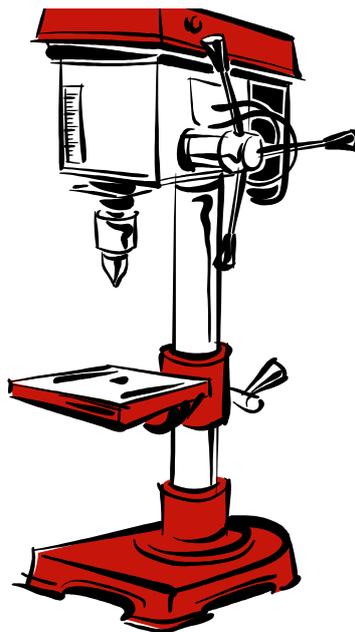


Safety Code of Practice 46, Part 6

1st Edition, November 2009

MANAGEMENT AND USE OF WORK EQUIPMENT: WOODWORKING AND ENGINEERING WORKSHOP MACHINERY



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1 SCOPE

Safety Guide 46 Part 1 Management and Safe Use of Work Equipment describes the management systems required to purchase, use and maintain all types of equipment used at work, including machines commonly found in woodworking and engineering workshops, such as drills, milling machines, lathes and powered saws. This Guide, Part 6, gives more detail on the specific requirements that apply to these types of higher hazard machinery. This should be read in conjunction with Part 1.

2 INTRODUCTION

Many accidents occur with the use of woodworking machinery because of the high-speed operation and sharp cutters, along with metal and wood debris. Woodworking is probably the main industry where the hands of the operator are constantly exposed to danger. To mitigate this, the industry has its own HSE Approved Code of Practice (L114 Safe Use of Woodworking Machinery). The basic principles will also apply to other intrinsically hazardous engineering machinery such as lathes and milling machines.

3 SAFE SYSTEMS OF WORK

Safety relies on a combination of the use of guards, protection devices and protection appliances; selecting competent people to use the equipment; and following safe working practices and systems of work. In addition to the general requirements set out in Safety Guide 46 Part 1, the specific requirements for woodworking machinery are detailed below.

- The appropriate equipment and tooling **must be** selected for the task e.g. limited cutter projection tooling is fitted to hand-fed machines; planing machines are used to cut thin sections of wood and not circular saws.
- No tool should be run at speeds greater than the safe working speed marked on the tool; cutters must be kept sharp and disposed of if cracked or damaged.
- Woodworking equipment must be maintained in an efficient working state, in efficient working order and good repair in accordance with the manufacturer's instructions (e.g. proper lubrication, adjustment and replacement of parts - see guidance box below for suggested operator and maintenance checks).
- Before using any hired woodworking equipment it must be agreed who is responsible for checks, adjustments and periodic maintenance.
- The use of woodworking machinery must be restricted to those persons authorised and competent to operate it.
- Operators (whether staff or students) must have had suitable information, instruction, training and refresher training as appropriate. Competence must be demonstrated by the trainee before being allowed to work unsupervised - see section 4 on information, training and competency assessment. A list of authorised persons must be provided by the equipment or posted prominently in the workshop.
- Machine and task training records must be kept up to date and referred to before job allocation.

- Access must be prevented to dangerous parts by guards and protection devices (e.g. fixed enclosing guards; other guards or protection devices such as interlocked guards and pressure mats; protection appliances such as jigs, holders and push-sticks etc.).
- Woodworking equipment must have protection devices and appliances to prevent risks from kickback and ejection.
- Stop controls and braking devices must be fitted. NB braking devices may not be required if the run down time is less than 10 seconds.
- The use of emergency stop controls must not override the operation of the braking devices.
- Guards and protection devices must be routinely checked and the checks recorded (see guidance on checks below).
- Woodworking equipment must have the appropriate markings and warnings such as the safe working speed and/or minimum circular saw blade size or a table adjacent listing these.
- Machines, other than portable machines, must be stable and secure in place. This is most effectively done by fastening to the floor, bench or similar fixture.

3.1 Suggested woodworking machinery safety checklists

3.1.1 Daily operational checks

- Are all fixed and interlocked guards in position and secure?
- Do self-adjusting (e.g. saw-blade) guards move freely and fully enclose the blade or other dangerous part?
- Does the adjustable part of the guard enclose all of the blade on return to the rest position?
- Do return springs on saw-blade guards and at end millers work effectively? (i.e. do they return adjustable or moveable guards to a position where the dangerous parts are fully enclosed?)
- Are the safety devices and clamps working correctly?
- Are two-hand/hold-to-run controls working correctly?
- Are circular saw blade guards set to no more than 12 mm above the height of the material being cut?
- Are push-sticks provided at circular saws?

