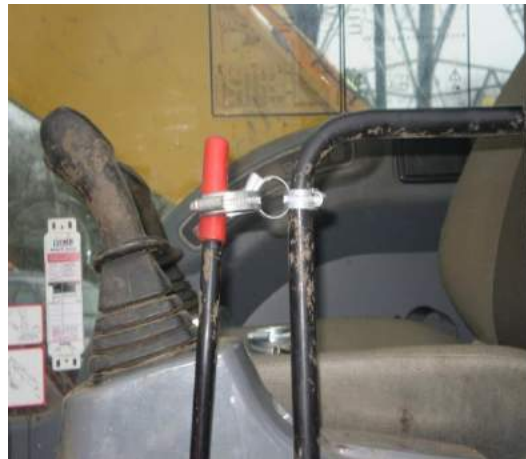


JCB Servo Isolator Enhancement “2 Go” System





The Investigation - Root Causes

Design - The design of the DMH within the excavator was such that it is possible to operate by accidental movement.

Control - Plant hire companies confirmed that they had retrofitted a number of similar DMH systems with a secondary isolation system (jubilee clip) to guard against accidental operation of the DMH.



Communication

Two previous external industry alerts involving accidental DMH activation had been issued within NLGA.

Wider Industry Incidents

One of our ground workers was seriously injured on Saturday 5th February 2011 after being struck by an excavator bucket.

The accident happened when the machine bucket was unintentionally set moving by the operator's coat snagging on the dipper arm lever, as he disengaged the 'dead mans handle' resulting in the bucket moving suddenly and quickly towards the cab.

The injured person was standing inside the working radius of the excavator and was struck and trapped by his leg causing severe injuries. He was taken to hospital for treatment, where he currently remains in intensive care.



Ground Worker struck here when the bucket moved suddenly towards the cab

SAFE CONDITION



OPERATING MODE



MOVEMENT OF THE OPERATOR



The pictures were taken during the accident investigation, the operator is simulating the position, therefore the interlock was in safe mode.

