

Health and Safety Bulletin

Ref: 2016/001

September 2016

Design and Technology Machinery Guarding

The Health and Safety Executive (HSE) recently investigated an accident in a Northumberland High School involving pupil use of a scroll saw. Although the injury was not serious, the inspector expressed concern that some guarding was either missing or not correctly adjusted. The defects were found to be a material breach of the Provision and Use of Work Equipment Regulations 1998. Although further enforcement action is unlikely, the school has received a Notification of Contravention from the HSE and fees for intervention will be applied. Under financial rules, the fees will be charged to the school's delegated budget.

What action needs to be taken?

All schools must have arrangements in place to ensure all machinery, and associated equipment such as dust extraction, are regularly inspected by a competent person. The Property Services statutory testing SLA for Machine Safety offers a comprehensive inspection service. Those schools who are not in the SLA should procure an alternative service from a reputable specialist contractor (section E3 of the School's Health and Safety Manual provides further information on issues to consider when appointing a contractor). Design and Technology departments must also have adequate in-house arrangements in place to ensure the safe condition of machinery including:

- A regular inspection by D&T staff; reasonable records of this should be kept, including details of any defects found and the actions taken. Useful checklists can be found on the CLEAPSS website in document [G79](#). **It is strongly recommended that schools sign up to the CLEAPSS SLA via Children's Services if they have not already done so.**
- Where machinery is found to be defective, it should be isolated or made safe and labelled as not being in use.
- All D&T teachers should ensure that machinery is safe to use at the beginning of each lesson.
- All guarding must be set correctly for the activity in progress. In many instances it will be necessary to adjust guards during the lesson to suit the material being machined.
- Ensure the manufacturer's instruction manual is available for each piece of machinery.

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In this case, the machine in question was a scrollsaw. There are several models of such machines in Northumberland schools, made by manufacturers including Hegner, Axminster and New tool and there are various associated guarding designs.

All machines should have some form of hold-down foot, sometimes known as an anti kickback foot, above the machine table. This guard should always be raised or lowered to suit the thickness of the material being cut, thus preventing finger access to the blade. An additional perspex or wire guard may also be fitted in front of the blade. Below the table there will usually be a plastic guard surrounding the lower section of the blade. This is removable to allow blade changing but **must** be in place when the machine is operated. In all cases the guarding should be in place as recommended in the manufacturer's instructions.

Photographs of several machines are provided below showing examples of typical guards.



There is a replaceable teflon bung on the underside of the hold-down foot which is designed to press down on the top of the material while allowing free movement while cutting. The wire guard shown in front of the blade is sometimes replaced with a perspex guard on later models



This picture shows the foot in a raised position which is beyond the thickness of any wood product which would be cut on this machine. This is the type of machine which was used at the time of the accident in question.

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This machine has a spring steel 'sewing machine foot'. It holds down the material and also prevents finger access. The gaps between the fingers of the guard allow the operator to see the cut line.

The hold down foot should not be removed during normal cutting operations. Neither should it be set too high or turned through 180 degrees to improve visibility for complex cutting

Further Information

Please see the links below for further information:

<http://www.axminster.co.uk/machinery/saws/scroll-saws>

<http://www.hegner.co.uk/products/machine-tools/scrollsaws.html>

Property Services can offer further assistance in relation to the SLA for the inspection and maintenance of D&T machinery. Tel: 01670 624843.

Those schools/sites which are not in the Property Services Service Level Agreement (SLA) should make their own arrangements in relation to inspection and maintenance requirements.

If you have any further queries please contact your Health and Safety Advisor or any other member of the NCC Corporate Health and Safety Team on 01670 623854.