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› [DNYSYSJ 4040 CNC Engraving Machine User Manual](#)

DNYSYSJ 4040

DNYSYSJ 4040 CNC Engraving Machine User Manual

Model: 4040 | Brand: DNYSYSJ

1. INTRODUCTION

This manual provides essential information for the safe and effective operation of your DNYSYSJ 4040 CNC Engraving Machine. Please read this manual thoroughly before assembly, installation, and operation to ensure proper usage and to prevent damage to the machine or injury to yourself.

The DNYSYSJ 4040 is a versatile CNC router machine designed for engraving and milling various materials such as wood, metal, acrylic, and MDF. Its robust construction and precise control capabilities make it suitable for a range of applications from arts and crafts to educational programs.

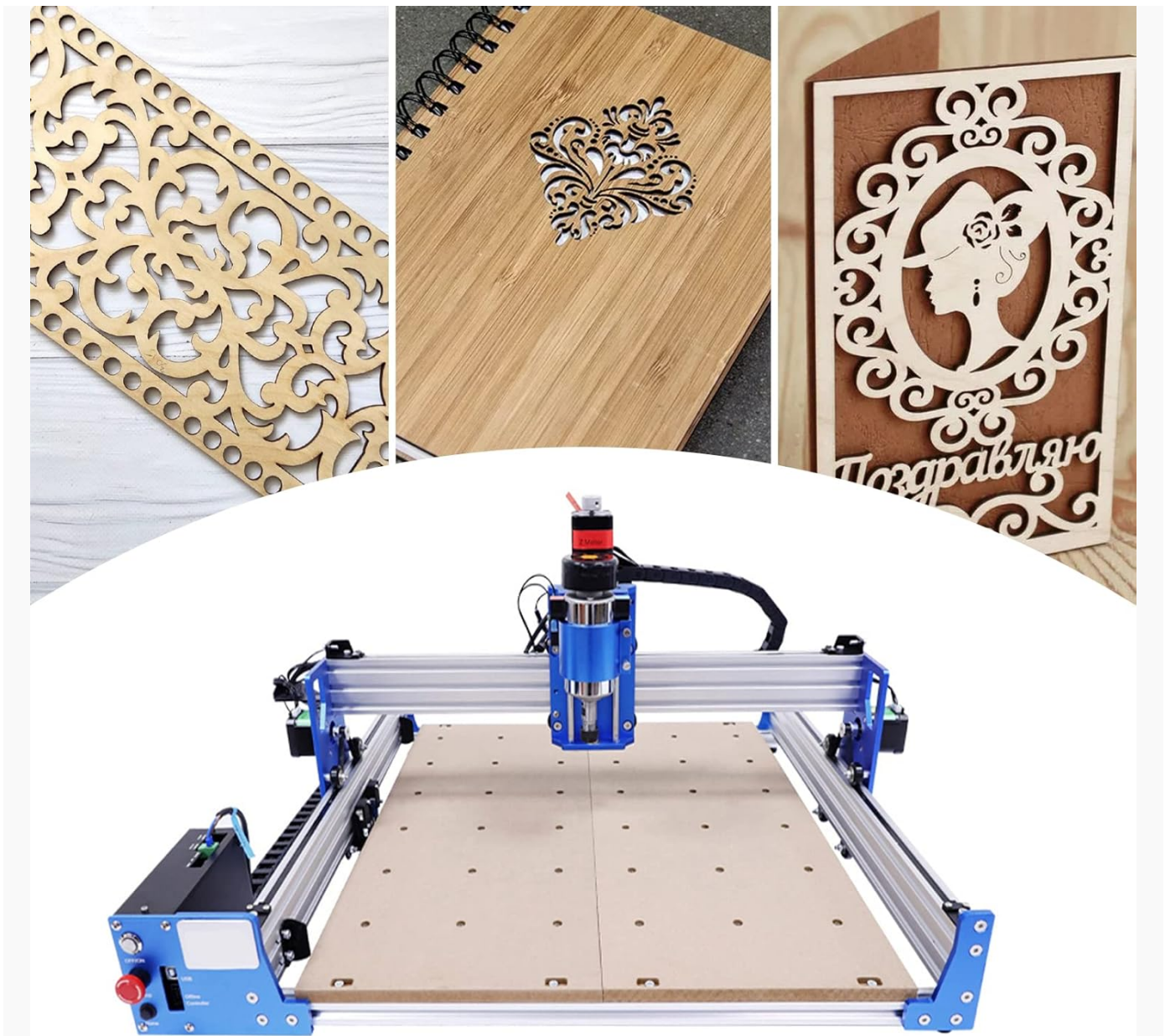


Image 1.1: The DNYSYSJ 4040 CNC Engraving Machine, showcasing its blue aluminum frame and beige workbench.

2. SAFETY INSTRUCTIONS

WARNING: Failure to follow these safety instructions may result in serious injury or damage to the machine.

- Always wear appropriate personal protective equipment (PPE), including safety glasses, during operation.
- Ensure the work area is well-ventilated to dissipate dust and fumes generated during engraving.
- Keep hands and loose clothing away from moving parts of the machine during operation.
- Do not operate the machine if you are fatigued or under the influence of drugs or alcohol.
- Familiarize yourself with the location and function of the emergency stop button before starting any operation.
- Ensure the workpiece is securely clamped to the workbench before beginning engraving.
- This machine is designed for engraving and milling materials such as wood, soft metals, acrylic, and MDF. It is not suitable for carving hard metals, jade, or other extremely hard objects.
- Disconnect power before performing any maintenance, cleaning, or adjustments.

3. PACKAGE CONTENTS

Verify that all components listed below are present in your package. If any items are missing or damaged, please contact customer support.

- 1 Set of Carving Bits
- 1 Z Probe
- 1 Right-Y-axis assembly
- 1 U Disk (USB drive)
- 1 USB Cable
- 1 Power Supply
- 1 Power Cable
- 4 Clamps
- 1 User Manual (this document)
- Other Installation Accessories (e.g., wrenches, screws)

