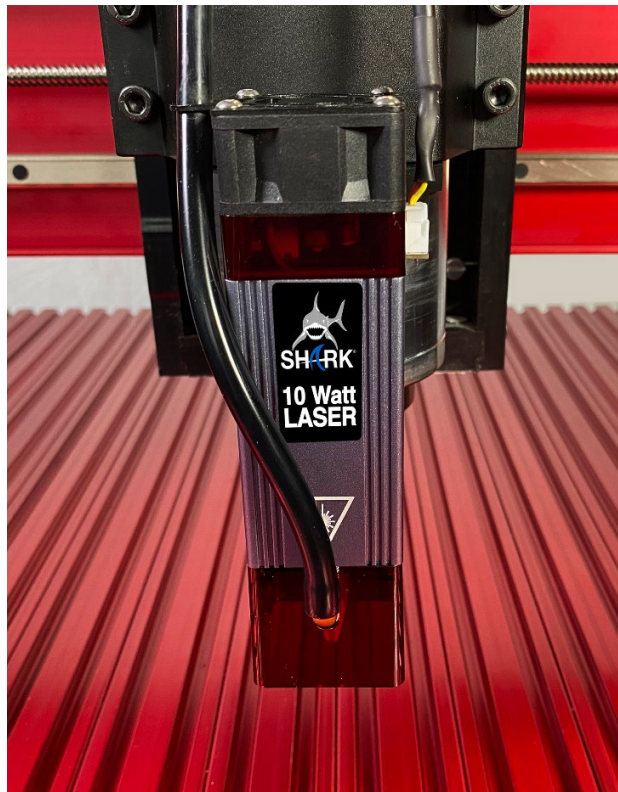




# 10-Watt Laser System Manual

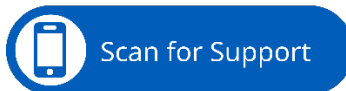




©2025 Next Wave CNC, All Right Reserved.

Information in this manual and all subsequent versions are subject to change without notice. For the most up-to-date instructional materials and manuals, please visit our support page at

[nextwavecnc.com/support](https://nextwavecnc.com/support)



The 10-Watt Laser System is a registered trademark of Next Wave CNC.  
Software ©2025 by Next Wave CNC. All rights reserved.

All other trademarks are the property of their respective owners.

10-watt Laser Manual  
Version 01 08 2025 LMF  
SKU 80041

## Table of Contents

A Note to Our Customers.....	3
Disclaimer .....	3
Warranty .....	4
What's Included.....	6
Product Overview.....	5
Important Information .....	5
Installation .....	8
Laser Offset Pendant .....	11
Vcarve Setup .....	16
Operation.....	19
Preventative Maintenance Checks & Services.....	20
Laser Pictures with Ready2Raster .....	21
Examples.....	24
Minimize Over-Burn.....	26
Troubleshooting.....	26
Contact Technical Support.....	27

## A Note to Our Customers

Thank you for purchasing the 10-Watt Laser System accessory! We hope you enjoy this versatile tool for your Next Wave CNC machine.

This manual provides you with the necessary information to get your brand-new accessory up and running. Please read through the entire manual carefully. Proper installation and setup are the key to achieving the best results.

---

## Disclaimer

This manual has been written with the expectation that the operator has a basic understanding of their CNC machine and is familiar with the safe operation of woodworking power tools and laser tools. Information in this manual is subject to change without notice. For more information, please refer to the support page on our website: <https://www.nextwavecnc.com/support>

---

## Warranty

Next Wave CNC warrants to the original retail purchaser of a 10-Watt Laser System Accessory and purchased from an authorized CNC Shark distributor will be free from defects in material and workmanship for ONE YEAR from the date of purchase. This warranty is for parts and labor to correct the defect and does not cover the cost of shipping the defective item(s) to Next Wave CNC for repair or replacement.

**This warranty does not apply to defects arising from normal wear and tear, misuse, abuse, negligence, accidents, unauthorized repair or alteration, or lack of maintenance.**

This warranty is void if the 10-watt Laser System Accessory is modified without the prior written permission of Next Wave CNC, LLC, or if the 10-watt Laser System Accessory is located or has been used outside the country of residence of the authorized CNC Shark distributor.

Please contact Next Wave CNC to take advantage of this warranty. If Next Wave CNC determines the 10-Watt Laser System Accessory is defective in material or workmanship and not due to normal wear and tear, misuse, abuse, negligence, accidents, unauthorized repair or alteration, or lack of maintenance, then Next Wave CNC will, at its expense and upon proof of purchase, send replacement parts to the original retail purchaser necessary to cure the defect.

---

---

## Product Overview

The 10-Watt Laser System accessory is a powerful laser tool that is capable of both engraving and cutting through a variety of materials. Using the included mounting bracket and the latest firmware, the 10-Watt Laser System allows you to carve and engrave with only a simple toolpath change. The 10-Watt Laser System is compatible with all HD500, HD510, HD520 and HD544 machines, and can be controlled in a similar manner to the 7-Watt and 2-Watt Laser accessories. The 10-Watt Laser System is compatible with V-Carve and Ready2Raster. Please note that Vectric sells a separate Laser Module (toolpath tool) as an add-on to VCarve. However, the Vectric Laser Module is incompatible with the 10-Watt laser and is not needed to operate the SHARK 10-Watt Laser.

---

## Important Information



Image 2: Safety Warning

### WARNING

The 10-watt Laser system should be operated with extreme caution. Always wear the included eye protection and avoid direct laser light exposure to the eyes or skin.

### IMPORTANT INFORMATION

Engraving and cutting materials with lasers creates large amounts of smoke. Allowing soot to build up on the laser lens can decrease the output power, refract the laser beam, and damage the laser head by reflecting the laser light back into the unit.

The 10-watt Laser System uses an air assist pump to push air out through the air guide hood at the bottom of the laser to help keep the lens clean. However, we still recommend checking the laser head for debris before use and for soot build-up after each laser file run.

We highly recommend using a dust collector, shop vacuum with a HEPA filter, or an exhaust system when running the 10-watt Laser System to help remove the excess smoke from building up inside your workspace.

# What's Included



Image 1: What's Included

1	10W Laser Head	8	Laser Bed Feet
2*	Z-Height Alignment Plates	9	Air Assist Hose
3	10W Laser Hub	10	10W Laser Cable
4	Laser Hub Safety Keys	11	Laser Bed Protection Plate Feet
5	Laser Safety Glasses w/Case	12	1/2" 1/4-20 Mounting Bracket Screws
6	Air Assist Power Supply (24v Wall Wart)	13	M3 Mounting Bracket Screws
7	Laser Bed	14	10W Laser Head Mounting Bracket
		15	Air Assist Pump
		16	10W Laser Hub Power Supply (24V Power Brick) (Optional)

In the unfortunate case your unit is missing one of the components, please reach out to the Next Wave CNC Support Team at [support@nextwavecnc.com](mailto:support@nextwavecnc.com) for a replacement.

### \*Choosing a Z-Height Alignment Plate

Use 3mm Z plate for cutting.

Use 4mm Z plate for deep etching.

Use 5mm Z plate for photo engraving.



## Installation

### Step 1: Installing the mounting bracket to the laser head

Mount the provided bracket to the 10W laser head with the 8 M3 screws provided. You have two options to mount it higher or lower. You should choose the option that allows the bottom of the laser to easily touch the project surface when the Z axis is near its lowest position.

