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› ATOMSTACK AE85 Laser Engraver Area Extension Kit User Manual

ATOMSTACK MAKER VALAE58EXTEN

ATOMSTACK AE85 Laser Engraver Area Extension Kit User Manual

Model: VALAE58EXTEN

1. INTRODUCTION

This user manual provides comprehensive instructions for the installation, operation, and maintenance of the ATOMSTACK AE85 Laser Engraver Area Extension Kit. Please read this manual thoroughly before use to ensure safe and efficient operation.

Product Overview

The ATOMSTACK AE85 is designed to significantly expand the working area of your compatible ATOMSTACK laser engraving machine to 850x800mm. This extension kit allows for the creation of larger format projects, enhancing both creative possibilities and production capacity. It features a robust, thickened metal shaft construction for stability and precision.

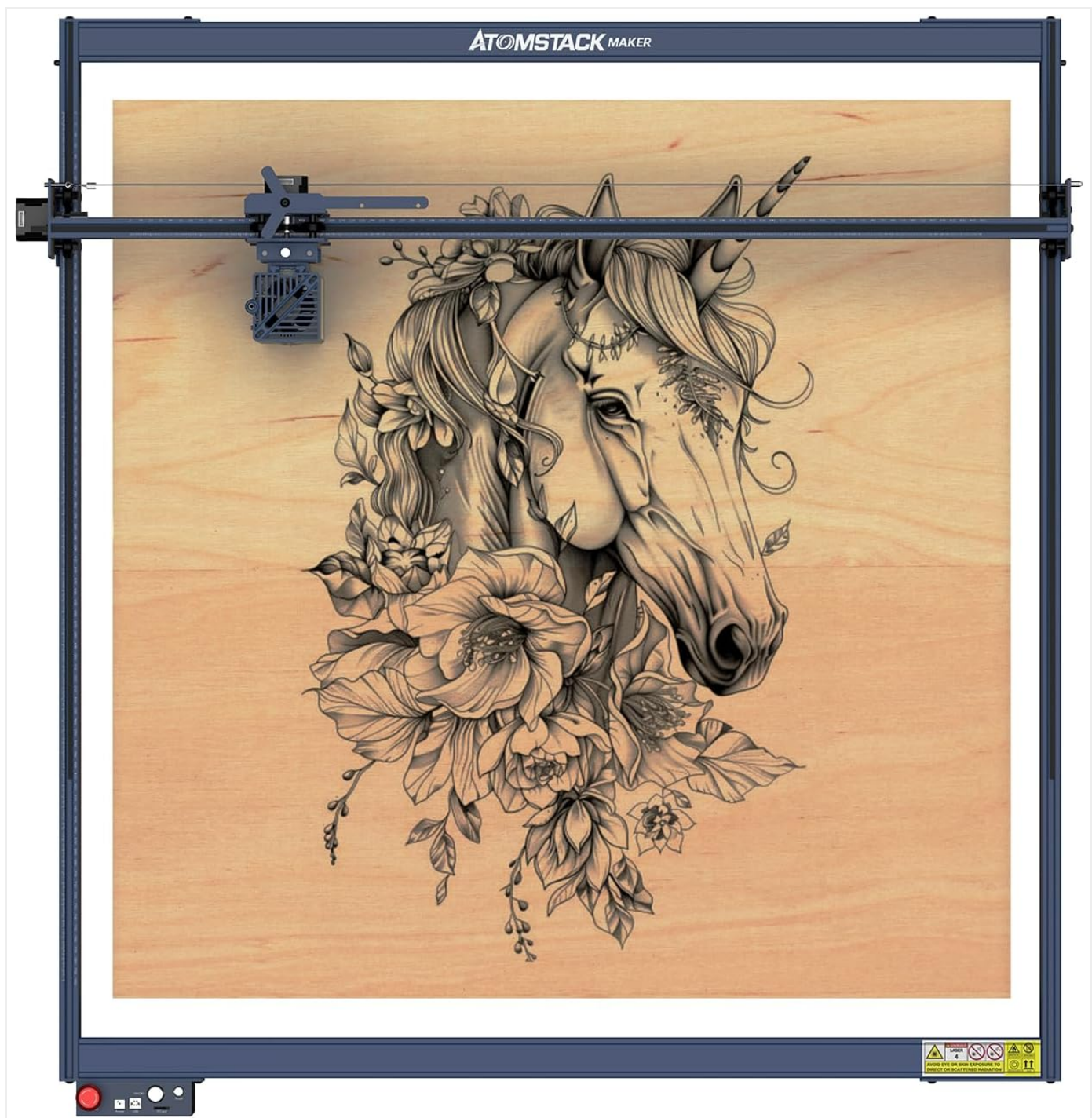


Figure 1.1: The ATOMSTACK AE85 Laser Engraver Area Extension Kit, fully assembled and ready for use, demonstrating its large working area.

