SAFETY PUBLICATION SERIES

GOOD PRACTICE GUIDE

Guide to Maintaining Roadworthiness of Mobile Cranes

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CPA Good Practice Guide

NOTE: *Whilst every care has been taken to ensure the accuracy of the material contained within this booklet, no liability is accepted by the Construction Plant-hire Association in respect of the information given.*

Reference No. CIG 1901
First Published: May 2019
Amendment: February 2022
Published by:
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Foreword

Welcome to the latest updated edition of the CPA's Guide to maintaining roadworthiness of mobile cranes.

Roadgoing mobile cranes are a common sight on the roads of this country and, as with all vehicles, have the potential to cause great harm if they are not maintained in a roadworthy condition.

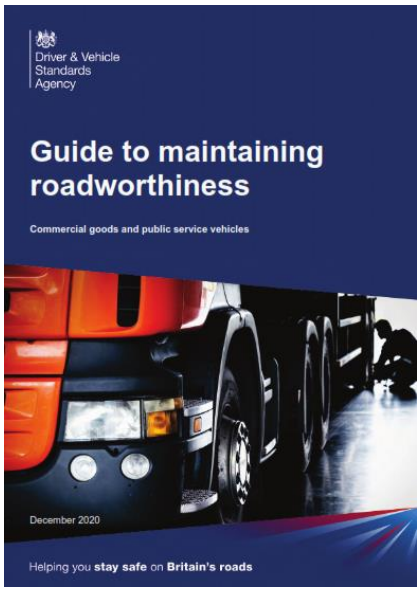
This guide provides good practice advice on the duties and responsibilities that a crane owner or driver have to the roadworthiness of their vehicles. It covers what they are legally required to do, what is good practice and gives information on where to seek additional help, including technical assistance or training.

In the interest of road safety, the CPA's Crane Interest Group launched in 2019 a voluntary annual roadworthiness scheme for those mobile cranes exempted from the HGV testing requirements.

This latest guide builds upon and extends the scope of the original guidance, titled *'Annual Roadworthiness Inspection Scheme for Mobile Cranes Mounted on a Non-standard Chassis'* to cover all cranes subject to statutory plating and annual testing and now incorporates guidance on Driver Daily Checks and Regular Safety Inspections.

The guidance provided in this document is based on the Driver and Vehicle Standards Agency's (DVSA) publications

- Guide to maintaining roadworthiness – Commercial goods and public service vehicles
- Heavy goods vehicle inspection manual



This edition has been developed, based on the original, by a working group with many years' experience in the operation and maintenance of road going mobile cranes. Both the Department for Transport (DfT) and the DVSA have provided invaluable assistance with the process and as can be seen below, have expressed their support.

The document sets out measures to maintain roadworthiness and includes guidance on the management of the process, inspection personnel, inspection requirements, records, equipment and facilities, and quality assurance. The advice in the document is straightforward, comprehensive, and easy to adopt.

Whilst this roadworthiness guidance is primarily aimed at mobile cranes it may be applied to other vehicle mounted equipment such as MEWPs.

I thank those who have been involved in its preparation and commend the guidance to all those responsible for maintaining roadworthiness of mobile cranes. Please read this document and adopt the voluntary roadworthiness inspection scheme for your mobile crane fleet.

Kevin Minton

Chief Executive

Construction Plant-hire Association

Welcome to the latest edition of CPA's guide to maintaining roadworthiness of mobile cranes.

DVSA's vision is for safer drivers, safer vehicles, and safer journeys for all. An important way in which we will achieve this is by helping you keep your crane safe to drive. Whether you operate a large fleet or just one crane, keeping your cranes in a roadworthy condition is good for business, good for the environment and helps you stay safe on Britain's roads.

This guide provides you with best practice advice on the responsibilities that an operator or driver have to ensure the roadworthiness of their vehicles. It also covers what you are legally required to do and gives information on where to seek additional help, including technical assistance or training.

I am delighted that this guidance has been developed as a consequence, in collaboration with the Driver and Vehicle Standards Agency. It provides a clear framework to help operators discharge their legal obligation to maintain a roadworthy fleet. I would encourage all operators of relevant vehicles to consider taking it up.

Gordon MacDonald

Head of Enforcement Policy

Driver and Vehicle Standards Agency

Driver & Vehicle
Standards
Agency

1.0 Introduction and Summary

This guide has been produced to explain the responsibilities and systems involved in maintaining mobile cranes in a roadworthy condition, regardless of operating conditions, fleet size or chassis type. The guidance is directed at crane owners, drivers and all those responsible for operating, maintaining mobile cranes.

The *Road Vehicles (Construction and Use) Regulations 1986 (as amended)* require all vehicles on the road in the United Kingdom to be maintained in a roadworthy condition.

It is not enough to rely on a maintenance system alone, because this cannot ensure that vehicles are roadworthy. To ensure best practice, crane owners will need to combine good quality maintenance practices and skills with supervision and effective management of the system.

Mobile cranes mounted on HGV chassis in full compliance with the Construction and Use Regulations are required to have a statutory annual roadworthiness inspection. The purpose of the inspection (often known as the “MOT test”) is to ensure that the vehicle is roadworthy and meets the requirements of the various regulations governing its construction and use.

Mobile cranes mounted on HGV chassis not in full compliance with Construction Regulations and operating under STGO or those on “bespoke” chassis operating under STGO are exempt from statutory plating and annual testing, (see **Table 1**).

It should be borne in mind that although some vehicles are exempt from statutory annual testing, they are still required by the *Road Vehicles (Construction and Use) Regulations 1986 (as amended)* to be maintained so that “… *no danger is caused or is likely to be caused to any person in or on the vehicle or on a road”.* **Equally for those crane owners with an Operator’s licence for their transport fleet any roadworthiness issues with mobile cranes may well result in the revoking, suspension or curtailing of that licence**. Detailed information on vehicle maintenance is given in the DVSA publication *Guide to maintaining roadworthiness - Commercial goods and passenger carrying vehicles* (see **Annex K**).

Vehicles mounted on “bespoke” chassis rather than standard commercial vehicle chassis, generally do not comply with all requirements of the *Road Vehicles (Construction and Use) Regulations 1986 (as amended)* (C & U), particularly in terms of gross vehicle weight, axle weight and brake performance. Consequently, they operate under the *Road Vehicles (Authorisation of Special Types) (General) Order 2003* (STGO). Large vehicles such as mobile cranes may have a gross vehicle weight of over 100 tonnes and travel the length and breadth of the UK.

NOTE: *Whilst this voluntary roadworthiness inspection guidance is primarily aimed at mobile cranes it may be applied to other vehicle mounted equipment such as MEWPs operating under STGO.*

This document sets out measures to ensure roadworthiness providing guidance on the management of the process, inspection personnel, inspection requirements, records, equipment and facilities, and quality assurance.

The document has been prepared by the Crane Interest Group of the CPA, who will review and amend the document as and when required to take account of changes to legislation, DVSA vehicle inspection requirements and current practice.

Mobile Crane Chassis Type	Driver Daily Checks	Regular Safety Inspection	Annual Safety Inspection	Statutory Annual MOT Test
Mobile crane or MEWP mounted on HGV chassis in full compliance with Construction and Use Regulations	Required	Required	Not Required	Required
Mobile crane or MEWP mounted on HGV chassis **not** in full compliance with Construction and Use Regulations and operating under STGO	Required	Required	Required	Exempt
Mobile crane or MEWP mounted on a bespoke chassis and operating under STGO	Required	Required	Required	Exempt

Table 1: Roadworthiness checks and inspections by mobile crane chassis type.

2.0 Legal Requirements

2.1 Health & Safety at Work etc. Act 1974 (HSWA)

The Health and Safety at Work Act places a duty on employers to ensure the health and safety of employees and others who may be affected by their work activities. Similar duties are placed on the self-employed and persons in control of premises. Employees, managers, and directors also have responsibilities. The HSWA also places a duty on construction plant owners and users, where their work activity involves plant being used where it could affect the public.

2.1 The Road Traffic Act 1984, 1988 and 1991

The Road Traffic Act covers requirements for the use of all vehicles on highways and any other road to which the public has access. The act covers the construction and use of vehicles, including requirements for testing.

2.2 The Road Vehicles (Construction and Use) Regulations 1986 (As amended) (C & U)

The Road Vehicles (Construction and Use) Regulations, made under the Road Traffic Act 1972, specifies detailed requirements for the construction and use of all road vehicles, including mobile cranes. Part of the requirements for use is a requirement (Regulation 100) that all vehicles, including mobile cranes, are maintained so that "*…no danger is caused or is likely to be caused to any person in or on the vehicle or on a road".*

2.3 The Road Vehicles Lighting Regulations 1989 as amended

The Road Vehicles Lighting Regulations made under the Road Traffic Act 1988 set out the requirements for the lighting of road vehicles.

2.4 The Road Vehicles (Authorisation of Special Types) (General) Order 2003 (STGO)

This Order, made under Section 44 of the Road Traffic Act 1988, authorises the use on the road of certain types of vehicles, including mobile cranes, which do not fully comply with the Construction and Use Regulations. The Order also specifies the requirements that must be met by such vehicles.

2.5 The Goods Vehicles (Plating and Testing) Regulations1988 (as amended)

The Goods Vehicle (Plating and Testing) Regulations, made under the Road Traffic Act 1972, set out the requirements for the annual testing of most goods vehicles. Schedule 2 lists those vehicles which are exempt from the regulations. Schedule 2 has been amended by the The Goods Vehicles (Plating and Testing) (Miscellaneous Amendments) Regulations 2017.

2.6 The Goods Vehicles (Plating and Testing) (Miscellaneous Amendments) Regulations 2017

The Goods Vehicles (Plating and Testing) (Miscellaneous Amendments) Regulations amend the list of exempted vehicles in Schedule 2 of the 1988 regulations. The amendments remove mobile cranes from the list of exemptions from plating and testing. However, those mobile cranes running under STGO (see **3.5**) continue to be exempt by virtue of Regulation 44(e) of the Goods Vehicle (Plating and Testing) Regulations 1988.

3.0 Roadworthiness Inspection Types

When it comes to ensuring the roadworthiness of a vehicle, there are four types of essential inspections – which differ in scope and depth. Each type is used for a different purpose and requires different levels of skill to be carried out effectively.

The four types of inspection are:

- Driver Daily Checks – Walkaround checks completed by the crane driver before the crane is taken onto the public highway, (see **Section 5**).
- Regular Safety Inspections – In depth inspection of the crane undertaken by a vehicle examiner at periodic intervals, (see **Section 6**).
- Annual Safety Inspection – In depth inspection of the crane undertaken by an independent vehicle examiner (see **Section 7**).
- Statutory MOT Test – In depth inspection of the crane to comply with legislation, (see **Section 8**).

An inspection should not be confused with a service. A service contains items requiring routine maintenance, usually determined in scope and frequency by the vehicle's usage and the recommendations of the vehicle's manufacturer.

