



Driver & Vehicle
Standards
Agency

The Approved Tachograph Centre manual

Contents

Section 1

Introduction	5
--------------------	---

Section 2

Definitions	5
-------------------	---

Section 3

Becoming a tachograph centre	11
3.1 How to become a tachograph centre	11
3.2 The approval process	13
3.3 Fees	14
3.4 Standards of service from a centre to a vehicle presenter	14
3.5 Publication of authorised tachograph centre information	15
3.6 Facilities at a standard approved tachograph centre	15
3.7 Acceptable variations to existing approved tachograph centres	25
3.8 Requirements for remote area approved tachograph centres	26
3.9 Facilities at a remote area approved tachograph centre	26
3.10 Notifiable changes to centre approval	27
3.11 Automatic cessation of approval	28
3.12 Approved tachograph centre owner convicted	29
3.13 Surrender of approval	29
3.14 Centre health and safety	29
3.15 Use of approved tachograph centres facilities by DVSA	30
3.16 Additional requirements for an existing designated premises/ATF to become an approved tachograph centre	30

Section 4

Security	31
4.1 Introduction	31
4.2 Requirements	31
4.3 Security of seals and sealing devices	32
4.4 Security of digital tachograph workshop cards	33
4.5 Digital tachograph software security	34
4.6 Digital tachograph downloaded data security	34

Section 5

Equipment	35
5.1 Introduction	35
5.2 Equipment requirements for an analogue approved tachograph centre	35
5.3 Additional equipment required for digital tachograph centre approval	36
5.4 Other equipment required for ALL tachograph centres (analogue and digital)	36
5.5 Conformance testing of accepted equipment	37
5.6 Overdue conformance/calibration testing of equipment or malfunction of equipment	38
5.7 General maintenance of equipment	38

Section 6

Quality Control	39
6.1 Introduction	39
6.2 The role of the quality controller	39
6.3 Quality assurance checks of records	39
6.4 Quality assurance checks of equipment	40
6.5 Quality assurance checks of technicians	40
6.6 Quality assurance checks of security	41
6.7 Periodic DVSA inspection	41
6.8 Technician quality control document	41

Section 7

Nominated Technicians	42
7.1 Criteria for becoming a nominated technician	42
7.2 Approval of nominated technicians to work at an approved centre	42
7.3 Nominated technicians convicted of an offence	43
7.4 Supervision of unqualified persons by nominated technicians	43
7.5 Nominated technician training and competence	43
7.6 Training	44
7.7 Workshop cards (smart cards)	44

Section 8

Disciplinary System	46
8.1 Introduction	46
8.2 Underlying principles	46
8.3 Nominated technicians	47
8.4 Approved tachograph centres	47
8.5 Disciplinary action examples	48
8.6 Levels of disciplinary action	48
8.7 Normal levels of action	49
8.8 Disqualification and/or withdrawal	50
8.9 Offences by an approved tachograph centre	50
8.10 Offences by a nominated technician	52
8.11 Notification of disqualification or withdrawal	55
8.12 Period of disqualification of a nominated technician	56
8.13 Period of disqualification of an approved tachograph centre	56
8.14 Multi - site tachograph centres	56
8.15 Appeals and hearings	57
8.16 Informal hearings	57

Section 9

Procedures for Analogue Tachographs	58
9.1 General requirements	58
9.2 Condition of vehicle	59
9.3 Inspection following the installation of recording equipment	59
9.4 Initial calibration/6 year calibration procedure	60
9.5 Two yearly periodic inspection procedure	66
9.6 Minor repairs	70
9.7 Replacing broken seals	71
9.8 Replacement of tachograph heads	72
9.9 Replacement of other parts	72
9.10 Seals broken for the fitting of speed limiters	73
9.11 Repairs which do not require the seals to be broken	73
9.12 Authorised repairer scheme	73
Initial calibration/6 year calibration procedures	74
Two yearly periodic inspection procedures	75
DVSA intelligence unit	76

Section 10

Procedures for Digital Tachographs	77
10.1 Introduction	77
10.2 Common requirements	80
10.3 Condition of vehicle	81
10.4 Digital tachograph inspection/calibration procedures	81
10.5 Digital tachograph initial calibration procedure	82
Digital tachograph - first calibration procedure	87
10.6 Digital tachograph two yearly periodic inspection procedure	88
Digital tachograph 2 yearly calibration procedure	94
10.7 Repair/minor work to a digital tachograph	95
10.8 Decommissioning a digital tachograph	95
10.9 Certificate of download inability	95
10.10 Records of decommissioning/download inability	96
10.11 Commercial data downloading	96
10.12 Fitment of digital tachographs to M1/N1 vehicles	96



Driver & Vehicle Standards Agency

Introduction

- 1.1** The European Community Tachograph Regulations (EC Reg 3821/85, as amended and Annex 1B to EC Reg 3821/85 published as EC Reg 1360/2002) requires European Member States to approve workshops and fitters who install, inspect and repair the recording equipment, known as tachographs, defined within these Regulations.
- 1.2** In the UK national legislation (Road vehicle (Construction & Use) Regulations 1986, Regulation 36 (as amended)) provides powers to the Secretary of State for Transport to do this and this manual sets out the conditions of approval and the requirements for correct operation of Approved Tachograph Centres. It also explains what is required of all nominated technicians who undertake the tasks and responsibilities associated with the installation, inspection and calibration of recording equipment and whose duties are described in these pages.
- 1.3** The requirements outlined in this manual, set the standards for approval and must be adhered to at all times by Approved Tachograph Centres and their staff when conducting tachograph work. It must be available for reference by staff of Approved Tachograph Centres at all times during their working hours and should be used in-conjunction with copies of the Tachograph Regulations detailed in paragraph 1.1. Approved tachograph centres or nominated technicians found in breach of any of the requirements detailed in the Manual may be subject to disciplinary action in line with the disciplinary section of this manual.
- 1.4** DVSA will, as appropriate, amend and update the contents of this Manual and will advise tachograph centres and other interested parties accordingly. Copies of, and amendments to, this manual together with copies of Tachograph Centre Special Notices may be obtained direct from DVSA, or on-line at www.transportoffice.gov.uk.

[Contents](#)

Definitions

Activation	Phase where the digital recording equipment becomes fully operational and implements all functions, including security functions. Activating recording equipment requires the use of a workshop card and the entry of its PIN code.
ADR	Is the "European Agreement concerning the International Carriage of Dangerous Goods by Road" and is the term used when referring to Dangerous Goods Vehicles. These are vehicles that have met additional specifications to be certified to carry cargoes of dangerous or hazardous nature.
Analogue Tachographs	Recording equipment complying with Annex 1 of EC Reg. 3821/85

Approved Tachograph Centre - ATC	A person, entity or organisation to which a Notice of Approval [GV209] has been issued and which conducts the Installation, Activation, Inspection, Checks, Calibration and Sealing of Recording Equipment, fixes Calibration Plaques and issues Certificates in accordance with the requirements of EEC Regulation 3821/85 (as amended) and GB supporting legislation and requirements.
ATCM	Approved Tachograph Centre Manual
Approved Tachograph Repairers	These are organisations that are approved by DVSA to conduct major repairs and refurbishment of analogue tachographs for supply as service exchange replacement tachographs.
Authorised Testing Facility (ATF)	These are premises operating as a DVSA approved test lane used for the statutory annual testing or inspection of heavy goods vehicles and/or passenger carrying vehicles.
Calibration	Analogue: The setting of the tachograph operating parameters within the tolerances of accuracy specified in EEC Regulation 3821/85 as amended. Digital: The updating or confirming of vehicle parameters to be held in the data memory of the Vehicle Unit as defined by Commission Regulation 1360/2002/EC definition "f".
Calibration Bay	One covered commercial vehicle bay capable of enclosing, by means of walls and doors (so as to afford protection against the weather) a vehicle 15m long, 2.6m wide and 4.57m high while the vehicle is sat in the calibration rollers, in which the equipment necessary to determine the "L" and "W" for the vehicle is installed.
Calibration Certificate	Certificate issued following satisfactory inspection and calibration of a tachograph.
Calibration Plaque	A tamperproof adhesive label or fixed & sealed metal/plastic plate containing vehicle / tachograph details and the tachograph set parameters.
Certificate of download inability	Certificate issued to the customer when the data cannot be downloaded as part of the decommissioning of a digital vehicle unit (VU).
Conditions of Approval	Requirements contained within the Approved Tachograph Manual in pursuance of powers granted to the Secretary of State to approve Tachograph Centres.
Conformance Testing	The periodic testing and calibration of approved test equipment to ensure that it continues to be functioning correctly within the specified tolerances.
Data Protection Act 1981	Legislative requirements for the protection of personal data.
Declaration	Ref 207a
Decommissioning	Removal of a tachograph from a vehicle for the purposes of repair or replacement.

Department for Transport	UK Government Department with overall responsibility for all matters relating to drivers' hours regulation and management of the tachograph scheme.
Designated Manager	The named point of contact for DVSA of the Approved Tachograph Centre, who is designated by the holder of the approval to be responsible for the operations of the Centre. They are to ensure their name is registered with the Tachograph Administration Team in Swansea and their contact details are correct. Changes to the Designated Manager must be notified to the Team in Swansea immediately.
Designated Premises	Now referred to as an Authorised Testing Facility. See "Authorised Testing Facility" for a definition.
Digital Tachograph	Recording equipment conforming to Annex 1B EC Regulation 3821/85.
Duly Authorised Signatory	<p>A person who is authorised to sign applications and submit supporting documents by, or on behalf of, the entity making the application.</p> <p>◆ An Individual; In this case the person making the application is known as a sole trader who must personally sign it.</p> <p>◆ A Partnership; In the case of a partnership the applicant would be the partnership itself (e.g. the partnership of A Person and A N Other) and the application is to be signed by a partner or person '<i>duly authorised</i>' by the partnership to do so: confirmation that the person is '<i>duly authorised</i>' in the form of a statement to that effect signed by a partner will be required together with a copy of the current partnership agreement;</p> <p>◆ A Limited Company: In the case of a limited company the application, and subsequent approval, would be in respect of the company itself, not the directors or company management staff regardless of who owns the company and who its directors are. The application is to be signed by any person '<i>duly authorised</i>' by the company to do so. Written confirmation that the person is '<i>duly authorised</i>' signed by an 'officer of the company' is required. A copy of the current registrar of company's record showing details of officers of the company will also normally be required to validate the confirmation.</p>
DVSA	The Driver and Vehicle Standards Agency - an executive agency of the Department for Transport, appointed to conduct work on behalf of the Secretary of State for Transport. DVSA is responsible for ensuring compliance with and enforcement of drivers' hours' legislation in GB and for monitoring of the Tachograph Scheme on behalf of the Department for Transport.

Electronic adaptor / interface	Used to allow the fitment of an analogue tachograph into M1 / N1 classes of vehicle (see Commission Regulation (EC) No 1056/97) and for digital , vehicles put into service for the 1 st time from 1 st May 2006 to 31 st December 2013 (see Commission Regulation (EC) No 68/2009) where provision has not been made in the gearbox for the direct fitment of a type approved sender unit.
Free running roller test equipment	Conventional tachograph calibration rollers where the vehicle drives the rollers.
Great Britain	Means England, Scotland and Wales.
GV207	Application form to be used when making an application to apply for Approval, or to apply to make changes to an existing Approval.
GV207a	Declaration of conviction / non conviction of Directors of company owning Centre, to be completed and forwarded with GV207.
GV208	Report of Initial Inspection of Proposed Tachograph Centre. This is completed by the DVSA Area Centre Examiner carrying out the visit.
GV208D	Report of Inspection of Current Analogue Tachograph Centre Upgrade to Digital Status. This is completed by the DVSA Area Examiner carrying out the visit.
GV209	Notice of Approval. To be displayed on the obligatory notice board.
GV210	Notice of Refusal to approve a Centre or changes.
GV211	Tachograph Centre Inspection Report.
GV212	Register of plaques issued by an Approved Tachograph Centre. This must be in electronic format for Centres with Digital Approval. Technicians working at digital approved centres that have not attended a digital training course and only carry out analogue work need to be locally trained to input information into the electronic GV212. Analogue approved only centres may continue with a manual copy.
GV213	List of Nominated Technicians which must be displayed on the obligatory notice board at the Approved Tachograph Centre.
GV214	Notice of Maximum Fees Chargeable by an Approved Tachograph Centre. This must be displayed on the obligatory notice board.
GV215	Warning notice that is required to be displayed at the Approved Tachograph Centre. This must be displayed on the obligatory notice board.
GV219	List of Opening Times. These are the opening times that a Centre has agreed during the approval process to be available for tachograph work for a customer. This must be displayed on the obligatory notice board.

Installation Inspection	The inspection to be carried out on a tachograph system, to ensure correct fitment and functionality of the system and to ensure it is correctly calibrated, sealed and fitted with a valid calibration plaque in accordance with EC Reg 3821/85 as amended.
Linear Track	A 20 metre measured line and an approach area approved by DVSA as suitable for use by the Approved Tachograph Centre to conduct calibration of tachographs on vehicles not able to be accommodated on roller test rigs or in the event of roller test rig failure.
M1/N1 Vehicle Category	Category M1, any passenger carrying vehicle that can seat 8 passengers excluding the driver. Category N1, any goods vehicle having a laden mass up to 3.5 tonnes
Nominated Technician	A person who satisfies all of the following criteria: <ol style="list-style-type: none"> 1. Has been proposed as suitable by an Approved Tachograph Centre. 2. Has been accepted by DVSA as a person of good repute suitable to conduct the Installation, Activation, Inspection, Checks, Calibration and Sealing of Recording Equipment, fixes Calibration Plaques and issues Certificates. 3. Has successfully completed specialised training to enable him/her to conduct the Installation, Calibration and Inspection of Tachograph Systems. 4. Maintains a current and valid training certificate. 5. Is registered on the GB list of Nominated Technicians.
Over Speed Value	A programmable parameter in digital tachographs. It is the maximum allowable speed for the speed limitation device for that vehicle laid down in Council Directive 92/6/EEC as amended. See Digital overspeed setting table
Periodic Inspection	Inspection of tachograph system as required by Regulations to ensure correct fitment and functionality of the recording equipment and to ensure it is correctly calibrated, sealed and fitted with a legal calibration plaque.
Quality Controller	The Approved Tachograph Centre must, as part of its management procedures, implement an adequate system of quality control within their Centre and appoint a Quality Controller. The Quality Controller can be employed by the Centre or contracted by the Centre to carry out the checks. The Quality Controller must as a minimum be trained, to the same level as the technician.
RBT	A Roller Brake Tester that has been accepted by DVSA to have a conversion fitted to enable it to be used for tachograph calibration work at authorised Centres. The rollers are permanently engaged and are used to drive the vehicle during the procedure.

Recording Equipment	The total equipment intended for installation in road vehicles to show, record and store automatically or semi-automatically details of the movement of such vehicles and of certain work periods of their drivers. It includes the motion sensor, the tachograph or vehicle unit (digital tachograph) and associated cabling.
Remote Approved Tachograph Centre	An Approved Tachograph Centre that is given specific concessions on the requirements of approval due to the remote location and limited number (1000) of tachograph calibrations carried out per 12 month period.
Repute	The standing of Individuals and legal entities in respect of criminal convictions, financial standing and public conduct within the community.
RSL	Road speed limiter: A means of controlling the maximum stabilised set speed of the vehicle by the setting of either a mechanical or electronic device fitted to the vehicles systems.
Standard Approved Tachograph Centre	An Approved Tachograph Centre that meets the full requirements of approval.
Tachograph	Term used within the transport industry to describe recording equipment required by Regulations for the recording of drivers' hours. It is more specifically, the "tachograph head" and is the part of the recording system mounted in the cabin within view of the driver.
Tachograph Administration Team	Administration Team based in DVSA office in Swansea who support the tachograph scheme. Tel: 01792 454336 or email: tachosection@vosa.gov.uk
Tachograph Families	Groups of tachographs for which Approved Repairers within the UK may be approved to conduct repairs.
Tachograph Work	All activities required to be conducted by Approved Tachograph Centres for the purposes of installing, activating, inspecting, checking, calibrating, sealing, repairing, decommissioning & downloading tachographs together with the recording of such activities and the issuing of required documentation, plaques and certificates.
UK or United Kingdom	Means Great Britain (consisting of England, Wales and Scotland) and Northern Ireland.
Underside Inspection Bay	A bay containing a pit or a hard standing bay using a vehicle lift system. This can be one of a number of bays containing pits provided one is always accessible within 30 minutes. The underside inspection bay can be combined with the calibration bay.
VU	Vehicle Unit. The recording device (tachograph) fitted in the vehicle cabin in the field of view of the driver.



Driver & Vehicle Standards Agency

3.1 How to become an Approved Tachograph Centre

3.1.1 An application for a new approval or for an additional class of approval must be made completing form GV207 "Application for Approval as a Workshop for Recording Equipment (Approved Tachograph Centre)". The form is available from your local DVSA Area Centre Examiner or from www.transportoffice.gov.uk and should be returned to the Swansea office (address at top of form) with supporting documentation and the appropriate fee, once completed.

Note 1: An application from an Approved Tachograph Centre for approval to conduct tachograph work on an additional class of tachographs (e.g. digital tachographs) will be considered acceptable where they continue to comply with the workshop dimensional requirements accepted under their current approval.

Note 2: Following the acceptance of Roller Brake Testers, with a conversion fitted to be used for the calibration of tachographs, DVSA Authorised Testing Facilities (ATF) may now apply to use their ATF lane for the purpose of tachograph work also. For Approved Tachograph Centres to act as ATFs they must also comply with the latest version of Conditions of Approval for Authorised Testing Facilities Tier 1. It should be noted that only RBT systems that are approved are suitable for use in Approved Tachograph Centres. See Approved Equipment section

3.1.2 Applications may be submitted by any one of the following:

- 3.1.2.1 A sole trader – application must be made in their own name, and signed by the individual.
- 3.1.2.2 A partnership – application made in the name of all the partners, and should be signed by one of the partners, or a duly authorised person.
- 3.1.2.3 A limited company – application made in the name of the limited company, and signed by an officer of the company or a duly authorised person.

Note: Approvals will not be issued to entities under trading names, only to one of the above legal entities.

3.1.3 The application form (GV207) must be accompanied by all items listed below

3.1.3.1 A complete site plan showing:

- a. The buildings
- b. Location of the calibration bay(s) within the building(s)
- c. Location of the linear track
- d. Access to the public highway
- e. The parking area(s)
- f. Fully dimensioned drawings of the proposed inspection/calibration bay(s) showing the location and dimensions of
 - 1. Adjacent equipment
 - 2. Adjacent parts of the building
 - 3. The calibrating equipment
 - 4. Entrances and exits
 - 5. The secure working area
 - 6. The reception area / drivers waiting area
 - 7. The safe(s)
 - 8. The secure slam box(s)
 - 9. The obligatory notice board(s)

3.1.3.2 Details of the sole use of site:

If the applicant is the site owner then copies of Land Registry documentation confirming this must be supplied.

OR If Land Registry documentation is not available then proof of ownership with written explanation from a solicitor must be supplied.

If the applicant is not the site owner, evidence that the applicant has the right of exclusive use of the premises, including use as an Approved Tachograph Centre, in the form of lease, rental agreement or licence must be supplied.

AND In addition, proof that the person or body granting the lease owns the site; or if they are lease holders of the site, that their lease allows sub-letting or assignment of all or part of the lease to someone else.

3.1.3.3 Evidence of planning permission, exemption from planning permission or written confirmation from the Local Authority that existing planning approval covers use of the site for the purpose of this business.

3.1.3.4 Two character references for each person named on the application form, or each director in respect of limited companies. These must be from reputable sources e.g. barrister, solicitor, accountant or Justice of the Peace. References must be provided on headed paper, and must include a contact telephone number on which DVSA can make further enquiries. The references must include

- a. Status of referee
- b. How long have they known the applicant
- c. Relationship of the referee to the applicant e.g. professional, social
- d. State applicant is of good repute
- e. Confirmation of the suitability of the applicant to operate an Approved Tachograph Centre on behalf of the Secretary of State

3.1.3.5 Evidence of sound financial standing, this should be a reference from a bank or building society. If this is not available you may submit:

- a. A reference from a qualified accountant on headed paper
- b. Copies of properly audited accounts
- c. For new business, references based on a business plan stating that in the professional opinion of the referee that the plan is realistic and there is sufficient capital or financial backing to implement the plan

3.1.3.6 A declaration of Conviction / Non Conviction (GV207a) for each person named on the application. In the case of a partnership, this would be separate declarations for each of the partners. In the case of a company, this would be separate declarations for the company and each director.

3.1.3.7 **In the case of a partnership only**, a copy of the partnership agreement.

3.1.3.8 **In the case of a limited company only**, a copy of the Certificate of Incorporation.

3.1.3.9 Supporting evidence to demonstrate that the applicant has satisfactory arrangements for the provision of suitable technical support and information, from a recognised Technical Support Organisation / tachograph manufacturer.

- 3.1.3.10 Supporting evidence to demonstrate that the applicant has satisfactory arrangements for the provision of training for the Nominated Technicians, from a DVSA approved tachograph training supplier.
- 3.1.3.11 Supporting evidence to demonstrate that the applicant has satisfactory arrangements with a supplier, for the supply of tachographs, spare parts and consumables required to enable tachograph work to be satisfactorily conducted.
- 3.1.3.12 Supporting evidence to demonstrate that the applicant has satisfactory arrangements for the provision of routine inspection, maintenance and conformance checking of tachograph test equipment.
- 3.1.3.13 A check list (GV207CL) of all required supporting documentation to be sent with the Application form (GV207) is available from www.transportoffice.gov.uk.

3.2 The approval process

- 3.2.1** Following the receipt of the application form, attachments and fees by the DVSA office in Swansea, an inspection of the proposed premises / site will be required. The DVSA Area Centre Examiner whose area the Centre is covered by will contact the applicant and arrange a suitable appointment.
- 3.2.2** The DVSA Examiner will, where appropriate, discuss areas that do not meet the requirements and look at the options for acceptable changes. If the proposals contained within the application meet the approval requirements, the applicant will receive Approval in Principle in writing. **Centres should not perform alterations to the site prior to receiving Approval in Principle.**
- 3.2.3** If there are any aspects of the site/equipment that do not meet the requirements, the Applicant will be notified in writing.
- 3.2.4** Final approval will only be granted when all of the following conditions have been met:
 - 3.2.4.1 The Conditions of Approval of ATCM have been met in full.
 - 3.2.4.2 At least one of the proposed nominated technician(s) has been accepted by DVSA as being of suitable repute and competence, having completed suitable training and will be included on the list of Nominated Technicians (GV213)
 - 3.2.4.3 Acceptable Quality Control and Workshop Management Audit systems are in place.
- 3.2.5 Delay in Completion:** DVSA will write requesting evidence of intent to proceed if an application is not completed within 6 months of submission and does not appear to be proceeding. If no reply is received within one month, or the reply is such that the terms of the initial Approval in Principle are no longer valid, then the application will be refused. Notification of this refusal will be in writing (form GV210)
- 3.2.6 Duration of Approval as an Approved Tachograph Centre:** Initial approval, when issued between 1st February and 30th October will expire on 31st January of the following year. Approvals issued between 1st November and 31st January in any year will expire on 31st January in the following year.

3.2.7 Renewal of Approval: Approval as a tachograph centre will be renewed annually to cover a period of 1st February to 31st January of the following year, and is conditional on the Centre's satisfactory operation and continued compliance with the conditions of approval, including the payment of the appropriate annual fee.

3.3 Fees

3.3.1 There are no public funds used to support Approved Tachograph Centres and their operations must be financed from revenue. The Secretary of State sets the **maximum fees** which Approved Tachograph Centres can charge for installation **inspections**, calibrations, two year **inspections** and six yearly **inspections**. This is applicable for both analogue and digital tachograph work. The current fees are to be displayed by the Centre using the GV214 notice. Changes to the fees will be notified to the Centres via the Special Notice system. All other work – e.g. sale and installation of recording equipment, minor repairs etc – may be charged at normal commercial rates.

3.3.2 Centres are required to pay a fee to DVSA at the time of making their application for approval and a renewal fee is payable annually thereafter; current fees are available by contacting the DVSA office in Swansea. If following a request from DVSA, an Approved Tachograph Centre fails to pay a renewal fee it will be subject to the disciplinary provisions set out in this Manual, and will result in renewal of the Approval being declined. In such cases the Approved Tachograph Centre will be required to cease conducting tachograph work from the expiry date of the approval pending receipt, and consideration for acceptance of a new application for Approval.

3.4 Standards of service from a centre to vehicle presenter

3.4.1 All-Comers: Approved Tachograph Centres are expected to provide a service to "all-comers" and to be able to conduct Inspections and Calibrations of all tachographs of the type (analogue or digital) for which they are approved – irrespective of the make of tachograph. It is recognised however, that where the replacement of a tachograph is required, centres may not be able to offer a like for like exchange but may instead elect to offer a substitute tachograph of a different make or model (subject to technical suitability and the acceptance of the substitution by the customer).

3.4.2 Opening Times: Centres must be able to offer installations, inspections and calibrations during the hours notified to DVSA at the time of approval, or subsequently amended in writing. These opening times must be clearly displayed on the GV219 on the obligatory notice board.

3.4.3 Appointments for Inspections and Calibrations: Approved Tachograph Centres must provide facilities to enable vehicle presenters to make appointments for inspection and calibration both by telephone and by personal visit. An Approved Tachograph Centre must meet all reasonable requests for tachograph services. They must offer an appointment to install, inspect and calibrate any vehicle of a class within their approval at the earliest practical opportunity bearing in mind their existing tachograph work load.

3.4.4 Notice of Refusal: A Centre will, on request from the customer, give written notice of a refusal by the Centre to carry out any service sought, or reasons why an appointment cannot be made. This should be copied to the local DVSA Area Tachograph Centre Examiner.

3.5 Publication of authorised tachograph centre information

- 3.5.1** Once authorised, DVSA is required to include details of the Approved Tachograph Centre, seal identification number and the names of Nominated Technicians on a central register. Details of all GB Approved Tachograph Centres are provided to the European Commission and other Member States and a list of Approved Tachograph Centres is published by DVSA and can be found on www.transportoffice.gov.uk.
- 3.5.2** DVSA will, on receipt of a lawful request, release information about the applicant and their business to other enforcement bodies for the purpose of investigating and detecting crime or the prosecution of offenders. This covers specific requests from for example, the Police, Customs and Excise or the Inland Revenue. DVSA will not release personal information in response to general enquiries, but has an obligation under The Freedom of Information Act to release other information. Such information includes the trading name, address and phone number of the Approved Tachograph Centre to assist the public in finding a location of a suitable Centre able to conduct tachograph work.

