**Standard Operating Procedure for Glowforge Laser Cutter in Prototyping Lab**

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| **TOPIC** | **PROCEDURES** |
| **1. Process** | Cuts and engraves materials using a laser. |
| **2. Equipment** | Glowforge Basic laser cutter |
| **3. Personal Protective Equipment (PPE)** | None |
| **4. Environmental /**  **Ventilation controls** | Ensure equipment is secure so it doesn’t move when in use.  A fume extraction system should be attached near the cutting area. |
| **5. Required training or approval** | * Work through the Glowforge tutorial. * Review and observe [general safety practices](https://www.ehs.washington.edu/system/files/resources/staying-safe-shops-poster.pdf). * Refer to the manufacturer’s operating manual for all operating procedures. * Refer to the operating manual for appropriate engraving, cutting, power and speed settings for varied materials. |
| **6. Inspection requirements before use** | * Safety shields and guards are in place prior to turning the machine on. * Only use with materials approved by Prototyping Lab staff. * Take note of the location of nearby fire extinguishers. The nearest ones are by the service elevator and just outside the PCB Lab. |
| **7. Safe operating procedures or precautions** | * **Never leave the laser cutter unattended** when it is on. * Small flares of fire are normal, but sustained fire that persists when the beam has moved away require action. * In the event of fire, first open the lid (disengages both laser and fan) and blow out the fire. If you were following the first rule, this will be enough.   + If this is unsuccessful, grab a fire extinguisher and put out the fire, remembering the acronym PASS.     - **P**ull the pin     - **A**im the hose at the base of the fire     - **S**queeze the trigger     - **S**weep slowly until the fire is out * Disconnect the laser from power source and follow Lockout/Tagout (LOTO) procedures or manufacturer’s instructions if making repairs, adjustments, or servicing. More information on LOTO can be found at [www.ehs.washington.edu/workplace/hazardous-energy-control-lockouttagout](http://www.ehs.washington.edu/workplace/hazardous-energy-control-lockouttagout). * When an operator has finished working on the laser cutter, and before leaving the laser for any reason, the laser must come to a complete stop. |
| **8. Waste cleanup** | Avoid waste material build up; clean as you go to prevent a potential dust explosion. Check the fume extraction system and make sure it is properly maintained and material is removed frequently. |
| **9. Emergency response and accident reporting** | In case of fire or emergency, dial 9-1-1.  Report any accidents, injuries, or near miss events using [UW’s Online Accident Reporting System (OARS) at](https://oars.ehs.washington.edu/)oars.ehs.washington.edu. |

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