Vehicle Engineering Analysis | Roger Newby

Vehicle Engineer & Expert Witness

LLM BSc (Hons) AMIMechE · Forensic engineering, England & Wales



Engineering opinion the court can test.

The practice

A small practice, by design: a few reports at a time, each written to be tested in cross-examination rather than merely read.

I am an engineer by training and trade, with a background in motorsport and crash-structures research at Cranfield. The practice exists to answer one kind of question properly: what does the engineering evidence actually show, and how sure can a court be of it.

Instructions are answered from the papers: photographs, repair estimates, statements, video, scene plans and vehicle data. That is where most road traffic questions are decided, and it keeps the fee and the timetable predictable. Where a question could only be answered by physical examination, I say so at the outset and say who should carry it out, rather than let it emerge in the report.

> *A result that fails its own audit is not softened.*
> *It is reported as a failure.*

The duty

An expert's overriding duty is to the court, not to the party instructing or paying. Instructions are accepted from claimants and defendants, from prosecution and defence, and as single joint expert. The method, the sources and the declaration are identical whoever instructs.

Every report carries a section headed *Matters adverse to those instructing me*. It is not buried, and it is not negotiable.

No fee is ever contingent on the outcome. Where there is a range of expert opinion on a method or a value, the report sets out the range and the reason for the position taken. The opinion rests on the papers supplied being complete and accurate; the report lists what was received and what was not, and identifies any fact assumed. I give no legal advice.

> *The opinion is a bracket, not a point.*
> *Every result carries its tolerance.*

Engineer by trade

vehicle technician 1997; BSc (Hons) Motorsport Technology 2006; Cranfield crash-structures research

CPR 35 · CrimPR 19

civil and criminal reports; single joint expert appointments welcome

Duty to the court

whoever instructs, and whoever pays; no fee contingent on outcome

Three rules every report is held to

Sourced inputs

No coefficient, stiffness value or restitution figure appears without a citation. Where a figure cannot be sourced, the report says so and shows the range it was taken from.

Stated tolerances

An opinion is a bracket, not a point. Each result carries the uncertainty of the evidence behind it, and the report explains what drives it.

Checked against the record

Calculations are reproduced by a second method and checked against the damage and data actually recorded. A result that fails its own momentum or energy audit is reported as a failure.

Derivations set out to be checked

Where a conclusion rests on calculation I give the closed form, define every symbol and show a worked example, so the reasoning can be verified rather than taken on trust.

Proportionate by default

Desktop-first. A short screening opinion first where that is the sensible step, before anyone commits to a full report.

Fixed fee, agreed first

A fixed fee in writing before work starts, based on the papers actually supplied. Attendance, conferences and joint statements quoted separately.

> WHERE I STOP
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> Vehicle and mechanical engineering, and nothing else. I do not survey scenes, map rest positions or reconstruct pre-impact speeds and paths from scene evidence, and give no opinion on driver perception or avoidance. Momentum and energy work is confined to testing a reconstruction already in the case against the physical evidence. Delta-V is an engineering quantity reported for the medical expert; I give no opinion on injury causation. A question outside the boundary is declined or referred on, in writing.

Opinion the court can test, not just read.

The questions I am instructed on

Collision evidence analysis

Damage, deformation, momentum and energy consistency; video and recorded data; review of other experts' reconstructions.

Crumple & damage consistency

Crush, energy and delta-V: how severe the impact was, from which direction, and whether the damage fits the account.

Vehicle damage & credit hire

Repair method and cost, total loss and salvage, roadworthiness, repair period and equivalence of the hire vehicle.

Vehicle data: EDR & ADAS

Interpretation of event data recorder, driver-assistance and telematics data retrieved by a qualified tool operator or the manufacturer: what exists, what each field means, how it is preserved and what it can and cannot prove. I do not carry out downloads.

Component & steering condition

Screening assessment of fractured, fatigued or corroded components from photographs, service history and repair records; steering, column and linkage condition; loss of power assistance. Laboratory fractography is arranged through an accredited laboratory and reported as such.

Reports, reviews & joint statements

Critique of opposing expert reports, questions under rule 35.6, cross-examination notes, conferences and joint statements.

Also instructed on: pre-accident valuation, diminution and salvage categorisation; vehicle rejection and satisfactory quality under the Consumer Rights Act 2015; specialist, classic and motorsport vehicles; and the distinction between what a detection device measures and what it is taken to have proved.