4.0 Driver Daily Checks and Defect Reports

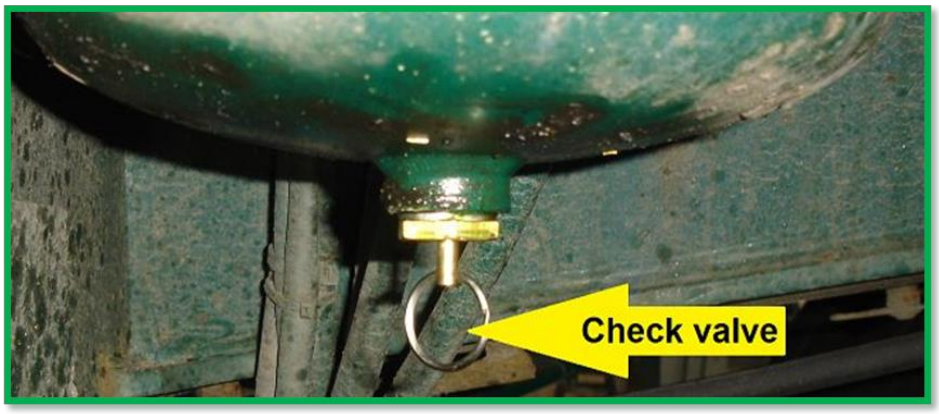
4.1 Driver Daily Checks

A driver or responsible person should undertake a daily walkaround check before a crane is taken onto a road or is to be moved on a worksite. Where more than one driver will use the crane during the day's running, the driver taking charge of a crane should make sure it is roadworthy and safe to drive by carrying out their own walkaround check; however, due to health and safety implications this may not be practical on all occasions.

An example of a system for managing in-service driver changes is where a walkaround check is carried out by a responsible person and the drivers monitor the crane during the day's running. When there is a change in driver during the day, it is sometimes unsafe to carry out a walkaround check (e.g. where the handover is being made at the side of a road or layby). This will be considered acceptable where there is a robust driver defect reporting system in place, which details the initial walkaround check and any defects or ‘nil’ defects reported during the day for the various drivers of that crane.

The driver is always legally responsible for the condition of the vehicle while in use. Therefore, conducting a daily walkaround check is a vital part of a driver’s core role. Crane Owners can delegate the walkaround check to a responsible person, who must carry out a minimum of one check in 24 hours.

The check should cover the whole vehicle and should cover interior and exterior items that can be safely assessed without necessarily the use of a workshop.



Assistance may be required at some time during the check, for example, to see that lights are working. Alternatively, a brake pedal application tool may be used as an effective way of making sure stop lamps are working, and that the braking system is free of leaks. In addition, a torch, panel lock key or other equipment may be needed. It could be beneficial to incorporate a post use check, to save downtime.

It is important however that drivers are aware of the overall vehicle dimensions and should display an in-cab overall height indicator.

4.2 Driver's Defect Reports

There should be a system of reporting and recording defects that may affect the roadworthiness of the crane. This must include how they were rectified before the crane is used.

Daily defect checks are vital, and the results of such checks must be recorded as part of the maintenance system.

It is important that enough time is allowed for the completion of walkaround checks and that staff are trained to carry them out thoroughly.

Drivers should be made aware that daily defect reporting is one of the critical elements of any effective crane roadworthiness system and reminded that they are legally responsible for the condition of their crane when in use on the road.

Drivers should report any defects, or symptoms of defects, that could prevent the safe operation of the cranes. In addition to daily walkaround checks, they should monitor the roadworthiness of their crane when being driven and be alert to any indication that the crane is developing a fault e.g., warning lights, vibrations, or other symptoms.

4.3 Pre-travel checks

When a crane has finished work at a site, the driver should walk around the crane before leaving the site to identify any faults. If any safety defects are found, they should not use the crane on the road until it is repaired.

4.4 Providing a written report

Any defects found during the daily walkaround check, while the crane is in use or on its return to base, must be the subject of a written report by the driver or some other person responsible for recording defects.

The details recorded should include:

- crane registration or identification mark;
- date;

- details of the defects or symptoms;
- the reporter's name;
- who the defect was reported to;
- assessment of the defect;
- rectification work;
- date rectification work was completed.

It is also common practice to use a composite form that includes a list of the items checked each day. Where practicable the system should incorporate 'nil' reporting when each driver makes out a report sheet - or confirms by another means that a daily check has been carried out and no defects found. Electronic records of reported defects are acceptable and must be available for 15 months, along with any record of repair.

4.5 Appropriate Action

Where faults have been detected during and inspection, it is essential that the crane is not taken onto the public or private highway until the severity of the defect has been assessed by a responsible person.

All drivers' defect reports should be given to a responsible person with sufficient authority to ensure that any appropriate action is taken. This might include taking the crane out of service.

Any report listing defects is part of the crane's maintenance record and must be kept for at least 15 months, together with details of the rectification work and repairer.

It is good practice to have 'nil' defect reports as they are a useful means of checking that drivers are carrying out their duties and these forms can be used for audit purposes. A 'nil' defect reporting system demonstrates a check has been conducted and is a positive report that the vehicle is free from defects.

4.6 Drivers' Responsibilities

Drivers must be made aware of their legal responsibilities regarding crane condition and the procedures for reporting defects. Owners must ensure that all drivers are adequately trained to perform this function, and this may be part of their driver's certificate of professional competence training.

Driver's responsibilities should be detailed in writing, describing defect reporting systems as well as any other duties they are expected to perform. The driver should sign to confirm they have received their responsibilities in writing and understand what is required.

A copy of the document should be kept on file. Drivers share the responsibility for the crane's roadworthiness with the operator. They **may be fined or prosecuted** for roadworthiness offences found on cranes **if they are considered partly or wholly responsible.**

4.7 Minor repairs by Drivers

If drivers who are expected to repair minor defects in service, they should be provided with appropriate training.

5.0 Regular Safety Inspections

5.1 Inspection Scope and Content

Regular safety inspections are essential to an effective roadworthiness maintenance system. A safety inspection can be a freestanding inspection of just those items affecting road safety and certain environmental issues, or it can be part of a more comprehensive inspection that, in addition, considers items relating to the vehicle's work, performance and economic operation. Although a part of the overall crane maintenance plan, the inspections should ideally be undertaken as a separate, albeit often sequential, operation to routine servicing and repair.

This provides the maintenance programme with the flexibility to intensify or otherwise change frequency of inspections. It also allows the introduction of ad-hoc inspections, should they be required, without affecting frequency of servicing and other routine work (e.g. when the operating conditions call for more regular checks or when first use inspections are required).

In addition, freestanding inspection reports can be produced which provide the operator with the means of determining not only the roadworthiness of individual vehicles in service but also the overall effectiveness of their vehicle maintenance system, thus enabling the instigation of any changes that may be necessary.

Although primarily undertaken in the interest of safe crane operations, safety inspections – together with prompt remedial action – are also cost effective. The early indication of wear, damage or maladjustment may prevent sudden failure of components resulting in unscheduled downtime, or prevent wear becoming so advanced that premature replacement becomes necessary.

The braking and suspension systems on mobile cranes can be very complex and vary between different crane manufacturers. It is essential that the persons undertaking the inspections are familiar and have received training on equipment and systems in use on the cranes they will be required to inspect.

5.2 First use Inspection

5.2.1 Cranes brought into use

When a crane is first brought into use with an owner it should have undergone a first use inspection, which is essentially the first safety inspection. New vehicles entering service that have undergone a recorded pre-delivery inspection (PDI) that is as comprehensive as a safety inspection will not require a further inspection. Used vehicles, not previously operated, should be given a full safety inspection.

5.2.2 Vehicles being returned to use

If a crane has been off the road for a period longer than the planned maintenance inspections, it should be given a full safety inspection prior to being brought back into use. A note must be placed on the crane maintenance file to show the vehicle has been off the road.

5.3 Scope

5.3.1 Scope of Safety Inspection

A safety inspection should include all the items listed in **Annex B.** The safety inspection form can be any format as long as all items in **Annex B** are included.

5.3.2 Standards to be applied

Reference should be made to manufacturers' recommended tolerances to ensure that each item covered by the safety inspection is inspected properly and limits of wear and tolerance are adhered to.

In addition, the DVSA produces annual test inspection manuals, which give details of inspection methods and pass/fail criteria. Copies of the annual test inspection manuals and a manual tool to aid categorisation of defects can be downloaded free of charge by visiting the GOV.UK website.

It must be emphasised that the standards for the annual test are the minimum legal standards and should be used as guidance for the safety inspection. The inspector will need to consider the frequency of inspection, the age of the crane, expected mileage and type of work undertaken to assess whether a component would remain in a serviceable condition before the next inspection is due.

5.4 Safety Inspection Intervals

Operational needs must not override safety considerations. Safety inspections should, where it is practicable, be programmed to follow a time-based pattern. The frequency at which inspections are undertaken should be determined by assessing the level of mechanical degradation likely to be incurred over a period because of the crane's usage. This will depend on such factors as:

- the age and type of crane operated;
- the recommendations of the crane manufacturer;
- the weight of the crane, the equipment, and fittings it carries or supports;
- the type and range of operations on which it is likely to be engaged;
- the type of terrain and the nature of the environment in which it operates or is likely to operate;
- the distance and speeds at which it travels and the journey times.

Assessing the above factors for each crane will, in most cases, enable a time-based programme of inspections to be formulated. Some operations, however, are subject to continuous change, or vehicles can frequently be reassigned alternative tasks or routes, making the adoption of a strictly time-based inspection programme impracticable.

Mileage-based inspection programmes may be more suitable for some owners but will need to be linked to time.

5.4.1 Older cranes

As cranes age, the average inspection failure rate increases, and they are more likely to experience in-service roadworthiness defects than newer vehicles. Therefore, the guidance has reflected older cranes will need more frequent maintenance and has indicated a minimum safety inspection frequency of six weeks requirement for cranes aged 12 years and older.

However, depending on usage, i.e., low mileage and light conditions, the frequency may be extended or reduced accordingly.

5.4.2 A guide of safety inspection intervals

An inspection frequency would normally range between 4 to 13 weeks. See **Table 2** below for examples of operating conditions.

Operating Conditions		Frequency
A.	Lightly loaded vehicles – easy operating conditions:	13 – 6 weeks
B.	General use:	10 – 5 weeks
C.	Arduous work - constant long journeys between jobsites:	8 – 4 weeks
D.	Unmade roads or off-road:	4 weeks
E.	Cranes of 12 years or older:	6 weeks

Table 2: Safety Inspection Interval Guide

5.4.3 Experienced Crane Owners

Experienced crane owners are free to tailor these inspections to suit the nature of their operations and crane characteristics. They may even deploy more than one system across a fleet, where cranes and the nature of their work vary - even where one aspect of a vehicle's operations require a greater inspection frequency than the whole vehicle fleet. Systems will be judged primarily on their effectiveness in maintaining roadworthiness.

It follows, therefore, that to maintain an inspection regime that is sufficiently flexible to accommodate these changing criteria, it might be more appropriate to adopt an inspection frequency determined by, for instance, the crane's mileage. However, if an inspection schedule is modified, it is sensible to monitor the effect on roadworthiness monthly. If an unacceptable increase in defects were seen, then a change back to the original schedule would be necessary.

To allow some flexibility in planning safety inspections, it is recommended that the International Organisation for Standardisation (ISO) week numbering system is used. With this system, the safety inspection should be completed within the relevant ISO week it falls. ISO defines the week as always starting with Monday through to Sunday.

