

## **Lathe Chuck Guard Installation Information for general guidance only.**

In order to comply with current Australian Standards concerning safety of machinery and in particular regarding metalworking lathes, it is generally considered by the various State Government Departments responsible for workplace safety and OH&S professionals that a lathe chuck guard should be fitted to all lathes, preferably with a micro switch interlocked into the machine control circuit to prevent the lathe being used while the chuck guard is open.

During the few years, two lathe operators in Victoria have lost their lives on lathes as a result of being drawn into the machine by becoming entangled with the chuck. There has also been another very serious injury resulting in the loss of a limb in Victoria as well as another death in South Australia some time ago. As all States legislation calls for a formal "Risk Assessment" following installation of a chuck guard, just as is required if any modifications to the machine or its use are made, knowing the foregoing history and depending upon the power of the lathe spindle motor, it may be that your level of risk is still considered "high". The person responsible for conducting the Risk Assessment would need to determine what sized spindle motor warrants a High Risk determination but certainly, in the opinion of CPR SafeInd, a High Risk determination is mandatory for lathes with a motor size of 7.5Kw or greater but this in no way limits "High Risk" only to machines of this size or greater.

In compliance with the relevant Australian Standard AS4024.1 - 2006, Safety of machinery, a "High" level of risk automatically calls for what is described as a Category 4 safety control circuit. A Category 4 safety circuit is technically described in the Standard but in effect it means that the safety control circuit needs to be duplicated and any switches used in the machines safety control circuit such as Emergency Stops, or on lathes, a safety micro switch fitted to the chuck guard, need to have duplication of their contacts in the switches and they also need to be monitored. The principle of the monitoring is that should one of the two contacts in a switch not make or break equally with its companion contact within strictly controlled micro time limits, the monitoring relay turns off the machine in a "fail to safety" mode.

It is likely that an additional main control contactor will also need to be fitted for a Category 4 control circuit. We are not electrically qualified and this information is given in good faith for guidance purposes only and further advice should be sought from a qualified electrician who is familiar with the relevant Australian Standards and is in particular familiar with industrial machinery safety requirements.

**Note:** We can supply either the special monitor safety relays or a packaged control box for Cat4 compliance consisting of power supply, safety relay, two contactors all mounted in a suitable lidded enclosure with connection strip & instructions if these items are required.