

On reflection

New legislation is pushing vehicle manufacturers and operators to help truck drivers improve their all-round visibility. John Kendall takes up the story

The most striking demonstration of blind spots under the windscreen of a truck cab happened during a press event some 15 years ago. The manufacturer had 'borrowed' a class of primary school children and, standing close to the front of the vehicle, the class, plus their teacher, were completely invisible to its driver.

European Union accident statistics suggest that around 400 people – mostly pedestrians, cyclists and motorcyclists – have been killed each year in accidents involving hazardous approaches to junctions and roundabouts, usually to make a nearside turn. Those figures triggered EU directives requiring legislation in member states to improve visibility around vehicles, in line with the European Commission's desire to halve accidents by this year.

Two directives are relevant. 2007/38/EC requires that most LGVs (large goods vehicles) exceeding 3.5 tonnes gvw and registered from 1 January 2000 should be retrofitted with Class IV and Class V mirrors, or other devices to the passenger side, to improve the driver's indirect field of view. Class IV refers to a wide-angle mirror and Class V to a kerb/close proximity mirror. The requirements for these mirrors are contained in another directive, 2003/97 EC.

This directive defines the mirrors' required properties in Article 3. The combination of fields of view of the mirrors/devices should cover not less than 95% of the field of vision at ground level of a Class IV mirror and not less than 85% of the field of vision at ground level of a Class V mirror.

Self certification

To police these, operators were required to complete a self-declaration form for presentation at the vehicle's annual VOSA inspection from 1 April 2009. The declaration stated that the vehicle was equipped with mirrors compliant with Article 3. The mirrors would then be checked for compliance at the annual test and further tests might be required, if they were thought not to be compliant. The certificate gave guidance on how to carry out a manual check on a vehicle to ensure that it complies. Once it had been presented at annual test, it would not be required again, but, if not completed, the vehicle would fail.

Most in-scope vehicles first registered from 26 January 2007 are already fitted with improved mirror systems that are compliant with the directives, but, inevitably, there are exemptions to the legislation. These include buses, coaches and goods vehicles below 3.5-tonnes gvw, while there is also a specific exemption for goods vehicles over 3.5-tonnes, but below 7.5-tonnes maximum permissible mass (ie, applying to vehicles with or without trailers). This exemption applies, if it is impossible to mount a Class V mirror so that no part of it is less than 2m from the ground, regardless of the adjustment position, when the vehicle is under a load corresponding to its maximum permissible mass and the mirror is fully visible from the driving seat.

This exemption is likely to apply to heavy vans, such as the Ford Transit, Iveco Daily and Mercedes-

I'm watching you

A more expensive alternative (or addition) to mirrors is to use a CCTV camera, permitted by the legislation. Philip Hanson Abbott, managing director of CCTV supplier Brigade Electronics, highlights what such systems offer that mirrors cannot. "They make the vehicle safer, because you see more of the blind area," he says.

"Even with mirrors that meet the requirements of Directive 2003/97, there is still a huge blind spot left to the side of the vehicle that includes some of the critical area, as far as cyclists and motorcyclists are concerned. With a camera monitor system, you are far more likely to cover that. It does depend on where you mount the camera, but we certainly can cover it and well out to the side as well.

"The other thing is that you get a far better picture quality, particularly in low light conditions, than you would with a mirror, because it works like an electronic image enhancer."

Although a camera monitor system could cost around £350 per vehicle, Hanson Abbott believes that the cost would be recouped easily, because a system including a rear view camera should virtually eliminate damage caused in reversing accidents – in addition to the improved safety considerations.

With more and more attention being paid to improving safety and cutting accidents involving trucks, don't be surprised to see more and more CCTVs. Also, just as with other pieces of electrical equipment, expect price falls to follow, due to more choice and more competition.





Camera technology now works with the six regulation mirrors to help increase driver awareness of the truck's surroundings

Benz Sprinter, as well as to light trucks, such as the Isuzu Gafter or Nissan Cabstar, which have a gross vehicle weight over 3.5 tonnes, because the cab height is appreciably lower than that of a truck. Even where vehicles have been granted a derogation, though, they may still need a modification to comply with the field of view requirements of Directive 2007/38/EC.

That said, vehicles first registered after 26 January 2007 and not subject to either exemption or derogation should be fitted with six mirrors: two conventional rear view door mirrors and two wide-angle door mirrors, as well as the kerb mirror above the passenger door and a single front mirror (Class VI) above the windscreen. If it looks different, it is either subject to exemption or derogation (and should come with the relevant documentation) or you will need to check the vehicle's status with the seller and possibly the local vehicle dealer, if sourced from elsewhere.

For vehicles fitted with earlier kerb/wide angle mirrors pre-dating last year's legislation, the mirror lens may have insufficient curvature to satisfy the field of view requirements. Many earlier lenses were made with a lens radius of 400mm, which should either have been replaced with a 300mm radius lens or new, compliant mirrors fitted. VOSA inspectors will carry out a visual inspection at the annual test to ensure compliance. A simple check, using a radius card held against the mirror, will indicate if the mirror radius is correct.

The legislation and compliance checks from VOSA do appear to have gone ahead smoothly. Andy Mair, head of engineering policy at the Freight Transport Association, says merely: "It is actually quite a simple piece of legislation, but enforcing it is an issue, because it's a field of vision check and many of the testing stations haven't got the facilities – the height or the location. So the self declaration route was the

correct option, I believe."

But, even with the help of the six regulation mirrors on a vehicle, blind spots cannot be completely eradicated, and Mair points out that drivers' view of the kerb can be further improved by fitting a simple and cheap plastic Fresnel lens to the passenger side window. VOSA has also recently agreed that such Fresnel lenses can be used on the windscreen (Transport Engineer, January 2010, page 7) to deal with the problem of the

school children. As Mair points out: "There are still issues with vehicles that haven't got a Class VI front mirror and the view below the front of the cab is still impaired. The Fresnel lens is a useful tool to eliminate that." 