2. SAFETY INFORMATION

Always prioritize safety when working with laser engraving equipment. This extension kit modifies the physical dimensions of your engraver, which may affect its stability and required workspace. Adhere to all safety guidelines provided with your original laser engraving machine, in addition to the following:

- Ensure the extended machine is placed on a stable, level, and sufficiently large surface to prevent tipping or movement during operation.
- Maintain adequate clearance around the expanded working area to prevent accidental contact with moving parts or the laser beam.
- Always wear appropriate laser safety goggles.
- Never leave the machine unattended during operation.

- Keep children and pets away from the working area.
- Ensure proper ventilation to dissipate fumes generated during engraving.

3. PARTS LIST

Before beginning assembly, verify that all components listed below are present and undamaged. If any parts are missing or damaged, please contact ATOMSTACK customer support.

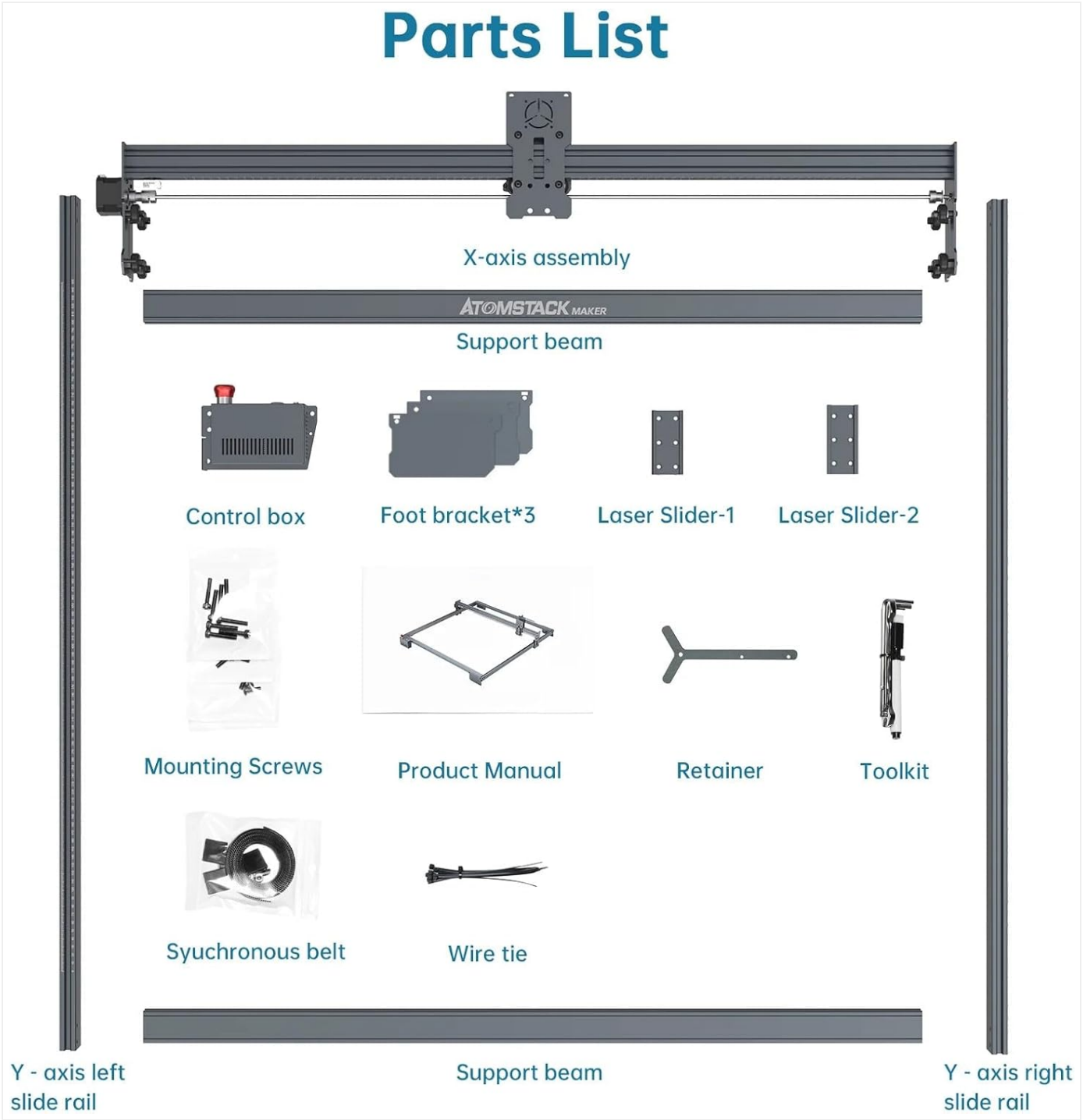


Figure 3.1: Exploded view of all components included in the ATOMSTACK AE85 Laser Engraver Area Extension Kit.

Table 3.1: Included Components

Component	Quantity	Description
Y-axis Extension Shaft	2	Extends the Y-axis frame of the engraver.

Component	Quantity	Description
X-axis Extension Shaft	3	Extends the X-axis frame of the engraver.
Timing Belt (2.8m)	1	Longer belt required for the extended Y-axis.
Control Unit (with extension cable)	1	Relocated control unit with necessary cabling.
Laser Back Panel Slide Slot	2	Components for mounting the laser module.