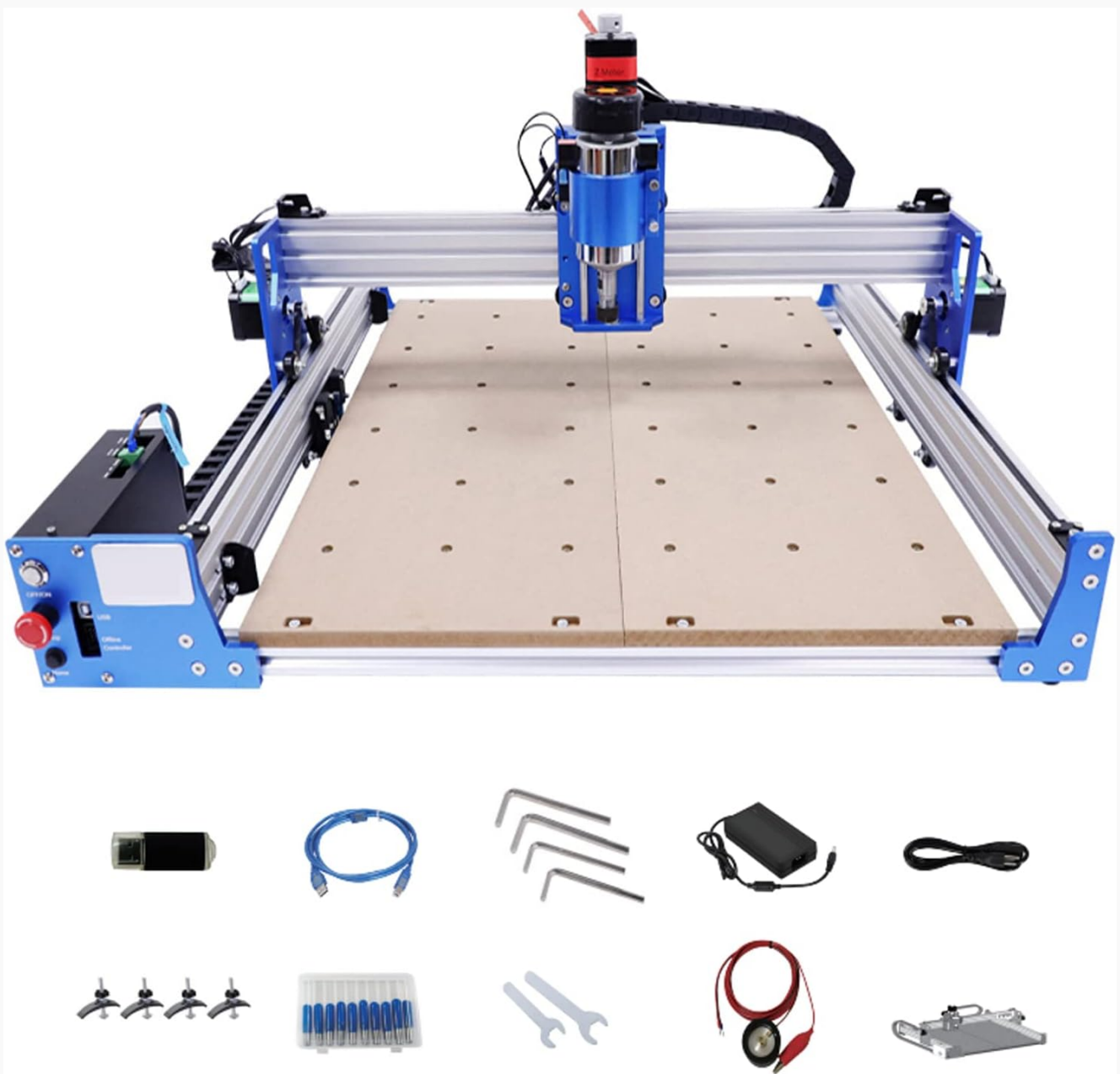


Image 3.1: The DNYSYSJ 4040 CNC Engraving Machine along with its various included accessories, such as carving bits, clamps, and cables.

4. SETUP AND ASSEMBLY

The DNYSYSJ 4040 CNC Engraving Machine requires some assembly. Follow the included assembly instructions carefully. The general steps are outlined below:

1. **Unpacking:** Carefully remove all components from the packaging and verify against the package contents list.
2. **Frame Assembly:** Assemble the aluminum frame components according to the provided diagrams. Ensure all screws are tightened securely.
3. **Gantry and Spindle Installation:** Mount the gantry assembly and spindle motor onto the frame. Connect the spindle motor and stepper motor cables.
4. **Control Box Connection:** Connect the control box to the machine's motors and limit switches.
5. **Power and USB Connection:** Connect the power supply to the control box and plug the power cable into a suitable electrical outlet. Connect the machine to your computer using the provided USB cable.
6. **Software Installation:** Install the necessary control software (e.g., GRBL/Candle) on your computer from the provided U Disk or by downloading the latest version from the manufacturer's website.

