

HSBNE Laser Cutter Training

Objectives:

This training is designed to get you up to speed on how to use the machine.

Once you've completed this, you should be able to:

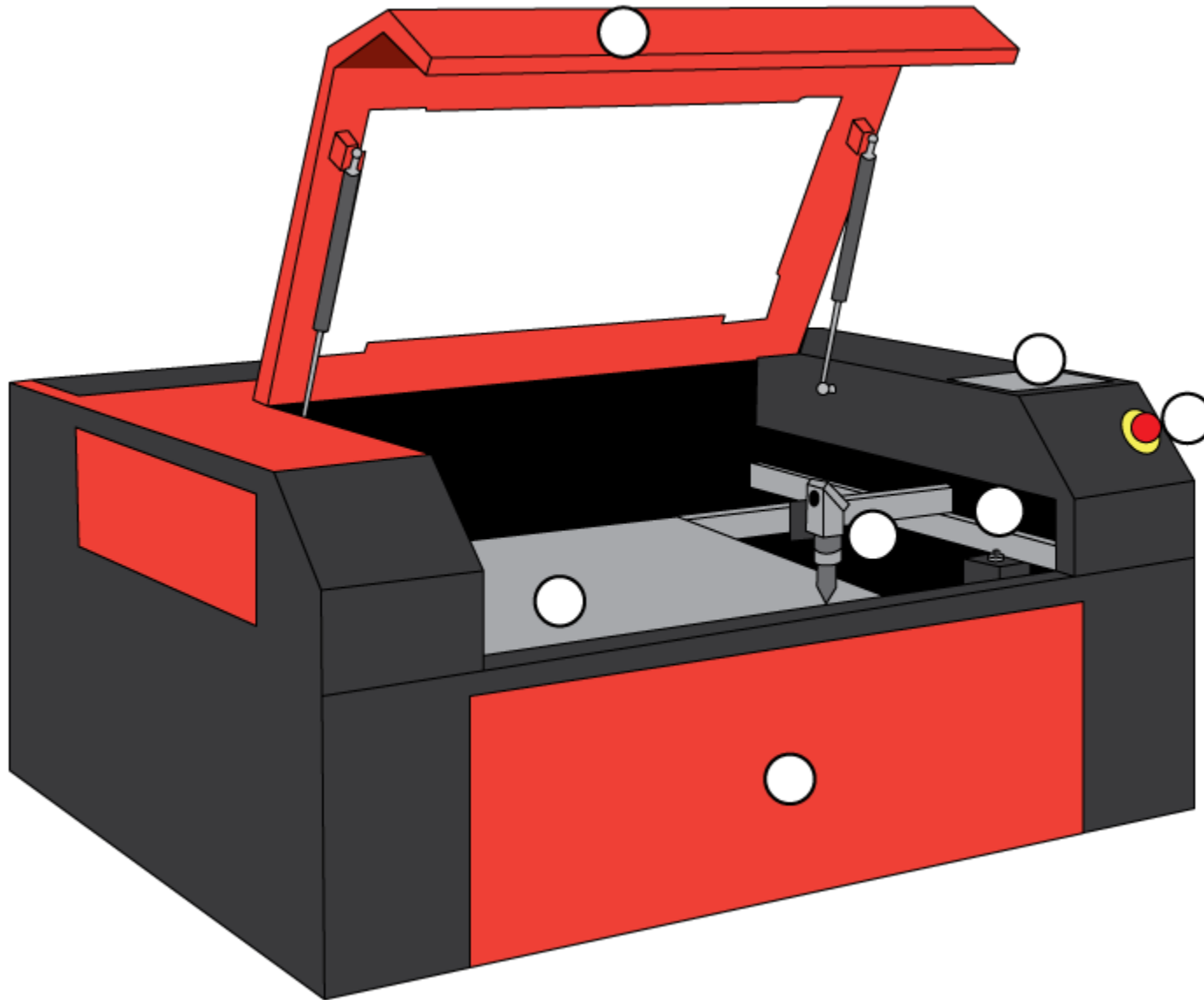
- Operate the laser cutter safely.
- Know how to stop the laser cutter in an emergency
- Identify problems to watch for during a job
- Clean the machine after use.

