

## Department of Civil Engineering

<b>Name of SOP</b>	Boxford Model VSL\L00 Metal Cutting Lathe
Effective Date	October ,2007
Author	Peter Koudys
Reason for SOP	Potential for injury due to rotating machinery, and metal cutting.
Approved by (supervisor)	
Date reviewed by JHSC	

### Definitions

Terms	
Acronyms	RMM – Risk Management Manual JHSC - Joint Health and Safety Committee EOHSS - Environmental Occupational Health & Safety Service

### Requirements

<p><b>Applicable OSHA regulations and / or codes of practice.</b></p> <ol style="list-style-type: none"> <li>1. McMaster University Risk Management Policies</li> <li>2. OSHA code.</li> </ol>
<p><b>Training and Competency</b></p> <ol style="list-style-type: none"> <li>1. Training is provided by qualified technician and by reviewing the proper operating manual, "Know Your Lathe" by Boxford Machine Tools Ltd which can be found in the lathe cabinet.</li> <li>2. Competency is shown to a qualified technician by the individual after training</li> </ol>

### Description of the Task

<b>Location and time of work</b>	<b>JHE 113AA during normal working hours</b>
<b>Individuals and skills required</b>	Technicians and students with proper training
<b>Equipment and supplies required</b>	Boxford lathe with accessories and cutting tools as shown in operating manual.
<b>Personal protective equipment required</b>	Safety Glasses always, and hearing protection when required

<p><b>Sequential steps to complete the work safely.</b></p> <p><b>Pre use inspection</b></p> <ol style="list-style-type: none"> <li>1) Safety glasses must be worn.</li> <li>2) Make sure work piece is tightened in chuck.</li> <li>3) Ensure that the chuck key is removed from chuck</li> <li>4) Make sure tailstock is in position and locked or out of the way.</li> <li>5) Ensure that the apron and tool are clear of the chuck</li> <li>6) Manually rotate the chuck with the workpiece at least one full revolution to check clearances</li> <li>7) Select proper feeds and speeds.</li> <li>8) Keep work area clean.</li> <li>9) Visitors should be kept at a safe distance.</li> </ol>
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### **General safety instructions**

- 1) Use common sense when using the equipment (think before you act).
- 2) Students and new users must discuss the operation of the lathe in detail with a qualified technician before using the lathe.
- 3) Do not operate the machine until you have been approved by a qualified technician.
- 4) Make sure the work piece is adequately clamped in the spindle for the job being performed. The clamping force must be high enough to resist movement. **Never leave the chuck key in the spindle.**
- 5) Make sure the cutting tools are adequately clamped for the job being performed.
- 6) **Always wear safety glasses** when around the machine.
- 7) Long hair should be tied back to avoid being caught in the revolving parts of the machine (**Keep loose items away from rotating objects**).
- 8) Loose clothing, rings, ties or other loose items must not be worn when operating machine tools to avoid getting caught in the rotating parts of the machine.
- 9) Wear long pants (preferably cotton) as metal cuttings removed from the work piece may be hot enough to cause burns.
- 10) **No sandals or open toed shoes are permitted while working on the lathe.**
- 11) Watch out for sharp edges on the part, tool and on the chips.
- 12) Do not use rags near the rotating machines when the spindle is running. Rags can be caught in the rotating spindle and the result can be serious injury. Rags may be used for material handling and for cleaning purposes provided there are no rotating hazards nearby.
- 13) Use extreme caution with the chips produced during machining. Chips are sharp and some chips are long stringers which can easily be caught up in the spindle and thrown with great force. Do not clear chips away from the work area when the machine is in operation.
- 14) Anyone using this equipment is expected to work safely at all times. You are responsible for your safety and the safety of others working around you. If you do not know how to safely operate the equipment it is your responsibility to obtain proper instruction.

### **Power-Up sequence**

- 1) Ensure start switch is in the "off" position before applying main power.
- 2) Switch on main power switch located on the wall behind the lathe.
- 3) Push start switch located on the front of the machine to the right to start the lathe.

### **Machine operation**

- 1) Refer to a qualified technician and/or the lathe manual for general operation steps.

### **Power down sequence**

1. Push start switch to the left to turn the machine off.
2. Switch off main power switch located on the wall behind the lathe
3. Clean and remove all cuttings from machine
4. Use gloves if necessary
5. Clean floor area around machine

## Contingency Plan and Reporting

### Accident / injury response

1. Notify Civil Engineering technical staff . Apply first aid as required immediately
2. For all injuries complete an “Injury/Incident Report” and provide a copy to the Chair and EOHSS

### In the Case of Critical Injuries

1. Call security (DIAL 88) and notify EOHSS immediately, ext 24352

### Equipment Malfunction

Switch off main power switch located on the wall behind the lathe and Report equipment malfunction to qualified technical staff.

### Equipment shutdowns

Switch off main power switch located on the wall behind the lathe and lockout.

## Environmental Responsibility

### Waste disposal procedures

No hazardous waste is generated by this machine  
Cutting should be placed in the waste container beside the lathe.

### Building air quality

## References

1. OSHA/ regulations
2. EPA and Municipal environmental regulations
3. McMaster University Program/ Policy
4. Material Data Sheets (MSDS)
5. RMM #300 Safety Orientation and Training Program
6. RMM #301 Standard Operating Procedure
7. RMM program #309 Laboratory Safety Manual
8. RMM program #310 Eye Protection.
9. RMM program #403 Noise Control and Hearing Preservation
10. RMM program #1000 Reporting and Investigating Injury, Incidents and Occupational Disease

## Distribution

1. Machine Shop Safety Binder
2. Technical Staff of Civil Engineering
3. Civil Engineering Safety Committee
4. Civil Engineering Chair
5. Faculty of Engineering JHSC