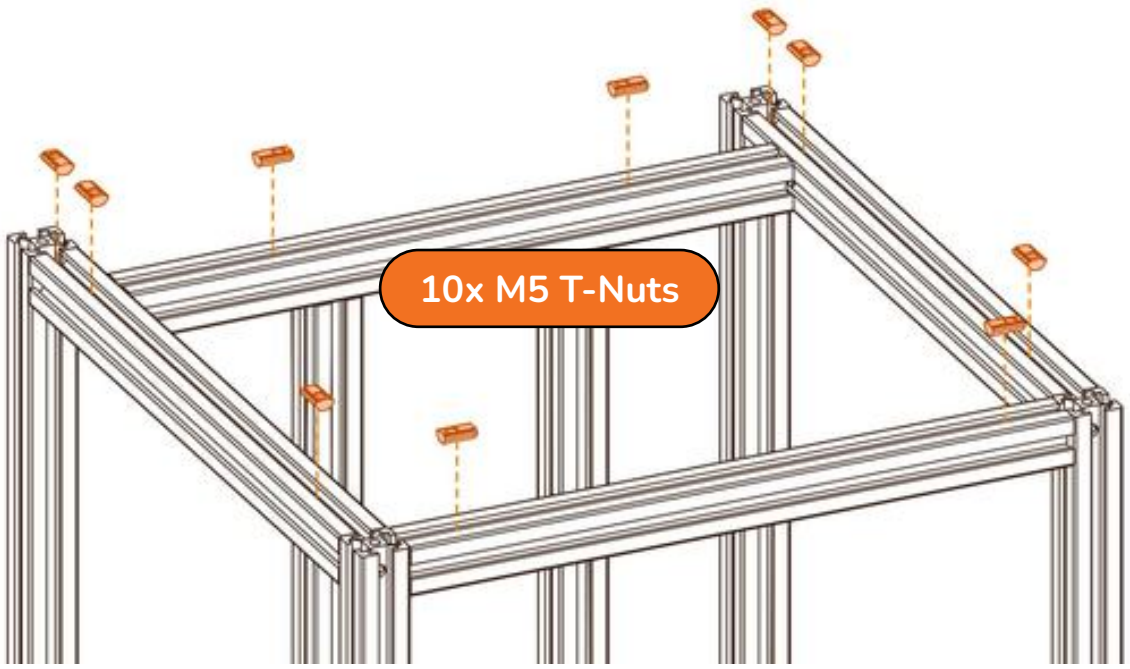


A Extrusion

2x M5x16 BHCS

TIGHTEN THE BLIND JOINTS

This is the final piece of the frame. Now is a good opportunity to take some extra time to ensure your connections are tight and everything is square.



FLIP THE PRINTER OVER

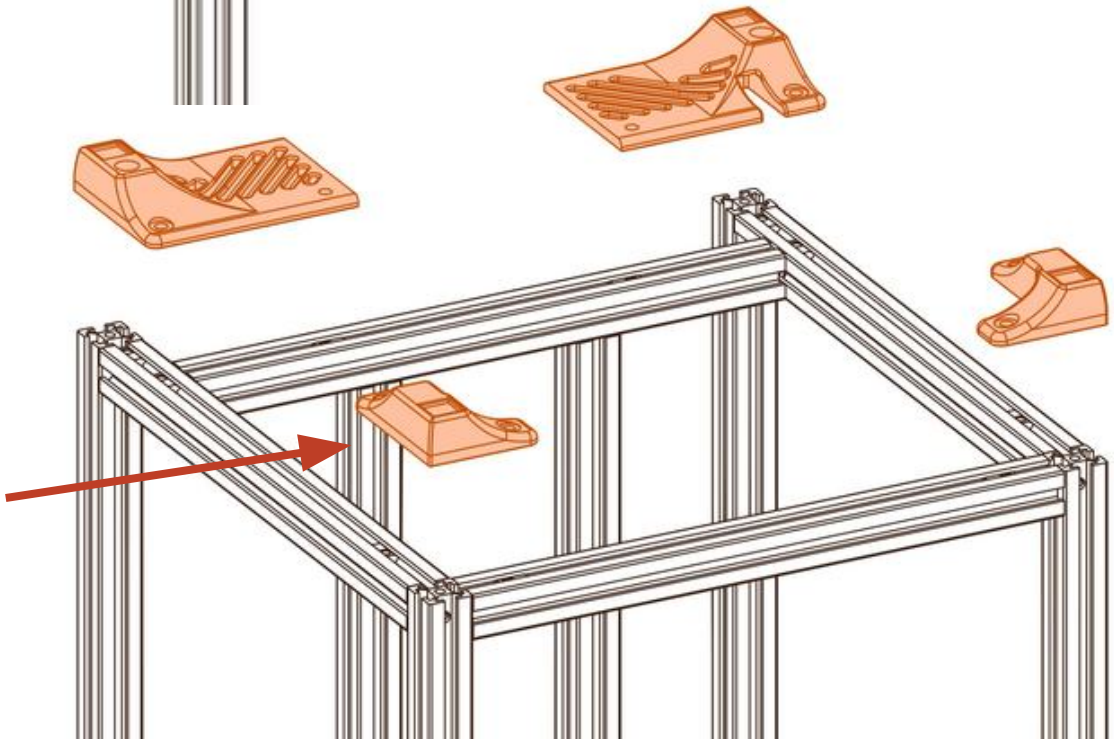
These T-nuts and printed parts are for the feet. On the bottom of the frame, make sure you have the assembly oriented correctly so it matches the pictures.

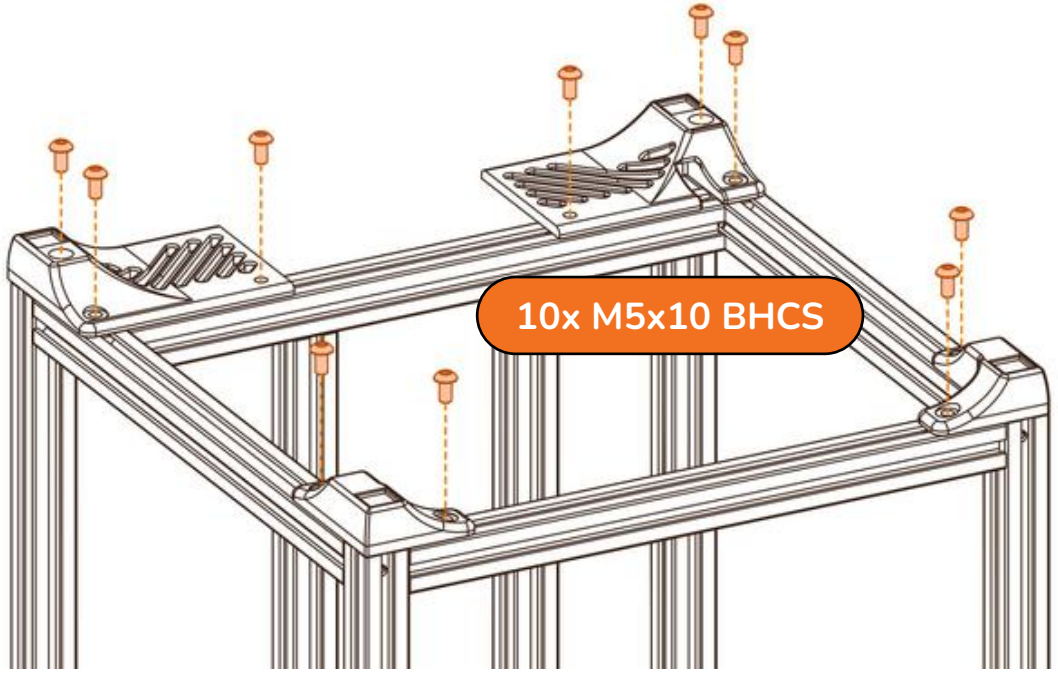
ORIENTATION MATTERS

Follow the orientation of the T-nuts as shown above, If installed backward, the T-nuts will prevent the printed bases from tightening fully against the frame.

OH LONG JOHNSON

Ensure the long edges of the feet are on the outside of the printer.



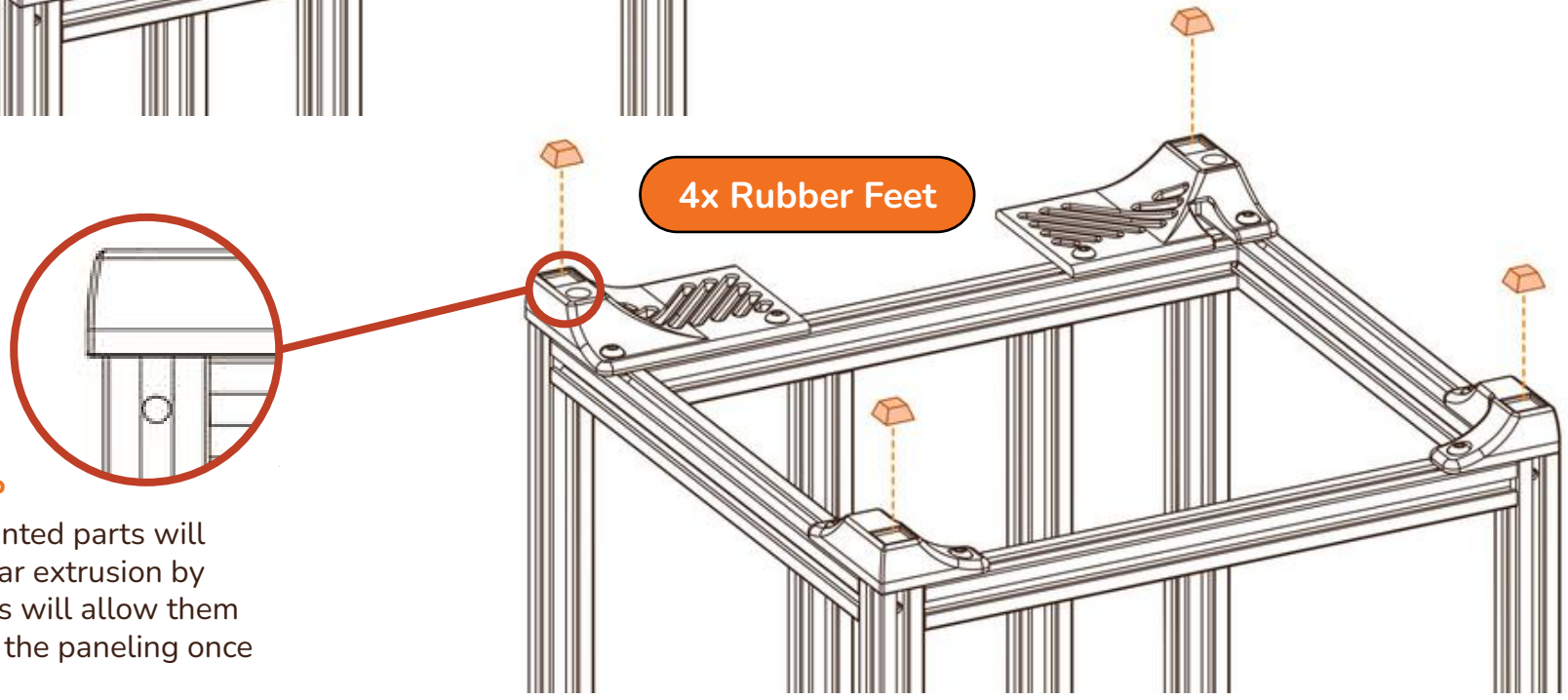


CAN'T FIND MY SHOES!

If you can't find the rubber feet in your kit, check the Fasteners & Tools box. After all, every great build starts on solid ground.

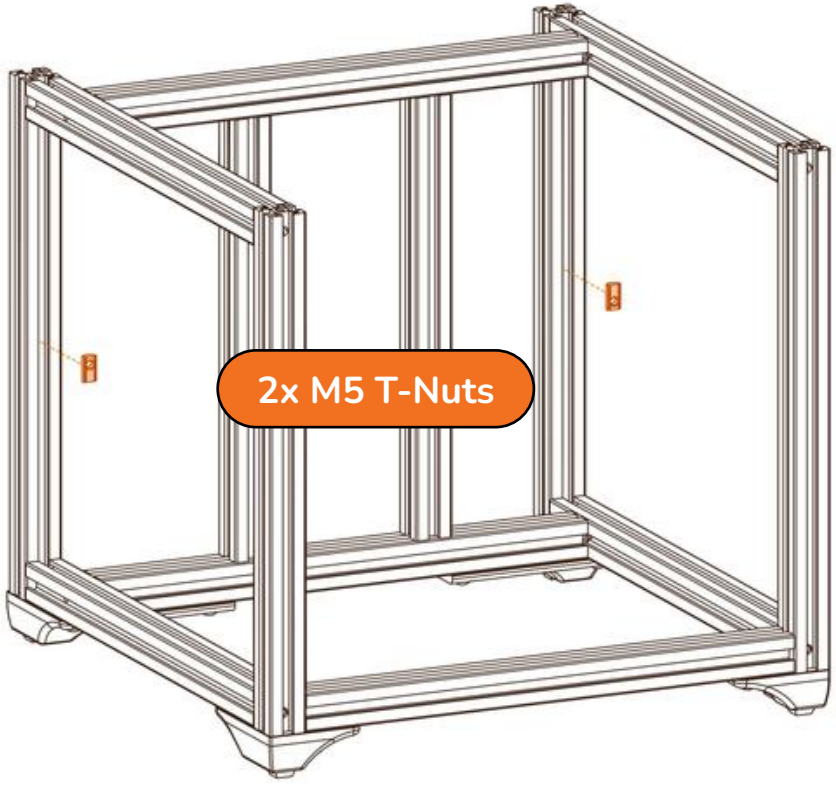
PRESSURE SENSITIVE ADHESIVE

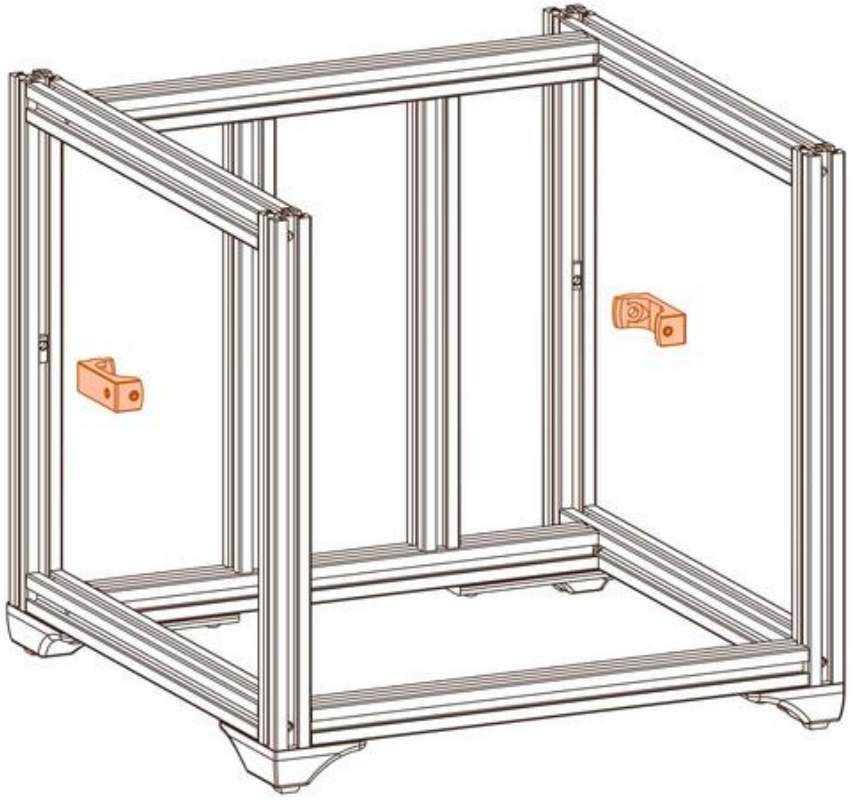
The feet have 3M PSA pre-applied. It requires pressure to adhere correctly to the plastic parts.

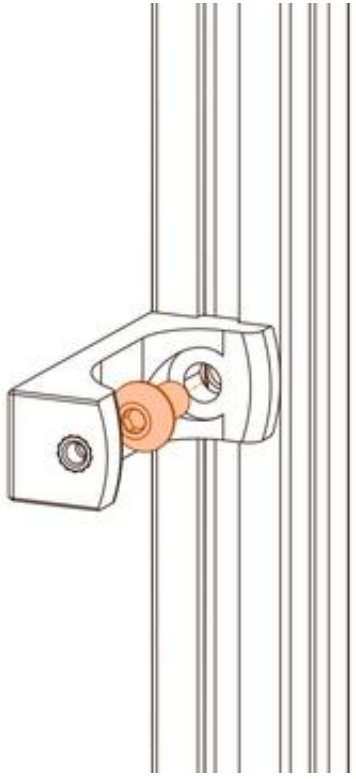


MIND THE GAP

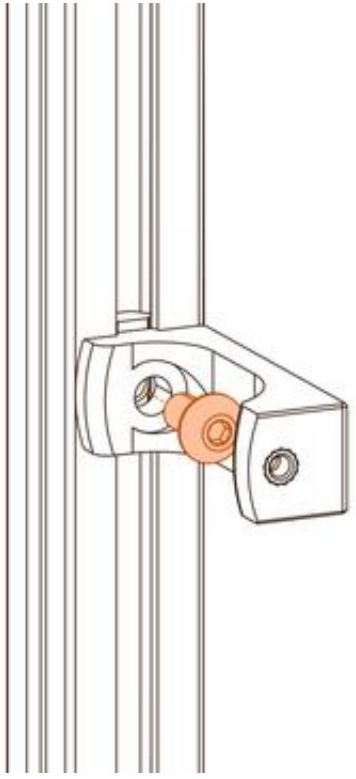
The two rear printed parts will overhang the rear extrusion by about 3mm. This will allow them to be flush with the paneling once it is installed.


2x M5 T-Nuts





2x M5x10 BHCS



VERTICAL POSITIONING

We will align these supports with the mid panel at a later step. Their position at this time is not critical. Leave these slightly loose for now.

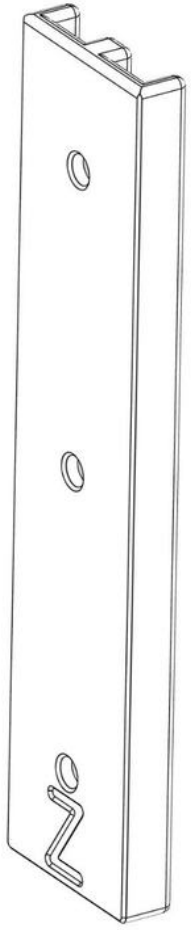
GRAVITY IS YOUR FRIEND

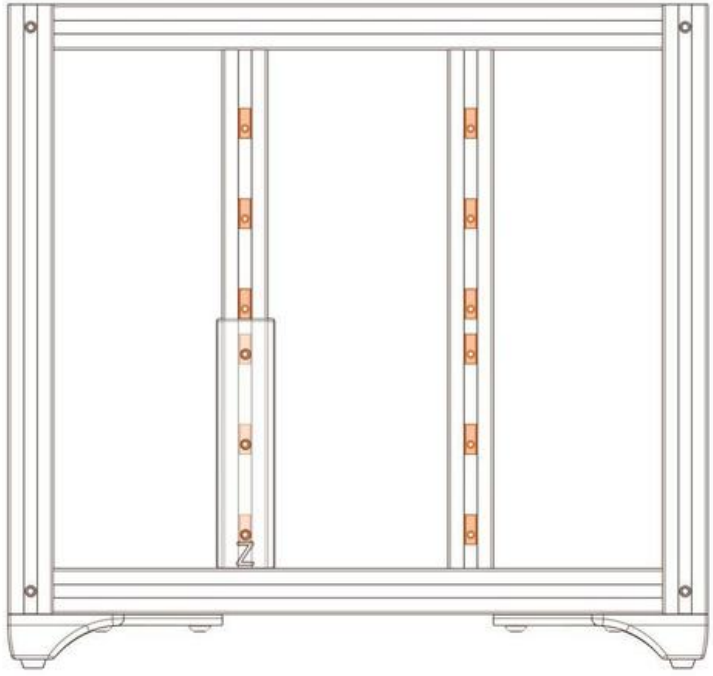
Laying the printer on its back may help with the installation of the T-nuts. Install them on the next page.

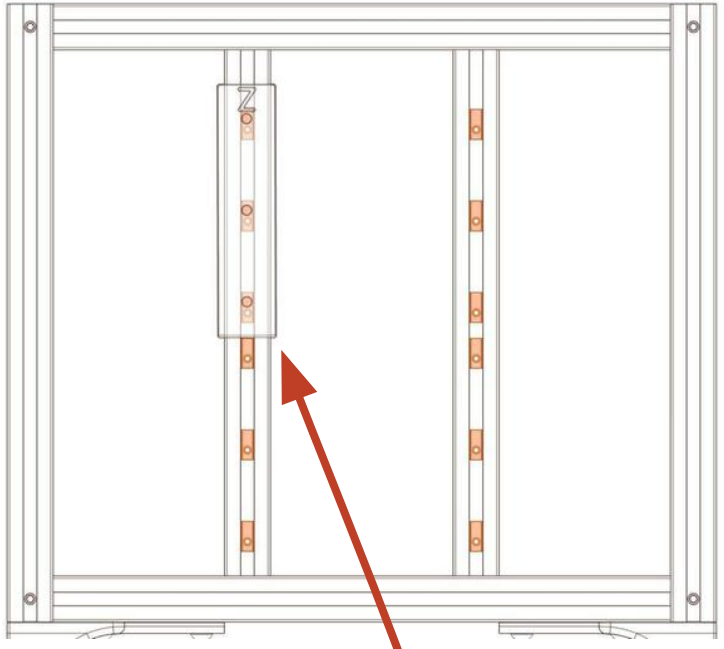


M3, WHO IS SHE?

This is the first time we use M3 T-nuts. Be sure to select the right type, as otherwise a significant amount of disassembly may be required.





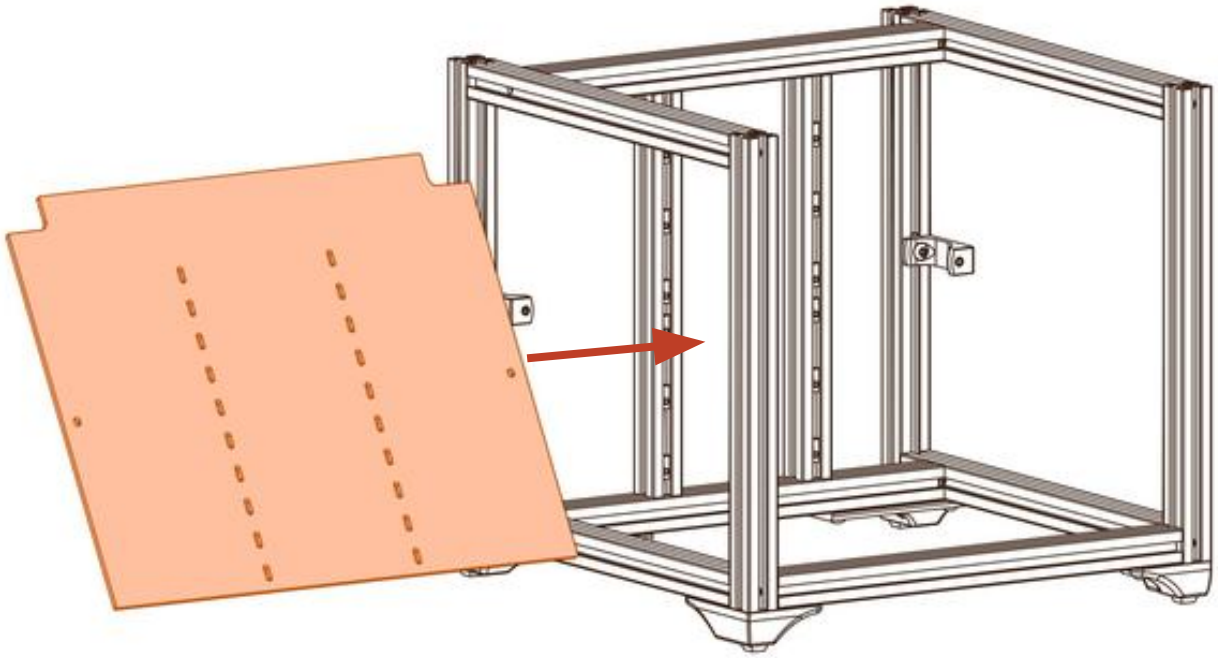


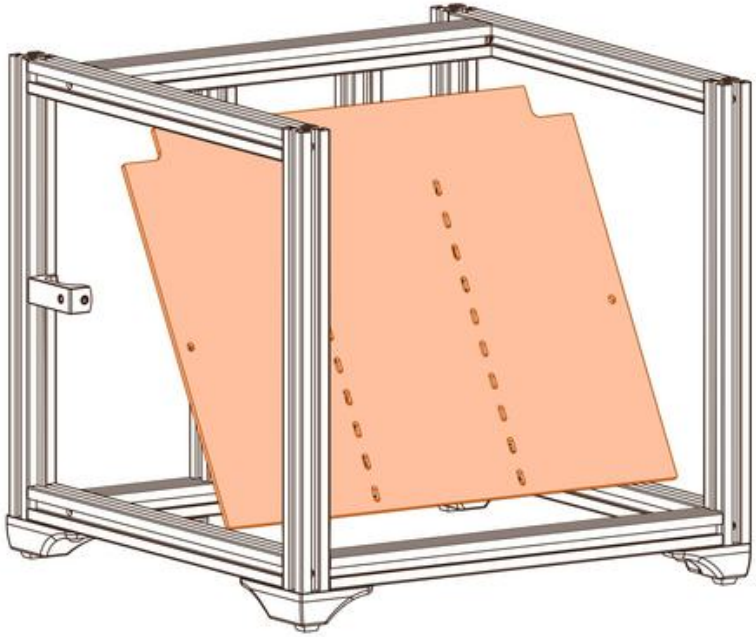
WIGGLE IT, JUST A LITTLE BIT

Use the Z Rail Height Jig to set the T-nuts to a proper spacing.

Start on the bottom with the jig pushed all the way to the bottom. Gently pushing it in while sliding it up and down should capture the nuts if they are close to the right position already.

After the bottom set is aligned, align the top set relative to the bottom. Repeat for the second rail.





DON'T PAPER OVER THIS

Remove the protective plastic film from the acrylic before installation.

Tilt the panel to get it into place.

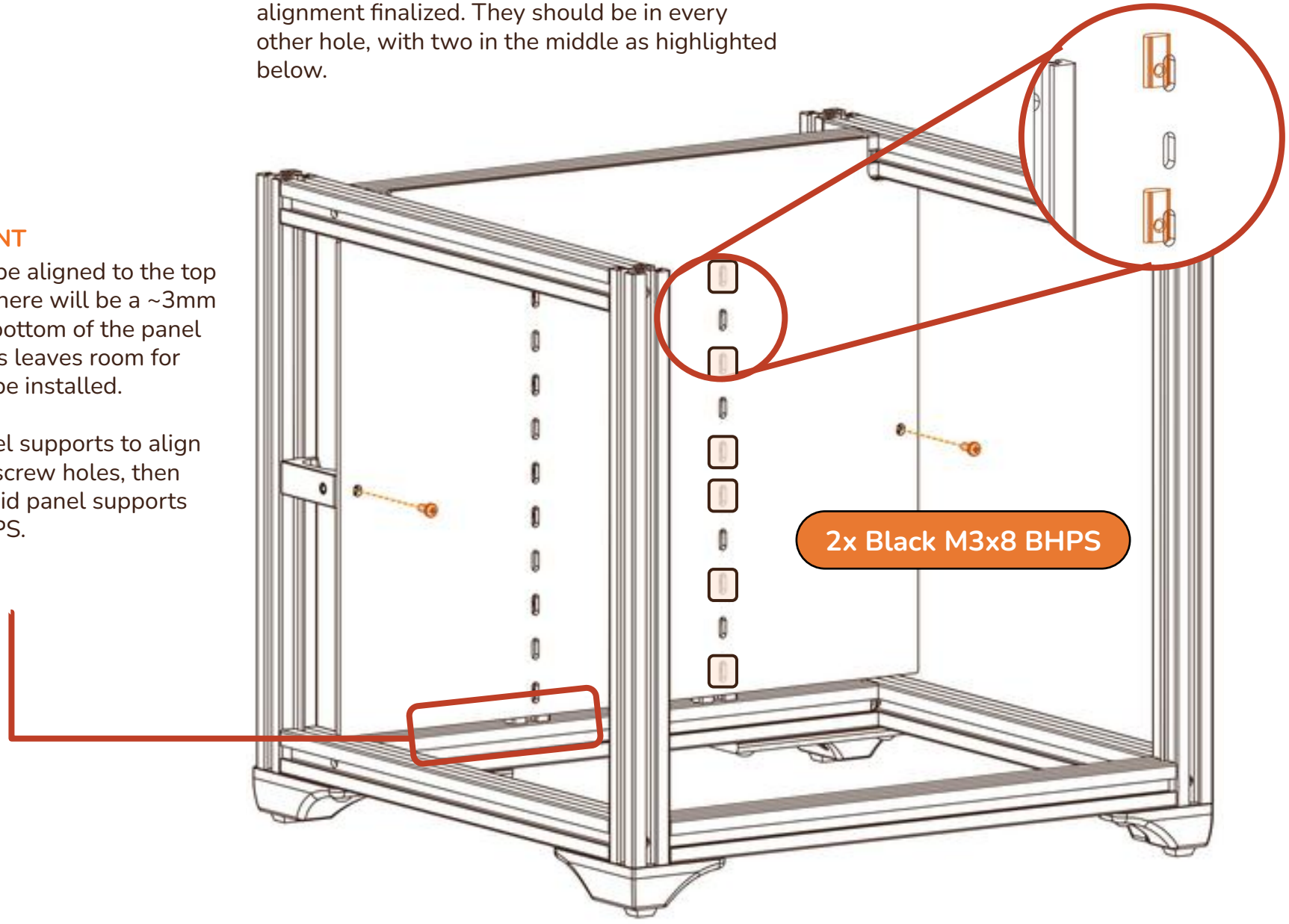
THINKING AHEAD

The M3 T-nuts we just installed need their alignment finalized. They should be in every other hole, with two in the middle as highlighted below.

PANEL ALIGNMENT

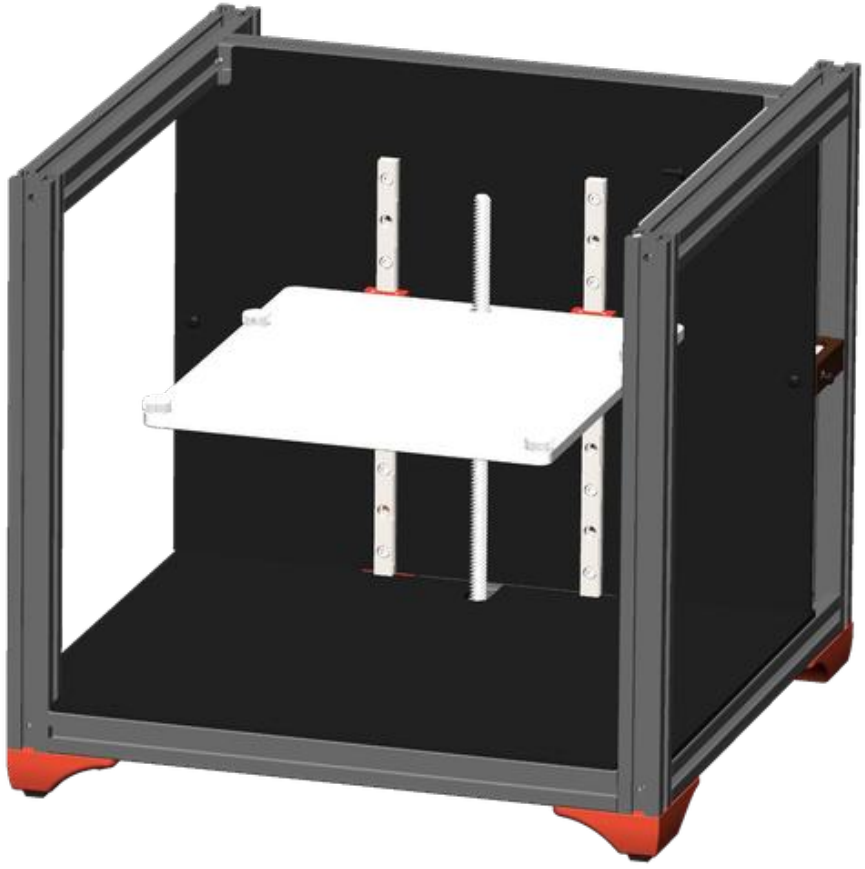
The panel should be aligned to the top of the extrusion. There will be a ~3mm gap between the bottom of the panel and the frame. This leaves room for the deck panel to be installed.

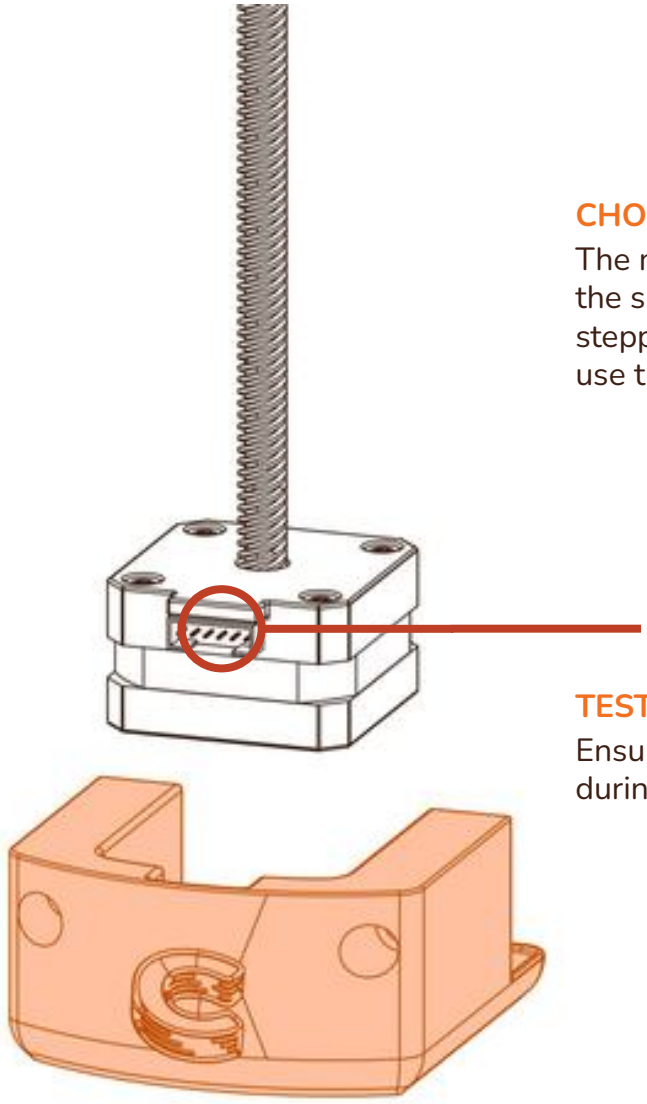
Move the mid panel supports to align properly with the screw holes, then tighten both the mid panel supports and the M3x8 BHPS.



COCOA PRESS

Chapter 3:
Z Axis



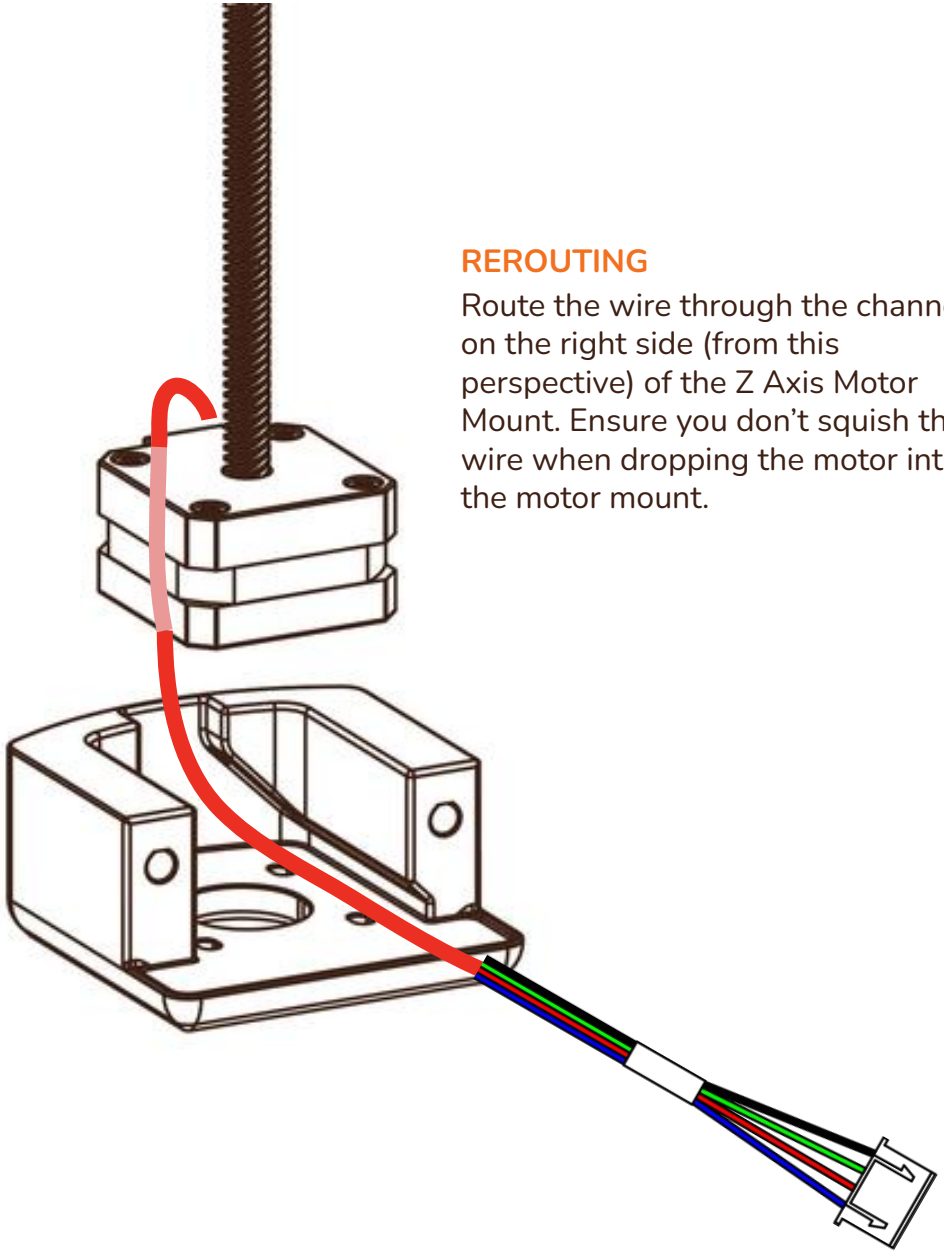


CHOOSE YOUR ENGINE

The motor used for the Z axis is the smallest and lightest of the stepper motors, so be sure to use the right one.

TESTING—1, 2, 3

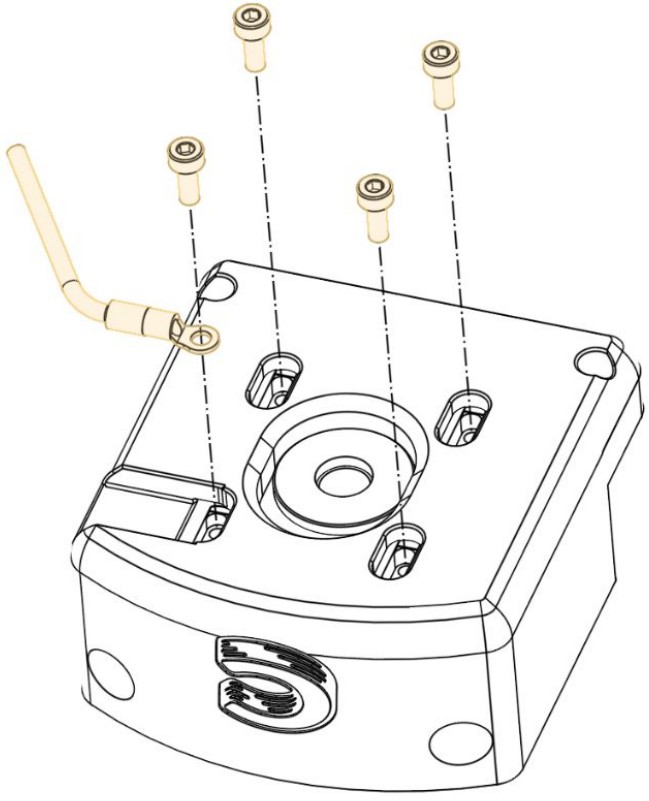
Ensure the wire didn't disconnect during shipping.



REROUTING

Route the wire through the channel on the right side (from this perspective) of the Z Axis Motor Mount. Ensure you don't squish the wire when dropping the motor into the motor mount.

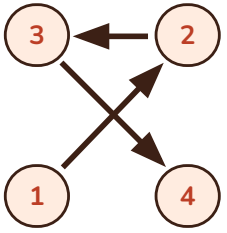
4x M3x8 SHCS



DIAGONALS REACT

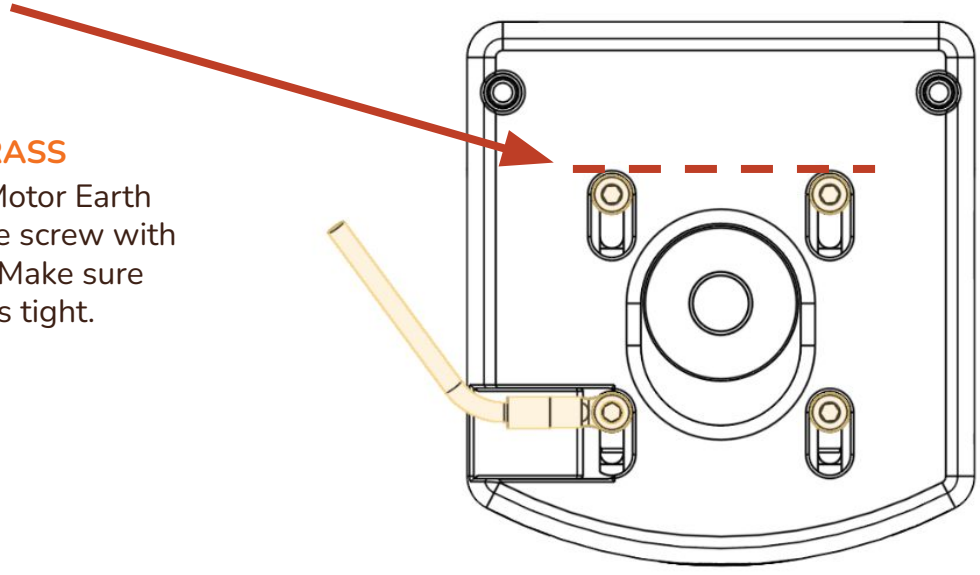
When tightening the M3x8 fasteners, follow the diagram on the right to ensure the motor is fastened evenly and securely. This also reduces strain on any single fastener.

These fasteners are in slotted holes for later adjustment. Move them all the way to the back side (away from the C logo) for now.



TOUCH GRASS

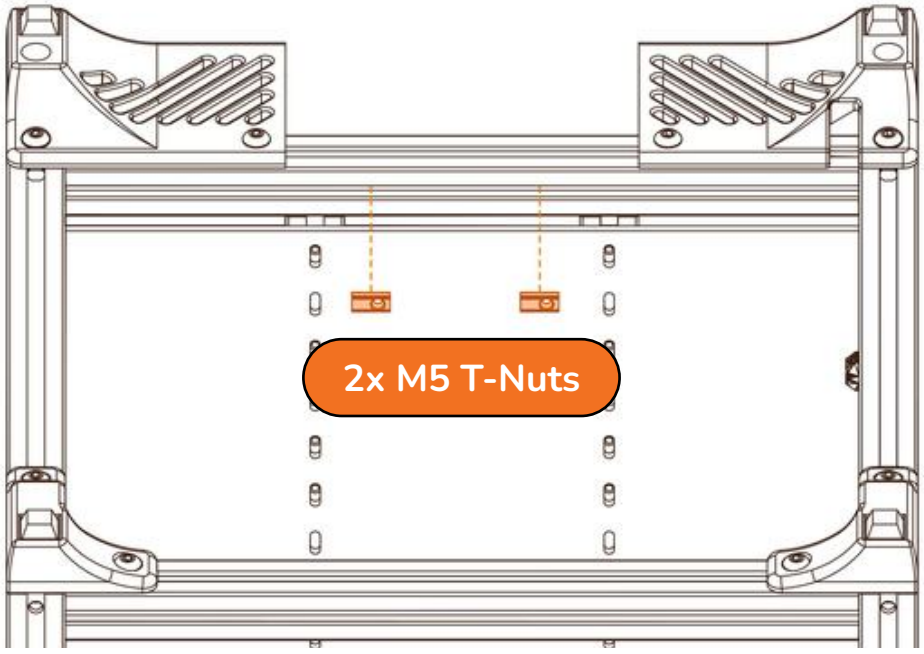
Use the Z Motor Earth cable on the screw with the cutout. Make sure this screw is tight.

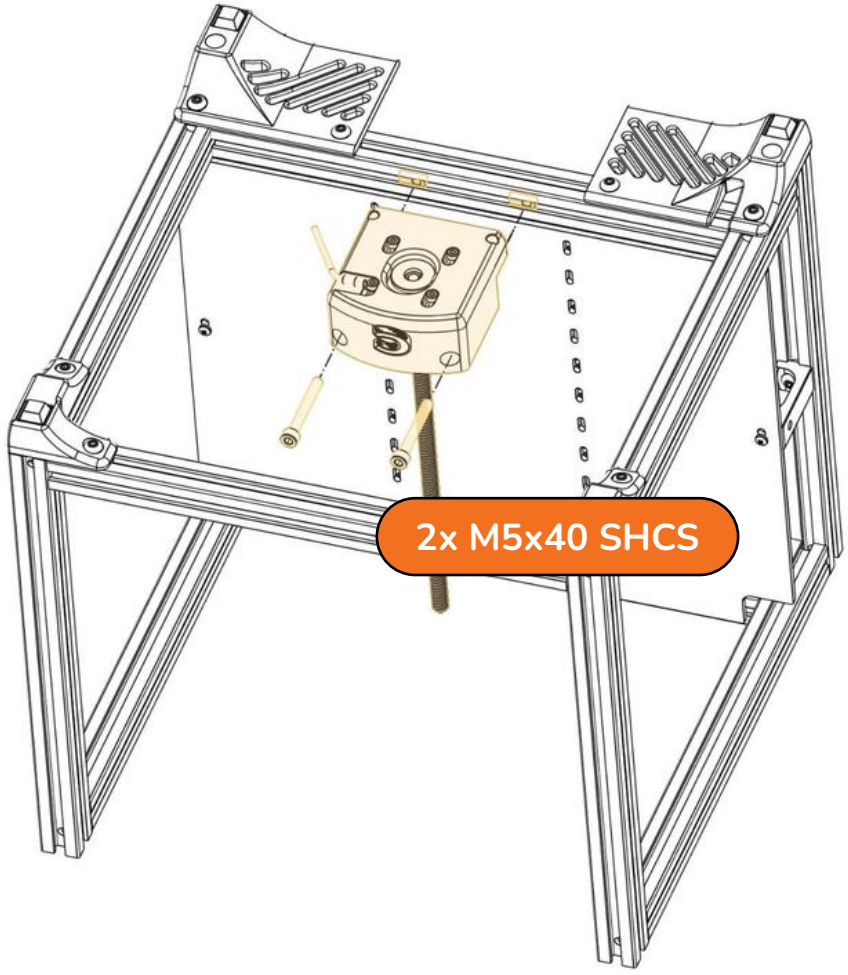


CENTER THE Z MOTOR

The Z motor should be positioned an equal distance from each side for proper bed alignment later on.

Leave the mounting screws very loose for now.

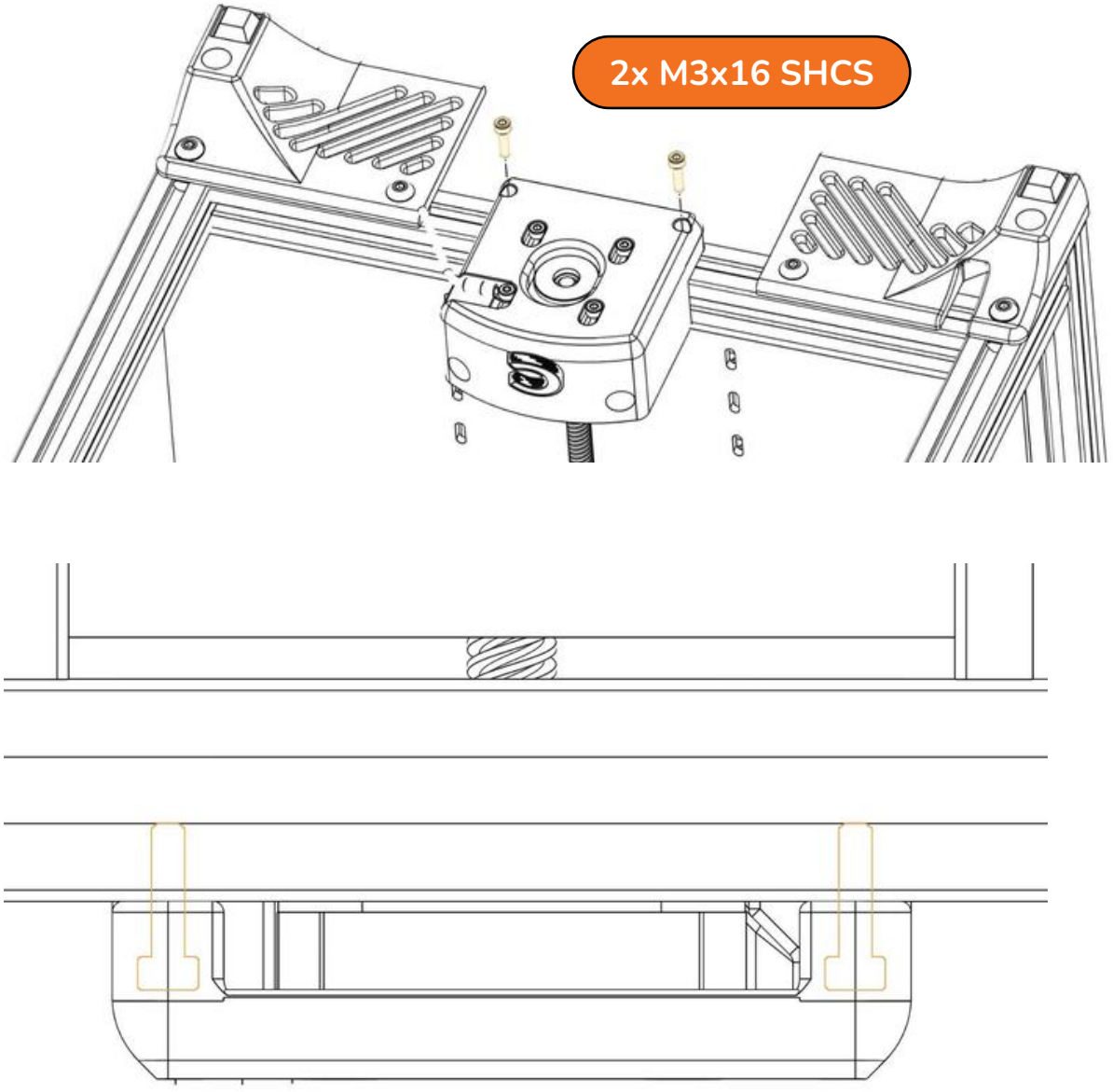




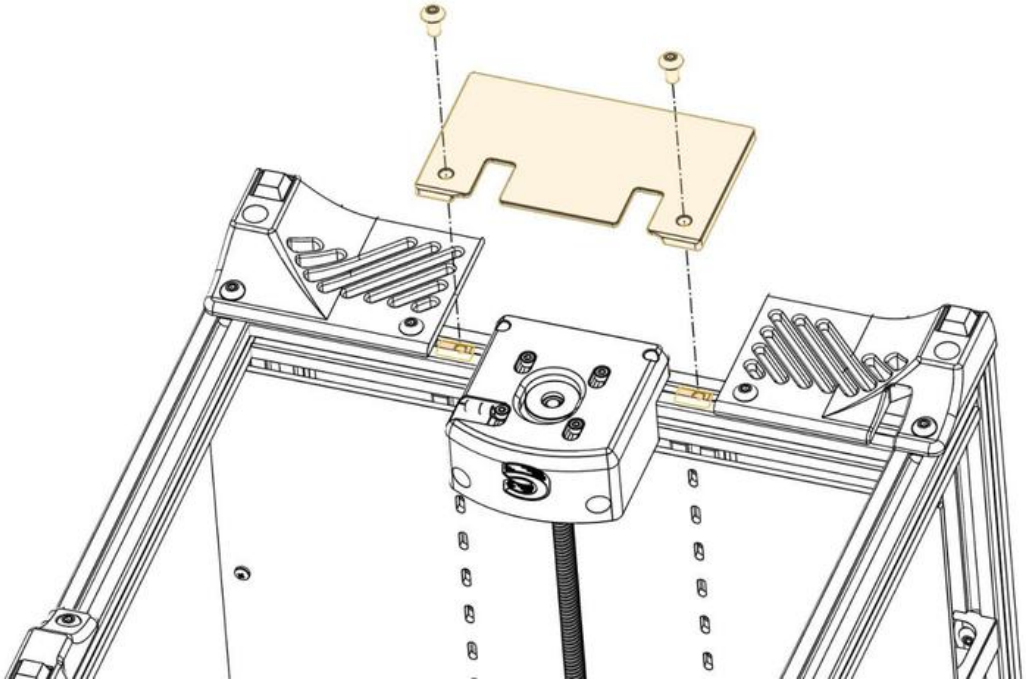
PRECISE ADJUSTMENT

While holding the motor mount in place, tighten two M3x16 SHCS so their ends are just touching the **inside** of the extrusion. These can be used to make micro adjustments to the angle of the leadscrew if it's not cooperating later on.

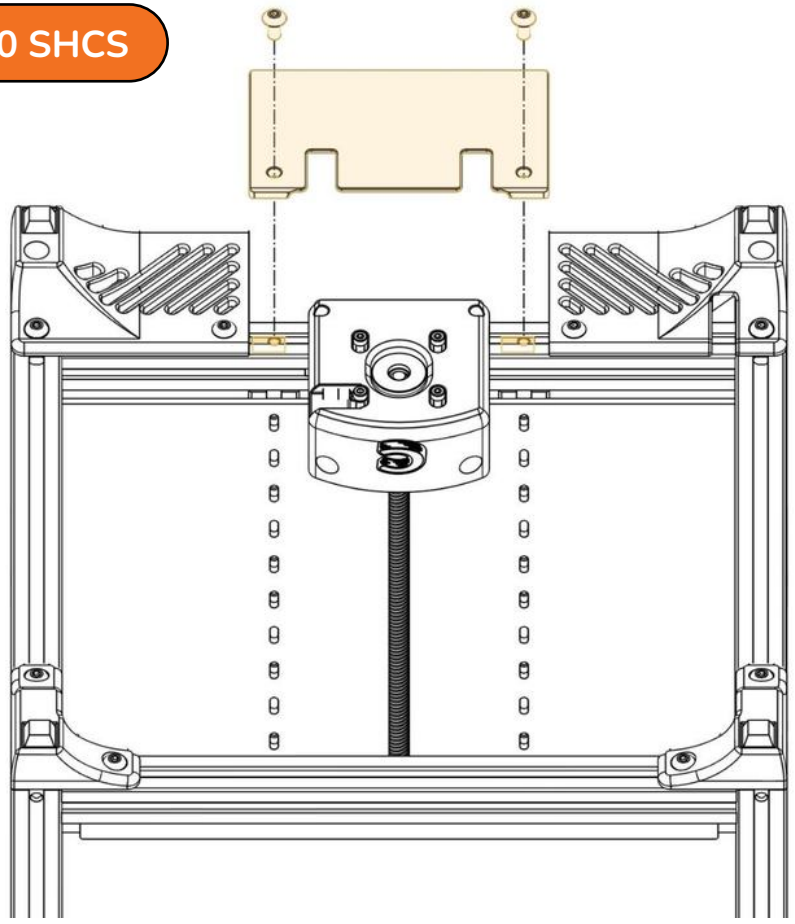
Tighten the M5x40 screws from the last page.



2x M5 T-Nuts



2x M5x10 SHCS

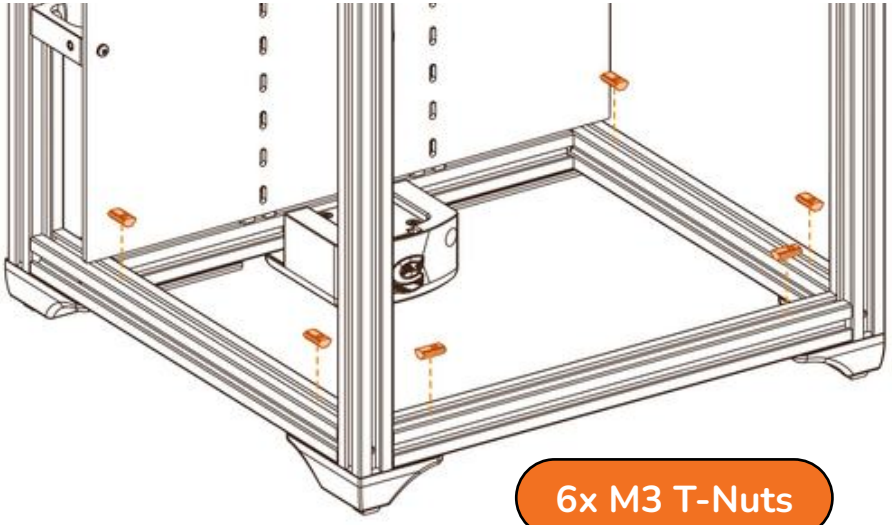


COVER UP

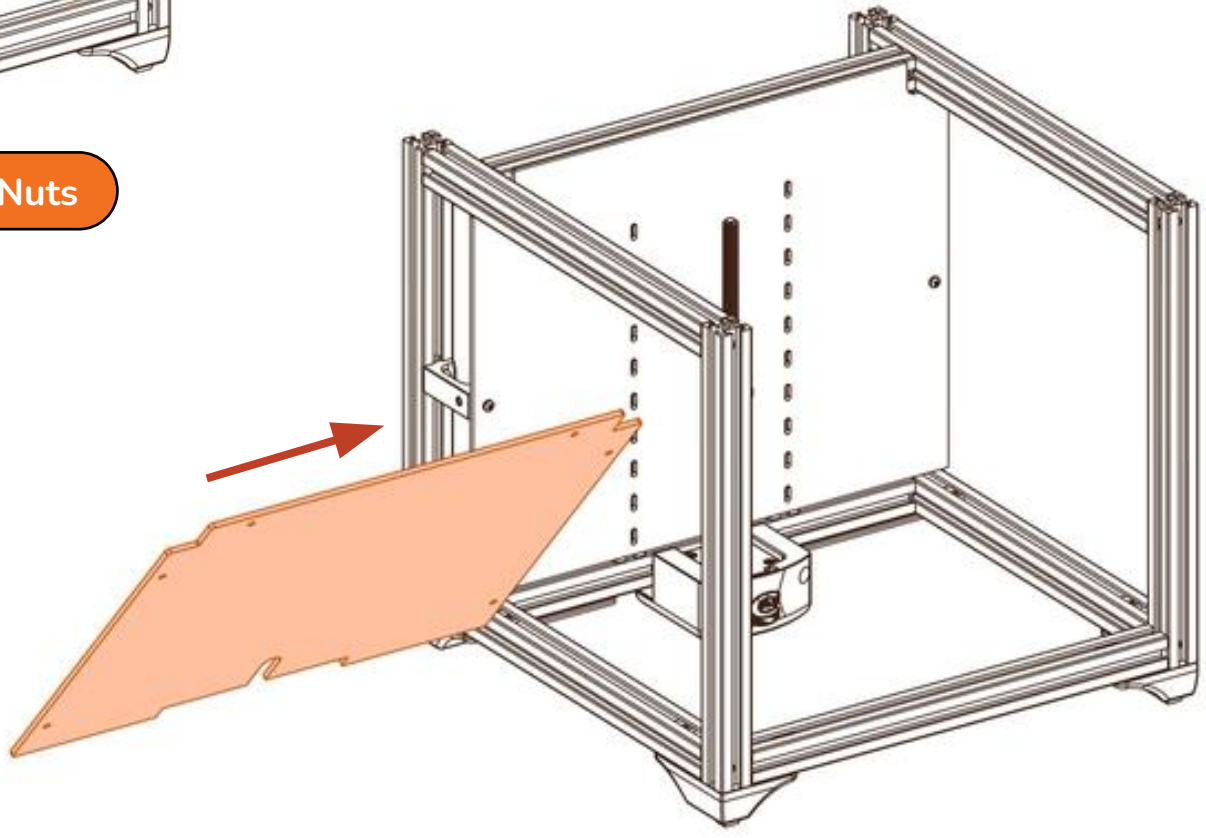
Install 2 M5 T-nuts into the bottom of the extrusion, one on either side of the Z motor.

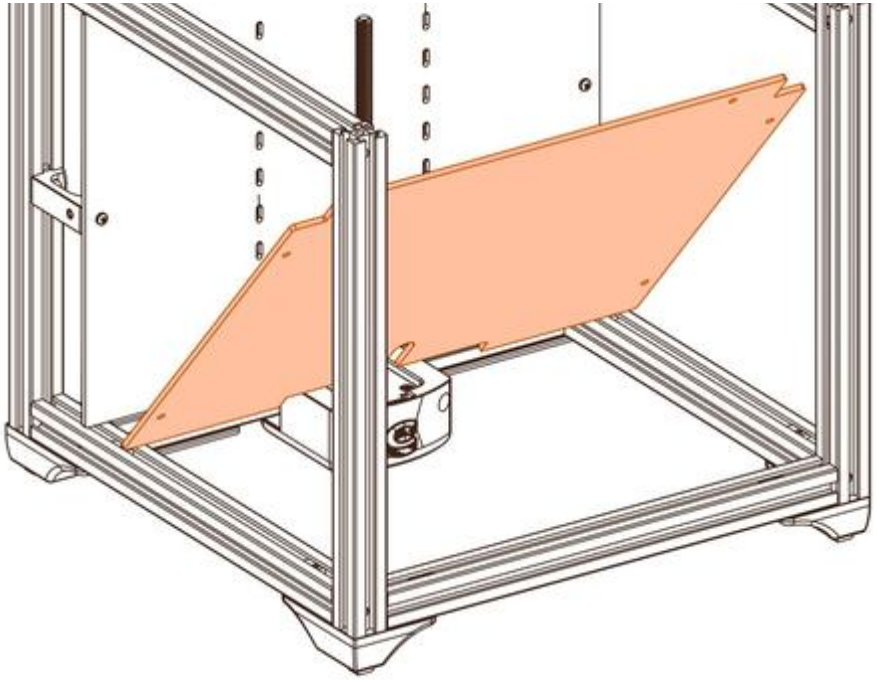
(DON'T) PINCH ME, I'M DREAMING

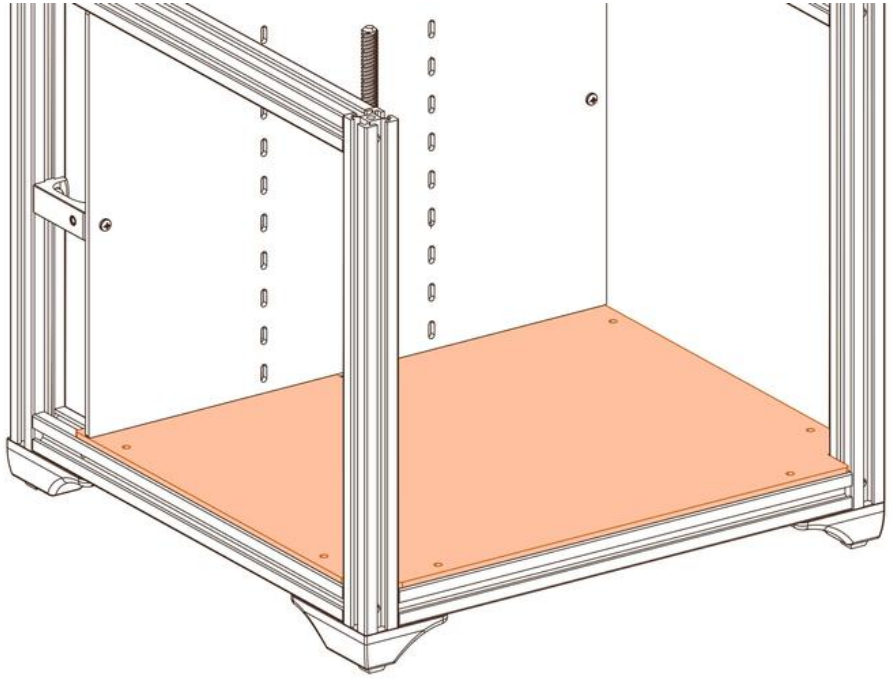
Route the Z motor cable and Z Motor Earth cable under the Lower Center Cover. Slide it in from the back and screw it in with 2 M5x10 SHCS.



6x M3 T-Nuts

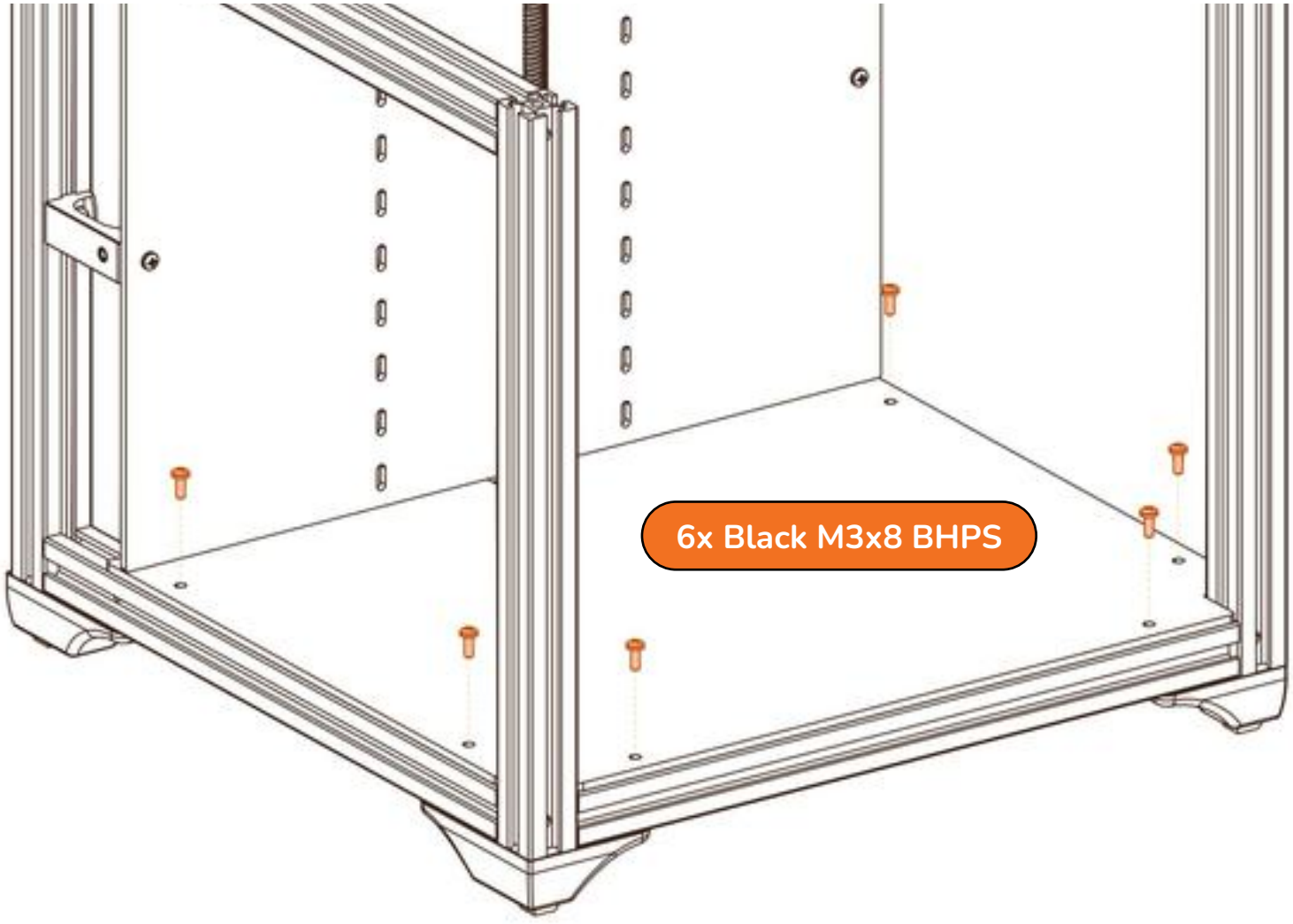


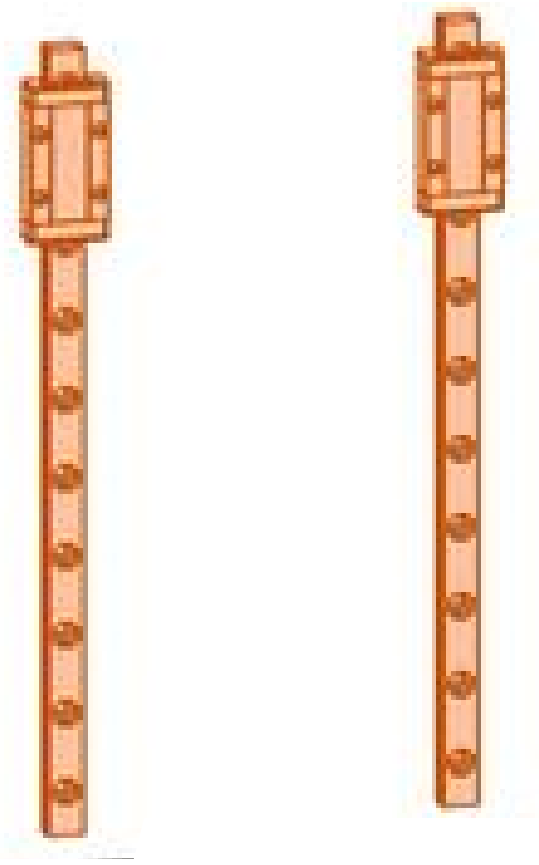




T-NUT ALIGNMENT

The T-nuts we installed need to be aligned with the holes in this panel. Holding the edge of the panel to the extrusion can make ensuring the correct spacing for the T-nuts easier.


6x Black M3x8 BHPS



2x MGN9H Rails

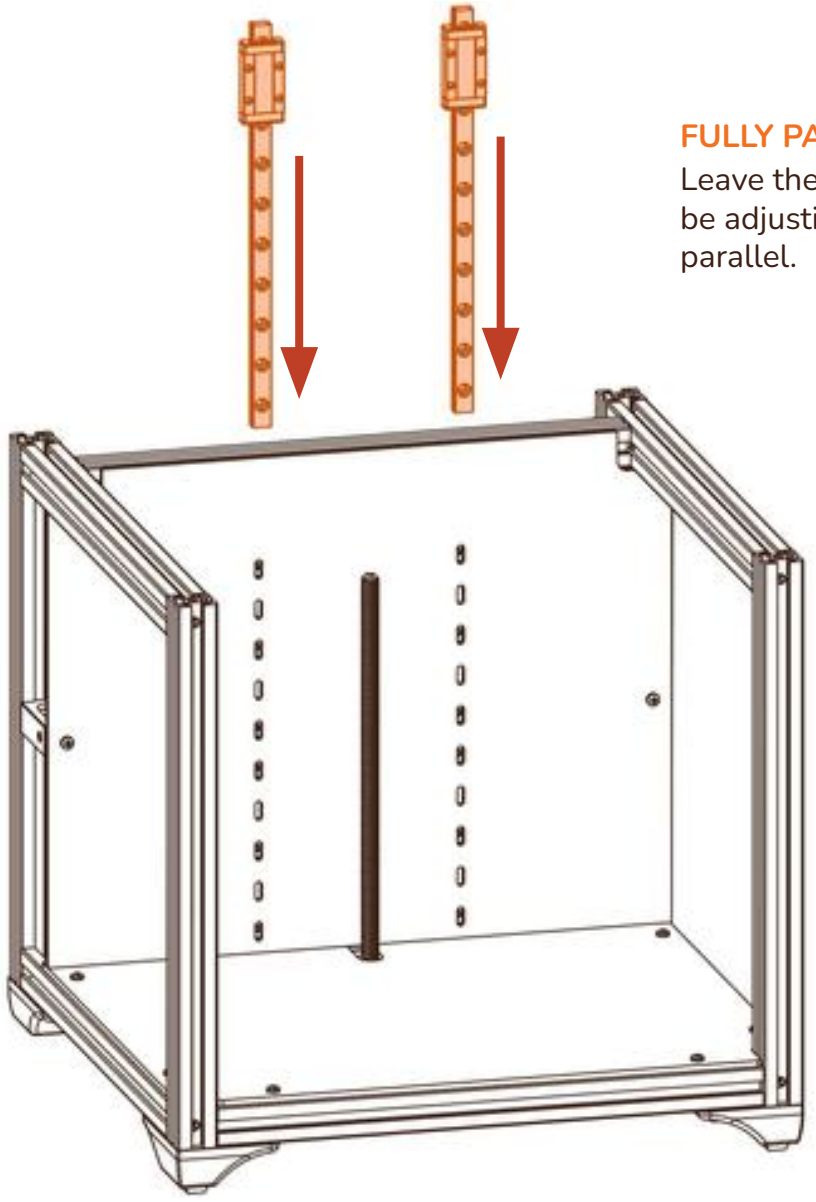
MIND THE CARRIAGES

The carriages are designed to slide along the rail easily.
This unfortunately also includes sliding off the rails.

Dropping the carriage will result in irreparable damage. Take extra care to ensure that the carriages do not accidentally slide completely off the rails.

All rails in your kit are the same except for one. Be sure to leave the narrow one for the Extruder Assembly.

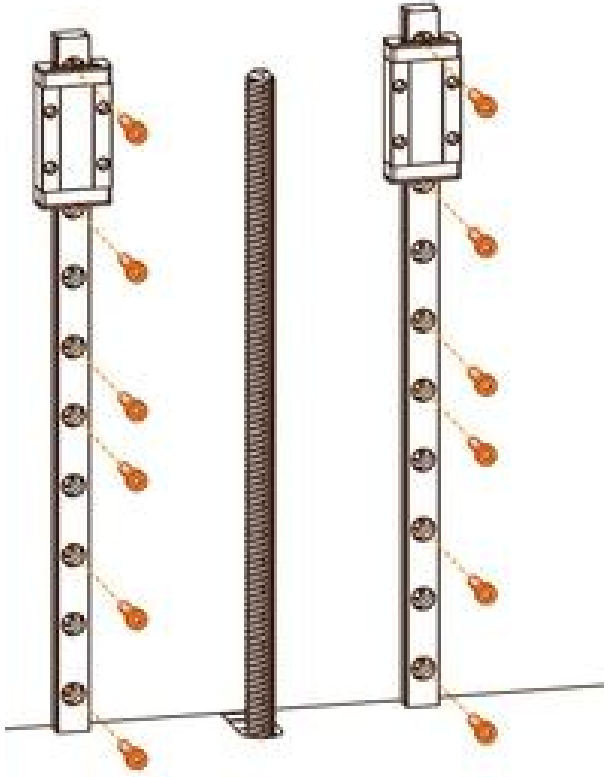
Leave the black rubber stoppers in the rails until the manual tells you to remove them. Damaging linear rails is the #1 mistake we have seen in assembling printers.



FULLY PARALLEL

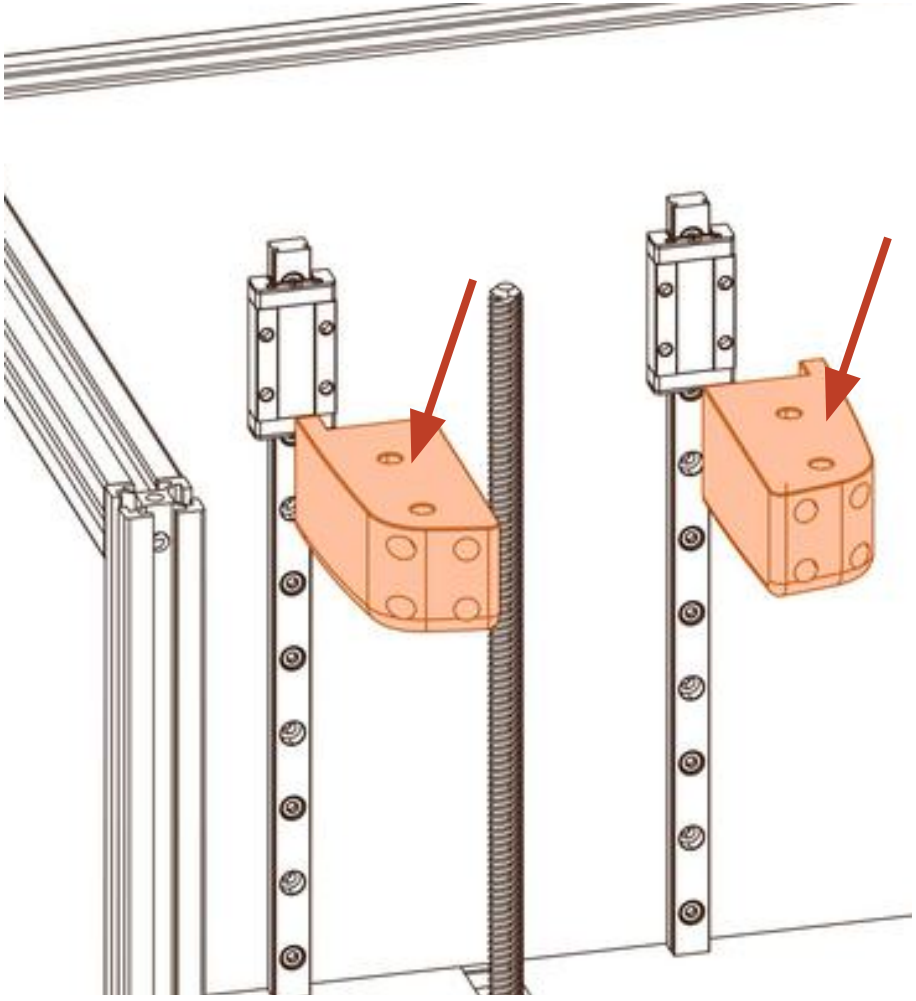
Leave the screws loose for now. We will be adjusting them later to ensure they are parallel.

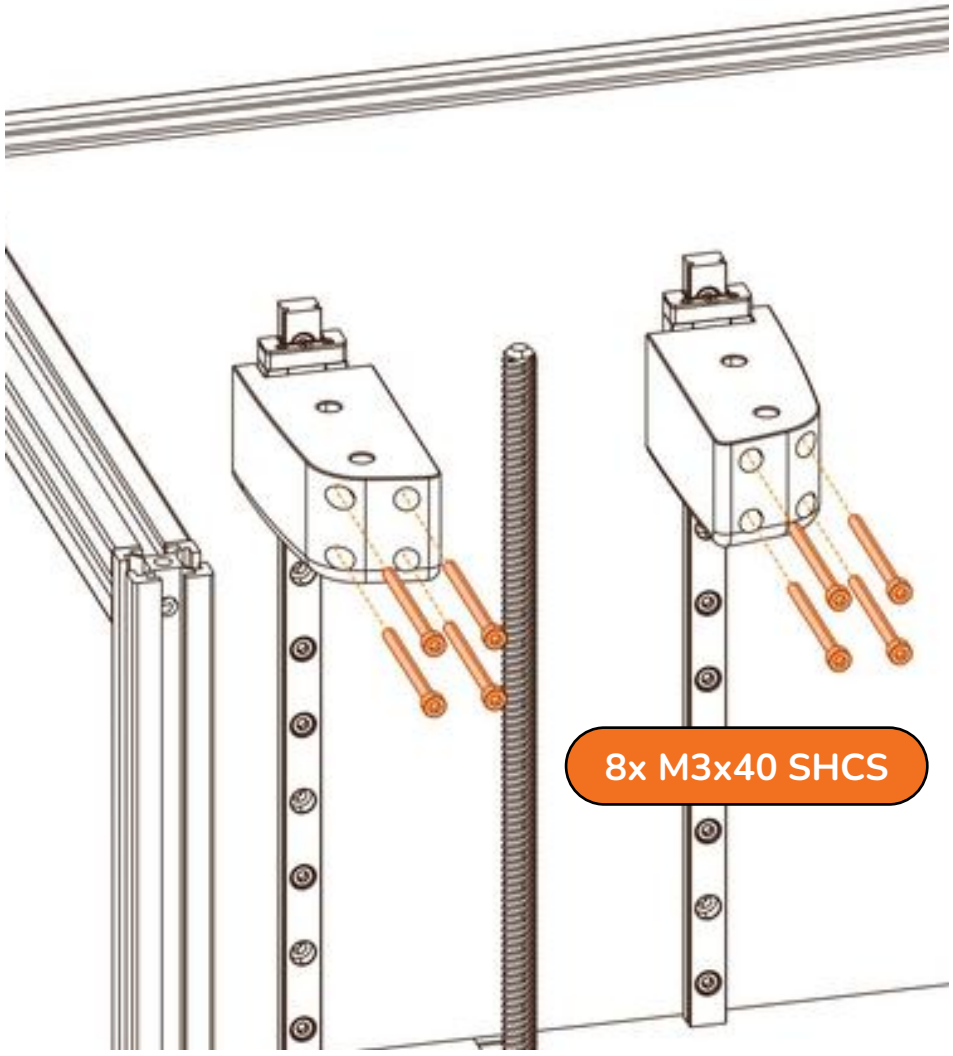
12x M3x10 SHCS

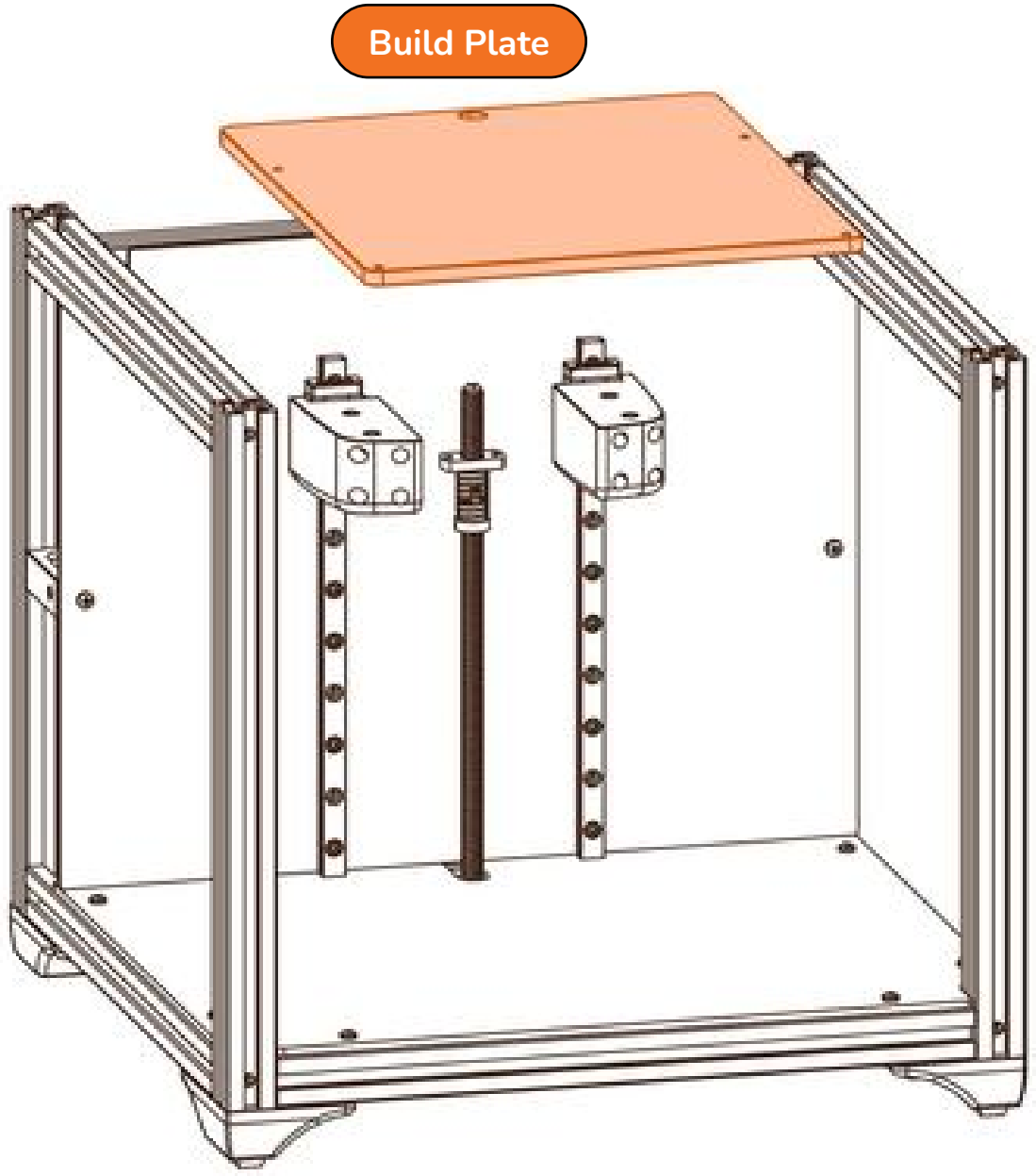


FLAT AS FLATLAND

These printed parts need to be as flat as possible on the top surface the build plate rests on. Failure to have a flat build plate will result in warping and distortion when attempting to calibrate the printer.

