



Blade breaks loose in chipper



INCIDENT

A steel blade broke loose in a chipper, penetrated the flywheel housing and was ejected at speed. The blade weighed 1.5 kg and could have inflicted fatal injury. Goggles worn by the operator saved her eyes from probable blinding by steel splinters thrown out of the feed chute.

CIRCUMSTANCES

A twin cylinder petrol engine powers this type of chipper (and also shredders/mulchers). Typically the chipper is permanently mounted on its own trailer and towed to the worksite. The petrol engine turns a flywheel to which knives are bolted. As they turn, the flywheel-mounted knives pass close to a fixed bed knife or anvil. The shearing action that occurs cuts tree branches, fed into the chute on the left, into chips. Chips exit by the high curved chute on the right. Security of the bed knife depends on mounting a clean knife on a clean support, then correct tightening and security of bolts and nuts. If the bolts loosen there is no positive stop that would prevent a loose bed knife from moving into the path of the cutting blades.

INVESTIGATION

The mostly likely cause of damage is either entry of a substantial foreign object, or movement of the bed knife. We can speculate on the sequence of events before the bed knife came loose, but the only certainty is that a loose bed knife could slip into the path of another cutter blade.

GUIDANCE

One hire company has wired the anvil bolts of all their two cylinder chippers to prevent a bed knife from slipping into the path of another blade. It provides a practical solution and also a further confirmation that the bolts have been tightened as per the manufacturer's requirements. It is also likely to indicate whether someone has tampered with the bolts while the machine has been on hire. A staff member in the hire shop checks the wire before the machine is hired out. Also, the operator must always wear eye protection.

WHICH INDUSTRIES/SECTORS OR MATTERS WILL THIS INFORMATION BE RELEVANT TO?

Forestry, Arboriculture, Agriculture, Horticulture, Landscape gardening.

Note: This material has been prepared using the best information available to the Department of Labour at the time of publication. Information may change over time and it may be necessary for you to obtain an update. This material is also only intended to provide general advice and does not constitute legal advice. You should make your own judgement about action you may need to take to ensure you have complied with your workplace health and safety obligations under the law.