3.6 Facilities at a standard approved tachograph centre

- 3.6.1** Applicants for approval as a Standard Approved Tachograph Centre must ensure that suitable facilities, arrangements and equipment for the installation, inspection, calibration and decommissioning of recording equipment fitted to vehicles are provided and maintained. **All items in section 3.6 must be provided by the Tachograph Centre in order to be approved and remain approved.**
- 3.6.2** As a minimum the site must have all of the following:
- 3.6.2.1 Off road parking to accommodate at least two commercial vehicles which are 15 metres long and 2.6 metres wide. The parking bays must be marked "Tachograph Parking ONLY".
- 3.6.2.2 A clear and unobstructed access route from the site entrance to the parking and the calibration bays.
- 3.6.2.3 Ingress and egress that allows vehicles to enter and leave the site in a safe manner.
- 3.6.2.4 The prescribed Approved Tachograph Centre sign (see Appendix H). It must be displayed in a prominent position on the exterior of the building, no part higher than 4.5 metres from the ground (otherwise planning permission may be required) and no more than one sign on each road frontage. Each class of approval, analogue and / or digital, must also be clearly shown above, below or adjacent to the main Approved Tachograph Centre sign.
- 3.6.2.5 **A Reception Facility:** This must be a clearly identified, weatherproof public reception and / or waiting room where the driver of the vehicle may remain while the vehicle undergoes tachograph work. (For health & safety reasons the driver is not to be permitted to remain in the calibration bay while calibration works is being undertaken). Displayed in the reception facility must be a notice board (for Tachograph Scheme notices) with a protective transparent covering. The notice board is to be of sufficient size to accommodate the five A4 notices in portrait format listed in 3.6.2.6. The notice board is to be positioned to allow customers ready access to it so that they may easily read the notices.

3.6.2.6 A notice board containing the following obligatory notices must be displayed in the Reception Facility:

- a. GV209 – Current Notice of Approval
- b. GV213 – Current list of Nominated Technicians
- c. GV214 – Current statutory maximum fees for installation, inspection and calibration work
- d. GV215 – A notice stating that it is a Condition of Approval that any vehicle found to be fitted with unauthorised devices, or subject to tampering, will be reported to DVSA
- e. GV219 – The opening time for which the Centre has agreed as part of their approval to provide tachograph work to the public

Note 1: Replacement copies of the GV209 & GV213 are obtainable by contacting the Tachograph Administration Team at the DVSA office in Swansea on telephone number 01792 454336, all other replacement forms required can be obtained from www.transportoffice.gov.uk

Note 2: Form GV213, The Designated Tachograph Centre Manager is responsible for ensuring that the GV213 is accurate at all times. He is to inform the Tachograph Administration Team in DVSA Swansea immediately of Technicians no longer calibrating at the Centre and of new Technicians employed at the Centre. Centres are to note that Technicians are not permitted to carry out tachograph work until listed in the current GV213 issued by DVSA Swansea).

A Calibration Bay: This bay contains the equipment that is used to determine "L" and "W". Such equipment will be either high speed rollers or a suitable RBT converted for use as a tachograph calibration tool. The bay must meet the following specification:

Vehicle entrances and exits giving access to a vehicle at least 2.6 metres wide and 4.57 metres high.

Adequate general illumination: There must be sufficient artificial lighting to enable all work to be carried out without difficulty throughout the year and in accordance with HSE guidance.

The Calibration Bay must be covered and capable of enclosing by means of walls and doors, so as to afford protection against the weather, a vehicle 15 metres long, 2.6 metres wide and 4.57 metres high, while the vehicle is on the calibration rollers (following are example drawings of bay layouts, the drawings are to be used as guidance and are to show the different dimensions and layouts, when a Centre is designing a calibration bay various aspects from each drawing may be incorporated into the design provided the final bay design meets the requirements).

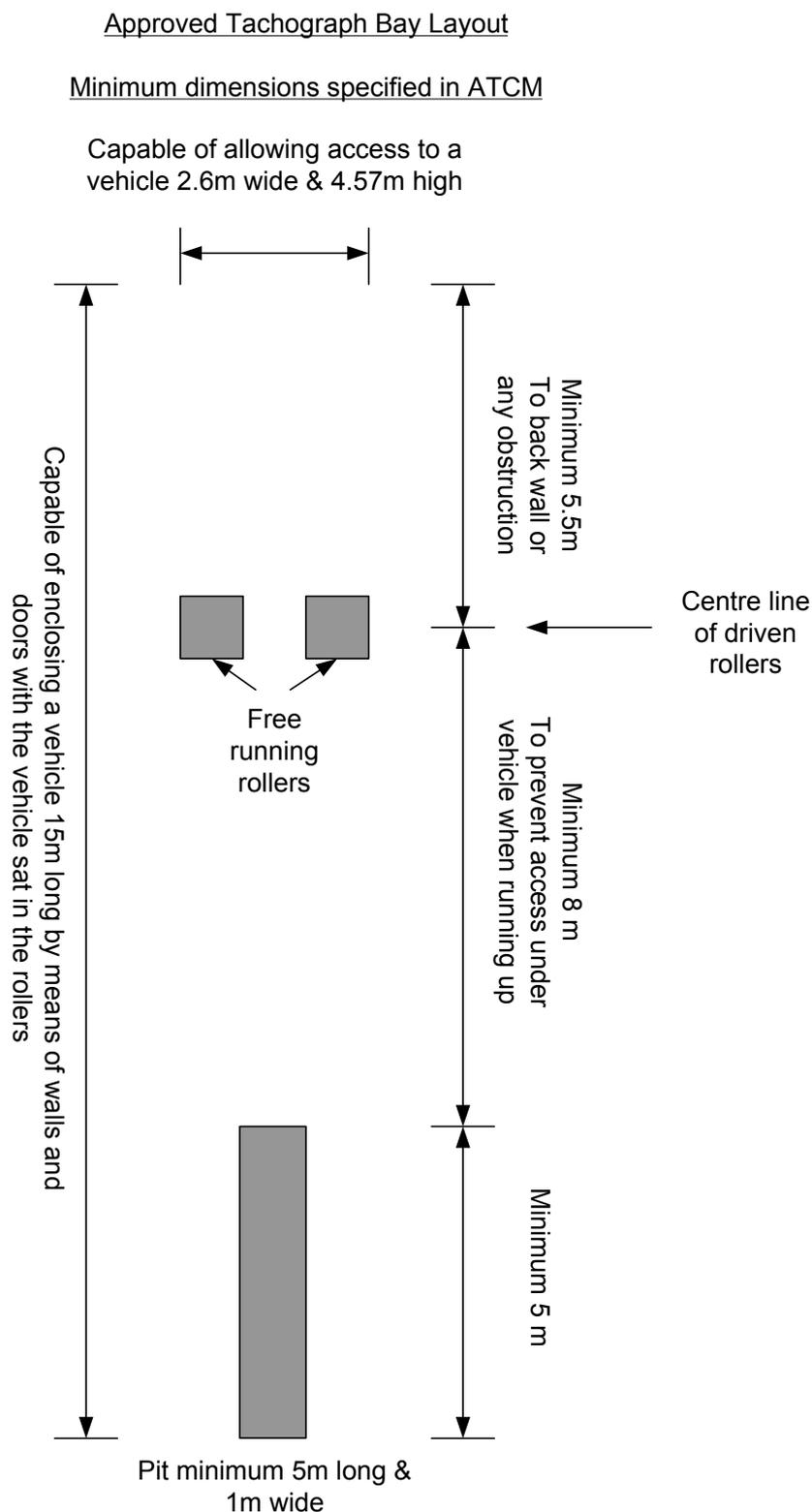
3.6.3 A Calibration Bay: This bay contains the equipment that is used to determine "L" and "W". Such equipment will be either high speed rollers or a suitable RBT converted for use as a tachograph calibration tool. The bay must meet the following specification:

3.6.3.1 Vehicle entrances and exits giving access to a vehicle at least 2.6 metres wide and 4.57 metres high.

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3.6.3.3 The Calibration Bay must be covered and capable of enclosing by means of walls and doors, so as to afford protection against the weather, a vehicle 15 metres long, 2.6 metres wide and 4.57 metres high, while the vehicle is on the calibration rollers (following are example drawings of bay layouts, the drawings are to be used as guidance and are to show the different dimensions and layouts, when a Centre is designing a calibration bay various aspects from each drawing may be incorporated into the design provided the final bay design meets the requirements).

Drawing 1: Schematic diagram of the minimum dimensions specified in the ATCM

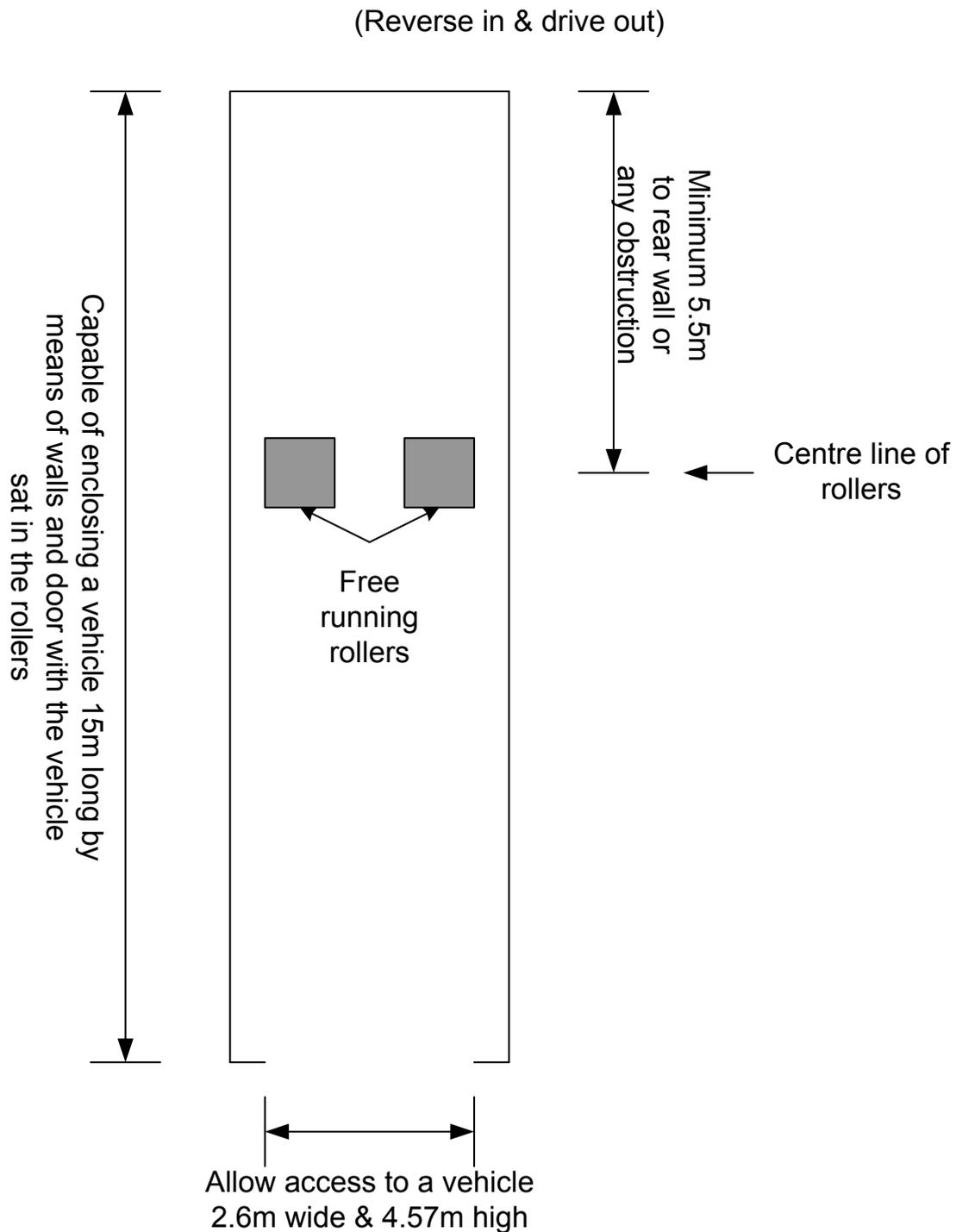


The minimum 5.5m clearance to the rear of the rollers shown is required due to the overhang on some vehicles may be as long as 5.1m centres approved with a smaller clearance may still continue but it will need to be understood that should a vehicle with a long overhang be presented to the centre that will not fit onto the rollers then the linear track will need to be utilised.

The 8m from rollers to lead edge of pit is to be measured from centre line of the driven rollers.

Note: The term DRIVEN ROLLERS is a reference to the pair of rollers where the drive axle sits. Other rollers fitted on free-running rollers systems are slave rollers and are for use on multi axle vehicles.

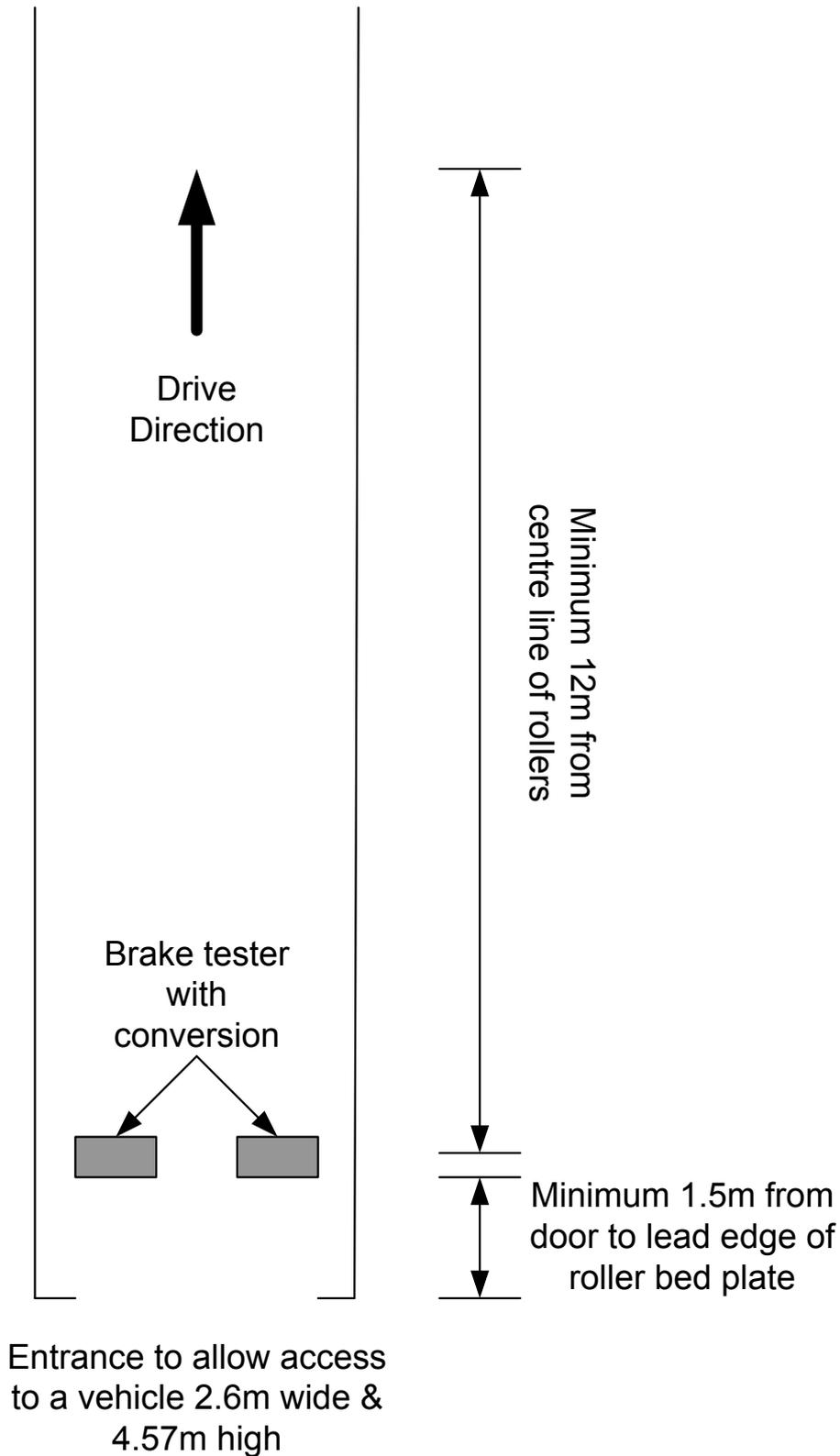
Drawing 2: Minimum dimensions for a calibration bay incorporating free running rollers without pit.



Drawing 3: Minimum dimensions required for a flat bay incorporating a Brake Roller Tester (RBT) with tachograph conversion – with no pit

Flat bay with Brake Roller Conversion - no pit

Bay length - no specific length

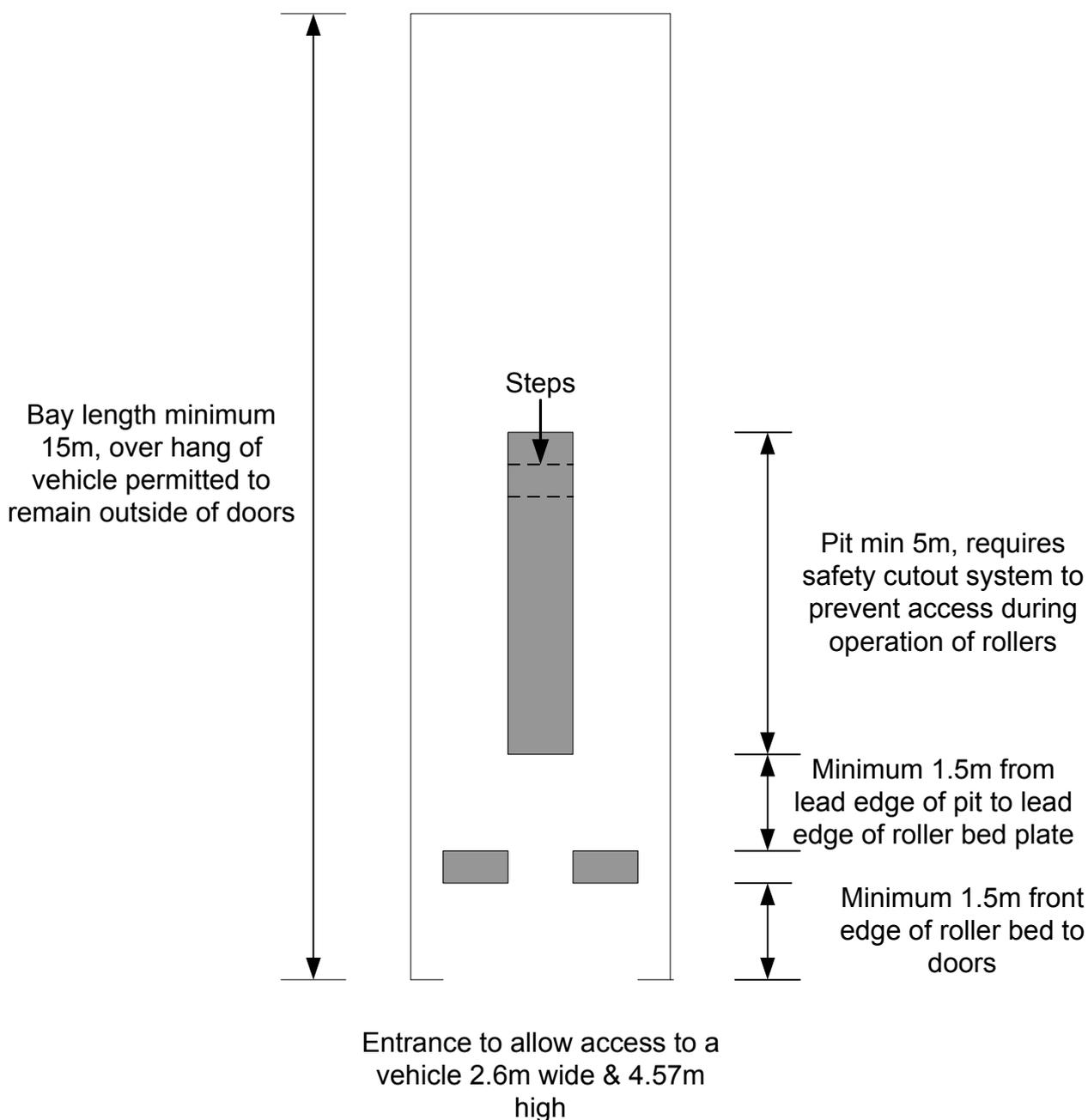


The brake rollers can be installed a minimum of 1.5m inside the entrance; this distance will prevent the need for a person entering the bay and walking directly onto the roller bed and will help prevent water ingress into the rollers in inclement weather. With this layout the overhang of the vehicle will be permitted to remain outside of the bay. This has been considered acceptable due to the low risk of debris being thrown from the tyres at the lower operating speed and the absence of noise pollution again due to the low operating speed of the rollers. This layout is considered acceptable for any bay length provided there is the minimum 12m clearance from the centre line of the rollers forward.

For a drive through bay with a pit, see pit minimum specifications on Drawing 4.

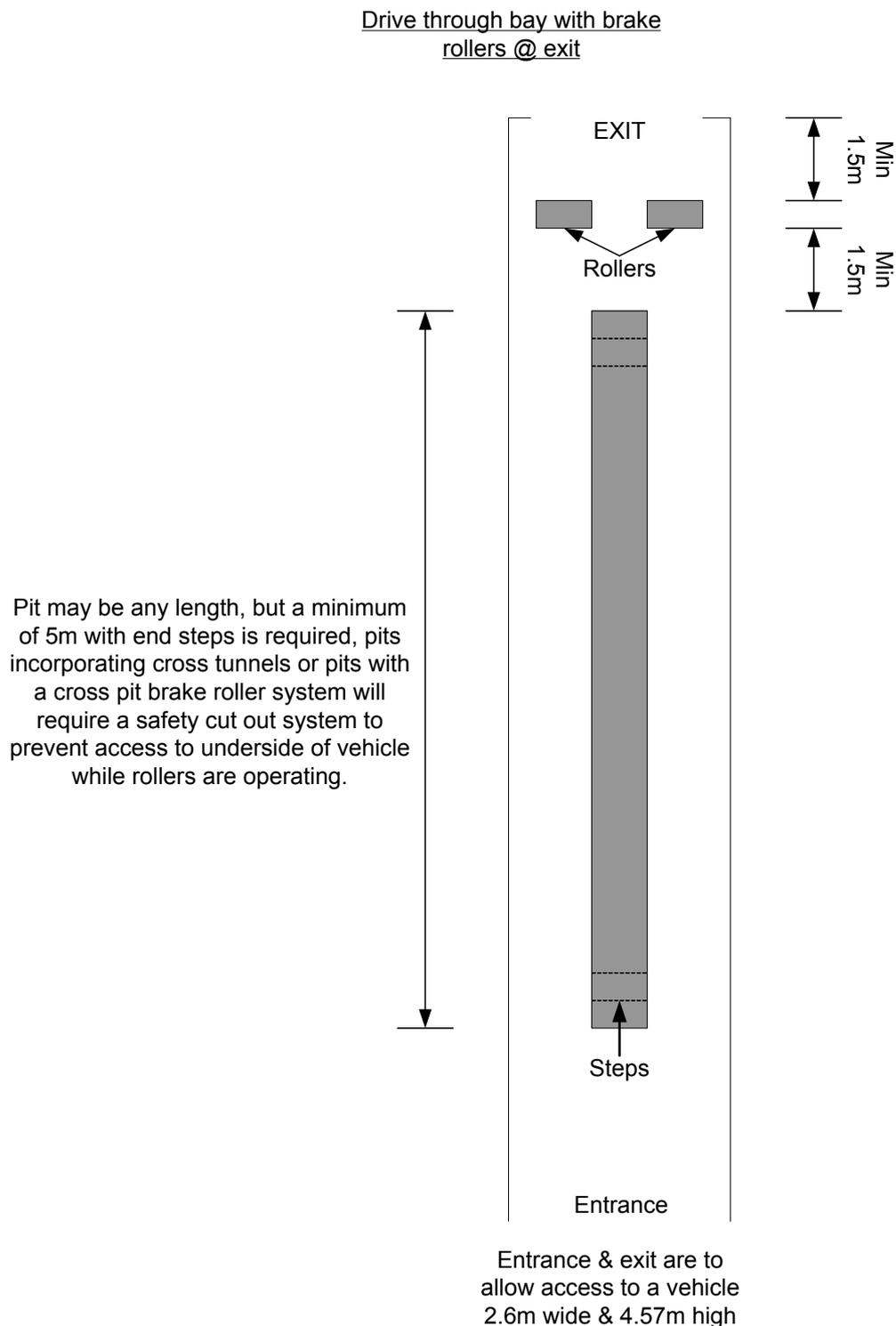
Drawing 4: Minimum dimensions required for a calibration bay with brake roller conversion and a pit of the minimum length of 5m with a bay length of restricted length.

Drive in bay with brake roller conversion & pit



The brake rollers must be installed a minimum of 1.5m inside the entrance; this distance will reduce the risk of a person entering the bay and walking directly onto the roller bed and will help prevent water ingress into the rollers in inclement weather. With this layout the overhang of the vehicle will be permitted to remain outside of the bay. This has been considered acceptable due to the low risk of debris being thrown from the tyres at the lower operating speed and the absence of noise pollution again due to the low operating speed of the rollers. Due to the close proximity of the rollers to the pit a safety cut out system must be installed to prevent access to the pit during brake roller operation. This layout is acceptable for a drive through bay of unspecified length with a pit.

Drawing 5: Minimum dimensions required for a calibration bay incorporating RBT with tachograph conversion and pit, with the RBT installed inside the exit doors of the bay.



The above bay layout is considered acceptable provided the vehicle can be placed on the rollers for calibration through the exit door against the flow of traffic safely and without contravening site health & safety requirements. It must also permit the cab area of the vehicle to be enclosed and meet the requirements of the ATCM. **A site applying for this type of layout will be considered on an individual basis and as part of their application will be required to highlight on the site plans any one-way traffic system in force.** As part of the approval documentation the centre will be required to provide a declaration that the brake rollers will operate for tachograph calibration in the opposite direction than that used for brake testing and the calibration certificate is to specify the direction they have been calibrated in for tachograph calibration.

All RBT installations must have a safety cut out system installed in the pit to prevent access to the pit during operation of the rollers

3.6.3.4 Calibration Bay Availability: It may be used for other work, provided it can be made available for tachograph work within 30 minutes. Tachograph work must always be given priority.

Note: Approved Tachograph Centres whose approval was granted before 1st June 2005, may continue to comply with the workshop dimensional requirements applicable at the time of that approval.

3.6.4 An Inspection Bay: A inspection bay containing an Inspection Pit or Platform Lift must be provided to allow technicians appropriate access to the underside of the vehicle when installing or inspecting tachograph systems. If a pit is used, it must meet the following requirements:

3.6.4.1 A pit having a depth of at least 1 metre over a length of at least 5 metres.

3.6.4.2 A platform lift, axle lift or mobile column lift with at least four columns, any of which are capable of lifting a vehicle weighing 14000 kg, with a maximum outer axle spread of 8.25 metre and at least 1 metre clear of the workshop floor.

Note 1: The underside inspection bay may be a single designated bay, or one of several bays (all of which must meet the requirements), provided that one of these bays can be available for tachograph work within 30 minutes.

Note 2: For Centres that are also approved for statutory annual testing for vehicles using the same bays for the underside inspections, the 30 minute requirements may be waived at the time when statutory annual testing is being carried out.

3.6.5 Combined calibration and inspection bay:

3.6.5.1 **Free running rollers:** The Calibration bay and underside Inspection Bay can be two separate bays or one combined bay. The Calibration Bay and underside Inspection Bay maybe located end to end. In this instance some overlap of the bays may be permitted, **provided that the distance between the transverse centre lines of the drive / main rollers and the opening of the pit (if fitted) is not less than 8 metres.**

3.6.5.2 **For use with RBT rollers:** The Calibration bay and underside Inspection Bay can be two separate bays or one combined bay. The Calibration Bay and underside Inspection Bay maybe located end to end. In this instance some overlap of the bays may be permitted, **provided that the distance from the front edge of the roller bed plate and the opening of the pit (if fitted) is not less than 1.5 metres AND** a system is fitted to prevent access to the underside of the vehicle via the pit while the rollers are in motion by means of an automatic cut out system.

