Concord Makerspace X-Tool Checkout

[ ] Review known safety concerns.

- Identify the locations of fire extinguisher. Discuss when it is appropriate to use.
- Do not try to service, repair, or modify the X-Tool.
- Never try to access the wiring of the X-Tool.
- Do not open the power supply or any other sealed portion of the X-Tool.
- If the X-Tool is damaged, unplug the power cord and post a detailed message in the prototyping channel of SLACK immediately.
- In the event of any emergency or malfunction, unplug the power cord on the back of the unit.
- Do not relocate any power connections for the machine.
- Review x-Tools P2 Safety First Documentation here(see print out supplied):

    [ ] https://support.xtool.com/article/903

[ ] Note that under normal circumstances, the CO2 laser tube is completely enclosed in a casing during operation. The device has a safety interlock switch. If the lid is lifted during operation, the device will stop working to prevent harming people. No special precautions are required to ensure laser safety.

However looking at the reflection of the laser while it is running will give you a head ache similar to how looking at someone welding would. It is very bright and is deceptively harmless.

[ ] Review where users can get more information on how to use the x-tool software.
https://www.youtube.com/watch?v=rKQxC-5MZl0

[ ] Note that the X-tool creative space software is free and can be installed on personal laptops if desired. This will allow you to create projects at your own pace and in your own space if that is what you wish to do. You can either save your project on a usb thumb drive or use your personal laptop to connect to the x-tool from the Maker space WiFi.

You can also use any software that outputs a vector file. Like a svg, dxf and pdf.

Software like Ink Scape will output these file types. The process is the same as if you were doing this for the Glowforge. There are several video tutorials that cover the import process.

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[ ] There is no need for members to use the USB connection to the XTool. If you feel you need to use the USB connection you must get approval from a board member or the operations manager. You must state why you need this and it must be for some general operation that does not alter the machines firmware or hardware setup/settings. Members found to be using the USB connection without proper approval, could be subject to disciplinary action including being banned from use of specific machines or the maker space.

[ ] Members should never update the firmware for the XTool. If you get a message saying that there is a new version available, please defer doing the update and post that you have seen this in SLACK. Members that update the firmware could be subject to disciplinary action including being banned from using specific machines or the maker space.

[ ] When you are done using the x-Tool it must be turned off, the emergency top button should be pushed in.

[ ] Review where the laser reflectors and emitters are and caution members to not touch them as it will degrade the laser performance.

[ ] Stay clear on the beam lines even when the laser is not operating.

[ ] Review display interface and button function on top of machine.

[ ] Review bed size 26 x 14 inches.

[ ] Review Max height adjustment (2.7”). Ensure that the top of your material is at least 1/4 “ below the laser focus point. 2.7” is the Max height when material is placed on the catch pan. If you move the pan down you can gain height. Be sure to use the auto thickness tool to understand the proper thickness setting for your material and that it is not too close or too far away for the laser to work with.

[ ] Do not attempt to cut material thicker than 18mm and plywood or other glued products thicker than 12mm (It will be a fire hazard).

[ ] When using lower deck heights of the riser, be sure to remove all the aluminum slats to ensure that the laser will not hit them when in operation.

Concord Makerspace X-Tool Checkout

[ ] Curved objects alignment tip, use a right angle to place it. It can be hard to align with the software. This is also true any item that has to be placed below the standard bed for processing.

[ ] If slats are removed, they must be put back properly. Note that they go into every other location.

[ ] There is a honey comb bed that can also be used instead of the slats.

[ ] Discuss how the supplied hold downs work.

[ ] Discuss

[ ] Discuss smoke box if it is still in use.

Or

[ ] Discuss exhaust system functionality / usage if not using the Smoke box.

[ ] Rotary tool is not supported at the space yet. (looking at Feb 2024)

[ ] Conveyer is not supported at the space yet. (looking at Feb – March 2024)

[ ] Review general connection to machine using shop laptop.

[ ] Review a simple project; Create and Execute.

[ ] Import of logo

[ ] Trace logo, move all lines to single layer

[ ] Add Cutout box.

[ ] Run project against chip board.

[ ] Point out the need to understand the materials you are putting in to the machine. If you are not 100% sure it is safe to burn, you should not put it in the laser**. The smoke box is mostly catching large particulates. It is not going to protect you from poisonous gasses created when you burn some materials. Materials like PVC, ABS and polycarbonate will off gas and kill you. Some leather is also not suitable for burning with a laser.** Be very sure your chosen material is ok to burn. **Stay alive!**

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Version 1.0

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