



2007 EDITION



The Institute of Automotive Engineer Assessors

Tuition Course Section 3

***Principles and Practice of
Vehicle Damage Assessment***

INSTITUTE OF AUTOMOTIVE ENGINEER ASSESSORS

Principles and Practice of Vehicle Damage Assessment

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Introduction

Wherever possible, text has been written in plain English, using jargon only when required for accuracy, but meanings are explained. Almost any profession has its own aspects of language. The Engineer will need to be familiar with the terminology used not only relating to motor vehicles, but a working knowledge of Legislation and Motor Insurance as well.

The student is likely to require additional support during his studies. If he is not studying at a college, a personal tutor will be allocated to him with the details of the means of contact which is usually by telephone or email. The student should not hesitate to use this service if he is in any doubt about any aspect he is studying.

Sections and Sub Headings

At the start of each section, each volume gives a clear indication of the contents with a numbering system that allows the student to focus on particular aspects of study. There are clear sub-headings to help locate specific information.

Boxed or Highlighted Text

To separate out the important facts from the explanation of the facts, the relevant words, sentences or phrases are boxed or highlighted. This is to provide an aid for examination revision

Case Law

Where there have been clear decisions on case law, the decisions has been highlighted in some way. There are also collections of the relevant cases at the end of each section for ease of reference.

Self Test Questions

These are interspersed throughout each volume and aim to bring out the main issues guiding the student towards concise examination answers. Answers are provided or notes pointing to a particular number in the text where the answers can be found.

Tutor Marked Assignments

There are five assignments in respect of this volume. It is up to each teaching centre or tutor to decide how and when and in what order they wish to issue these assignments.

Accessible to Different Learning Styles

All the volumes in the series have been written to allow the following methods of learning to be used.

- Direct teaching
- Indirect teaching
- By correspondence with no direct tutor support
- Open Learning with limited tutor support

Updating Service

Existing volumes in the series can be kept up to date by subscribing to the Update Service. This will replace existing pages with updated text as the legislation changes and as the technology and Principles and Practices of Assessing are developed.

Details of this service can be obtained by contacting The Institute of Automotive Engineering Assessors.

Comments

Your comments on this Section – adverse or otherwise (but constructive) – are welcomed.

These notes are available to subscribers of the Institute of Automotive Engineer Assessors. (Note: Any reference to ‘he’ in the notes relates to either sex).

Throughout this and other documents the term ‘Engineer’ is used to describe the Automotive Engineer Assessor.

The text often refers to the ‘insurer’ because insurers are recognised as the major employer of Automotive Engineer Assessors but it could also mean another work provider.

Who would benefit from these Notes?

These notes are intended for practicing Engineers and body repair/motor repair staff who are in direct contact with Engineers or aspire to be an Automotive Engineer Assessor. The notes would also be a valuable resource for students studying for a B.Tec or SCOTVEC HNC in Motor Vehicle Engineering, or for one of the professional Institutes examinations such as:

- The Institute of Motor Industry
- The Institute of Road Transport Engineers/Society of Operations Engineers
- The Chartered Institute of Transport

How should these Vehicle Damage Assessment Notes be Interpreted?

All the information given is valid in the whole of the United Kingdom.

Synopsis of Contents

- Section 1 Qualities and Qualifications of Automotive Engineer Assessors
- Section 2 Vehicle Inspections
- Section 3 Costing and Estimating
- Section 4 Claim Investigations
- Section 5 Quality, Environmental Protection and COSHH
- Section 6 Paint Faults

Tutor Marked Assignments (TMA's)

All approved centres may offer assignments for consideration by the Institute for inclusion in the bank of TMA's. All assignments are designed with vocational (SVQ/NVQ) competencies in mind.

SECTION 1 QUALITIES AND QUALIFICATIONS OF AN AUTOMOTIVE ENGINEER ASSESSOR

- 1.1** LEARNING OUTCOMES FOR THIS SECTION
- 1.2** THE INSTITUTE OF AUTOMOTIVE ENGINEER ASSESSORS
- 1.3** QUALIFICATIONS OF AN AUTOMOTIVE ENGINEER ASSESSOR
- 1.4** QUALITIES OF AN AUTOMOTIVE ENGINEER ASSESSOR
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- 1.6** PRACTICAL EXAMINATION
- 1.7** ENGINEERING RESPONSIBILITIES
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- 1.13** ANSWERS TO SELF TEST QUESTIONS

1.1 LEARNING OUTCOMES FOR THIS SECTION

The expected learning outcomes for this section are that the student will be able to:

- List the qualifications and qualities required of an Automotive Engineer Assessor
- Know the types of training suitable for becoming an Automotive Engineer Assessor
- Recognise the difference between a Staff Engineer and an Independent Engineer
- Describe the procedures when being instructed as an expert witness
- Know what the Automotive Engineer's responsibilities are when acting as an agent for the Principal.