Example: a crane came into service and had a first use inspection in week 10 of the ISO calendar. The following safety inspections should then be completed within ISO week 16, 22, 28, 34, 40, 46……etc.

If a safety inspection was completed outside the planned schedule, for example because of a breakdown, a new schedule may need to be created.

For the example given above, it would not be permissible to carry out an early SI in week 20 and then have an eight-week interval to week 28. The operator would need to either carry out another SI at week 22 - and continue with the originally planned schedule - or reschedule 6-week intervals from week 20 to 26, 32 …. etc.

Vehicles that are only used for part of the year, or that have been out of service for some time, should be inspected before they are brought back into service.

When they are being used, the subsequent safety inspection intervals should be determined in accordance with **Table 2**, conditions of use and the equivalent annual mileage e.g. 20,000 miles covered over a six month period represents an equivalent annual mileage of 40,000.

Where there are doubts about what interval to choose, new crane owners are advised to be cautious and make more, rather than less, checks.

Where vehicles are operating in difficult conditions – e.g. in quarry work, on building sites, land reclamation sites, or close to the sea where conditions result in accelerated component wear and vehicle damage - the crane owner is advised to increase the number of safety inspection checks above the guidance in the table shown.

5.5 Safety Inspection Report Forms

A safety inspection report must be completed for each safety inspection. If the safety inspection report is to be stored electronically, then the paper version does not need to be retained. This does not rule out the use of electronic devices (e.g. tablets) in place of paper safety inspection reports.

For further information relating to computer systems, see **Section 7.**

Each report must show at least the following:

- name of crane owner;
- date of inspection;
- crane identity (registration/trailer number);
- make and model;
- odometer (mileage recorder) reading (if appropriate);
- a list of all items to be inspected;
- an indication of the condition of each item inspected;
- details of any defects found;
- name of inspector;
- details of any remedial/rectification or repair work and who carried out the work;
- a signed statement that any defects have been repaired satisfactorily and the vehicle is now in a safe and roadworthy condition.

Examples of suitable safety inspection report forms are given in **Annex C.**

The report may contain details of any work to be carried forward. Further checks may be needed on certain items deemed likely to deteriorate during service and make the vehicle unroadworthy before the next scheduled inspection or routine service (these checks must be noted on the inspection report where this assessment is made).

5.6 Intermediate Safety Check

With some types of vehicles and operation, it may be necessary to check some components more often than at full safety inspections. For example, a crane used on wind farms in hilly areas with rough unmade access roads may require a weekly brake component and adjustment check, together with a steering and suspension inspection. It is sometimes necessary to check components following repair work.

5.7 Ad hoc Safety Inspection Intervals

Safety inspections may be needed at times outside the scheduled programme. Examples include when the crane is used over rougher terrain or covers greater distances than usual.

6.0 Annual Safety Inspections

An annual in-depth safety inspection should be undertaken of all cranes that are not subject to statutory annual MOT testing requirements. The inspections can either be carried out by an in-house examiner or by a third-party examination body. In either case, it is essential that the person carrying out the inspection is competent and has the necessary independence and impartiality to allow objective decisions to be made. Part of the independence is being free from pressure to pass an unroadworthy vehicle.

NOTE: *Mobile cranes mounted on HGV chassis in full compliance with the Construction and Use Regulations are required to have a statutory annual roadworthiness inspection and do not need to be subjected to an annual safety inspection. See* ***Section 7****.*

Carrying out annual safety inspections in-house may have the benefit that the examiner is familiar with the vehicle being inspected. However, procedures must be in place to ensure independence and impartiality. Inspection by a third party will ensure independence.

6.1 Use of a third-party inspection body

The benefit of a third-party inspection body is that the vehicle examiner will, by definition, be independent from all aspects of the maintenance and operational management of the mobile crane. They may, however, not have the detailed product knowledge that an in-house vehicle examiner might possess, but they will have been comprehensively trained and assessed in vehicle roadworthiness inspection techniques and will know when to ask for product specific information. They will look at a crane chassis from a different perspective than someone regularly involved in the maintenance of that type or model of crane.

Third party inspection bodies should be selected with care, as not all bodies will have the required level of generic and specific product knowledge required for the effective roadworthiness inspection of mobile cranes chassis.

Use of a third-party body will require management input from the crane owner and user in terms of making the mobile crane available, providing details of maintenance carried out, preparation of the crane for the roadworthiness inspection and management of roadworthiness inspection reports. Both parties must also be prepared to take a crane out of service if the third-party vehicle inspector carrying out an inspection identifies defects which do not meet the pass criteria.

It is essential that the mobile crane owner and the vehicle inspector, or their employer, agree and periodically review, the programme and information requirements for annual safety inspections. Written records of these reviews should be made, both as evidence that the reviews have been undertaken and to evaluate long term trends. This maximum interval between reviews should be 24 months.

NOTE: *A list of third-party inspection bodies able to undertake annual safety inspection on mobile crane chassis will be available on the CPA website and will be updated from time to time*

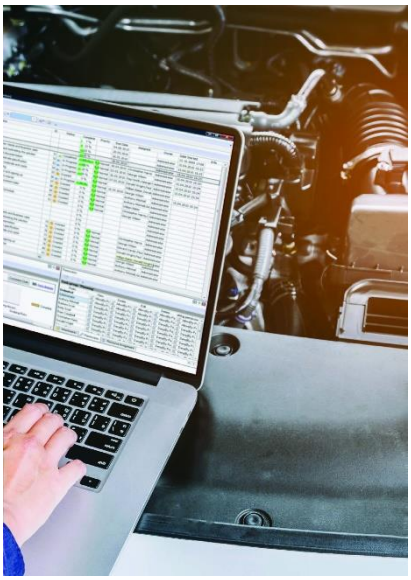
6.2 In-house annual safety inspections

The requirements for the management of in-house annual safety inspections are covered in **Annex G.**

7.0 Annual Statutory Inspections

Mobile cranes mounted on HGV chassis in full compliance with the Construction and Use Regulations are required to have a statutory annual roadworthiness inspection. The purpose of the inspection (often known as the “MOT test”) is to ensure that the vehicle is roadworthy and meets the requirements of the certain regulations governing its construction and use.

8.0 Electronic capture and storage of safety inspection data



Inspection and repair work records, whether undertaken by crane owners or contracted out, must be kept for at least 15 months as part of a vehicle’s maintenance history.

The right digital solution can add benefits to any maintenance system by providing ease of access to all relevant data in one place, including:

- safety inspections;
- unplanned maintenance;
- inspection reports;
- driver defect reporting system;
- fleet management.

Linking to related data - such as technical information - means that it can be obtained quickly, as well as giving owners the ability to create maintenance schedules which are both planned and dynamic.

Systems can be linked to those run by maintenance providers, giving shared data on:

- maintenance history;
- scheduled repairs;
- invoicing.

The automated processes that can be created help to organise and manage an efficient and well-planned system.

8.2 What the maintenance system needs to do

It is ultimately the roadworthiness of the cranes operated that will demonstrate if the system is well designed and meets the required standards.

Crane owners, as well as drivers, are responsible for the condition of their vehicles. Owners need to satisfy themselves that any systems/devices used do not undermine the running of a safe and efficient fleet.

Software/hardware providers should make sure that any system they design takes into account the requirements of this guide.

Important features of a computerised system:

- the availability of hard copies of records to be produced on request;
- it must be tamper-proof (e.g. records can't be changed at a later date);
- it must be clear what's been checked and by whom;
- there must be a clear end-to-end audit trail;
- data file which covers all maintenance records for the fleet;
- fully electronic inspection records;
- collaborative digital planners;
- drivers walkaround check and defect reporting application;
- compliance dashboard;
- meet data protection requirements (including the general data protection regulation);
- data back-up and disaster recovery system.

Any maintenance software should be developed in line with the maintenance schedule and consultation with this guide.

8.3 Making sure that the crane maintenance system is secure

To make certain that any system is secure, owners should consider:

- digital authentication – e.g. a login or PIN;
- date and time stamping;
- an audit trail on both the part of the maintenance provider and the operator.

Whilst enforcement action for non-compliance rests with the crane owner, it is their responsibility to make sure that the system provider can guarantee the reliability of the data.

8.4 Keeping of old data

Where cranes change ownership, the records relating to these - even in digital format - must still be available to the original crane owner in accordance with this guide.

8.5 Managing the system

Regular administration and backup of electronic data should be undertaken. It is ultimately the responsibility of the operator to ensure the safekeeping of such data, along with an effective management process.

Easy access to the data - for management and enforcement purposes - should also be available. Data security and integrity should exist with any system used - this may include some form of clear audit trail.

9.0 Inspection Personnel - Attributes, Training and Assessment

9.1 Introduction

It is essential that the Regular Safety Inspections and Annual Inspections are always carried out by persons who have been assessed as competent and have adequate training, information, and independence to carry out the work required.

9.2 Attributes

Vehicle inspectors carrying out the roadworthiness inspections should have the following attributes:

Personal Attributes:

- Be mentally and physically capable of carrying out the work to be undertaken;
- Have a responsible attitude;
- Be able to adequately assimilate information;
- Be able to make objective assessments;
- Be able to communicate clearly with other personnel;
- Be aware of their responsibilities under the Health and Safety at Work etc Act, supporting regulations and other relevant regulations and industry guidance;
- Be trained in the use, pre-use checks and maintenance of their personal protective equipment and capable of using it correctly.

Knowledge Base:

- Have a full understanding of the inspection criteria for HGV vehicles;
- Have an understanding of chassis design and vehicle engineering;
- Have knowledge of appropriate test procedures which may be employed and the interpretation and limitations of those techniques;
- Be aware of their own limitations and have the ability to seek guidance.

Practical Skills:

- Be capable of identifying defects or weaknesses in vehicles which could compromise the roadworthiness of that vehicle;
- Have sufficient knowledge and experience to assess the importance of defects or weaknesses in the chassis and identifying what actions need to be taken in order to rectify them. In particular, they should be able to:
    - where necessary specify any limitations on the use of the vehicle;
    - carry out any testing required as part of roadworthiness inspections;
    - report on the findings of the roadworthiness inspection.
- Be able to apply engineering judgment to non-standard vehicle components.

9.3 Qualifications and Experience

Vehicle inspectors should have both appropriate recognised formal qualifications and a relevant level of practical experience in a motor vehicle engineering field.

A list of suitable qualifications for vehicle inspectors is given in **Annex E**

Employers must determine competence of each individual person, both existing employees and new entrants, based on the attributes listed above, together with formal qualifications.

9.4 Vehicle Inspector Selection

Vehicle inspectors should be selected through a formally documented assessment process. An example of a competence assessment form based on the DVSA Technical Competency Framework is shown in **Annex H**.

The purpose of the assessment, which must include a sufficiently robust technical interview and other elements, is to determine if the interviewee has the general aptitude and appropriate level of relevant underpinning knowledge and understanding to perform the intended duties of a vehicle inspector when combined with the training provided by the employer.