Note 1: Approved Tachograph Centres whose approval was granted before 1st June 2005 may continue to comply with workshop dimensional requirements applicable at the time of that approval.

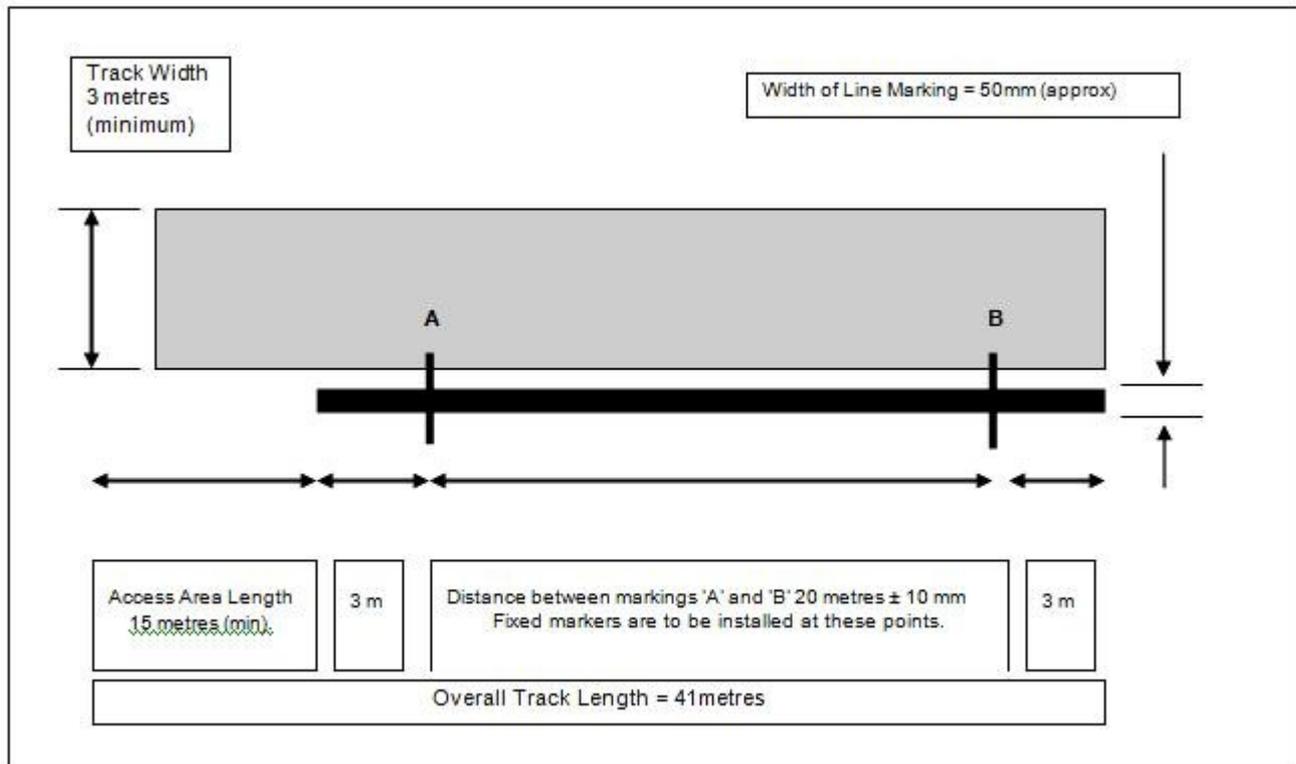
3.6.6 A separate and secure workshop area meeting the following requirements must be provided. It must

- 3.6.6.1 Contain a workbench for the conduct of minor repair and bench head testing
- 3.6.6.2 Be sited close to the calibration bay
- 3.6.6.3 Be maintained in a clean and tidy condition at all times
- 3.6.6.4 Be used exclusively for tachograph related work at all times
- 3.6.6.5 Have access restricted for the exclusive use of authorised personnel only

3.6.7 A linear track complying with the following specifications must be available to the Centre during the centre's opening hours:

- 3.6.7.1 The area used for the track must be reasonably flat and level and properly surfaced with a material such as concrete or asphalt. There must be sufficient room for personnel to move a large vehicle around during testing.
- 3.6.7.2 The track must be marked with a 20 metre line at least 50 mm wide and the transverse line at points 'A' and 'B' at least 50 mm wide. The marking lines must be marked in a material of a durable nature i.e. road marking paint.
- 3.6.7.3 The start and finish of the 20 metre test (points 'A' and 'B') must be permanently marked by means of a fixed metal bar or insertion of a bolt into the road surface set with their centre lines 20 metre \pm 10 mm apart, in a way that it will not be damaged by vehicles passing over it or will not cause damage to vehicles passing over it.
- 3.6.7.4 The area used must have access to the track for a rigid vehicle of at least 15 m long, 2.6 m wide. It must be possible to test vehicles at least 4.57 m high.
- 3.6.7.5 The track will normally be located on the site under the control of the holder of the tachograph centre approval; DVSA will consider other arrangements where physical space or the geography of the site prevents the track installation. This will include tracks being located at nearby premises or those of another Approved Tachograph Centre, providing evidence can be produced to show the alternative location can be used for such purposes.
- 3.6.7.6 The track must be kept free from obstruction, available for use at short notice and the surface and markings maintained in good order. The track is to be cleared of ice and snow prior to use.

Note: Any existing Approved Tachograph Centre whose approval was granted before 1st June 2005 may continue to comply with the linear track dimensional requirements applicable at the time of approval.



Linear Track markings and dimensions (not to scale)

3.6.7.7 The linear track may be used as an alternative to the roller rig (or approved equipment) in the following circumstances:

- 3.6.7.7.1 In the case of a breakdown of the roller test rig (or approved alternative) in the event of this occurring the centre must contact the DVSA Area Centre Examiner, (see Section 5.6.1).
- 3.6.7.7.2 The axle loads exceed 13 tonnes, except in case of ATC using approved RBT (with 20 tonne axle capability).
- 3.6.7.7.3 The vehicle is carrying a dangerous load and cannot be purged.
- 3.6.7.7.4 The tachograph is operated by non – driven wheels.
- 3.6.7.7.5 The vehicle is of a configuration that it cannot be tested on the normal vehicle testing equipment.
- 3.6.7.7.6 The vehicle has a twin rear axle drive with no differential lock and the rolling road and slave rollers cannot be locked by applying brakes.
- 3.6.7.7.7 The vehicle has a transmission configuration which cannot be tested on a rolling road without causing damage to the transmission e.g. a car / van derived 4 wheel drive vehicle.

3.7 Acceptable variations to existing approved tachograph centres

3.7.1 Provided there is no change in the class of vehicles or tachographs to be worked on and the security requirements are fully complied with, certain variations will be allowed to approvals.

3.7.2 An application from an Approved Tachograph Centre for approval to conduct tachograph work on an additional class of tachographs (e.g. digital tachographs) will be considered acceptable where they continue to comply with the workshop dimensional requirements accepted at the time the current approval was granted.

3.7.3 An Existing Approved Centre Moving a Calibration Bay(s) or Equipment Within Their Present Building(s):

3.7.3.1 Where a centre applies to move equipment within premises previously used for tachograph testing which do not meet current dimensional requirements, and can provide acceptable evidence that the premises had been used for tachograph testing within 12 months of the application, the approval may be granted provided the premises meet the following requirements:

- a. **Calibration bay:** one covered commercial vehicle bay capable of enclosing, by means of walls and doors (so as to afford protection against the weather) a vehicle 12m long, 2.6m wide and 4m high in which the equipment necessary to determine the "l" measurement and "w" factor for the vehicle is installed.
- b. **Test equipment:** requirements will be considered met if the existing approved equipment is used. If new equipment is obtained, it must meet the current relevant requirements.
- c. **Lifting Equipment:** Centres may continue to use existing, previously approved equipment. If new equipment is obtained, it must meet the current relevant requirements.
- d. All the other current approval requirements, including those for underside inspection, security, etc. must be met.

3.7.4 The Use of Previously Approved Premises:

3.7.4.1 New applicants or existing Approved Calibration Centres moving into previously approved premises, using existing inspection and calibration test bays which have been **used as such within the last 12 months** may be eligible for the following variations:

- a. The test bay and equipment layout of the previous approved premises will be considered suitable if they meet the conditions of appointment that were current when the site was last accepted, subject to any upgrade considered necessary to **meet current security requirements**.
- b. Test equipment requirements will be considered met if the originally approved equipment is retained, provided that it is still in full working order. If new equipment is obtained, it must meet the **current relevant requirements**.

3.8 Requirements for remote area approved tachograph centres

- 3.8.1** In remote locations certain concessions may be allowed regarding the approval requirements for an Approved Tachograph Centre. The decision to accept such applications will be made against the criteria contained in this section and will be made by DVSA. **To ensure that there is no misunderstanding, applicants are to submit an application to DVSA and obtain written agreement in principle before making any investment in premises or equipment. (NOTE Remote Centres ONLY).**
- 3.8.2** A new centre will be eligible for approval as a Remote Area Approved Tachograph Centre providing it is not within 25 miles radius of an existing Approved Tachograph Centre. There is no restriction on the subsequent setting up of a Standard Tachograph Centre within 25 miles of an existing Remote Area Centre.
- 3.8.3** An approved Standard Tachograph Centre may not change status to a remote area centre because of changes in local demand. However, if after 2 years of operation, a remote area centre carries out more than 1000 calibrations within any 12 month period, DVSA can require it to comply with part or all of the conditions for a Standard Tachograph Centre. DVSA can withdraw the approval from any remote area centre that does not notify them immediately that the above limit has been exceeded.

3.9 Facilities at a remote area approved tachograph centre

- 3.9.1** The conditions of approval must meet those set for Standard Approved Tachograph Centres, with the following exceptions.
- 3.9.2** The dimensions of the bay to be used for calibration work may be reduced, but must be able to accommodate vehicles up to 12 metre long, 2.6 metre wide and 3.7 metre high. The internal bay length must be a minimum of 8 metres.
- Note:** Centres approved before 1st August 2000 may continue to operate with bays accepting vehicles up to 2.5 metre wide.
- 3.9.3** Underside access is required for vehicles at least 3.7 metre high. However, DVSA can at its discretion, waive the requirement on an individual basis.
- 3.9.4** Where approval is granted to allow the use of a linear track only to determine 'L' and 'W', the requirement for a separate calibration bay is not required.
- 3.9.5** Arrangements for the parking of vehicles are at the Centre's discretion, but must comply with all relevant Road Traffic Legislation, local By-laws and planning conditions.
- 3.9.6** Roller equipment is not required if the Centre is approved for linear track calibration only. However, the turns counter and pulse counter for mechanical and electronic tachographs will be required.

3.10 Notifiable changes to centre approval

If any of the following occur, DVSA must be notified immediately:

3.10.1 A change in the ownership or control of the Tachograph Centre, including in the case of;

3.10.1.1 A Sole proprietor

- a. Sale of business
- b. Change to a partnership
- c. Formation of a limited company

3.10.1.2 A Partnership

- a. Sale of business
- b. Changes to the partnership
- c. Change to Sole Proprietor status
- d. Formation of a limited company

3.10.1.3 A Limited Company

- a. Sale of business
- b. Any change to the constitution of the company
- c. Ceasing to trade

3.10.2 DVSA is to be notified immediately of any changes to the Centre's Approval. If a change occurs, the Centre must immediately cease all tachograph work until authorised to commence by DVSA. Failure to comply can result in the suspension / withdrawal of the Centre's approval until the changes have been investigated and any required amendments to the approval made. Any inspections or calibrations carried out after the date of the change will have been carried out improperly and this will be considered when reviewing the approval.

3.10.3 An approval cannot be automatically transferred with a business. Changes to the business or to the approved facilities will not be accepted without formal consideration by DVSA.

3.10.4 To prevent a loss of trading, a centre considering change is to notify DVSA in sufficient time to allow the processing of any necessary applications / documentation for the new or amended approval which may be required.

3.10.5 A Change to the Approved Tachograph Centre Facilities: If an Approved Tachograph Centre wishes to move to new buildings, alter existing buildings or the layout of the equipment, the Centre must confirm in writing – with supporting drawings – that the Conditions of Approval will not be contravened by the changes. No proposed changes will be acceptable if it reduces clearances or dimensions (including those for access) below the limits specified in the Conditions of Approval.

3.10.6 Transfer of Records Following Surrender, Termination or Withdrawal: Where the constitution or administration of a business changes, and the individual sole trader or one or more partners or directors or officers of a company continue under the new entity, any records (including those of a disciplinary matter) will continue to be regarded as relevant to the reconstituted business. Similarly, if any individual sole trader, partner or director or officer of a company takes up an equivalent role with another Tachograph Centre any existing records (including disciplinary) will be regarded as relevant to the new Centre.

3.10.7 Other Changes of Circumstances: It is not necessary to stop inspection and calibration work for changes other than those detailed above. However, the centre must inform the DVSA Tachograph Administration in Swansea in writing **prior** to any other changes to the control or operation of the centre. These include:

- 3.10.7.1 The trading name being used
- 3.10.7.2 The director(s) in a limited company
- 3.10.7.3 The approved equipment being used by the centre (the replacement of portable testing equipment does not have to be notified to DVSA provided that the replacement is on the current DVSA accepted list of equipment and will not affect the range of vehicles that can be tested).
- 3.10.7.4 The name of the designated centre manager and / or his contact details
- 3.10.7.5 Opening times for the Centre
- 3.10.7.6 List of Nominated Technicians
- 3.10.7.7 Any change in the Technical Support supplier, the Training supplier or the organisation providing the inspection, maintenance or conformance checking services.

3.10.8 Mandatory Reasons for Contacting DVSA: An Approved Tachograph Centre must notify the Tachograph Administration Team in Swansea immediately, followed by written confirmation within 7 days if any one of the following occurs:

- 3.10.8.1 The notice of approval (form GV209) is lost or becomes defaced or illegible.
- 3.10.8.2 Any of its seal marking devices, workshop smart cards, any seals or plaques are lost or stolen. The Centre must also inform the police or any of the loss as required in section 4.
- 3.10.8.3 Any breach of security occurs, such as disclosure of a workshop smart card PIN number or unauthorised access to workshop smart card data, unauthorised access to downloaded driver's hour's records or accountable documents.

3.11 Automatic cessation of approval

3.11.1 The Approval will automatically cease if the approved legal entity is no longer in control of the Tachograph Centre or the activities conducted within it. This includes any of the following circumstances:

3.11.1. In the case of a Sole Proprietor

- 3.11.1.1 Death of the Proprietor
- 3.11.1.2 The Proprietor is declared bankrupt (in Scotland – has their estate sequestrated)
- 3.11.1.3 The Proprietor becomes a patient within part VIII of the Mental Health Act 1959 (in Scotland – becomes incapable of managing their own affairs)

3.11.2 In the case of a Partnership

- 3.11.2.1 The Partnership is dissolved (this includes a situation where one partner leaves and / or a new partner joins the partnership)

3.11.3 In the case of a Limited Company

- 3.11.3.1 A winding up order is made
- 3.11.3.2 A resolution for voluntary winding up is passed
- 3.11.3.3 A receiver or manager of the body undertaking is appointed
- 3.11.3.4 The taking of possession, by or on behalf of the holders of any debenture secured by a floating charge, of any property forming part of the approved facilities and equipment of the Approved Tachograph Centre

3.12 Approved tachograph centre owner convicted

- 3.12.1** Should the holder of an Approval, be that a Sole Proprietor, a Partner, a Director, or a Limited Company, be convicted of an offence as defined in the Rehabilitation of Offenders Act 1974, for criminal offences connected with the Tachograph Scheme, Motor Trade or involving acts of dishonesty, violence or intimidation they must notify DVSA immediately.
- 3.12.2** Consideration as to the continued suitability of the holder of an approval convicted of such and offence will be dealt with following guidance contained within the disciplinary section of this manual.

3.13 Surrender of approval

- 3.13.1** Approval may be surrendered at any time by notifying the Tachograph Administration Team in Swansea in writing. The following must then be delivered to the local DVSA Area Office immediately:
 - 3.13.1.1 All documentation and data relating to installations, calibrations, sealing and downloading conducted during the previous six years.
 - 3.13.1.2 Sealing devices and seals.
 - 3.13.1.3 Unused calibration plaques.
 - 3.13.1.4 Copies of Certificates, including any test charts.
 - 3.13.1.5 The notice of approval (GV209).
 - 3.13.1.6 The list of Nominated Technicians (GV213).
 - 3.13.1.7 Workshop Smart Cards.
 - 3.13.1.8 Unused Certificates of download inability.

3.14 Centre health and safety

- 3.14.1** As part of the approval process a centre is agreeing to be responsible for all the requirements of the Health & Safety at Work Act 1974 and any local authority Bylaws or regulations that affect the operation of the centre. Advice on Health & Safety legislation can be obtained from the local offices of the Health & Safety Executive. It is the responsibility of the centre to ensure that they comply with these.
- 3.14.2** Approved Tachograph Centres are, normally, part of a commercial vehicle repairer or similar operation and routinely accept responsibility for taking into their care vehicles and property belonging to their customers. The duty of care which is exercised when accepting vehicles for installation, inspection and calibration is expected to be at least as high as that exercised when accepting vehicles for any other service they are offering commercially.

3.14.3 Approved Tachograph Centres have a duty of care to ensure the safety of customers and drivers who may accompany the vehicles.

3.15 Use of approved tachograph centres facilities by DVSA

3.15.1 Centres are required as part of their approval to allow their tachograph centre facilities to be used by DVSA examiners for examining the tachograph and recording equipment fitted to vehicles. 3 days notice will normally be provided however this period may be reduced by mutual agreement. DVSA will reimburse Approved Tachograph Centres for the use of their facilities, and assistance of their staff where requested, subject to agreement prior to the use of the facilities.

3.16 Additional requirements for an existing designated premises/ATF to become an approved tachograph centre

A premise that has already been approved as a Designated Premises/ATF may apply to become an ATC, providing the Centre is able to meet both conditions of approval.

3.16.1 A pit meeting the Conditions of Approval for Authorised Testing Facilities Tier 1; the distance between the first aperture in the RBT bed plate and the front edge of the pit may be reduced to 1.5 metres (due to the slower operating speed of the rollers (approximately 2.9 km/h)). A premises seeking approval as an ATC using these dimensions will be required to prevent access to the underside of the vehicle via the pit while the rollers are in motion by means of an automatic cut out system.

3.16.2 The RBT bed may be installed with a minimum distance of 1.5m from the door aperture to the edge of the RBT bed plate, with the console installed in such a position that can be seen by the Technician from the drivers' seat of the vehicle over the pit.

3.16.3 A pit incorporating a cross-pit brake roller installation will be considered for approval provided access to the pit during roller operation is prevented by a safety cut out system.

3.16.4 A pit with cross tunnels for access will be considered for approval provided there is a safety cut out system installed to prevent access during roller operation.

3.16.5 A separate and secure workshop area must be provided in addition to the DP office, meeting the detailed requirements.

3.16.6 A separate safe and slam box as to those provided for use in the DP test lane, meeting the specified requirements.

[Contents](#)



Driver & Vehicle Standards Agency

4.1 Introduction

- 4.1.1 The following security requirements are to be in place for the purpose of ensuring the secure storage of seal marking devices, seals, plaques, certificates and workshop smart cards. Access to the security arrangements must be restricted to the Approval Holder, their Nominated Technicians and Centre staff with specific permission to have access (e.g. the manager of the workshop).
- 4.1.2 All Approved Tachograph Centres must have implemented the following security requirements from 31st March 2006.
- 4.1.3 A Centre that is found not to be adhering to the security requirements will have action taken against them under the Discipline Section of this manual.

4.2 Requirements

The following must be provided and adhered to:

- 4.2.1 **A strong slam-locking metal container** (slam box) for temporary storage during work periods. This must be securely mounted to a solid wall or floor close to where the plaques and certificates will be produced. This container must be robust enough to resist entry attempts using general hand tools available in the workshop. **The general use of filing cabinets and cash boxes are no longer acceptable.** The only exception to this is, a lockable filing cabinet may be used to store securely unused (blank) certificates and plaques for use with the digital software and specified printers.
- 4.2.2 **An under floor safe with an insurance overnight cash rating of £6000.** Provided with the safe on installation must be a certificate of proof of rating and a declaration that the safe has been installed in accordance with the manufacturers instructions.
 - 4.2.2.1 The safe may be located in a private dwelling on the site, provided permission is granted to DVSA that staff will have access to inspect it.
- 4.2.3 Where, due to the design or construction of the building it is impossible to install an under floor safe, written evidence of this will need to be provided by either the builder or architect of the building. In this circumstance a safe meeting the following criteria would be considered:
 - 4.2.3.1 A safe weighing MORE than 1 tonne **and** having an insurance overnight cash rating of £6000. (Where there is any doubt that the safe weighs at least 1 tonne, the Applicant will be required to supply written evidence to DVSA of the safe's weight.)
 - 4.2.3.2 A safe weighing LESS than 1 tonne which is securely bolted to the floor or securely attached to the fabric of the building **and** has an insurance overnight cash rating of £6000.

4.2.4 There are two other circumstances when VOSA may consider wavering the fitment of an under floor safe:

4.2.4.1 Premises that are built on a high water table and can therefore suffer from water ingress into sub-surface installations. To support this, written evidence will need to be presented from the Environment Agency or Local Council, specifying the location of the premises and the cause of the water problem.

4.2.4.2 The premises are only leased and the lease or lease owner prohibits excavation into the floor for installation of equipment. To support this, a copy of the lease or a letter from the lease holder is to be supplied.

4.3 Security of seals and sealing devices

4.3.1 This section covers the requirements for the safe custody of seals and sealing devices used for tachograph calibration work.

4.3.1.1 The term seals are to include:

- a. Plastic seals used for tachograph calibration
- b. Lead / plastic seals used for tachograph calibration
- c. Plastic gearbox sender shrouds
- d. Motometer tachograph dash board seals (black discs)
- e. Analogue tachograph 6 yearly plaques
- f. Analogue tachograph 2 yearly plaques
- g. Minor work plaques
- h. Analogue tachograph calibration certificates

4.3.1.2 The term sealing devices covers the sealing pliers' anvil and seal punch bearing the centre's unique sealing number.

4.3.2 During the opening times displayed on the GV219 notice, and provided there is an authorised nominated tachograph technician on shift at the premises a sufficient quantity of seals and the required sealing devices may be secured in the slam box for calibration work to be carried out.

4.3.3 Keys for the slam box are to be kept on the person of the authorised tachograph technicians and accounted for at all times. They are not to be hidden for convenience and use by non authorised persons. Centres and technicians found in breach of this will face discipline under the discipline section of this manual.

4.3.4 All remaining stocks of seals held by the centre are **to be secured in the floor safe**. The keys and access to the safe are to be controlled by the designated centre manager.

4.3.5 During all other times when the centre is closed i.e. at night, weekends or holidays or at periods when there is no available authorised tachograph technician to enable the centre to operate and conduct tachograph calibration work, the seals and sealing devices secured in the slam box are to be removed and secured in the floor safe.

4.4 Security of digital tachograph workshop cards

- 4.4.1** It is the responsibility of the designated centre manager to oversee the security of the digital tachograph workshop cards issued to the technicians employed at the centre.
- 4.4.2** The designated centre manager must ensure there are procedures in place for receiving workshop smart cards at the centre which will be addressed to individual technicians, and ensuring they are either given immediately to the named technician or are stored securely until such time as they can be given to the named technician.
- 4.4.3** Every 12 months the technician's workshop card will automatically expire on 31st March. The expired workshop card(s) are to be gathered together by the DCM and stored in a sealed envelope in the floor safe for 12 months. After the cards have been stored for 12 months they can then be destroyed, i.e. the centre should always have the technician's valid card and previous card stored.
- 4.4.4** It is the responsibility of the technician to ensure the security of his workshop card and the PIN number issued to work with the card. The technician is not to disclose the PIN number to anybody and the number is not to be written down in a place that can be seen by other people i.e. on notice boards etc. Approved Tachograph Centres and their management must impress this requirement on their staff and under no circumstances should they encourage the nominated technician to divulge the PIN to anyone.
- 4.4.5** During the opening times for the centre the designated centre manager is responsible to ensure that the workshop cards for technicians on shift who will be carrying out calibration work are secured in the slam box. All other workshop cards for technicians who are off shift or on holiday are to remain secured in the floor safe.
- 4.4.6** During the times when the centre is closed or no technicians are available to carry out calibration work **ALL** workshop cards are to be secured in the floor safe and the key controlled by the designated centre manager.
- 4.4.7** The workshop card is issued to a technician to a specific centre address. The card is not to be removed from that centre. Should a technician work at more than one centre then he must apply for a card for each centre address at which he works and the cards are to remain secured at the respected centres.
- 4.4.8** The only exemption to the 4.4.7 is if a vehicle fitted with a digital tachograph is required to be tested on a linear track that has been approved for the centre's use on a different site from the calibration bay. The technician may then take his workshop card directly to the linear track, carry out the required work and return directly to the workshop. This is only to be carried out after permission from the designated centre manager has been given.
- 4.4.9** On leaving employment at a centre a technician is to ensure that his workshop card is left secured in the floor safe. The designated centre manager is to ensure that the technician's workshop card is left in the floor safe before the technician leaves his employment and the card remains secure until the designated centre manager makes arrangements for it to be returned to or collected by DVSA.

4.5 Digital tachograph software security

- 4.5.1** The software that is installed onto the centre IT equipment for tachograph calibration is designed to operate with password security. These passwords are set by the system administrator and are only to be given to the designated centre manager and the approved technicians. If it is suspected that the passwords are known by unauthorised persons then the passwords are to be reset.
- 4.5.2** A number of versions of the software that are available incorporate the use of a USB security dongle as an enhanced security measure. These dongles are to be removed and secured in the safe when the centre is closed.

4.6 Digital tachograph downloaded data security

- 4.6.1** All data downloaded from the vehicle unit (e.g. when decommissioning a VU) is to be stored on an external storage medium and protected with a unique password.
- 4.6.2** The external storage medium is then to be stored securely to prevent against theft or damage from fire.

[Contents](#)



5.1 Introduction

- 5.1.1** The Approved Tachograph Centre is to have the required items listed available and correctly calibrated at all times during the displayed opening times for the calibration of tachographs.
- 5.1.2** The equipment must be laid out so that installation, inspection, calibration and decommissioning of tachograph equipment can be performed effectively.
- 5.1.3** For a full list of all equipment accepted for use on the tachograph calibration scheme, see the "approved equipment" list.

