MUSE
TITAN V3

Full Spectrum
LASER

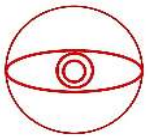
Safety Warning:

Do not leave your machine unattended.

Avoid using machines made of carbon or that contain carbon components.

Always keep a fire extinguisher and first aid kit nearby.

Do not attempt to access any electrical areas while the machine is on. Unplug the machine and wait for an hour before accessing panels.



Never stare directly into the laser when running a project. Always wear the provided safety goggles.

Inspect your machine before each use. Do not use if the machine or its accessories are damaged in any way.

Always maintain a clean work area.

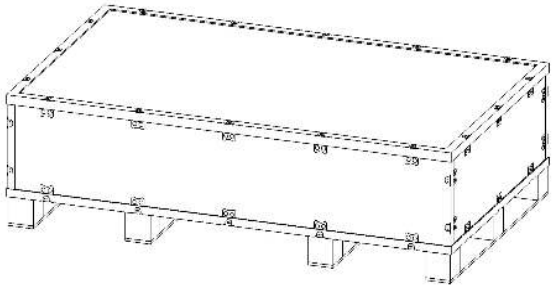
Looking for financing or eager to buy, contact Sales:

M-F 8AM-5PM PST
sales@fslaser.com
702-802-3101

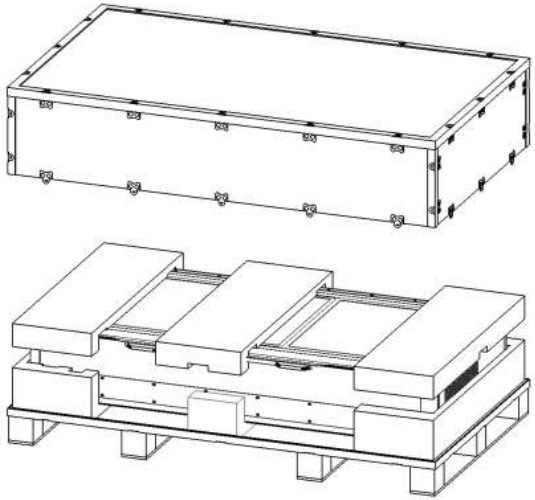
Need help, visit us at our Help Center or contact Support:

M-F 8AM-5PM PST
support@fslaser.com
702-802-3103

Unboxing:



1. Open the crate by flattening the metal tabs on the crate.

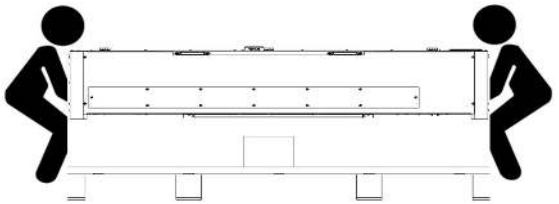


2. Carefully remove the crate cover.

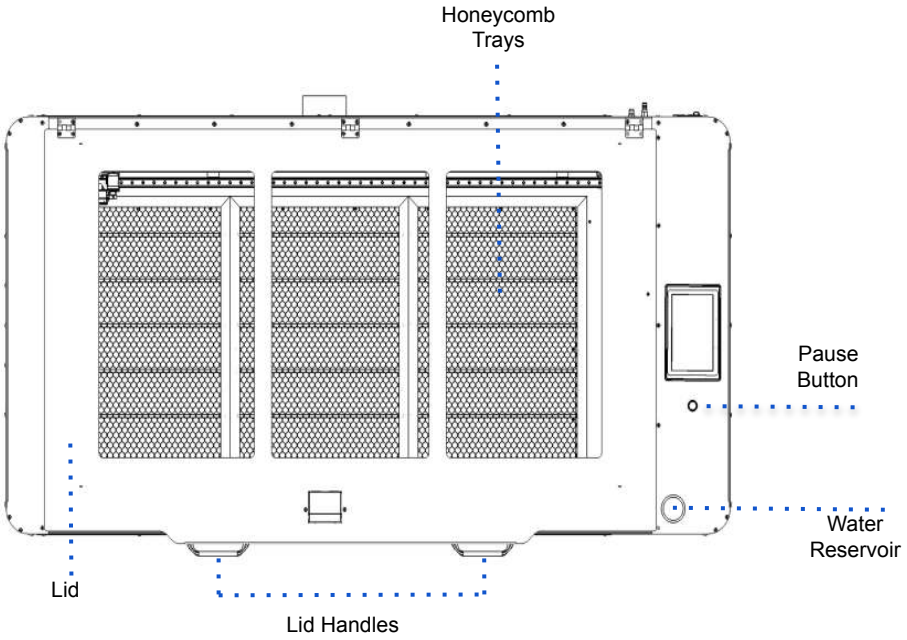
3. Remove the foam covering from the top and sides of the Muse Titan.

