

OMTech SH-G1610

OMTech 150W CO2 Laser Engraver User Manual

Model: SH-G1610

Brand: OMTech

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation, setup, and maintenance of your OMTech 150W CO2 Laser Engraver. Please read this manual thoroughly before operating the machine.

Key Features:

- 150W CO2 Laser Tube for powerful cutting and engraving.
- 40x63 Inch Work Area with honeycomb and aluminum blade beds.
- Autofocus and Autolift for precise material height adjustment.
- 3-Way Pass-Through Doors for handling larger materials.
- Integrated Air Assist to clear debris and protect optics.
- Compatible with LightBurn software.
- Includes a dedicated Water Chiller for laser tube cooling.



Figure 1: OMTech 150W CO2 Laser Engraver with included water chiller and LightBurn software logo.

2. SAFETY INFORMATION

Operating a CO2 laser engraver requires strict adherence to safety protocols to prevent injury and equipment damage. Always prioritize safety.

- **Eye Protection:** Never look directly into the laser beam. The widened viewing window is made from flame retardant material for safe observation, but direct exposure to the laser beam can cause severe eye damage.
- **Ventilation:** Ensure proper ventilation to remove smoke and fumes generated during operation. The built-in air assist helps, but an external exhaust system is highly recommended.
- **Fire Safety:** Keep a fire extinguisher nearby. Certain materials can ignite during laser processing. Never leave the machine unattended while operating.
- **Material Compatibility:** Only engrave or cut materials approved for CO2 lasers. Avoid materials containing chlorine (e.g., PVC) as they produce corrosive and toxic fumes.
- **Electrical Safety:** Ensure the machine is properly grounded. Do not operate with wet hands or in damp

environments.

- **Emergency Stop:** Familiarize yourself with the location and operation of the emergency stop button.
- **Laser Class:** This is a Laser Class 2 device with 0.827 mW output power.

3. SETUP

3.1 Unpacking and Placement

Carefully unpack the laser engraver and all accessories. Place the machine on a stable, level surface in a well-ventilated area, away from flammable materials.

3.2 Water Chiller Setup

The included water chiller is crucial for cooling the laser tube and ensuring its longevity. Connect the chiller to the laser engraver according to the provided diagrams in the separate chiller manual.



WATER CHILLER INCLUDED

Keep Your Engraver Cool and Achieve
Consistent Optimal Laser Performance

Figure 2: The CW-5200 Industrial Water Chiller, essential for maintaining optimal laser tube temperature.

Fill the chiller with distilled water to the recommended level. Ensure proper water flow before operating the laser.

3.3 Software Installation (LightBurn)

The OMTech 150W laser engraver is compatible with LightBurn software. Install LightBurn on your computer following the instructions provided with the software. Connect the laser engraver to your computer via USB or Ethernet.



TRANSFORM YOUR WORKSHOP INTO A CREATIVE HAVEN

Figure 3: LightBurn software interface, showing design capabilities and compatibility with Windows, Linux, and MacOS.

For a general overview of OMTech laser engravers, including setup considerations, please watch the video below:

Your browser does not support the video tag.

Video 1: "OMTech Laser Engraver for Most People" - This video provides a general introduction to OMTech laser engravers and their applications.

4. OPERATING INSTRUCTIONS

4.1 Material Loading

Place your material onto the honeycomb or aluminum blade bed. Ensure the material is flat and secured to prevent movement during engraving or cutting. The 40"x63" work area accommodates large projects.



Figure 4: The three-way pass-through doors allow for processing of larger and longer materials than the workbed itself.

For a demonstration of laser engraving and cutting on acrylic mirror, including material loading, refer to the video below:

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Video 2: "Laser Engraving and Cutting on Acrylic Mirror - DIY Project" - This video demonstrates the process of engraving and cutting acrylic mirror, including material preparation.

4.2 Autofocus Feature

This model features an autofocus system. Simply press the autofocus button, and the laser head will automatically adjust to the correct focal distance for your material, eliminating manual guesswork.

