

Guidance for workshop staff on checking Advanced Driver Assistance Systems (ADAS) on HGVs

Briefing note

Advanced Driver Assistance Systems (ADAS) are becoming increasingly more common on today's trucks and trailers; however, there is very little guidance available from manufacturers or the authorities on how to check these systems. Logistics UK has worked with its members to produce some simple guidance on checking these systems which we hope other users will find of use.

Please note, this guidance is correct at the time of writing, though new systems may have been developed and fitted to vehicles since this publication.

Warning lamp confirmation of operation/malfunction

Most manufacturers' warning lamp systems work on a 'fit and forget' basis – the system will check itself and tell the driver if there is a problem. When the ignition is switched on, a 'system check' is undertaken. This usually results in all the 'tell-tale' warning lamps (see below) illuminating for a few seconds and then extinguishing, unless a system is active (eg, the fuel level is low or the handbrake is applied) or the system is faulty (see below left).

These warning lamp systems are all usually fitted within the driver's dashboard, but there are some that may not be (eg, close proximity indicator lamps are fitted to external mirrors – see below) but which have the same type of checking functionality so need to be checked during the warning lamps' activation period. This may necessitate the check being performed several times (see below right).

Any ADAS warning lamps that remain illuminated may indicate a fault in the system, so should be investigated. Should the safety of the vehicle be compromised, the faults will need to be resolved before the vehicle is put into service.



Did the light come on? Warning lamps can only warn drivers if the lamps themselves are working, but, with a vast array of systems (and hence warning lamps) fitted to modern vehicles, it can be difficult to see if all the tell-tale lamps that should have illuminated did so. Should this be difficult, we suggest the system check be undertaken a number of times, or to take a photo of the warning lamps as they go through their check – reviewing the photo/s afterwards to ensure all the warning lamps illuminated as expected.



Automatic reactivation systems

Some ADAS systems (eg, stop/start function) will, following a driver deactivation, automatically reactivate themselves once the ignition has been switched off. It should not be necessary to check this functionality, unless the warning light remains on – in which case, further investigation may be required.

This deactivation may be applicable where vehicles are used off-road or have/had temporary front attachments (eg, a snowplough fitted) where their operation causes the activation of the electronic braking system (EBS). However, problems may be detected where drivers attempt to rig the system to permanently default to deactivation.



ADAS that allow driver activation/deactivation

Some systems allow the drivers to activate the system fully/partially or to switch them off completely (eg, Lane Keep Assist).

During a safety inspection, these systems should be checked for operation (see the manufacturer's instructions or owners handbook for advice). Should these systems have been switched off, they should be reactivated and checked to ensure correct operation.

ADAS – what to check and when

There is currently very little guidance from manufacturers or the authorities on which systems should be checked, when and to what degree. Our recommendations are as follows:

During safety inspections

It is recommended that engineers check all tell-tale warning lamps to ensure they operate as intended, including those on the trailer. It is also recommended that driver-activated/deactivated systems be checked to ensure they are operational, and, if not, that they be activated and checked accordingly. Although there should be no need to undertake a road test to check the function of systems, their operation could be assessed during a road test.

During the outside inspection of the vehicles, any externally mounted sensors (where visible) should be checked for condition and security.

Note: Some systems will only indicate/operate where there is a risk of accident or incident – it is recommended that you **do not** try to simulate such situations.

Safety inspection sheets should be annotated to indicate that the ADAS systems fitted were checked and that warning lights operated as intended.

During routine servicing/maintenance

In addition to the checks undertaken for a safety inspection, it is recommended (where possible) that an On-Board Diagnostics (OBD) check is performed on the vehicle to identify any ADAS activations/errors. Where these are detected, the relevant system(s) should be assessed for correct function, remedial action taken (if necessary) and error codes cleared.

Note: The recording of activation error codes for some ADAS may not indicate a problem with the system, but these should be assessed to ensure the systems(s) are functioning as intended – eg, Advanced Emergency Braking System (AEBS) activations may have been the result of the system working as intended and having helped prevent an incident.

Accident or damage repair – first use checks

Different systems may use a variety of detection systems (sensors, cameras, radar, LiDAR), so if a vehicle has been involved in an accident that resulted in damage, these detection systems need to be checked and, where necessary, repaired or replaced.

It is recommended that, where any repair or replacement has been undertaken by a third party, some form of certificate of confirmation is obtained, to provide assurance that the ADAS is functioning correctly.

Note: In some instances (eg, windscreen replacements), there may be a need to recalibrate some systems (eg, AEBS, Lane Keep Assist). Where this is the case, a calibration certificate should be provided and kept within the vehicle file.

Further and vehicle-specific information can be obtained from the vehicle handbook and/or dealership.