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Airworthiness: What you are Expected to Know

As student pilots who studied for our Private Pilot Certificates, we learned a little (very little) about the airworthiness requirements of the aircraft we fly in. Most of us remember the documents we need to carry onboard the aircraft (A-R-R-O-W), and something about needing Annual Inspections plus 100-hour Inspections if flown for hire. Do we need to know much more? Ask nearly all FSDO inspectors, and they will say: “Yes”.

Grounded Until?

Whenever a mechanic begins work on virtually any part of your aircraft, it grounds the airplane until two things happen: a) the work is complete; and b) the mechanic signs a maintenance log entry (usually a sticker) returning the aircraft to service. “Virtually” anything may not include merely removing the cowling or some carpeting for a visual inspection, but even tightening a loose clamp is “work” requiring a log entry. Failure to verify the existence of a log entry prior to flight can earn a pilot and/or aircraft owner a nice suspension. In the case of a Hawker jet pilot who took off just after telling the Airframe & Powerplant mechanic “*mail me the logbook stickers*” (he A&P hadn’t even started the paperwork) the FAA asked for 150-day suspension, which the full NTSB later reduced to 60 days. Advice to pilots: get something in writing from the mechanic with their A&P certificate number and a signature before flying (a cocktail napkin is better than nothing). Worst case scenario, have the A&P send you a text message with a brief description of the work, their A&P number, and “return to service”. No, this is not an “official” log entry, but it is enough to create a defense of reasonable reliance for the pilot to fly on. Do not wait for a logbook sticker to arrive in the mail when you get home.

Owner Maintenance: What Can You Do?

FAR Part 43, Appendix A, Paragraph C spells out 32 different types of preventative maintenance that aircraft owners and pilots can legally perform without the supervision or signature of an A&P. Most of us know this means things like oil changes, spark plugs, batteries, bulbs, etc. The list is quite long, but remember: what is legal is not always safe. Just because you could replace a side window doesn't mean you should. If you don't have the proper skills and do it wrong (i.e., the window falls out in flight), expect the FAA to seek a violation of FAR 91.13 (careless or reckless). Also, remember that even owner authorized maintenance still requires a log entry to restore the aircraft to an airworthy condition.

Annual Inspections

We know that our Annual Inspection is good until the end of the calendar month that is 12 months after the annual. If we run over by as little as one day, the aircraft is not airworthy and may not be flown without a ferry permit (which are easy to get from most FSDOs and even a handful of authorized Part 145 shops). But what exactly must the A&P/IA inspect? The requirements of an annual inspection are itemized in the manufacturer's maintenance manual and include the instructions for continued airworthiness, which address inspection intervals, parts replacement and life-limited components. Recently, a really sloppy IA signed off an annual (not a Cirrus) with little more than: "*Performed annual inspection, fixed [a few listed items], cylinder compressions 65/80-72/80-74/80-68/80, no discrepancies found*". When the aircraft had a landing gear collapse two months later, the FAA started an investigation into the mechanic's practices, and especially what was missing. There was no mention of: a) compliance with any maintenance manual or checklist; b) verification that all Airworthiness Directives to date had been complied with; or c) these magic words: "*I certify that this aircraft has been inspected in accordance with an annual inspection and was determined to be in an airworthy condition.*" The FAA then turned to the pilot and basically said: "*you're supposed to know this log entry is deficient*". While the FAA did not seek any certificate enforcement against the pilot / aircraft owner for this, the warning was clear.

Owner Assisted Annuals

FAR §91.409 specifies that the Annual Inspection must be performed an A&P/IA. It does not say anything about delegating any portion of the inspection to anyone else, including an aircraft owner. So, are "owner assisted" annuals legal? It depends on what "assisted" means. Merely performing certain "preliminary tasks", such as removing carpeting and panels, is fine. The problem is when the owner (or anyone else) starts actually inspecting what the IA should have, the line is crossed. No matter how experienced the owner may be, the IA cannot rely upon the owner's statements or observations. So, even though an aircraft owner can legally change spark plugs under FAR Part 43, Appendix A, Paragraph C, the IA cannot delegate to the owner the annual checklist item to clean and inspect those same new spark plugs. Worse, the IA who lets the owner put things back together, and only inspects things afterward, is putting their certificate

at risk. At best, it's negligence for failure to competently perform the duties of an IA. At worst, it's a violation of FAR §43.12(a)(1) (falsifying a maintenance record) which could lead to a revocation.

As aircraft owners, we may not be expected to know everything that an A&P/IA knows, but we are expected to know the basics about what we can (or cannot) do, and when a maintenance log entry is required.

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