Understanding Owner and Mechanic Roles and Responsibilities

#FlySafe GA Safety Enhancement Topic

FAA Safety Briefing Follow
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Although pilots and aircraft owners rely on mechanics to maintain and inspect their aircraft, the owner or operator is ultimately responsible for airworthiness. Pilots and owners should be proactive in their approach to maintenance, understand airworthiness responsibilities, and know the value of proper maintenance documentation and effective communication with their mechanics and repair shops.

Airworthiness is Your Responsibility

Who is responsible for the airworthiness of an aircraft? It is tempting to say it's the mechanic who worked on the airplane, but in fact, 14 CFR section 91.403(a) says the owner/operator is primarily responsible for maintaining the aircraft in an airworthy condition. This includes Airworthiness Directive (AD) compliance, and 14 CFR section 91.7 says no person may operate a civil aircraft unless it is in an airworthy condition.

However, many pilots and owners are unaware of their airworthiness responsibilities. They think that airworthiness issues are the mechanic's problem. They also often think that all mechanics are created equal. Maintainers are required to meet the 14 CFR section 43.13 performance rules, but that level of work and safety should never be taken for granted.

Even though maintenance and inspection of an aircraft is your responsibility, it's also a team effort between you and your mechanic, with the goal to keep you safe. Be proactive in your approach to maintenance. Carefully evaluate the maintenance facilities, personnel, and equipment used to maintain and inspect your aircraft.

Make sure that your mechanic is qualified to work on your aircraft. If they have an Inspection Authorization (IA), ask to see it, and find out if they have met the

qualifications for renewal during the non-renewal year. Do they have adequate training for your aircraft type or installed equipment? Do they have the right skills to properly repair and/or maintain your aircraft, especially if it's high-tech or made of composite materials? An open dialogue with your mechanic and repair shop will help you develop familiarity, and you'll be able to trust that your aircraft is in the right hands.

Here are some tips you can use to re-evaluate your current mechanic, or choose a new mechanic or repair shop.

What You Should See

Regulations are a *minimum* standard and may not reflect all of the best practices that a professional mechanic should follow. Yes, they should follow the rule, but a true professional will go above the minimum standard as a best practice of their routine. Their attention to detail will give you a good indication of their safety culture.

You Should See:

🛠 ***A Clean, Neat, Organized Shop Area.*** This is an excellent indicator of a mechanic's organizational skills and professionalism.

🛠 ***Proper Storage of Materials and Parts.*** If not stored correctly, parts and materials can corrode or get contaminated with dust and dirt. Although not required by regulation, check to see if tools are shadowed to allow for quick inventory of all equipment before closing up panels. It's an indicator of a mechanic who goes beyond the minimum.

🛠 ***Adequate Lighting.*** If the shop is not well lit, your mechanic could miss potential problems.

🛠 ***Adequate Tooling and Equipment.*** Mechanics are required by regulation to have adequate tools and equipment to perform an inspection and maintenance. Ask if they have the proper, calibrated tools to do the job according to manufacturer recommendations.

🛠 ***Current, Relevant, and Approved Data.*** Ask if your mechanic has the current manual for your specific make and model of aircraft. One serial number can make a huge difference between doing the job correctly or not. You can also call your aircraft's manufacturer to check for the current manual. If your mechanic is performing a major alteration or repair outside the maintenance manual, ask if they have all of the approved data.

What Your Mechanic Must Do

Per 14 CFR section 43.15, during annual/100 hour mechanics must determine whether the aircraft meets all applicable airworthiness requirements by using the following:

- A checklist that meets Appendix D of Part 43
- Type Certificate Data Sheets (TCDS)
- Supplemental Type Certificates (STC)
- Airworthiness Certificates (Parts 21, 43, and 91)
- Manufacturers Airworthiness Limitations

Mechanics are also required to run the aircraft to check for proper operation.

