

WOODWORKING

WOODWORKING

(See also: [Machinery Safety](#)(49); [Noise](#)(56); [Carcinogens](#)(12); [COSHH](#)(19); [Manual Handling](#)(52); [Work Equipment](#)(91))

INTRODUCTION

Around one in seven machinery accidents involve a woodworking machine. A study carried out by the Health & Safety Executive's Woodworking National Interest Group revealed the following information concerning accidents at woodworking machines:-

- More than 50% occurred in small premises (28% with between 1 - 10 employees and 23% with 11-25 employees).
- The machines most implicated in accidents were circular saws (35%), planing machines (20%) and vertical spindle moulders (14%).
- Of those injured at woodworking machines 57% had received only 'on-the-job' training with no formalised instruction, 24% had completed one of the approved courses for under 18 year olds and 6% had served a craft apprenticeship. There is therefore a need to ensure the proper training of operators and that safe working methods are put into practice.
- Inadequate supervision was cited in a significant number of instances.
- There did not appear to be a disproportionate number of accidents in any particular age group.

The use of woodworking machinery is covered by the Provision and Use of Work Equipment Regulations 1998. There is also an Approved Code of Practice, "Safe Use of Woodworking Machinery. Provision and use of Work Equipment Regulations 1998, as applied to woodworking machinery." It gives practical advice on the safe use of woodworking machinery and covers the provision of information and training as well as aspects of guarding.

GENERAL PRECAUTIONS

- 1. Lighting** - at the machine and in adjacent areas; need to avoid glare and reflection.
- 2. Heating** - generally 16°C should be suitable unless heavy work is carried out, where 10°C - 16°C would suffice. Radiant heaters near to work areas may be used where general heating is impracticable.

Ref: 90

June 2001

ORIGINAL ISSUE DATE: October 1997	ISSUE No: 3	ISSUE DATE: June 2001
SECTION: Woodworking		PAGE No. 1 of 7

3. Workroom layout

- avoid cramped conditions (where operator may get knocked by others/materials being handled); ensure proper stacking of raw materials; keep working areas tidy.

4. Floors

- good and level condition; kept free from debris and loose material.

5. Cutters

- to be kept sharp so as to reduce chopping/snatching at the workpiece and also noise levels.

6. Working practices should include:

- Employees only allowed to use equipment that they have been trained and authorised to operate.
- Never leave a machine running unattended.
- Isolate the machine when setting up or making adjustments that cannot be done safely with the machine running.
- Clear machine of tools etc. after setting up and before operating.
- Clean and maintain machines regularly.

PRECAUTIONS AT PARTICULAR MACHINES**1. CIRCULAR SAWS:**

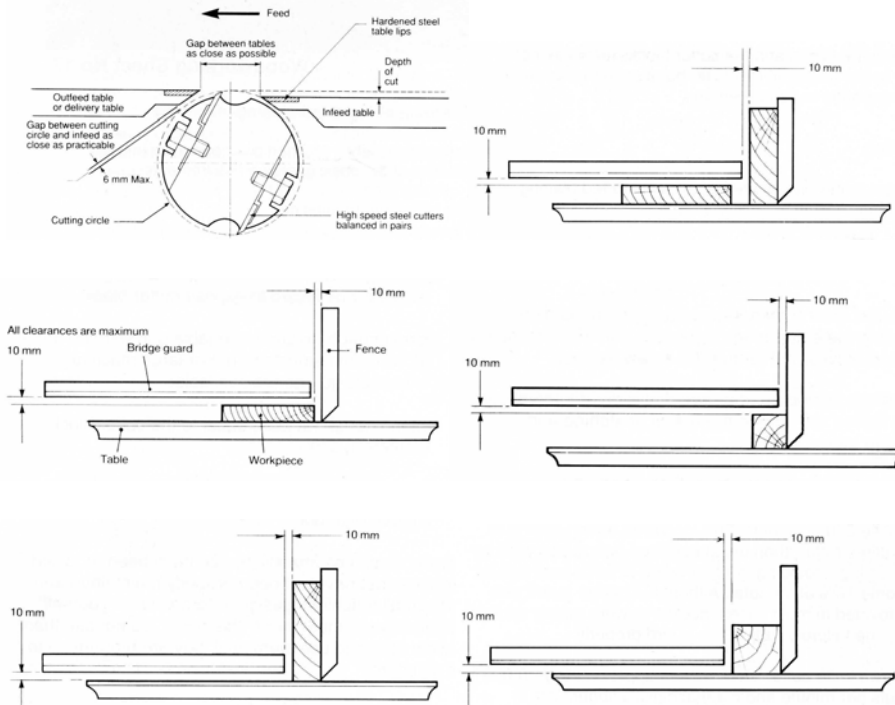
- guarding for crown and front of the saw and for the part of the saw below the bench.
- riving knife fitted at rear of the saw above the bench.
- push sticks for any cut less than 30cms in length or when feeding the last 30cms of a longer cut; also to remove cut pieces less than 15cms.
- use of jigs/holders where appropriate.
- if an assistant is employed at the back of the bench, there is a need to have a table extension to ensure distance of at least 1.2m between edge of saw and end of table.
- ripping and cross cutting - requires adequate work piece support, correct positioning of the hands, use of a push stick and appropriate adjustment of riving knife and saw guard.
- rebating and grooving using a circular saw is prohibited unless that part of the blade above the table is effectively guarded. This therefore necessitates alternative guards and fixtures to the top guard. **NB** Stopped grooving should never be done on a circular saw but on a vertical spindle moulder.

