

OMTech SH-G570

OMTech 90W CO2 Laser Engraver (Model SH-G570) Instruction Manual

Your Guide to Setup, Operation, and Maintenance

1. INTRODUCTION

This manual provides essential information for the safe and effective operation of your OMTech 90W CO2 Laser Engraver, Model SH-G570. Please read all instructions carefully before operating the machine to ensure proper usage and to prevent injury or damage.



Figure 1: OMTech 90W CO2 Laser Engraver (Model SH-G570)

2. SAFETY GUIDELINES

Operating a laser engraver requires adherence to strict safety protocols. Failure to follow these guidelines can

result in serious injury or damage to the equipment.

- **Eye Protection:** Never look directly into the laser beam. The machine features a widened viewing window made from flame-retardant material for safe observation.
- **Ventilation:** Ensure adequate ventilation to remove smoke and fumes generated during operation. The integrated air assist system helps keep the work area clear.
- **Automatic Cover Interlock:** The laser automatically shuts off when the lid is opened, preventing accidental exposure to the laser beam.
- **Material Compatibility:** Only engrave or cut materials approved for CO2 lasers. Refer to the material compatibility chart in Section 5.
- **Emergency Stop:** Familiarize yourself with the location and operation of the emergency stop button.



Figure 2: Flame-Retardant Viewing Window for Safe Observation

3. SETUP

Proper setup is crucial for optimal performance and safety.

3.1. Placement

Place the machine on a stable, level surface in a well-ventilated area. Ensure sufficient space around the machine for operation and maintenance, especially considering the 4-way pass-through feature.

3.2. Connections

- **Power:** Connect the machine to a grounded power outlet.
- **Water Pump/Cooling System:** Connect the external water pump to the machine and ensure it is filled with distilled water. This system is vital for cooling the laser tube during operation.
- **Air Assist System:** Connect the air assist pump. The integrated air assist system directs a stream of air to the cutting point, reducing flare-ups and removing debris.
- **Ventilation:** Connect the exhaust hose to the machine and vent it outdoors or to a dedicated fume extractor.