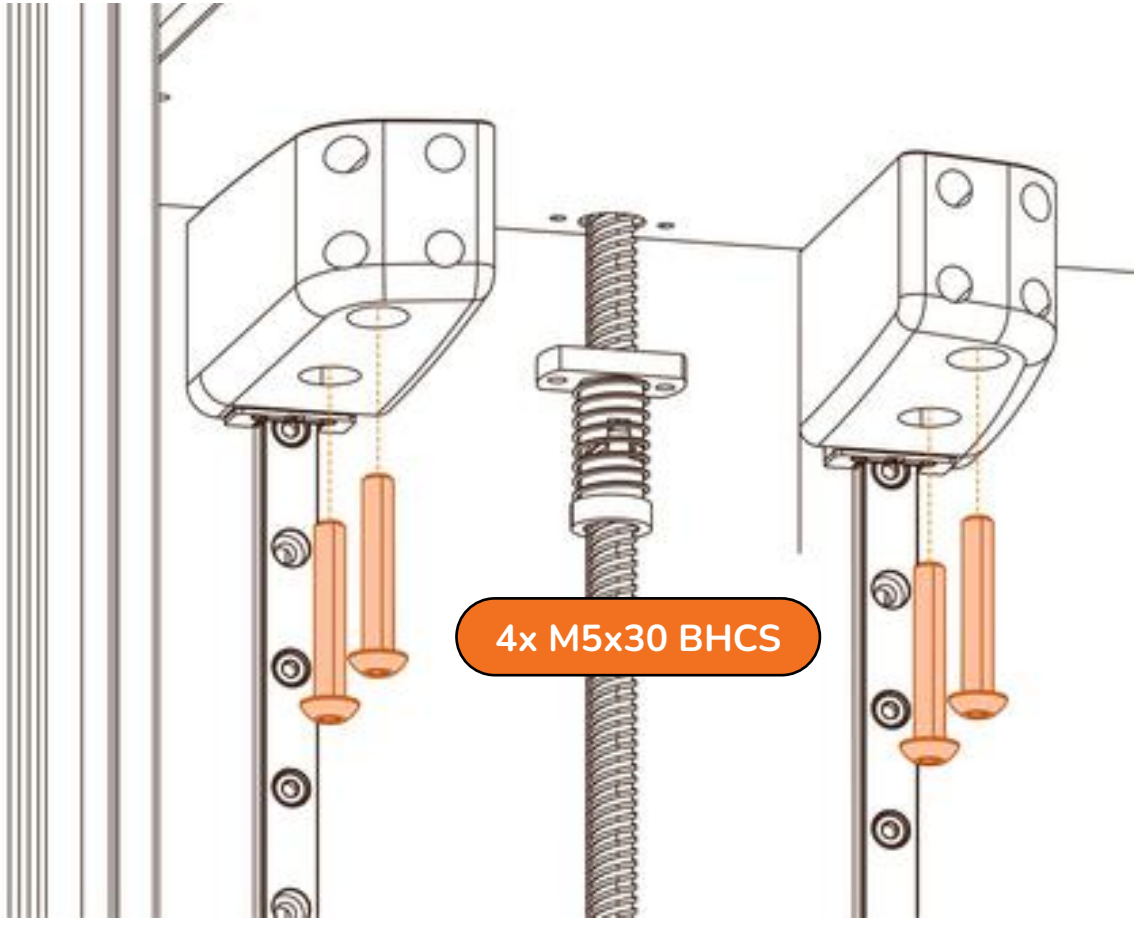


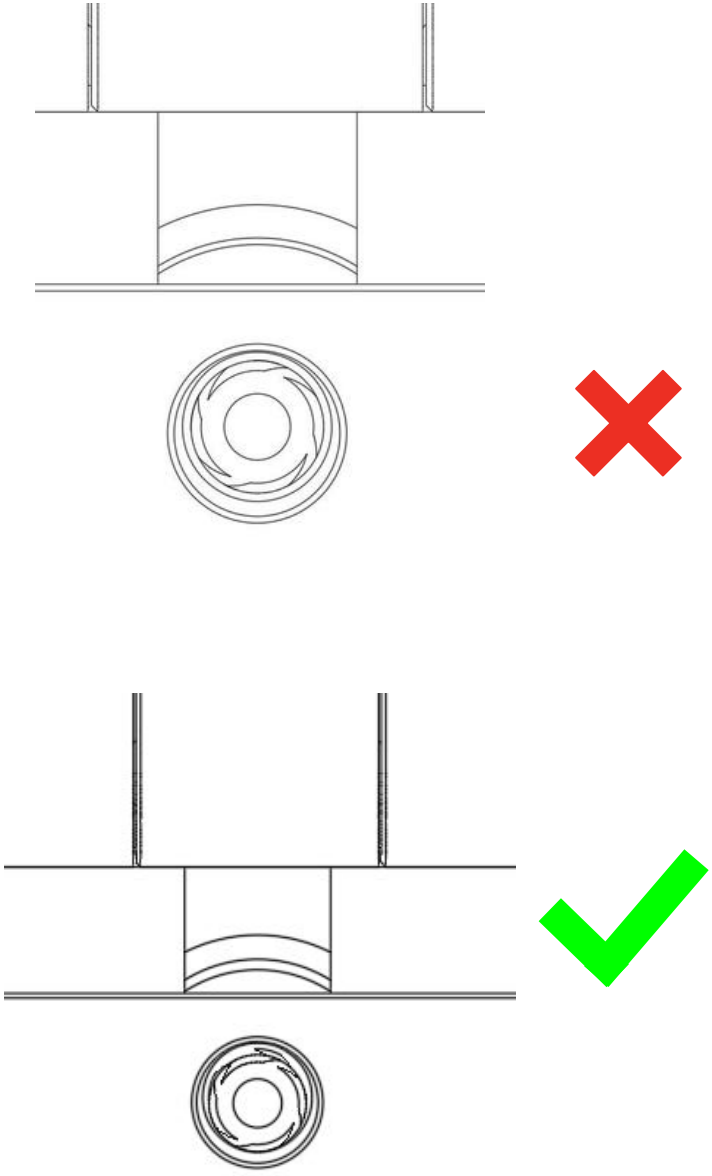


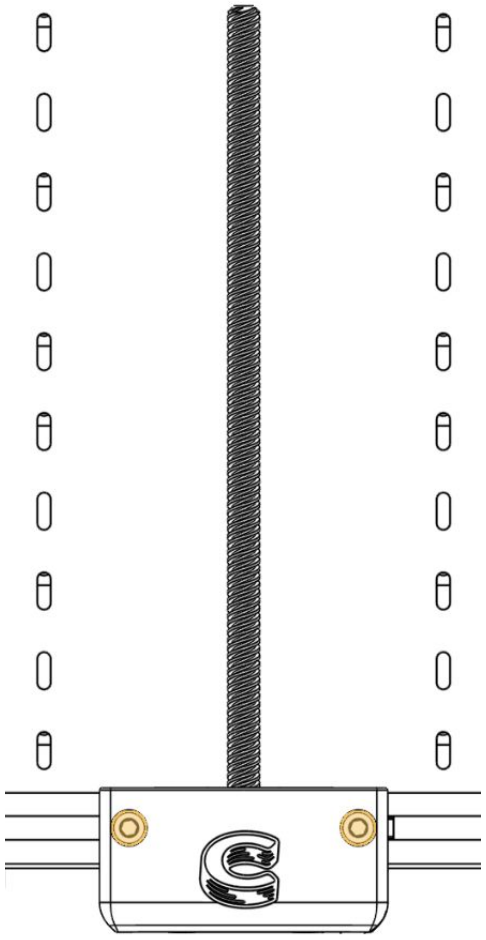

Build Plate

BED ALIGNMENT CHECK

Looking at the Z axis leadscrew, check that the hole in the build plate is centered on the leadscrew. If not, follow the steps on the next page.

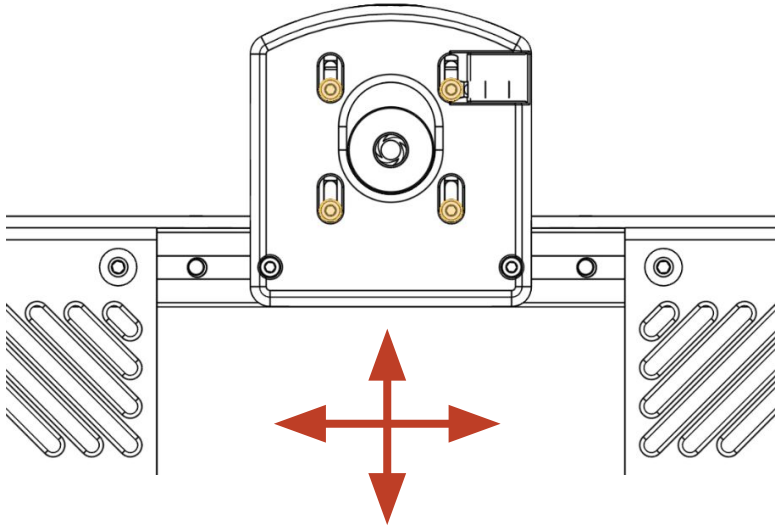






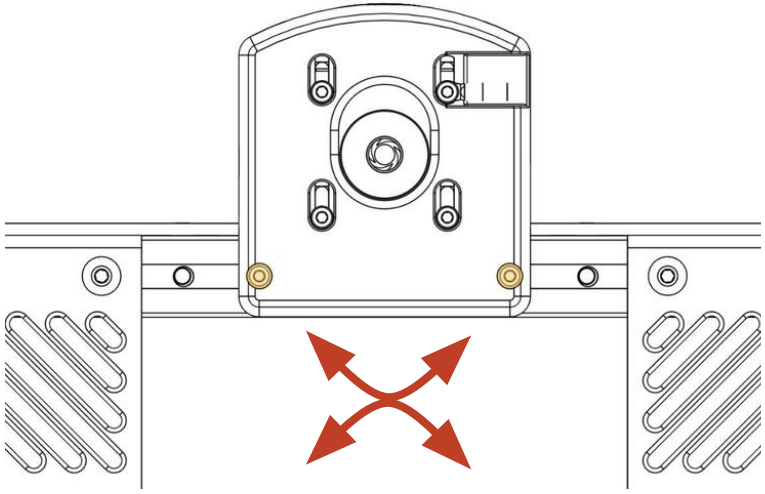
LOOSEY GOOSEY

To align your Z axis leadscrew, make sure your M5 screws holding the Z axis motor in place are loose.



BE SHIFTY

If you need to move the leadscrew back to front, loosen the four motor screws and move it. If you need to move the leadscrew left or right, move the whole motor mount while the Z motor mount is still loose.



BE TWISTY

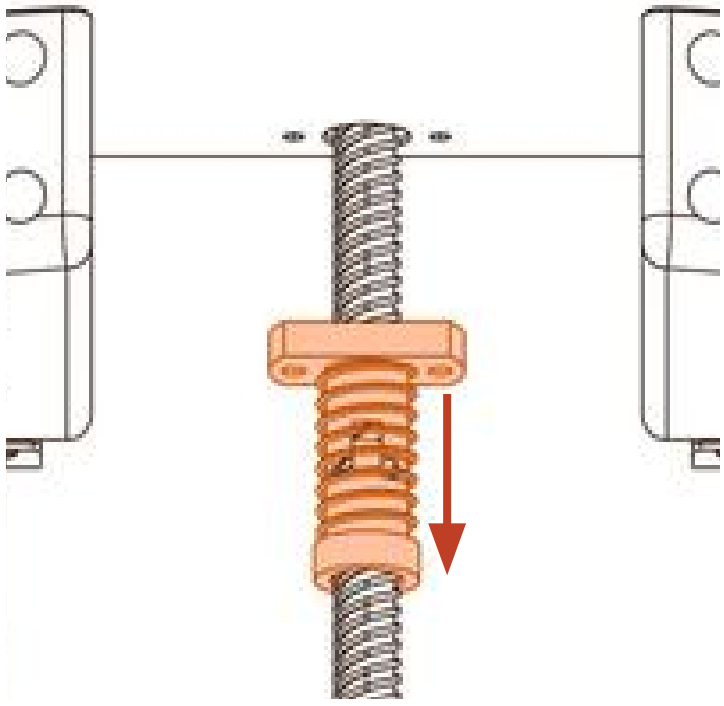
If you need to tilt the leadscrew, loosen or tighten these two screws. Tightening a screw will move the top of the leadscrew **toward** that screw. Loosening it will move it **away** from the screw. Tightening or loosening both screws will tilt the leadscrew backward or forward in the printer, respectively.

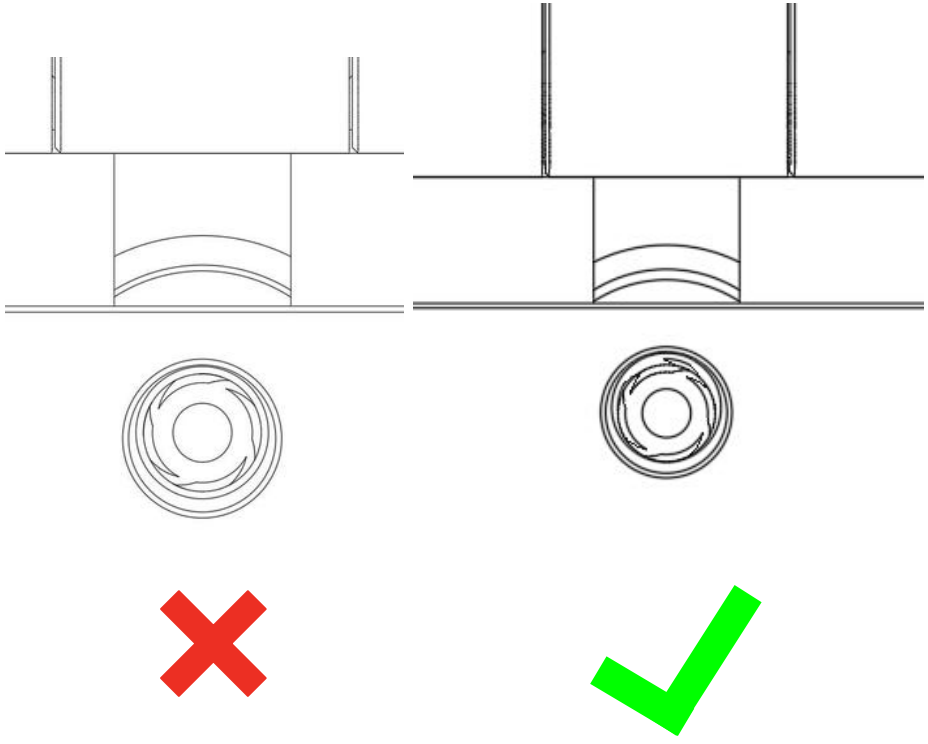
BED CHECK

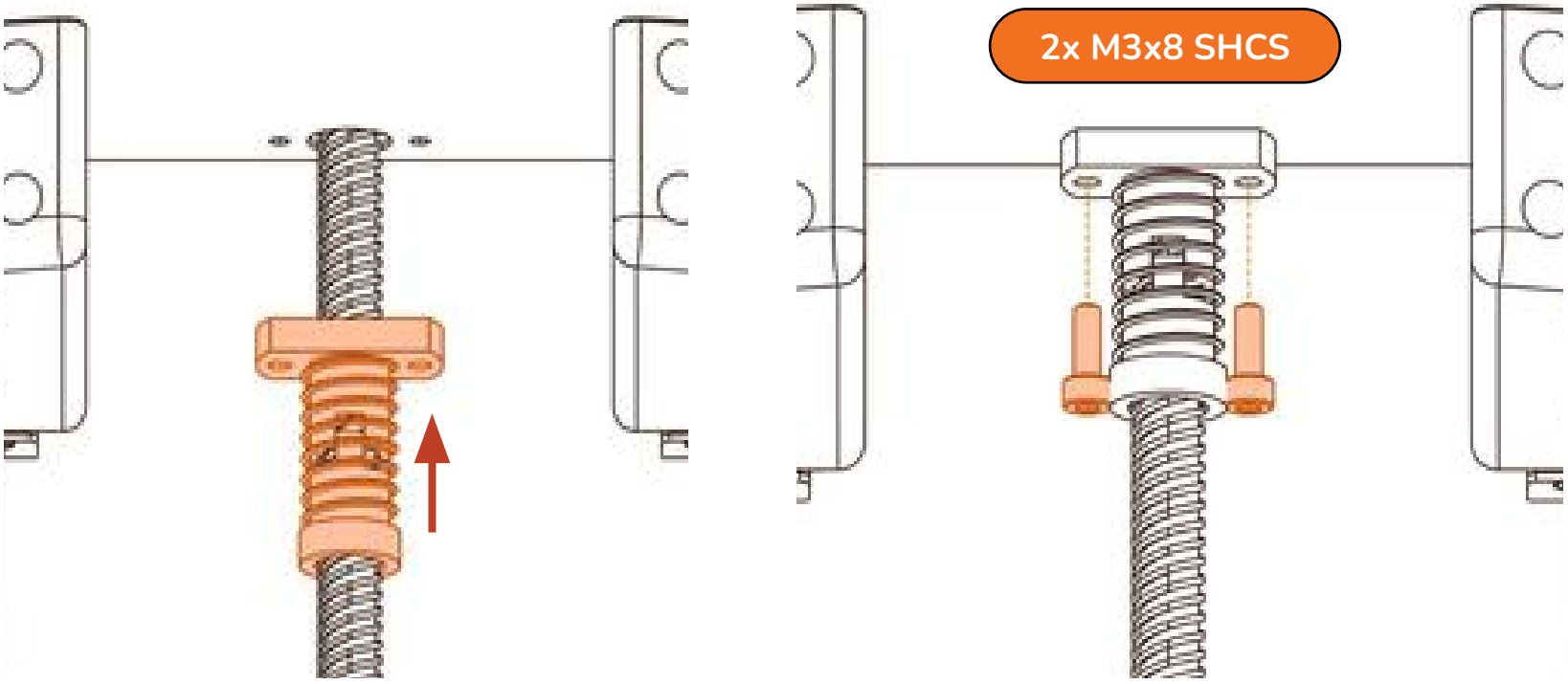
Check the alignment of the leadscrew again. It should be able to slide up and down on the rail without the leadscrew scraping significantly against the edge of the hole in the bed.

You may need to manually twist the anti-backlash nut down and out of the way to be able to slide the build plate. Do not slide the build plate off the rails!

Make sure all screws you loosened are tight before continuing.





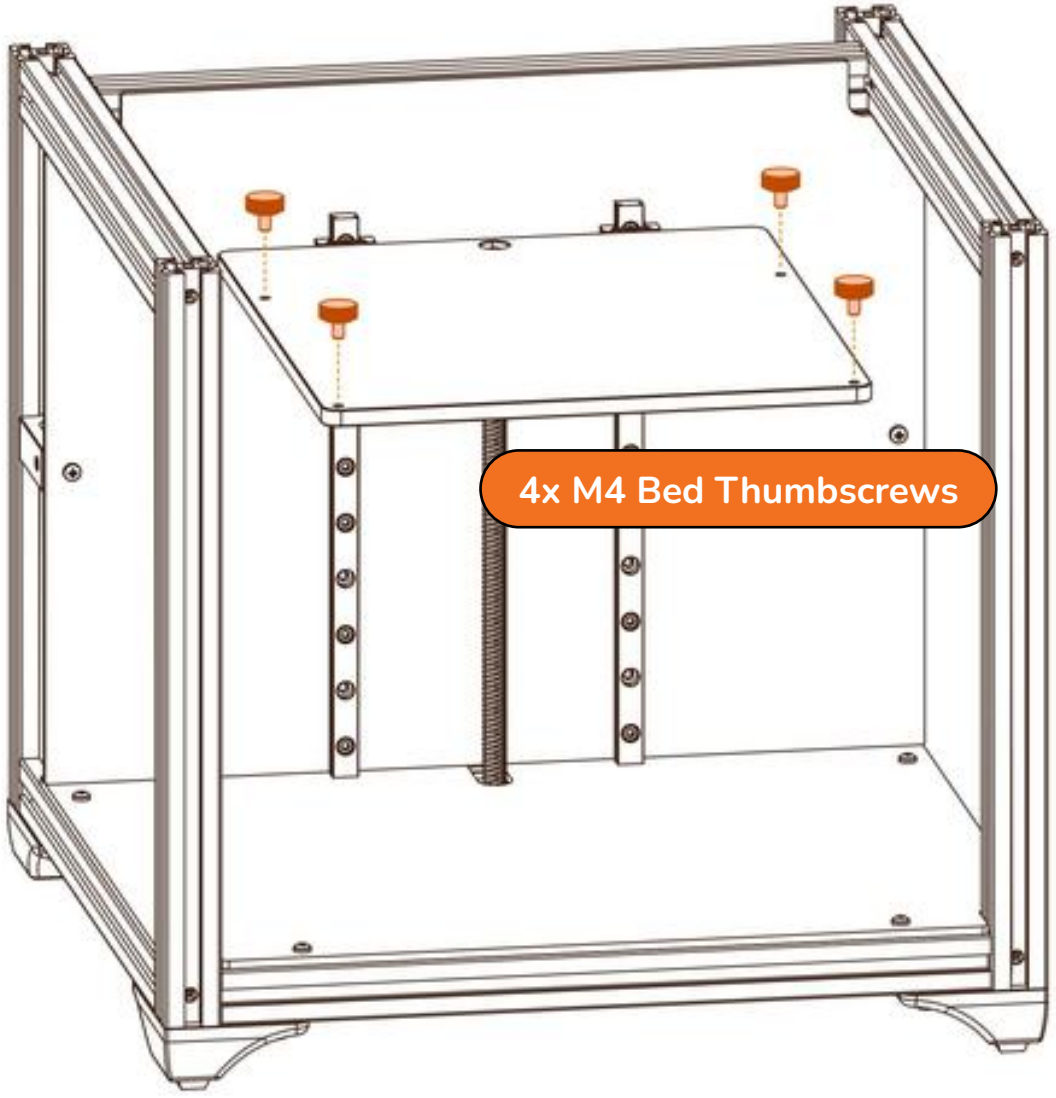


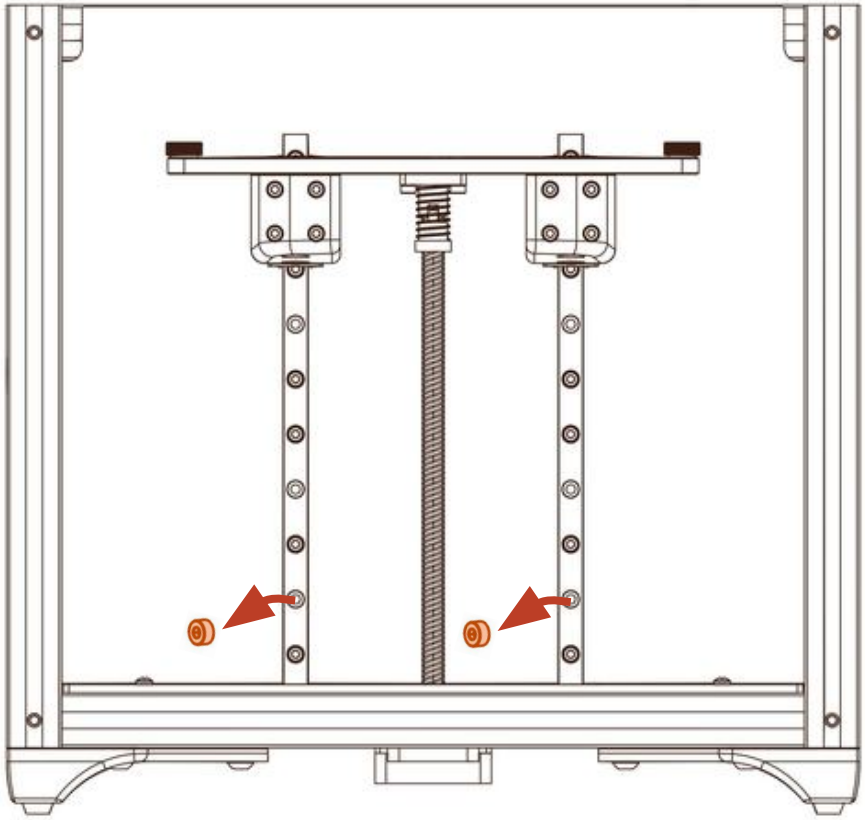
CENTER STAGE

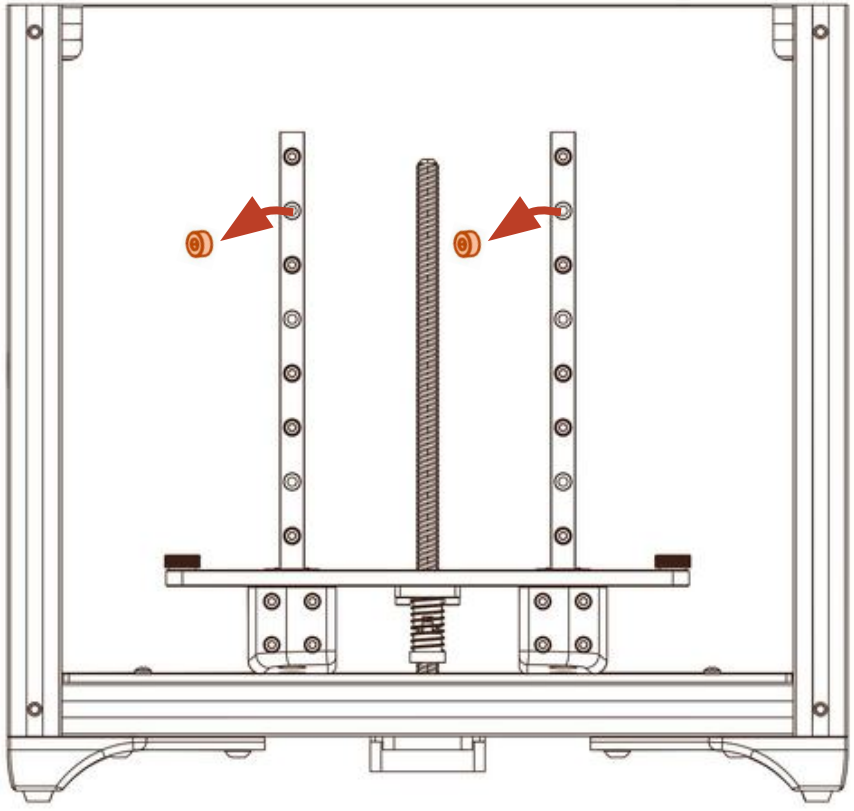
If the Z leadscrew is centered within the build plate, raise the anti-backlash nut to be flat with the build plate and fasten securely.

ATTACHED

Install the M4 bed thumbscrews onto the bed. Later these will hold the silicone mat, but for now this will ensure they don't get lost.

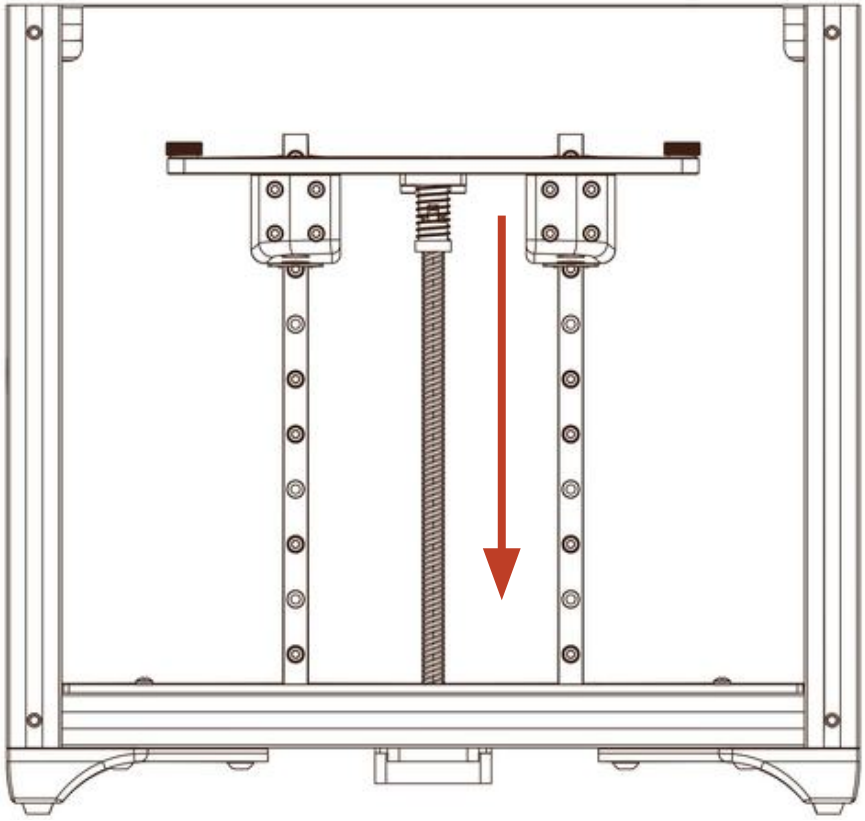






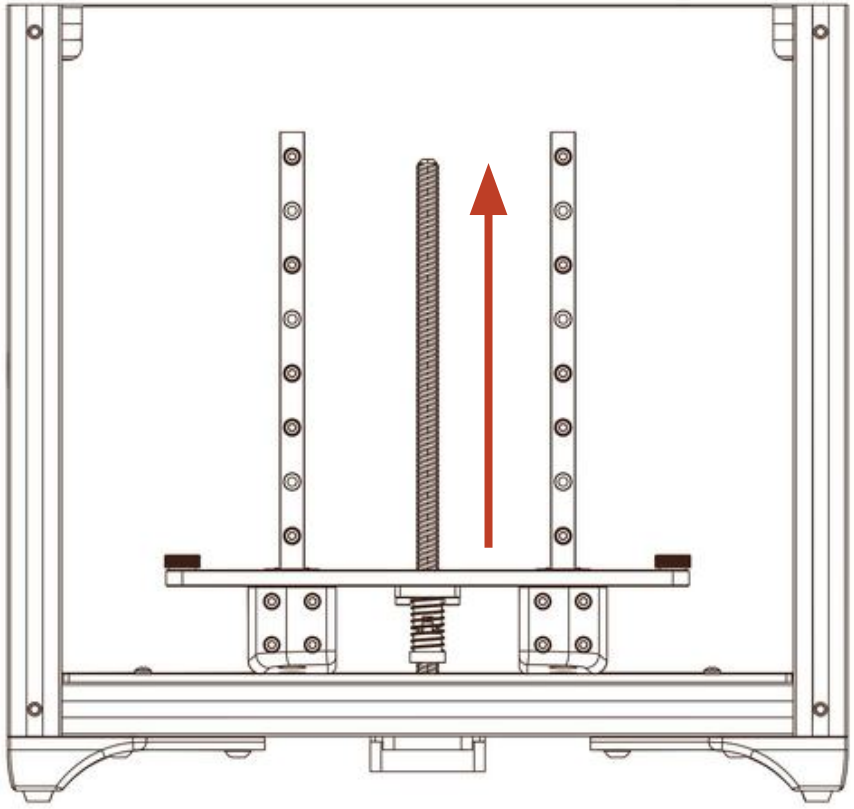
NO MORE TRAINING WHEELS

Remove the rubber stopper!



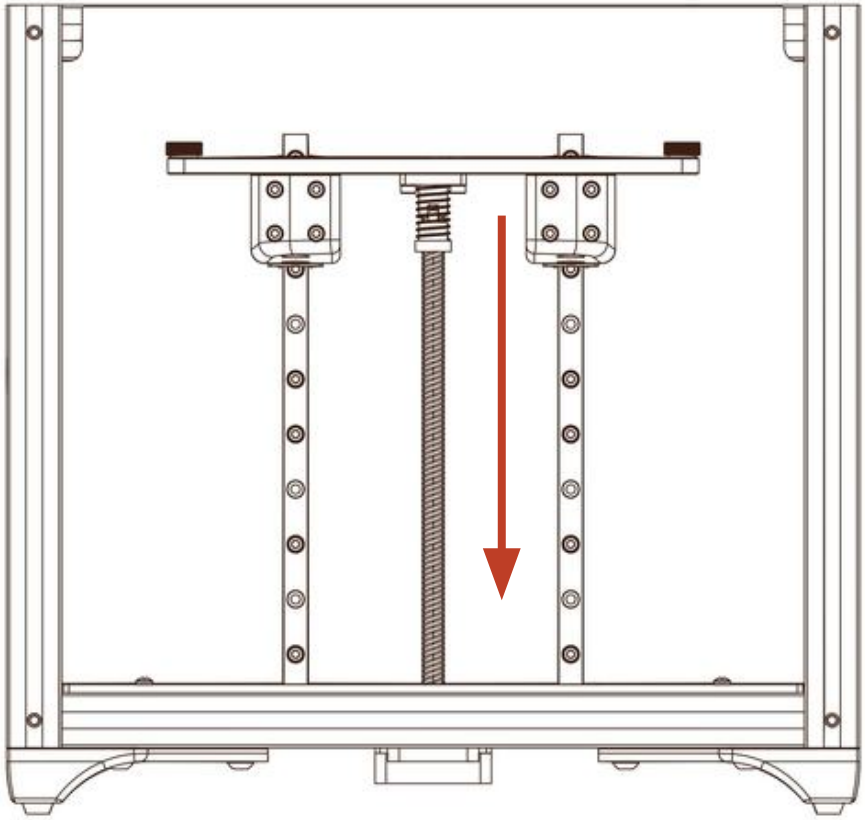
CHECK BED ALIGNMENT

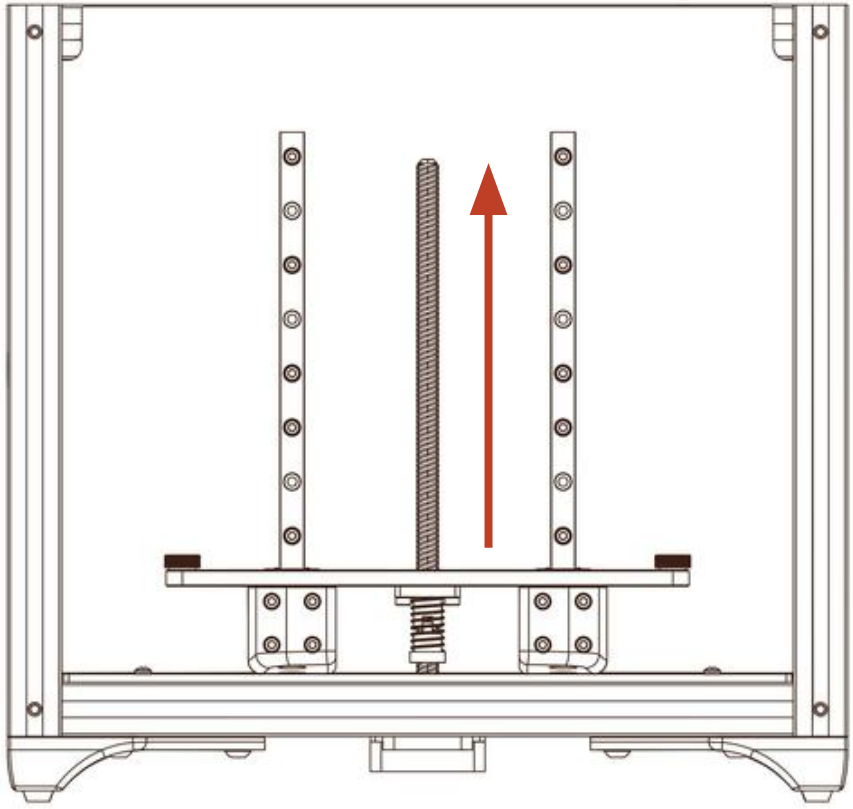
Slide the bed assembly up and down to ensure there are no areas where it is binding. The motion should be smooth and consistent.



TIGHTEN RAILS

As you move the bed assembly down, tighten the screws on the rails one by one. Move the bed up and down to make sure it moves freely. You will feel some motor resistance. This is normal, but the resistance should remain consistent throughout the travel.





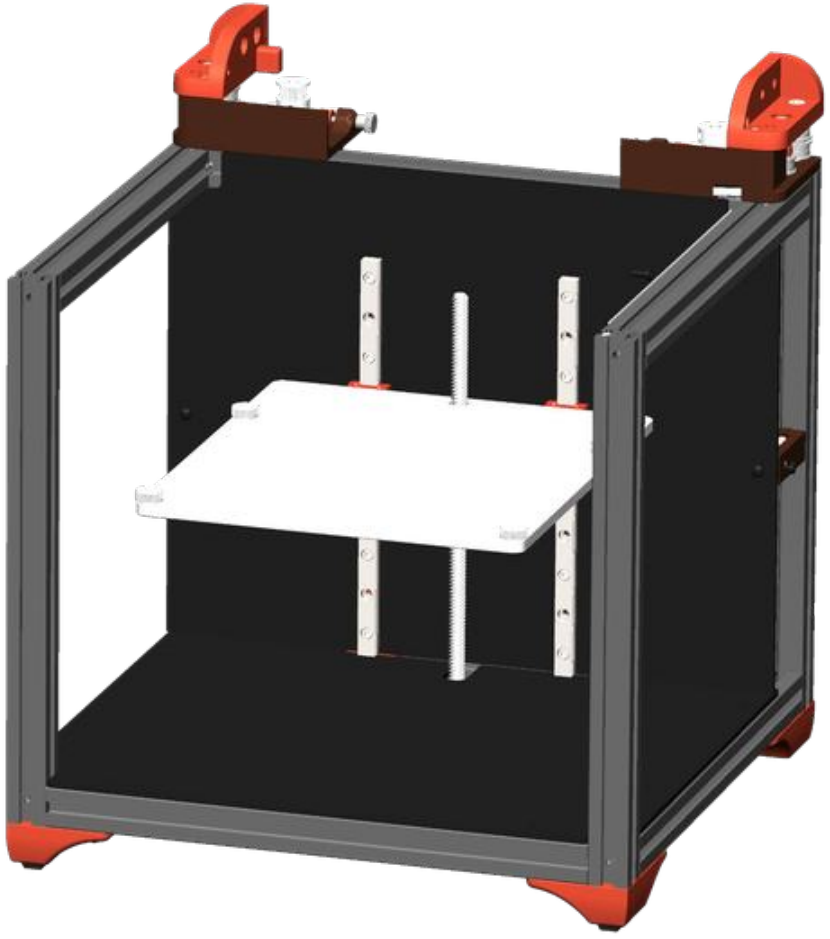
MY BED WON'T MOVE FREELY, HELP!

If your bed doesn't slide up and down freely, don't worry.

Loosen the 12 screws holding the rails and the 8 screws holding the rail carriages. They should be loose enough that the rail will stay in place but can be moved side by side with only a little force by hand. Slide the bed the entire way to the top and then down to just below the top screw. Tighten the top screws. Move the bed to the bottom. Tighten the bottommost screws that are now visible above the bed. Raise the bed up and tighten the bottommost screws. Lower the bed entirely again and tighten the remaining screws. Move the bed up and down to make sure it moves freely. If it hangs in any position, loosen the screws below the top screws and try again.

COCOA PRESS

Chapter 4:
XY Motors



BEEP BOOP

Ensure you have the correct endstop. There are two in your wiring box, and you are looking for the longer of the two, labeled “Y endstop.”

Y Endstop Switch



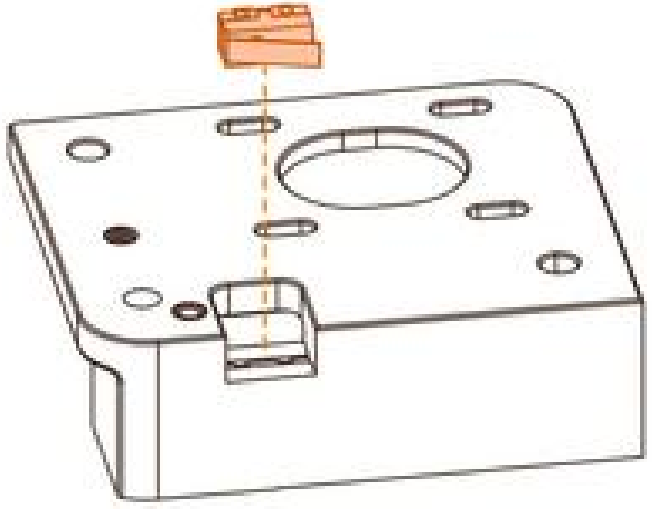


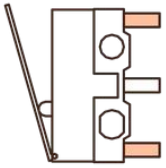
THAT’S NOT RIGHT, TRY AGAIN

The shorter of the two endstops is labeled “X endstop” and will be used later in the assembly process.

CLARIFICATION

When looking from the front of the printer.

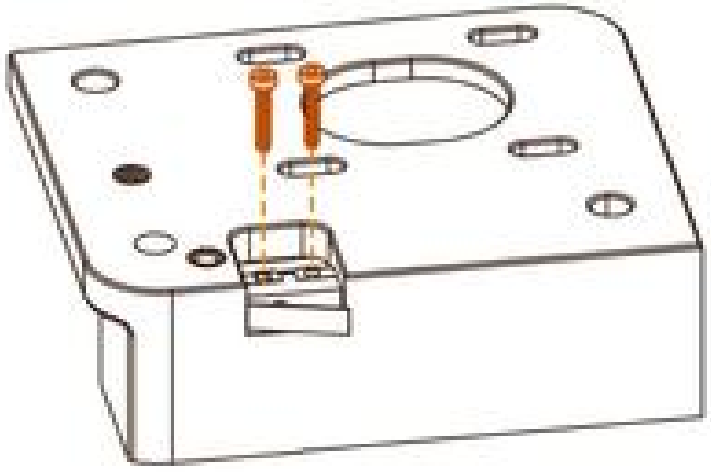




ENDSTOP WIRING

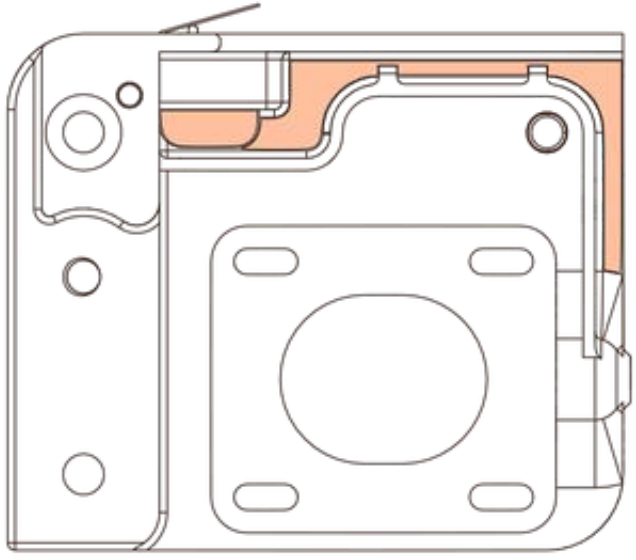
The endstop switches come pre-wired to the outer two terminals of the switch. Push them in a bit to ensure they are fully attached.

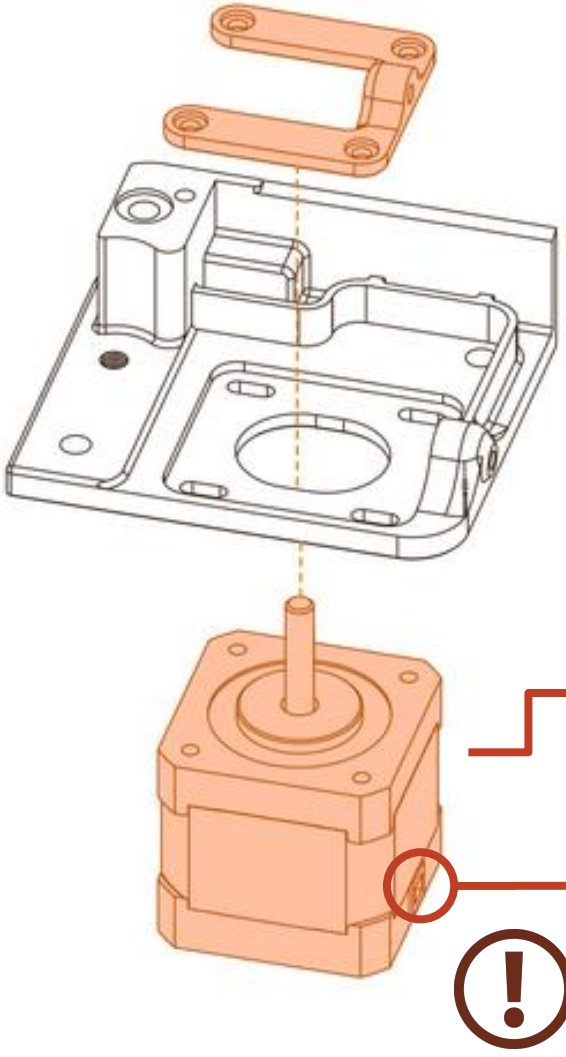
2x M2x10 Self-Tapping Screws



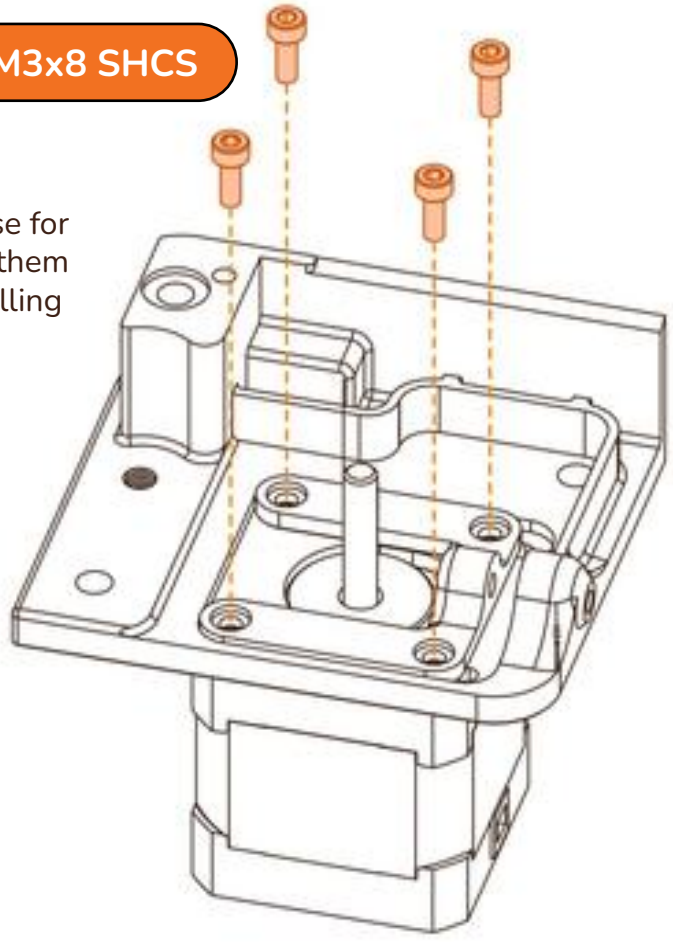
WIRE PATH

Run the endstop wiring along the highlighted path in the right motor assembly.





4x M3x8 SHCS



LEFTY LOOSEY

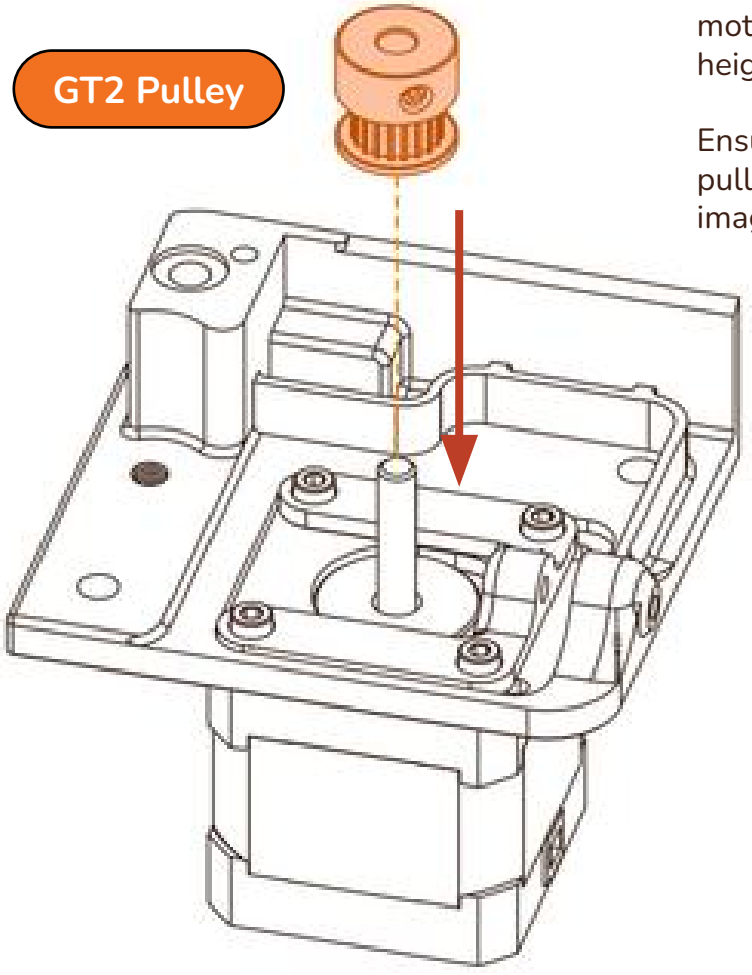
Leave the screws loose for now. We will tighten them much later, after installing the belt.

USE THE CORRECT MOTOR

The right side uses Motor A. Look for the label at the end of the wire.

MOTOR WIRING

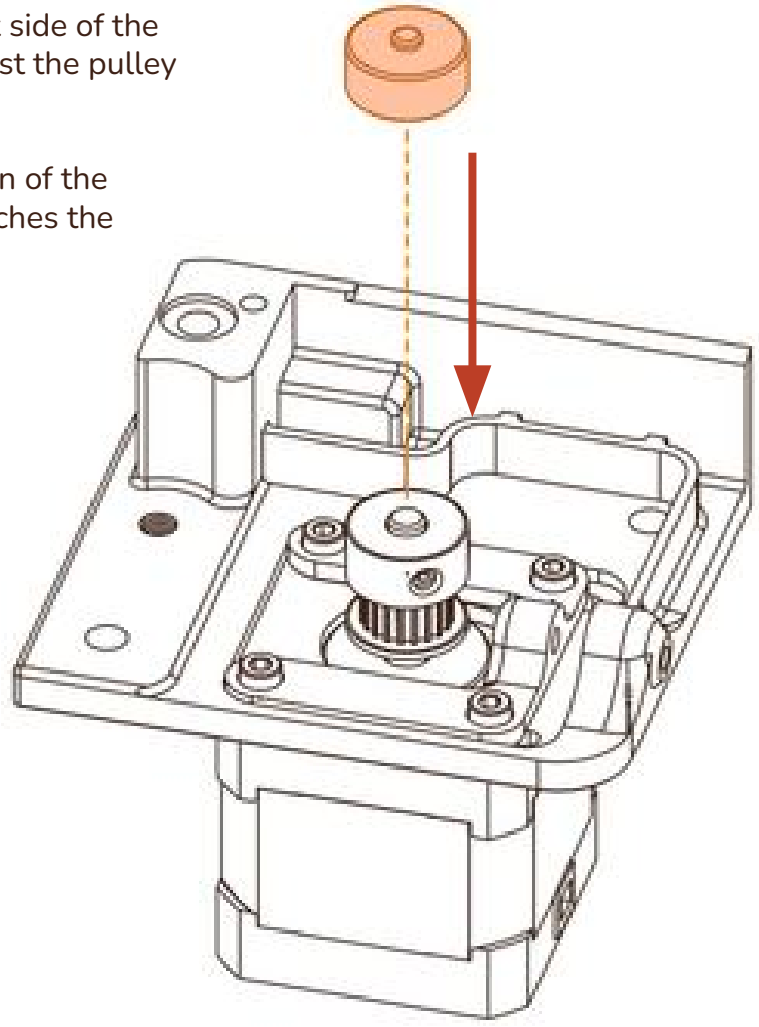
The motor wiring plug should exit from this side toward the center of the machine when the drive unit is installed.

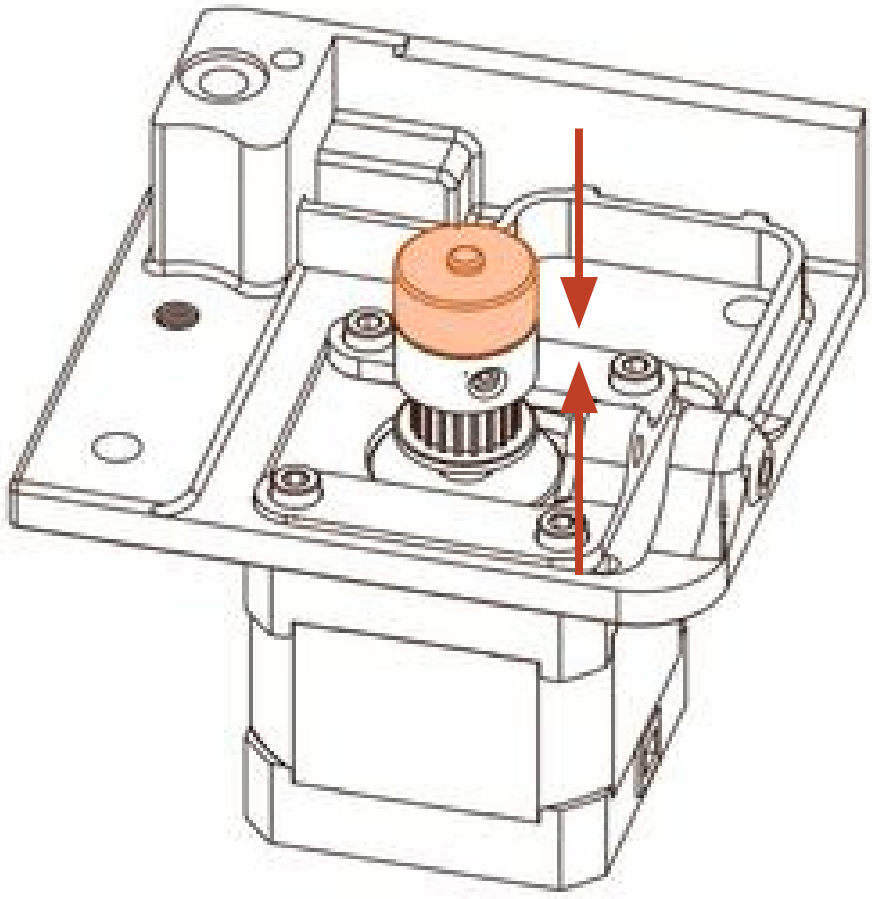


PULLEY PLACEMENT

Lower the pulley onto the shaft of the motor and line up one of the set screws to the flat side of the motor shaft. Then, rest the pulley height jig on top.

Ensure the orientation of the pulley height jig matches the image to the right.

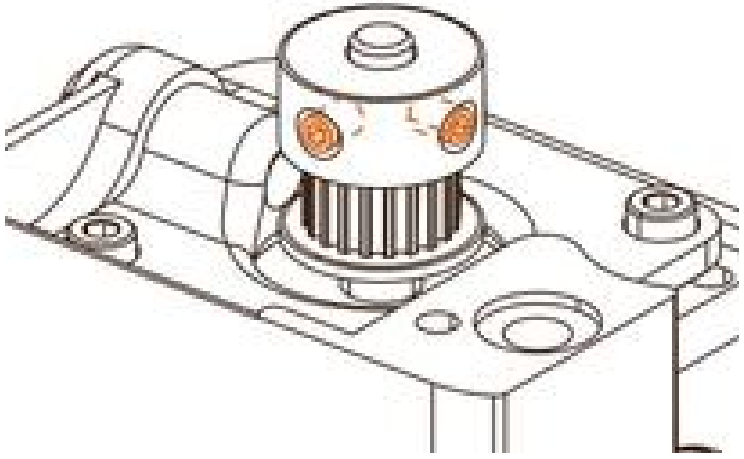


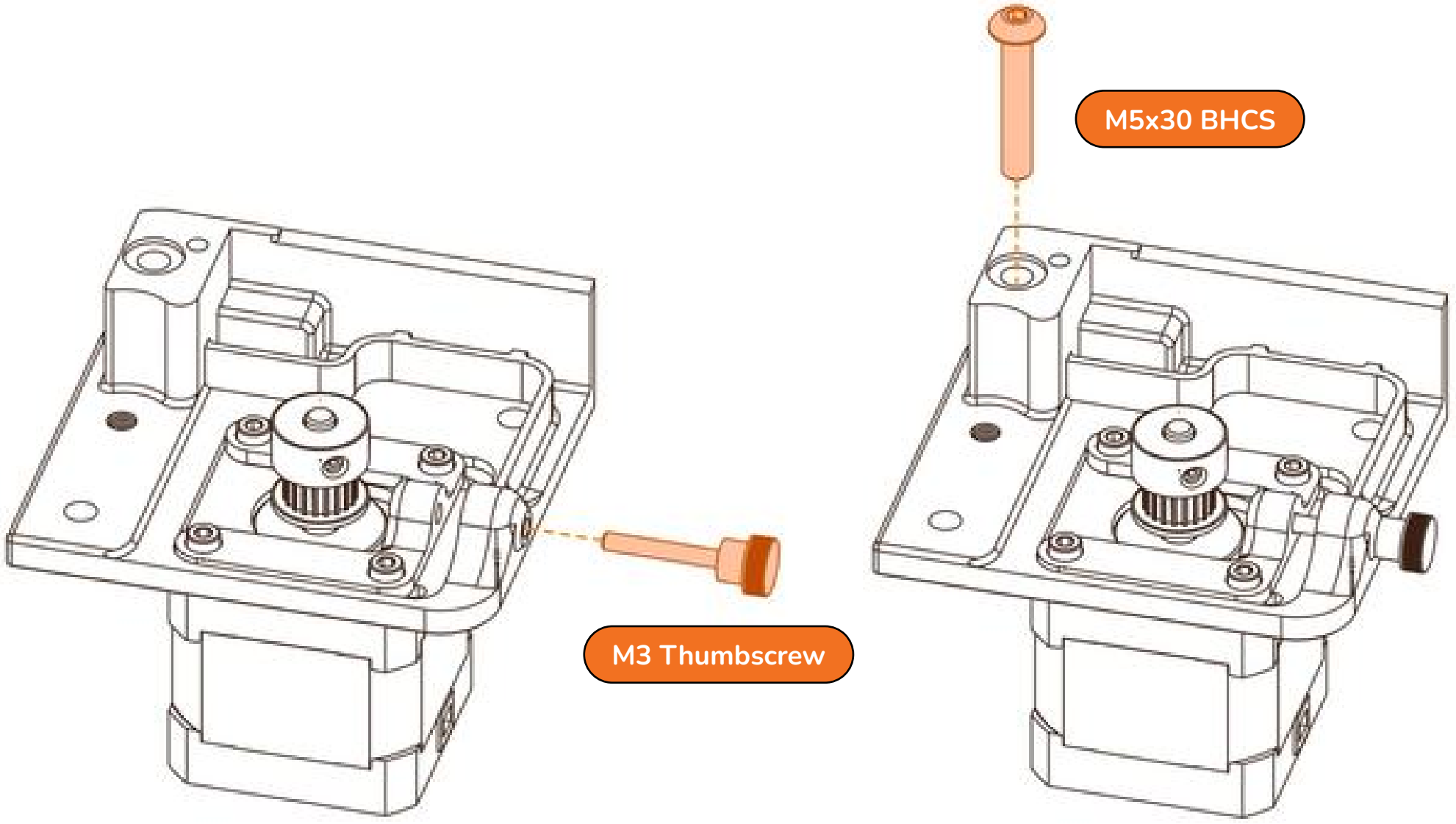


AH - PUSH IT

Push the jig down onto the top of the motor shaft while pushing the pulley up until it is flush with the jig.

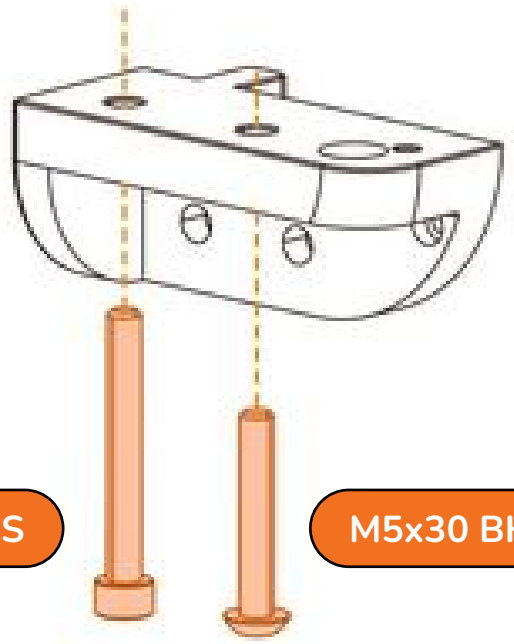
Tighten the two set screws, starting with the screw on the flat face of the motor shaft.




M5x30 BHCS
M3 Thumbscrew

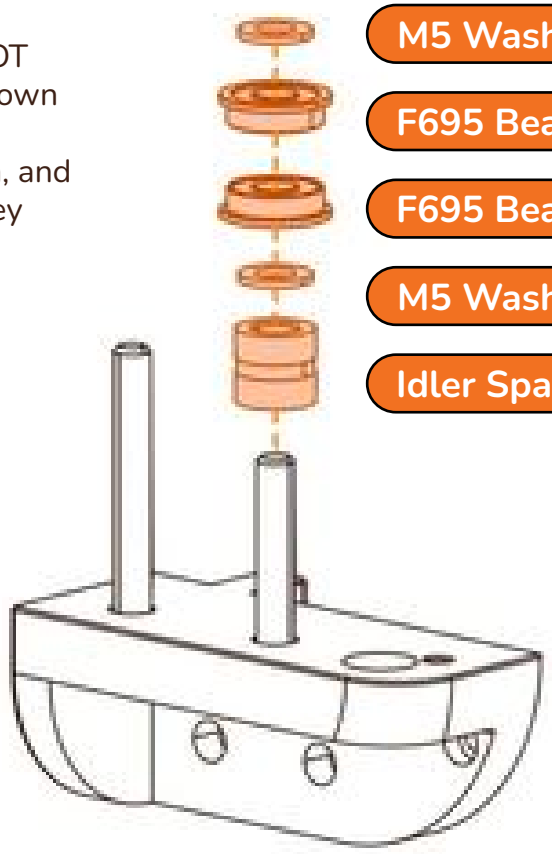
HARDWARE STACKS

We will be installing several similar, but NOT identical stacks of hardware like the one shown above.
Pay attention to the printed part orientation, and the order of the stacked components, as they are not all the same.



M5x40 SHCS

M5x30 BHCS



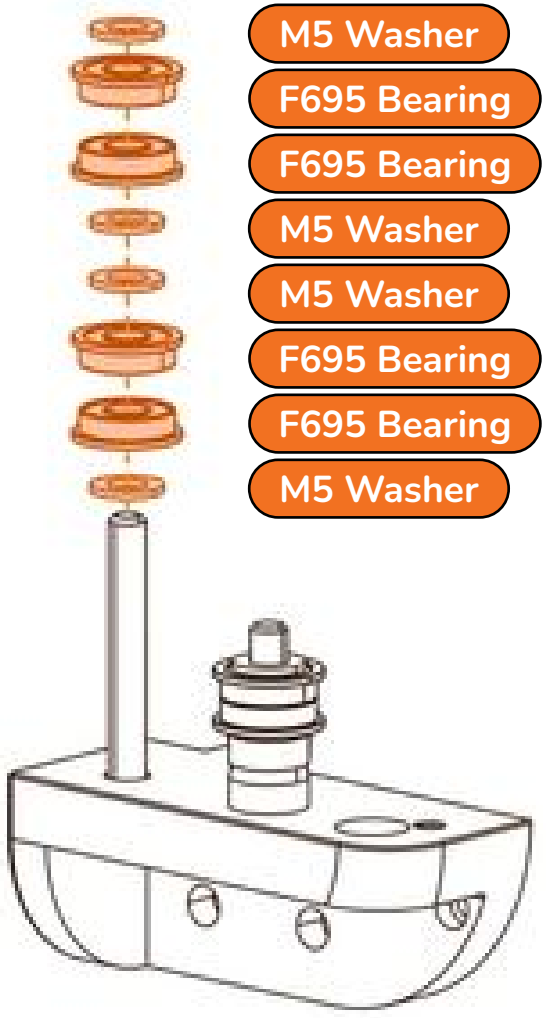
M5 Washer

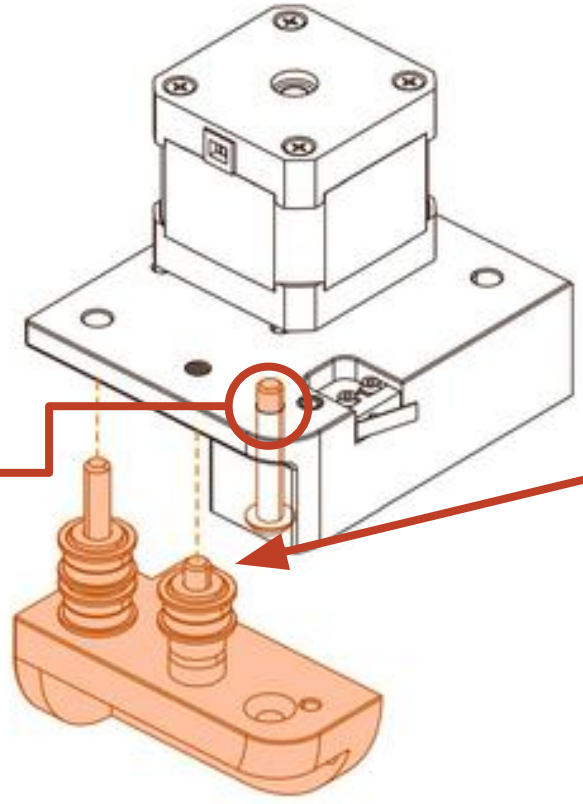
F695 Bearing

F695 Bearing

M5 Washer

Idler Spacer


M5 Washer
F695 Bearing
F695 Bearing
M5 Washer
M5 Washer
F695 Bearing
F695 Bearing
M5 Washer

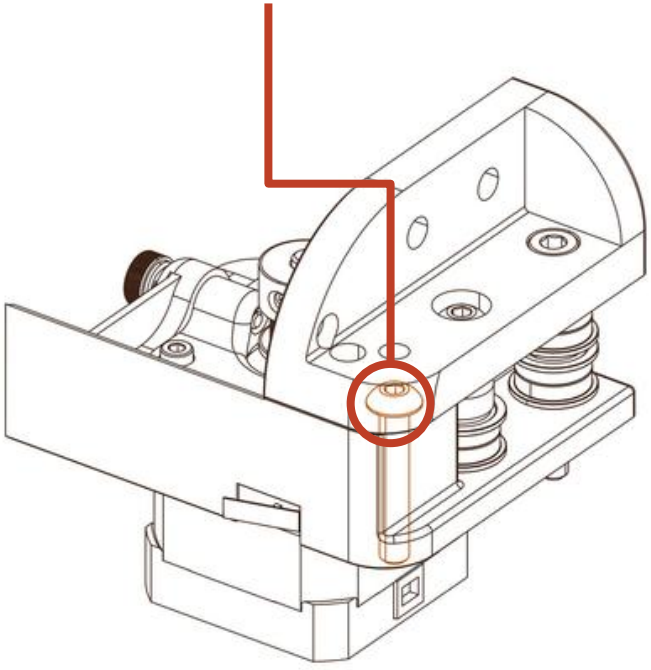


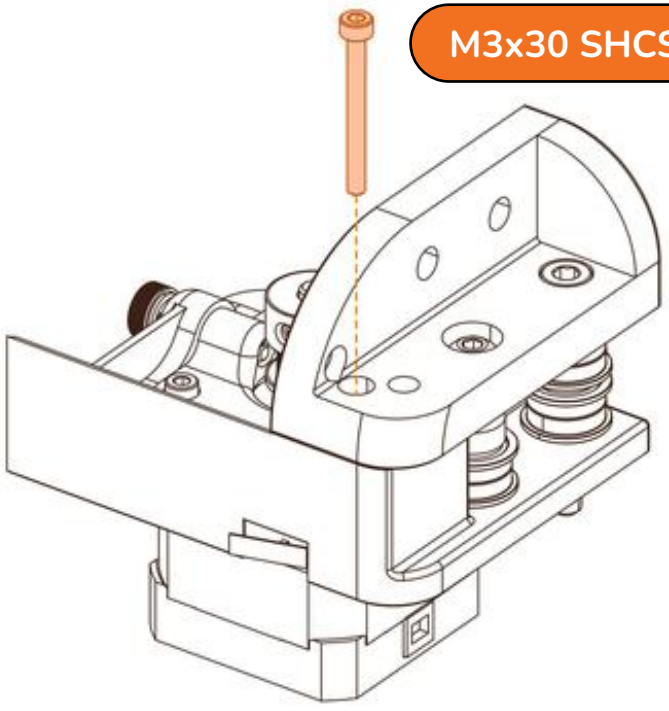
EXTRA SCREWS

We previously installed an M5x30 screw that will be captured by the printed parts. This fastener will help mount the drive unit to the frame at a later step.

THREADING INTO PLASTIC

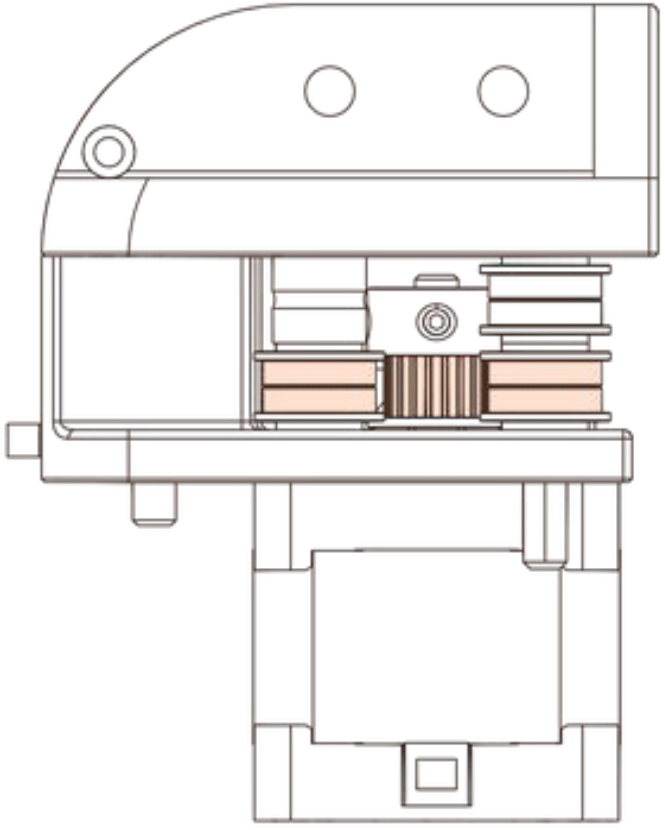
This screw threads into the plastic printed part. Take care not to strip the threads by tightening it too much.

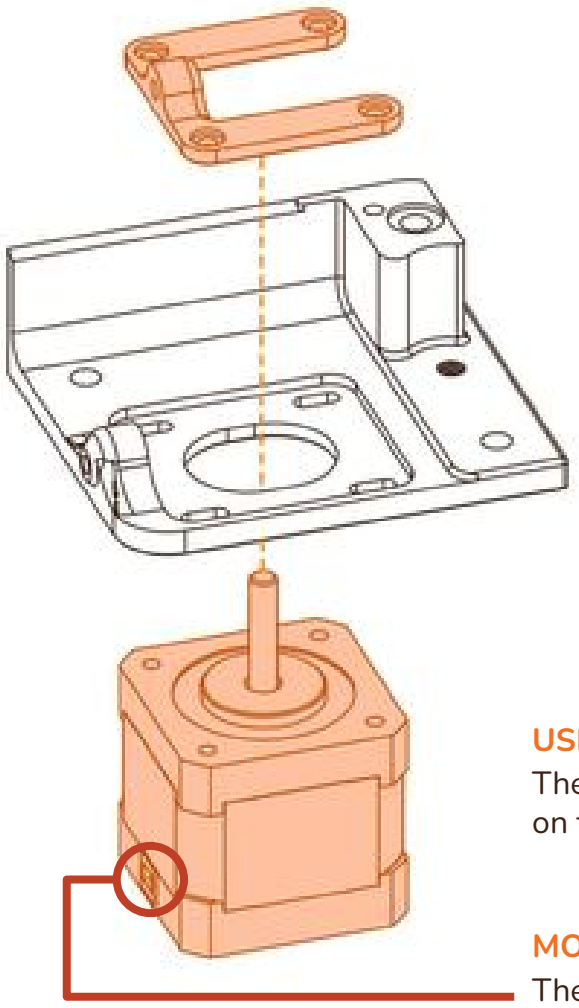




TRUST, BUT VERIFY

The pulley height should be correct, but verify the pulley is centered with the bottom pair of bearings on the drive unit.





USE THE CORRECT MOTOR

The left side uses Motor B. The label is on the end of the wire attached to it.

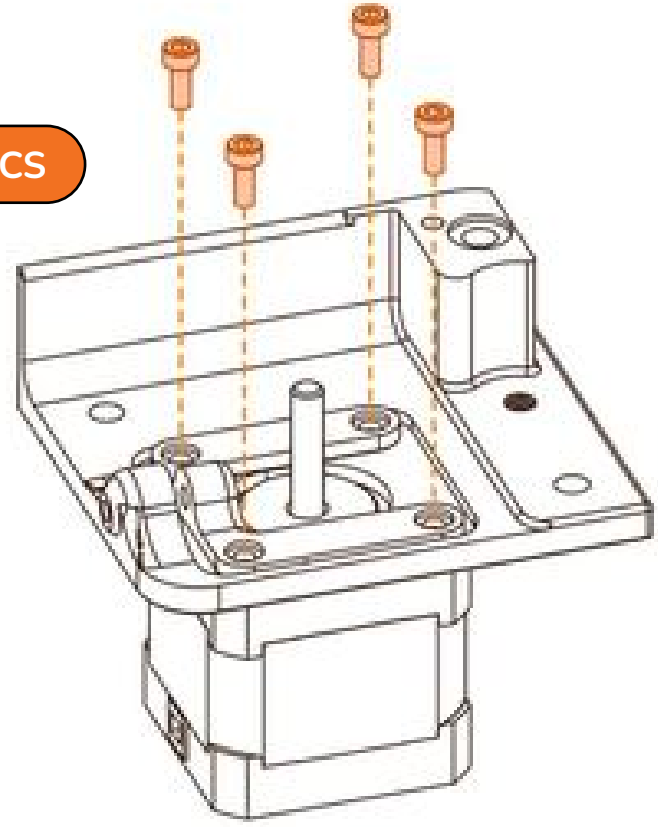
MOTOR WIRING

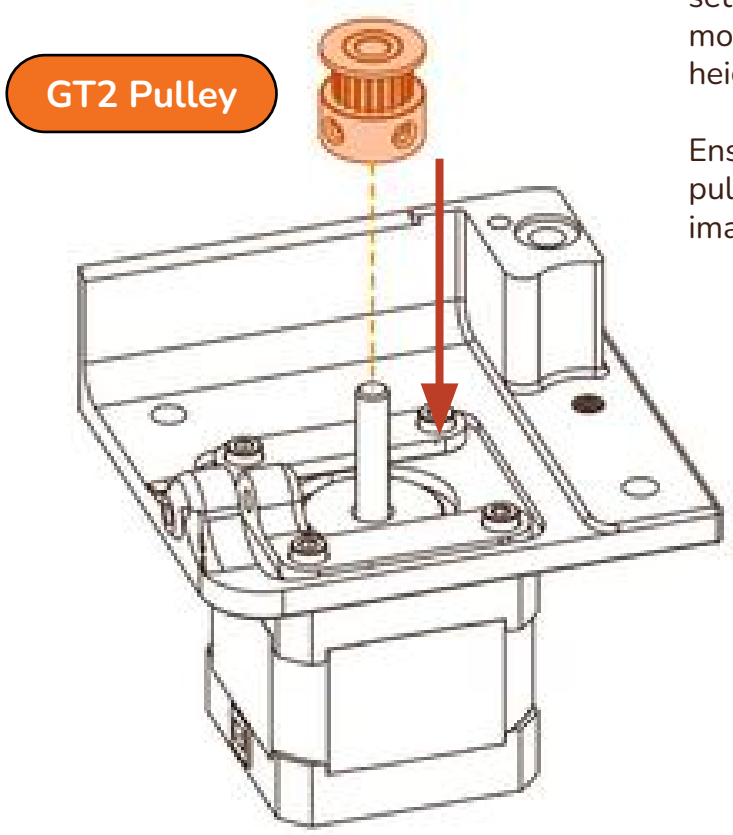
The motor wiring plug should exit here and will point toward the center of the machine when the drive unit is installed.

LEFTY LOOSEY

Leave the screws loose for now. We will tighten them later, after installing the belt.

4x M3x8 SHCS

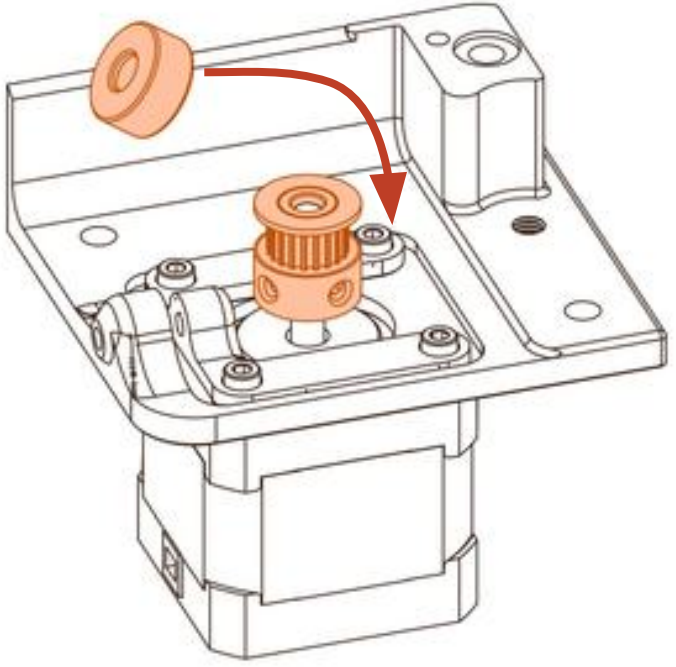


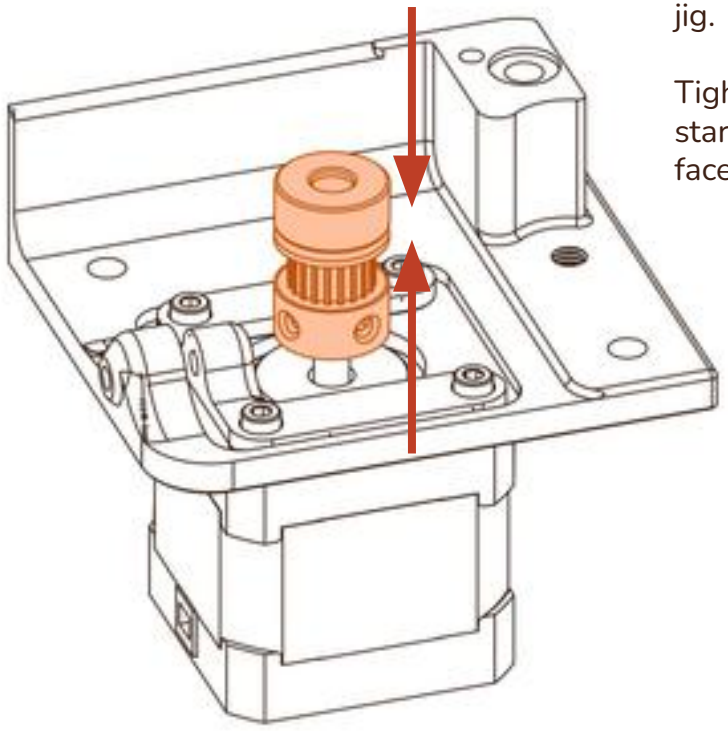


PULLEY PLACEMENT

Lower the pulley onto the shaft of the motor, and line up one of the set screws to the flat side of the motor shaft. Then, rest the pulley height jig on top.

Ensure the orientation of the pulley height jig matches the image to the right.

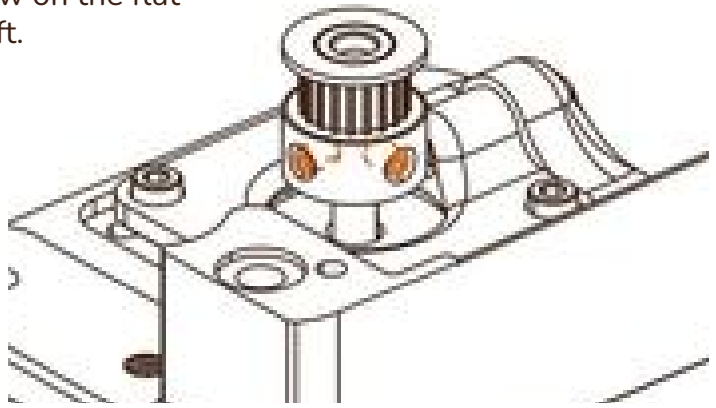


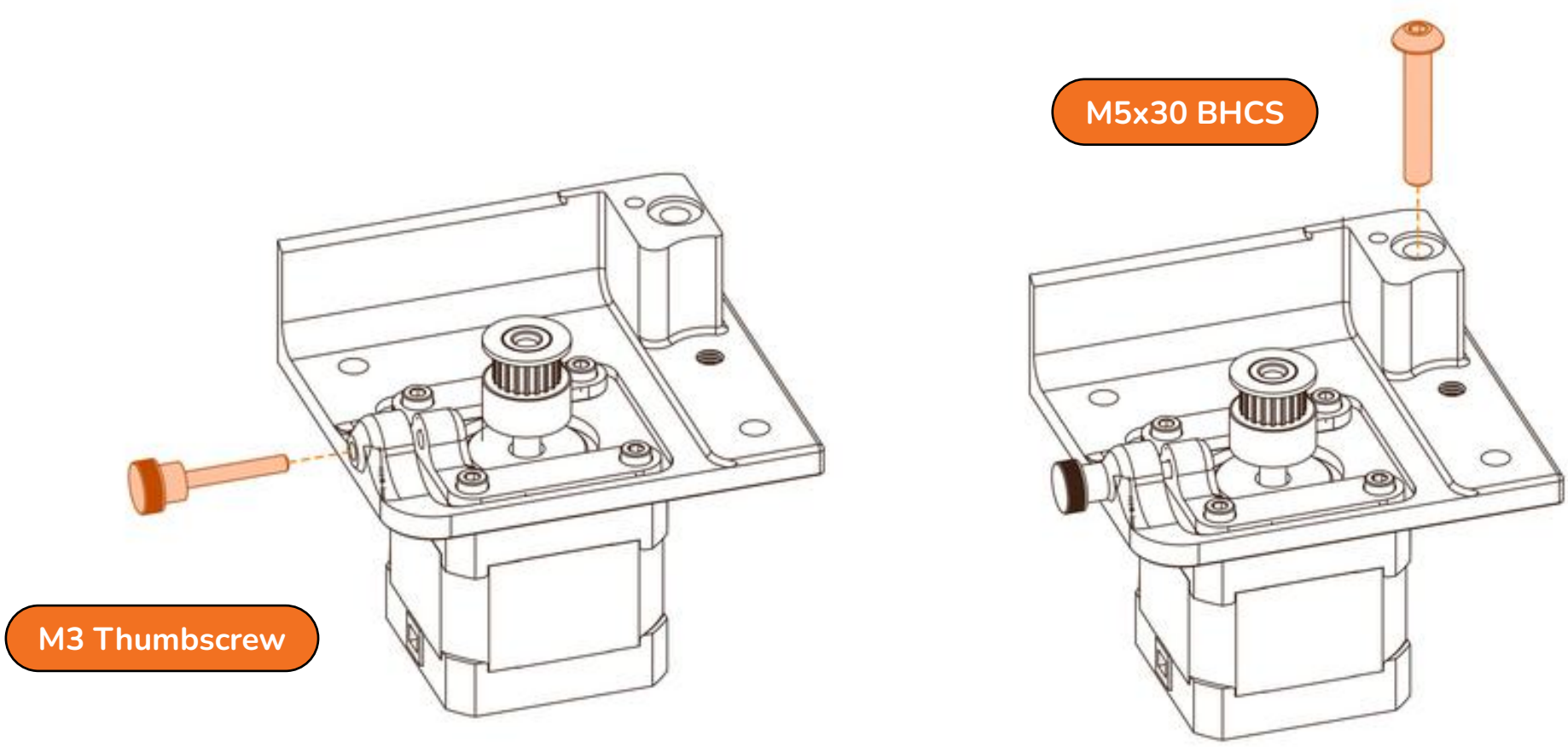


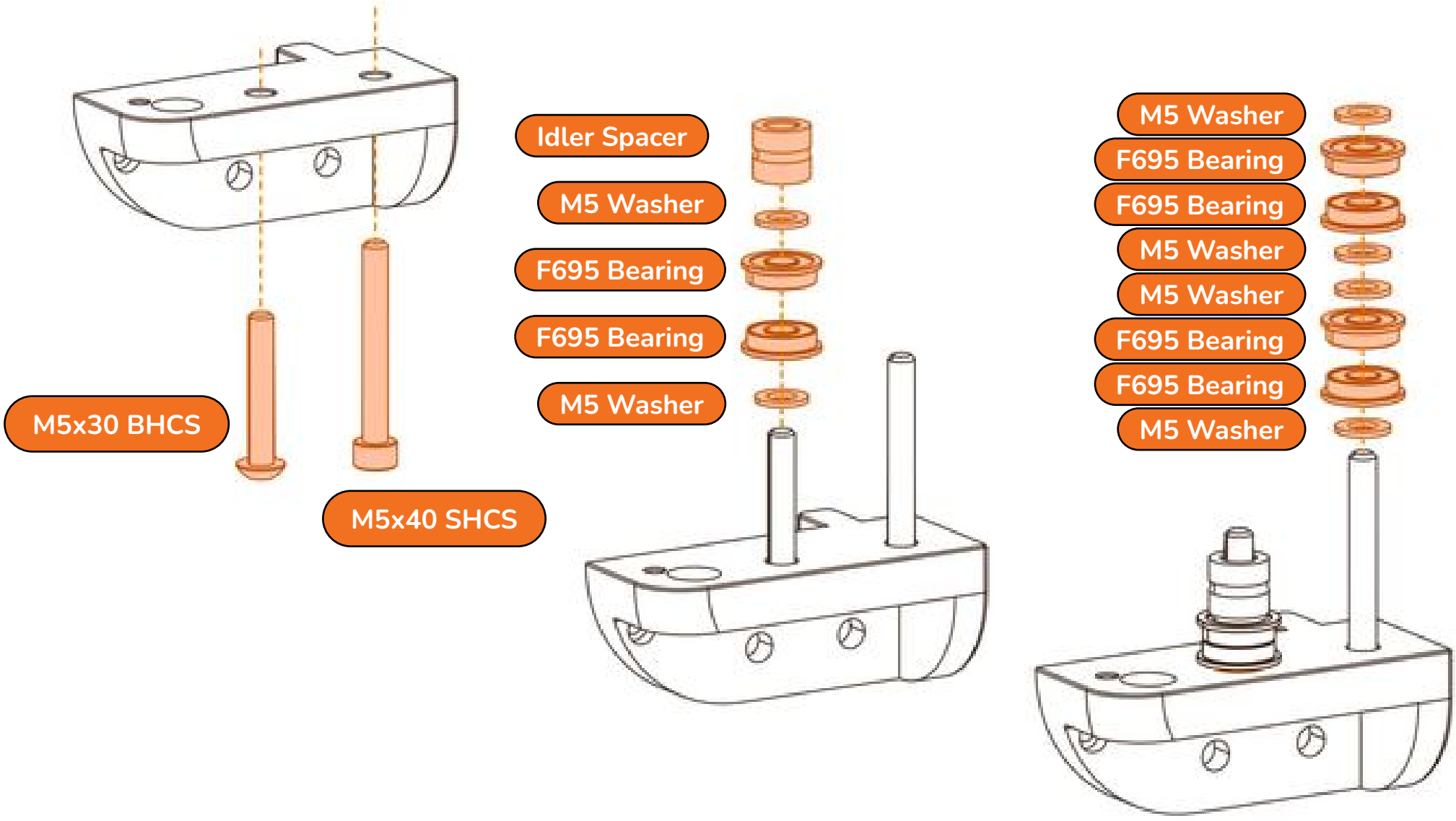
AH - PUSH IT

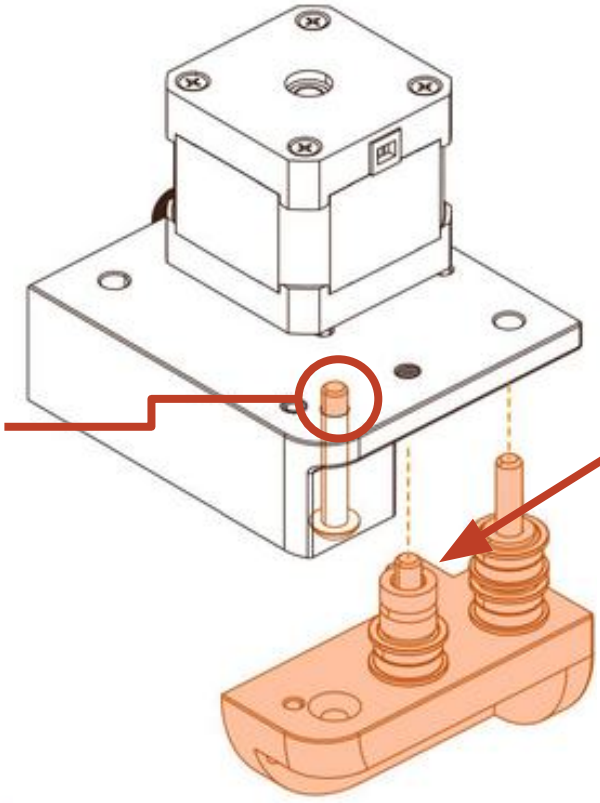
Push the jig down onto the top of the motor shaft while pushing the pulley up until it is flush with the jig.

Tighten the two set screws, starting with the screw on the flat face of the motor shaft.




M5x30 BHCS
M3 Thumbscrew


M5x30 BHCS
M5x40 SHCS
Idler Spacer
M5 Washer
F695 Bearing
F695 Bearing
M5 Washer
M5 Washer
F695 Bearing
F695 Bearing
M5 Washer
M5 Washer

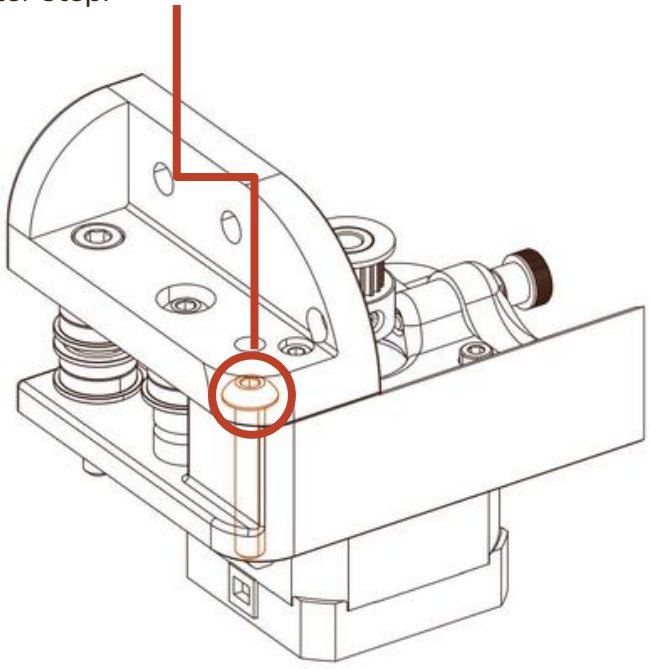


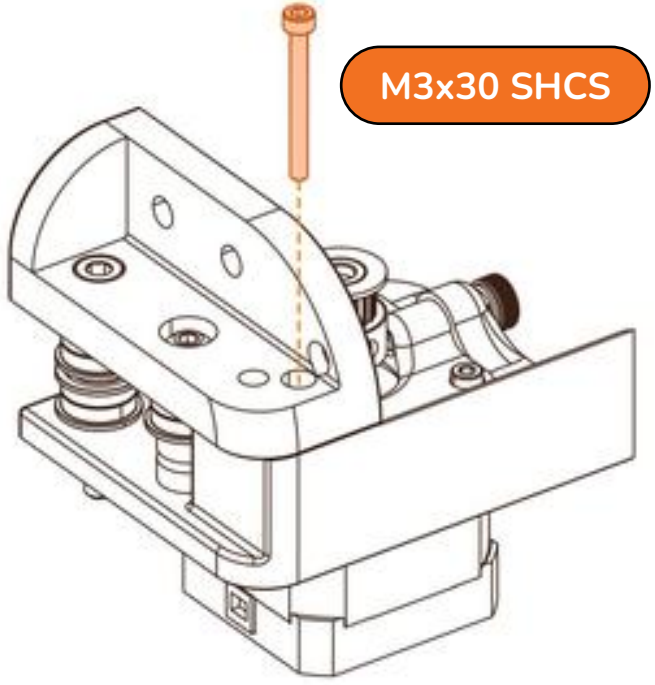
THREADING INTO PLASTIC

This screw threads into the plastic printed part. Take care not to strip the threads by tightening it too much.

