

# TRAILER INSPECTION AND MAINTENANCE

**Trailers have a reputation for poor maintenance. Brian Tinham talks to Derek Skinner of Schmitz Cargobull and Dave Parr of TIP Trailer Services about what good looks like**

**C**ontrary to popular belief, semi-trailers and trailers today are sophisticated pieces of kit requiring trained technicians to keep them in safe working order. There are also plenty of third party trailers out there for haulage, which present their own service issues to the unwary. Yet there is an expectation that trailers, more than most vehicles, can be maintained just about anywhere – because ‘they’re only trailers’.

From both technicians’ and workshop managers’ perspectives, it’s important to get one point clear. Trailers and semi-trailers are subject to the same roadworthiness scrutiny as any other freight or passenger-carrying commercial vehicle. So a starting point should be a generic, yet comprehensive, inspection manual, covering all safety inspection checks (items as per the DfT annual test), activities and methodologies, with reasons for rejection and corrective action. A good example is that published by TIP Trailer Services.

Overall, a key reference point is the recently revised ‘Guide to Maintaining Roadworthiness’, issued by DVSA (Driver & Vehicle Standards Agency), which covers responsibilities and roles, as well as required technical competencies, systems and detailed best practice for maintenance. Note, the new guidance states: ‘It is not enough to rely on a maintenance system alone... To ensure best practice, you need to combine good

quality maintenance practices and skills with supervision and effective management of the system’. So, reporting, audit and oversight are important, too.

For third party trailers, refer to the IRTE’s new guide ‘Roadworthiness: Industry Best Practice for Third Party Trailer Operations’. Also consult the IRTE’s ‘Roadworthiness: Industry Best practice’.

## BRAKES AND BRAKING

Note that where trailer brakes are concerned, while allowing road tests (as opposed to workshop roller brake testing)

at safety inspections (with due annotation on the inspection record), the new guide insists that ‘a road test method to assess the brake performance for all planned safety inspections will usually be inadequate’. As a result, the trailer should now complete ‘at least three successful brake efficiency tests spread throughout year, in addition to the annual MOT test’.

That is a substantive change from earlier guidance. And there’s more: if deficiencies have been identified either during use of the vehicle or at the safety inspection, ‘a measured brake efficiency test must be carried out [to] confirm the



**Trailers and semi-trailers should now complete at least three successful brake efficiency tests throughout the year, in addition to the annual MOT test: Guide to Maintaining Roadworthiness**



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brakes are performing satisfactorily before the vehicle can be considered roadworthy'.

Quite rightly, best practice has now been defined and it will mean changes for

some operators and workshops. For example, it is no longer acceptable for service engineers simply to visit a customer site and inspect and/or maintain a trailer without moving it or performing

any kind of controlled road test and reporting findings.

As for the detail of brake inspection, it's the same as for any other vehicle. For the relatively few with discs, inspect the rotor for condition, watching for scoring and corrosion, as well as checking disk thickness against limits. Similarly, measure pad thicknesses and clearances, and examine the callipers, ensuring that seals are intact (*Transport Engineer*, March 2014, page 10).

For drum brakes, it's the usual equivalent checks. Then, whether disc or drum, move on to brake chamber inspection and, where spring brakes are concerned, check that they are performing correctly. Finally, look for any kinks in the pipework as you check the brake system back through the chassis, and ensure that the pneumatic air system is working properly.

As for EBS (electronic braking system) and ESC (electronic stability control), these are typically not functionally checked at inspections – only during periodic maintenance or following a driver defect

# TRAILER DIAGNOSTIC UNIT



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report. That said, if the trailer is equipped with an information centre, use the diagnostic window to check for previous and current fault codes, and action accordingly. Alternatively (and preferably), use your diagnostics equipment (manufacturer or generic) to do a full 'end of line test' and produce an electronic bill of health.

Note: given the new DVSA guidance, it is imperative that you test trailer service and parking brake effectiveness under controlled conditions, and record your findings.

## RUNNING GEAR

Axle inspection and maintenance details are all according to manufacturer recommendations. However, in general, check for signs of grease leaking from the axle bearings and consider replacement of bearings and seals, depending on your findings. Bearings are mostly sealed for life, so alignment and clearance checks are rarely on today's checklists – but for older trailers, inspection may be required.

