

# Trotec Laser Cutter Tutorial

This tutorial contains instructions and troubleshooting tips for sending designs to and operating our Trotec Speedy360 laser cutter. While some of this information is transferable to our VLS 3.75 laser cutter, we recommend viewing our dedicated guide for that machine for more specific (and in-depth) information. That guide should be in a white binder in the laser cutting area.



## Setting up the Laser

If the laser cutter is powered off, you will need to turn the key located at the top of the control panel (circled in red) in a clockwise direction to turn it on. The machine will then execute a startup procedure which will lower the material bed to its lowest position and calibrate the home position of the laser head.

It is very important that you do not open the door of the laser at this point as this will cause an error and you will have to restart the process. The machine will beep once this startup procedure is completed.

In rare cases, we have had the laser “blue screen” upon startup. This requires the laser to be powered off, unplugged from the back left corner of the machine, plugged back in, and powered back on. If problems persist, let a member of the IQ Center staff know.



## Loading Your Material

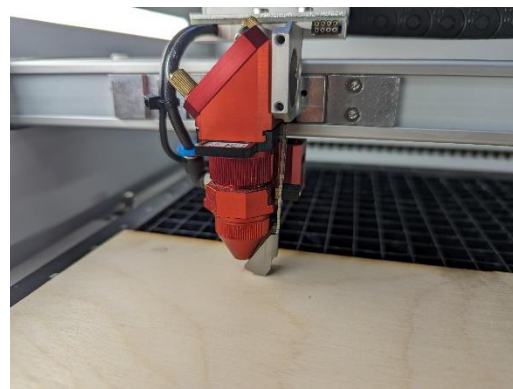
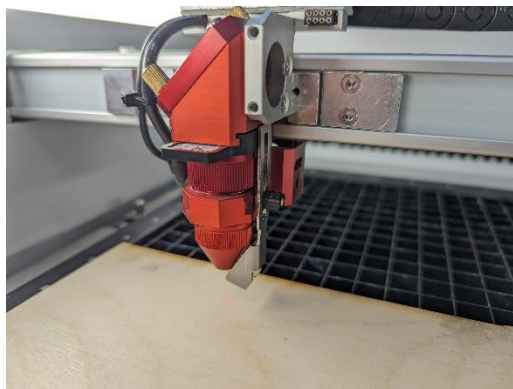
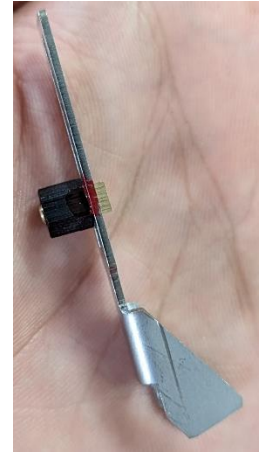
The next step is loading the material you are cutting into the machine and setting the laser head to the appropriate height to focus on said material. Material can be loaded by lifting the door and placing your material directly onto the cutting bed. We generally recommend placing smaller pieces of material closer to the center of the cutting bed to reduce the distortion present in the camera feed coming from the laser cutter.

Once your material has been loaded, you must set the cutting bed to the height of your material. If your material is opaque, you can use the laser cutter’s built in focusing tool to set the cutting bed to the appropriate height. First, use the directional pad (circled in red) to move the laser head over



your material. Once the laser head is directly over your material, pressing the two vertical arrows on the bottom left of the interface (circled in blue) will start the focusing process.

If your material is transparent or clear, you will need to focus the laser manually. You can do this using the focusing tool, pictured to the right. It should be located on top of the fume collector, to the right of the laser cutter. With the laser head positioned over your material, place the small brass block on the side of the focusing tool on the red rail located on the right side of the laser head. Then adjust the bed height using the up and down arrows until the bottom point of the focusing tool touches the surface of your material.



## Logging into Trotec Ruby

Files can be sent to the Trotec laser cutter using the Trotec Ruby web interface accessible at the following link: <https://ruby-pcs304d:2402/>

Once you have navigated to this link, your browser will likely alert you that the page you are attempting to does not have a private connection. This is due to it being a locally hosted web service that does not have a security certificate. In most browsers, you can click the Advanced button on the bottom left of the message and continue to the website.