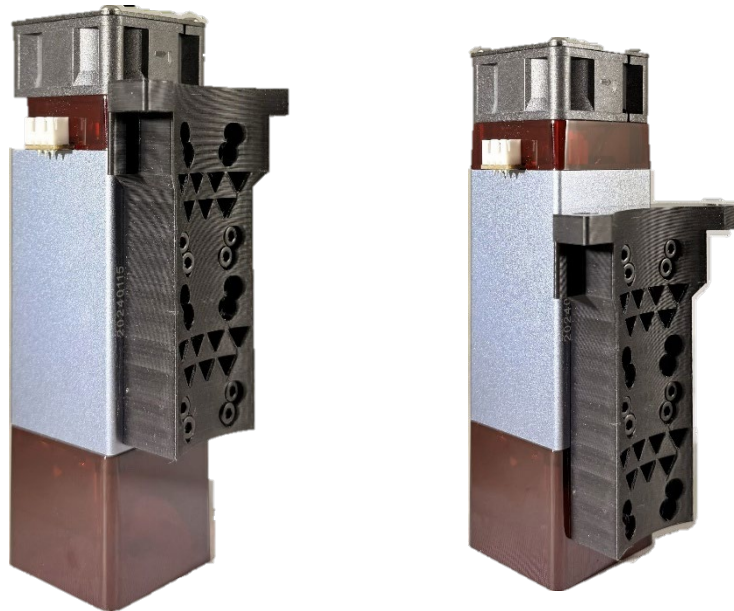


Image 3&4: Bracket Mounting

### Step 2: Attaching the 10W Laser Head

Attach the 10W laser head to your spindle or router clamp from the underside using the two screws provided.

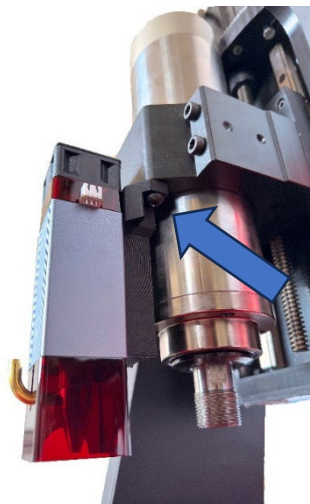


Image 5: Attaching the 10W Laser Head



### Step 3: Connecting Cable and Hose

Connect the 10W laser cable to the cable socket and connect the air assist hose to the air inlet on the front through the hose routing hole on the side of the 10W laser head.



Image 6&7: Connecting Cable and Air Hose

### Step 4: Mounting the Air Assist Pump

Rest the air assist pump on top of the drag chain at the back of the SHARK CNC's gantry, then wrap the zip-ties around the pump and drag chain to secure it in place. After mounting the pump, connect the hose from the 10W laser head to the pump's air outlet. Then connect the 24V air pump power supply to the air pump and plug the other end into a power strip of 110V outlet. The air flow knob on the pump turns the pump on and controls the air flow.

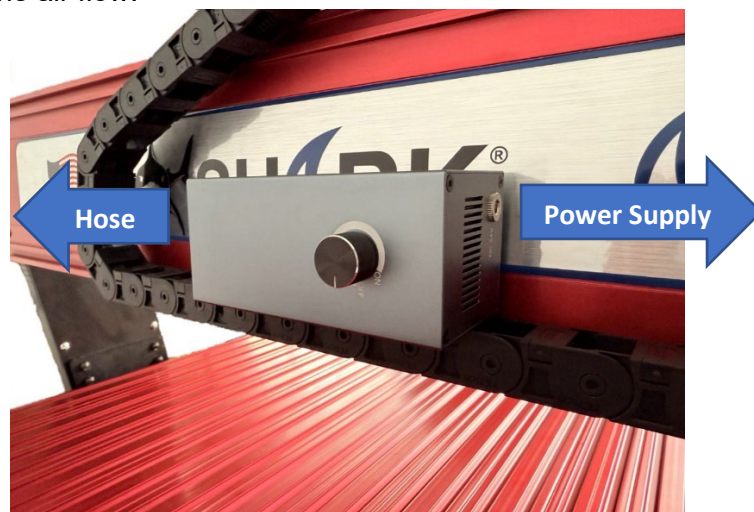


Image 8: Air Assist Pump on Gantry

**NOTE:** If there is an eCool system located on the gantry already, place the pump next to it and follow the same procedure. For HD500 users with an eCool system, the pump can be placed anywhere on the machine's bed that will not interfere with the operation of the machine.

### Step 5: Laser Hub Connections

Connect the laser hub to the controller using the 20-pin ribbon cable.

**Note:** Users with the 2HP or 3HP Spindle accessory will need to unplug the Digital Interface Cable to use the 10W Laser System.

**DO NOT plug the 10W Laser Hub into the accessory port while the machine is powered on. This can result in electrical damage to your machine and 10W Laser System.**

Connect the 10W laser cable's 10-pin connector to the 10-pin socket on the left side of the laser hub. Insert the safety key into the key switch on the back of the laser hub and turn to the horizontal position when ready to start a laser project. The key switch is a safety inter-lock and the laser will not fire unless the key is engaged (turned to the horizontal position and cannot be removed).

**Note:** If your laser hub has a circular DC power socket to the right of the 20-pin connector, connect the included 24V power supply to the DC power socket.