As for the trailer suspension, where 'U' bolts are involved, look to see that there is no obvious movement (torque figures for the nuts vary from manufacturer to manufacturer: this is a visual check to guard against movement). Likewise, check the suspension pivot pins and the shock absorbers, looking for tell-tale leaks and ensuring that attachment bolts at either end are intact.

Moving on to the air bags, examine for wear, splits and any other kind of damage. Watch out for chafing, rectify the cause and change the bags concerned where there are signs of degradation. Likewise, examine for damage to the pistons at the airbag base: integrity of the attachment is safety-critical. Overall, inspect valves, check for missing boots, look for signs of undue movement and anything that is indicative of damage – including to the landing legs – that has roadworthiness implications.

Finally, moving to the semi-trailer front, don't omit the fifth wheel inspection. Assess the king pin bolts for integrity (are they all in place; no signs of movement) and check the cleanliness of the rubbing plate. Too many inspections are signed off without the tractor parting company from the trailer: this is not acceptable and is in clear breach of the guidelines.



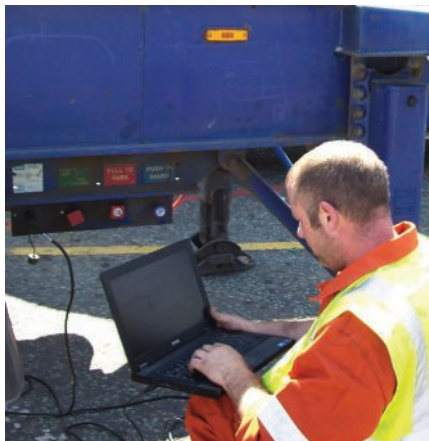
Check for signs of grease leaking from the axle bearings, and consider bearings and seals

## LIGHTING, ELECTRICAL, BODY

When performing your basic lighting checks, don't omit inspecting for wiring integrity. Also, remember that reflectors and number plate holders should form part of the checklist.

At the front of the trailer, examine electrical sockets and ensure that all still have their lids. Check for obvious signs of damage to the electrical and pneumatic couplings and, if there are sliding rails, run them from one side to the other and check that pipework and cables don't kink or snag.

Check that conspicuity markings are intact and clearly visible. Inspect spray suppression and flaps, where relevant, for integrity. Likewise, inspect sideguards – making sure that they are not only in place but also satisfy the dimensional



Use your diagnostics equipment to do an 'end of line test' for an electronic bill of health

requirements of the EC Directive, and that they have rails, front deflectors (100mm return) and show no signs of damage or distortion.

As for the body itself, although technicians are not necessarily responsible for floors, doors and hinges, fabrication panels and the like – neither do they form part of the safety inspection – it is wise to report overall condition.

Maintenance duties do include refrigeration equipment, where fitted. Similarly, you need to inspect ancillary trailer equipment, such as roller shutter doors, tail-lifts and lifting decks, for damage and proper functioning, mindful of the LOLER (Lifting Operations and Lifting Equipment Regulations 1998) requirements, in terms of periodical thorough examinations by competent persons. Further, although load restraint systems are not part of the roadworthiness checklist and might not be on the vehicle, if they are present, check them for integrity and proper operation.

## HEALTH AND SAFETY

Technicians working on trailers need environmental, health and safety training, which should cover aspects ranging from banksmen's hand signals to awareness of safe walkways and working at height (and appropriate equipment).

For mobile technicians especially, health and safety extends to the usual hazard mitigation when working under vehicles – lock-out, tag-out systems to prevent vehicle movements (steering wheel warning covers, cones in front of vehicles, locked cab door), vehicle lifting precautions, etc. It is also recommended that mobile technicians are trained in roadside working and driver survival.

The irtec Trailer Inspection licence is the gold standard for ensuring technician competence, safety and compliance.

Note: DVSA's revised Guide to Maintaining Roadworthiness states: 'A safety inspector could prove competence solely by time-served experience: however, with modern vehicle systems and working practices, it is strongly recommended that inspectors obtain relevant technical qualifications and achieve accreditation or meet a recognised quality standard for the vehicles they inspect'. **TE**