Industry DMH Review



2 Stage - VOLVO DMH System



1 Stage - CAT DMH System



1 Stage - DOOSEN DMH System

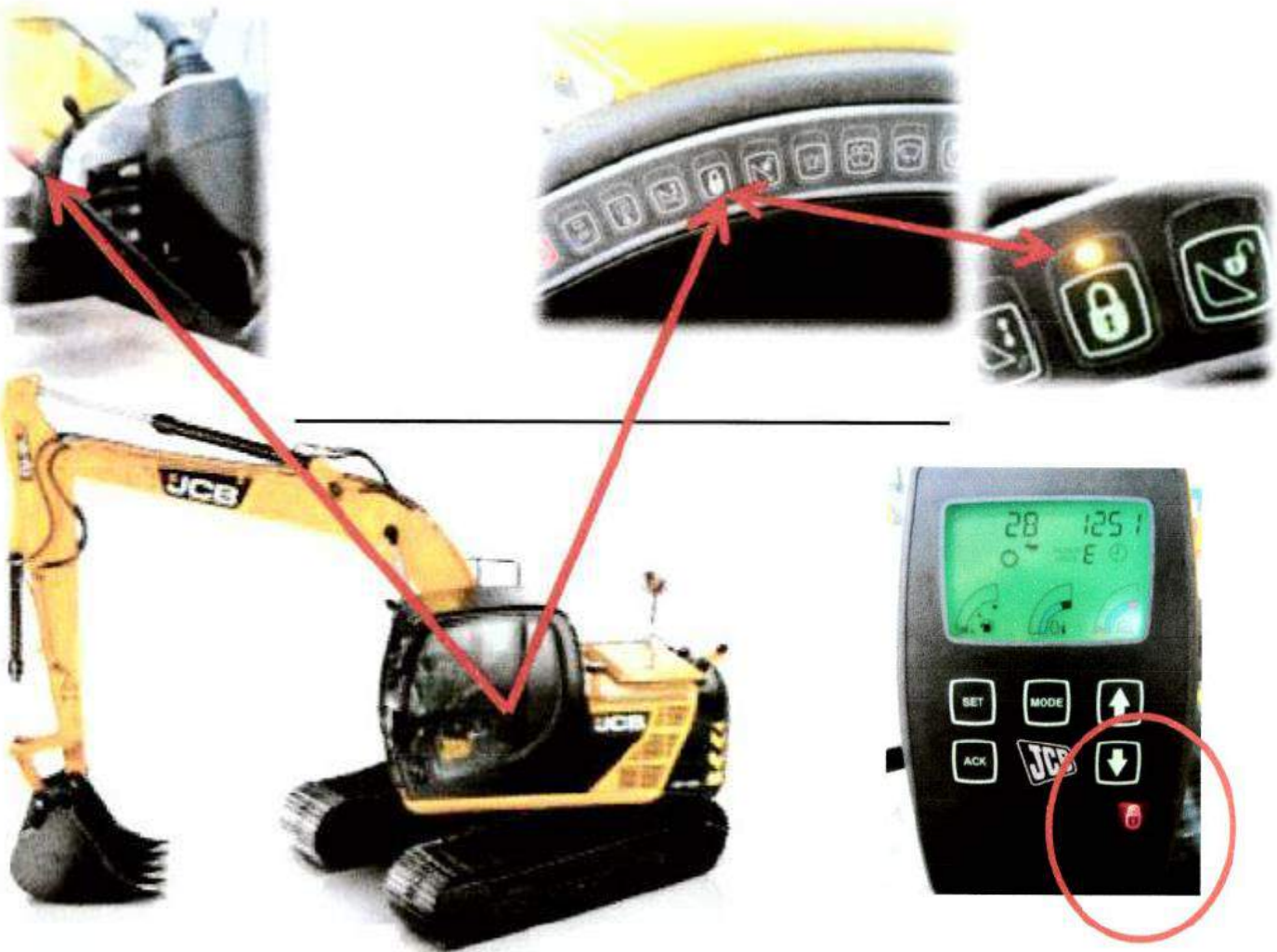
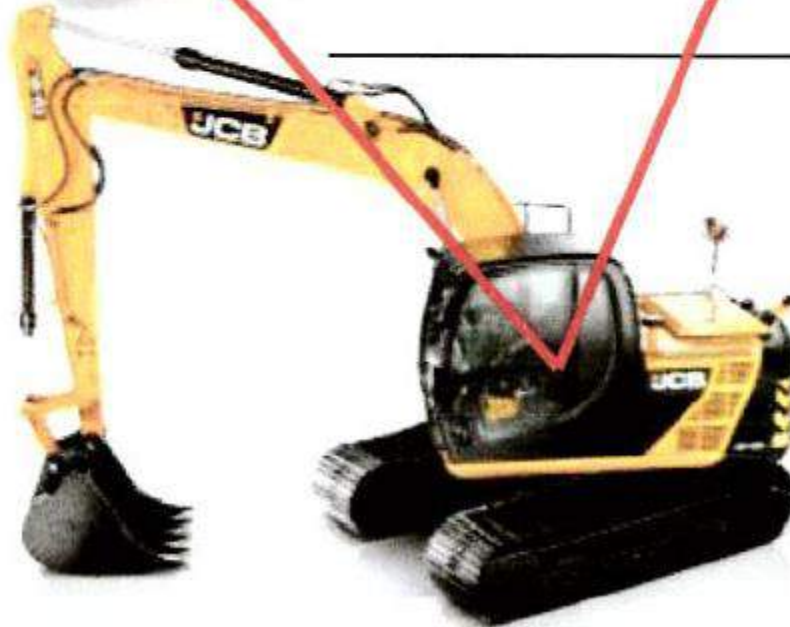
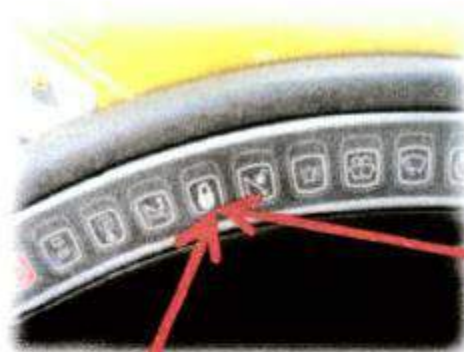


1 Stage - HITACHI DMH System



1 Stage - TAKEUCHI DMH System

JCB "2 Go" Launch – September '12 - DVD



“2 Go” - Summary

- Start inhibit so as that machine can not be started with hydraulics in a live state.
 - Isolation lever has to be in the up right position, which will isolate the hydraulic system allowing for a safe start of machine.
- Simple 2 stage process for activation
 - Eliminates accidental engagement.
- Can be fitted & retrofitted to entire range of machines
 - 800 Series (Mini Excavators): Upgrade using additional switch, relay and link harness.
 - JS Tracked Excavators (Above 8T): Upgrade via software update on all Auto Series machines

Actions

NLGA action – 5T and above will only use the 2 go system

Skanska UK

Should we lobby industry to enhance their machine hydraulic controls to require a two stage activation process in two different zones of the excavator cab?

Should we define a Skanska UK policy for two stage activation?