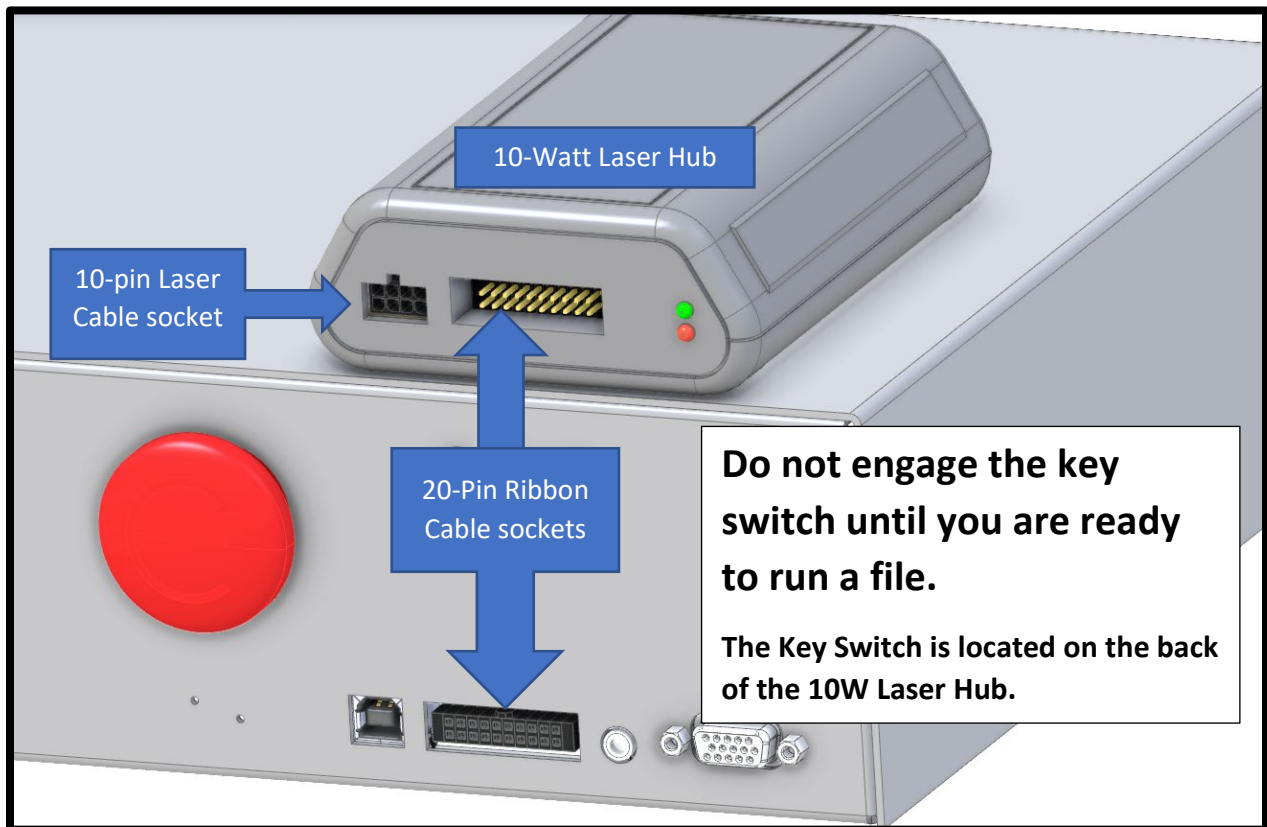


Image 9: 10W Laser Hub Connections

## Laser Offset Pendant

The Laser Offset feature is available in the “Apps” menu of the pendant on firmware version 6.1.2.0 and above. This feature allows an offset in X and Y from the cutting bit to the focal point of the 10W Laser to be set with a few simple steps.

**NOTE:** The Laser Offset function allows for precise alignment of the laser in both the X and Y directions using a pointed tool. It is also useful when engraving with a laser over a carved project. For instance, imagine carving a picture frame using a spindle and then using a 20W Laser to add intricate details to the frame. Mounting the 10W Laser Head off-center from the router will result in a reduction of the overall travel area.

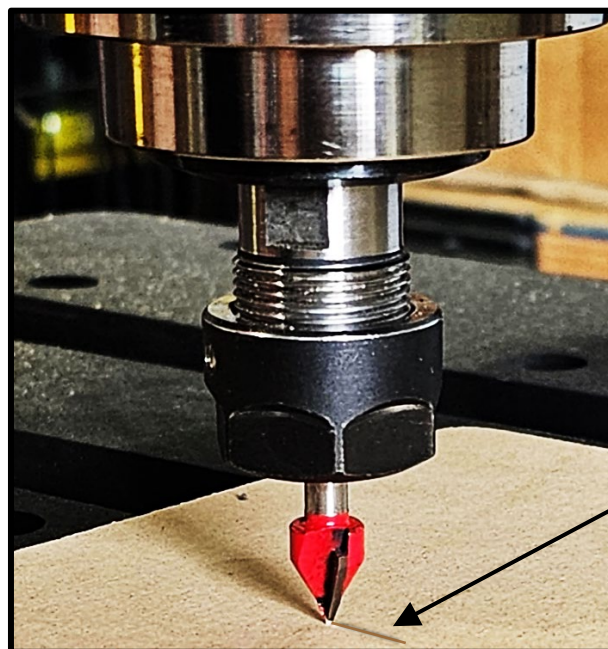
**For 10.1 Pendant users, please refer to the 10.1 Pendant manual.**

This feature will be performed with the 10W Laser Hub connected to the 20pin port on the front of the controller. **DO NOT plug the 10W Laser Hub into the accessory port while the machine is powered on. This can result in electrical damage to your machine and 10W Laser System.**

To set up the offset, follow the steps below:

### Step 1: Making Marks

Install a pointed bit in the spindle or router to make a mark on your spoil board or flat piece of material. If using a separate board, make sure the board is fastened down and does not move during this process. Choose a spot in the middle of the bed where the machine can move freely in all directions. On the pendant, manually jog the Z-axis down to lower the bit to the material surface. Press “Zero XY” to make the current bit location the zero point. Make a small mark with the bit on the surface of the material as a reference point.



Scatched line  
from router bit.

Image 10: Bit at Material Surface

Place the Z height alignment plate of your choice (see page 5 for Z-plate recommendations) on the material surface and underneath the laser head, then lower the laser head until the shield touches the alignment plate. (image 30) The Z height alignment plate should be picked based on the job type. The spindle or router may also need to be raised in its clamp to give enough clearance for the 10W Laser Head. To burn a laser mark on the material without having to start a file, use the “Test Laser” button in the Laser menu in Apps. On the main screen of the pendant press the Apps button along the bottom, press the Laser button, and then press the “Press to Open” button along the top to open the laser app menu. Put on the laser glasses, then press the Test Laser button and press OK to fire the laser.

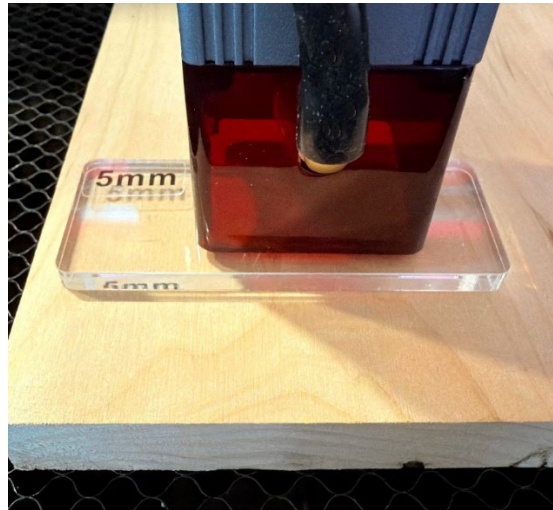


Image 11: Laser Above Material Surface

## Step 2: Measuring

After the bit and laser marks are made on the material, manually jog the bit from the bit mark to the burn mark made by the laser. Try to align the bit as close to the center of the laser burn mark as possible. (image 12) Once you are satisfied with the alignment, write down the coordinate value for X and Y below.

X Offset: \_\_\_\_\_

Y Offset: \_\_\_\_\_

Burned laser dot

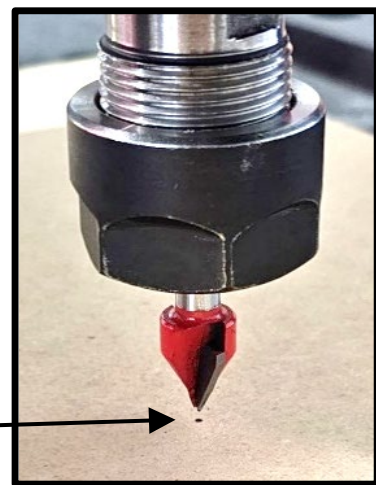


Image 12: Measuring the Offset



### Step 3: App Settings

To enter the recorded measurements, follow the instructions below:

- At the LCD Pendant main screen, press “Apps” in the lower right corner.