1.2 THE INSTITUTE OF AUTOMOTIVE ENGINEER ASSESSORS

The Institute was originally founded in 1932, as the Institute of Consulting Motor Engineers and subsequently published the ICME Manual which continues to this day as a Glass's Information Publication. The ICME was incorporated as the Institute of Automobile Assessors in 1939 and was renamed again in 1974, when it became known as the Institute of Automotive Engineer Assessors.

The Institute is broken down into a number of different grades, both corporate and non-corporate. Membership of the Institute requires the candidate to possess certain Qualifications and Qualities.

1.3 QUALIFICATIONS OF AN AUTOMOTIVE ENGINEER ASSESSOR (Engineer)

There are currently no restrictions to anyone applying to become a student of the IAEA. Members shall be persons who are not less than 20 years of age, have passed the IAEA examinations and have served an apprenticeship or equivalent training in automotive engineering or motor vehicle body repair skills. Although it is not a requirement of the IAEA, having one or more of the qualifications below would give students a good foundation for their studies to become an Engineer.

- BTEC/SCOTVEC Higher National Certificate Mechanical Technician or Automotive Management with Technology
- BTEC/SCOTVEC Higher National Diploma Mechanical Technician
- City and Guilds Full Technological Certificate Mechanical Technician
- BTEC Ordinary National Certificate Mechanical or Body Repair Technician
- City and Guilds 381 Part II Certificate Craft Mechanical
- City and Guilds 385 Part II Certificate Craft Body Repair
- City and Guilds 383 Level III Certificate Craft Mechanical
- City and Guilds 398 Level III Certificate Craft Body Repair
- SCOTVEC National Certificate Craft, Body Repair or Mechanical Light/Heavy Vehicle

No person is permitted to remain a student for a period in excess of five years but exceptions to this rule is applied for extenuating circumstances.

1.4 QUALITIES OF AN AUTOMOTIVE ENGINEER ASSESSOR (Engineer)

The following list, although not complete, will provide some of the qualities necessary:

- The work of the Engineer forms one of the most interesting and varied professions. Every inspection is in some way different and challenges constantly arise. Meeting these challenges requires careful consideration and attention to detail.
- Although the field of work covered is broadly labelled 'Automotive Assessing' it comprises first and foremost the basic principles of engineering. The assessing aspect follows the results of technical training and experience. For this reason, engineering training and communication is of prime importance. Unless this foundation of work is sound, the Engineer will find it difficult to handle the singularities that will arise during his normal day to day work.
- Entrants into the profession should equip themselves to deal with all the routine technical and engineering aspects of their work. They should not be discouraged if they encounter problems for which no ready answer comes to mind. It may be necessary to take advice or recommend the commissioning of a specialist when a situation demands, such as a metallurgist or fluid analyst. Most important of all is the necessity at all times to tread warily and not put oneself in a situation which requires the intervention of someone else within their field of expertise to bring the matter to a satisfactory conclusion.
- The down side of the role is that in some serious cases the Engineer has to deal with personal injuries, death, and may come across mutilated body parts and be involved in interviewing grieving relatives.
- During the course of his career, the Engineer will routinely find himself being asked for his opinion on a particular situation and will need to consider the interests of his Principals, Insured, Repairer, Third Party and ultimately his duty to the Court.
- Claims Handlers want to see that the claimant is given full and proper consideration and satisfied wherever possible. In the course of negotiations with the parties involved, the Engineer will find that:
 - All Insurers are not recklessly generous;
 - A claimant may sometimes appear to be most unreasonable;
 - The most honest of repairers will always endeavour to agree the best possible terms for the work to be undertaken;
 - The less scrupulous repairer will take the maximum advantage of a situation and will possibly exaggerate the repair work which he estimates.
- The Engineer will find himself having to exercise a high degree of integrity and moral courage when influencing people with whom he will have contact during the course of his work. Therefore he should be:
 - Good communicator
 - Well mannered
 - Good telephone technique
 - Good time keeper
 - Good personality
 - Instil confidence

- Patient
- Diplomatic
- Truthful and honest
- Understanding
- Efficient

To sum up the qualities which go to the making of a first class Engineer, the following list is given in order of importance:

- A first class practical engineering training coupled with a high standard of technical knowledge.
- Absolute integrity.
- Unbiased.
- Thorough.
- Tactful, coupled with the ability to see the other side of the problem.
- Capacity for very hard work, as the role of a professional Engineer can often be a very exacting one involving long hours in difficult circumstances.

