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> [OMTech 30W MOPA Fiber Laser Engraver \(Model LYF-30JW\(S\)\) Instruction Manual](#)

OMTech LYF-30JW(S)

OMTech 30W MOPA Fiber Laser Engraver

Model: LYF-30JW(S)

Brand: OMTech

1. INTRODUCTION

This manual provides essential instructions for the safe and effective operation, setup, maintenance, and troubleshooting of your OMTech 30W MOPA Fiber Laser Engraver. This machine is designed for high-precision marking, etching, and engraving on various metal and plastic materials, including color marking on metals. Please read this manual thoroughly before operating the device.



Image: The OMTech 30W MOPA Fiber Laser Engraver, a compact desktop unit.

2. SAFETY INFORMATION

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

- **Eye Protection:** Always wear appropriate laser safety glasses (OD 6+ for 1064nm wavelength) when the laser is in operation. Never look directly into the laser beam.
- **Ventilation:** Ensure adequate ventilation to remove fumes and particles generated during engraving.

- **Material Safety:** Only engrave materials approved for fiber lasers. Avoid materials that produce toxic fumes or are highly flammable.
- **Emergency Stop:** Familiarize yourself with the location and operation of the emergency stop button.
- **Supervision:** Never leave the machine unattended during operation.
- **Power Off:** Disconnect power before performing any maintenance or adjustments.

3. PACKAGE CONTENTS

Upon receiving your OMTech 30W MOPA Fiber Laser Engraver, verify that all components are present and undamaged:

- OMTech 30W MOPA Fiber Laser Engraver Unit
- Support Column
- Laser Arm
- Power Cable
- USB Cable
- Safety Glasses
- Hex Wrenches / Allen Keys
- Mounting Screws
- Focus Ruler
- Foot Pedal

Video: This video demonstrates the unboxing and initial assembly of the OMTech laser engraver, including identifying package contents.

4. SETUP

4.1. Physical Assembly

1. **Install the Support Column:** Attach the support column to the main unit using the provided screws and hex wrenches. Ensure it is securely fastened.
2. **Secure the Laser Arm:** Mount the laser arm onto the support column. Use the designated screws to firmly attach the arm, ensuring it is stable and level.
3. **Connect Cables:** Plug in the power cable to a grounded outlet. Connect the USB cable from the engraver to your computer. If using a rotary axis, connect it to the designated port.
4. **Emergency Stop:** Ensure the emergency stop button is disengaged (rotated counter-clockwise) before powering on.

Video: This video provides a step-by-step guide on how to install the OMTech laser engraver, covering the physical assembly of the unit.

4.2. Software Connection (LightBurn)

The OMTech 30W MOPA Fiber Laser Engraver is compatible with LightBurn and EZCad software. This section outlines connecting with LightBurn:

1. **Install LightBurn:** Download and install the LightBurn software on your computer (Windows 7, 8, 10, 11, or macOS).
2. **Connect Device:** Ensure your laser engraver is connected to your computer via USB and powered on.

3. **Find My Laser:** In LightBurn, navigate to 'Devices' and select 'Find My Laser'. The software will scan for connected devices.
4. **Add Device:** Once your OMTech Fiber Laser is identified, click 'Add Device'. You may rename the device for easier identification.
5. **Set Origin:** Select the origin of your laser (e.g., Front Left, Rear Right) as per your machine's configuration.
6. **Finish:** Complete the setup wizard. Your laser should now be connected and ready for use with LightBurn.

Video: This video demonstrates the process of connecting your OMTech laser engraver to LightBurn software.

5. OPERATING INSTRUCTIONS

5.1. General Operation

The OMTech 30W MOPA Fiber Laser Engraver offers robust performance for various applications:

- **Focus Adjustment:** Use the dual red dot locators for accurate focus and alignment. Adjust the scanning head height until the two red dots converge into a single point on the material surface.
- **Material Placement:** Place your material securely on the workbed. The 5.9"x5.9" (150x150mm) workspace provides ample area for most projects.
- **Software Settings:** Configure your engraving parameters (speed, power, frequency, pulse width) in LightBurn or EZCad based on the material and desired effect.
- **Start Engraving:** Initiate the engraving process from the software. Monitor the operation closely.