The competences required by a vehicle inspector are:

- Effective DVSA Inspection manual navigation;
- Understanding STGO requirements;
- Categorisation of defects and prohibition procedures;
- Assessment of component wear including pass/fail criteria;
- Vehicle Inspection procedure and methods;
- Inspection documentation writing skills;
- Braking system performance testing and calculations;
- Demonstration of practical ability in carrying out vehicle inspections.

9.5 Training Plan

An individual training plan should be drawn up for each person who is to carry out the roadworthiness inspection of vehicles. Achievement of this plan and continuing professional development should be monitored at frequent intervals as part of the management review process (See **8.0**) and included in the quality system (e.g. ISO 9001) auditing process. The maximum interval between reviews should be 24 months.

9.6 Authorisation

Once a vehicle inspector has completed any training required and have been assessed as competent to carry out roadworthiness inspections, they should be formally authorised and instructed by their employer in writing.

9.7 Irtec Qualifications

Irtec is a renewable and voluntary accreditation scheme, run jointly by the Society of Operations Engineers and the Institute of the Motor Industry, that assesses the safety and competence of technicians who maintain and repair vehicles in the commercial vehicle, trailer and passenger carrying industries.

Irtec licences are available at four levels:

- Service Maintenance Technician;
- Inspection Technician;
- Advanced Technician;
- Master Technician.

The Inspection Technician qualification is particularly appropriate for people carrying out roadworthiness inspections of mobile crane chassis’. Details of the requirements are given in **Annex F**.

There are a number of assessment centres located throughout England, Scotland and Wales. Details of the Irtec scheme can be found at http://www.soe.org.uk/Irtec-licensing-scheme/

9.8 Training Courses

Details of some providers of training in vehicle inspection are given in **Annex I**.

9.9 Refresher Training

Refresher training covering changes to legislation, DVSA inspection requirements and current practice, should be undertaken at intervals of not more than three years.

9.10 Technical Product Awareness

Before carrying out the roadworthiness inspection on a specific make and model of vehicle, all personnel should have access to relevant technical information from the chassis manufacturer or the employer.

9.11 Assessment

It is important that all vehicle inspectors are assessed on appointment, within 12 months and at regular intervals (not exceeding five years) thereafter. Assessment should form part of any training.

9.12 Continuing Professional Development

Continuing Professional Development (CPD) is the conscious updating of professional knowledge and the improvement of a vehicle inspector's competency throughout their working life. This is a joint responsibility between the vehicle inspector and their employer.

9.13 Training Records

There should be a comprehensive individual training record for all personnel carrying out roadworthiness inspections. This should be updated as training is undertaken.

10.0 Information for Roadworthiness Inspection Personnel

10.1 Introduction

The wide variation of designs and the increasing complexity of bespoke chassis technology make it essential that all roadworthiness inspection personnel are supplied with adequate information to enable them to carry out their duties effectively and safely. Maintenance information comes in various forms and from several sources.

Employers of inspection personnel should ensure that a robust system is in place to provide adequate up to date information to inspection personnel. This may be achieved in a number of ways including:

- Provision of paper manuals using a system which will ensure frequent updating is taking place;
- Provision of electronic manuals using a system which will ensure frequent updating is taking place;
- A central technical information function which can be contacted for up-to-date information whenever roadworthiness inspection is taking place.

NOTE: *It is essential that a system is in place to ensure that manual updates, safety alerts and other information are communicated immediately to those who need to know.*

Where a third-party inspection body is used to carry out roadworthiness inspections, the crane owner should ensure that they are supplier with all necessary information to enable them to carry out roadworthiness inspections effectively. This may include provision of the manufacturer's contact details.

10.2 Manufacturer's Information

Information supplied by the non-standard chassis manufacturer will be the main source of instructions and specifications when carrying out maintenance. The primary document will be the maintenance manual for the specific chassis model (and in some cases serial number), supplemented by technical information bulletins.

Care should be taken to ensure that the information is up to date and relevant to the chassis being inspected.

10.3 In-House Technical Information

Some vehicle owners will have their own technical information dealing with specific issues relating to the vehicles in their fleet. This can be a useful source of information for inspection personnel. However, care should be taken to ensure that information is current and obsolete data has been withdrawn.

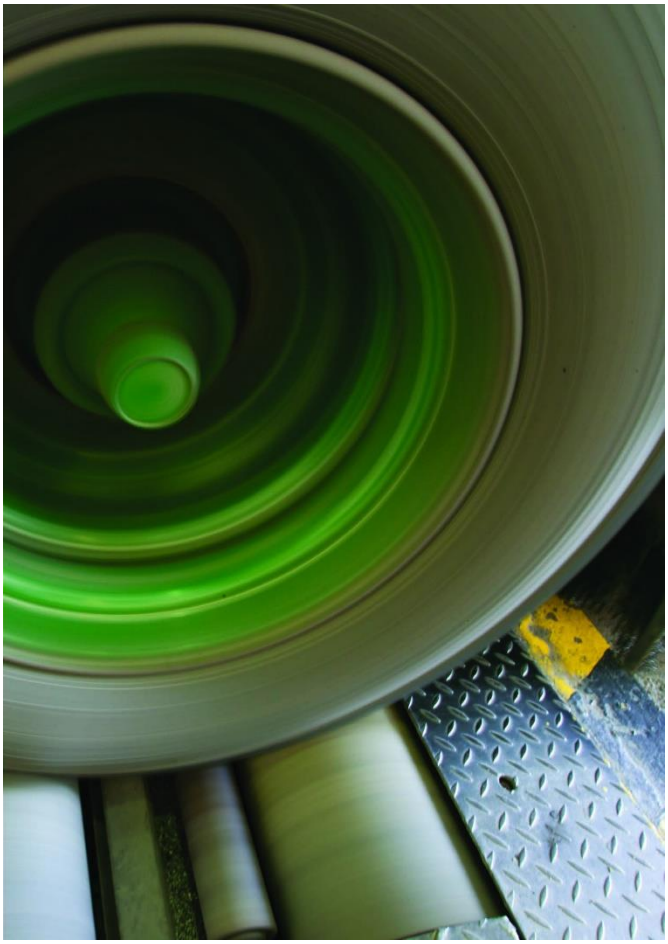
10.4 Information Formats

Paper information such as manuals and bulletins are rapidly being replaced by electronic formats such as CD-ROM and website downloads. This has the advantage that physical storage space is kept to a minimum and, in the case of website downloads; information should be up to date at the point of access.

However, the use of electronic display devices, such as laptop computers, during maintenance is not always easy or practical. Information may therefore have to be printed out for use on site, in which case care should be taken that for any subsequent use the data is still current and relevant.

10.5 Management of Information

Information should be managed effectively if it is to be of maximum benefit to those involved in the inspection process. Outdated information can at best waste time and at worst may well affect safety. It is therefore essential that organisations carrying out roadworthiness inspections on non-standard chassis ensure that they have robust systems and procedures to ensure that inspection personnel are supplied with adequate information that is both up to date and accurate. The chassis manufacturer should be consulted to ensure that information is current.



11.0 Inspection Procedures and Requirements (Regular and Annual Inspection)

11.1 Preparation of the vehicle for inspection

The vehicle must be clean enough to allow the component parts to be inspected. In practice, the chassis and running gear must be power washed to remove mud and grease so that the inspector can inspect all necessary parts of the chassis. The vehicle must also be in a condition which does not put the inspector at risk during the inspection and tests.

When presented for inspection the vehicle must be in the configuration specified on the manufacturer's plate.

Adequate time must be allowed in the vehicle's work programme for the inspector to complete the necessary inspections and tests thoroughly.

11.2 Inspections and tests to be carried out

Annex C lists the *HGV Goods Vehicle Inspection Manual* inspections and tests that are applicable to the vehicle within the scope of this guidance

Requirements for brake testing are set out in **Annex A**. For cranes with a one-person cab, such as city cranes, where the inspector is unable to travel with a decelerometer, the use of a roller brake tester should be considered.

If a smoke meter is not available, exhaust emissions should be checked using the visual emission test set out in Section 05 of the *HGV Goods Vehicle inspection Manual*.

Where a headlamp tester is not available, headlamp aim should be checked with the vehicle standing on a level surface by projecting the headlamp beams onto a flat vertical surface and measuring their height and horizontal positions.

11.3 Pass/fail standards

The standards set out in the *HGV Goods Vehicle Inspection Manual* will be applied during the inspection. Serious defects should be assessed in accordance with the section of the *HGV Goods Vehicle Inspection Manual* entitled "*Standards for Prohibition Issue at Annual Test".*

11.4 Defect categorisation

Deficiencies found during the inspection shall be categorised in one of the Groups shown in **Table 3**.

11.5 Recording the results of the inspection and tests

The results of the inspection and tests carried out will be recorded during the inspection on the CPA Inspection Record Form VR1 (see **Annex C**). A satisfactory pass will result in a Pass Certificate VR2 being issued (see **Annex D**).

Failure of the inspection will be indicated on the Failure Notification Form VR3 (see **Annex E**). This will state that there is a major or dangerous defect which poses a significant risk of injury to persons and must be rectified before the vehicle travels on the highway.

The Pass Certificates, CPA Inspection Record Forms and Failure Notifications Forms (where applicable) must be completed at the end of inspection, issued to the presenter and a copy sent to the crane owner.

Category	Explanation
Minor	Deficiencies having no significant effect on the safety of the vehicle or impact on the environment and other minor non-compliances. If only defects of a minor nature are present, a pass certificate will still be issued, with the defects listed as mandatory advisories.
Major	Deficiencies that may prejudice the safety of the vehicle, have an impact on the environment, put other road users at risk or other more significant non-compliances. A major defect will result in the issue of a failure notification
Dangerous	Deficiencies constituting a direct and immediate risk to road safety or having an impact on the environment. A dangerous defect will result in the issue of a failure notification

Table 3 – Defect Categorisation

11.6 Guide times for inspection and tests

It is important that inspectors are not put under time pressure to complete inspections as this could reduce the thoroughness and effectiveness of the process. To an extent the time required for inspection will depend on the size of the vehicle and number of axles.

Table 4 gives guide inspection times for various sizes of vehicle which may be useful for planning purposes.

NOTE: *These guide times do not include the time required to complete brake tests or the time required to prepare the vehicle for inspection*

No of axles	2	3	4	5	6	7	8	9
Guide Inspection Time (hours)	1	1.5	2	2.5	3	3.5	4	4.5

Table 4 – Guide inspection times (not including brake tests and preparation)

11.7 Re-inspection

Where a vehicle has failed an inspection, the defects identified should be rectified prior to travelling on public or private roads. The rectified defects should then be re-inspected within 14 calendar days by the inspector who carried out the original inspection. Only then can a Pass Certificate be provided if the reinspection has been satisfactory.

NOTE: *The reason for specifying reinspection within a period of 14 calendar days by the inspector who carried out the original inspection, is to limit the time required to assess the adequacy of the rectification of those defects which led to the original failure. A greater interval between original inspection and reinspection may well lead to a longer reinspection time being required.*

NOTE: *Where complex repairs are required, and the repair period extends beyond 14 days the crane should be re-inspected as soon as the repairs have been completed.*

11.8 Retention of records

Copies of all Inspection Record Forms, Pass Certificates and Failure Notification forms should be kept by the inspection facility for at least 5 years. These records should be stored securely and, in the case of electronic records, be adequately backed up against accidental erasure.

