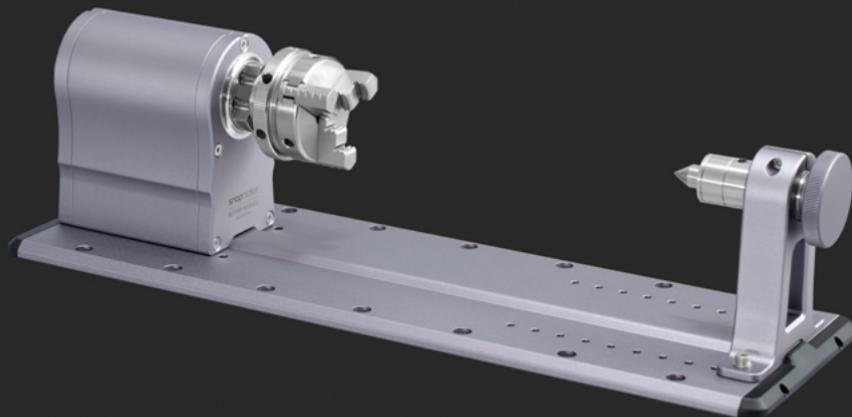


snapmaker | **Rotary Module**

QUICK START GUIDE

A250 & A350



MAKE SOMETHING WONDERFUL

CONTENTS

Before You Start	1
Machine Assembly	10
CNC Carving	16
Laser Engraving and Cutting	42
Troubleshooting	61

**BEFORE
YOU
START**



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1.1 Disclaimer

Please read the Quick Start Guide carefully. Failure to read this guide is likely to result in personal injury, inferior results, or damage to Snapmaker products, for which we assume no responsibility or liability. Ensure anyone who uses this product has read and understood this guide. This guide is for reference use only, and we do not guarantee or warrant the accuracy, completeness, or currency of the information provided. We reserve the right to revise this guide in our sole discretion at any time without notice. Users can download the up-to-date guide from our official website.

The conditions or methods of assembly, handling, storage, use, maintenance, or disposal of this product are beyond our control. For this reason, Snapmaker is not responsible or liable for any loss, injuries, damage, or expense arising out of or in connection with the assembly, handling, storage, use, maintenance, or disposal of this product. When using Snapmaker products, users are responsible for fair use of intellectual properties and compliance with laws and regulations applicable.

When using the Snapmaker Rotary Module, users remain responsible for qualifying and validating the application of the created object for its intended use, especially for applications in strictly regulated areas like medical devices and aeronautics.

1.2 Safety and Compliance

Do not expose the machine to rain or wet conditions.

Do not operate the machine on an unsound or uneven table or workbench.

Do not leave the machine unattended while it is on.

Keep away from the machine when it is in operation.

Do not operate the machine while tired or under the influence of drugs, alcohol, or medication.

Do not let children use the machine without the supervision and assistance of an adult.

Do not touch the moving parts while the machine is still in operation.

Put the machine into the Enclosure as applicable.

Turn off the machine immediately if any of the following occurs:

- The machine is on fire which persists after it is turned off.
- The machine stops unexpectedly.
- Any damage is incurred to the interior components of the machine.
- Any unusual light or sound comes from the machine which has never occurred previously.

1.3 Labels on Your Rotary Module

Safety Labels	Hazard	Warning	Location
	Sharp edges	Do not touch	On the Rotary Headstock
	Dangerous elements	Keep body parts away from moving parts Keep body parts out of the motion path	On the Rotary Headstock

1.4 Used Symbols

	Warning	Failure to follow this instruction might result in severe personal injury.
	Caution	Failure to follow this instruction might result in malfunction, damage to the machine or workpiece, or slight personal injury.
	Tip	Tells you practical advice.
	Direction	Ensure the highlighted part is facing the right way.

1.5 Specifications

	Rotary Module for A250	Rotary Module for A350
Weight	2.2 kg	2.4 kg
Dimensions	120 width × 284 depth × 108 height (mm)	120 width × 384 depth × 108 height (mm)
Material Length Range	10 - 70 mm	10 - 170 mm
Maximum Material Size	70 length × 68 radius (mm)	170 length × 68 radius (mm)
Inward-clamping Radius	1 - 30 mm	
Outward-clamping Radius	10 - 50 mm	
Frame Material	Aluminum alloy	
Rated Power	7.2 W	
Supported Software	Snapmaker Luban, Autodesk Fusion 360, Vectric Aspire	
Supported File Types	.svg, .png, .jpg, .jpeg, .bmp, .dxf, .stl	
Supported Materials for CNC	Wood, tooling and modeling board, plastic, bamboo, wax, more being tested	
Supported Materials for Laser	Wood, leather, plastic, fabric, paper, non-transparent acrylic, more being tested	
Angle Precision	0.1 °	
Maximum Angular Speed	45 °/s	
Rotation Type	360 ° continuous	
Rotational Speed Conversion	100:1	

The specifications are subject to change without notice.

1.6 Parts List



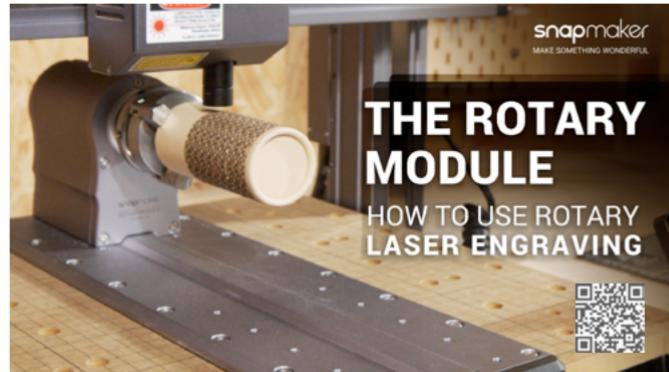
Quick Start Guide × 1	Rotary Headstock × 1	Tailstock × 1
A350 Base × 1	Mask × 1	Straight Groove V-bit × 1
Material for Laser × 3	Material for CNC × 3	M4 × 8 Hex Socket Head Screw × 6
Badge × 1	ACCESSORIES	M4 × 14 Hex Socket Head Screw × 14
		Chuck Wrench × 2
		M4 × 10 Hex Socket Head Screw × 4
		AB Glue × 1

This guide takes Snapmaker 2.0 A350 as a demonstration. All steps and illustrations apply to the assembly and use of the Rotary Module on A250 and A350. The Rotary Module for A250 is provided with two CNC materials and two laser materials.

1.7 Video Tutorials

You can read the Quick Start Guide or watch the video tutorials to begin your maker journey.

For video tutorials, visit our official website (<https://snapmaker.com>): Hover over **Support** > Select **Snapmaker 2.0** > Go to **Video Tutorial**.



1.8 Preparations

1.8.1 Software Update

Download our software Snapmaker Luban from <https://luban.xyz>, and update it to version 3.14.0 or above. This guide takes version 4.0.0 as a demonstration to generate the G-code file.

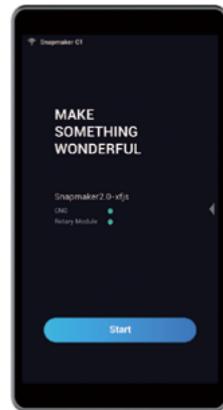


1.8.2 Firmware Update

After machine assembly, update the firmware to version 1.12.0 or later. For Touchscreen installed with the firmware of V1.9.0 or later, you can update via Wi-Fi or USB flash drive. For firmware previous to V1.9.0, update only via USB flash drive.

WiFi icon: Turn on the machine > Connect your machine to a Wi-Fi network > Swipe left on the Touchscreen > Tap **Settings** > **Firmware Update** > **Check for Updates** > **Update Now** > **Complete**.

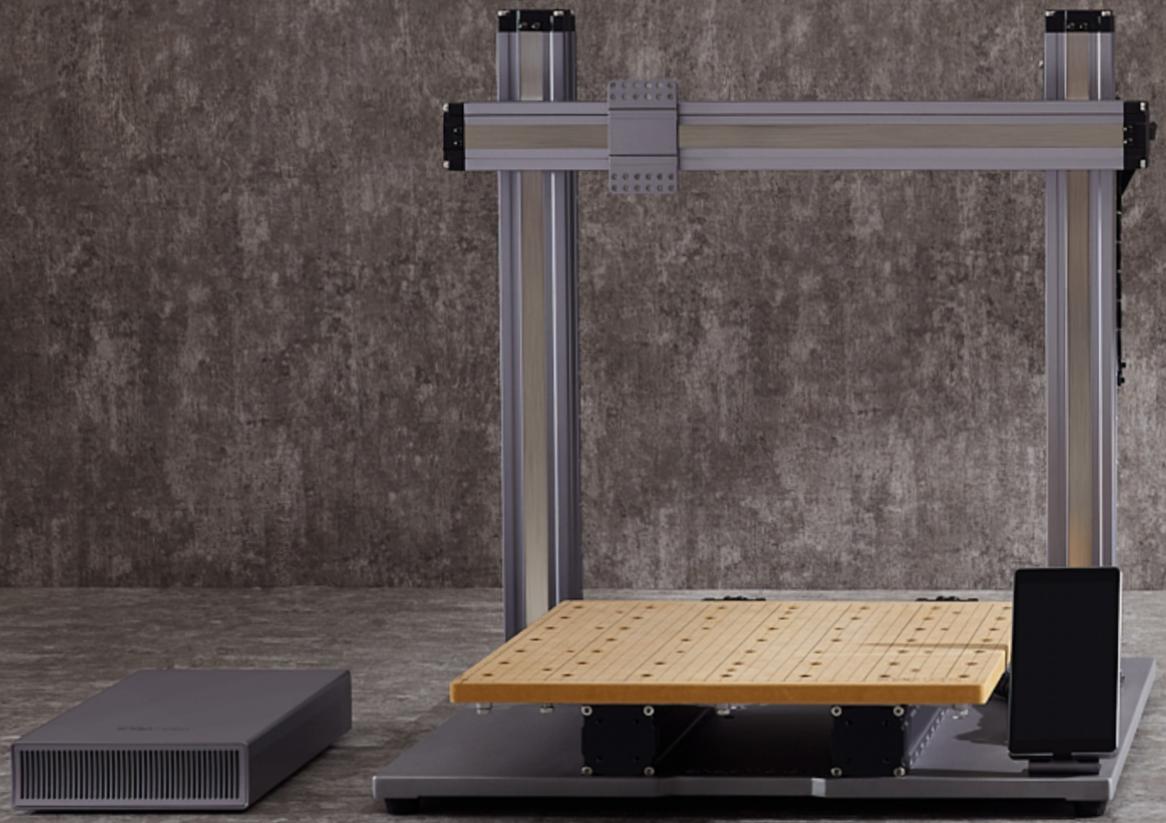
USB icon: Download our firmware from <https://snapmaker.com/product/snapmaker-2/downloads> > Insert the USB flash drive into the Controller > Turn on the machine > Swipe left on the Touchscreen > Tap **Files** > Tap **USB** > Tap the firmware file to update.