5.2 Equipment requirements for an analogue approved tachograph centre

- 5.2.1** An Approved Tachograph Centre that is approved only to work on analogue tachographs must have one item from each of the following sections. A list of DVSA accepted equipment is available as above. Where a piece of accepted equipment is shown in more than one section of the "approved equipment" list, that piece of equipment is considered to fulfil the requirements of each section in which it appears.
- 5.2.2 Vehicle Testing Equipment** - (e.g. free running roller test rig / roller brake tester with tachograph conversion or approved alternative) for determining the characteristic coefficient of the vehicle 'w' and the effective circumference of the tyres 'l'.
- 5.2.3 A Tachograph Instrument Portable Drive Test Unit** - suitable for use on the work bench and in the cab of the vehicle.
- 5.2.4 A Clock Tester** - to test the accuracy of the tachograph internal time clock.
- 5.2.5 An Optical Chart Analyser** - for tachograph chart analysis and verification of recordings made during the bench test .
- 5.2.6 Turns Counter / Pulse Counter** - for use on mechanical and early electronic tachographs, a turns counter or an accepted pulse counter with the ability to calculate turns of a mechanically rotating shaft (may need to be used in conjunction with a pulse generator).
- NOTE:** This equipment is required for use on linear tracks and in line with the requirements for linear tracks all centres were required to have a linear track from 1st June 2005.
- 5.2.7 An adaptor for electronic sender units** - this is a means of adapting the equipment to operate from the available input.
- 5.2.8 A pulse counter** - for use on electronic tachographs, using non-rotating parts e.g. proximity devices. **NOTE:** This equipment is required for use on linear tracks. In line with the requirements for linear tracks all centres must have installed a linear track from 1st June 2005.

5.3 Additional equipment required for digital tachograph centre approval

- 5.3.1** In addition to the requirements listed for analogue, the following additional equipment and/or upgrades are required for a centre to carry out digital tachograph installation, inspection and calibration.
- 5.3.2 A digital tachograph programmer** with the correct version of software installed, to be used to read, alter and install data into a Vehicle Unit (VU). A download tool to collect data from the VU and transfer the data onto a computer.
- 5.3.3 A card reading device** to read and transfer the data from the workshop card onto a computer (this may be incorporated into the download tool).
- 5.3.4 A computer** with the operating specifications that will allow it to support the latest version of digital tachograph software installed produced by the manufacturer. The computer is required to:
- 5.3.4.1 Be password protected
 - 5.3.4.2 Store downloaded data
 - 5.3.4.3 Be used to produce calibration plaques and certificates
 - 5.3.4.4 Be used to produce an electronic record of plaques issued (GV212),
 - 5.3.4.5 Be used to transfer the data downloaded from the VU following decommissioning onto an external storage medium
- 5.3.5 Printers:** Depending on the manufacturer of the software installed onto the computer a standard printer and/or a specialised plaque printer will be required to produce the calibration certificates and tamper proof plaques.

Note. The latest software versions available for the above equipment will be notified to centres as and when via the Special Notices.

5.4 Other equipment required for ALL tachograph centres (analogue and digital)

The following equipment must be available for use at all times that tachograph work is being carried out;

- 5.4.1 Seal marking devices** incorporating the identification mark allocated to the centre by DVSA. The marking devices include pliers, for attaching and embossing lead/plastic seals to sealing wire and for embossing lead/plastic seals before insertion, punches to emboss captive seals in position are desirable but centres not so equipped may use alternative approved systems provided no extra charge is made to the customer because of the lack of equipment.
- 5.4.2 A tyre pressure gauge** graduated up to 120 psi.
- 5.4.3 A compressor** capable of supplying air at a pressure of at least 110 psi.
- 5.4.4 Adequate specialist and general workshop tools** to enable the removal and refitting of the various components of approved recording equipment fitted to vehicles (as recommended by the tachograph and vehicle manufacturer).
- 5.4.5 A current up-to-date copy of this manual** including a copy of all issued Special Notices. This must be an original copy of the manual, not a downloaded copy. Replacement copies of the manual are available by contacting Swansea. The special Notices are to be stored in section 11.

5.4.6 Suitable wheel chocks or other restraining devices to be used when vehicles are tested on the rolling road.

5.4.7 A hand held low voltage inspection lamp, 'Low Voltage' is regarded as 110 volts or less from a centre earth tapped transformer, a suitable torch or rechargeable lamp is also acceptable.

5.5 Conformance testing of accepted equipment

5.5.1 The conformance testing of the following equipment must be carried out every six months to check it for accuracy. The check may take place at anytime in the month it is due.

- 5.5.1.1 Vehicle Testing Rollers
- 5.5.1.2 Tachograph Instrument Portable Drive Test Unit
- 5.5.1.3 Clock Tester
- 5.5.1.4 Pulse Counter
- 5.5.1.5 Adaptor for Electronic Sender Units

5.5.2 The turns counter is to be checked for accuracy and certified at least every 12 months. This check may be carried out at anytime in the month it is due.

5.5.3 The conformance testing must be carried out by a company **independent** of the ownership or control of the Approved Tachograph Centre. Whilst it is desirable that the periodic conformance testing of equipment used during the calibration of tachographs should be carried out by a calibration laboratory that is accredited to ISO 17025:2005, it is recognised that such a requirement may place an undue burden on calibration centres. It is, however, essential that the periodic conformance testing of such test equipment must, as a minimum, be traceable to national standards. Conformance testing reports/calibration certificates for approved equipment must include the following information, clearly identifying:

- 5.5.3.1 The name and address of the company carrying out the conformance testing/calibration
- 5.5.3.2 The name of engineer who conducted the work.
- 5.5.3.3 The date the conformance testing/calibration was carried out
- 5.5.3.4 The period of validity of the certificate
- 5.5.3.5 The identity of the equipment the certificate applied to
- 5.5.3.6 The identity of the equipment used to carry out the conformance testing
- 5.5.3.7 Show the actual accuracy of the equipment, to state that the equipment is within tolerances specified is not acceptable

5.5.4 The current certificate(s) and the previous certificate(s) for all required equipment must be retained by the centre and provided for inspection when requested by a DVSA Examiner.

5.6 Overdue conformance/calibration testing of equipment or malfunction of equipment

- 5.6.1** Except in the case of the roller test rig (or approved alternative) inspection and calibration work is to cease immediately if any of the mandatory items of approved equipment is not retested for conformance by its due date or malfunctions in a way that could prevent a tachograph calibration being properly conducted. The DVSA area tachograph centre examiner covering that area must be informed immediately verbally and written confirmation forwarded. Work must not resume until the equipment has been re-calibrated and a copy of the calibration certificate forwarded to the DVSA area tachograph centre examiner.
- 5.6.2** In the case of breakdown or overdue conformance testing of the roller test rig (or approved alternative) the linear track is to be used provided prior approval of the DVSA area tachograph centre examiner has been obtained. Notification of the malfunction is to be made verbally in the first instance followed up in writing within 24 hours. The centre may continue working using the approved 20 metre linear track whilst repairs to the roller test rig are being carried out. DVSA reserve the right to review this concession for individual approved tachograph centres should prolonged or repeated failure of the roller test rig or RBT be experienced.
- 5.6.3** In the event of another piece of approved equipment malfunctioning that prevents tachograph calibration work being conducted, the centre is to cease tachograph work immediately and the DVSA area tachograph centre examiner notified verbally in the first instance followed up in writing within 24 hrs.
- 5.6.4** Calibration work may only commence at the centre following the repairs to the equipment being completed, the equipment is then re-calibrated and a copy of the calibration certificate forwarded to the DVSA area tachograph centre examiner.

5.7 General maintenance of equipment

- 5.7.1** The centre is responsible for ensuring that all equipment is maintained in a fully serviceable condition in addition to the 6 monthly calibrations.
- 5.7.2** The roller beds must be checked for damage and security. The rollers must be checked to ensure the roller surface is clean and undamaged, the roller bearings have no excessive play and that the whole unit operates in a stable condition.
- 5.7.3** Cables used to link programmers to rollers and/or programmers to VU's must be maintained in a clean serviceable condition to ensure accurate transfer of data.
- 5.7.4** These checks are to be carried out as a minimum as part of the 3 monthly checks carried out by the QC as detailed in Section 6 'Quality Assurance Checks of Equipment' of this manual.
- 5.7.5** A centre found with equipment not in accordance with approved status will be suspended from calibration work until repairs have been carried out.

[Contents](#)



Driver & Vehicle Standards Agency

6.1 Introduction

- 6.1.1** Approved Tachograph Centres must exercise effective management of the activities conducted within the centre and by nominated technicians. The name of a designated centre manager must be provided to DVSA, this person will then be the named point of contact at the centre for DVSA. Any changes to the nominated technicians must be notified to the tachograph administration team in Swansea.
- 6.1.2** The Approved Tachograph Centre must also, as part of its management procedures, implement an adequate system of quality control within the centre and appoint a nominated quality controller. The quality controller must be the holder of a valid training certificate and may be the proprietor, the designated manager or another manager, an experienced nominated technician or a responsible third party whom DVSA has accepted as suitable. A centre that only employs one trained technician and has no other suitable person employed at the centre to be the nominated quality controller, must make arrangements for a suitable external quality controller to carry out the checks.
- 6.1.3** The quality controller may conduct this role at more than one centre. In the case of an organisation using a single quality controller at a number of approved tachograph centres or where an independent/external QC is employed DVSA must be notified of the QC's normal place of work/office address and this will be displayed on the GV213 notice displayed on the obligatory notice board in the designated reception/drivers waiting area.

6.2 The role of the quality controller

- 6.2.1** The quality controller will make regular quality checks of the records and paperwork completed by the Approved Tachograph Centre.
- 6.2.2** The quality controller will make regular quality checks of the calibrating equipment, checking both for serviceability and that the equipment 6 monthly calibrations remains continuous.
- 6.2.3** The quality controller will make regular quality checks on the work of the nominated technicians, on a minimum of a 6 monthly cycle and maintain a record of the checks, to be available to the DVSA centre examiner on request.
- 6.2.4** The quality controller (QC) will make regular quality checks that the security requirements for the centre remain in place and are operated as approved.

6.3 Quality assurance checks of records

- 6.3.1** The QC will make regular checks of the records and documentation held in either manual or electronic format. The checks are to include:
- GV212 completed correctly and up to date, that any suspected occurrences of tachograph tampering discovered by the centre are highlighted.
 - For digital tachographs there is a record kept for all decommissioned tachographs and that downloaded data from the tachograph is correctly stored and required paperwork completed.
 - A record of all certificates of download inability issued by the Approved Tachograph Centre is maintained and all unused, spoilt, invalid or damaged certificates are retained for audit purposes for a period of two years.

- 6.3.2** These checks are to be carried out on a minimum of a 3 monthly cycle and a record maintained of the date that the checks were completed.
- 6.3.3** Where errors or shortcomings are found, corrective action must be taken and the level and frequency of the checks are to be increased until such time that the Approved Tachograph Centre is satisfied that the problem is resolved.
- 6.3.4** Advice to solve particular issues maybe sought by centres from their designated DVSA area centre examiner or by contacting the DVSA National Helpline.

6.4 Quality assurance checks of equipment

- 6.4.1** The QC will make regular checks of the calibrating equipment operated by the centre at 3 monthly intervals. The QC will check that the equipment is in a clean and serviceable condition to enable it to perform its required function correctly.
- 6.4.2** The QC is to ensure the centre holds a valid 6 monthly calibration certificate for all of the tachograph calibrating equipment used by centre.

6.5 Quality assurance checks of technicians

- 6.5.1** The QC will ensure that regular quality checks are carried out on **ALL** of the nominated technicians listed on the GV213 at the centre. The QC will himself be quality checked by nominating a suitably trained and experienced technician to carry out the quality check.
- 6.5.2** The quality checks are to be completed as a minimum on 6 monthly cycles and a written record completed for each check on each technician. On completion of the quality check the GV212 is to be clearly endorsed to show that the calibration work was subject to a quality control check. The written records are then to be retained for 3 years by the centre and be available for examination by the DVSA area centre examiner (This equates to the maximum time period in between training courses).
- 6.5.3** The purpose of the practical quality check of the technician is to provide the management of the Approved Tachograph Centre the assurance that the quality of the work conducted within the centre is to the required standard.
- 6.5.4** The quality check must be carried out on a vehicle calibrated under normal circumstances, covering all the aspects of the test, including:
 - a. Inspection routines and procedures
 - b. Use of testing equipment
 - c. Confirmation of parameters at which the recording equipment has been calibrated
 - d. Documentation
- 6.5.5** The QC can carry out the quality check in either one of two ways. The QC can observe the work being carried out by the technician, or the QC can conduct a full re-examination of the tachograph system and a full documentation check.
- 6.5.6** Approved Tachograph Centres are reminded that they are responsible for maintaining standards. Where shortcomings are found in the quality of work conducted by nominated technicians, corrective action must be taken to resolve the cause of the shortcomings and to ensure these are addressed and avoided in the future. Advice on quality matters may be obtained from the DVSA area centre examiner.

6.6 Quality assurance checks of security

- 6.6.1** The QC will ensure that regular 3 monthly quality checks are carried out on the security requirements in place for the Approved Tachograph Centre.
- 6.6.2** The QC will check that all seals, sealing devices and workshop cards are secured in accordance with the requirements detailed in this manual.
- 6.6.3** Approved Tachograph Centres are reminded that it is their responsibility to ensure that they comply with all security requirements at all times and failure to do so can result in disciplinary action under the disciplinary section of this manual.

6.7 Periodic DVSA inspection

- 6.7.1** Annually DVSA will visit each Approved Tachograph Centre to audit the operation of the centre. The annual visit will be made via appointment but DVSA may make additional unannounced visits.
- 6.7.2** During the visit DVSA will inspect/audit the following:
 - a. Inspect the premises, facilities and equipment
 - b. Inspect the calibrating equipment and check the calibration certificates and reports
 - c. Check the expiry dates on the training certificates for all technicians listed on the GV213
 - d. Check the centre's copy of the Approved Tachograph Centre manual and copies of the Special Notices to ensure they are up to date and available to the technicians during the operating hours of the centre
 - e. Inspect all records and data that is required to be held by the centre
 - f. Inspect the security requirements for the seals, sealing devices, workshop smart cards, downloaded data, plaques and certificates are being observed
 - g. Audit the quality control report documents to ensure that the centre is completing the requirement
 - h. Provide any information that may reasonably be requested by DVSA
- 6.7.3** Following the visit DVSA will notify the centre of any shortcomings in writing. The centre must then respond in writing within 15 days of the date of the letter of their intention to rectify the shortcomings within the timescales specified by DVSA.

6.8 Technician quality control document

- 6.8.1** A sample Tachograph Centre Technician Quality Control document is provided. This document may be reproduced and used by centres to record the 6 monthly quality control required to be carried out on all technicians named on the GV213.

Contents



Driver & Vehicle Standards Agency

Tachograph work at an Approved Tachograph Centre may only be conducted by, or under the close and direct personal supervision of, a Nominated Technician.

7.1 Criteria for becoming a nominated technician

7.1.1 A Nominated Technician must:

- 7.1.1.1 Be nominated by the Tachograph Centre at which they are employed. **Note:** by nominating a prospective nominated technician the tachograph centre is stating that the candidate meets the requirements laid out below, and will provide the necessary facilities for the candidate to practice work associated with the centre's approval and be able to demonstrate their competence to DVSA staff, if required.
- 7.1.1.2 Be at least 18 years old.
- 7.1.1.3 Is a skilled mechanic or technician with experience relevant to the duties required for the inspection and calibration of tachographs of the type for which the tachograph centre is approved.
- 7.1.1.4 Have no "unspent" convictions, as defined in the Rehabilitation of Offenders Act 1974, for criminal offences connected with tachograph scheme, motor trade, or involving acts of dishonesty, violence or intimidation.
- 7.1.1.5 Be otherwise of good repute.
- 7.1.1.6 Hold a certificate of competence for each class of tachograph on which they wish to work, having successfully completed a DVSA – approved training course. Where an Approved Tachograph Centre has any doubts as to whether the proposed technician will meet the above requirements, they may wish to check with DVSA before sending the technician for training.

7.1.2 Nominated technicians will be required to supervise and/or conduct linear track tests (where appropriate), Where a road test is required a nominated technician must either conduct the road test themselves or accompany the vehicle for the purpose of the road test. The Approved Tachograph Centre will need to ensure personnel who hold the appropriate category of licence and who are able to drive the vehicle during road tests are available.

7.2 Approval of nominated technicians to work at an approved centre

- 7.2.1 Any centre wishing to add a person to their list of nominated technicians must submit an application to the tachograph administration team. The application must be supported by the nominee's valid Certificate(s) of Competence covering the type of tachograph(s) to be worked upon.
- 7.2.2 The tachograph administration team will produce a list (GV213) of nominated technicians for each Approved Tachograph Centre. The centre must display the GV213 on the obligatory notice board. Centres must immediately inform the tachograph administration team when a nominated technician ceases to be employed by them or when a new nominated technician is to be recruited. The tachograph administration team will then issue a revised GV213 – email tachosection@vosa.gov.uk.
- 7.2.3 Nominated technicians must ensure that their name appears on the GV213 for each centre at which they will perform their duties. Until the technician's name is notified and added to the GV213 by DVSA the technician is not authorised to carry out tachograph work.

7.3 Nominated technicians convicted of an offence

- 7.3.1** Any nominated technician convicted of an offence as defined in the Rehabilitation of Offences Act 1974, for criminal offences connected with the tachograph scheme, motor trade, or involving acts of dishonesty, violence or intimidation must notify DVSA tachograph administration team immediately.
- 7.3.2** Consideration as to the continued suitability of a nominated technician convicted of an offence will be dealt with following the guidance contained within the disciplinary section of this manual.

7.4 Supervision of unqualified persons by nominated technicians

- 7.4.1** An unqualified person may only conduct tachograph inspection and calibration work whilst training and under the **direct** supervision of a nominated technician.
- 7.4.2** The nominated technician is responsible for any work conducted. The nominated technician must be able to confirm that all aspects of the work carried out by the trainee have been correctly performed, must verify that the test results are accurate and the parameters of the tachograph have been correctly set and must confirm the information recorded on the plaque is correct.
- 7.4.3** The Register of Tachograph Plaques issued (GV212) must only be signed by the nominated technician who supervised and verified the work.

7.5 Nominated technician training and competence

- 7.5.1** All nominated technicians must have a valid certificate of competence. They may also be required to give a practical demonstration of their skills at intervals during their working career.
- 7.5.2** Qualified nominated technicians must keep up to date with current practices and standards by:
- 7.5.2.1 Reading and complying with all relevant notices and bulletins issued by DVSA, the current version of this manual (including amendments), and technical information supplied by their employers through the tachograph centre's technical support arrangements.
 - 7.5.2.2 Successfully completing any refresher training required by DVSA.
 - 7.5.2.3 Successfully completing training on the use of any new or modified equipment installed at their tachograph centre.

Note 1: Approved technicians working at centres approved for both analogue and digital tachograph calibration work, but who have not attended an approved digital training course will need to be locally trained by the centre to enable them to input the required information into the electronic GV212 via the computer.

Note 2: Any installation, inspection and calibration carried out by a person who has not attended a training course (other than when training and under direct supervision as described above) and who has not satisfactorily carried out a demonstration test (where this is required) will be regarded as having been carried out by an unauthorised person. These circumstances will result in disciplinary action against the Approved Tachograph Centre and person concerned.

7.6 Training

- 7.6.1** DVSA approves training courses and the training organisations that run them. A certificate of competence will be issued to successful candidates to cover installation, inspection and calibration of analogue tachographs, digital tachographs or both and will be valid for a period of not more than 3 years.
- 7.6.2** Digital tachograph training certificates are only valid when the technician holds a current analogue training certificate.
- 7.6.3** A certificate of competence may be renewed on expiry, for a period of not more than 3 years if, following assessment, the approved training organisation is satisfied that the nominated technician is still competent.
- 7.6.4** Following assessment, if the training organisation is not satisfied that competence has been demonstrated, then the nominated technician will be required to successfully complete a further training course of instruction before renewing the certificate of competence.
- 7.6.5** Approved training courses will cover analogue tachographs, digital tachographs or both. As appropriate, they will consist of:
- a. The theory of the installation and use of recording equipment.
 - b. The appropriate EC legislation, in particular Regulation (EEC) 3821/85 as amended, in respect of the accuracy, installation, inspection, sealing and repair of recording equipment, and its links to the drivers' hours' regulations.
 - c. A written test of a candidate's knowledge of installation, inspection, calibration, minor repairs, workshop and security requirements.
 - d. Practical training on installation, inspection, calibration and minor repair procedures
 - e. Equip the technician to be able to complete full installations, inspections and calibrations of recording equipment. For digital courses, this will also include activation, downloading and decommissioning.
- 7.6.6** A full syllabus of individual approved training courses may be obtained by contacting any of the 'DVSA approved tachograph training suppliers'.

7.7 Workshop cards (smart cards)

- 7.7.1** Following the satisfactory completion of an approved training course on digital tachographs and the issue of a certificate of competence to a nominated technician an approved tachograph centre may make an application in conjunction with the nominated technician for the issue of a workshop smart card as follows;
- 7.7.1.1 Applications must be made using DVLA form (D778B). These forms are obtainable from the DVSA office in Swansea or by contacting the DVSA area office.
 - 7.7.1.2 New applications, or applications made where previous training certificate has expired, will need to be supported with a copy of a current training certificate(s).
 - 7.7.1.3 For technicians who have already been issued with a UK photo card driving licence, on which the current details are correct, all they will need to do is complete the form and submit it along with a copy of their training certificate(s) to DVSA at the address shown below.

- 7.7.1.4 For technicians who have already been issued with a UK photo card driving licence on which the details are **incorrect**, they will need to submit both parts of their driving licence to DVLA for correction. Once the amended licence has been received by the nominated technician they may now submit the completed application form and a copy of training certificate(s) to DVSA at the address shown below.
- 7.7.1.5 For technicians who either **do not** hold a UK photo card driving licence, hold a foreign driving licence or do not hold a driving licence at all, they will be required to submit the full supporting identity documentation, as required by DVLA and identified in leaflet (INF178B), along with the completed application form and copy of training certificate(s) to DVSA at the address shown below.
- 7.7.1.6 If at the time of making their application for a workshop smart card, the technician wishes to amend any details on their existing non-photo card licence, or exchange their existing licence for a photo card style licence they will need to include all parts of the driving licence, along with any supporting documentation that may be required by DVLA, with their application. These documents, along with the completed application form and copy of training certificate(s) should then be sent to DVSA at the address shown below.
- 7.7.1.7 The forms, along with any supporting documents, will need to be submitted to DVSA, PO Box 343, Swansea, SA1 2YS
- 7.7.1.8 The applications will then be checked (including crosscheck with the driving licence record held by DVLA) for accuracy to ensure that all required documents have been included. Once this process has been completed the application will be forwarded to DVLA.
- 7.7.1.9 The workshop smart card will be despatched by DVLA to the nominated technician at the address of the Approved Tachograph Centre within 5 working days of the receipt of the application at DVLA. The notification of the PIN will be dispatched to the technician's home address as shown on the DVLA system.
- 7.7.1.10 Technicians should be aware that if the application requires any changes to an existing licence or full identity checks to be undertaken then they should allow extra time for this work to be undertaken.
- 7.7.2** The nominated technician is responsible to ensure the workshop card issued to him is stored at all times in accordance with this manual.
- 7.7.3** Should the PIN be 'lost' a substitute cannot be issued, the nominated technician will need to apply to DVSA using DVLA form (D778b) for a replacement card and PIN. The current card should be returned with DVLA form (D778b).
- 7.7.4** Technicians are to be aware that a workshop smart card will become locked, and unusable, after the insertion of 5 consecutive incorrect PIN entries. Should this occur then the technician will need to apply for a replacement card.
- 7.7.5** The workshop smart cards are valid for a maximum of 1 year and all cards expire on 31st March each year. A replacement card will be issued in time by DVLA provided the technician still holds valid training certificates. On expiry of the old card the technician is to ensure that it is retained for a minimum of 1 year secured in the centre's floor safe. Updated training certificates must be faxed to DVSA on 01792 454367 to maintain the technician's training record.

[Contents](#)



Driver & Vehicle Standards Agency

8.1 Introduction

- 8.1.1** When shortcomings are found in either the conduct of tachograph work, or the operation of the tachograph scheme, DVSA will take action according to the circumstances of each particular case. For minor shortcomings, this will usually consist of advice or counseling, but for more serious cases (or repeated minor shortcomings) formal disciplinary action may be considered.
- 8.1.2** DVSA may exercise discretion on behalf of the Secretary of State for Transport to disqualify a nominated technician and to withdraw the approval of tachograph centres.
- 8.1.3** In judging what course to follow in a particular case, or series of cases, DVSA will consider all known circumstances and may alter the level of action to reflect the circumstances.
- 8.1.4** DVSA reserves the right to modify the points or actions indicated in this section in the light of experience or to reflect changes in the law. DVSA will inform those approved within the scheme about such modifications by notices and by amendment of the contents of this manual.
- 8.1.5** Where the manual does not cater for a specific shortcoming, consideration of disciplinary measures will be in line with shortcomings of similar significance.

8.2 Underlying principles

- 8.2.1** Where a vehicle or recording equipment is re-examined after the inspection or calibration of a tachograph, any action taken will be based on its likely condition at the time the work was carried out, taking into account all known factors, including those that could have changed in the meantime.
- 8.2.2** If a person involved in the scheme brings a problem to DVSA's attention relating to shortcomings or malpractice of others, this will not normally be counted against them. An example would be where the management of an Approved Tachograph Centre reports shortcomings on the part of a nominated technician identified during the course of their management checks. Similarly nominated technicians who are put under pressure to conduct actions contrary to the requirements should also report this to DVSA.
- 8.2.3** Where an Approved Tachograph Centre is unhappy with the working standards of a nominated technician, the centre should consider stopping the nominated technician from conducting further work within the scheme until corrective action and/or retraining is completed. This may be particularly appropriate where disciplinary action for shortcomings is being considered by DVSA.
- 8.2.4** Nominated technicians must be in a fit condition, both physically and mentally, to carry out their work to the required standard. Being on medication or recovering from illness will not normally be considered to provide mitigation in the event of errors in tachograph work. Approved Tachograph Centres are expected to implement reasonable management controls to ensure that their nominated technicians are in a fit condition to conduct work for the tachograph scheme.

8.3 Nominated technicians

8.3.1 Disqualification will usually result from:

- a. A single instance of significant **procedural** omissions (e.g. major elements of the inspection and/or calibration procedure missed), significant negligence or significant malpractice.
- b. A single serious incident of substandard inspection/calibration, that could compromise the validity of records made by a tachograph, or could result in a road speed limiter not functioning within the legally required parameters, particularly where this could compromise road safety.
- c. A Nominated technician being personally involved in an act which could also justify single-case withdrawal for an approved tachograph centre.
- d. A Nominated technician being convicted of an offence connected with the tachograph scheme, or involving violence or intimidation which DVSA considers could put Approved Tachograph Centre customers or DVSA's staff at risk.

8.3.2 An extension of disqualification will result where a former nominated technician continues to conduct inspections and calibrations, other than as an assistant, after disqualification.

8.3.3 An extension of suspension will result where a nominated technician continues to conduct inspections and calibrations, other than as an assistant, during a period of suspension resulting from a failure to complete required training or demonstration tests.

8.4 Approved tachograph centres

8.4.1 Unless single case withdrawal action is justified, an Approved Tachograph Centre will normally have been issued with a formal warning and given the opportunity to correct failings, **before** the subsequent offences under consideration lead to the withdrawal of the approval.

8.4.2 Where single case withdrawal is considered, DVSA will take care to ensure that the offence justifies such serious action, having regard to the risk to road safety or the repute of the tachograph calibration scheme.