Per 14 CFR section 43.13 mechanics must:

> **Use approved parts and materials. Maintenance personnel are required to use parts that are traceable, have a known history, and carry some sort of service tag or FAA Form 8130-3 when the mechanic receives them. If a mechanic can't prove where the part came from or determine the part's airworthiness, they cannot use it on an aircraft. Ask to see, or better yet, require the mechanic to provide the paperwork for all parts installed on the plane.**

What Your Mechanic Must Write

After maintenance has been performed, your logbook must contain a proper description of the work performed. As the aircraft owner/operator, it is your responsibility to ensure that maintenance personnel make the appropriate entries in the aircraft logbook. As a best practice, always check the logbooks after an aircraft is returned from maintenance. Proper logbook entries that detail the work completed not only keep you up to speed on the condition of your aircraft, but they also serve as an important factor in maintaining the airworthiness and long term value of your airplane.

Take the time to discuss all issues found during any inspection or repair, especially major repairs or alterations. Ask questions: What was touched, repaired, or replaced?

Title 14 CFR section 43.9(a) says for maintenance, other than inspections, your aircraft logbook must contain:

1. A description of the work performed.
2. The date the work was completed.

3. The name of the person who performed the work (if other than the person approving for return to service).
4. The signature, certificate number and type of certificate held by the person approving the work. The signature constitutes the approval for return to service *only for the work performed*.

Title 14 CFR section 43.11 says for inspections, mechanics are required to include all of the following for a proper sign-off and return to service after an inspection:

1. The type of inspection/certification statement such as, “I certify that this aircraft has been inspected in accordance with XYZ inspection and was determined to be in airworthy condition.”
2. The inspection date.
3. The aircraft total time in service (not necessarily tachometer time).
4. The signature, certificate number, and type of certificate held by the person approving or disapproving return to service.

Mechanics Who Go Above the Minimum

The point of good logbook entries is that they prove the mechanic did a good job and covered all the bases. This means the more information, the better. If your mechanic adds the approved data and the documents used to do the work, that’s a good sign that they did the work properly. For example, did your mechanic enter:

🛠️ References to the approved data used to perform a task.

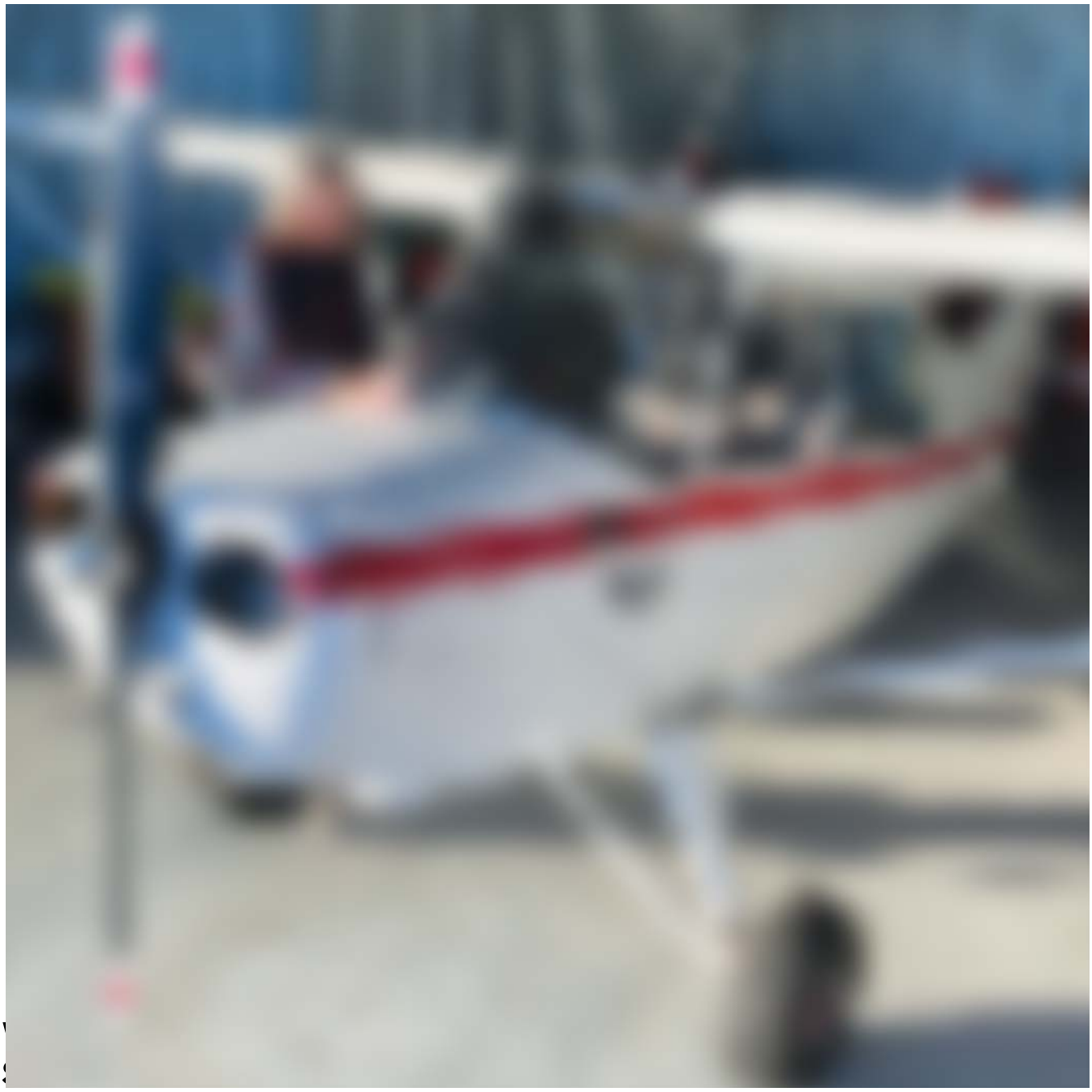
🛠 References to approval documents for parts installed (FAA Form 8130–3 or return to service (RTS) Tags).