Crane owners should retain their copies of Pass Certificates and Failure Notification Forms in the crane's history file for the duration of the period in which the crane is in their ownership.

12.0 Crane Operator/Owner Management Review of Roadworthiness Inspection Records

12.1 Introduction

A regular management review of roadworthiness inspection is essential for the safe and efficient operation of a vehicle fleet. The review should be carried out initially at least monthly. Once a suitable level of confidence in the systems has been established the review frequency may be reduced in the light of experience.

The review ensures that management can be confident that robust maintenance and roadworthiness inspection systems are in place and will rapidly highlight any shortcomings and the need for corrective action. It may be beneficial to include vehicle inspectors or the employer of third-party vehicle inspectors in this process.

12.2 Benefits

The benefits of regular management review of roadworthiness inspection records are:

- Confidence that the system is functioning correctly;
- Ensuring that there is evidence of annual roadworthiness inspections which can be presented to the Police and/or DVSA in the event of an incident and a subsequent investigation;
- Providing a measure of the effectiveness of vehicle maintenance;
- Establishing trends over time;
- Feedback to the roadworthiness inspection activity;
- Ensuring that defects are rectified in a timely manner.

12.3 Review Frequency

The review should be carried out initially at least monthly. Once a suitable level of confidence in the systems has been established the review frequency may be reduced in the light of experience.

12.3 Review Methodology

The review should aim to identify that roadworthiness inspections are carried out in accordance with the requirements of the scheme, together with the results of internal audits.

12.4 Review Records

It is essential that written records of the management review are made, both as evidence that the reviews have been undertaken and to evaluate long term trends.

13.0 Inspection Facilities

13.1 Introduction

Roadworthiness inspections require adequate facilities and equipment to enable them to be carried out effectively, efficiently and safely. The size and sophistication of the facilities will depend on the size of vehicles to be inspected.

Where a third-party inspection body is undertaking the roadworthiness inspection, the inspector and crane operator/owner should agree on the adequacy of the facilities for the inspection to be carried out.

Roadworthiness inspections must only be undertaken following a suitable and sufficient risk assessment by both the occupier of the premises and the employer of the inspector. This assessment should identify any control measures required to reduce risks to an acceptable level. The outcomes of the risk assessment should be used to put a safe system of work in place. This safe system of work should be documented in a method statement, which may be generic for frequently repeated tasks. Control measures will include the training, assessment and authorisation of all personnel required to carry out the tasks and may also include the provision of suitable Personnel Protective Equipment (PPE). If PPE is used personnel must be instructed in pre use checks, correct usage and maintenance.

Inspection activities involving work at height must be planned and carried out in accordance with the following hierarchy:

- **Avoid** work at height where possible;
- Use work equipment or other measures to **prevent** falls where working at height cannot be avoided;
- Where the risk of a fall cannot be eliminated, use work equipment or other measures to **minimise** the distances and consequences of a fall should one occur.

Where the use of an inspection pit is required, the risks of working in confined spaces should be assessed and consideration given to the use of a lockout/tagout entry (LOTO) procedure.

If the inspector is being assisted by a person in the vehicle cab, it is essential that adequate means of communication between both parties is available to avoid unintended movement during inspection.

13.2 Inspection Areas

Adequate level, well drained, hardstanding with adequate lighting is essential if roadworthiness inspections are to be carried out successfully. The hard standing should have adequate load bearing capacity for the loads to be imposed.

Provision of or access to an adequately sized building is preferable.

Where pits are provided for under-chassis inspections they must be provided with adequate access, egress, lighting, ventilation, and edge protection.

As an alternative, it may be possible to use the cranes outriggers to raise the chassis to provide under-chassis access. If this method is used it should be included in the Safe System of Work for the inspection process.

Barriers should be provided to prevent unauthorised personnel from entering the inspection area and all inspection and other authorised personnel should be briefed on site specific hazards and emergency procedures.

13.3 Welfare Facilities

Suitable welfare facilities should be provided for the use of all employees and visitors.

13.4 Test and Measuring Equipment

Sufficient test and measuring equipment must be available to enable all testing and measurement to be carried out accurately. Such tests and measurement equipment should include:

- Approved decelerometer;
- Approved tyre tread depth gauge;
- Approved and calibrated diesel smoke meter (not mandatory);
- Approved headlamp aim tester (not mandatory);
- Approved roller brake tester (not mandatory).

All test and measuring equipment should be marked with a unique identification number and entered on an asset register to ensure that the equipment can be monitored and tracked throughout its life. Equipment should be stored in a dry and secure location.

NOTE: *Lists of DVSA approved equipment can be found at* https://www.gov.uk/government/collections/authorised-testing-facilities-atfs-guidance-forms-and-updates

13.5 Calibration

All test and measuring equipment should be subjected to periodic calibration to nationally traceable standards, marked with the calibration expiry date and records kept of the calibration. The calibration interval should be set taking into account the manufacturer's guidance, together with the frequency and conditions of use.

Annex A – Brake Test Requirements from CPA TIN 104

The majority of mobile cranes operating in the UK are not able to comply fully with The Road Vehicles (Construction and Use) Regulations 1986 (as Amended), therefore they operate under the requirements of The Road Vehicles (Authorisation of Special Types) (General) Order 2003 (STGO).

The STGO Regulations permit certain derogations from the requirements for the type testing of vehicle brakes set out in European Directive 71/320/EEC. As a consequence, the requirements for in-service brake testing set out in the DVSA Heavy Goods Vehicle Inspection Manual are not appropriate for mobile cranes subject to STGO.

The purpose of this document (TIN 104) is to set out the requirements for mobile cranes when operating under STGO.

A.1 Performance Requirements

A.1.1 Service Brakes

The minimum primary and secondary braking performance requirements for service brakes during in-service brake testing of mobile cranes running under STGO are:

Service Braking Performance STGO Mobile Crane			
Category	Mean Deceleration at Normal Engine Speed	Stopping Distance Measurement	
		Initial Test Speed	Stopping Distance
A	3 m/s^2	40mph (64km/h)	62.5m
B	3 m/s^2	40mph (64km/h)	62.5m
C	3 m/s^2	30mph (48km/h)	36.9m
Notional Braking Efficiency = 30%			

Secondary Braking Performance STGO Mobile Crane			
Category	Mean Deceleration at Normal Engine Speed	Stopping Distance Measurement	
		Initial Test Speed	Stopping Distance
A	1.45m/s^2	40mph (64km/h)	118.8m
B	1.45m/s^2	40mph (64km/h)	118.8m
C	1.45m/s^2	30mph (48km/h)	68.6m
Notional Braking Efficiency = 15%			

NOTE: *A mobile crane which meets the requirements for braking efficiency or deceleration or stopping distance is deemed to have passed the in-service brake test.*

NOTE: *Mobile Cranes with an axle weight more than 16,500kg are deemed to be "Engineering Plant", meeting the requirements of Schedule 3 of STGO, with a maximum travel speed of 30mph on motorways and 12mph on any other road. The requirements for brakes on mobile cranes designated as Engineering Plant are set out in Clause 7 of Schedule 3.*

A.1.2 Parking Brakes

The parking brakes of mobile cranes, when applied by the driver from their driving position, should be capable of holding the laden vehicle stationary on an 18% up or down gradient.

A.2 Testing Methods

A.2. In-service Bakes

The three alternatives for in-service brake testing in order of preference are:

- Roller brake testing;
- Decelerometer brake testing;
- Stopping distance test.

A.2.1.1 Roller Brake Testing

Testing on a Roller Brake Tester is the preferred method of in-service brake testing as it requires a minimum of space, is carried out in controlled conditions, and measures the performance of the brakes on individual axles. This is of particular importance on multi axle crane chassis where a satisfactory overall deceleration or stopping distance test may mask a problem with individual brakes.

The disadvantage of roller brake testing for mobile cranes is finding a suitable Roller Brake Tester with adequate axle weight capacity located in a building of sufficient size to accommodate the mobile crane. Mobile cranes have axle weights of up to 16,500kg, lengths of up to 22m, widths of 3m and heights of 4.4m.

NOTE: *Some mobile cranes with axle weights in excess of 16,500kg are categorised as 'Engineering Plant'. Roller brake testing of these cranes will require a Roller Brake Tester with a minimum capacity of 20,000kg.*

NOTE: *If the mobile crane is taken to an Authorised Testing Facility or a DVSA vehicle test station, the RBT will be pre-programmed to apply the minimum brake performance criteria for the statutory annual HGV test (50% service brakes and 25% secondary brakes). This will generate an automatic fail on the printout for the majority of mobile cranes. However, as long as the braking efficiencies shown on the report are in excess of those given in Section **A1** of this document, the crane brakes will meet the performance requirements for mobile cranes operating under STGO.*

A.2.1.2 Decelerometer Brake Testing

If testing on a Roller Brake Tester is not practicable, decelerometer testing is the next preferred method using a DVSA approved decelerometer.

A list of approved decelerometer is available at:

https://www.gov.uk/government/publications/approved-decelerometers

Decelerometers must be calibrated in accordance with the DVSA specification for decelerometers at intervals not exceeding two years.

The decelerometer should be set up in accordance with the decelerometer manufacturer's instructions and the test carried out in the following conditions:

- A straight test road with a firm, level surface and an absence of standing water;
- Sufficient distance to allow acceleration to a speed of 20mph, application of the brakes and braking to a halt;
- Vehicle ABS systems should not be disconnected;
- Any switchable retarders should be switched off;
- Measurements should be taken in both directions and averaged out to allow for any variation in gradient;
- A minimum of two measurements should be taken in each direction.

A.2.1.3 Stopping Distance Test

Measuring the stopping distance of a mobile crane requires similar conditions to a decelerometer test, with the exception that the minimum speed at which the brakes are applied is 30mph.

The difficulty with this test, however is the accurate measurement of the stopping distance but unfortunately, these devices can be significantly more expensive than a DVSA approved decelerometer.

A.2.2 Parking Brakes

Testing of mobile crane parking brakes can be undertaken by either:

A.2.2.1 Using a Slope

This is carried out by locating a suitable slope with a gradient of 18% (10.2° or 1 in 5.5). The crane should be parked facing uphill and the parking brake applied. If the crane remains stationary the requirement will have been met.

The test should then be repeated with the crane parked facing downhill. If the crane remains stationary in both directions, the requirement will have been met.

A.2.2.2 Using a Decelerometer

An alternative approach is to use a decelerometer. In this case the DVSA specify a minimum brake efficiency of 16%.