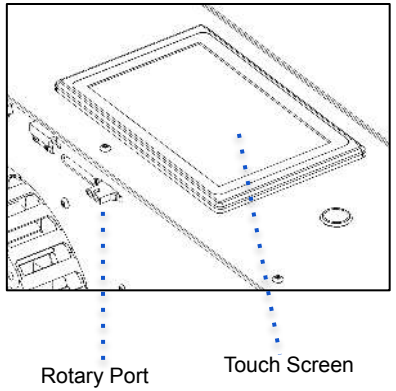
4. Get a lifting buddy and move the Titan to your work area.

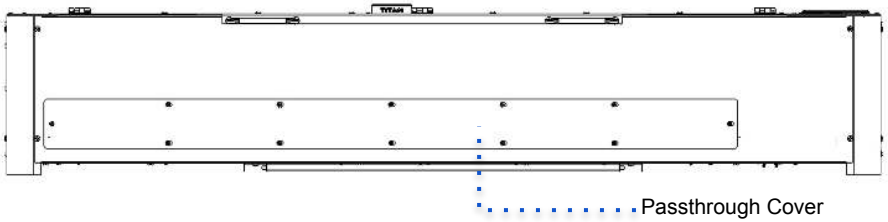
Remember to lift with your knees.

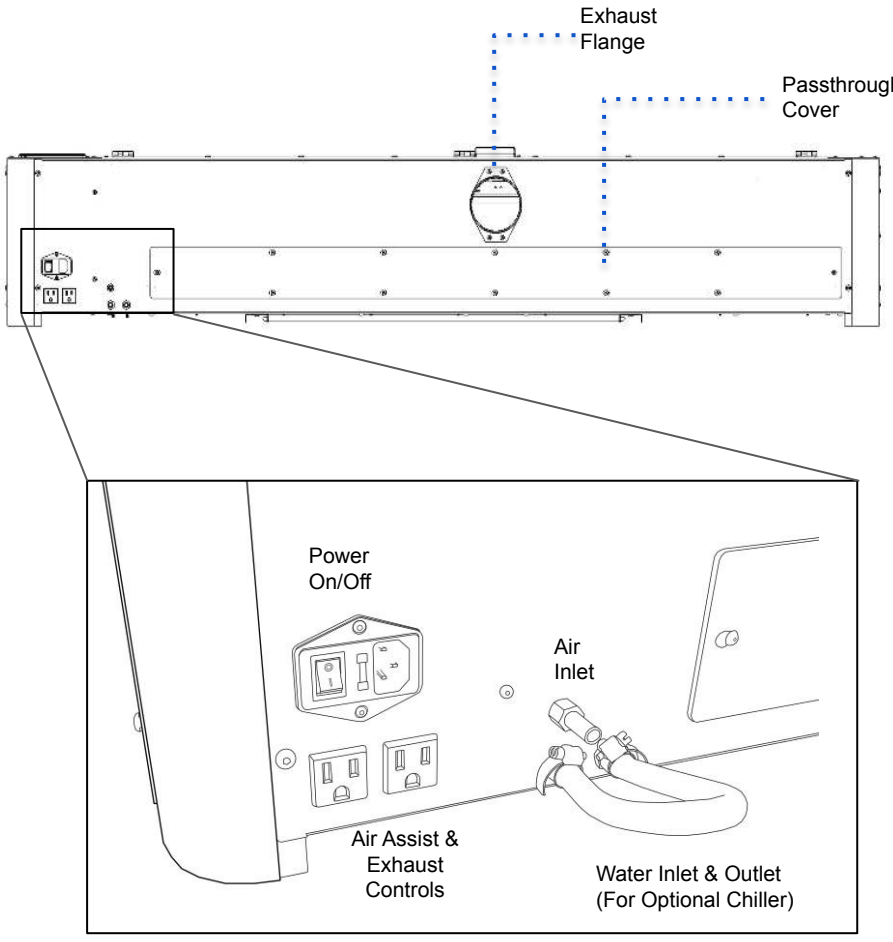


Diagrams:


Honeycomb
Trays
Pause
Button
Water
Reservoir
Lid
Lid Handles

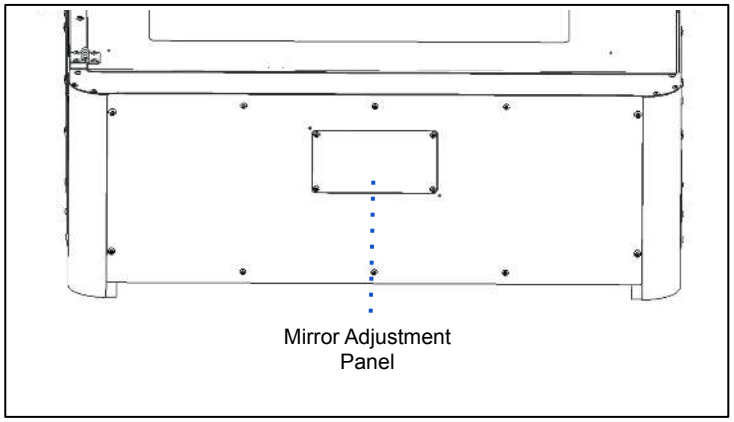

Rotary Port
Touch Screen


Passthrough Cover

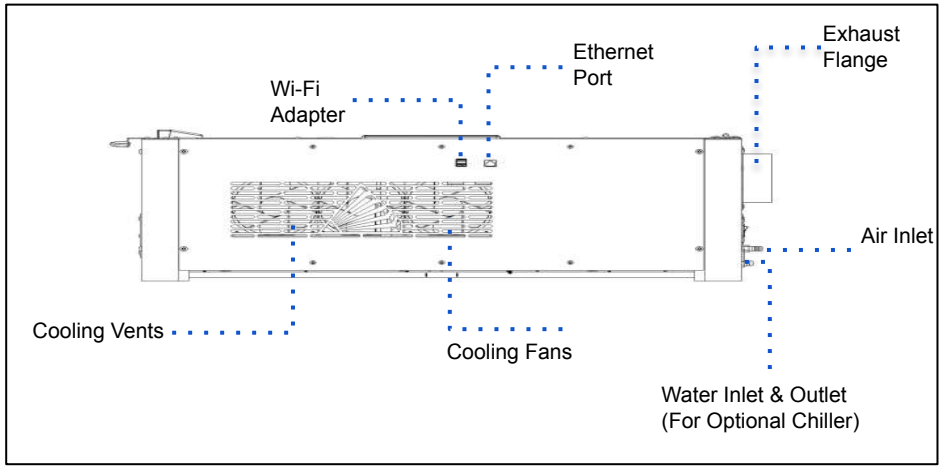

Exhaust
Flange
Passthrough
Cover
Power
On/Off
Air
Inlet
Air Assist &
Exhaust
Controls
Water Inlet & Outlet
(For Optional Chiller)

Diagrams:

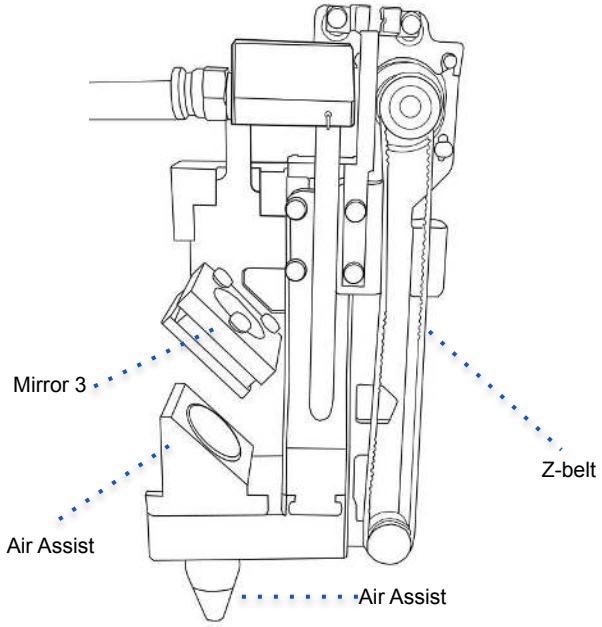
Left Side:



Right Side:

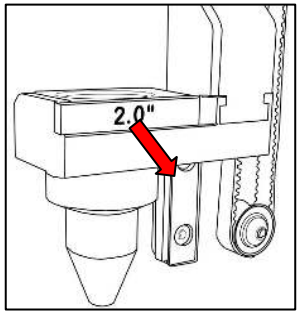


Laser Head Assembly:



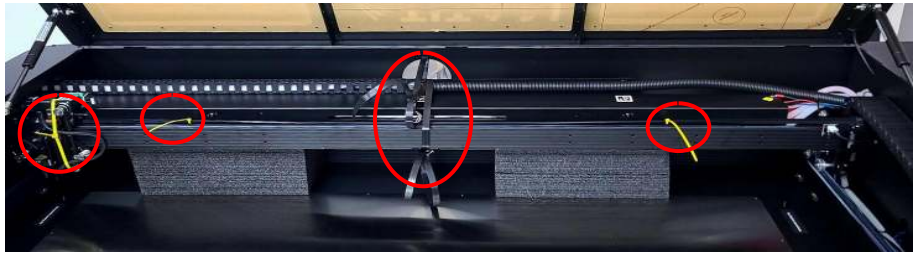
Remove Focus Lens

The Focus Lens is removed by gently pushing the back of the lens until a clicking sound is heard. Then remove the Lens from the front.

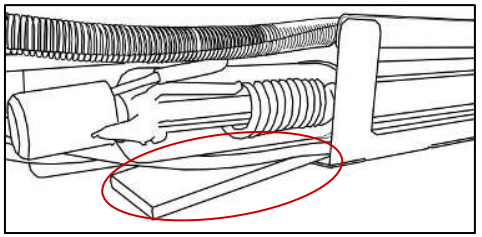


Setting Up Your Muse:

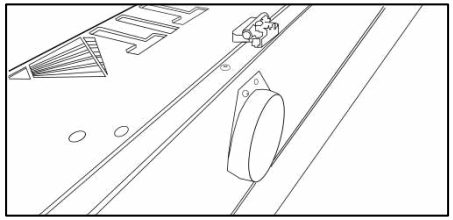
1. Remove the Zip ties.



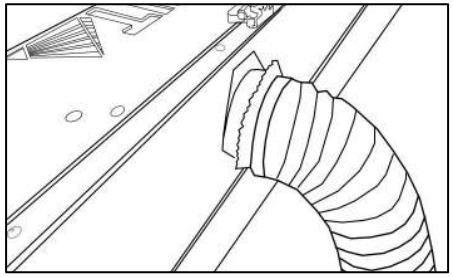
2. Remove the foam located under the laser tube. It can be found in the back of the gantry.



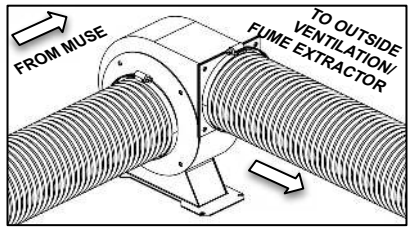
3. Install the exhaust flange onto the machine.



4. Secure one end of a ducting onto the machine



5. Connect the other end to the exhaust fan. Get the second ducting and connect it to the other end of the exhaust fan before connecting it to external ventilation.

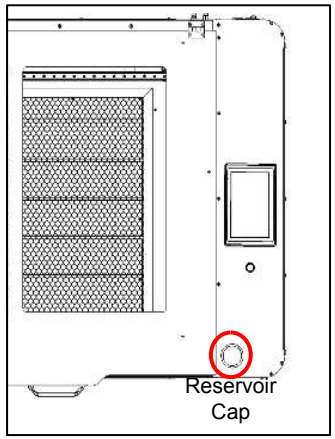


6. Use the provided funnel to fill the water reservoir with 1 liter of distilled water.

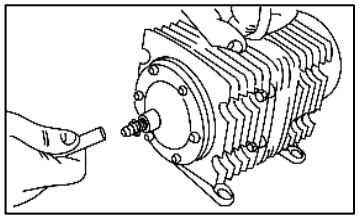
Water Test:
Turn on the machine. Check to ensure that the water is flowing through the machine. Ensure the water icon on the touchscreen is **Blue**.