Expectations of Use:

When using this machine, there are certain expectations of your usage that you must adhere to. These include:

- *Do not leave the machine unattended, even for just a few seconds, until it has finished.* Get someone else to watch it or pause your job if you need to go to the bathroom etc
- You must complete a pre-flight checklist on the computer to confirm everything is good to go.
- You must clean the insides of the machine to the best of your ability. An unclean machine leads to unclean optics which means either the laser won't cut your material fully or the optics will shatter.
- If something goes wrong, hit the emergency stop and seek assistance immediately. This goes for fires, water, failing air assist/air extractor/cooling, etc.
- You must complete a post-flight checklist to confirm you've left the machine in a usable state.

Identify Laser Cutter Components



COMPONENTS

1. Front Door
2. Top Door
3. Bed
4. Emergency Stop
5. Focusing Head
6. Control Panel
7. Focus Adjustment

Put the component number in the appropriate circle.

Safety

If anything should go wrong with the laser during use, hit the Emergency Stop Button on the right of the machine and seek assistance.

Things that could go wrong include:

- Fires, the power is too high, the movement is too slow or the material is more flammable.
- Water in the laser cutter from moisture in the compressed air line.
- Toxic gases and liquids in the machine from cutting materials containing chlorine.
- Failure of the air assist, the air extraction or the cooling system

Do not leave the machine unattended, even for just a few seconds, until it has finished. Get someone else to watch it or pause your job if you need to go to the bathroom etc.

Workflow

Prepare Design	Prepare Laser	Using Laser
<ul style="list-style-type: none"><input type="radio"/> Make or load your design in Inkscape<input type="radio"/> Send the design to Visicut<input type="radio"/> Set & confirm the position/scale/rotation<input type="radio"/> Set material & thickness you are using<input type="radio"/> Define cut and/or which parts to mark/engrave	<ul style="list-style-type: none"><input type="radio"/> Load machine material<input type="radio"/> Turn on the machine<input type="radio"/> Turn on the air compressor<input type="radio"/> Complete preflight checks<input type="radio"/> Set the focus<input type="radio"/> Export the job to the laser cutter<input type="radio"/> Ensure all machine doors are closed and the cutting area is clear.	<ul style="list-style-type: none"><input type="radio"/> Start the job at the control panel<input type="radio"/> Put money in the donation tin<input type="radio"/> Clean out under the bed with a dustpan<input type="radio"/> Wipe down the bed bars, walls, rails, etc<input type="radio"/> Complete after use checks

Cleaning

It's important when cleaning the laser cutter that you:

- Clean out anything under the bed with the dustpan
- Wipe down all the bars, the side & rear walls, the Aluminium rails, the underneath area. Place something heavy on top of the wipes so the lid doesn't pop open
- Brush the air extraction grill if necessary
- Keep the Digifab room as free from dust as possible, vacuum it if it has not been done within the last fortnight

User Sign-Off

By signing this document, I agree to

- Treat the Laser Cutter respectfully and use it correctly
- Complete any required Pre and Post Use Checks
- Clean the Laser Cutter fully after use
- Follow any reasonable instructions of the Laser Supervisors regarding use of the Laser Cutter
- Only use materials and settings that have been marked as good on the Wiki.
- Check the wiki for any up to date information before I use the laser cutter each time
- Acknowledge that if I do not follow the above requirements I may lose my unsupervised access to the laser cutter at any time at the Cause Leader and/or Supervisor's discretion

Name: _____ Date _____

Signed: _____ -

Supervisor Sign-Off

By signing this document I assert that I have trained this user appropriately in the use and cleaning of this machine and approve their unsupervised use of the Laser Cutter.

Name: _____ Date _____

Signed: _____ -