**Standard Operating Procedure for Iron Work in [Department/Shop/Maker Space]**

***Instructions****: Update this template with details specific to Iron Worker in your department/shop/maker space.*

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| **TOPIC** | **PROCEDURES** |
| **1. Process**  | Shear, notch, and/or punch holes in steel plate. |
| **2. Equipment** | Ironworker {add specifics}. |
| **3. Personal Protective Equipment (PPE)**  | Safety glasses, hearing protection, plus any other PPE that may be required based on the [**Shop PPE Hazard Assessment**](https://www.ehs.washington.edu/resource/shop-personal-protective-equipment-ppe-hazard-assessment-guide-1334)**.** |
| **4. Environmental /****Ventilation controls** | Make sure equipment is securely mounted or bolted to the floor. A dust collection system should be attached in the cutting area or to the blade guard. |
| **5. Required training or approval**  | * Review and observe [general safety practices](https://www.ehs.washington.edu/system/files/resources/staying-safe-shops-poster.pdf) outlined in the Shop Equipment Safety Guidelines.
* Refer to the manufacturer’s operating manual for all operating procedures.
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| **6. Inspection requirements before use** | * Make sure all guards are in place and that all table adjustment bolts are tight.
* After changing punches, dies, blades or shims, lower the punch/ shear by hand (or jog) to check the clearance and alignment.
* Check Punch and Die alignment before each set-up and periodically throughout longer runs.
* Before installing a Punch or Die into the Ironworker, they must be slipped checked. Failure to do so could cause tooling damage and/or personal injury.
* Always adjust material hold-downs to allow material to just slide under before attempting to shear. Don’t allow more than 1/8” clearance between the material and the hold-down clamp. Check to confirm proper blade clearance (use feeler gauges).
* Don’t cut pieces that have less than 1/2” under the hold-down.
* Use a proper size stripper insert or plate. Punch depth must be set to avoid stripper damage. Make sure stripper is fully engaged and tightened before operation.
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| **7. Safe operating procedures or precautions** | * Your foot must be completely removed from the pedal box after completing each cut, on machines, which are not equipped with light curtains or other safe guards.
* Use proper shutdown procedures when changing punches, dies, blades, or shims. Shut off the main power and have the key, (switch) in off position when changing punches and dies.
* Don't ever try to grab a piece as it is being cut. Remove small pieces from the blade area with a hook, never your fingers.
* Don't run the shear on 'automatic' unless you are properly trained by your FLS or area designate.
* Turn the main power off when leaving the machine unattended.
* **Never** put your hands near a Hazardous area or Pinch Point, if a part is too large to sit on the ironworker table without your assistance, only hold the part if your hands are completely off the ironworker table and no body part could be susceptible to injury.
* **Never** put material in from the back-side of the shear. Always cut from the roller table side making sure the material is under the hold-down.
* Don’t attempt to shear off a piece of material shorter than its thickness.
* Do not attempt to punch material thicker than the diameter of the punch.
* **Always** put your tools back after you set up. Practice good housekeeping at all times.
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| **8. Waste cleanup** | Avoid saw dust build up and clean as you go to prevent a potential dust explosion. Check the dust collection system and make sure it is properly maintained and sawdust is removed frequently. |
| **9. Emergency response and accident reporting** | In case of fire, 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. |

**Name**:       **Title**:

**Signature**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date**: