

Safe Use of the Semi-Automatic Quick Hitch System on Excavators

Introduction

The main risk arising from the use of quick-hitch devices fitted to excavators is that the attachment, such as an excavating bucket, becomes disconnected from the quick-hitch and as a result falls from the excavator. This can inflict serious or fatal injuries to workers who are working in close proximity to the excavator. With a semi-automatic quick-hitch system the excavator attachment is retained with a hydraulically operated latch, **but a safety pin must still be manually fitted as additional security to secure the retaining mechanism**, thus preventing it from inadvertently opening and causing the attachment to disconnect from the excavator. The primary reason for attachments to become disconnected from the quick-hitch is the safety pin not being fitted.

Reasons why the safety pin is not fitted

- The bucket is changed frequently and the operator may on occasion fail to fit the safety pin in order to reduce the changeover time.
- The excavator is working in poor conditions (e.g. mud, heavy rain) and the operator is reluctant to leave the cab to fit the safety pin.
- The operator may not have been adequately trained in the use of quick-hitches and is unaware of the need to insert the safety pin.
- A pin may not be available, having been lost or misplaced.
- Some hitches have 2 or 3 holes for the safety pin (in order to pick up different bucket sizes) and the pin may have been inserted into the incorrect hole by mistake.

Actions

- Where there are loose pins or clips which may be easily lost, they should be retained or attached to the quick hitch.
- The area around safety pin insertion holes can be painted to make it clear to operators and site supervision that the pin should be inserted here.
- Some duty holders have modified the safety pin so that it cannot be fully removed from the hitch. (Duty holders should check with the manufacturer before modifying the hitch).
- Safe systems of work must ensure that ground workers are not exposed to risk by working below the bucket, for example, in excavations

Operator responsibility

The excavator operator must take ultimate responsibility for the safe use of the quick-hitch equipment. This responsibility extends to changing quick hitch attachments and making sure that the safety pin is fitted after each change.

Only trained and competent personnel who are authorised should operate an excavator.

1. Safety Pin Removed to allow attachment of Bucket or Rock Breaker



2. Quick Release Hitch being placed on the attachment



3. Ram Pushes a set of Jaws around the Pin of the Attachment



4. Safety Pin is placed into position, this stops the Jaws in No. 3 from being accidentally being released



5. Safety Pin in Position with Split Key to keep the Safety Pin in Place