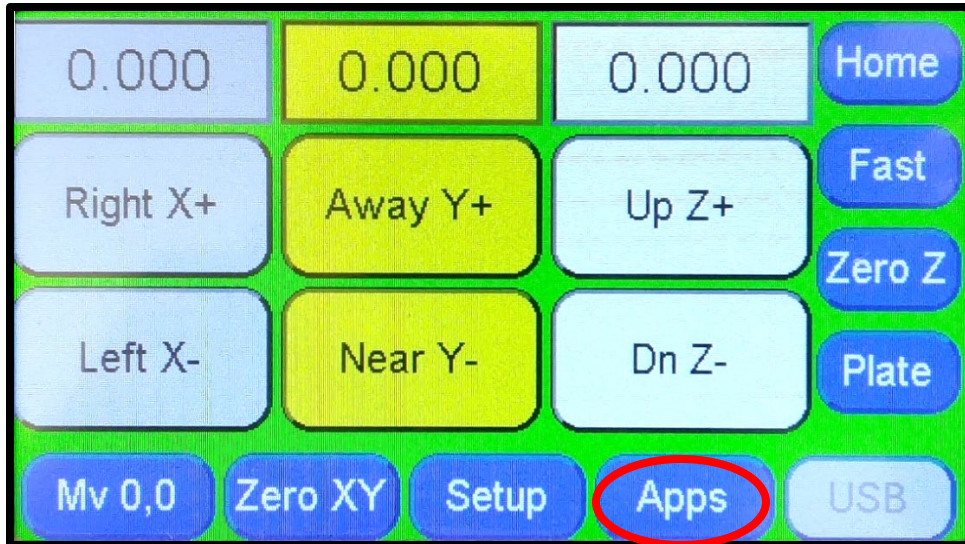


Image 13: Main Screen

- Select “Laser” in the Apps Menu list on the left and press the “Press to Open” button at the top right of the screen to open the Laser Menu.

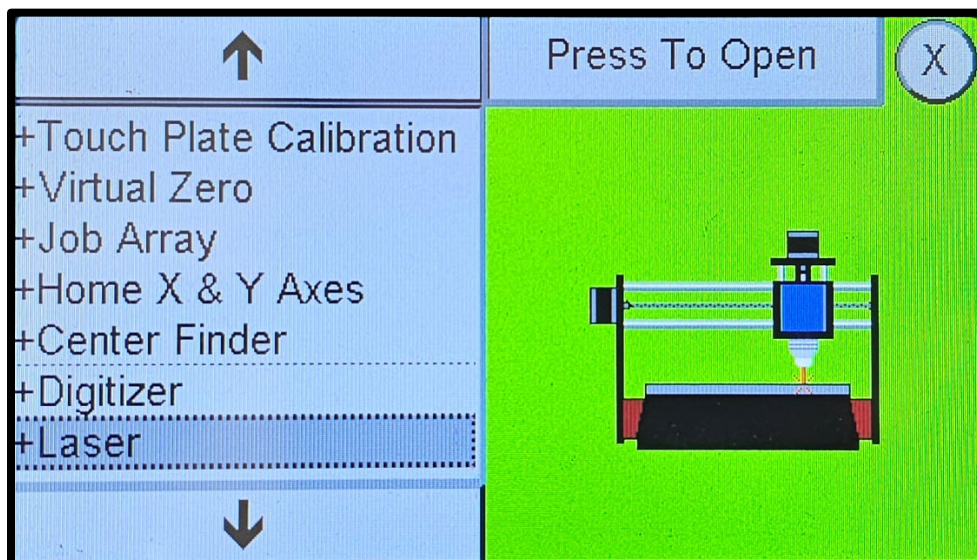


Image 14: Apps Menu, Laser Selected

- In the Laser menu, select “Laser Offset” and press the “Press to Open” button to open the Laser Offset Menu.

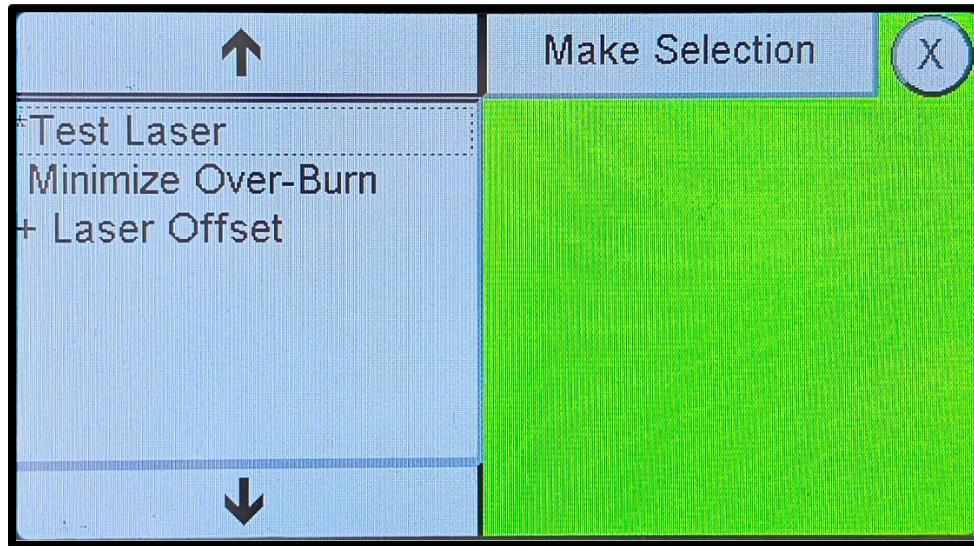


Image 15: Laser Menu

- The Laser Offset Menu will have three options: Enable, X Offset, and Y Offset. To set the X and Y offsets with the values you recorded from the previous steps, press the X and Y Offset buttons respectively and press the “0.000” button along the top of the screen to bring up the number pad. Press the “Loc” button to load in the current location automatically from when you jogged the machine and press OK to save the value. If the “Loc” button doesn’t enter the correct value, you can use the keypad to enter it manually.