If the icon is **Red** or if the water pump is making noise, then open up the side panel using the provided hex keys.

Locate the water pump and massage the water tubes to remove the air bubbles present. The noise should be minimal and water icon will become **Blue**.



7. Connect one end of the air tube into the air fitting on your machine and the other to the air compressor.



8. Connect the power cables. Your machine is ready for use.

Connecting to Internet:

Connect Via Router (Recommended):

To establish a reliable link to RE3, it is recommended to connect the Fiber Galvo to the router. The Fiber Galvo is equipped with an ethernet cable that should be plugged into the ethernet ports of both devices

Note: Ethernet port looks the same on all devices

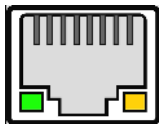


Fig. 18

Connect to Wi-Fi:

Make sure that the dongle, a device attached to the USB port of your machine, is present and connected as it enables your machine to connect to the WiFi network.

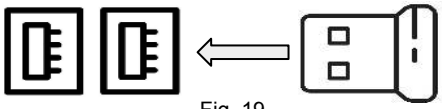


Fig. 19

1. To connect to the WiFi network, select the Network button located on the top right of the Touchscreen.

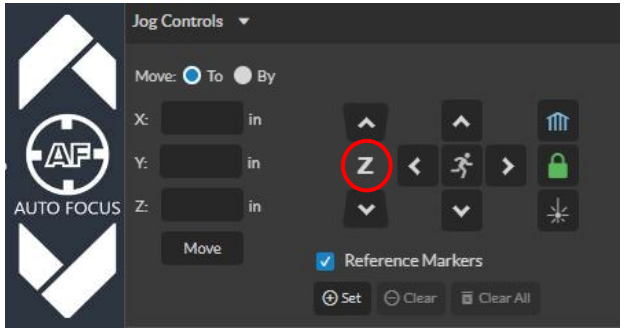
2. Then, choose the WiFi option and search for your network. Once you have located your network, select it and enter your password.

Connecting Directly Using Computer:

This option is only advisable when the other two methods are not possible. The Fiber Galvo can connect to the computer through Ethernet, but an adapter might be required for your computer.

Focusing:

There are two ways to use the autofocus feature on your machine. The first method involves pressing the autofocus button on the touchscreen. The second method requires accessing the autofocus icon located under the Jog Controls Tab in RE3.



Adjusting the Stallguard:

If your machine is experiencing excessive shaking or vibrations during autofocusing, it may be necessary to adjust the machine's stallguard component.

What is Stallguard?

The stallguard is a crucial component in the machine that regulates the amount of tension it can handle before coming to a stop. We want your machine to detect the material and move towards its focus distance. However, if the stalling value is too low, the machine may hit the material and cause damage.

How to Adjust Stallguard?

To adjust the stallguard, follow these steps:

1. Connect to the Setup Page: Access the software's Setup page by using the format IP address/setup (e.g., 000.000.00.000/setup).
2. Select the Laser Tools Tab: Once in the Setup window, locate and select the Laser Tools tab.
3. Locate the Set Motor Type Section: Look for the Z-axis settings and navigate to the Autofocus Stall Guard Value.
4. Adjust the Value: Change the Autofocus Stallguard Value as needed.

Touchscreen Interface:

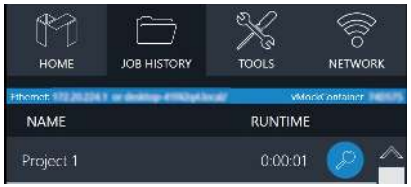
Preview Job Icon:
Selecting the icon will make the machine outline the area of your project on your workspace.

Home

The Home screen displays important information such as the device's IP address, the QR Code for RE3, and controls for the laser head.

Job History

The Job History icon provides easy access to previous projects. Users can select the file and view its contents, or choose to re-run the job. Note that an internet connection is not required to use files saved in this section.