EXTRA SCREWS

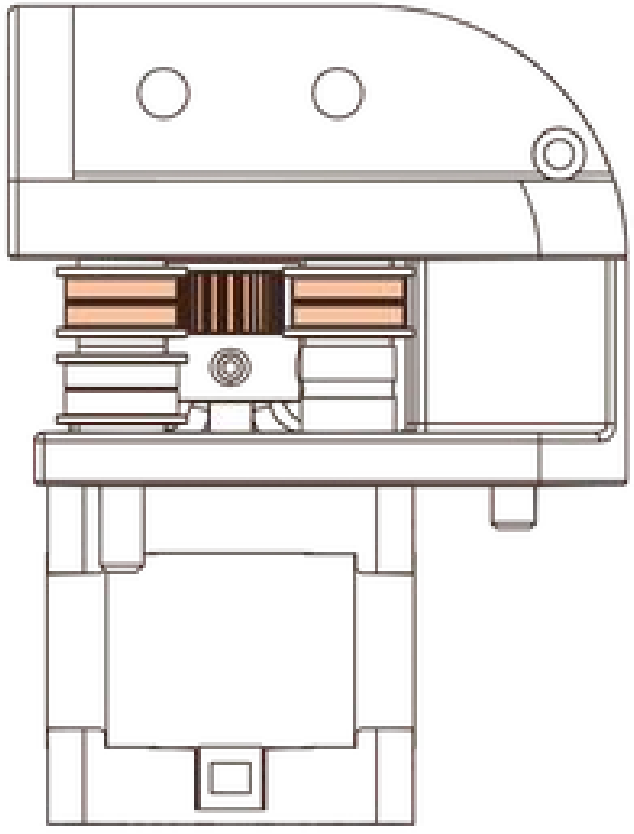
We previously installed an M5x30 screw that will be captured by the printed parts. This fastener will help mount the drive unit to the frame at a later step.

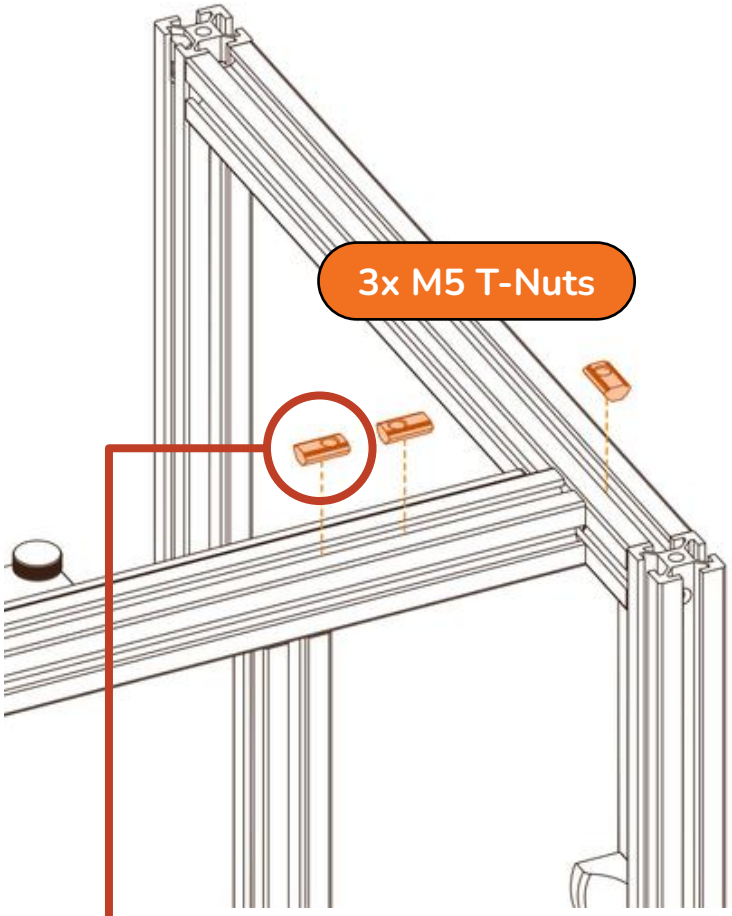




TRUST, BUT VERIFY

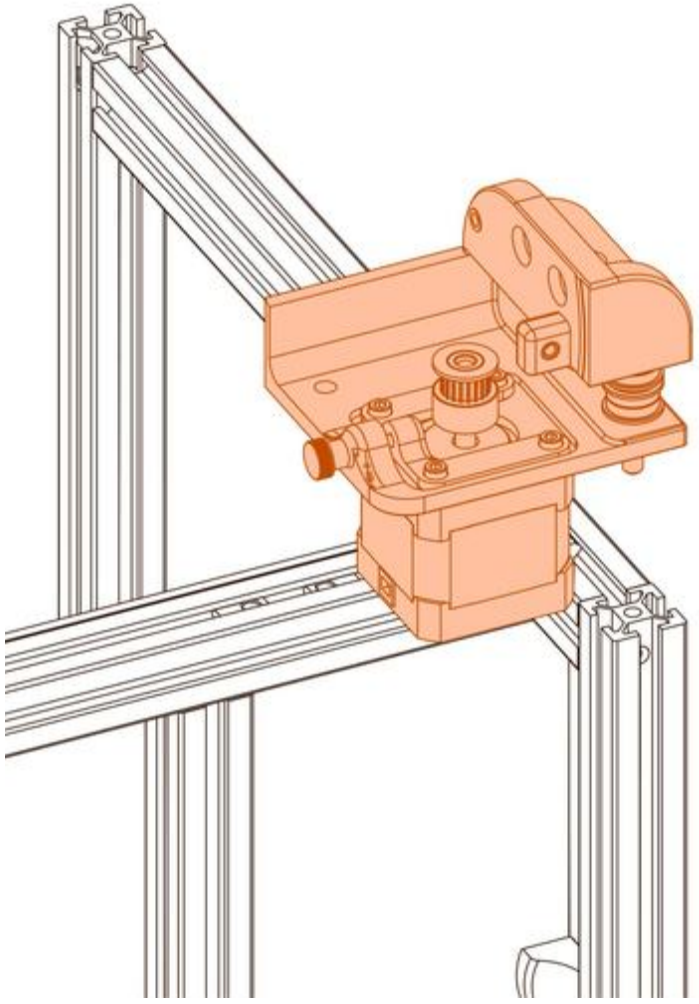
The pulley height should be correct, but verify the pulley is centered with the top pair of bearings on the drive unit.





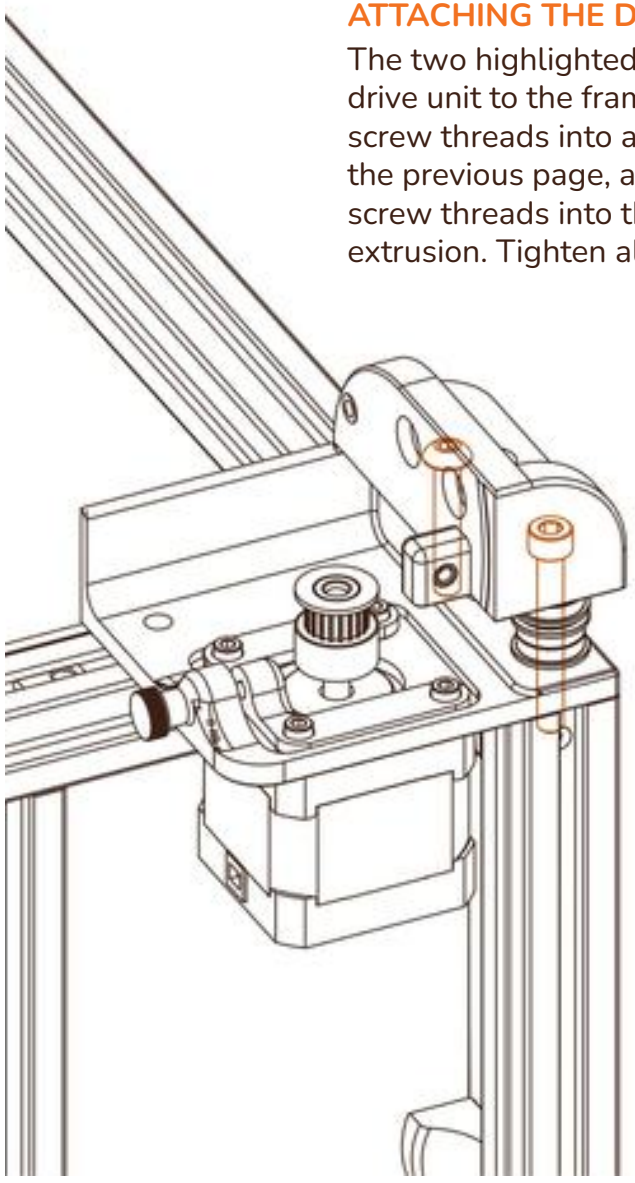
EXTRA NUT

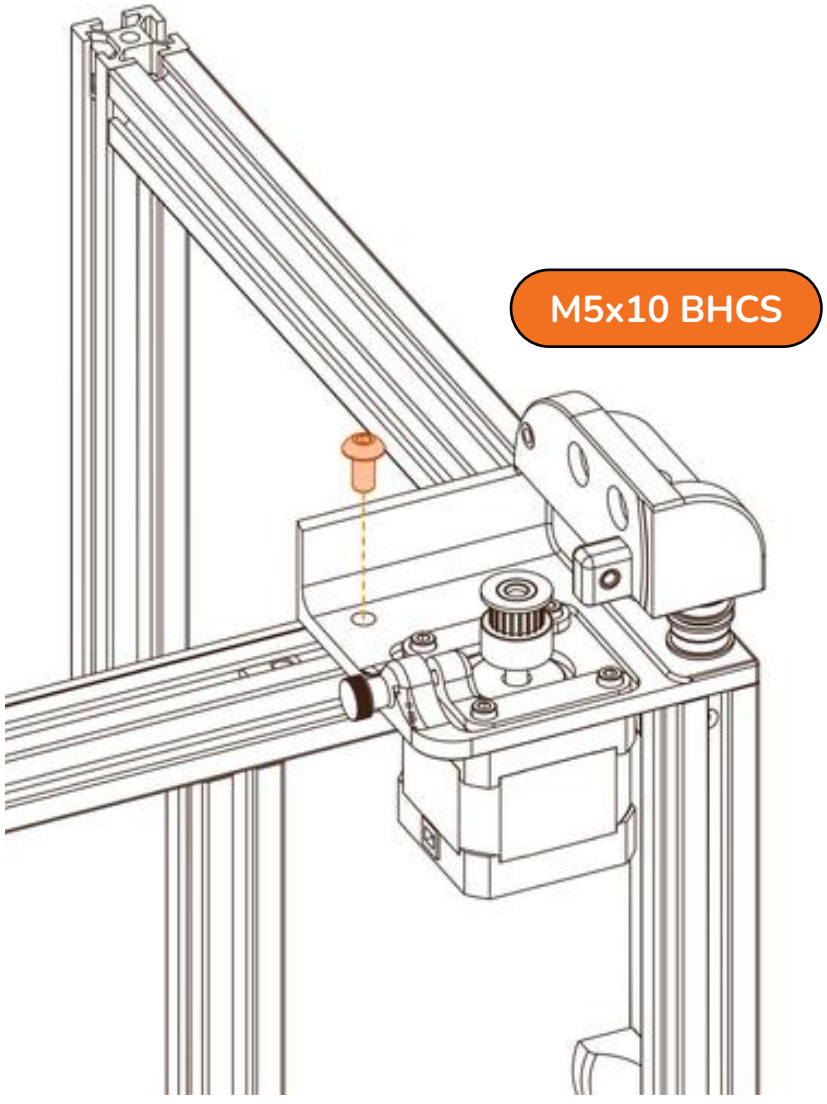
This T-nut will be used later for the Rear Center Support.

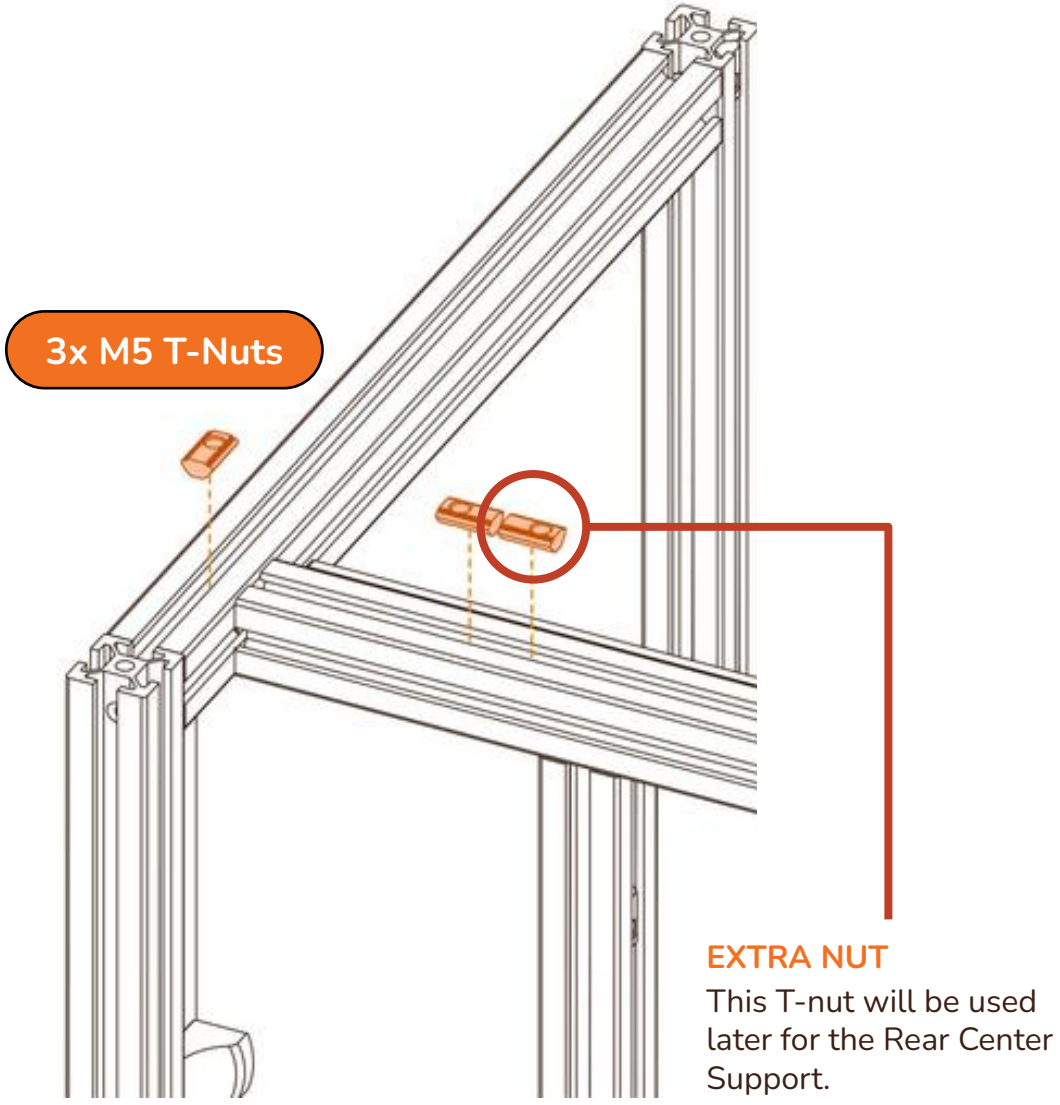


ATTACHING THE DRIVE UNIT

The two highlighted screws help secure the drive unit to the frame. The button head screw threads into a T-nut you installed on the previous page, and the socket head screw threads into the end of the vertical extrusion. Tighten all of them.

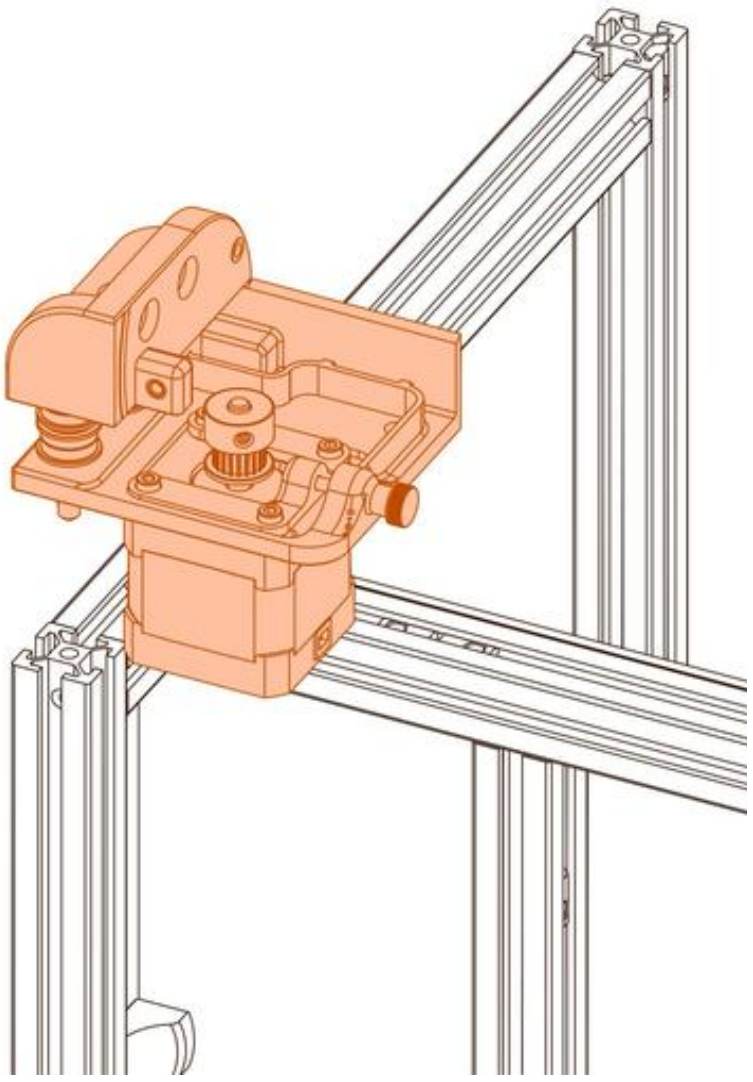


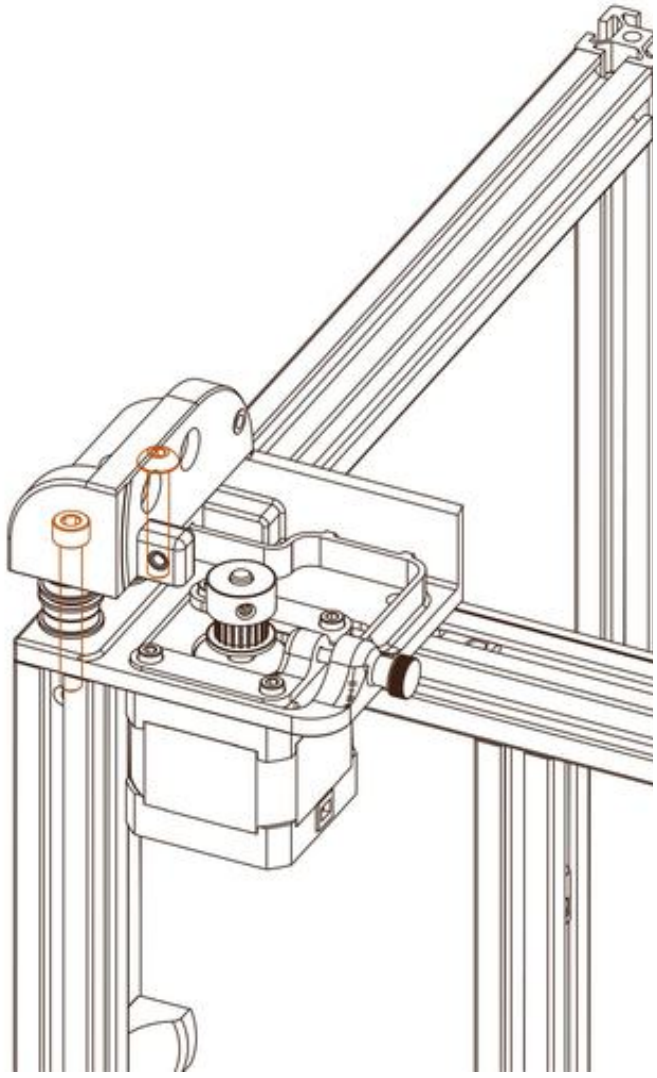




EXTRA NUT

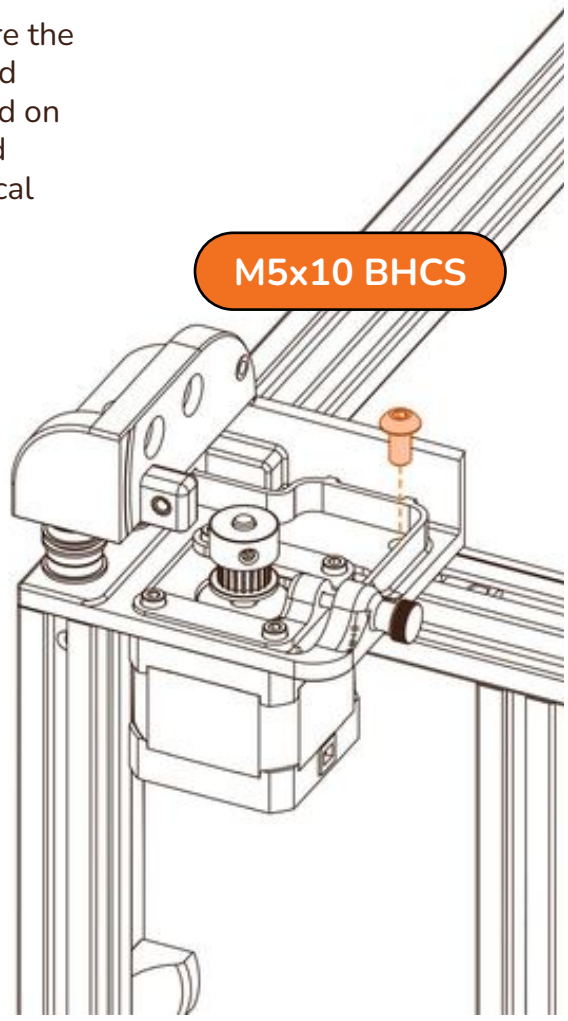
This T-nut will be used later for the Rear Center Support.





ATTACHING THE DRIVE UNIT

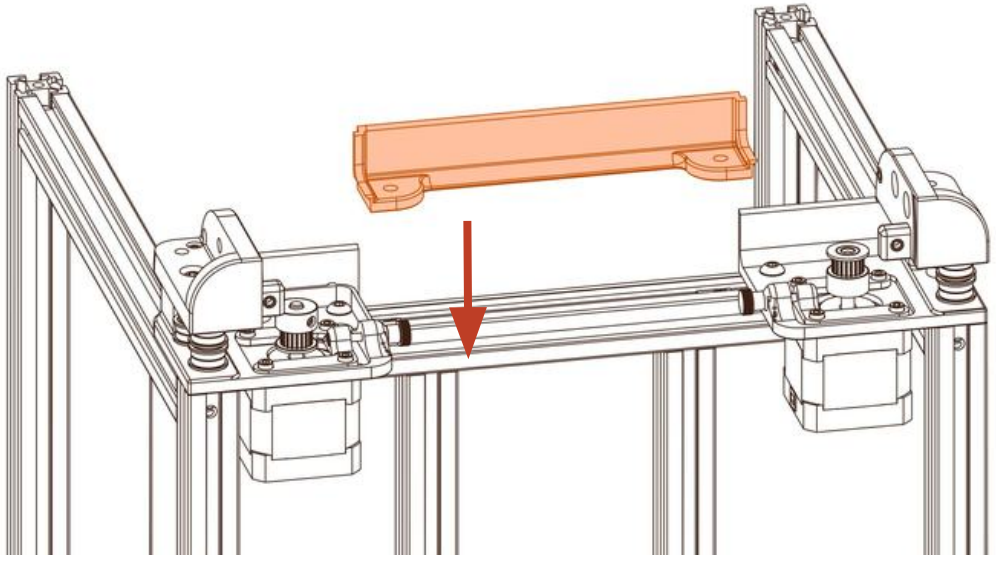
The two highlighted screws help secure the drive unit to the frame. The button head screw threads into a T-nut you installed on the previous page, and the socket head screw threads into the end of the vertical extrusion. Tighten all of them.



COCOA PRESS

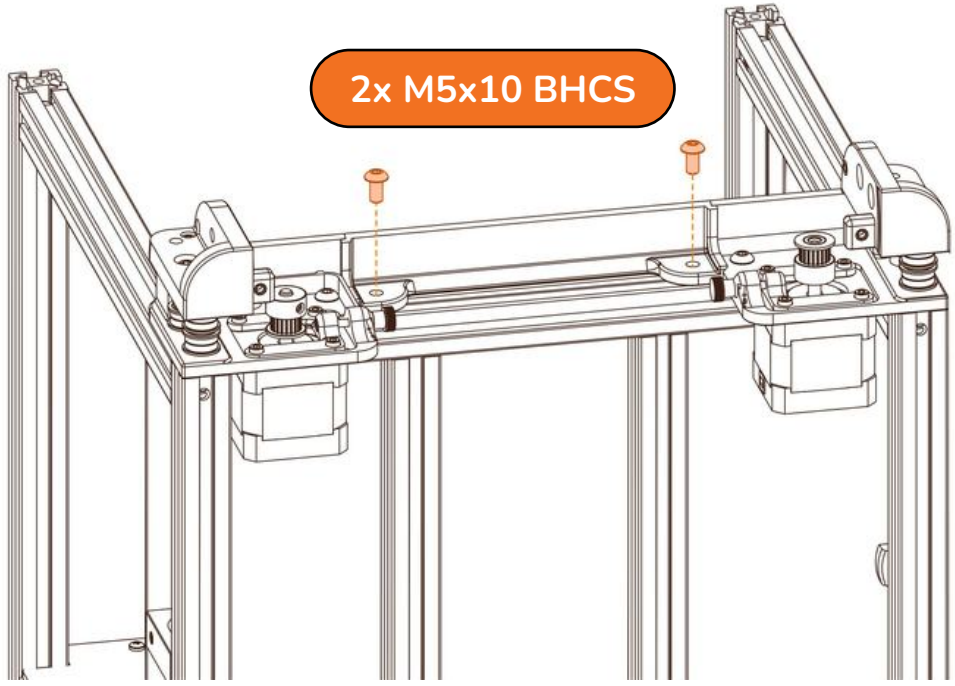
Chapter 5:
XY Gantry

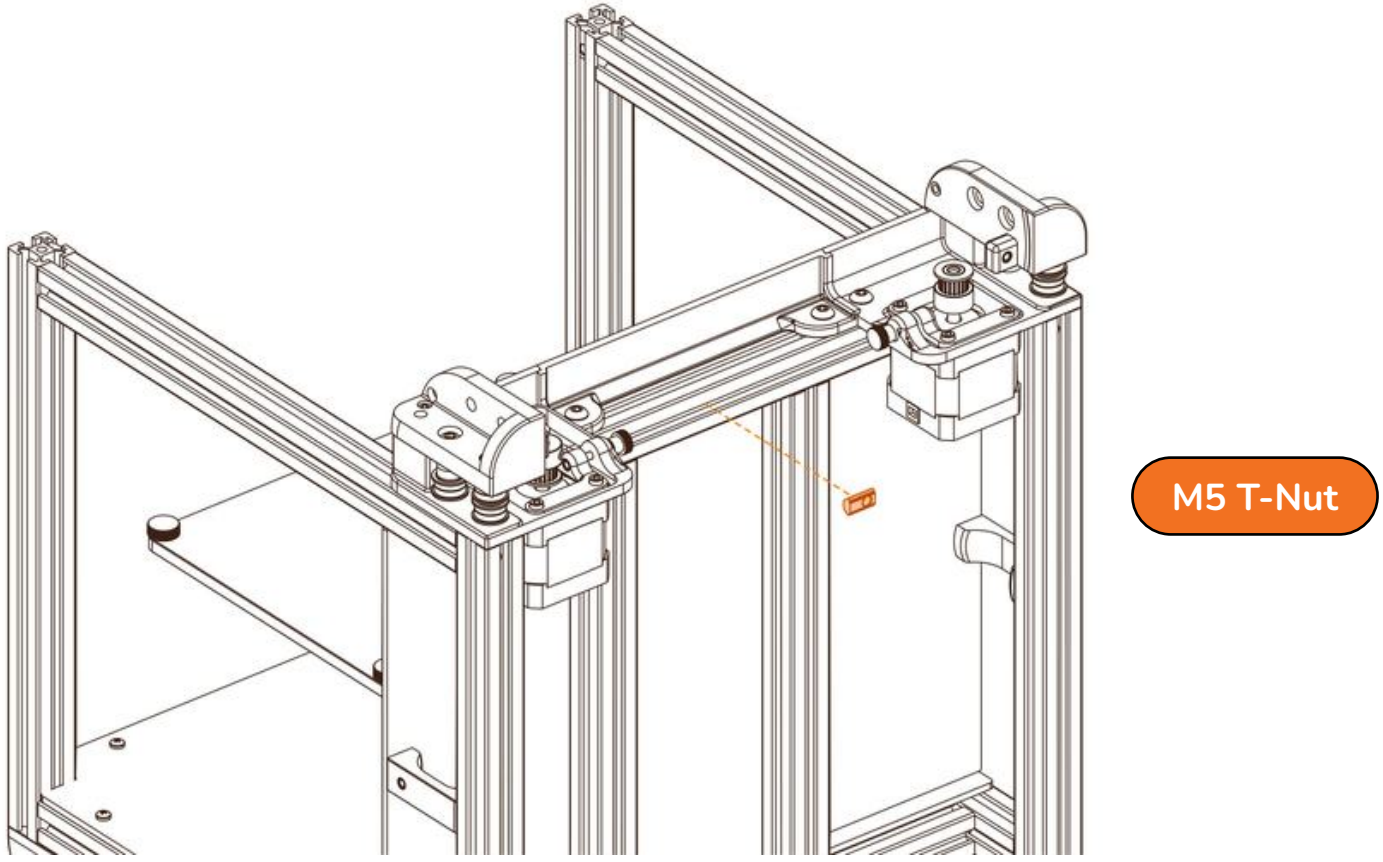


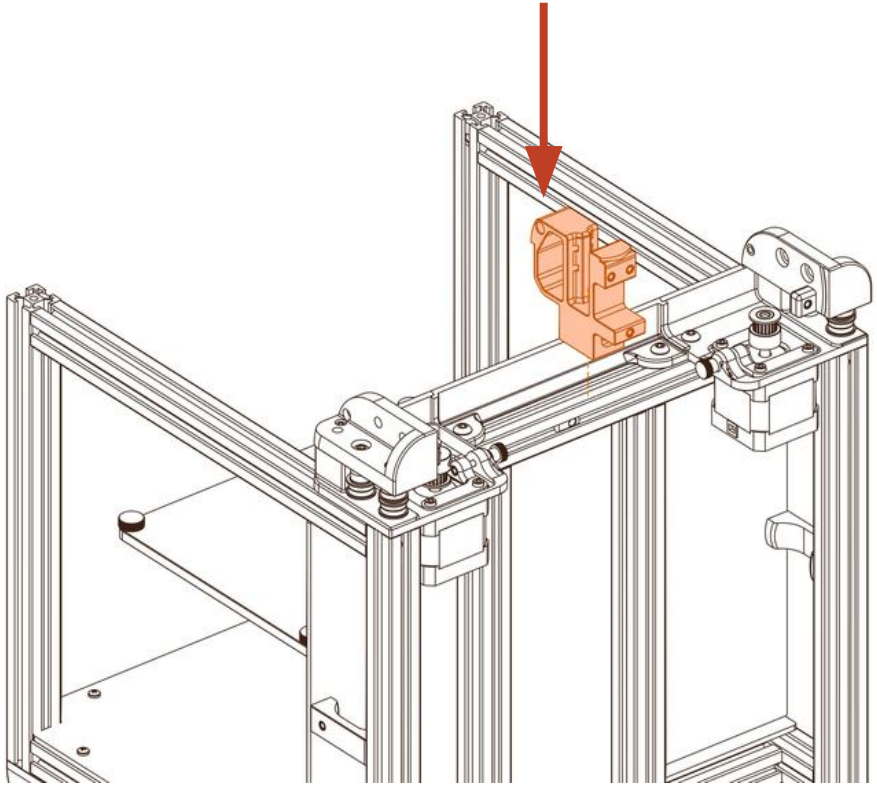


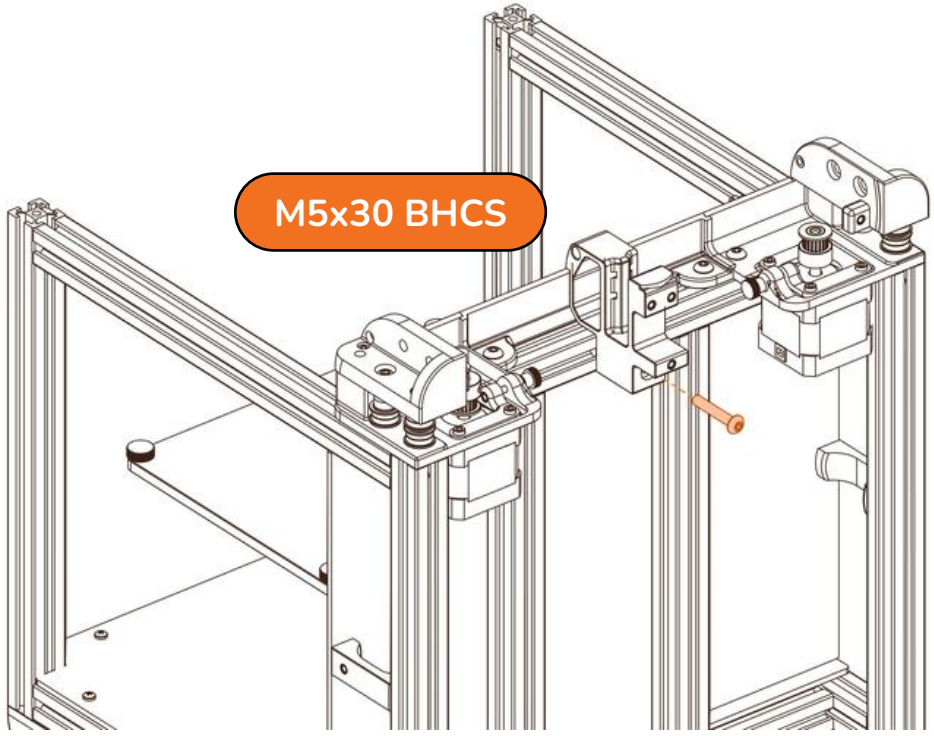
EXTRA EXTRA

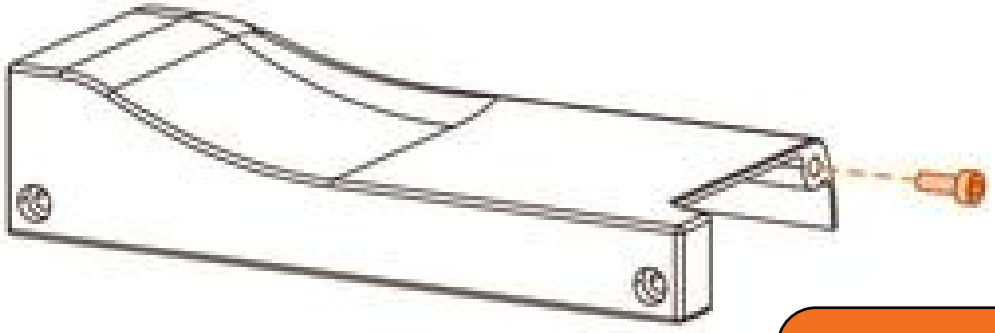
Remember the extra T-nuts from last chapter? They aren't so extra anymore. Use them to fasten the Rear Center Support to the extrusion.



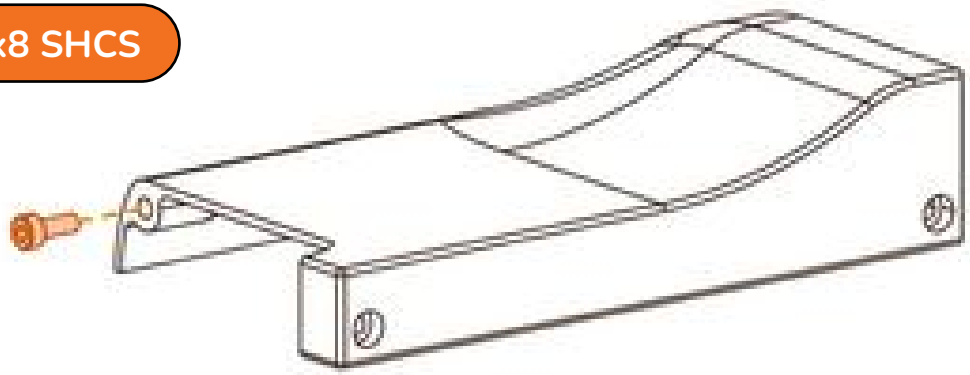

M5 T-Nut




M5x30 BHCS



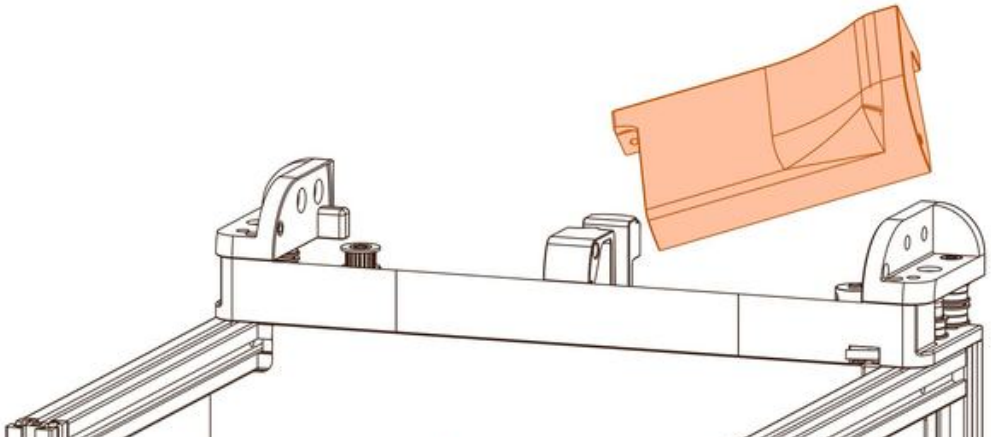
2x M3x8 SHCS

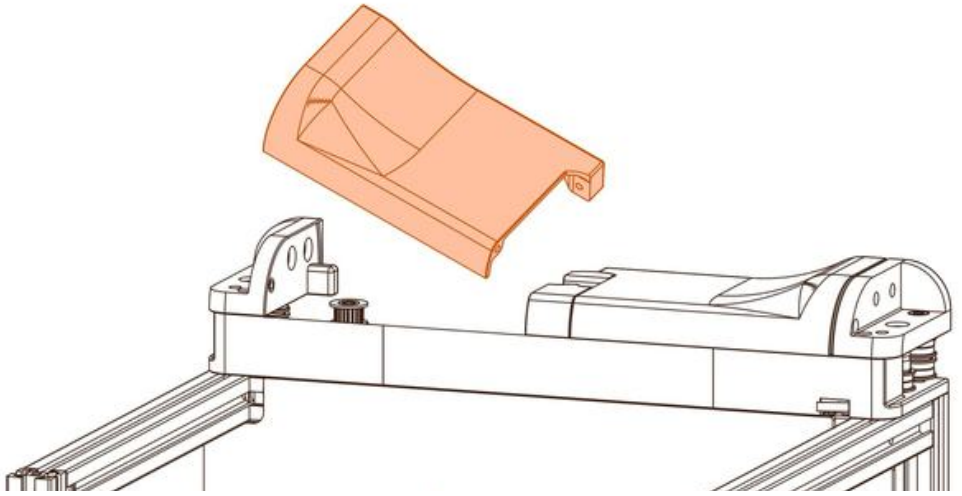


PREPPING THE MOTOR COVERS

These two M3 screws will act as hinge points for the motor covers. The screws thread directly into the cover.

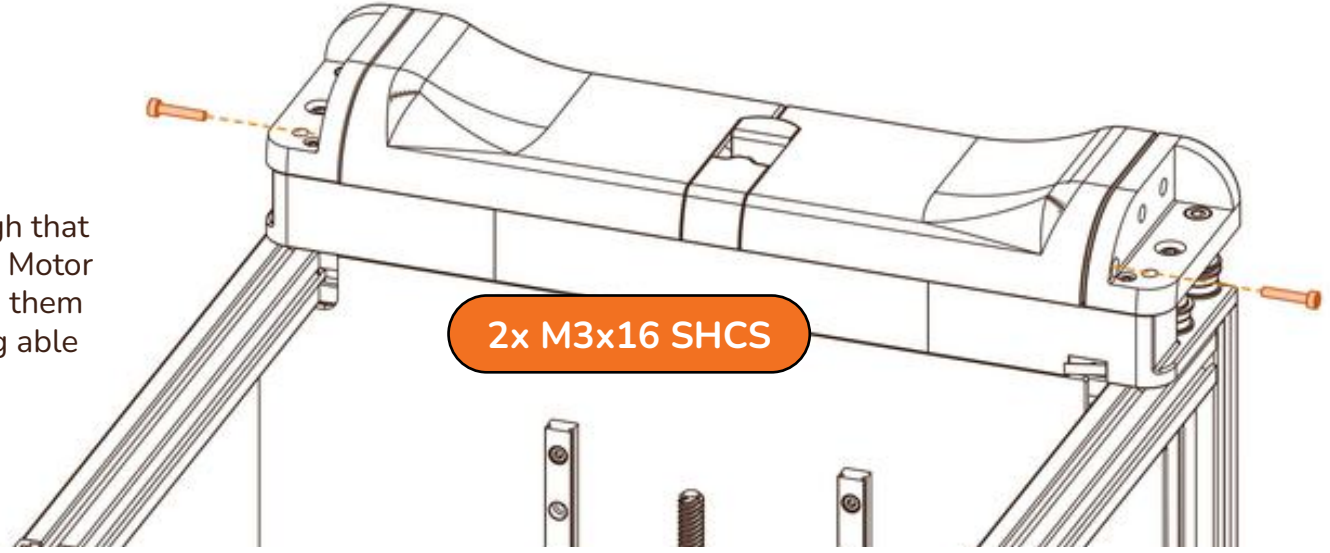
Tighten fully; they're likely to make noise while being tightened. Continue until the bottom of the screw head is flush with the print surface.





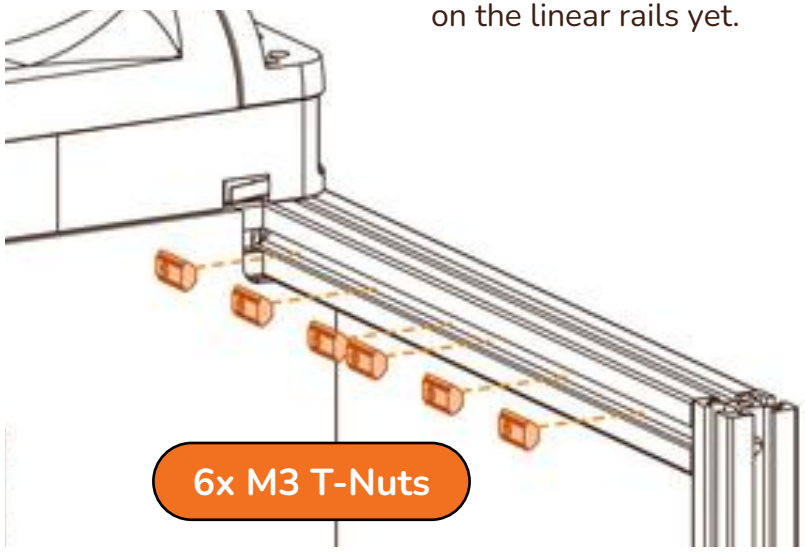
HANG LOOSE

Leave the M3x16 screws loose enough that the hinge of the Motor Cover Left and Motor Cover Right can still pivot. Tightening them too much will result in them not being able to hinge.



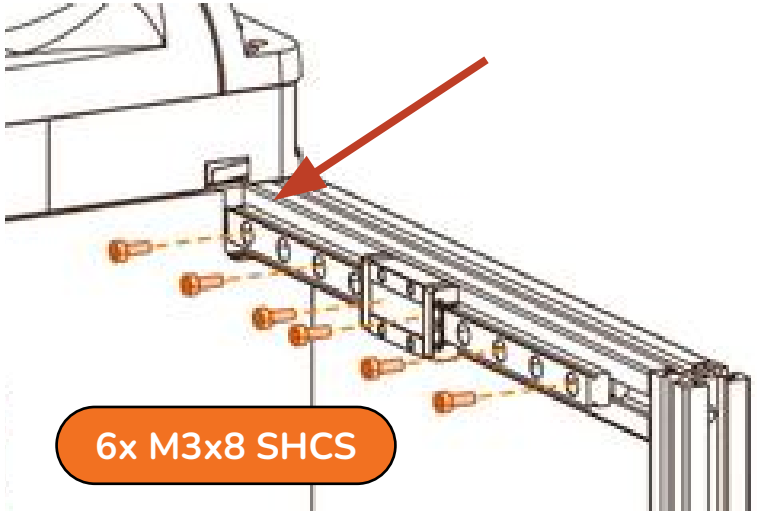
BE AWARE OF YOUR SURROUNDINGS

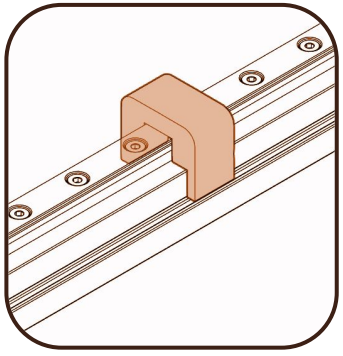
Do not remove rubber stoppers on the linear rails yet.



TAKE IT BACK NOW Y'ALL

Push the rail to the back of the frame until in contact with the extrusion.





RAIL CENTERING JIGS

Use the Rail Centering Jigs to position the rail in the center of the extrusion prior to fastening the screws.

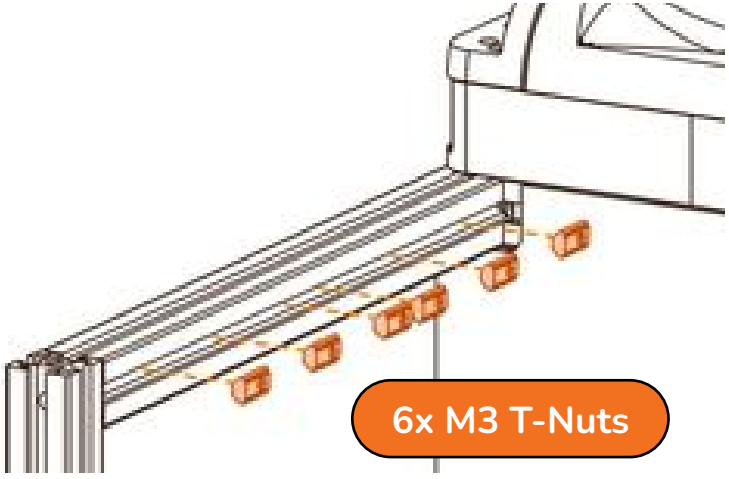
EVERY OTHER-ISH

Like with the Z axis, use every other screw hole with two in the middle, like in the drawing below.



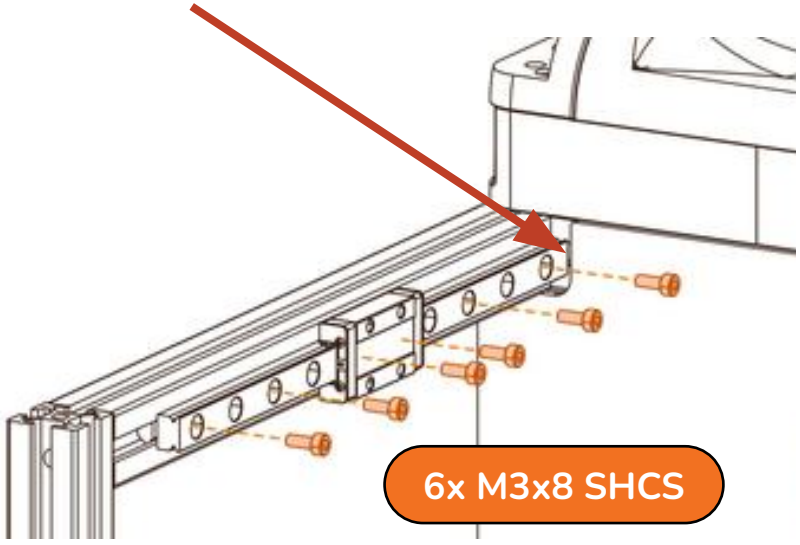
BE AWARE OF YOUR SURROUNDINGS

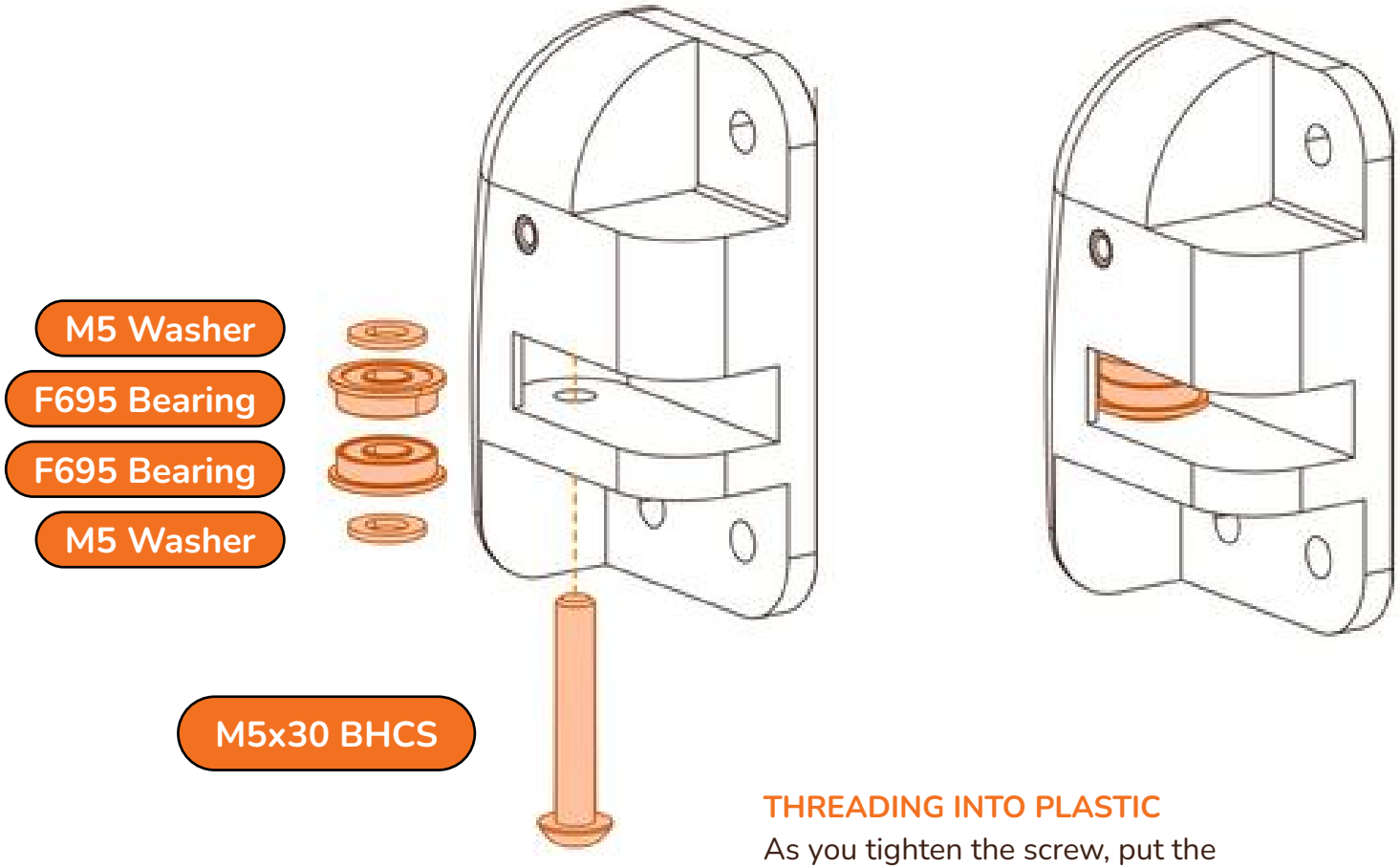
Do not remove rubber stoppers on the linear rails yet.



TAKE IT BACK NOW Y'ALL

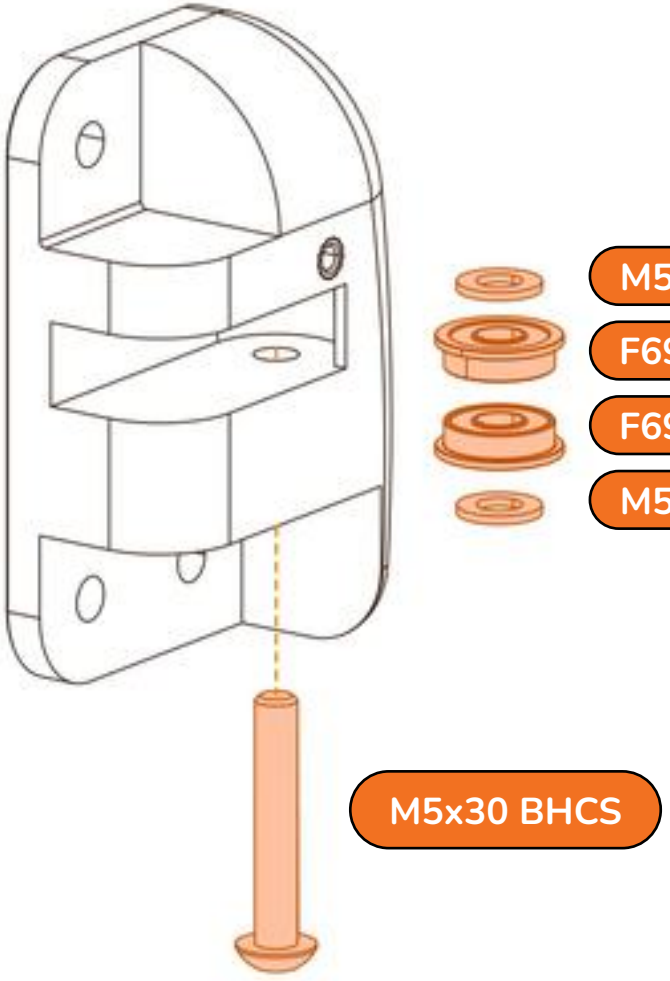
Push the rail to the back of the frame until in contact with the extrusion.

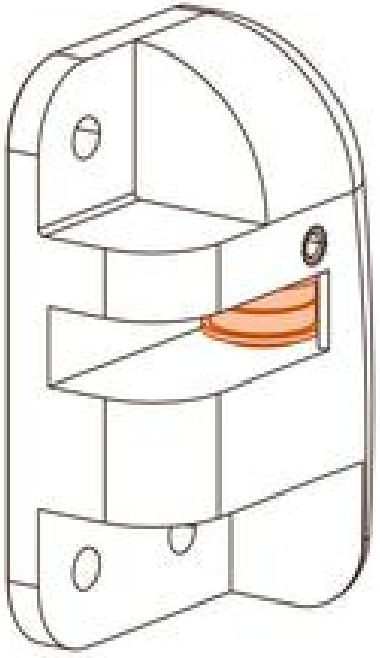




THREADING INTO PLASTIC

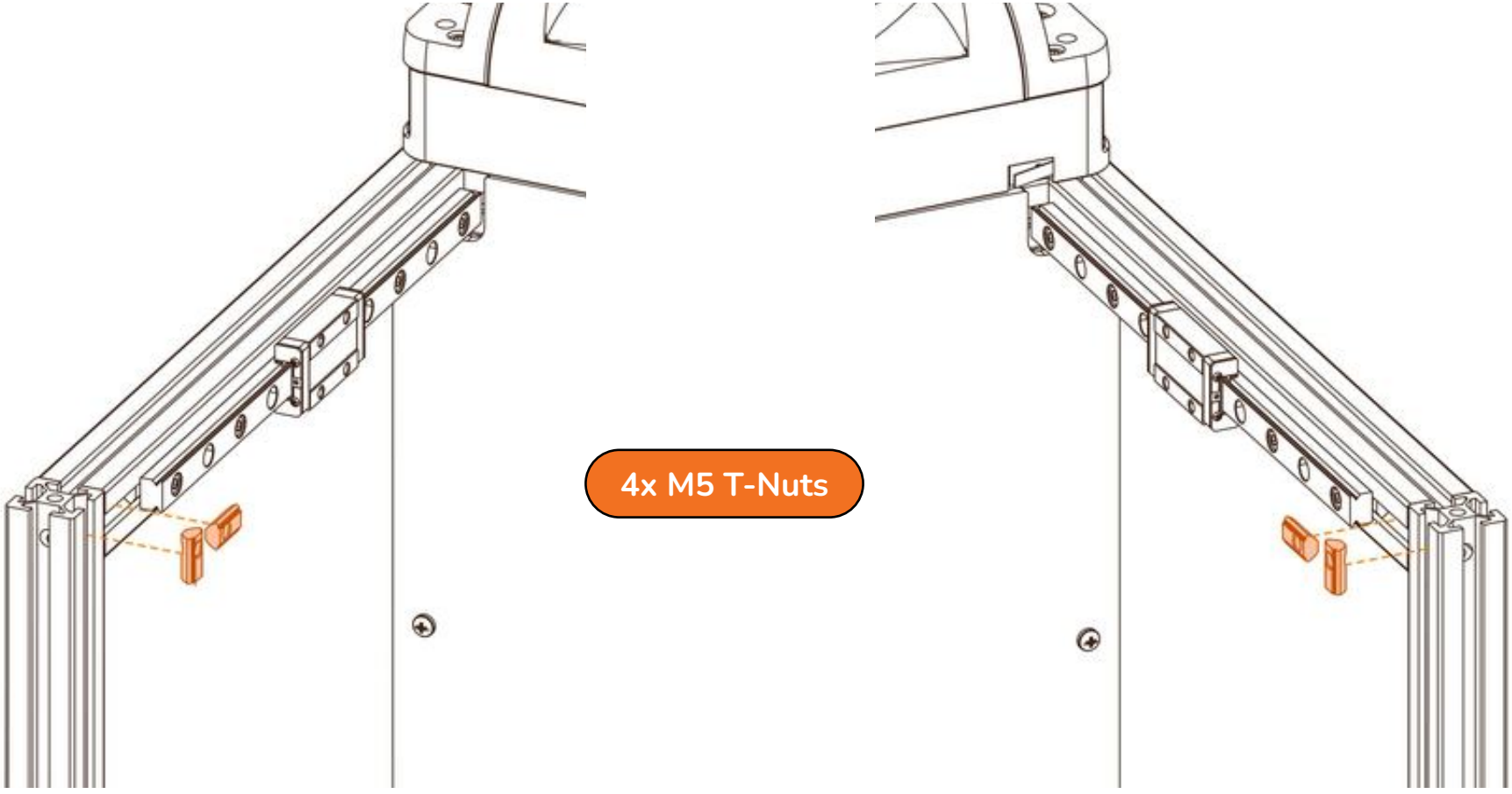
As you tighten the screw, put the hardware in, one at a time. Tighten the screw a bit, put the washer on, tighten it more, put the bearing on etc. until all parts are in. Don't overtighten the screw at the end, as it is threading into plastic.

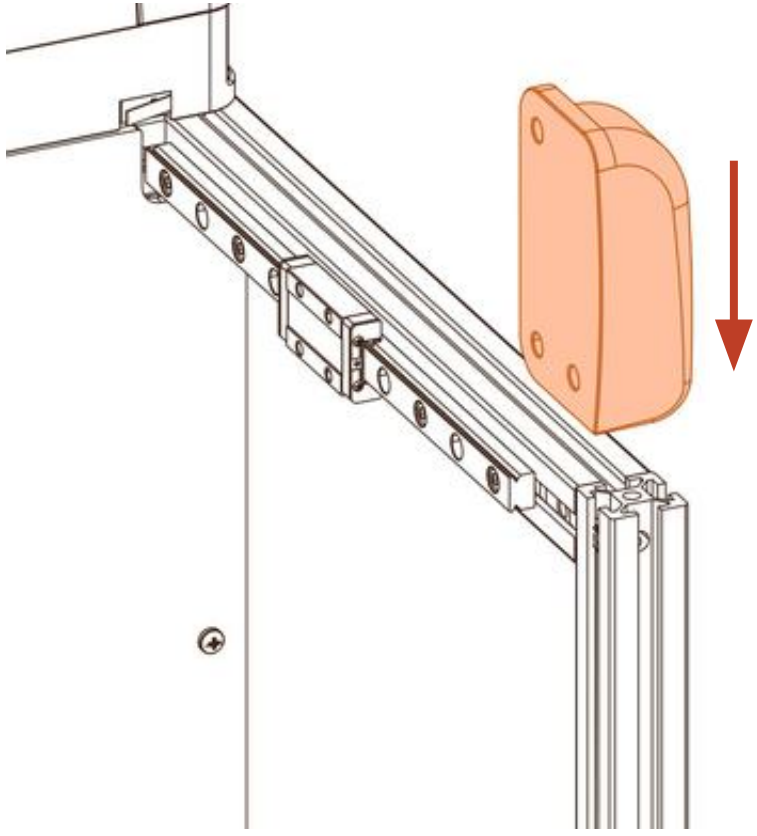


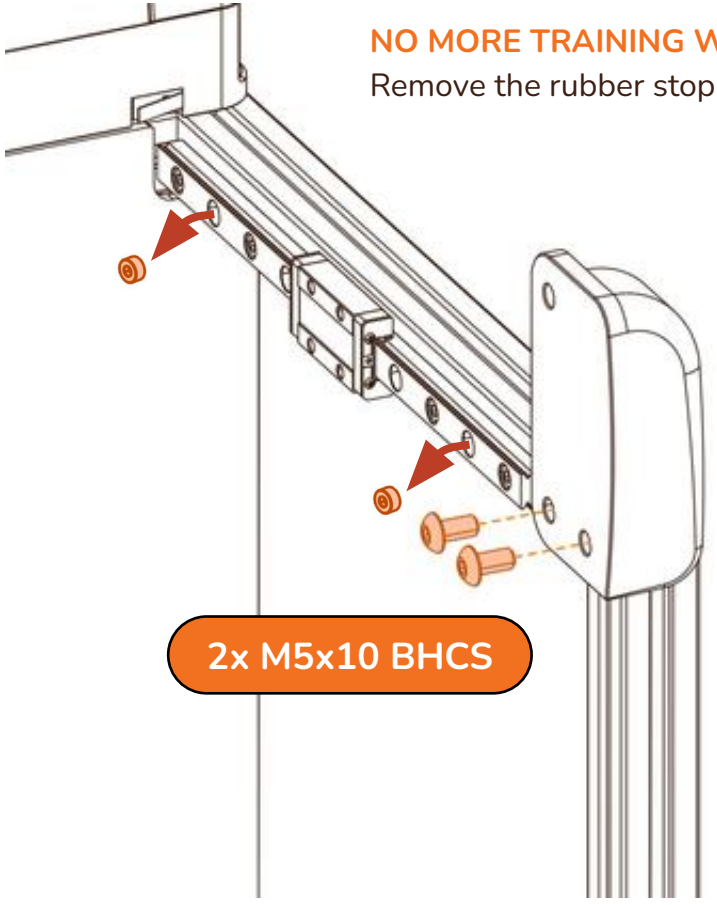


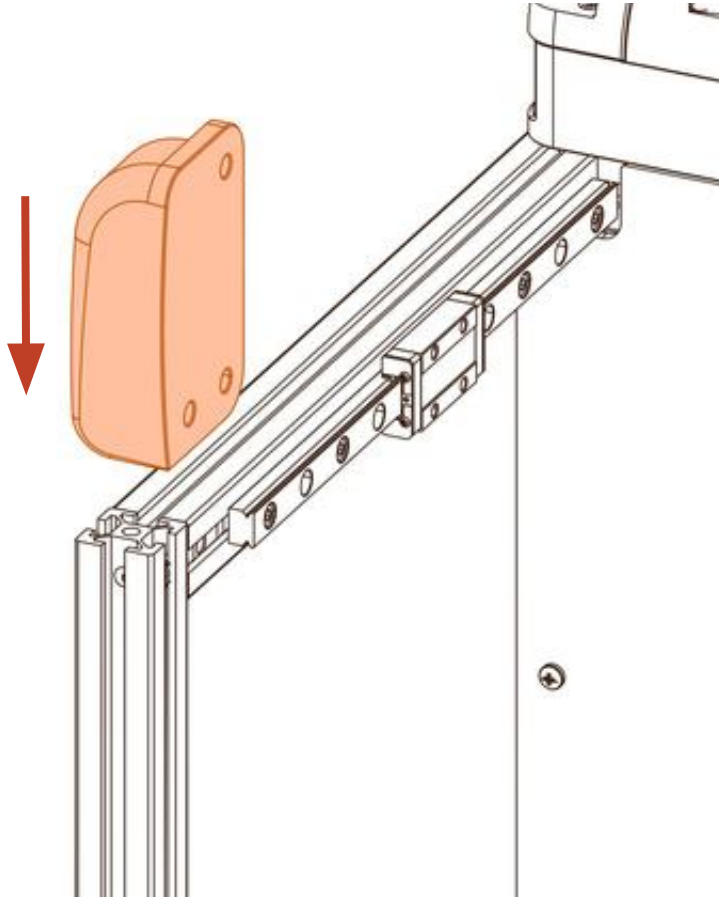
THREADING INTO PLASTIC

As you tighten the screw, put the hardware in, one at a time. Tighten the screw a bit, put the washer on, tighten it more, put the bearing on etc. until all parts are in. Don't overtighten the screw at the end, as it is threading into plastic.


4x M5 T-Nuts

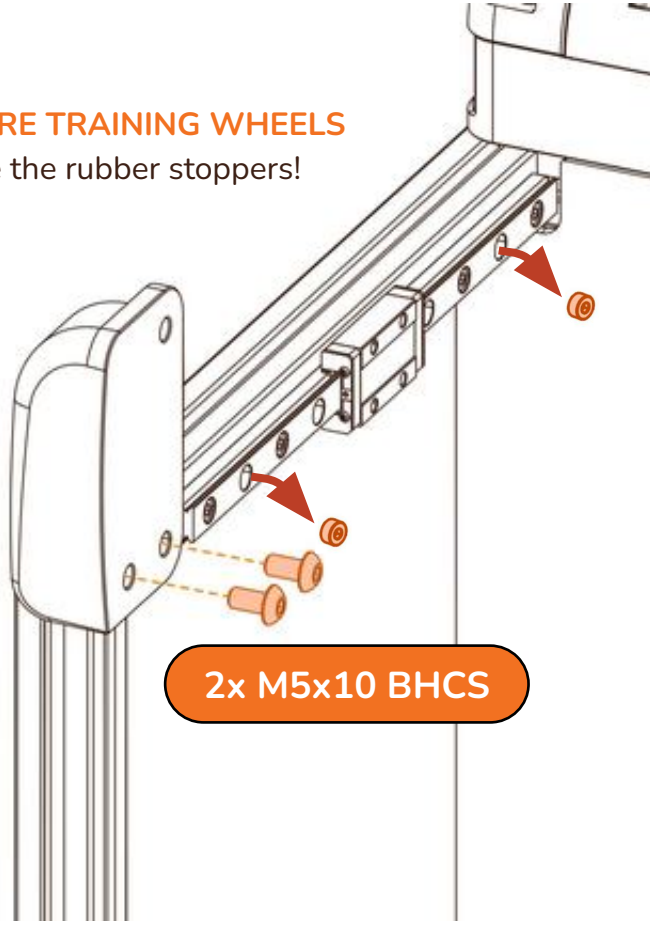



NO MORE TRAINING WHEELS
Remove the rubber stoppers!
2x M5x10 BHCS



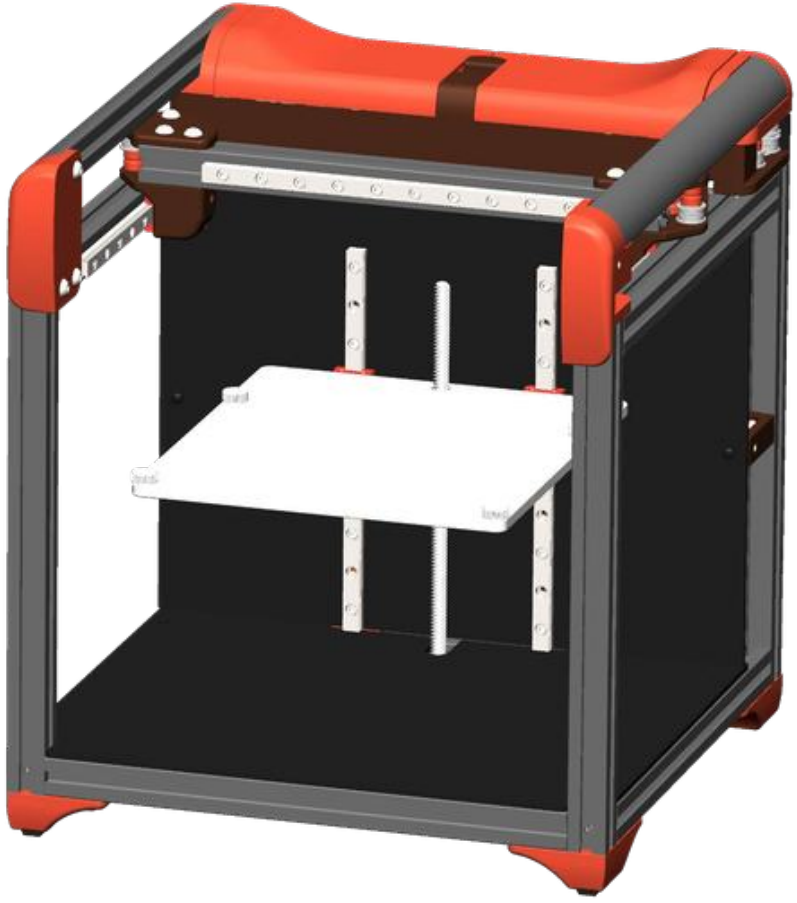
NO MORE TRAINING WHEELS

Remove the rubber stoppers!



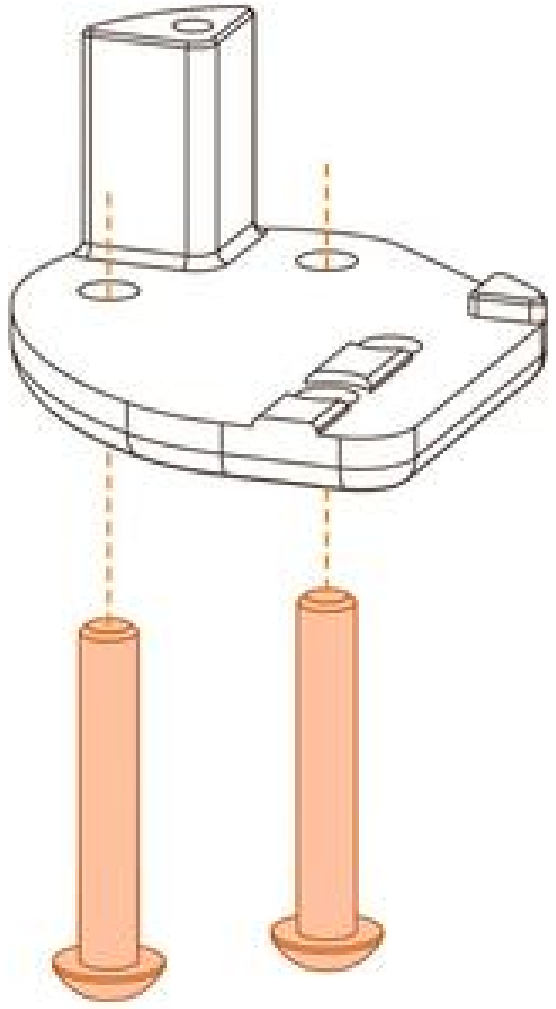
COCOA PRESS

Chapter 6:
X Axis

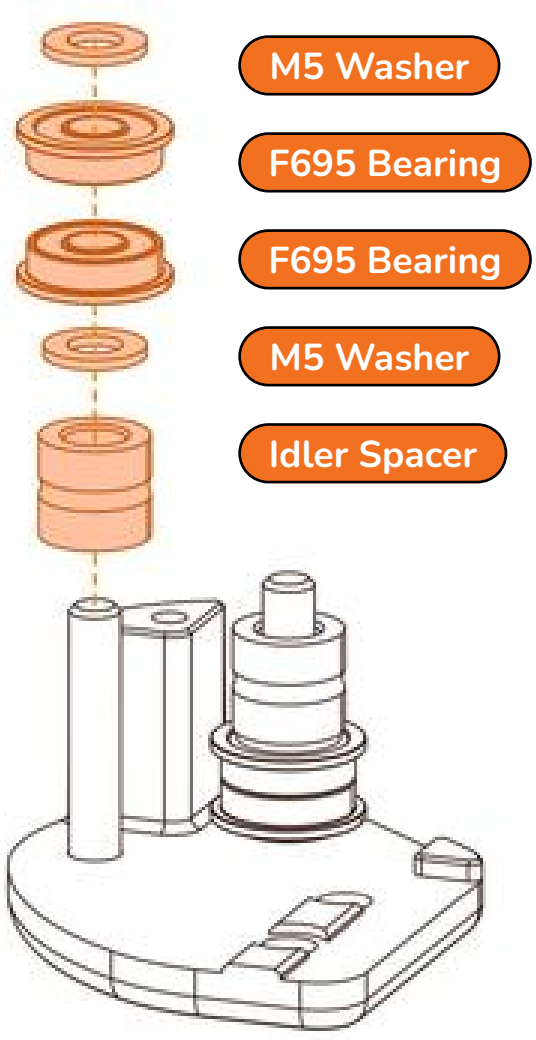


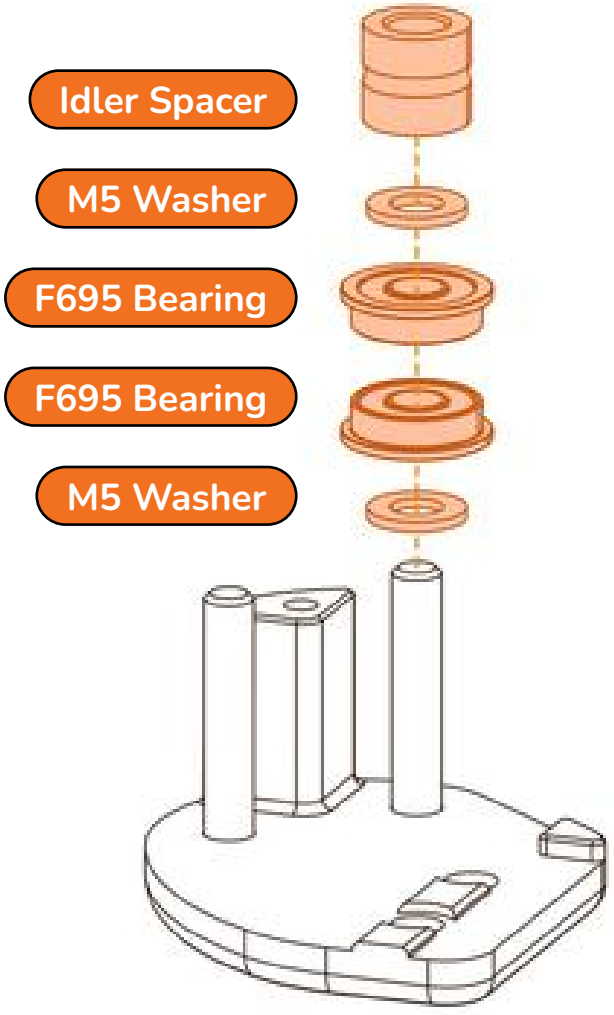
MIRROR MIRROR ON THE WALL...

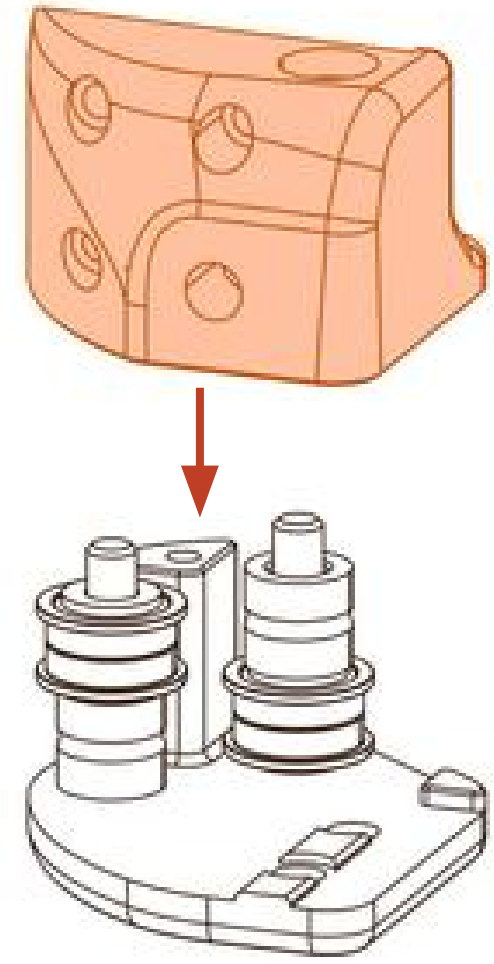
The XY joints use similar, but **not identical**, mirrored parts. Be sure to closely match the printed part you are using to the picture to ensure you are assembling the correct joint.

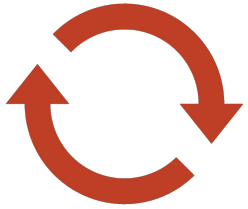


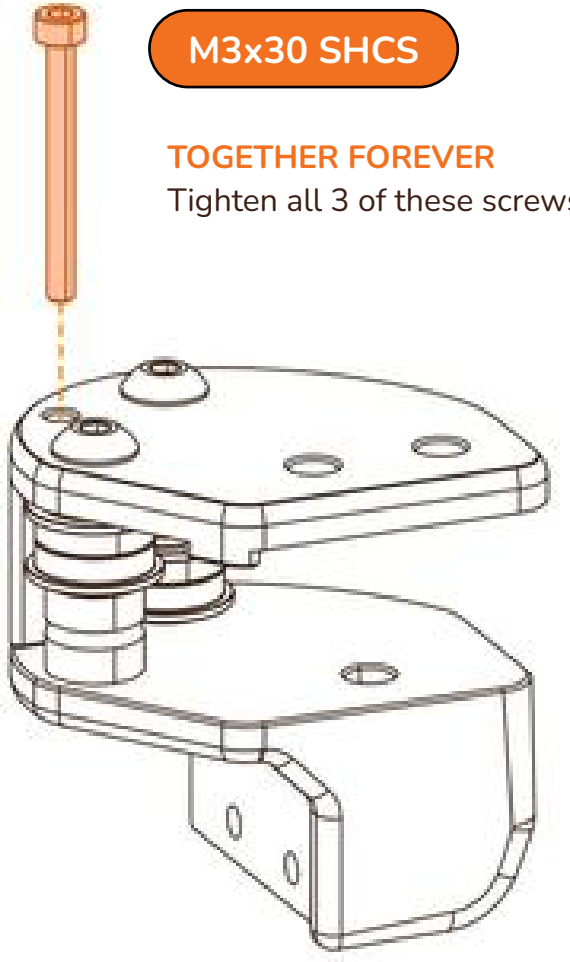
2x M5x30 BHCS


M5 Washer
F695 Bearing
F695 Bearing
M5 Washer
Idler Spacer


Idler Spacer
M5 Washer
F695 Bearing
F695 Bearing
M5 Washer







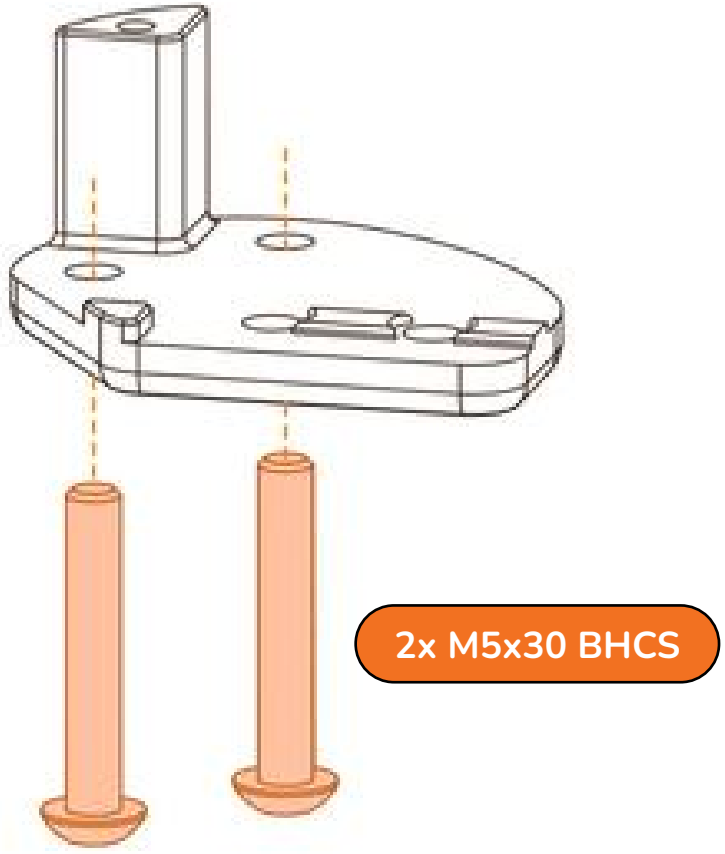
M3x30 SHCS

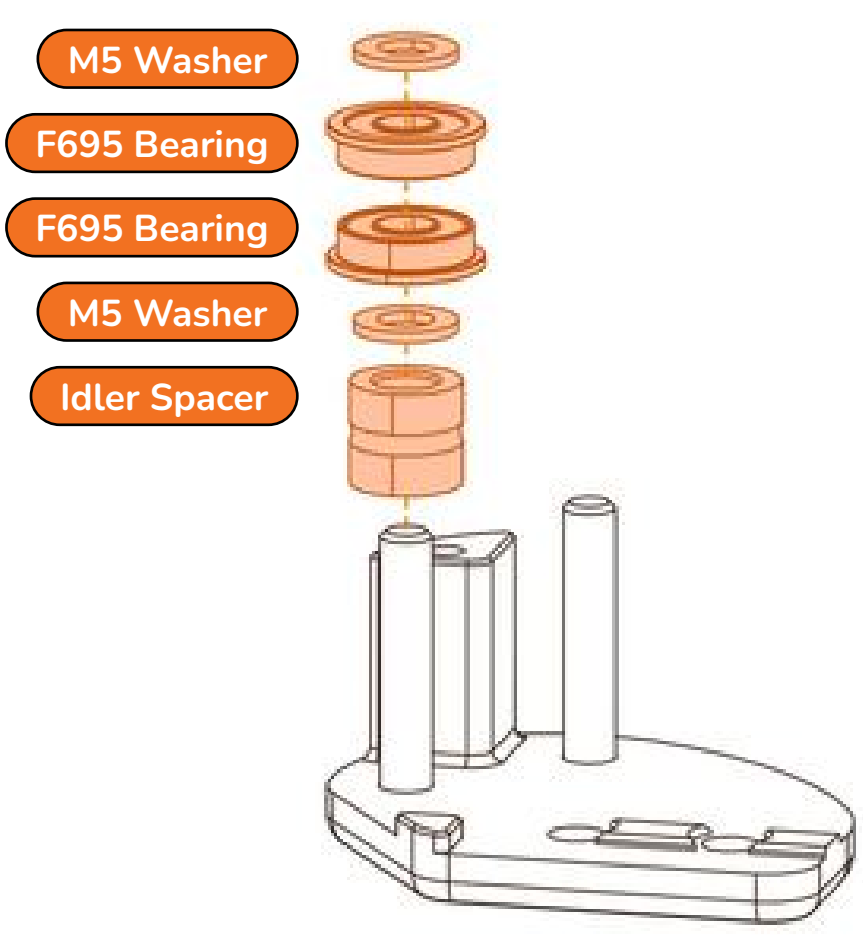
TOGETHER FOREVER

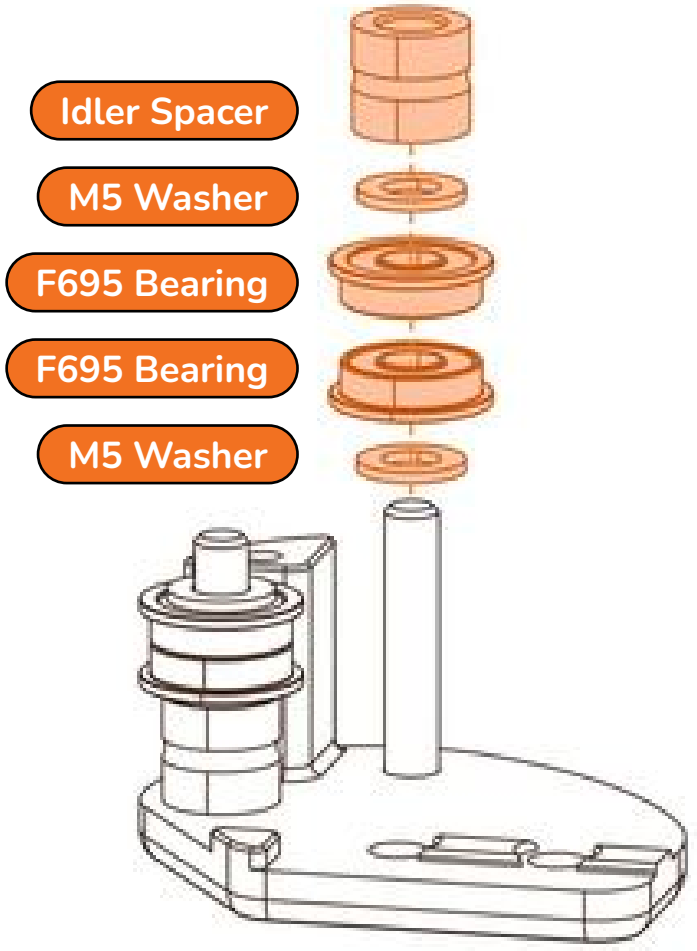
Tighten all 3 of these screws.

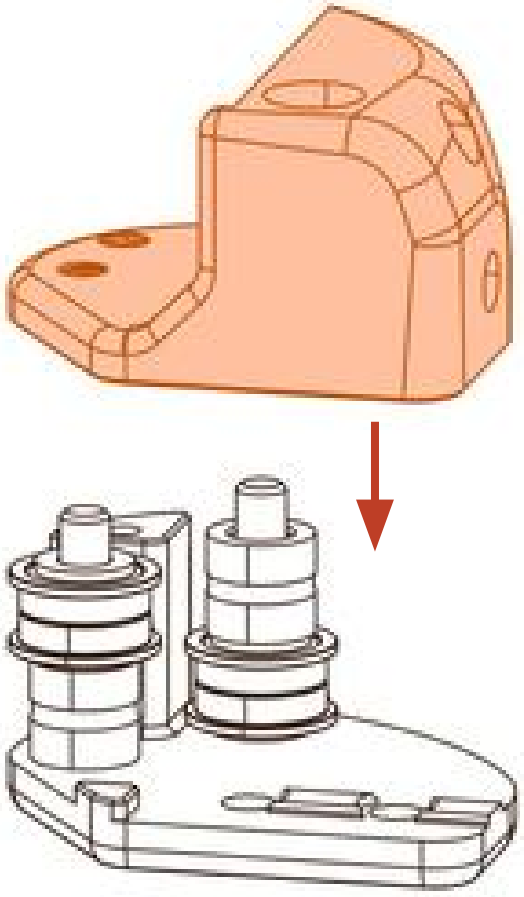
...WHO IS THE FAIREST OF THEM ALL

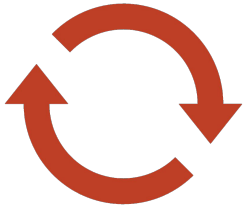
The XY joints use similar, but not the same, parts. Closely match the printed part you are using to the picture to ensure you are assembling the correct joint.