1.8.3 Get the Screwdriver Ready



Use the H2.5 bit for machine assembly and the H2.0 bit to adjust the set screw on the Tailstock. Before use, ensure the screw bit holder is put back into the handle.

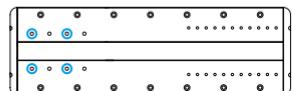


MACHINE ASSEMBLY

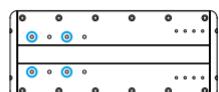


01

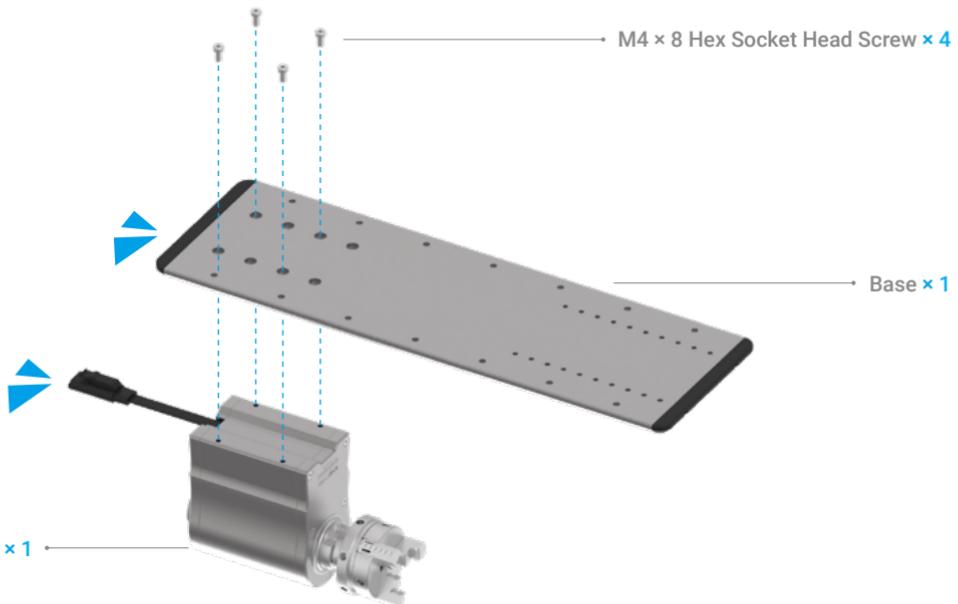
Attach the Rotary Headstock to the Base.



For A350



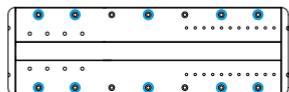
For A250



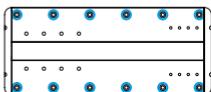
Turn off the machine before assembly.

02

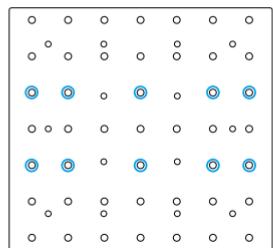
Attach the Base to the middle of the CNC Carving Platform.



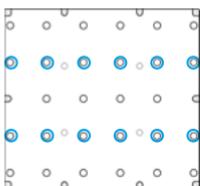
For A350



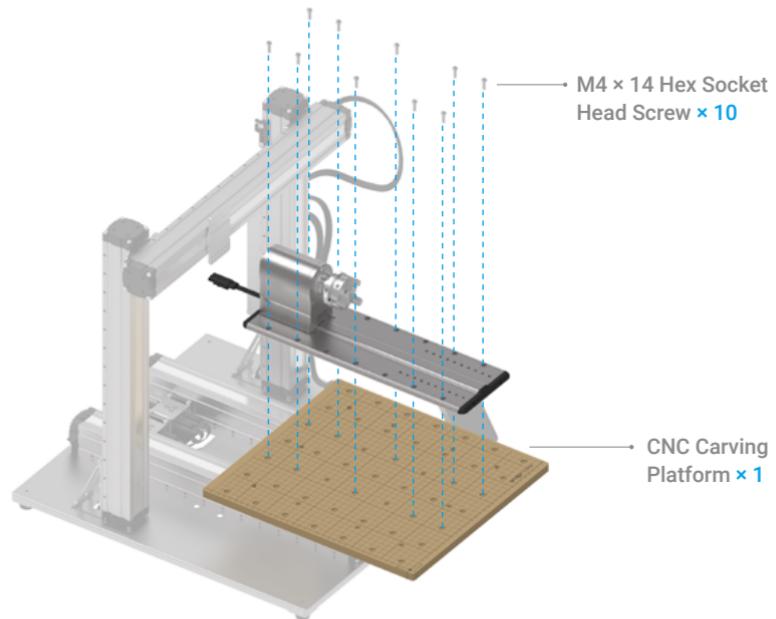
For A250



For A350



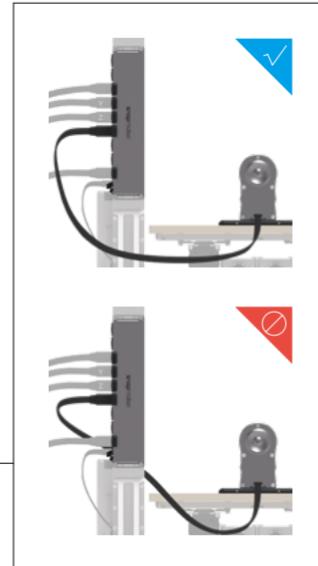
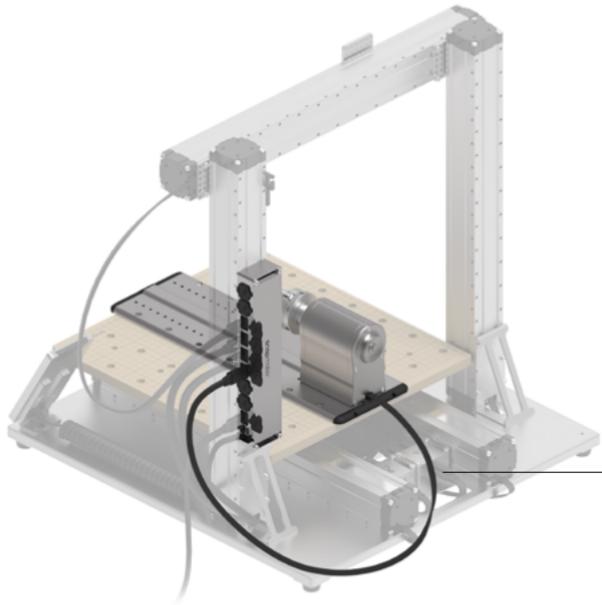
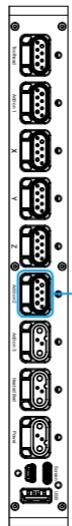
For A250



If the nut is screwed out from the CNC Carving Platform, glue it back with the provided AB glue.

03

Connect the Rotary Headstock to the Controller.



Do not connect or disconnect any cables when the machine is turned on.



Congratulations

You are now ready to use!

CNC Carving

3.1 Assemble the CNC Carver

3.2 Generate the G-code File

3.3 Safety Instructions

3.4 Origin Assistant

3.4.1 Select an Assistant

3.4.2 Material Settings

3.4.3 Fix the Material

3.4.4 Attach the CNC Bit

3.4.5 Set the Work Origin

3.5 Start Carving

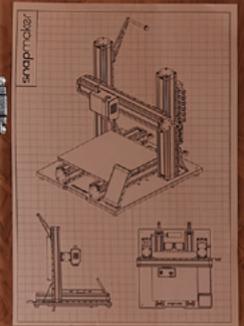
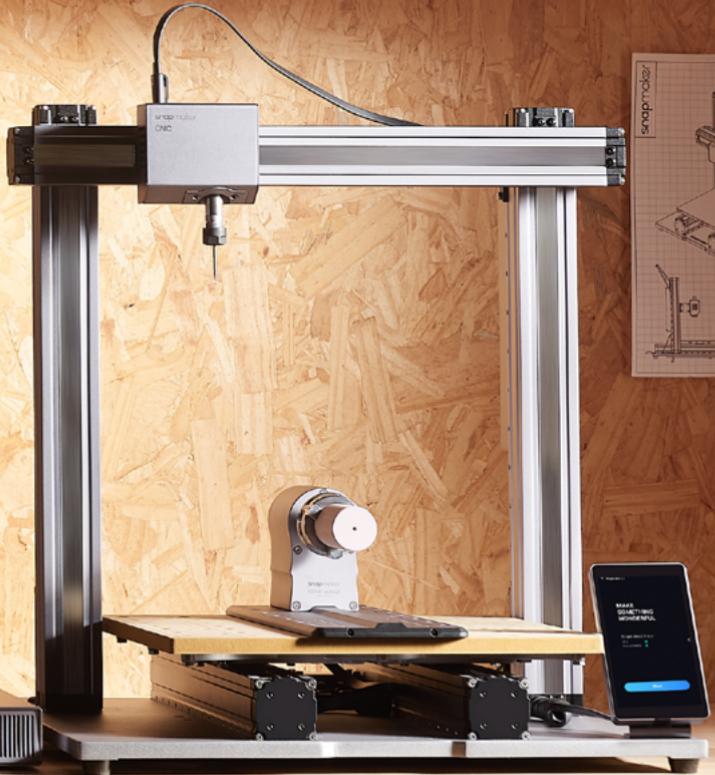
3.5.1 Preview the File