HIGH ACCURACY AT 0.01 MM

See Your Ideas Brought to Life with Engravings
That Nail Every Detail

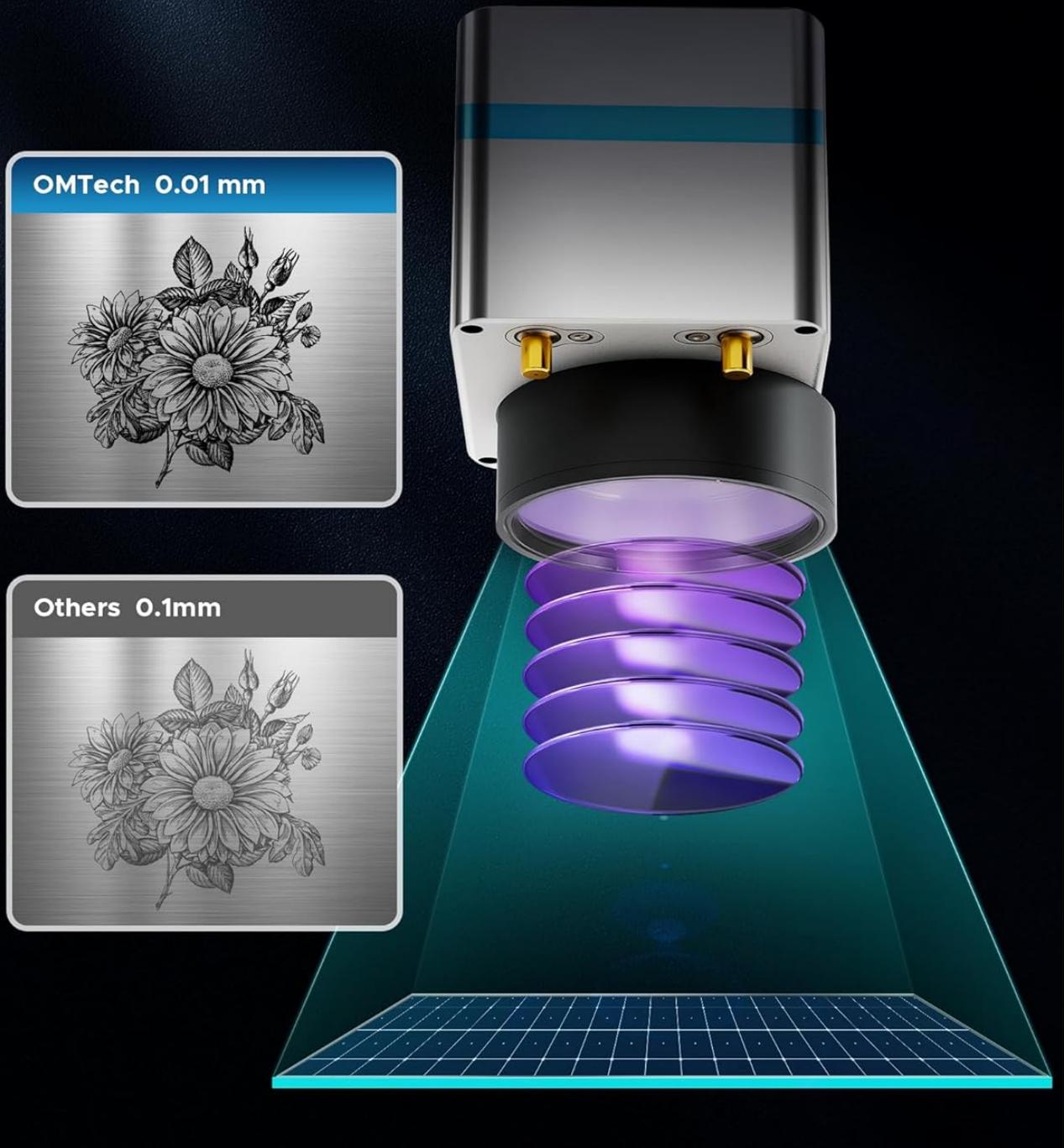


Image: Illustration highlighting the 0.01 mm precision of the laser engraver, showing fine detail on an engraved design.

