

Health & Safety

Tool box talk for ‘Double Locking’ Fully – automatic Quick hitches

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Reason for the Tool Box Talk

- A significant number of injuries and fatalities are caused through the incorrect use of excavator couplers and their relevant attachments.
- It is an opportunity to discuss the various models available and the safety features associated with them.
- A chance to discuss the Do's and Don'ts of using 'Double Locking' Fully-automatic quick hitches.
- To understand the statutory requirements surrounding the use of quick hitches and associated lifting equipment.

Most common occurrences of injury and their reasons:

- Detachment of the Quick Hitch whilst in use and falling onto a site worker.
- A site worker being struck by an attachment during the connection or disconnection process.
- An operative receiving injury through impact from a tool/pin/shard during the connection or disconnection process.

Why?

- Lack of training / familiarity with the equipment.
- The Quick Hitch incorrectly secured (without a safety pin) when there is hydraulic failure.
- Operatives entering the exclusion zone beneath the excavator arm, whilst in use.
- Insufficient care and attention during the attachment and detachment process.
- Using defective tools or equipment.
- The attachment being misused or overloaded.

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What is different about 'Double Locking' Fully-automatic quick hitches?

- There is **No** safety pin required for the coupler, so it can not be accidentally left out.
- As there is **No** safety pin, the risks associated with fitting and removal don't exist as tools are not required.
- During the connection and disconnection process operatives do not need to enter the exclusion area.
- In the event of a hydraulic failure, the connection remains safe.
- Safety locks are clearly visible from the driver's cabin.
- New generation Fully-automatic Quick Hitches have a '**Double Lock**' feature to increase the security of the connection even further.
- There are audible and visible safety features which alert the driver if the connector is not fully secure.

Who are the most common manufacturers of Quick Hitches used by BBUSL?

The most used couplers are manufactured by:

- Millar
- Hill
- Harford
- Geith

How to connect an attachment;

- Ensure there is a safe exclusion zone around the excavator prior to commencement.
- Check the Quick Hitch coupler is in good repair and has been appropriately greased in line with manufacturer's instructions.
- Release the Quick Hitch mechanism by activating the release switch (ON) and fully crowd and pressurise the system to release the locking mechanism. (Audible and visible signs of release should be visible within the cab)
- Lower the Quick Hitch front 'C' shaped jaw down towards the attachment's front pivot pin. (Nearest the vehicle)

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- Extend the crowd cylinder down towards the front pivot pin, and engage and lift the attachment at the same time.
- Continue extending the crowd cylinder so the front pivot pin is firmly seated in the 'C' shaped jaw and the rear pivot pin is seated onto the rear locking surface.
- Engage the Quick Hitch hydraulic system, and secure the attachment using the latch mechanism. (By switching the release switch to (OFF) and pressurising the system – this will engage the rear jaw)
- Extend the dipper arm and conduct a shake test.
- Bring the dipper to rest on the ground and conduct a physical check of the front and rear jaws of the Quick Hitch coupler.
- If fully engaged the equipment is ready to use.

(To remove the attachment, reverse the above procedures).

Legal Requirements:

- The Health and Safety at Work etc. Act 1974
- The Provision and Use of Work Equipment Regulation 1998.
- The Lifting Operations and Lifting Equipment Regulations 1998
- British Standards BS EN 474 – 1

(Failure to comply with legislation may result in criminal prosecution, a significant fine and/or a jail sentence).

Check back:

- What are the most common incidents, and why do they occur?
- What is different about 'Double Locking' Fully-automatic Quick Hitches?
- How do you attach/detach a Fully Automatic Quick Hitch to an attachment?
- Any other questions?