8.4.3 Normally the disciplinary assessment counted against the Approved Tachograph Centre will be no less than that counted against the nominated technician for the same shortcomings, unless there is clear evidence of deceit by the nominated technician, and the Approved Tachograph Centre has not been remiss in the application of management controls and quality assurance.

8.4.4 Shortcomings in the work of nominated technicians brought to DVSA's attention by an Approved Tachograph Centre as a result of management quality checks will not normally be counted against the Approved Tachograph Centre.

8.4.5 Withdrawal action will usually result from an Approved Tachograph Centre, (or a partner, director or officer of the company), being convicted of a criminal offence which DVSA considers is likely to damage the repute of the Approved Tachograph Centre, or the integrity of the tachograph scheme. This action may be taken whether or not the conviction arose from activities in connection with the scheme. Where an incident has resulted in a formal warning and there is a subsequent conviction, the authorisation may again be reviewed, and may be withdrawn where it is considered by DVSA that the Approved Tachograph Centre is no longer of good repute.

8.5 Disciplinary action examples

- 8.5.1** This section gives some examples of circumstances that can lead to disciplinary action against a nominated technician, or an Approved Tachograph Centre. This is not an exhaustive list of all possible circumstances, and shortcomings and deficiencies will be considered in the light of the circumstances of each particular case;
- a. A justified complaint that a tachograph is defective in operation, or the calibration parameters are incorrect, on a recently inspected tachograph issued with an inspection plaque and/or a calibration certificate.
 - b. A justified complaint to DVSA concerning a refusal to issue a calibration certificate.
 - c. Re-examination of a vehicle and its recording equipment by DVSA that reveals an incorrect inspection/calibration decision.
 - d. An observed test where a vehicle is submitted for examination by a person posing as a customer, in order to check the Approved Tachograph Centre's inspection methods and calibration standards, and those methods or standards appear to be inadequate.
 - e. An observed inspection and/or calibration, when DVSA has asked for the required procedures to be demonstrated and these procedures have proved to be unsatisfactory,
 - f. Recognition by DVSA of a deficiency in the operation of the Approved Tachograph Centre, resulting in a failure to meet the requirements of the tachograph scheme.
 - g. Other more involved investigations in cases where DVSA believe there may be significant irregularities. Such investigations may include covert surveillance of Approved Tachograph Centres, or of sites where vehicles equipped with tachographs are present.

8.6 Levels of disciplinary action

- 8.6.1 Action after initial assessment by the DVSA Examiner.** Following assessment, if the matter is considered relatively minor and correctable; advice will be given to the nominated technician and/or the Approved Tachograph Centre.
- 8.6.2** More serious shortcomings may result in DVSA considering formal disciplinary action. A report on the case will be forwarded by the examiner to the DVSA tachograph scheme approval officer for a full review to determine whether starting the formal disciplinary procedure is justified. If, after review of the case report, DVSA consider formal disciplinary action is not justified then appropriate advice will be issued to the Approved Tachograph Centre and/or nominated technician.
- 8.6.3 Advice** is not part of the formal disciplinary system and would not be considered to contribute directly to any future formal disciplinary action. However, it can be taken into account in considering the significance of mitigation offered in a formal disciplinary case arising within five years of the advice being given (for example, where advice has not been heeded, leading to a serious shortcoming). Only written advice provided by DVSA will be used in this way.
- 8.6.4 Formal disciplinary** action will normally be initiated if, following review of the case report, DVSA considers that shortcomings have, or could have, resulted in inadequately inspected or inaccurately calibrated tachographs being put into service and/or issued with calibration certificates.

8.6.5 When formal disciplinary action is being considered, a letter (referred to as a Contemplated Withdrawal (CW) letter) will be sent to those parties against whom action is being considered. The letter will be accompanied by copies of all documentary evidence that is being considered, for example, the examiner's reports or photographs. The parties concerned will be invited to make written representations about the circumstances of the case within 15 working days of the date of the letter.

In addition, the contemplated withdrawal letter will note any previous formal warnings to be considered in deciding what action DVSA may take. Representations may also be made about these previous warnings. If DVSA receives no such representations by the due date the case will proceed on the facts already gathered.

8.6.6 A CW letter for a nominated technician will normally be sent to the Approved Tachograph Centre where they were working at the time of the incident. Any photographs relating to the incident will only be enclosed with the Approved Tachograph Centre copy of the CW letter, and access to the photographs should be given to any nominated technician involved.

8.6.7 If the nominated technician ceases to work for the Approved Tachograph Centre involved, DVSA must be informed immediately and given a forwarding address for the nominated technician. The CW letter must be returned to the DVSA office from which it was sent. Nominated technicians, who are unable to examine copies of photographs sent to the Approved Tachograph Centre, may contact that DVSA office to make arrangements to see the photographs

8.6.8 The case will be reconsidered in light of all the representations /evidence offered by, or on behalf of, the nominated technician or the Approved Tachograph Centre, in conjunction with all the evidence that was sent with the CW letter(s). Should any new evidence (other than clarification or confirmation of previous evidence) come to light that DVSA intend to consider, the nominated technician and/or the Approved Tachograph Centre will be given the opportunity to comment on it.

8.6.9 The review will include the evidence and representations in respect of any previous formal warnings that were notified in the CW letter. Any fresh representations or evidence offered in respect of previous warnings will be considered and their relevance to the disciplinary decision on that case decided.

8.7 Normal levels of action

8.7.1 Where a case is judged serious enough to justify formal action, one of the following options will be chosen:

8.7.2 A formal warning: These are issued in writing to an Approved Tachograph Centre or to a nominated technician and will be taken into account in the event of future formal disciplinary action. Formal warnings generally remain valid for five years from their date of issue, although this is reduced to two years in circumstances detailed further in this section. A formal warning may be accompanied by a **recommendation** that a nominated technician should undergo additional training.

8.7.3 Formal Warning plus Additional Training: As above, but with a **requirement** that a nominated technician must successfully complete additional training. The training, which will normally be attendance at a DVSA approved training course, will be specified in the notice of the decision. The notice will also tell the nominated technician that failure to attend the course will result in suspension from conducting inspections and calibrations. The period of suspension will normally commence 35 working days from the date of the notice. Exceptionally the commencement date of suspension may be extended at the discretion of, and subject to, the written agreement of DVSA if a suitable approved training course is not available within the 35-day period.

If a nominated technician has been suspended awaiting successful completion of training, their suspension will be rescinded on production of proof of successful completion. If they successfully complete the training after the notice of suspension or withdrawal has come into effect, they will be re-authorised. In either event, the case will still count as a formal warning, should any future disciplinary action be considered.

8.8 Disqualification and/or withdrawal

8.8.1 A nominated technician may be disqualified from carrying out any further work as a nominated technician, and/or the Approved Tachograph Centre may have its approval withdrawn.

8.8.2 Whilst DVSA will always endeavor to take disciplinary action aimed at securing corrective action where shortcomings are considered to be serious, result from negligence or malpractice or risk seriously compromising road safety or the repute of the scheme disqualification and/or withdrawal action may still be taken in the absence of any previous disciplinary history.

8.9 Offences by an approved tachograph centre

8.9.1 Normally, Approved Tachograph Centres will be withdrawn from the scheme following a single instance of the types mentioned below committed by the Approved Tachograph Centre, their employee or agent. Approvals may also be withdrawn following a single instance committed by the Approved Tachograph Centre, their employee or agent.

8.9.2 **Fraud, Dishonesty or Gross Negligence** - Improper issue of a calibration certificate, plaque or Certificate of download inability, involving some act of fraud, dishonesty or gross negligence - for instance:

- a. A nominated technician issues a calibration certificate, plaque, or certificate of download inability; and has not personally conducted all the inspection or calibration of the recording equipment.
- b. Where the inspection and calibration have been undertaken by a trainee a nominated technician issues a calibration certificate, plaque, or certificate of download inability, without having exercised close and direct supervision of the work carried out by the trainee to ensure it was correctly performed; and/or the nominated technician has failed to verify that the test results are accurate; and/or the parameters of the tachograph have been correctly set and the information recorded on the plaque is correct.
- c. A replacement or duplicate calibration certificate, plaque, or certificate of download inability, is issued unjustifiably.
- d. A bribe is accepted for the issue of a calibration certificate, plaque, or certificate of download inability.
- e. The issue of a calibration certificate, plaque, or certificate of download inability, to a vehicle fitted with recording equipment which attended the Approved Tachograph Centres and entered and left the inspection bay, for a time that would not allow for a full inspection and calibration to be carried out.

8.9.3 One or more calibration certificates, plaques, or certificate of download inability are passed to an unauthorised person, or are lost as the result of a willful act by an Approved Tachograph Centre, employee or agent.

8.9.4 Access to a workshop smart card is allowed to an unauthorised person as the result of a willful or negligent act by an Approved Tachograph Centre, employee or agent.

- 8.9.5** A workshop smart card is lost or stolen as the result of a negligent act by an Approved Tachograph Centre, employee or agent.
- 8.9.6** The PIN (personal identification number) for a workshop smart card is made known to a person other than the person to whom the card was issued as a result of a willful or negligent act by an Approved Tachograph Centre, employee or agent.
- 8.9.7 Other Very Serious Offences,** An inspection or calibration is carried out by a person who is not properly authorised (see Note), to carry out such work at the Approved Tachograph Centre.

(Note: A person is "properly authorised" to conduct inspection or calibration at particular premises if:

- a. The Approved Tachograph Centre has confirmed that they are acceptable, as set out in Section 5;
 - b. Their name is on the list of Nominated Technicians (GV213) for the Approved Tachograph Centre; and
 - c. They have not been disqualified from conducting inspection or calibration, either for disciplinary reasons, or because of failure to undertake required training.)
- 8.9.7.1 Inspection or calibration is carried out on recording equipment that the Approved Tachograph Centre is not authorised to work on, (e.g. digital tachograph at an Approved Tachograph Centre approved only to work on analogue tachographs).
- 8.9.7.2 Backdating of a calibration certificate, plaque, or certificate of download inability, where the issue date on the calibration certificate, plaque, or certificate of download inability, precedes the date of the inspection/calibration.
- 8.9.7.3 Deliberate failure to report any loss or theft of calibration certificates, plaques, or certificate of download inability, to both DVSA and the police.
- 8.9.7.4 The improper issue of a calibration certificate, plaque, or certificate of download inability, to a vehicle operated by, or on behalf of, the Approved Tachograph Centre, or which the Approved Tachograph Centre has an interest in operating commercially, or is selling or seeking to sell.
- 8.9.7.5 Assault (either physical or verbal) on, or serious threats against;
- Vehicle presenters
 - Officers involved with enforcement of tachograph scheme standards
- 8.9.7.6 In serious cases of the loss of good repute. This provision will be used only in serious cases where urgent action is essential to preserve the integrity of the tachograph scheme. An example would be where there is evidence that the Approved Tachograph Centre, or their agent, has been involved in criminal activity, such as non-approved repair of tachographs or the fitment of manipulation devices to recording equipment, intended to disguise noncompliance with drivers' hour's requirements.

8.9.8 Other Serious Offences: The following single acts may also result in withdrawal of authorisation. Where the circumstances are not considered sufficiently serious to justify single-case withdrawal, then the matter will be considered with any other disciplinary action on file and formal warning or withdrawal considered as appropriate.

- 8.9.8.1 Failure to carry out an adequate inspection of the recording equipment system to ensure the integrity, accuracy and security of the system has not been compromised resulting in the sealing of the system and issue of a sealing plaque and/or certificate when the calibration parameters are incorrect.
- 8.9.8.2 Failure to carry out an adequate inspection of the recording equipment system to ensure the integrity, accuracy and security of the system has not been compromised resulting in the sealing of the system and issue of a sealing plaque and/or certificate when one or more manipulation devices are fitted to the system.
- 8.9.8.3 Failure to notify DVSA of any criminal conviction of the Approved Tachograph Centre, partners, or directors.
- 8.9.8.4 Conviction of a nominated technician for an offence connected with the tachograph scheme and associated with the particular Approved Tachograph Centre.
- 8.9.8.5 Failure to notify DVSA of a nominated technician conviction.
- 8.9.8.6 Serious negligence by an Approved Tachograph Centre, employee, or agent, resulting in the loss of calibration certificates, plaques, or certificate of download inability.
- 8.9.8.7 False statement made on an application for appointment.
- 8.9.8.8 Failure to notify DVSA of a change in the constitution or operation of a business, or failure to cease testing after such a change, pending DVSA's confirmation that inspection and calibration may resume.
- 8.9.8.9 A withdrawn Approved Tachograph Centre, or a principal, director or partner of a withdrawn Approved Tachograph Centre, is involved in the management of an Approved Tachograph Centre site and/or operation.
- 8.9.8.10 Serious and/or continued failure to comply with the requirements of approval such that the quality of tachograph work and/or the repute of the scheme are seriously compromised or put at risk.

8.9.9 Reasons to decline renewal of approval: An Approved Tachograph Centre, following a written request by DVSA, fails to pay the annual renewal fee for approval by the due date.

8.10 Offences by a nominated technician

8.10.1 Normally, a nominated technician will be disqualified from conducting work within the tachograph scheme, if they are personally involved in any act that could lead to withdrawal of the authorisation of an Approved Tachograph Centre.

8.10.2 It is normal practice too, for a nominated technician to be disqualified where there are significant procedural omissions (e.g. non-use of designated equipment), and disqualification may be applied for a single major incident of substandard inspection or calibration, that could result in the incorrect calibration of a tachograph, the inaccurate recording of drivers' hours or have other significant road safety implications.

8.10.3 A nominated technician will usually be disqualified for acts of the type covered in section 8.

8.10.4 Fraud, dishonesty or gross negligence, improper issue of a calibration certificate, plaque or certificate of download inability, involving some act of fraud, dishonesty or gross negligence - for instance:

8.10.4.1 A nominated technician issues a calibration certificate, plaque, or certificate of download inability, without personally conducting all of the inspection or calibration of the recording equipment.

8.10.4.2 Where the inspection and calibration have been undertaken by a trainee a nominated technician issues a calibration certificate, plaque, or certificate of download inability, without having exercised close and direct supervision of the work carried out by the trainee to ensure it was correctly performed; and/or the nominated technician has failed to verify that the test results are accurate; and/or the parameters of the tachograph have been correctly set and the information recorded on the plaque is correct.

8.10.4.3 A replacement or duplicate calibration certificate, plaque, or certificate of download inability, is issued unjustifiably.

8.10.4.4 A bribe is accepted for the issue of a calibration certificate, plaque, or certificate of download inability.

8.10.4.5 The issue of a calibration certificate, plaque, or certificate of download inability, to a vehicle fitted with recording equipment which attended the Approved Tachograph Centres and entered and left the inspection bay, for a time that would not allow for a full inspection and calibration to be carried out.

8.10.5 One or more calibration certificates, plaques, or certificate of download inability are passed to an unauthorised person, or are lost as the result of an act by a nominated technician.

8.10.6 Access to a workshop smart card is allowed to an unauthorised person as the result of a willful or negligent act by a nominated technician.

8.10.7 A workshop smart card is lost or stolen as the result of a negligent act by a nominated technician.

8.10.8 The PIN (personal identification number) for a workshop smart card is made known to a person other than the person to whom the card was issued as a result of a willful or negligent act by a nominated technician.

8.10.9 Conviction of the nominated technician - whether or not the conviction arises from his/her action in connection with the tachograph scheme - for any criminal offence in circumstances that, in DVSA's opinion, may have damaged his reputation, that of the Approved Tachograph Centre or the integrity of the tachograph scheme, particularly where the offence is connected with the scheme or the motor trade.

Note: In less serious cases, particularly where the conviction is not connected with the tachograph scheme or the motor trade, a more lenient view may be applied.

8.10.10 Other very serious offences:

- 8.10.10.1 A nominated technician carries out an inspection or calibration when not properly authorised to carry out such work at the Approved Tachograph Centre.
- 8.10.10.2 A person is "properly authorised" to conduct inspection or calibration at a particular premises if:
- The Approved Tachograph Centre has confirmed that they are acceptable;
 - Their name is on the list of nominated technicians for the Approved Tachograph Centre; and
 - They have not been disqualified from conducting inspection or calibration, either for disciplinary reasons, or because of failure to undertake required training.
- 8.10.10.3 Inspection or calibration is carried out on recording equipment that the nominated technician is not authorised to work on, (e.g. digital tachograph when the nominated technician is approved only to work on analogue tachographs).
- 8.10.10.4 Back dating of a calibration certificate, plaque, or certificate of download inability, where the issue date on the calibration certificate, plaque, or certificate of download inability, precedes the date of the inspection/calibration.
- 8.10.10.5 Deliberate failure to report any loss or theft of calibration certificates, plaques, or certificate of download inability, to both DVSA and the police.
- 8.10.10.6 The improper issue of a calibration certificate, plaque, or certificate of download inability, to a vehicle operated by, or on behalf of, the Approved Tachograph Centre, or which the Approved Tachograph Centre has an interest in operating commercially, or is selling or seeking to sell.
- 8.10.10.7 The improper issue of a calibration certificate, plaque, or Certificate of download inability, to a vehicle operated by, or on behalf of, the nominated technician, or which the nominated technician has an interest in operating commercially, or is selling or seeking to sell.
- 8.10.10.8 Assault (either physical or verbal) on or serious threats against;
- Vehicle presenters
 - Officers involved with enforcement of Tachograph Scheme standards
- 8.10.10.9 In serious cases of the loss of good repute. This provision will be used only in serious cases, where urgent action is essential to preserve the integrity of the tachograph scheme. An example would be where there is evidence that the nominated technician has been involved in criminal activity, such as non approved repair of tachographs or the fitment of manipulation devices to recording equipment, intended to disguise non compliance with drivers' hour's requirements.

8.10.11 Other Serious Offences, the following single acts may also result in disqualification of nominated technicians. Where the circumstances are not considered sufficiently serious to justify single-case withdrawal, then the matter will be considered with any other disciplinary action on file and formal warning or disqualification considered as appropriate.

- 8.10.11.1 Failure to carry out an adequate inspection of the recording equipment system to ensure the integrity, accuracy and security of the system has not been compromised resulting in the sealing of the system and issue of a sealing plaque and/or certificate when the calibration parameters are incorrect
- 8.10.11.2 Failure to carry out an adequate inspection of the recording equipment system to ensure the integrity, accuracy and security of the system has not been compromised resulting in the sealing of the system and issue of a sealing plaque and/or certificate when one or more manipulation devices are fitted to the system.
- 8.10.11.3 Conviction for any offence connected with the tachograph scheme or the road speed limiter scheme.
- 8.10.11.4 Conviction for any offence involving violence or intimidation which DVSA considers could put customers, or DVSA staff, at risk.
- 8.10.11.5 Failure to notify DVSA of any criminal conviction.
- 8.10.11.6 Serious negligence by a nominated technician resulting in the loss of workshop smart cards, calibration certificates, plaques, certificate of download inability.
- 8.10.11.7 Serious negligence by a nominated technician resulting in the disclosure of the workshop card PIN (personal identification number) to another person.
- 8.10.11.8 False statement made at the time of application for appointment as a nominated technician.

8.11 Notice of disqualification or withdrawal

- 8.11.1** The normal notice period before disqualification or withdrawal becomes effective, is 35 working days. This period may be reduced (i.e. the notice may be given early effect), should DVSA believe there to be a serious risk to road safety, or to the integrity or repute of the tachograph scheme.
- 8.11.2** For a nominated technician, the notice period before disqualification becomes effective, may be reduced to:
 - Ten working days, where DVSA consider the evidence of the case and/or history of past disciplinary actions, highlight serious shortcomings.
 - One day, if the particular case justifies such action to safeguard against a risk to road safety, or to the integrity of the tachograph scheme, or to safeguard against the possibility of abuse of the scheme.
- 8.11.3** For an Approved Tachograph Centre, the notice period before withdrawal becomes effective, may be reduced to:
 - Ten working days, where DVSA considers the evidence of the case and/or history of past disciplinary actions, highlight serious shortcomings.
 - One day, if the case being considered justifies single offence withdrawal (where the conviction is for a very serious offence in connection with the Tachograph Scheme, the MOT scheme or motor trade).

8.11.4 Disqualification, or withdrawal action, may be taken on one day's notice (without DVSA first issuing the normal CW letter or considering any representation); in the instance of a very serious case that DVSA considers to represent a clear and significant risk to road safety, or the integrity of the tachograph scheme.

8.12 Period of disqualification of a nominated technician

8.12.1 When a nominated technician is disqualified for disciplinary reasons (except pending training), this will normally be for two years. The period may be extended to five years where disqualification results from serious fraud, dishonesty or gross negligence.

8.12.2 A nominated technician suspended for non-disciplinary reasons (e.g. non attendance at periodic refresher training), or given a formal warning with a requirement to undertake specified additional training, will have that suspension lifted on attending the appropriate training and satisfactory completion of any required post-training assessment.

8.13 Period of disqualification of an approved tachograph centre

8.13.1 When an Approved Tachograph Centre has its approval withdrawn for disciplinary reasons, this will normally be for a period of five years and will apply to the legal entity approved and to individuals, partners and directors named in the application for approval (as amended).

8.13.2 Where withdrawal arises as a result of late payment of fees, renewal of the approval will lapse or may be declined. In such circumstances the Approved Tachograph Centre will be required to cease conducting tachograph work from the date on which the approval lapses. Under these circumstances a new application for approval along with the approval fee may be made at any time and will be considered on its individual merits.

8.14 Multi site tachograph centres

8.14.1 Where a sole trader, partnership or limited company operates more than one Approved Tachograph Centre and disciplinary action is considered necessary against one or more centres each site will, in the first instance, be treated separately. If withdrawal action is taken against a site, then no further sites will be authorised to the holder of the withdrawn approval in the same catchments area within the period of withdrawal.

8.14.2 Regardless of whether any individual sites have been withdrawn, DVSA may review the overall effectiveness of the management system of a group of Approved Tachograph Centres. If it appears that there are problems affecting a significant proportion of sites, DVSA may ask for an action plan to be prepared and implemented to improve the group performance.

8.14.3 If problems continue, DVSA may consider refusing the grant of further approvals until the record of the remaining parts of the group has improved or, in severe cases, withdrawing the Approved Tachograph Centres for part or the entire group.

8.14.4 In considering the overall performance of the group, convictions relating to parts of the organisation not directly involved in tachograph work may also be taken into consideration.

8.15 Appeals and hearings

8.15.1 Nominated technicians who have been disqualified from conducting inspections and calibrations, and Approved Tachograph Centres who have had their approval withdrawn following disciplinary action, may appeal against the action to the Secretary of State. The Secretary of State has delegated the decision on such appeals to the Chief Executive of DVSA, who is supported by a wholly independent section in his office in Bristol.

8.15.2 A nominated technician or Approved Tachograph Centre wishing to appeal against a disqualification or withdrawal of approval must do so to DVSA Office in Swansea. This should be submitted within 14 working days of receipt of the notice of disqualification or withdrawal, or as soon as possible thereafter. The letter seeking appeal should contain a full written statement of the appellant's representations concerning the grounds for the appeal and should indicate whether an informal hearing is requested. Disqualification or withdrawal will take effect on the date notified, even if the appeal is still under consideration.

8.15.3 Appeals Branch case officers will summarise and review the pertinent evidence, taking into account road safety issues, the Regulations and associated guidance such as this manual, having regard to the principles of administrative fairness and the human rights legislation. They assess whether DVSA acted fairly, reasonably, proportionately and in accordance with procedure, and that all the evidence

8.16 Informal hearings

8.16.1 A request for an informal hearing of an appeal case must be made in writing to the DVSA office in Swansea. The request will be passed to DVSA's appeals branch in Bristol. The hearing will be arranged and chaired by a member of the appeals team. The appellant and a representative from DVSA will both be invited to put their case and they may be cross-examined by the person chairing the hearing.

8.16.2 A decision on the appeal will subsequently be made by appeals branch on behalf of the Secretary of State. The appellant will receive a decision letter that sets out in full the reasons for the decision. Appeal cases are normally determined within five weeks of receiving the appeal or of the informal hearing date (whichever is the later).

[Contents](#)



9.1 General requirements

- 9.1.1** Approved Tachograph Centres must ensure that tachograph inspections and calibrations are carried out without avoidable distraction or interruption and strictly in accordance with the requirements of the Approved Tachograph Centre Manual, Special Notices, Vehicle & Tachograph Manufacturer's Inspection Manuals (where appropriate), and any other instructions issued by DVSA.
- 9.1.2** If an inspection/calibration has to be abandoned because of workshop equipment failure or because the nominated technician is unable to continue, no official paperwork must be issued.
- 9.1.3** Should a vehicle leave the centre before completion of an inspection/calibration, the recording equipment **must** be fully inspected and/or calibrated (as required) when re-presented prior to the fitment of any seals and the issue of a plaque and certificate. This requirement applies regardless of how long the vehicle was away from the centre before being re-presented, who removed it, or what charge is actually made for the work.
- 9.1.4** It is the responsibility of the vehicle operator to ensure recording equipment is fitted to any vehicle used within scope of the appropriate legislation, that it is maintained in good working order and that calibration and inspection of the equipment is conducted at required intervals. However, tachograph centres should make operators aware if, during the course of their work, they identify that an inspection or calibration is due in the near future.
- 9.1.5** An analogue tachograph installation is subject to periodic inspection every two years from the date of calibration and a full calibration six years from the last calibration. If a six yearly calibration is due before a next two yearly inspection, the calibration requirement will always take precedence and must be carried out within six years of the last calibration.
- 9.1.6** If it is apparent that a periodic inspection is due on a vehicle presented for tachograph repairs, the vehicle operator should be made aware of this. If the inspection is overdue and the vehicle operator does not want the inspection carried out, new seals must **not** be fitted to the system.
- 9.1.7** To ensure that the integrity of the recording equipment is maintained, before commencing any work associated with the installation, the nominated technician is to check the integrity of the installation, and that it has not been the subject of tampering or manipulation. In Particular he/she shall ensure that:
- Seals on the recording equipment/installation are not missing/improperly fitted or ineffective. Where such incidents are found a record must be made on the record of inspection sheet retained by the Approved Tachograph Centre, and the entry on the GV212 should be highlighted.
 - The effective circumference of the tyres is correctly recorded (or tyre size if recorded) so that the speed and distance recordings remain within the tolerances specified in the Regulations.

- c) The 'k' factor setting has not been altered, and that it corresponds to the vehicle parameters.
- d) There is no manipulation devices connected between the sender/motion sensor and the tachograph head/vehicle unit. Where such devices are discovered a record must be made on the record of inspection sheet that is retained by the Approved Tachograph Centre and the entry on the GV212 is to be highlighted. See also details regarding DVSA intelligence Unit.
- e) Any evidence of tampering or manipulation that is discovered is to be reported to:

Tachographs and Speed Limiters Section
Driver and Vehicle Standards Agency
Berkeley House
Croydon Street
BRISTOL
BS5 0DA

9.2 Condition of vehicle

9.2.1 The calibration and inspection of the vehicles should only be carried out if;

9.2.1.1 The vehicle is unladen and in normal operating condition.

9.2.1.2 The tyres comply with the current Construction & Use Regulations in respect of tread depth and condition.

9.2.1.3 The tyres are inflated to the vehicle manufacturers recommended pressures.

9.2.2 A centre is not obliged to work on vehicles that, in their opinion, appear to be unsafe.

9.3 Inspection following the installation of recording equipment

9.3.1 The full recording equipment (motion sensor, cable, power supply, tachograph head, etc) must be fitted to the vehicle in accordance with the equipment and vehicle manufacturers' instructions.

