More luck than judgment

Even at sites which have stringent safety procedures, people and forklift trucks may still be on a collision course, as Laura Cork discovers

What’s the difference between a serious injury and a fatality? Luck. This is not a joke: ask anyone who is lucky enough to survive a collision involving a tonne or more of moving metal. Very often, the only reason that a forklift truck accident results in injury rather than death is pure good fortune – a matter of a couple of seconds or a few inches.

It follows, therefore, that we ought to know as much as possible about these accidents if we are to recognise the circumstances in which a lucky near miss becomes something much worse.

Until recently, the official statistics for forklift-related accidents in the workplace came from a Health and Safety Executive (HSE) inspector’s report looking at five years of figures (around 1,200 investigated accidents) between 1997 and 2001. This was known as Specialist Inspector’s Report number 60 (SIR60).

In September, a new set of figures were revealed. The new – and more comprehensive – statistics were presented at the Fork Lift Truck Association’s annual safety conference by Carol Grainger, head of workplace transport policy for HSE. The figures are derived from 1,500 HSE-investigated forklift trucks accidents from 2002 to 2007/08, along with figures compiled from the incident contact centre reports filed under RIDDOR for the same period (which didn’t exist when SIR60 was produced).

Has anything changed? Let’s look at the wider picture first. Around three million people work with or near vehicles as a regular part of their normal job. In 2007/08, there were more than 6,000 workplace transport injuries to workers and 74 fatalities.

Workplace transport injuries in that same year accounted for 4.5% of all injuries reported; 6.5% of all major injuries reported; and 26% of all fatalities to workers.

A few years ago, in SIR60, HSE concluded that 14.5% of all workplace transport incidents were forklift truck related. The latest figures say this is now 27%. And, worse still, forklifts are involved in 7% of all workplace fatalities.

The accidents are categorised in several ways, including by truck type. Five are listed: clamp, rough terrain, telehandler, reach and counterbalance. These are further broken down by severity, into over-three-day injuries, major injuries and fatalities. The worst culprit by a long chalk is the
Materials handling & logistics Forklift trucks

counterbalance, with 87% of all FLT accidents involving this type of truck, against 75% in the SIR60 figures, though accident severity tends to be less with this type of truck.

Carol Grainger cautions against reading too much into comparisons, since the updated figures rely on a much wider reporting set: “It is difficult to compare SIR60 figures with modern figures because SIR60 could only use a limited dataset and did not take any local authority information into account,” she points out. “However, what is still clear is that the counterbalance truck featured high in the figures then, and still does so now – probably because it is the workhorse of industry.” If a business only has one or two forklifts, she adds, they are very likely to be the counterbalance variety.

The counterbalance truck’s nearest rival for accident numbers – though still a long way behind – is the reach truck.

Whatever the truck type, the biggest risk by a long way to anyone working with or near forklift trucks is being struck by a moving vehicle. Grainger says she was “astounded” at how frequently this featured. “The overall picture with reach trucks is very similar to that for counterbalance. The differences reflect the smaller population of reach trucks and the more limited range of uses of reach trucks,” says Grainger. “However, the underlying cause of the majority of accidents – people being struck by moving vehicles – is largely the same for these truck types.”

Not surprisingly, the people most at risk are those with jobs that bring them into contact with the forklift trucks – workers in the warehouse, forklift drivers and delivery vehicle drivers. Overall, the statistics show little change in recent years: “These show that we have not got a grip on bringing the numbers down,” says Grainger. “There are fewer over-three-day accidents, but major injuries have remained the same for years.”

One of the primary causes is hitting a fixed or stationary object, which accounts for 11% of major injuries and 24% of all over-three-day injuries. HSE has carried out some speed tests with crash test dummies, says Grainger: “At a truck speed of 3mph, the resulting impact is 7G. When the truck moves at 7mph, that impact is up to 14G and you don’t walk away from that.”

The figures derived from RIDDOR, rather than HSE-investigated accidents, show stark similarities in terms of the people at risk, the forklift vehicle involved and the type of accident.

The question, of course, is why these occur at all. HSE says the major reason behind all these accidents is insufficient risk assessment. As Grainger points out, if people work with or around forklift trucks every day then it is almost inevitable that a degree of complacency will creep in. Good management is what stops complacency in its tracks.

There are several questions, she says, that employers should ask:

- Do we need to use a forklift truck at all? Are there other ways of moving goods, such as conveyors?
- Can we re-organise the site to reduce the distance travelled or the number of journeys?
- Can we separate the pedestrians and vehicles completely, ie by keeping pedestrians out of the aisles, loading bays, etc, when the forklift trucks are working?
- Can we schedule deliveries and loading/unloading operations for when other activities are at a minimum?
- Is everyone fully trained and informed about their role in the operation?
- Have we discussed with the workers what the problems are from their point of view, and have we involved them in developing solutions?