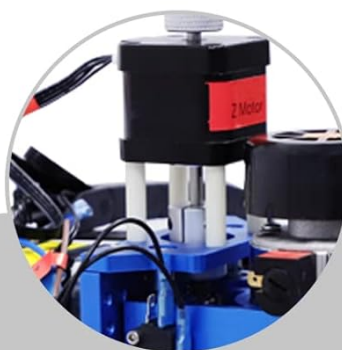
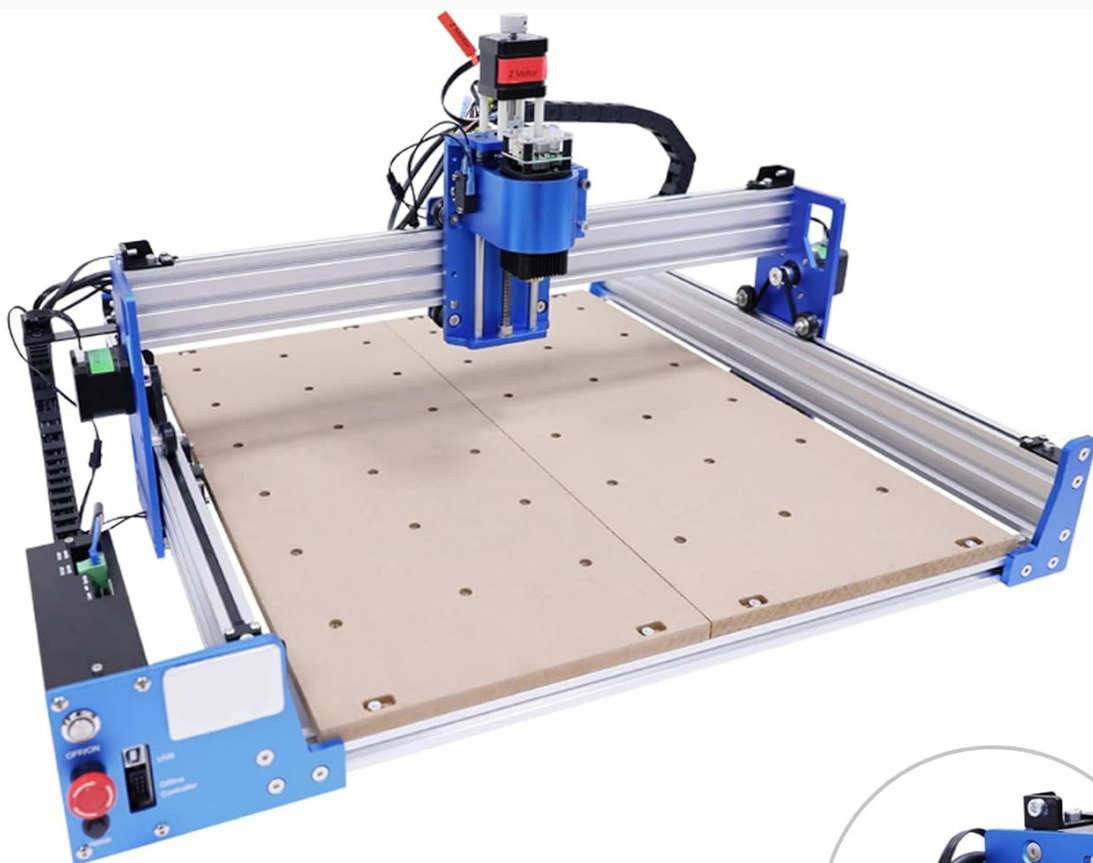


Image 4.1: Detailed view of the control panel with ON/OFF switch and USB port, and a stepper motor assembly, crucial for machine setup and operation.

5. OPERATING INSTRUCTIONS

This section outlines the basic steps for operating your DNYSYSJ 4040 CNC Engraving Machine.

1. **Power On:** Ensure all connections are secure, then turn on the machine using the ON/OFF switch on the control panel.
2. **Software Launch:** Launch your chosen CNC control software (e.g., GRBL/Candle) on your computer.
3. **Connect to Machine:** Establish a connection between the software and the CNC machine via the USB interface.
4. **Load G-code:** Load your desired G-code file into the software. This file contains the instructions for the machine's movements.
5. **Workpiece Securing:** Place your material on the workbench and secure it firmly using the provided clamps.
6. **Set Origin (Zero Point):** Manually or using the Z-probe, set the origin (X, Y, Z zero point) for your engraving job within the software. This defines the starting point for the machine's movements relative to your workpiece.
7. **Test Run (Optional):** Perform a dry run (air cut) without the spindle active to verify the tool path and ensure it stays within the workpiece boundaries.
8. **Start Engraving:** Once satisfied, activate the spindle (if not automatically controlled by G-code) and initiate the engraving process from the software.
9. **Monitoring:** Continuously monitor the machine during operation. Be prepared to press the emergency stop button if any erratic behavior or issues occur.
10. **Completion:** After the job is complete, turn off the spindle, then power off the machine. Carefully remove the finished workpiece.

The machine features clearly displayed function buttons for ease of use. The stepper motors provide good control performance for starting, stopping, and flipping operations. Limit switches are integrated to prevent accidental over-travel and reduce potential damage.