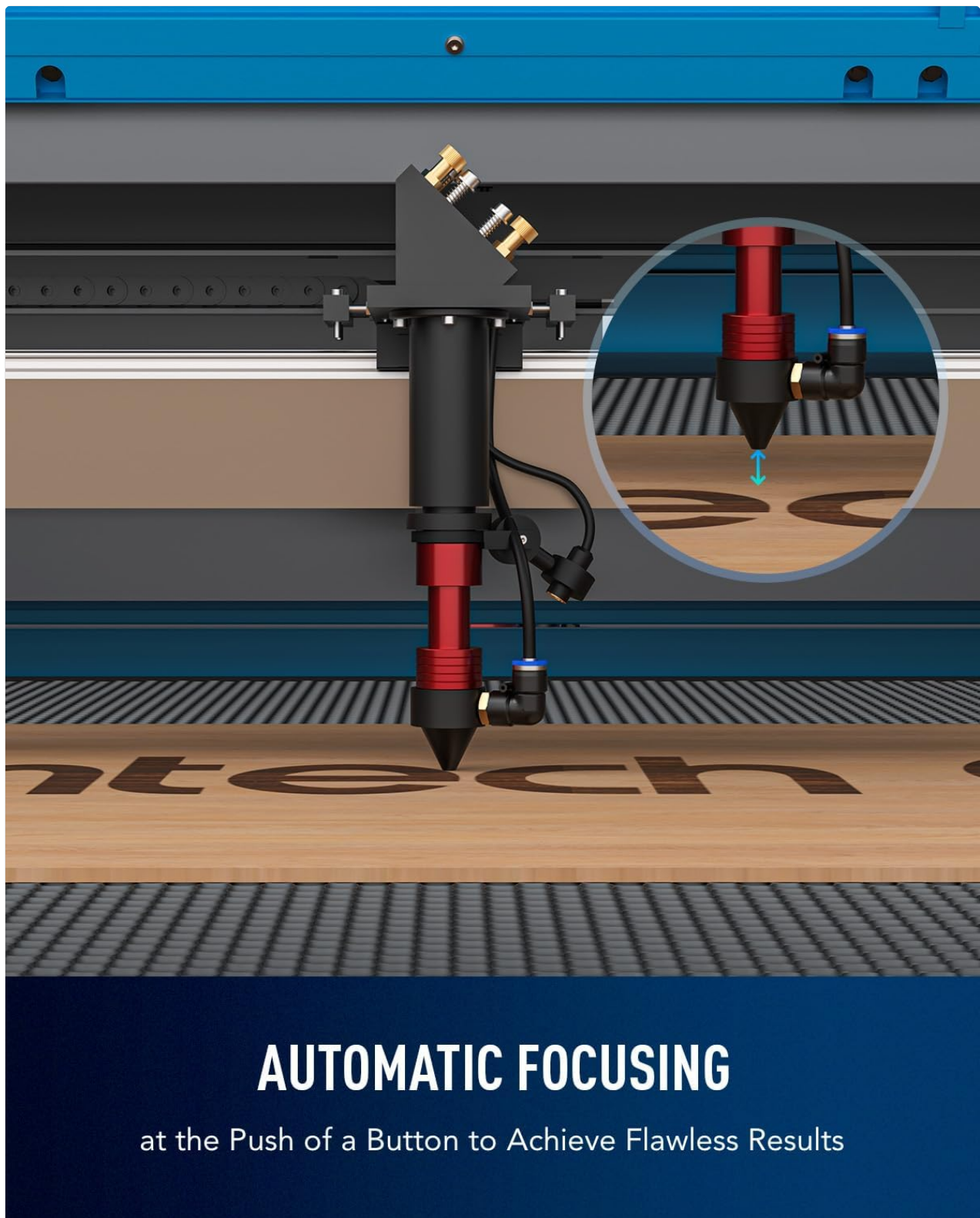


Figure 5: The automatic focusing system ensures precise focal distance at the push of a button for flawless results.

4.3 Engraving and Cutting

Once your design is loaded into LightBurn and material is in place, set your desired power and speed settings based on the material type and thickness. The machine supports engraving speeds up to 600 mm/s for increased productivity.

