

Even cranes can fall victim to overreach

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The occurrence of lifting equipment incidents continues and the most recent one involves yet again the entertainment industry. Like the Mirror incident at Hong Kong Coliseum last year, it shows such incidents also occur outside the construction industry.

This time, it does not seem as if the film crew was trying to skim on costs.

Photos showed two huge mobile cranes parked on a back street in Kowloon City, with one used to lift a huge reflective board, apparently to light up the area to be shot, by hanging it some 25 meters up and the other appearing to be a loading platform fitted to the long jib of the mobile crane that ended up toppling on its end.

We will leave the incident analyses to the authorities, but I would suggest it was most probably due to an operational error rather than a mechanical fault.

Some experts said it was due to overloading. I do not disagree, but overloading a crane will normally result in a wire rope snapping or a hydraulic system failing.

As the mobile crane toppled on its end, the outriggers on both sides were intact. The platform also seemed to be still rigidly attached to the jib arm and was lying at an angle that I can project would be horizontal if the crane's body was still sitting squarely on its wheels.

I would guess that it was a case of the jib moving out to a longer reach such that the weight attached to it, together with the long arm, produced a large turning moment, causing it to topple. Turning moment is a technical term we use in physics, being the combined effect of the multiplication of the weight and the length of the pivoting arm.

What I mean is that the weight of the platform and the way it was attached to the crane jib may be within the limit of the machine, but should the crane operator move the jib to stretch beyond its safety zone, it could have caused the toppling.

One can imagine the director of the film crew, in search of a better angle to shoot, might have instructed the operator to move further out from the crane base to a point where the crane became unstable.

Experienced operators know very well the operating limits of the crane, which is the sum of factors of the weight it carries, the inclined angle of the jib and its reach.

It is their duty to ensure that those limits must not be exceeded to ensure operational safety.

This is especially vital when there are people on the platform. Their safety is paramount and cannot be compromised.

Time and again, it appears that we have not exercised sufficient care when using lifting equipment, whether they are tower cranes, jib cranes, lifting tackles or other devices.

The Labour Department has very stringent rules and a comprehensive code of practice to guide and control the use of lifting devices, and specifically needs professional engineers checking the entire system to ensure their safety before they are allowed to be worked.

Unfortunately, in the interests of expediency and costs, these cardinal rules are often ignored, causing injuries and casualties, not to mention the cost of damage to equipment and goods.

To me, it is not a case of inadequate laws and ordinances, but a case of blatant ignorance of those rules, which lead to many of these incidents.

Machines are great in helping us to do work, but like a tiger in a cage in a circus, it could hurt us easily if we leave them to roam without control.

Veteran engineer Edmund Leung Kwong-ho casts an expert eye over Hong Kong's iconic infrastructure