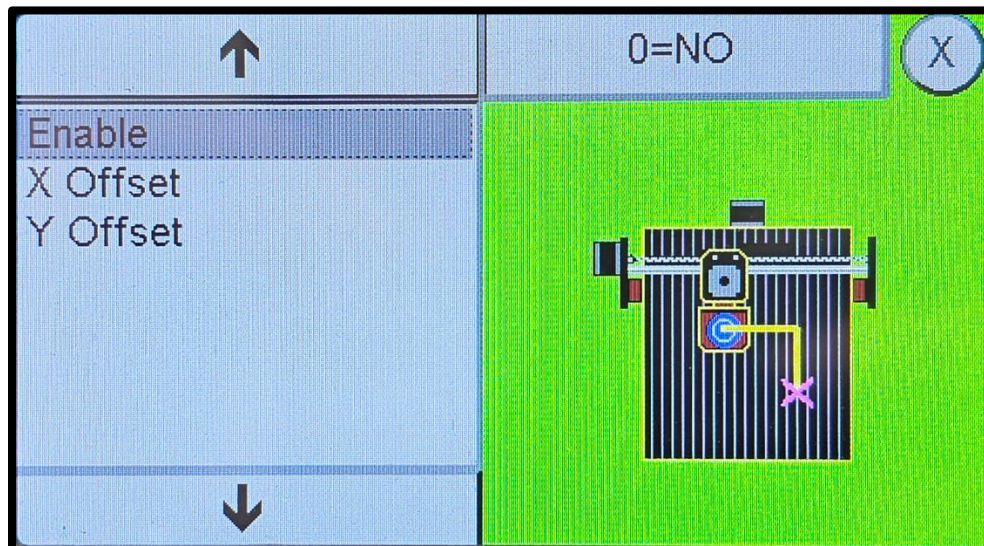


Image 16: Laser Offset Menu



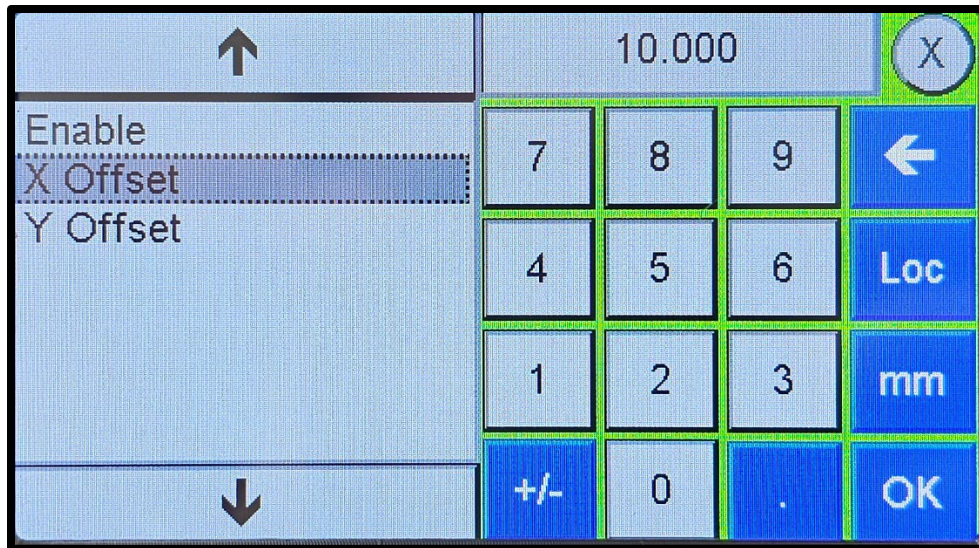


Image 17: Number Pad Example

- Press the “Loc” button to load in the current location automatically and press OK to save the value. If the “Loc” button doesn’t enter the correct value, you can use the keypad to enter it manually.
- Once the X and Y offsets are set to the desired values, press the “Enable” button, and press the “0=NO” button along the top of the screen to bring up the number pad. To enable the Laser Offset feature, enter “1” with the number pad and press “OK” to save the value.
- The top-down image of a machine in the “Laser Offset” menu will change the position of the purple X and yellow lines based on the values entered into X Offset and Y Offset settings. The image demonstrates the X Offset set to 10 inches and Y Offset set to -10 inches. Note that these values are much greater than what is to be expected for actual use.

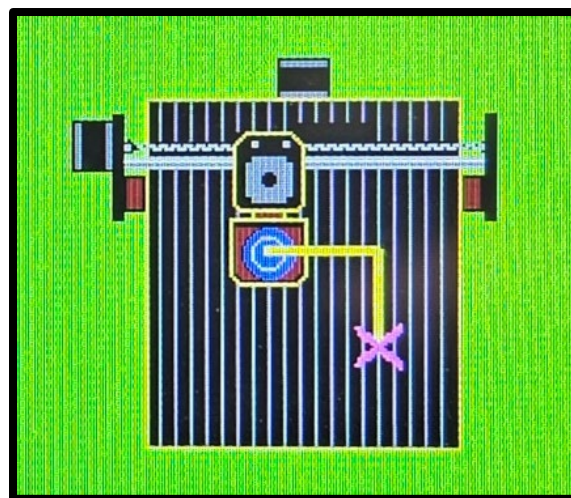


Image 18: Offset Example



---

## Vcarve Setup

**NOTE:** This manual is written with the understanding that those reading it have a basic working knowledge of V-Carve and will not be covering the basics of designing a project.

### V-Carve Setup

#### Step 1: Material Setup and Home / Start Position (Safe Height)

Create a new file and complete the job setup. To minimize extra movement of the laser on the Z axis (up and down) locate Material Setup in the toolpaths tab on the right and left click the “Set...” button. Change Clearance (Z1), Plunge (Z2), and Z Gap Above Material to “.001” (image 9). Finish by clicking “OK”.

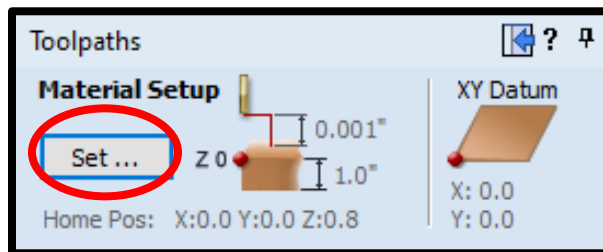


Image 19: Material setup

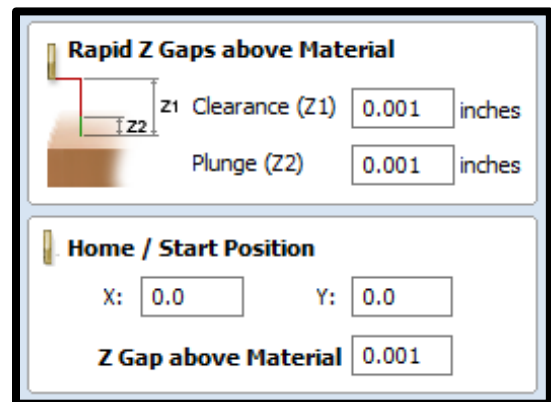


Image 20: Material Setup Settings

#### Step 2: Selecting Vectors for Laser Engrave / Cut

Enter your name using the Draw Text tool, left Click on the vectors to highlight the text (the black lines will turn purple), and select the “Quick Engraving Toolpath” operation.