M5 Washer
F695 Bearing
F695 Bearing
M5 Washer
Idler Spacer


Idler Spacer
M5 Washer
F695 Bearing
F695 Bearing
M5 Washer

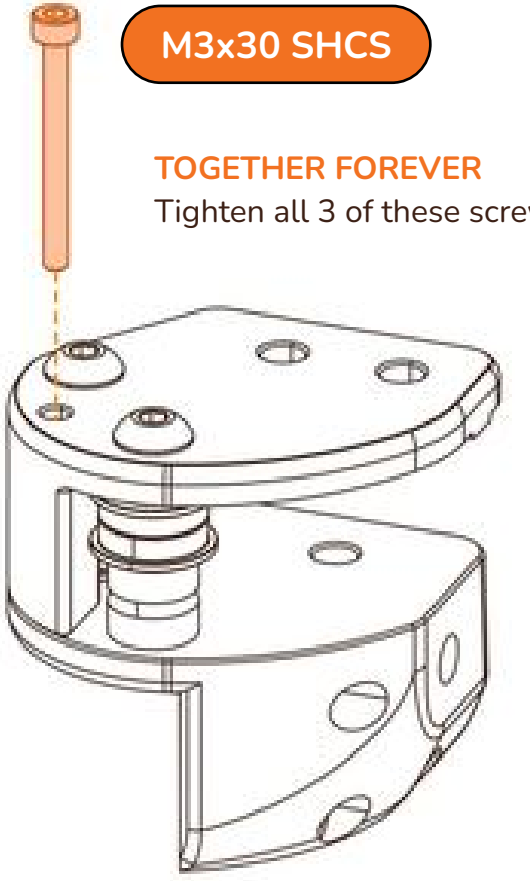


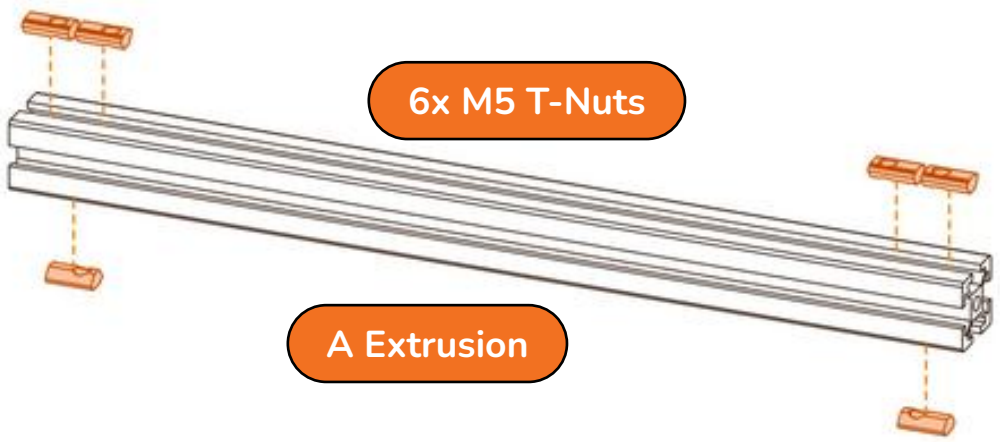


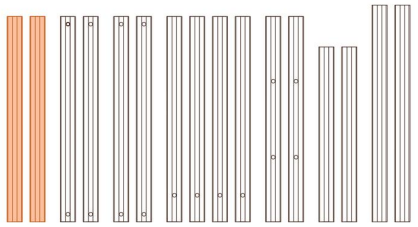
M3x30 SHCS

TOGETHER FOREVER

Tighten all 3 of these screws.

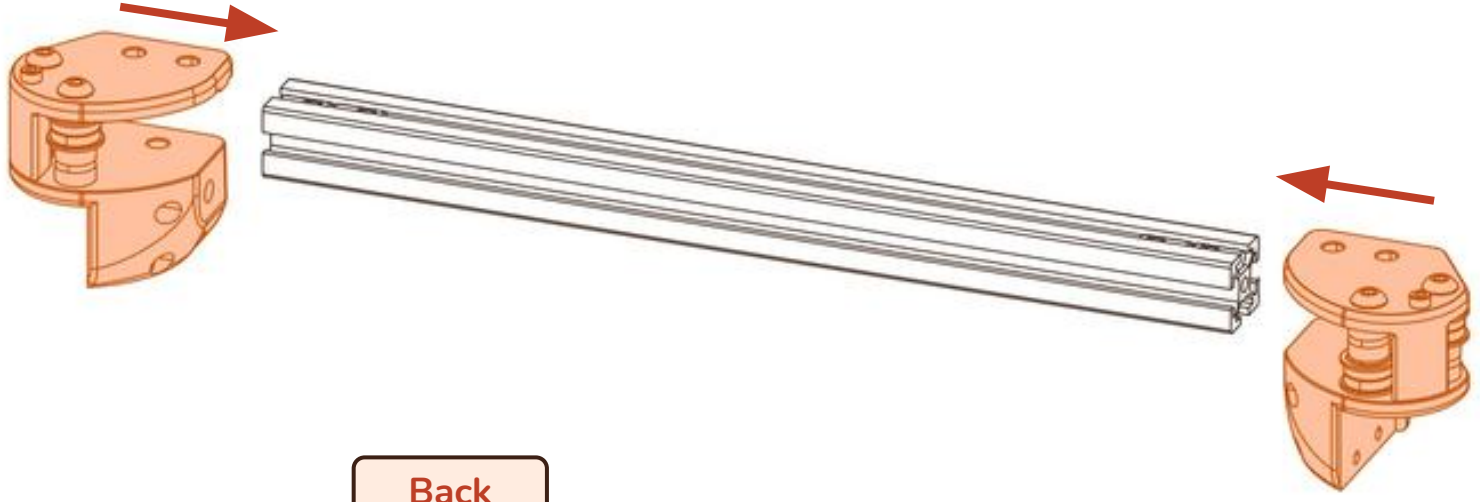


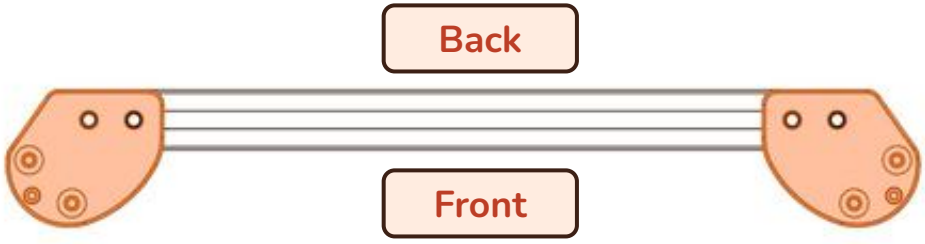




WHEN WILL MY REFLECTION SHOW...

Double check that your XY gantry joints follow the diagrams on this page accurately. Otherwise, a partial or full disassembly of the XY gantry may be required to resolve issues.







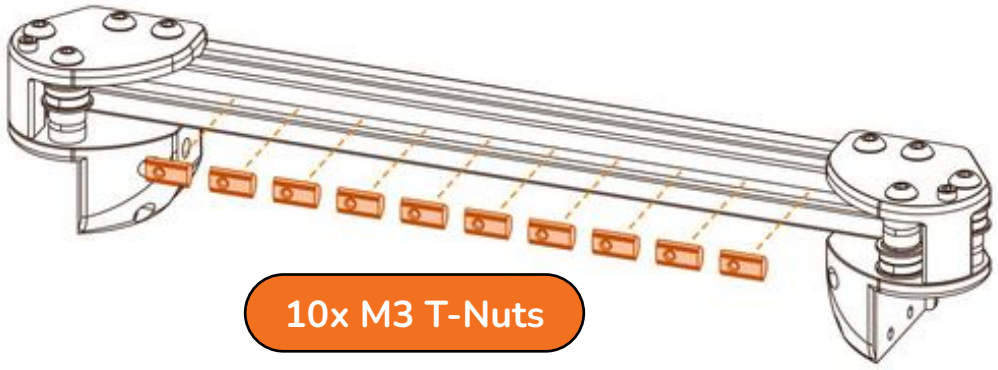
NOT SO FAST

Leave these 6 screws loose for now. We will tighten them at a later step, when the gantry is installed in the machine.

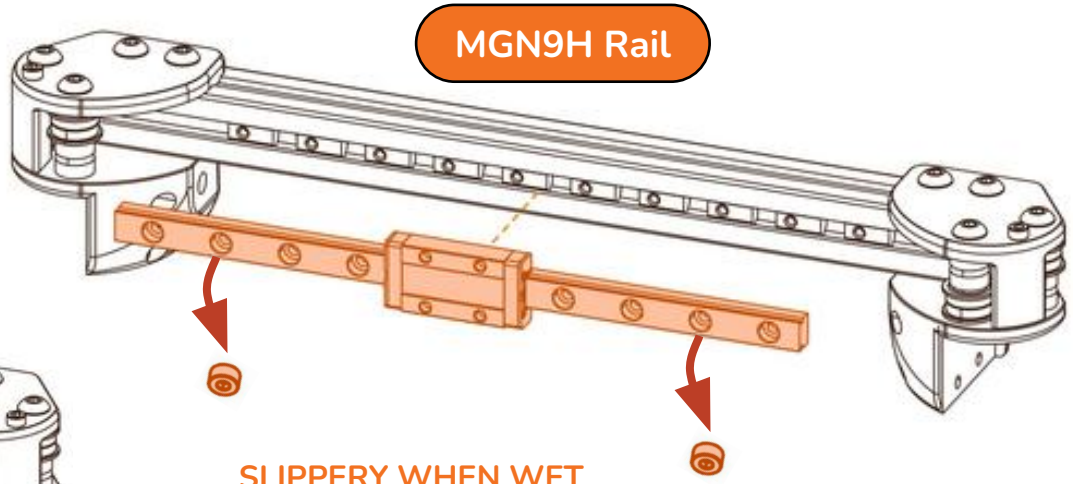


BALANCE, HARMONY...

Center the rail on the extrusion as best you can. You will be using every screw hole in the rail.



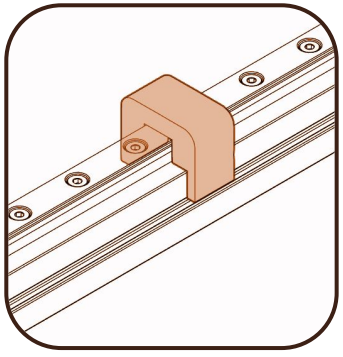
10x M3 T-Nuts



MGN9H Rail

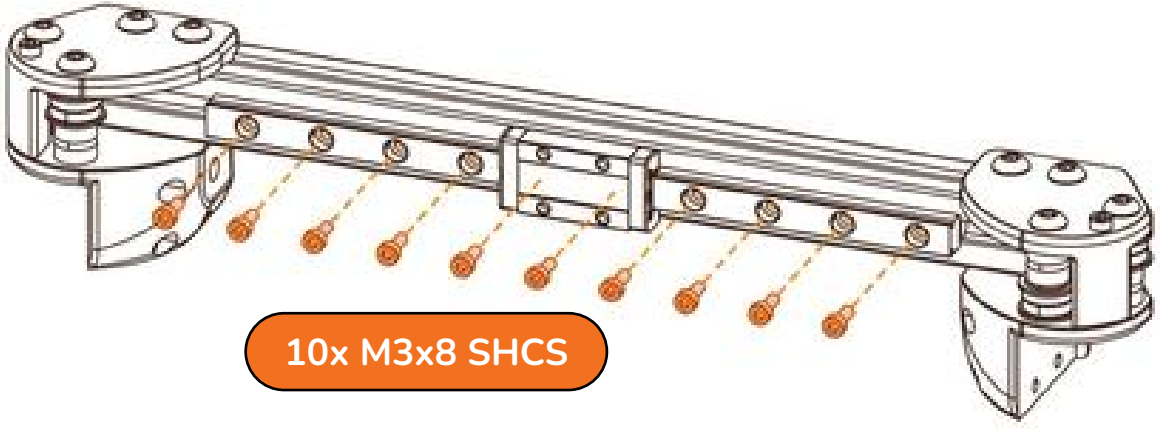
SLIPPERY WHEN WET

Remove the two rubber stoppers on the linear rail. Please be extremely careful with the rail after these are removed. If the carriage falls off the rail, it will be ruined.

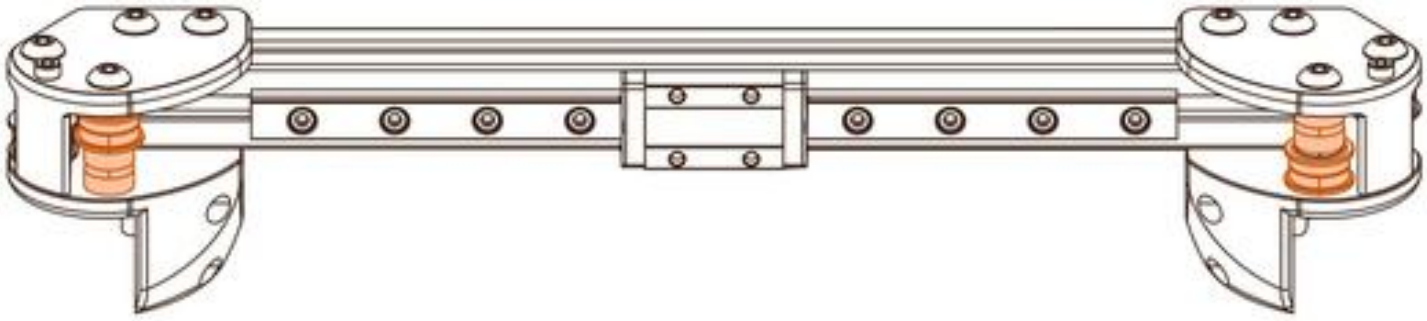


RAIL CENTERING JIGS

Use the Rail Centering Jigs to position the rail in the center of the extrusion prior to fastening the screws.

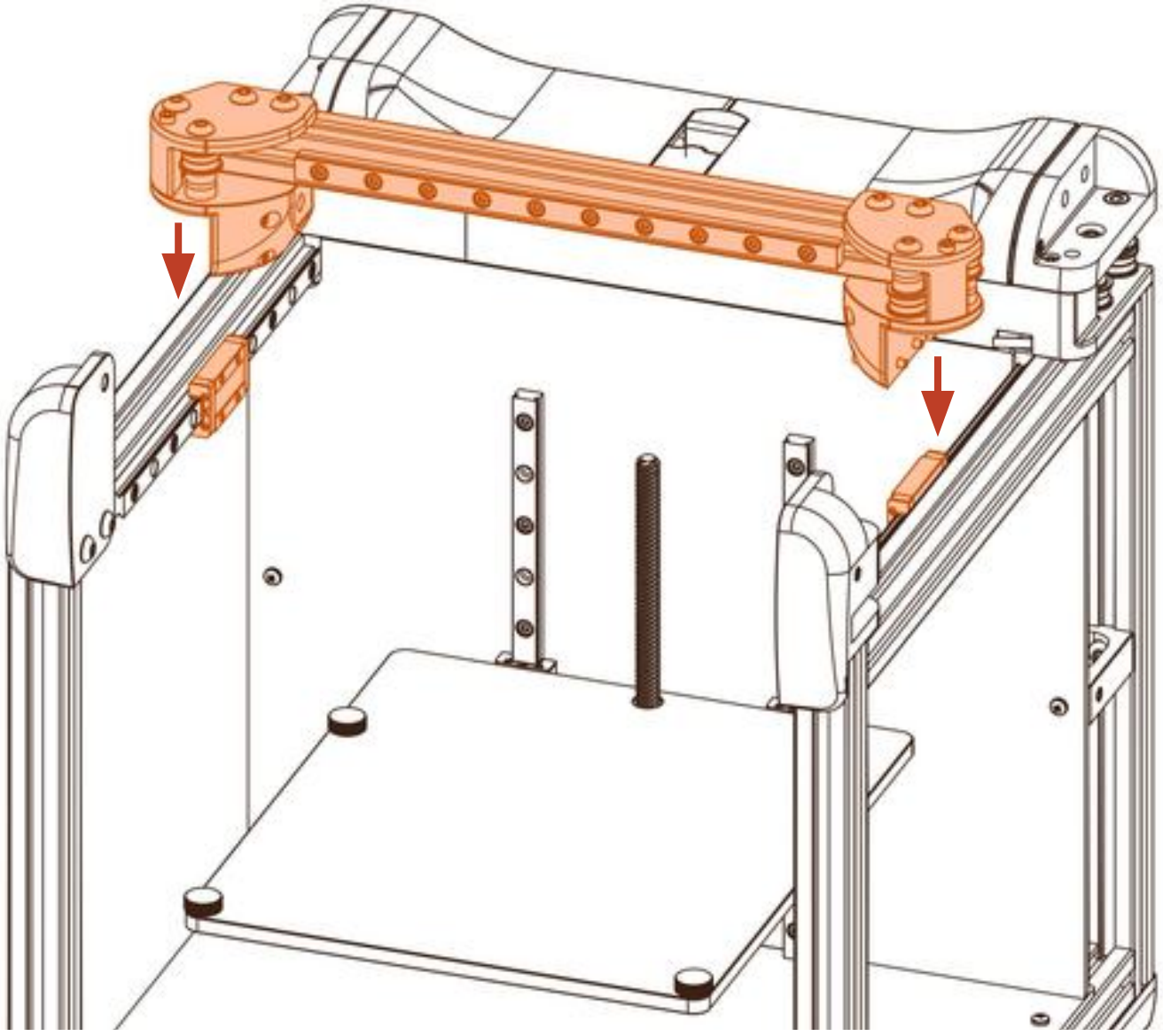


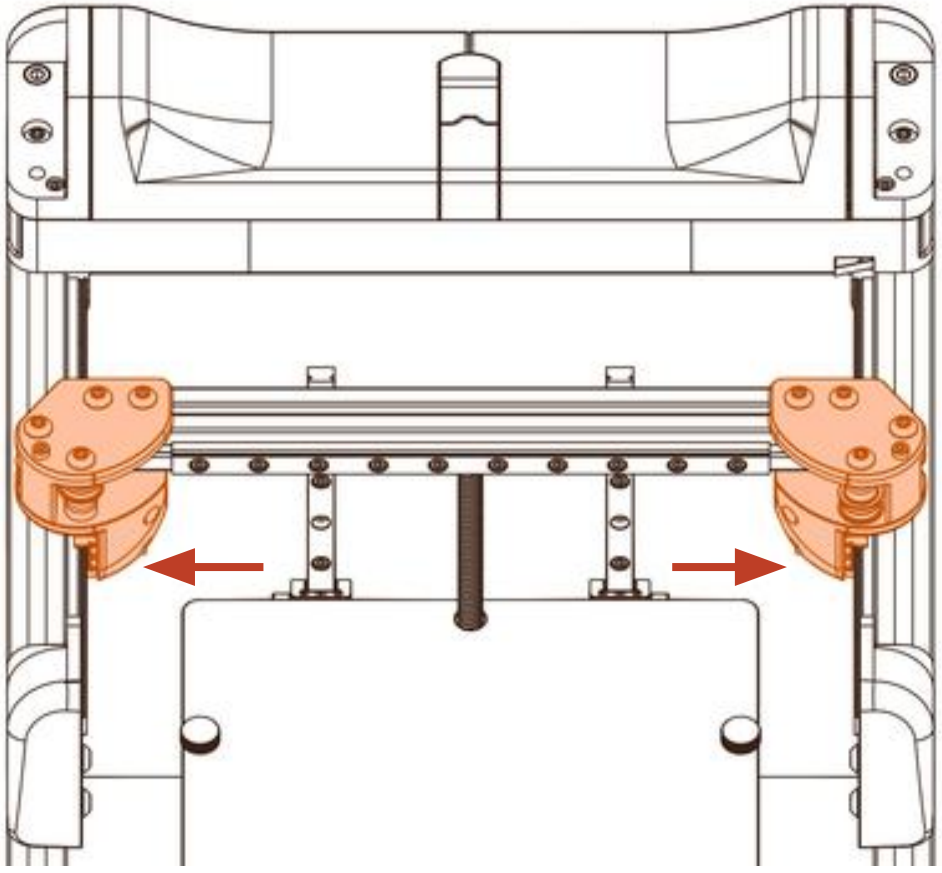
10x M3x8 SHCS

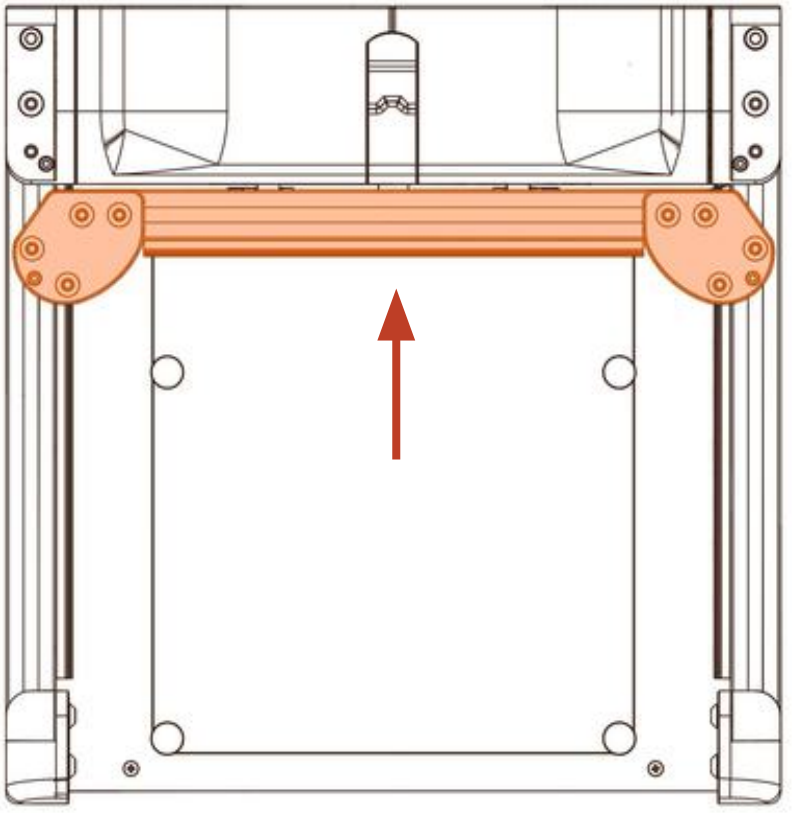


TRUST BUT VERIFY

Double check your work. The bearing positions should match the image above.





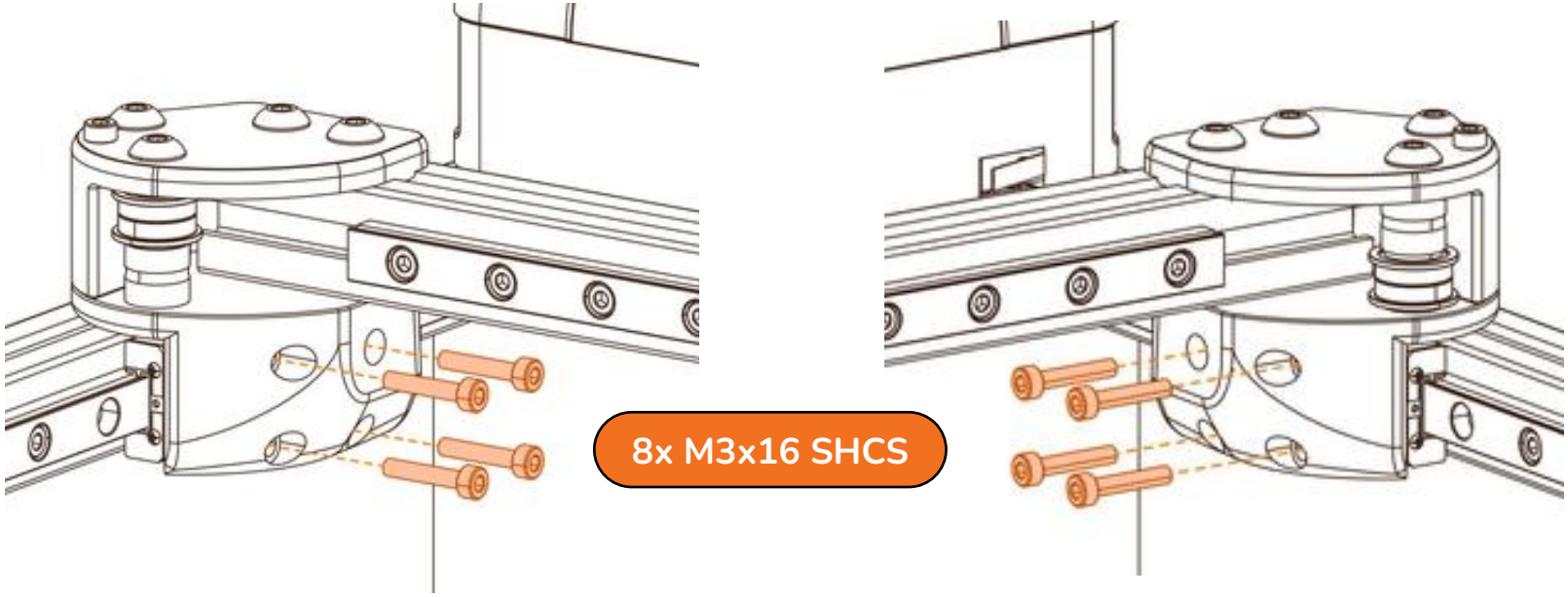


GANTRY INSTALLATION

Press the XY joints outward so they are flush with the Y carriages, then move the gantry all the way to the rear of the machine.

CLICK CLICK!

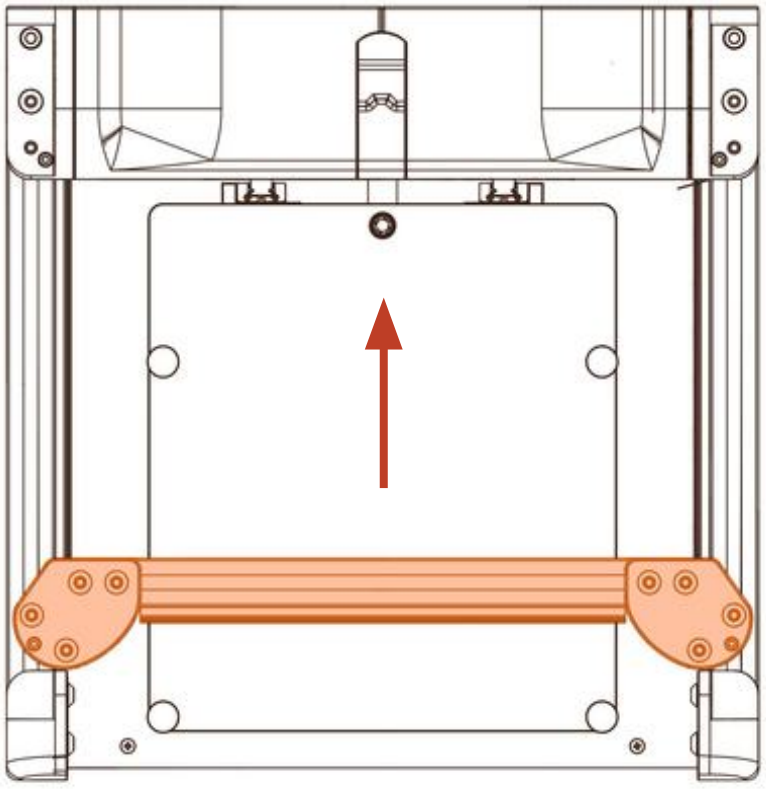
Move the gantry to the rear of the machine and make sure the Y endstop makes a quiet “click” noise.

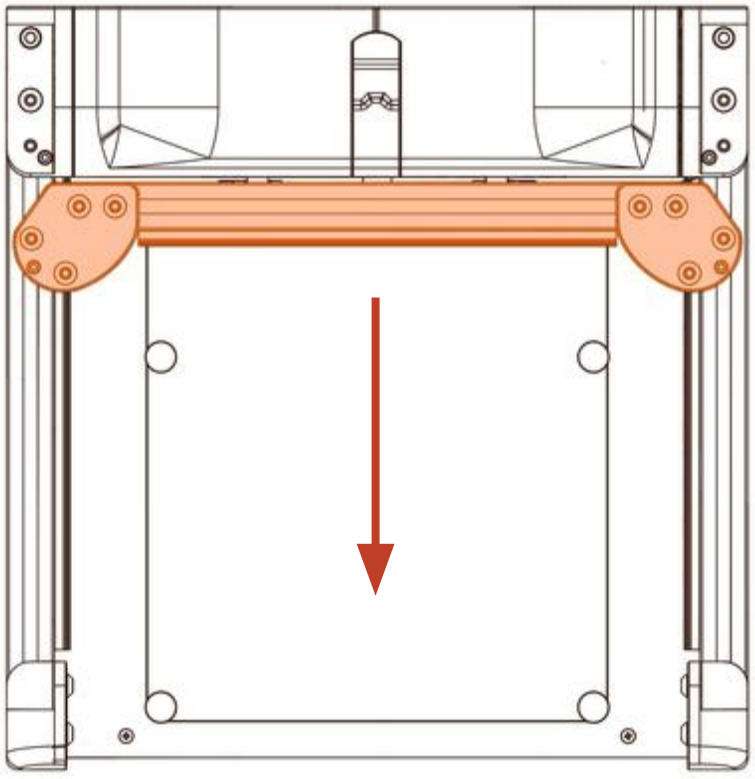




SECURE THE GANTRY IN PLACE

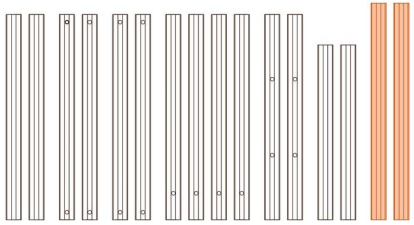
Now we can tighten the 6 screws we left loose earlier. This will complete the installation of the gantry.





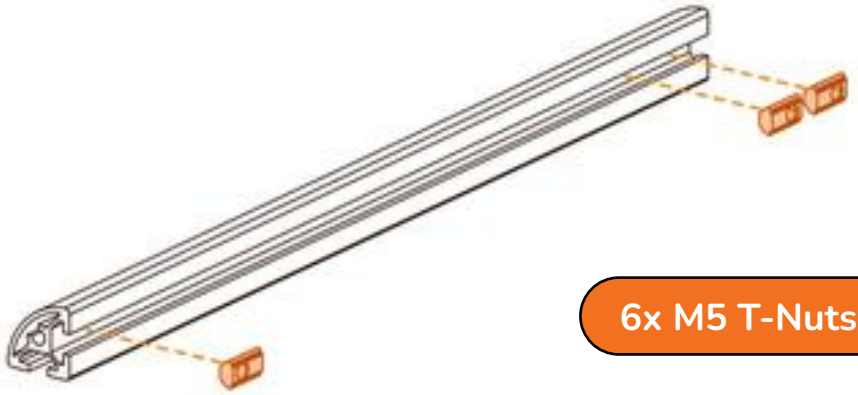
TEST THE GANTRY MOTION

Slide the gantry back and forth to ensure it has smooth, consistent motion along its entire travel distance. Listen to verify the Y endstop makes a quiet “click” noise when the gantry is at the back of the machine.

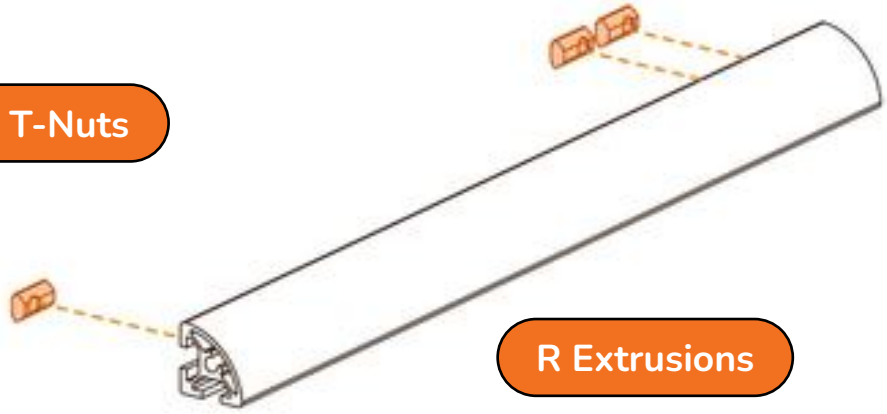


LOOSE SLOTS

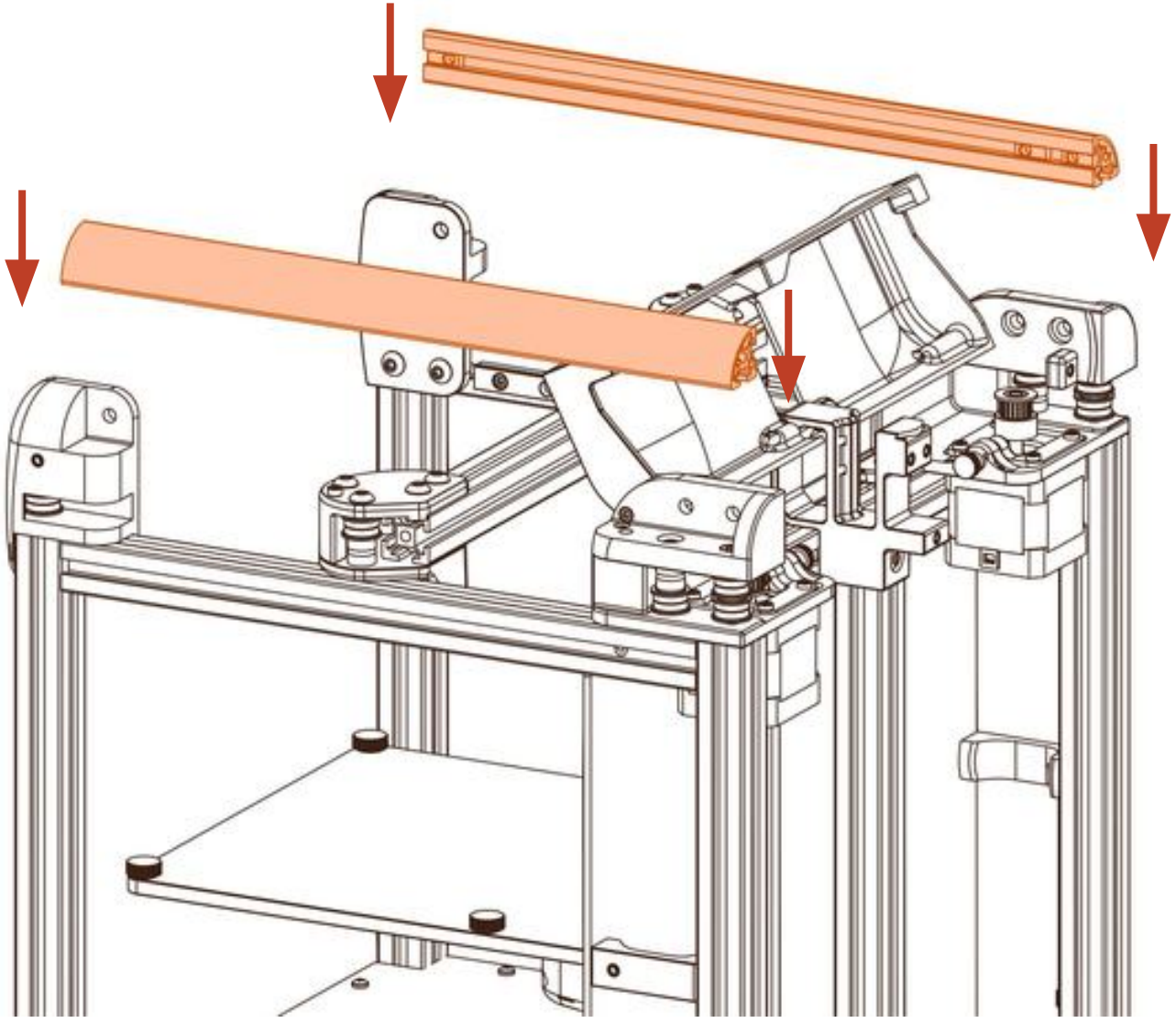
The T-nuts are often a bit looser in these extrusions. They may slide around.



6x M5 T-Nuts

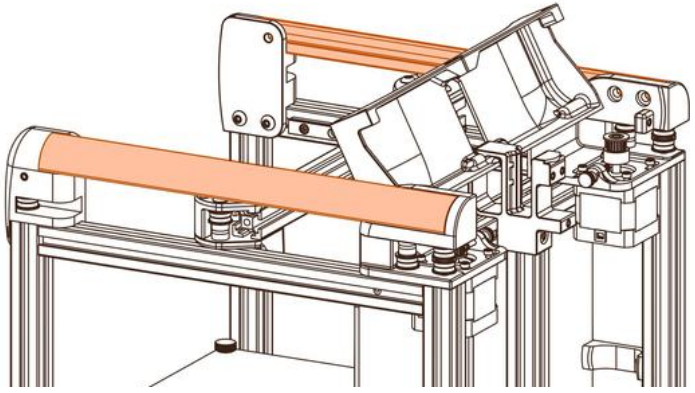


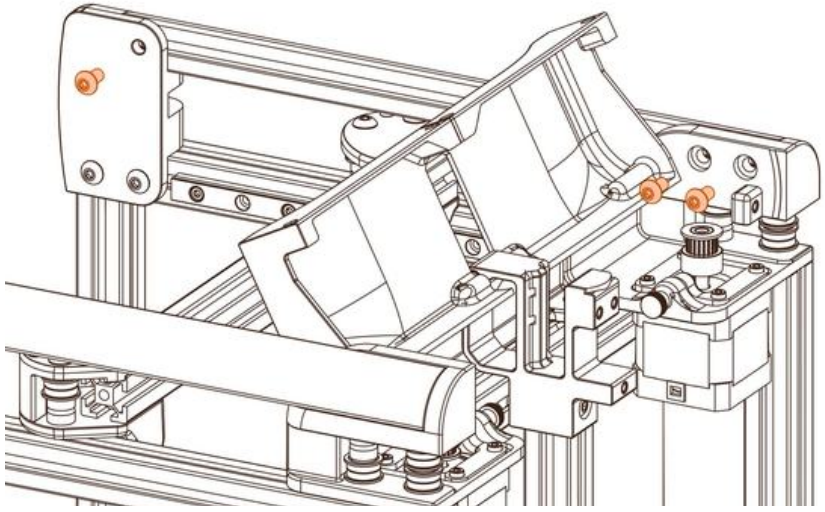
R Extrusions



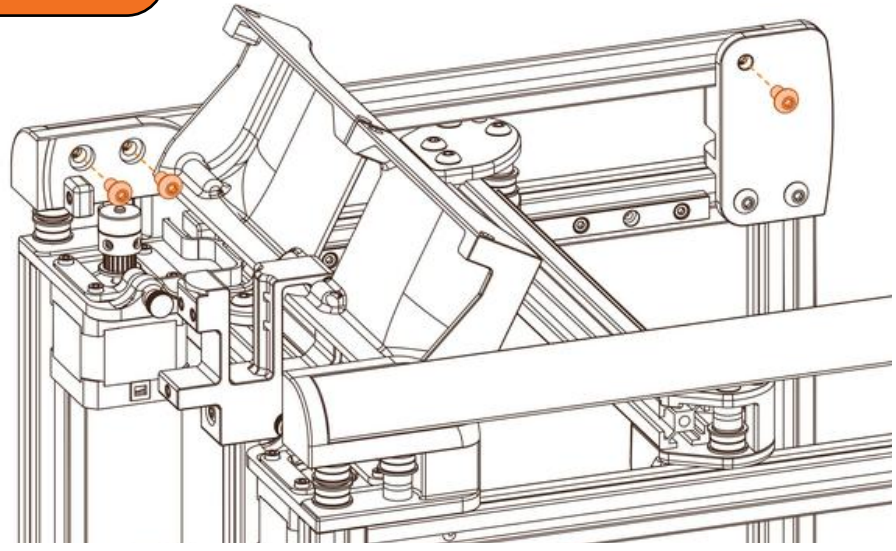
ORIENTATION MATTERS

Make sure the ends with two preloaded T-nuts are toward the rear of the machine.





6x M5x10 BHCS

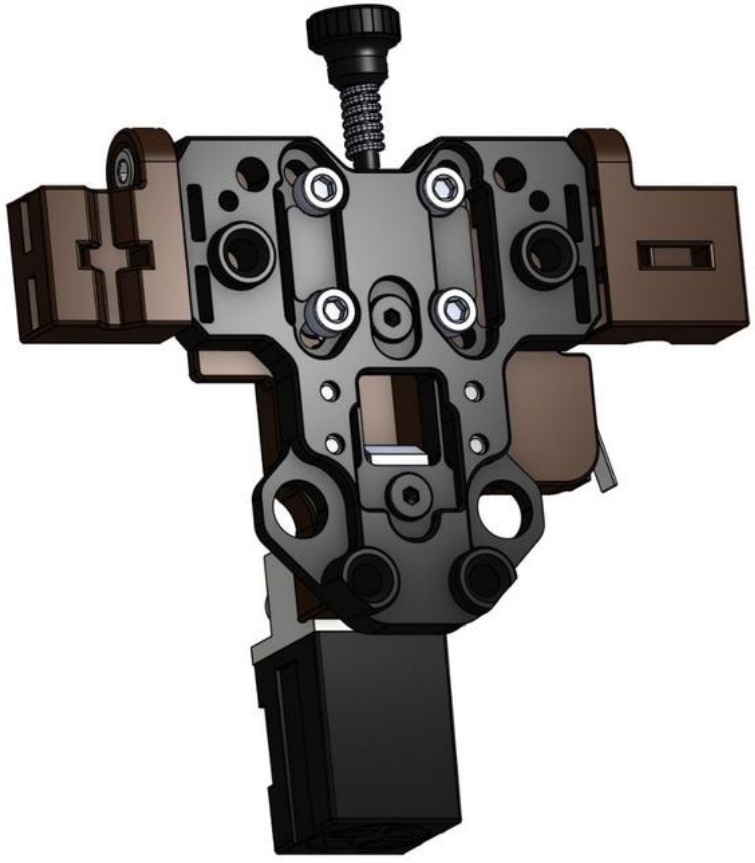


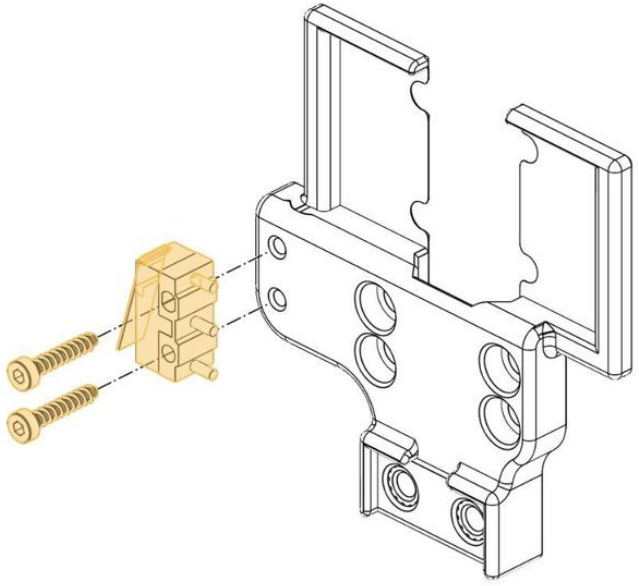
CLOSE THE ENGINE BAY

After screwing these in, close the motor covers before continuing. This keeps them out of the way until needed.

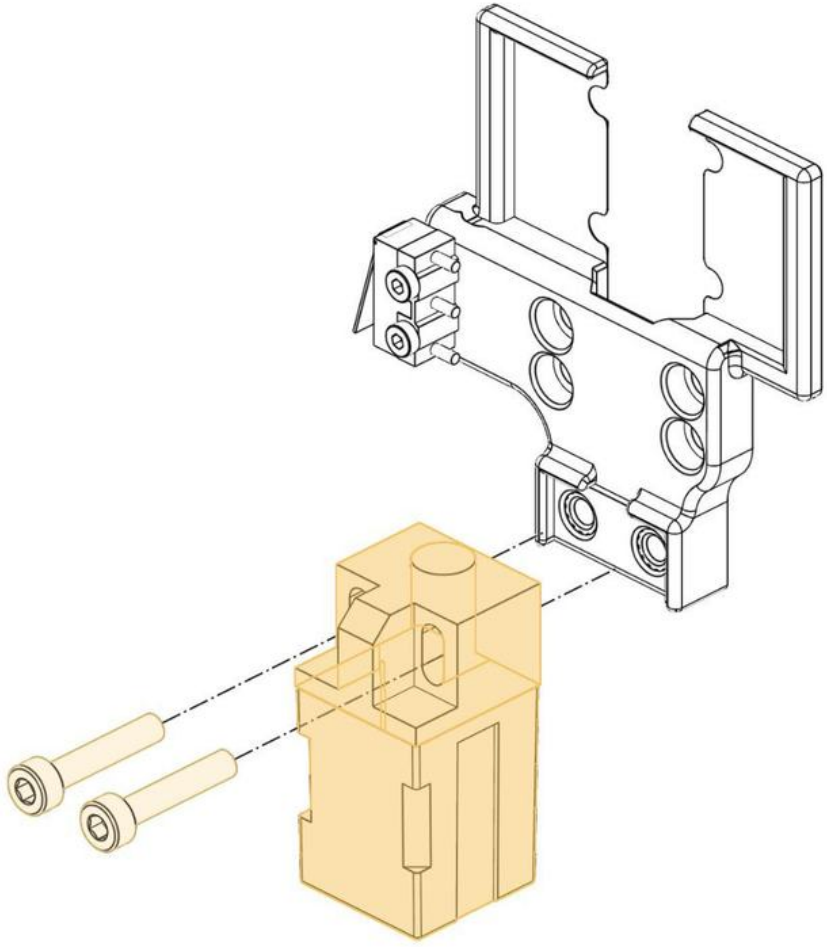
COCOA PRESS

Chapter 7: Hermit Crab





2x M2x10 Self-Tapping Screws



2x M3x16 SHCS

INSTALL SENSORS

Attach the X endstop and Z probe to the Gantry Sensor Mount.

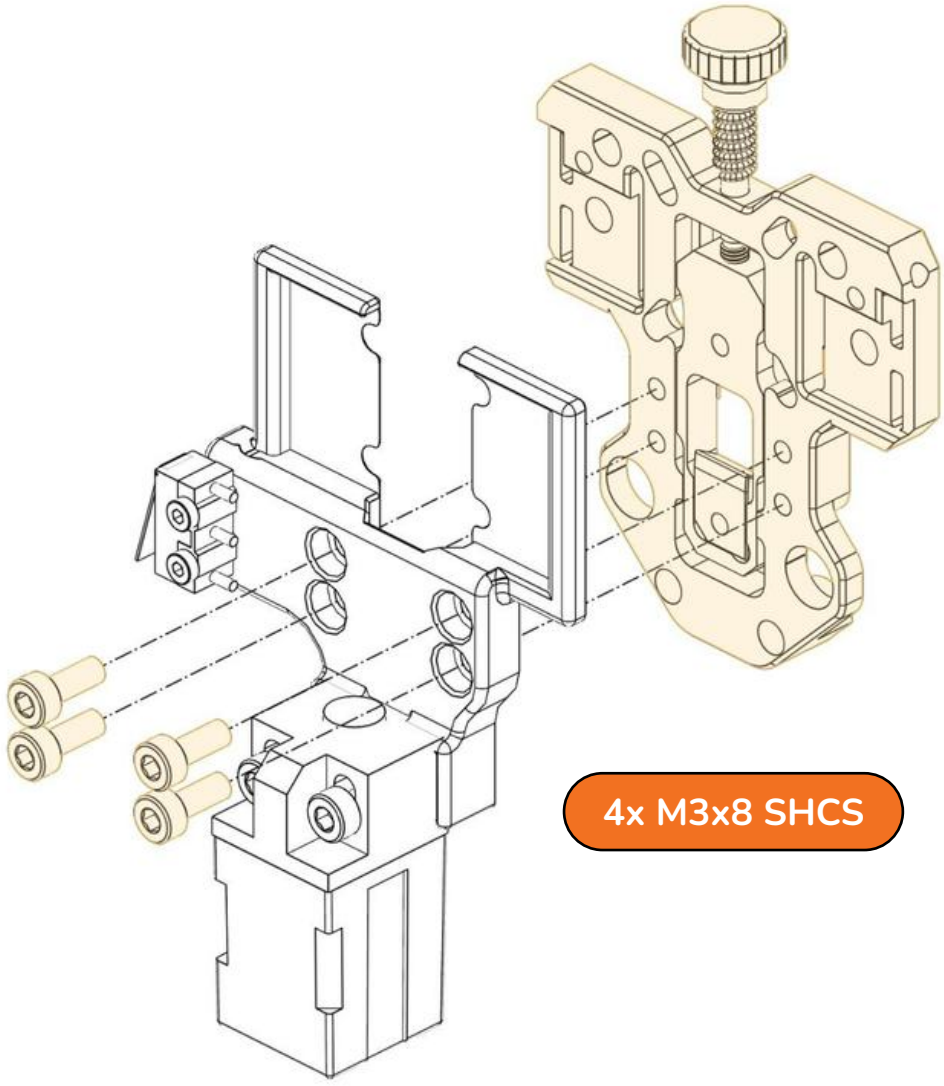


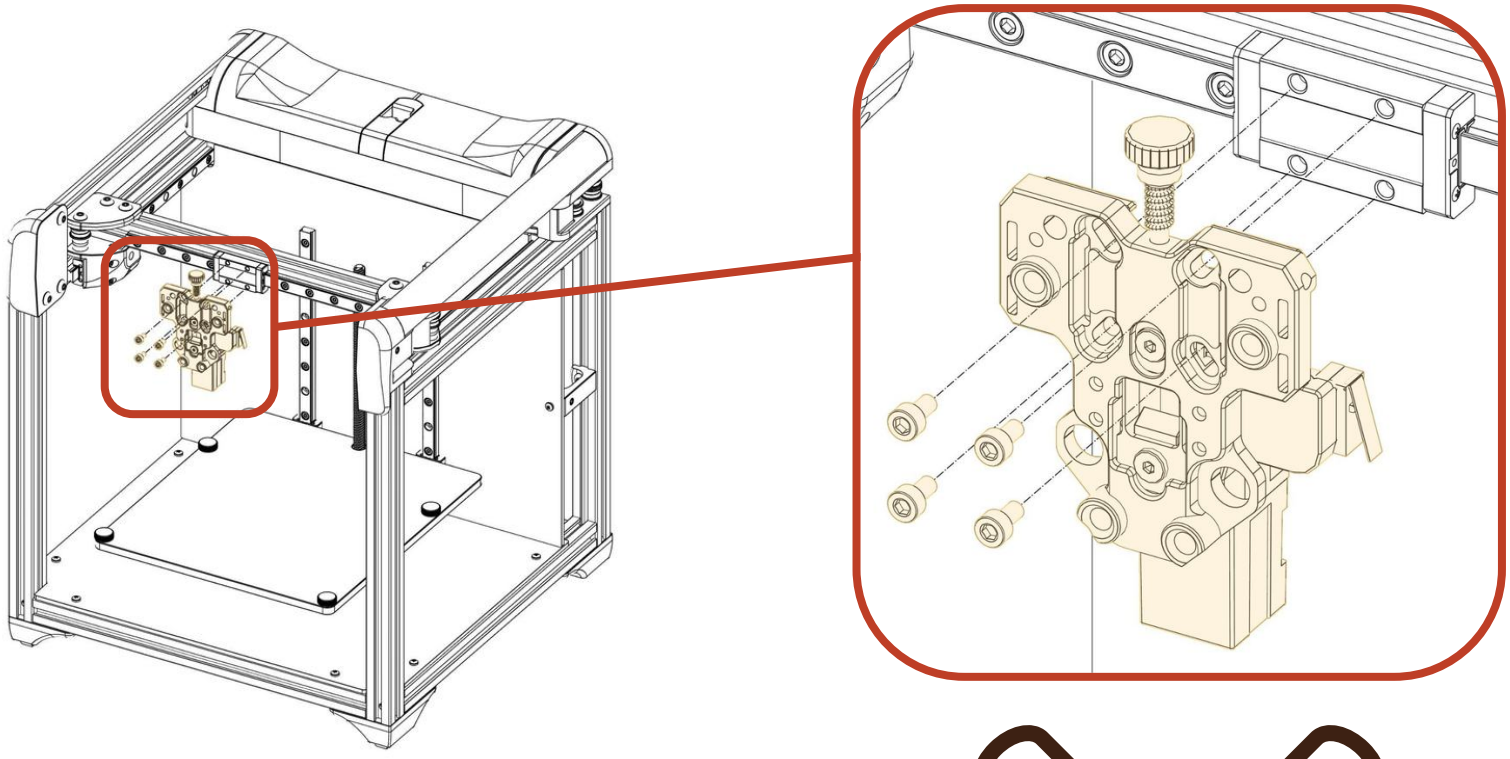


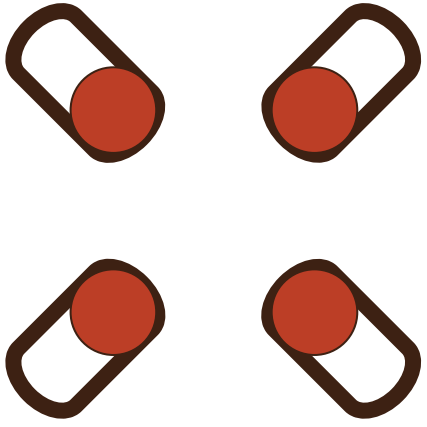


HERMIT CRAB, ATTACK

The Hermit Crab is in a small cardboard box inside the Electronics 2/2 box that came outside the main printer box. Press the black button to separate the gantry side from the extruder side. We need the gantry side in this chapter.


4x M3x8 SHCS





CHECK FOR SCREWS

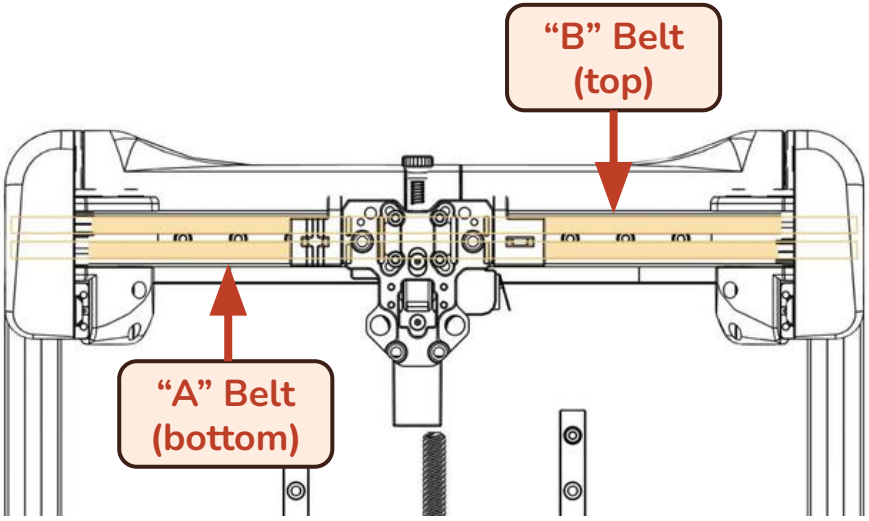
These screws are in the “Cocoa Press 2.1 Wires and Fasteners” box.

4x M3x6 SHCS

HOPE FOR 7s

The Hermit Crab mount is slotted, and the screws will be in the innermost corners. Align them with the tapped holes in the X linear rail carriage.

Ensure these screws are tight and that the black button on the Hermit Crab can still slide freely.

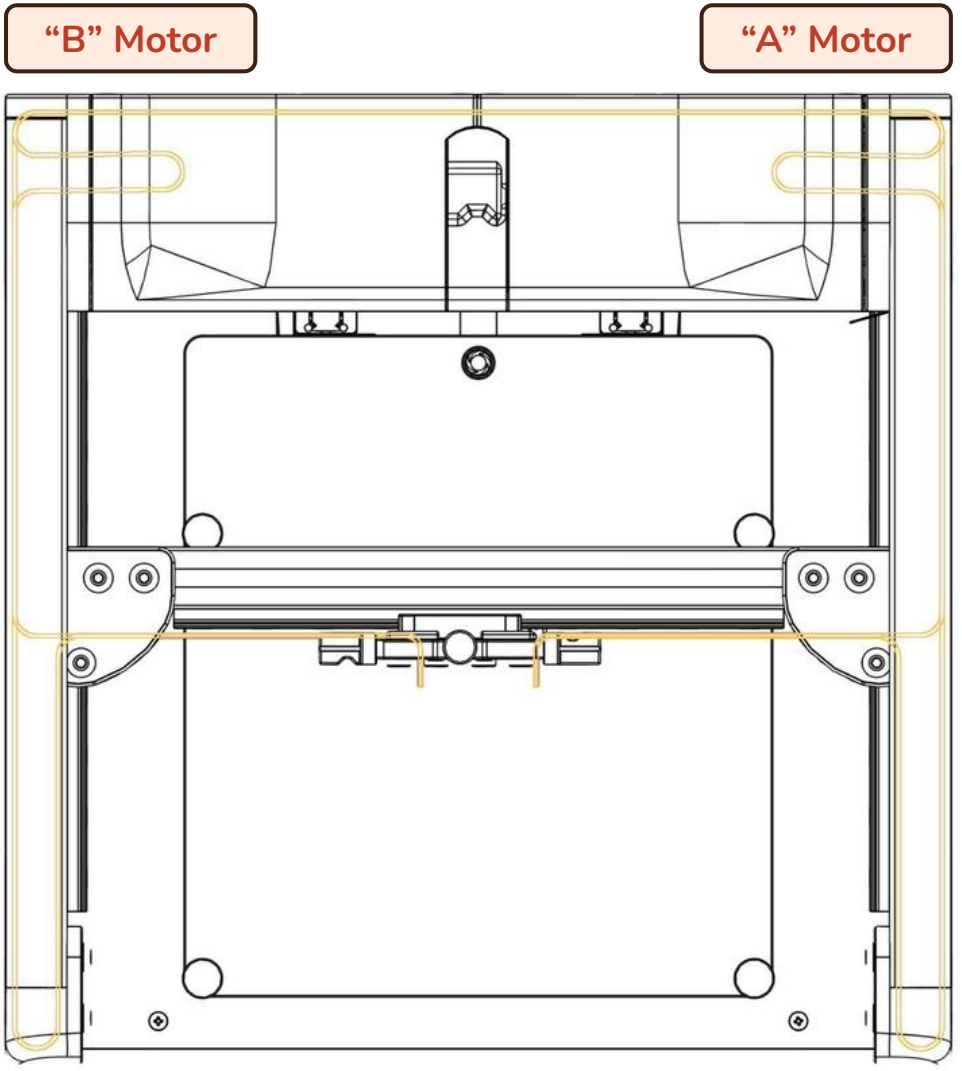


THE BELT PATH

Cocoa Press uses a belt path based on the popular CoreXY pattern.

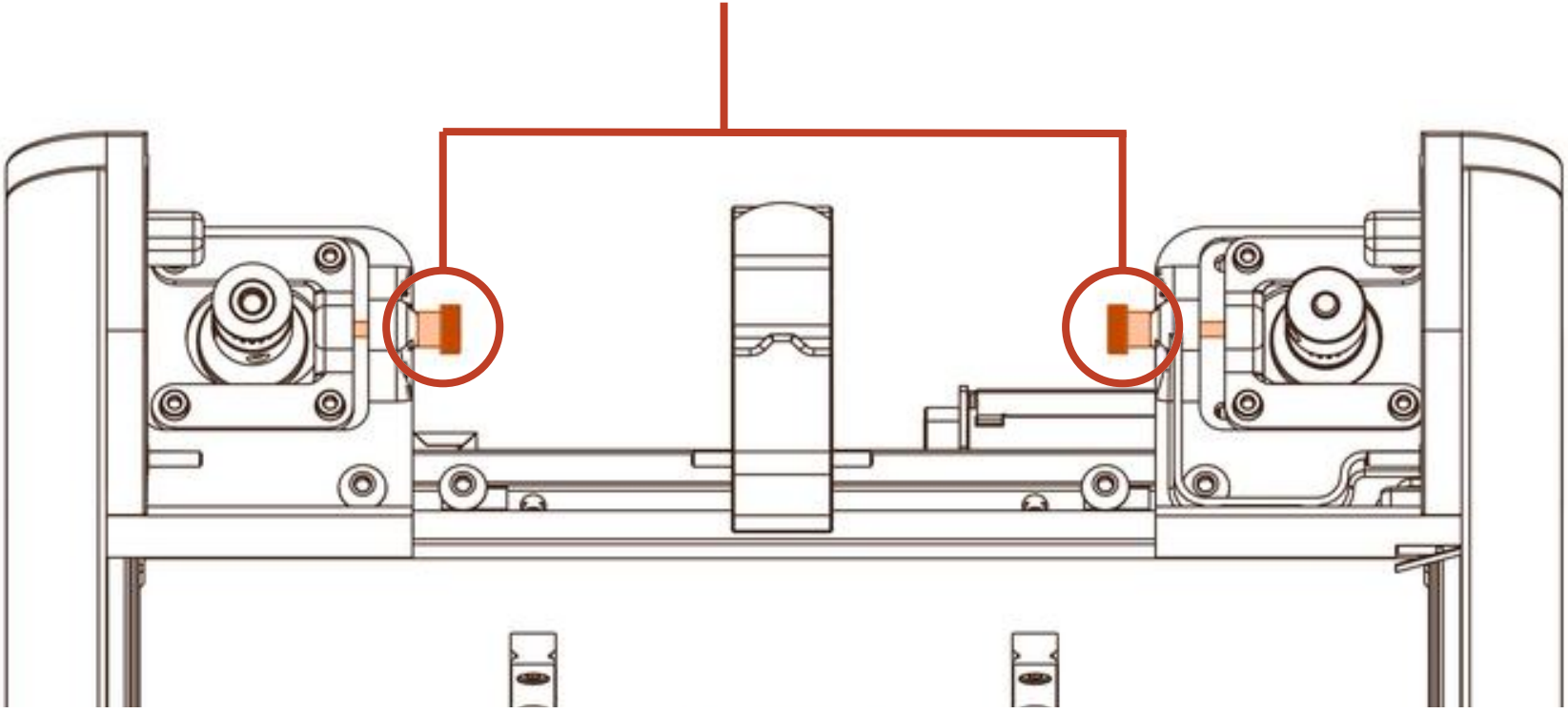
The individual belt paths are stacked on top of each other and the motors are hidden away in the back. Each motor controls one diagonal of the motion system, like in an old drafting table.

Equal belt tension is important to the proper function of a CoreXY motion system.



LOOSEN THE BELT TENSION KNOBS

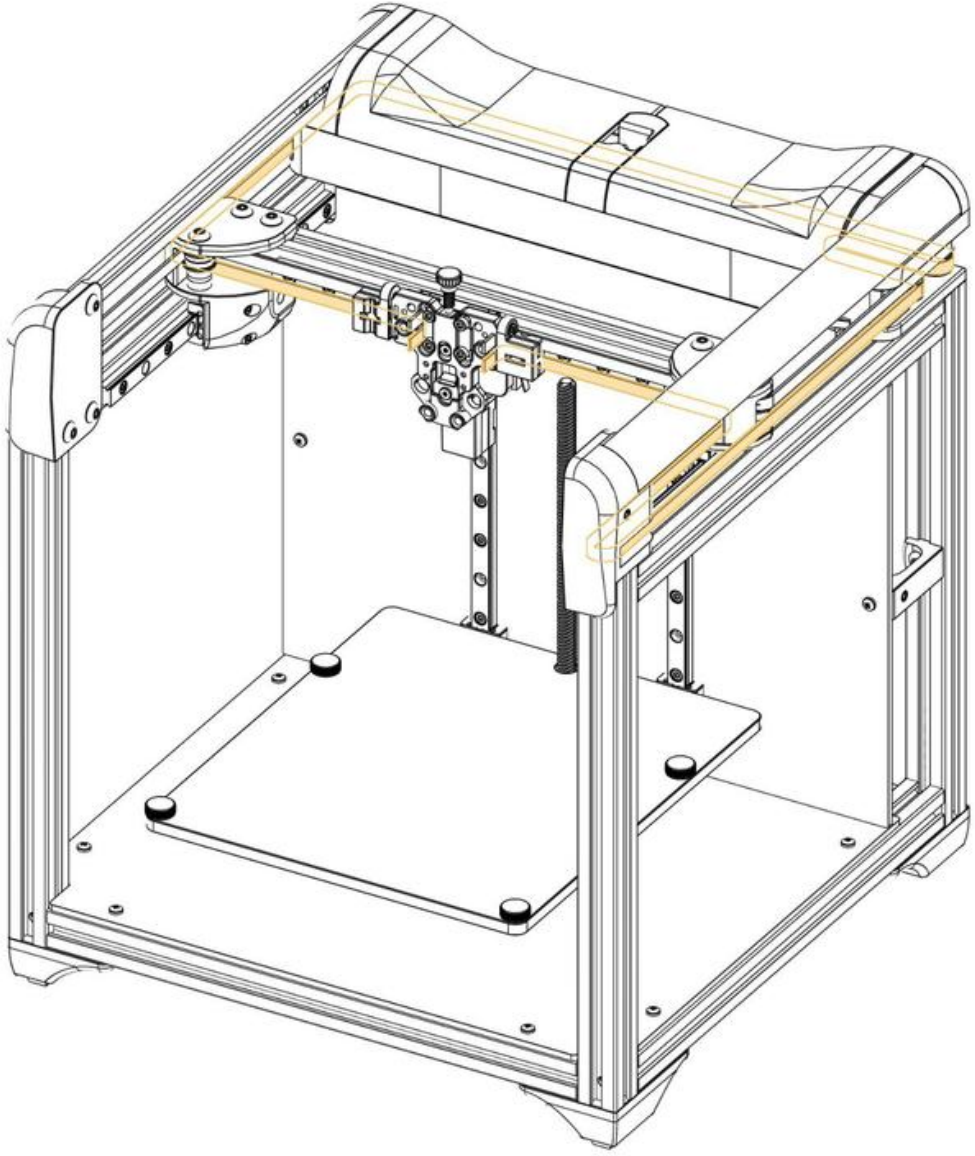
Before routing the belts, loosen the motor screws and belt tension knobs.

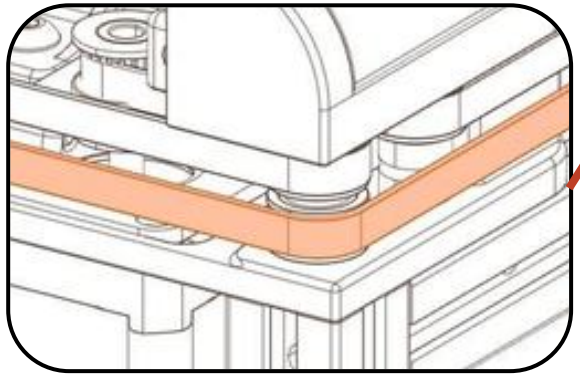


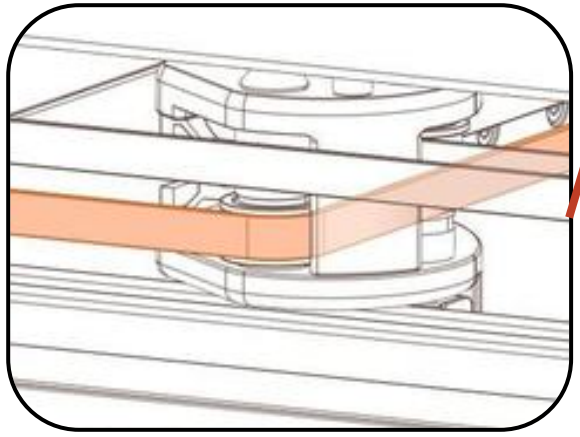
LIKE TYING YOUR SHOES BUT WORSE

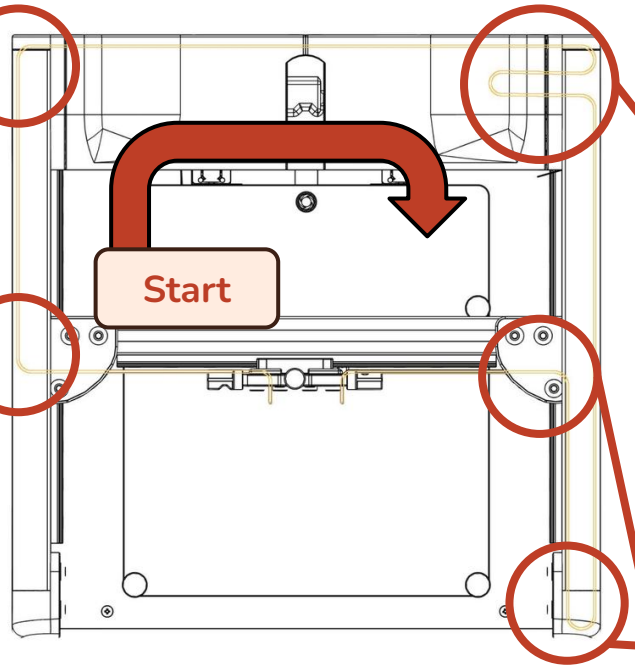
On the next page we will start to thread belt A through the printer. It is the **bottom belt**.

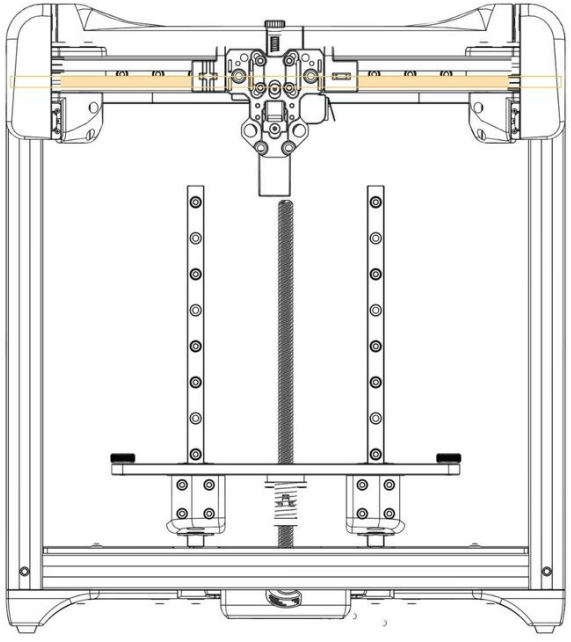
The belt should only contact smooth bearing surfaces. No part of the belt should be touching plastic. The teeth of the belt should be facing you.

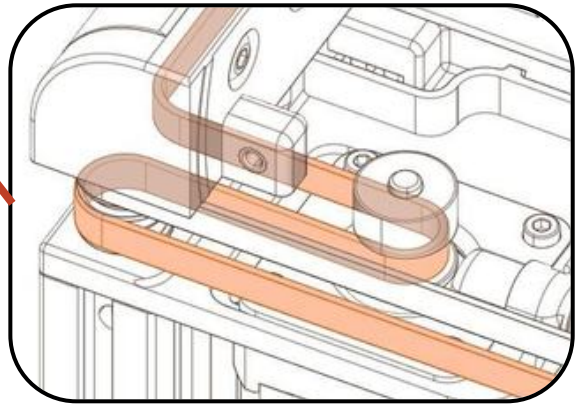


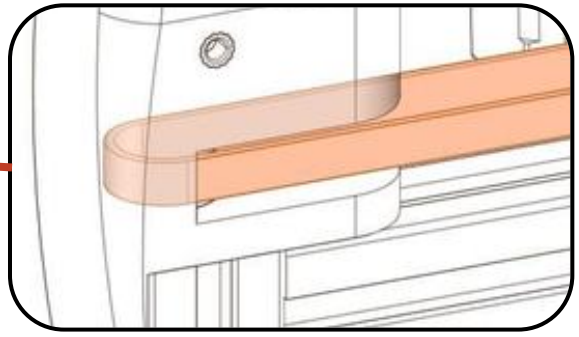


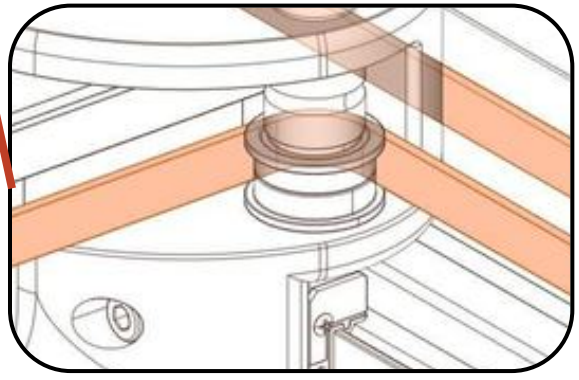












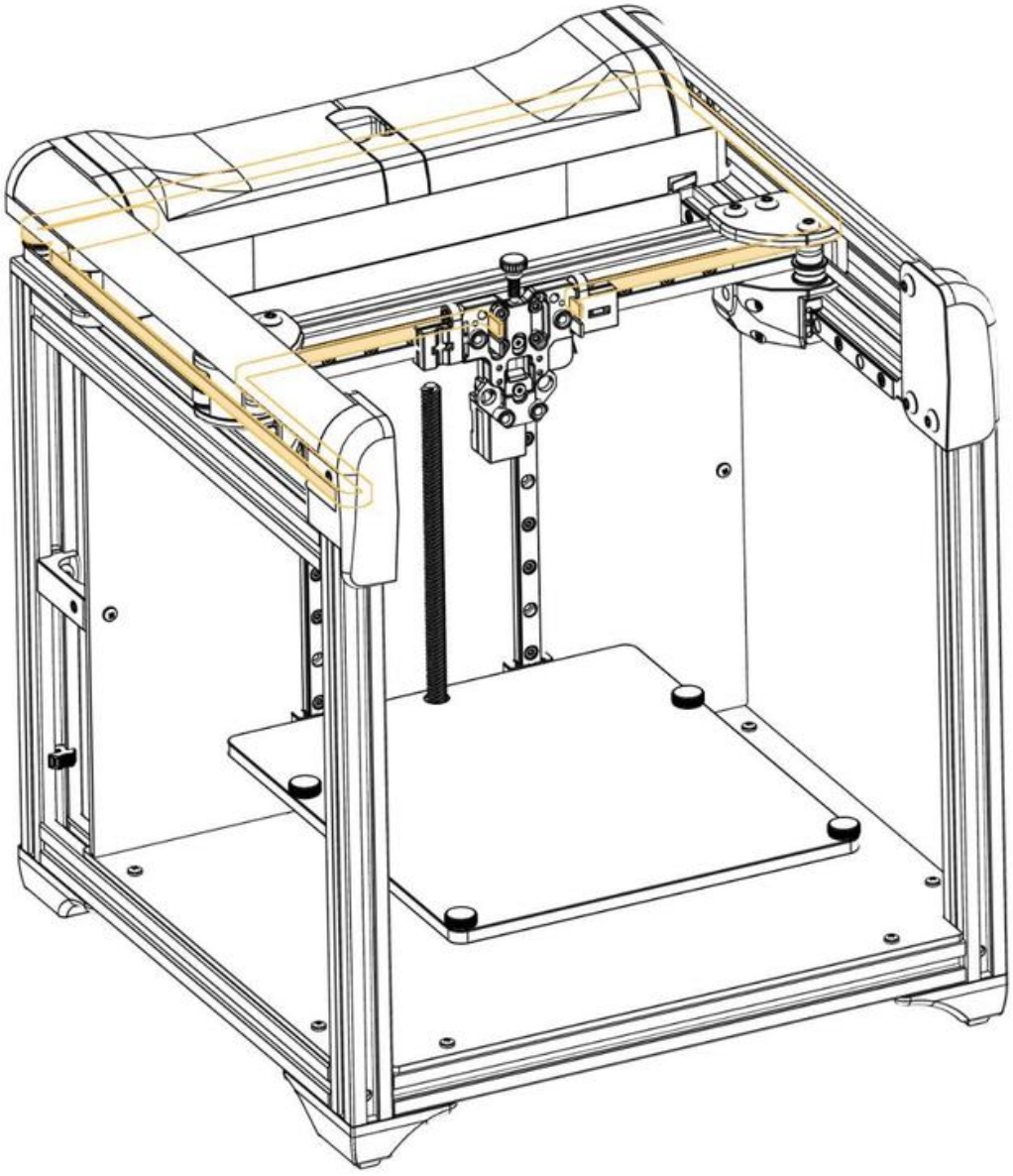
ROUND AND ROUND

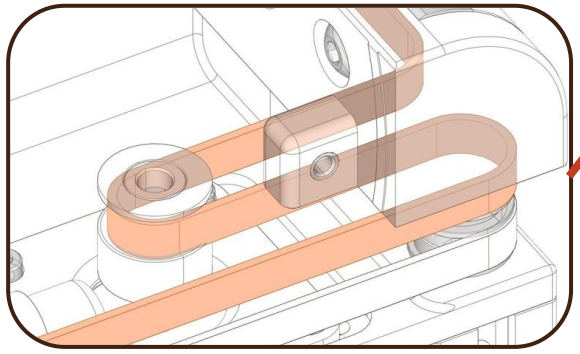
Start at the front left and route the belt clockwise around all of the pulleys. Remember you are only going through the **bottom belt** path.

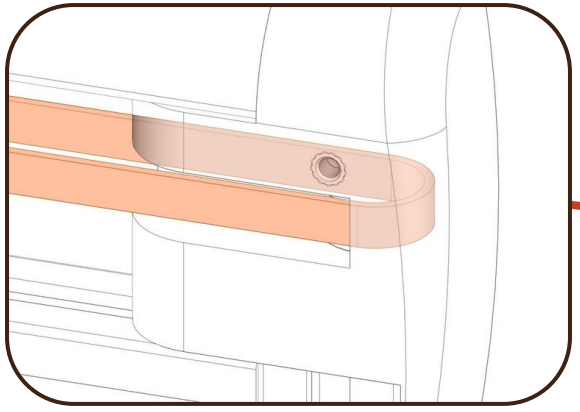
LIKE TYING YOUR SHOES BUT WORSE

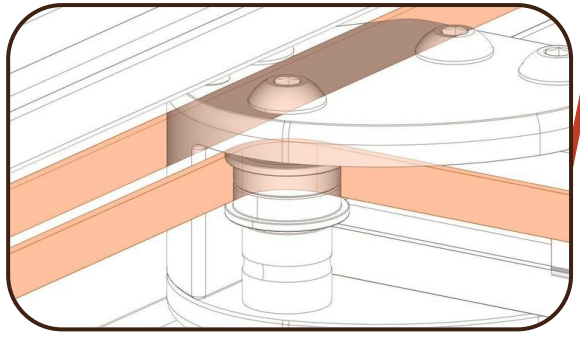
On the next page we will start to thread belt B through the printer. It is the **top belt**.

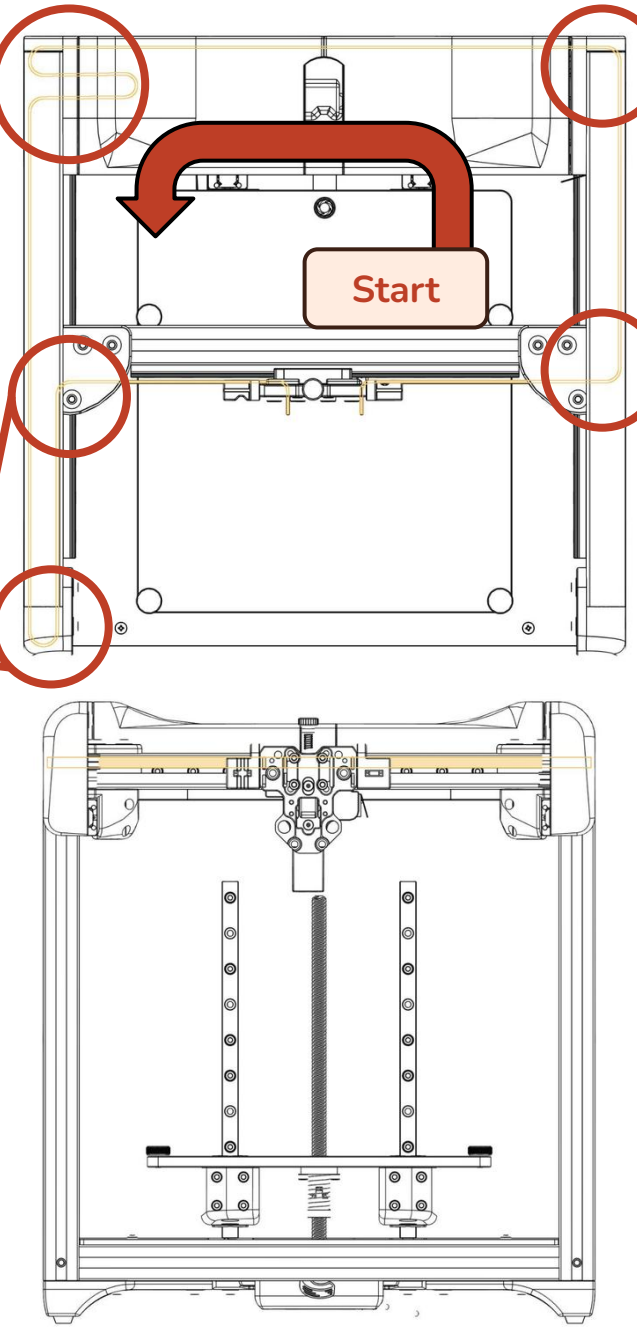
The belt should only contact smooth bearing surfaces. No part of the belt should be touching plastic. The teeth of the belt should be facing you.

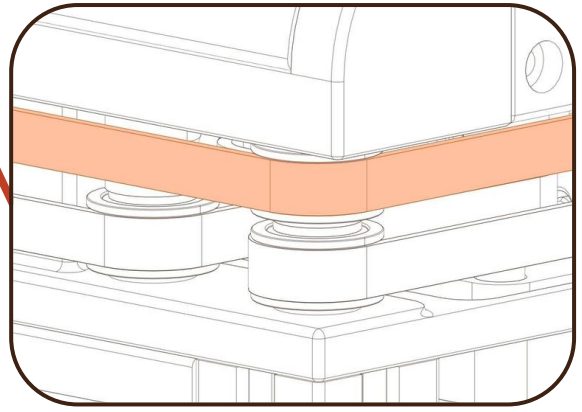


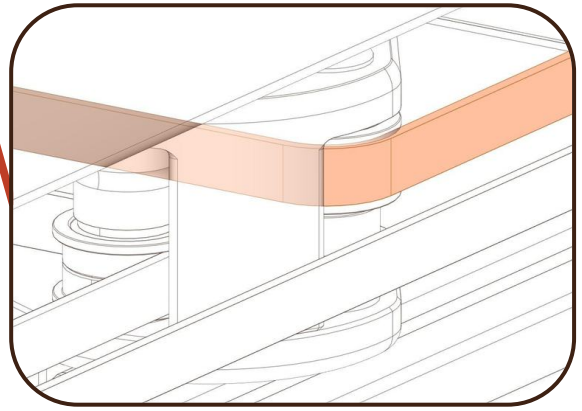












ROUND AND ROUND

Start at the front left and route the belt counterclockwise around all of the pulleys. Remember you are only going through the **top belt** path.

POLY*SECURE*

Starting on the left, slide both belts through the Belt Clip. Make sure you don't pull the belts too tight as they are not attached on the other side yet.

Next, pull each belt through the hole on the Hermit Crab.

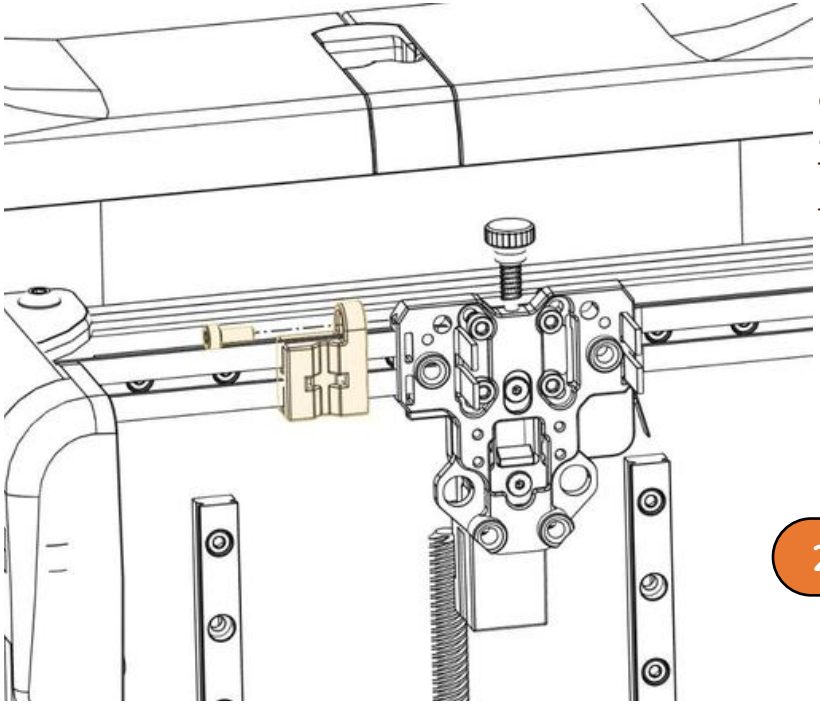
Finally, double the belts over, pinching them together while sliding the Belt Clip the entire way to the right. This will force the doubled belt through the holder and will secure them in place.

SECOND VERSE SAME AS THE FIRST

Now do the same thing on the right side.

After routing the belts through the Hermit Crab, pull each belt tight as you slide the belt clip over them. The belts should have some tension, but more importantly, should have approximately the same amount of tension as each other.

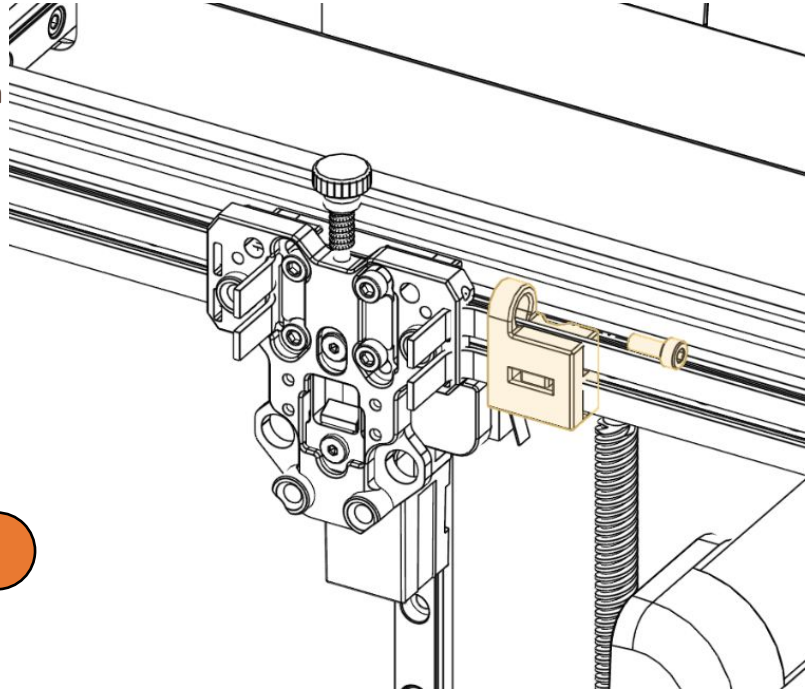
As you tighten the screws, ensure the gantry doesn't twist and that the X axis can still click the Y endstop.

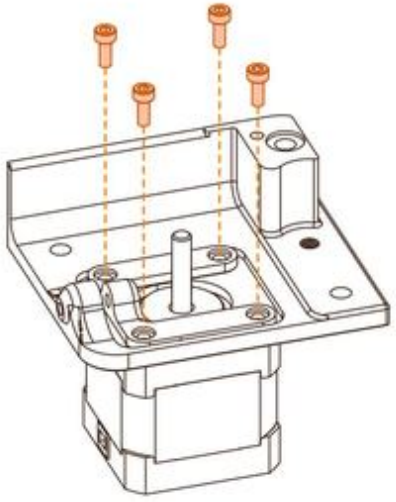


LOCKED IN

Finally, secure each belt clip with an M3x8 screw. This doesn't need to be super tight.