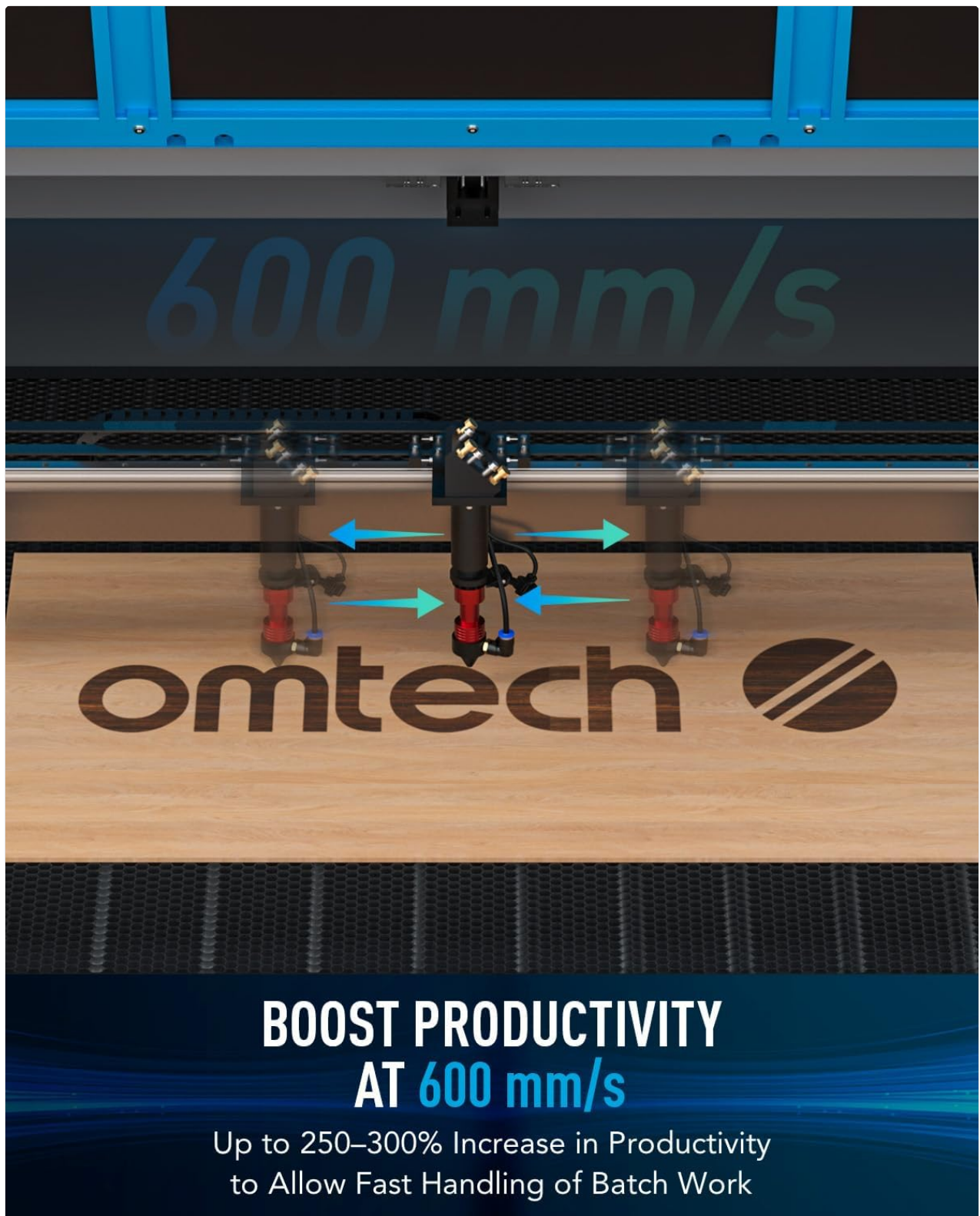


Figure 6: High-speed engraving at 600 mm/s significantly boosts productivity for batch work.

For detailed instructions on how to laser engrave a photo, watch the video below:

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Video 3: "How to laser engrave a photo with a CO2 Laser Engraver" - This video guides you through the steps of engraving a photo using a CO2 laser.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your laser engraver.