9.3.2 The installation inspection is divided into 5 sections:

- Legal requirements for installation
- Measuring the characteristic coefficient of the vehicle (w) and effective tyre circumference (l)
- Setting tachograph head constant (k)
- Tachograph head bench test
- Records and sealing

9.3.3 Legal requirements for installation

9.3.3.1 All recording equipment must be installed in accordance with the legislation detailed in Regulation (EEC) No 3821/85 and Annex 1 (as amended).

9.3.3.2 All equipment must bear an appropriate EU Type Approval mark. All seals must be those of the manufacturer / authorised repairer and must be intact.

9.3.3.3 Vehicles first registered on or after 1st January 1996 must be fitted with a tachograph which automatically registers 'driving' mode when the vehicle is in motion regardless of the position of the driver's mode selection switch.

9.3.3.4 For 'electronic' tachographs (i.e. recording equipment which is operating by signals transmitted electrically from the distance and speed sensor – not a mechanical drive cable):

1. The tachograph must record by a mark on the chart if there is an interruption exceeding 100 milliseconds in the power supply of the recording equipment (except lighting), in the power supply of the distance and speed sensor and any interruption in the signal lead to the distance and speed sensor.
2. The cables connecting the recording equipment to the transmitter must be protected by a continuous plastic-coated rust-protected steel sheath with crimped ends except where an equivalent protection against manipulation is guaranteed by other means (for example by electronic monitoring such as signal encryption).

Capable of detecting the presence of any device, which is unnecessary for the correct operation of the recording equipment and whose purpose is to prevent the accurate operation of the recording equipment by short circuiting or interruption or by modification of the electronic data from the speed and distance sensor. A joint, comprised of sealed connections, is deemed to be continuous within the meaning of this Regulation.

9.3.3.5 An electronic adaptor / interface can be used to install an analogue tachograph into an M1 / N1 class vehicles only in accordance with Commission Regulation (EC) 1056/97.

9.3.3.6 If a pre May 2006 vehicle comes into scope of EC drivers hours regulations for the first time (having not previously been fitted with a Digital Tachograph) then that vehicle can be fitted with an Analogue Tachograph.

9.3.4 Analogue tachograph acceptable tolerances table

The following tolerances must be complied with:

	Distance (over 1km)	Speed	Time
Bench Test	+ / - 1%	+ / - 3 km/h	2 mins / day or 10 mins /week
On Installation	+ / - 2%	+ / - 4 km/h	
In Use	+ / - 4%	+ / - 6 km/h	

9.4 Initial Calibration/6 Year Calibration Procedure

Step 1 Check the condition of the vehicle as per the previous instruction

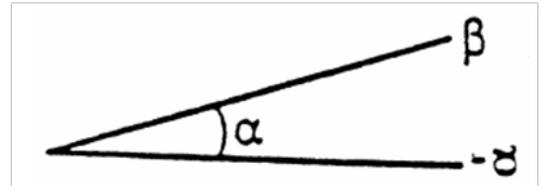
Step 2 Check the tachograph manufacturers data plate and delivery condition

Check that there is a (manufacturer's) data plate that conforms to the Regulation (EEC) 3821/85 Annex 1 (as amended). This data plate should either be built into the equipment either on the exterior, or inside the case, where it is easily accessible and should show the following information:

- Name and address of the manufacturer of the equipment
- Manufacturer's part number and year of manufacture of the equipment
- Equipment serial number
- Approval mark ('e' mark) for the equipment
- The constant of the equipment given in the form $k = \dots \text{rev/km}$ or $k = \dots \text{imp/km}$

(Note: For electronic tachographs the 'k' is normally displayed on a separate plaque).

The range of speedometer measurement in the form $V \text{ min.} \dots \text{km/h}$. $V \text{ max.} \dots \text{km/h}$ if not shown on the face of the instrument. The sensitivity of the instrument to the angle of inclination if this can affect the readings (if appropriate to the type of tachograph), in the form:



Step 3 Check ADR digital tachograph and IS circuitry (if applicable)

If the vehicle is used for the carriage of dangerous goods then the digital tachograph system must be constructed accordingly:

- The EU recording equipment is fitted with the necessary special equipment and is marked accordingly
- The tachograph system has intrinsically safe circuitry

Step 4 Remove any charts (return to driver) and check speed scale

Step 5 Calibrate the VU measuring the characteristic co-efficient of the vehicle (w) and effective tyre circumference (l)

The following measurements must be made using approved 'Vehicle Testing Equipment' or when appropriate, with the linear track and the required turns / pulse counter. All equipment must be operated in accordance with the manufacturers' instructions, e.g. input the correct correction factors into the programmer as specified by the manufacturer if applicable to the equipment.

- a) Measure the characteristic coefficient of the vehicle ' w '
- b) Measure the effective circumference ' l ' of the tyres on the driven axle from which the tachograph is sensed

Note: The values of ' l ' and ' w ' should be derived either from two identical readings or the average of three close readings. For the purpose 'close readings' mean three readings within a range of 1% from the lowest reading. On a linear track the value of ' l ' should be the average of at least five full revolutions of the tyre.

Step 6 Setting the tachograph head constant

The correct 'k' setting for the head must be derived using k-factor tables, or similar, and this setting entered into the head. In respect of settings using DIL switches, ensure that the switches are fully in the 'on' or 'off' position.

Tachographs that have the 'k' set electronically by the programmer should have the exact 'w' entered into the unit.

Mechanical tachographs require the characteristic coefficient of the vehicle to be adapted to the constant of the head. This will be achieved by assembling the correct adapter gearbox ratios using the manufacturers tables and fitting this into the drive cables.

Tachograph Head Bench Test Procedure

The tachograph head must be checked on a bench or may be in situ provided the test equipment can be compared simultaneously with the tachograph.

Step 7 Connect a Tachograph Portable Drive Test Unit (or approved alternative) to the tachograph

Connect a Tachograph Portable Drive Test Unit (or approved alternative) to the tachograph, so that the tachograph visual display or slave speedometer visual display and drive unit speed display can be read simultaneously. (With electronic tachographs it may be necessary to attach a sender unit to the portable drive test unit and set the head adjustment as specified by the manufacturer).

Step 8 Insert a compatible chart after completing the centre field

Insert a compatible chart (or charts if a 2 crew tachograph) after making the following entries on the chart:

- Chart identification – i.e. "Test Chart"
- Tester's name
- Vehicle registration number
- Tachograph make and serial number
- Date of test
- Distance recorder (odometer) reading

Step 9 Check clock, chart position time and chart warning function

Check that the clock is functioning correctly showing the correct time and that the illumination is satisfactory (lamps may be replaced during the inspection).

Check that the chart time position coincides with the time indicated by the clock. Close and lock the tachograph case. **Note:** Errors may be due to a faulty tachograph head or faulty chart.

Check chart warning function for No.1 and No.2 position

Check the accuracy of the clock using approved equipment (within +/- 2 mins/day)

Step 10 Select each of the non driving modes in turn for a minimum of 2 minutes for the driver (and second person if applicable)

Step 11 Disconnect and reconnect the main power supply to the tachograph

For vehicles first registered on or after 1st January 1996 with an electronic tachograph, briefly disconnect and reconnect the main power supply to the tachograph.

Step 12 Disconnect and reconnect the impulse sensor cable

Disconnect (for a minimum of 2 mins) and reconnect the connection between the tachograph head and the speed signal source.

Step 13 Check speed functionality

- a) Switch on the portable driving unit and steadily increase the speed to full scale on the tachograph visual display, comparing the drive unit's speeds with those indicated by the tachograph visual display or the slave visual display for V-min to V-max.
- b) Decrease the driving speed rapidly to zero. Check the motion of the speed stylus relative to the record sheet. (Rapid speed reductions will normally appear as radial lines).
- c) Select three equally spaced speeds which cover the range of the tachograph. Choose multiples of 20 km/h which coincide with the markings on the chart. Hold these speeds for a minimum of 2 minutes. Compare the indication of the tachograph speed visual display with the drive unit readings and check that the tachograph reading is steady and within ± 3 Km/h.
- d) Stop the driving unit and check that the visual display returns to zero.

Step 14 Perform a distance test to check the VU odometer

Perform a Distance check. This is a minimum 1km test using the programmer to verify the accuracy of the VU odometer and should be completed at the speed specified by the approved programmer manufacturer's instructions. The accuracy must be within the specified limits ($\pm 1\%$).

Step 15 Remove the chart(s) and record on it the odometer reading and the difference from the reading at the start of the test

Step 16 Check the chart using a chart analyser

Check the chart and ensure that;

- a. All the traces are clearly legible
- b. Speeds selected at Step 13 are correctly recorded and within ± 3 km/h of the true speed
- c. The speed trace returns to zero
- d. Non - driving modes selected at Step 10 and the driving mode, whether manually or automatically selected, are correctly recorded

- e. The chart has been marked on each occasion that the case was opened or closed
- f. In the case of vehicles first registered on or after 1st January 1996 which are equipped with electronic tachographs that the chart is correctly marked to show when the power and signal interruptions in Steps 11 and 12 were made
- g. The odometer readings recorded at Step 8 is greater to that recorded at Step 15
- h. The distance trace is consistent with the difference in the odometer readings

Step 17 Perform a test drive or speed for speed check

Once the tachograph system has been fully assembled a speed for speed check shall be carried out:

Using a free running rolling road vehicle testing equipment, the vehicle must run at 50km/h ensuring that the tachograph speed reading is within the tolerances, compared to the speed shown by the test rig.

In all other cases, (i.e. linear track or RBT) a road test must take place sufficient to establish that the tachograph will display a range of speeds, above the designed V-min of the tachograph, to the driver. (for a technician without a Driving Licence then he must accompany the driver during the test drive)

The vehicle must be within tolerance to be issued with an installation plaque and sealed. Care must be taken to ensure the whole process is as accurate as possible.

Step 18 Seal system

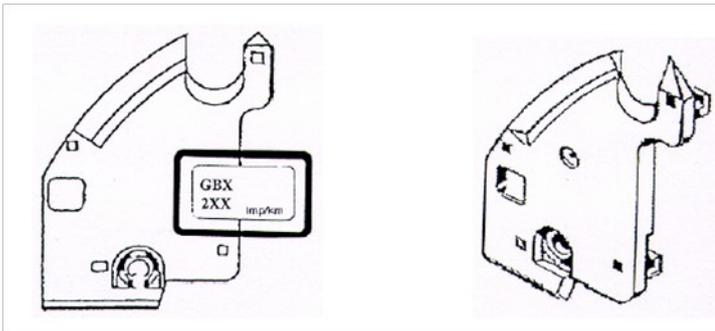
If the installation is within the tolerances specified, the Centre must ensure the following are sealed:

- a) The new installation plaque – unless it cannot be removed without destroying the information printed on it.
- b) The 2 ends of the link between the tachograph head and vehicle (on M1/ N1 vehicles using an electronic adaptor/interface, the adaptor/interface is regarded as the vehicle).
- c) The mechanical adapter gearbox and its point of insertion into the drive train.
- d) The 2-speed corrector mechanism for vehicles with 2 or more axle ratios.
- e) The links joining the adapter gearbox and 2 speed corrector mechanisms with the rest of the equipment.
- f) The casings protecting the internals of the tachograph head from misuse, dirt and damp.
- g) Between any 2 components of the tachograph installation which, if separated from each other, will give access to parts which affect the satisfactory operation of the tachograph.
- h) If the Road Speed Limiter is taken as an output from the rear of the tachograph, the point of exit from the tachograph will require to be sealed so as to be tamperproof, i.e. cover and red seal.

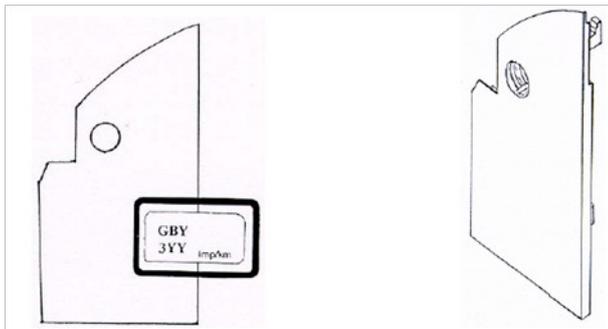
The sensor cable connected to an encrypted sensor should **NOT** be sealed. **ONLY** the encrypted motion sensor should be sealed to the gearbox as part of the required calibration sealing procedure, and not the tachograph cable as well. The tachograph cable should be free to be disconnected to allow DVSA examiners to undertake any roadside enforcement activities they require. Where any cables for encrypted sensors are found to be sealed at the roadside DVSA Examiners may break the seal to allow DVSA to undertake their required enforcement checks.

For tachographs where the 'k' factor is set by DIL switches;

- a) Only tamper-proof DIL switch covers, must be fitted .
- b) Any non-approved DIL switch covers (e.g. those made of clear plastic or those that cover the access to the test socket) must be replaced with the type described below.
- c) A 'k' factor plaque bearing the seal centre number must be fixed over the joint between the DIL cover and the back plate, ensuring it does not obscure the test socket or the DIL cover seal .



VDO 1318 Tachograph Calibration
Switch Sealing Cover



**Stoneridge 8300 and 8400
Tachograph Calibration Switch
Sealing Cover**

Note: The illustrations above show the position of the additional 'k' factor plaque which **must** be fitted every time a DIL switch cover is refitted and sealed. This additional plaque must not impede movement of the styli or cover the seal fitted or access port.

Step 19 Remove all existing installation, inspection and minor work plaques

Step 20 Complete a record of inspection sheet and record details of the issue of a calibration plaque in the register of tachograph Plaques issued (GV212)

Step 21 Fix a calibration plaque inside or on the head, or on the vehicle close to the system in a clear and visible position for inspection purposes. The plaque must be sealed, unless it is of a type that cannot be removed without being destroyed. The plaque must contain the following information;

- a. Unique seal number of Approved Tachograph Centre (UK requirement)
- b. Name, or trade name, and address of the Approved Tachograph Centre
- c. Characteristic coefficient of the vehicle expressed as 'w'=.....rev/km or 'w'=.....imp/km
- d. Effective circumference of the tyres which drive the tachograph expressed as 'l'=.....mm
- e. The date on which 'l' and 'w' were measured

Step 22 Fix an approved and fully completed 'k' factor plaque on or near to the calibration plaque

Step 23 Retain the test chart and record of inspection sheet

Retain the test chart, together with the record of inspection sheet (a copy of which should be given to the vehicles operator) and any other documentation (i.e. repairer's certification) for at least six years, in such a manner that the markings are not damaged or destroyed.

See Analogue tachograph - initial calibration/6 year calibration procedures check list

9.5 Two yearly periodic inspection procedure

This inspection is due 2 years after the first / most recent calibration or the last two year inspection (unless a six yearly inspection is due). The procedure is:

Step 1 Check the condition of the vehicle

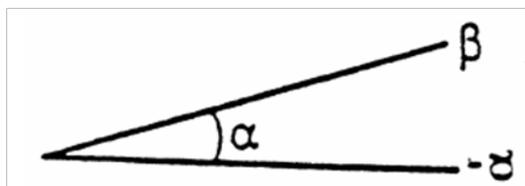
Step 2 Check the tachograph manufacturers data plate

Check that there is a (manufacturer's) data plate that conforms to the Regulation (EEC) 3821/85 Annex 1 (as amended). This data plate should either be built into the equipment either on the exterior, or inside the case, where it is easily accessible and should show the following information:

- Name and address of the manufacturer of the equipment
- Manufacturer's part number and year of manufacture of the equipment
- Equipment serial number
- Approval mark ('e' mark) for the equipment
- The constant of the equipment given in the form $k = \dots \text{rev/km}$ or $k = \dots \text{imp/km}$

(**Note:** For electronic tachographs the 'k' is normally displayed on a separate plaque).

The range of speedometer measurement in the form $V \text{ min} \dots \text{km/h}$. $V \text{ max} \dots \text{km/h}$ if not shown on the face of the instrument. The sensitivity of the instrument to the angle of inclination if this can affect the readings (if appropriate to the type of tachograph), in the form:



Step 3 Check for the presence of a calibration plaque which conforms to the requirements of Annex 1 of the Regulations 3821/85

The plaque must be sealed, unless it is of a type that cannot be removed without being destroyed. The plaque must contain the following information:

- a. Unique seal number of Approved Tachograph Centre (UK requirement)
- b. Name, or trade name, and address of the Approved Tachograph Centre
- c. Characteristic coefficient of the vehicle expressed as 'w'=.....rev/km or 'w'=.....imp/km
- d. Effective circumference of the tyres which drive the tachograph expressed as 'l'=.....mm
- e. The date on which 'l' and 'w' were measured

Step 4 Check all the seals are intact and correctly marked and check for any signs of tampering to the system

Step 5 Check ADR digital tachograph and IS circuitry (if applicable)

If the vehicle is used for the carriage of dangerous goods then the digital tachograph system must be constructed accordingly:

- The EU recording equipment is fitted with the necessary special equipment and is marked accordingly
- The tachograph system has Intrinsically Safe circuitry

Step 6 Remove and charts and check speed scale

Step 7 Insert a compatible chart after completing centre field

Insert a compatible chart (two if a two man head) having made the following entries:

- a. Chart identification – i.e. "Test Chart"
- b. Tester's name
- c. Vehicle registration number
- d. Tachograph make and serial number
- e. Date of test
- f. Distance recorder (odometer) reading

Step 8 Check clock, chart position time and chart warning function

Check that the clock is functioning correctly showing the correct time and that the illumination is satisfactory (lamps may be replaced during the inspection).

Check that the chart time position coincides with the time indicated by the clock. Close and lock the tachograph case.

Note: Errors may be due to a faulty tachograph head or faulty chart.

Check chart warning function for No.1 and No.2 position

Step 9 Select each of the non driving modes in turn for a minimum of 2 minutes for the driver (and second person, if applicable)

Step 10 Disconnect and reconnect the main power supply to the tachograph

For vehicles first registered on or after 1st January 1996 with an electronic tachograph, briefly disconnect and reconnect the main power supply to the tachograph.

Step 11 Disconnect and reconnect the impulse sensor cable

Disconnect (for a minimum of 2 mins) and reconnect the connection between the tachograph head and the speed signal source.

Step 12 Measure the effective circumference of the tyres 'Y'

Measure the effective circumference of the tyres 'Y' and check the result is within $\pm 4\%$ of that recorded on the installation plaque.

Step 13 Carry out speed tests using free running roller test equipment or using non-roller test equipment

Using free running roller test equipment

- a) Accelerate from 0 km/h to 40 km/h as indicated by the test equipment, hold for a minimum of 2 minutes whilst checking that the tachograph visual display speed reading is within ± 6 km/h of 40 km/h as shown on the test equipment. **Note:** If the vehicle has a two-speed axle, the check at 40 km/h should be carried out in low ratio; all other checks should be conducted in high ratio.
- b) Accelerate from 40 km/h to 60 km/h, hold for a minimum of 2 minutes whilst checking that the tachograph visual display speed reading is within ± 6 km/h of 60 km/h as shown on the test equipment .
- c) Decelerate to rest and ensure the tachograph display returns to zero.

Using non roller test equipment

- a) Connect the tachograph portable drive unit or tachograph programmer to the head so that both speed displays can be read simultaneously.
- b) Increase speed from 0 km/h to 40 km/h as indicated by the test equipment, hold for a minimum of 2 minutes whilst checking that the tachograph visual display speed reading is within ± 6 km/h of 40 km/h as shown on the test equipment .
- c) Increase speed from 40 km/h to 60 km/h, hold for a minimum of 2 minutes whilst checking that the tachograph visual display speed reading is within ± 6 km/h of 60 km/h as shown on the test equipment.
- d) Decelerate to rest and ensure the tachograph display returns to zero
- e) Remove the chart(s) and record on it the odometer reading and the difference from the reading at the start of the test
- f) Disconnect the tachograph head tester
- g) Re-connect the cable connections from the vehicle to the tachograph and reseal
- h) A short road test must take place sufficient to establish that the tachograph will display a range of speeds, above the designed V-min of the tachograph, to the driver

- Step 14 Remove the chart(s) and record on it the odometer reading and the difference from the reading at the start of the test, replace and chart removed at the start
- Step 15 Check the chart using the chart analyser
- a. All the traces are clearly legible
 - b. Speeds selected are correctly recorded and within ± 6 km/h of 40 km/h and 60 km/h respectively
 - c. The speed trace returns to zero
 - d. Non - driving modes selected and the driving mode, whether manually or automatically selected, are correctly recorded
 - e. The chart has been marked on each occasion that the case was opened or closed
 - f. In the case of vehicles first registered on or after 1st January 1996 and before 1st January 2006 which are equipped with electronic tachographs that the chart is correctly marked to show when the power and signal interruptions were made
 - g. The odometer readings recorded at finish is greater than at start
 - h. The distance trace is consistent with the difference recorded by the odometer

Records and 2 year inspection plaque

If the installation meets all the tolerances, the centre must

- Step 16 Complete a record of inspection sheet and record details of the issue of a 2 year inspection plaque in the register of tachograph plaques issued (GV212)
- a) Complete a 2 year Record of Inspection Plaque.
 - b) Record details of issue in the Register of Tachograph Plaques Issued (GV212).
 - c) If the criteria are not met, but a rectification can be carried out as a minor repair, do so. Fit a minor repair plaque and complete the installation.
 - d) If the criteria are not met and there appears to be a change in the characteristic coefficient of the vehicle then a six-yearly calibration procedure must be carried out.

Step 17 Remove all existing two yearly plaques

Step 18 Fix a new two yearly inspection plaque

Complete and fix a new two-yearly inspection plaque showing workshop seal number and date of inspection. The plaque should be fitted in the head, so as not to obstruct any other plaques, test sockets or seals. If it is not possible to open the head, position it near to the installation plaque. The plaque must be sealed, or constructed so that it cannot be removed without being destroyed.

Step 19 Retain the test chart and record of inspection sheet

Retain the test chart, together with the record of inspection sheet (a copy of which should be given to the vehicles operator) and any other documentation (i.e. repairer's certification) for at least two years, in such a manner that the markings are not damaged or destroyed.

See Analogue tachograph - two yearly periodic inspection procedure check list

9.6 Minor repairs

9.6.1 Only the minor repairs set out below may be made by an Approved Tachograph Centre. Any repairs other than these are required to be carried out under the Approved Tachograph Repair Scheme.

9.6.2 All standard and remote centres may carry out the following minor repairs to the tachograph head;

- a) Replacement of and / or adjustment of the odometer.
- b) External electrical connections.
- c) Front bezel assembly.
- d) The above repairs can be carried out on a tachograph head that is;

Fitted to a vehicle, repaired and replaced in that vehicle
Brought to the Centre – fully and legitimately sealed by a manufacturer or authorised repairer,
repaired and fitted to a vehicle

- e) If a head has any seals missing (except those associated with calibration), it cannot undergo minor repairs by the Tachograph Centre.

9.6.3 Following minor repairs, the centre must carry out either:

- a) Using free running rolling road vehicle test equipment, the vehicle must run at 50 km/h ensuring that the tachograph speed reading is within the tolerances, compared to the speed shown by the test rig.

OR

- b) In all other cases, (i.e. linear track or RBT) a road test must take place sufficient to establish that the tachograph will display a range of speeds, above the designed V-min of the tachograph, to the driver .

The vehicle must be within tolerance to be issued with an installation plaque and sealed.

9.6.4 Following minor repairs and the relevant checks the centre must replace any seal disturbed by the centre .

- a) Complete an approved minor works plaque with the Centre's seal number and date and fix the plaque inside the head. In the case of non-opening heads the minor works plaque must be installed adjacent to the installation plaque.
- b) Record the details of the issue in the Register of Tachograph Plaques issued (GV212).
- c) In order to assist vehicle operators, Centres must make them aware that this minor work does not alter the date of the next two or six yearly periodic inspection. The due date must be clearly shown on the paperwork given to the operator.

9.7 Replacing broken seals

9.7.1 Seals which are fitted to the rear casing or internal base plates of tachographs cannot be replaced by an Approved Tachograph Centre. These can only be replaced following repair by an Approved Repairer.

9.7.2 In situations where seals have been fitted at the point of calibration, to the front bezel, and the odometer or installation plaque and have been subsequently broken or damaged other than by the Tachograph Centre, the Centre may replace those seals after they have ensured that ;

- a) The characteristic coefficient of the vehicle 'w' has not been altered **and**
- b) The constant 'k' of the tachograph head or the adaptation between the head constant and the characteristic coefficient 'w' of the vehicle has not been altered **and**
- c) The tachograph system is functioning correctly

9.7.3 Following replacement of the seals centres must:

- a) Complete an approved minor works plaque with the centre's seal number and date and fix the plaque inside the head. In the case of non-opening heads the minor works plaque must be installed adjacent to the installation plaque
- b) Record the details of the issue in the Register of Tachograph Plaques issued (GV212)

9.7.4 In all other cases where seals have been damaged the following applies:

- a) The 2 yearly inspection procedures must be followed and the criteria met for all items except the missing seals.
- b) The missing seals must then be replaced.
- c) Complete an approved minor works plaque with the Centre's seal number and date and fix the plaque inside the head. In the case of non-opening heads the minor works plaque must be installed adjacent to the installation plaque.
- d) The details of the issue must be recorded in the Register of Tachograph Plaques (GV212).
- e) As all the installation tolerances have been met, the vehicle has also passed a two-yearly inspection and
- f) Remove all existing two yearly plaques
- g) Complete and fix a new two-yearly inspection plaque showing workshop seal number and date of inspection. The plaque must be fitted in the head, so as not to obscure any other plaques, test sockets or seals. If it is not possible to open the head, position it near the installation plaque. The plaque must be sealed, or constructed so that it cannot be removed without being destroyed.
- h) Record the details of issue in the Register of Tachograph Plaques (GV212)
- i) Retain the test chart for at least two years

9.8 Replacement of tachograph heads

- 9.8.1** Tachograph Centres may fit either new tachograph heads or those which have been repaired by an Authorised Tachograph Repair Workshop of any EU Member State. Approved Tachograph Centres must be prepared to install or calibrate tachographs which have been repaired by any authorised repairers at the request of the vehicle operator. Centres may not confine themselves to installing or calibrating only those tachographs which have been repaired by companies with which they have specific supply arrangements.
- 9.8.2** In all cases, but especially where a separate (unfitted) tachograph head is presented with a vehicle for installation, or offered for sale, a careful check must be made to ensure that the descriptive plaque is fitted and all parts of the head are correctly sealed with either the manufacturers or Authorised Repair Centre's seals.
- 9.8.3** Where the seal marks are not listed within this manual written confirmation from the repairer must be supplied with the tachograph head giving the repairs name, address, EU Member State approval number/ identity mark and confirming that the head has been repaired and checked to ensure it is in conformance with the Regulations. The documentation provided must be kept with the installation inspection records for a minimum of 6 years.
- 9.8.4** Particular attention should be paid to second-hand heads to verify that they are legal units. If in doubt contact your local DVSA Tachograph Centre Examiner for advice.
- 9.8.5** In all cases, when a replacement tachograph head is fitted to a vehicle, this must be treated as a new installation and the procedure for installation contained within this manual must be followed.

