

# Quick Hitches

Technical Bulletin

Allianz Engineering Inspection Services Ltd



A Quick Hitch is a latching device, usually fitted to the dipper boom of an excavator that enables rapid interchange of buckets and certain attachments. They can be of a manual, semi-automatic or fully automatic type.

There have been a number of reported incidents that have resulted in injury and fatality involving Quick Hitches. Construction workers assisting in the removal and/or attachment of buckets have been injured when the excavator operator has detached the bucket which then dropped on the worker.

The HSE Sector Information Minute (SIM 02/2007/01) describes the use of Quick Hitches and the most common modes of failure which primarily revolve around the lack of engagement, by operatives, of the safety pin on semi-automatic units. The HSE believe that where the safety pin is not fitted to the quick hitch then this warrants the serving of a Prohibition Notice. The apparent lack of awareness by operators of the necessity for engagement along with the frequency of both incident and fatality does highlight the severity of such issues and supports harsh defect categorisation of such occurrences.

It is important that quick hitches are examined and established to be in a sound mechanical and structural condition. Pins and locking bars should be fitted to the assembly, free to engage and capable of being retained.

A further issue is the wear on the jaws of the assembly which retain the bucket or attachment. Where these are excessively worn then the jaws will not retain the bucket or attachment securely. Certain manufacturers have gauges which can be used to quantify wear.

Fully automatic units are actuated by the excavator operator from the cab via a switch. However, accidental and inadvertent operation of this switch has occurred resulting in the detachment of buckets and attachments. This hazard could be avoided by suitably positioning and/or shrouding such switches.

Although primarily devised for the rapid detachment of buckets and attachments, Quick Hitches can be used for lifting and lowering of loads where a suitable lifting point is fitted. The HSE has therefore designated such Quick Hitches as being lifting accessories under the Lifting Operations and Lifting Equipment Regulations 1998. However, it should be remembered that the overall stability of the machine to which the Quick Hitch is fitted should not be compromised and hence the Safe Working Load of the machine should be considered as being the limiting capacity and be verified by the manufacturer or their chosen agent, prior to the undertaking of lifting activities.

The safe use of any given Quick Hitch is the preserve of the end user. Allianz Engineering can assist clients by examining such items and advising on aspects adversely affecting continued safe use.