There are many side issues in the work of an Engineer that have not been mentioned in the list above and the Engineer should not find it difficult to acquire the extra knowledge required to deal with the many additional duties they will be called upon to undertake.

1.5 BASIC TRAINING

The Engineer is required to have a thorough and varied motor vehicle engineering background. In addition to this, his academic training must be at least up to City and Guilds Motor Vehicle Technicians standard or equivalent. This may include BTEC National Certificate, SCOTVEC National Certificate or the new National Vocational Qualification (NVQ's), or the Scottish Vocational Qualifications (SVQ's), at level II or III. This is necessary in order for him to be able to recognise and understand most engineering problems which will arise during the course of a vehicle inspection.

In addition to the basic engineering training, the Engineer will gain some considerable advantage if he has experienced work which entails workshop control and organisation of personnel under his direct supervision.

Some practical experience in estimating and costing of vehicle repairs is essential so that there is a sufficient foundation of knowledge to build upon during the early days of automotive assessing.

1.6 PRACTICAL EXAMINATION

All students who have successfully completed Sections 1 to 4 and wishing to become Corporate Members of the Institute of Automotive Engineer Assessors must take the IAEA Practical Examination.

The examination will take place at a venue decided by the Institute.

In preparation for the examination, the candidate must be fully conversant with modern repair methods as stated within the Methods of Repair Schedules issued by the Motor Insurance Repair and Research Centre, (Thatcham). They must also be able to use the Thatcham Paint and Sundries Guide and the Parts Price Data. Candidates must also be able to give accurate opinion times for items that are repairable. A description of the method of examination follows:

- Each candidate will be presented with three separate vehicles to assess, each with differing types of damage.
- All the necessary back-up information will be supplied, including Thatcham Publications, to complete the assessment of the damage.
- The candidate will be assessed on the collation of vehicle data, the correct, safe and cost effective method of repair and recommendations to his principals.
- He will also be tested on his knowledge of minor spot repairs and the ABI Code of Practice for Salvage Categorisation.
- He will also be assessed on auditing deliberately flawed computer generated estimates.

1.7 ENGINEERING RESPONSIBILITIES

The technical duty of the Engineer when acting as Agent for his Principals (see also Section 1.11) is to ensure that the repairs which are instructed will result in the vehicle being repaired to its pre-incident condition. Also, far as is possible, that no subsequent failure or breakage will occur as a result of damage not discovered during the course of the repair.

The competence of the repairer to whom work is entrusted should be beyond doubt. The Engineer is then entitled to rely on the execution of his instructions which must always be clearly stated.

It is the duty of the Engineer to ensure as far as possible, that no unnecessary work is carried out. Every care must be taken to ensure that any components, especially those forming part of the suspension and steering assemblies which may have suffered damage, are properly examined and a geometry check carried out.

An important responsibility of the Engineer is to advise the Principal of the pre-incident roadworthiness and general condition of any vehicle which he is instructed to inspect. He should examine steering, tyres, brakes, suspension, and structural features and any other point which could have an adverse effect on the control of the vehicle. In particular, if the pre-incident condition of the vehicle can be said to have had some bearing on the claim under consideration. If any relevant defect is found, it should always receive attention appropriate to the interests of all concerned, even if it is not serious enough to constitute an infringement of the policy conditions. A report should be made to the Principal in order to provide them the opportunity of asking the owner to have the defects to the vehicle rectified, at the owners expense.

Any assistance an Engineer can give to a repairer on an engineering matter should always be provided.

This will help foster a good relationship between them and possibly lead to a better repair. Any improved repair method which is known to the Engineer should be openly discussed with the Repairer during the course of negotiating the repair cost and procedure.

1.8 STAFF AND INDEPENDENT ENGINEERS

Staff Engineers are directly employed and paid by an Insurance company. They have the advantage of having easy access to data including information on previous cases dealt with by the company. Part of their job can be the supply of technical information in an advisory capacity to the Claims or Underwriting Departments. Advice can be given on the rating of modified or unusual vehicles, loss of use, valuations of vehicles for underwriting purposes. Also advise on Motor Trade profits or earnings claims, carry out motor trade surveys, and advise upon the risks relating to product, public, and employer's liability claims or defective workmanship.

Independent or Consultant Motor Engineers are either self employed or part of the staff of Consulting Engineers and Assessors. They may be commissioned by an insurance company, solicitor, motoring organisation, accident management company or a private individual to give advice and assistance.

Advice may be given on the use and maintenance of motor vehicles, plant, machinery, including agricultural equipment as well as vehicle damage. In a court of law a judge may rely more on the evidence provided by an Independent Engineer when reaching his judgement.