3.5.2 Run Boundary

3.5.3 Attach the Tailstock

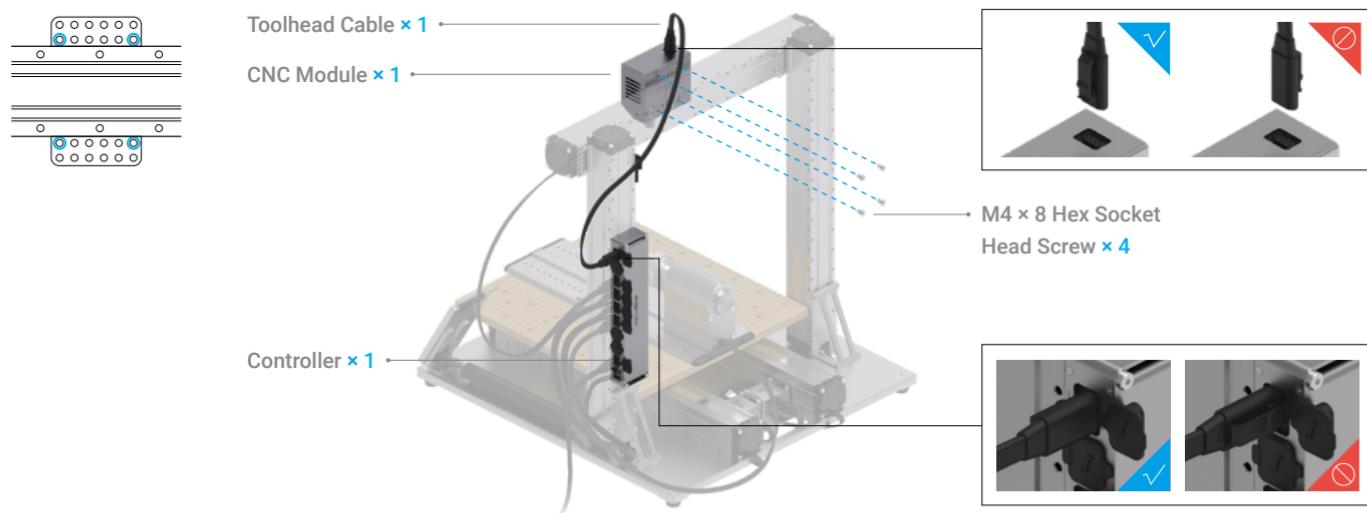
3.5.4 Check Before Carving

3.6 Remove the Finished Work



3.1 Assemble the CNC Carver

Attach the CNC Module to the Slider. Connect the CNC Module to the Controller from the behind of the X Axis, and lock the Toolhead cable into the Cable Holder. Leave enough length for the Toolhead to move.

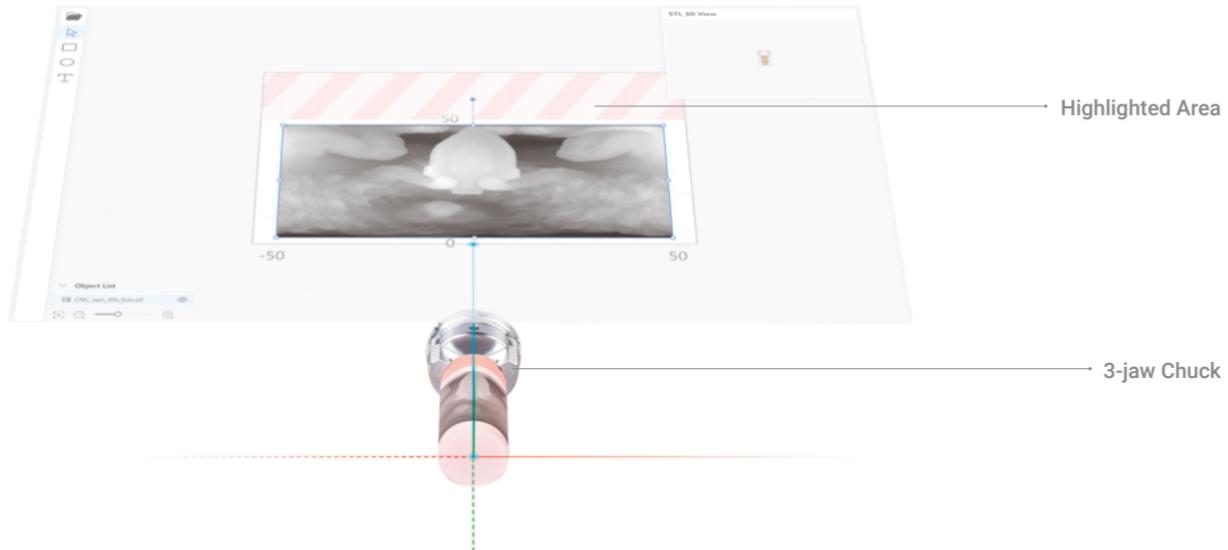


Turn off the machine before assembly. Do not connect or disconnect any cables when the machine is turned on.

3.2 Generate the G-code File

How It Works: Canvas

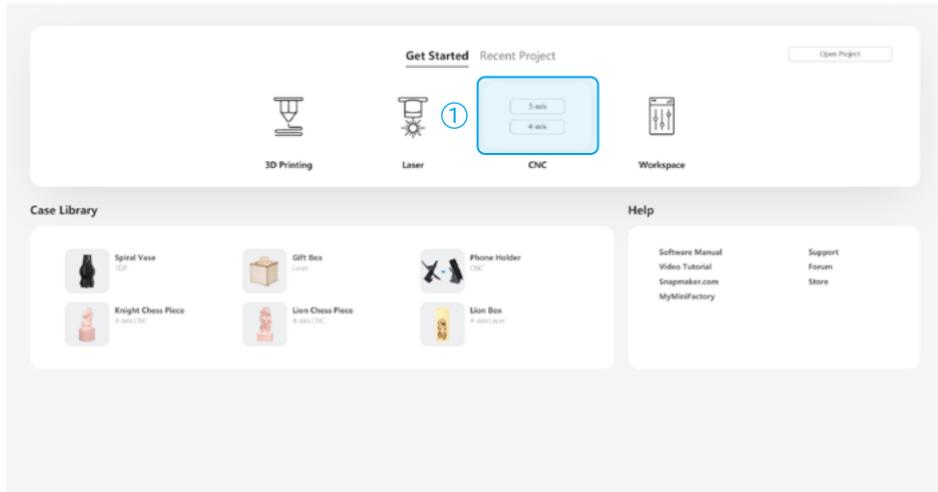
The canvas in the Snapmaker Luban equals the lateral area of your material. After you input the diameter and length of your material, Luban will adjust the size of the canvas. You should put your object within the canvas. The highlighted area is where the material is clamped by the 3-jaw Chuck.



On the top-right corner of the canvas, you can check the 3D view of the object. To close this view, click **STL 3D View > Disable STL 3D View** on the main toolbar.

How to Generate the G-code File

- ① Launch the Snapmaker Luban.
On the Home window, hover the selection arrow over the CNC
G-code Generator  on the Get Started pane and click **4-axis**.



- ② On the Job Setup pop-up window, input the length and diameter of your material and click **Confirm**.



- ③ On the left toolbar, click  to import an object from your local computer.

- ④ Click to select the object on the canvas, edit the object based on your need, and then click **Next**.

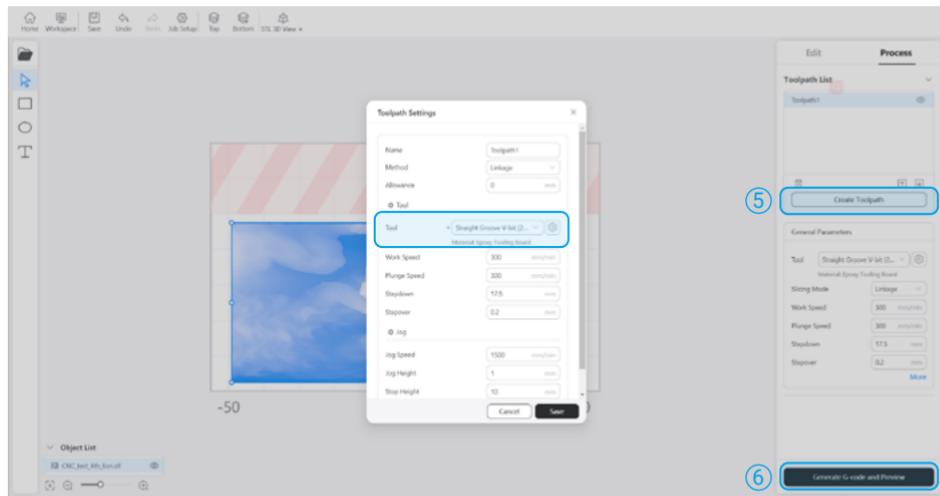


Currently, Luban supports the following file formats for CNC carving: .svg, .dxf, .png, .jpeg, .jpg, .bmp, and .stl.



If you want to attach the Tailstock, leave a gap between the object and the bottom line of the canvas to avoid collision between the Tailstock Center and the CNC bit.

- ⑤ Click to select the object on the canvas, and then click **Create Toolpath** on the Process panel. On the Toolpath Settings pop-up window, select the CNC bit you use from the drop-down list of **Tool**, use the default parameters for the other configurations, and then click **Save**.
- ⑥ Click **Generate G-code and Preview**.

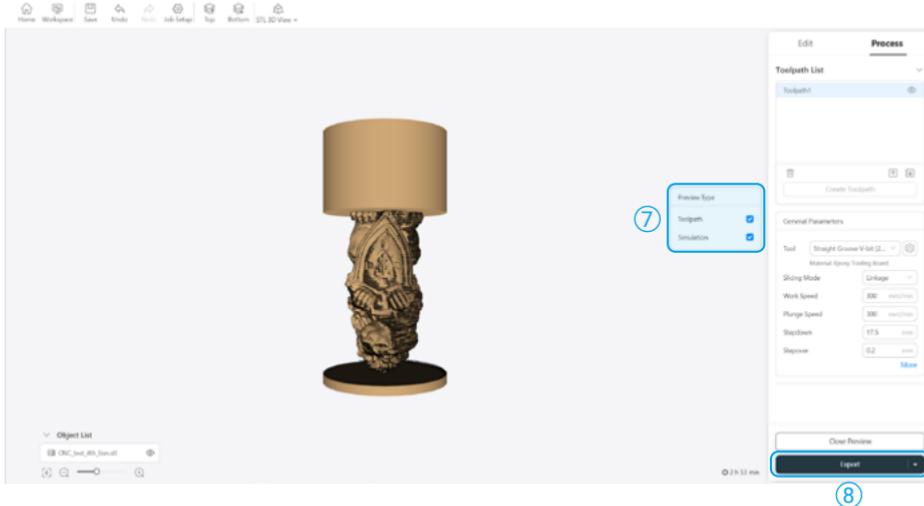


⑦ Select **Toolpath** and **Simulation**

In Preview Type to check the toolpath and finished effect of the carving job.