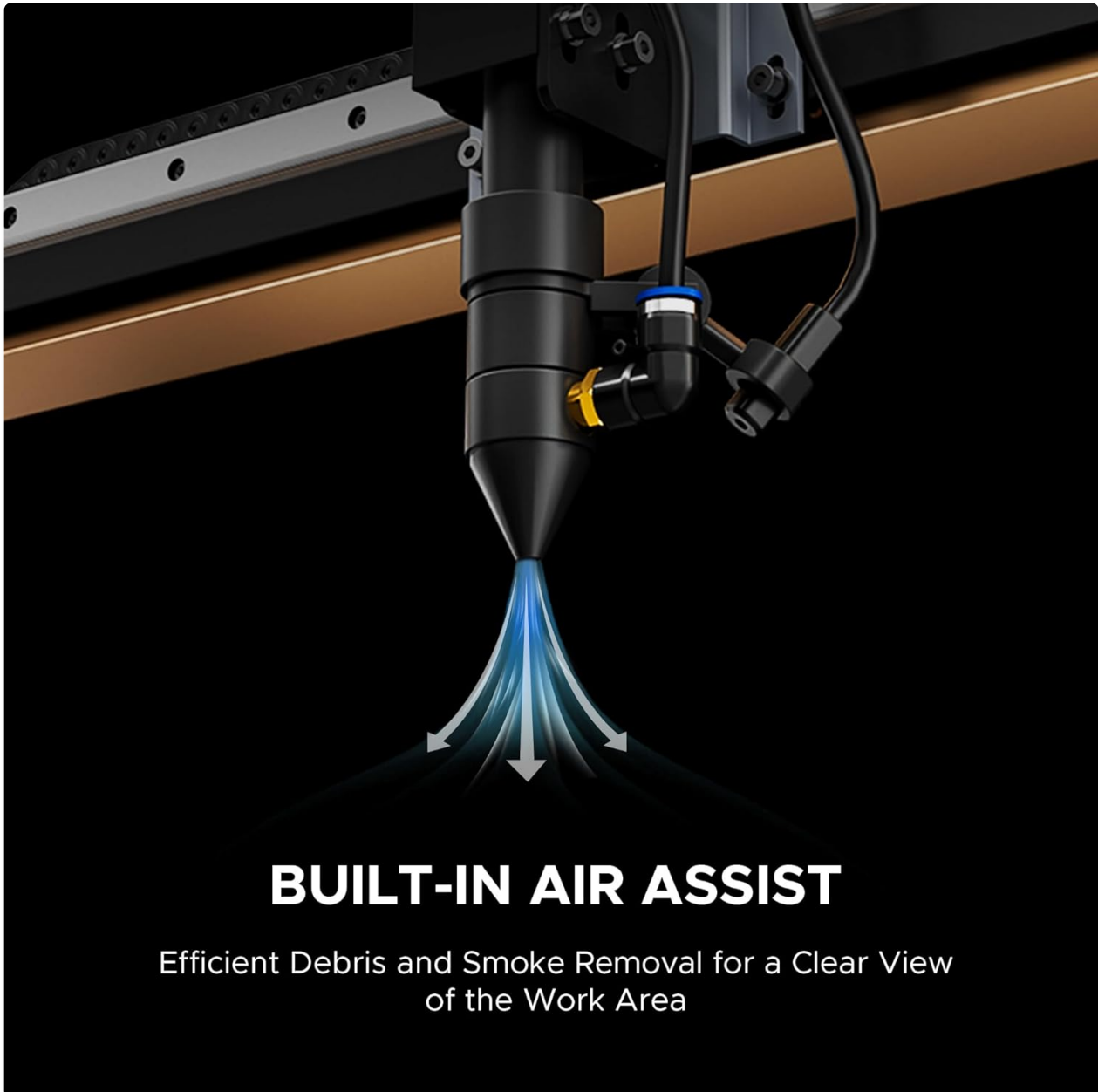


Figure 3: Built-in Air Assist System

4-WAY PASS-THROUGH

Work on Challenging Tasks and Projects & Handle
Pieces Larger Than the Workbed



Figure 4: Four-Way Pass-Through Capability

4. OPERATING INSTRUCTIONS

4.1. Control Panel and Software

The machine features a digital control panel for easy operation. It is compatible with various software, including RDWorks, LightBurn, CorelDRAW, and AutoCAD, allowing for flexible design and control.



WIDE COMPATIBILITY



RDWorks



LightBurn



CorelDRAW



AutoCAD

Figure 5: Digital Control Panel and Software Compatibility

4.2. Material Preparation

Place your material securely on the workbed. The spacious 28"x20" workspace accommodates a variety of project sizes. For longer items, utilize the four-way pass-through doors.

4.3. Laser Operation

The 90W CO2 laser offers powerful cutting and engraving capabilities. It can achieve up to 0.4" deep cuts in wood and engrave on materials like glass, acrylic, and leather at speeds up to 600 mm/s.

90W Powerful Laser

Up to 1" Acrylic Cutting

Up to 0.4" Wood Cutting

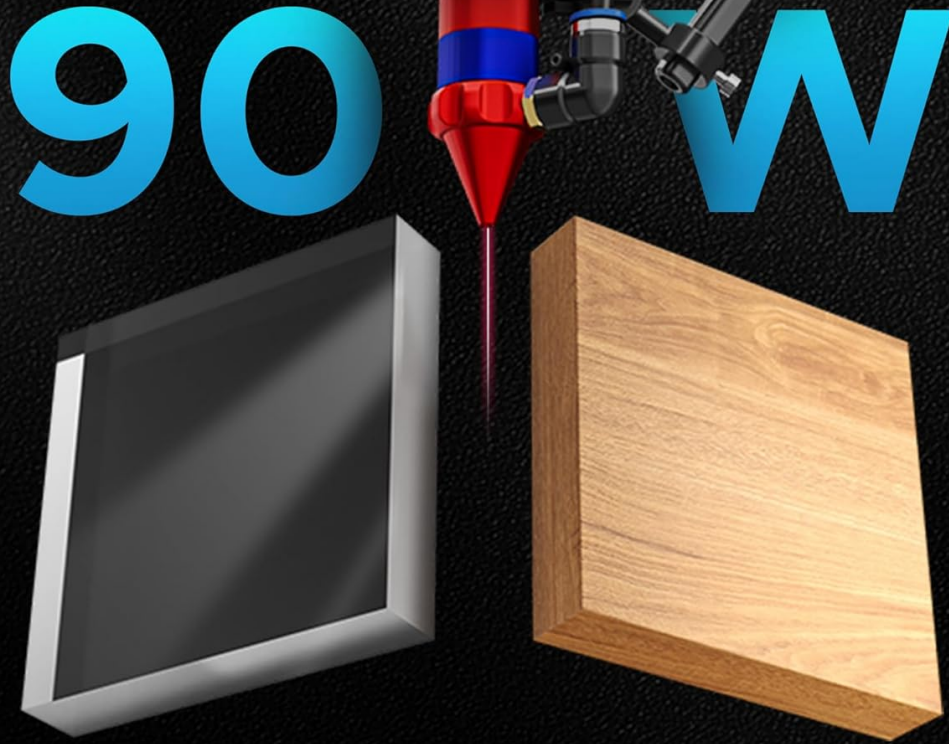


Figure 6: 90W Laser Power and Material Capabilities

Your browser does not support the video tag. This video demonstrates the OMTech laser engraver in operation, showcasing its precision and speed.