A.3 STGO Mobile Crane Categories

Under the STGO Regulations, mobile cranes are divided into three categories A, B and C depending on the maximum design axle weights. Full details are given in Schedule 2 of STGO and a brief summary is set out as follows:

STGO Category	Max Design Axle Wt	Max No. Axles	Max GVW
A	11,500 kg (drive)	4[1]	36,000kg
	10,000 kg (non-drive)		
B	12,500 kg	Not specified	Dependant on number of axles[2]
C	16,500 kg	9	150,000kg[3]

NOTE[1] *See Table below*

NOTE[2] *Max GVW limited to N x 12,500kg where N is the number of axles on the crane*

NOTE[3] *Max GVW limited to N x 16,500kg where N is the number of axles on the crane*

Category A: Axles and Gross Weight		
Number of Axles	Distance Between Outermost Axles	Maximum Gross Weight of Crane
2	3 metres	20,000 kg
3	5 metres	30,000kg
4	6 metres	36,000kg

Annex B – Inspections and Tests to be Carried Out

Item	HGV Manual Inspection No.	Subject	Applicable?	STGO Derogations		
				Category A	Category B	Category C
1.	1	Registration Plate	Yes	No	No	No
2.	3	Seat Belts & Supplementary Restraint Systems	Yes	No	No	No
3.	5	Exhaust Emissions (visual check only required)	Yes	No	No	No
4.	6	Road Wheels and Hubs – Wheels studs and nuts	Yes	No	No	No
5.	7	Size and Type of Tyres *(STGO Table 9)*	Yes	No	Yes	Yes
6.	8	Condition of Tyres - Inflation, Damage, Wear, Debris between twin wheels	Yes	No	No	No
7.	9	Sideguards, Rear Under-Run Devices and Bumper Bars *(STGO Table 9)*	Yes	No	Yes	Yes
8.	10	Spare Wheel and Carrier – Security, Inflation	Yes	No	No	No
9.	11	Vehicle to Trailer Coupling	No	N/A	N/A	N/A
10.	12	Trailer parking and Emergency Brake and Air Line connections	No	N/A	N/A	N/A
11.	13	Trailer Landing Legs	No	N/A	N/A	N/A
12.	14	Spray Suppression, Wings and Wheel Arches *(STGO Table 9)*	Yes	No	Yes	Yes
13.	15	Cab Security	Yes	No	No	No
14.	16	Cab Doors	Yes	No	No	No
15.	17	Cab Floor and Steps – Cleanliness, Condition	Yes	No	No	No
16.	18	Seats – Security, Adjustment	Yes	No	No	No
17.	19	Security of Hook Block, Body, Lockers, Containers, Loose lifting Equipment and crane outriggers	Body only	No	No	No

Item	HGV Manual Inspection No.	Subject	Applicable?	STGO Derogations		
				Category A	Category B	Category C
18.	20	Condition of Body	Yes	No	No	No
19.	22	Mirrors and Indirect Vision Devices – Adjustment, Cleanliness	Yes	No	No	No
20.	23	Glass and View of the Road – Condition, Cleanliness	Yes	No	No	No
21.	25	Windscreen Washers and Wipers – Condition and Function	Yes	No	No	No
22.	26	Speedometer/Tachographs/Running Hours - Function, Odometer/Hours Reading	Speedo only	No	No	No
23.	27	Horn – Function, Audibility	Yes	No	No	No
24.	28	Driving Controls	Yes	No	No	No
25.	30	Steering Control	Yes	No	No	No
26.	33	Speed Limiter	No	N/A	N/A	N/A
27.	34	Pressure/Vacuum Warning and Build Up	Yes	No	No	No
28.	36	Hand Lever Operating Mechanical Brakes	Yes	No	No	No
29.	37	Service Brake Pedal	Yes	No	No	No
30.	38	Service Brake Operation	Yes	No	No	No
31.	39	Hand Operated Brake Control Valves	Yes	No	No	No
32.	41	Condition of Chassis	Yes	No	No	No
33.	42	Electrical Wiring and Equipment – Battery condition	Yes	No	No	No
34.	43	Engine and Transmission Mountings	Yes	No	No	No
35.	44	Fluid Leaks - Engine Oil, Cooling System, Brakes	Yes	No	No	No

Item	HGV Manual Inspection No.	Subject	Applicable?	STGO Derogations		
				Category A	Category B	Category C
36.	45	Fuel Tanks and Systems	Yes	No	No	No
37.	46	Exhaust System and Nuisance	Yes	No	No	No
38.	48	Suspension – Air and Fluid leaks	Yes	No	No	No
39.	53	Axles, Stub Axles and Wheel Bearings	Yes	No	No	No
40.	54	Steering Mechanism – Power	Yes	No	No	No
41.	57	Transmission	Yes	No	No	No
42.	58	Additional Braking Devices	Yes	No	No	No
43.	59	Brake System and Components - Air and Fluid Leaks, Drain air tank, Fluid levels	Yes	No	No	No
44.	62	Rear Markings and Reflectors	Yes	No	No	No
45.	63	Lamps	Yes	No	No	No
46.	66	Lights - Direction Indicators, Brake Lights, Running Lights, Headlamps, Rear Lights and Hazard Warning	Yes	No	No	No
47.	67	Headlamps – High/Low Beam operation, Aim	Yes	No	No	No
48.	71	Service Brake Performance *(STGO Table 9)*	Yes	No	Yes	Yes
49.	72	Secondary Brake Performance *(STGO Table 9)*	Yes	No	Yes	Yes
50.	73	Parking Brake Performance *(STGO Table 9)*	Yes	No	Yes	Yes
51	74	Other dangerous defects	Yes	No	No	No
52.	N/A	Auto Lube Reservoirs – Lube Level, Error free	If fitted	No	No	No
53.						

Annex C CPA Inspection Record Form VR1

Vehicle type and model:																	
Fleet identification:								Registration No									
VIN/Chassis number																	
Date of inspection:				Inspection location:										Odometer reading:			
STGO Cat	A	B	C	Inspection type				Regular inspection			Annual inspection			Re-inspection			Other

Item	HGV Manual No.	Inspection	Pass	Fail	Pass with Minor Defects	Advisory		Item	HGV Manual No.	Inspection	Pass	Fail	Pass with Minor Defects	Advisory
1.	1	Registration Plate						49.	36	Hand Lever Operating Mechanical Brakes				
2.	3	Seat Belts & Supplementary Restraint Systems						50.	37	Service Brake Pedal				
3.	5	Exhaust Emissions						51.	38	Service Brake Operation				
4.	6	Road Wheels and Hubs						52.	39	Hand Operated Brake Control Valves				
5.	7	Size and Type of Tyres *(STGO Table 9)*						53.	41	Condition of Chassis				
6.	8	Condition of Tyres						54.	42	Electrical Wiring and Equipment				
7.	9	Sideguards, Rear Under-Run Devices and Bumper Bars *(STGO Table 9)*						55.	43	Engine and Transmission Mountings				
8.	10	Spare Wheel and Carrier						56.	44	Oil Leaks				
9.	14	Spray Suppression, Wings and Wheel Arches *(STGO Table 9)*						57.	45	Fuel Tanks and Systems				
10.	15	Cab Security						58.	46	Exhaust Systems				
11.	16	Cab Doors						59.	48	Suspension				

12.	17	Cab Floor and Steps						60.	53	Axles, Stub Axles and Wheel Bearings				
13.	18	Seats						61.	54	Steering Mechanism				
14.	19	Security of Body						62.	57	Transmission				
15.	20	Condition of Body						63.	58	Additional Braking Devices				
16.	22	Mirrors and Indirect Vision Devices						64.	59	Brake System and Components				
17.	23	Glass and View of the Road						65.	62	Markers and Reflectors				
18.	25	Windscreen Washers and Wipers						66.	63	Lamps				
19.	26	Speedometer						67.	66	Direction Indicators and Hazard Warning Lamps				
20.	27	Horn						68.	67	Aim of Headlamp				
21.	28	Driving Controls						69.	71	Service Brake Performance *(STGO Table 9)*				
22.	30	Steering Control						70.	72	Secondary Brake Performance *(STGO Table 9)*				
23.	33	Speed Limiter						71.	73	Parking Brake Performance *(STGO Table 9)*				
24.	34	Pressure/Vacuum Warning and Build Up						72.	74	Other dangerous defects				
25.	1	Registration Plate						73.	36	Hand Lever Operating Mechanical Brakes				
26.	3	Seat Belts & Supplementary Restraint Systems						74.	37	Service Brake Pedal				
27.	5	Exhaust Emissions						75.	38	Service Brake Operation				
28.	6	Road Wheels and Hubs						76.	39	Hand Operated Brake Control Valves				
29.	7	Size and Type of Tyres (*STGO Table 9)*						77.	41	Condition of Chassis				
30.	8	Condition of Tyres						78.	42	Electrical Wiring and Equipment				
31.	9	Sideguards, Rear Under-Run Devices and Bumper Bars *(STGO Table 9)*						79.	43	Engine and Transmission Mountings				
32.	10	Spare Wheel and Carrier						80.	44	Oil Leaks				
33.	14	Spray Suppression, Wings and Wheel						81	45	Fuel Tanks and Systems				

		Arches *(STGO Table 9)*												
34.	15	Cab Security						82.	46	Exhaust Systems				
35.	16	Cab Doors						83.	48	Suspension				
36.	17	Cab Floor and Steps						84.	53	Axles, Stub Axles & Wheel Bearings				
37.	18	Seats						85.	54	Steering Mechanism				
38.	19	Security of Body						86.	57	Transmission				
39.	20	Condition of Body						87.	58	Additional Braking Devices				
40.	22	Mirrors and Indirect Vision Devices						88.	59	Brake System and Components				
41.	23	Glass and View of the Road						89.	62	Markers and Reflectors				
42	25	Windscreen Washers and Wipers						90.	63	Lamps				
43.	26	Speedometer						91.	66	Direction Indicators & Hazard Warning Lamps				
44.	27	Horn						92.	67	Aim of Headlamp				
45.	28	Driving Controls						93.	71	Service Brake Performance *(STGO Table 9)*				
46.	30	Steering Control						94.	72	Secondary Brake Performance *(STGO Table 9)*				
47.	33	Speed Limiter						95.	73	Parking Brake Performance *(STGO Table 9)*				
48.	34	Pressure/Vacuum Warning and Build Up						96.	74	Other dangerous defects				

Notes relating to defects *(including location(s) where applicable)*

Results of inspection	Pass*	Fail*	Pass with minor defects* *(mandatory advisory(s))*	Advisory(s)*	*Delete as appropriate
Name of inspector			Signature		

Annex D - Pass Certificate VR2

CPA Roadworthiness Inspection Pass Certificate VR2

Certificate Serial No. | | | | | | | | | | | | | | | | | | |

The vehicle of which the registration mark

is | | | | | | | | | with

VIN/chassis No. | | | | | | | | | | | | | | | | | | |

Fleet No. | | | | | | | | | | | | | | | | | | |

has been examined in accordance with the guidance provided in the CPA "*Guide to Maintaining Roadworthiness of Mobile Cranes"* and it is hereby certified that the vehicle was found to comply with the statutory requirements prescribed within the guidance.

This certificate is valid from the date of issue until the last day of the month of:									
(a) Date of issue of certificate:									
(b) Date inspection completed *(if different from (a)):*									
Name of Inspector:									
Signature:									
Location at which inspection was carried out:									
Odometer reading at time of inspection:									

Notes:

1. Nature of Inspection Certificates

This certificate relates only to the condition of the vehicle at the time of inspection. It should not be regarded as evidence of its condition at any other time. It should not be taken as evidence that the vehicle is free from defects. It is not evidence of the general mechanical condition of the vehicle. Nor can it be taken to remove the requirement for the user to ensure that the vehicle is roadworthy at all times when it is used on a road.