⑧ Click **Export > Export G-code**

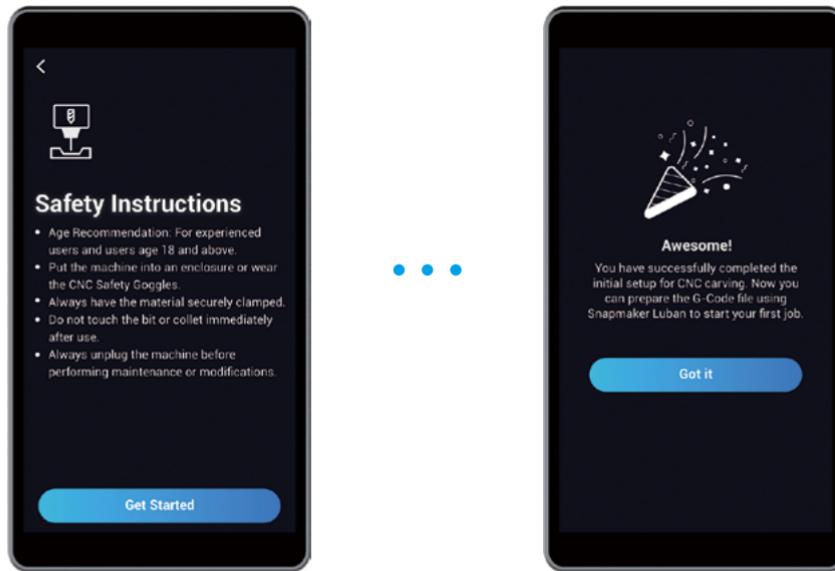
to File to save the G-code file to your USB flash drive.



If your machine is turned on, you can also send the G-code file to your machine via Wi-Fi. After you finish step ⑥, click **Export > Load G-code to Workspace > Connect Luban** to your machine via Wi-Fi > **Send to Device via Wi-Fi** > Receive the G-code file on the Touchscreen.

3.3 Initial Setup

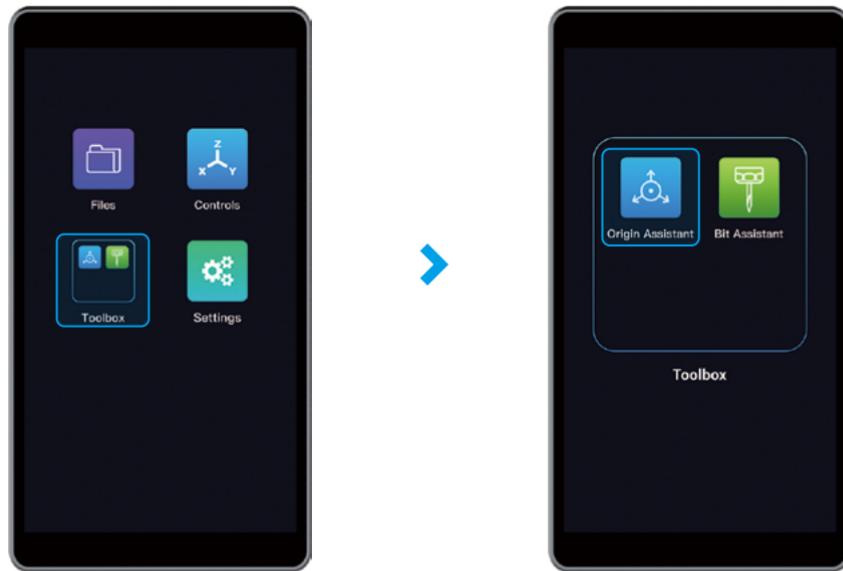
Turn on the machine, and read the Safety Instructions.



3.4 Origin Assistant

3.4.1 Select an Assistant

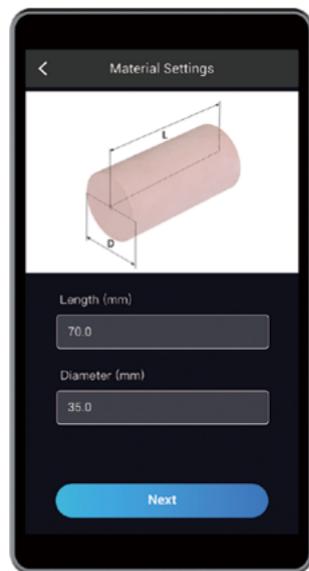
Tap **Toolbox**, and select **Origin Assistant** to guide you through setting the work origin.



For instructions on Bit Assistant which guides you to change a CNC bit after rough machining, refer to our User Manual:
<https://support.snapmaker.com>.

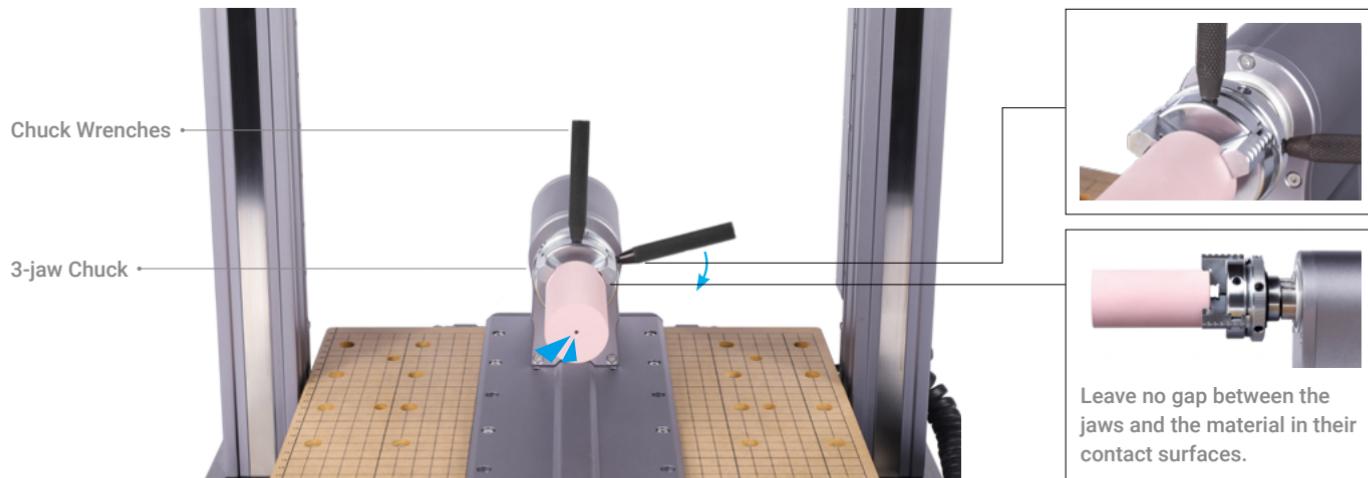
3.4.2 Material Settings

Input the length and diameter of your material.



3.4.3 Fix the Material

Loosen the 3-jaw Chuck counter-clockwise by turning two chuck wrenches. Insert one end of the material onto the 3-stepped jaws, and tighten the Chuck clockwise.

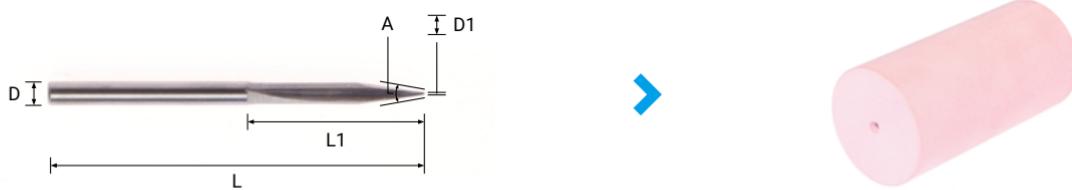


Caution the sharp jaws. Always use two chuck wrenches to adjust the jaws.

3.4.4 Attach the CNC Bit

How It Works: Straight Groove V-bit

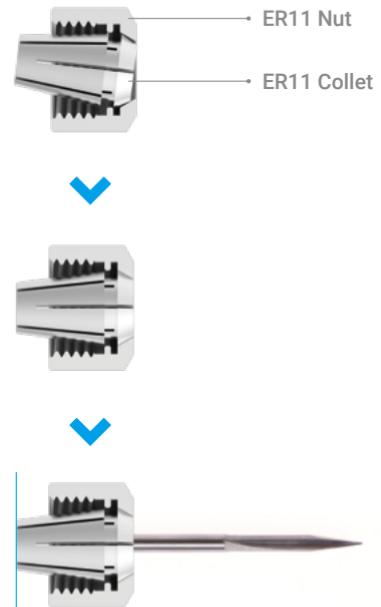
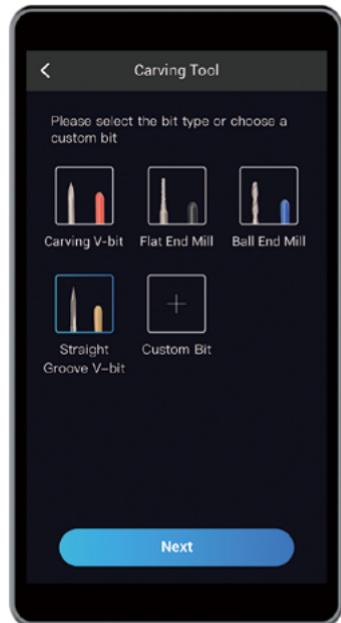
The Straight Groove V-bit features a long and sharp carving edge, penetrating deep into materials and rendering high-precision creations. The extended flutes on both sides create a larger area of engagement, providing a superior carving than single flute bits. It can also clear swarf, eliminating clogging and reducing wear and tear.



Total Length (L)	Flute Length (L1)	Shank Dia (D)	Cutting Dia (D1)	Side Angle (A)
50 mm	24 mm	3.175 mm	0.3 mm	20 °

How to Attach the Bit

- ① Select **Straight Groove V-bit** on the Touchscreen first. Tilt the ER11 collet into the ER11 nut until the collet snaps into place. Insert the CNC bit into the ER11 collet until the shank bottoms against the collet.



- ② Twist the ER11 nut onto the Toolhead, and secure the nut with open-end wrenches.

