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SALVO: A SIMPLE SYSTEM TO PREVENT DRIVE-AWAYS

In this article, Tim Whelan, Commercial Director with industrial safety specialist Castell, examines a common danger threatening fork lift truck drivers during the loading / unloading of articulated lorries, and details his company's proposed solution to the problem.

Introduction

A report recently published by the Health and Safety Executive (HSE) has highlighted the many potential dangers surrounding fork lift truck use. "Safety of Industrial Lift Trucks" states that, between April 1997 and March 2001, HSE inspectors investigated 1204 fork lift-related accidents in the UK, of which 53 were fatal. These figures equate to an average of one incident every working day, and one death every four weeks.

Almost 10% of these accidents occurred when fork lifts were involved in loading or unloading operations, often when lorries or trailers prematurely drove away from their designated loading bay and created a gap into which the fork lift then fell. Such accidents, commonly referred to within the logistics and haulage industries as "drive-aways", are typically very serious, and often fatal. For example, a Scottish brewery was fined £10,000 after an employee was killed when his vehicle overturned while unloading kegs from a lorry. The fork lift became unstable when the lorry moved without warning, after a request from another driver.

Product Development

In an effort to prevent such disastrous misunderstandings, one of Castell's clients approached the company last year with a view to developing a completely new type of safety product. The client was familiar with Castell's traditional interlocking systems, having installed them on several of its cold storage sites, and felt that similar technology could be used to force lorry and fork lift drivers to consistently follow a safe loading / unloading procedure.

Castell began the project by examining the various accepted methods of safeguarding loading / unloading operations, to gauge the demand for a viable alternative. The company identified four main systems currently in widespread

use - manual wheel chocks, traffic lights, automatically powered chocking and hydraulic grab bars – and detected important weaknesses in all of them.

The first two rely too heavily on the driver's ability to both remember and correctly adhere to their operating principles; if the driver is determined to exit the bay, wheel chocks and traffic lights are powerless to stop him / her. Conversely, while the mechanical pair of vehicle restraint systems do prevent drive-aways, they are also significantly more expensive, require considerable installation time and, in the event of mechanical failure, lead to extensive upheaval.

Salvo

Castell's solution, the Salvo, consists of a mechanical key-holding cylindrical lock which attaches to the articulated trailer, and an electro-mechanical lock inside the warehouse, fitted to the loading bay door. Salvo links the trailer to the bay door during the loading / unloading of goods and forces the driver to immobilise the trailer prior to the door being opened. If the trailer is not locked in place, loading cannot begin.

“Using Castell's well-proven safety technology, our designers have managed to develop a product that significantly reduces the risks involved in

loading articulated lorries," says Nick Cowen, Castell's European Sales Manager. "The simplicity and flexibility of the Salvo system ensures that it can easily be incorporated into existing working practices."

Salvo is fitted to the air brake line coupling on the trailer bulkhead, once the trailer has been reversed into position. Removing the emergency air line applies the air brakes and inhibits movement of the trailer.

The operator then collects the Salvo and fits it onto the now-exposed emergency air line coupling. After successful fitment, a Castell coded key is released from the Salvo, locking the unit firmly onto the coupling. The fitting of Salvo prevents the air line being re-applied. The Salvo design ensures that the key can only be released when the unit is correctly fitted to the emergency air line coupling.

From here, the uniquely coded Castell key is taken to the corresponding loading bay Salvo exchange unit. Insertion of the key releases a corresponding key inside the warehouse. This key is used to open the lock that controls the bay door. This may take the form of a mechanical or electrical lock, depending on the door design. Only when the key has been inserted into the lock can the bay door be opened. *Whilst the door is open, the key is 'trapped' and consequently the trailer cannot be moved away.*

The real advantage of the system is its simplicity: installation is quick and easy, and causes minimum disruption to operations. Each bay is uniquely coded and Castell keeps a register of all codes issued, ensuring site integrity.

Salvo is available in two versions, one for UK Susie, and the other for European and US Palm, brake couplings, making it universal to all articulated lorries. It should be noted that decoupling the cab from the trailer is not necessary in order for Salvo to be fitted to the air line coupling.

Major logistics firms, food manufacturers and retailers, and home furnishing and parcel distribution companies have all been closely involved in the development of Salvo. The product has also been presented to the haulage industry's health and safety regulators and trade associations.

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Castell Salvo locked in place on a trailer's emergency air line