2x M3x8 SHCS



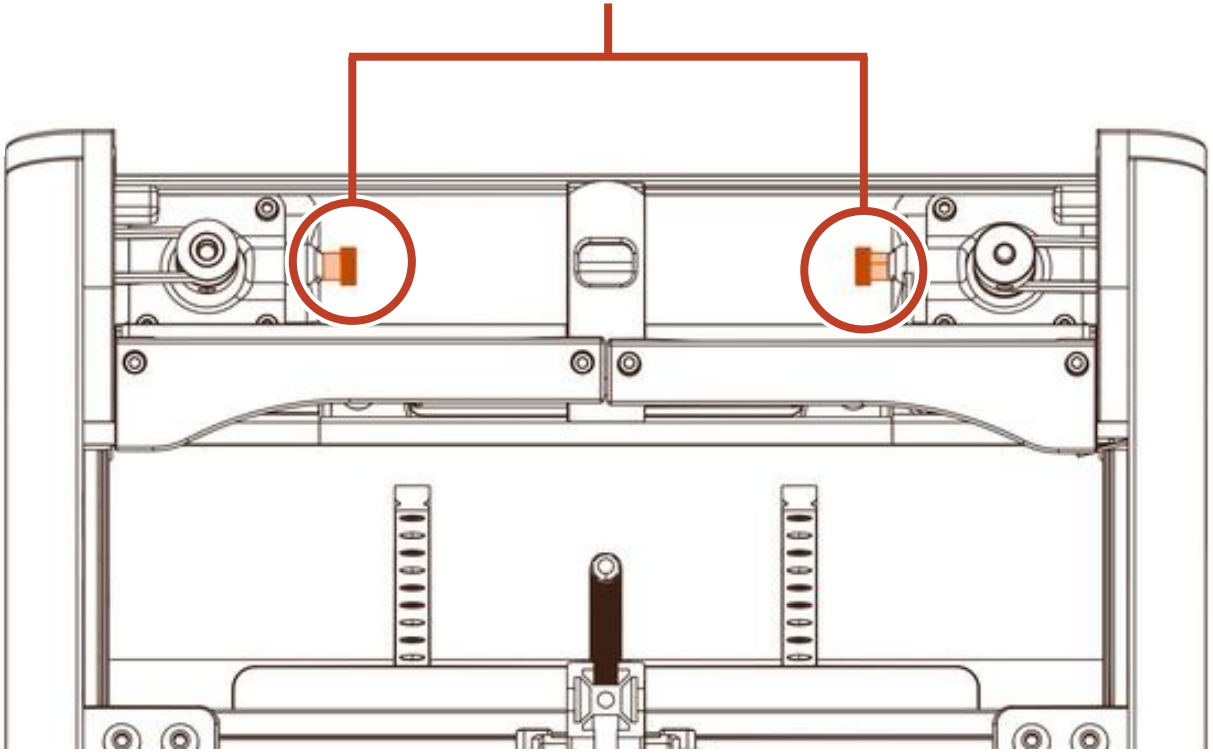


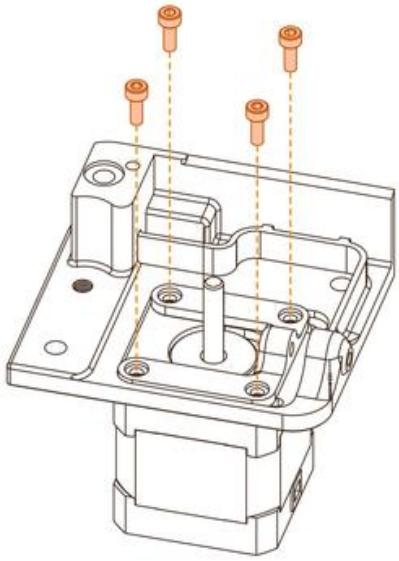
Motor B (left)

FEELING TENSE?

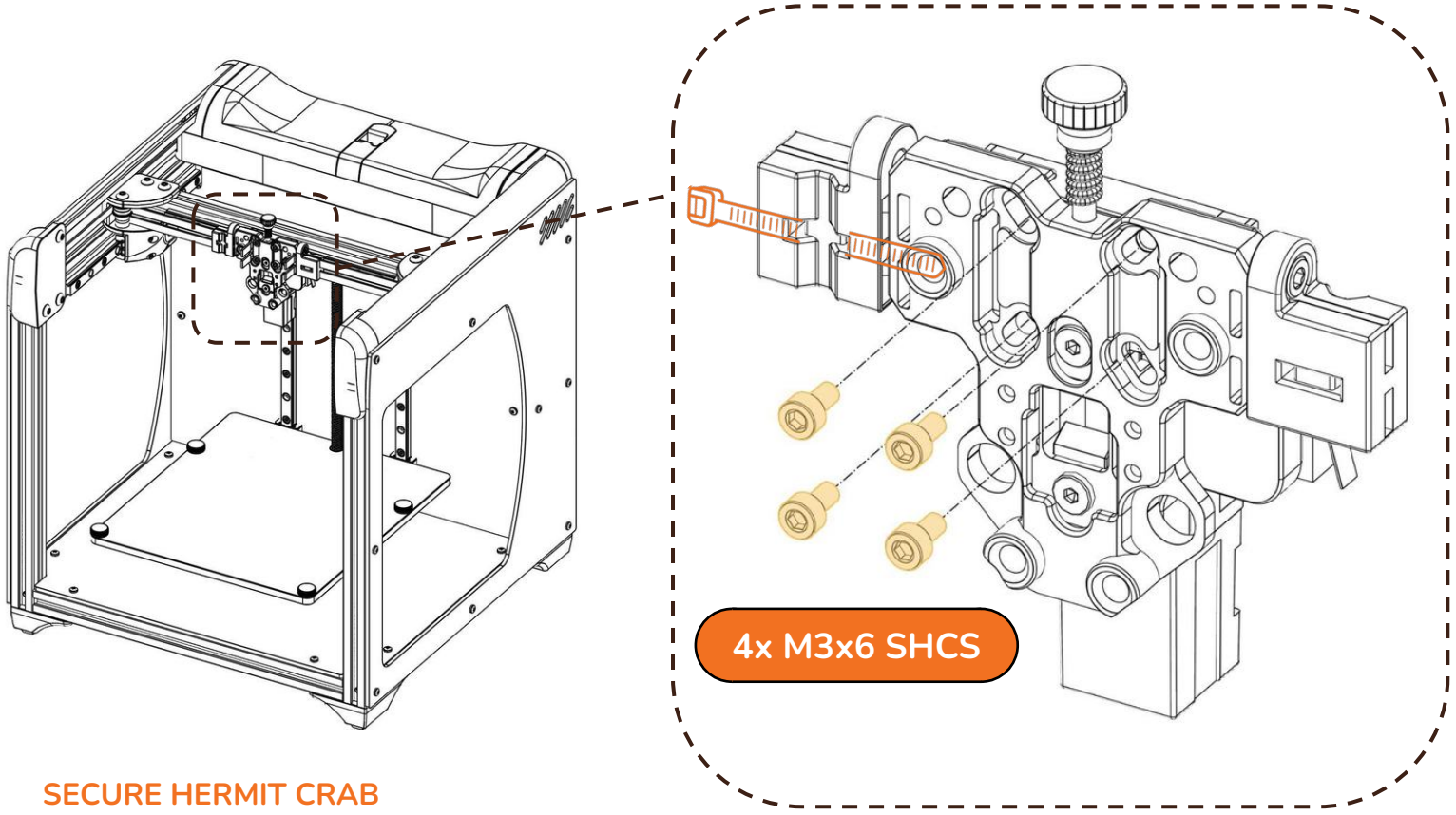
Tighten the two thumbscrews until the two belts have even tension. They should be tight enough that moving the gantry around quickly doesn't cause the belt to slip.

Tighten the 8 motor screws to lock this tension in place. You can always adjust the belt tension over time.





Motor A (right)



SECURE HERMIT CRAB

Preload a zip tie on the left Belt Clip and fasten the Hermit Crab to the linear rail carriage with 4 M3x6 SHCS.

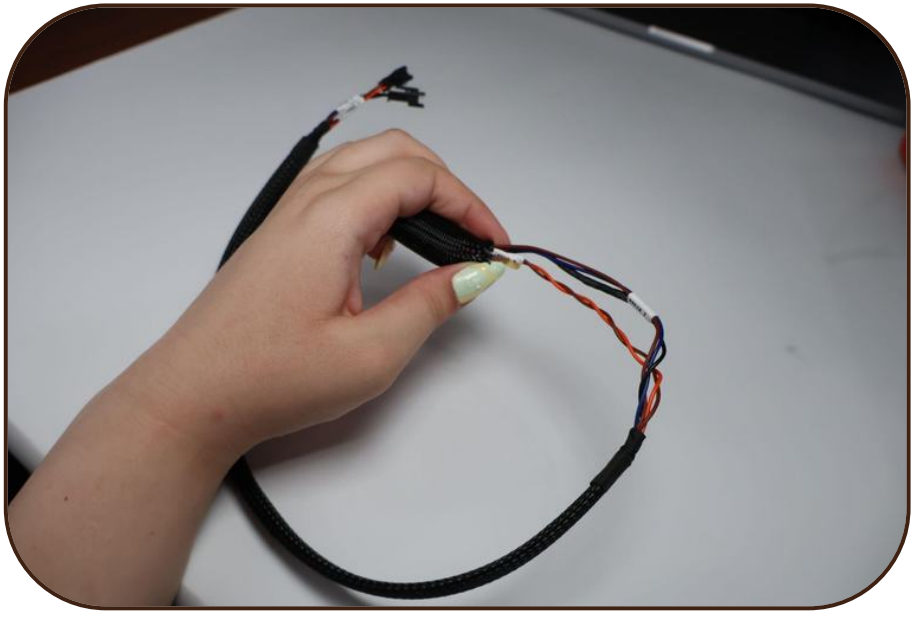
ADD SLEEVED WIRE

Retrieve the Sensor Cable Bundle from the Cocoa Press 2.1 Wires and Fasteners box. Slide the 200mm sleeve over it, starting from the white JST side.



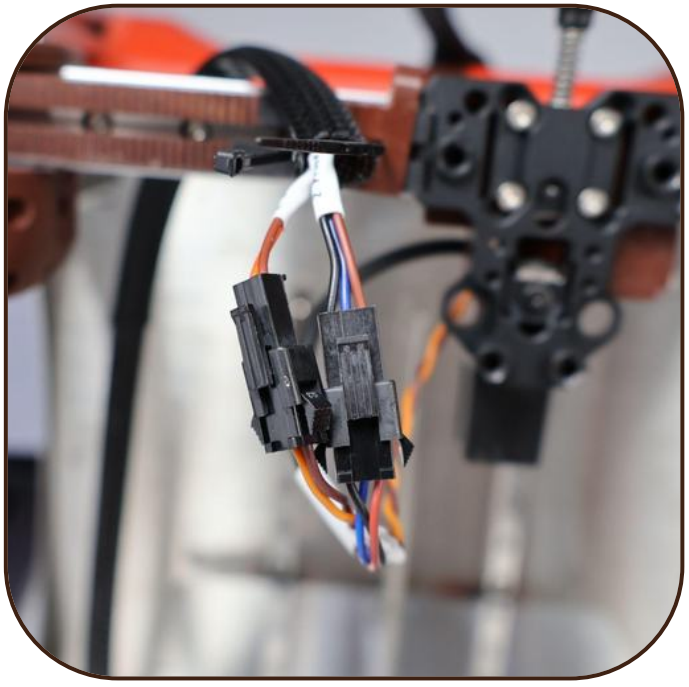
SLIDE THE SLEEVE DOWN

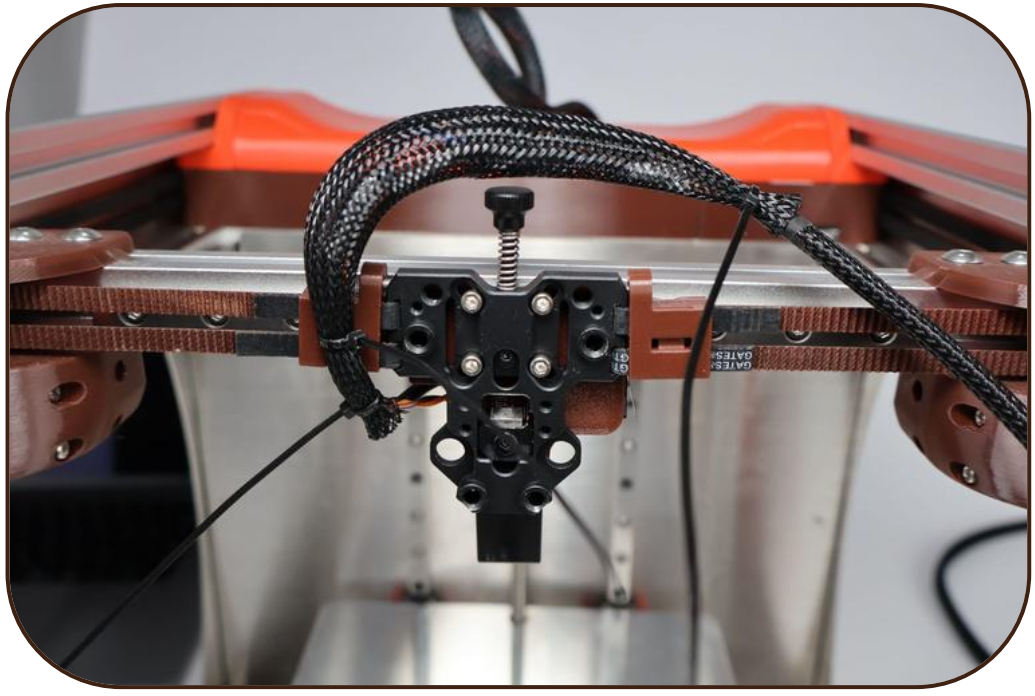
If you scrunch up the sleeve the diameter opens and lets you slide it over the connectors. Slide it down toward the other side.



PLUG IT IN

Connect the two sensors to the sensor cable bundle. Slide the wire sleeve over the connectors and zip tie each side to secure it. Then connect the zip tie from the Belt Clip. Cut the ends off each zip tie.





OPTIONAL

Instead of zip ties, you may use tape for a cleaner appearance. This is purely aesthetic.

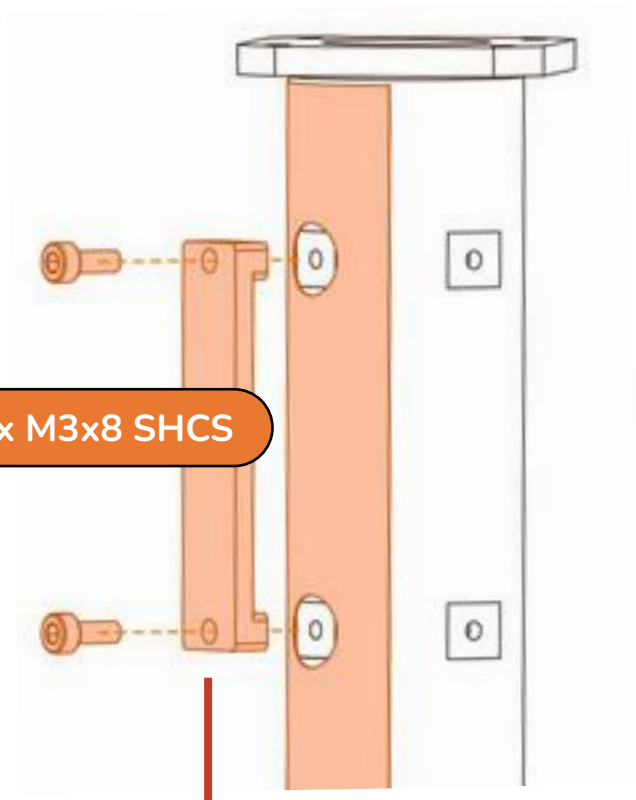
COCOA PRESS

Chapter 8: Extruder



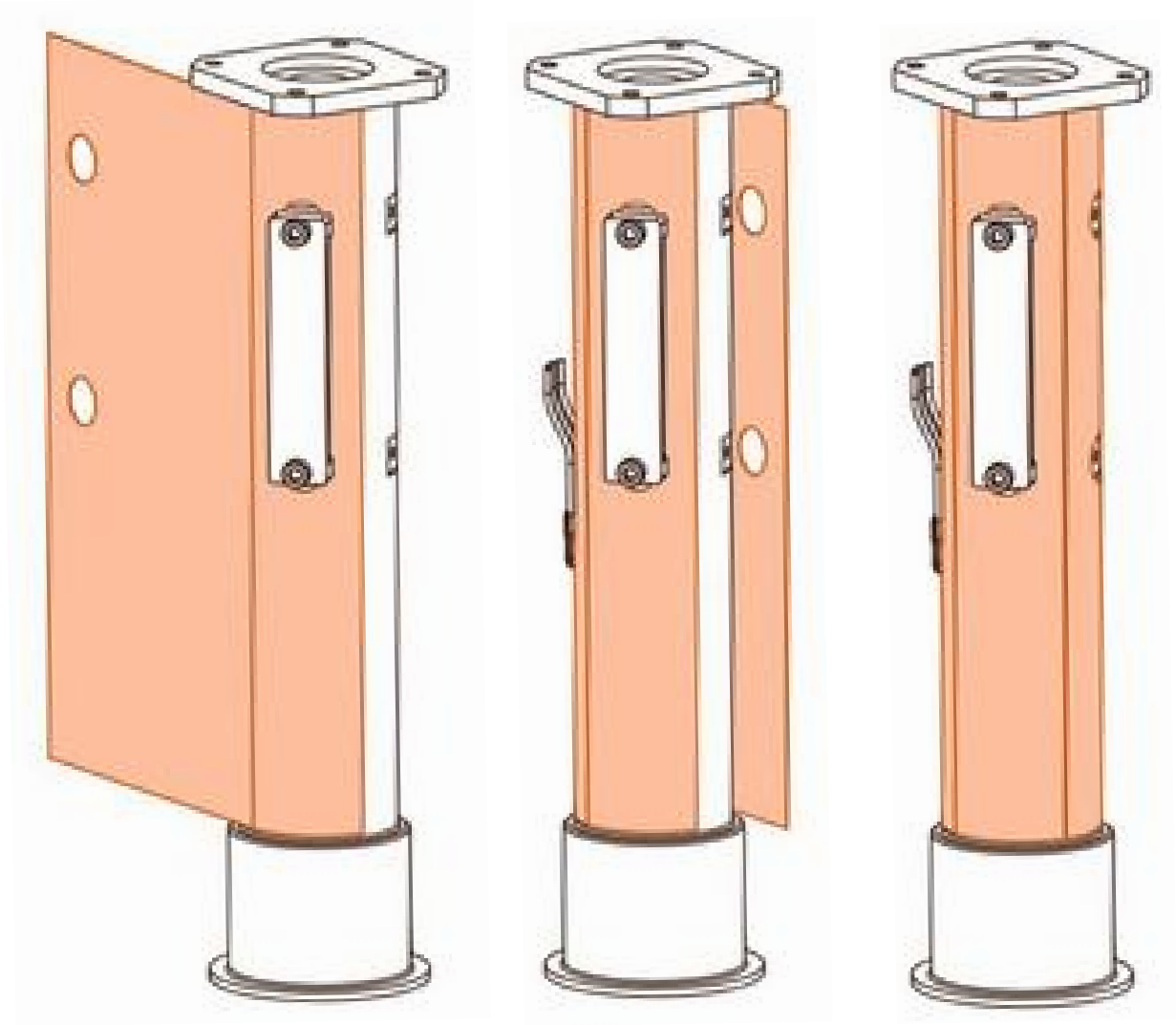
INSTALLING HEATERS

The body heater gets wrapped around the cartridge housing. The 4 holes in the heater align with the 4 screw holes in the component. Use the jig to help attach the heater to the cartridge housing. Wrap the heater around and be sure to prevent any air bubbles from forming. Do not remove the adhesive backing yet.



IT'S ONLY TEMPORARY

This Heater Jig is only for the assembly and will be removed after the heater is stuck on!



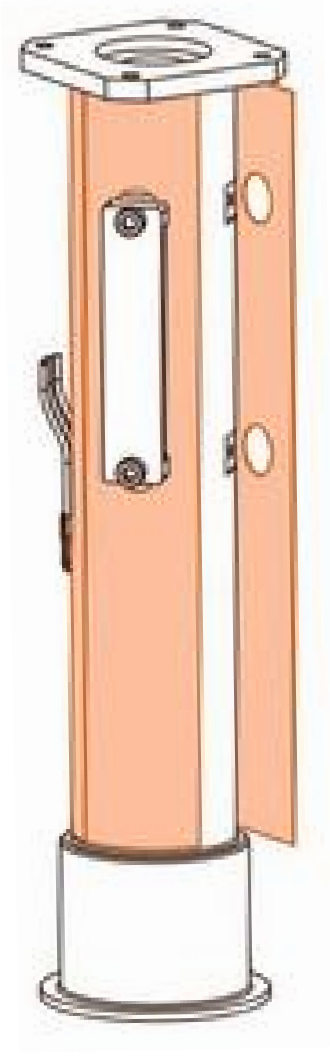
STICKY!

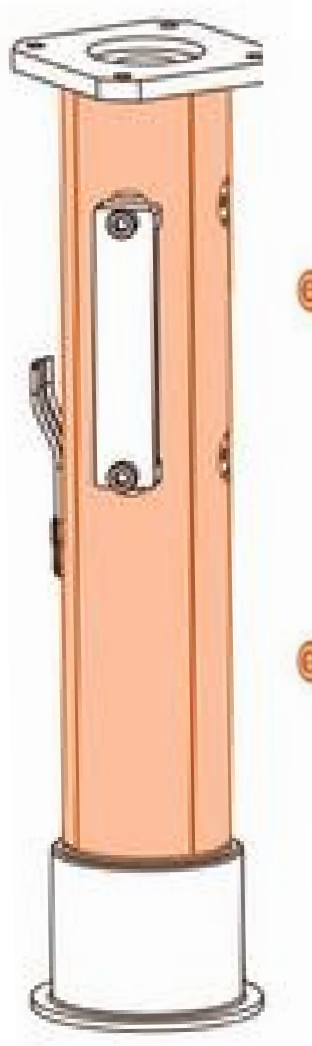
Once the heater is correctly positioned, tighten the M3 screws. Peel back about one inch of the release paper and fold it over itself. Press the heater firmly onto the cartridge housing, ensuring no bubbles form.

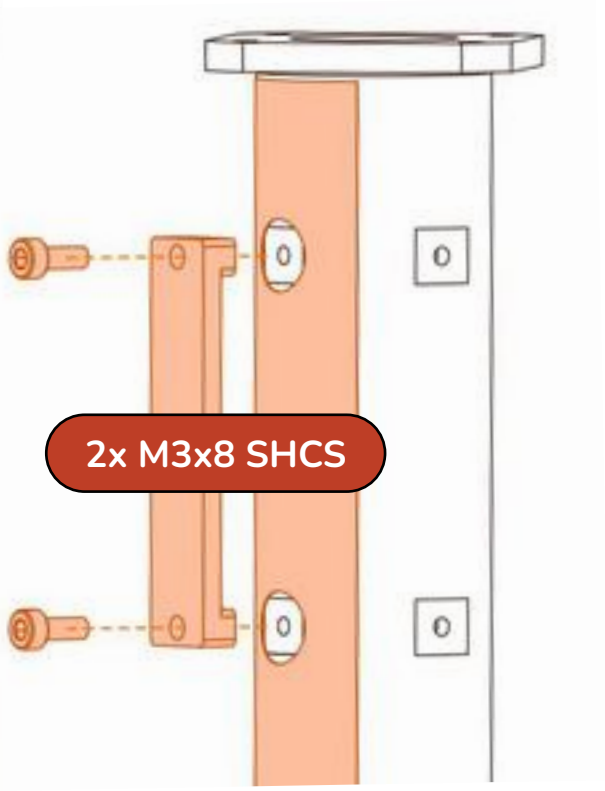
You will start by sticking the side furthest from the jig first. We strongly suggest going through the motions before removing the adhesive backing.

PERFECTION ISN'T PRACTICAL

While we ask that you try to get the body heater aligned as well as possible, the primary goal is to prevent the fasteners from crushing the heater's electrical traces when tightened. Crushing the traces can cause sporadic failures and safety issues.

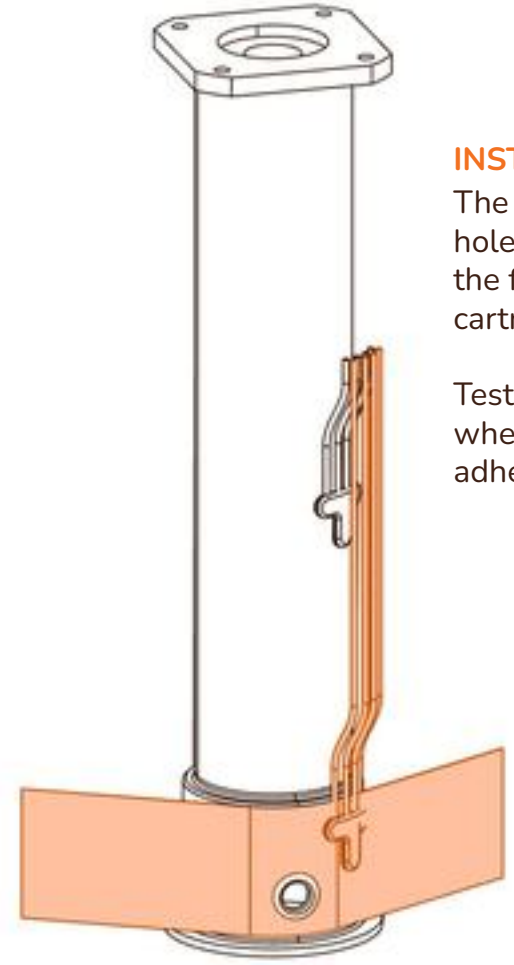






IT'S ONLY TEMPORARY

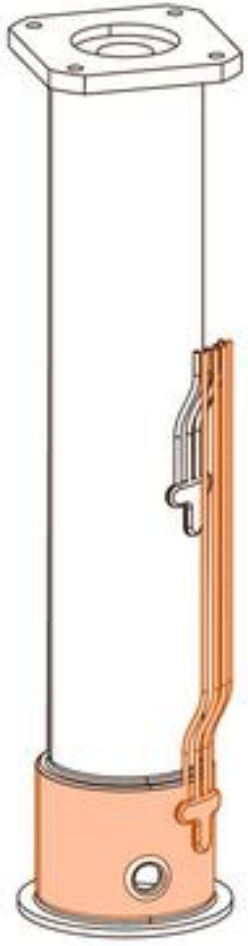
Remove the M3x8 screws when the heater is on.

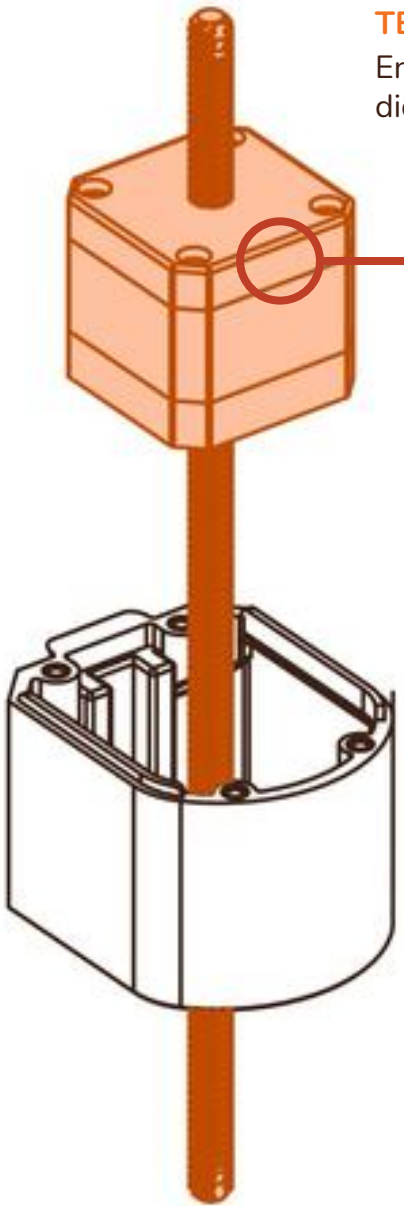


INSTALLING HEATERS

The smaller heater has a single hole that aligns with the hole in the front of the aluminum cartridge housing.

Test the positioning to understand where it goes before removing the adhesive backing. Then attach it.



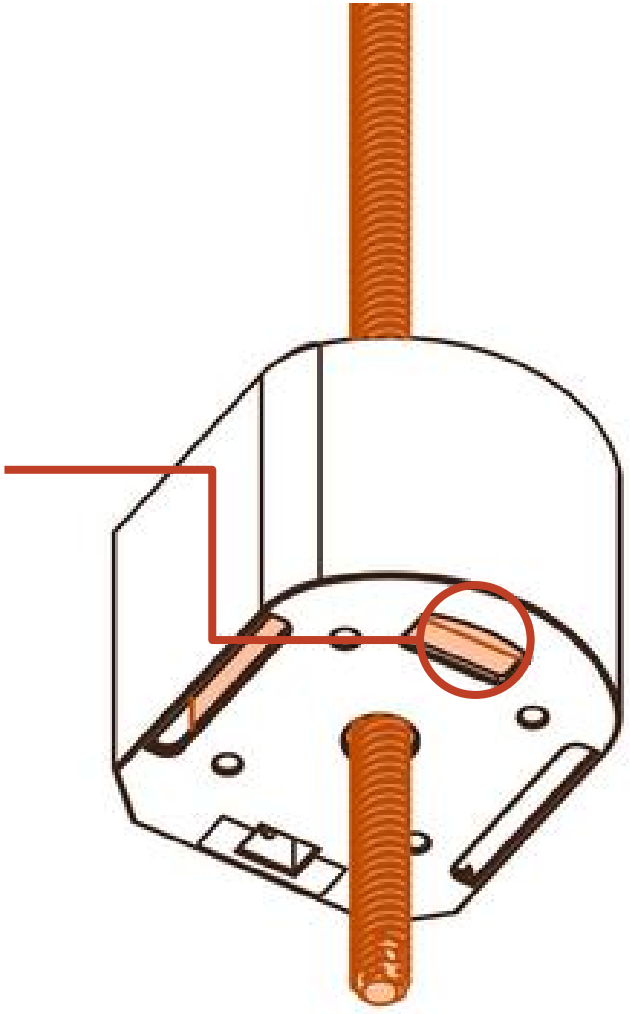


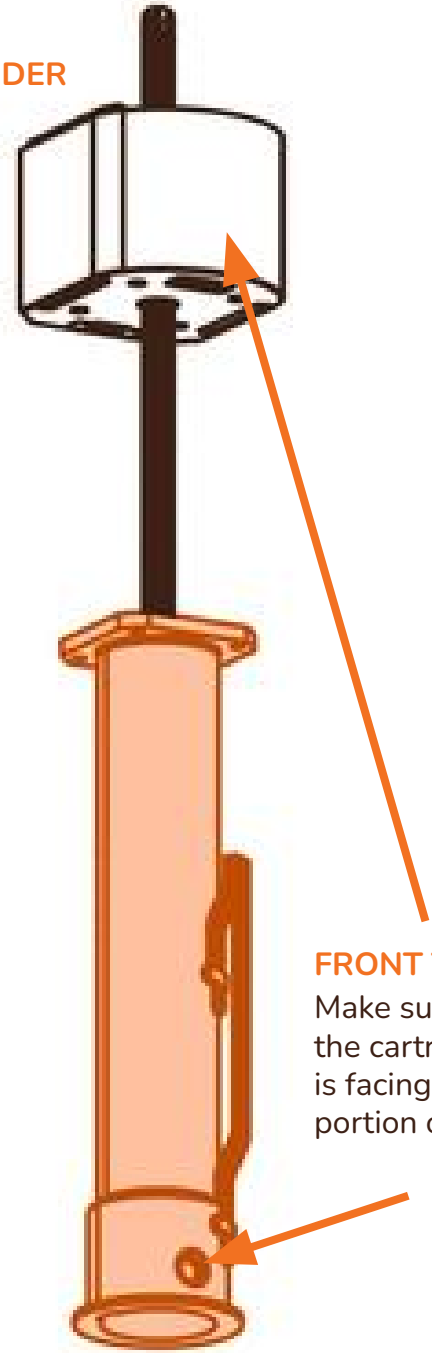
TESTING—1, 2, 3

Ensure the extruder motor wire didn't disconnect during shipping.

MOTOR WIRE ROUTING

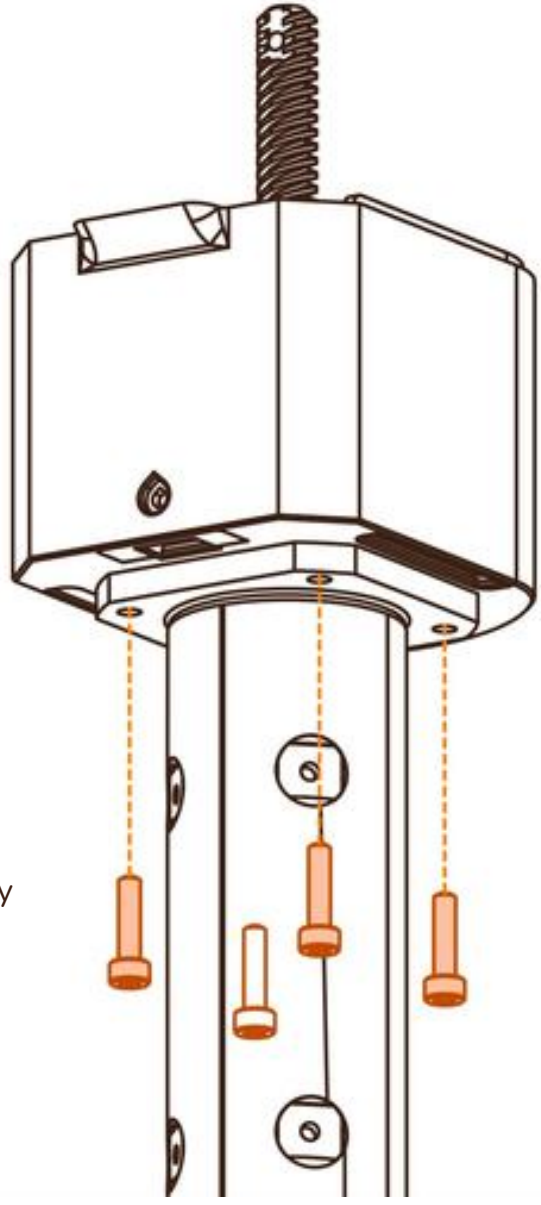
The extruder motor wires (labeled as "E") should exit out the front of the motor. Route the white connector through the open hole on the front of the piece down and away from the motor.



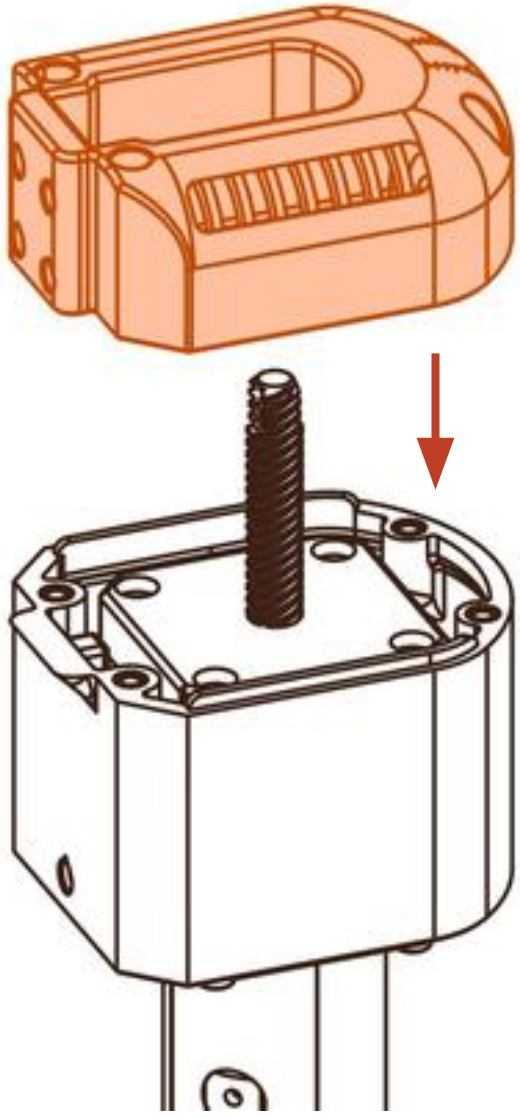


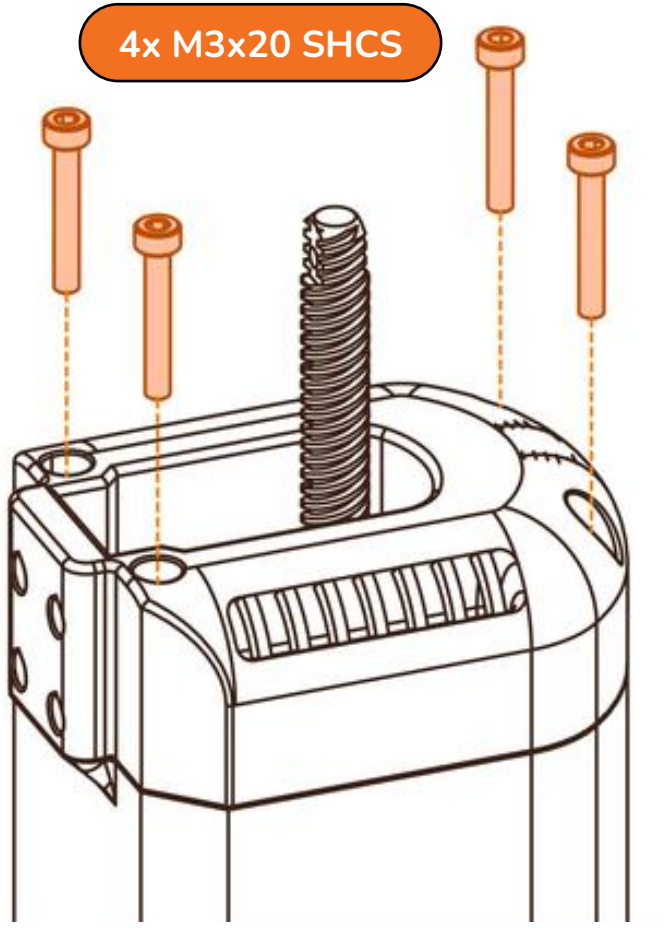
FRONT TO FRONT

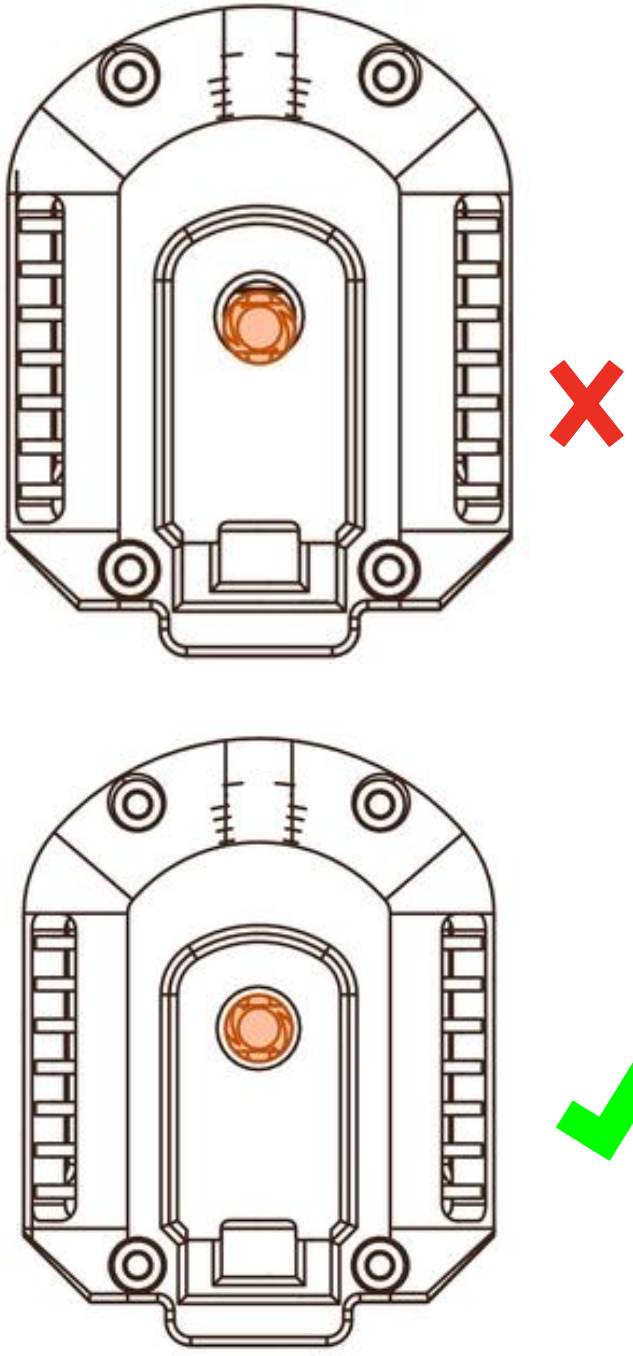
Make sure the through hole in the cartridge housing assembly is facing the front rounded portion of the printed part.



4x M3x12 SHCS




4x M3x20 SHCS

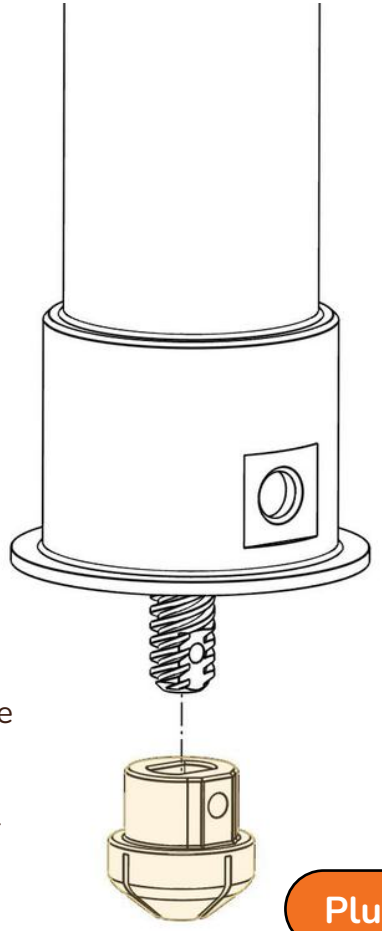


LEADSCREW ALIGNMENT

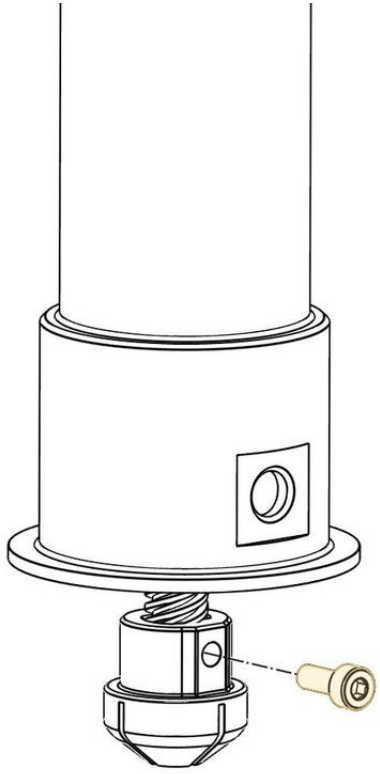
Make sure the leadscrew from the extruder motor is aligned in the center of the printed parts. If it is not, you may need to loosen the four M3x12 screws holding the motor on and adjust its position.

ADAPT

Rotate the leadscrew until the end pokes out of the bottom of the cartridge housing. Attach the aluminum plunger adapter and fasten it tightly.



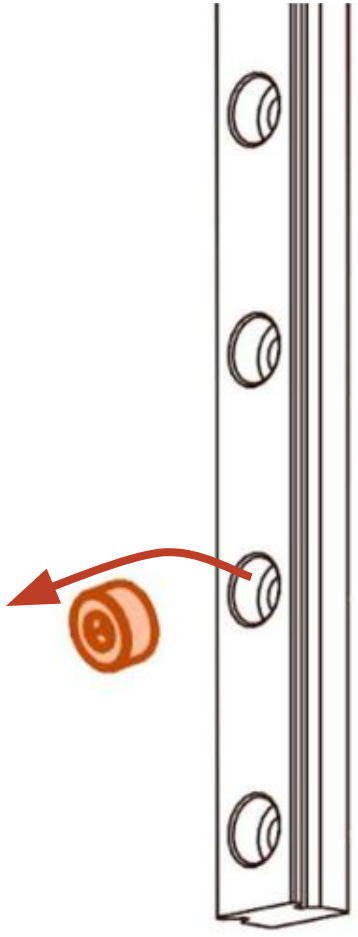
Plunger Adapter



M3x8 SHCS

SIZE MATTERS

The kit contains a variety of MGN9H rails. The extruder uses the **only** MGN7H rail in your kit. It is the narrowest rail.



MIND THE CARRIAGES

The carriages are designed to slide along the rail easily. This unfortunately also includes sliding off the rails.

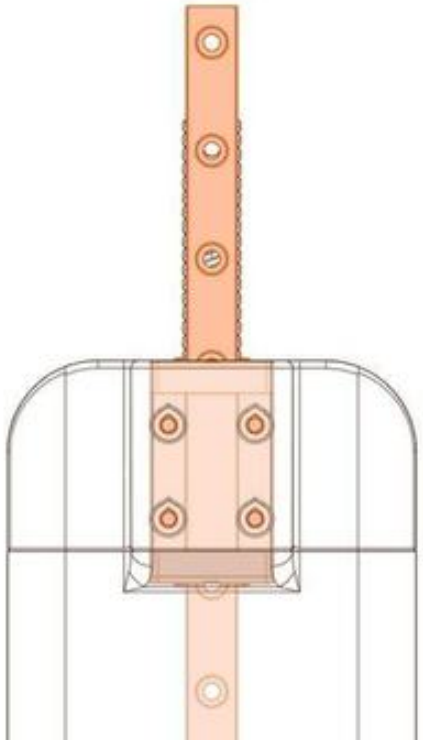
Dropping the carriage will likely result in irreparable damage.

Remove only the bottom rubber stopper and **please be careful** over the next couple of pages. Hold the rail the entire time so it does not fall.



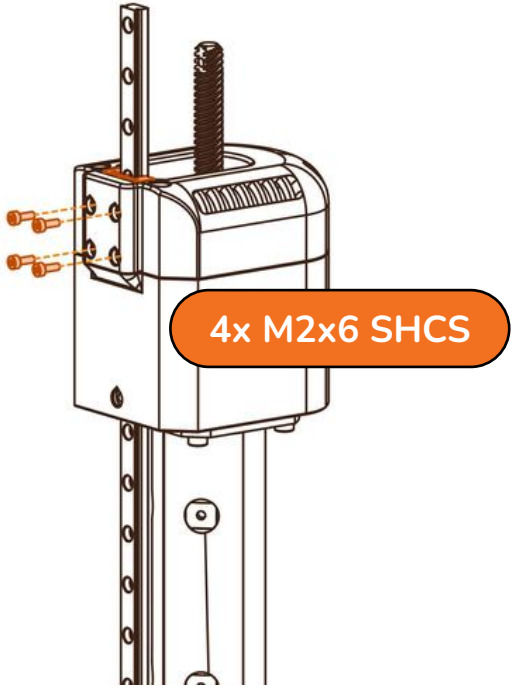
EASY DOES IT

Gently place the linear rail into its slot.



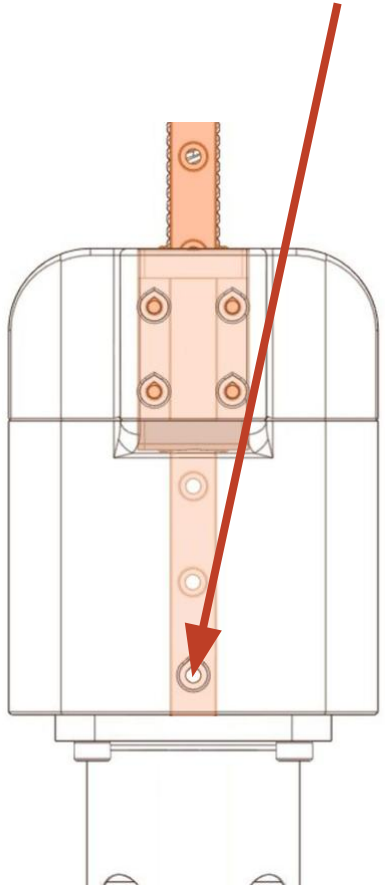
DON'T MALIGN, ALIGN

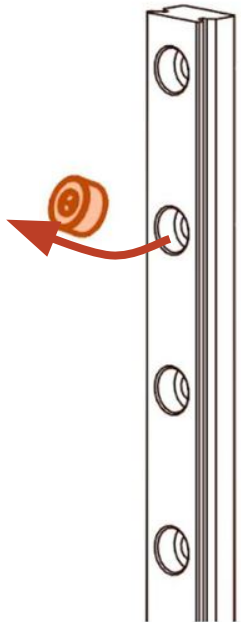
Align the holes in the printed part with the MGN7H rail carriage, and fasten the 4 screws.



RAISE ME UP

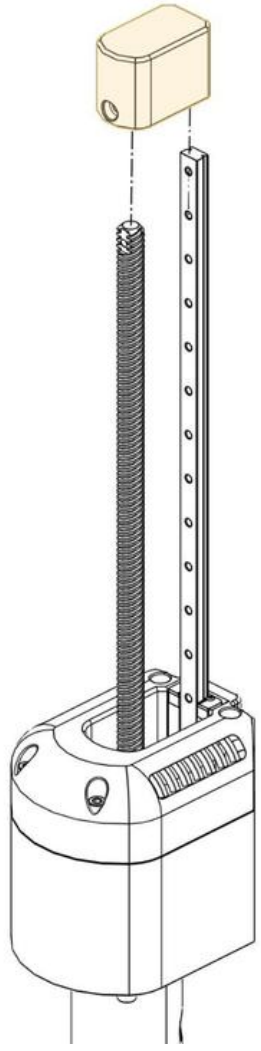
Rotate the leadscrew and lift the linear rail toward the top. The last hole on the bottom of the linear rail should align with the hole in the back of the Extruder Motor Case.



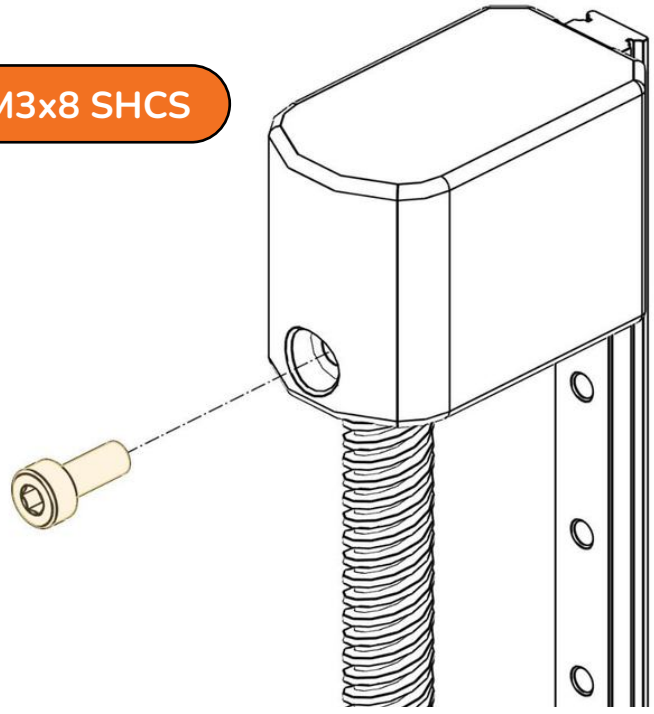


SLIPPERY WHEN WET

Remove the rubber stopper and hold the rail. Slide the leadscrew stabilizer on the leadscrew.

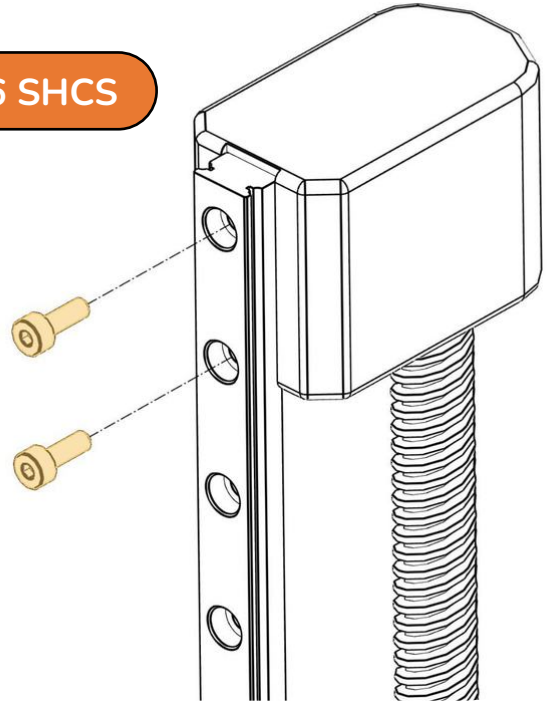


M3x8 SHCS



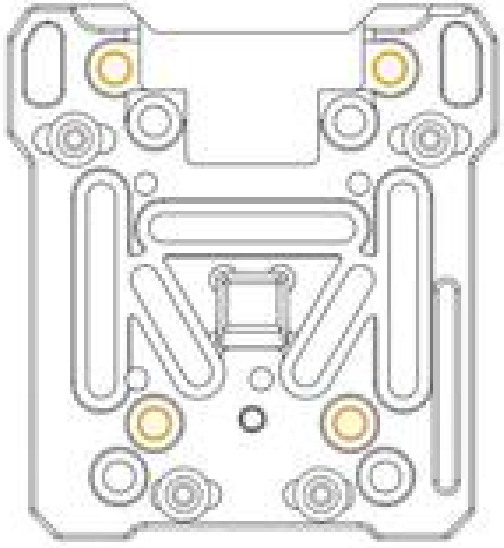
↻ 180°

2x M2x6 SHCS



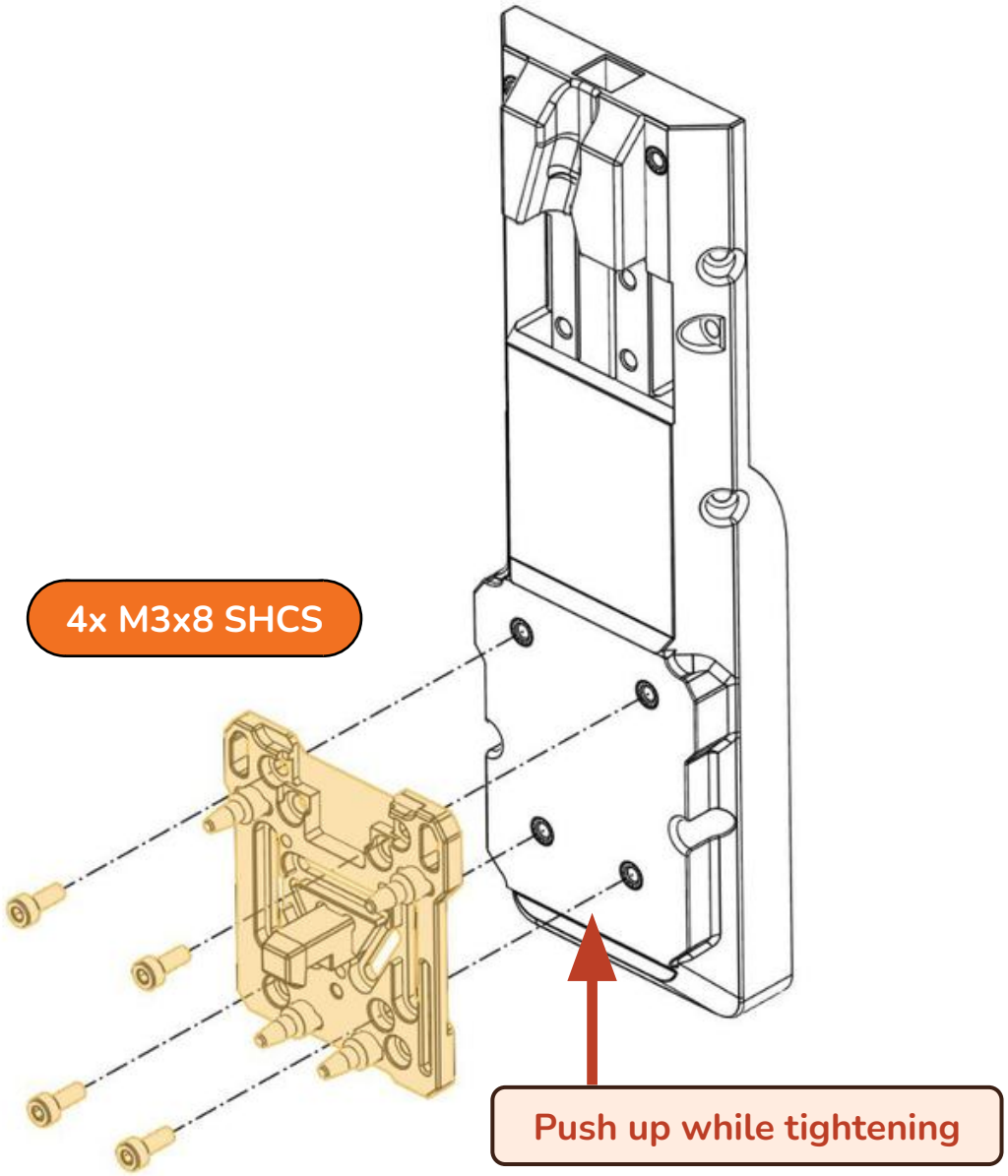
SAFETY THIRD

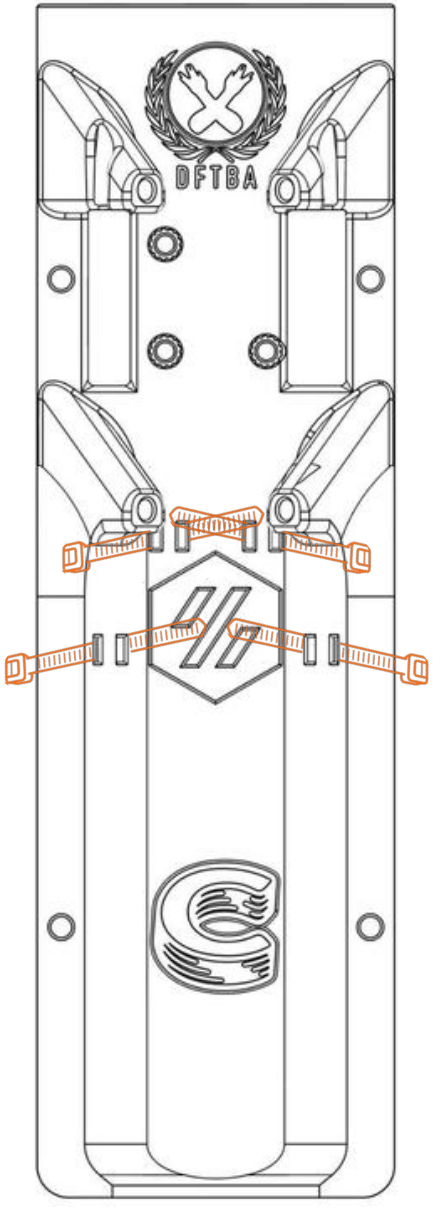
The linear rail is safe and you can take a deep breath.



CRAB IT

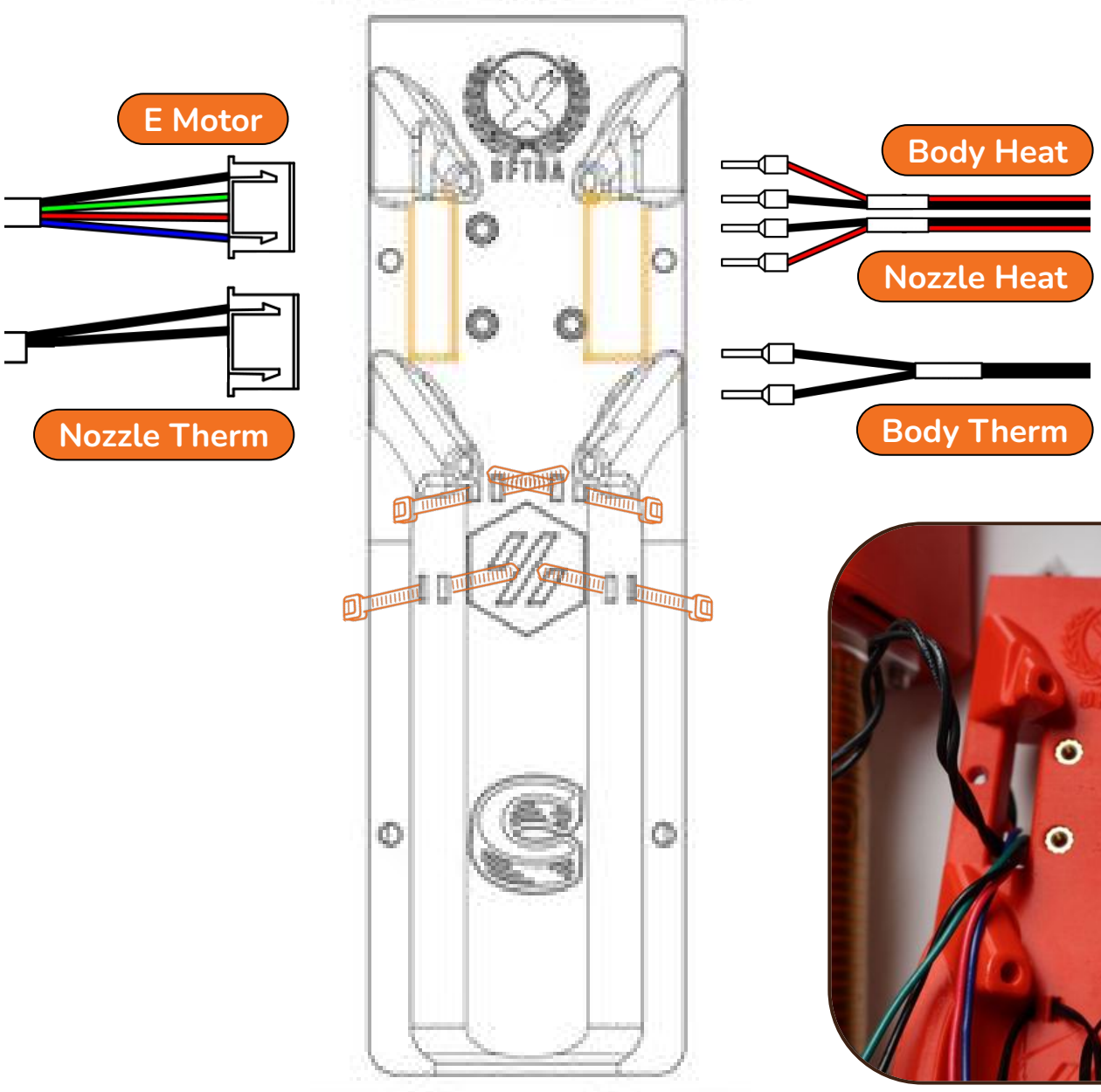
Screw the Hermit Crab onto the Extruder Rear, making sure to use the correct mounting holes shown in orange above. Push up on the Hermit Crab while tightening it.





PREPARE EXTRUDER REAR

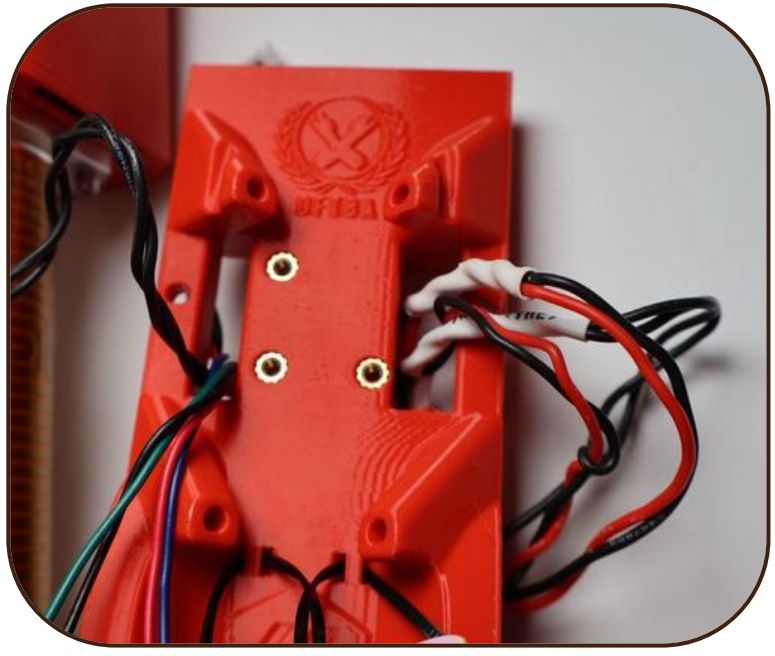
Preload four zip ties, but do not tighten them yet. Position each zip tie head on the outside, away from the center.



ROUTE WIRING

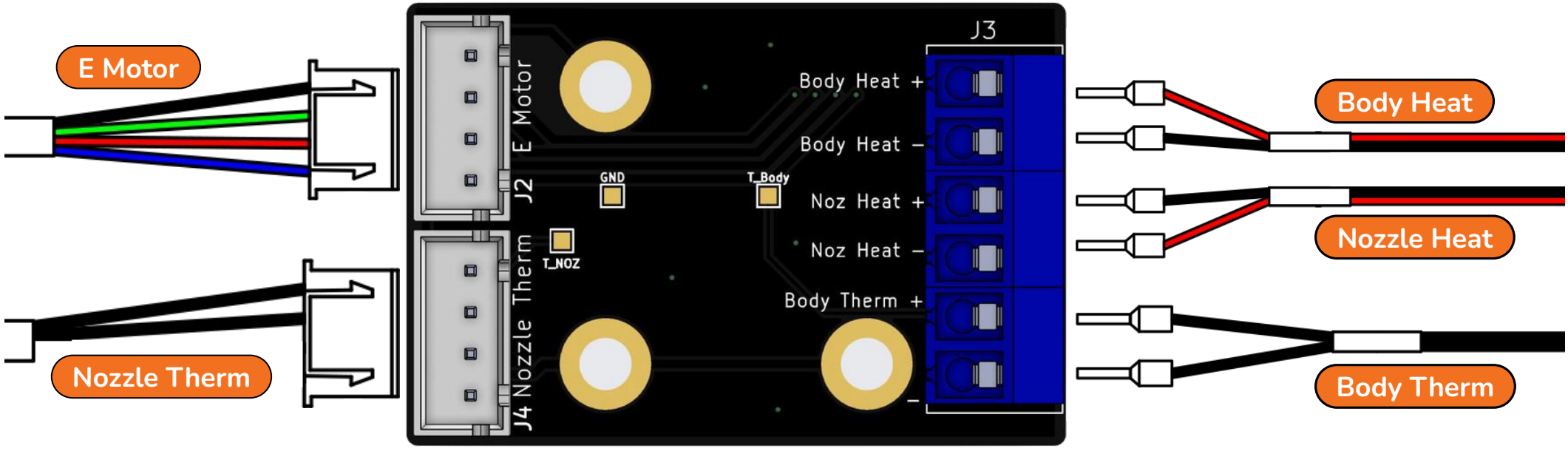
Fish the wires through the opening near the top for the PCB.

Compare to the photo below.



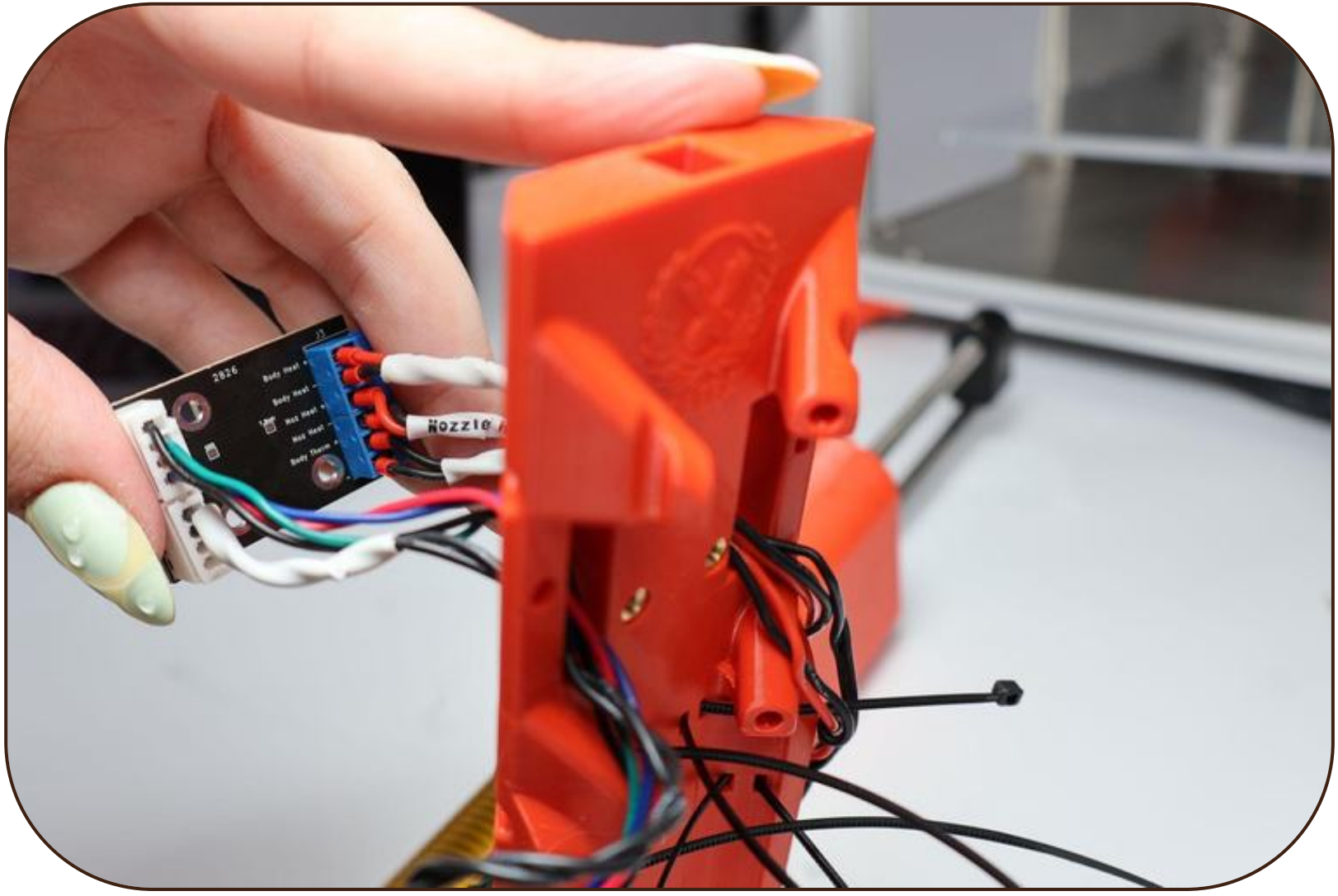
CONNECT PCB

Plug each wire into the PCB. Ensure the wires are in the correct order in the screw terminals. The two body thermistor wires can go in either order.



COMPARE YOUR LOOK

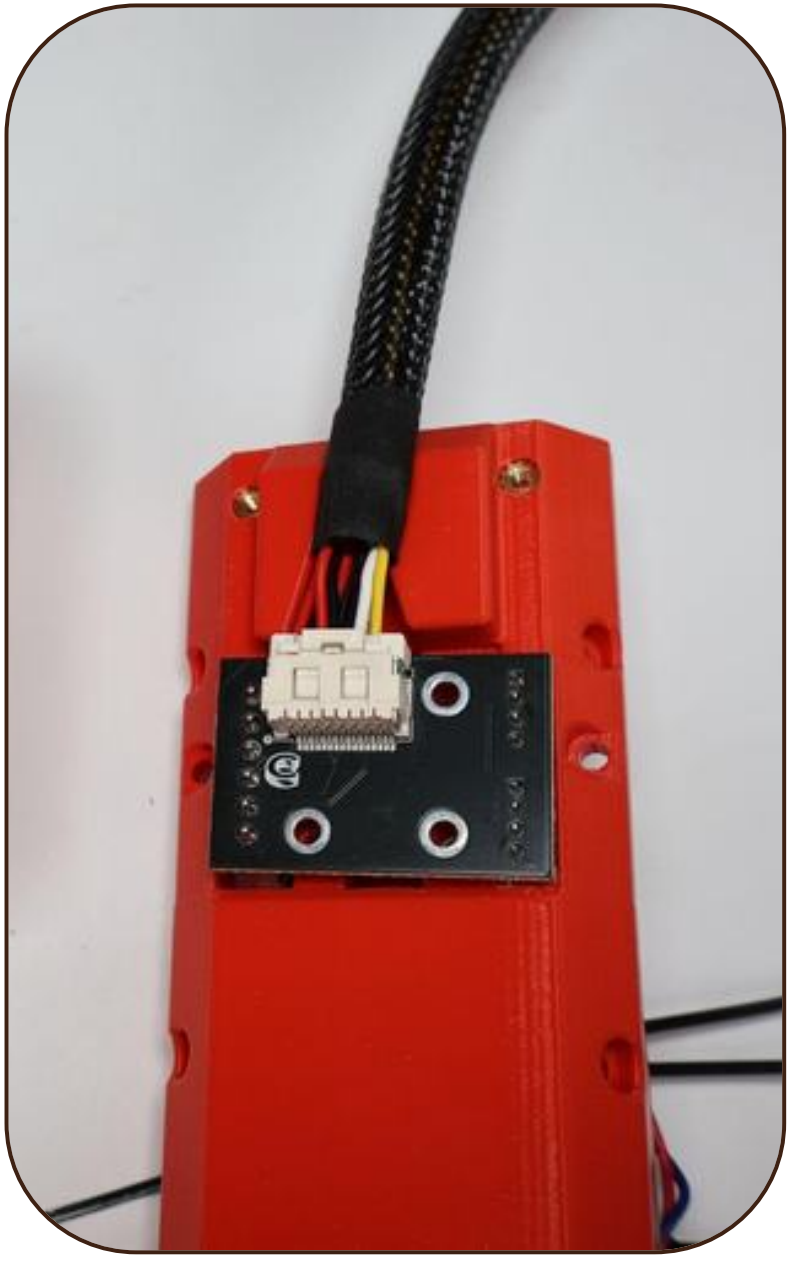
Check to see if your assembly matches the photo below.

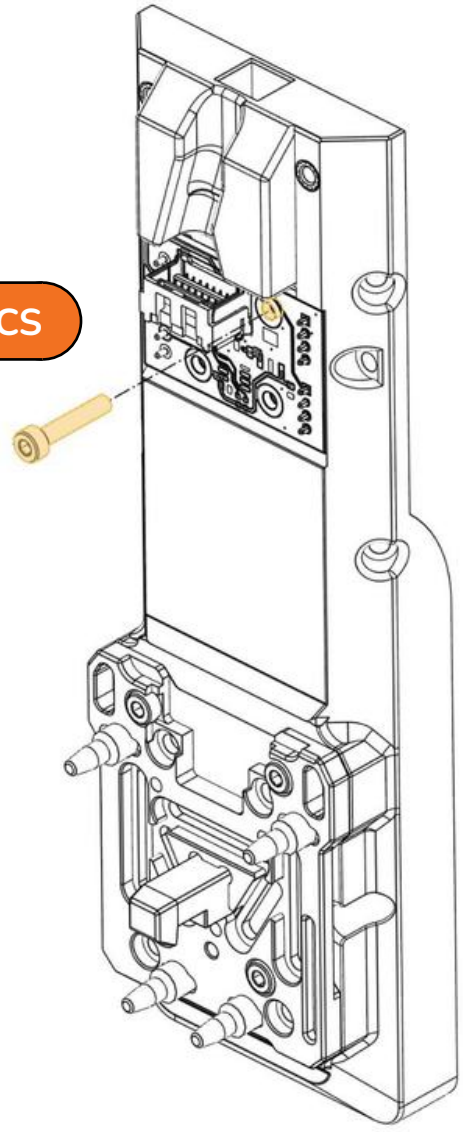


CONNECT AND INSPECT

Connect the Extruder Cable Bundle to the back of the PCB using the CLIK-Mate connector.

Push the PCB into position in the Extruder Rear.



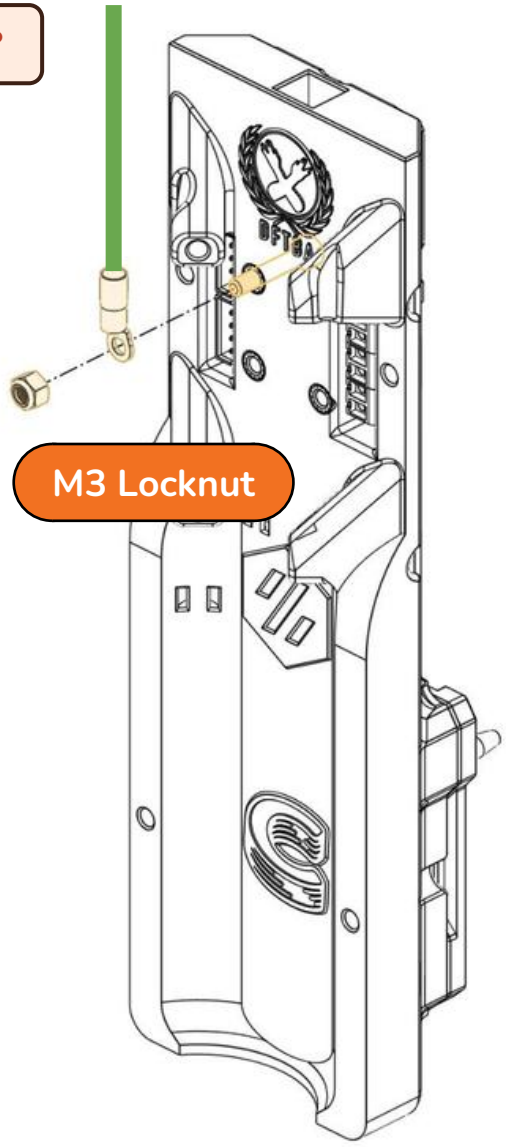


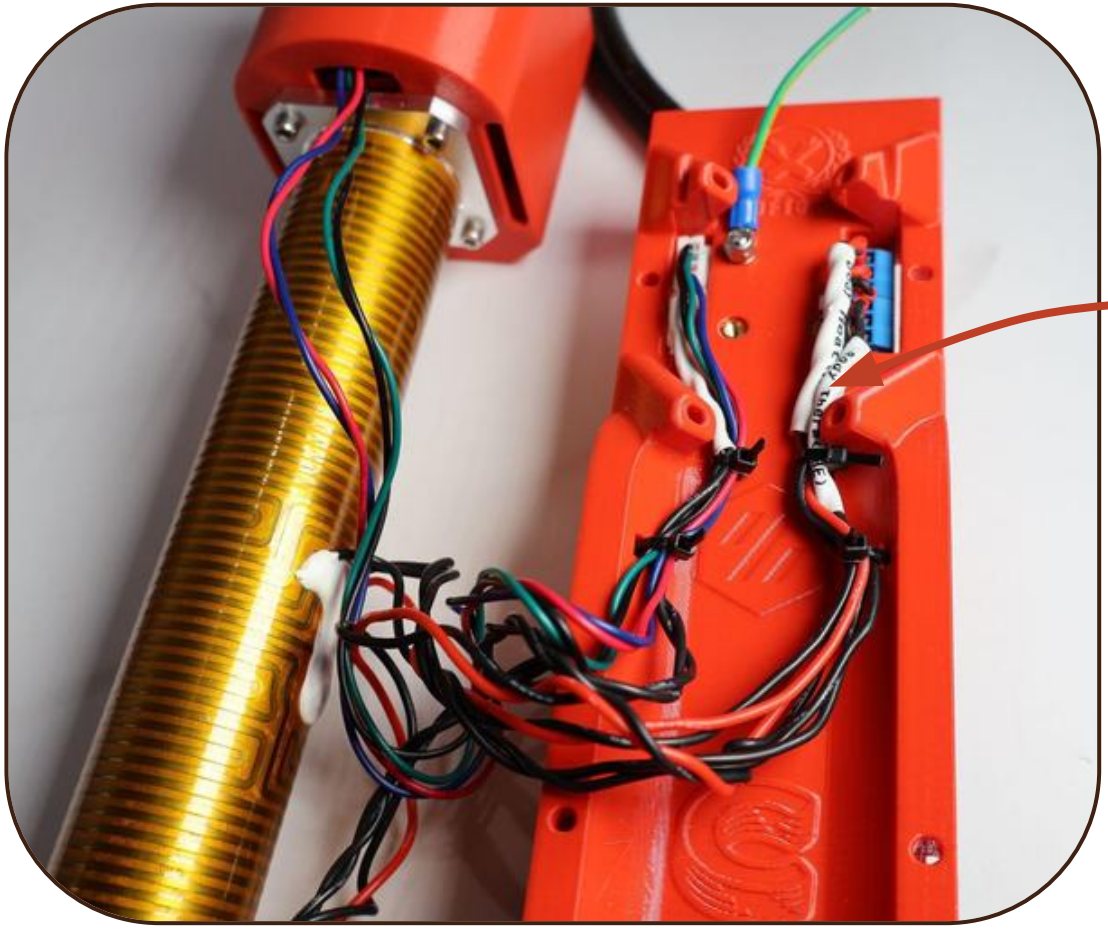
MOUNT PCB AND GROUND

Mount the PCB with one M3x16 screw. Fully tighten this screw, then rotate the part and place the Extruder Earth cable on the same screw. Secure this with an M3 Locknut on the other end.

Make sure the Extruder Earth cable is facing straight up, and that the nylon in the M3 Locknut is facing outwards.

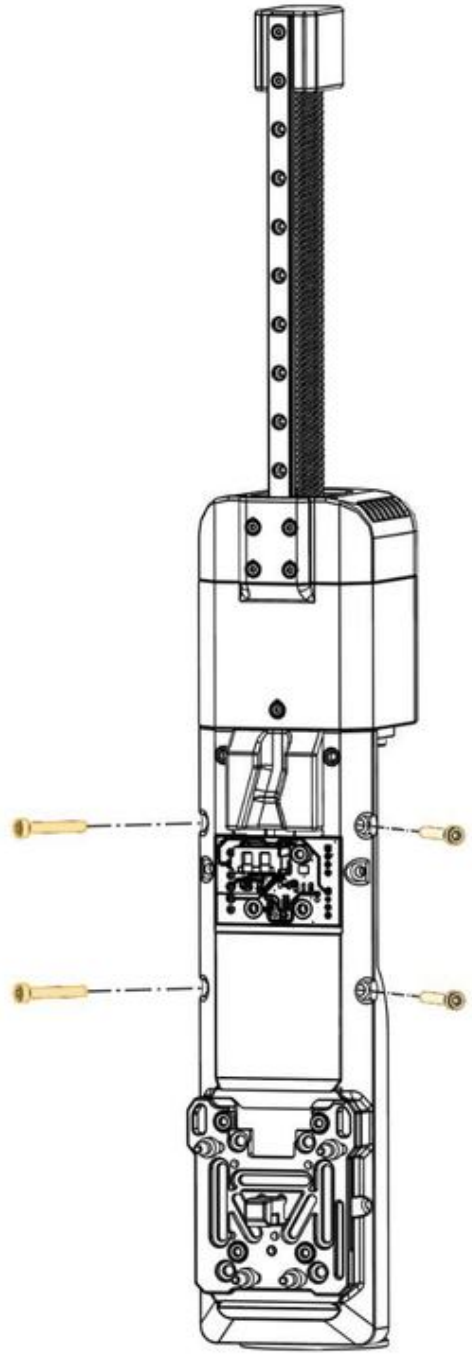
Fully tighten the screw and nut.





TIGHTEN ALL ZIP TIES

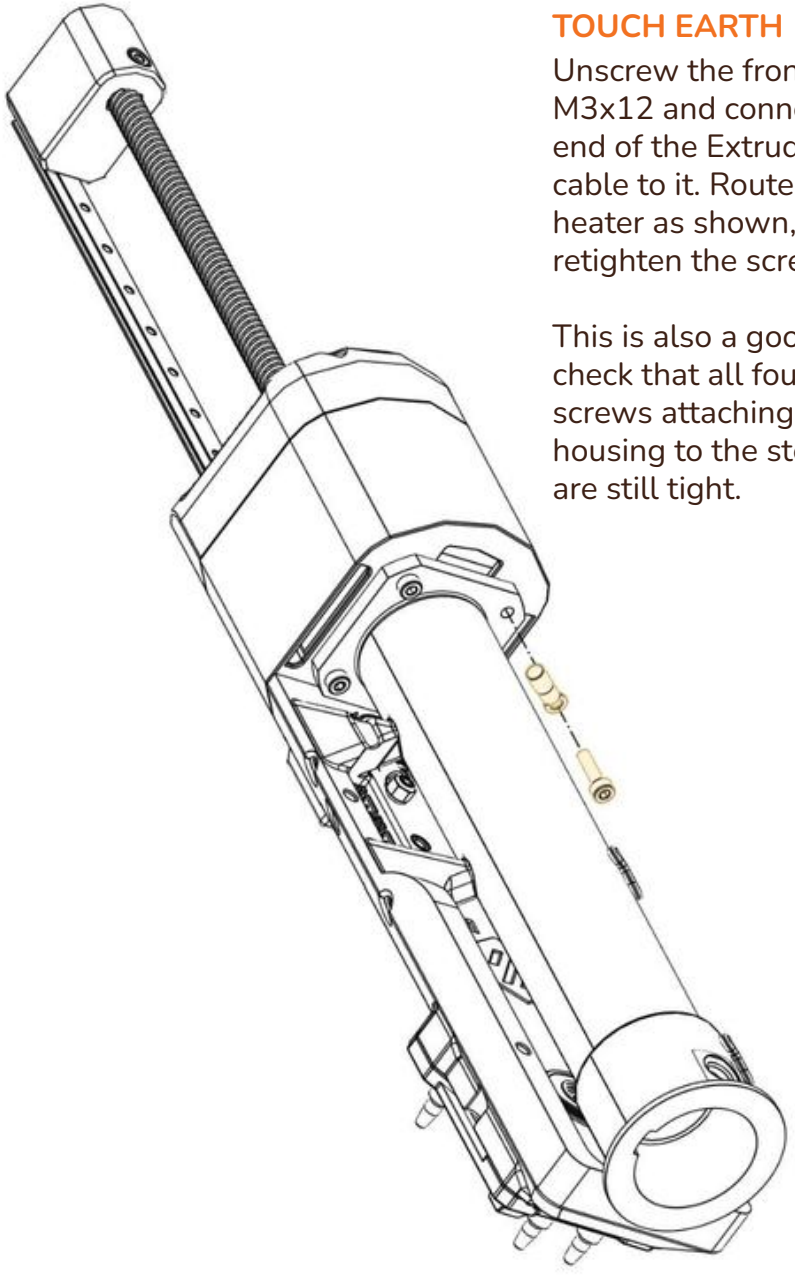
Route the wires through the zip ties on the left and right sides and tighten them. Make sure the wires near the PCB are pushed toward the center of the Extruder Rear and routed underneath the screw posts.



INSTALL EXTRUDER REAR

Secure the Extruder Rear in place, making sure no wires are squished.