9.9 Replacement of other parts

- 9.9.1** Components other than the tachograph head may be replaced with functionally identical components and resealed under the minor repair system providing the following criteria are met;
- a. That the tachograph system is functioning correctly **and**
None of the following have been altered
- The characteristic coefficient of the vehicle 'w', or
The constant 'k' of the tachograph head, or
The adaptation between the head constant and the characteristic coefficient 'w' of the vehicle
- 9.9.2** The following check and procedure must then be followed;
- a) Carry out either of the following checks;
- Using the free running rolling road vehicle test equipment, the vehicle must be run at 50 km/h ensuring that the tachograph speed is reading within the tolerances, compared to the speed shown on the test rig
- OR
- In all other cases, (i.e. linear track or RBT) a road test must take place sufficient to establish that the tachograph will display a range of speeds, above the V-min of the tachograph, to the driver.

- b) Replace all seals disturbed by the Centre.
- c) Complete an approved minor works plaque with the Centre's seal number and date and fix the plaque inside the head. In the case of non-opening heads the minor works plaque must be installed adjacent to the installation plaque.
- d) Record the details of the issue in the Register of Tachograph Plaques issued (GV212).
- e) In order to assist vehicle operators, Centre's must make them aware that this minor work does not alter the date of the next two or six yearly periodic inspection. The due date must be clearly shown on the paperwork given to the operator.
- f) If a DIL switch cover requires replacement the Centre is to ensure a **black** cover is used, transparent covers are no longer to be fitted. Any transparent covers found are to be replaced immediately.

9.10 Seals broken for the fitting of speed limiters

9.10.1 Regulations allow tachograph seals to be broken by a Speed Limiter Fitting Centre ("Authorised Sealer") to enable the equipment to be fitted. However, tachograph heads are ONLY to be re-sealed by a Tachograph Centre. A record is to be made of any resealing after the device has been fitted. This must be retained for 6 years. Technicians must ensure the calibration parameters or DIL switches have not been altered from the previous calibration.

9.10.2 If there is any evidence to indicate that the tachograph head has been unlawfully resealed by the Authorised (speed limiter) Sealer, the relevant facts are to be reported to the DVSA Area Centre Examiner.

9.11 Repairs which do not require seals to be broken

9.11.1 Repairs which can be carried out without breaking the system or tachograph head seals (e.g. replacement of lamps, locks, glass) may be carried out by non-approved fitters or workshops.

9.12 Authorised repairer scheme

9.12.1 Any Centre wishing to conduct repairs over and above those described in the minor repairs section of this manual must become an Authorised Repairer. This is a separate scheme requiring separate approval; those wishing to seek this approval must apply to:

**Tachographs and Speed Limiters Section
Driver and Vehicle Standards Agency
Berkeley House
Croydon Street
BRISTOL
BS5 0DA**

Contents

Analogue Tachograph - Initial Calibration / 6 Year Calibration Procedures

Checklist

Step	Description	Completed
1	Check Condition of the Vehicle	
2	Check the tachograph manufacturers data plate and delivery condition	
3	Check ADR Digital Tachograph and IS circuitry (if applicable)	
4	Remove any charts (return to driver) and check speed scale	
5	Calibrate the VU - Measuring the Characteristic Coefficient of the Vehicle (w) and Effective Tyre Circumference (l)	
6	Set the Tachograph Head Constant (k)	
7	Connect a Tachograph Portable Drive Test Unit (or approved alternative) to the tachograph	
8	Insert a compatible chart after completing centre field	
9	Check clock, chart position time and chart warning function	
10	Select each of the non – driving modes in turn for a minimum of 2 minutes for the driver (and second person, if applicable)	
11	Disconnect and reconnect the main power supply to the tachograph	
12	Disconnect and reconnect the impulse sensor cable	
13	Check Speed functionality	
14	Perform a distance test to check the VU odometer	
15	Remove the chart(s) and record on it the odometer reading and the difference from the reading at the start of the test	
16	Check the chart using a chart analyser	
17	Perform a test drive or Speed for Speed check	
18	Seal System	
19	Remove all existing installation, inspection and minor work plaques	
20	Complete a Record of Inspection sheet and record details of the issue of a calibration plaque in the Register of Tachograph Plaques Issued [GV212]	
21	Fix a calibration plaque	
22	Fix an approved and fully completed 'K' factor plaque on or near to the calibration plaque	
23	Retain the test chart and record of inspection sheet	

Contents

Analogue Tachograph - 2 Yearly Periodic Inspection Procedures

Checklist

Step No	Description	Completed
1	Check Condition of the Vehicle	
2	Check the tachograph manufacturers data plate and delivery condition	
3	Check for the presence of a Calibration Plaque which conforms to the requirements of Annex 1 of Regulations 3821/85	
4	Check all seals are intact and correctly marked and check for any signs of tampering to the system	
5	Check ADR Digital Tachograph and IS circuitry (if applicable)	
6	Remove any charts and check speed scale	
7	Insert a compatible chart after completing centre field	
8	Check clock, chart position time and chart warning function	
9	Select each of the non driving modes in turn for a minimum of 2 minutes for the driver (and second person, if applicable)	
10	Disconnect and reconnect the main power supply to the tachograph	
11	Disconnect and reconnect the impulse sensor cable	
12	Measure the effective circumference of the tyres 'Y'	
13	Carry out speed tests using free running roller test equipment or using non-roller test equipment	
14	Remove the chart(s) and record on it the odometer reading and the difference from the reading at the start of the test - replace any chart removed at the start	
15	Check the chart using a chart analyser	
16	Complete a Record of Inspection Sheet and record details of the issue of a 2 year Inspection Plaque in the Register of Tachograph Plaques Issued [GV212]	
17	Remove all existing two-yearly plaques	
18	Fix a new two-yearly inspection plaque	
19	Retain the test chart and record of inspection sheet	

Contents

DVSA Intelligence Unit

Tachograph Centres should be aware that VOSA has a dedicated Intelligence Unit. One aspect of the units' work is to help maintain the standards and reputation of the Tachograph Calibration Scheme.

The Intelligence Unit provides national coverage via a network of regional Intelligence Officers. The Intelligence Officers should be told of any information which may lead to the successful targeting of vehicle operators/drivers or Tachograph Calibration Centre Nominated Personnel who are undermining road safety and/or the reputation of the Tachograph Calibration Scheme.

For example,

You believe that operators/drivers have been fitting illegal devices, tampering with seals and settings tachograph centre staff not calibrating tachographs to the correct standards or procedures tachograph centre staff having convictions which have not been reported to VOSA.

VOSA need your help in maintaining the reputation of the Tachograph Calibration Scheme and road safety. If you have any information, contact the unit on the VOSA National Number:

0300 123 9000

ALL calls and information will be treated in the strictest confidence

[Contents](#)



Driver & Vehicle Standards Agency

10.1 Introduction

10.1.1 This section details the requirements for the installation, calibration and periodic inspection of digital tachographs. The full Regulations governing digital tachographs are contained in Annex 1B of Regulation 3821/85 published as Commission Regulation (EC) No 1360/2002 and must be used in conjunction with this manual.

In 2011, the EU Commission introduced a number of changes to Council Regulation (EEC) No. 3821/85, focusing on improving the security and design of Digital Tachographs which resulted in EU Regulation 1266/2009. There were two main stages to the introduction of EU Regulation 1266/2009 which were implemented in two generations of digital tachograph, more commonly referred to as second and third generation digital tachographs.

From the 1st October 2011* (Second generation Tachograph), a number of technical changes to the design of the Digital Tachograph was introduced. These include amendments associated with the interpretation of Regulation 3821/85, the re-definition of the calendar minute, new Tachograph Calibration Centre practices, the process for entering manual entries simplified, the ability for vehicle operators to program the VRN (Vehicle Registration Number) once only using a Company Card and the ability to change the UTC (Universal Time Coordinated) time without it being recorded as a calibration.

From the 1st October 2012* (Third generation Tachograph) The regulation requires that in order to detect manipulation of motion data, information from the motion sensor must be corroborated by an additional and independent motion signal (IMS) capable of detecting vehicle movement. An event is triggered when a zero speed measurement is contradicted by motion information from the IMS for more than one uninterrupted minute. Therefore from October 1st 2012* all in-scope vehicles (including newly registered) are required to have a Digital Tachograph (3rd generation) which can detect manipulation of motion sensor data via an Independent Motion Signal (IMS). In most cases this is achieved by comparing information from the motion sensor with the speed information taken directly from the ABS via the vehicle CAN. However, this is not possible for all types of vehicles and particularly in the case of M1/N1 class vehicles. Therefore an IMS must be provided by a different method during retrofitting using for example a GPS device. (GPS-based motion detection device which provides an IMS to the digital tachograph via CAN 1 or 2).

EU Regulation 1266/2009 also requires that a KITAS2+ sensor has to be installed in vehicles which are registered (and digital tachograph activated) from 1st October 2012. The KITAS 2+ sensor reacts to a magnetic field which disturbs vehicle motion detection. In such circumstances, the digital tachograph records and stores a sensor fault. The intelligent electronics of the new speed sensor KITAS2+ recognises external interference of the sensor and protects against possible manipulations. Also the KITAS 2+ sensor can be identified by the serial no embossed on one of the flats of the sensor housing.

***These dates relate to the Activation Date and NOT vehicle registration date.**

Note that there is no requirement to retrospectively apply this Regulation, thus, if a vehicle has been fitted with an original first generation digital tachograph already, it may continue to use one in the future. (see table below) The only occasion where this would not be the case, would be if the entire system failed (VU, wiring loom, motion sensor and slave speedometer), which would then require it to be replaced by the most recent generation of tachograph.

		Replacement Unit			
		1 st Generation	2 nd Generation	3 rd Generation (without IMS)	3 rd Generation (with IMS)+
Defective Unit	1 st Generation	Yes	Yes	Yes	Yes
	2 nd Generation	No	Yes	Yes	Yes
	3 rd Generation (without IMS)	No	No	Yes	Yes
	3 rd Generation (with IMS)	No	No	No	Yes*

* requires KITAS2+ Sensor

+ requires IMS input via CAN 1 or 2

If a post May 2006 vehicle comes into scope of EC drivers hours regulations for the first time (having not previously been fitted with a Digital Tachograph) then that vehicle must be fitted with a 3rd generation digital tachograph with the IMS switched on. If a pre May 2006 vehicle comes into scope of EC drivers hours regulations for the first time (having not previously been fitted with a Digital Tachograph) then that vehicle can be fitted with an Analogue Tachograph or Digital Tachograph with or without the IMS switched on.

Note:

From the 1st October 2011 a number of technical changes to the design of the digital tachograph were introduced. This included the ability for vehicle operators to program the VRN (vehicle registration number) once only using a Company Card. As a result of this change, tachograph centre technicians must enter the vehicle registration, **if known**, when the tachograph is first calibrated.

When the VRN is not known at the time of performing the first calibration, it is possible for the vehicle operator to enter the VRN using his Company Card. In the instance where it is left to the vehicle operator to enter the VRN, tachograph centres should advise the vehicle presenter that they must enter the VRN before driving the vehicle in-scope of the Drivers' Hours Regulations.

On 4th February 2014 a new tachograph regulation (EU Regulation 165/2014) was published which aims to make fraud more difficult and to reduce the administrative burden by introducing a satellite-linked "smart tachograph" as well as a number of new regulatory measures. The current manual recording of the location of the vehicle will be replaced by automated recording through satellite positioning.

Remote communication will provide basic information on compliance and allow for early detection of possible manipulation or misuse, thereby enabling officers to target roadside checks better and avoid unnecessary checks. The new tachograph will be required to be installed in new in-scope vehicles by 2nd March 2019.

10.1.2 Tachograph technicians are required to familiarise themselves with the operation of all variants of digital tachographs. All operations are to be carried out in accordance with the tachograph manufacturer's guidelines.

Summary of the digital tachograph generations:

	1st Generation	2nd Generation	3rd Generation
Release overview of the Digital Tachographs	DTCO Rel. 1.0 - 1.3x SE5000 Rev. 5 - 7.2 Actia SmarTach EFAS-3	DTCO Rel. 1.4x SE5000 Exakt Rev.7.3 Not Applicable Not Applicable	from DTCO Rel. 2.0 from SE5000 Exakt Duo Rev. 7.4 Not Applicable from EFAS-4
Main version feature		New 1-minute rule	2 nd Independent Motion Signal (IMS), new KITAS2+
KITAS installed*	KITAS2	KITAS2	KITAS2+
Mandatory installation	from 01.05.2006	from 01.10.2011	from 01.10.2012

* KITAS2+ 2171-20 = serial number > 10,000,000
 KITAS2+ 2171-0x = serial number > 5,000,000
 KITAS2+ 2171-32 = serial number > 5,000,000

10.1.3 Designated centre managers are to ensure that all digital trained technicians are familiar with the **PIN** entering procedures for **ALL** variants of digital tachographs, as 5 consecutive incorrect pin entries will lock out the workshop card and the technician will then need to make an application to DVSA for a replacement.

10.1.4 A digital tachograph is required to have a periodic inspection **at least every 24 months**. As part of this inspection, a full calibration of the system must be performed. (Requirement 256 and 257 of Annex 1b).

10.2 Common requirements

- 10.2.1** Approved tachograph centres must ensure that tachograph inspections and calibrations are carried out without avoidable distraction or interruption and strictly in accordance with the requirements of the Tachograph Centre Manual, Vehicle and Tachograph Manufacturer's Inspection Manuals (where appropriate), and any other instructions issued by DVSA.
- 10.2.2** If an inspection/calibration has to be abandoned because of workshop equipment failure or because the nominated technician is unable to continue, no official paperwork must be issued.
- 10.2.3** Should a vehicle leave the centre before completion of an inspection / calibration, the recording equipment **must** be fully inspected and/or calibrated (as required) when re-presented, prior to the fitment of any seals and the issue of a plaque and certificate. This requirement applies regardless how long the vehicle was away from the centre before being re-presented, who removed it, or what charge was actually made for the work.
- 10.2.4** It is the responsibility of the vehicle operator to ensure recording equipment is fitted to any vehicle used within scope of the appropriate legislation, that it is maintained in good working order and that calibration and inspection of the equipment is conducted at the required intervals. However, tachograph centres should make operators aware if, during the course of their work, they identify that an inspection or calibration is due in the near future.
- 10.2.5** To ensure that the integrity of the recording equipment is maintained, before commencing any work associated with the installation, the **Nominated technician must check the integrity of the installation, and that it has not been the subject of tampering or manipulation.** In particular he/she must ensure that:
- a. Seals on the recording equipment / installation are not missing / improperly fitted or ineffective. **Where such incidents are found a record must be made on the record of inspection sheet retained by the Approved Tachograph Centre, and the entry on the GV212 must be highlighted.**
 - b. The tyre size is correctly recorded so that the speed and distance recordings remain within the tolerances specified in the Regulations.
 - c. The 'k' factor setting has not been altered, and that it corresponds to the vehicle parameters.
 - d. There are no manipulation devices connected between the sender / motion sensor and the tachograph head / vehicle unit. **Where such devices are discovered a record must be made on the record of inspection sheet that is retained by the Approved Tachograph Centre and the entry on the GV212 must be highlighted.**
 - e. Any evidence of tampering or manipulation that is discovered **must be reported to:**

Tachographs and Speed Limiters Section, Driver and Vehicle Standards Agency, Berkeley House, Croydon Street, BRISTOL, BS5 0DA

10.3 Condition of vehicle

10.3.1 The calibration and inspection of the vehicles must only be carried out if:

- 10.3.1.1 The vehicle is unladen and in normal operating condition.
- 10.3.1.2 The tyres comply with the current Construction & Use Regulations in respect of tread depth and condition.
- 10.3.1.3 The tyres are inflated to the vehicle manufacturer's recommended pressures.

10.3.2 A centre is not obliged to work on vehicles that, in their opinion, appear to be unsafe.

10.4 Digital tachograph inspection/calibration procedures

10.4.1 The full recording equipment (motion sensor, cable, power supply and vehicle unit (VU), etc...) must be fitted in accordance with the equipment and vehicle manufacturer's instructions.

10.4.2 A digital tachograph will require a full calibration after **any** of the following (requirement 256 of Annex 1B):

- a. Activation of the VU.
- b. Within the period of 2 years from date of last calibration / periodic inspection.
- c. **Any** alteration to the characteristic coefficient of the vehicle 'w' or the effective tyre circumference 'l'.
- d. The Vehicle Unit UTC time is incorrect by more than 20 minutes.
- e. The Vehicle Registration Number (VRN) has changed.
- f. After any repair of the equipment. (i.e. repair to the tachograph system)

10.4.3 The installation inspection is divided into 5 sections:

- Legal requirement for installation.
- Functional Bench Testing of VU
- Measuring the characteristic coefficient of the vehicle (w) and effective tyre circumference (l)
- Programming the VU
- Records and sealing.

10.4.4 Legal requirements for installation

10.4.4.1 In accordance with the legislation detailed in Regulation (EEC) No 3821/85 (as amended by EU Council Regulation EU No. 2135/98, 1360/2002 (Annex 1B), 68/2009 (M1 / N1 vehicles) and 1266/2009 (2nd and 3rd generation digital tachographs) all vehicles which are registered on or after 1st May 2006 and come under the scope of tachograph regulations must be fitted with a digital tachograph. **From the 1st October 2011 (Second generation Tachograph)**, a number of technical changes to the design of the digital tachograph was introduced and **from the 1st October 2012 (Third generation Tachograph)** the digital tachograph is required to have improved security features. (See section 10.4.1)

10.4.4.2 All equipment must carry an appropriate EU Type Approval mark. All seals must be those of the manufacturer and must be intact. If these are not present, the equipment **MUST NOT TO BE FITTED**. (Note: approved tachograph centre seals are acceptable on vehicle units where sealing the battery compartment is required).

10.4.4.3 The system in the vehicle must incorporate a VU paired to an appropriate approved motion sensor that produces an encrypted signal. Any tampering will therefore be detected and recorded. EU Regulation 1266/2009 also requires that a KITAS2+ sensor has to be installed in vehicles which are registered (and digital tachograph activated) from 1st October 2012.

10.4.4.4 **Replacement of an analogue tachograph with a digital tachograph:** If a Centre is required to replace an analogue system with a digital system, the Centre carrying out the replacement is to ensure that the substitution of the analogue systems can be made safely. Such substitutions must therefore **only** be carried out in accordance with the written instructions and guidance **provided by the vehicle manufacturers and tachograph manufacturers** whose products are combined.

10.4.5 Digital tachograph acceptable tolerances table

	Distance (over 1 km)	Speed
Before Installation (Bench Test)	+/- 1%	+/- 1 km/h
On Installation & Periodic Inspection	+/- 2%	+/- 2 km/h
In use	+/- 4%	+/- 6 km/h

UTC Time Adjustment

Any update or confirmation of UTC time only, should be considered as a time adjustment and not as a calibration, provided that the UTC time is not more than 20 minutes incorrect, where a full calibration would be required.

10.5 Digital tachograph initial calibration procedure

Step 1 Check Condition of the Vehicle (See section 10.3)

Step 2 Check the tachograph manufacturers data plate and delivery condition

Check that there is a (manufacturer’s) descriptive plate that conforms to the Regulation (EEC) 3821/85 Annex 1B. This data plate should either be built into the equipment either on the exterior, or inside the case, where it is easily accessible and should show the following information:

- Name and address of the manufacturer of the equipment
- Manufacturer’s part number and year of manufacture of the equipment
- Equipment serial number
- Approval mark (‘e’ mark) for the equipment

Step 3 Check the display and operational characteristics of the VU

Perform a functional test to ensure that the VU operational mode buttons, tachograph card slots and navigation buttons operate as designed, the display is illuminated and that the printer performs appropriately.

Step 4 Insert Workshop Card into VU and enter PIN

Insert a workshop card and enter the PIN in accordance with the VU manufacturer's guidelines. Ensure the VU is in "Calibration Mode", shown by the hammer symbol on the VU display.

Note: If a Workshop Card has been entered into the digital tachograph for the first time then the activation process will automatically start. For example the digital tachograph will change from Production Mode to Calibration Mode. The digital tachograph and sensor will automatically be paired.

Step 5 Create 1st technical data printout

Perform a "technical data" printout and check all details including that the VU serial number on the printout corresponds to the serial number on the manufacturer's data plate, and that all workshop card details are correct. (identify the printout as '*printout No.1*')

Step 6 Check IMS is switched on (in-scope 3rd generation digital tachographs only)

If applicable, check that the Independent Motion Signal (IMS) is switched on via the VU display and / or Technical data printout. EU Regulation 1266/2009 requires that the IMS has to be switched on in vehicles which are registered (and digital tachograph activated) from 1st October 2012.

Step 7 Check that a KITAS 2+ sensor is installed (in-scope 3rd generation digital tachographs only)

EU Regulation 1266/2009 requires that a KITAS2+ sensor has to be installed in vehicles which are registered (and digital tachograph activated) from 1st October 2012.

Step 8 Check ADR Digital Tachograph and IS circuitry (if applicable)

If the vehicle is used for the carriage of dangerous goods then the digital tachograph system must be constructed accordingly:

- The EU recording equipment is fitted with the necessary special equipment and is marked accordingly
- The tachograph system has Intrinsically Safe circuitry

Step 9 Connect a Tachograph Programmer to the VU

Connect a Tachograph Programmer (or approved alternative) to the front of the VU. Ensure that both the VU speed display and the programmer speed display can be read simultaneously.

Step 10 **Check date and UTC time**

Check that the UTC time is set correctly. UTC can be obtained using:

www.greenwichmeantime.com

Step 11 Perform a distance test to check the VU odometer

Perform a Distance check. This is a minimum 1km test using the programmer to verify the accuracy of the VU odometer and should be completed at the speed specified by the approved programmer manufacturer's instructions. The accuracy must be within the specified limits ($\pm 1\%$).

Step 12 Perform a speed test to check VU speed accuracy

Perform a Speed test. This is to confirm the accuracy of the VU speed display. It is to be completed in accordance with the approved programmer manufacturer's instructions. The accuracy must be within the specified limits (± 1 km/h).

Note: If any of the distance and speed tests have an unsatisfactory result, then the VU **must not** be fitted.

Step 13 Calibrate the VU - Measuring the Characteristic Coefficient of the Vehicle (w) and Effective Tyre Circumference (l)

The following measurements must be made using approved 'Vehicle Testing Equipment (listed in Appendix B) or, when appropriate, with the linear track and the required pulse counter. All equipment must be operated in accordance with the manufacturer's instructions, i.e. input the correct correction factors into the programmer as specified by the manufacturer if applicable to the equipment.

- a. **Measure the characteristic coefficient of the vehicle 'w'.**
- b. **Measure the effective circumference 'l' of the tyres on the driven axles from which the tachograph is sensed.**

Note: the values of 'l' and 'w' must be derived either from two identical readings or the average of three close readings. For this purpose 'close readings' mean three readings within a range of 1% from the lowest reading. On a linear track the value of 'l' must be the average of at least five full revolutions of the tyre.

Step 14 Check, confirm or update parameters of VU

An approved programmer is to be used to read and amend the parameters stored in the VU.

Amend or confirm the required parameters and update the VU, ensuring that all details are correct and entered in the correct format, e.g. vehicle registration number is entered with no spaces or additional characters.

Set the next due date for calibration/periodic inspection. This shall be 2 years from date of calibration. (i.e. not exceeding 2 year period)

The 'over speed' setting is to be set as the set speed shown in the table in Appendix A - "Digital Over speed Setting Table". If the vehicle is not subject to the speed limiter regulations (i.e. M1 / N1 vehicles), then the 'over speed' setting can be set to customer requirements.

Step 15 Perform a test drive or speed-for-speed check

Once the digital tachograph system has been installed and calibrated with the appropriate values, a speed-for-speed check is carried out:

Using the rolling road vehicle test equipment, the vehicle must run at 50 km/h ensuring that the tachograph speed reading is within the tolerances, compared to the speed shown by the test rig. In all other cases, (i.e. linear track or RBT) a road test must take place sufficient to establish that the tachograph will display a range of speeds, above the designed V-min of the tachograph, to the driver. (for a technician without a Driving Licence then he must accompany the driver during the test drive).

Step 16 Remove Workshop Card and produce 2nd technical data printout

Remove the workshop card and produce a "technical data" printout, verify that all parameters have been completed correctly and check that the date and time is correct. (identify the printout as '*printout No.2*')

Step 17 Create an events and faults printout

Check the events and fault codes. Any active errors or faults **must** be rectified before the vehicle leaves the centre.

For in-scope 3rd generation digital tachographs, check that the IMS is working correctly (i.e. check for any IMS faults)

Records and Sealing

Step 18 – Produce Tachograph Record Sheet and Calibration Plaque

Using an approved card reading device and approved computer software, the tachograph calibration records and calibration plaque for the tachograph must be produced.

Download the data recorded on the workshop card into the PC software.

Using the software, follow the manufacturer's guidelines for producing the tachograph record sheet and calibration plaque. The plaque must show the following information:

- Seal mark of the Approved Tachograph Centre conducting the work (UK requirement)
- Name, or trade name, and address of Centre
- Characteristic coefficient of the vehicle expressed as 'w'=.....imp/km
- Constant of the recording equipment in the form 'k'=.....imp/km
- Effective circumference of the tyres which drive the tachograph expressed as 'l'=.....mm
- Tyre size
- The date on which 'l' and 'w' were measured
- Vehicle identification number

Check that all correct data has been recorded on the electronic format of the GV212.

Compare the "technical data" printout, (identified as '*printout No.2*') with the GV212 and verify that all parameters have been completed correctly.

Important - The purpose of this verification check is to ensure that the correct calibration parameters have been recorded in the VU and shown on the Record Sheet and Calibration/Installation Plaque.

Step 19 – Back up data

Carry out a regular backup of the data. It is the responsibility of the Centre to ensure that downloaded data from the workshop card is adequately protected from loss, and that downloaded data and calibration records (test certificates) are retained by the Centre for at least 3 years. Attach the events and faults and the 2 technical data printouts made during the calibration, to the test certificate.

Step 20 – Attach Calibration Plaque to vehicle door pillar

Attach the calibration plaque to the driver side door pillar of the vehicle; to be placed in order to prevent accidental damage and to protect from weather damage; ensure that it is fitted in line with the tachograph manufacturer's specifications (see Step 18 concerning verification check).

Step 21 – Seal only the required parts of the system, using approved equipment

Ensure that **all** of the components of the system that legislation requires to be sealed (i.e. EU and UK Tachograph and Speed Limiter Legislation) are sealed with the appropriate seals bearing the seal mark of the centre carrying out the calibration.

Plastic shroud type seals fitted by some manufacturers to seal senders to gearboxes are to be replaced with a wire and lead seal showing the tachograph centre's sealing number whenever a calibration/inspection is undertaken to the tachograph system.

The sensor cable connected to the encrypted sensor should **NOT** be sealed. **ONLY** the encrypted motion sensor should be sealed to the gearbox as part of the required calibration sealing procedure, and not the tachograph cable as well. The tachograph cable should be free to be disconnected to allow DVSA examiners to undertake any roadside enforcement activities they require. Where any cables for encrypted sensors are found to be sealed at the roadside DVSA Examiners may break the seal to allow DVSA to undertake their required enforcement checks.

