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FR 42 • STR 11 • 3.0 MM
NOT IN THE RECORD

The Aircraft Structural Records Audit

Eleven questions an auditor, a lessor or an incoming operator will ask about your airframe — and what a clean answer to each one looks like.

The defect is rarely what costs you. Proving what it is — that is what costs you.

A line engineer finds a mark on a fuselage panel at a turnaround, at an outstation, at night. The question is almost never *is this damage*. It is *is this new*. If nobody can answer that inside the turnaround, the aircraft waits while somebody assembles the history — and the cost of the defect becomes the cost of the delay.

The same records are read again, by different people, at every point where the aircraft changes hands or comes under scrutiny: a lessor's technical team at redelivery, an incoming operator at transition, a quality auditor asking for a defect history, an authority reviewing continued airworthiness. Each of them is looking for the same thing — continuity. Where they cannot find it, the gap is not read as an absence of damage. It is read as an absence of evidence, and it is written up as a finding.

Records work is not admin overhead. It is the difference between a five-minute decision and a grounded aircraft, and between a short redelivery and a long one. The eleven questions that follow are the ones that decide which you get.

01

// GROUP ONE

Continuity

Before anyone looks at a single dent, they establish whether the record is unbroken and whether it can be trusted. Four questions.

Q1

Can you produce a continuous structural record from delivery to today?

WHY THEY ASK

At redelivery a gap is not read as an absence of damage. It is read as an absence of evidence, and the lessor prices the reconstruction, not the dent.

Q2

Where does the master record live, and who holds it?

WHY THEY ASK

If the chart lives in a binder at your main base, it is not available to the engineer at the outstation who needs it tonight — which is exactly when it is needed.

Q3

When the aircraft last transitioned between operators or MROs, was the defect data handed over as data — or as a scan?

WHY THEY ASK

A PDF of a previous operator's chart is a photograph of a record, not a record. It cannot be searched at a turnaround, updated in place, or verified.

Q4

If an entry were missing, how would you know?

WHY THEY ASK

Auditors ask this one directly. A system with version history can demonstrate that nothing was removed; paper can say nothing at all about what is no longer in it.

02

// GROUP TWO

Damage history

What is on the airframe, where, how big, and whether anyone has looked at it twice. Four questions.

Q5

Show me every dent on this airframe — located, dated and dimensioned. How long does that take?

WHY THEY ASK

The time it takes is the answer. If the fleet-wide picture takes three days to assemble, then at 02:00 at an outstation it is not available at all — and the delay decision gets made without it.

Q6

Which defects are within limits, and against which revision of the SRM was that assessed?

WHY THEY ASK

"Within limits" without a stated revision is an opinion. Tied to a revision it is a traceable assessment — and it does not have to be redone by the next person who asks.

Q7

Has any defect been re-measured since it was first recorded — and is it growing?

WHY THEY ASK

A single measurement describes a moment. Two describe a trend — which is what repetitive inspection intervals and repair monitoring are actually built on. Without it you either inspect blind or inspect too often.

Q8

Where has this aircraft been damaged more than once in the same zone?

WHY THEY ASK

Repeat damage in one zone points at a ground handling process at a specific station, not at bad luck. Fleet-wide, that pattern is the cheapest maintenance saving available — and it is invisible on paper charts.

03

// GROUP THREE

Repair substantiation

Not whether the repair was done. Whether it can be shown to have been done properly, to the right structure — at an audit, a transition, or a lease return. Three questions.

Q9

For every repair, can you produce the approved data it was carried out to, and the release?

WHY THEY ASK

Substantiation is requested by more parties than most operators plan for. Lessors and lessees, technical representatives on both sides of an aircraft transition, CAMO and records teams preparing a lease return, and quality auditors reviewing continued airworthiness all need the same evidence — and any one of them can hold the aircraft, or the redelivery, until it appears.

Q10

Are repairs cross-referenced to the structure — frame, stringer, panel — or only to a work order number?

WHY THEY ASK

A work order number tells you a job happened. It does not tell you where — and "what else is in this zone" is the first question engineering asks about any new finding.

Q11

When a component carrying damage history was swapped between aircraft, did its history move with it?

WHY THEY ASK

On a paper chart the component moves and the record doesn't. Across a fleet where panels, doors and engines rotate constantly through stores, the damage ends up attached to the wrong tail number — and every rotation makes the picture worse.

// THIS IS THE QUESTION MOST OPERATORS HAVE NEVER BEEN ASKED

// THE ELEVEN QUESTIONS, IN ONE PLACE

- 01 Continuous structural record from delivery to today?
- 02 Where does the master record live, and who holds it?
- 03 Was defect data handed over as data, or as a scan?
- 04 If an entry were missing, how would you know?
- 05 Every dent located, dated, dimensioned — how fast?
- 06 Within limits against which revision of the SRM?
- 07 Has anything been re-measured? Is it growing?
- 08 Repeat damage in the same zone?
- 09 Approved data and release for every repair?
- 10 Cross-referenced to structure, or to a work order?
- 11 Did component history move with the component?

Score it before someone else does. The sheet on the next page takes about twenty minutes per aircraft, or one afternoon for a representative sample of the fleet, and is built to be filled in with the records you already have.

// SELF-SCORING SHEET • ONE AIRCRAFT

REG: _____ TYPE: _____ DATE: _____

Q	QUESTION	NO	PARTLY	YES
01	Continuous record, delivery to today	☐ 0	☐ 1	☐ 2
02	Master record location and owner known	☐ 0	☐ 1	☐ 2
03	Handover was structured data	☐ 0	☐ 1	☐ 2
04	Missing entries would be detectable	☐ 0	☐ 1	☐ 2
05	Full defect map producible same day	☐ 0	☐ 1	☐ 2
06	Limits assessed against a stated SRM revision	☐ 0	☐ 1	☐ 2
07	Defects re-measured over time	☐ 0	☐ 1	☐ 2
08	Repeat-damage zones identifiable	☐ 0	☐ 1	☐ 2
09	Approved data and release held per repair	☐ 0	☐ 1	☐ 2
10	Repairs referenced to structure	☐ 0	☐ 1	☐ 2
11	Component history travels with the component	☐ 0	☐ 1	☐ 2

18-22

Redeliveries and audits will be short. Protect the process.

11-17

Defensible, but the gaps are known to you — and will be found at redelivery by someone else.

0-10

Assume every unanswered question becomes a finding, a delay, or an AOG hour.