

[Manuals.plus](#) /

› [ATOMSTACK](#) /

› ATOMSTACK Swift 12W Laser Engraver and Cutter User Manual

ATOMSTACK SWIFT 12W

ATOMSTACK Swift 12W Laser Engraver and Cutter User Manual

Model: SWIFT 12W

1. INTRODUCTION

Thank you for choosing the ATOMSTACK Swift 12W Laser Engraver and Cutter. This device is designed for high-precision engraving and powerful cutting across a variety of materials. This manual provides essential information for safe operation, setup, maintenance, and troubleshooting to ensure optimal performance and longevity of your machine.

The ATOMSTACK Swift 12W features advanced dual pressure point fusion technology and spot compression technology, delivering a fine laser spot of 0.06 x 0.08 mm for intricate details and efficient material processing. Its modular design allows for easy assembly and future upgrades.

2. SAFETY INSTRUCTIONS

Operating a laser engraver involves potential hazards. Please read and adhere to all safety instructions before using the device.

- **Eye Protection:** Always wear the provided safety glasses or other certified laser protective eyewear when the machine is operating. Never look directly at the laser beam.
- **Ventilation:** Operate the machine in a well-ventilated area to dissipate smoke and fumes produced during engraving or cutting.
- **Fire Safety:** Keep a fire extinguisher nearby. Do not leave the machine unattended during operation, especially when processing flammable materials.
- **Material Compatibility:** Ensure the material you are processing is safe for laser engraving/cutting. Avoid materials that produce toxic fumes or catch fire easily.
- **Children and Pets:** Keep children and pets away from the operating area.
- **Power Supply:** Use only the specified power adapter. Ensure the power cord is not damaged and is properly connected.
- **Emergency Stop:** Familiarize yourself with the location of the emergency stop button (if present) or how to quickly disconnect power.

3. PACKAGE CONTENTS

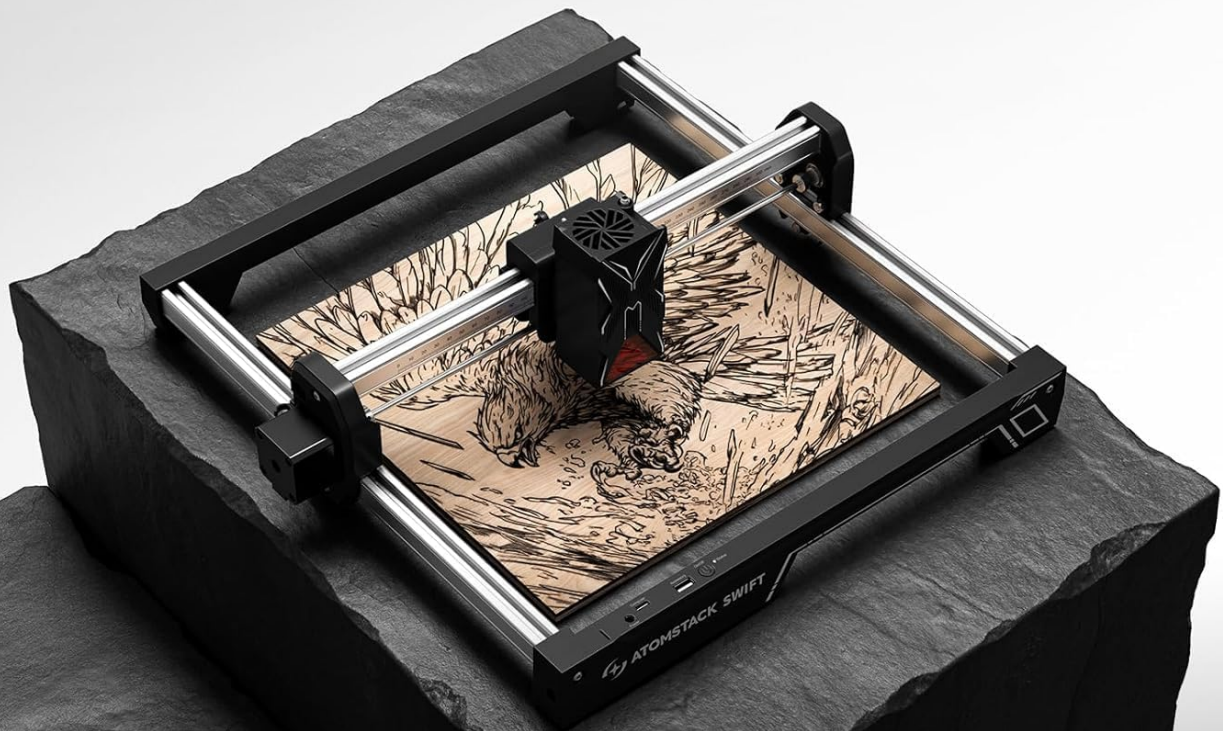
Verify that all components are present in the package:

- ATOMSTACK Swift 12W Main Unit
- Power Adapter and Cord
- USB Cable
- Safety Glasses
- Instruction Manual
- Magnetic Protective Cover
- Small material samples for testing (may vary)

4. PRODUCT OVERVIEW

The ATOMSTACK Swift 12W is a versatile laser engraver and cutter designed for precision and efficiency. Its modular construction allows for quick assembly and future expansion.

