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ATOMSTACK MAKER R1 Pro

ATOMSTACK MAKER R1 Pro 4-in-1 Laser Rotary Roller and Chuck Instruction Manual

Model: R1 Pro

INTRODUCTION

The ATOMSTACK MAKER R1 Pro is a versatile 4-in-1 rotary attachment designed to expand the capabilities of your laser engraver. It allows for precise engraving on a wide range of cylindrical, spherical, and irregular objects, including mugs, tumblers, rings, and baseballs. This manual provides detailed instructions for setup, operation, and maintenance to ensure optimal performance and safety.



Figure 1: ATOMSTACK MAKER R1 Pro Rotary Roller and Chuck unit.

PRODUCT FEATURES

- **4-in-1 Multifunction Design:** Combines chuck, roller, support shaft, and ring engraving capabilities.
- **180° Adjustable Angle:** Accommodates various object shapes and sizes, including tapered items.
- **Three Sets of Jaws:** Includes L-shaped, hexagonal, and ladder jaws to securely hold diverse objects.
- **High Speed and Accuracy:** Achieves up to 6000mm/min engraving speed with 0.1mm precision.
- **Wide Compatibility:** Designed to work with 95% of laser engraving machines on the market.



Figure 2: Overview of R1 Pro's key features.

PACKAGE CONTENTS

The ATOMSTACK MAKER R1 Pro package typically includes the following components:

- R1 Pro Rotary Module (main unit with chuck)
- Roller Attachment (for cylindrical objects)
- Three Sets of Jaws (L-shaped, hexagonal, ladder)
- Connection Cables (white for ATOMSTACK/KIER, black for other brands)
- Square Spirit Level
- Flexible Tape Measure
- Vernier Scale Calipers
- Frame Lifts (4X)
- User Manual
- Necessary Screws and Tools for assembly

SETUP

1. Initial Assembly and Connection

Unpack all components and ensure they are present. Attach the rotary module to your laser engraver's frame. Connect the appropriate cable (white for ATOMSTACK/KIER, black for other brands) from the rotary module to your laser engraver's Y-axis motor port.

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Video 1: Detailed installation guide for the rotary roller and chuck, including connection steps.

2. Software Configuration (LightBurn)

Proper software configuration is crucial for accurate engraving. Follow these steps in LightBurn:

- Go to 'Laser Tools' -> 'Rotary Setup'.
- Select 'Chuck' or 'Roller' mode based on your setup.
- Enable 'Enable Rotary' and 'Mirror Output to Rotary'.
- Measure the object's diameter and circumference using the provided calipers and tape measure.
- Input the 'Object Diameter' and 'Circumference' into the Rotary Setup.
- Adjust 'Rotary Axis' (mm per rotation) as needed. For chuck mode, a common value is 128.00 mm per rotation. For roller mode, a common value is 32.00 mm per rotation.
- In 'Machine Settings', navigate to 'Outputs setup'.
- Toggle 'Y Direction pin invert (\$3)' to 'True' or 'False' as required for correct rotation direction.
- Save and write the new settings to your controller.

Refer to Video 1 for a visual guide on LightBurn settings for both Chuck and Roller modes.

OPERATING INSTRUCTIONS

1. Using Chuck Mode

Chuck mode is ideal for holding mugs, spherical objects like baseballs, and other items that can be securely gripped by the jaws.

- Select the appropriate jaws (L-shaped, hexagonal, or ladder) for your object and attach them to the chuck.
- Secure the object firmly in the chuck. For longer items, use the tailstock for additional support.
- Adjust the laser height to focus on the object's surface.

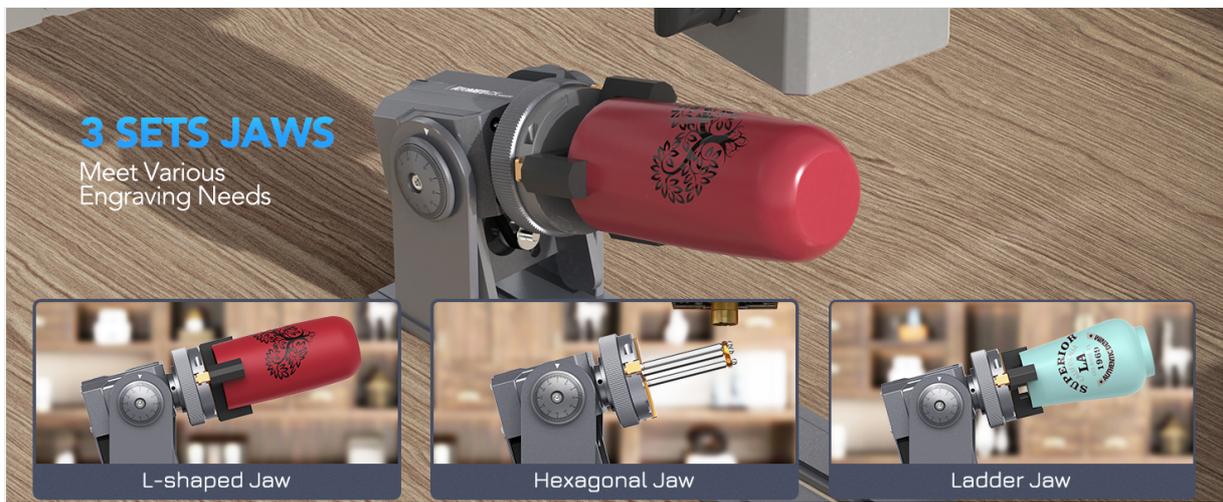


Figure 3: The three interchangeable jaw sets for chuck mode.

