

Fall Arrest or Controlled Rate Descent?

Protecting employees from falls from height can be challenging. This is especially true for lower level operations at height such as working on modular buildings, caravans, open backed trucks, etc.

Tom Rimmington, expert in fall protection and managing director of Fall Protection Solutions Ltd describes some of the problems encountered and how new technology is set to change the way we protect our workforce.

I remember the time when I fell on an overhead fall arrest system. Well, actually it was more like a jump. I was inside a large factory standing on top of a modular building in its final stages of production. My feet were 2.8m above the hard concrete floor. From the dorsal ring of my full body harness ran a wire up to the fall arrest block suspended on a tight horizontal safety line some 6m overhead. I nervously gave the wire a sharp tug to check that it was locking properly. A large crowd of factory workers had heard what was going on and had gathered around, jeering their support. No turning back now. One... two... three... Off I went legs and arms flailing. The video that my colleagues took of the event shows that I rapidly descended about 1.8 metres before sharply bouncing back up towards the ceiling. There were several smaller bounces before I finally came to rest suspended in my harness.

This perhaps irresponsible marketing stunt was a real eye opener. I came out of the experience unscathed. But I couldn't help noting though that I had intentionally jumped



off the end of the modular building, in-line with and directly below the horizontal safety line. There are thousands of people working on top of modular buildings, caravans, trucks, planes etc every day, and fortunately, many of these benefit from the protection of an overhead fall arrest system. What happens when one of them falls off the side, not in-line with and directly below the safety line? It seemed to me that the bounce I experienced could have had nasty consequences had I been pulled into the side of the structure at the same time.

The Working at Height Regulations (2005) state that, if it is not possible to prevent a fall, the employer should 'so far as is reasonably practicable, provide sufficient work equipment to minimise the distance and consequences of a fall'. This presents a real problem for those in charge of health and safety. The fall arrest blocks used in overhead fall arrest systems will only be activated into locking once the operative has reached a given velocity, achieved through free fall. Large loads are generated which will cause an overhead safety line to deflect. This means a sometimes larger than available 'fall clearance', the distance between the operatives' feet and the ground, is required. When the safety line snaps back, the bounce effect is created. Even if the operative survives the fall unharmed, the Facilities Manager will still be tasked with calling out the fall protection system provider to service the fall arrest block and perhaps replace an in-line shock absorber.

There are partial solutions to the above problems. Firstly, a rope and grab can be used instead of a fall arrest block. The downside is that this system is highly dependent on the end user and needs readjusting as the operative moves around. Excess rope can trail around the operatives' feet. Using a horizontal rigid rail overhead instead of a safety line will reduce fall clearances and bounce. Unfortunately, the necessary structural support is rarely in place where required. However, I am convinced that in most cases like those identified above, the best solution is to do away with the fall arrest system altogether. New technology provided by Fall Protection Solutions in close partnership with innovative manufacturer and supplier Uniline Safety Systems, allows instead the instigation of a 'Controlled Rate Descent System'. The



Tom Rimmington.

Controlled Rate Descent System doesn't arrest a fall, it prevents it.

Like a fall arrest block, the overhead Controlled Rate Descent Device keeps a wire connected to the operative under gentle tension. Should the operative step off the side of the structure, the rate of descent is immediately controlled and limited before any dangerous velocity is reached. The operative is gently lowered to the ground. At no point has the operative experienced free fall. The operative has not been bounced against the side of the structure. To quote the working at height regulations 2005, the employer has provided 'sufficient work equipment for preventing, so far as is reasonably practicable, a fall occurring'. The employee has simply made an unplanned controlled rate descent to ground level.

Because the rate of descent never reaches a dangerous level the whole issue of fall clearance vanishes. This is perfect for limited fall clearance operations, especially those such as loading the back of open trucks where the fall clearance will vary. Better still, the Controlled Rate Descent Device is extremely robust and needs no specialist attention following a controlled descent. Because the loads it generates are so low, in many cases the horizontal safety line it is attached to will not require an in-line shock absorber. A simple visual inspection by a competent operative will suffice before the system is up and ready to use again.

This is brand new technology that's set to make huge improvements to the safety of this country's workforce. In many situations, the old fall arrest technology can no longer be said to reduce the risk to our employees 'as far as is reasonably practicable'.