Connection Cable Fixing Bracket	1	Secures the mainboard connection cable.
Mainboard Connection Cable	1	Connects the mainboard to the extended frame.
Cable Ties	10	For cable management.
User Manual	1	This instruction guide.
Installation Tool Kit	1	Tools required for assembly.

4. SETUP AND INSTALLATION

The ATOMSTACK AE85 is designed for quick and straightforward installation. This kit essentially replaces the frame of your existing laser engraver, allowing you to transfer your laser module and control unit to the new, larger frame.

4.1 Compatible Models and Modules

This extension kit is compatible with various ATOMSTACK laser engraver models and laser modules. Please ensure your model is listed below for proper functionality.

- **48W Models:** X40 MAX, X40 PRO, A40/S40 MAX, A40/S40 PRO (includes necessary cable)
- **33W Models:** X30 Pro, A30 Pro, S30 Pro (may require purchasing a 5-PIN cable for E85)
- **20W Models:** X20 Pro, A20 Pro, S20 Pro
- **10W Models:** X7 Pro, A10 Pro, S10 Pro, P9 M50
- **5W Models:** A5 Pro+, X7 40W, A5 M50 Pro, A5 M50, A5 M40, A5 M30, P9 M40, P7 M40, P7 M30

Applicable Modules: M40 Module, M50 Module, M100 Module, M150 Module

4.2 Assembly Steps

Follow these steps to assemble the AE85 extension kit and integrate your laser module:

1. **Disassemble Your Existing Engraver:** Carefully disassemble the frame of your current ATOMSTACK laser engraver, retaining the laser module, control unit, and any necessary mounting hardware. Refer to your original engraver's manual for specific disassembly instructions.
2. **Assemble the New Frame:**

