

This month we are going to discuss maintenance record requirements. While at first glance the issue of aircraft maintenance record keeping may be thought of as only a necessary evil, it can be shown to be of inestimable value when reviewing, justifying or defending the actions of a repair station performing work. What are the requirements for maintenance record entries after maintenance by a certificated repair station in the United States?

At the most fundamental level, 14 CFR (Code of Federal Regulations) Part 145.109 requires that each certificated domestic repair station perform its maintenance and alteration operations in accordance with the standards in Part 43 Maintenance, Preventive Maintenance, Rebuilding, and Alteration.

Maintenance is defined in Part 1.1 as ...“ inspection, overhaul, repair, preservation, and the replacement of parts...”. Part 43.9 explains the requirements for content, form and disposition of maintenance record entries. There are four (4) items that must be included in a maintenance record entry for approval for return to service:

- 1). A description (or reference to data acceptable to the administrator) of work performed.
- 2). The date of completion of the work performed.
- 3). The name of the person performing the work if other than the person approving the work.
- 4). The signature, certificate number, and kind of certificate held by the person approving the work.

Let us now examine each of the above items as they relate to a domestic repair station maintenance record entry.

1). Description or reference to the data of the work performed.

Though we all know what work means to us, Webster’s definition is “activity in which one exerts strength or faculties to do or perform something and the labor, task, or duty that is one’s accustomed means of livelihood”. It is of paramount importance that the person approving the work understand that *Part 43.9 (a) (4) clearly states that “...The signature constitutes the approval for return to service only for the work performed”*. We live in a litigious society and we practice in our industry a kind of grownup, professional version of “musical chairs”. That is, when an aircraft is in an accident involving serious damage, personal injury or loss of life, the chance is great that a lawsuit is going to follow. The plaintiff(s) will seek through legal means far reaching records of every associated repair station and company and carefully inspect them for any violations of the FARs and company procedures. Then, based upon this review, select companies are taken to court. The companies that were absolved of responsibility had “found a chair” in this most serious game.

Maintenance records will either convict you or absolve you when the FAA and/or legal professionals come calling. Be specific when describing work performed. If you check a glideslope receiver in an aircraft on one frequency, do not say the “Glideslope checks good”. Say “... performed functional check of glideslope receiver on 108.1 Mhz. for sensitivity, proper flag and deflection.” The owner/operator is then made aware that all frequencies have not been tested (in the aircraft) and may request a more thorough examination, or accept that level of test. Should the aircraft suffer a mishap on an ILS on a frequency other than 108.1 Mhz, your company is now in a better position to defend itself. For the same work performed

on an aircraft, one company can be implicated and another absolved of responsibility from the maintenance entry alone. Part 43.9 (a) (4) is a powerful tool in the hands of the approving authority - use it!

How many times has an aircraft pulled up to your hangar with a minor communications or transponder glitch and a technician has walked out and performed some minor repair or evaluation and the aircraft sent on its way for no charge “to make the customer happy”? You have now violated the FARs, given the aircraft owner the impression that the aircraft is fixed and approved for flight when that may not be the case and set yourself up to be sued if a mishap should occur to this aircraft. Your only reprieve for being a Good Samaritan will come when another repair station performs similar work on the aircraft and effectively takes over responsibility (and liability) for the system in question. You cannot perform undocumented work any more than a doctor can practice medicine at a cocktail party. Don't do it.

2). The date of completion of the work performed.

The completion of the work is when item #4 above is accomplished. In other words, the work performed includes the return to service of the article in the maintenance records.

3). The name of the person performing the work if other than the person approving the work.

Part 1.1 defines person as “an individual, firm, partnership, corporation, company, association, joint-stock association, or government entity. It includes a trustee, receiver, assignee, or similar representative of any of them”. According to this definition, the repair station is considered a person and the name of the repair station is included in the return to service entry.

4). The signature, certificate number, and kind of certificate held by the person approving the work.

The signature is by the representative of the repair station. The kind of certificate and certificate number are the Certified Repair Station and its assigned certificate number.

Part 43.11 discusses the requirements for return to service of an aircraft, airframe... or component part after any *inspection* performed in accordance with Part 91, 123, 125... The additional requirement to be included in the return to service after an *inspection* is that: Part 43.11(a)(2) The date of the inspection and *aircraft total time* in service.

Part 39.11 states that “Airworthiness directives specify *inspections* you must carry out... when this is the case then the aircraft total time must be included in the entry. Also, Part 43.15(a) states in part “Each person performing an inspection... shall – (1) Perform the inspection so as to determine whether the aircraft, or portion(s) thereof under inspection, meets all applicable airworthiness requirements. To properly return to service an aircraft, airframe, engine... component part after performing an AD the following information should be included:

- 1). The date and aircraft total time the AD was complied with.
- 2). The method of compliance such as visual, dye penetrant, replacement of part, installation of kit or the actual paragraph of the AD.
- 3). The AD number and revision date or number.

4). If the AD involves recurring action, the time (actual, not “next 100 hours”) and date when the next action is required.

Numerous maintenance record entries for return to service after compliance with ADs only state “complied with all ADs through Bi-weekly XXXX”. There is NTSB case law that has been upheld by the NTSB law judges that show this to be a violation. In NTSB Order No. EA-4030, the FAA brought charges against an individual with A&P and IA ratings for several violations. One was for violations of Part 43.9(a) and 43.11(a)(2) (deficient maintenance entries), and another for noncompliance with an Airworthiness Directive.

The respondent failed to make an entry in the aircraft records providing a description of work performed. He also failed to provide enough detail to adequately describe the work performed i.e. he changed two cylinders on an engine but did not specify which ones. It is possible that by visually inspecting the engine the new cylinders could have easily been determined, but it was deficient record keeping for which he was found guilty. In our industry it would not be hard to be violated under similar circumstances, i.e. When you change a Com antenna, do you describe which one, or do you simply state “...replaced defective com antenna...? Be specific.

This individual also failed to make an entry in the aircraft records of the date that ELT maintenance was performed. But it doesn't end there. In a textbook case of how not to make logbook entries, he stated that “all ADs c/w thru this date”. As was noted by the inspector who investigated this case, such a notation is meaningless without some reference as to which ADs were applicable to the aircraft, and the method of compliance. Of course, after review of the aircraft's maintenance records, all ADs had *not* been complied with. Also omitted was the date of an inspection and aircraft time.

As a result of this the respondent lost his certificate for 45 days. This is an example to our membership that precedence has now been set and upheld by our legal system. You may be found guilty and lose your certificate for violations in record keeping.

Many maintenance facilities mistakenly think that a FAA Form 337 is a maintenance record entry! This is not the case. Part 43.9(a)(4) is clear and states in part “In addition to the entry required by this paragraph, major repairs and major alterations shall be entered on a form...” The FAA Form 337 does not replace the maintenance record entry. Certified Repair Stations that use work orders as maintenance record entries for major repairs in accordance with their Repair Station Manual may do so as long as the work order contains all the required information (Parts 43.9 or 43.11) and is given to the owner to place in his/her maintenance records. But remember that alterations always require both the FAA Form 337 as well as the maintenance record entry.

In summary, properly completed maintenance logbook entries provide for easier and safer maintenance both for the aircraft owner and the repair station. You cannot provide services on an aircraft or component outside the enveloping framework of FARs and company procedures. Follow the rules and there will always be a chair with your name on it when the music stops.

Next Month: Autopilots