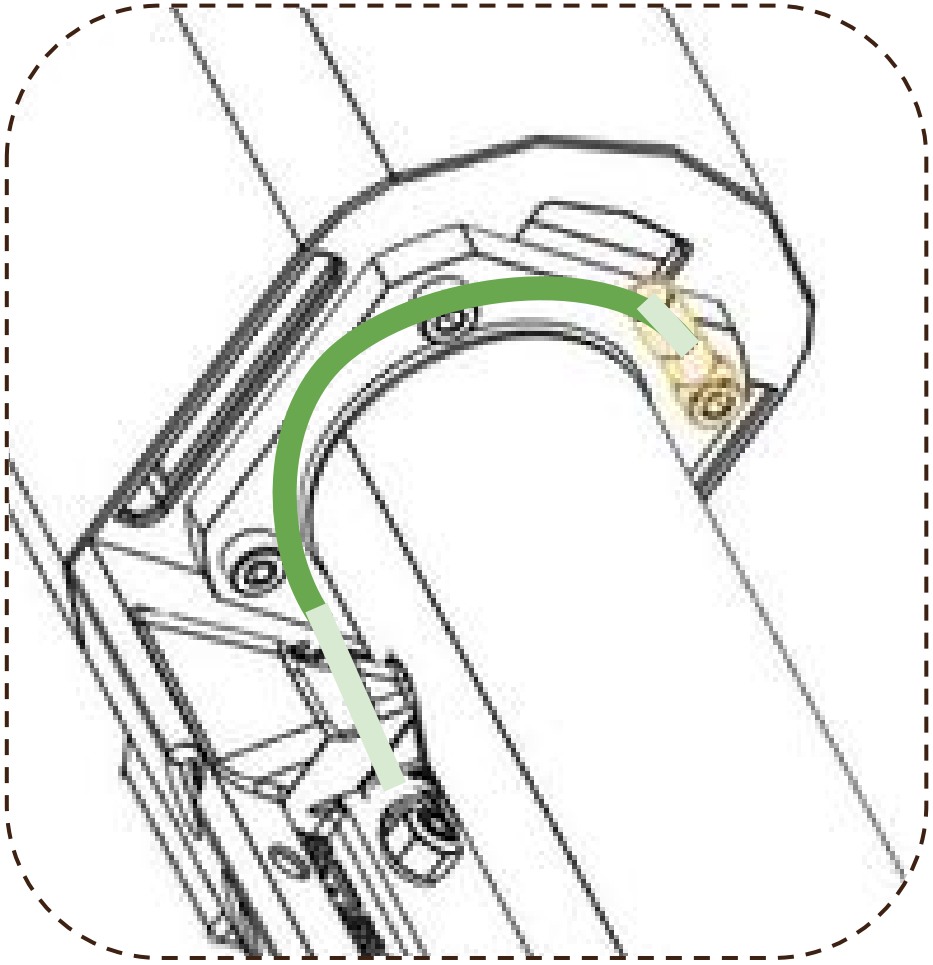
4x M3x20 SHCS



TOUCH EARTH

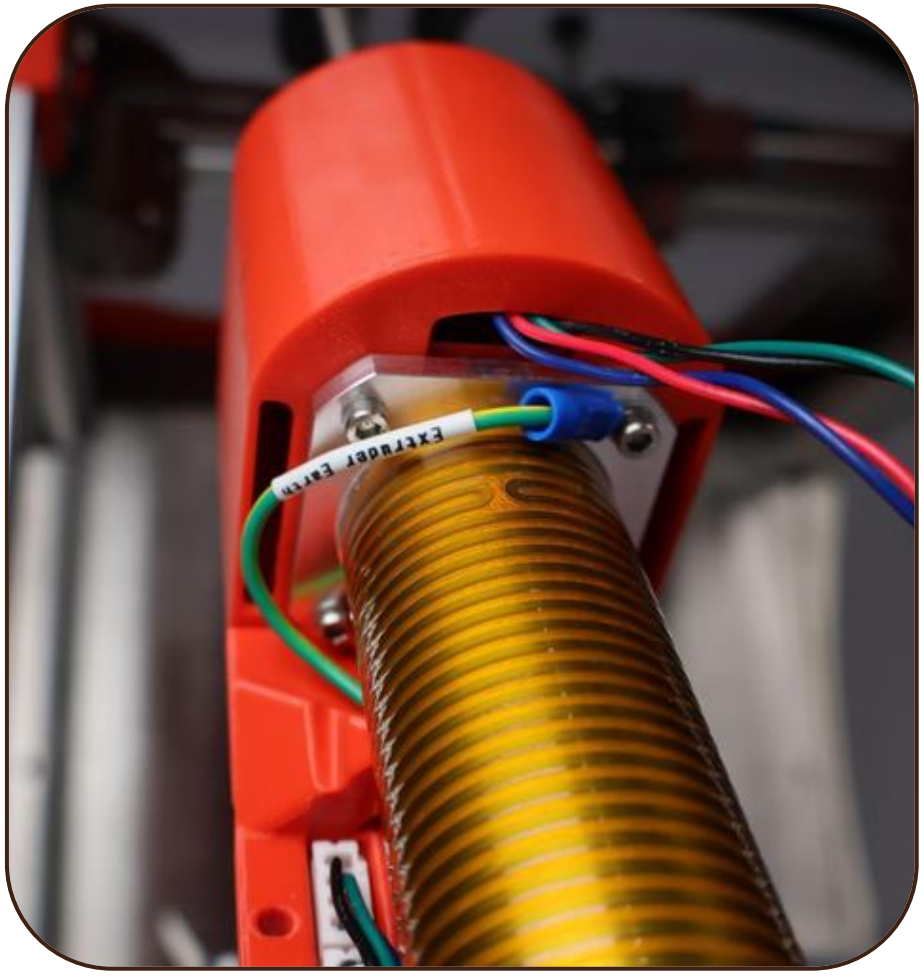
Unscrew the front right M3x12 and connect the other end of the Extruder Earth cable to it. Route it around the heater as shown, and retighten the screw.

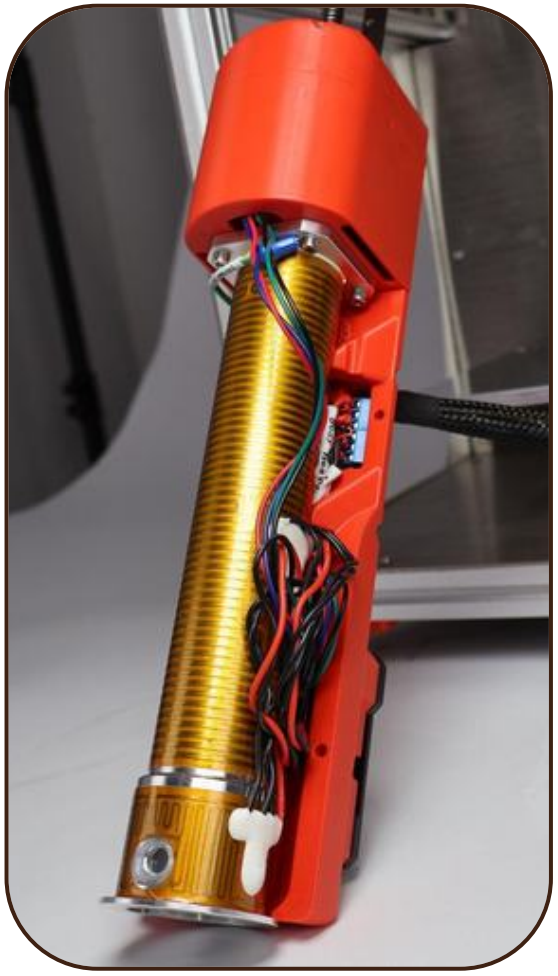
This is also a good time to check that all four of the screws attaching the cartridge housing to the stepper motor are still tight.



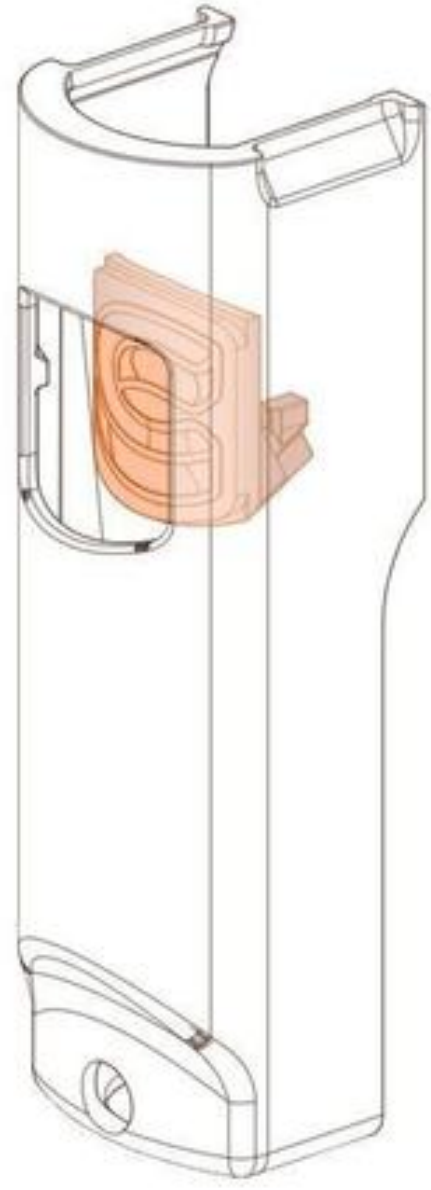
JUDGING TIME

How did you do? Compare your build to the gorgeous photos below. Fix anything that needs fixing and let's keep going!





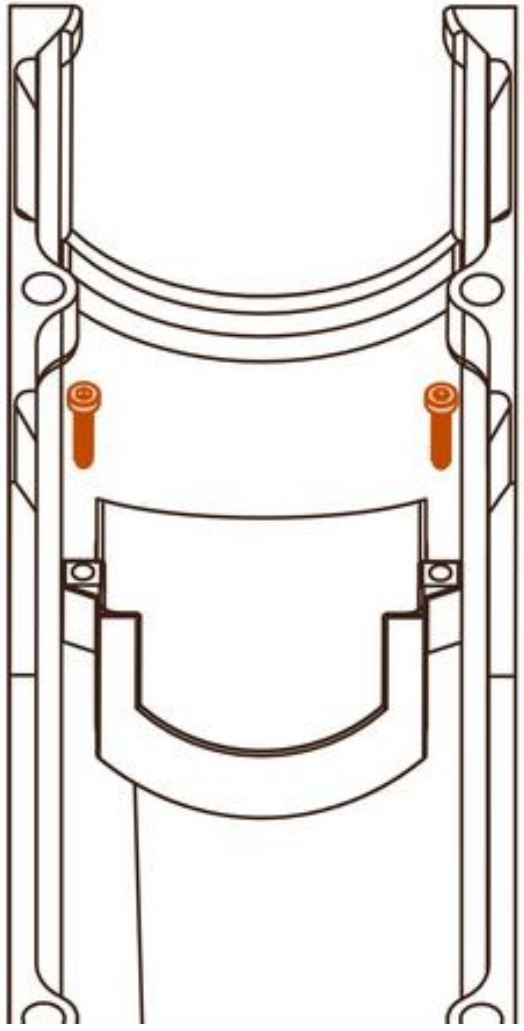


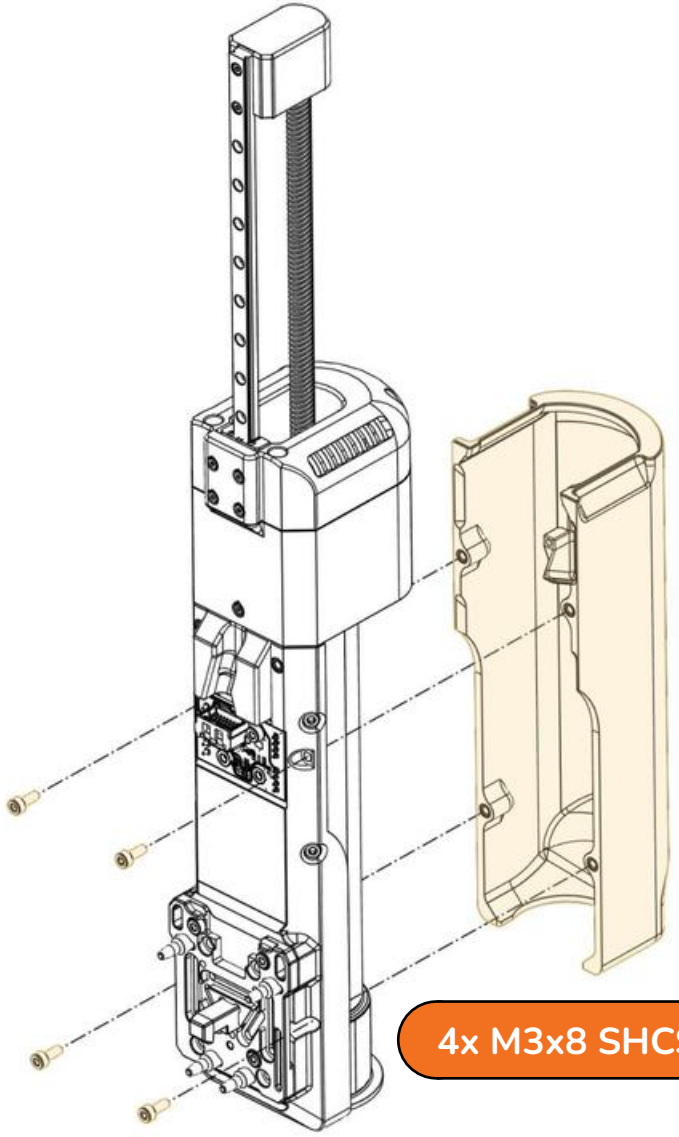


DO IT FOR THE BRAND

The logo insert screws into place from the inside of the extruder cover.

2x M2x10 Self-Tapping Screws





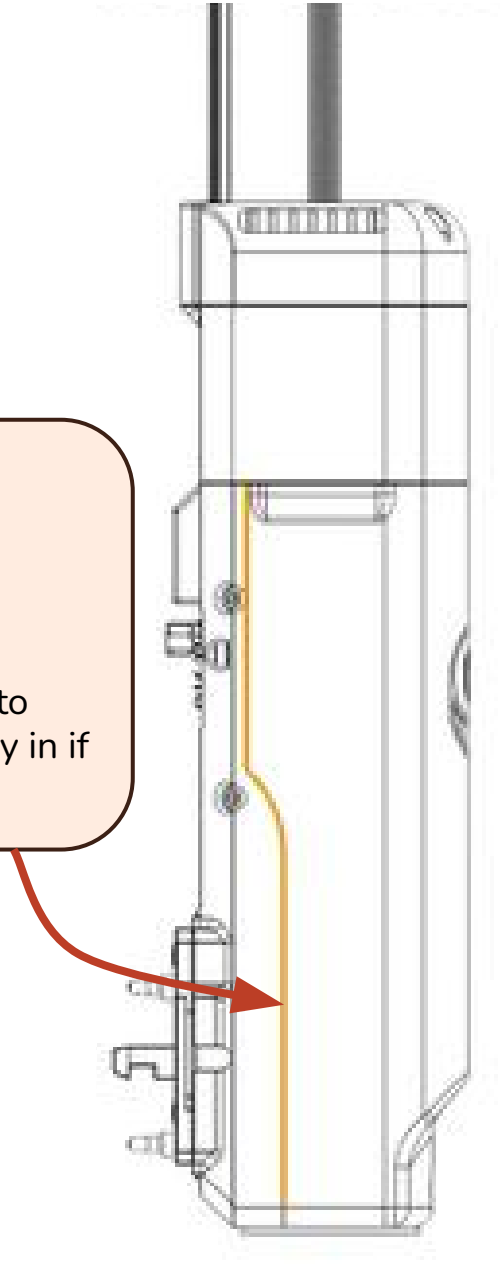
COVER UP

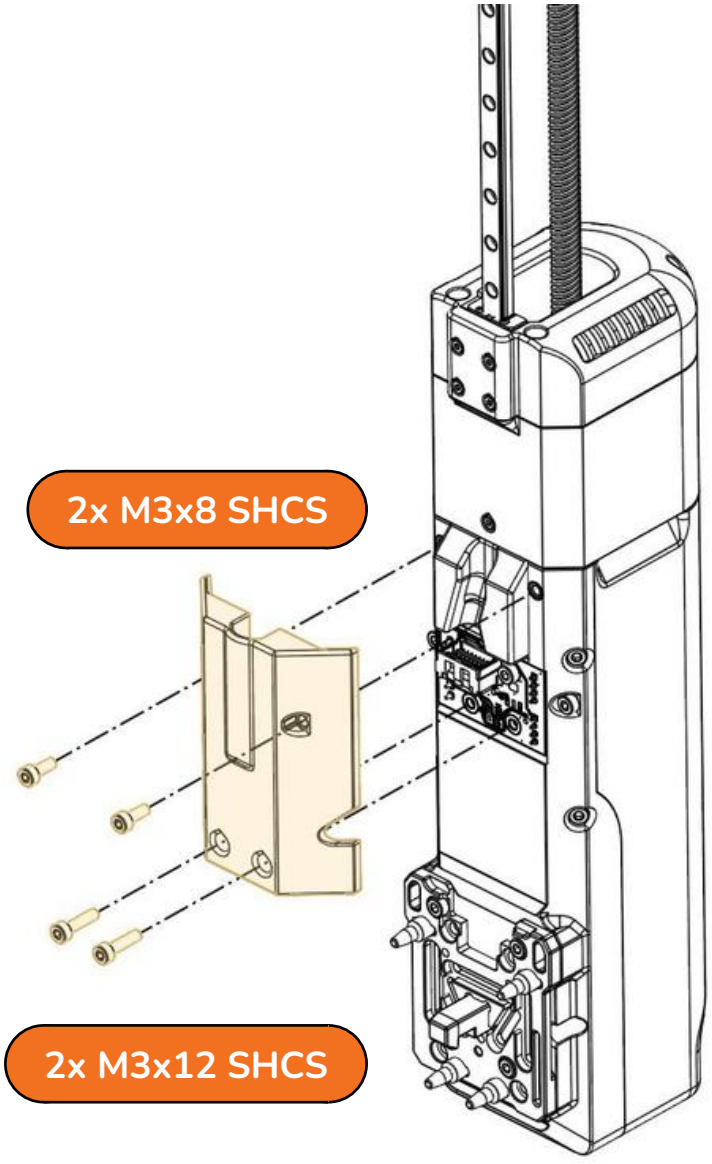
Install the Extruder Front.

IMPORTANT NOTE

Ensure no wires are pinched in this gap!

Use an allen key or flathead screwdriver to push wires all the way in if present.

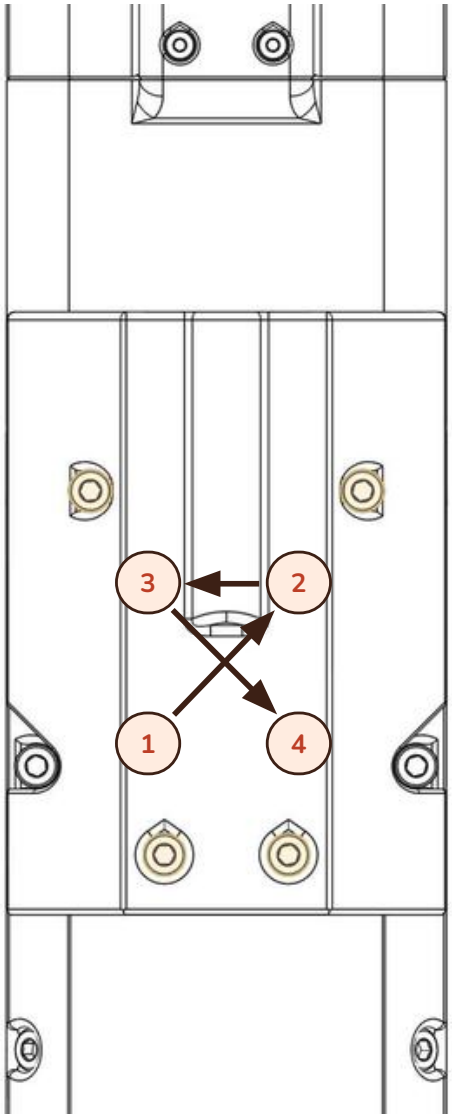


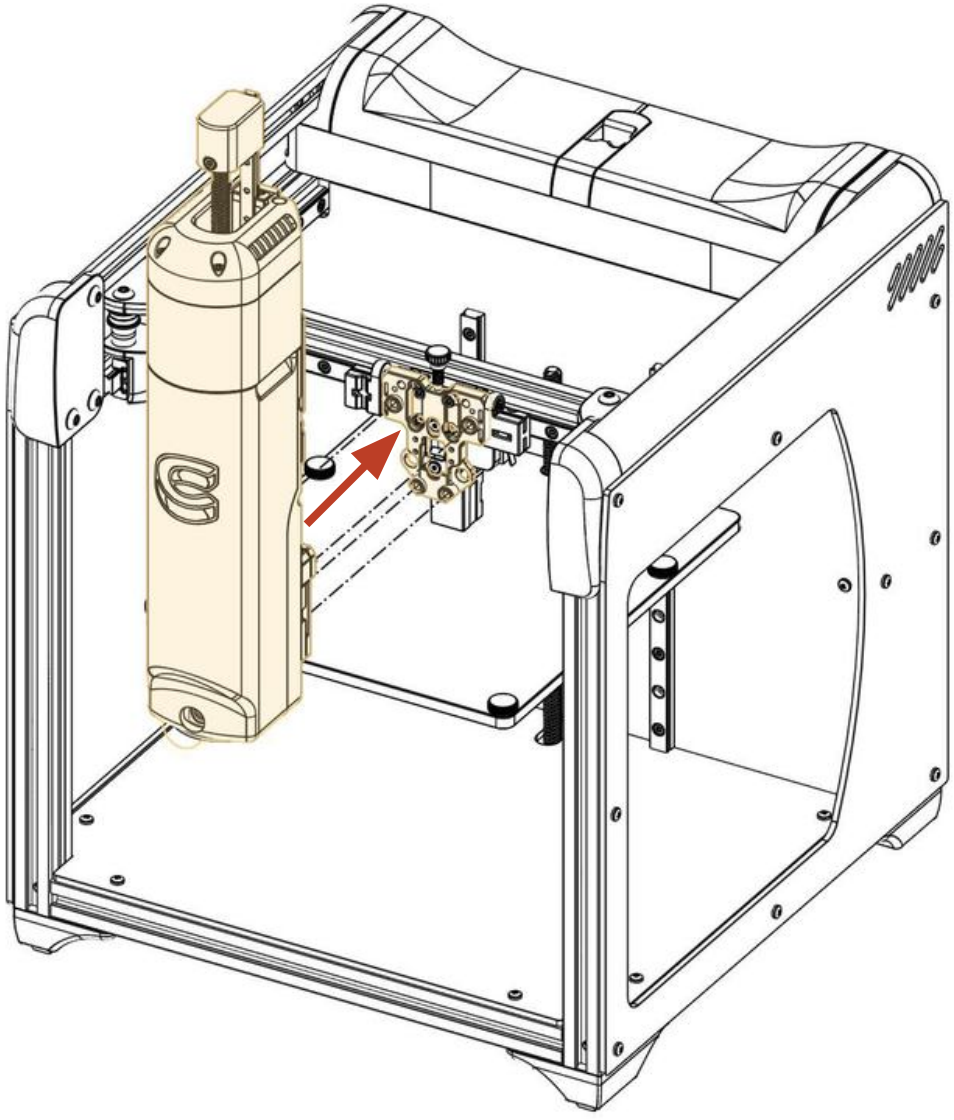


EXTRUDER CABLE STRAIN RELIEF

Install the Extruder Rear Cover using M3x8 SHCS on top, and M3x12 SHCS on the bottom. You will compress the Extruder Cable Bundle slightly. This provides strain relief.

Loosely install all four screws, then tighten them in the order shown to the right.



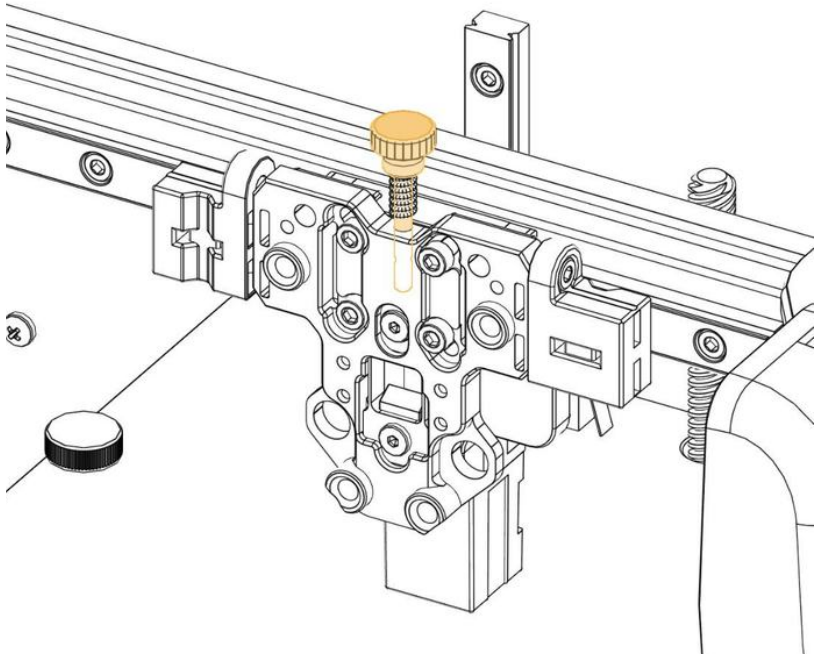


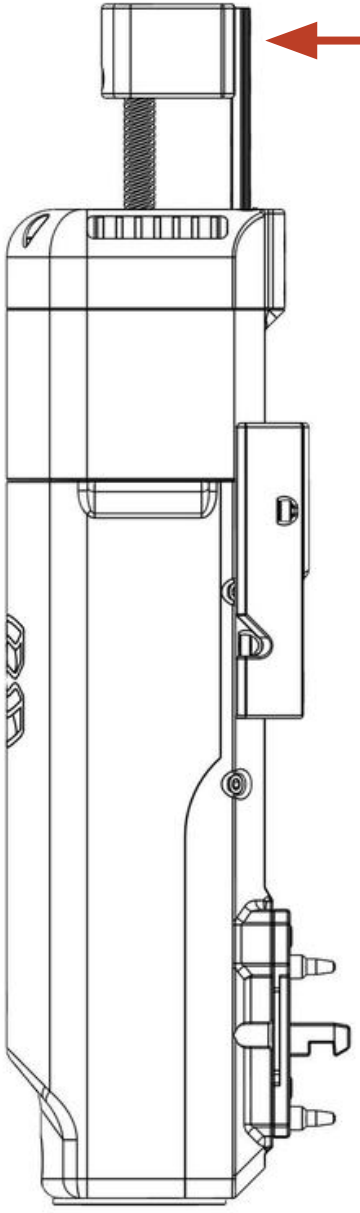
FINISH EXTRUDER ASSEMBLY

Push the extruder onto the gantry side of the Hermit Crab, lining up the 4 silver pins from the extruder.

If the extruder doesn't easily snap onto the Hermit Crab, twist the black thumbscrew to loosen or tighten it. It should be as tight as possible while still allowing the extruder to go on and off easily.

To remove the extruder, press this button.





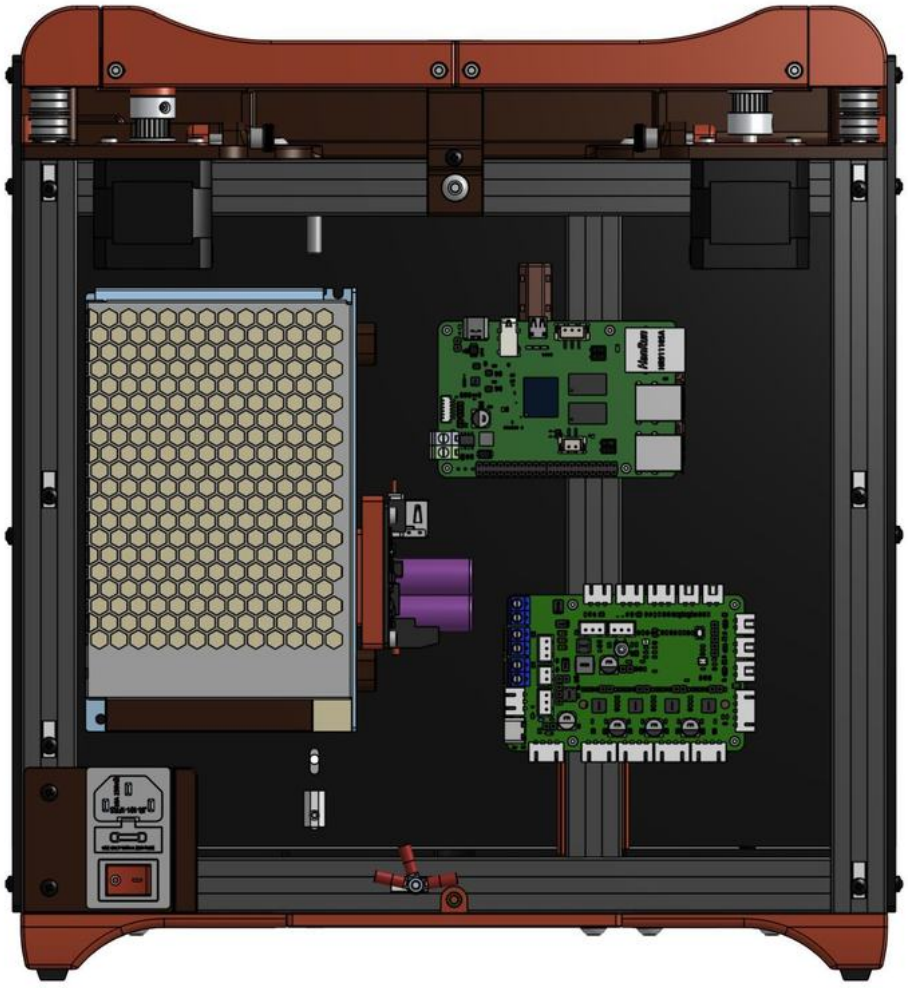
SERIALLY AWESOME!

This was the hardest chapter of the assembly process. Congrats on making it through!!

Check out your new serial number on the leadscrew stabilizer.

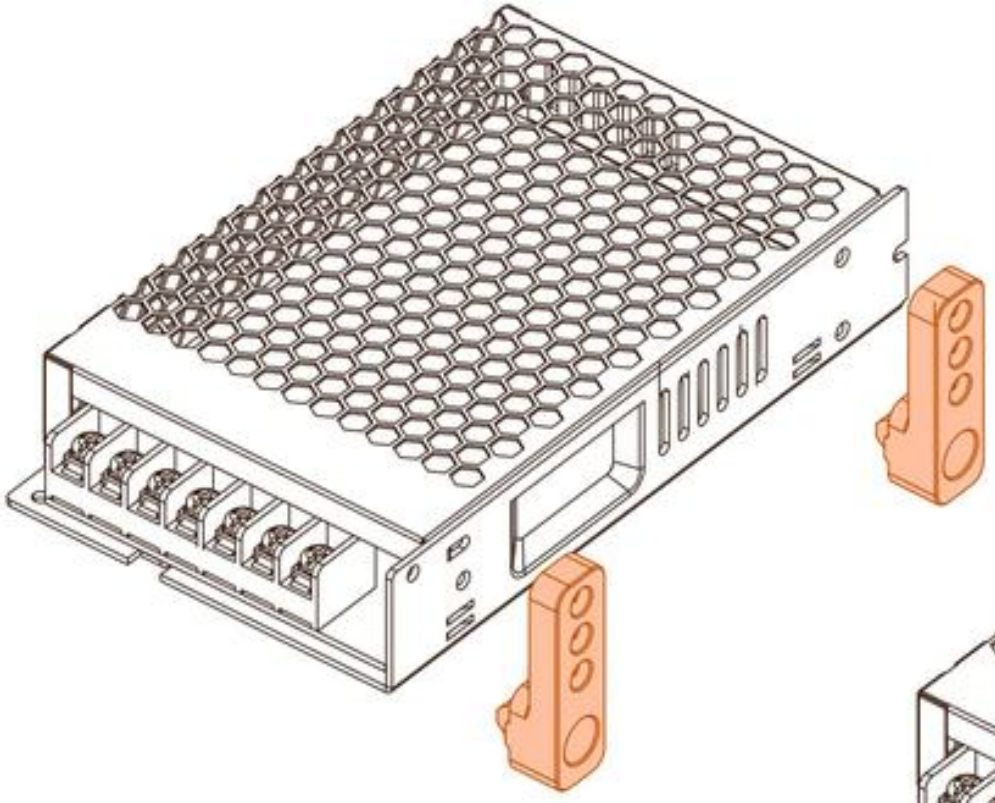
COCOA PRESS

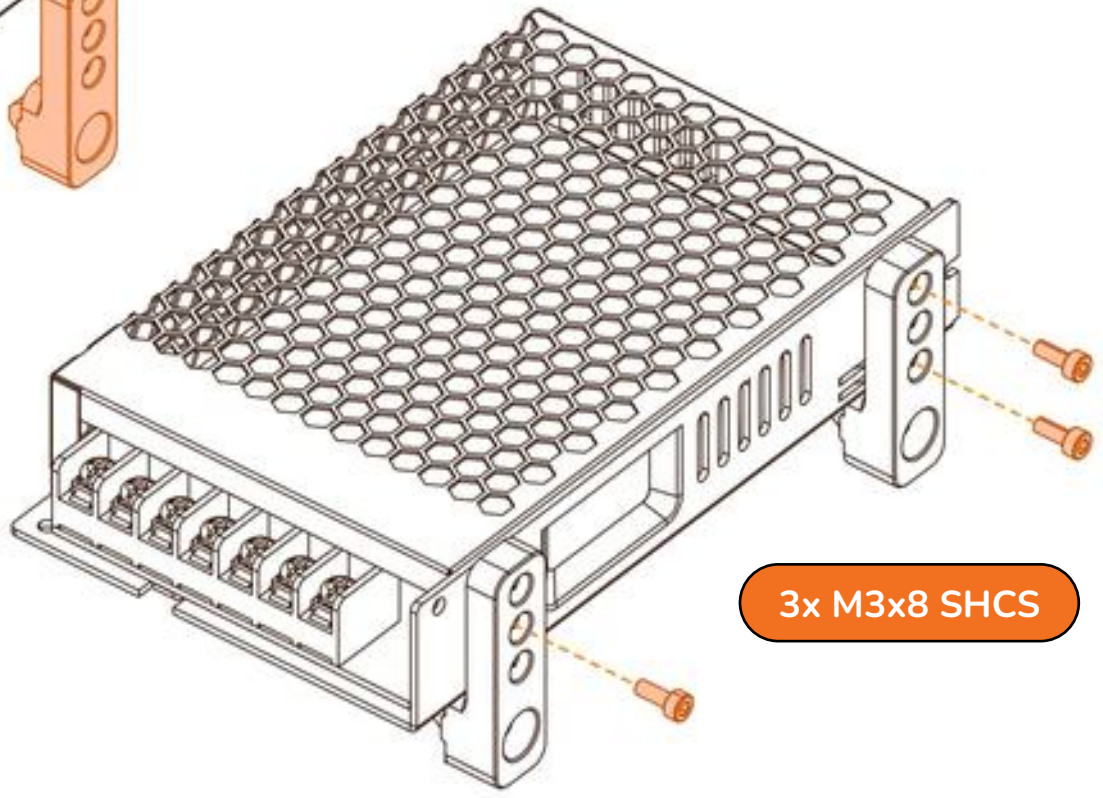
Chapter 9: Electronics

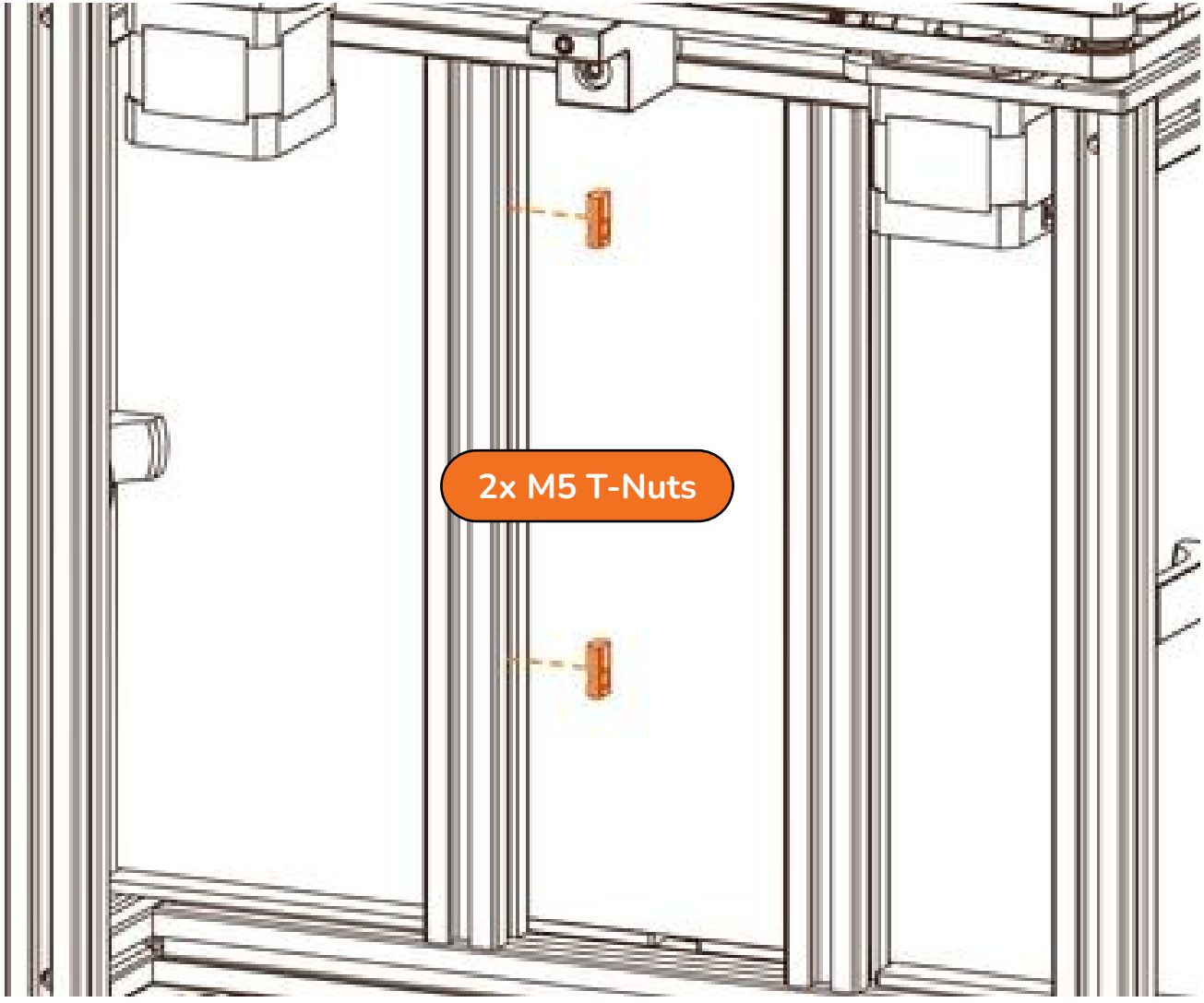


I'VE GOT THE POWER

This is an auto-switching power supply and will work for any voltage your country uses.



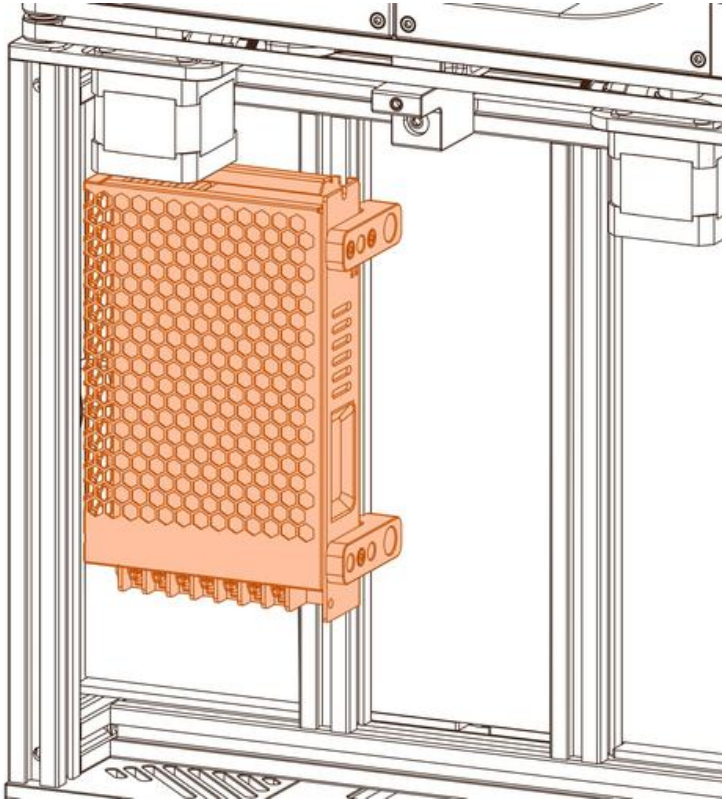


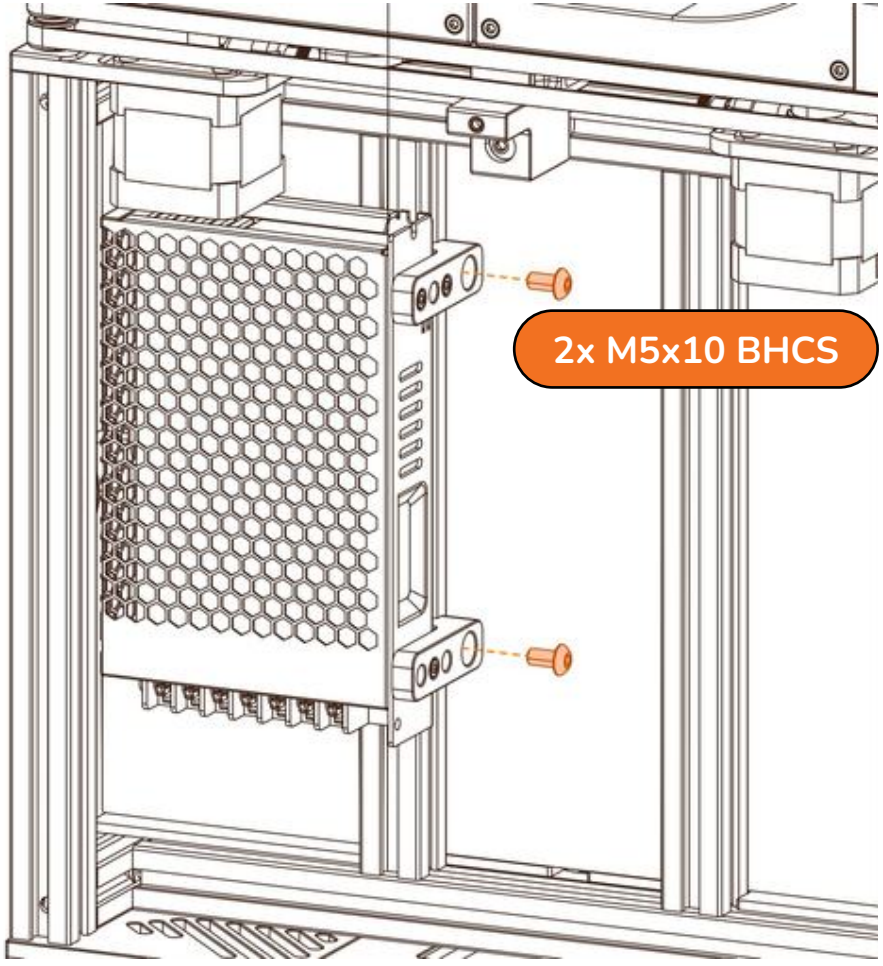

2x M5 T-Nuts

“NO TOUCHING, NO TOUCHING!”

The power supply should be slid along the rail to the top to touch the stepper motor above it, then pulled down by 7.5mm.

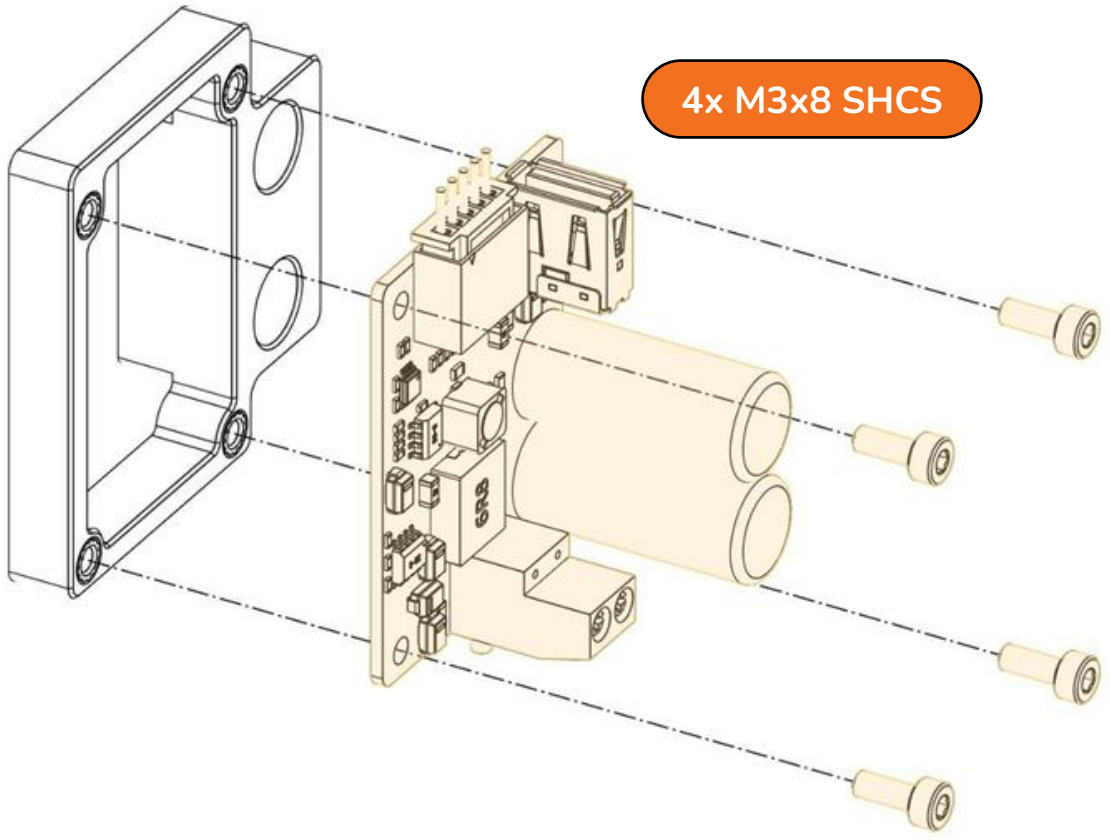
Use the Electronics Height Jig as a height gauge. Put the jig between the power supply and the motor to get the distance. An exact spacing isn’t necessary. Tighten the screws.

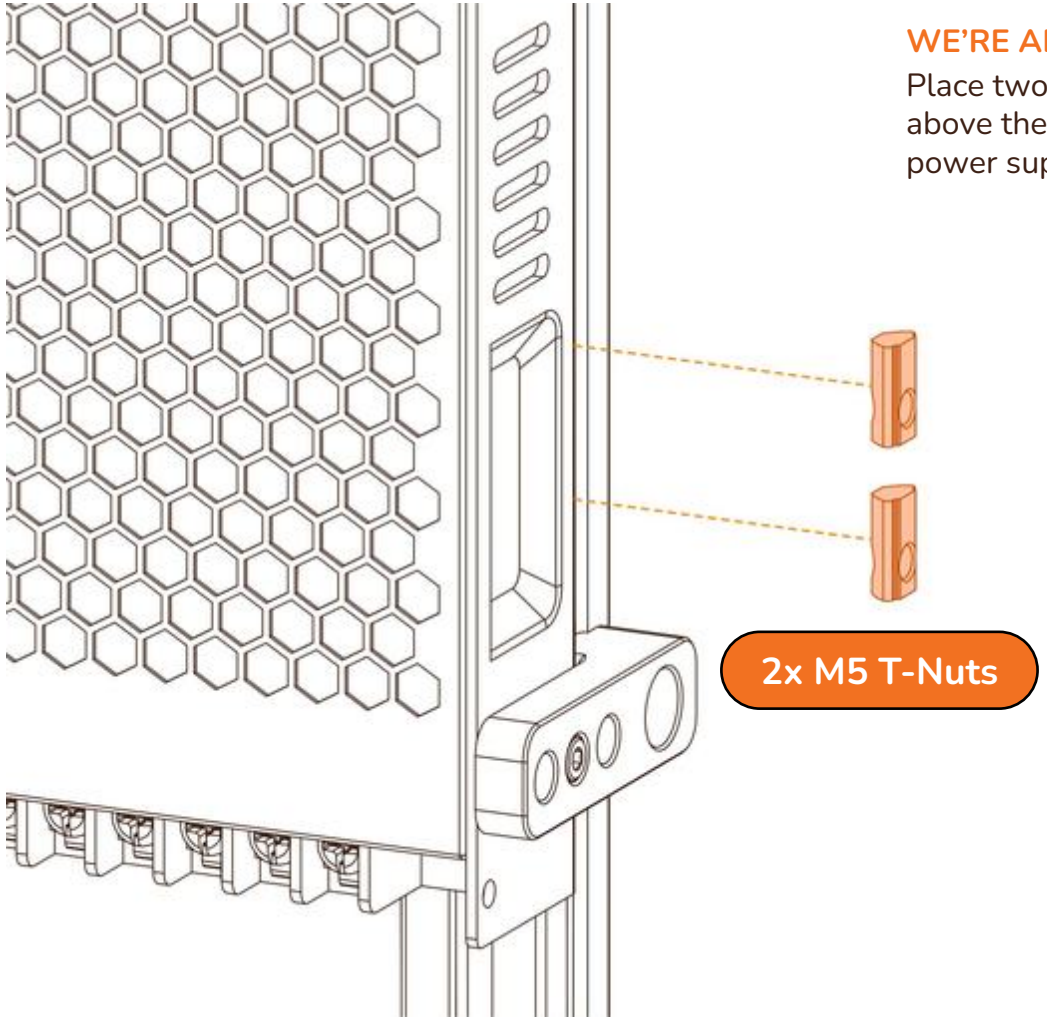




BACKUP POWER

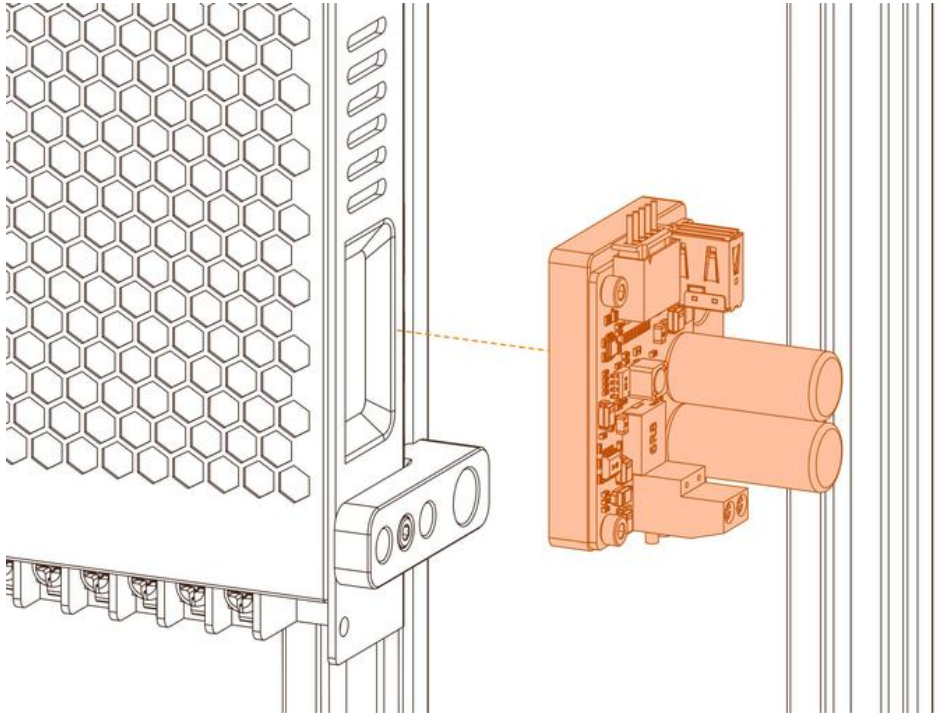
Ensure the orientation of the SKSM is correct, with the USB port facing up when the holes for the M5x10 screws are on the right.

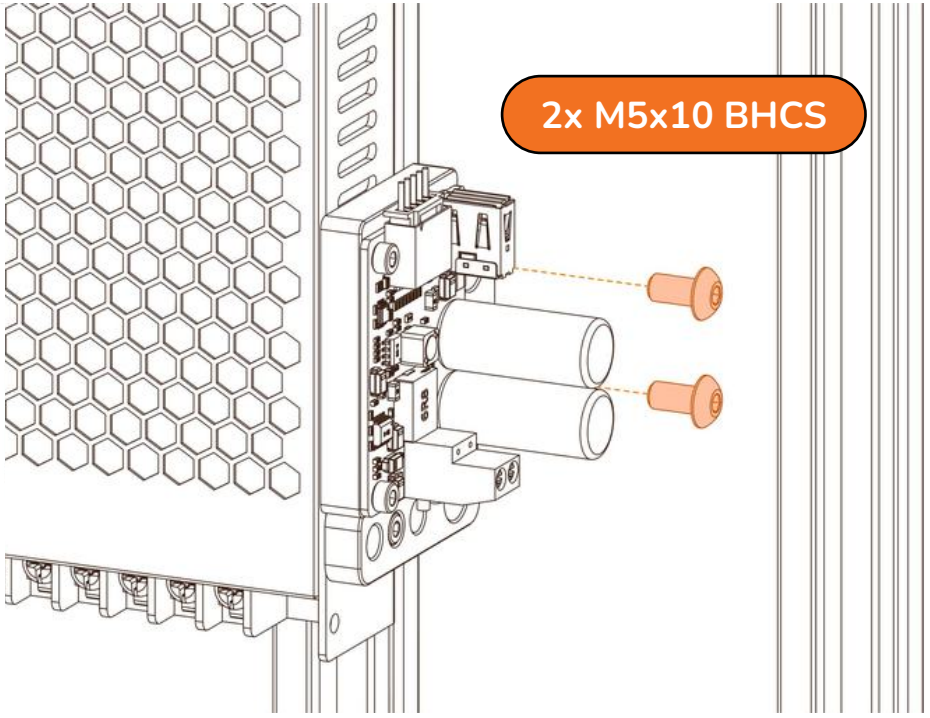




WE'RE ALL NUTS

Place two M5 T-nuts into the rail just above the lower bracket securing the power supply to the rail.

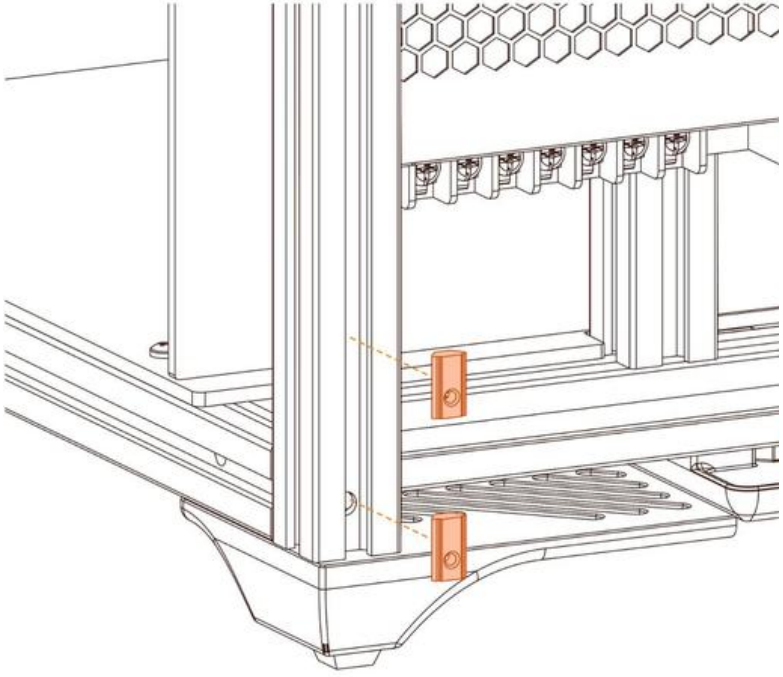




♫ WAY DOWN, HADESTOWN ♫

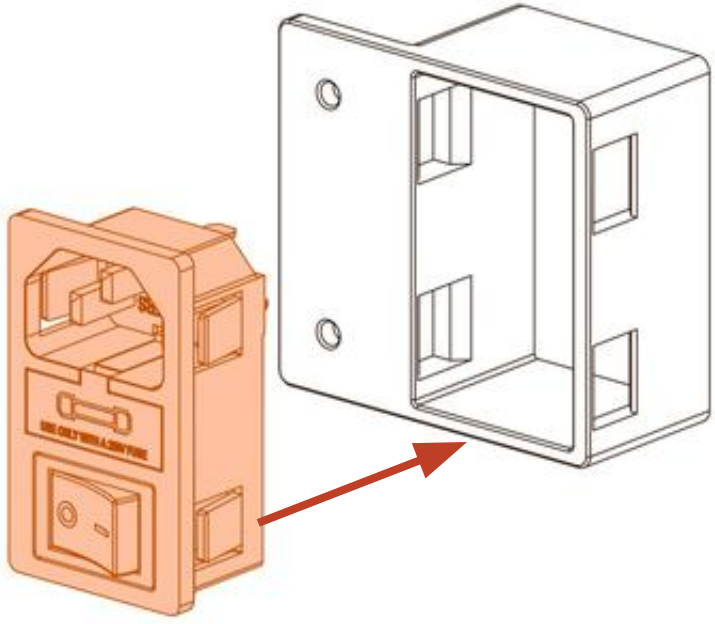
Push the SKSM down until it is touching the power supply bracket before finishing tightening the M5x10 screws. These screws are difficult to access, so just do your best.

2x M3 T-Nuts

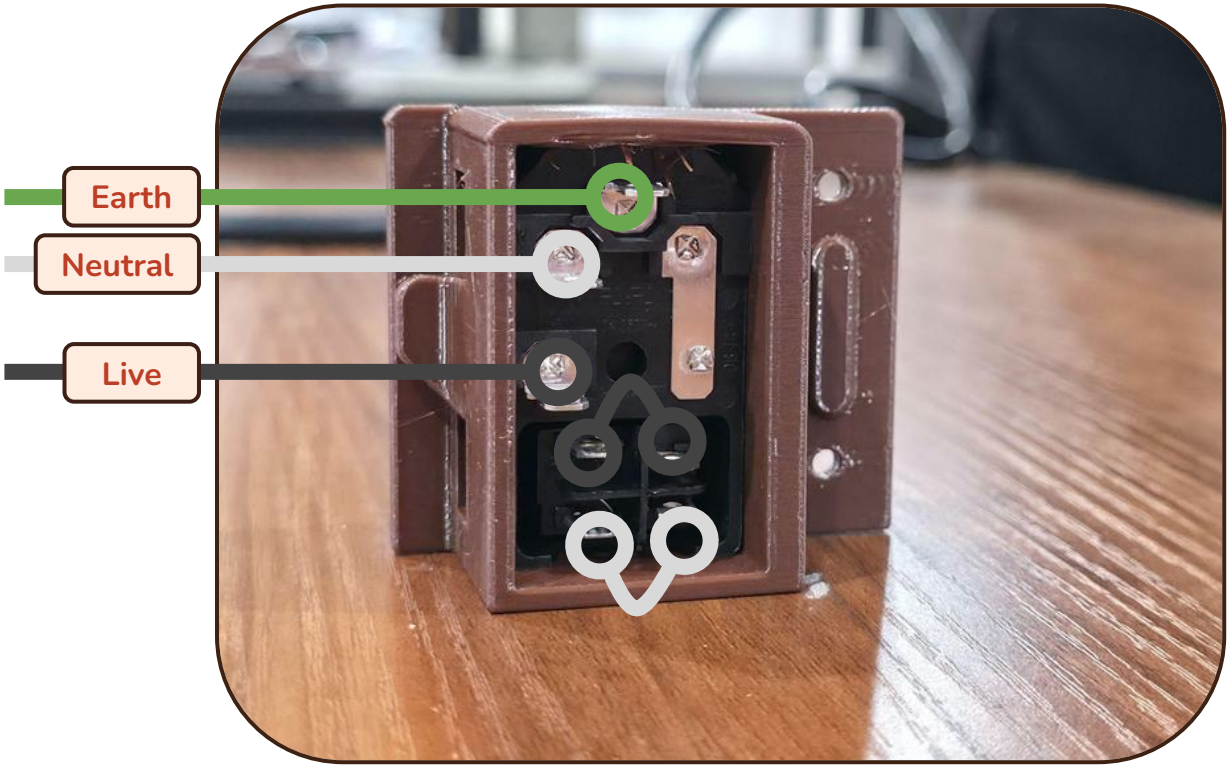


IT'S SNAPPY

Feed the wires through the 3D printed part, then snap the Power Entry Module into the housing. The switch should be on the bottom when the screw holes are on the left.



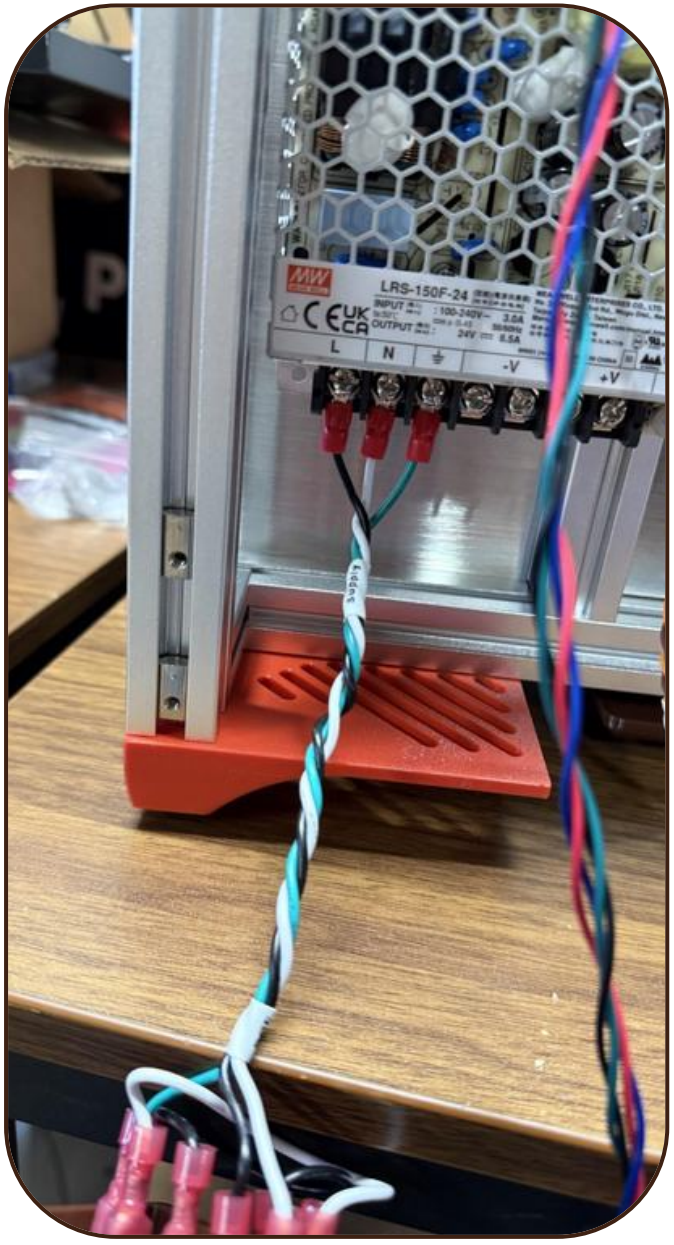


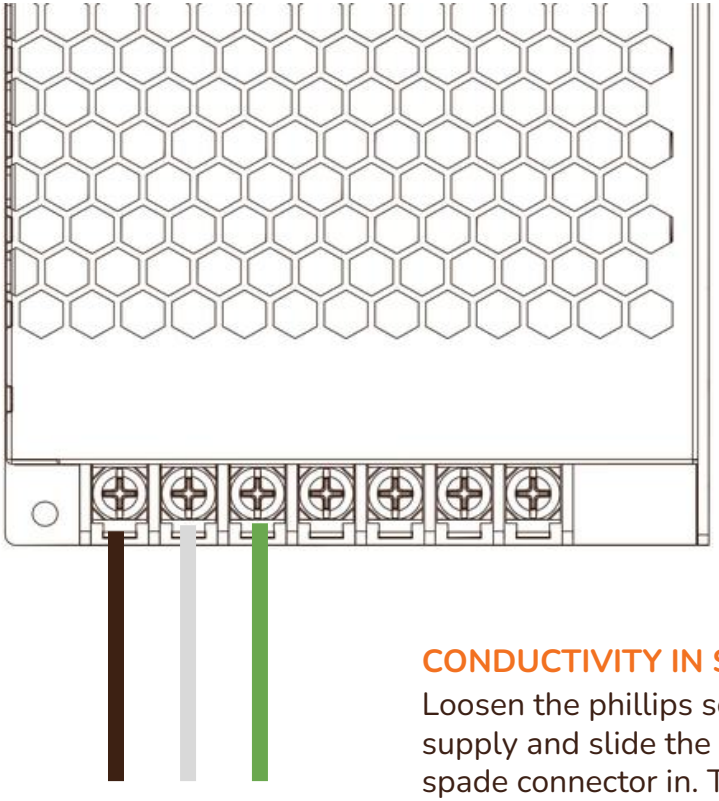


EASY DOES IT

Connect the green, white, and black wires to the Power Entry Module. Ensure the plugs are in the correct position. These take some force to put on.

Double check these before moving on.

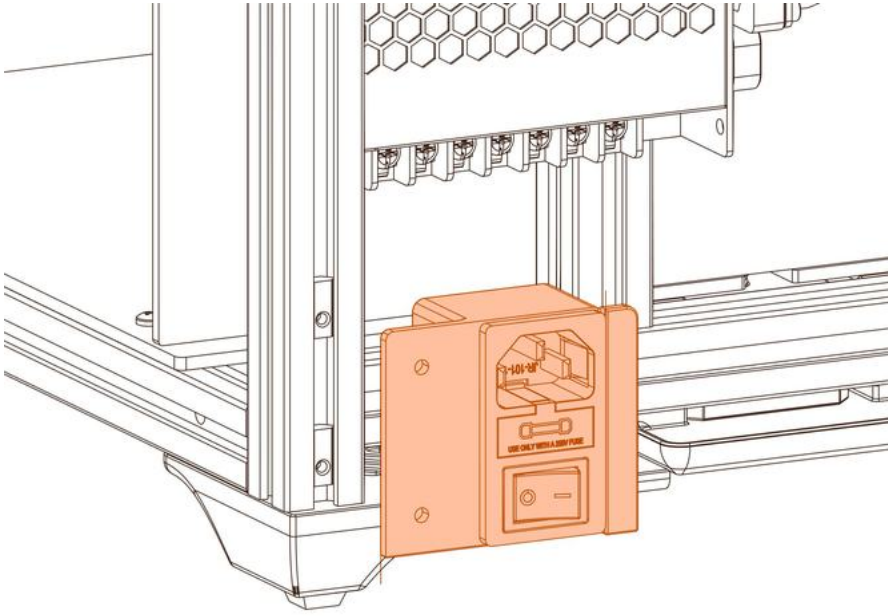


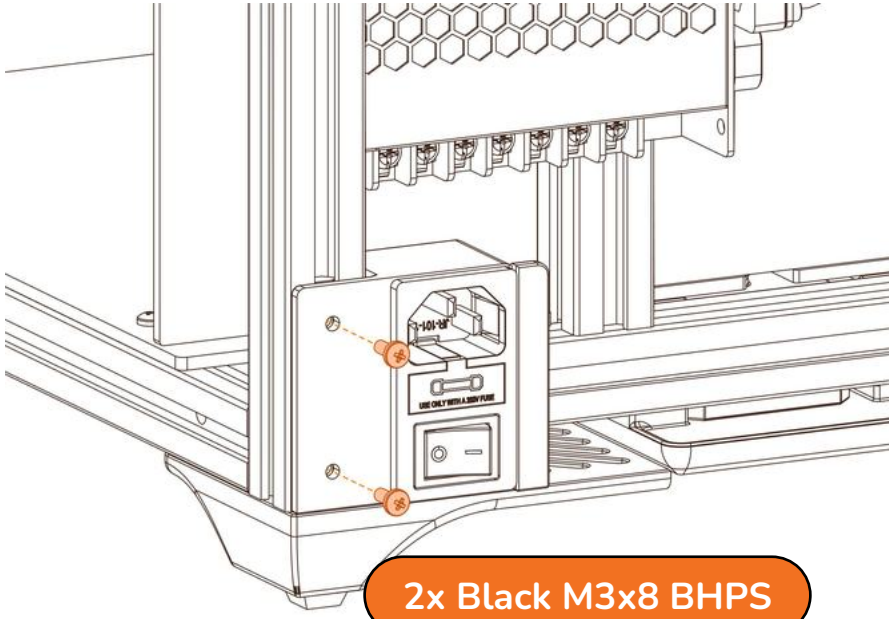


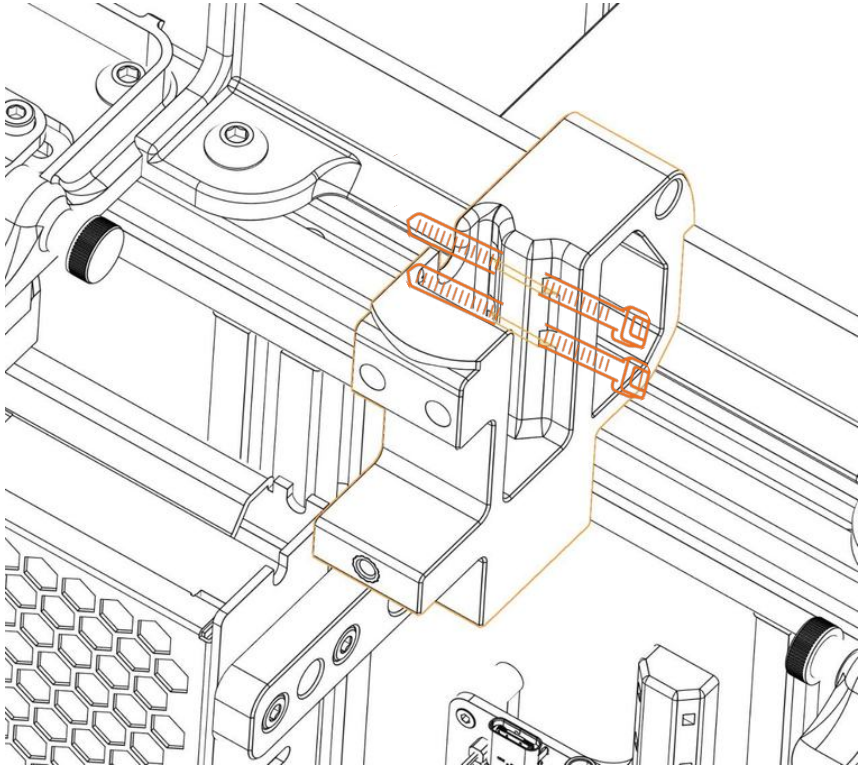
CONDUCTIVITY IN SPADES

Loosen the phillips screw on the power supply and slide the other end of the spade connector in. Take care to get the forks between the top plate that's on the screw and the bottom bar.

Tighten the screws for the live (black) and neutral (white) wires, but leave the ground (green) screw loose for now.

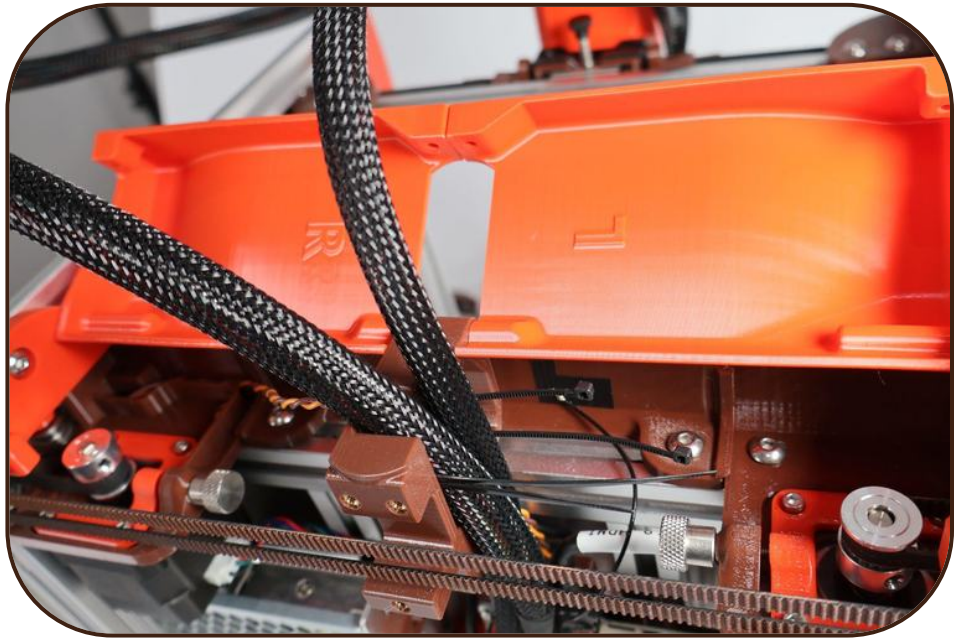



2x Black M3x8 BHPS



ROUTE TWO CABLE BUNDLES

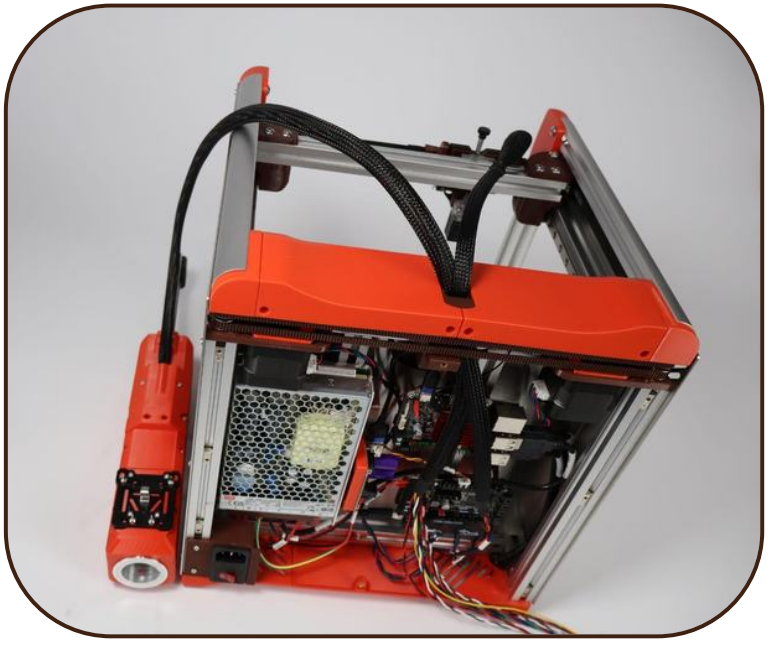
Install two zip ties, but do not close them yet. Lay the Sensor Cable Bundle and Extruder Cable Bundle through the path shown.



MEASURE ONCE

Measure the Extruder Cable Bundle by leaving enough slack for the extruder to easily sit on the table next to the printer as shown in the photo below.

If you want to be exact, hold the extruder upside down above the printer so the cable bundle hangs straight. Measure 600mm from the top of the Rear Center Support to where the cable bundle exits the extruder.

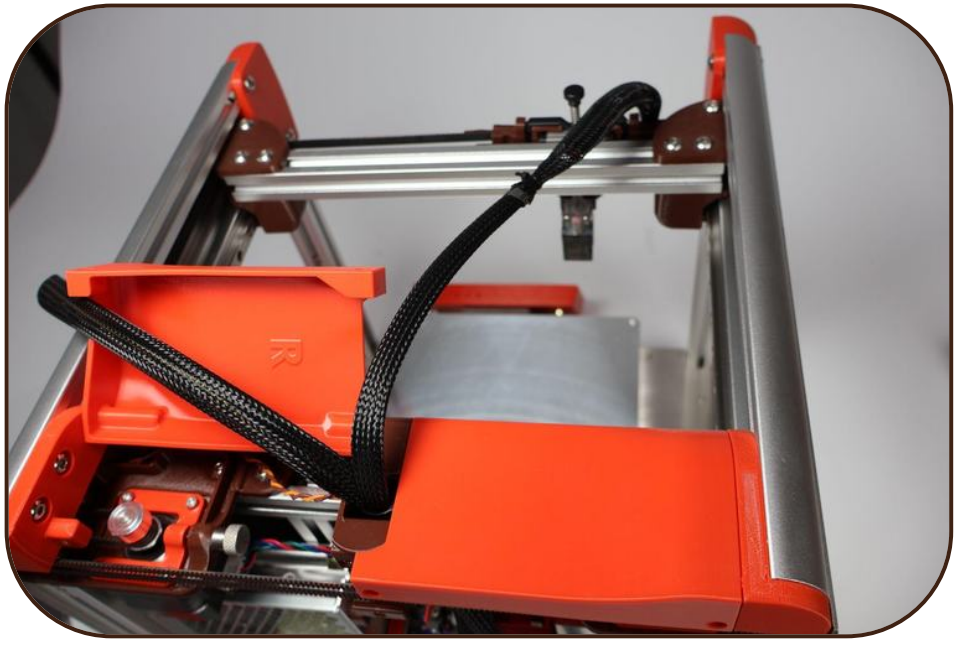


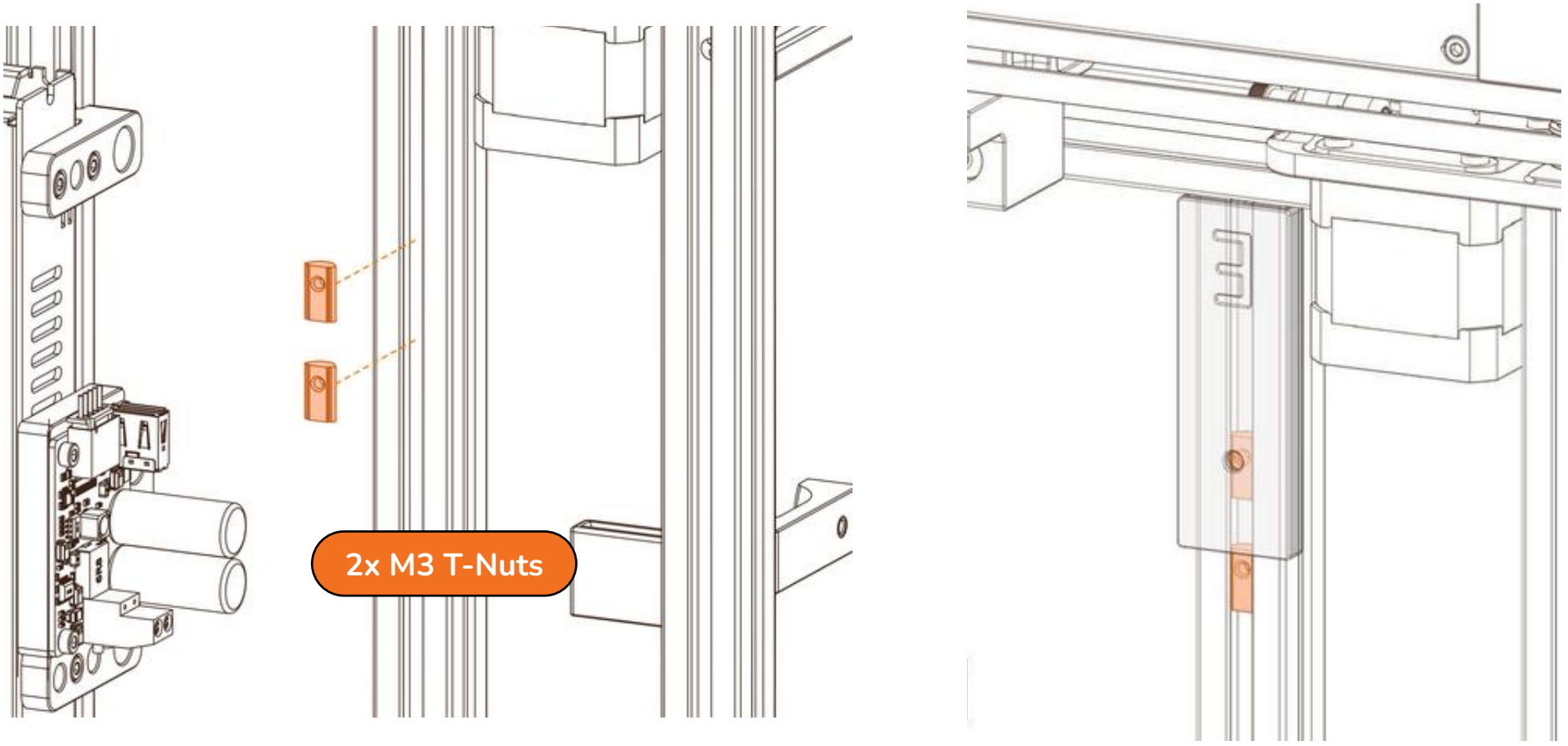
MEASURE TWICE

Measure the Sensor Cable Bundle by making sure there is enough slack to reach each corner. If the cable bundle is not taut while the gantry is in the front corner, you're good to go.

SECURE THE BUNDLES

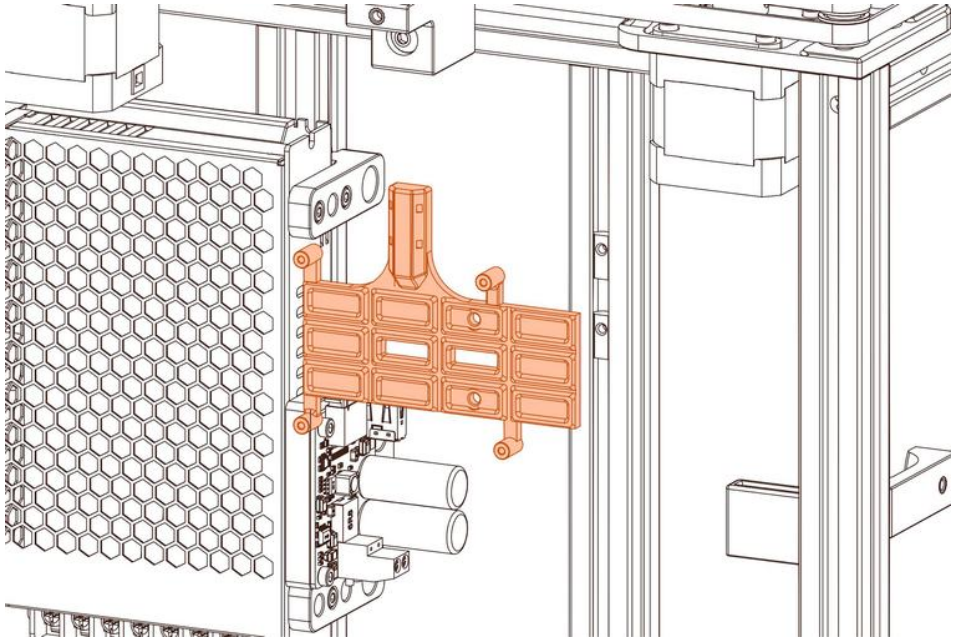
Tighten the two zip ties on the Rear Center Support so the wires are secured at these lengths.





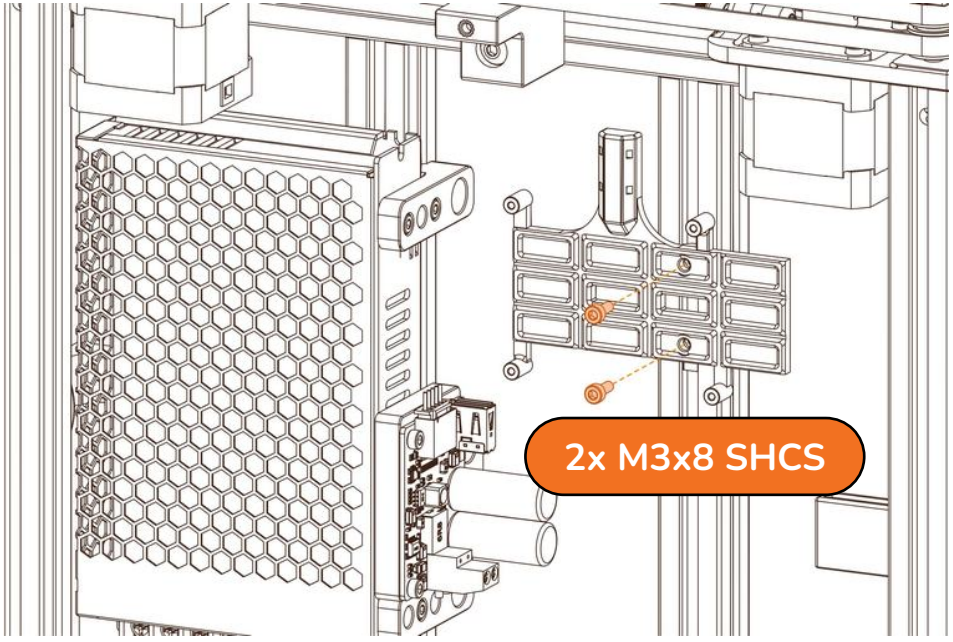
DOING A JIG

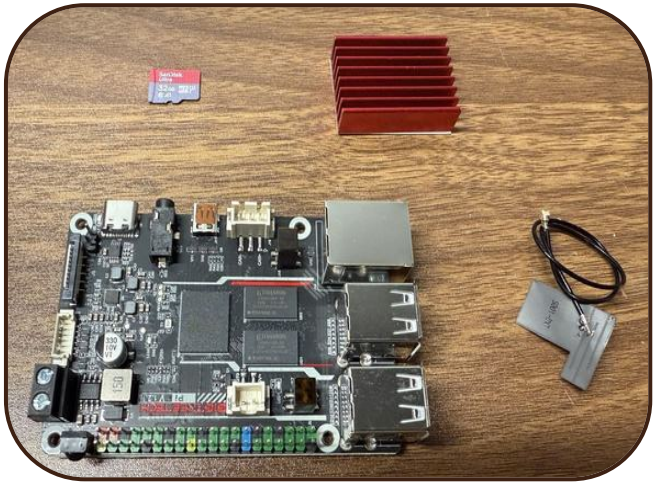
Place 2 M3 T-nuts on the right vertical extrusion and use the jig to properly space them. Push the jig to the top. Position the upper T-nut in the jig and the lower T-nut directly beneath it, with both threaded holes facing up.



PRE-BOARDING

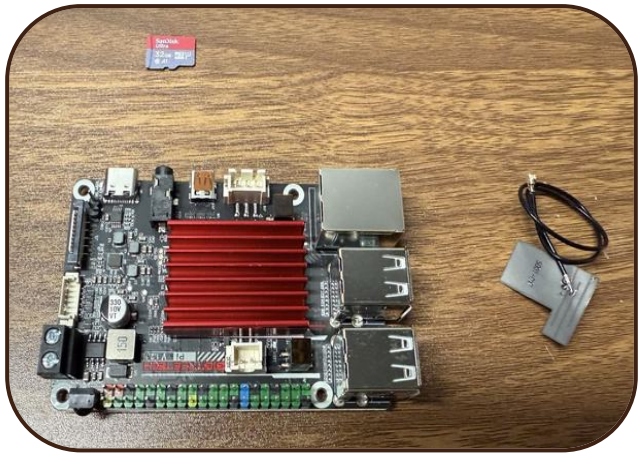
Mount the BTT Pi Mount to the vertical rail. Make sure the HDMI strain reliever (the long protrusion) is facing up.





PREPARE YOUR PARTS

Take the BTT Pi, heat sink, and antenna out of the BTT Pi box which is in the Electronics 2/2 box. The microSD card is also in the Electronics 2/2 box.

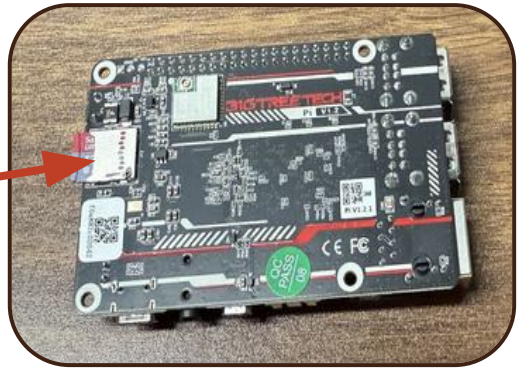


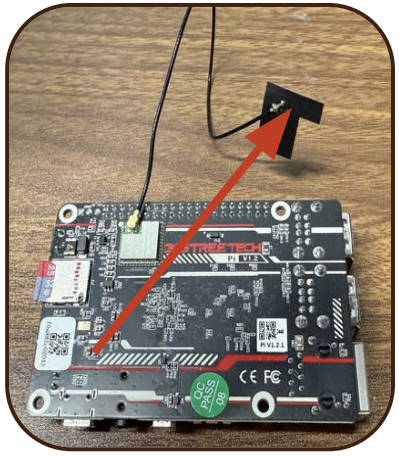
HEAT SINK

Peel the paper off the back of the heat sink and place it on top of the BTT Pi, so it looks like the image above.

