

# LMCS – Safe Work Procedure

## WOOD LATHES



**DO NOT use this equipment unless you have been instructed in its safe use and operation and have passed the safety accreditation**

### PERSONAL PROTECTIVE EQUIPMENT

- Safety glasses must be worn at all times in work areas.
- Long and loose hair must be contained.
- Hearing protection must be worn.
- Sturdy footwear must be worn at all times in work areas.
- Close fitting/protective clothing must be worn.
- Rings and jewellery must not be worn.

### PRE-OPERATIONAL SAFETY CHECKS

- ✓ Pull out the power plug, inspect the lead and leave unplugged.
- ✓ Locate and ensure you are familiar with all machine operations and controls.
- ✓ Ensure all screens are in place to protect others from flying objects. Do not operate if screens are missing or faulty.
- ✓ Check workspaces and walkways to ensure no slip/trip hazards are present.
- ✓ Plug it in connecting power.
- ✓ Start the dust extraction unit before using the machine.
- ✓ Work piece must be securely fastened to a Faceplate, Chuck or held between centres.
- ✓ Set the rotational speed to the minimum possible before putting the work piece on the chuck.
- ✓ **Start the machine to verify the speed selection, stop the machine and adjust if necessary and repeat process.**
- ✓ Rotate the workpiece by hand to check clearances between the stock, the tool rest, and bed.
- ✓ Ensure that all the wood turning tools are sharp and in good condition and placed in a convenient place well away from the Lathe.
- ✓ Check all stock to be turned for any defects, loose knots and foreign matter such as nails, etc. **On recycled timber the metal detector must be used!**

### OPERATIONAL SAFETY CHECKS

- ✓ Lock and secure all adjustable parts, including the tail stock, tool rest and sanding table rest.
- ✓ Verify the rotational speed is still set to the minimum safest possible speed.
- ✓ Determine the operational speed from the charts below giving full consideration to whether you are reducing the outside diameter or expanding a bore.
- ✓ Turn the machine on and verify it spins in the intended direction.
- ✓ Slowly bring up the rotational speed to the selected speed whilst standing away from the work piece.

- ✓ Inspect the rotating piece intensely to establish whether everything is tight enough to proceed, if in any doubt shutdown and check for tightness again.
- ✓ When turning, if there is any doubt about the tightness of the work piece stop and check and re-tighten as required not matter how close you are to completion of the job. Never expect it would: "hang in!"
- ✓ When turning the tool rest would need to be adjusted from time to time. Under no circumstance are you allowed to adjust the tool rest whilst the Lathe is spinning.
- ✓ When turning never attempt sanding turned stock while the tool rest is still in position.
- ✓ Never attempt sweep away waste materials or wood dusts while the machine is running.
- ✓ Never leave the machine running while unattended.

### ENDING OPERATIONS AND CLEANING UP

- ✓ Switch off the machine when work completed.
- ✓ Unplug and remove the router bit and return to storage area.
- ✓ Reset all guards to a fully closed position after use.
- ✓ Leave the machine in a safe, clean and tidy state.

### POTENTIAL HAZARDS AND INJURIES

- Entanglement
- Pinch and squash
- Ejected waste
- Eye injury
- Wood dust
- Exposure to moving and rotating components
- Splinters

***This SWP does not necessarily cover all possible hazards associated with this equipment and should be used in conjunction with other references. It is designed as a guide to be used to compliment training and as a reminder to users prior to equipment use.***

*This information is modified from Frontline Safety [www.frontline.edu.au](http://www.frontline.edu.au)*

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## Safe Operating Procedures – Wood Lathes

### BACKGROUND INFORMATION & READING

These videos will assist you in following safe work practices:

<https://www.youtube.com/watch?v=7yhkeUP6Mf8> (59) Woodworking Tips & Techniques - Lathe Safety - YouTube

<https://www.youtube.com/watch?v=R2hZ6nRAqGM> (59) Top 10 Lathe Safety Tips - YouTube

<https://www.youtube.com/watch?v=GV0dmf2mBMc>

### FITNESS TO OPERATE ROUTER TABLES

Members are expected to refrain from working on these power tools and machines if they acknowledge their own level of physical ability inhibits them from doing so safely.

However, if assessors determine that a member has some level of physical impairment that makes it unsafe to use machines, they will have no option other than to assess the member as not having the capacity to do so safely.

