Is Your Aircraft Okay to Fly?

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Who decides whether or not your aircraft is airworthy?

Earlier this year, I wrote an article titled "Fix It Now…Or Fix It Later" that was published in a major general aviation magazine. The article discussed how to deal with aircraft mechanical problems that arise during trips away from home base. It offered specific advice about how pilots and aircraft owners can decide whether a particular aircraft issue needs to be addressed before further flight or whether it can safely wait until the aircraft gets back home. I considered the advice I offered in this article to be non-controversial and commonsense.

I was surprised when I received an angry 700-word email from a very experienced A&P/IA — I'll call him "Damian" (not his real name) — condemning my article and accusing me of professional malfeasance in advising owners to act irresponsibly and violate various FARs. Damian's critique started out like this:

After reading Mike Busch's commentary "Fix It Now … Or Fix It Later," I must take exception to most, if not all, the points made in his column. I believe his statements are misleading as to the operation of certified aircraft, to the point of being irresponsible for an A&P to suggest or imply that it's up to the owner/operator whether or not to fly an aircraft with a known discrepancy. The FARs are quite clear on this matter, and there have been numerous certificate action levied on pilots who have operated aircraft with known discrepancies.

Damian went on to state that the FARs require that any aircraft discrepancy, no matter how minor, must be corrected and the aircraft approved for return to service "by persons authorized under FAR 43.7 (typically the holder of a mechanic certificate)." He went on to explain that the owner/operator may only approve for return to service those preventive maintenance items listed in FAR Part 43 Appendix A. He went on:

It should be noted that the FAA does not take into consideration the inconvenience or cost related to addressing a known discrepancy. Nor is it up to the owner/operator to determine the significance of a discrepancy as the FARs do not confer this discretion privilege to the owner/operator.

Damian's attack on my article continued at great length, making it quite clear that his believe is that pilots and aircraft owners are mere "appliance operators" in the eyes of the FAA, and that only certificated mechanics are empowered to evaluate the airworthiness of an aircraft and determine whether or not it is legal and safe to fly. He ended his diatribe by saying:

I hope that others in the aviation community such as FAA Airworthiness Safety Inspectors and aviation legal professionals weigh in on this commentary. I believe all will agree that this commentary is misleading and uninformed to the point of being irresponsible even to publish. At the very least, pilots that follows the advice of Busch's commentary should enroll in the AOPA Pilot Protection Services plan because they're likely to need it!

Whew! Strong stuff! If Damian is right, then the FAA had better lock me up and throw away the key. Fortunately for me, I believe he isn't and (at least so far) they haven't.

Where Damian Has It Wrong

Damian and I do agree on at least one thing: FAR 91.7 does indeed say quite unequivocally that it is a violation to fly an unairworthy aircraft, and that if the aircraft becomes unairworthy in flight, the PIC is obligated to discontinue the flight. I would never suggest for a moment that any pilot fly a known-unairworthy aircraft, at least without a ferry permit. That's a no-brainer.

The much more difficult question is: Exactly how does the PIC decide whether or not an aircraft is airworthy or unairworthy, and therefore whether he is or isn't allowed to fly it? On this question, Damian and I part company. In fact, his view and mine seem to be diametrically opposite.

Damian's view is that almost any aircraft discrepancy requires the involvement of an A&P mechanic to evaluate and clear the discrepancy and approve the aircraft for return to service. I see absolutely nothing in the FARs to support such a position, particularly when it comes to non-commercial aircraft operated under Part 91.

To begin with, the basic airworthiness rule (FAR 91.7) is crystal clear about who is responsible for determining whether or not the aircraft may be flown. It says:

The pilot in command of a civil aircraft is responsible for determining whether that aircraft is in condition for safe flight.

The regulation places the burden squarely on the shoulders of the PIC. I don't see anything there about A&Ps or repair stations having to be involved, do you?

Looking a bit deeper into the FARs, I can find only three circumstances under which a mechanic is required to get involved in making any sort of airworthiness determination on a Part 91 aircraft used for non-commercial purposes:

1. Exactly once a year, FAR 91.409 requires that an annual inspection be performed by an A&P/IA or a Repair Station. But the other 364 days of the year, it's the PIC who determines whether the aircraft is airworthy.
2. When an Airworthiness Directive or Airworthiness Limitation becomes due, FAR 91.403 requires that a mechanic must certify that the AD or AL has been complied with (with rare exceptions where the PIC may do so).
3. When an owner actually hires a mechanic to perform maintenance on an aircraft, in which case the mechanic is required to document his work and sign it off to testify that the work was performed properly. Note, however, that the mechanic's signature in the logbook entry does NOT signify that the aircraft is airworthy, only that THE WORK PERFORMED by the mechanic was done in an airworthy fashion.