Ref: 90**June 2001**

ORIGINAL ISSUE DATE: October 1997	ISSUE No: 3	ISSUE DATE: June 2001
SECTION: Woodworking		PAGE No. 2 of 7

2. PLANING MACHINES

- Most accidents can be prevented by the proper use of a suitable bridge guard.
- The guard needs to be adjusted according to the operation being undertaken.



NB Approximately 80% of accidents on hand-fed surface planing machines occur during edging or flattening and arise mainly due to a failure to adjust the guard properly.

- Rebating can be done safely provided that the workpiece is properly supported, a tunnel guard is formed (e.g. by means of Shaw guards) and the table gap is guarded on both sides of the fence.

3. VERTICAL SPINDLE MOULDING MACHINES (VSMs)

- Accidents are caused by contact with the cutters, often as a result of cutters snatching and workpiece kickback. 42% of accidents on VSMs occurred on straight through work, 34% on stopped work and 15% on curved work. The straight through accidents were largely due to a failure to use false fences and pressure pads (Shaw guards) whilst the latter two types arose from failures to use backstops and jigs or workpiece holders.
- No single type of guard or other safety device can deal adequately with the variety of work which can be done on VSMs. Each job must be considered individually to provide the most effective protection.
- Comprehensive guidance is contained in the HSE

Ref: 90

June 2001

4. **NARROW BAND SAWING MACHINES**

- These machines have blades less than 50mm in width.
- Most accidents result from contact with the moving blade while presenting material to the blade or removing it from the table.
- Guarding is achieved by enclosure guards, and an adjustable guard to cover that portion of the blade between the table and the top pulley enclosure.
- Other considerations include the machine setting, tensioning, tracking, saw blade guides and thrust wheels.
- More extensive guidance is contained in the HSE Information Sheet (Woodworking Sheet No. 31) 'Safety in the Use of Narrow Band Saws.'

OTHER SAFETY CONSIDERATIONS

1. **NOISE:** Noise levels can vary from machine to machine, typically between 97 and 107 dB(A). When employee personal daily noise exposures exceed 90 dB(A) the employer is required to reduce noise exposure, so far as is reasonably practicable, by means other than the use of personal ear protection. (The Noise at Work Regulations 1989).

Means to reduce noise exposure may include:-

- following manufacturers'/suppliers' advice
- apply engineering control measures, e.g. quieter tooling, modified dust extraction, changed work patterns or the provision of a noise enclosure.
- effective ear protection, selected to protect against the noise levels and frequencies encountered.
- training of staff.
- provision of information and signs/notices.

2. **DUST**

- Wood dusts may cause dermatitis, adverse respiratory effects (including asthma) and, with certain hardwood dusts, the risk of nasal cancer. A maximum exposure limit (MEL) of 5mg/m³ (8 - hour TWA, total inhalable dust) has been set for hardwood dust. This means that employers should reduce their employees' exposure as far as is reasonable practicable, but must not in any case exceed the MEL. Although softwood dust has not yet been assigned an occupational exposure limit a guidance figure of 5mg/m³ (as for hardwood dusts) has been used.

Ref: 90

June 2001

ORIGINAL ISSUE DATE: October 1997	ISSUE No: 3	ISSUE DATE: June 2001
SECTION: Woodworking		PAGE No. 4 of 7

- Precautions include:-
 - (a) consider substitution by less harmful woods.
 - (b) effective dust extraction (See HSE Woodworking Information Sheets 23,24 and 25)
 - (c) provide suitable respiratory protective equipment where (b) above does not adequately control exposure. (See HSE Woodworking Information Sheet No. 14)
 - (d) provide suitable protective clothing
 - (e) ensure proper maintenance of extraction system and personal protective equipment (PPE)
 - (f) adequate training in use of extraction equipment and PPE.
 - (g) good personal hygiene and use of barrier creams.
 - (h) good housekeeping (avoid dry sweeping of dust)

3. **STACKING/HANDLING OF TIMBER AND BOARD**

- Ensure good road layout and construction
- Stacks to be on firm, level ground with substantial bearers
- Boards to be stacked flat ideally or using a 'pigeon hole' system for a smaller number of boards
- Observe correct manual handling techniques and, where necessary, carry out an assessment of manual handling operations.
- Observe safe practices in stacking and unstacking timber.

4. **TRAINING AND SUPERVISION**

Guidance on training and supervision requirements is given in "Safe use of woodworking machinery. Provision and Use of Work Equipment Regulations 1998 as applied to woodworking machinery" and booklet T06 06 "Supervision for Safety in Woodworking". Regulation 9 of the Provision and Use of Work Equipment Regulations 1998 requires that adequate training is provided for machine operators and those who assist in the machining process, for example in taking off and feeding workpieces. It is advisable that competent persons are authorised in writing. Authorisation should not be given unless the responsible person is satisfied that the operator is sufficiently trained and has demonstrated competence.