5.2. Material Compatibility

This fiber laser is suitable for engraving and marking on a wide range of materials:

- **Metals:** Stainless Steel, Aluminum, Brass, Copper, Gold, Silver, Titanium, Tungsten, etc.
- **Plastics:** ABS, PVC, Polycarbonate, etc.
- **Other:** Some painted/coated materials, certain ceramics.

Always perform test engravings on scrap material to determine optimal settings for new materials.

YOU CAN ENGRAVE THESE MATERIALS

 Brass

 Brick

 Aluminum

 Granite

 Tile

 Marble

 Silver

 Tungsten

 Titanium

 Gold

 Stainless Steel

Image: A visual representation of various metal items that can be engraved with the fiber laser, such as rings, dog tags, and tools.

5.3. Color Metal Marking (MOPA Technology)

The MOPA technology allows for precise control over pulse duration and frequency, enabling the creation of various colors on certain metals, particularly stainless steel and titanium. Experiment with different pulse widths (2-500 ns) and frequencies (1-4000 kHz) to achieve desired color effects.

MOPA LASER FOR COLOR MARKING



Image: A metal sample engraved with a color wheel, demonstrating the MOPA laser's capability for color marking.

Video: This video showcases the color marking capabilities of the OMTech fiber laser machine on various materials.

5.4. Engraving with Rotary Axis

For engraving cylindrical objects such as tumblers, rings, or pens, an optional rotary axis can be connected. Ensure the rotary axis is properly installed and calibrated according to its specific instructions. Adjust software settings to enable rotary engraving mode and input the correct object dimensions.

Reliable Local Support in the U.S.

Quick response to resolve any issues you encounter



U.S.-based technical support



24/7 online customer service



Two-year support



Image: The OMTech Fiber Laser Engraver set up with a rotary axis, demonstrating its use for engraving cylindrical items.

Video: This video demonstrates the process of engraving with a rotary axis using the OMTech laser engraver.

6. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your laser engraver:

- **Lens Cleaning:** Periodically clean the F-theta lens with a lens cleaning solution and a lint-free cloth to maintain beam quality.
- **Workbed Cleaning:** Keep the workbed clean from debris and residue to ensure proper material placement and prevent interference.
- **Ventilation System:** Regularly check and clean the exhaust fan and ventilation ducts to ensure efficient fume extraction.
- **Cable Inspection:** Inspect all cables for wear or damage. Replace any compromised cables immediately.

7. TROUBLESHOOTING

If you encounter issues, refer to the following common troubleshooting steps:

- **No Laser Output:** Check if the machine is powered on, the emergency stop button is disengaged, and the key switch is in the 'ON' position. Verify software settings and laser power.
- **Connection Issues:** Ensure the USB cable is securely connected to both the engraver and the computer. Restart LightBurn/EZCad and the engraver. Check device manager for driver issues.
- **Poor Engraving Quality:** Verify the laser is properly focused. Adjust speed, power, and frequency settings. Clean the lens if necessary. Ensure material is flat and stable.
- **Machine Not Responding:** Check all power connections. Press and release the emergency stop button. Restart the machine and software.

8. SPECIFICATIONS

Feature	Specification
Model Number	LYF-30JW(S)

Feature	Specification
Laser Power	30W
Laser Type	MOPA Fiber Laser
Wavelength	1064 nm
Work Area	5.9" x 5.9" (150 x 150 mm)
Max. Engraving Speed	10,000 mm/s
Marking Accuracy	0.01 mm
Max. Single Pass Marking Depth	0.08 mm
Frequency Range	1-4000 kHz
Adjustable Pulse Width	2-500 ns
Laser Source Lifespan	Over 100,000 hours
Cooling System	Air Cooling
Compatible Software	LightBurn, EZCad
Laser Class	Class 2, 0.874 mW Output Power
Net Weight	40 lb.

9. WARRANTY AND SUPPORT

OMTech is committed to providing reliable products and excellent customer service.

- **Warranty:** This product includes a two-year support period. Please refer to your purchase documentation for specific warranty terms and conditions.
- **Technical Support:** U.S.-based technical support is available to assist with any issues you may encounter.
- **Customer Service:** 24/7 online customer service is provided for your convenience.

For further assistance, please visit the official OMTech website or contact their customer support directly.