🛠 Part/serial numbers for components removed and installed (although not required, ask to have it included).

🛠 Airworthiness Directives (ADs) — pertinent ADs, whether they apply or not, should still be recorded in the logbook to show the mechanic did not ignore the AD but found that it was inapplicable (i.e., an AD that covers the specific model/serial number, but the serial number does not apply). This also makes it easier for owner/operators to show the AD status of their aircraft.

🛠 Any other comments deemed important by the mechanic (never too much information).

What You Should Know



✈ It is the owner/operator's responsibility to keep up with the AD status on their aircraft. AD compliance must be documented to include the AD number and revision date, if applicable, the method of compliance, and compliance date. Recurring ADs are documented the same, plus the time and/or date when the next action is required.

✈ Read block 6 of an airworthiness certificate. It has some excellent information that all aircraft owners and operators should know: … *this airworthiness certificate is*

effective as long as the maintenance, preventive maintenance, and alterations are performed in accordance with the applicable Federal Aviation Regulations ….

🛠 Know the differences between discrepancies and unairworthy items. If your mechanic discovers a discrepancy and you choose not to repair it, then your mechanic should sign it c on the log book as unairworthy, and they must give you a list of discrepancies. Then you ca take it to another mechanic for further repairs. Remember: if you fly your aircraft to anothe mechanic or shop, you must obtain a Special Flight Permit, or "ferry permit," before flight.

🛠 Parts Manufacturer Approval (PMA) parts are not original manufacturer's parts, but the have FAA approval for installation on certain models of aircraft. You can learn more about PMA parts.

🛠 Not all lubricants and sealers are the same. Ask your mechanic if they have the proper materials to lubricate your aircraft type.

Professional mechanics do not cut corners. They will stand up to owners and tell them wha repairs are needed to be airworthy. They will have all the current publications, approved data, and approved parts. They will be trained appropriately, have a positive safety culture, and make more than minimum logbook entries.