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Video 2: Demonstration of the ATOMSTACK Maker R1 Pro Multi-Function Chuck in use.

2. Using Roller Mode

Roller mode is suitable for cylindrical objects like pens, small bottles, or other items that can roll smoothly on the rollers.

- Remove the chuck jaws and install the roller attachment.
- Place the cylindrical object on the rollers.
- Adjust the laser height to focus on the object's surface.

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Video 3: Demonstration of the Atomstack Maker R2 Roller in use.

3. Adjusting Angle for Tapered Objects

The R1 Pro features a 180° adjustable angle, allowing you to engrave on tapered objects like wine glasses or conical tumblers. Use the built-in angle adjustment mechanism and the spirit level to ensure the object's surface is parallel to the laser's focal plane.

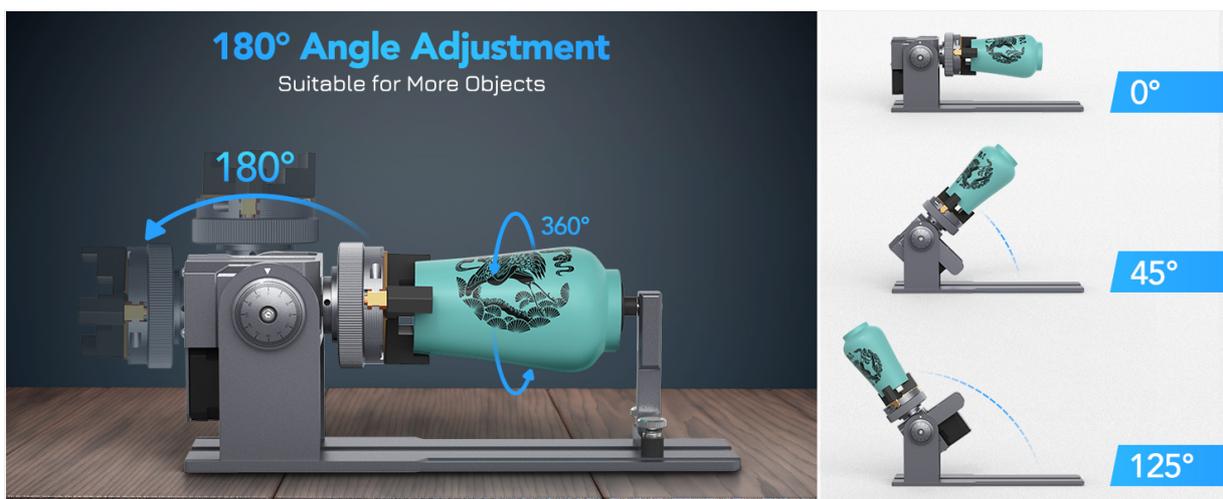


Figure 4: The 180° adjustable angle feature for tapered objects.

MAINTENANCE

To ensure the longevity and optimal performance of your ATOMSTACK MAKER R1 Pro, follow these maintenance guidelines:

- **Cleaning:** Regularly clean the rollers, chuck jaws, and main unit to prevent dust and debris buildup. Use a soft, dry cloth.
- **Lubrication:** Periodically check moving parts for smooth operation. Apply a small amount of light machine oil if necessary, avoiding contact with rubber rollers.
- **Storage:** When not in use, store the rotary module in a clean, dry place, preferably in its original packaging or a protective case.
- **Inspection:** Before each use, inspect all components for any signs of wear, damage, or loose connections. Tighten any loose screws.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Rotary not moving or incorrect direction	Incorrect cable connection; incorrect software settings (Y-axis invert, rotary enabled).	Ensure correct cable is used and securely connected. Verify 'Y Direction pin invert' in LightBurn Machine Settings is correctly set (True/False). Confirm 'Enable Rotary' is checked.
Engraving is distorted or stretched	Incorrect 'mm per rotation' or object dimensions in software.	Accurately measure object diameter and circumference. Adjust 'Rotary Axis' (mm per rotation) in LightBurn Rotary Setup.
Object not held securely by chuck	Wrong jaw type; jaws not tightened sufficiently; object shape incompatible.	Use the most suitable jaw type for the object. Ensure jaws are tightened firmly. Consider alternative holding methods for highly irregular shapes.
Laser focus issues on curved surfaces	Incorrect laser height; object not level (for tapered items).	Adjust laser height to ensure proper focus. For tapered objects, use the 180° angle adjustment and spirit level to make the engraving surface parallel to the laser.

SPECIFICATIONS

- **Model:** R1 Pro
- **Product Dimensions:** 11.8 x 3.9 x 4.8 inches
- **Item Weight:** 8.12 pounds
- **Engraving Speed:** Up to 6000mm/min
- **Engraving Accuracy:** 0.1mm
- **Adjustable Angle:** 180°
- **Material:** Aluminum alloy

SAFETY INFORMATION

When operating any laser engraving equipment, including the ATOMSTACK MAKER R1 Pro, always prioritize safety:

- **Eye Protection:** Always wear appropriate laser safety glasses.
- **Ventilation:** Ensure adequate ventilation to remove fumes and smoke generated during engraving.
- **Supervision:** Never leave the laser engraver unattended during operation.
- **Flammable Materials:** Avoid engraving highly flammable materials or operating near them.
- **Emergency Stop:** Familiarize yourself with the emergency stop procedure for your laser engraver.

WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the official ATOMSTACK MAKER website or contact their customer service directly. Keep your purchase receipt as proof of purchase.

Visit the ATOMSTACK MAKER Store: [ATOMSTACK MAKER Store](#)