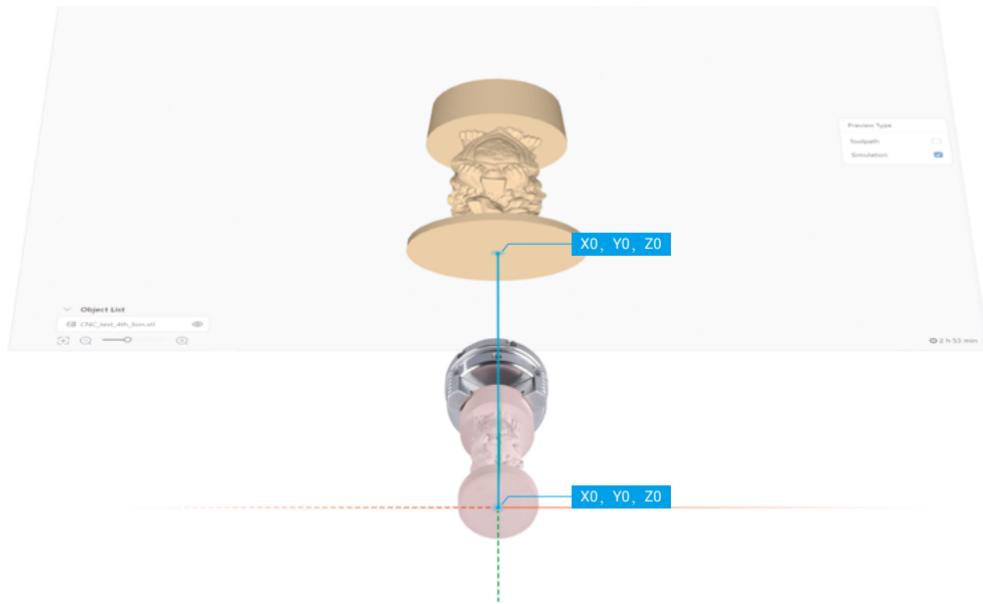


Caution the sharp CNC bit.

3.4.5 Set the Work Origin

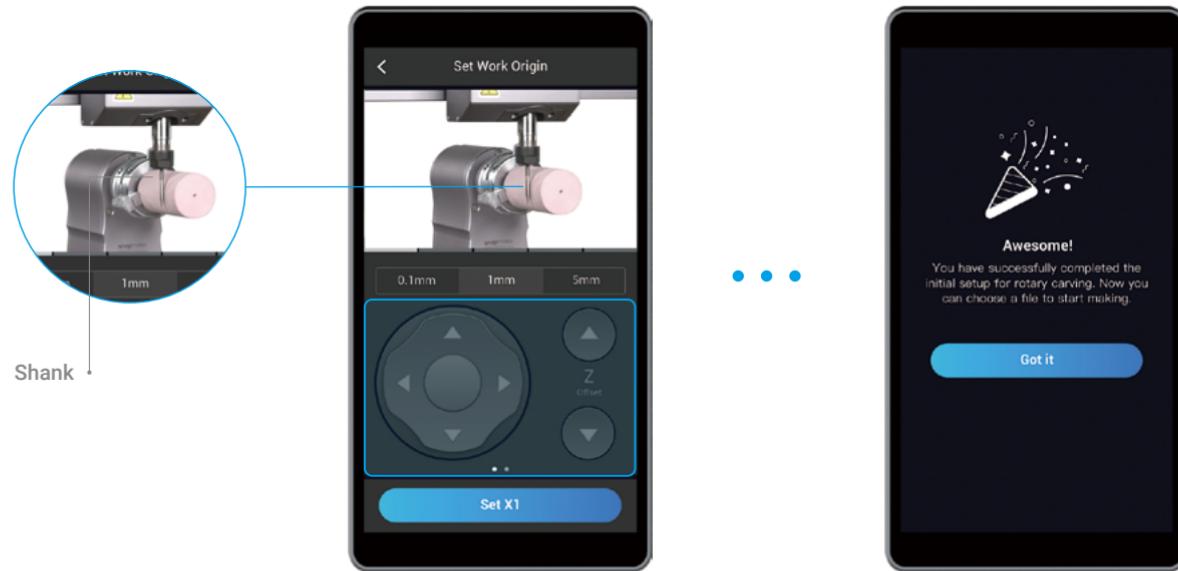
How It Works: Work Origin

Setting the work origin helps the machine find out how to carve the material. The work origin (X0, Y0, Z0) on the material corresponds to the work origin (X0, Y0, Z0) in Snapmaker Luban.



How to Set the Work Origin

Read the instruction on Origin Assistant on the Touchscreen, and wear the CNC Safety Goggles. Follow onscreen instructions, and manipulate the illustrated part of the straight groove v-bit to touch the material.

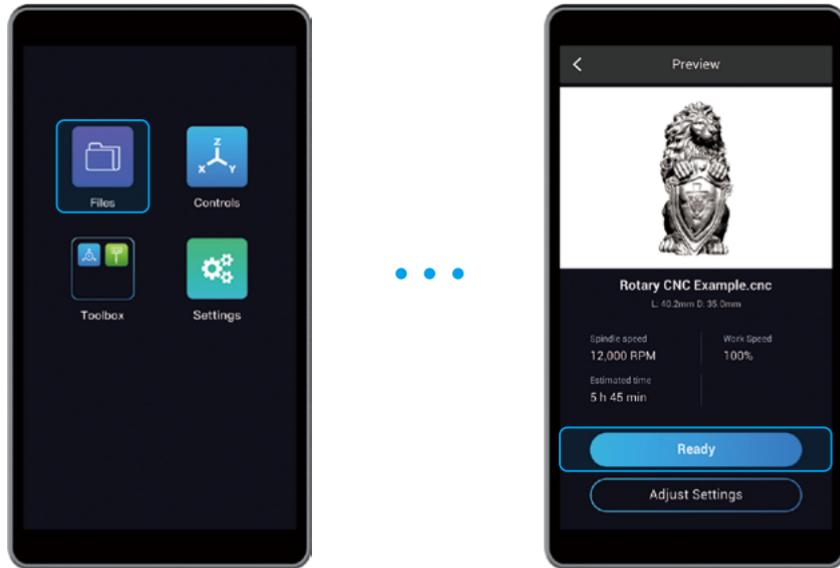


If the CNC bit bumps into the machine, turn off the machine immediately or press the Emergency Stop Button .

3.5 Start Carving

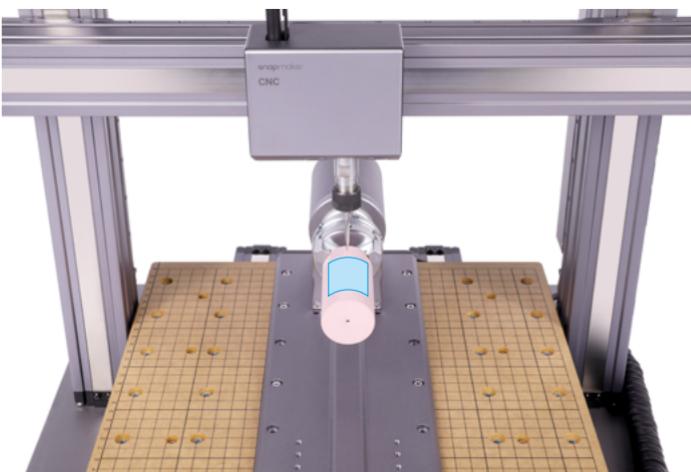
3.5.1 Preview the File

Insert your USB flash drive into the Controller. Tap **Files**, and select the G-code file in **USB**. Preview the file, and tap **Ready**.



3.5.2 Run Boundary

Read the instruction on Set Work Origin, and ensure you have worn the CNC Safety Goggles. Use **Z Offset** to lift the CNC bit above the Rotary Headstock, and tap **Run Boundary** to check the work area. If the work area is inappropriate, reset the work origin.

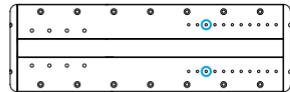


If the CNC bit bumps into the machine, turn off the machine immediately or press the Emergency Stop Button .

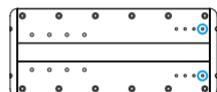
3.5.3 Attach the Tailstock (Optional)

Clamping the material with the Chuck and Tailstock improves stability and precision. If your material is long or heavy, use the Tailstock.

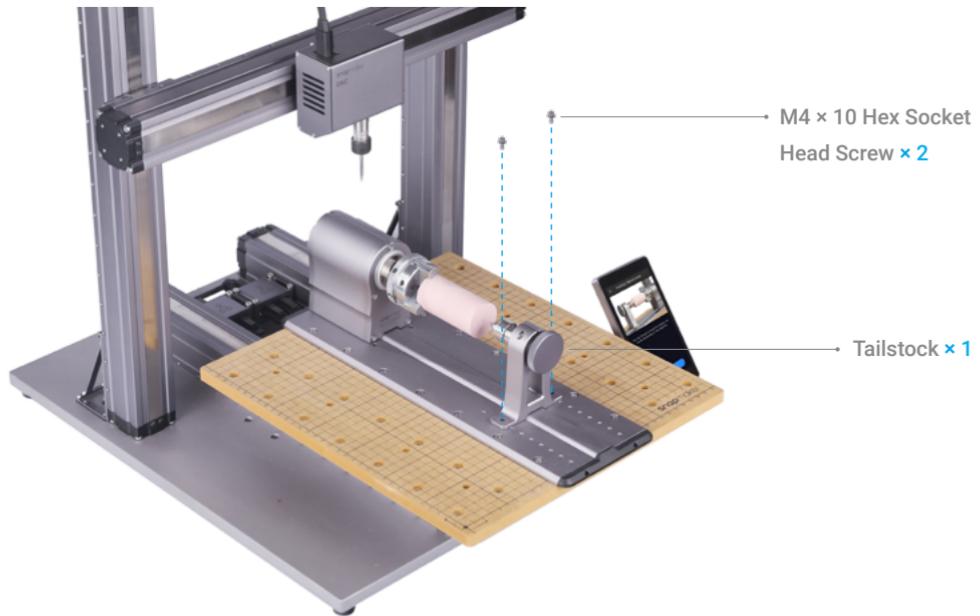
- ① Select two holes on the Base to attach the Tailstock.



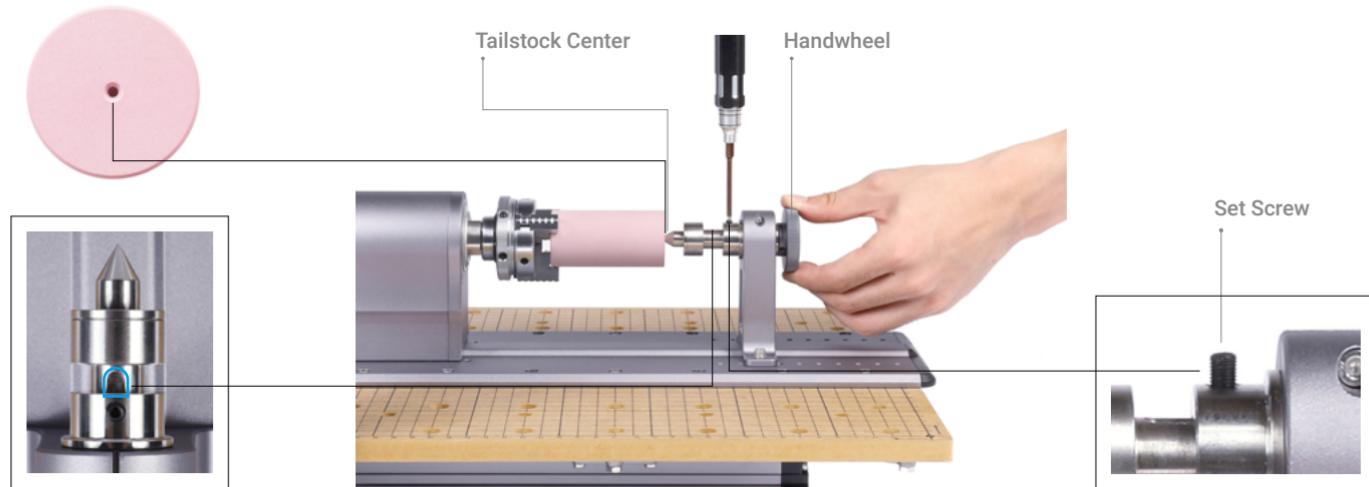
For A350



For A250



- ② Use the H2.0 screw bit to loosen the set screw and screw the Handwheel forward until the Tailstock Center presses against the central point of the bottom surface of the material. Align the groove on the Tailstock Center with the set screw, and tighten the set screw.



