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| REQUIRED PERSONAL PROTECTIVE EQUIPMENT  |
|  | **Wear appropriate laser safety glasses** to protect your eyes from light radiation | Hearing Protection circle | Wear earmuffs or earplugs to prevent damaging your hearing from machine noise |
|  | Turn on the machine extractor or wear a facemask to **prevent breathing in fumes** | Foot Protection circle | Wear sturdy shoes to protect your feet from falling material or dropped objects |
| Apron | Wear close fitting protective clothing to prevent it catching on moving parts | cid:image004.png@01D3E2E0.0EF671A0 | Tie back long and loose hair to prevent it catching on moving parts |
|  | Remove all rings and jewellery to prevent them catching on the machine or material | **C:\Users\CauchiA\Documents\D&T\shutterstock_196671263.jpg** | Remove all electronic devices to prevent distraction and them catching on moving parts |
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| DIODE LASER SAFE OPERATING PROCEDURE |
| ABOUT THE LASERLaser Classification: 4 - High power causing skin and eye injury from direct and reflected energyMax Optical Power Output: 7.5wPower Input: 12vWavelength: 445-465nmControl: TTL – Transistor-Transistor LogicHAZARDSHazards that may arise when operating laser cutting equipment include: * Bodily exposure to the laser beam causing physical burns
* Looking at the light emitted from the laser may cause severe eye damage
* Prolonged exposure of material to the laser beam may cause ignition and start a fire
* Burning or etching of certain material may produce toxic fumes which may cause harm to lungs if inhaled

MATERIALS THAT SHOULD NOT BE ETCHED OR CUT WITH A LASERCertain materials may spontaneously catch fire if exposed to the laser beam and should be avoided. The following materials are NOT safe to etch or cut. This list is only a guide and not exhaustive* Leather and artificial leather containing chromium (VI)
* Carbon fibers (Carbon)
* Polyvinyl chloride (PVC)
* Polyvinyl butyrate (PVB)
* Polytetrafluoroethylenes (PTFE /Teflon)
* Beryllium oxide
* Any materials containing halogens (fluorine, chlorine, bromine, iodine and astatine), epoxy or phenolic resins

BEFORE YOU CONNECT POWER TO THE LASER |
| * Check that workspaces and walkways are clear of slip/trip hazards
* Ensure a functioning and appropriate extinguisher and fire blanket is close by
* Ensure you can quickly switch off power to both CNC and laser if needed
* Locate and make sure you are familiar with all machine operations and controls
* Ensure that all guards and safety devices are in position and secured
* Make sure the laser module is attached to the mounting plate with both screws securely with the mounting plate secured to the CNC
* Ensure that the laser module lens is pointing vertically down to the base board
* Be aware of any other people in the area and make sure it is clear before using this equipment
* Isolate the room by placing a sign on the door warning of laser operation and ensure that people cannot enter
* Laser signal wires must be connected to the CNC controller
* Position your material
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| WHILE LASER IS CONNECTED TO POWER* Never leave the vicinity of a laser while connected to power
* Ensure laser safety glasses are worn
* Ensure there is proper ventilation of fumes
* Ensure the area is secure from persons entering
* Only operate the laser via computer control
* Never pre-program your project beyond the capacity of the machine
* Confirm all CNC programming before starting
* Make sure material is secure to the work surface bed
* Ensure all axis remain unobstructed during the cutting/engraving operation.
* Never attempt to remove material from the work surface while the machining process continues
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| AFTER USE |
| * Wait for the laser to stop and power disconnected before removing the material and waste
* Disconnect the laser power once you have finished your operation or if you are leaving the vicinity of the laser
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