MICROSD CARD

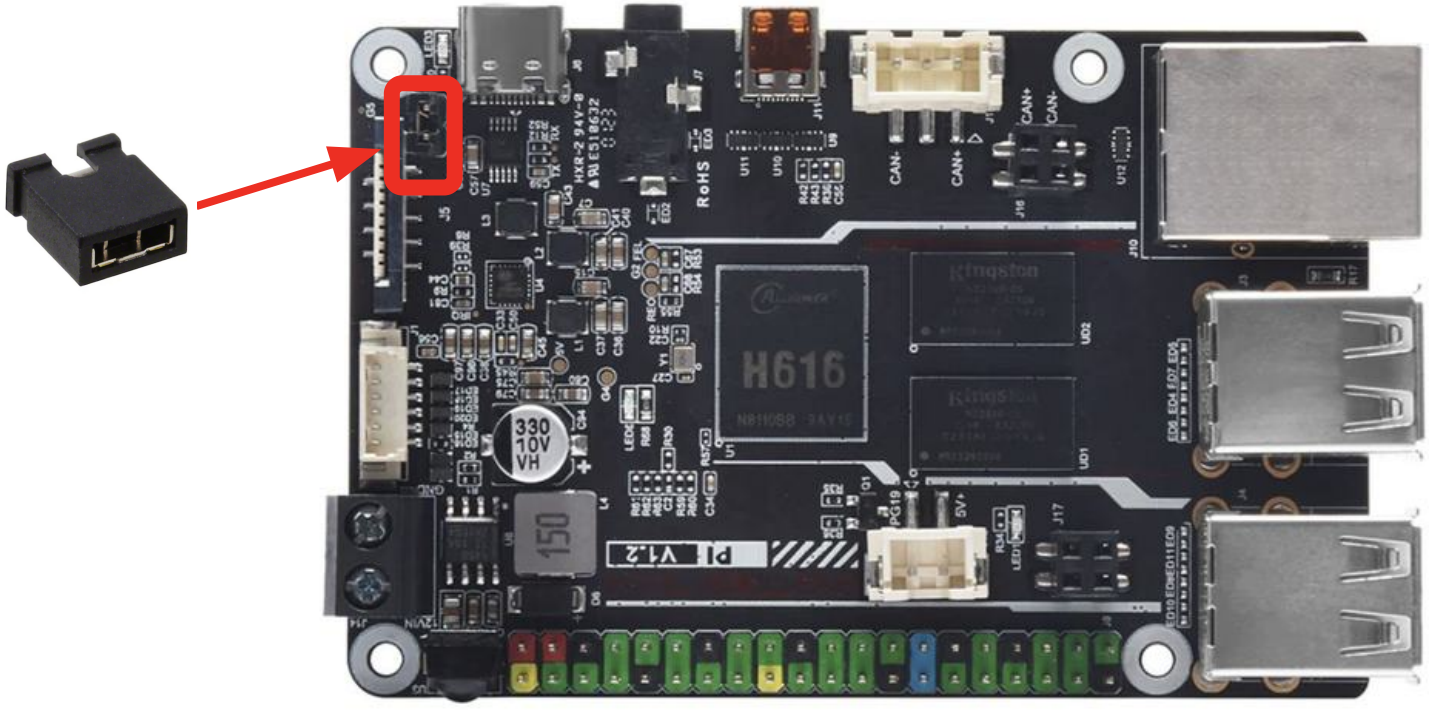
Insert the microSD card into the silver slot.





ANTENNA

Connect the open side of the antenna to the little port shown in the picture above. This will require some force, so be careful!

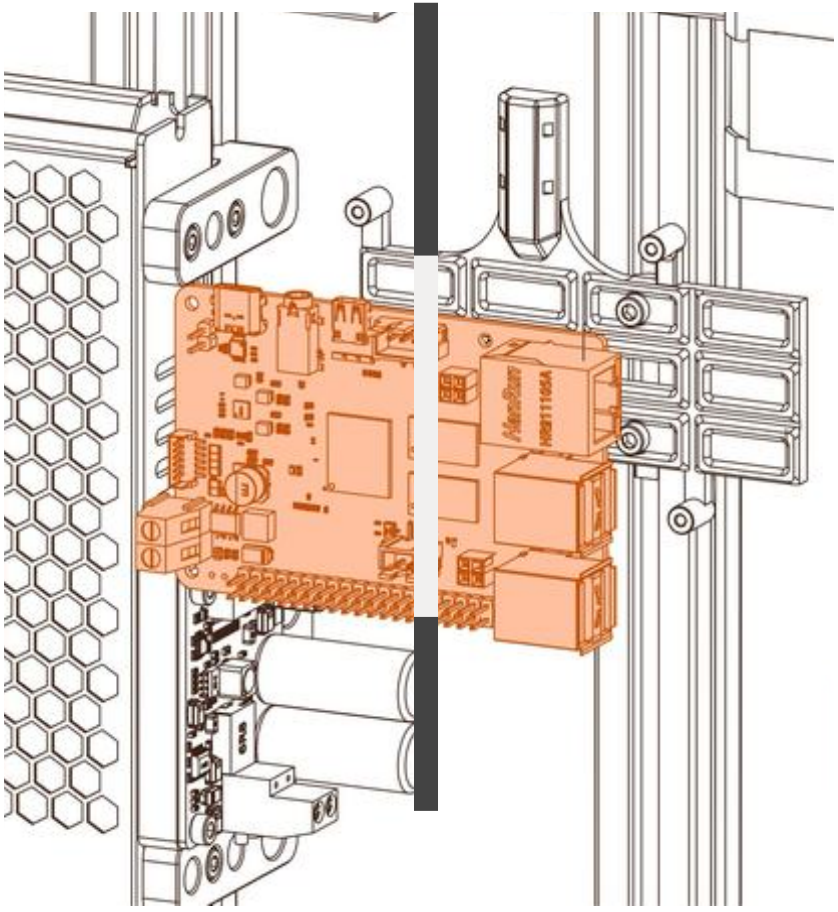


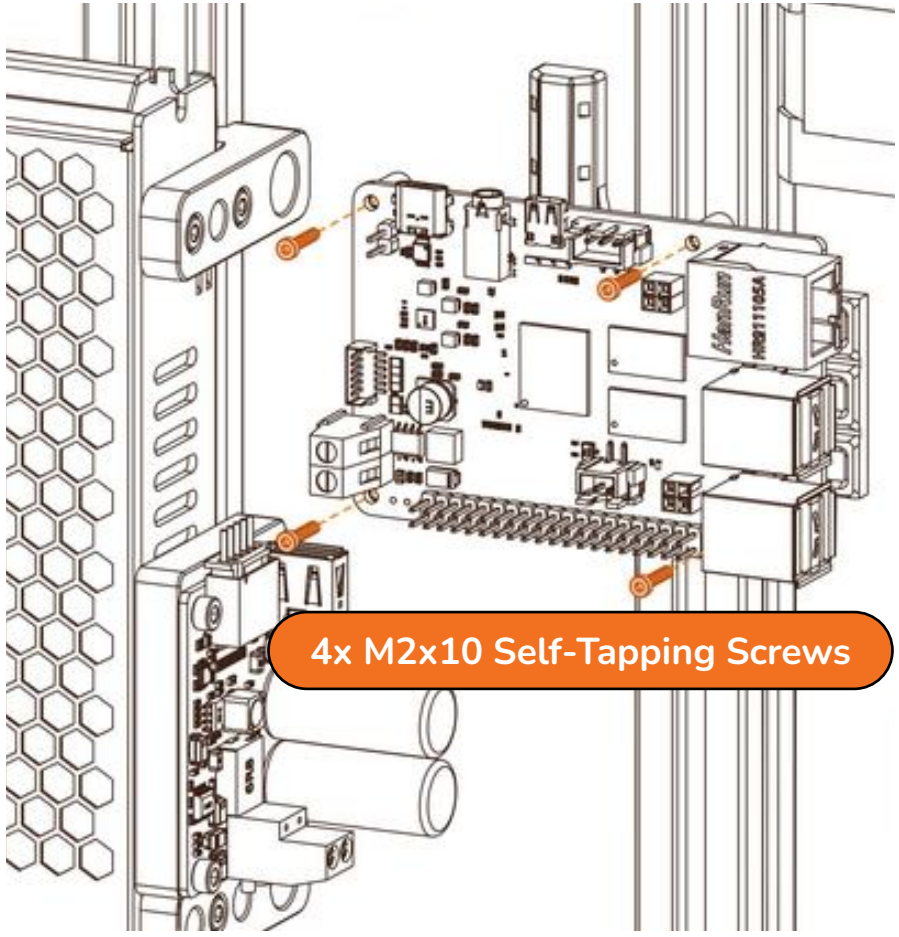
JUMPER?

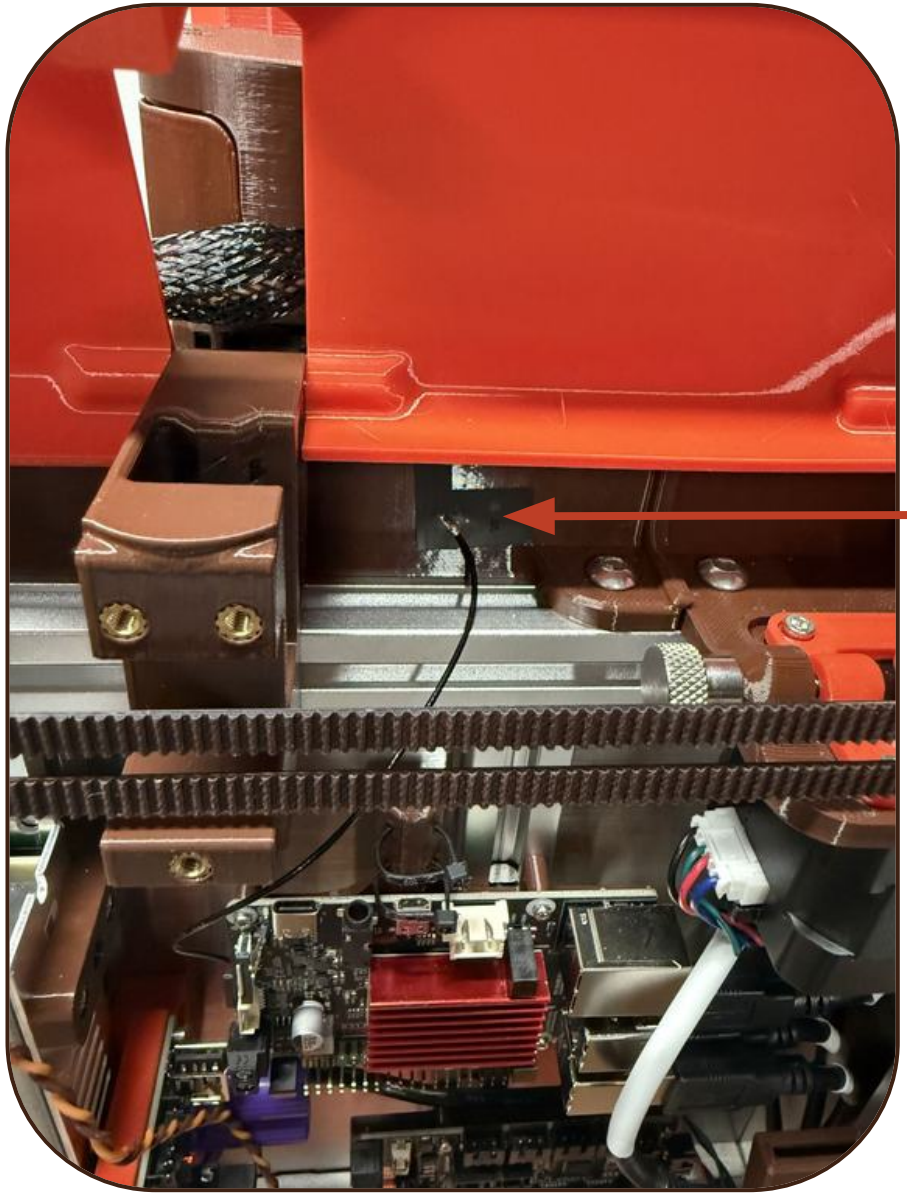
You need to add a jumper to the BTT Pi. One is included in the Cocoa Press 2.1 Wires and Fasteners box. Make sure it is over the two pins highlighted in red.

PI TIME

Secure your BTT Pi to the mount using 4 screws. These are going directly into plastic so make sure not to overtighten them or you will strip the plastic. The wire bundle should go behind the BTT Pi to the left, as shown in gray below.





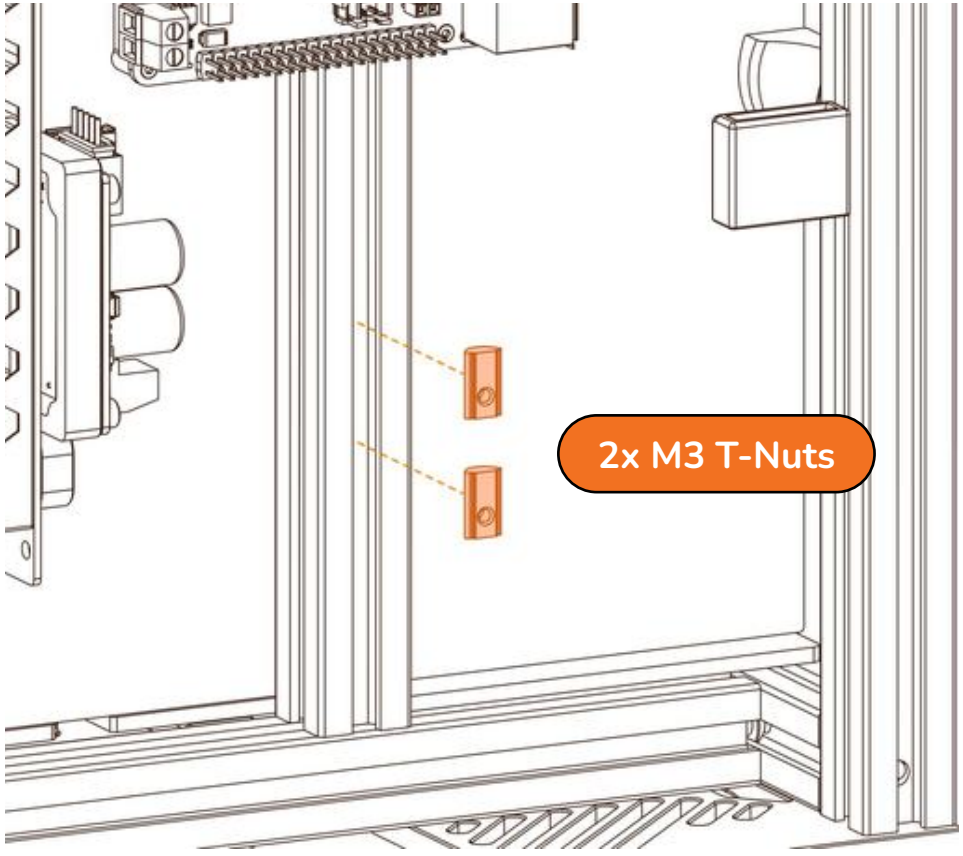


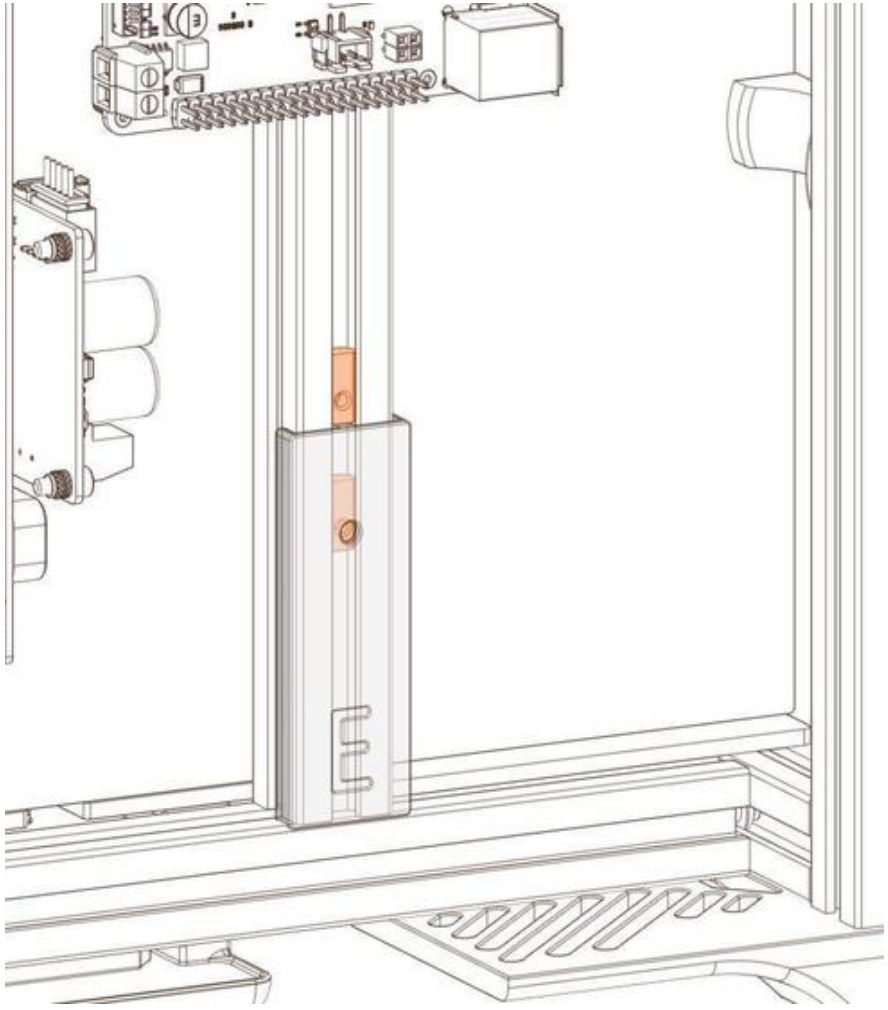
ANTENNA

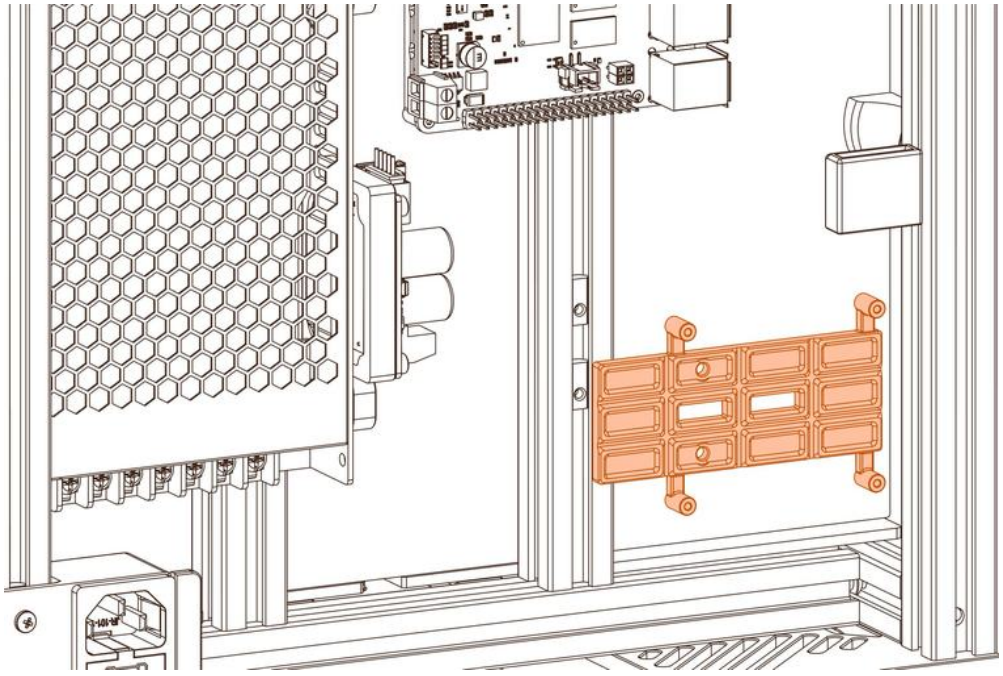
Peel off the paper from the other end of the antenna, and stick it onto the Upper Center Cover, as shown here. Be careful as the antenna is easy to rip.

ANOTHER DANCE

It's time to use the jig again. This time, we are pushing it down to the bottom, with the holes in the T-nuts on the bottom side.

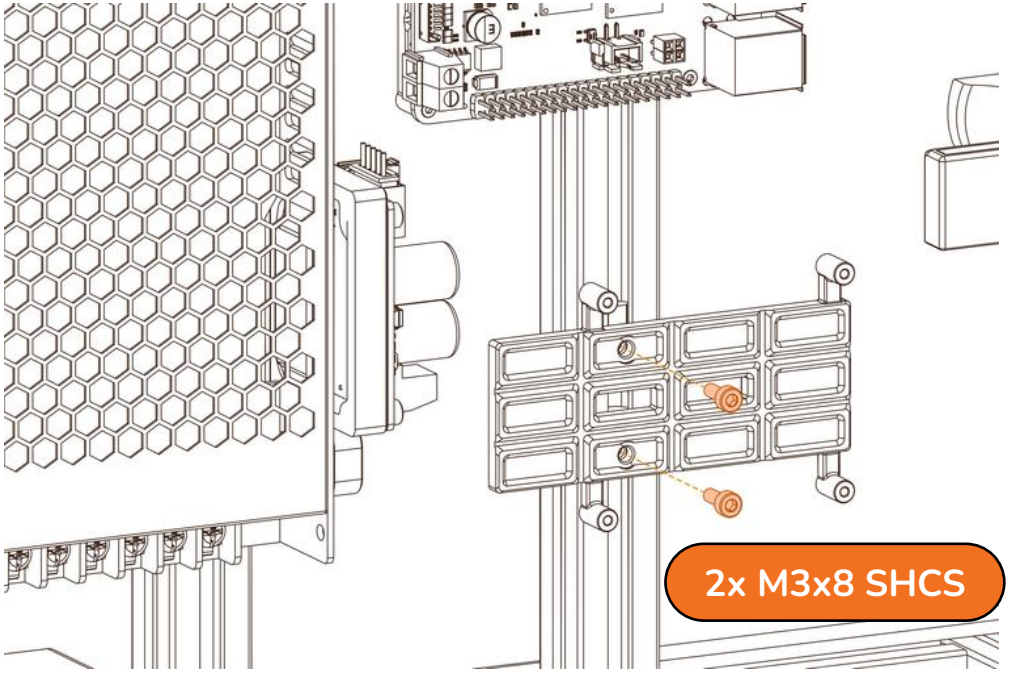






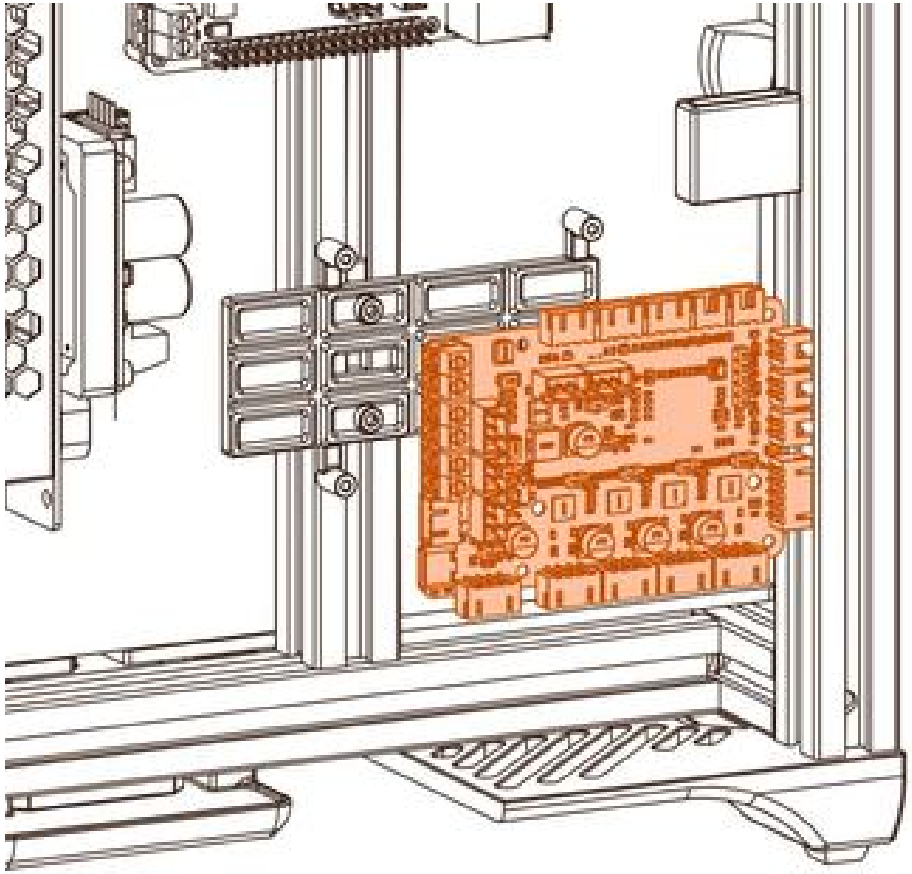
SECOND VERSE SAME AS THE FIRST

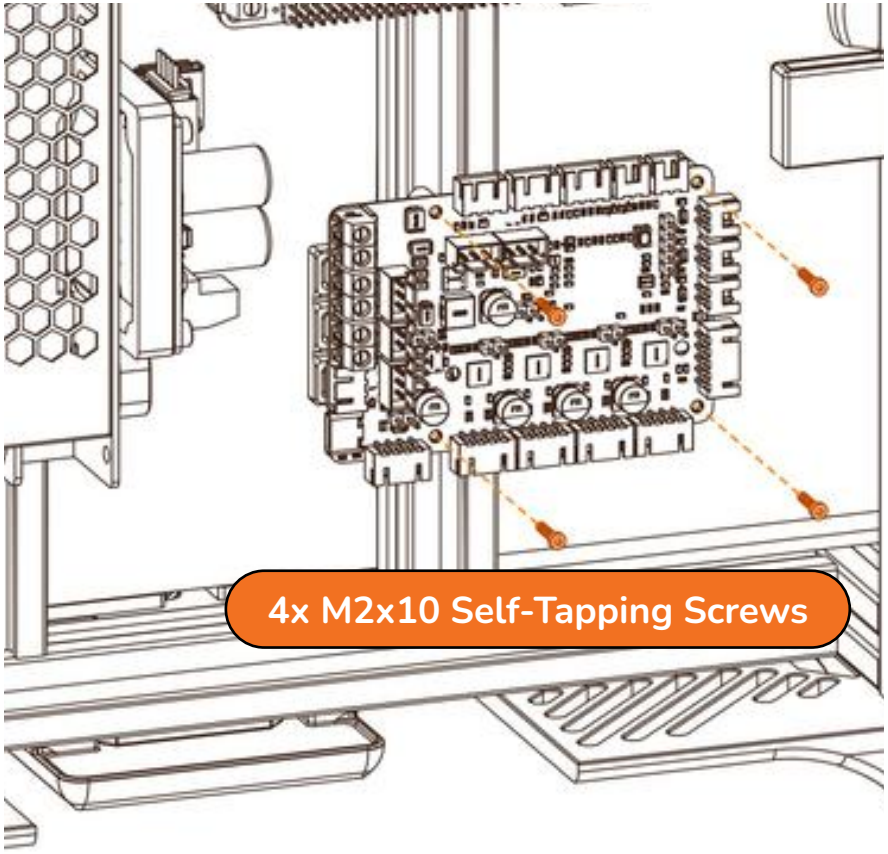
Now for your second control board, the SKR Pico. We will secure the SKR Pico Mount to the bar with two more screws. The mount is off center, make sure the majority of the mount is to the right hand side.

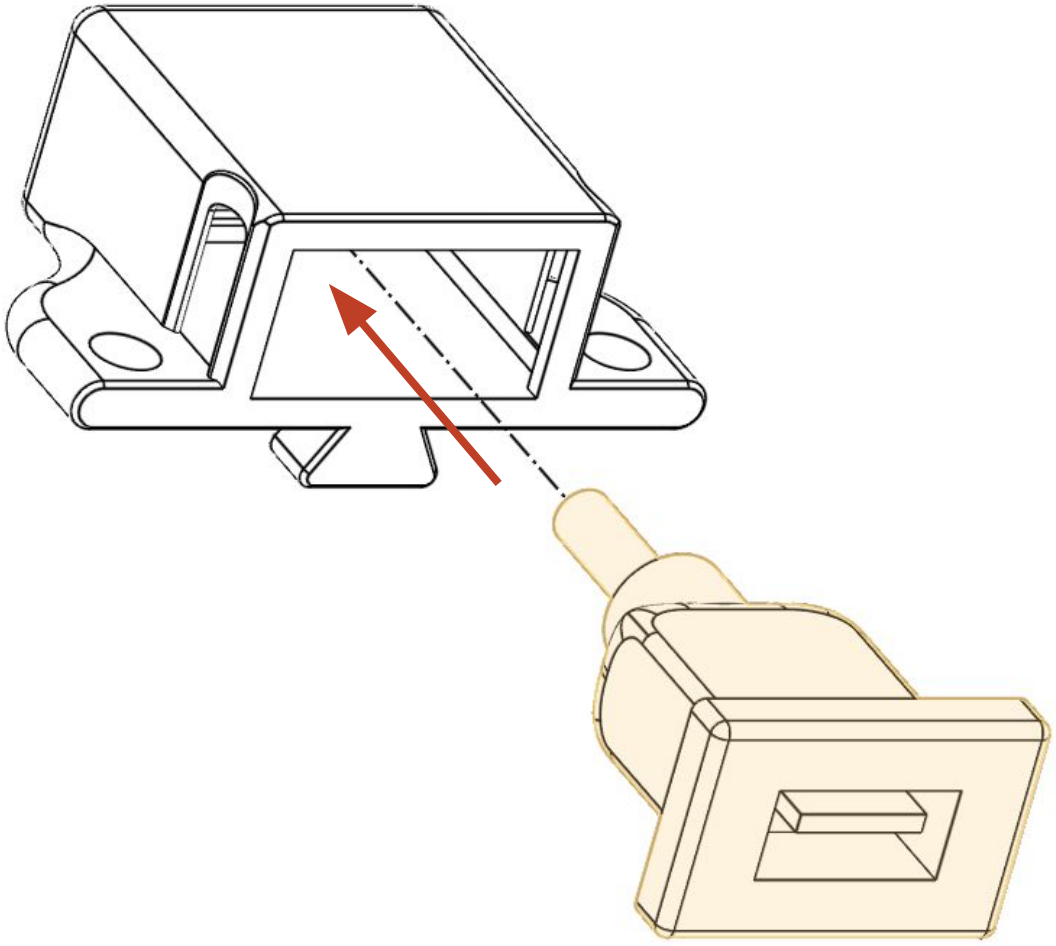


BOARD GAMES

Mount the SKR Pico to the mount using 4 M2x10 self-tapping screws. Like the last board, don't overtighten them, or you may strip the printed holes.



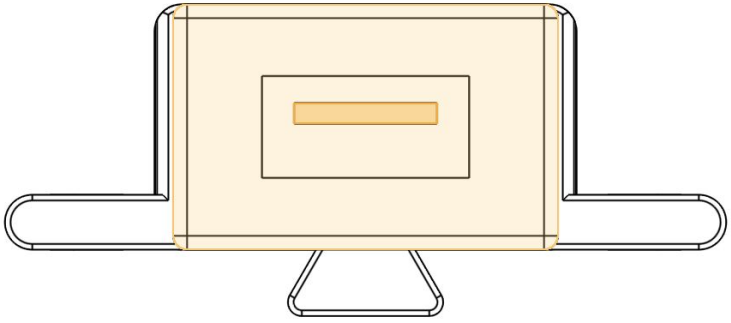


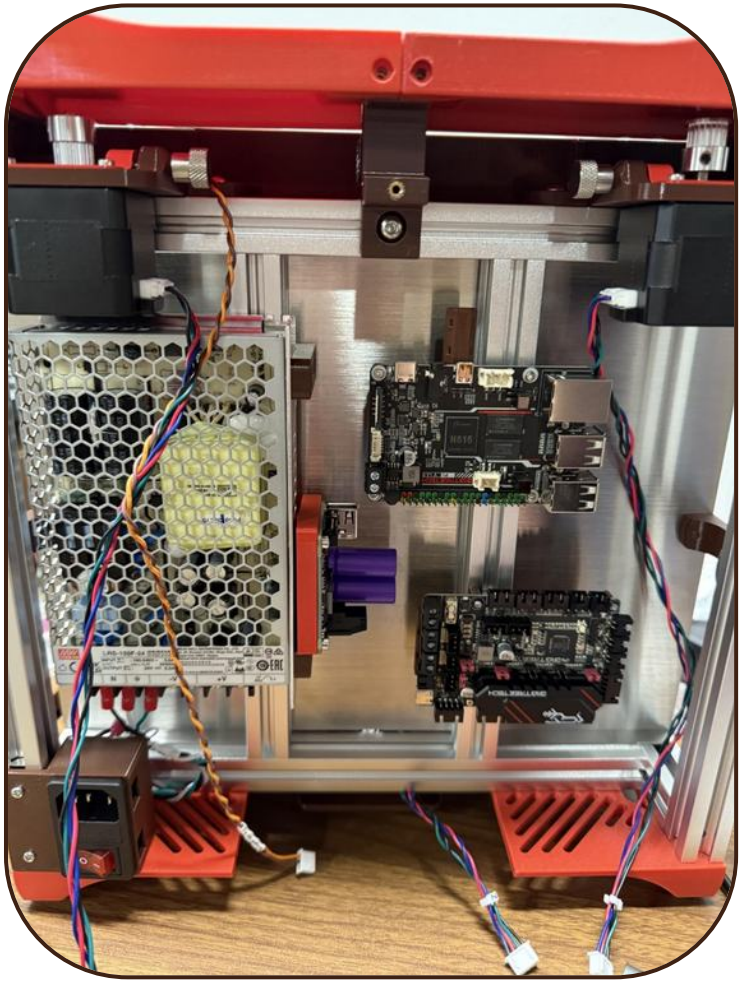


PREPARE FOR THE FUTURE

Snap the USB extender into the USB Mount print. You have one shot at this so make sure to get the orientation correct!

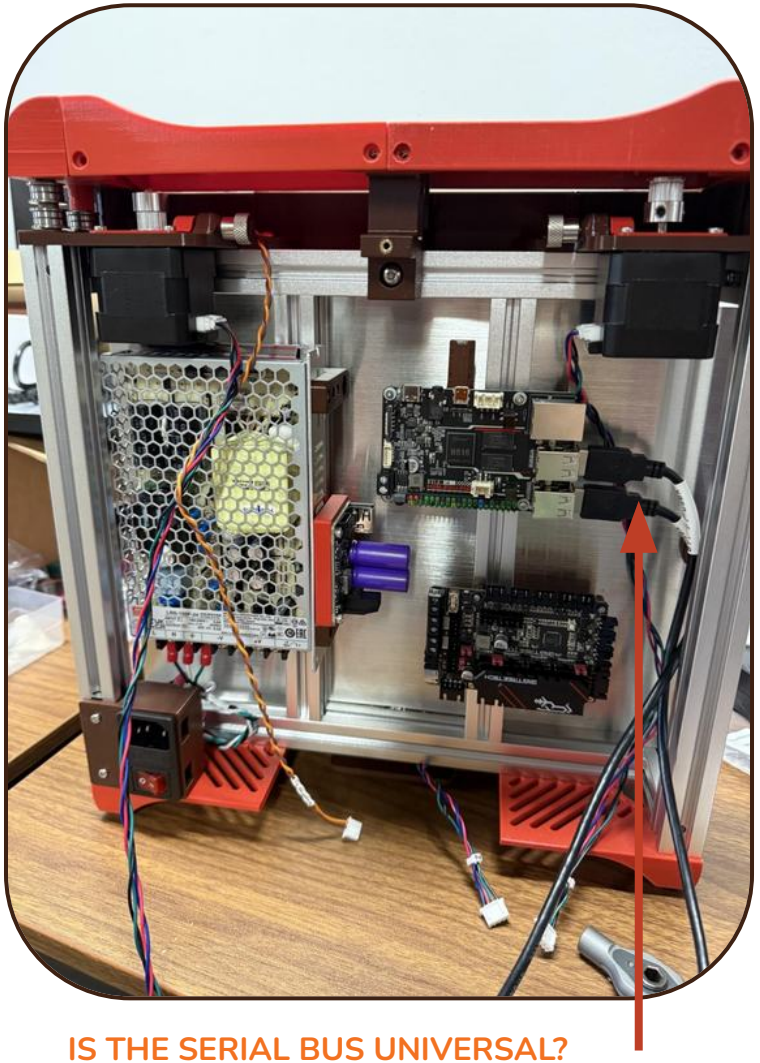
Put the USB-A portion through the print, then push the extender through such that the tongue of the USB plug is closer to the top side, away from the dovetail.





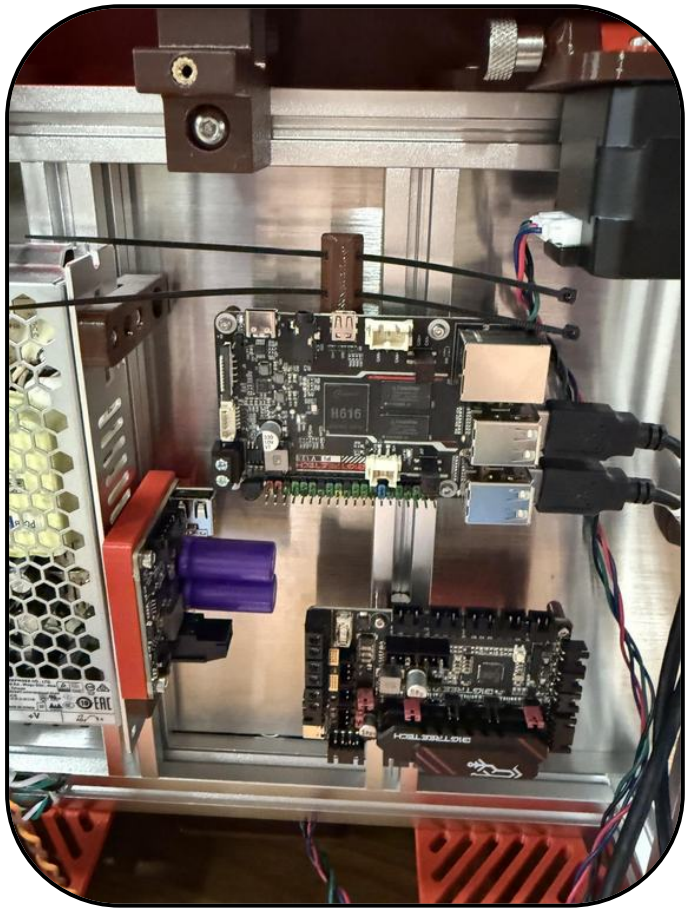
SILVER FOR CONTRAST

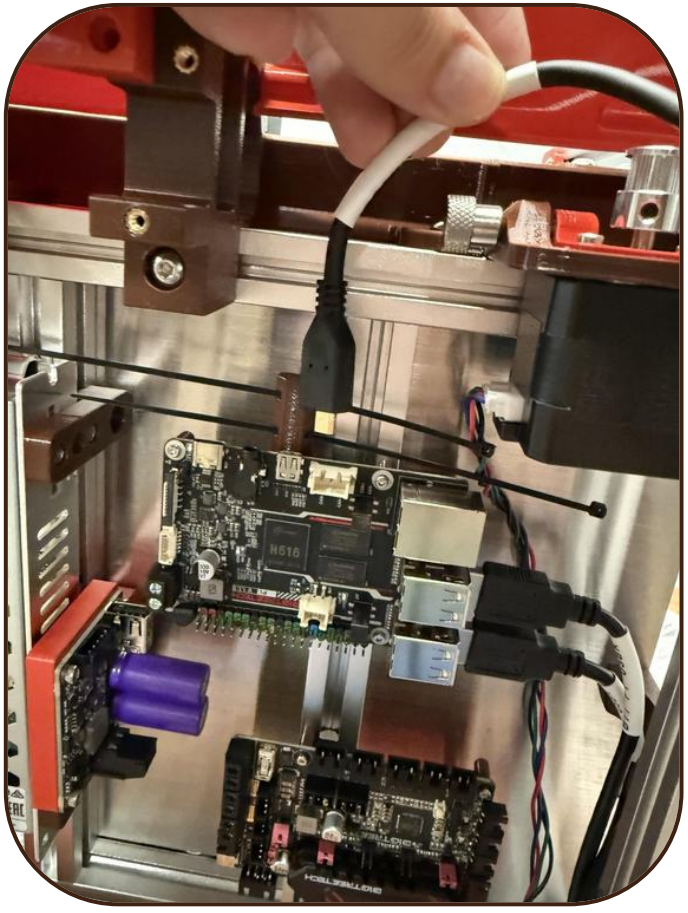
Your printer has black extrusions and black acrylic panels. We are using the Cocoa Press Pro frame for contrast in these images. At this point you will also have your main wire bundles running behind the BTT Pi.



IS THE SERIAL BUS UNIVERSAL?

You have three USB cables with the label "BTT Pi USB-A." Plug the two longer cables into the BTT Pi. The exact port doesn't matter.







STORY IN 3 PARTS

1. Insert the two zip ties
2. Plug in the microHDMI cable.
3. Tighten zip ties

CAUTION

The microHDMI port breaks very easily! Please be sure to secure it with zip ties right after plugging it in.



DOUBLE OR NOTHING

In your Cocoa Press 2.1 Wires and Fasteners box you have a Power Supply Earth cable. Use that wire for this.

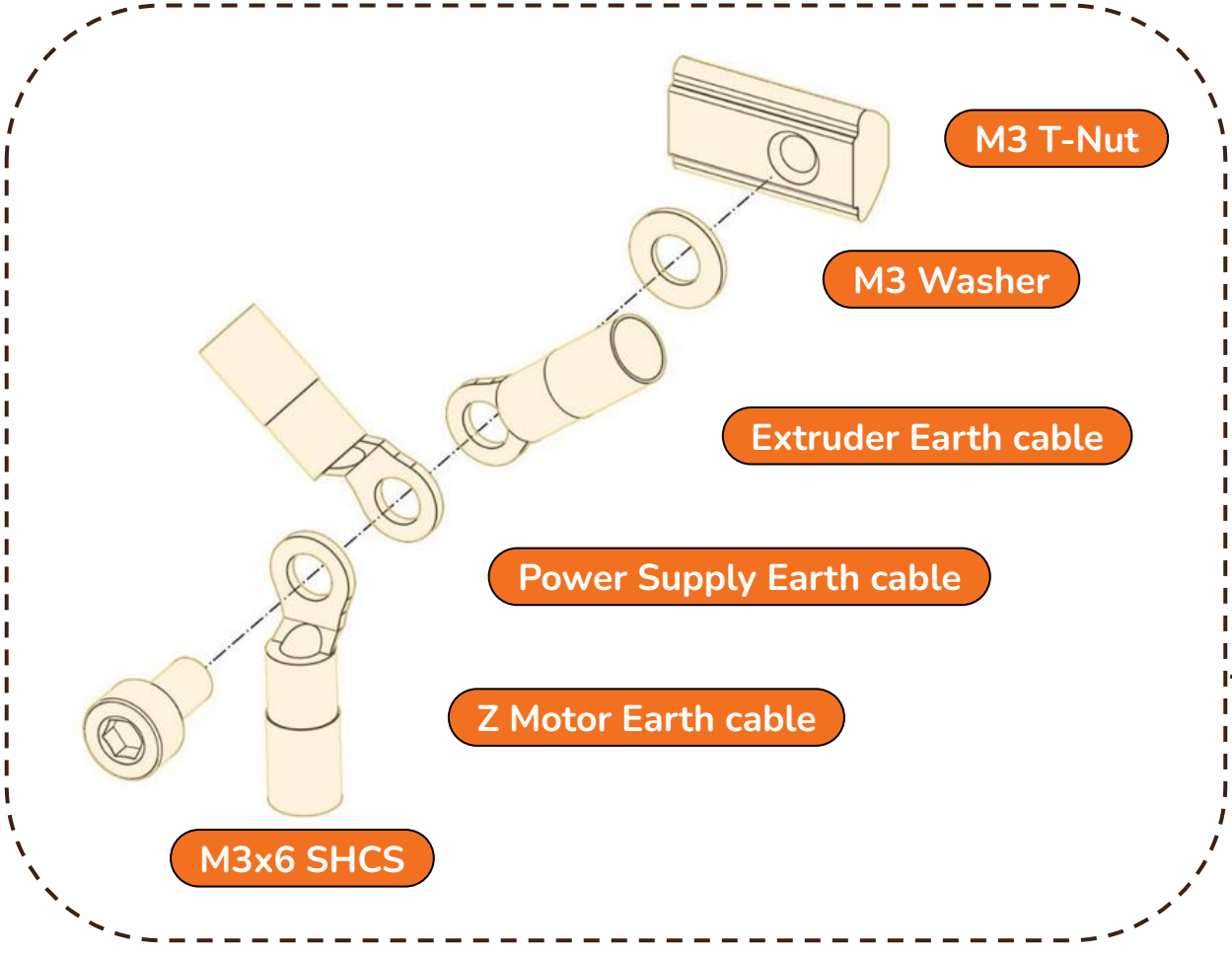
At the power supply, stack this Power Supply Earth cable on top of the existing earth cable in the ground (⏚) terminal.

Make sure both spade connectors are in and then firmly tighten the screw.

STAY GROUNDED

First, put an M3 T-nut in the middle of the rear bottom extrusion. Take an M3x6 screw and put it through the 3 earth cables with a washer at the end. Follow the order below.

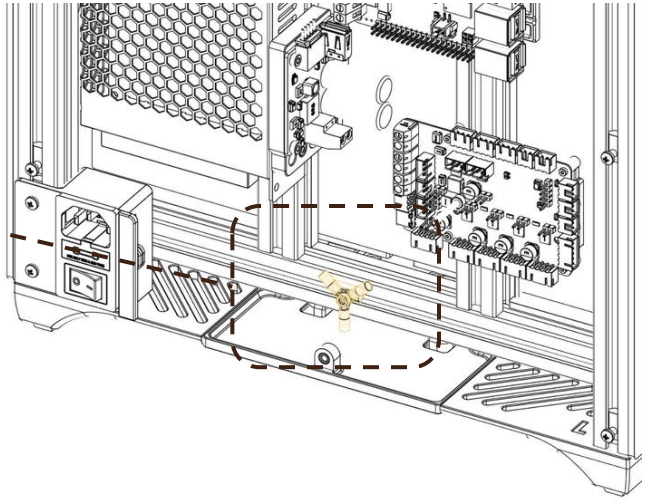
Loosely tighten this screw for now.

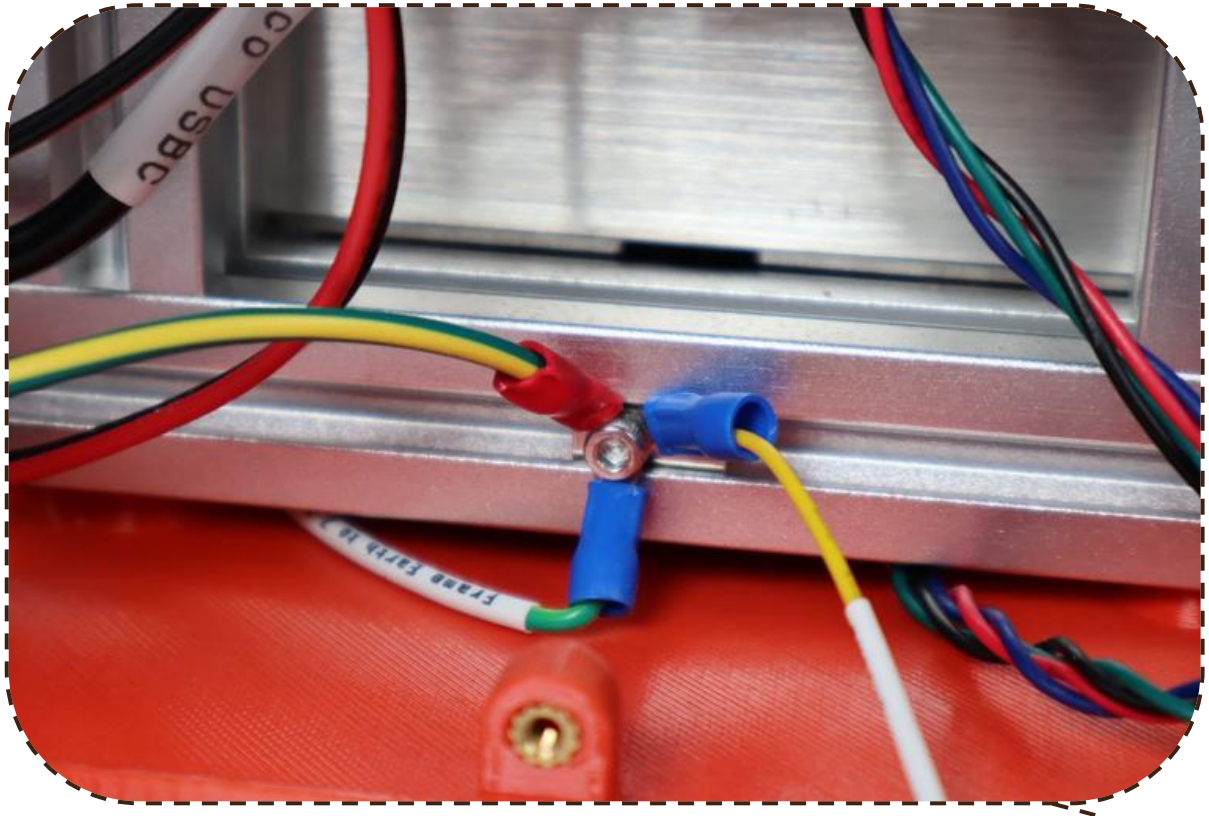


FIND THE GROUND

The Extruder Earth cable will be thin and will come from the long Extruder Cable Bundle.

The Z Motor Earth cable is installed on the bottom of the machine. The Power Supply Earth cable is from the previous page.



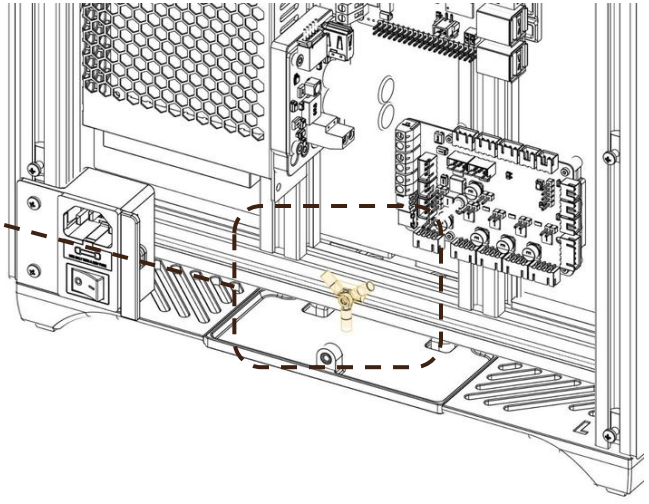


FIND THE GROUND

Arrange the three connectors as shown.

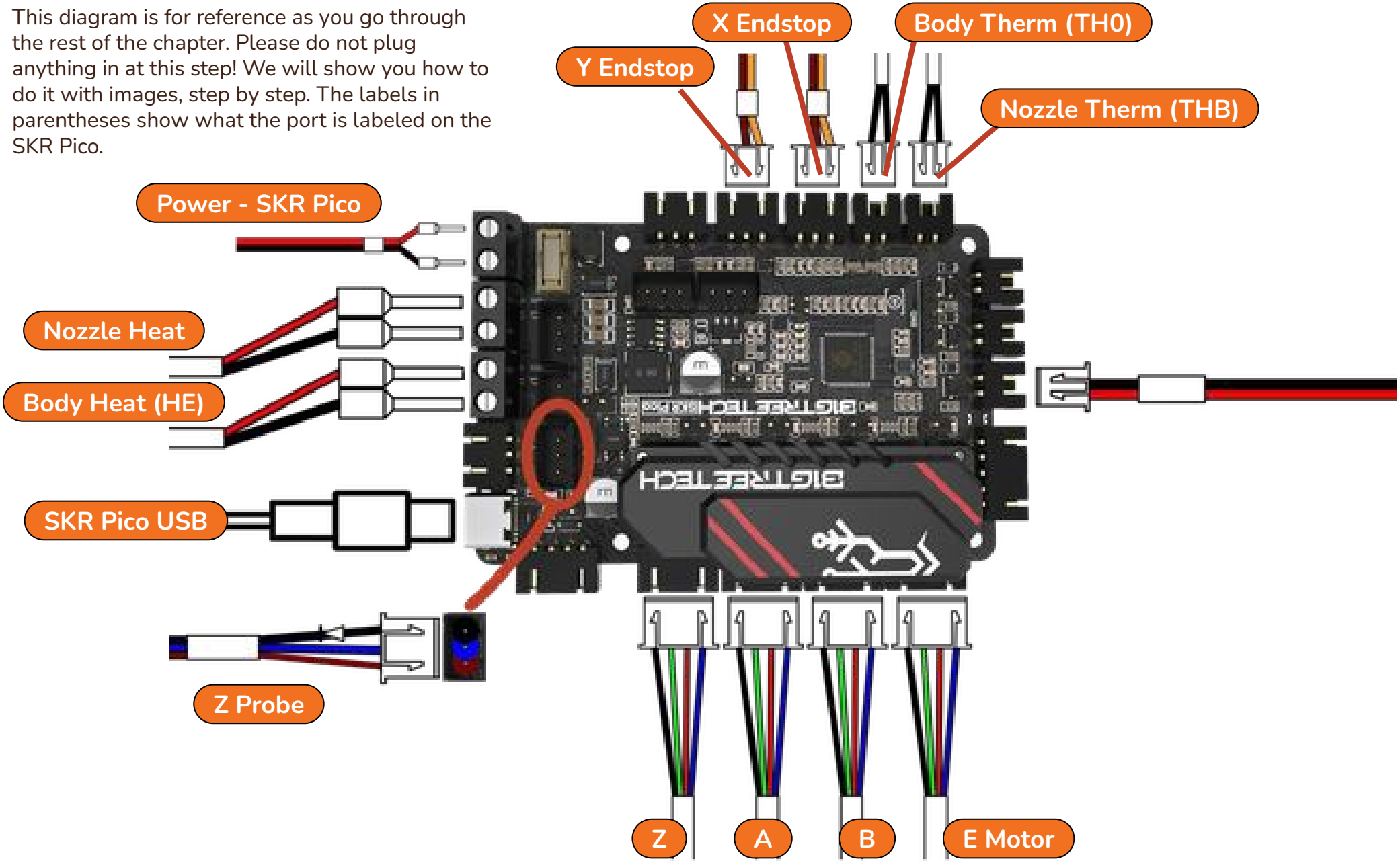
The Power Supply Earth cable should go up and to the left, the Extruder Earth cable up and to the right, and the Z Motor Earth cable straight down. You may need to bend this one away from the extrusion slightly for it to fit.

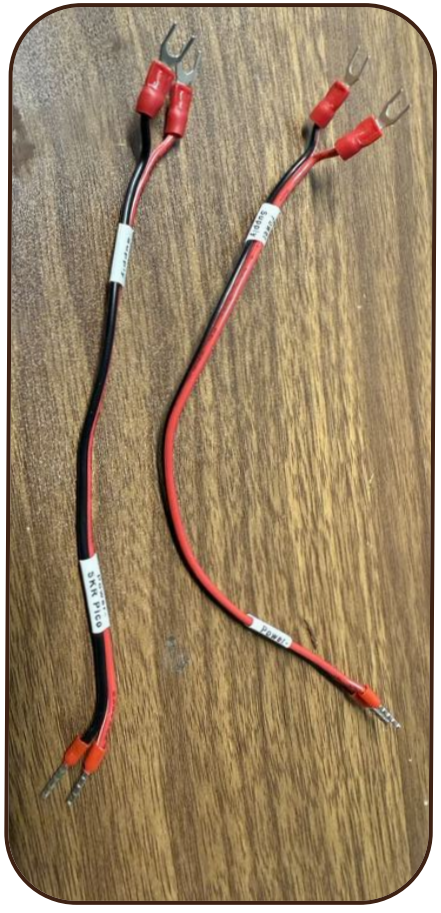
Firmly tighten this screw.

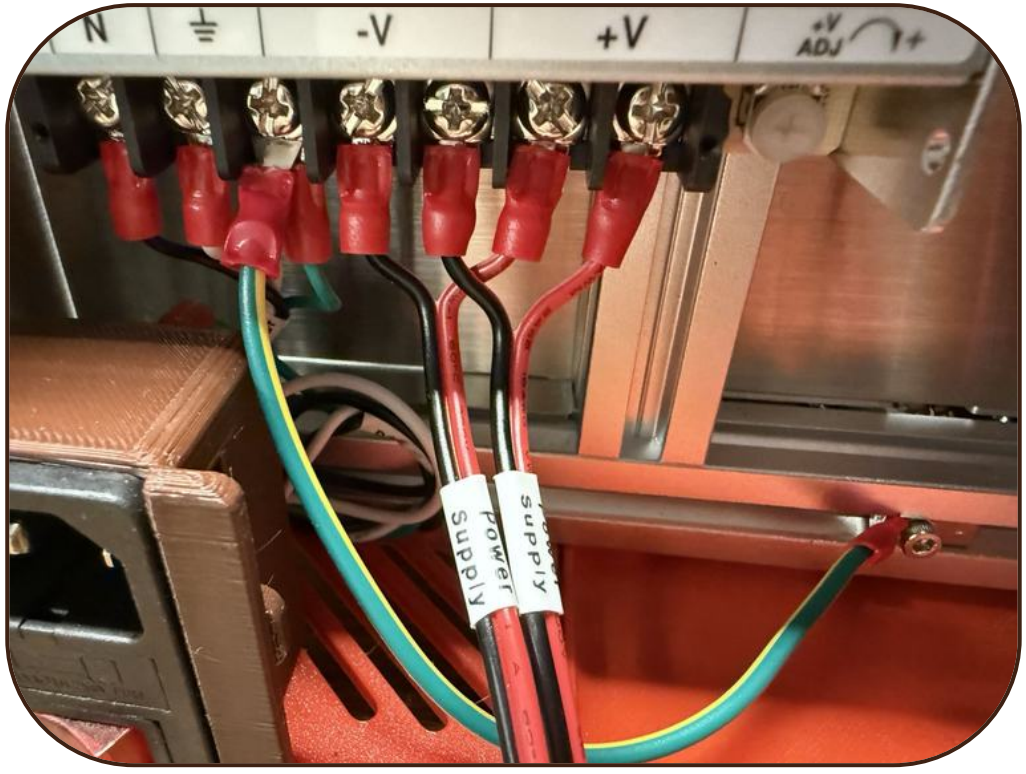


FOR REFERENCE ONLY

This diagram is for reference as you go through the rest of the chapter. Please do not plug anything in at this step! We will show you how to do it with images, step by step. The labels in parentheses show what the port is labeled on the SKR Pico.



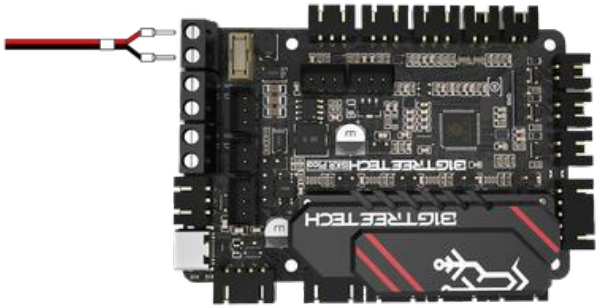


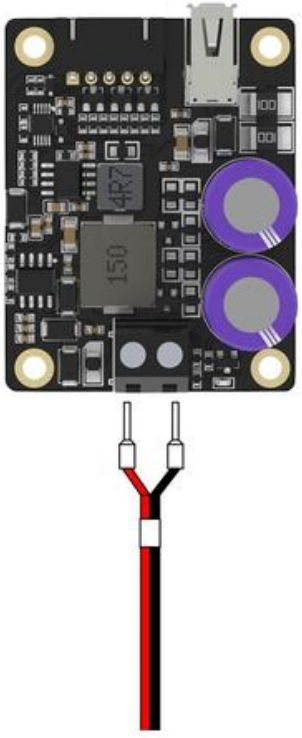


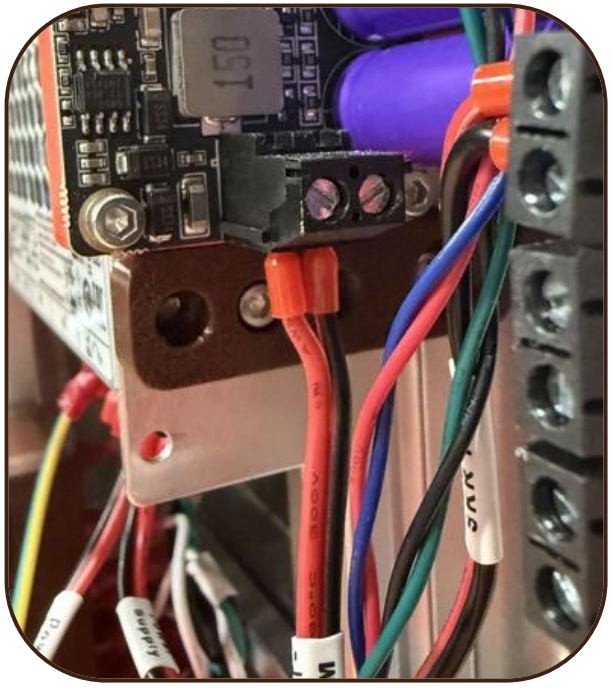
POWER

Prepare the power supply to SKSM and the power supply to SKR Pico wires.

Connect the spade connector ends of these wires to the power supply. Ensure the black wires go to -V, and the red wires go to +V. Incorrect polarity can damage the electronics, so please double check the connections against the image above.







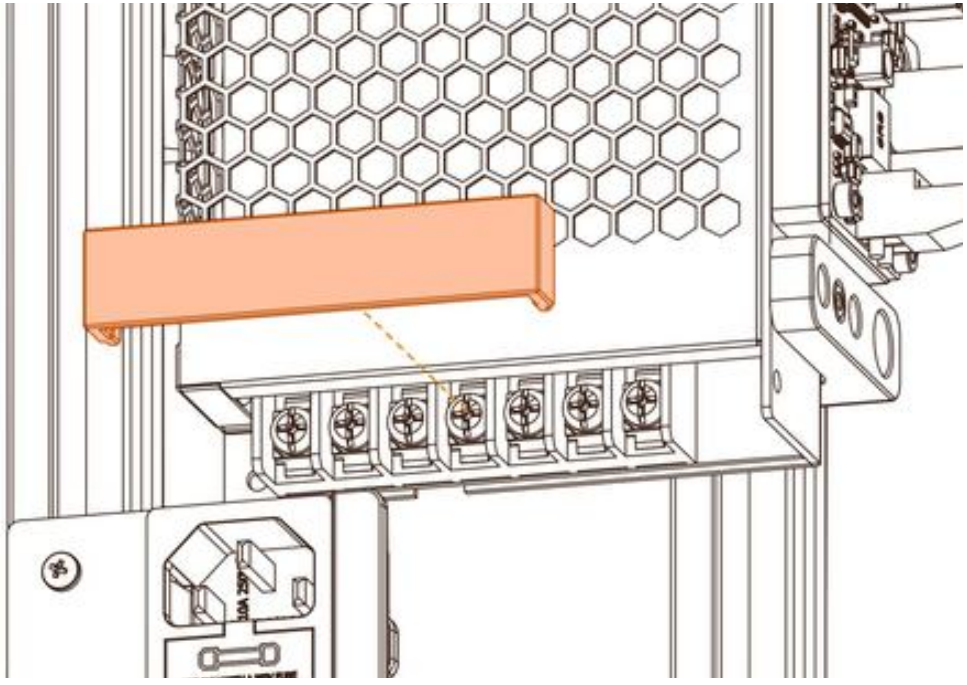


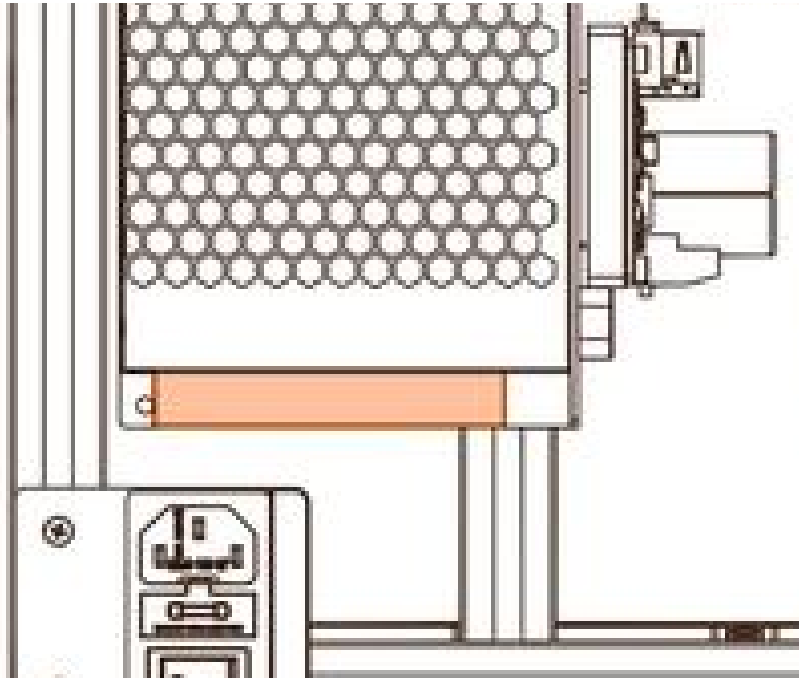
POWER

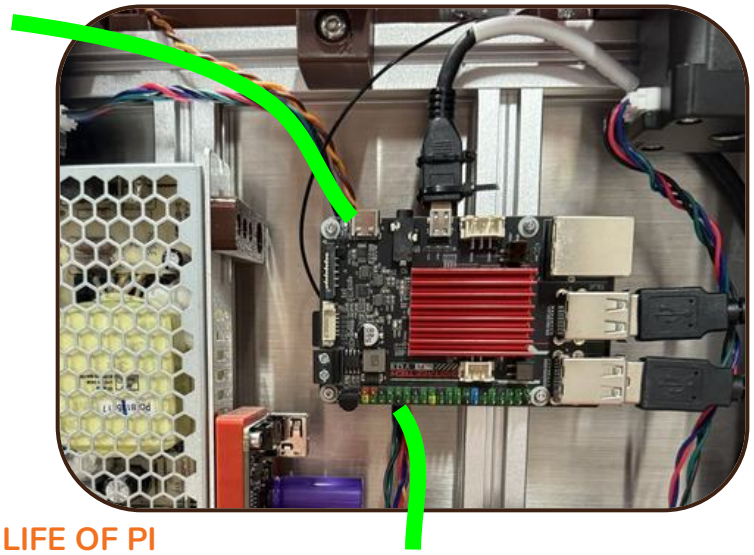
Connect the other side of the wires you just plugged in to the screw terminals on the SKSM and SKR Pico. Ensure the red and black wires are in the correct place.

SO THE MAIN THING IS... DON'T TOUCH MAINS

This cover makes it significantly more difficult to touch the mains voltage terminals wired in from the Power Entry Module right below it. Double check your wiring before putting the cover on.

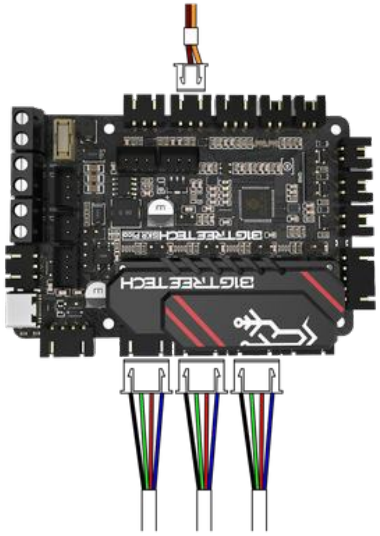






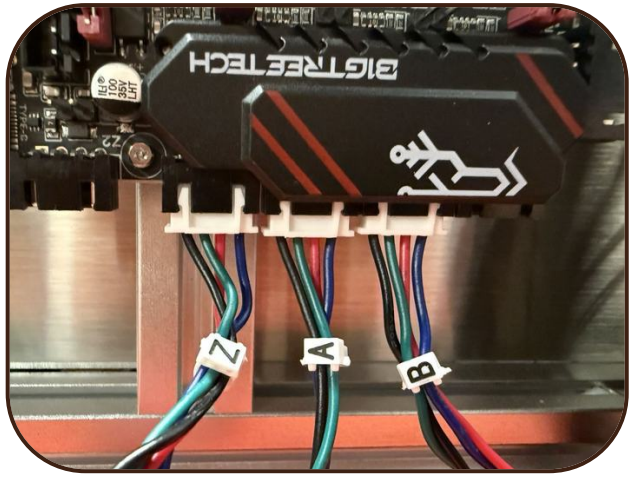
LIFE OF PI

Route the Y endstop and A motor cables behind the BTT Pi. The B motor cable should be running behind the USB cables.



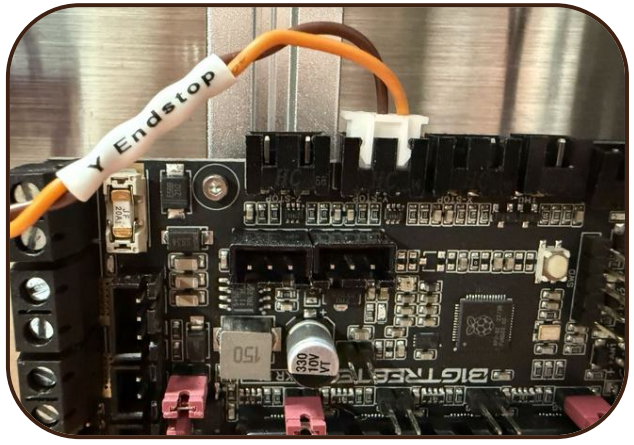
COMPARE AND CONTRAST

Here's our reference drawing highlighting the cables we are plugging in at this step.



ZIP ZAP ZAB

Plug in the Z, A, and B motor cables.

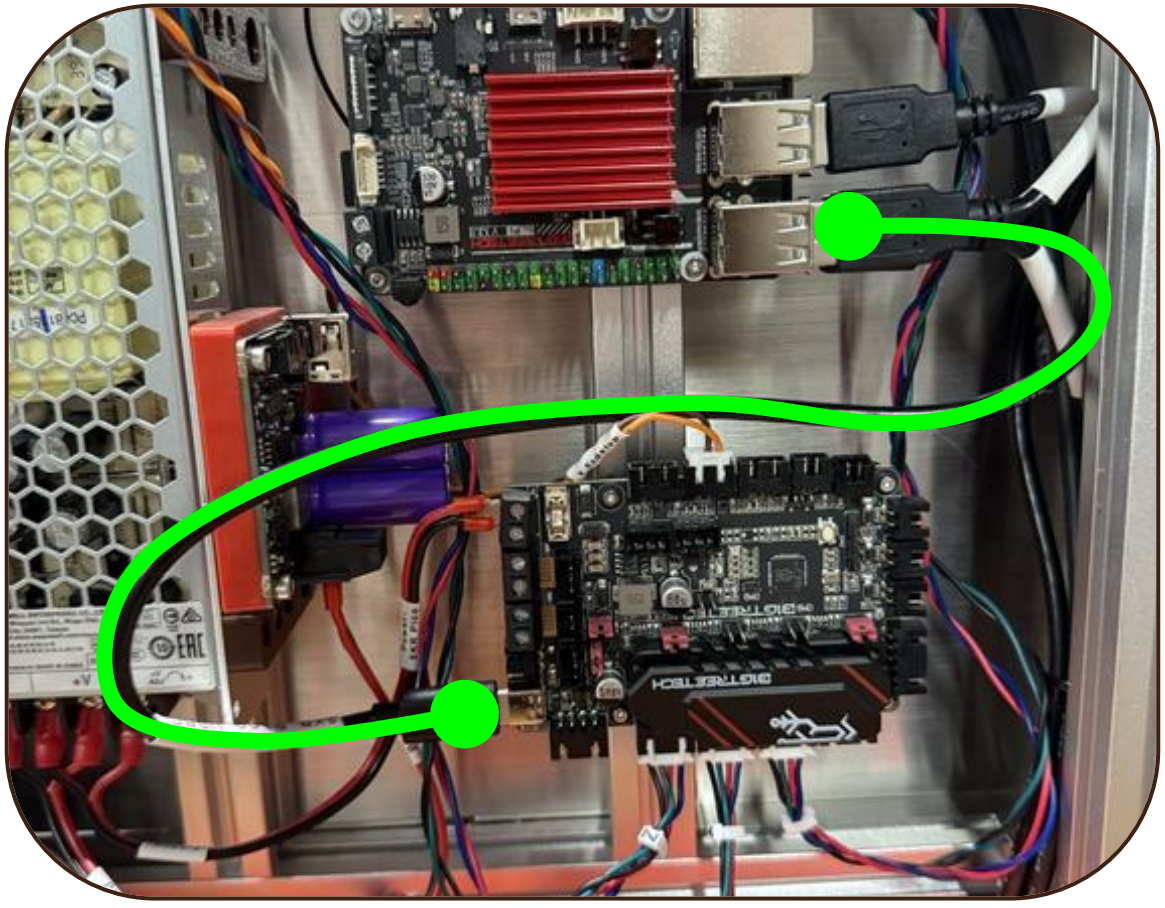


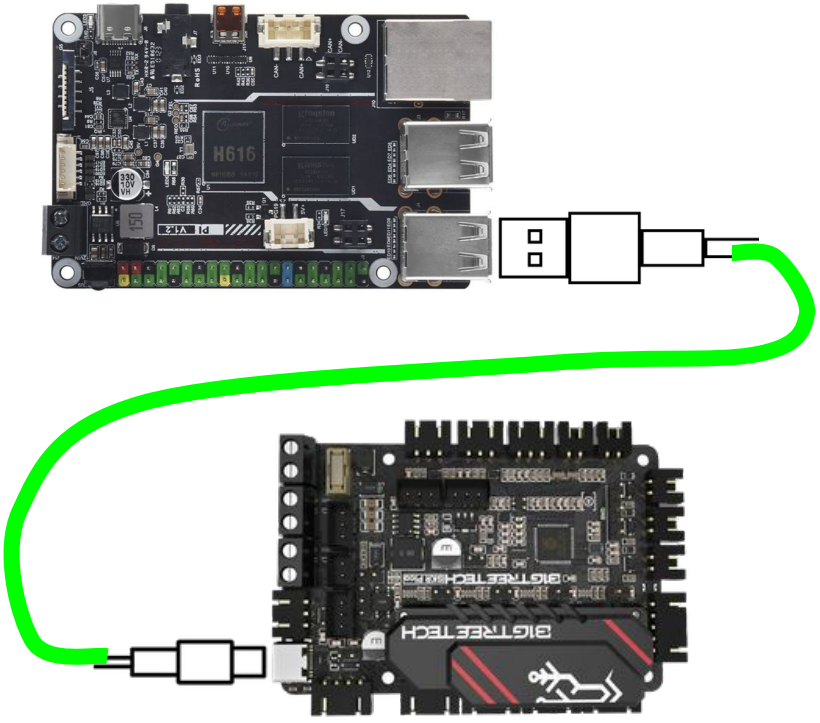
PLUG IT IN

Plug in the Y endstop cable.

USB-A TO USB-C

Find the BTT Pi to SKR Pico USB cable. Plug the USB-C end into the SKR Pico and the USB-A end into the BTT Pi. Ensure you route the cable as shown in green.

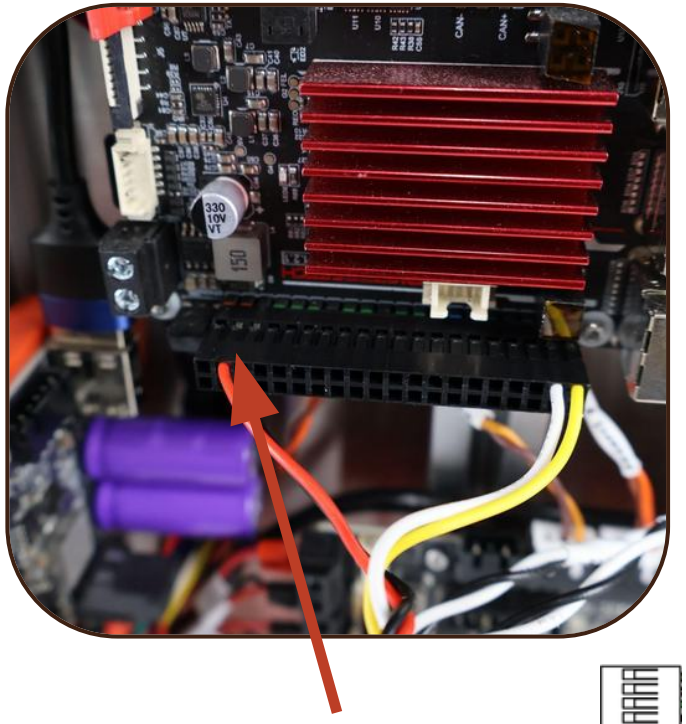




TECHNICAL INFO

If you are interested, this is a shielded USB cable to reduce any noise from the higher power stepper motor wires from affecting the serial communication between the BTT Pi and the SKR Pico.

40 pin BTT Pi cable

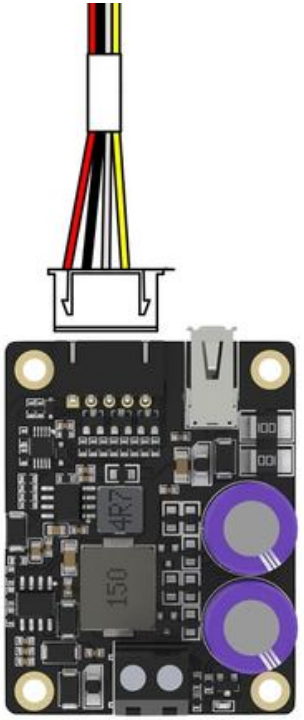


SKSM connector



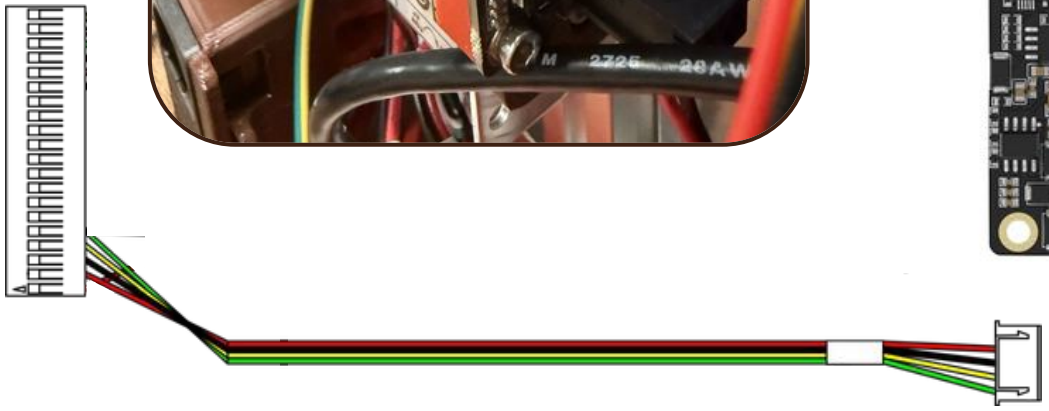
POWER ON

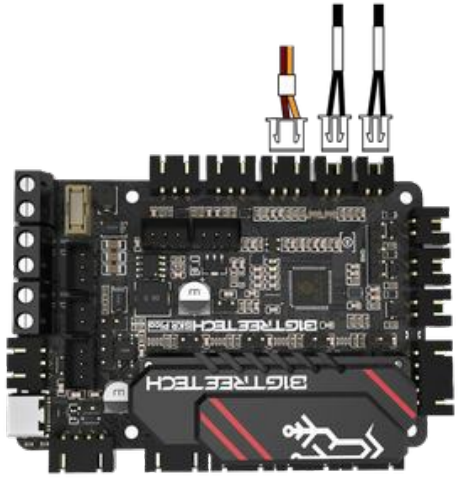
Plug the small connector on the other end of the 40 pin BTT Pi cable into the SKSM, as shown.



40 PIN, LINE UP THE REDS

Plug in the 40 pin connector, lining up the red wire on the left with the red pin of the BTT Pi.

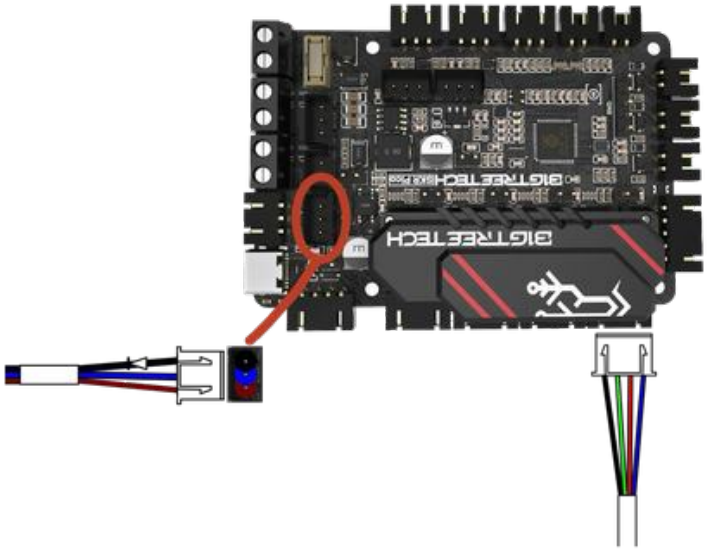


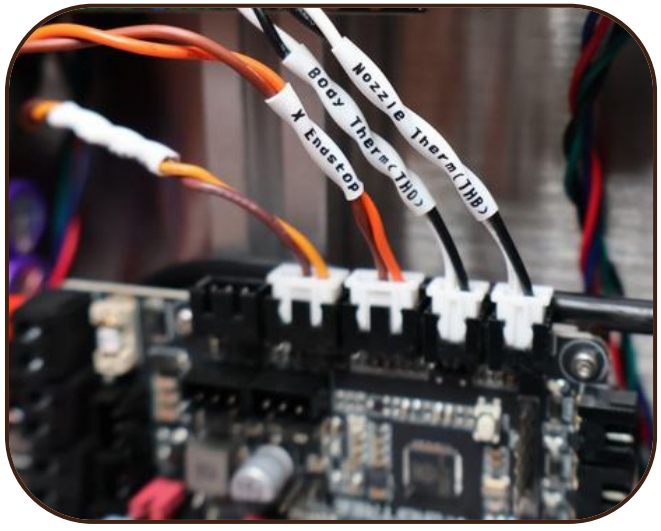


CONNECT CABLES

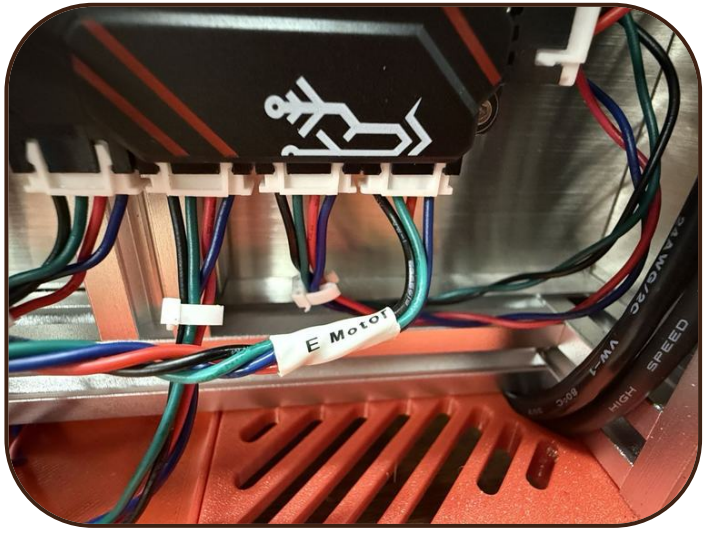
Connect these cables to the SKR Pico. The Z probe and X endstop cables come from the Sensor Cable Bundle, while the other cables come from the Extruder Cable Bundle. Please hold the socket on the SKR Pico for the top three connectors so the connector doesn't bend when you plug it in.

