Job Hazard Analysis

JHA Name: Mill- Bridgeport

Assessment Date: 10-18-13
Revision Date: 04-26-17
Building or Location: North Mankato & Faribault Campuses
Department or Program: CIM

Description of Individual Tasks or Assignments: Machining Operations (e.g., Milling, Fly Cutting, Squaring, Boring, Drilling and Tapping, etc…)

Tools, Equipment, or Machinery Used when Performing Task: Mill-Bridgeport, and Metal Cutting Fluids/Oils

	Hazard Type(s) Associated with Task or Assignment:		Check for Exposure:	Specific Hazard Exposure:	Check if Exposure Recommends or Requires a Style of PPE?
1	**Impact**	**Example:** Person(s) can strike an object, or be struck by a moving or flying/falling object (e.g., fragments, chips, particles, sand, dirt/debris).	X	Potential exposure to flying fragments, particles and debris generated from mill operations and from cleaning mill bed with compressed air (e.g., injuries to eyes), potential exposure to breaking bits or accessories (e.g., injuries to eyes and other soft tissue)	X
2	**Penetration or Cut**	**Example:** Person(s) can strike an object, be struck by an object, or fall upon an object or tool that would cut or otherwise break the skin.	X	Potential exposure to cuts and abrasions when handling metal pieces with rough or sharp edges, and from accidental contact with drill bits or cutting accessories (e.g., hand and finger injuries).	X
3	**Crush or Pinch**	**Example:** An object(s) or equipment/machine may crush or pinch a body or body part	X	Potential exposure to crushing and pinching hazard from dropping metal pieces and fixtures (e.g., injuries to feet), potential exposure to spinning/moving parts (e.g., entanglement injuries)	X
4	**Chemical or Harmful Dust**	**Example:** Exposure to chemicals (i.e., hazardous substances and harmful physical agents), infectious agents from spills, splashing, physical contact, and/ or exposure to dusts, vapors, fumes, or gases that could cause illness, irritation, burns, asphyxiation, breathing/vision difficulty, sensitization, infection, or other toxic health effects (i.e., acute or chronic). Note: "May also have or create ignition potential."	X	Potential exposure to chemical materials (e.g., injuries to hands, eyes)	X
5	**Heat**	**Example:** Exposure to radiant heat sources, sparks, and splashes or spills of hot material			
6	**Light (optical) Radiation**	**Example:** Exposure to strong light sources, glare, or intense light exposure which is a byproduct or a process. Note: "This category may also include hazards presented from lack of light (e.g., working in dark spaces/areas)."			
7	**Electrical Contact**	**Example:** Exposure, contact, or proximity to live or potentially live electrical objects.			
8	**Ergonomic/ Human Factors**	**Example:** Working in cramped spaces, repetitive movements, awkward postures, vibration, heavy lifting, etc… Note: "This category may also include unique hazards presented from tasks that require demanding or challenging degrees of mental and/or physical effort to be exerted by an individual. See *Physical Effort Definition/Examples* category for further explanation of physical effort."	X	Potential exposure to sources worker discomfort/fatigue from Drill Press setup (e.g., Muscular Skeletal Disorders and fatigue), potential exposure to repetitive movements, lifting light to moderately heavy loads, and bending (e.g., Back and other Muscular Skeletal Disorders)	X
9	**Environmental**	**Example:** Exposure to noisy environments, hot or cold work environments, poor weather conditions, working at a height, and any other conditions in the workplace that could cause danger, discomfort, and/or negative health effects.	X	Potential exposure to loud/prolonged noise (compressed air)	X

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Personal Protective Equipment Requirements:	
Eyes & Face:	Safety Glasses with Side Shields or Goggles (Required when operating Mill), Face-shield worn over Safety Glasses with Side Shields, or Goggles (Required when using compressed air to clean)
Head & Ears:	Hearing Protection Devices (Required when using compressed air to clean)
Whole Body:	
Feet:	Safety Shoes (Required when operating Mill)
Hands:	Leather Gloves (Required when handling metal pieces with rough or sharp edges)
Respiratory:	
Other:	"Note: Keep Loose Clothing Away From Moving Drill Bits/Chucks"