“Personally, I think the reason why the problem is still as large as it is could be that people simply do not appreciate the risks involved if there are people on foot in the vicinity of forklift trucks,” she states. The vehicles are often quite small, in relative terms, and people are used to seeing them around every day, often driven by a friend: “This means they are not treated with sufficient respect to keep everyone safe.”

HSE is not putting the entire onus on employers. Grainger says there are a number of steps that HSE is planning to take to try to improve its own understanding, including identifying key risk-taking behaviours by filming certain work activities; discussing key risk areas with the accrediting bodies for forklift driver training and with trade associations; and working with its own industry sector groups and local authorities to find out about sector-specific issues. “We also plan to talk to employers to find out which aspects of working safely with forklift trucks give them the most problems, so we can see how we might be able to help.”

What about the trucks themselves? There’s no question that safety is high on the agenda for many truck manufacturers, with multi-million pound budgets directed towards research of safer, more efficient models. Grainger says there could be some design changes that would help, but

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Carol Grainger, Health and Safety Executive

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Truck manufacturer Linde Material Handling says that safety is the paramount consideration in the design and manufacture of its products. “Safety is built in from the beginning,” says Phil Pearson, head of marketing for the firm in the UK. “Our trucks are designed to ensure a high degree of stability and safety without the need for supplementary electronic aids... Linde’s philosophy has always been to promote safe operations and to build the safety intrinsically within the truck. From restricting access to the truck by requiring pin codes or RFID tags, to getting the centre of gravity as low as possible, we keep safety at the forefront of the design process.”

Chris Newell, general manager for JCB Industrial – manufacturer of the Teletruk – says he is convinced that safety is at the top of every site management agenda. “Everything we’ve been hearing over the past two years confirms our belief that an operator’s clear view ahead is a key ingredient in improving safety.”

JCB focuses on visibility because its forklift has a telescopic boom instead of a vertical mast – and in its own factories, JCB is now using Teletrucks to unload delivery vehicles from one side only. The company believes single-side loading and unloading of curtainsiders and flatbeds is the only acceptable way forward because it is easier to achieve complete separation of forklifts from pedestrians.

Toyota Material Handling has a strong pedigree for forklifts in manufacturing environments and it knows that the site culture is critical if its equipment is to be used in the most appropriate – and safest – manner. Tony Wallis, Toyota’s operations director says: “The new analysis from the HSE suggests that a more concerted partnership is needed between equipment suppliers and users to help instil a culture of safety wherever material handling equipment is used.

“It seems to be no coincidence that sites we visit with good safety records pay attention to detail for training operators and supervisors and have clear process control for maintenance and daily checks of materials handling equipment. Their management teams strike the right balance between instilling a sense of pride in their operators as they perform their tasks safely and productively and putting in place programmes for those who drive poorly.”

Wallis points out that minor scrapes can very often lead to something much worse if they are accepted as part of day-to-day site operation. “The good sites sweat the small stuff; the daily bumps and knocks that are seen as part of life on many sites are simply not tolerated. These seemingly minor accidents can often be a precursor to more serious accidents and taking action to reduce them can have a very positive effect on the safety culture as a whole.”

As well as its highly engineered forklift trucks, Toyota has also designed a service – called I_Site – which combines safety technology features, a reporting suite and consultancy. It is a web-based solution, so doesn’t require costly software installation, and can be fitted to non-Toyota products if a mixed fleet is used. I_Site allows managers to gather data that they might otherwise miss. “The obvious advantage of this system is the ability to hold drivers accountable for incidents and investigate their causes promptly,” says Wallis. “Often, simply recording incidents is enough to send a clear message to operators that minor truck damage is not tolerated. But, with the right analysis, I_Site data can also give clues as to where other potential problems may lie. For example, there may be blind spots, poor flooring or difficult doorways where minor impacts and truck damage are occurring so they can be rectified before a more serious incident takes place.”

It is important to challenge the perception, adds Wallis, that safety and high productivity are not compatible. “It’s not true that a demanding, fast-paced site must accept a certain level of impacts,” he says. “We’ve seen the evidence at customer sites that a focus by management teams and operators on safety and damage reduction often delivers huge cost savings on maintenance and product damage, along with improved uptime, critical for productivity.”

For all the discussion of statistics, truck types and risk factors, these numbers represent real people with real injuries, whether minor, major or fatal. As HSE’s Carol Grainger points out, “often the people who get hurt are just trying to help when something slightly different or unexpected happens. They may be in a hurry and decide to help rather than seeking help from a supervisor.” Generosity like this could come at a high price; thorough risk management is the least they deserve.