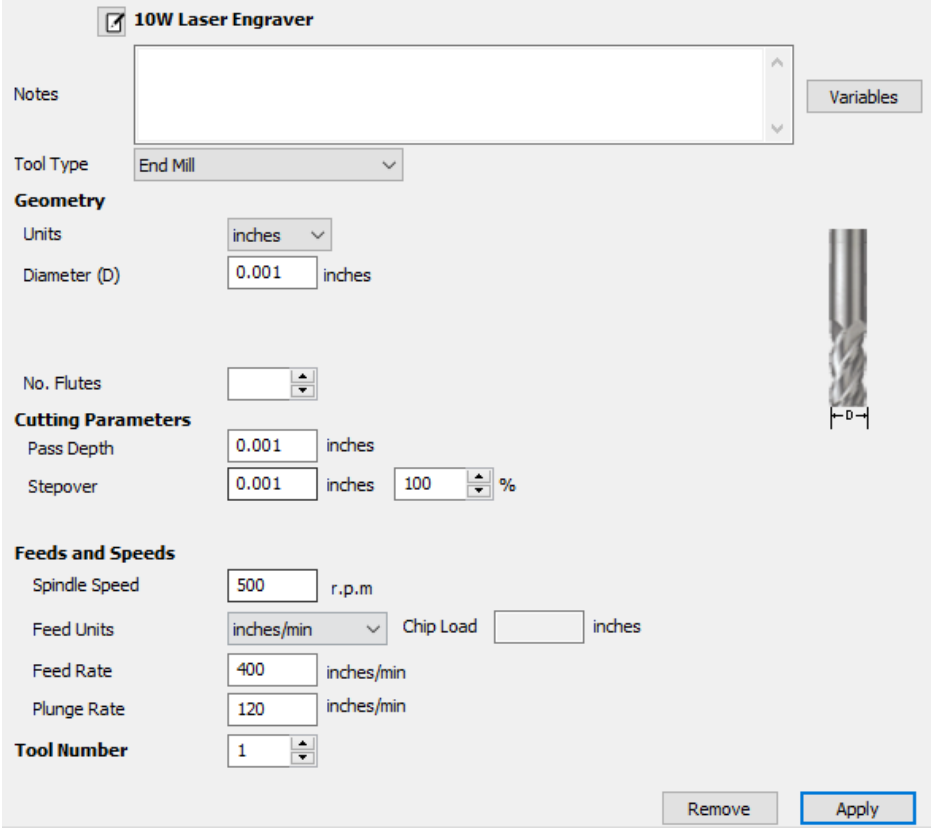
Image 21: Highlighted Toolpath Example



Image 22: Quick Engrave Toolpath

### Step 3: Creating the Laser tool and Setting the Parameters

Press the Select button in the Quick Engrave toolpath, then select an endmill bit from the list of tools. Select the Plus button in the bottom left corner to begin creating a new tool. Below are explanations and values for the relevant parameters.



The screenshot shows a software interface for configuring a laser engraver tool. The tool is named "10W Laser Engraver" and is of type "End Mill". The geometry is set to "inches" with a diameter of "0.001 inches". The cutting parameters are set to a pass depth of "0.001 inches" and a stepper of "0.001 inches" at "100%". The feeds and speeds are set to a spindle speed of "500 r.p.m.", a feed rate of "400 inches/min", and a plunge rate of "120 inches/min". The tool number is "1". The interface includes a "Notes" field, a "Variables" button, and "Remove" and "Apply" buttons at the bottom.

Image 23: Tool Database Parameters

#### Relevant Parameters

- Tool Type: End Mill
- Name: Change to “10W Laser Engraver” – select the pencil to change the name
- Diameter: Set this value to 0.001 inches
- Pass Depth: Set this value to 0.001 inches.
- Stepper: Set this value to 0.001 inches.
- Spindle Speed: This sets the output power of the laser. The range is 0 for 0% power (off) to 1000 for 100% power. A good starting point is 500 for 50% power.
- Feed Rate: This sets the X and Y movement speed of your machine. This value will vary depending on what material you are engraving or cutting into and fine tuning will be needed. A good starting point is 100 inches/min. The maximum speed of a regular HD5 machine is 200 inches/min and is 400 inches/min for the HD544.
- Plunge Rate: Set this value to 120 inches/min.

Once the parameters have been entered and the tool created, select Apply, then OK to assign the 10W Laser engraver to the Quick Engrave Toolpath.

#### Step 4: Toolpath Options

Once the tool and parameters are set the toolpath can be configured.

Set the depth / pressure to 0.001 inches.

In the next box select either Outline or Fill.

If the Fill option is selected, set the Stepover to 0.01 inches and select Hatch.

If multiple passes are needed, select the “Use Nose Cone” box, set the Tool Depth to 0.001 inches, and enter the number of passes needed.

Name the toolpath, and select the Next Wave-Laser (inch)(\* .tap) post processor from the drop-down menu.

If the Next Wave-Laser post processor is missing, it can be downloaded from our website at: [www.NextWaveCNC.com/postprocessor](http://www.NextWaveCNC.com/postprocessor)

The image shows a software dialog box titled "Quick Engrave". It contains several sections for configuring toolpath parameters:

- Tool:** 10W Laser Engraver (with "Select ..." and "Edit ..." buttons).
- Depth / Pressure:** 0.001 inches.
- Options:** Radio buttons for "Outline" and "Fill" (selected). Below "Fill" are "Stepover" (0.01 inches), "Offset", "Hatch" (selected), "Hatch Angle" (0.0 degrees), and a "Cross Hatch" checkbox.
- Use Nose Cone:** A checked checkbox. Below it are "Tool Depth" (0.001 inches) and "Number of Passes" (1).
- Safe Z:** 0.2 inches.
- Home Position:** X:0.00 Y:0.00 Z:0.95.
- Vector Selection:** Manual (with "Selector ..." button).
- Name:** Quick Engrave 1.
- Machine:** Shark HD 510 - Default (with a refresh icon).
- Post Processor:** Next Wave-Laser (inch) (\*.tap) (with a dropdown arrow).
- Additional Options:** "Add side to toolpath name" and "Output direct to machine" checkboxes, and a "Driver:" field with a browse button.
- Buttons:** "Save Toolpath(s) ..." and "Calculate" (highlighted with a blue border).
- Close:** "Close" button.

Image 24: Toolpath Options

## Operation

Follow these instructions to establish the XYZ zero position for the 10W Laser System to run a laser file.

### Alignment

Set the X and Y zero positions using a pointed bit in the router or spindle by jogging the bit to the start position set in the toolpath, then pressing the Zero XY button on the main screen of the pendant.

**NOTE:** With the Laser Offset enabled, do not change the X and Y axis zero positions between cut and laser toolpaths.

Adjust the 10W Laser Head so that the shroud is lower than the router bit in the router or spindle. To set the 10W Laser Head at the proper height above the material, place the appropriate Z height alignment plate (See page 5 for recommendations) on the material surface and underneath the laser head. Lower the laser head until the shroud touches the alignment plate. Then press the “Zero Z” button and remove the Z height alignment plate.

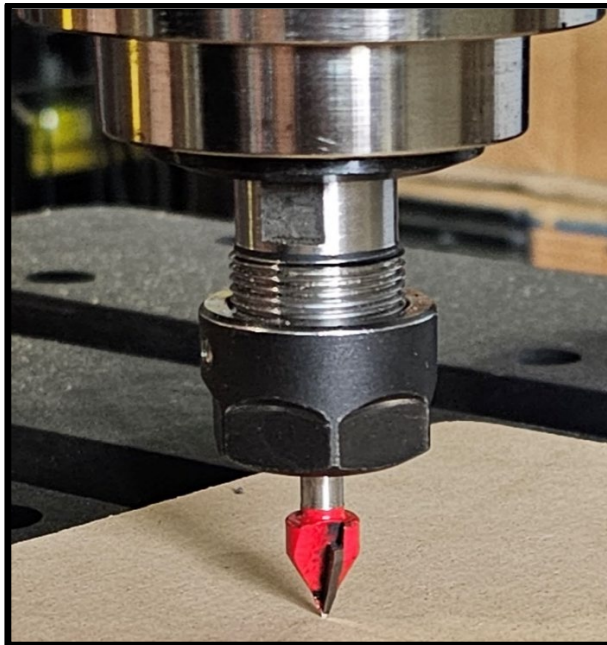


Image 25: XY Zero with Bit



Image 26: Z Height Alignment

After configuring the XYZ start position, adjust the air assist pump to the 100% mark. Insert the safety key into the key switch located at the back of the laser hub and turn it horizontally. Finally, run the laser toolpath file on the CNC machine.

Many factors determine the outcome of a laser project. Please see the Examples section of this manual for settings and quick test files that can aid you.