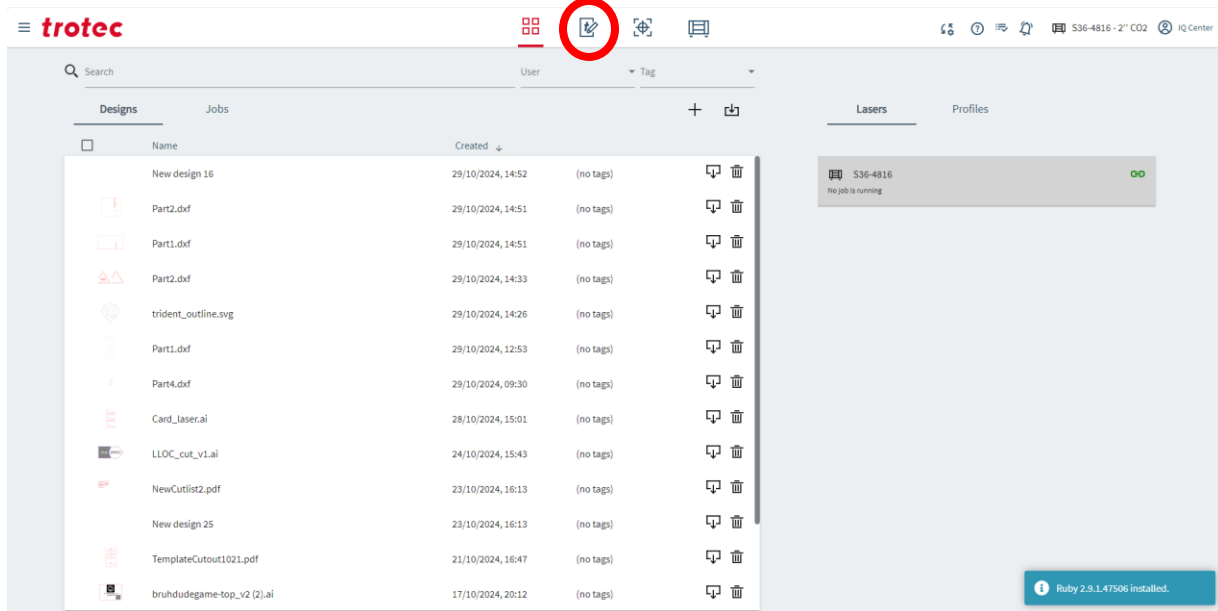
Once there, you can log in using the following credentials to access the IQ Center's shared user account:

- Username: [iqcenter@wlu.edu](mailto:iqcenter@wlu.edu)
- Password: IQCenter99

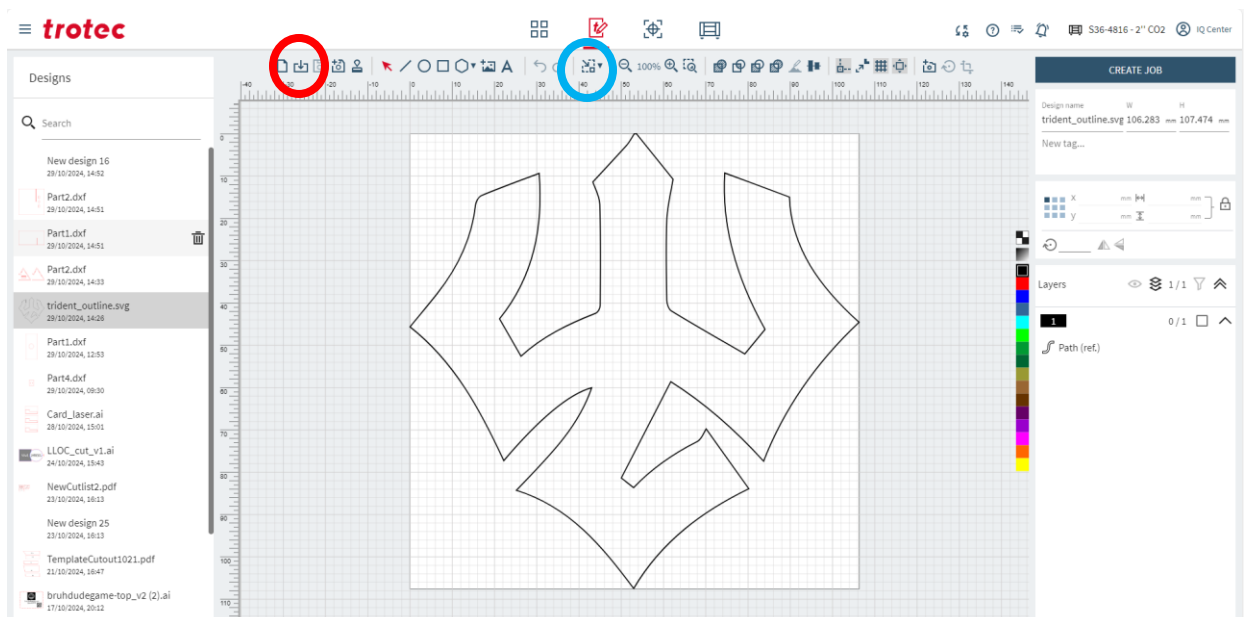
These credentials are also listed on the sign on the fume collector.