You can still do your projects, just mark the timber and ask another shed member to cut/machine the timber for you. You are not compelled to cut the timber yourself and in this environment, you will easily find others that are more than able and willing to do the cutting for you.

### BASIC OPERATION OF THE ROUTER TABLE

#### Typical activities

The wood lathe can be used for spindle and face work. On the left there is a provision for slow speed large diameter wood turning.

If you wish to turn spindles greater than 100 mm diameter or dishes and bowls greater than 200 mm you need to speak to the workshop coordinator. He will give you a second opinion, or seek the assistance of one of the more experienced wood turners to help you.

#### Wood turning

The most important consideration is rotational speed. You can verify your minimum and maximum speeds with Chart 1 below. The rotational speed may have to be further adjusted down wards based on the activity (reducing the OD or increasing an ID, please refer to Chart 2.

The tool rest needs to be very close to the object (3-4mm) and most often needs to be adjusted as the work progresses or you are working on a different section of your object. At all times the tool rest needs to be as closely possible to the object you are turning. The reason is to reduce the uplifting force of the tool and also the possibility of it swinging upwards and jamming itself between the object and the tool rest.

Push the tool towards the object slowly and without major force. This will provide generally a much better finish and avoids tool heating. Furthermore an initial gentle feeding-in can provide you with good feedback mainly to confirm the tightness of the spinning object (in the chuck) and suitability of that piece of timber for turning.



## Recommended Turning Speeds

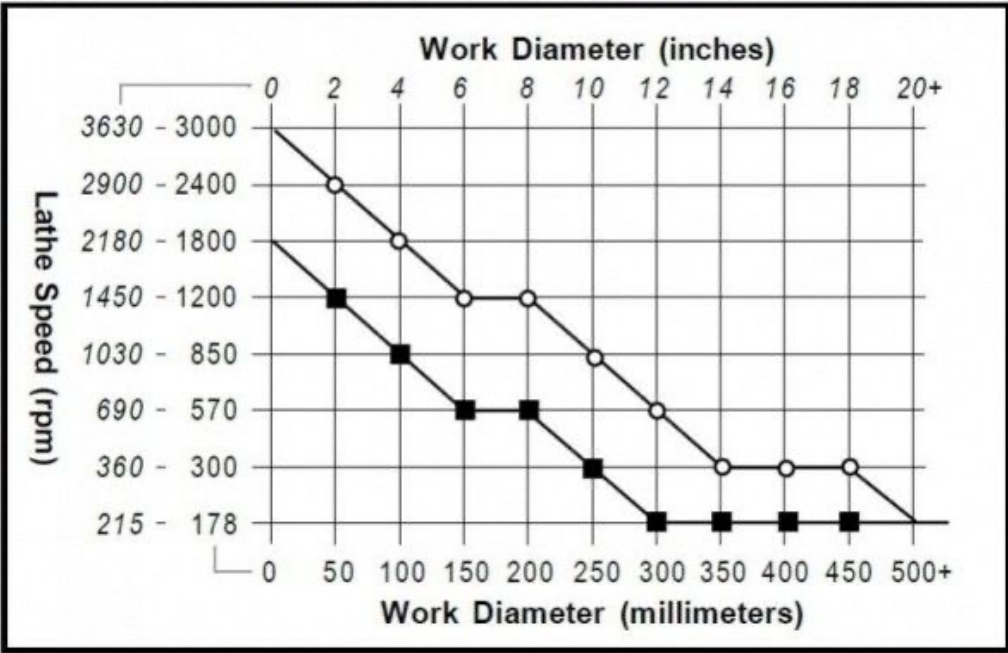


Chart 1 Rotational speed based on work piece diameter.

## Maximum Recommended Speeds

Jaw Type	Turning Method	
	Expanding	Contracting
25mm Jaw	648 rpm	1440 rpm
Pin Jaw	648 rpm	1440 rpm
50mm Jaw	648 rpm	1020 rpm
Step Jaw	648 rpm	684 rpm
35mm/45mm Spigot Jaw	648 rpm	684 rpm
100mm Jaw	648 rpm	684 rpm
130mm Jaw	400 rpm	400 rpm
Powergrip Jaw	648 rpm	684 rpm
Cole Jaw	600 rpm	600 rpm
Vacuum Faceplate	648 rpm	N/A

Chart 2 Indicative speed reductions based on type of work.