Digital Tachograph - First Calibration Procedure

Step No	Description	Completed
1	Check Condition of the Vehicle	
2	Check the tachograph manufacturers data plate and delivery condition	
3	Check the display and operational characteristics of the VU	
4	Insert Workshop Card into VU and enter PIN	
5	Create 1 st technical data printout	
6	Check IMS is switched on (in-scope 3 rd generation digital tachographs only)	
7	Check that a KITAS 2+ sensor is installed (in-scope 3 rd generation digital tachographs only)	
8	Check ADR Digital Tachograph and IS circuitry (if applicable)	
9	Connect a Tachograph Programmer to the VU	
10	Check date and UTC time	
11	Perform a distance test to check the VU odometer	
12	Perform a speed test to check VU speed accuracy	
13	Calibrate the VU - Measuring the Characteristic Coefficient of the Vehicle (w) and Effective Tyre Circumference (l)	
14	Check, confirm or update parameters of VU	
15	Perform a test drive or speed-for-speed check	
16	Remove Workshop Card and produce 2 nd technical data printout	
17	Create an events and faults printout	
18	Produce Tachograph Record Sheet and Calibration Plaque	
19	Back up data	
20	Attach Calibration Plaque to vehicle door pillar	
21	Seal only the required parts of the system, using approved equipment	

Contents

10.6 Digital tachograph 2 yearly periodic inspection procedure

Step 1 – Check Condition of the Vehicle (See section 10.3)

Step 2 – Check the tachograph manufacturer's data plate

Check that there is a (manufacturer's) descriptive plate that conforms to the Regulation (EEC) 3821/85 Annex 1B. This data plate should either be built into the equipment either on the exterior, or inside the case, where it is easily accessible and should show the following information:

- Name and address of the manufacturer of the equipment
- Manufacturer's part number and year of manufacture of the equipment
- Equipment serial number
- Approval mark ('e' mark) for the equipment

Step 3 – Check the display and operational characteristics of the VU

Perform a functional test to ensure that the VU operational mode buttons, tachograph card slots and navigation buttons operate as designed, the display is illuminated and that the printer performs appropriately.

Step 4 – Replace buffer battery (if applicable)

At the time of printing the only VU's that require an internal buffer battery replacement are the VDO DTCO 1381 and Eikon EFAS. This is to be carried out at every two year inspection and in accordance with the manufacturer's instructions.

Step 5 – Replace customer printer roll with workshop printer roll

Step 6 – Create 1st technical data printout

Perform a "technical data" printout and check that the VU serial number on the printout corresponds to the serial number on the manufacturer's data plate, and that all workshop card details are correct.

Also the purpose of this is to give a record of the sensor serial number to which the VU is paired. In addition to this, check that the printout data matches the data on the existing calibration plaque. (identify the printout as '*printout No.1*')

Step 7 – Insert Workshop Card into VU and enter PIN

Insert a workshop card and enter the PIN in accordance with the VU manufacturer's guidelines. Ensure the VU is in "Calibration Mode", shown by the hammer symbol on the VU display.

Step 8 – Create an events and faults printout

Check the events and fault codes. Any active errors or faults must be rectified before the vehicle leaves the centre.

Check the Events and Faults printouts for the presence of any manipulation devices. (With the introduction of Regulation (EC) No.1266/2009, authorised Tachograph Calibration Centres must test the recording equipment for the presence, or use of manipulation devices and should make and keep a record of such events).

For in-scope 3rd generation digital tachographs, check that the IMS is working correctly (i.e. check for any IMS faults)

Step 9 – Perform System Integrity Check and visual inspection of KITAS sensor

Check visually the existing sensor for any sign of interference or manipulation.

This System Integrity Check process is required to ensure that the vehicle system is intact and that no secondary sensor has been installed into the system, and this should be verified before the 'w' factor is established using the following procedure.

- Use the correct extraction tools to remove the VU from its housing.
- Remove the 'B' plug (yellow) from the back of the VU and disconnect the cable from the motion sensor. (Note: In some vehicles, where a combined 'A' and 'B' plug is used it may be necessary to remove the combined plug and use an adaptor power cable or power the head from an external source. These can either be obtained from the Technical Support Organisation or made locally)
- Use a suitable test cable and connect it from the VU to the motion sensor at the gearbox / transmission.
- Using an approved programmer pair the VU and sensor in accordance with the tachograph manufacturers written instructions.
- Remove the workshop card

Step 10 – Create 2nd technical data printout

Create a 2nd technical data printout identifying it as '*printout No. 2*'. Check both printouts in order to identify that the sensor serial numbers match. If the serial numbers match then proceed to Step 11. However if the serial numbers do not match, this may imply an additional sensor/device has been fitted to the vehicle. Locate the secondary sensor/device and follow the procedure detailed in Appendix G of the Tachograph Centre Manual before proceeding to Step 11.

Step 11 – Re-insert Workshop Card into VU and enter PIN, remove test cable, reconnect original cable to VU and sensor

Step 12 – Check IMS is switched on (in-scope 3rd generation digital tachographs only)

If applicable, check that the Independent Motion Signal (IMS) is switched on via the VU display and / or Technical data printout. EU Regulation 1266/2009 requires that the IMS has to be switched on in vehicles which are registered (and digital tachograph activated) from 1st October 2012.

Step 13 – Check that a KITAS 2+ sensor is installed (in-scope 3rd generation digital tachographs only)

EU Regulation 1266/2009 requires that a KITAS2+ sensor has to be installed in vehicles which are registered (and digital tachograph activated) from 1st October 2012.

Step 14 – Check ADR Digital Tachograph and IS circuitry (if applicable)

If the vehicle is used for the carriage of dangerous goods then the digital tachograph system must be constructed accordingly:

- The EU recording equipment is fitted with the necessary special equipment and is marked accordingly
- The tachograph system has Intrinsically Safe circuitry

Step 15 – Connect a Tachograph Programmer to the VU

Connect a Tachograph Programmer (or approved alternative) to the front of the VU. Ensure that both the VU speed display and the programmer speed display can be read simultaneously.

Step 16 – Check date and UTC time

Check that the UTC time is set correctly. UTC can be obtained using:

www.greenwichmeantime.com

Step 17 – Perform a distance test to check the VU odometer

Perform a Distance check. This is a minimum 1km test using the programmer to verify the accuracy of the VU odometer and should be completed at the speed specified by the approved programmer manufacturer's instructions. The accuracy must be within the specified limits ($\pm 1\%$).

Step 18 – Perform a speed test to check VU speed accuracy

Perform a Speed test. This is to confirm the accuracy of the VU speed display. It is to be completed in accordance with the VU manufacturer's specifications and instructions. The accuracy must be within the specified limits (± 1 km/h)

Note: If any of the distance and speed tests have an unsatisfactory result, then the VU must not be fitted.

Step 19 – Calibrate the VU - Measuring the Characteristic Coefficient of the Vehicle (w) and Effective Tyre Circumference (l)

The following measurements must be made using approved 'Vehicle Testing Equipment (listed in Appendix B) or, when appropriate, with the linear track and the required pulse counter. All equipment must be operated in accordance with the manufacturer's instructions, i.e. input the correct correction factors into the programmer as specified by the manufacturer if applicable to the equipment.

- a) Measure the characteristic coefficient of the vehicle 'w'.
- b) Measure the effective circumference 'l' of the tyres on the driven axles from which the tachograph is sensed.

Note: the values of 'l' and 'w' must be derived either from two identical readings or the average of three close readings. For this purpose 'close readings' mean three readings within a range of 1% from the lowest reading. On a linear track the value of 'l' must be the average of at least five full revolutions of the tyre.

Step 20 – Check, confirm or update parameters of VU

An approved programmer is to be used to read and amend the parameters stored in the VU.

Amend or confirm the required parameters and update the VU, ensuring that all details are correct and entered in the correct format, e.g. vehicle registration number is entered with no spaces or additional characters.

Set the next due date for calibration / periodic inspection. This shall be 2 years from date of calibration. (i.e. not exceeding 2 year period)

The 'over speed' setting is to be set as the set speed shown in the table in Appendix A -"Digital Over speed Setting Table". If the vehicle is not subject to the speed limiter regulations (i.e M1 / N1 vehicles), then the 'over speed' setting can be set to the maximum national speed limit for the class of vehicle or to the customer requirements.

Step 21 – Perform a test drive or speed-for-speed check

Once the digital tachograph system has been installed and calibrated with the appropriate values, a speed-for-speed check is carried out:

Using the rolling road vehicle test equipment, the vehicle must run at 50 km/h ensuring that the tachograph speed reading is within the tolerances, compared to the speed shown by the test rig.

In all other cases, (i.e. linear track or RBT) a road test must take place sufficient to establish that the tachograph will display a range of speeds, above the designed V-min of the tachograph, to the driver. (for a technician without a Driving Licence then he must accompany the driver during the test drive)

Step 22 – Remove Workshop Card and produce 3rd technical data printout

Remove the workshop card and produce a “technical data” printout and verify that all parameters have been completed correctly and that the date and time is correct. (identify the printout as *'printout No.3'*)

Records and Sealing

Step 23 – Produce Tachograph Record Sheet and Calibration Plaque

Using an approved card reading device and approved computer software, the tachograph calibration records and calibration plaque for the tachograph must be produced.

Download the data recorded on the workshop card into the PC software.

Using the software follow the manufacturer’s guidelines for producing the tachograph record sheet and calibration plaque. The plaque must show the following information:

- Seal mark of the Approved Tachograph Centre conducting the work (UK requirement)
- Name, or trade name, and address of Centre
- Characteristic coefficient of the vehicle expressed as $w' = \dots \text{imp/km}$
- Constant of the recording equipment in the form $k' = \dots \text{imp/km}$
- Effective circumference of the tyres which drive the tachograph expressed as $l' = \dots \text{mm}$
- Tyre size
- The date on which l' and w' were measured
- Vehicle identification number

Check that all correct data has been recorded on the electronic format of the GV212.

Compare the “technical data” printout, (identified as *'printout No.3'*) with the GV212 and verify that all parameters have been completed correctly.

Important - The purpose of this verification check is to ensure that the correct calibration parameters have been recorded in the VU and shown on the Record Sheet and Calibration/ Installation Plaque.

Step 24 – Back up data

Carry out a regular backup of the data. It is the responsibility of the Centre to ensure that downloaded data from the workshop card is adequately protected from loss, and that downloaded data and calibration records (test certificates) are retained by the Centre for at least 3 years. Attach the events and faults and the 3 technical printouts made during the calibration, to the test certificate.

Step 25 – Attach Calibration Plaque to vehicle door pillar

Attach the calibration plaque to the driver side door pillar of the vehicle; to be placed in order to prevent accidental damage and to protect from weather damage; ensure that it is fitted in line with the tachograph manufacturer's specifications (see Step 23 concerning verification check).

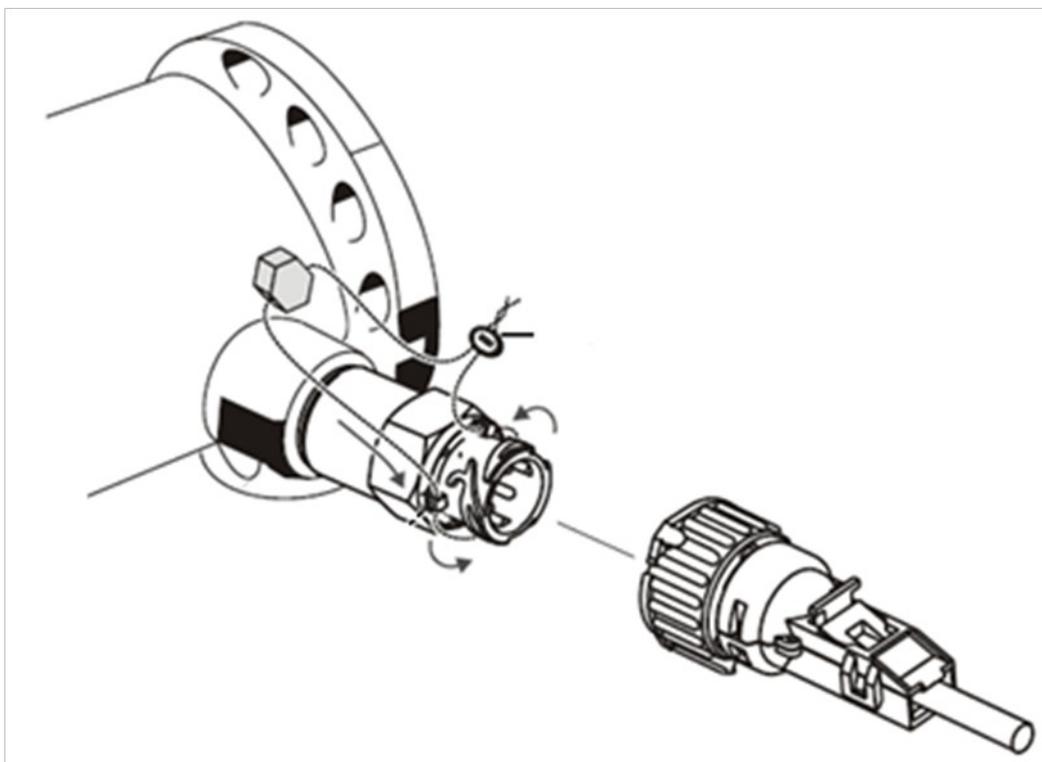
Note. Ensure all plaques that were previously fitted are removed.

Step 26 – Seal only the required parts of the system, using approved equipment

Ensure that all of the components of the system that legislation requires to be sealed (i.e. EU and UK Tachograph and Speed Limiter Legislation) are sealed with the appropriate seals bearing the seal mark carrying out the calibration.

Plastic shroud type seals fitted by some manufacturers to seal senders to gearboxes are to be replaced with a wire and lead seal showing the tachograph centre's sealing number whenever a calibration/inspection is undertaken to the tachograph system.

The sensor cable connected to the encrypted sensor should NOT be sealed. ONLY the encrypted motion sensor should be sealed to the gearbox as part of the required calibration sealing procedure, and not the tachograph cable as well (see image below). The tachograph cable should be free to be disconnected to allow DVSA examiners to undertake any roadside enforcement activities they require. Where any cables for encrypted sensors are found to be sealed at the roadside DVSA Examiners may break the seal to allow DVSA to undertake their required enforcement checks.



Digital Tachograph - 2 Yearly Calibration Procedure

Step No	Description	Completed
1	Check Condition of the Vehicle	
2	Check the tachograph manufacturers data plate	
3	Check the display and operational characteristics of the VU	
4	Replace buffer battery (if applicable)	
5	Replace customer printer roll with workshop printer roll	
6	Create 1 st technical data printout	
7	Insert Workshop Card into VU and enter PIN	
8	Create an events and faults printout	
9	Perform System Integrity Check and visual inspection of KITAS sensor	
10	Create 2 nd technical data printout	
11	Re-insert Workshop Card into VU and enter PIN, remove test cable, reconnect original cable to VU and sensor	
12	Check IMS is switched on (in-scope 3 rd generation digital tachographs only)	
13	Check that a KITAS 2+ sensor is installed (in-scope 3 rd generation digital tachographs only)	
14	Check ADR Digital Tachograph and IS circuitry (if applicable)	
15	Connect a Tachograph Programmer to the VU	
16	Check date and UTC time	
17	Perform a distance test to check the VU odometer	
18	Perform a speed test to check VU speed accuracy	
19	Calibrate the VU - Measuring the Characteristic Coefficient of the Vehicle (w) and Effective Tyre Circumference (l)	
20	Check, confirm or update parameters of VU	
21	Perform a test drive or speed-for-speed check	
22	Remove Workshop Card and produce 3 rd technical data printout	
23	Produce Tachograph Record Sheet and Calibration Plaque	
24	Back up data	
25	Attach Calibration Plaque to vehicle door pillar	
26	Seal only the required parts of the system, using approved equipment	

10.7 Repair/minor work to a digital tachograph

10.7.1 There are **NO minor work** repairs permitted on a digital tachograph;

10.7.2 It is accepted however that routine maintenance may be carried out, if it can be done without breaking any recording equipment seals. This may be carried out by the Centre providing that there is no need for a full calibration: i.e. the replacement of a broken printer tray, ignition On / Off default mode activity setting, VU software upgrade or the changing of "non-calibration" parameters. Following any routine maintenance where a Workshop Card has been inserted into the digital tachograph, a Technical data printout must be obtained in order to identify that no legal parameter has changed.

10.8 Decommissioning a digital tachograph

10.8.1 When a vehicle unit ceases to function correctly the Approved Tachograph Centre must attempt to download all data held in the unit since the last download and retain the data before removing the unit from the vehicle and decommissioning

10.8.2 The Tachograph Centre must then store the downloaded data on an External Storage Medium. This is then to be stored securely for a period of 365 days from date of download. (The downloaded data will be stored in its raw format and under no circumstances must the Centre attempt to process the information contained in the data).

10.8.3 The Tachograph Centre must then inform the vehicle operator in writing that the vehicle unit has been decommissioned and that all data since the last download has been successfully downloaded and will be retained by the Centre.

10.8.4 The Tachograph Centre will then only supply the relevant data to the owner of the data when a written request is received and the data identified as belonging to the operator by supplying the appropriate company card number that was used to lock in the data. The written request is to be retained by the Approved Tachograph Centre for a minimum of 12 months.

10.8.5 As well as identifying the owner of the data the request is to state the method of transferring the data to the owner and supply the required passwords to be used to secure the data during transfer to the owner.

10.9 Certificate of download inability

10.9.1 The Tachograph Centre will issue to the vehicle operator a Certificate of download inability where the malfunction of the recording equipment prevents previously recorded data to be downloaded.

10.9.2 The Approved Tachograph Centre will retain a copy of the certificate for 1 year

10.10 Records of decommissioning/download inability

10.10.1 The Approved Tachograph Centre will maintain a Record of Decommissioning and a Record of download inability. These records will be kept by the Centre for a minimum of 1 year

10.10.2 The Approved Tachograph Centre must maintain records of decommissioning that include:

10.10.2.1 A copy of the original notification sent by the Centre to the vehicle operator

10.10.2.2 The original request for the data from the data owner

10.10.2.3 Full details of the company card identifying the company (i.e. card number, company name, company address, Issuing Member State, period of card validity)

10.10.2.4 The date the data was sent to operator

10.10.2.5 The method of transfer

10.10.2.6 Record of receipt

10.10.2.7 Copy of the download inability Certificate (where appropriate)

10.10.3 The Approved Tachograph Centre must maintain a record that all downloaded data is destroyed 365 days after the date of download. The record must then be retained by the Centre for a minimum of 2 years and to include:

10.10.3.1 Identification of the data to be destroyed

10.10.3.2 Name of person carrying out the destruction

10.10.3.3 The date the destruction took place

10.11 Commercial Data Downloading

10.11.1 An Approved Tachograph Centre may carry out the periodic downloading of data on behalf of a customer but this must be carried out in accordance with the following criteria.

10.11.2 The data is to be downloaded using a company card supplied by the company who has the right to the data. **Under no circumstances is a Technician's workshop card to be used for this operation.**

10.11.3 Charges for this service to be agreed between the Centre and the customer.

10.12 Fitment of digital tachographs to M1/N1 Vehicles

10.12.1 In addition to the regulations (Annex 1B) covering the fitment of digital tachographs into vehicles 1st registered on or after 1st May 2006, Commission Regulation 68-2009 has been published detailing the fitment of an electronic adaptor to vehicles within the classes of M1 / N1 **where it is not mechanically possible to install a KITAS sender into the gearbox or other transmission component (and where no mechanical solution has been approved by DVSA)**

10.12.2 The Regulation covers vehicles 1st put into service on the 1st May 2006 (1st registered) and vehicles registered until 31st December 2013. EU Commission has extended this date to 31st December 2015 .

10.12.3 Commission Regulation 68-2009 requires that adaptors fitted into the specified vehicles are:

10.12.3.1 Type approved

10.12.3.2 Sold only to Approved Tachograph Centres (the manufacturer will provide DVSA with a list of devices sold)

10.12.3.3 Only fitted by Approved Tachograph Centres

10.12.3.4 Include a descriptive plaque which must be affixed to the adaptor and shall show the following details:

- Name and address of manufacturer of adaptor
- Manufacturer's part number
- Year of manufacture of the adaptor
- Approval mark of the adaptor type or of the recording equipment type including the adaptor
- The date on which the adaptor has been installed
- The vehicle identification number of the vehicle on which it has been installed

10.12.4 For M1 / N1 vehicles an additional plaque is required if:

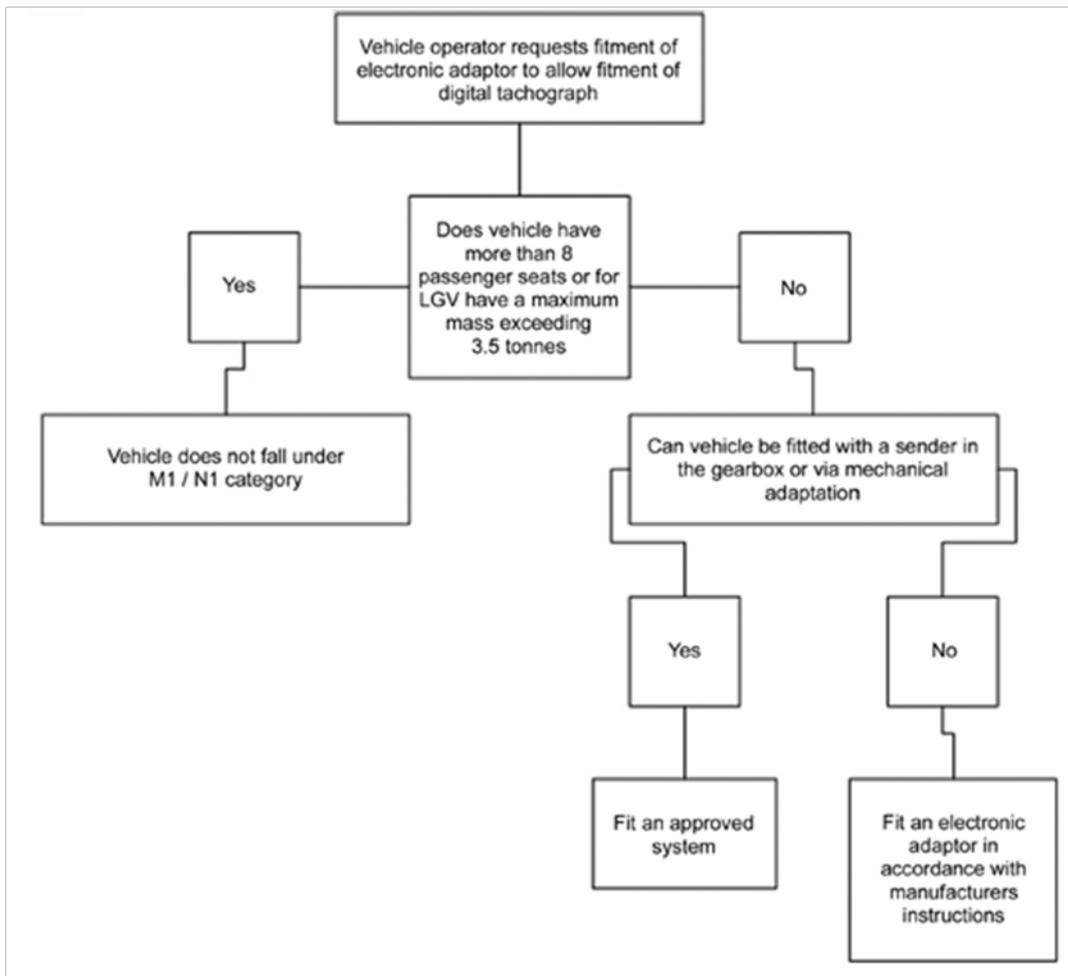
- a. An adaptor is being used on the vehicle
- b. The motion sensor is installed other than in the gearbox

10.12.5 The additional plaque will show the following details:

- The part of the vehicle where the adaptor (if any) is installed
- The part of the vehicle where the motion sensor is installed, if not in the gearbox or an adaptor is not being used
- A description of the colour of the cable between the adaptor and the part of the vehicle providing its incoming impulses
- The serial number of the embedded motion sensor of the adaptor

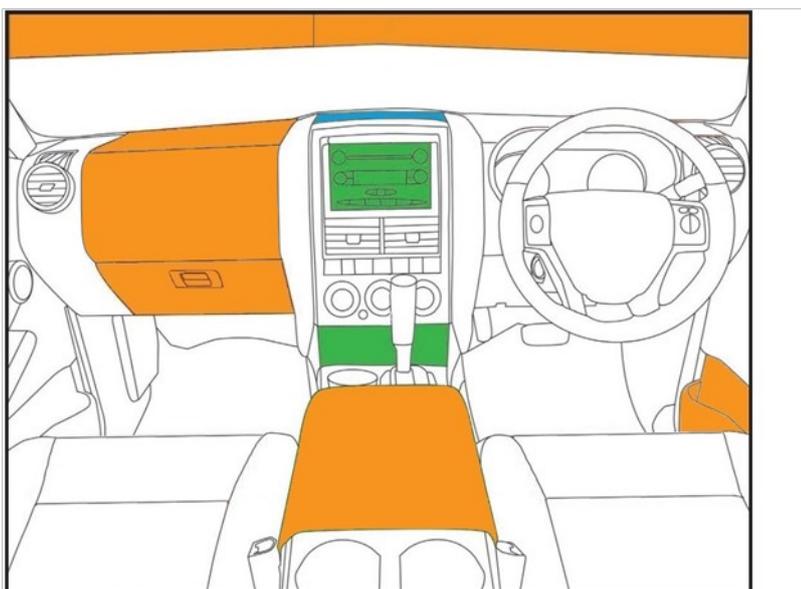
10.12.6 The additional plaque must be affixed adjacent to the main calibration plaque.

10.12.7 On completion of the installation of an adaptor the GV212 is to be annotated with the words 'adaptor installation'.



10.12.8 Guide to acceptable fitment location of digital tachograph vehicle units (VUs) in M1 / N1 vehicles

If you have been given instructions by the VU manufacturer, you should install the VU according to those. If not follow the guidance below:



An example of a typical M1/N1 front passenger compartment layout

General rule: The VU should be positioned in the vehicle in such a way as to allow the driver to access the necessary functions from his seat

EEC Legislation (Council Regulation EEC No 3821, Annex 1B) states:

"The recording equipment must be positioned in the vehicle in such a way as to allow the driver to access the necessary functions from his seat"

"Visual warnings shall be clearly recognisable by the user, shall be situated in the driver's field of vision and shall be clearly legible both by day and night"

"Visual warnings may be built into the recording equipment and/or remote from the recording equipment"

"In the latter case it shall bear a 'T' symbol and shall be amber or orange"

"Warning cause shall be displayed on the recording equipment and remain visible until acknowledged by the user using a specific key or command of the recording equipment." (This must be done at the first available opportunity after the vehicle has reached a safe location to enable this action to happen)

DVSA considers that the **amber area is acceptable if the visual warning 'T' light is situated in the driver's field of vision and is clearly legible both by day and night**

Fitment under the driver's or passenger's seat is unacceptable

DVSA considers that fitting a VU in any of the **green areas in the drawing above is acceptable**

DVSA considers that fitting a VU in the **blue area in the drawing above is acceptable if the location does not obscure the driver's view of the road**

Important:

The recording equipment must be positioned in the vehicle so that it does not:

- obscure the driver's view of the road
- impede the movement of anyone in the vehicle
- interfere or obstruct safety systems within the vehicle (i.e. airbag operation)
- increase the likelihood of injury to anyone in the vehicle

[Contents](#)