Machine Indicators:

Wired IP Indicator:
The IP indicator shows if the machine is connected to an ethernet cable.

Connected

Not Connected

Wi-Fi Indicator:
The Wi-Fi indicator will indicate if the machine is connected to the Wi-Fi.

Connected

Not Connected

Run Job Icon:
Selecting the icon will run the job.

Network ⇨ Wi-Fi

Enables users to connect to a Wi-Fi network.

Mobile Version

A mobile version of the device is accessible by either scanning the QR Code or entering the device's IP address into the web browser of a mobile device.

Tools

The Tools icon enables the user to verify and modify the machine settings, activate rotary attachments, home the laser, and retrieve relevant information regarding the device.

AutoFocus Icon:
The Autofocus icon automatically moves your machines Z-stage to the height needed to perform an engraving. (Needs QR card to work.)

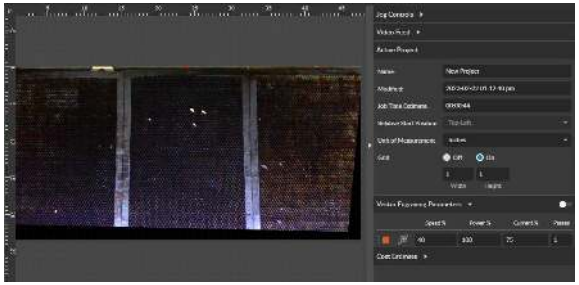
Camera Capture Icon:
The Camera Capture icon takes images of the workspace.

Movement Controls:
The left icon governs the movement of the gantry along the X and Y axes. Three different speed settings can be chosen by selecting the prism icon. The right icon is used to control the height of the laser head.

Camera Functions:

Camera Capture:

In order to capture the workspace, access the top toolbar in RE3 and locate the camera capture icon. Upon selecting this option, the machine's gantry will move along its axis, and once the movement is complete, the captured workspace will be displayed.



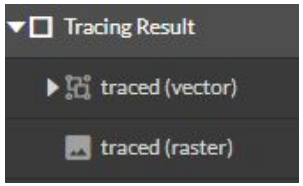
Vector Tracing:

To begin, prepare a design on white paper with a design that you wish to trace.

1. Enter RE3, perform a camera capture by locating and selecting the appropriate icon in the top toolbar.

2. Next, find the "Vectorize" icon and create a box around the object you want to trace. This will allow RE3 to create both vector and raster data.

3. Once the object is traced, delete any unnecessary data. Keep in mind that the traced object cannot be moved from the vectorized box, so ensure that the material is positioned directly below it.



Camera Calibration:

In order to calibrate the camera, remove the Honeycomb trays from the workspace and place the calibration paper in the center of the workspace.

Go to the Home tab on the touchscreen and select the Reference Markers icon.

Move the laser head above the first reference point and align it, then select "Set Marker". Repeat for the remaining reference points.

Enter the RE3 set up page using the format: IP address/setup (ex: 000.000.00.000/setup).

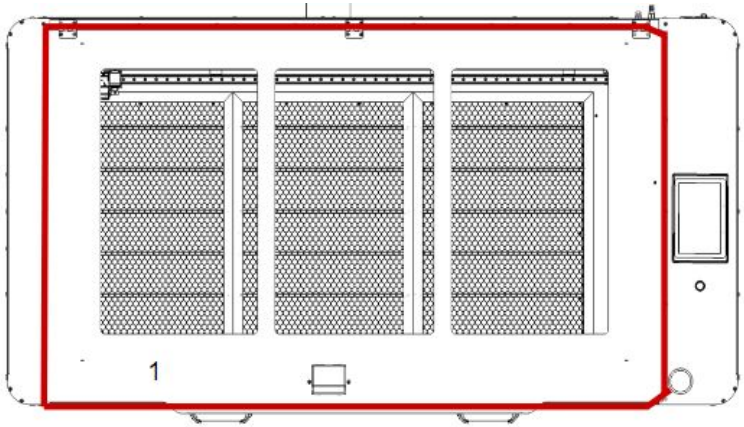
Select the Laser Tools tab and find the **Stationary Camera Calibration** section.