3.5.4 Check Before Carving

Check the following steps before carving:

Lift the CNC bit above the material	Secure the CNC bit	Secure the material	Wear the CNC Safety Goggles	Wear the provided mask
				
✓	✓	✓	✓	✓

You are now ready to carve. Tap **Start** on the Touchscreen.

3.6 Remove the Finished Work

Use a vacuum to clean the machine and the finished work. Adjust the Handwheel, and remove the finished work with two chuck wrenches.



Caution the sharp CNC bit and jaws. To avoid scratch, you can remove the bit before cleaning.



Share

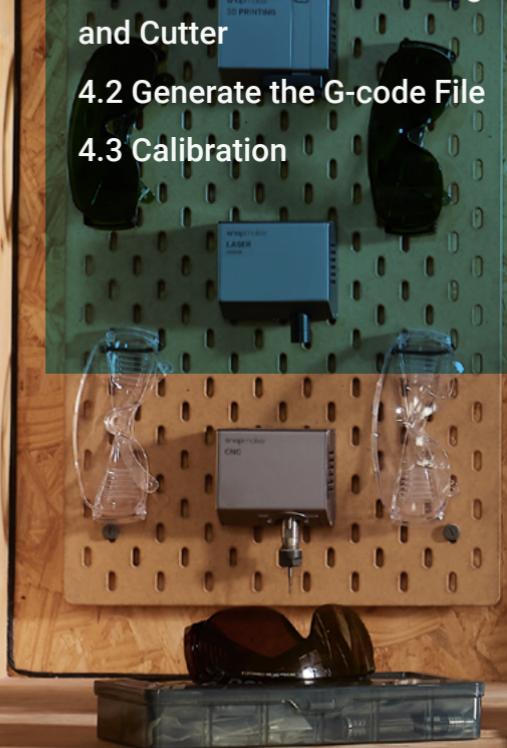
You can share your finished work in our Facebook group and our forum!

Laser Engraving and Cutting

4.1 Assemble the Laser Engraver and Cutter

4.2 Generate the G-code File

4.3 Calibration



4.4 Start Engraving and Cutting

4.4.1 Preview the File

4.4.2 Select a Mode

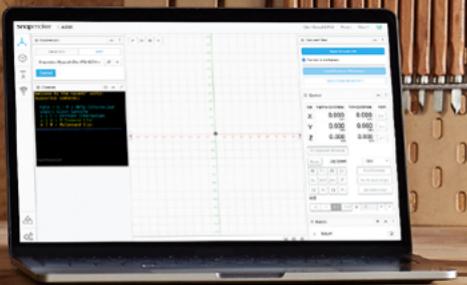
4.4.3 Material Settings

4.4.4 Fix the Material

4.4.5 Set the Work Origin

4.4.6 Check Before Engraving and Cutting

4.5 Remove the Finished Work





snapmaker

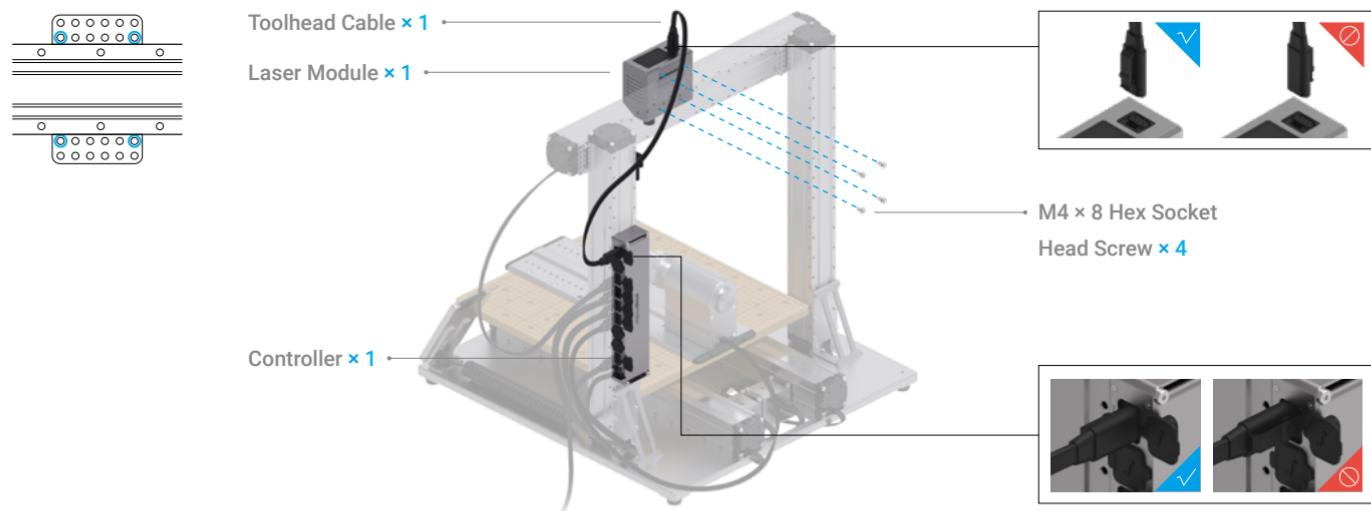
LASER

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4.1 Assemble the Laser Engraver and Cutter

Attach the Laser Module to the Slider. Connect the Laser Module to the Controller from the behind of the X Axis, and lock the Toolhead cable into the Cable Holder. Leave enough length for the Toolhead to move.

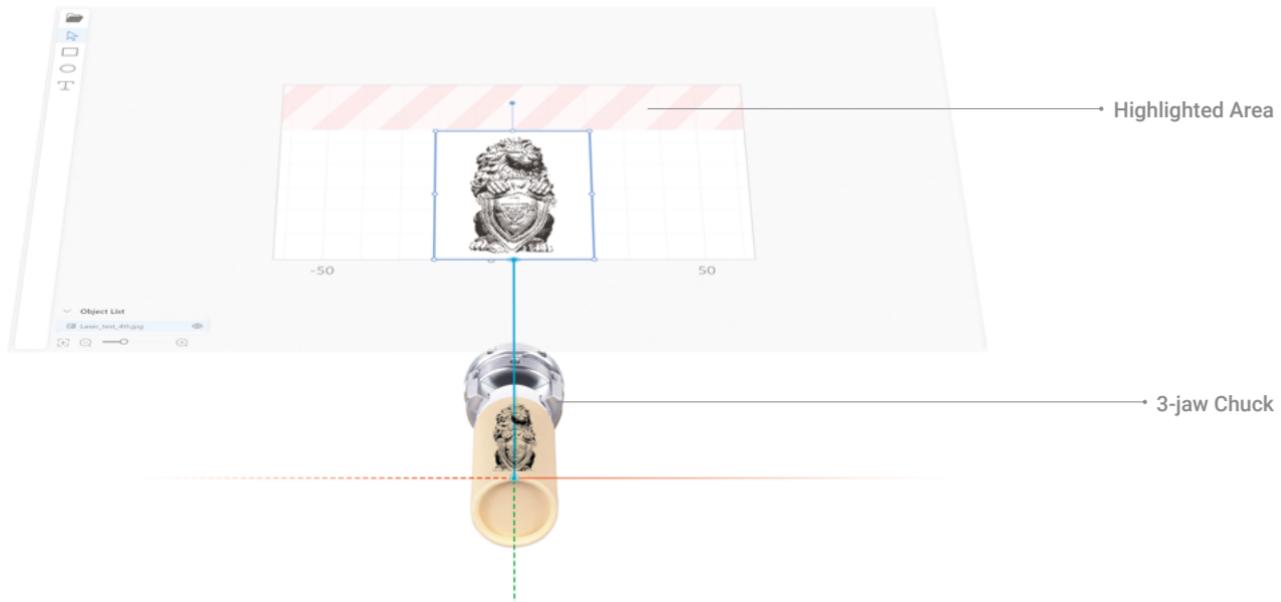


Turn off the machine before assembly. Do not connect or disconnect any cables when the machine is turned on.

4.2 Generate the G-code File

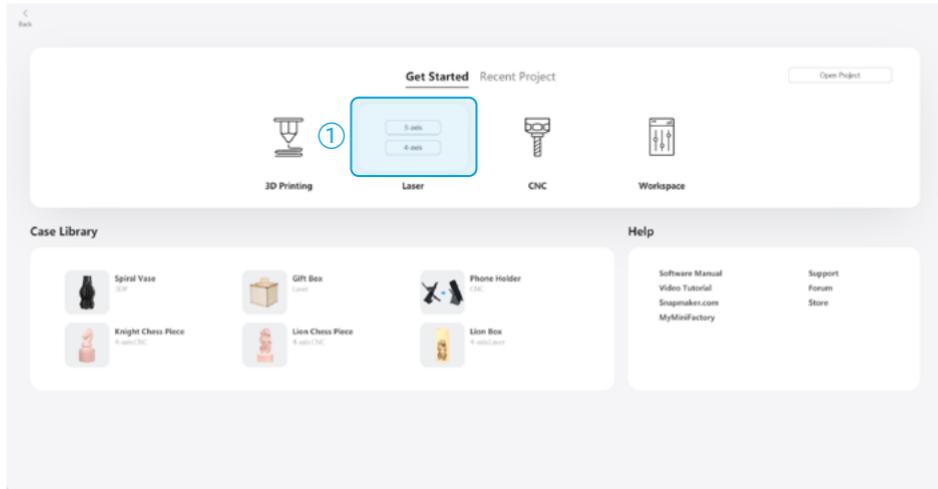
How It Works: Canvas

The canvas in the Snapmaker Luban equals the lateral area of your material. After you input the diameter and length of your material, Luban will adjust the size of the canvas. You should put your object within the canvas. The highlighted area is where the material is clamped by the 3-jaw Chuck.