2. Validity and Renewal of Certificates

This certificate should be renewed on or before its expiry date if the vehicle is to continue in use. Arrangements for a renewal inspection should be made in good time. Certificates are issued for a period of twelve months. This period can be extended if the crane is inspected up to two months prior to the expiry of the current certificate.

3. Retention and Production of Inspection Certificates

You are advised to keep this certificate readily available for inspection in order to demonstrate that the vehicle has been inspected under the CPA Guide to Maintaining Roadworthiness of Mobile Cranes within the past twelve months. You should also produce it (whether or not its expiry date has passed) when the vehicle is next subjected to an annual roadworthiness inspection.

4. Loss

If this certificate is lost or defaced a duplicate should be obtained from the organisation who carried out the inspection.

Annex E – Failure Notification Form VR3

CPA Roadworthiness Inspection Failure Notification VR3

Document Serial No. [ ]

The vehicle of which the registration mark or serial number

is [ ][ ][ ][ ][ ][ ][ ][ ] with

VIN/chassis No. [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

Fleet No. [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

has been examined in accordance with the requirements of the guidance provided in the CPA "Guide to Maintaining Roadworthiness of Mobile Cranes".

I refuse a Pass Certificate on the grounds that:

1. This vehicle has a major/dangerous defect or defects, indicated on the CPA Inspection Record Form, which poses a significant risk of injury to persons and must be rectified before the vehicle travels on the highway. *
2. A full examination of its braking system or systems as required by the Regulations could not safely be carried out because of the defects in the construction or condition of the vehicle, as indicated on the inspection record, which were present at the time of the examination. *

* Delete as appropriate

Date of issue of fail notification:
Name of Inspector:
Signature:
Location at which inspection was carried out:

Notes

1. *Where a vehicle does not comply with the inspection requirements, the item, or items, with which this does not comply will be indicated on the CPA Inspection Record Form. In addition, the inspector may give additional information about the failure to comply in the section "notes relating to the defect marking". A Pass Certificate will not be issued.*
2. *When any defects on the vehicle have been rectified it should be submitted for reinspection to the organisation and inspector who carried out the original inspection*

Annex F – Suitable qualifications for vehicle examiners

Qualification Title	Qualification Reference Code	Organisation Name	Qual. Level	Qual. Type
Current Qualifications				
City & Guilds Level 5 IVQ Advanced Technician Diploma in Motor Vehicle Engineering	500/5982/8	City & Guilds	5	QCF
City & Guilds Level 3 Diploma in Light Vehicle Maintenance and Repair Principles	501/0019/1	City & Guilds	3	QCF
City & Guilds Level 3 Diploma in Light Vehicle Maintenance and Repair Competence	501/0017/8	City & Guilds	3	QCF
City & Guilds Level 3 Diploma in Heavy Vehicle Maintenance and Repair Principles	500/9983/8	City & Guilds	3	QCF
City & Guilds Level 3 Diploma in Heavy Vehicle Maintenance and Repair Competence	500/9984/X	City & Guilds	3	QCF
IMIAL Level 3 Diploma in Heavy Vehicle Maintenance and Repair Principles	500/9812/3	IMI Awards Ltd	3	QCF
IMIAL Level 3 Diploma in Heavy Vehicle Maintenance and Repair Competence	500/9823/8	IMI Awards Ltd	3	QCF
IMIAL Level 3 Diploma in Light Vehicle Maintenance and Repair Competence	500/9815/9	IMI Awards Ltd	3	QCF
IMIAL Level 3 Diploma in Principles of Bus and Coach Engineering and Maintenance (Mechanical/Electrical)	600/0541/5	IMI Awards Ltd	3	QCF
IMIAL Level 3 Extended Diploma in Heavy Vehicle Maintenance and Repair Principles	600/1690/5	IMI Awards Ltd	3	QCF
IMIAL Level 3 Extended Diploma in Light Vehicle Maintenance and Repair Principles	600/1691/7	IMI Awards Ltd	3	QCF
IMIAL Level 3 Extended Diploma in Motorsport Vehicle Maintenance and Repair	600/2760/5	IMI Awards Ltd	3	QCF
IMIAL Level 3 NVQ Diploma in Bus and Coach Engineering and Maintenance	600/0323/6	IMI Awards Ltd	3	NVQ
IMIAL Level 4 Diploma in Vehicle Maintenance & Repair Competence	600/0177/X	IMI Awards Ltd	4	QCF
IMIAL Level 4 Diploma in Vehicle Maintenance & Repair Principles	600/0439/3	IMI Awards Ltd	4	QCF
Edexcel Level 3 BTEC National Certificate in Vehicle Technology	500/2320/2	Edexcel Limited	3	VRQ
Btec Diploma in Engineering (Automotive)	500/3903/9	Edexcel Limited	3	VRQ
Edexcel Level 3 BTEC National Diploma in Vehicle Technology	500/2321/4	Edexcel Limited	3	VRQ

IMIAL Level 3 Diploma in Transport Engineering Maintenance for Passenger Carrying Vehicles	100/5972/6	IMI Awards Ltd	3	VRQ
IMIAL Level 3 Diploma in Vehicle Maintenance and Repair	100/5570/8	IMI Awards Ltd	3	VRQ
IMIAL Level 3 NVQ in Vehicle Maintenance and Repair	100/5533/2	IMI Awards Ltd	3	NVQ
IMIAL Level 3 National Diploma in Vehicle Maintenance and Repair	100/5583/6	IMI Awards Ltd	3	VRQ
City & Guilds Level 3 Certificate in Vehicle Maintenance and Repair	100/5344/X	City & Guilds	3	VRQ
City & Guilds Level 3 Diploma in Vehicle Maintenance and Repair	100/5345/1	City & Guilds	3	VRQ
City & Guilds Level 3 NVQ in Vehicle Maintenance and Repair	100/5230/6	City & Guilds	3	NVQ
IMIAL Level 3 National Diploma in Vehicle Maintenance and Repair	100/4642/2	IMI Awards Ltd	3	VRQ
EDI Level 3 NVQ in Transport Engineering and Maintenance	100/4498/X	Education Development International plc	3	NVQ
IMIAL Level 3 NVQ in Transport Engineering and Maintenance	100/4495/4	IMI Awards Ltd	3	NVQ
EAL Level 3 NVQ in Automotive Engineering	100/3572/2	EMTA Awards Limited	3	NVQ
EDI Level 3 Certificate in Transport Engineering and Maintenance	100/2723/3	Education Development International plc	3	VRQ
EDEXCEL Level 3 BTEC National Diploma in Vehicle Repair and Technology	100/1389/1	Edexcel Limited	3	VRQ
EDEXCEL Level 3 BTEC National Certificate in Vehicle Repair and Technology	100/1388/X	Edexcel Limited	3	VRQ
Qualifications No Longer Available but still recognised				
City & Guilds Motor Vehicle Craft Studies	3810	City & Guilds	3	N/A
City & Guilds Repair & Servicing of Road Vehicles - Light Vehicle	3830	City & Guilds	3	N/A
City & Guilds Repair & Servicing of Road Vehicles - Heavy Vehicle	3830	City & Guilds	3	N/A
City & Guilds Motor Vehicle Technicians	390	City & Guilds	2	N/A
City & Guilds Motor Vehicle Technicians	390	City & Guilds	3	N/A
City & Guilds Full Technological Certificate	390	City & Guilds	4	N/A
BTEC Full Technological Certificate	*Not Known*	BTEC (Now Edexcel)	3	N/A

BTEC/SCOTVEC in Engineering	*Not Known*	BTEC (Now Edexcel)	3	N/A
BTEC/SCOTVEC in Motor Vehicle Studies	*Not Known*	BTEC (Now Edexcel)	3	N/A
ONC/HNC in Engineering (with suitable vehicle-based modules)	*Not Known*	Not Known	3	N/A
SQC-HNC (Scottish) Automotive Management with Tech	*Not Known*	Not Known	3	N/A
National Craftsman's Certificate	*Not Known*	City & Guilds et al	3	N/A
Other Acceptable Awards				
IMI ATA Registration at Diagnostic Technician Level		IMI Awards Ltd	3	N/A
IRTE IRTEC Registration at Advanced Technician Level		IRTE	3	N/A
Engineering Council Registration at Engtech Level		Engineering Council	3	N/A
Artificers Warrant Officer 1 or 2 Rank		*Not Known*	3	N/A
VM Class 1	*Not known*	*Not Known*	3	N/A

Note: *Qualification coding, titles and availability may differ from those listed when awarding/issuing organisation revisions or new additions are undertaken.*

Annex G – Irtec Inspection Technician License Requirements

The minimum entry requirement is 3 years industrial experience or a Level 3 S/NVQ (or equivalent qualification) **plus** at least one year's experience in a relevant industrial environment.

In order to achieve an Irtec licence, a technician must first carry out an hour-long theory (underpinning knowledge) test at an Irtec-approved assessment centre, before completing a practical assessment.

Practical assessments are carried out at an Irtec-approved assessment centre, although they can be carried out in the workplace (under controlled conditions) by an Irtec-approved assessor (additional charges may be applicable).

Once accredited, Irtec technicians agree to:

- abide by the Irtec code of conduct;
- receive a licence card, certificate;
- are placed on the Irtec technicians register.

The practical assessments in the Inspection Technician Licence are as follows:

- Inspection of Vehicles;
- DVSA/OCRS (theory test).

As part of the underpinning knowledge test related to their industry sector, candidates will also be asked fifty **theory** questions, e.g. large commercial vehicle, bus and coach or trailer.

30% of the questions will be **legislation** related, 70% will be **technical**.

Once the candidate has completed the underpinning knowledge theory test, they have 12 months in which to successfully complete all the practical assessments.

