**Job hazard analysis worksheet**

**Procedure:** drilling

**Machine:** drill presses (all)

**Lockout required:** no

**Energy sources controlled:** N/A

**Tools required:** drills, hammer, punch, drifts, Jacobs chuck

**Hazardous materials required:** Dykem Blue, remover, coolant

**PPE required:** safety glasses, hearing protection as necessary during drilling process, and gloves during set up only

**Note:** Wearing gloves is not recommended during the drilling process.

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| **Task** | **Hazard** | **Control** |
| **STEP 1:** Set up for part | Lifting materials can cause muscle strain.  Drills have sharpened tips and edges and can cut.  Drill table/platform could be slippery. | Use proper lifting technique and body mechanics or an approved lifting device.  Wear gloves or use a shop rag when handling sharp tooling.  Wipe table down and avoid walking on table surface. |
| **STEP 2:** Move material to drill press | Sharp edges and burrs can cut.  Failure to use lifting device and improper lifting mechanics can cause muscle strain.  Sling/rigging failure can drop on someone.  Using a crane where there are pedestrians or other cranes can cause someone to be run over or crushed. | Deburr the material or the part with a file or emory paper and wear protective gloves.  Use proper body mechanics and lifting devices.  Inspect all rigging and attachments prior to use**.** Make sure rigging is adequate for weight involved, and check with an engineer if the weight is not specified. Use padding on corners and sharp edges.  Make sure path is clear for travel from part storage position to mill and have an observer travel with the part if needed**.** Observe location of the other bridge crane before proceeding. Verbally warn pedestrians and other crane users in your path. |

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| **STEP 3**: Layout part | Eye hazards are present when hammer, punch, and other striking tools are used.  Use of layout fluids and removers create eye and respiratory hazards.  Compressed air can cause eye hazards. | Safety glasses must be worn when any eye hazards are present. |
| **STEP 4:** Drilling  **Note:** Before drilling, remove all tools, wrenches, indicators, drifts, and keys from the Jacobs chuck, drill stand, and table.  Remove slack from arm lifting screw. | Rotating chips can cut or snag.  Drills and tooling can break, causing an eye hazard.  Sharp edges of drilled holes can create a cut hazard. | Interrupt feed to break chip-reverse motor or use chip hook to remove chip from drill.  Wear safety glasses at all times during drilling process.  Deburr part before handling or removing. |
| **STEP 5:** Remove part from machine | Cuts can be caused by sharp edges and burrs.  Muscle strain can be caused by improper lifting mechanics and failure to use a lifting device.  Sling/rigging failure can drop a part on someone.  Using a crane where there are pedestrians or other cranes can cause someone to be run over or crushed. | Deburr the material or the part with a file or emory paper and wear protective gloves.  Use proper body mechanics and lifting devices.  Inspect all rigging and attachments prior to use**.** Make sure rigging is adequate for weight involved and check with an engineer if the weight is not specified. Use padding on corners and sharp edges.  Make sure the path is clear for travel from part storage to the mill and have an observer travel with the part if necessary**.** Observe location of the other bridge crane before proceeding. Verbally warn pedestrians and other crane users in your path. |

JHA preformed by:\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_