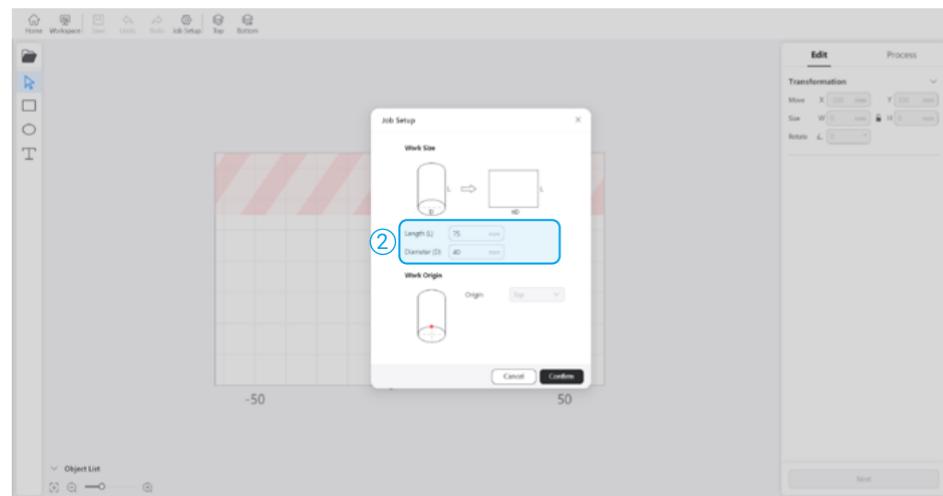


How to Generate the G-code File

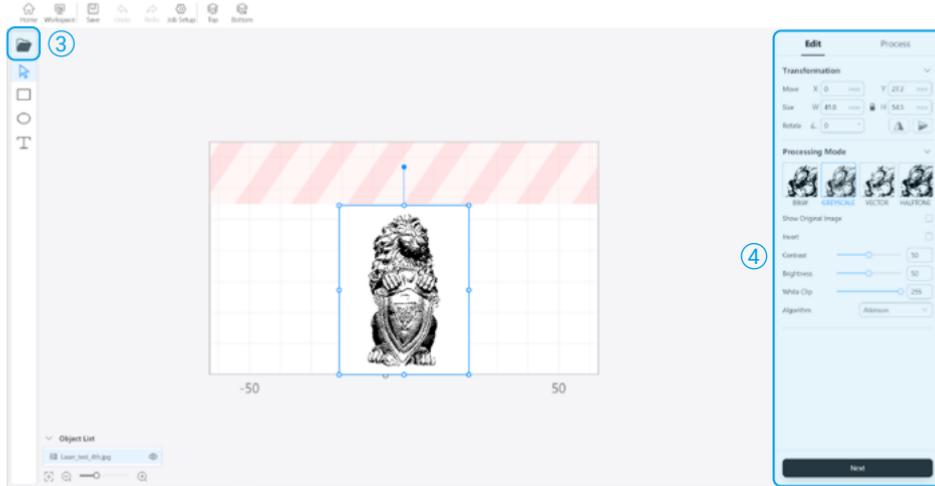
- ① Launch the Snapmaker Luban.
On the Home window, hover the selection arrow over the Laser G-code Generator  on the Get Started pane and click **4-axis**.



- ② On the Job Setup pop-up window, input the length and diameter of your material and click **Confirm**.

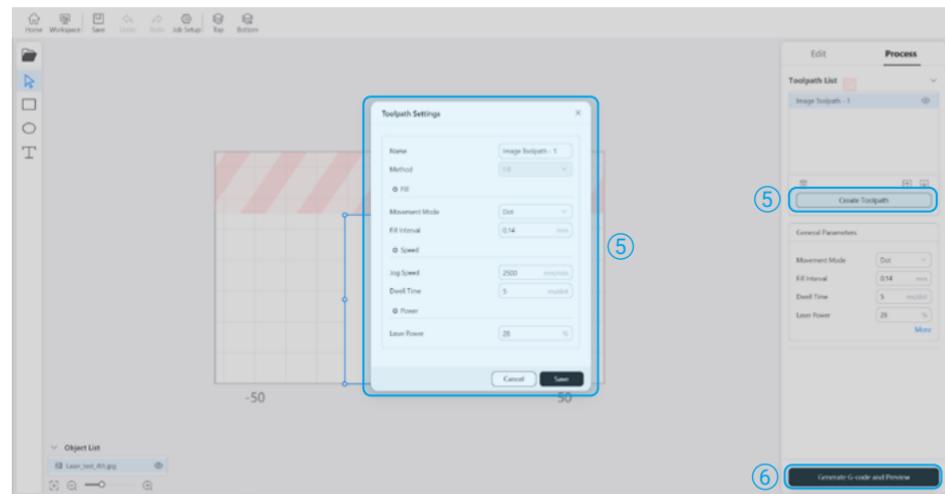


- ③ On the left toolbar, click to import an object from your local computer.
- ④ Click to select the object on the canvas, edit the object based on your need, and then click **Next**.

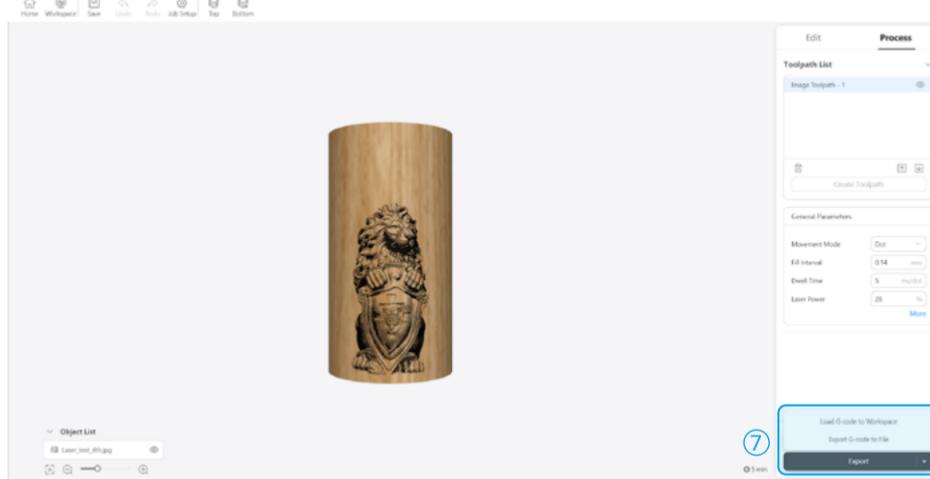


Currently, Luban supports the following file formats for laser engraving and cutting: .svg, .png, .jpg, .jpeg, .bmp, and .dxf.

- ⑤ Click to select the object on the canvas, and then click **Create Toolpath** on the Process panel. On the Toolpath Settings pop-up window, use the default configurations and click **Save**.
- ⑥ Click **Generate G-code and Preview** to check the toolpath.



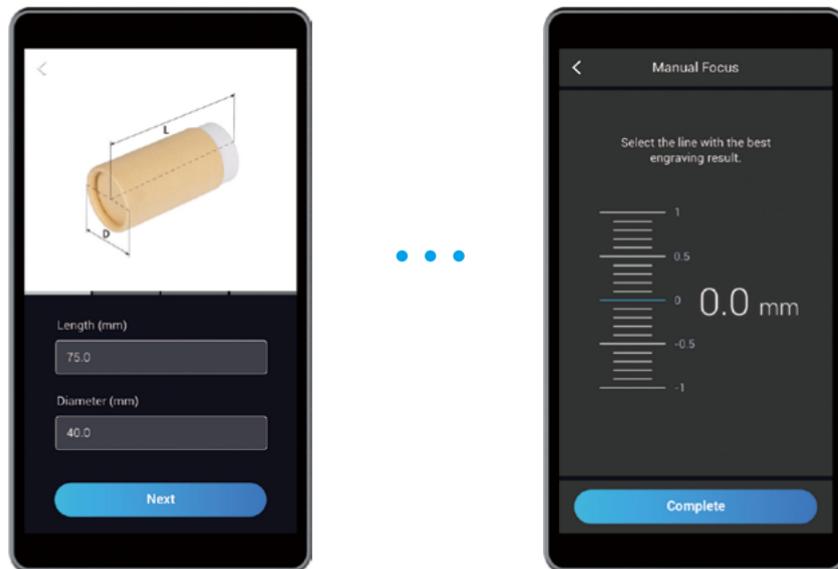
⑦ Click **Export > Export G-code to File** to save the G-code file to your USB flash drive.



If your machine is turned on, you can also send the G-code file to your machine via Wi-Fi. After you finish step ⑥, click **Export > Load G-code to Workspace > Connect Luban to your machine via Wi-Fi > Send to Device via Wi-Fi > Receive the G-code file on the Touchscreen.**

4.3 Calibration

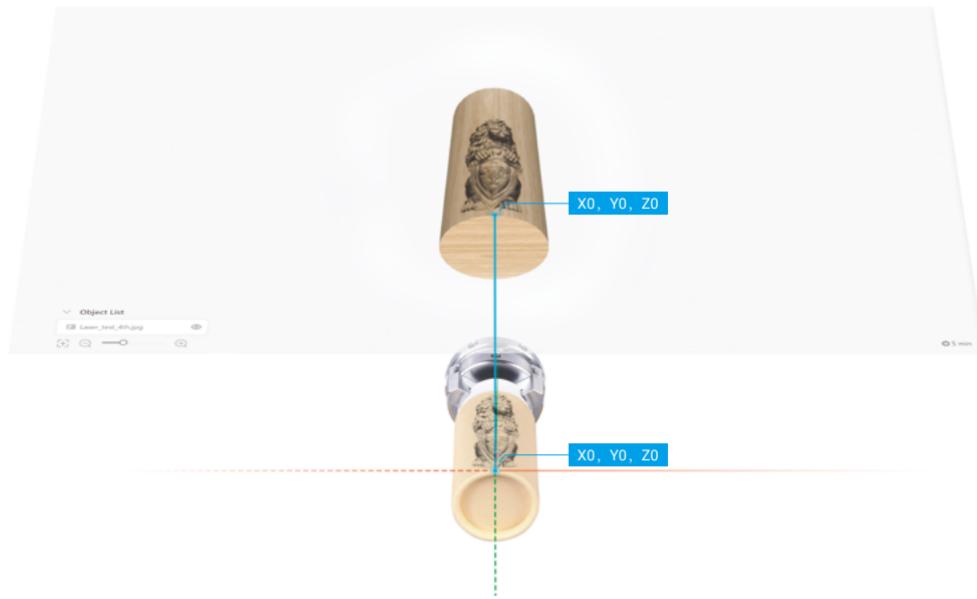
Follow the Safety Instructions to manually calibrate the focal length. For instructions on fixing the material, refer to section 4.4.4.