Easy installation, modular all-aluminum material

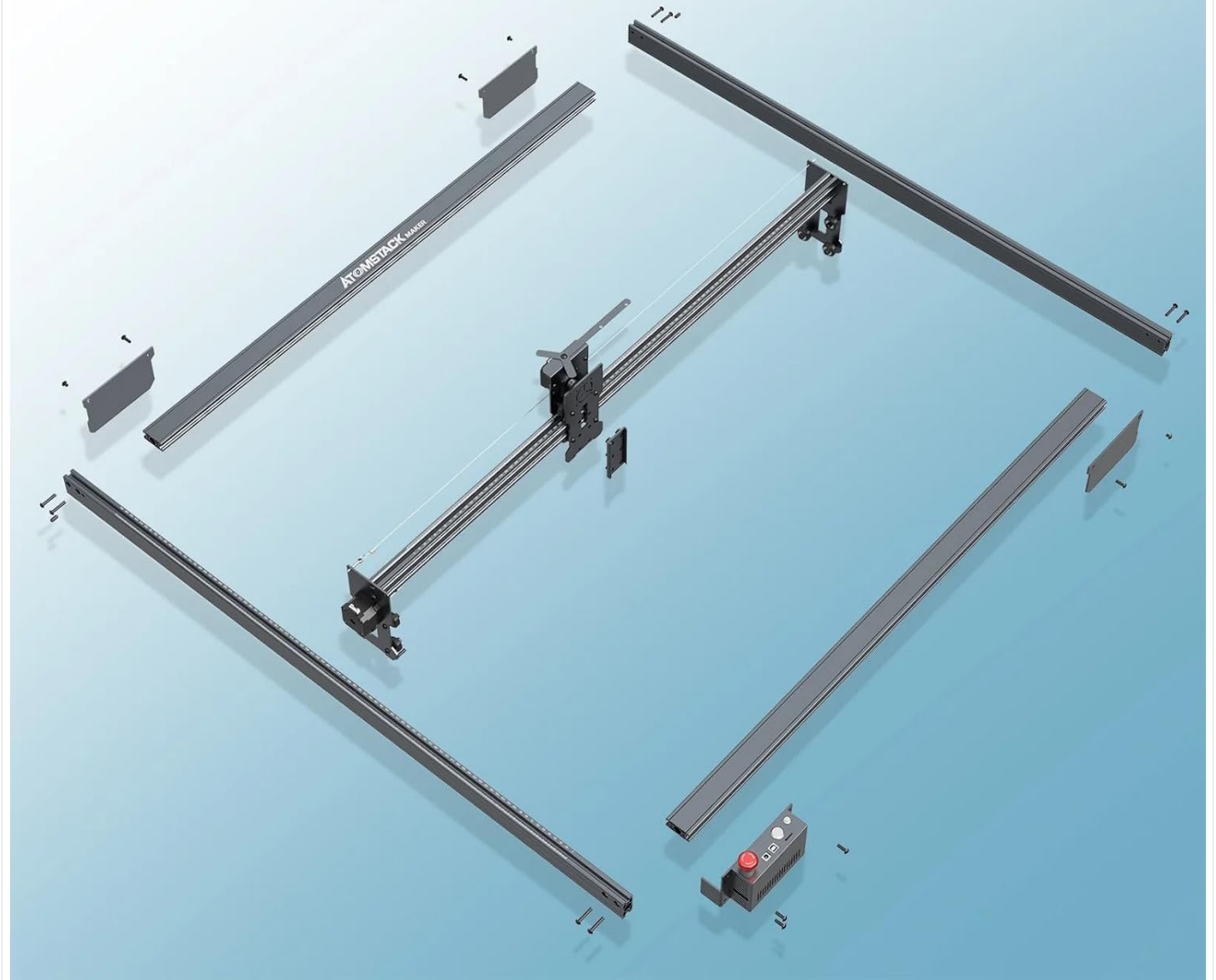


Figure 4.1: The modular design of the AE85 kit facilitates easy assembly of the new, larger frame.

- a. Connect the Y-axis extension shafts (2 pieces) to form the longer Y-axis rails.
- b. Connect the X-axis extension shafts (3 pieces) to form the longer X-axis rails.
- c. Assemble the full aluminum profile frame using the provided installation tool kit and mounting screws. Ensure all connections are secure and the frame is rigid.

Original full aluminum profile

Stable structural design, after rigorous testing at the factory, it can maintain the same precision and stability as the original machine when engraving and cutting