3.1.2 Monthly maintenance checks

- Are all fixed guards held in place with fastenings that require a tool to undo them?
- Are all interlocking devices correctly aligned and securely attached to the guards?
- Does opening any interlocked guard immediately stop the dangerous parts it protects? Are the
- stopped dangerous parts incapable of being restarted with the guard still open?
- Do time-delay interlocks prevent access until rotation of dangerous parts has stopped?
- Do return springs on saw-blade guards and at end millers work effectively? (i.e. do they return adjustable or moveable guards to a position where the dangerous parts are fully enclosed?)
- Do hold-to-run controls at routers stop the cutters promptly (or if not are the tools guarded in the retracted position)?
- Do any emergency stops fitted prevent all continued movement of the machine? Does this prevent dangerous parts from operating until the machine is reset?"
- Is there any evidence of interlocks or low pressure settings being tampered with?

- Where applicable, is movement of dangerous parts prevented while either a test piece is between the electro-sensitive curtain or a weight is applied to a pressure-sensitive mat?
- Is the worktable (upon which a workpiece rests or over which it passes) smooth and free of any obstruction or damage that is likely to interrupt the continuous feeding of any workpiece to the tool?
- Do the mechanical feed systems (where used) track and run smoothly?
- Are the tools sufficiently sharp and not damaged in such a way to increase the likely risk of disintegration/break-up?
- Do toolholders and workpiece clamping systems (where fitted) move freely and continue to function safely?

4 INFORMATION, TRAINING AND COMPETENCY ASSESSMENT

4.1 Information and instructions for woodworking machinery

Schools/Units should ensure that information and instructions are provided on the use of woodworking machinery, including, where relevant:

- the speed, range, type and dimensions of tools suitable for the machine;
- any limitation on the cutting speeds of the machine, particular operations or size and material of any workpiece;
- procedures relating to the repair or replacement of any guard or protection device;
- the availability, suitability and use of any additional protection device or protection appliance;
- the correct procedures to be followed for setting and adjusting operations;
- safe methods of handling tools;
- correct procedures for start-up and shutdown, isolation and the discharge of any residual energy;
- procedures for cleaning saw blades by hand (which should be carried out with the machine isolated and with the blade stopped);
- procedures for adjusting any guard, tool, clamp or other part of a machine (which should not be carried out while any part of the machine is in motion, unless they can be done safely);
- procedures for the safe mounting of tools and cutters.

4.2 Training schemes for woodworking

Schools/Directorates/Units should ensure that training is provided for machine operators and those who assist in the machining process, for example in taking off, feeding and/or loading workpieces etc. It should also be provided for those who set, clean, or maintain woodworking machinery.

All training schemes should include the following elements:

- instruction in the safety skills and knowledge common to woodworking processes. This should include aspects of good housekeeping and awareness of the dangers such as 'taking off, 'dropping on' and 'kickback';

- practical instruction in the safe operation of the machine, including:
 - the dangers arising from the machine and any limitations as to its use;
 - the main causes of accidents and relevant safe working practices including the correct use of guards, protection devices, appliances and the use of the manual brake where fitted.
- on-the-job training under close supervision.

4.3 Refresher training

Schools/Directorates/Units should consider the need for refresher training for trained and experienced operators of woodworking machines. Skills decline if they are not used regularly. You should also pay particular attention to people who occasionally deputise for others - they may need more frequent refresher training than those who do the work regularly. This is also particularly relevant if:

- a worker has not operated a particular class of machine for some time;
- the method of control of the machine has changed;
- new equipment or technology is introduced;
- the system of work changes.

4.4 Assessing competency

A competent worker will be able to demonstrate:

- selection of the correct machine and tooling for the job, i.e. have the ability to say 'This is the wrong machine for the job, it can be done more safely on . . .';
- the purpose and adjustment of guards, protection devices and appliances;
- a knowledge of safe methods of working including appropriate selection of jigs, holders, push-sticks and similar protection appliances;
- a practical understanding of legal requirements, for example the need to provide and use guards, as well as their correct adjustment and positioning etc;
- a knowledge of the nature of wood and the hazards which this produces including kickback, snatching and ejection.

Appendix 1: Version control

VERSION	KEEPER	REVIEWED	APPROVED BY	APPROVAL DATE
X.X	H&S	Every four years	XXXXX	XX/XX/XX
X.X	H&S	Annually	XXXXX	XX/XX/XX