Ref: 90

June 2001

ORIGINAL ISSUE DATE: October 1997	ISSUE No: 3	ISSUE DATE: June 2001
SECTION: Woodworking		PAGE No. 5 of 7

CHECKLIST - WOODWORKING

- | | | | |
|----|--|-----|----|
| 1. | Do your premises meet acceptable 'environmental' standards with regard to heating, lighting, layout, floors, housekeeping etc? | YES | NO |
| 2. | Do you ensure and promote safe working practices in general? | YES | NO |
| 3. | Do you ensure that appropriate precautions are taken with woodworking machines, including:- circular saws, planing machines, vertical spindle moulders and narrow band saws? | YES | NO |
| 4. | Do you meet your obligations under the Noise at Work Regulations 1989? | YES | NO |
| 5. | Do you meet your obligations under COSHH 1999 with regard to wood dusts? | YES | NO |
| 6. | Do you ensure that timber and board are stored and handled safely? | YES | NO |
| 7. | Have you a system for ensuring and recording that all woodworking machinists are sufficiently trained and instructed? | YES | NO |

REFERENCES/FURTHER DETAILS

- *1. Booklet L22 - Work Equipment. Guidance on the Provision and Use of Work Equipment Regulations (PUWER)1998. (HSE) ISBN 0 - 11 - 886332 - 0
- *2. Safe use of woodworking machinery. Provision and Use of Work Equipment Regulations 1998 as applied to woodworking machinery [Approved Code of Practice & Guidance L114]
- *3. Booklet TOP 06 - Supervising for Safety in Woodworking (HSE)
- *4. HSE Woodworking Information Sheet No. 1 - Wood dust: hazards and precautions www.hse.gov.uk/pubns/wis1.pdf
- *5. No. 2 - Safe Stacking and handling of timber and board. www.hse.gov.uk/pubns/wis2.pdf
- *6. No. 4 - Noise reduction at band re-saws. www.hse.gov.uk/pubns/wis4.htm
- *7. No. 5 - Noise enclosure at band re-saws.

WOODWORKING

Ref: 90

June 2001

ORIGINAL ISSUE DATE: October 1997	ISSUE No: 3	ISSUE DATE: June 2001
SECTION: Woodworking		PAGE No. 6 of 7

- *8. No. 6 (rev.) - COSHH and the woodworking industries.
www.hse.gov.uk/pubns/wis6.pdf
- *9. No. 7 - Accidents at woodworking machines.
www.hse.gov.uk/pubns/wis7.pdf
- *10.No. 11 - Hardwood Dust Survey.
www.hse.gov.uk/pubns/wis11.pdf
- *11.No. 13 - Noise at woodworking machines.
www.hse.gov.uk/pubns/wis13.pdf
- *12.No. 14 - Selection of respiratory protective equipment suitable for use with wooddust.
www.hse.gov.uk/pubns/wis14.pdf
- *13.No. 15 - Safe working at woodworking machines.
www.hse.gov.uk/pubns/wis15.pdf
- *14.No. 16 - Circular saw benches – safe working practices.
www.hse.gov.uk/pubns/wis16.pdf
- *15.No. 17 - Safety in the use of hand-fed planing machines.
www.hse.gov.uk/pubns/wis17.pdf
- *16.No. 23 -26 - Local exhaust ventilation – varied.
www.hse.gov.uk/pubns/wis23.htm
- *17.No. 30 - Toxic woods. www.hse.gov.uk/pubns/wis30.pdf
- *18.No. 31 - Safety in the use of narrow band sawing machines.
www.hse.gov.uk/pubns/wis31.htm
- *19.No. 33 – Safe collection of woodwaste : prevention of fire and explosion. www.hse.gov.uk/pubns/wis33.htm
- *20.No. 34 – Health and Safety priorities for the woodworking industry. www.hse.gov.uk/pubns/wis34.pdf
- *21.No. 35 - Safe use of Power-operated cross-cut saws.
www.hse.gov.uk/pubns/wis35.pdf
- *22.No. 36 - Safe use of normally operated cross-cut saws.
www.hse.gov.uk/pubns/wis36.pdf
- *23.No. 37 - PUWER 98 - Selection of tooling for use with hand-fed woodworking machines.
<http://www.hse.gov.uk/pubns/wis37.pdf>
- *24.No. 38 - PUWER 98 – Retrofitting of breaking to woodworking machines. www.hse.gov.uk/pubns/wis38.pdf

-
- * Available to view by prior arrangement at Nuneaton and Bedworth Borough Council, Environmental Health Services, Council House, Coton Road, Nuneaton. CV11 5AA
 - ** Free copy available from Nuneaton and Bedworth Borough Council at the above address.

Ref: 90**June 2001**

ORIGINAL ISSUE DATE: October 1997	ISSUE No: 3	ISSUE DATE: June 2001
SECTION: Woodworking		PAGE No. 7 of 7