Whichever side of the case you are on



Solicitors

Claimant or defendant, civil or criminal. A short screening opinion first if you want one, then a report written to be tested by questions and cross-examination.

Insurers and claims handlers

Damage consistency, low-velocity impact, repair cost, total loss and hire period: proportionate reports for the track the claim is on.

Counsel

Reviews of opposing expert reports, questions under rule 35.6, cross-examination notes and conferences.

Courts and tribunals

Single joint expert appointments are welcome. The method, the independence and the declaration are the same whoever instructs.

The questions behind the instruction

Is the account consistent with the physics? How severe was the impact, and from which direction? Is this damage consistent with that collision? Was the vehicle safe to drive while awaiting repair? Should it have been repaired or written off? Was a driver-assistance system active, and what does the recorded data show it did? Does the other side's reconstruction hold up?

Preserve the data before it is gone

Event data recorders

Modern vehicles record the seconds around an impact. That data is overwritten, and vehicles are released and scrapped. Ask in the first letter.

Video and telematics

Dashcam, CCTV and fleet telematics are retained for days, not months. Identify the holder early and put the request in writing.

The vehicles themselves

Photographs taken at recovery are often the only record of the deformation. Repair or disposal ends the opportunity.

Two practices, kept apart

Newby Dispute Resolution is the separate civil and commercial mediation practice, run by the same person as a neutral under the CMC Code of Conduct. I do not act as expert in any matter I have mediated or been asked to mediate, nor in any matter arising from the same incident, vehicle or parties; and the reverse. A single conflict register covering parties, insurers, solicitors, counsel and repairers is checked across both practices before any instruction or appointment, and any prior involvement with a party or its insurer in either capacity is disclosed in the report. Nothing learned in one practice is used in the other: files, storage and correspondence are kept separate.

From question to served report

Four steps. Fee and scope fixed in writing before anyone commits.

1 **The question**

Send the type of matter, the court timetable and the question the court needs answered. I say whether the engineering can help, and what it would cost. I reply personally, usually within one working day.

2 **Terms and papers**

A fixed fee in writing, a conflict check, and a schedule of the papers received and the papers missing. Event data and video are requested before they are overwritten.

3 **Analysis**

Every input sourced, every calculation cross-checked by a second method, every result carried through with its tolerance.

4 **The report**

Written to CPR Part 35 or CrimPR Part 19 in substance as well as form, read again as a hostile expert would read it, then served. Joint statements and attendance follow if needed.

Turnaround: a realistic date is given with the fee, against the papers and the question; priority and express options; emergency 24-hour *screening opinion* by arrangement. **Legal aid:** defence instructions quoted in the form the Legal Aid Agency's prior authority process requires. **Small claims:** fixed-fee reports proportionate to the recoverable fee cap.

> WHAT TO SEND WITH THE FIRST ENQUIRY
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> The type of matter and the court timetable; the question or questions the court needs answered; and whatever papers exist, which is usually photographs, repair estimates, statements and any scene plan. If an event data recorder download, dashcam footage or CCTV may exist, say so in the first line: it is overwritten quickly.

Background

On the workshop floor from 1997 as a vehicle technician; race-team engineer in the TVR Tuscan Challenge, including a championship-winning season; BSc (Hons) Motorsport Technology; then research engineer on an EPSRC-funded crashworthiness programme at Cranfield University: experimental crash testing and computational modelling of energy-absorbing structures.

Master of Laws (LLM), BPP University Law School: legal training directly applicable to expert report writing, the rules of evidence, and the duties owed to the court under CPR Part 35 and CrimPR Part 19.

Associate Member, Institution of Mechanical Engineers. Vetted expert, UK Register of Expert Witnesses. City & Guilds, Repair and Servicing of Road Vehicles, 1997.

On terminology. "Forensic" here means engineering applied to legal proceedings. It describes the work, not a title or an accreditation. I hold no collision-investigation qualification and do not offer scene-based reconstruction. The practice was established in 2026; the engineering behind it was not.

Professional indemnity insurance of £2,000,000 is held; certificate available on request. Registered with the Information Commissioner's Office as a data controller. An instruction is accepted only when written terms of engagement are agreed. No fee is accepted on a contingent basis.

Discuss an instruction

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Vehicle Engineering Analysis

London and Manchester · England & Wales. Desktop instructions accepted internationally.