4.4 Start Engraving and Cutting

How It Works: Work Origin

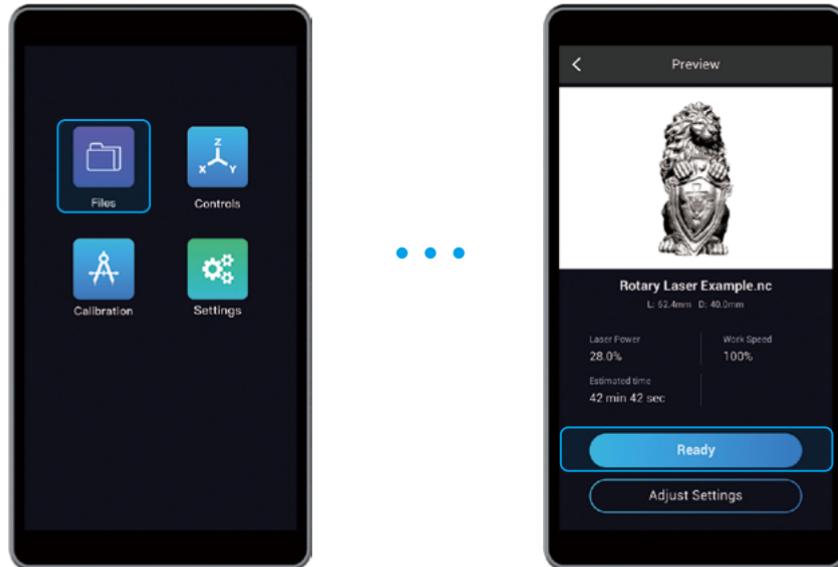
Setting the work origin helps the machine find out how to engrave or cut the material. The work origin (X_0, Y_0, Z_0) on the material corresponds to the work origin (X_0, Y_0, Z_0) in Snapmaker Luban.



How to Set the Work Origin

4.4.1 Preview the File

Insert your USB flash drive into the Controller. Tap **Files**, and select the G-code file in **USB**. Preview the file, and tap **Ready**.



4.4.2 Select a Mode

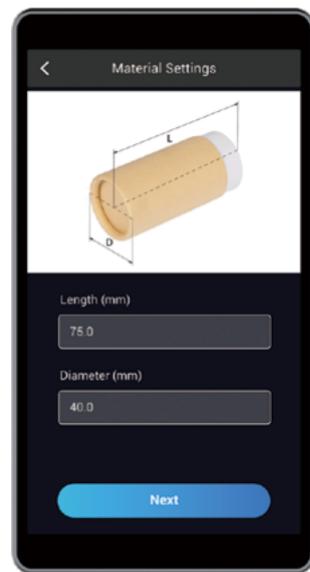
Select a mode to set the work origin. This guide will show you how to set the work origin under the **Auto Mode**.



For instructions on the **Manual Mode**, refer to our User Manual: <https://support.snapmaker.com>.

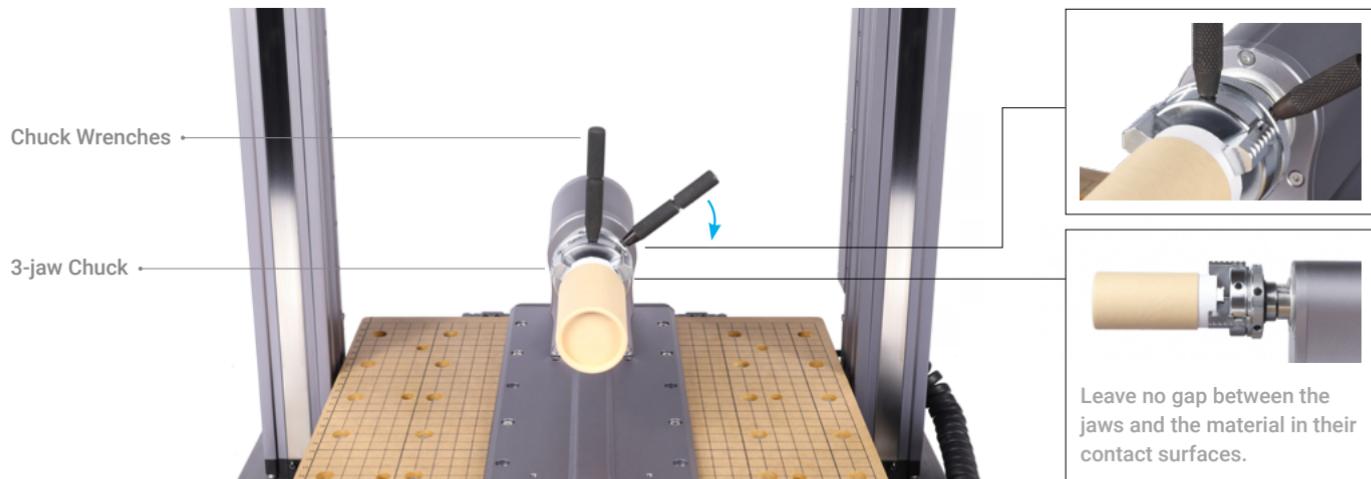
4.4.3 Material Settings

Input the length and diameter of the new material.



4.4.4 Fix the Material

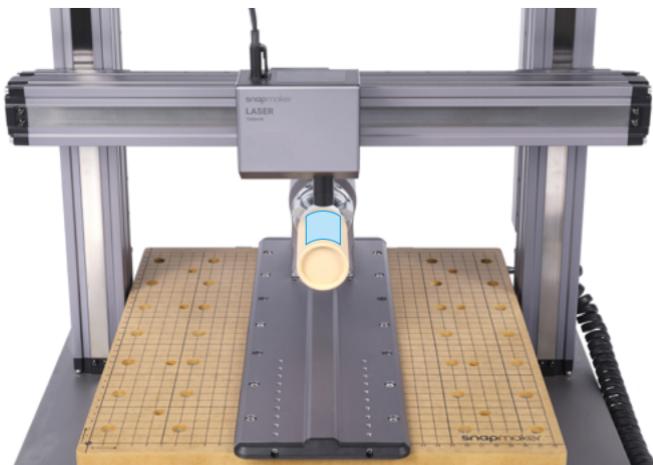
Loosen the 3-jaw Chuck by turning two chuck wrenches. Insert one end of the material onto the 3-stepped jaws, and tighten the Chuck.



Caution the sharp jaws. Use two chuck wrenches to loosen or tighten the jaws.

4.4.5 Set the Work Origin

Ensure you have worn the Laser Safety Goggles. Use **X**, **Y**, and **B** Offsets to **Set Work Origin**. You can tap **Run Boundary** to check the work area.



If the lens hood bumps into the machine, turn off the machine immediately or press the Emergency Stop Button

4.4.6 Check Before Engraving and Cutting

Check the following steps before engraving and cutting:

Secure the material	Wear the Laser Safety Goggles	Wear the provided mask
		
✓	✓	✓

You are now ready to engrave. Tap **Start** on the Touchscreen.

4.5 Remove the Finished Work

Remove the finished work by turning two chuck wrenches.





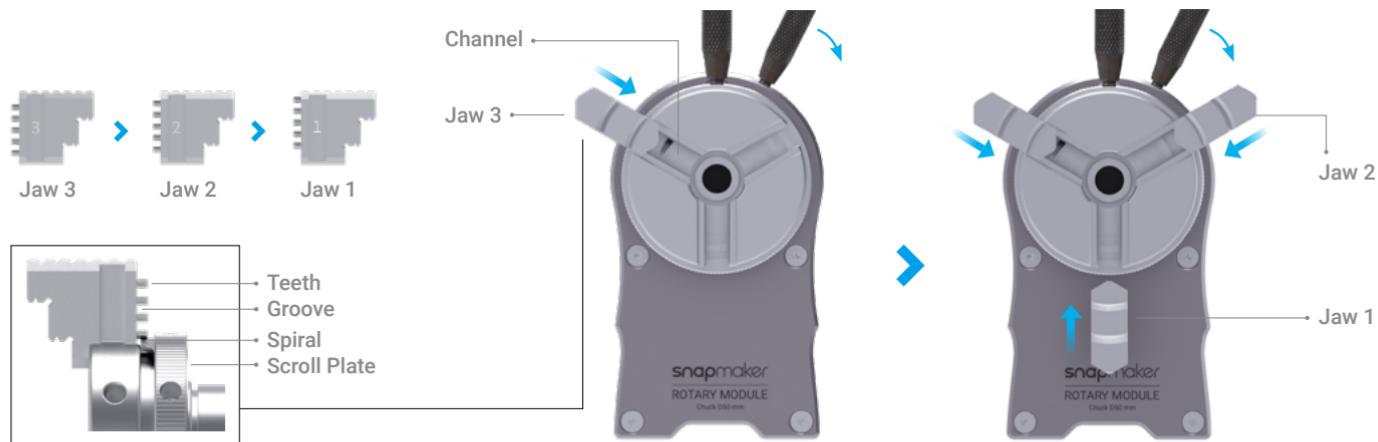
Share

You can share your finished work in our Facebook group and our forum!

Troubleshooting

How to Reinstall the Jaws

1. The jaws are numbered. As for this guide, we install them in reverse order.
2. Slide the Jaw 3 into the channel, and press it inward. Rotate the spiral on the scroll plate through the groove between the teeth.
3. One by one, install the Jaw 2 and Jaw 1. Slide all jaws into channels, and keep turning the chuck wrenches until all jaws close up in the center.



For other types of jaw installation and what tricks they can do, refer to our User Manual: <https://support.snapmaker.com>.

Resources

This guide is subject to change.

For the latest version of our Quick Start Guide:

<https://support.snapmaker.com/hc/en-us/categories/360001781913-Snapmaker-2-0>.

For the latest version of our User Manual:

<https://support.snapmaker.com/hc/en-us>.

For any general information or technical support:

support@snapmaker.com.

For any sales inquiries:

sales@snapmaker.com.

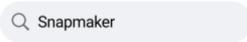
For product purchases:

<https://shop.snapmaker.com>.

Share anything you want in our forum:

<https://forum.snapmaker.com>.

Share anything you want via the following channels:



"If there is a dark now we shouldn't doubt
And there is a light, don't let it go out."

— U2 *There Is a Light*

For Douglas McLaren Livingstone and his wife.