Video 1: Laser Engraver in Operation

Your browser does not support the video tag. This video shows the laser cutting through material, highlighting its cutting capability.

Video 2: Laser Cutting Demonstration

5. MATERIAL COMPATIBILITY

The OMTech 90W CO2 Laser Engraver is suitable for a wide range of materials. Refer to the table below for common materials and their compatibility with engraving and cutting functions.

WIDE APPLICATION

MATERIAL	ENGRAVING	CUTTING	MATERIAL	ENGRAVING	CUTTING
Wood	✓	✓	Mylar	✓	✓
Acrylic	✓	✓	Cork	✓	✓
Leather	✓	✓	Glass	✓	✗
Plastic	✓	✓	Fiberglass	✓	✗
Cardboard	✓	✓	Ceramic	✓	✗
Pressboard	✓	✓	Brick	✓	✗
Fabric	✓	✓	Stone	✓	✗
MDF	✓	✓	Jade	✓	✗
Rubber	✓	✓	Marble	✓	✗
PVC	✓	✓	Shale	✓	✗
Bamboo	✓	✓	Cement	✓	✗
Kraft Paper	✓	✓	Corian	✓	✗
Corrugated Paper	✓	✓	Coated Metal	✓	✗
Felt	✓	✓	Electroplated Metal	✓	✗
Delrin	✓	✓	Painted Metal	✓	✗
Melamine	✓	✓	Anodized Metal	✓	✗

Figure 7: Material Compatibility Chart

6. MAINTENANCE

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

6.1. Cleaning

- **Lenses and Mirrors:** Regularly inspect and clean the laser lenses and mirrors using appropriate cleaning solutions and lint-free wipes.
- **Workbed:** Clean the honeycomb and blade workbeds to remove debris and residue from cutting and engraving operations.

6.2. Cooling System

Monitor the water pump and ensure the cooling water is clean and at the correct temperature to prevent overheating of the laser tube.

6.3. Air Assist System

Verify that the air assist system is functioning correctly to maintain clear visibility and prevent material scorching.

7. SPECIFICATIONS

Key technical specifications for the OMTech 90W CO2 Laser Engraver (Model SH-G570):

- **Model Number:** SH-G570
- **Rated Power:** 90W
- **Max. Engraving Speed:** 600 mm/s
- **Working Area:** 28" x 20"
- **4-Way Pass-Through:** Yes
- **Laser Tube Lifespan:** Up to 8,000 hours (can last longer at lower settings)
- **Air Assist:** Integrated
- **Safety Features:** Flame-retardant viewing window, automatic cover interlock
- **Software Compatibility:** RDWorks, LightBurn, CorelDRAW, AutoCAD
- **Machine Weight:** 227.1 lb.
- **Side/Side Pass Size:** 19.7" x 0.8"
- **Front/Back Pass Size:** 31.5" x 3.9"
- **Machine Dimensions:** 57.1" x 34.3" x 36.6"



Rated Power

90W

Max. Engraving Speed

600 mm/s

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227.1 lb.

Side/Side Pass Size

19.7" × 0.8"

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31.5" × 3.9"

Machine Dimensions







57.1" × 34.3" × 36.6"

Figure 8: Key Product Specifications

8. WARRANTY AND SUPPORT

OMTech provides comprehensive support for its products. This includes 24/7 global support, technical guidance, and local demonstrations by appointment. The product comes with 2 years of comprehensive service.

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	<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>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>
<p>User Manual</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>032B (40W) DESKTOP LASER ENGRAVER USER MANUAL</p> 	<p>OMTech 032B (40W) Desktop Laser Engraver User Manual</p> <p>Comprehensive user manual for the OMTech 032B (40W) Desktop Laser Engraver, covering installation, safety, operation, maintenance, and troubleshooting. Learn to safely and effectively use your laser engraving machine.</p>
<p>USB1006c Cabinet Laser Engraver User Manual</p> 	<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 Solis Duo Dual Laser Engraver User Manual</p> <p>Comprehensive user manual for the OMTech Solis Duo Dual Laser Engraver (20W Fiber & 20W Diode). Covers safety precautions, technical specifications, component identification, assembly, software installation, operation procedures, maintenance, and additional applications.</p>