Other Control Measures or Requirements (Engineering & Administrative Controls):

#1) Impact Hazards: Do not leave tools, bits or pieces of stock on the mill bed. Only properly sharpened drill bits and cutting tools may be used. Cutting tools must be securely fastened in the machine spindle with the proper accessory (never tighten cutting bits or tools by hand). Do not power the machine to tighten or loosen cutting bits or tools. Work pieces and stock must be rigidly fastened to the mill bed with clamps, vises, or special fixtures. Make sure the cutting tool is clear of the work piece before starting the machine. The correct speed and feed for the specific material and cutting tool must be used. Personnel choosing to clean mill bed with compressed air must follow approved guidelines that include reducing air pressure to 30 p.s.i. and have appropriate chip guarding in place. Personnel should never use compressed air to clean themselves or their clothing. **#2) Penetration or Cut Hazards:** Personnel should never clean metal shavings/debris from the mill bed by hand; personnel should use a brush to sweep metal shavings/debris away from work surface. #3) Crush or Pinch Hazards: Always stop the machine before making adjustments or measurements. **#4) Chemical or Harmful Dust Hazards:** Personnel should receive Right-to-Know training (e.g., regarding chemical & physical hazards). SDS should be provided/available for all hazardous chemicals. **#8) Ergonomic Hazards:** Personnel should receive Ergonomics training (including warning signs and conditions of ergonomic/human factors hazards). When possible set up workstation or immediate job site to help minimize reaching, and/or sitting or working in awkward positions to prevent strains, soreness, and other discomfort. **Miscellaneous Considerations:** When personnel are finished working on mills (and before leaving the mill for any reason) the power must be shut off and the unit must come to a complete stop. Stop the mill immediately if odd noises or excessive vibration occurs. Mills must be de-energized and locked/tagged from use by approved energy isolation control procedures prior to performing maintenance or service. Note: only "authorized" employees who are trained in the requirements of the College's Lockout/Tagout Plan will perform lockout/tagout procedures and/or the related maintenance or service work. Operators of tools, equipment, and machinery should read and follow all Manufactures' recommendations/requirements (e.g., inspections, servicing/maintenance, safe usage, etc...). Any tools, equipment, or machinery found damaged, defective, or otherwise unsafe should immediately be removed from service and not used until repaired or replaced. Personnel should always consult their Supervisors on the selection and use of PPE for the tasks being performed.

Physical Effort Definition/Examples

1.) Physical Mobility- Movement from place to place on the job, considering distance and speed **2.) Physical Agility**- ability to maneuver body while in place or in static position **3.) Physical Strength (Light to Moderate)**- Ability to handle routine office materials and tools **4.) Physical Strength (Moderate to Heavy)**- Ability to handle 50lbs+ objects, considering frequency **5.) Dexterity**- skill and ability in using hands, fingers, and feet **6.) Physical Balance**- ability to maintain balance and physical control **7.) Coordination**- harmonious functioning of body parts (e.g., eye/hand, hand/foot, etc…) **8.) Endurance**- ability to sustain a prolonged stressful effort or activity with limited opportunity to rest

Note: "This JHA provides only the minimum PPE/safety requirements necessary to safely complete the task or assignment, and the JHA only covers the hazards or exposures that are most likely to be encountered. Nothing within this JHA bars or restricts personnel from requesting higher degrees of PPE or control to mitigate workplace hazards. In addition, South Central College personnel (e.g., employees and students) are required to complete any applicable safety or on-the-job trainings required prior to performing their positions or participating in their programs of study. Finally, South Central College personnel should consult their supervisors/instructors, the college's written safety programs/policies, and/ or the Security & Safety Director whenever they have questions or concerns."

Certification: This document certifies a hazard assessment was conducted meeting the provisions specified under 29 CFR 1910.132 (d) and South Central College's related safety programs and policies.

Name: Al Kluever
Date: 04-26-17