Run the calibration. The red diode will turn off and the laser head will touch marker 4 before retracting. The gantry will then move to take a new camera capture, which will display under the calibration page.

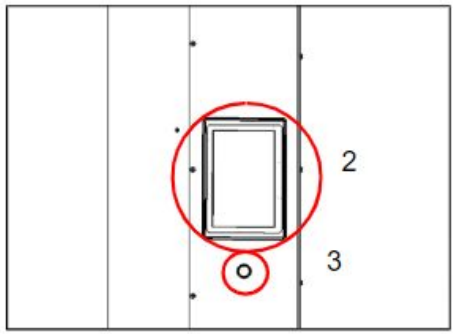
Check the results displayed below the camera capture. If an error occurs, check the camera cable and try again. If it's successful, exit the Setup Page and re-enter the RE3 designer.

Stopping your Laser:

Once a project has started, it will run continuously until it is completed. In case of an emergency, there are several options available to stop the laser immediately:



1. Open the Lid: This will immediately stop the laser from firing. If the laser doesn't stop, please contact support.

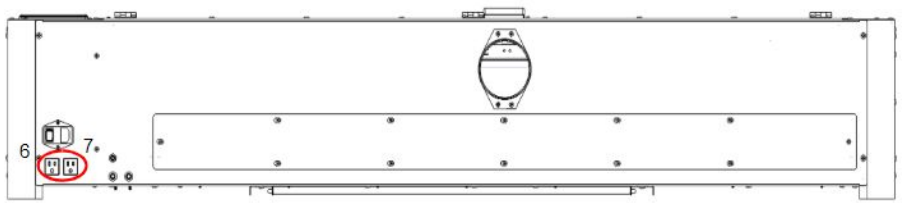


2. Touchscreen Stop/Pause Button. By stopping the job it will be be marked as finished, selecting Play again will start the project from the beginning.

3. Test Fire/Pause Button. This button usually serves as a test fire button. However if the machine is running it serves as a pause button.

4. E-Stop Button. Located in the lower left corner of the touch screen, pressing this button will cut power to the laser instantly. Please handle this button with care as it is still part of the touch screen and can be fragile

5. RE3 Stop/Pause Button.



6. Power Switch. Turns the machine on and off.

7. Unplug Power. This should be considered a last resort, as unplugging the power cord of the Muse Titan from the electrical outlet may cause damage to your cables.

Belt Replacement:

The belts of your laser system are consumable items that can eventually stretch or break beyond a usable length. In such cases, you can contact Full Spectrum Laser support for replacements.

Required Parts and Tools

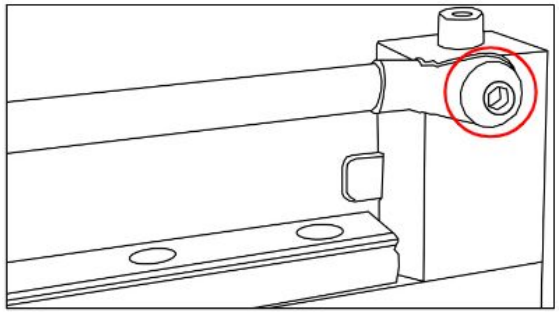
- 2.5mm Hex key (included with accessories)

Belt Installation Instructions:

Side Belts:

1. Power off the machine and allow at least one hour for the capacitors to discharge.

2. Remove the retaining screws by unscrewing the M4 screws on the belt and carefully remove the belt. We advise removing one side at a time.



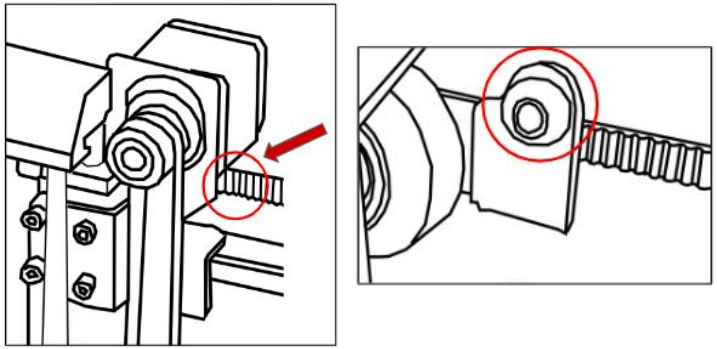
3. Mount the new belt in the same location, ensuring that the M4 screws slide into the gantry.

