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|  | MRAT 086 | Wood saws; chop, cross-cut, mitre, radial arm | Applicable to: chop saws'; cross-cut saws; mitre saws; radial arm saws | See also: 071 |
| | Process(es) covered: | <i>Cross-cut (Mitre) and radial arm saw:</i> This type uses a circular blade mainly for cross-cutting although some radial arm saws claim the facility to rip timber along the grain. <i>Chop saws;</i> Cutting timber with a downward movement of the saw blade and motor. | | |

Control Measures

- Wear eye protection. Tie back long hair, remove or cover jewellery and cover loose clothing securely.
- The saw blade must be adequately guarded. Chop saws generally have a guard that encloses the whole of the blade, which is progressively revealed as the blade is lowered into the work. On radial arm saws the blade should be fitted with side guards that rise up when the saw is pulled across the work. Regularly check all these guards to ensure they are working correctly. Radial arm saws should retract so that the whole of the blade is behind the rear stop of the table. Remove cut timber only when the blade is fully retracted.
- Drive mechanisms must be fully enclosed and crown guards or nose guards fitted and used.
- Radial arm saws should not be used for ripping unless a correctly designed and fitted riving knife¹ and a 'featherboard' or metal fingers to hold boards onto the table are available.
- A suitable LEV system must be fitted and must always be used.
- Wear ear defenders or use other suitable controls when high noise levels could create problems ie noise levels of around 80dB. Ear defenders can create problems as the wearer will not be able to hear voices or alarms.
- All these saws are classes as 'high risk wood-working machines'. This means that 'young persons' (anyone under 18) **should not use** these saws, unsupervised **unless** they have the necessary maturity and competence. No students in schools or sixth form colleges should use a chop saw, mitre saw or radial arm saw; use by students is restricted to students in colleges of further education who are following a specific course in the use of woodworking machines. During training, they may use the machines but must be adequately supervised. After training, students may use one of these types of sawing machine when they have been formally assessed and the assessment shows they are competent and they are under the direct supervision of Experienced staff (Direct supervision is defined as the supervisor standing immediately alongside the user and giving their full attention to the user.)
- No **child** (ie one of statutory school age) would be expected to have sufficient maturity and competence to use any of the saws in this group.

Immediate Remedial Measures:

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| Dust is in the eye | Irrigate immediately with water for several minutes, telling the casualty to hold eyelids apart. |
| A particle could be in the eye | Tell the casualty not to rub the eye, sit him/her down facing the light with the head leaning back. Stand behind the casualty to look for the particle in the eye. If it is over the iris or pupil, DO NOT ATTEMPT TO MOVE IT . Tell the casualty to hold a gauze pad over the eye and close the other one. Send for an ambulance to take the casualty to hospital. If the particle is visible over the white of the eye, the corner of a moistened handkerchief can be used to remove it. Call 111 and seek medical attention. |
| Injury to the eye | If there is any sign of injury to the eye, tell the casualty to hold a gauze pad over the eye and close the other one. Take the casualty to hospital as quickly as possible. |
| Severe cuts | Apply pressure on or as close to the cut as possible, using fingers or a pad of cloth. Leave any embedded large bodies and press round them. Lower the casualty to the floor and raise the wound as high as possible. Protect yourself from contamination by blood. |

¹ See HSE *Woodworking Information Sheets* Nos 16, 35 and 36.

Risk Assessment

Hazards:

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| Trapping | Fingers or material can become trapped between the blade and a fence or guard. |
| Flying objects | Workpieces can be thrown violently if not held correctly, as a result of 'kickback' or if the machine starts unexpectedly. |
| User injury | Human contact with moving or rotating parts can cause cuts or abrasions and particles from the sawing process can enter the eye. On some radial arm saws, the blade can move forward inadvertently particularly when removing cut timber from the saw table. |
| Entanglement | Long hair, dangling jewellery or loose clothing can become entangled with rotating parts, dragging the user onto them. |
| Dust | See 071 for the hazards of wood dusts. |
| Noise | Some machines can create high levels of noise. |

Risks:

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| Trapping | Trapping generally presents a low risk on this type of machine. |
| Flying objects | 'Kickback' can occur as a result of missing teeth or from the nature of the material being cut. The risk is high with radial arm saws set to rip. |
| User injury | All pulleys, drive belts and saw blades present a high risk unless adequately guarded. All machine saws generate flying particles. The risk of harm when removing timber can be reduced by careful instruction. |
| Entanglement | Entanglement is likely to occur if rotating parts are exposed. |
| Dust | Dust must be adequately controlled. |
| Noise | Continuous exposure to loud machine noise can create hearing problems. |

Further Information:

- The blades of all of the saws in this group must come to rest within ten seconds of the power being turned off. Where a machine does not do this, it must be fitted with a braking device².
- When sawing wood and particle boards, the machines should be fitted with dust-collection equipment which is powered when the machine is started. In the event of a breakdown of the dust collector, this unit must not be by-passed electrically to allow continued use of the saw; it must be repaired. For details of dust control systems see CLEAPSS guide L225.
- The work table of a radial arm saw has a back stop or rest to support the timber being cut. This should be positioned so that the whole of the saw blade is behind the front edge of the back stop. Radial arm saws should be fitted with a spring return or similar device to return the blade to its safe position. The back stop will often become damaged due to close saw cuts through it and the work table will become scarred with shallow saw cuts in time. Both these items should be replaced when necessary.
- Chop saws are often supplied with a small bag to collect the dust. These are usually inadequate for the purpose and alternative arrangements to control the dust are required.

² See HSE *Woodworking Information Sheet* No 38.