5.1 Laser Tube Care

The Yongli A8s tube has a lifespan of up to 7,000 hours. Ensure the water chiller is always running and maintaining the correct temperature to prevent overheating. Regularly check the water level and quality.

5.2 Optics Cleaning

Clean the laser lenses and reflective mirrors regularly using appropriate cleaning solutions and lint-free wipes. Dust and debris can degrade laser performance. The built-in air assist helps minimize debris accumulation.

5.3 Workbed and Interior Cleaning

Periodically clean the honeycomb and blade beds to remove accumulated residue. Keep the interior of the machine free from dust and material scraps.

6. TROUBLESHOOTING

This section addresses common issues you might encounter during operation.

- **No Laser Output:** Check the laser tube connection, water chiller operation, and power settings in LightBurn. Ensure the emergency stop button is not engaged.
- **Poor Engraving/Cutting Quality:** Verify focal distance (use autofocus), check lens and mirror cleanliness, and adjust power/speed settings for your material. Ensure the material is flat.
- **Machine Not Connecting to Computer:** Check USB/Ethernet cable connections, ensure LightBurn is configured for the correct machine, and verify driver installation.
- **Overheating Chiller:** Ensure the chiller has adequate ventilation and is filled to the correct water level. Check for blockages in the water lines.

For further assistance, refer to the comprehensive troubleshooting guide available on the OMTech support website or contact customer service.

7. SPECIFICATIONS

Feature	Detail
Product Dimensions	86.6 x 60.6 x 37 inches
Item Model Number	SH-G1610
Item Weight	816 pounds
Manufacturer	OMTech
Max. Engraving Speed	600 mm/s
Data Transmission	USB Cable, Ethernet Cable, USB Flash Drive, Offline
Front/Back Pass Size	66.9 x 1.9 inches

Side Pass Size	42.1 x 0.7 inches
Laser Tube Type	Yongli A8s CO2
Laser Tube Lifespan	Up to 7,000 hours




8. WARRANTY & SUPPORT



This product comes with a return policy allowing for refund/replacement within 30 days of purchase. For specific warranty details and technical support, please refer to the documentation included with your product or visit the official OMTech website.

You can also visit the [OMTech Store on Amazon](#) for more information and products.

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Related Documents - SH-G1610

	<p>OMTech USB1006c Cabinet Laser Engraver User Manual</p> <p>Comprehensive user manual for the OMTech USB1006c Cabinet Laser Engraver. Covers essential safety guidelines, detailed installation procedures, operational instructions, and maintenance procedures for optimal performance and longevity of your CO2 laser engraving machine.</p>
	<p>OMTech Polar 350 50W Desktop Laser Engraver Owner's Manual and Guide</p> <p>This comprehensive owner's manual provides detailed instructions for the installation, operation, safety, and maintenance of the OMTech Polar 350 50W Desktop Laser Engraver. Learn about its features, specifications, and best practices for use.</p>
	<p>OMTech SH-G570 100W CO2 Cabinet Laser Engraver User Manual</p> <p>Comprehensive user manual for the OMTech SH-G570 100W CO2 Cabinet Laser Engraver, covering safety, installation, operation, maintenance, and troubleshooting for personal and professional use.</p>

<p>User Manual</p> <p><small>Don't read this manual until it says to do so.</small></p>	<p>OMTech 3020 Laser Engraver User Manual</p> <p>Comprehensive user manual for the OMTech 3020 laser engraver, covering installation, operation, maintenance, and troubleshooting for professional use. Includes detailed instructions and safety guidelines.</p>
<p></p>	<p>Omttech USB570a Cabinet Laser Engraver User Manual - Installation, Operation & Safety Guide</p> <p>Comprehensive user manual for the Omttech USB570a Cabinet Laser Engraver, detailing installation, operation, safety guidelines, and maintenance for optimal performance and user safety.</p>
<p></p>	<p>OMTech SH-G570 80W CO2 Cabinet Laser Engraver User Manual</p> <p>Comprehensive user manual for the OMTech SH-G570, an 80W CO2 Cabinet Laser Engraver. Covers safety, installation, operation, maintenance, and troubleshooting for professional and personal use.</p>