AtomStack Swift Easier. Smarter. More Fun



Modular Design



AI Smart Software



300×300mm



Flexible Upgrades



Optional 7W/12W



Accessory
Auto-recognition

Image: The ATOMSTACK Swift 12W laser engraver showcasing its modular design, AI smart software, 300x300mm working area, flexible

Key Features:

- **High Precision & Reliability:** Utilizes dual pressure point fusion technology and spot compression technology to achieve an ultra-fine laser spot size of 0.06 x 0.08 mm, ensuring detailed engravings.
- **Powerful Cutting Performance:** Equipped with a 12W laser output, capable of cutting materials like 4mm black acrylic and 8mm basswood plywood in a single pass.
- **High-Speed Engraving:** Achieves engraving speeds of up to 400mm/s, significantly reducing project completion times.
- **Modular Design:** Allows for quick and easy assembly, making the device ready for use in minutes.
- **Large Working Area:** Provides a generous 300 x 300 mm working area for various projects.
- **Safety Features:** Includes a removable magnetic protective cover and comes with safety glasses for user protection.
- **Multi-Platform Compatibility:** Supports Type-C and USB connections, and is compatible with ATOMSTACK's proprietary app/PC software, as well as third-party software like LightBurn and LaserGRBL.
- **Material Versatility:** Capable of processing a wide range of materials including wood, bamboo, paper, leather, cardboard, cork, slate, felt, MDF, coated metal, dark acrylic, glass, rubber, food, ceramic tile, and stainless steel.

Precise Engraving & Powerful Cutting in One

Two **Sharp 7W laser diodes** combined with spot compression technology create a powerful **12W laser beam** with enhanced output



4mm black acrylic in one pass



8mm basswood plywood in one pass



Image: An illustration demonstrating the 12W laser output from two 7W diodes, showing its ability to precisely engrave and cut materials such as 4mm black acrylic and 8mm basswood plywood.

One machine for multiple uses

Easily handles common materials

Wood, bamboo, paper, leather, cardboard, cork, slate,
felt, MDF, coated metal, dark acrylic, etc.



Plywood



Non-woven fabric



wood



Plastic



Glass



Paper



Plated metal



Stone



rubber



Food



Ceramic tile



Stainless steel

Image: A collage displaying various materials successfully processed by the ATOMSTACK Swift, including plywood, non-woven fabric, wood, plastic, glass, paper, plated metal, stone, rubber, food, ceramic tile, and stainless steel.

5. SETUP

The ATOMSTACK Swift 12W is designed for quick and easy assembly. Follow these steps to set up your machine:

5.1 Unpacking

1. Carefully remove all components from the packaging.
2. Check the package contents against the list in Section 3 to ensure nothing is missing or damaged.
3. Keep the original packaging for future storage or transportation.

5.2 Assembly

The modular design allows for assembly in minutes.

Modular by Design. Ready in Minutes

300×300mm Working Area. Maximum engraving speed 10000mm/min



Image: The ATOMSTACK Swift laser engraver disassembled in its packaging, illustrating its modular components for quick assembly.

1. Place the main frame components on a stable, flat surface.
2. Connect the frame sections according to the diagrams in the included quick start guide. Ensure all screws are tightened securely.
3. Install the laser module onto the gantry.
4. Attach the magnetic protective cover to the laser module.

5.3 Connecting Power and Data

1. Connect the power adapter to the machine and then plug it into a suitable power outlet.
2. Connect the machine to your computer using the provided USB cable, or prepare for wireless connection (Wi-Fi/Hotspot) as described in the software section.

6. OPERATING INSTRUCTIONS

This section outlines the general steps for operating your ATOMSTACK Swift 12W.

6.1 Software Installation and Connection

The ATOMSTACK Swift supports multiple software options:



Image: A setup showing the ATOMSTACK Swift connected to various devices (laptop, desktop, smartphone) illustrating its multi-platform support for Windows, macOS, Android, and iOS, and compatibility with AtomStack Studio and LightBurn software.

