

The safety benefits provided by ADAS systems depend on accurate installation and precision calibration. Those requirements pose some pitfalls for the unwary fleet engineer, particularly where windscreen-mounted cameras are concerned, finds Lucy Radley

Advanced Driver Assistance Systems (ADAS) such as lane departure warning systems (LDWS) and advanced emergency braking systems (AEBS) have been compulsory on new trucks for some years now, and the number of currently optional extensions to this is rapidly growing.

The engineers at Scania are becoming more and more concerned. "Our later vehicles, from 2014 onwards, are fitted with AEBS and LDWS as stipulated by the EU," states Aaron McGrath, Scania Group's technical manager (services). These systems use a windscreen mounted camera and a bumper-mounted radar to function, both of which must be calibrated to ensure they are working correctly. Radar only usually causes problems when there's been a front-end collision, but the camera is another story.

"We see issues when the windscreen is repaired or replaced, and the windscreen companies aren't following any calibration procedures," McGrath explains. "This is because they don't have the equipment or the diagnostic software to be able to do that and, we think, there's a lack of understanding in that industry as a whole."

The most obvious sign of a problem is when the camera bracket - which should not be reused - has been reattached to the windscreen using materials such as double-sided tape or silicone (pictured



STUCK ON

above, middle). "These guys are doing what they think is the right thing and sticking the camera back in the same place," McGrath says. "What they're not realising is that the camera needs to be centred exactly: the roll angle of the camera is critical, so left and right turns must be perfectly calibrated. The camera looks about 100m into the distance, so if it's out of kilter it's potentially looking in the wrong lane, and may not see a collision risk ahead."

This isn't just an occasional occurrence, either. "I walk round workshop yards and have been seeing three or four cases of this in every one," McGrath tells us. "So this is a problem across the country, which is why we're trying to highlight it." The solution, as Scania sees it, is simple: always bring the vehicle back to its dealerships. He continues: "The legislation allows for the systems to be temporarily switched off in situations like this, but that's short-term. In our workshops we have a fixed-price repair that includes the new bracket, and everything else required to recalibrate the camera." While it may be possible to have this calibration performed in the aftermarket, needless to say that isn't something Scania recommends.

At DAF, marketing manager Phil Moon admits it is possible for competent third-party repairers to replace or refit ADAS cameras and sensors on DAF vehicles without the need for recalibration. But he emphasises, "DAF dealers are able to test systems to ensure they are operating correctly." He adds: "Operators should be aware that incorrect replacement of components, typically encountered following windscreen or grille damage, could affect the performance of those systems."

The Mercedes-Benz view is broadly the same. "The camera on our vehicles is actually mounted to the truck. Provided there's no damage to the mounting itself, you can fit a windscreen without having to do anything to the camera," says Brian Anderson, head of technical and service support. As with the others, radar damage is unlikely unless the vehicle has a front-end collision.

If an operator does need to replace the radar or any of the cameras, and wants to do the fitting, it should still present the vehicle at a Mercedes-Benz truck dealership so these devices can be programmed to the truck - or at least taken to a specialist independent that



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uses Mercedes' own Xentry diagnostics equipment. "While I'm sure whatever other specialist equipment is out there in the aftermarket will be high-quality, our machine is designed and built specifically for our truck and systems," Anderson adds. "I would say always try us first. I know people say main dealers are expensive, but in reality we have the equipment and the trained technicians, and by getting the job done quickly and right then, it's cost-effective."

OTHER VOICES

It is to the OEMs' own collective advantage to recommend operators come to them for camera recalibration. But at least one third party repairer agrees. Autoglass says that it is unwilling to get involved with anything other than the glass itself, where commercial vehicles are concerned. "Due to the unique nature of the HGV process, at present we recommend that ADAS calibration on these vehicles is carried out by an appropriate dealership," says technical training manager Tim Camm, although he also says that the company can carry out windscreen repair and replacements on a 'huge range' of HGV and specialist vehicles.



But there is another source of help close at hand. Maria Charlton, who runs Essex Glass & Windscreen, says: "Six years ago no-one had heard of ADAS, but that's all changed now." She is also director of industry training provider Automotive Glazing Academy. Operating across the UK and Ireland, AGA is currently the only facilitator of apprenticeships in this discipline nationally. It also provides training for NVQs in automotive glazing and registration to the industry-recognised IMI Accreditation scheme. All of these cover the bus and coach and HGV sectors, as well as smaller cars and vans. Charlton is also an associated member of the panel working on a new standard on ADAS in automotive repair with well-known motor insurance industry-funded organisation Thatcham Research (see also www.is.gd/ovotij for TE profile).

Although release of the new code of requirements has been delayed by the COVID crisis, she offers a preview of what it might contain, and what the AGA already teaches its trainees. "First of all, if you approach a vehicle and it has any kind of ADAS, you must check you can do the calibration," she says. The most commonly used aftermarket system



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which is able to calibrate trucks and PSVs is produced by Texa, which covers all seven HGV OEMs. A second system, mainly in use in Europe but available here too, is designed to work as part of WABCO Wuerth's W.EASY diagnostics.

"If they can't calibrate the system, companies should speak to their partners – be that Scania or whoever – and confirm the repair can be done at a dealership," she continues. This is vital, because next on the list is, "Always run a diagnostic pre-scan." Firstly, a pre-scan tells both customer and repairer whether there are any existing faults, and confirms the VIN can be read so the system can be calibrated. Second, without a pre-scan, it is impossible to tell whether fault codes that appear later are as a result of changing the windscreen. Only then can the repair proceed, and a post-scan and calibration be undertaken to finish the job. Overall, regardless of where or by whom a vehicle is repaired, the message is simple for repairers and operators alike. "You must perform a calibration to ensure ADAS systems are working," Charlton says. "It is a vital part of the safety process to ensure the vehicle is back to where it was before the windscreen [or part] was replaced." **TE**