

# Stopping rollaway

Vehicle rollaways (or runaways) are such a regular occurrence that, in 2015, HSE published a specific consultation on the issue:

Establishing direct and contributory factors to the uncontrolled movement of Heavy Goods Vehicles (HGVs) during coupling and uncoupling. This study surveyed a mixture of drivers, operators and supervisors; examined those incidents reported to HSE under RIDDOR; consulted with trade associations and manufacturers, and conducted detailed interviews with a small number of each.

The authors found that forgetting to apply the cab handbrake/trailer parking brake due to distraction was the primary reason for vehicle rollaway incidents during coupling. In the case of trailer parking brakes, this was often due to a mixture of "complacency and the adoption of bad practices over time". "Lack of technical knowledge and poor appreciation of risks" were another major factor, along with inability to locate the trailer park brake, inadequate training and operational pressure leading to drivers feeling they had to rush.

Maple Fleet Services was somewhat ahead of HSE in conducting research, however, and already sold an audible handbrake warning device for vehicle

**Done correctly, coupling tractors and trailers should not pose a problem for any driver. But it only takes one slip to let up to 44 tonnes on the move without anyone in control, writes Lucy Radley**

cabs, according to account manager Stuart Taylor. As he tells it, one day back in 2010, there was a knock on the door from a driver, with an idea for a product. He had experienced a rollaway, and come up with a prototype for what would eventually become SafeConnect.

## RED LINE

"He was a clever bloke, because he'd worked out the reason for the rollaway was the red line," Taylor explains. "Everything else was just noise." It doesn't matter what actually happens - whether the truck or trailer park brake isn't engaged, or why that might be. None of this really becomes a problem until the red emergency airline is attached, because that is what pressurises the circuit, releasing the service brakes.

The solution was to fit a fail-safe device which ensured that, regardless of what buttons were or weren't pressed, and levers were or weren't pulled,

the trailer spring brakes would not disengage until the driver got into the cab and depressed the foot brake.

Adds Taylor: "What's really intrigued me is the mindset and misconception around why the incident happens, and how you might try to fix it."

While distraction is top of the list of causes, misunderstanding of the engineering behind what drivers are doing is also a large component. When Taylor has gone out and talked to drivers, he has found that they know what they need to do, but not necessarily why it matters or how it works.

The belief that all modern trailers have automatic spring brakes which apply when the red line is 'pulled' is a common explanation for failure to push the park brake button, for example. Many drivers don't understand that air in the system is what holds the brakes on, rather than off. Then they leave a trailer parked on air alone and, once it gets rocked in the wind and the remaining pressure in the system is exhausted, the vehicle will be able to roll again. That's why additional spring brakes exist.

"But even when we look at a park brake being used correctly, it's only half of the problem and half of the solution," Taylor says. "The amount of times people tell me they don't need our product because they have automatic