Image 5.1: The DNYSYSJ 4040 CNC Engraving Machine shown alongside various materials that have been successfully engraved, demonstrating its application capabilities.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your CNC machine.

- **Cleaning:** After each use, clean the workbench and machine components to remove dust, chips, and debris. Use a soft brush or compressed air. Ensure power is disconnected before cleaning.
- **Lubrication:** Periodically apply a small amount of appropriate lubricant to the linear rails and lead screws to ensure smooth movement. Consult the assembly guide for specific lubrication points.
- **Check Connections:** Regularly inspect all electrical connections and cables for wear or damage. Ensure they are securely plugged in.
- **Spindle Maintenance:** The spindle motor features an air cooling system. Ensure the cooling vents are clear of obstructions.
- **Bit Inspection:** Inspect carving bits before each use for sharpness and damage. Replace dull or damaged bits to ensure engraving quality and prevent strain on the spindle motor.

7. TROUBLESHOOTING

This section addresses common issues you might encounter and provides potential solutions.

Problem	Possible Cause	Solution
Machine does not power on.	Power cable disconnected; power supply failure; ON/OFF switch off.	Check power cable connection; ensure power supply is working; turn ON/OFF switch to ON.
Software cannot connect to the machine.	USB cable disconnected or faulty; incorrect COM port selected in software; machine not powered on; driver issues.	Verify USB connection; select correct COM port; ensure machine is powered on; reinstall USB drivers if necessary.
Motors are not moving or moving erratically.	Motor cables loose; G-code errors; limit switch triggered; power supply insufficient.	Check all motor cable connections; verify G-code; check if a limit switch is engaged; ensure power supply is adequate.
Poor engraving quality or inaccurate cuts.	Dull or incorrect carving bit; workpiece not securely clamped; incorrect feed rates/spindle speed; loose machine components.	Replace bit; ensure workpiece is clamped tightly; adjust software settings; check for loose screws or belts.
Machine stops unexpectedly during operation.	Emergency stop pressed; power interruption; software crash; overheating.	Check emergency stop button; verify power source; restart software; ensure adequate ventilation.

If you encounter issues not covered here or require further assistance, please contact DNYSYSJ customer support.

8. SPECIFICATIONS

Detailed technical specifications for the DNYSYSJ 4040 CNC Engraving Machine:

- **Model:** 4040 (Item model number: GANLI140922A)
- **Brand:** DNYSYSJ
- **Material:** Aluminum, Wood
- **Color:** Blue
- **Maximum Workpiece Thickness:** 78mm (3.07 inches)
- **Effective Stroke (Engraving Area):** 400mm x 400mm x 83mm (15.75 x 15.75 x 3.27 inches)
- **Drive Power:** 12V 5A
- **Spindle Power:** 75W
- **Voltage:** 110V
- **Total Power:** 100W
- **Spindle Speed:** 0-10000 rpm (revolutions per minute)
- **Spindle Accuracy:** Radial Runout \leq 0.05mm
- **Stepper Motor:** 42 Two-phase Stepper Motor
- **Rotation Speed (Stepper Motor):** 6000 rpm
- **Acceptable Software:** GRBL/Candle
- **Communication Interface:** USB

- **Engraving Speed:** 50-1500mm/min (depending on material and settings)
- **Standard Spindle:** 42mm High-Speed Spindle / ER11 Chuck / 3.175mm Clamping Centre
- **Workbench Size:** 600mm x 520mm (23.62 x 20.47 inches)
- **Product Size:** 745mm x 615mm x 390mm (29.33 x 24.21 x 15.35 inches)
- **Gross Weight:** 12kg (26.46 lbs)