## Preventative Maintenance Checks & Services

### Before Operation

1. Debris and Soot  
Check the 10W Laser Head for soot build up, debris in the fan, and blockages in the air guide hood. If there is any, clean it out before use.
2. Connections  
Check all hose, cable, and mounting connections to make sure the 10W Laser System is secure and connected. If a cable is disconnected, power off the machine before connecting it to prevent electrical damage.
3. Wear  
Check the length of the cables and hose to ensure they are not wearing out. Exposed wires from the cable can cause damage to your machine and 10W Laser System. Holes and kinks in the air assist hose will limit the amount of air passing through the air guide hood.
4. Air Assist Pump  
Check to make sure the Air Assist Pump is turned on and that air is flowing out through the nozzle before starting a file and while the 10W Laser Head is not firing.
5. Key Switch  
The key switch on the back of the 10W Laser Hub must be engaged for the 10W Laser to fire. The key switch is engaged when the key is turned horizontally and cannot be removed.

### After Operation

After the file is complete, make sure to turn off the air assist pump and turn off the key on the back of the 10W Laser Hub to lock out the laser. Then clean the shield and air guide hood using a cotton swab and isopropyl alcohol.

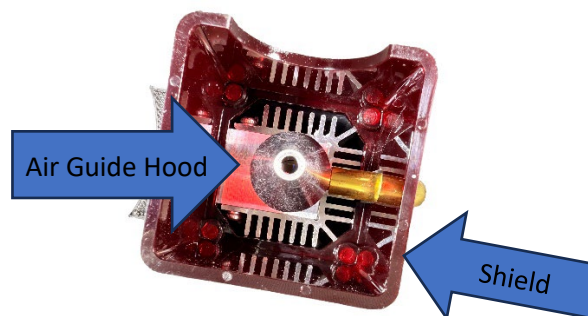


Image 27: Shield and Air Guide Hood

To activate the cotton swabs and use the isopropyl alcohol that is contained within them, follow the instructions below:

1. Remove the swab from the plastic packaging.
2. While holding the swab vertically with the side with the blue line facing up, crack the swab tip at the blue line.

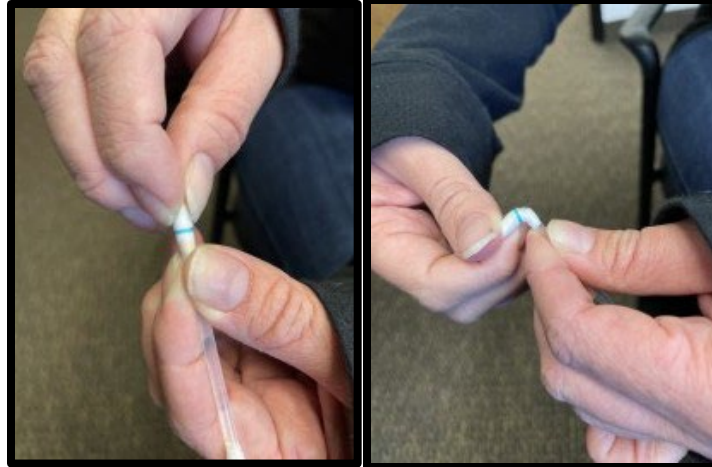


Image 28: Activating the Cotton Swab

3. Keep the swab held vertical until all the isopropyl alcohol flows into the lower swab tip.



Image 29: Activated Swab

Cleaning and maintenance are needed to ensure proper functionality and life span of the 10W Laser System. Failing to maintain the 10W Laser Head will result in inconsistent burns, extra soot build-up on job pieces, voided warranty, and potentially permanent damage to the 10W Laser Head.

If the laser is run without the air assist pump, or if the job generates a considerable amount of smoke, it's recommended to clean the laser lens. To clean the laser lens, remove the shield and air guide hood and gently wipe the lens with one of the included alcohol-filled cotton swabs.

For additional information please reach out to the Next Wave CNC Support Team at [support@nextwavecnc.com](mailto:support@nextwavecnc.com).

---

## Laser Pictures with Ready2Raster

### Ready2Raster Setup

Ready2Raster is a freely available software that enables you to perform laser engraving of an image in a few easy steps. You can easily download it from your Next Wave CNC portal account. For assistance in installing Ready2Raster please visit our support page at: <https://nextwaveautomation.zendesk.com> Or scan the QR code below.



**NOTE to Pendant 10.1 owners**

If you own the new large 10.1 SHARK Pendant, then Ready2Raster is included as an app within the 10.1 Pendant.

**Step 1: Loading an Image**

Load an image into Ready2Raster by clicking the “Load Image” button in the top left corner and navigating to the image you want to load.

**Step 2: Image Properties**

This section controls the size and orientation of the image. To maintain the aspect ratio, make sure the box is selected. Images can only be made smaller than the original size.

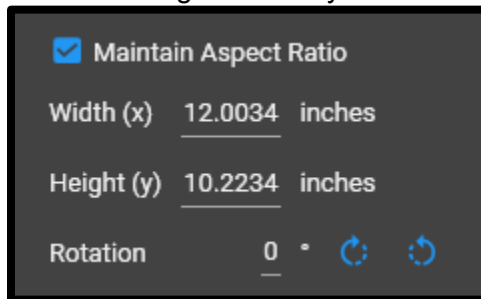





Image Properties

**Step 3: Convert to Grayscale**

Once the size and orientation is set, click on “Convert to Grayscale” to prep the image for the raster. The laser is not capable of burning images into wood in color, so the grayscale conversion in the preview to the right is how the image will appear on the



wood. This step allows the user to adjust which parts of the image to burn darker and which parts to leave lighter.

-  **Contrast:** Controls the difference between light and dark areas of the image. Increasing contrast will make dark areas darker and light areas brighter. Decreasing the contrast reduces those differences and makes the image look flat.
-  **Gamma:** Adjusts the mid tones from tonal scale but keeps the white and black. In other words, gamma optimizes the contrast and brightness in the mid tones.
-  **Brightness:** Controls the absolute values of the colors, or in this case, shades of gray. Increasing or decreasing brightness will lighten or darken the entire image.
- **Average Grayscale:** All color values between the sliders will be treated as a gradient from black to white.
- **Absolute Grayscale:** Color values between the sliders will be unaltered, regardless of the positions of the sliders.
- **Invert:** Inverts the colors of the final black and white image.
- **Dither:** Converts the normal line-by-line raster to a series of dots. Realistic photos can look better with this option turned on. While cartoons, text, and similar drawn images will look better with this setting turned off.

#### Step 4: Laser Settings

Choose the type of machine the 10W Laser System is being used on under the Machine drop down menu. Select the 10W from the Laser Type drop down menu.

Checking the Use Material box will give the choice for light or dark wood, which will alter the range of the laser's power levels. Light Wood makes the laser stay between 15% and 100%. Dark Wood will allow the laser to go down to 0%.

Unchecking the Use Material box will allow the speed to be set manually.