1.9 THE ENGINEER IS AN EXPERT WITNESS

An expert witness is normally an Independent Engineer, although it may be a Staff Engineer, who has been engaged to provide technical background information about an incident which has taken place and has now come to Court. Under these circumstances it is advisable if the Engineer has some knowledge of the procedures followed.

The process starts quite near the time the trial comes to Court with a conference or a consultation between the Engineer and the solicitor or Counsel.

At the hearing, which is normally held in private, the solicitor, or Counsel, will satisfy himself that he understands what is to be presented and why, and decide how best to present his case. Normally the solicitor will investigate the evidence to ensure that it will stand up to cross-examination in the Court. This is sometimes quite an ordeal for an Engineer new to the process. Clarification of some points is often necessary and the Engineer should be able to present his evidence in a clear and concise manner.

In civil cases, Expert witnesses are normally called last enabling them, if permitted, to listen to the evidence of other witnesses. On occasions the Engineer may be asked to comment on evidence already heard. In criminal cases the witnesses are held outside the court until called, but on application to the court, an expert witness may be permitted to hear all the evidence.

1.10 THE EXPERT WITNESS IN COURT

When all the other witnesses have been heard and it usually then becomes the turn of the Expert Witness. The following is a brief account of what happens when called:

EXAMINATION

- The Engineer will enter the witness box and take the oath;
- Counsel will take the Engineer methodically through his evidence;
- He should listen to the questions and answer them clearly;
- If a question is not understood he should ask for clarification;
- If a question is not heard clearly he should ask for the question to be repeated;
- Answers must be made clearly in order that all members of the court can hear.

CROSS-EXAMINATION

- Counsel may ask leading questions, therefore the Engineer needs to take care before answering as Counsel may well attack his evidence;
- Counsel normally anticipates answers and will come back very quickly which is his job;
- The Engineer must not indulge in arguments with counsel;
- The Engineer should be courteous and professional in his approach be prepared to concede some points.
- When cross examination is over, the Engineer's Counsel may have some further questions. These questions are quite often to clarify some of the points which may have arisen during the cross-examination. Finally the Judge may address the Engineer about some aspect of his evidence.

1.11 RESPONSIBILITIES AS AGENT OF PRINCIPALS

The Engineer often acts as the agent for his principals carrying out work on their behalf and committing them within the terms of reference of his instructions. The Engineer is expected to advise his principals and recommend a course of action within the terms of the Insurance Policy applicable to the case under consideration.

With a normal vehicle damage inspection, it is the Insurers who decide on one of the following procedures to deal with the claim:

- Repair to pre-accident condition.
- Make a cash payment based upon the anticipated repair costs (cash-in-lieu of repairs).
- Replace the vehicle or settle on the basis of a Total Loss (or Constructive Total Loss) by making a cash payment up to the insured value.

In each case, the correct definition of indemnity to the Insured must be considered because Insurers want their Insureds to be treated fairly.

When advising the Insurers of the recommended method of settlement, the age and condition of the vehicle must be considered. This will influence the final decision on the settlement procedure to indemnify the Insured. Aspects to consider include:

- Age and condition of vehicle.

- With a new unregistered vehicle, additional cost may well be incurred returning it to its pre-accident condition in order that it is 'best described as new'.
- Loss of use may be a factor to consider, particularly if the vehicle will be out of service for a significant period.
- With old and deteriorated vehicles or unreasonable requests by the vehicle owners it may appropriate to recommend cash settlement based upon the reasonable anticipated repair cost.

It is the Engineer's responsibility to advise the Insurers of the best course of action in each case and to instruct only when he is completely satisfied with the situation. If he has any doubts, reference should be made to the Insurers with his recommendations.

In certain cases it is necessary for the Engineer to advise a course of action when a dispute or difficulty has arisen at some stage during the case, ie,

- Faulty repairs leading to a failure.
- Poor repairs.
- Mechanical breakdown leading to secondary damage.
- Bad maintenance leading to a breach of policy conditions.

In each of the above, a set pattern or procedure should be taken and a clear detailed report should be given to his principal. Confusing technical terms should be avoided if at all possible, otherwise your report may be misinterpreted and the wrong conclusion reached by the principal.

Motor Trade Policy cases which cover defective workmanship need very special care to keep within the terms of reference of the policy cover. As a general rule the claim should be limited to damage resulting from an action by the Insured or his employee on a vehicle which is not the property of the Policy Holder.

1.12 SELF TEST QUESTIONS (answers on page 59)

1 List the qualifications and qualities required for an Automotive Engineer Assessor.

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2 Explain the type of training programme considered suitable for an Engineer.

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3 Explain the difference between:
 i Staff Engineer and
 ii Independent Engineer

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4 Outline the procedure that follows when asked to be an expert witness.

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5 Explain the Engineer's responsibility when acting as an agent for the principal.

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