# Starting a Job in Trotec Ruby

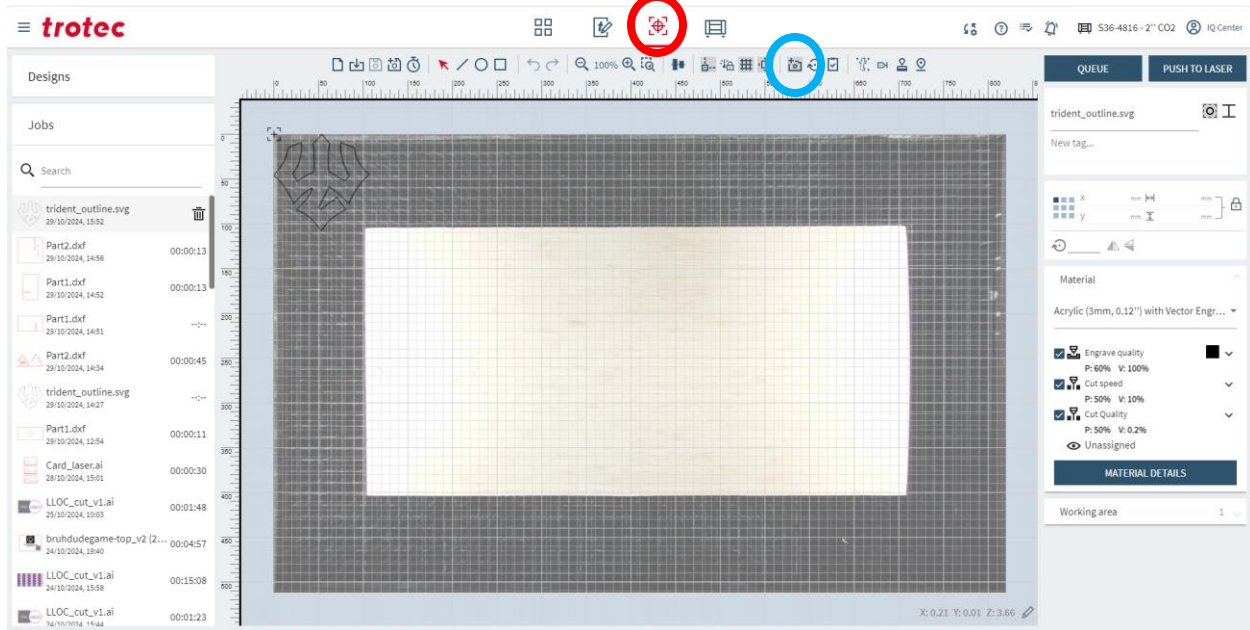
Once you have signed into Trotec Ruby, you will want to click on the second icon at the top middle of the screen to navigate to the Design tab (circled in red below).



Once on the design tab, you can use the second icon in the toolbar (circled in red below) to import your design from your computer's file system. The imported designs will show up in the list to the left, and double clicking an imported file will bring it to the canvas. You can then scale and edit your design if needed, before using the "fit to design" tool to shrink the canvas to the size of your design (circled in blue below). This will make it easier to position your design. Once your design is ready, press the blue "Create Job" button in the top right.



Next, navigate to the Prepare tab (circled in red below) to position your design on your material, choose the appropriate material for what you are cutting, and queue the job to the laser. The easiest way to position your design on your material is to turn on the table camera (circled in blue below). The camera may take a while to update.



Once you have the camera on, you can click and drag your design to position it appropriately on your material. Note that the camera has a fisheye lens, which makes the relative position of the material less accurate the further away from the center of the build area you are.

After you have positioned the design, you need to change the material using the material drop down on the right side of the Prepare panel. You can search for the appropriate material, or ask for assistance in setting up a custom material if needed. Once the material is selected, you can press the blue “Queue” button in the top right to send the job to the laser. If everything looks good, you can press the ‘play’ button with the flashing green light to start the job. The machine will beep when the job is finished and it is safe to open the build area to retrieve your part(s).

Please reach out to Mickie Brown ([mbrown@wlu.edu](mailto:mbrown@wlu.edu)) or Dave Pfaff ([dpfaff@wlu.edu](mailto:dpfaff@wlu.edu)) if you need any assistance.