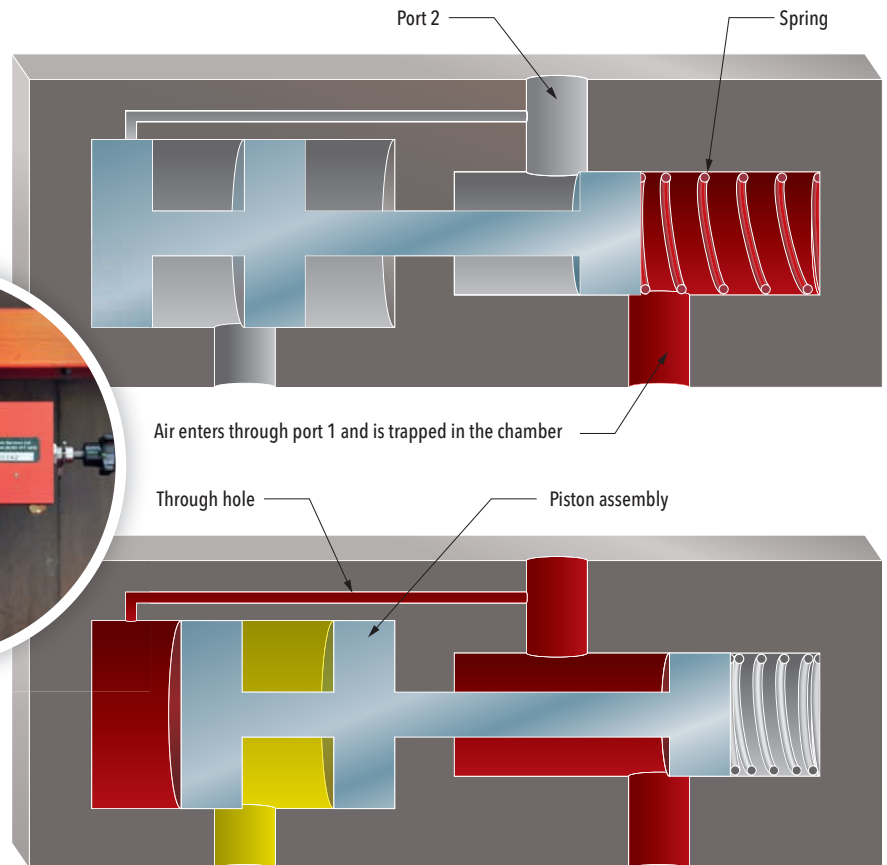
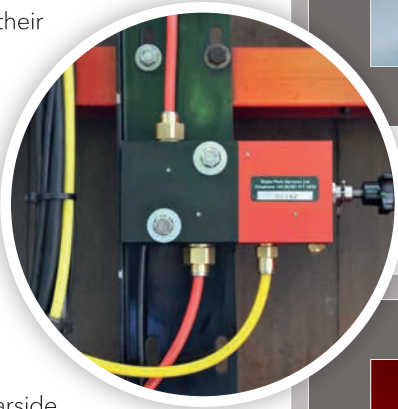
spring brakes on their trailers is beyond funny. Next time you couple up to it the trailer brake will be on, great, but you're going to disengage that park brake when you are either on the catwalk or the nearside of the trailer."

If the tractor handbrake has been forgotten, the driver will be nowhere near it when the outfit starts to roll. "Instinct dictates that, when that happens, we try and run to the cab and put our hand or foot on the foot brake, which is why the majority of fatalities we see in rollaways are crushing incidents."

The HSE consultation found 72 RIDDOR records between 1 April 2001 and 20 March 2014 which involved uncontrolled movement of an HGV. Eight of these were fatal, and another 30 resulted in major injuries. But Maple suspects that the number of near misses is far, far higher than this data suggests, simply because talking about them is such a taboo subject. "Imagine you as a driver have a rollaway, and don't damage the vehicle, nobody's injured and you think nobody saw it," Taylor says. "Are you going to walk into the office and tell them what happened?"

### MITIGATIONS

This is where devices which automatically stop the entire truck and trailer outfit come in. There are several aftermarket options out there: Vision Techniques' BrakeSafe system, for example, automatically applies the handbrake if a driver tries to get out of the vehicle without doing so. Bendix has Intellipark, which uses interlocks in areas like the seatbelt or cab door to do the same thing. Both of these are



electronically engineered, and are fitted to the tractor unit.

Maple's SafeConnect consists of a simple valve and a spring mounted on the emergency line of the trailer, after the park/shunt valve (pictured above). This valve automatically closes when the trailer is dropped, as that part of the system is exhausted when the red Suzie is removed (top image). Feeding into it is a small pipe from the service/yellow

airline, which is tapped using a T-piece. The only means of opening the valve is with a signal down the service line, which can, in turn, only be delivered when the driver returns to the cab and depresses the service brake.

The key decision operators must make is whether to fit a preventative measure or a deterrent. An audible handbrake warning which plays a recorded message – something Maple also still sells – relies on the driver actively responding, whereas passive systems like SafeConnect work regardless of what other environmental distractions might be present. Automatic spring brakes serve as something of a halfway house: their deployment is automatic, but they must then be actively disengaged from outside the cab.

Some argue that by taking control away from the driver, such systems encourage laziness or lack of attention to detail. The counter-argument is that passive systems are a pure fail-safe – they can do their job without the driver ever being aware. Ultimately, it is for operators and fleet engineers to decide which option is best for their specific situation and fleet. **TE**

## DUAL SYSTEM

Swedish brake manufacturer Haldex's Trailer Control Module+ (TrCM+) and the new, more technically streamlined and lower-cost Trailer Emergency Module (TEM) now include Safe Parking. Designed to automatically apply the trailer spring brake during both uncoupling and in the event of a complete air pressure loss, Safe Parking ensures the spring brake actuators must be manually released using the park valve before the vehicle can then be moved. TEM can be used for all trailers with ABS and Haldex's EB+ electronic braking system, and is available in both single-knob and dual park-and-shunt valve versions.