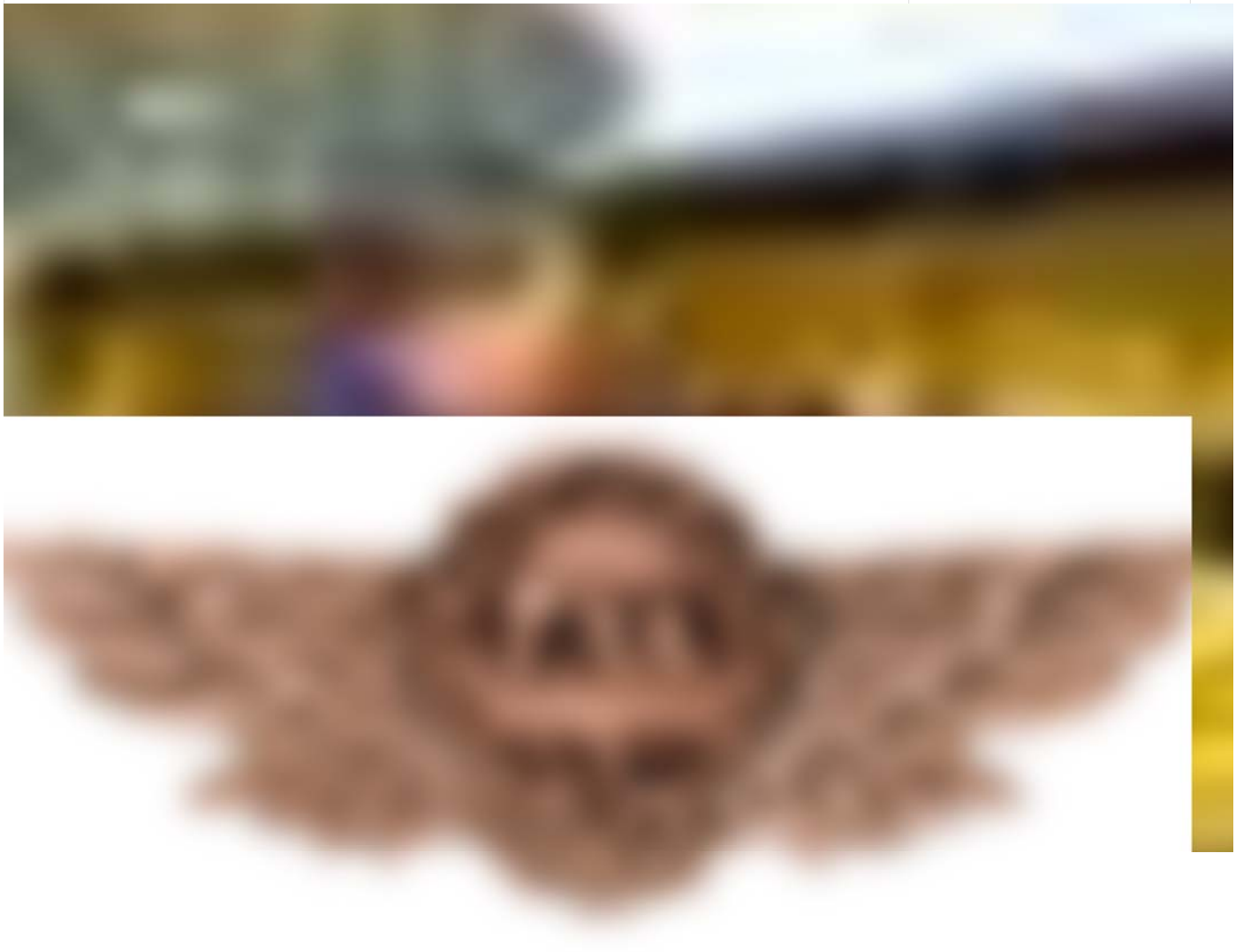
Watch on YouTube.

Resources

☑ Safety Enhancement Fact Sheet on Mechanics for Pilots — Approval for Return to Service (PDF download)

☑ "Be a 'Part' of Improving Aviation Safety, A Look at Suspected Unapproved Parts," *FAA Safety Briefing*, May/June 2019

☑ "Get to Know Your Mechanic," *FAA Safety Briefing*, May/June 2020



- May 18, 2021, @ 1:30 p.m. Eastern
- May 18, 2021, @ 7:00 p.m. Eastern
- May 19, 2021, @ 6:00 p.m. Eastern
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