4. Once both ends are in place, tighten the screws to secure and retain the belt.

Gantry Belt:

1.Power off the machine and allow at least one hour for capacitors to discharge.

2. Locate the belt retaining screws which are situated behind the laser head assembly.



3. Loosen the retaining screws and remove the M4 washers, thus allowing the old belt to be removed and discarded.

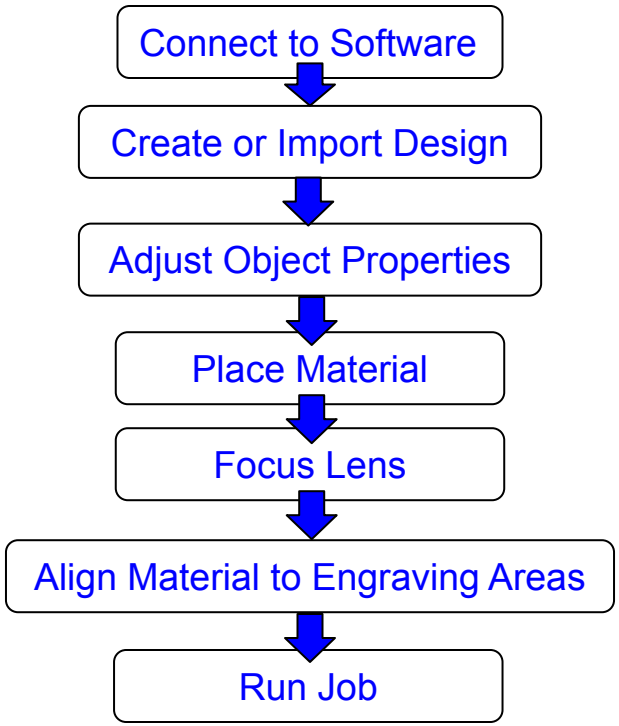
4. Run each end of the new belt through the mounting slot and ensure that both ends are correctly in place before tightening the screws to secure and retain the belt.

Loosen the motor on the mount and loop the belt over the drive motor. Pull the belt and re-tighten the bolts.

Tension the belt by pulling on the motor with a moderate to strong force, then re-tighten the bolts.

If the motors do not jog, verify that the motors are connected to the control card.

Project Procedure:



For more information on your machine refer to your user manual. For information on RE3, refer to the RE3 Guide found in our website.

Troubleshooting:

Q: What could be causing my laser to not mark?

A: It is possible that your laser is out of focus. If the height of the machine is off by a few millimeters, it may not engrave properly. Make sure to refocus the laser head after changing to a new material. Additionally, it is important to ensure that the material is compatible with your laser engraver.

Q: Why are the marks in my engravings incorrect?

A: We recommend experimenting with different settings to find the best fit for your specific needs. Here are a few general guidelines to help you get started:

- For lighter/darker engravings, try adjusting the power or speed.
- For deeper engravings, consider decreasing the speed or increasing the number of passes.
- For clearer engravings, try using a higher-resolution image.

Q: What can I do if my engraving appears shallow?

A: Increasing the power and/or decreasing the speed may help to create deeper engravings. It may also be helpful to perform multiple passes. A smaller lens can be used to achieve more detail. Be sure to perform a laser focus test each time you switch to a new material.

Q: I'm having trouble focusing my laser. What should I do?

A: Make sure your laser head touches the material and retracts to the focus distance before running a job. If the laser head does not retract fully there may be a problem with the z-belt or the sensor. We have troubleshooting article here that will be useful in accessing the issue.

Q: Why do my engravings appear uneven and wobbly?

A: Make sure the material you are using is lying flat during the engraving. We recommend using something to flatten and/or weigh down the material before engraving. It's possible that the laser tube is misaligned, which could be causing the issue. To confirm whether the laser's path is correct, an alignment test should be carried out. If the path is off-center, it will be necessary to perform a mirror alignment. For detailed instructions on the alignment process, refer to this resource here.

If your having an issue not listed here, visit our Help Center. We provides comprehensive videos, and useful resources for troubleshooting to helping you get the most out of your investment in our products.