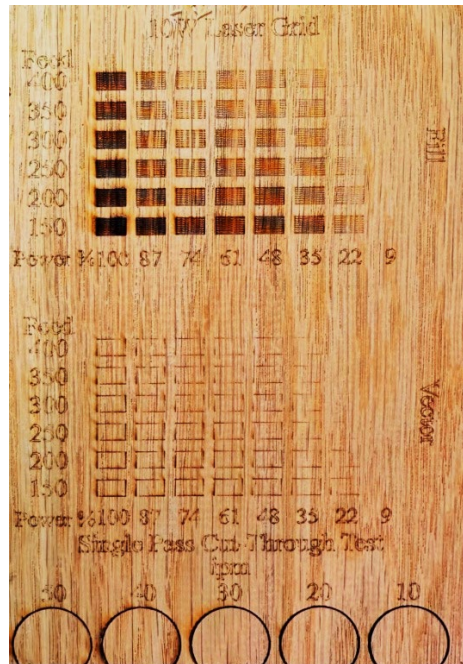
The Laser Power percentage slider will adjust the maximum power level the laser will operate at during the raster process.

## Example Feed and Power

The following examples show the results of our test file used on two types of wood. These tests help find a good starting point for projects. The 10W Laser Grid file has information about engraving project speeds and power levels. The feed rates are measured in inches per minute.

The files reviewed in the following section are available for download on our support page: <https://nextwaveautomation.zendesk.com/hc/en-us/articles/16035301802651>

### White Oak



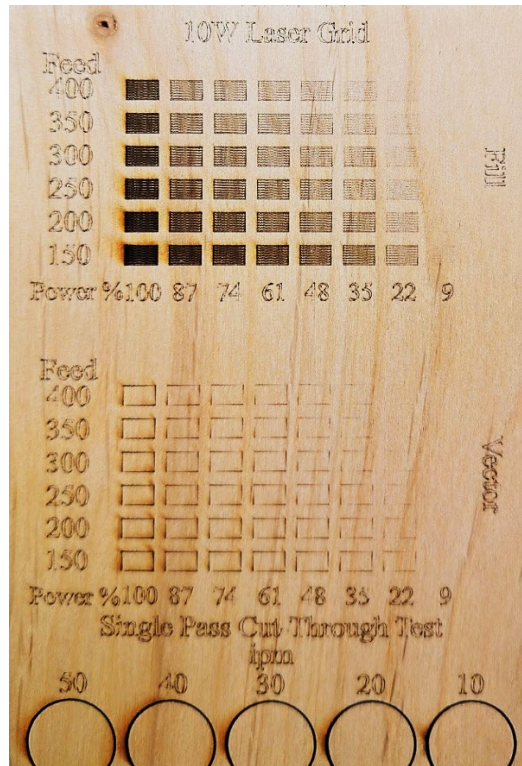
White Oak Test Result

The test files on white oak show how the 10W Laser System performs on a solid piece of white oak wood. These files were run with minimize overburn turned on.

Single Pass Cut-Through Test: The 10W Laser System is capable of cutting into white oak wood at 100% power in one pass. Multiple passes and slower speeds can increase the cutting depth.

Speed (in/min)	Depth (in)
50	0.1
40	0.18
30	0.32
20	0.4
10	0.48

### Maple



Maple Test Result

The test files on walnut show how the 10W Laser System performs on a solid piece of maple wood. These files were run with minimize overburn turned on.

Single Pass Cut-Through Test: The 10W Laser System is capable of cutting into maple wood at 100% power in one pass. Multiple passes and slower speeds can increase the cutting depth.

Speed (in/min)	Depth (in)
50	0.03
40	0.24
30	0.34
20	0.45
10	0.54

## Minimize Over-Burn

Minimize Over-Burn is a feature in the pendant's "Apps" menu that can be turned on to help reduce the over-burn in the corners of raster toolpaths and images where the machine has to change direction and accelerate. It can also affect the overall burn levels in a project. To demonstrate the effect of Minimize Over-Burn, the two images below show the same 10W Laser Grid file run with Minimize Over-Burn turned off and on, respectively.

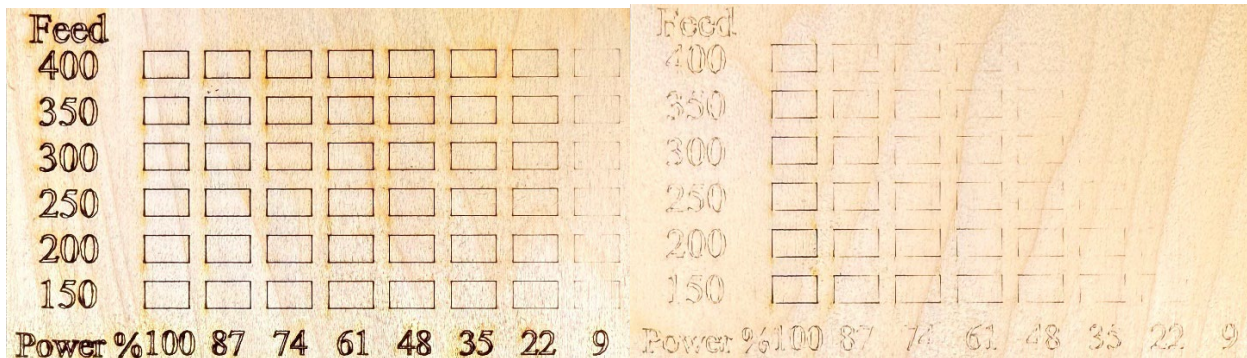


Image 33: Minimize Over-Burn Off

Image 34: Minimize Over-Burn On

**NOTE:** Both of these 10W Laser Grid test files were run on the same piece of 1/4" thick maple wood.

Although every project and wood is different, it may be beneficial to utilize a combination of Minimize Over-Burn and keeping the Laser Power percentage higher in Ready2Raster. Testing will be needed to find the perfect balance for your projects, and we recommend using scrap material to test before running the final project.

---

## Troubleshooting

1. Will this accessory work on older or smaller machines?
  - a. Due to electrical capability restrictions, the 10W laser system is only compatible with the HD500, HD510, HD520, and HD544 machines in the United States.
  
2. The 10W Laser Head is not firing.
  - a. Run through the "Before Operation" steps in the "Operation" section (pg. 27) to ensure all connectors are secure and the key switch is engaged. Use the 10W Grid Test file available on our support page at <https://nextwaveautomation.zendesk.com/hc/en-us/articles/16035301802651> to rule out the file as the cause of the issue.

3. The Air Assist Pump will not turn on.
    - a. Run through the “Before Operation” steps in the “Operation” section (pg. 27) to ensure all connectors are secure and the 24V 1A power supply is plugged into an outlet or power strip that is turned on. Check for debris blocking the air intake above the knob on the end of the air assist pump.
  4. A cable is frayed or cut.
    - a. Contact Next Wave CNC Customer Support about repairs. Make sure to leave service loops and slack in the cable along the whole length of travel.
  5. The 10W Laser Hub has no lights.
    - a. Turn off the machine. Check all cable connections. Turn on the machine and turn the key switch to the engaged position. If the problem persists, please contact Next Wave CNC Customer Support about repairs.
- 

## Contact Technical Support

If you need assistance with your new 20W Laser System accessory, please visit our Help Center at: <https://nextwaveautomation.zendesk.com/hc/en-us> (QR code below) or email Technical Support at: [Support@NextWaveCNC.com](mailto:Support@NextWaveCNC.com). Please include your product model number, date of purchase, and other pertinent information associated with the issue.

Support Email: [Support@NextWaveCNC.com](mailto:Support@NextWaveCNC.com)  
Available: 9 am – 5 pm (ET) Monday-Friday





10-watt Laser Manual  
Version 01 08 2025 LMF