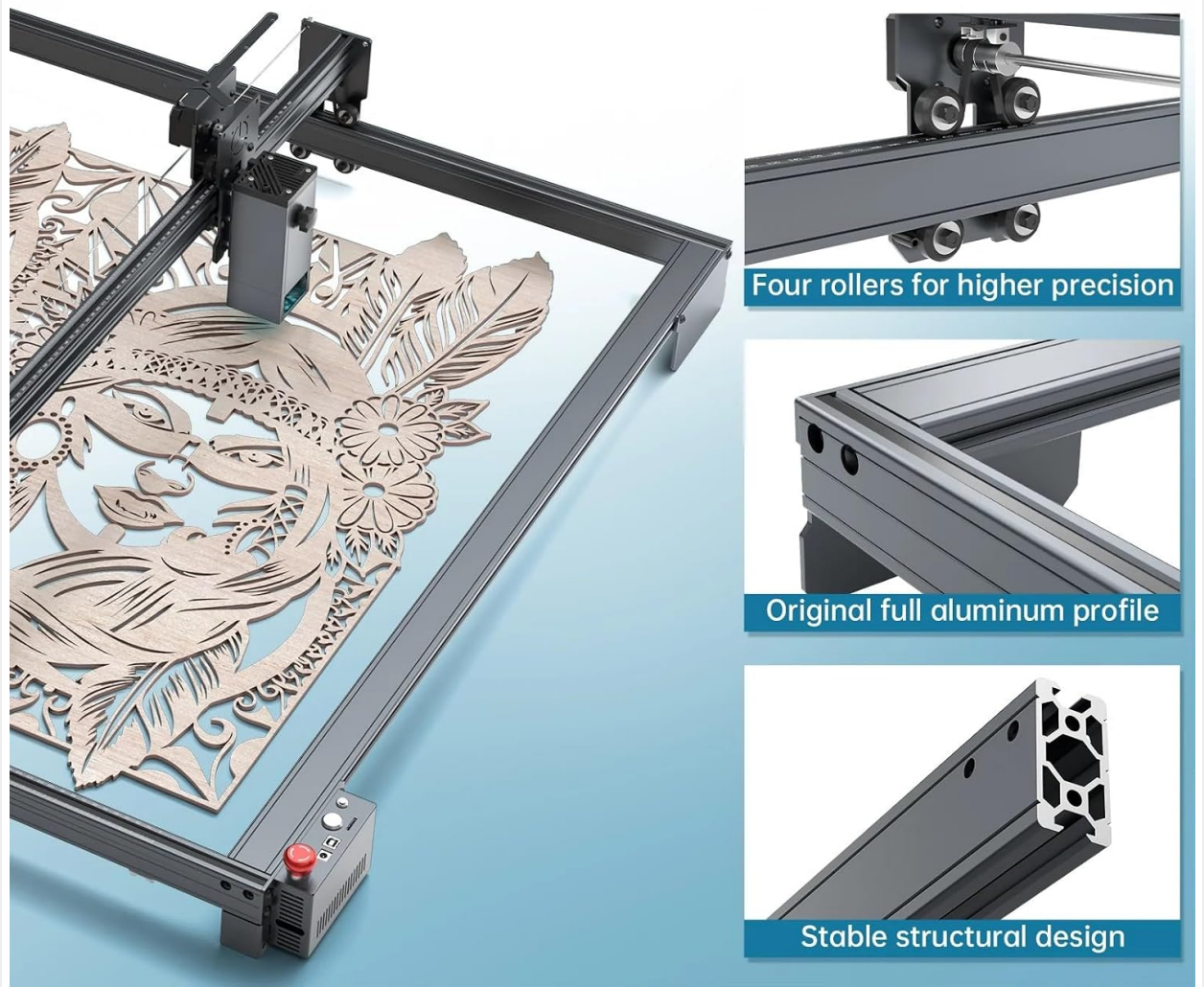


Figure 4.2: Detail of the full aluminum profile and four rollers, ensuring high precision and stability.

3. **Install the Laser Module:** Mount your existing laser module onto the newly assembled X-axis gantry using the laser back panel slide slots and appropriate mounting hardware. Ensure the module is securely fastened and aligned.

Replaceable Modules, High Adaptability

Compatible with ATOMSTACK 10W/20W/30W lasers



Figure 4.3: The AE85 frame is designed for high adaptability, supporting various ATOMSTACK laser modules (10W/20W/30W shown).

4. Install the Control Box and Wiring:

- Attach the control box to the designated location on the new frame.
- Connect the mainboard connection cable and other necessary extension cables. Use the connection cable fixing bracket and cable ties to manage and secure all wiring, preventing interference with moving parts.

5. Install the Timing Belt: Carefully route and install the 2.8m timing belt along the extended Y-axis. Ensure it is properly tensioned according to your original engraver's specifications to maintain engraving precision.

6. Final Checks: Before powering on, manually move the laser module across the entire working area to check for any obstructions or binding. Verify all connections are secure.

