LATHE MAINTENANCE

By John Woods

Disclaimer

This article is offered from John Woods, a member of the West Suffolk Woodturning Club. It is intended as a comprehensive workshop guide for the maintenance of a Lathe. The author and The West Suffolk Woodturning Club are not responsible for your actions. If used incorrectly lathes are dangerous. Any use, advice or guidance followed or interpreted from this guide is implemented at your own risk and responsibility. You should follow your own Personal Protection Equipment PPE and Health and Safety procedures

Lathe maintenance	
Look, listen and feel	It's surprising how much you can tell without doing anything. Whether it is something simple - like the tailstock not being clamped, or more serious like the spindle bearings getting worn.
HEALTH & SAFETY	**Disconnect power before carrying out the following:**
Tools & Materials required	Dusting brush
	Cloth
	Light Oil
	Grease
	Spanners
	Hex wrenches (Allen Keys)
	Scouring pad (Webrax) to clean Morse Taper sockets
	Abrasive Block / 0000 wire wool / fine abrasive (320/400/600g)
	Fine File or Angle grinder with Sanding wheel (to dress toolrest)
Stand	Check ALL bolts for tightness.
	Check Stability - it shouldn't 'Rock' or wobble
	Mass helps stability - you may be able to improve this by adding 'bags of sand', 'concrete paving slabs' or tractor weights
Electrics	Check that the plug is not damaged and the outer sheath of the cable is secure in the cable clamp

	Check that the mains cable is not damaged along the full length, and securely clamped at the lathe end
	Check the outer sheath of the cable is secure in the cable clamps where it enters the lathe and motor connections
	Similarly, check for damage to switches/Inverter/motor connection box.
	If it has an inverter - periodically blow out any dust that may have accumulated
Headstock	
Belts	Various types have been used - 'V' belts, 'Poly-Vee' belts, and Link belts
	Check for cracks and fraying
	After checking pulleys etc.. - check belt tension
Pulleys	Check alignment
	Check that the belt gulleys are clean
	Check grub screws
	Mechanical variable speed lathes use an 'expanding pulley' - lubricate the shaft
Motor	Clean the fan and cowl. Not critical, but clean the fins as well
Spindle & Bearings	Check bearings for noise (wear) and oil leaks - lubricate if necessary
	Check for 'Fore and Aft' movement (without the belts being tight)
	Check/clean thread(s) and registration face
	Clean Morse Taper
Mounting	Where the headstock fits on the bed, check that the mounting is tight
	Check/Adjust the spindle alignment (info further on)
Lathe Bed	Check for signs of damage. If necessary, dress the damage with a fine file
	Clean the bed with a proprietary cleaning pad, 0000 wire wool, or 320/400/600 grit abrasive
	Lubricate with a light oil, and wipe off
Banjo	Check/clean the base of the Banjo (cleaning pad/wire wool/abrasive), lightly oil and wipe off
	Check, clean, lubricate, and adjust the cam-lock
	Clean tool post holder, and check clamp wrench/mechanism
Tailstock	Check/clean the base of the tailstock (cleaning pad/wire wool/abrasive), lightly oil and wipe off

	Check, clean, lubricate, and adjust the cam-lock
	hand wheel - does handle revolve - if so, lubricate
	Check Quill travel. Clean and Lubricate if necessary. Replace if damaged (caused by high use or excessive pressure)
	Clean Morse Taper
	Check alignment
Headstock - Tailstock Alignment	
	If these are out of alignment, you may get vibration and not be able to spindle turn accurately
The 'Kiss Test'	Put a 2/4 prong drive in the headstock, and a revolving centre in the tailstock
	Carefully bring the tailstock up to the headstock until the two points nearly touch
	Check that the points align in vertical plane and horizontal plane
	A slight horizontal mis-alignment can be improved by carefully moving the headstock before clamping down.
Tool-rests	Clean the stem
	Check that the stem is not damaged
	Clean the top of the 'Bar' and check for damage
	If damaged, re-dress the surface with a fine file or a fine abrasive wheel in an angle grinder
OutBoard Accessories	
Rust Protection	Special lubricants are available for tools to prevent rust
Environment	Position of switches
	Position of tool racks (Not behind the lathe – you don't want to be tempted to reach over the lathe whilst it is running.
	Anti-fatigue matting -
Discussion Point	Should you put a washer between the chuck and the spindle register ?