Annex H – Annual In-house Inspection

H.1 In-house Annual Inspection Management Structure

If the vehicle annual inspection is being undertaken in-house, an effective management structure should be put in place to ensure that everyone involved in the activity is aware of their responsibilities, properly briefed on their duties and that systems are in place to demonstrate independence and enable effective feedback, including the monitoring of inspections. A sample structure is shown in **Figure. H1.**

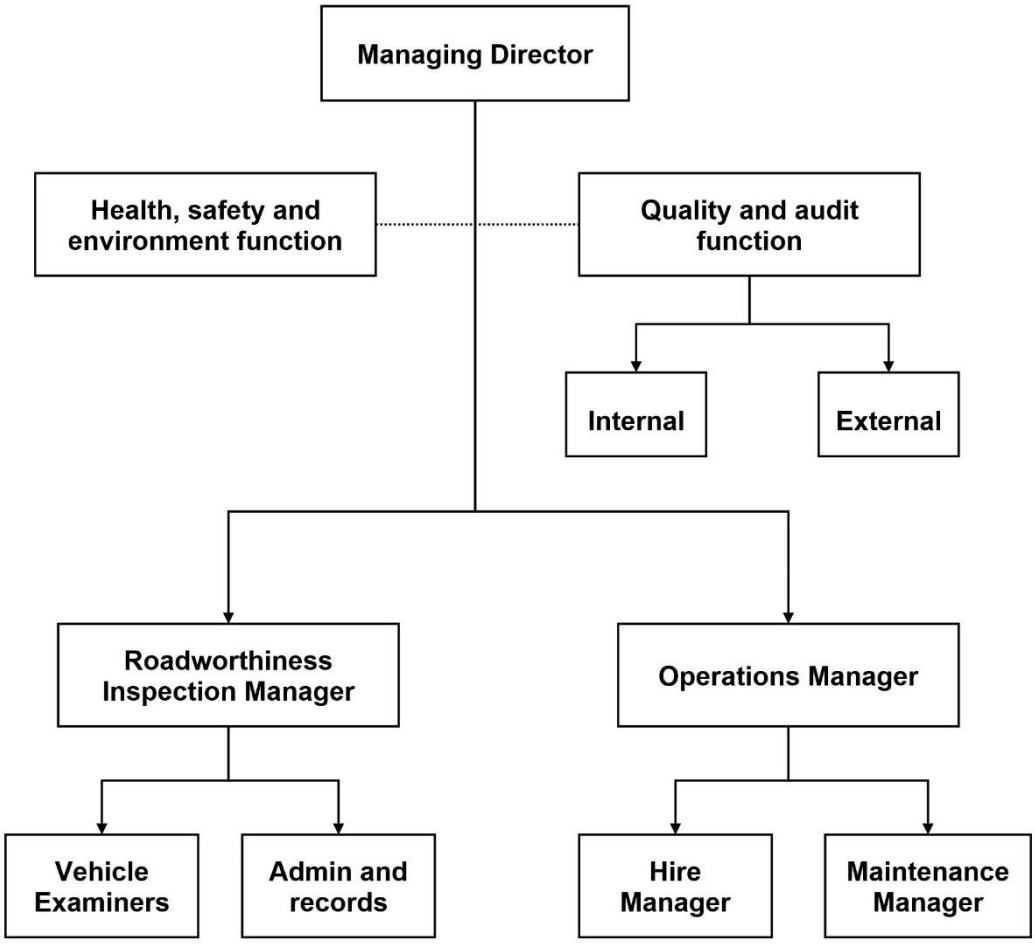


Figure H1. – Typical In-house Annual Inspection Organisation Structure

A number of measures can be taken which will help establish the independence of the competent persons:

- A fully documented, detailed and independently audited quality system such as ISO 9001;
- The roadworthiness inspection function reporting directly to the Managing Director or equivalent;
- An undertaking that the inspector will never inspect their own maintenance work, be involved in the operational management of the vehicle or be involved in any other conflicting activities;
- A statement that in the case of any conflict, the Managing Director will always back the inspector against commercial pressures from other parts of the organisation;

- The inspector has the authority to stop a vehicle owned or operated by the company from leaving the inspection area and travelling on the highway;
- The inspectors should be given adequate time to complete the inspection thoroughly;
- From this it is also clear that roadworthiness inspections, where a member of the maintenance team inspects their own work would not have the required degree of independence.

H.2 Auditing of In-house Roadworthiness Inspection Management Systems

Once an in-house roadworthiness inspection system has been established, it is important that it is independently audited at least every six months to ensure that the system is being adhered to and that it is functioning correctly. Auditing should be carried out by a qualified auditor from outside the company.

If a business has a formal quality management system such as an ISO 9001 accredited system, the vehicle inspection activity should be integrated into that system and the scheduled audits.

One provider of inspection system auditing services is Logistics UK

https://logistics.org.uk/services/consultingandstandards/vehicle-maintenance-audit

> Where companies do not have adequate resources and/or are not able to achieve the required degree of independence, they should outsource the inspection of vehicles to a third party.

Annex I – Competence Assessment Form

Vehicle Inspector Competence Assessment		
The required competencies for Vehicle Inspectors carrying out inspections test listed below. Record comments during interview to justify the assessment. Score after each interview: 4 Exceeds Criterion, 3 Meets Criterion, 2 Almost Meets Criterion, 1 Criterion Not Met. Review the scores to establish if each competence criteria has been met by the candidate.		
Competency 1 - Knowledge of Vehicles		
Competency Description - Up to date and in-depth knowledge of vehicles		
Competency Indicators	Comments and Assessment	Score
• Understands and is able to describe a vehicle's main components and their operation including; o Vehicle structure o Vehicle braking systems (hydraulic or air) o Suspension systems (air/hydraulic or mechanical) o Steering systems (including geometry) o Running gear/Power train o Chassis o Tyres o Lighting/electrical systems		
• Has documented experience in the area of vehicle engineering, repair or maintenance.		
• Keeps self up-to-date with technical continuous professional development.		
Competency 2 - Vehicle Examination		
Competency Description - Has experience of undertaking an examination of a vehicle's components and/or systems to determine compliance with legislation or test standards and/or serviceability.		
Competency Indicators	Comments and Assessment	Score
• Correctly uses inspection equipment;		
• Uses the relevant procedure(s) for testing all the vehicle systems/components identified as being part of the test;		
• Is able to identify those components that are defective or non-compliant to legislation or service standards;		
• Carries out vehicle examinations in accordance with relevant health and safety policies and procedures;		
• Remains composed and assertive when faced with conflict, provocation or high-pressure situations;		

Competency 3 – Personal Specification		
Competency Description – Has the necessary personal competencies to carry out vehicle examination successfully		
Competency Indicators	Comments and Assessment	Score
Making effective decisions • Make and record effective decisions following the appropriate decision-making criteria, framework or guidance		
• Undertake appropriate analysis to support decisions or recommendations		
• Investigate and respond to gaps, errors and irregularities in information		
Leading and communicating • Put forward their own views in a clear and constructive manner, choosing an appropriate communication method, e.g. email/telephone/face to face		
• Act in a fair and respectful way in dealing with others		
• Ask open questions to appreciate others' point of view		
Collaborating and partnering • Proactively contribute to the work of the whole team		
• Try to see issues from others' perspectives and check understanding		
• Listen to the views of others and show sensitivity towards others		
Managing a quality service • Act to prevent problems, reporting issues where necessary		
• Encourage customers to access relevant information or support that will help them understand and use services more effectively		
• Take ownership of issues, focus on providing the right solution and keep customers and delivery partners up to date with progress		

Annex J - Training Providers

Training courses covering the practice of roadworthiness inspections and Irtec technician accreditation are available from a number of sources and listed below.

A course on HGV Inspection Procedures and Standards is available from Logistics UK. The course is advertised as giving the required knowledge to candidates wishing to undertake the Irtec License underpinning knowledge test and practical assessment.

Details of the course can be found at: https://logistics.org.uk/training/technical-training-assessors-and-technicians

Courses on inspection procedures and standards incorporating the use of the Driver and Vehicle Standards Agency's Heavy Goods Vehicle Inspection Manual are undertaken by a number of training providers including:

- Vehicle Inspection and Training Services at: http://viats.com/Home.php
- Lloyd Morgan Group at: http://www.lloydmorgangroup.co.uk/
- GTG at: https://www.gtg.co.uk/

Other providers may be available and would normally be found on common web-based search engines.

Note: *Courses, providers and contact details may differ from those listed.*

Annex K - Bibliography

Legislation

The Road Traffic Act 1984, 1988 and 1991;

The Road Vehicles (Construction and Use) Regulations 1986 (As amended);

The Road Lighting Regulations 1989;

The Road Vehicles (Display of Registration Marks) Regulations 2001;

The Road Vehicles (Authorisation of Special Types) (General) Order 2003 ;

The Goods Vehicles (Plating and Testing) Regulations1988 (as amended);

The Goods Vehicles (Plating and Testing) (Miscellaneous Amendments) Regulations 2017

Other Guidance ;

The Heavy Goods Vehicle Inspection Manual 2021 edition, DVSA. *(download free from: hgv-inspection-manual.pdf (publishing.service.gov.uk)*

Guide to maintaining roadworthiness - Commercial goods and passenger carrying vehicles, DVSA *(download free from https://www.safedrivingforlife.info/sites/default/files/guide-to-maintaining-roadworthiness.pdf)*

Categorisation of Defects - 2021 edition, DVSA (download free from Categorisation of vehicle defects (publishing.service.gov.uk)

Requirements for In-service Performance Testing of the Chassis Brakes of Mobile Cranes Operating Under STGO, Construction Plant-hire Association Technical Information Note (download free from https://www.cpa.uk.net/safety-and-technical-publications/mobile-and-crawler-crane-guidance

Notification Requirements for Mobile Cranes and Engineering Plant, Construction Plant-hire Association Technical Information Note (download free from https://www.cpa.uk.net/safety-and-technical-publications/mobile-and-crawler-crane-guidance

Plating and Testing of Mobile Cranes Mounted on an HGV Chassis, Construction Plant-hire Association Technical Information Note (download free from https://www.cpa.uk.net/safety-and-technical-publications/mobile-and-crawler-crane-guidance

Useful websites

Department for Transport	www.gov.uk/government/organisations/department-for-transport
Driver and Vehicles Standards Agency	www.gov.uk/government/organisations/driver-and-vehicle-standards-agency
Logistics UK	www.logistics.org.uk
Institute for the Motor Industry	www.theimi.org.uk/
Road Haulage Association	www.rha.uk.net/
Society of Operating Engineers	www.soe.org.uk/

Annex L - Working Group Membership

Working Group Membership (Original)

Role	*Name*	*Employer*	*Representing*
Chairman	C Wood	Construction Plant-hire Association	CPA Crane Interest Group
Member	P Bradley	Baldwins Crane Hire Limited	CPA Crane Interest Group
Member	R Douglas-Jones	International Powered Access Federation	IPAF
Member	E Hudson	Liebherr (Great Britain) Limited	CPA Crane Interest Group
Member	S Leinster	Marsh Plant Hire Limited	CPA Crane Interest Group
Member	J Miller	Manitowoc Cranes UK	CPA Crane Interest Group
Member	J Moran	Flannery Plant Hire	CPA Member
Member	B Murphy	Camfaud Concrete Pumps Limited	British Concrete Pumping Interest Group
Member	N Peveller	Mammoet UK	CPA Crane Interest Group
Member	B Reilly	Reilly Concrete Pumping	British Concrete Pumping Interest Group
Member	G Weights	Ainscough Crane Hire Limited	CPA Crane Interest Group
Member	D Wheatley	Quinto Crane and Plant Limited	CPA Crane Interest Group
Secretary & Editor	Tim Watson	Construction Plant-hire Association	Construction Hoist Interest Group

Working Group Membership (2021 Revision)

Role	Name	Employer	Representing
Chairman	Peter Gibbs	Ainscough Crane Hire	CPA Crane Interest Group
Document reviewed by various members of the CPA Crane Interest Group			
CIG Co-ordinator	Rob Squires	Construction Plant-hire Association	CPA Crane Interest Group
Publication Editor	Ian Simpson	Construction Plant-hire Association	CPA Crane Interest Group

NOTE: *The above lists includes all those who have kindly given freely of their time and expertise to work on any of the versions of the guidance document and does not necessarily reflect the current membership of the Working Group.*

Reference No. CIG 1901
First Published: May 2019
Amendment: February 2022
Published by:
Crane Interest Group (CIG)
Construction Plant-hire Association
Email: enquiries@cpa.uk.net