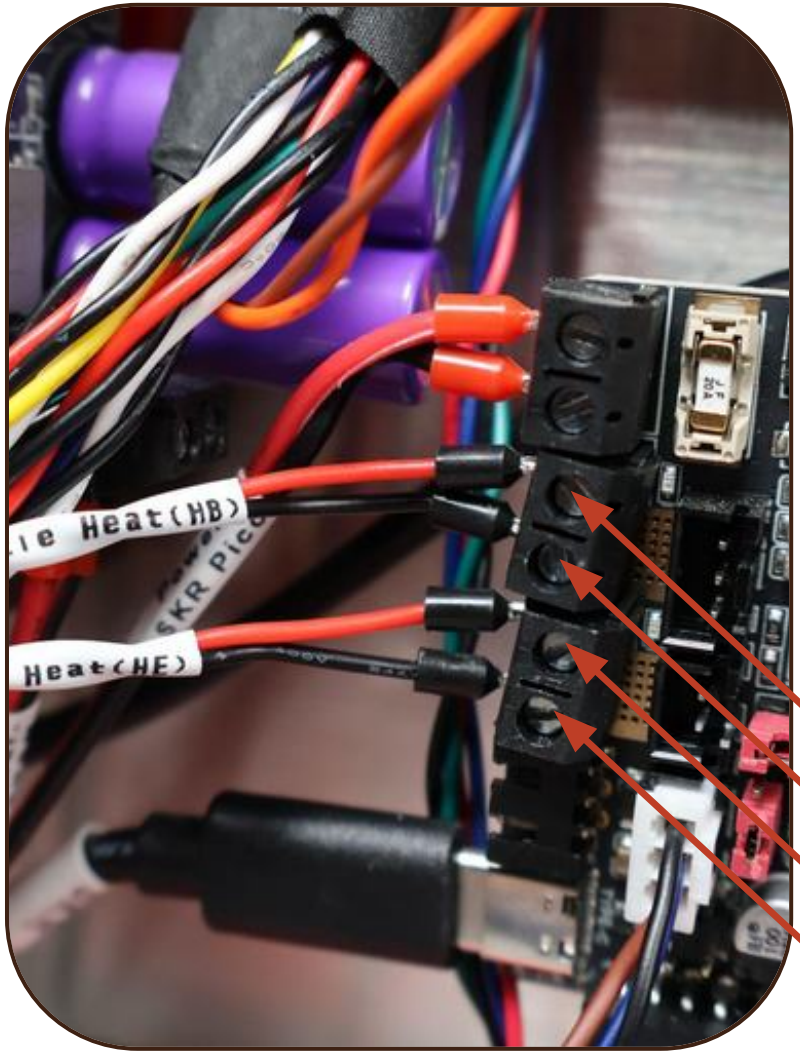
- X Endstop
- Body Therm
- Nozzle Therm
- Z Probe
- E Motor cable

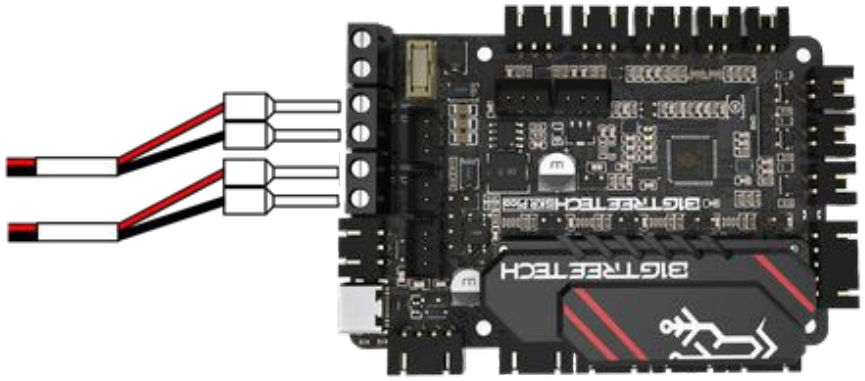












Nozzle Heat (HB)

Body Heat (HE)

PICO PLUGS

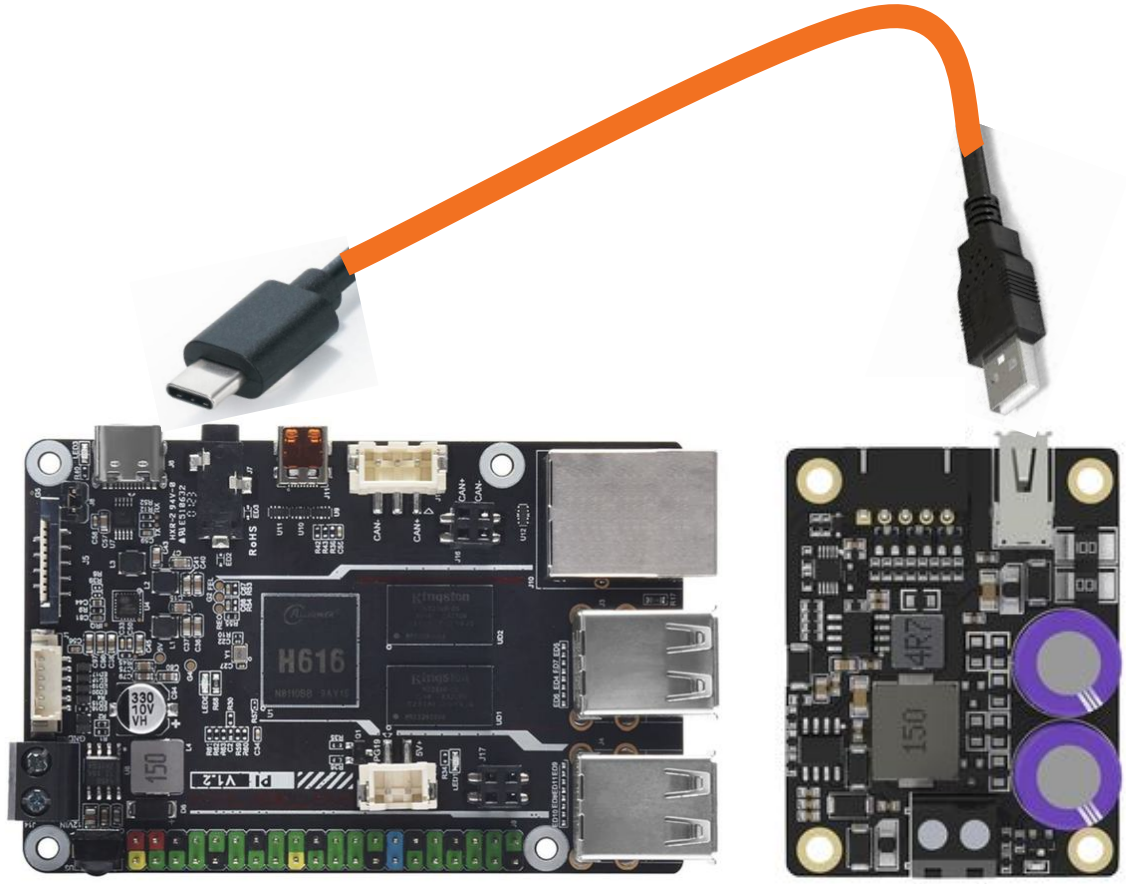
Connect the nozzle and body heater wires to the screw terminals. From top to bottom the order should go:

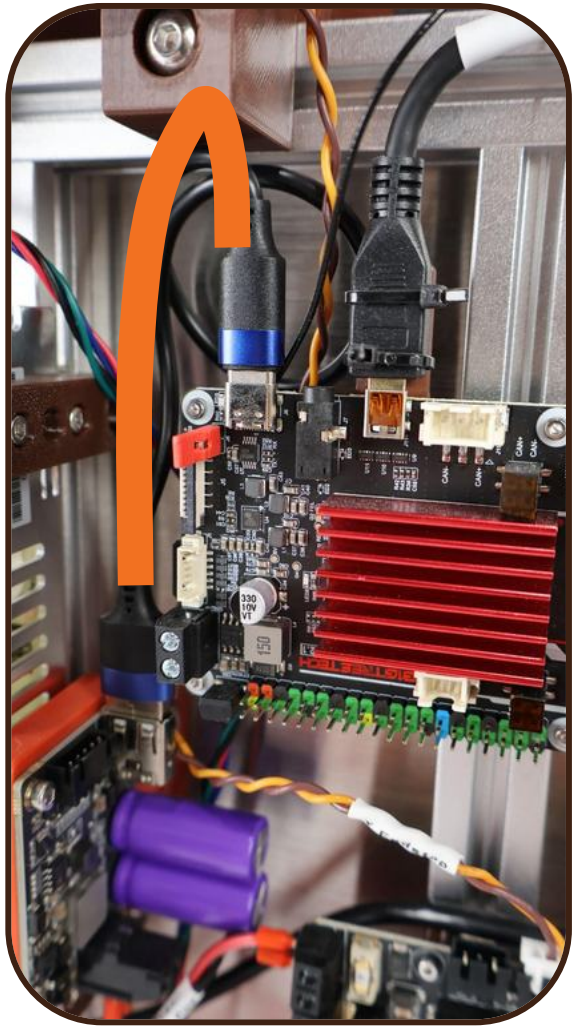
- Nozzle Heat (Red)
- Nozzle Heat (Black)

- Body Heat (Red)
- Body Heat (Black)

THE LAST OF US(B)

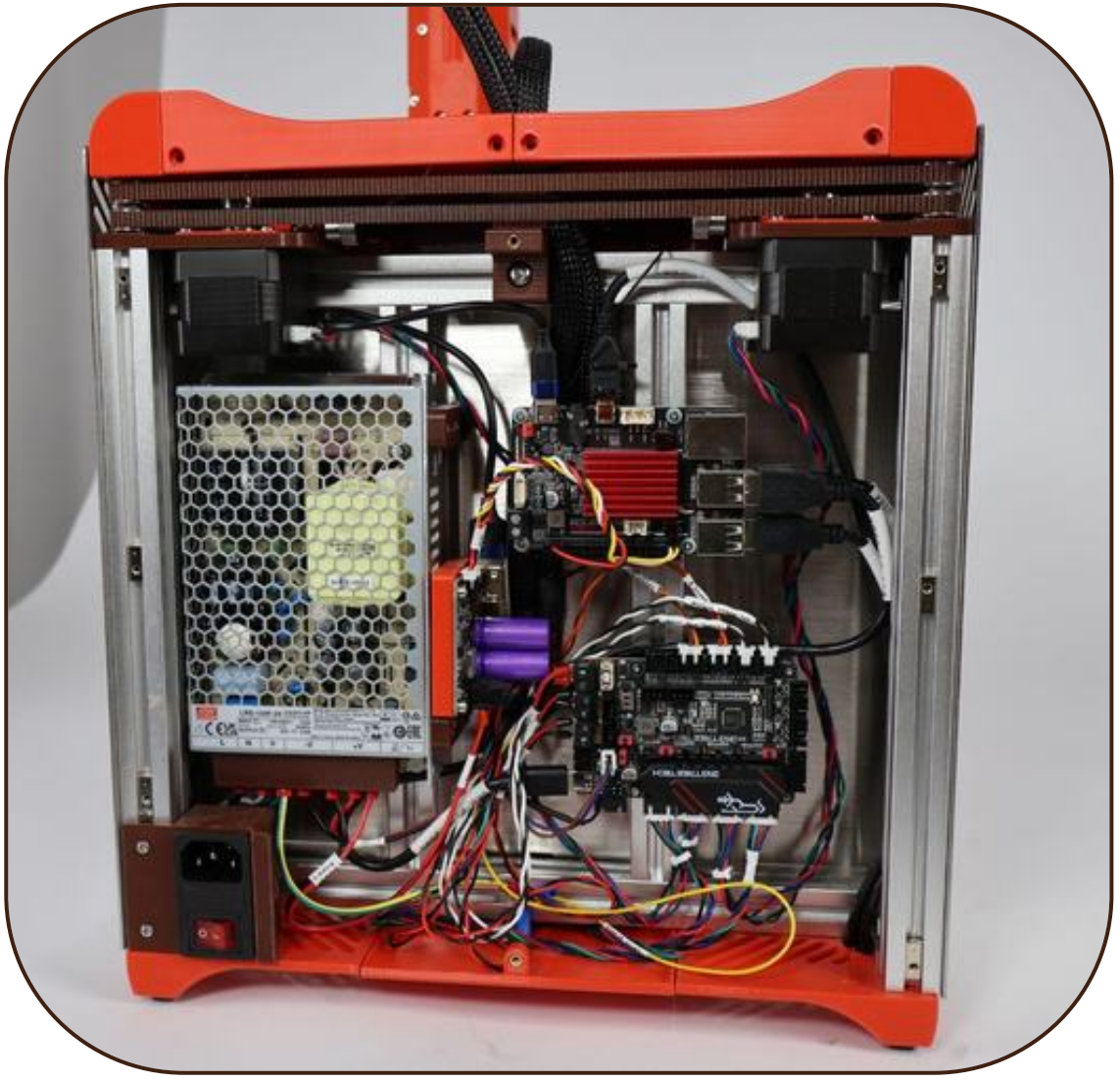
Connect the USB-A to USB-C cable from the SKSM (A side) to the BTT Pi (C side). This cable may be in the Cocoa Press 2.1 Wires and Fasteners box.





CHECK ENGINE LIGHT

Do a final check that your wires match the image here and are all plugged in. Tuck the rest of the extruder wires into the back between the power supply and the SKR Pico.



COCOA PRESS

Chapter 10: Screen

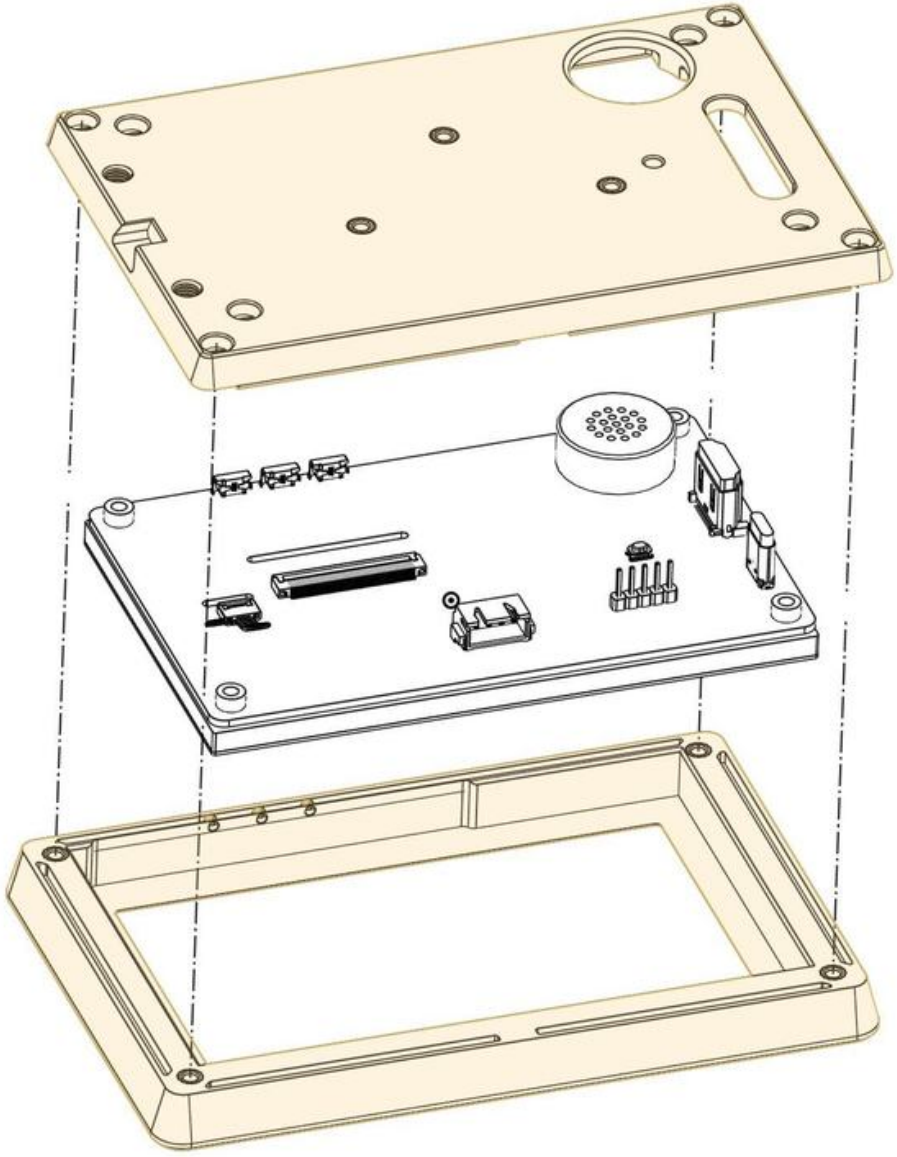


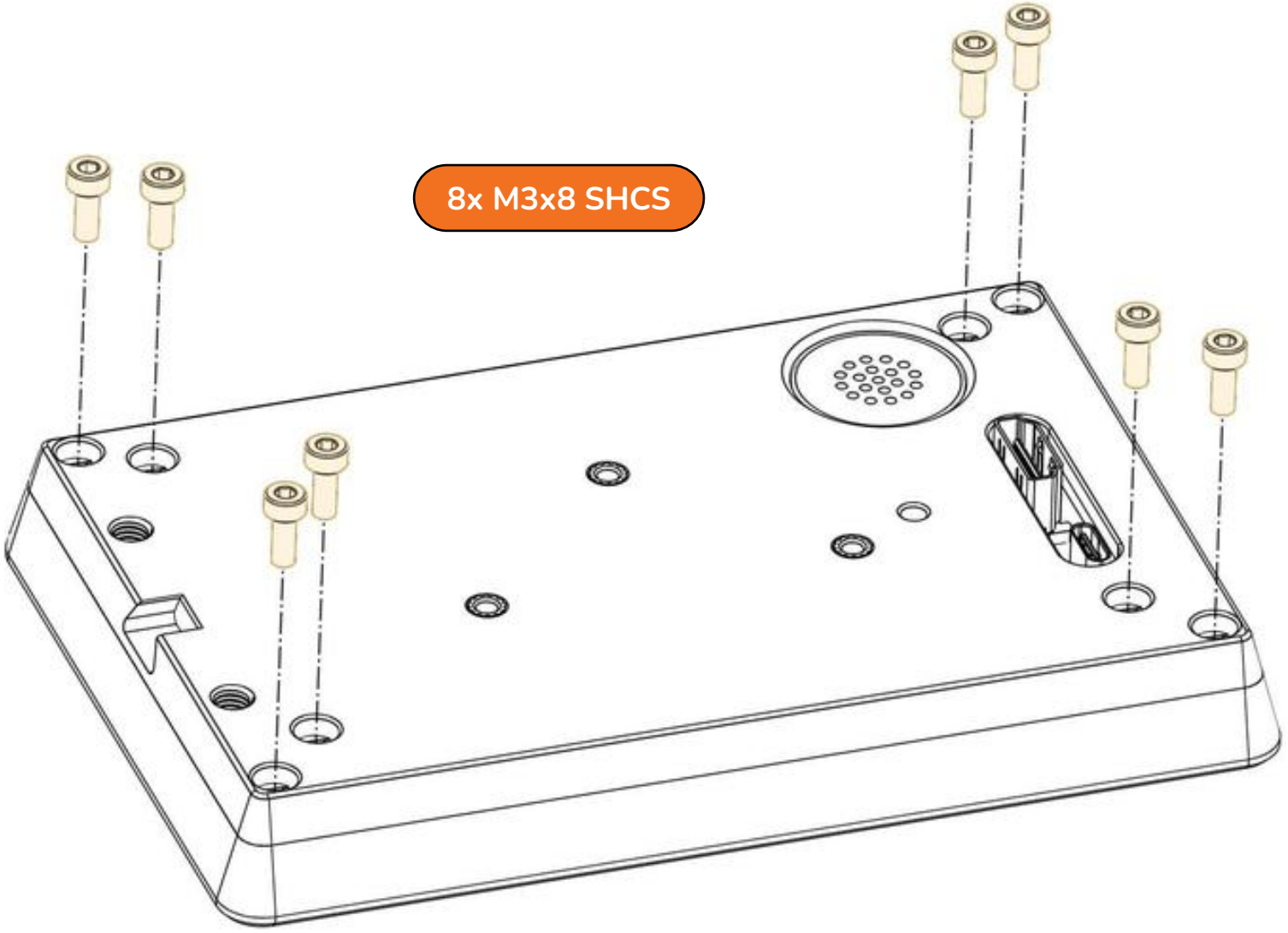
UNCOVERED

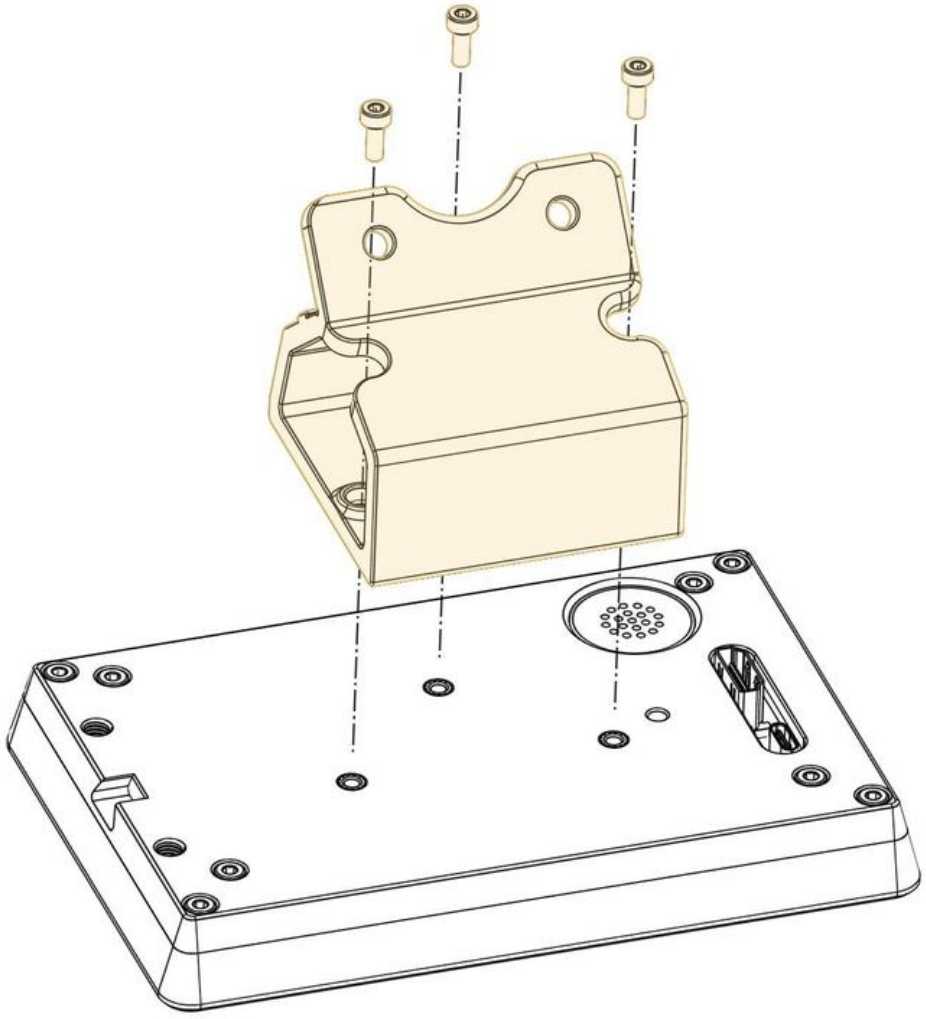
Peel off the screen protector and the 4 small orange stickers over the screen's screw holes.

SCREEN TIME

Place the screen into the Screen Case Rear, aligning the speaker, USB port, and HDMI port with the holes in the Screen Case Rear. The Screen Case Front has three small holes on top. Align them with the three buttons on top of the screen.



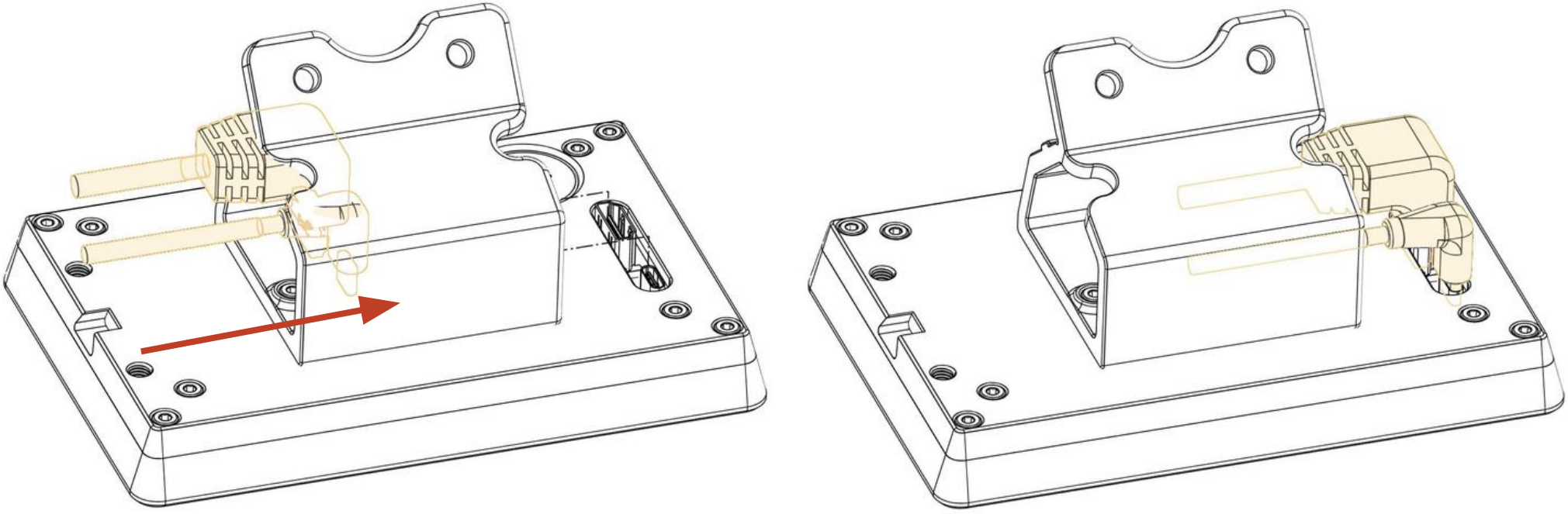

8x M3x8 SHCS



SCREEN QUEEN

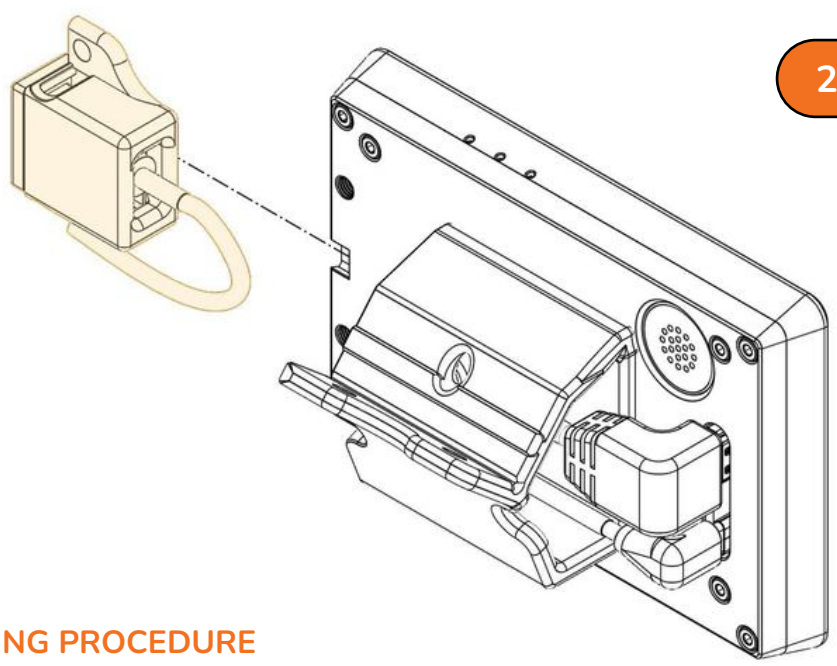
Install the Screen Mount, making sure you get its orientation correct.

3x M3x8 SHCS

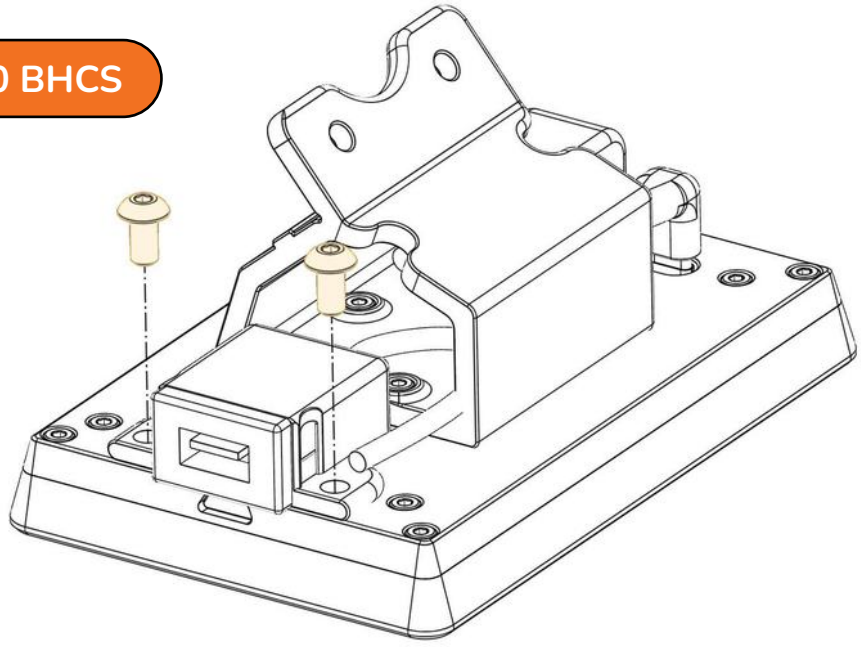


CABLE ROUTING

Feed the USB-C and HDMI cables through the inside of the mount and plug them into the screen.



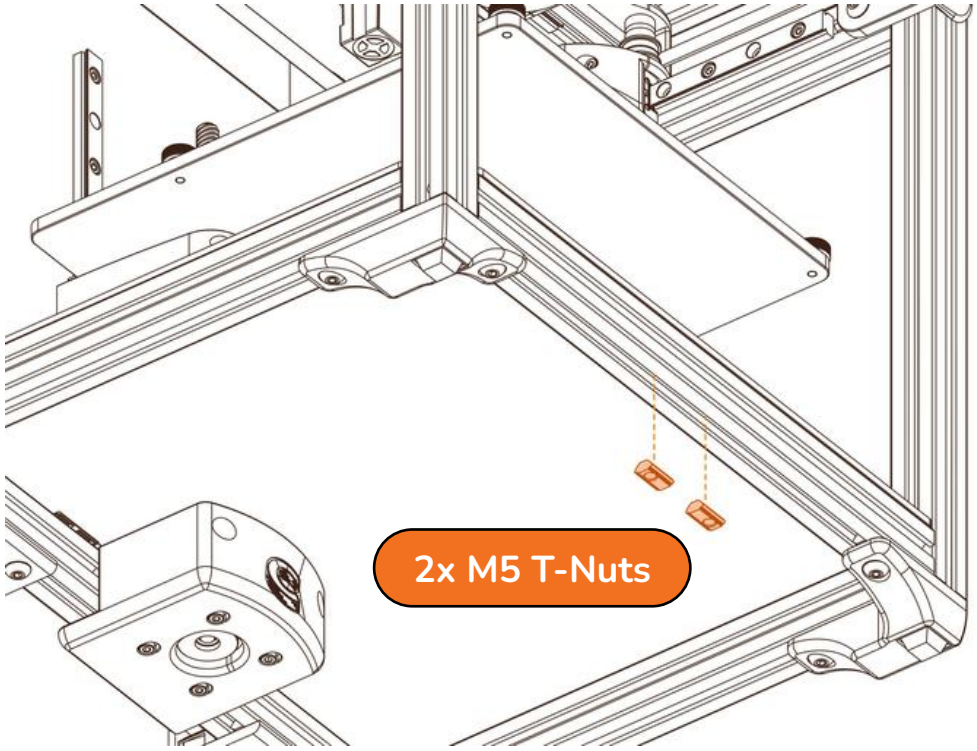
2x M5x10 BHCS

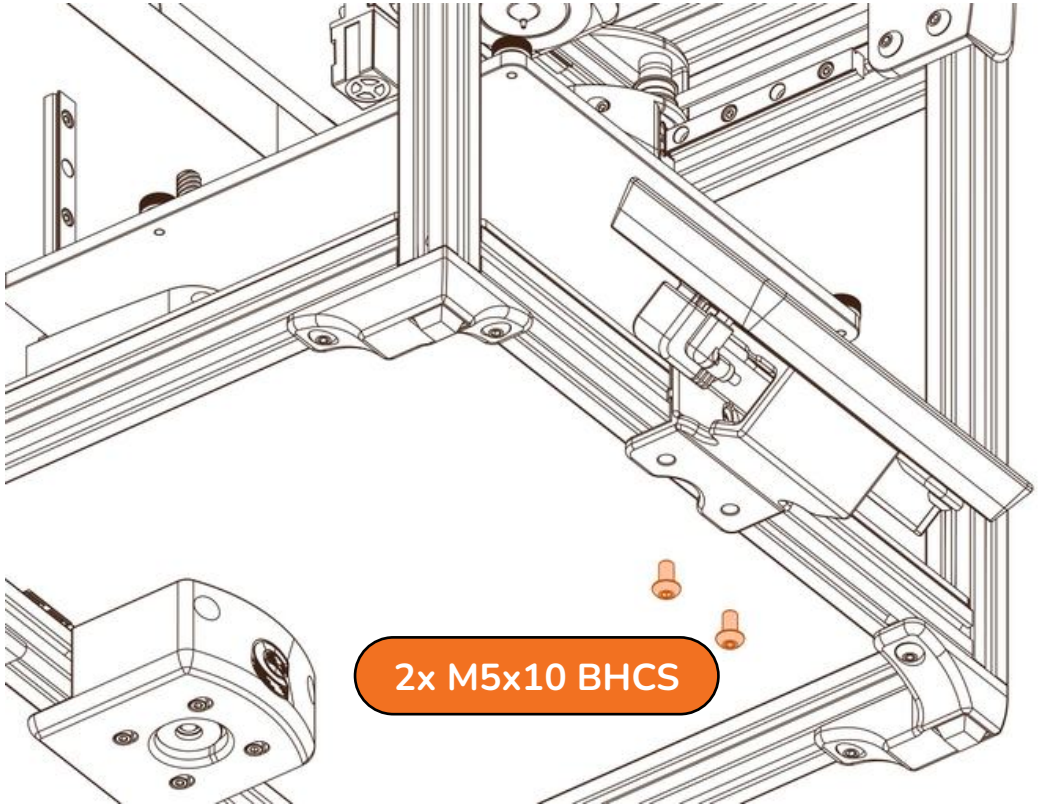


DOCKING PROCEDURE

Bend the cable 180 degrees and put it into the screen mount, but not all the way through it.

Slide the dovetail into the Screen Mount and fasten it with 2 M5x10 screws. These screws screw into printed threads, so don't overtighten them.

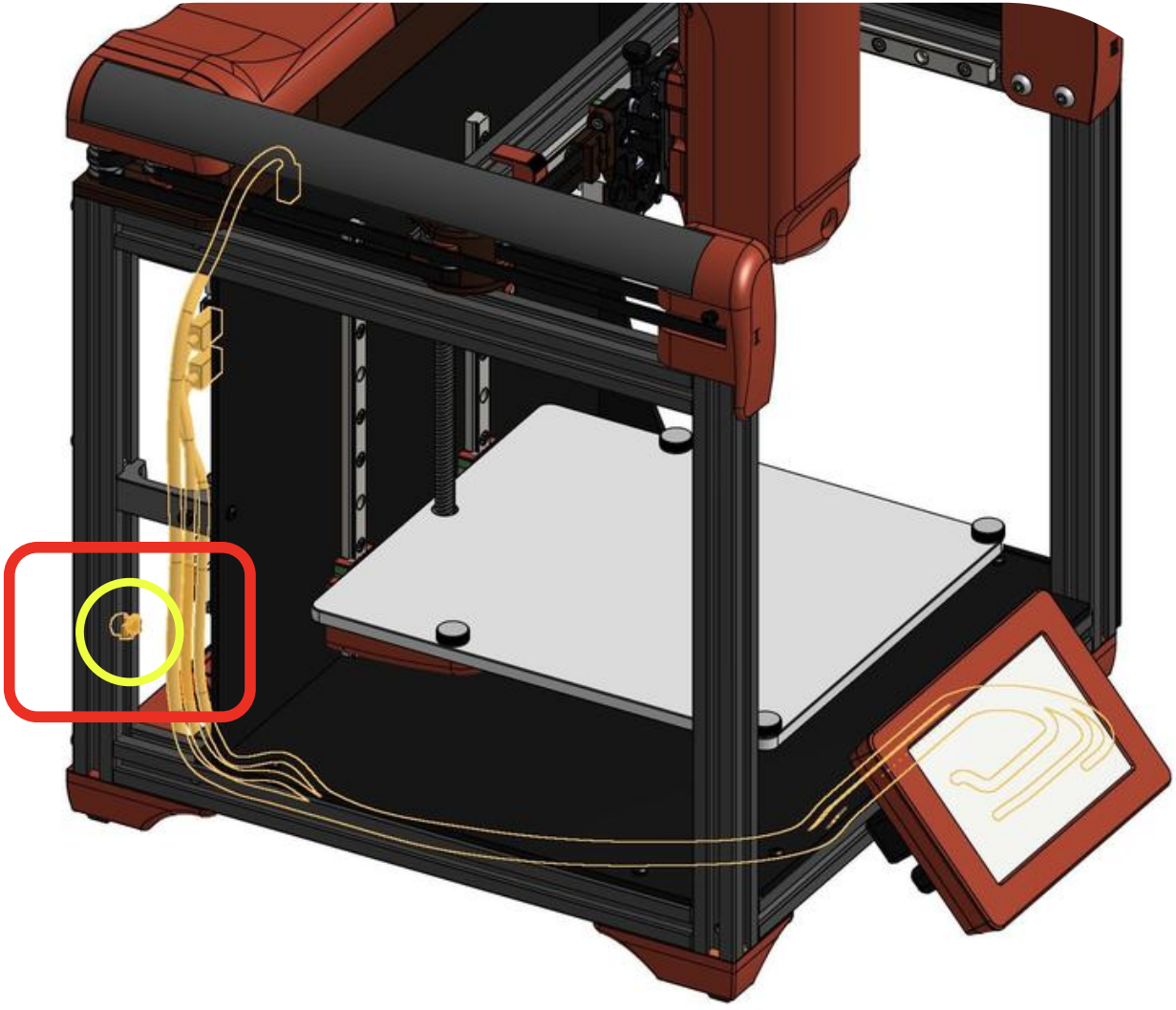




TOPSY TURVY

Add two M5 T-nuts to the bottom of the front extrusion. Attach the screen using 2 M5x10 BHCS. Viewed from the front, the USB port should be on the right side and the HDMI port should be on the left. This is easy to mix up so double check the mount.



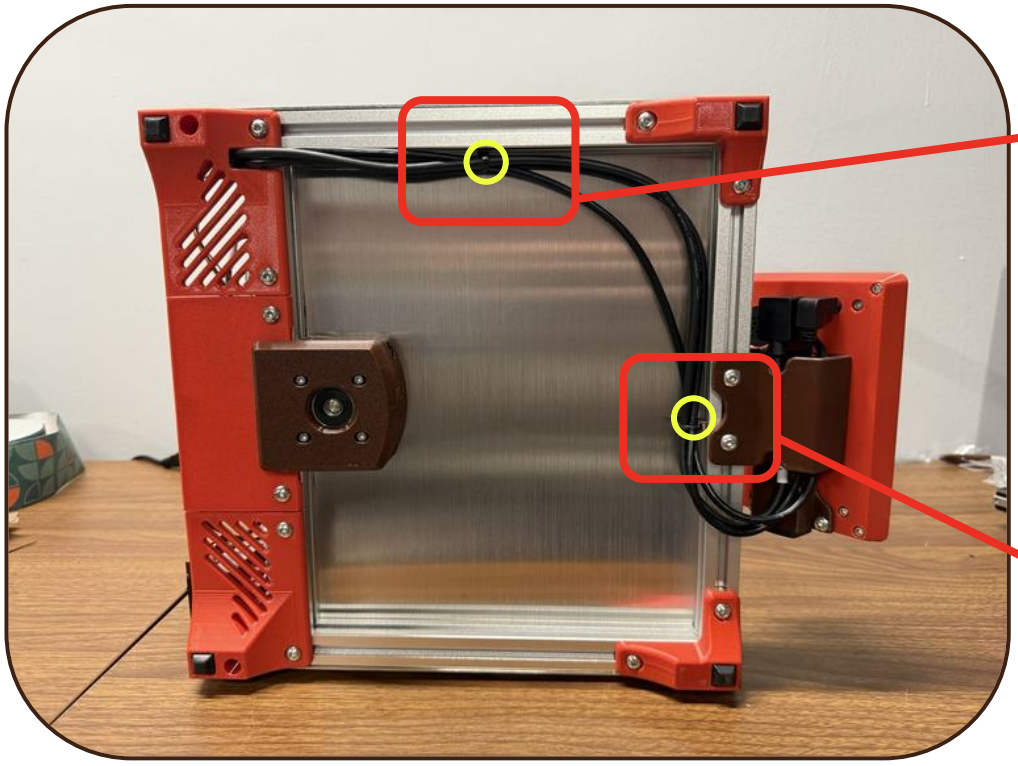


⌘X, ⌘V

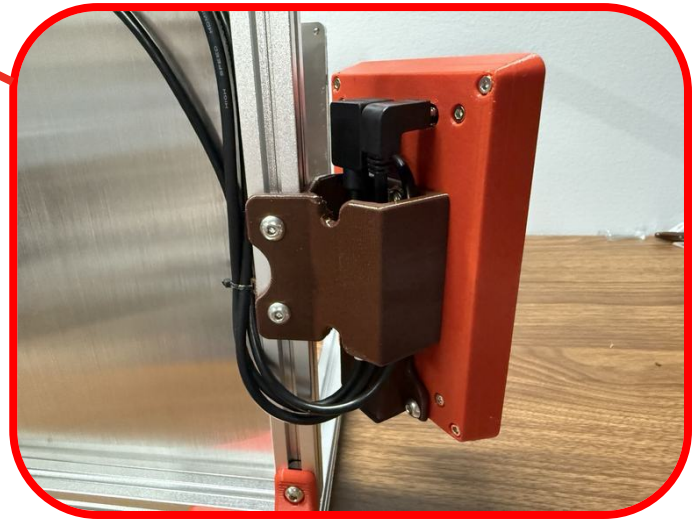
Unscrew the rear left foot, route the three cables through the opening in the foot, then retighten the foot.

STRAIN RELIEF

Put a zip tie anchor into the inside channel of the rear left extrusion, and use a zip tie to tighten the 3 cables to it.







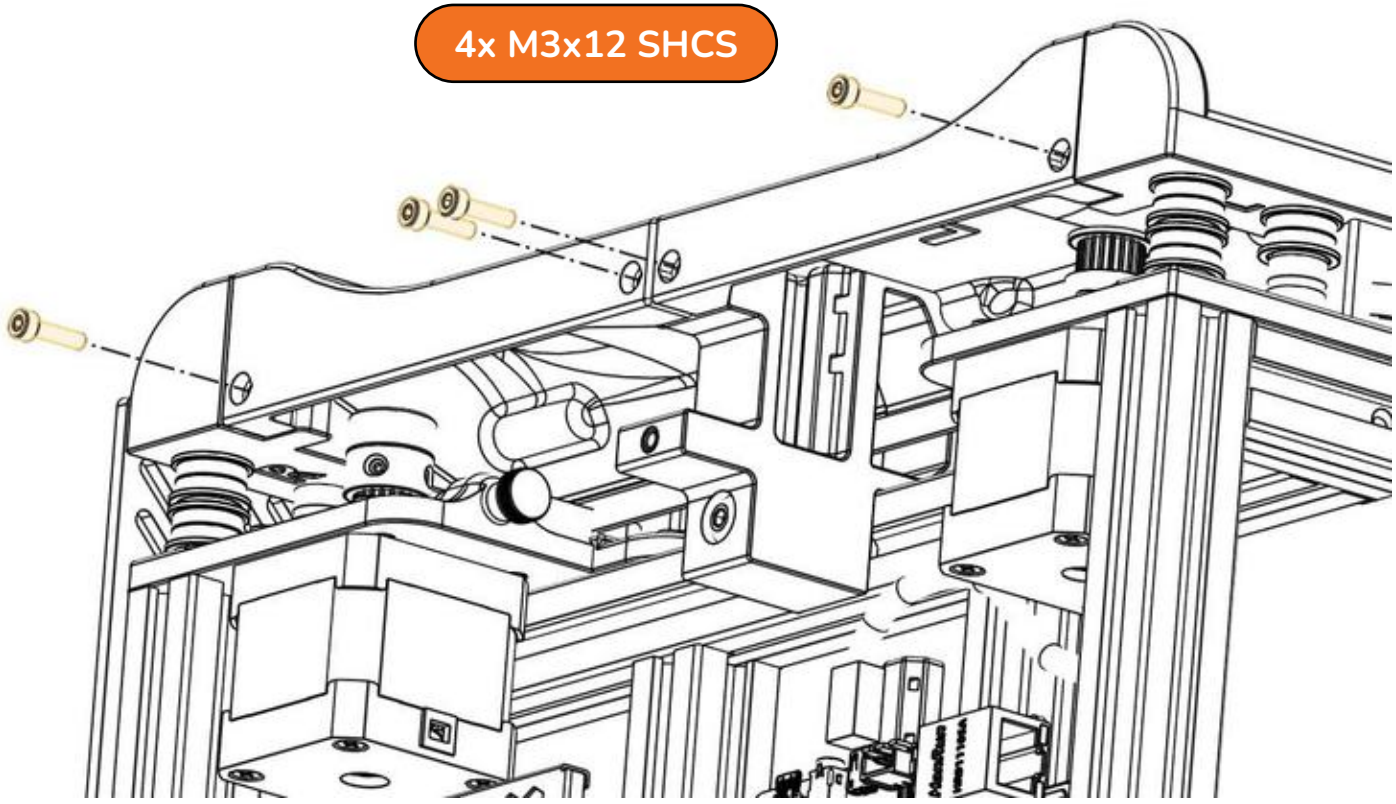
ANCHORAGE

Place two zip tie anchors where circled above, and zip tie the USB and HDMI cables to the zip tie anchors.

SECURE THE MOTOR COVERS

We're done with the electronics!
Close the motor covers.

4x M3x12 SHCS



COCOA PRESS

Chapter 11: Final Panels

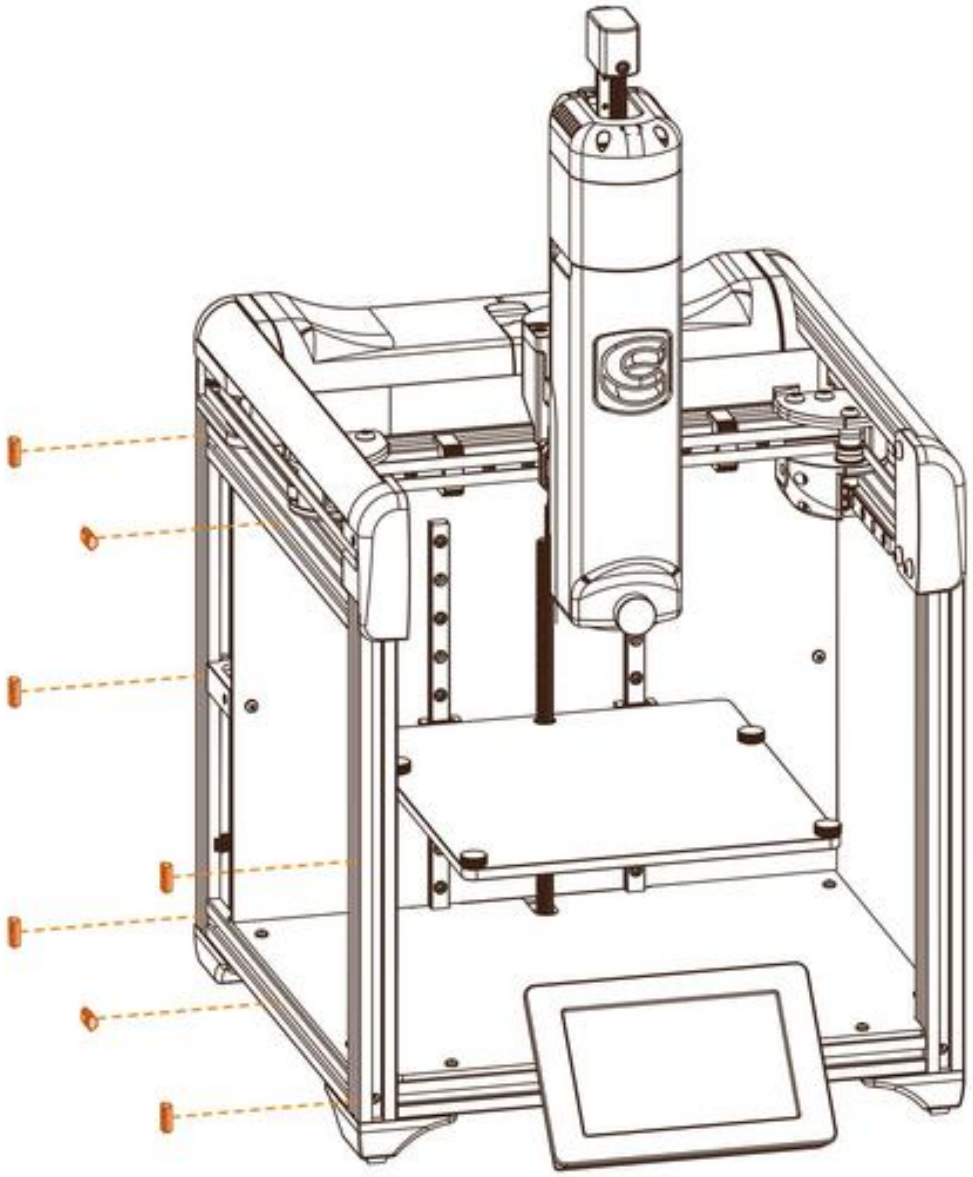


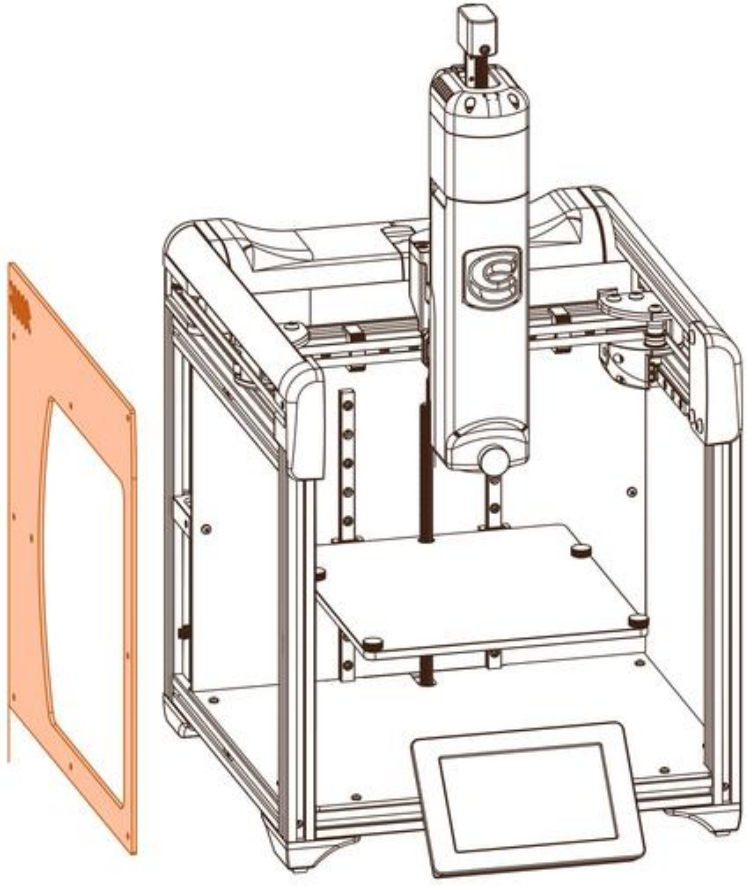


7x M3 T-Nuts

ORIENTATION MATTERS

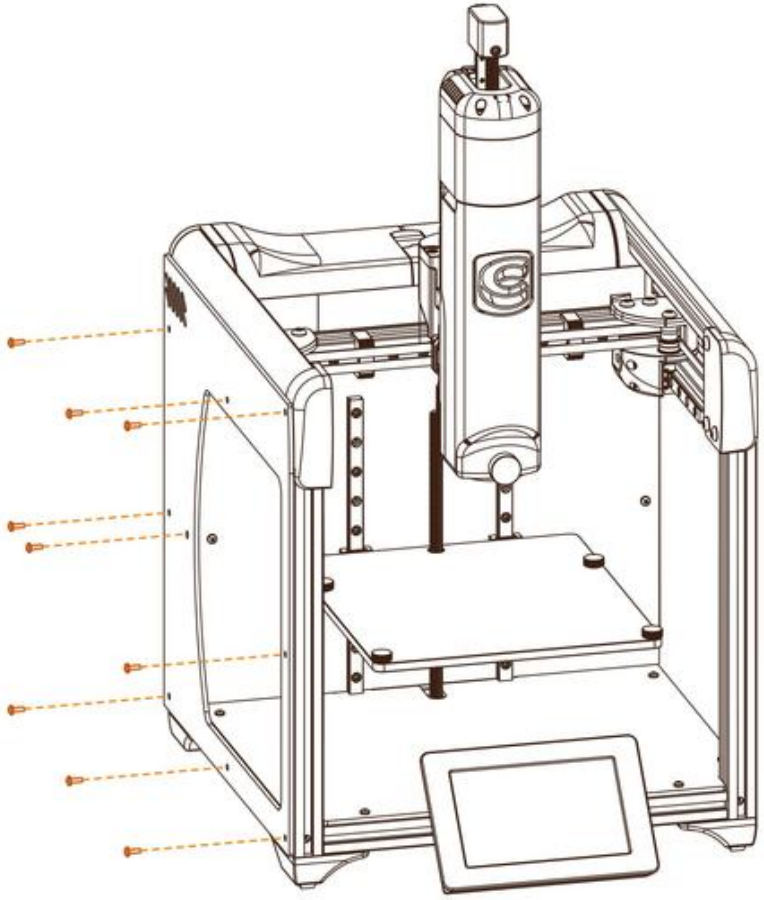
The T-nuts should be aligned to the holes in the side panels.



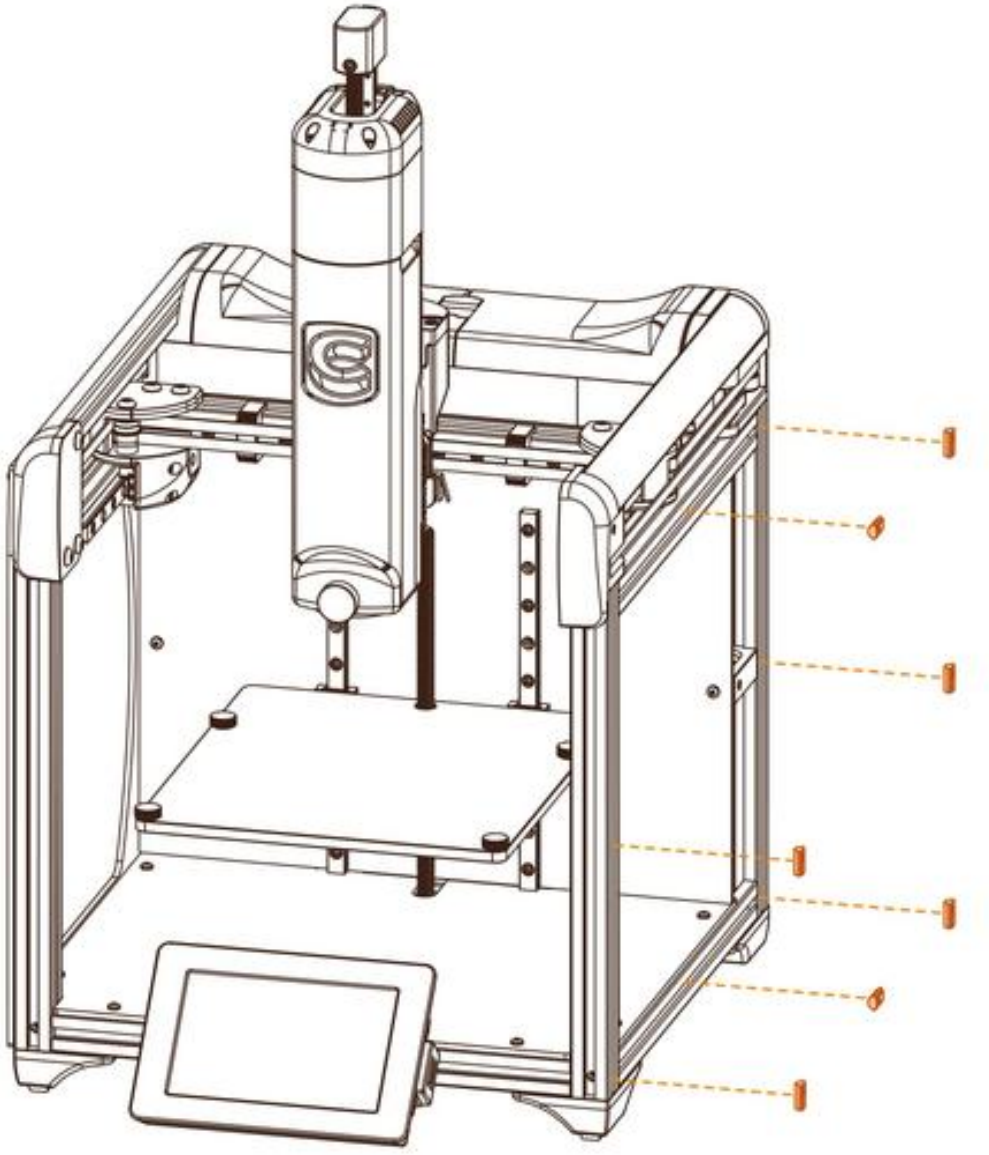


TURN OVER A NEW LEAF

Be sure to remove the protective paper from the acrylic panels before doing final installation.



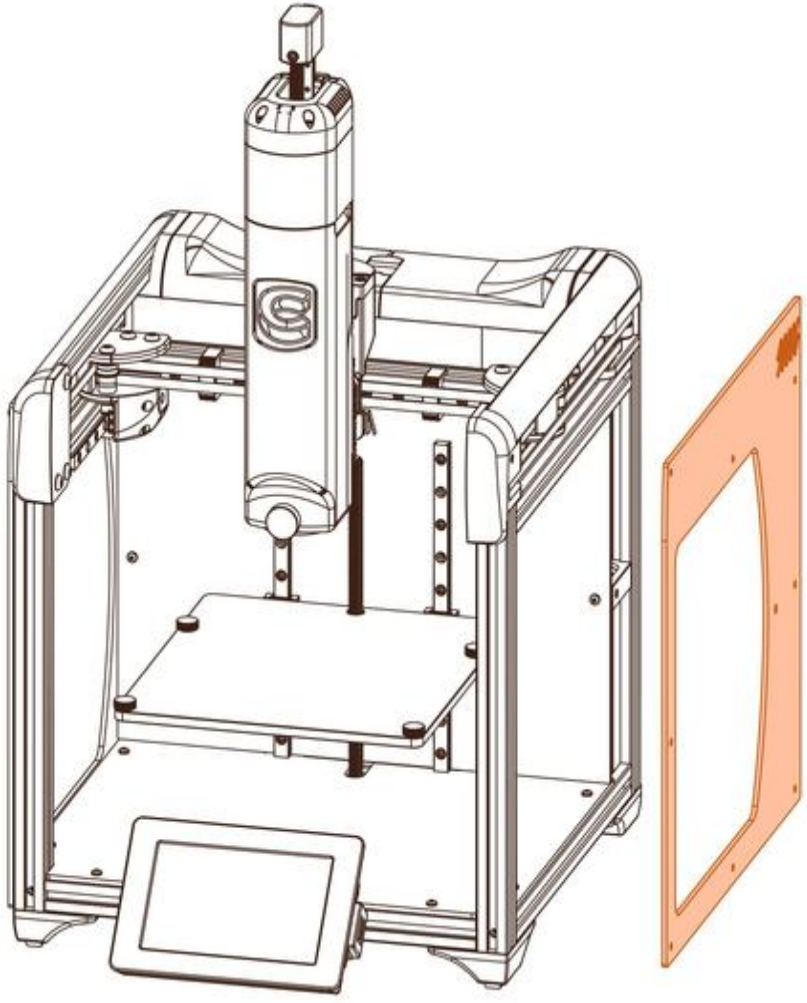
9x Black M3x8 BHPS

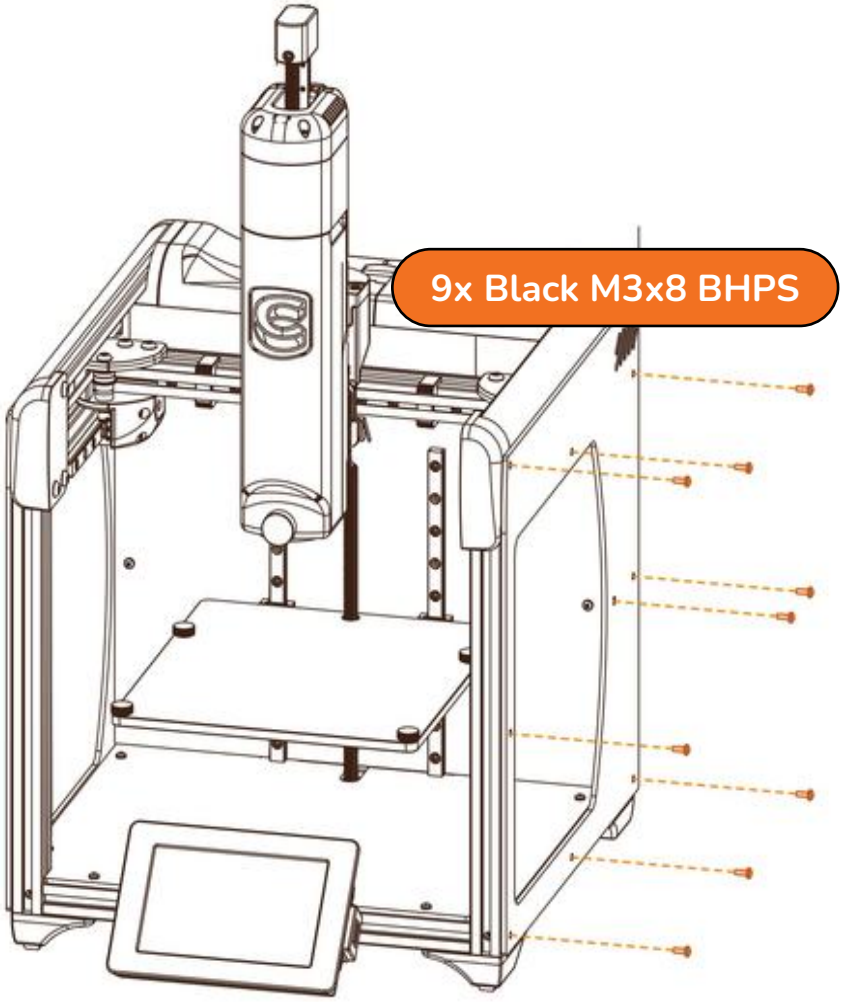


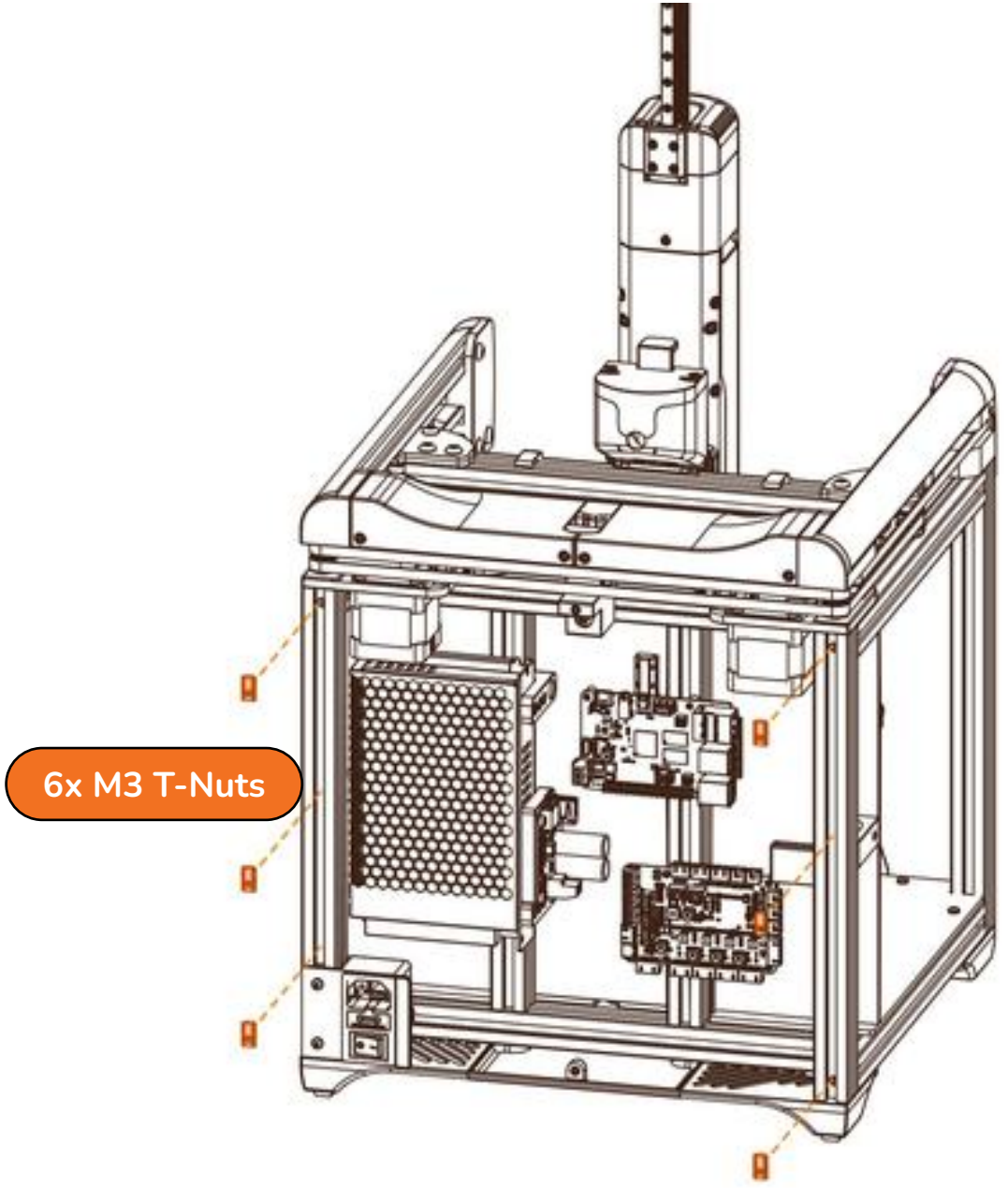
7x M3 T-Nuts

ORIENTATION MATTERS

The T-nuts should be aligned to the holes in the side panels.




9x Black M3x8 BHPS

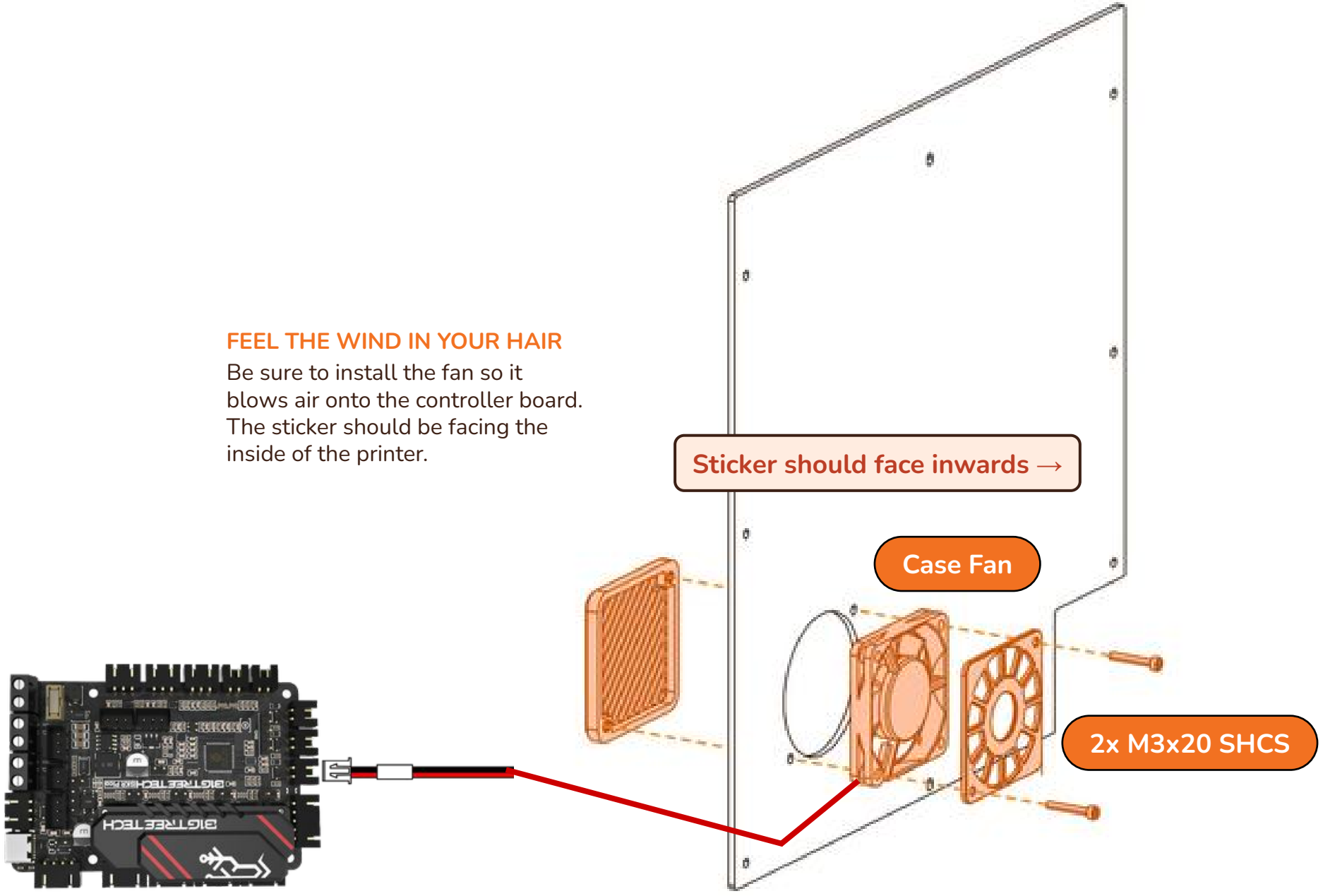


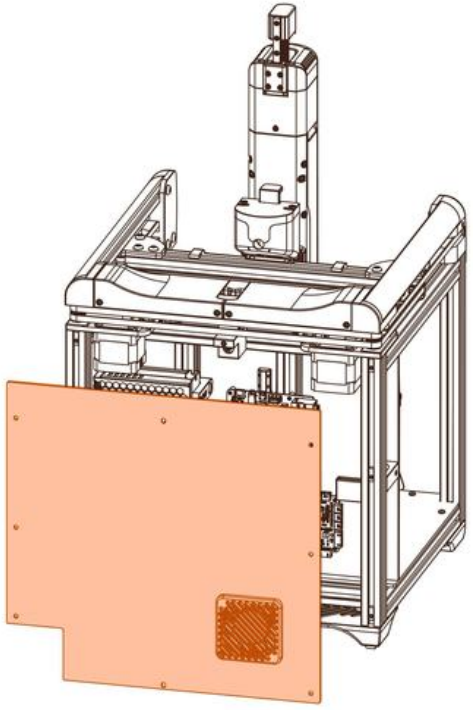
ORIENTATION MATTERS

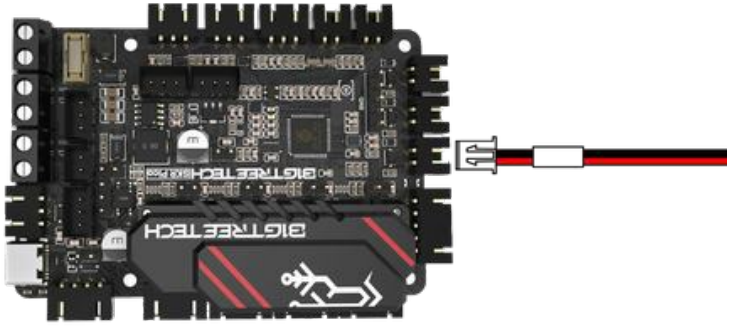
The T-nuts should be aligned such that the threads are centered over the access holes in the extrusion. This ensures you can secure every fastener of the panels.

FEEL THE WIND IN YOUR HAIR

Be sure to install the fan so it blows air onto the controller board. The sticker should be facing the inside of the printer.

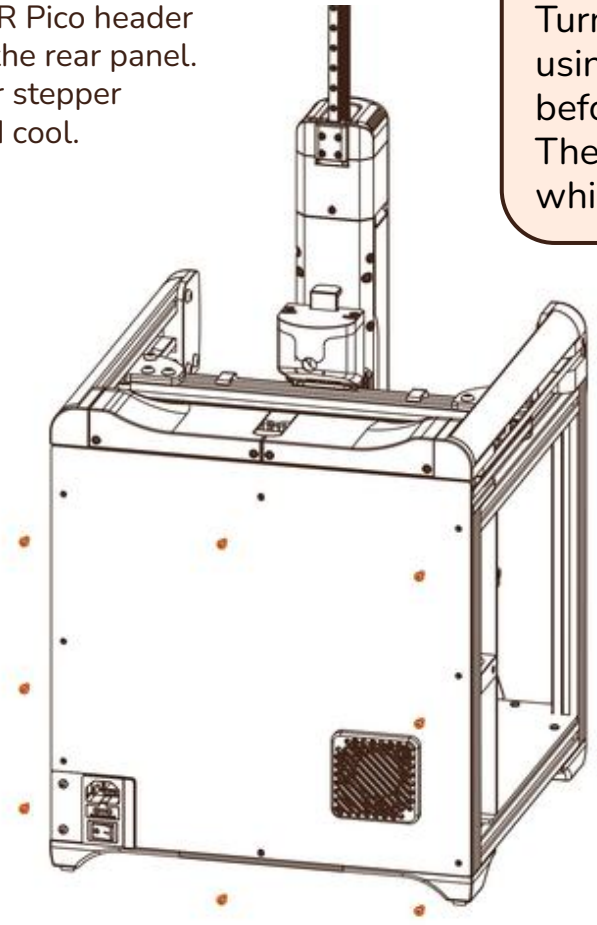






NOT A FAN OF THAT?

Be sure to connect the fan cable to the SKR Pico header before closing the rear panel. This keeps your stepper drivers nice and cool.



8x Black M3x8 BHPS

OPTIONAL

Turn the printer on and test it using the steps in Chapter 12 before putting the back panel on. The fan can stay unplugged while testing.

COCOA PRESS

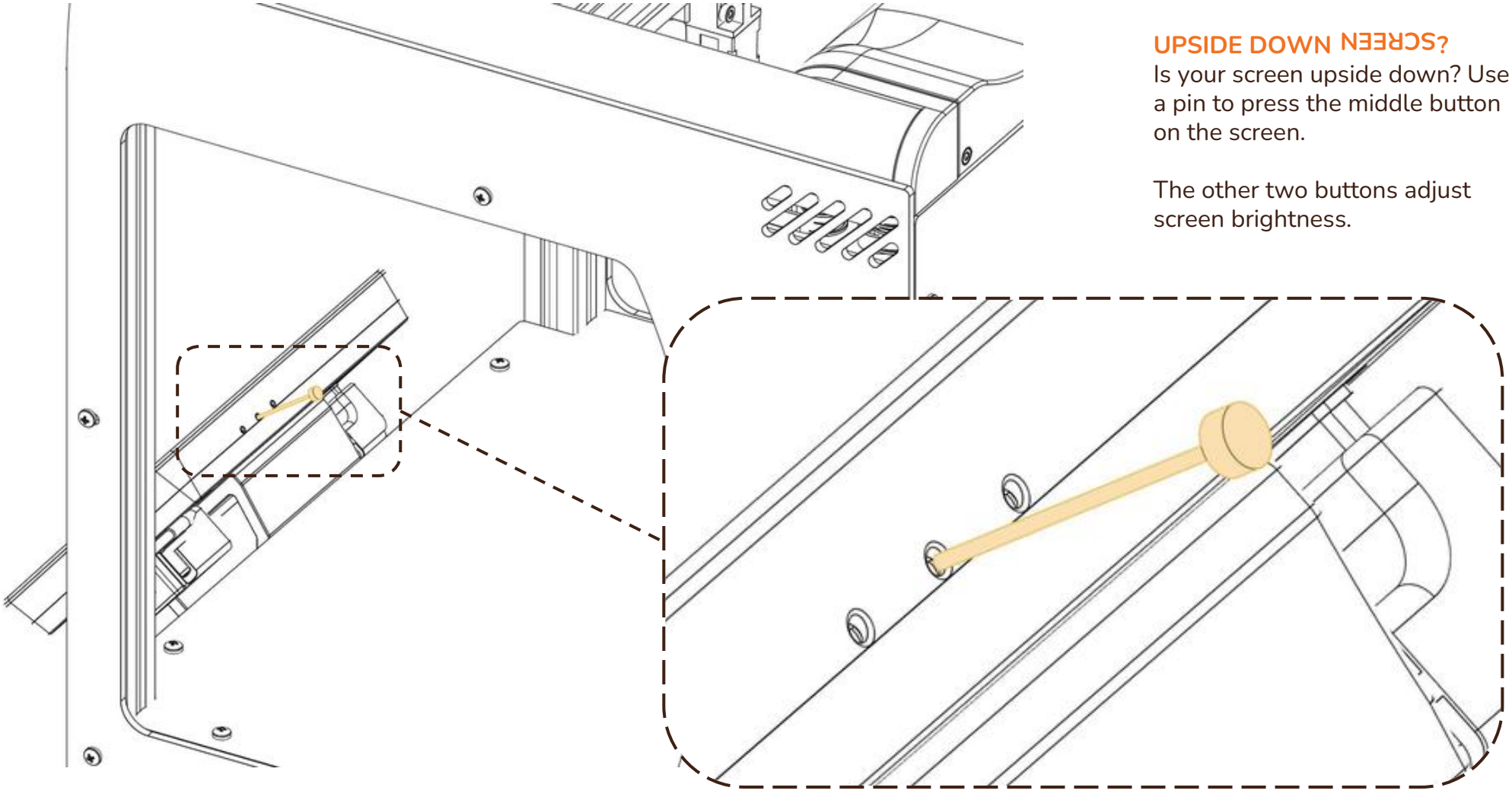
Chapter 12: First Print





THE FINAL COUNTDOWN

Plug in the printer and turn it on! After a few seconds the screen should turn on. The first startup takes a minute or two.



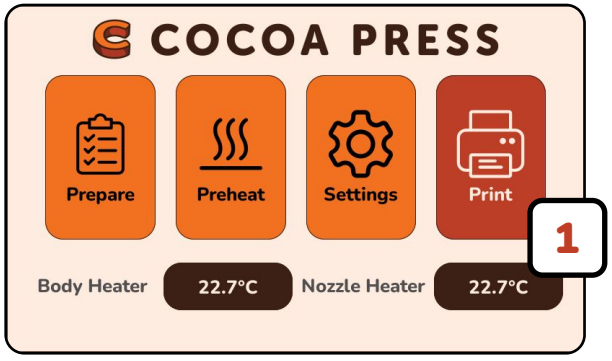
UPSIDE DOWN SCREEN?

Is your screen upside down? Use a pin to press the middle button on the screen.

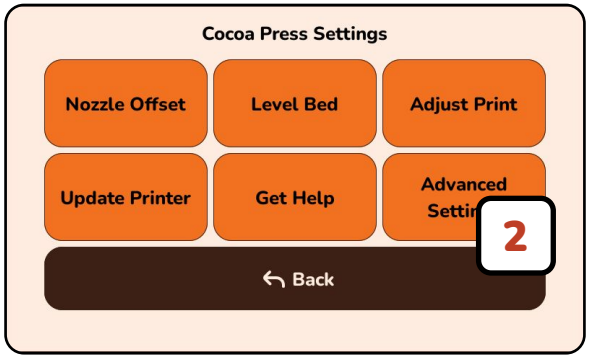
The other two buttons adjust screen brightness.

CONNECT TO WIFI

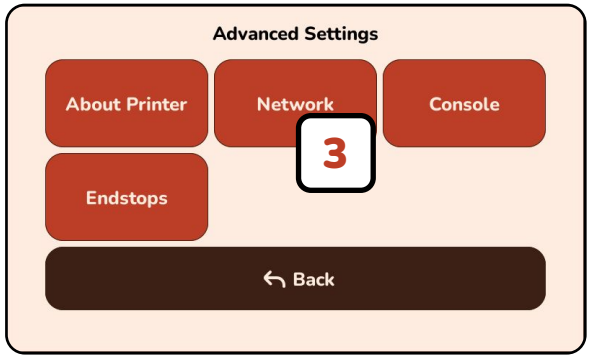
Wifi is optional but it enables over the air updates and lets you send crash logs directly to the Cocoa Press support team.



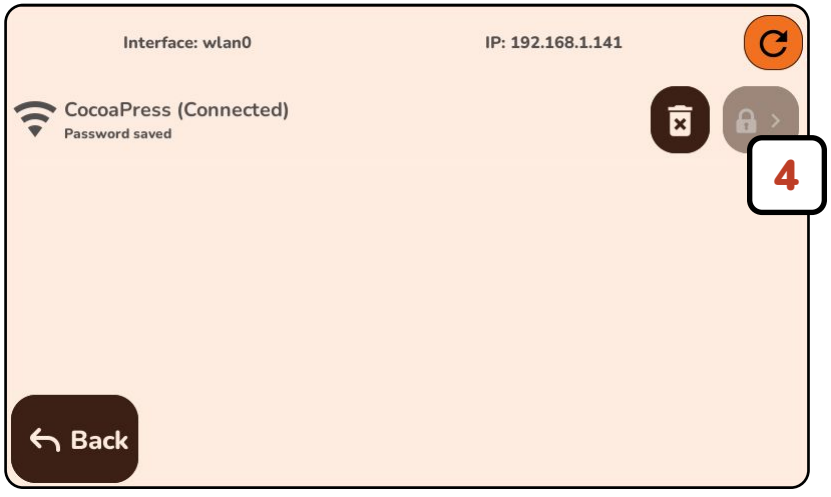
1. Tap Settings.



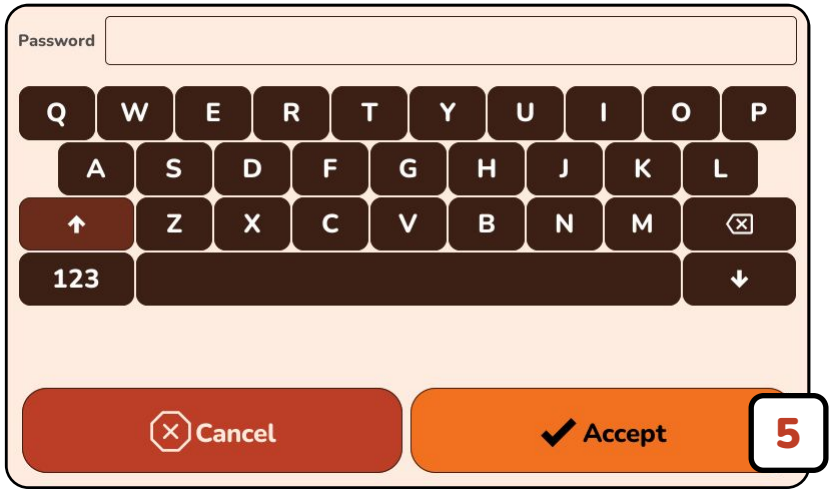
2. Tap Advanced Settings.



3. Tap Network.



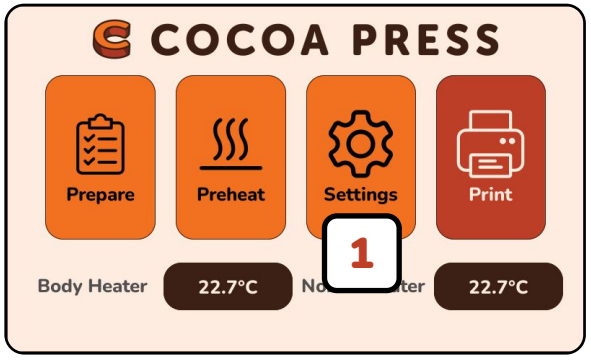
4. Select your wifi network.



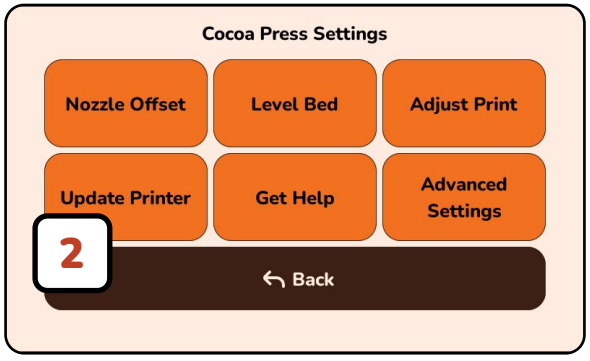
5. Enter your password, then tap Accept.

UPDATE YOUR PRINTER OVER WIFI

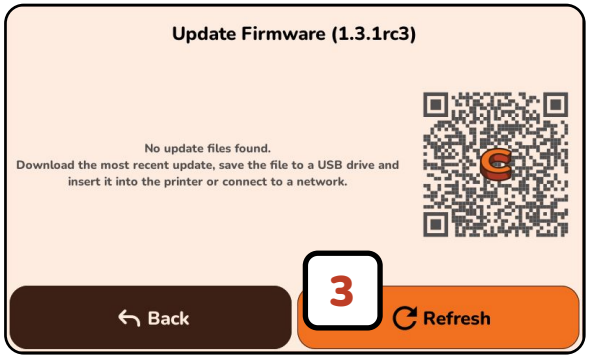
Check to see if there are any firmware updates available for your printer. If you are connected over wifi, follow the steps below.



1. Tap Settings.



2. Tap Update Printer.



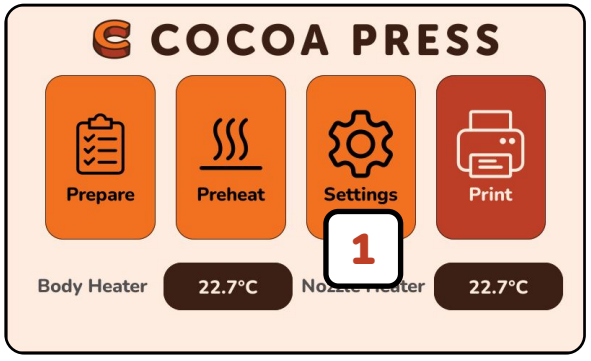
3. Tap Update or Refresh.

UPDATE YOUR PRINTER USING A FLASH DRIVE

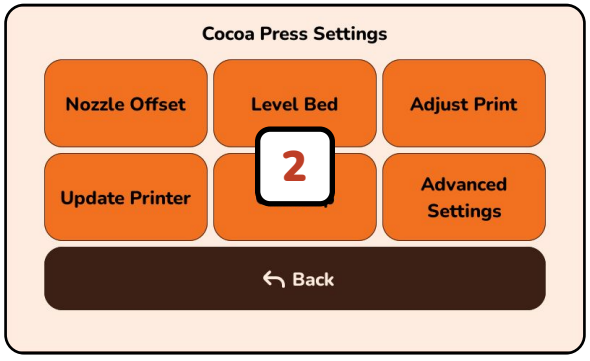
Check to see what the latest firmware version is by going to https://github.com/CocoaPress/CocoaPress-2/releases. Then download the .update file and place it on the USB flash drive. Follow the directions above.

LEVEL THE BED

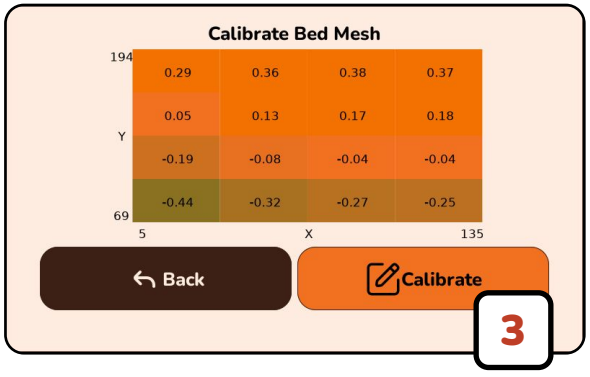
Ensure all four bed thumbscrews are tightened all the way down and there is no cartridge or nozzle installed in the printer. You can level the bed with or without a silicone mat.



1. Tap Settings.



2. Tap Level Bed.



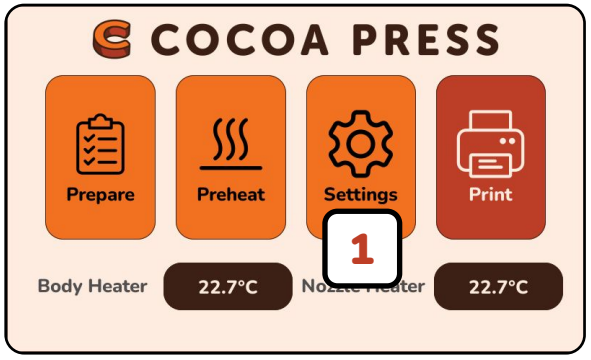
3. Tap Calibrate.

WHAT DOES THIS MEAN?

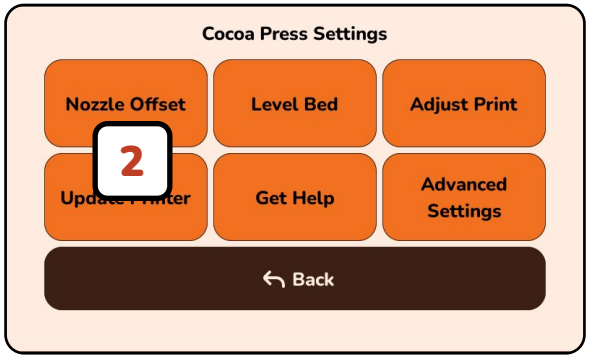
These values show the bed's height variation in millimeters. Aim for a difference of less than 1mm between the minimum and maximum values. If the difference is greater than 2mm, adjust the bed before printing.

NOZZLE OFFSET

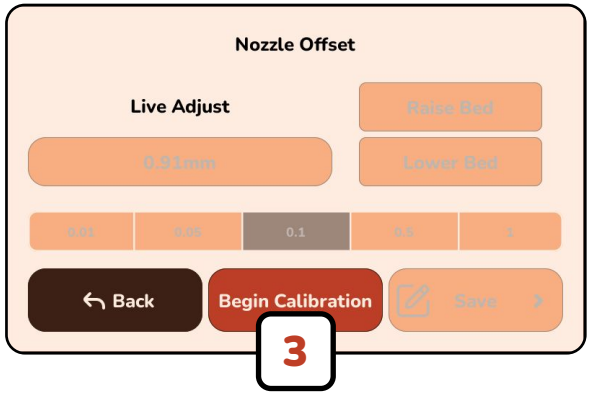
The nozzle offset controls how far the nozzle is from the silicone mat. To calibrate this, ensure the silicone mat is on the printer. After tapping Begin Calibration, place a piece of paper between the nozzle and the mat. Raise the bed until you can feel slight resistance when moving the paper.



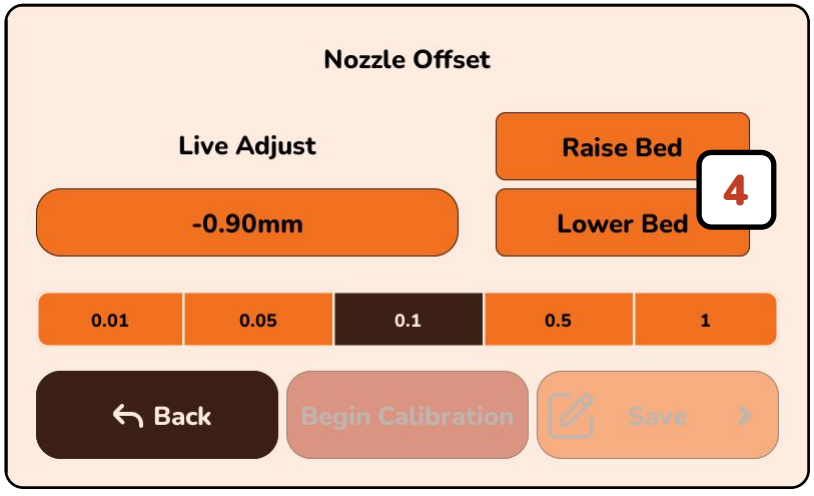
1. Tap Settings.



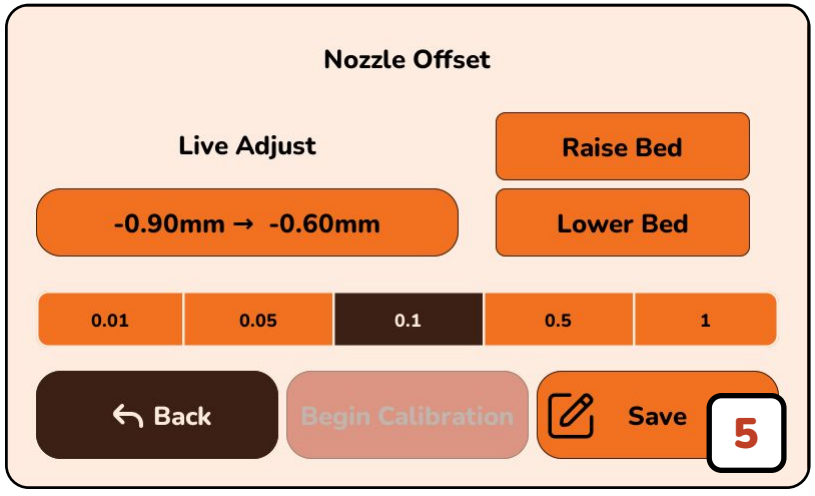
2. Tap Nozzle Offset.



3. Tap Begin Calibration.



4. Use Raise Bed or Lower Bed to adjust the nozzle.



5. Tap Save.



Red Plastic Plunger





M6 Thumbscrew

LOAD CHOCOLATE

Wash your cartridge body and nozzle if you haven't already. Make sure it is fully dry.

Lower the extruder using the Prepare menu, place the Red Plastic Plunger on the leadscrew stabilizer, then raise the extruder. Put the cartridge with a cocoa core into the extruder and firmly tighten the thumbscrew.

You're ready for a preheat and for your first print!!