

JOB SAFETY ANALYSIS

Safety Information for the University of California, Berkeley

DEPARTMENT OF MECHANICAL ENGINEERING OPERATING AN ENGINE LATHE

TASK	HAZARDS	CONTROLS
1. Assess work area; is it clear of obstructions and slip/trip/fall hazards?	<ul style="list-style-type: none">• Slip, trip, or fall	<ul style="list-style-type: none">• Clear work area of any obstructions or slip/trip/fall hazards
2. Changing the chuck	<ul style="list-style-type: none">• Muscle fatigue• Foot injury from dropping of heavy objects• Dropping chuck, damage to machine ways• Chuck installed incorrectly	<ul style="list-style-type: none">• Position body to maintain balance, maximize use of legs, and ask for assistance if necessary• Place wooden chuck removal block directly below chuck so it can't fall very far• Protect machine ways with wooden chuck removal block• Do not start the machine until you have verified the chuck is installed correctly and is tightly secured.
3. Installing cutting tools	<ul style="list-style-type: none">• Lacerations to fingers/hands from the tool• Pinching hazards for fingers/hands	<ul style="list-style-type: none">• Handle cutting tools with care; avoid sharp edges• Keep fingers and hands free from pinch points
4. Installing material into the machine	<ul style="list-style-type: none">• Lacerations to fingers/hands from the material• Pinching hazards for fingers/hands• Material dislodged from the chuck• Muscle fatigue	<ul style="list-style-type: none">• Deburr material before handling, never run hands along edge• Keep fingers and hands free from pinch points• Ensure the material is tightly secured in the chuck before turning on the spindle• Position body to maintain balance, maximize use of legs, and ask for assistance if necessary

	5. Cutting the material	<ul style="list-style-type: none"> • Operator entanglement • Material dislodged from the chuck • Lacerations to hands/fingers from chips • Burning hazard from chips • Eye injury from flying debris • Lacerations to hands/fingers from the cut part 	<ul style="list-style-type: none"> • Never wear loose clothing when operating, tie hair back, tuck in drawstrings, and remove jewelry. Do not reach over spinning machine components. • Ensure chuck is securely clamped onto the work. If the work is protruding more than 3 times the diameter of the stock, support with a live center. • Never brush chips away with bare hands or fingers. Use a chip brush or pliers to remove chips. • Stand to the side of the cut; hot chips can burn skin • Always wear safety glasses when operating equipment • Always deburr your parts before handling
	6. Removing material from the machine	<ul style="list-style-type: none"> • Lacerations to fingers/hands from the material • Pinching hazards for fingers/hands • Muscle fatigue 	<ul style="list-style-type: none"> • Deburr material before handling, never run hands along material edge • Keep fingers and hands free from pinch points • Position body to maintain balance, maximize use of legs, and ask for assistance if necessary
	Required Training: Student Shop Safety Training Program (<i>Phase 2</i>)	Required Personal Protective Equipment (PPE) Safety glasses	
Other Information: Contributors: Created: Updated: JSA Library Number:	Monarch 10ee Lathe Manual , LeBlond Regal Lathe Manual , Hardinge HLV Lathe Operators Manual , Hardinge HLV Lathe Maintenance Manual ME Pro Shop, Scott G. McCormick; R&D Engineering Manager, Jacob Gallego; Principal Lab. Mech. Jan. 2007 July 2020 (EH&S will insert number here, if applicable)		
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