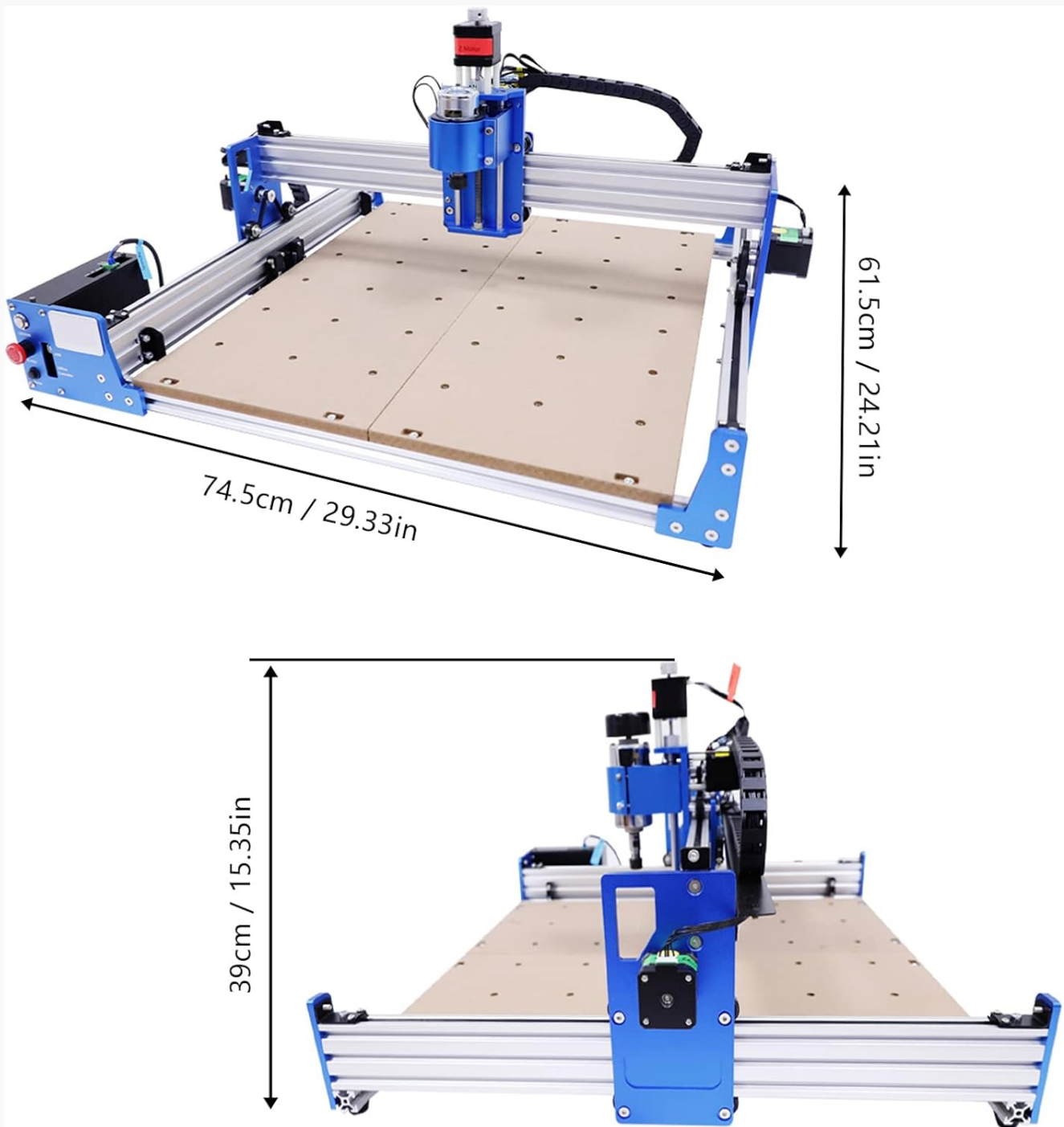


Image 8.1: Diagram illustrating the key dimensions of the DNYSYSJ 4040 CNC Engraving Machine, including length, width, and height.

9. WARRANTY INFORMATION

Specific warranty details for the DNYSYSJ 4040 CNC Engraving Machine are not provided in this manual. For information regarding warranty coverage, terms, and conditions, please refer to the purchase documentation or contact the seller or manufacturer directly.

10. CUSTOMER SUPPORT

If you have any questions, require technical assistance, or need to report a problem with your DNYSYSJ 4040 CNC Engraving Machine, please contact the seller or manufacturer through the platform where the product was purchased. Have your model number (4040) and item model number (GANLI140922A) ready when contacting support.