5. OPERATING INSTRUCTIONS

Once the ATOMSTACK AE85 extension kit is fully installed, the operation of your laser engraver remains largely the same as with the original frame, with the primary difference being the expanded working area. Always refer to your original laser engraver's user manual for detailed software and operational procedures.

5.1 Software Configuration

After extending the working area, you may need to update the workspace dimensions in your laser engraving software (e.g., LightBurn, LaserGRBL). Navigate to the machine settings or workspace settings within your software and adjust the X and Y dimensions to 850mm x 800mm respectively. This ensures that your software accurately reflects the new engraving capabilities.



Figure 5.1: Visual representation of the engraving area expanded by 315% to 850mm x 800mm using the AE85 kit.

5.2 Utilizing the Expanded Area

The larger working area allows for:

- Engraving or cutting larger single pieces of material.
- Processing multiple smaller projects simultaneously, increasing efficiency.
- Creating complex designs that require a larger canvas.

Large area engraving and cutting multiple tasks at one time



Figure 5.2: The expanded area enables large-scale engraving and cutting, allowing for multiple tasks to be performed concurrently.



Figure 5.3: Examples of diverse projects that can be undertaken with the expanded engraving capabilities of the AE85.

6. MAINTENANCE

Regular maintenance of your extended laser engraver is crucial for ensuring its longevity and continued precision. The maintenance procedures for the AE85 kit are similar to those for your original engraver, with added considerations for the larger frame.

- **Clean the Rails and Belts:** Regularly inspect and clean the extended X and Y axis rails and the timing belt to remove dust, debris, and any residue from engraving. Use a soft cloth and a mild cleaning solution if necessary.
- **Lubricate Moving Parts:** Apply a small amount of appropriate lubricant to the linear bearings and guide rails as recommended by your original engraver's manual.
- **Check Belt Tension:** Periodically check the tension of the longer timing belt. An overly loose or tight belt can affect engraving accuracy. Adjust as needed.
- **Inspect Wiring:** Ensure all extension cables and connections remain secure and free from damage. Use the provided cable ties to keep wiring tidy and away from moving parts.
- **Frame Stability:** Occasionally check all frame connections and screws to ensure they remain tight. The thickened metal shaft design of the AE85 contributes to stability, but regular checks are still recommended.

7. TROUBLESHOOTING

This section addresses common issues that may arise after installing the AE85 extension kit. For general laser engraver troubleshooting, refer to your original machine's manual.

Table 7.1: Troubleshooting Guide

Problem	Possible Cause	Solution
Laser module does not move across the full extended area.	Software workspace settings not updated.	Adjust X and Y dimensions in your laser engraving software to 850mm x 800mm.
Engravings are distorted or inaccurate.	Loose timing belt; loose frame connections; debris on rails.	Check and adjust timing belt tension. Tighten all frame screws. Clean X and Y axis rails.
Machine makes unusual noises during movement.	Lack of lubrication on rails; debris; misaligned components.	Lubricate rails. Clean rails. Check for proper alignment of all assembled parts.
Control box or laser module not responding.	Loose or incorrect cable connections.	Verify all mainboard and extension cables are securely connected. Ensure correct cable type for 33W models if applicable.

8. SPECIFICATIONS

Table 8.1: Product Specifications

Parameter	Value
Brand	ATOMSTACK
Model	AE85
Working Area	850mm x 800mm
Package Size	1195mm x 385mm x 135mm
Product Net Weight	8 Kg
Package Weight	8.5 Kg
Manufacturer Part Number	G1-AE85
Model Number (Amazon)	VALAE58EXTEN

9. WARRANTY AND SUPPORT

For warranty information and technical support regarding your ATOMSTACK AE85 Laser Engraver Area Extension Kit, please refer to the warranty documentation included with your original laser engraving machine or visit the official ATOMSTACK MAKER website. You can also contact ATOMSTACK customer service directly for assistance with installation or operational issues.

Contact Information: Please refer to the contact details provided on the ATOMSTACK MAKER official website or your purchase documentation.

Online Resources: For additional support, FAQs, and community forums, visit the ATOMSTACK MAKER store on Amazon or their official support pages.

Note: Warranty terms may vary by region and retailer. Keep your proof of purchase for warranty claims.

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