

RR1084 – Forklift truck reverse sensor systems assessment

Counterbalance forklift trucks (FLT) are widely used in a variety of industry sectors for material handling. Incidents involving FLT are typically vehicle/pedestrian, vehicle/vehicle, or vehicle/structure collisions. Of these, vehicle/pedestrian incidents have the most potential for reportable injury and around 500 incidents a year involving moving FLT are reported to HSE.

Measures to improve or augment the operator's field of vision can include: mirrors and CCTV systems (which rely on the operator's observations) and sensor systems (including ultrasonic, radar, and Radio Frequency Identification (RFID)), similar to those commonly fitted to passenger vehicles; or simply improving the driver's operating position.

This report describes work undertaken to assess the active sensor systems (ultrasonic and radar) commonly used to reduce the risk of collisions. The systems tested appeared to provide a useful function in mitigating the risk of collision by stopping the truck when an obstruction was detected. However, certain configurations produced blind spots in the detection zones that could allow a pedestrian to approach the truck without being detected. The sensors also needed to be mounted to give an appropriate detection zone without producing a large number of false detections.

Companies should establish the conditions under which they will be operating an FLT and select a system that best fits their particular operating environment. Consideration should be given in the first instance to the practicability of removing pedestrians from the working area, although it is acknowledged that this is not always possible.

Assistance in the use of Adobe Acrobat PDF files is available on our [FAQs](#) page.

RR1083 – Risks to respiratory health in the grain industry

A detailed literature search was carried out to summarise evidence about respiratory disease caused by exposure to grain dust. Long term epidemiological studies examining the risk for respiratory disease in grain workers were undertaken in Canada and the USA from the 1970s to the late 1990s. Smaller studies were undertaken in the UK and Europe but mostly focussed on respiratory disease in arable and livestock farmers.

The conclusion of this review is that the damaging effects of grain dust on the respiratory tract are accumulative and occur at high concentrations of exposure. Acute responses also occur and include declines in lung function as well as irritation and inflammation of the airways. There is less evidence that grain dust exposure causes occupational asthma despite the dusts containing allergens. This may be due to a 'healthy worker' effect with those already having, or developing, asthma leaving employment earlier than others. There is stronger evidence that the long term effects of exposure include emphysema, chronic obstructive pulmonary disease and interstitial fibrosis of the lung. The risk of developing extrinsic allergic alveolitis has reduced through preventing damp conditions in stored grain.

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[Unregistered gas fitter fined](#)

An unregistered gas fitter from Farnborough has been prosecuted for carrying out illegal gas work which was found to be unsafe.

Basingstoke Magistrates' court heard how Mr Leask, who also trades as Eldan Plumbing, had assured the homeowner that he was Gas Safe Registered. When he was unable to supply the gas safe certificate months after installing the boiler, the homeowner contacted Gas Safe, who confirmed Mr Leask was not gas safe registered. When inspected by the Gas Safe Register the boiler was found to be 'at risk', which indicates a risk to life or property.

Mr Leask pleaded guilty to breaching Regulation 3(3) of the Gas Safety (Installation and Use) Regulations 1998, for carrying out gas work without being gas safe registered and Regulation 3(7) for falsely pretending to be gas safe registered.

He was fined £1230 and ordered to pay costs of £350.

Notes to editors:

1. The Health and Safety Executive (HSE) is Britain's national regulator for workplace health and safety. It aims to reduce work-related death, injury and ill health. It does so through research, information and advice, promoting training; new or revised regulations and codes of practice, and working with local authority partners by inspection, investigation and enforcement. hse.gov.uk
2. More about the legislation referred to in this case can be found at: legislation.gov.uk/
3. HSE news releases are available at <http://press.hse.gov.uk>

Journalists should approach HSE press office with any queries on regional press releases.

University of Northumbria fined after botched experiment nearly kills students

The University of Northumbria at Newcastle has been fined after two students fell seriously ill following a laboratory experiment.

Newcastle Crown Court heard how students were learning about the effects of caffeine as part of a sports experiment. Part of the course included a practical exercise where volunteer students would take quantities of caffeine to demonstrate the impact.

Two of the volunteer students drank a solution with 100 times the amount that should have been taken as part of the experiment. They immediately suffered from dizziness, blurred vision, vomiting, shaking and rapid heartbeat. They were rushed to hospital where their conditions were considered life threatening. Dialysis was required to rid their bodies of the excessive levels of caffeine.

An investigation by the Health and Safety Executive found that the protocols set out for the experiment were not followed. The instructions were to use 200mg tablets but as they were not available the students were provided with caffeine in a powdered form. This created a situation where the students miscalculated the amount of powder to use and overdosed the two volunteers.

University of Northumbria pleaded guilty to breaching Section 3 (1) of the Health and Safety at Work etc. Act 1974 and were fined £400,000 and ordered to pay costs of £26,468.22.

HSE inspector Cain Mitchell said: "Procedures where students are given supplements to assess their effect on the body need to be stringent and subject to very careful control. Caffeine is most popularly known as a constituent of coffee but it can be very dangerous and life threatening where pure caffeine powder is consumed.

"The University completely failed to control the risks during these experiments and two young students were made seriously ill which resulted in intensive care treatment for a number of nights. In other reported cases people have died after taking doses which were less than those administered to these two students.

"All organisations who engage in experiments where people are given chemical

substances should ensure that the risks are fully identified and strict procedures are devised and followed to ensure that the experiments can be undertaken safely.”

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[Three construction companies fined after worker fall](#)

Three companies from Essex have been fined after a worker fell over seven meters through a fragile roof he was replacing.

Chelmsford Crown Court heard how Rafal Myslim was standing on the fragile roof at Dengie Crops Ltd in Asheldem, when the asbestos sheeting gave way and he fell 7.5m onto a concrete floor, hitting a number of pipes within the building on the way down. There was no safety netting or other protective equipment to prevent him from falling and he suffered a hematoma on the brain.

An investigation by the Health and Safety Executive found three companies at fault for the fall. Dengie Crops Ltd contracted Ernest Doe & Sons Ltd, who are an agricultural machinery supplier, to help the company replace their roof . Ernest Doe & Sons Ltd did not have the appropriate experience and subcontracted the work to Balsham (Buildings) Ltd who worked out how the roof replacement should take place. Balsham then subcontracted the actual replacement of the roof to Strong Clad Ltd.

Ernest Doe & Sons Ltd were unable to act effectively in their role as principal contractor because they had no experience of working in construction. They could not effectively oversee Balsham (Buildings) Ltd plans that had highlighted the risk of a fall. None of the parties involved put in place safety measures for 40% of the roof that did not have netting

below. They relied too heavily on the verbal briefings to workers reminding them of where the netting was rather than putting in place effective safety measures for the whole roof.

Ernest Doe & sons Ltd, of Ulting, Essex, pleaded guilty to breaching Regulation 22 of the Construction (Design and Management) Regulations 2007. They were fined £360,000 and ordered to pay costs of £10,000


Balsham (Buildings) Ltd, of Balsham, Cambridge, pleaded guilty to breaching 4(1)(a) and 4(1)(c) of the Work at Height Regulation 2005. They were fined £45,000 and ordered to pay costs of £7,000

Strong Clad Ltd, of Castle Hedingham, Essex, pleaded guilty to breaching 4(1)(a) and 4(1)(c) of the Work at Height Regulation 2005. They were fined £7,000 and ordered to pay costs of £3,000

HSE inspector Adam Hills said: "The dangers of working on fragile roofs are well documented. Every year too many people are killed or seriously injured due to falls from height while carrying out this work.

"Work at height requires adequate planning, organisation and communication between all parties. This incident was entirely preventable and Mr Myslim is lucky to be alive."

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