This third point is one that is frequently misunderstood by mechanics and owners alike. When I teach this stuff at IA renewal seminars, the hypothetical example I often use to illustrate this important point involves an owner who takes his aircraft to a mechanic for repair. The mechanic immediately observes that the aircraft has two obvious discrepancies: the right main landing gear tire is flat, and the left wing is missing. The owner asks the mechanic to fix the flat tire. The mechanic does so, makes a logbook entry describing the work he did on the right main landing gear, and signs it. His signature denotes only that the work he did (fixing the flat tire) was done properly. When the owner picks up the aircraft, the mechanic tells the owner, "I couldn't help but notice that your left wing is missing. If you'll permit me to offer you a word of friendly advice, I would not attempt to fly the aircraft until that issue is resolved." But the missing left wing does not prevent the mechanic from signing the logbook entry. In fact, the mechanic is required by regulation to sign the logbook entry, regardless of whether the aircraft is airworthy or not. The mechanic's signature addresses only the work performed by the mechanic, and nothing else.

The PIC's Burden

If you're on a trip and some aircraft discrepancy occurs – assuming the aircraft isn't in the midst of its annual inspection and there's no AD involved – it is up to you as PIC to determine whether or not that discrepancy makes the aircraft unairworthy or not. If you decide that it does, then you can't fly the airplane until the airworthiness issue is rectified (and that might require hiring an A&P). On the other hand, if you decide that the discrepancy doesn't rise to the level of making the aircraft unairworthy, then you're free to fly home and deal with the issue later.

Under the FARs, it's totally the PIC's call. There's no regulatory obligation for the PIC to consult a mechanic when making such airworthiness determinations. Having said that, however, it would certainly be a wise thing to do if you feel uncomfortable about making the decision yourself. It's your call.

The FARs provide considerable help to the PIC in making such airworthiness determinations. FAR 91.213(d) describes a specific algorithm for deciding whether or not it's okay to fly an airplane with various items of inoperative equipment. FAR 91.207 says that it's okay to fly an aircraft with an inoperative ELT to a place where it can be repaired or replaced, no ferry permit required. FAR 91.209 says that position lights needn't be working if you're flying during daylight hours. And so on.

If your experience is anything like mine, what most of us call "squawks" are common occurrences, but the majority of them don't rise to the level of being airworthiness items that cause us (in our capacity as PIC) to conclude that a fix is required before further flight. Even if you do encounter a genuine airworthiness problem – say a flat tire or dead battery or bad mag drop – that still doesn't mean that you necessarily need to get a mechanic involved. The FARs provide (in Part 43 Appendix A) a list of roughly three dozen items that a pilot-rated owner or operator is permitted to perform and sign off on his own recognizance (without getting an A&P involved).

If you have a flat tire, for example, you (as a pilot-rated owner) are permitted to repair or replace it yourself. If you have a dead battery, you can charge it, service it, or even replace it. If you have a bad mag drop, the most common cause is a defective or fouled spark plug, and you're permitted to remove, clean, gap, and replace spark plugs yourself. You are also allowed to make repairs and patches to fairings, cowlings, fabric (on fabric-covered aircraft), upholstery and interior furnishings. You can replace side windows, seat belts, hoses, fuel lines, landing and position lamps, filters, seats, safety wire, cotter pins, and more. You can even remove and install tray-mounted avionics from your panel.

Now, you might well prefer to hire an A&P to do some of these things rather than do them yourself, especially when on the road, far from your hangar and toolbox. I know I certainly would, and I'm an A&P myself. But Damian's contention that you are compelled by the FARs to place your aircraft in the hands of an A&P any time any sort of discrepancy arises is simply not supported by the regulations.

Contrary to what Damian and many of his A&P colleagues may believe, the FAR's place the responsibility for determining the airworthiness of the aircraft squarely on the PIC, except for once a year when an IA is required to make an airworthiness determination after performing an annual inspection.

My colleague Mac McClellan pointed out to me that this closely resembles how the FAA determines whether a pilot is "airworthy." One day every year or two or five, we pilots are required by regulation to go get an examination from an Aviation Medical Examiner who pronounces us medically fit to fly, or not. The remaining 364 or 729 or 1,824 days in between, the FAA expects us to self-certify that we're medically fit. "Can you imagine," Mac asked me rhetorically, "if we had to go to see an AME every time we got a sore throat or runny nose?"

Mike Busch is arguably the best-known A&P/IA in general aviation, honored by the FAA in 2008 as National Aviation Maintenance Technician of the Year. Mike is a 7,500-plus hour pilot and CFI, an aircraft owner for 45 years, a prolific aviation author, co-founder of AVweb, and presently heads a team of world-class GA maintenance experts at Savvy Aviator. Mike's book *Manifesto: A Revolutionary Approach to General Aviation Maintenance* is available from Amazon.com in paperback and Kindle versions.

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