Advanced Preflight After Maintenance

The General Aviation Joint Steering Committee (GAJSC) and the National Transportation Safety Board (NTSB) have determined that a significant number of general aviation fatalities could be avoided if pilots were to conduct more thorough preflight inspections of aircraft that have just been returned to service. Enhancing your relationship with both your aircraft’s history and your mechanic are both critical components of an advanced preflight.

Advanced preflight is a program that helps you become more aware of all the safety-related data on your aircraft, and focuses on a detailed approach to your preflight inspection, based on your aircraft’s maintenance history. It is a valuable tool whether you own, rent, or borrow an aircraft.

Get to Know Your Mechanic

Since most owners do not conduct their own maintenance, good communication skills and constant contact with the maintenance shop is a must! Maintenance and inspection of an aircraft is a team effort, but ultimately the PIC is responsible for determining whether the aircraft is in a condition for safe flight (14 CFR 91.7) and for ensuring the aircraft has been approved for return to service (14 CFR 91.405). Your mechanic must have the integrity to properly inspect and repair the aircraft, and you must take the time to do a thorough preflight inspection with your mechanic to indicate what work was accomplished and what work will need to be done before the next inspection.

This communication is essential to the safe operation of your aircraft.

⇒ You need to understand how your mechanic thinks, how thorough they are, and how knowledgeable they are on your type of aircraft. Ask other owners about the mechanic or shop you intend to use.

⇒ Have a good sit-down with your mechanic to discuss all the issues that were found during any inspection or repair, especially major repairs or alterations. The mechanic should properly document all maintenance and operational checks performed, any maintenance required, and any items that may need to be monitored prior to the next scheduled inspection. The maintenance shop should inform you of any repairs, and what to watch for on the first flight, but do not just accept that the work was done. Ask the questions: What was touched, repaired, or replaced, and what was accomplished?

⇒ Make sure that any discrepancies you discuss with the shop are clear and concise. It’s a good idea to use a discrepancy sheet that is easy to understand. It will help explain the concern to the mechanic, and in turn, help you to understand any corrective action taken by the mechanic. However, you should always ask. If you don’t understand, ask until you do!

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Remember, an open dialogue with your mechanic or maintenance shop will get you in the habit of pointing out items that you’re unsure of, and it will help you learn a lot more about your aircraft.

**Get to Know Your Aircraft**

How many of you are involved in the maintenance, or scheduling of maintenance, on the aircraft you fly? Annual or 100-hour inspections require opening up the entire aircraft, as can major repairs and alterations. It is highly recommended that you participate in, or watch your mechanic perform, one of these inspections. It’s a great way to learn about your aircraft’s systems, components, and any areas prone to failure or weakness. It’s also important to know your aircraft’s maintenance history. Perform a records review including logbooks and records, maintenance manuals, ADs, manufacturer’s service letters, bulletins, and any repair and alterations history. You can ask your mechanic, a type club, or your local FAASTeam representative for help. You can also request a copy of your aircraft’s records at [aircraft.faa.gov/e.gov/ND](http://aircraft.faa.gov/e.gov/ND).

**Know Before You Go**

Did you know that Airworthiness Directives (ADs) are one of the most common items in non-compliance after maintenance? ADs have a way of slipping by owners and pilots because they may not have been due at the time of the annual or 100-hour inspections. For example, be sure to note ADs on Emergency Locator Transmitters (ELTs) and ELT battery expiration dates as these are frequently missed. Your mechanic should provide you with a list of inspection items that will come due before the next required inspection; however, overdue ADs are your responsibility as the owner/operator.

You can always ask your mechanic to give you a “Status Sheet” on your aircraft, or help him/her build one for you. Include everything about your aircraft to verify inspections, next inspection due, Airworthiness Directives (ADs), next AD or next couple of ADs due, next weight and balance due, items requiring maintenance on condition, and life limited parts due.

If you rent/borrow, check the aircraft status boards/squawk sheets, make sure maintenance work has been documented in the logbook, and check that the aircraft has been returned to service. Take your time looking the aircraft over, and carefully follow your preflight checklist.

**Common Issues to Look For**

Before your first flight after maintenance, ask what to look out and watch for during the first flight. Your mechanic will know what needs to be watched right after an inspection or maintenance. Verify inspection covers are secured, and check for correct and unimpeded flight control surface deflections. Ask what was removed and/or disconnected to facilitate the work performed. For example:

- Upholstery / seats, tracks, floors / emergency exits
- Interior and exterior access panels especially in hard-to-see places of the aircraft
- Yokes / control cables, linkages and surfaces
- Equipment and appliances / wires and connectors
- Hydraulic / vacuum / brake / pitot and static / fuel lines

**Resources**

- NTSB Safety Alert — Advanced Preflight After Maintenance: [https://go.usa.gov/cK7Py](https://go.usa.gov/cK7Py)
- FAA’s Advanced Preflight Pamphlet: [https://go.usa.gov/xVy44](https://go.usa.gov/xVy44)
- “Advanced Preflight,” FAA Safety Briefing, Mar/Apr 2012: [https://go.usa.gov/cK7ma](https://go.usa.gov/cK7ma)