- **ATOMSTACK Studio App/PC Software:** Download the official ATOMSTACK software from the manufacturer's website or app store. Follow the on-screen instructions for installation and connection via USB, Wi-Fi, or hotspot.
- **LightBurn/LaserGRBL:** These are popular third-party software options. Download and install them from their respective official websites. Refer to their documentation for specific setup and connection procedures for ATOMSTACK machines.

6.2 Preparing Your Material

1. Place the material to be engraved or cut onto the working platform. Ensure it is flat and securely positioned within the 300 x 300 mm working area.

2. For optimal results and safety, use the magnetic protective cover to contain laser reflections and debris.

6.3 Focus Adjustment

Accurate focus is crucial for precise engraving and cutting. Refer to your software's instructions for automatic or manual focus adjustment. The ATOMSTACK Swift is designed for ease of use, often featuring a fixed-focus lens or simple adjustment mechanism.

6.4 Starting a Project

1. In your chosen software, import or create your design.
2. Set the appropriate parameters (power, speed, passes) for your material. Refer to material testing guides or recommended settings.
3. Preview the job to ensure correct placement and scale.
4. Initiate the engraving or cutting process. Always wear safety glasses during operation.



Image: A screenshot of the AI Text-to-Image software interface, demonstrating smart software features, built-in templates, and material parameter presets for effortless creation.

6.5 Optional Accessories: Rotary Roller

For engraving cylindrical objects, an optional rotary roller accessory (e.g., ATOMSTACK R8) can be used. This accessory expands the machine's capabilities to engrave on various irregular cylindrical objects like bottles, cups, and pens.



Image: The ATOMSTACK R8 Rotary Roller accessory, designed for engraving on cylindrical objects, shown with various items like cans and bottles.



Image: Examples of irregular cylindrical objects such as wine bottles and glasses being engraved using the rotary roller accessory.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your ATOMSTACK Swift 12W.

- **Cleaning the Lens:** Periodically clean the laser lens with a specialized lens cleaning solution and a lint-free cloth. A dirty lens can reduce laser power and precision.
- **Cleaning the Machine:** After each use, clean any debris, dust, or residue from the working area and the machine's frame. Use a soft brush or compressed air.
- **Lubrication:** Occasionally apply a small amount of lubricant to the guide rails to ensure smooth movement of the laser module.
- **Cable Inspection:** Regularly check all cables for any signs of wear or damage. Replace damaged cables immediately.
- **Firmware Updates:** Check the ATOMSTACK official website for any available firmware updates to improve performance or add new features.

8. TROUBLESHOOTING

If you encounter issues with your ATOMSTACK Swift 12W, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Laser not firing or weak output	Dirty lens, incorrect focus, low power setting, loose cable connection	Clean the laser lens. Adjust focus. Increase laser power in software. Check all cable connections.
Machine not connecting to computer/app	Incorrect driver, loose USB cable, Wi-Fi/hotspot issue, software conflict	Install correct drivers. Reconnect USB cable. Verify Wi-Fi/hotspot settings. Restart software and machine.
Engraving/cutting results are inconsistent or inaccurate	Material not flat, incorrect speed/power settings, loose belts/components, dirty lens	Ensure material is flat and secure. Adjust speed/power settings. Check and tighten belts/screws. Clean laser lens.
Machine makes unusual noises	Loose components, debris on rails, motor issue	Inspect for loose parts and tighten. Clean guide rails. If noise persists, contact support.

If the problem persists after attempting these solutions, please contact ATOMSTACK customer support.

9. SPECIFICATIONS

Feature	Detail
Brand	ATOMSTACK
Model	Swift 12W
Laser Output Power	12W (from dual 7W laser diodes)
Laser Spot Size	0.06 x 0.08 mm
Engraving Speed	Up to 400 mm/s
Working Area	300 x 300 mm
Connectivity	USB, Type-C, Wi-Fi, Hotspot
Compatible Software	ATOMSTACK Studio (App/PC), LightBurn, LaserGRBL
Power Source	Corded Electric
Special Features	Dual Pressure Point Fusion Technology, Spot Compression Technology, Modular Design
Included Components	Cord, Power Supply, Instruction Manual, Safety Glasses, Magnetic Protective Cover
GTIN (UPC)	705572567714

10. WARRANTY AND SUPPORT

ATOMSTACK provides comprehensive support for its products:

- **Warranty:** A 365-day warranty is provided from the date of product receipt.

- **Customer Support:** ATOMSTACK offers 24-hour support. If you encounter any issues, please contact the ATOMSTACK technical team via Amazon. They aim to provide a resolution within 24 hours.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Email

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Details

Submit question

Open the live page

<https://manuals.plus/asin/B0G8X7KYWK>

More documents and user manuals: <https://manuals.plus/>